

# SAR TEST REPORT



The following samples were submitted and identified on behalf of the client as:

<b>Equipment Under Test</b>	Notebook Computer
<b>Brand Name</b>	HP
<b>Model No.</b>	HSN-I41C-4
<b>Company Name</b>	HP Inc.
<b>Company Address</b>	1501 Page Mill Road, Palo Alto CA 94304 USA
<b>Standards</b>	IEEE/ANSI C95.1-1992, IEEE 1528-2013
<b>FCC ID</b>	B94HNI41C4TKR
<b>Date of Receipt</b>	Sep. 01, 2020
<b>Date of Test(s)</b>	Sep. 01, 2020 ~ Oct. 03, 2020
<b>Date of Issue</b>	Oct. 21, 2020

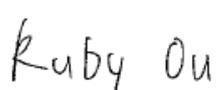
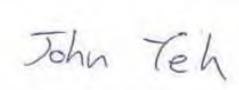
In the configuration tested, the EUT complied with the standards specified above.

## Remarks:

This report details the results of the testing carried out on one sample, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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## Signed on behalf of SGS

Clerk / Ruby Ou	Engineer / Jay Tseng	Asst. Manager / John Yeh
		

**Date: Oct. 21, 2020**

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## Revision History

Report Number	Revision	Description	Issue Date
ES/2020/80024	Rev.00	Initial creation of document	Oct. 21, 2020

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## 0. Guidance applied

The SAR testing method and procedure for this device is in accordance with the following standards:

IEEE/ANSI C95.1-1992

IEEE 1528-2013

KDB616217D04v01r02

KDB865664D01v01r04

KDB865664D02v01r02

KDB941225D01v03r01

KDB941225D05v02r05

KDB941225D05Av01r02

KDB447498D01v06

KDB248227D01v02r02

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# 1. General Information

## 1.1 Testing Laboratory

SGS Taiwan Ltd. Central RF Lab	
No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan	
FCC Designation Number	TW0027
Tel	+886-2-2299-3279
Fax	+886-2-2298-0488
Internet	<a href="http://www.tw.sgs.com/">http://www.tw.sgs.com/</a>

## 1.2 Details of Applicant

Company Name	HP Inc.
Company Address	1501 Page Mill Road, Palo Alto CA 94304 USA

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### 1.3 Description of EUT

Equipment Under Test	Notebook Computer		
Brand Name	HP		
Model No.	HSN-I41C-4		
FCC ID	B94HNI41C4TKR		
Integrated Module	WLAN	Brand Name : Intel Model Name : AX201NGW	
	WWAN	Brand Name : Foxconn Model Name : T99W175	
	NFC	Brand Name : WNC Model Name : XRAV-1	
Mode of Operation	<input checked="" type="checkbox"/> WCDMA <input checked="" type="checkbox"/> HSDPA <input checked="" type="checkbox"/> HSUPA <input checked="" type="checkbox"/> HSPA+ <input checked="" type="checkbox"/> DC-HSDPA <input checked="" type="checkbox"/> LTE FDD <input checked="" type="checkbox"/> LTE TDD <input checked="" type="checkbox"/> 5G NR <input checked="" type="checkbox"/> WLAN802.11 a/b/g/n/ac/ax(20M/40M/80M/160M) <input checked="" type="checkbox"/> Bluetooth <input checked="" type="checkbox"/> NFC		
Duty Cycle	WCDMA	100%	
	LTE FDD	100%	
	LTE TDD Power Class 3	63.3%	
	LTE TDD Power Class 2	43.3%	
	5G NR	100%	
	WLAN802.11 a/b/g/n/ac/ax(20M/40M/80M/160M)	100%	
	Bluetooth	100%	
TX Frequency Range (MHz)	Tx5 antenna		
	WCDMA Band II	1850	— 1910
	WCDMA Band IV	1710	— 1755
	WCDMA Band V	824	— 849
	LTE FDD Band 2	1850	— 1910
	LTE FDD Band 4	1710	— 1755
	LTE FDD Band 5	824	— 849

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TX Frequency Range (MHz)	LTE FDD Band 7	2500	—	2570	
	LTE FDD Band 12	699	—	716	
	LTE FDD Band 13	777	—	787	
	LTE FDD Band 14	788	—	798	
	LTE FDD Band 17	704	—	716	
	LTE FDD Band 25	1850	—	1915	
	LTE FDD Band 26	814	—	849	
	LTE FDD Band 30	2305	—	2315	
	LTE TDD Band 38 Power Class 3	2570	—	2620	
	LTE TDD Band 41 Power Class 2/3	2496	—	2690	
	LTE FDD Band 66	1710	—	1780	
	n2	1850	—	1910	
	n5	824	—	849	
	n12	699	—	716	
	n66	1710	—	1780	
	Tx8 antenna				
	LTE FDD Band 2	1850	—	1910	
	LTE FDD Band 7	2500	—	2570	
	LTE FDD Band 42 Power Class 3	3400	—	3600	
	LTE FDD Band 48 Power Class 3	3550	—	3700	
	LTE FDD Band 66	1710	—	1780	
	n2	1850	—	1910	
	n7	2500	—	2570	
	n41 Power Class 2/3	2496	—	2690	
	n66	1710	—	1780	
	WLAN/BT				
	WLAN802.11 b/g/n/ax(20M)	2412	—	2472	
WLAN802.11 n/ax(40M)	2422	—	2462		

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TX Frequency Range (MHz)	WLAN802.11 a/n/ac/ax(20M) 5.2G	5180	—	5240
	WLAN802.11 n/ac/ax(40M) 5.2G	5190	—	5230
	WLAN802.11 ac/ax(80M) 5.2G	5210		
	WLAN802.11 ac/ax(160M) 5.2G	5250		
	WLAN802.11 a/n/ac/ax(20M) 5.3G	5260	—	5320
	WLAN802.11 n/ac/ax(40M) 5.3G	5270	—	5310
	WLAN802.11 ac/ax(80M) 5.3G	5290		
	WLAN802.11 a/n/ac/ax(20M) 5.6G	5500	—	5720
	WLAN802.11 n/ac/ax(40M) 5.6G	5510	—	5710
	WLAN802.11 ac/ax(80M) 5.6G	5530	—	5690
	WLAN802.11 ac/ax(160M) 5.6G	5570		
	WLAN802.11 a/n/ac/ax(20M) 5.8G	5745	—	5825
	WLAN802.11 n/ac/ax(40M) 5.8G	5755	—	5795
	WLAN802.11 ac/ax(80M) 5.8G	5775		
Bluetooth	2402	—	2480	
Channel Number (ARFCN)	Tx5 antenna			
	WCDMA Band II	9262	—	9538
	WCDMA Band IV	1312	—	1513
	WCDMA Band V	4132	—	4233
	LTE FDD Band 2	18607	—	19193
	LTE FDD Band 4	19957	—	20393
	LTE FDD Band 5	20407	—	20643
	LTE FDD Band 7	20775	—	21425
	LTE FDD Band 12	23017	—	23173
	LTE FDD Band 13	23205	—	23255
	LTE FDD Band 14	23305	—	23355
	LTE FDD Band 17	23755	—	23825

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Channel Number (ARFCN)	LTE FDD Band 25	26047	—	26683	
	LTE FDD Band 26	26697	—	27033	
	LTE FDD Band 30	27685	—	27735	
	LTE TDD Band 38 Power Class 3	37775	—	38225	
	LTE TDD Band 41 Power Class 2/3	39675	—	41565	
	LTE FDD Band 66	131979	—	132665	
	n2	370500	—	381500	
	n5	165300	—	169300	
	n12	140300	—	142200	
	n66	342500	—	355500	
	Tx8 antenna				
	LTE FDD Band 2	18607	—	19193	
	LTE FDD Band 7	20775	—	21425	
	LTE FDD Band 42 Power Class 3	41615	—	43565	
	LTE FDD Band 48 Power Class 3	55265	—	56715	
	LTE FDD Band 66	131979	—	132665	
	n2	370500	—	381500	
	n7	500500	—	513500	
	n41 Power Class 2/3	501204	—	535998	
	n66	342500	—	355500	
	WLAN/BT				
	WLAN802.11 b/g/n/ax(20M)	1	—	13	
	WLAN802.11 n/ax(40M)	3	—	11	
	WLAN802.11 a/n/ac/ax(20M) 5.2G	36	—	48	
	WLAN802.11 n/ac/ax(40M) 5.2G	38	—	46	
	WLAN802.11 ac/ax(80M) 5.2G	42			
	WLAN802.11 ac/ax(160M) 5.2G	50			
	WLAN802.11 a/n/ac/ax(20M) 5.3G	52	—	64	
	WLAN802.11 n/ac/ax(40M) 5.3G	54	—	62	

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Channel Number (ARFCN)	WLAN802.11 ac/ax(80M) 5.3G	58	
	WLAN802.11 a/n/ac/ax(20M) 5.6G	100	144
	WLAN802.11 n/ac/ax(40M) 5.6G	102	142
	WLAN802.11 ac/ax(80M) 5.6G	106	138
	WLAN802.11 ac/ax(160M) 5.6G	114	
	WLAN802.11 a/n/ac/ax(20M) 5.8G	149	165
	WLAN802.11 n/ac/ax(40M) 5.8G	151	159
	WLAN802.11 ac/ax(80M) 5.8G	155	
	Bluetooth	0	78

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**Notebook mode (Tx5)**

Max. SAR (1 g) (Unit: W/Kg)				
Band	Measured	Reported	Channel	Position
WCDMA Band II	0.02	0.03	9538	Bottom side
WCDMA Band IV	0.04	0.05	1513	Bottom side
WCDMA Band V	0.01	0.01	4183	Bottom side
LTE FDD Band 2	0.03	0.03	18900	Bottom side
LTE FDD Band 4	0.03	0.03	20175	Bottom side
LTE FDD Band 5	0.02	0.02	20600	Bottom side
LTE FDD Band 7	0.02	0.02	21100	Bottom side
LTE FDD Band 12	0.01	0.01	23060	Bottom side
LTE FDD Band 13	0.02	0.03	23230	Bottom side
LTE FDD Band 14	0.02	0.02	23330	Bottom side
LTE FDD Band 17	0.01	0.01	23780	Bottom side
LTE FDD Band 25	0.02	0.03	26365	Bottom side
LTE FDD Band 26	0.02	0.02	26825	Bottom side
LTE FDD Band 30	0.02	0.02	27710	Bottom side
LTE TDD Band 38	0.02	0.02	37850	Bottom side
LTE TDD Band 41	0.03	0.03	39750	Bottom side
LTE TDD Band 41(HPUE)	0.03	0.04	40620	Bottom side
LTE FDD Band 66	0.03	0.03	132572	Bottom side
5G n2	0.03	0.03	380000	Bottom side
5G n5	0.01	0.01	167300	Bottom side
5G n12	0.02	0.02	141300	Bottom side
5G n66	0.04	0.04	354000	Bottom side

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**Notebook mode (Tx8)**

Max. SAR (1 g) (Unit: W/Kg)				
Band	Measured	Reported	Channel	Position
LTE FDD Band 2	0.37	0.50	18900	Bottom side
LTE FDD Band 7	0.39	0.50	21100	Bottom side
LTE FDD Band 42	0.32	0.44	43490	Bottom side
LTE FDD Band 48	0.42	0.47	56640	Bottom side
LTE FDD Band 66	0.36	0.47	132572	Bottom side
5G n2	0.38	0.48	376000	Bottom side
5G n7	0.39	0.49	502000	Bottom side
5G n41	0.22	0.27	528000	Bottom side
5G n41(HPUE)	0.21	0.22	528000	Bottom side
5G n66	0.27	0.35	344000	Bottom side

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**Antenna Information**

Vendor	<b>WNC</b>							
Antenna	<b>Mian Tx5 (PIFA)</b>							
Part Number	6036B0255101 (81EABB15.G41)							
Frequency	699~716	777~798	814~849	1710~1780	1850~1915	2300~2400	2496~2690	
Gain (dBi)	-3.14	-0.02	-0.22	0.26	0.94	2.30	0.29	
Vendor	<b>HONG-BO</b>							
Antenna	<b>Mian Tx5 (PIFA)</b>							
Part Number	6036B0257501 (260-27371)							
Frequency	699~716	777~798	814~849	1710~1780	1850~1915	2300~2400	2496~2690	
Gain (dBi)	-2.28	0.07	-0.40	-1.29	0.68	-0.46	1.54	
Vendor	<b>AWAN</b>							
Antenna	<b>Mian Tx5 (PIFA)</b>							
Part Number	6036B0257001 (AUP6Y-100031)							
Frequency	699~716	777~798	814~849	1710~1780	1850~1915	2300~2400	2496~2690	
Gain (dBi)	-0.80	-1.33	-2.20	0.07	0.64	0.47	-1.05	
Vendor	<b>WNC</b>							
Antenna	<b>Aux3 Tx8 (PIFA)</b>							
Part Number	6036B0277601 (81EABD15.G07)							
Frequency	1710~1780	1850~1910	2496~2690	3550~3700				
Gain (dBi)	-1.64	-1.21	-3.39	1.59				
Vendor	<b>HONG-BO</b>							
Antenna	<b>Aux3 Tx8 (PIFA)</b>							
Part Number	6036B0278401 (260-27440)							
Frequency	1710-1780	1850-1910	2496~2690	3550-3700				
Gain (dBi)	-0.20	0.44	-2.31	-0.16				
Vendor	<b>AWAN</b>							
Antenna	<b>Aux3 Tx8 (PIFA)</b>							
Part Number	6036B0281201 (AUP6Y-100073)							
Frequency	1710-1780	1850-1910	2496~2690	3550-3700				
Gain (dBi)	-1.64	-2.21	-3.39	1.59				

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### Tx5-WCDMA Band II / Band IV / Band V - HSDPA / HSUPA / HSPA+ / DC-HSDPA conducted power table:

Unit: dBm

Band		WCDMA II		
TX Channel		9262	9400	9538
Frequency (MHz)		1852.4	1880	1907.6
Max. Rated Avg. Power+Max. Tolerance (dBm)		24.50		
3GPP Rel 99	RMC 12.2Kbps	23.80	23.79	23.86
3GPP Rel 5	HSDPA Subtest-1	22.54	22.52	22.55
	HSDPA Subtest-2	22.48	22.48	22.53
	HSDPA Subtest-3	21.70	22.03	22.02
	HSDPA Subtest-4	21.63	22.00	22.01
3GPP Rel 6	HSUPA Subtest-1	22.55	22.47	22.57
	HSUPA Subtest-2	22.05	22.02	22.09
	HSUPA Subtest-3	22.53	22.51	22.57
	HSUPA Subtest-4	22.52	22.53	22.56
	HSUPA Subtest-5	22.56	22.52	22.58
3GPP Rel 7	HSPA+	22.46	22.38	22.42
3GPP Rel 8	DC-HSDPA Subtest-1	22.48	22.52	22.44
	DC-HSDPA Subtest-2	22.54	22.50	22.41
	DC-HSDPA Subtest-3	21.67	21.90	21.85
	DC-HSDPA Subtest-4	21.57	21.86	21.86

Band		WCDMA IV		
TX Channel		1312	1412	1513
Frequency (MHz)		1712.4	1732.4	1752.6
Max. Rated Avg. Power+Max. Tolerance (dBm)		24.50		
3GPP Rel 99	RMC 12.2Kbps	23.72	23.81	23.84
3GPP Rel 5	HSDPA Subtest-1	22.69	22.78	22.85
	HSDPA Subtest-2	22.71	22.79	22.84
	HSDPA Subtest-3	22.20	22.34	22.33
	HSDPA Subtest-4	22.18	22.28	22.32
3GPP Rel 6	HSUPA Subtest-1	22.67	22.78	22.87
	HSUPA Subtest-2	22.12	22.28	22.34
	HSUPA Subtest-3	22.69	22.75	22.82
	HSUPA Subtest-4	22.68	22.79	22.83
	HSUPA Subtest-5	22.73	22.81	22.87
3GPP Rel 7	HSPA+	22.67	22.77	22.75
3GPP Rel 8	DC-HSDPA Subtest-1	22.68	22.64	22.76
	DC-HSDPA Subtest-2	22.63	22.71	22.81
	DC-HSDPA Subtest-3	22.15	22.26	22.15
	DC-HSDPA Subtest-4	22.06	22.20	22.27

Band		WCDMA V		
TX Channel		4132	4183	4233
Frequency (MHz)		826.4	836.6	846.6
Max. Rated Avg. Power+Max. Tolerance (dBm)		24.50		
3GPP Rel 99	RMC 12.2Kbps	23.93	24.08	23.95
3GPP Rel 5	HSDPA Subtest-1	22.93	23.07	22.86
	HSDPA Subtest-2	22.88	23.03	22.82
	HSDPA Subtest-3	22.34	22.58	22.35
	HSDPA Subtest-4	22.30	22.49	22.34
3GPP Rel 6	HSUPA Subtest-1	22.95	23.06	22.93
	HSUPA Subtest-2	22.44	22.98	22.42
	HSUPA Subtest-3	22.96	23.05	22.88
	HSUPA Subtest-4	22.93	23.03	22.87
	HSUPA Subtest-5	22.95	22.97	22.85
3GPP Rel 7	HSPA+	22.78	22.92	22.67
3GPP Rel 8	DC-HSDPA Subtest-1	22.79	22.91	22.77
	DC-HSDPA Subtest-2	22.80	22.91	22.68
	DC-HSDPA Subtest-3	22.24	22.41	22.34
	DC-HSDPA Subtest-4	22.26	22.36	22.20

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## Sub-Test for HSDPA

SUB-TEST	$\beta_c$	$\beta_d$	$\beta_d$ (SF)	$\beta_c/\beta_d$	$\beta_{HS}$ (Note 1, Note 2)	CM (dB) (Note 3)	MPR (dB) (Note 3)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15	15/15	64	12/15	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

## Sub-Test for HSUPA

SUB-TEST	$\beta_c$	$\beta_d$	$\beta_d$ (SF)	$\beta_c/\beta_d$	$\beta_{HS}$ (Note 1)	$\beta_{ec}$	$\beta_{ed}$ (Note 5) (Note 6)	$\beta_{ed}$ (SF)	$\beta_{ed}$ (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 6)	E-TFCI
1	11/15	15/15	64	11/15	22/15	209/225	1309/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	$\beta_{ed1}: 47/15$ $\beta_{ed2}: 47/15$	4 4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15	15/15	64	15/15	30/15	24/15	134/15	4	1	1.0	0.0	21	81

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**Tx5-LTE FDD Band 2 / Band 4 / Band 5 / Band 7 / Band 12 / Band 13 / Band 14 / Band 17 / Band 25 / Band 26 / Band 30 / Band 66 power table:**

LTE Band 2										
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)		
Frequency (MHz)				1860	1880	1900				
Channel				18700	18900	19100				
20	QPSK	1	0	23.85	23.91	23.61	24.00	0		
		1	50	23.38	23.84	22.81	24.00	0		
		1	99	23.15	23.83	23.33	24.00	0		
		50	0	22.86	22.82	22.83	23.00	0-1		
		50	25	22.82	22.93	22.86	23.00	0-1		
		50	50	22.90	23.00	22.90	23.00	0-1		
	16-QAM	100	0	22.87	22.90	22.91	23.00	0-1		
		1	0	23.00	22.86	22.91	23.00	0-1		
		1	50	22.84	22.93	22.83	23.00	0-1		
		1	99	22.95	22.90	22.91	23.00	0-1		
		50	0	21.96	21.92	21.89	22.00	0-2		
		50	25	21.90	21.98	21.91	22.00	0-2		
	64-QAM	50	50	21.88	21.94	21.83	22.00	0-2		
		100	0	21.96	21.92	21.96	22.00	0-2		
		1	0	21.92	21.86	21.85	22.00	0-2		
		1	50	21.87	21.96	21.85	22.00	0-2		
		1	99	21.83	21.85	21.97	22.00	0-2		
		50	0	20.84	20.91	20.84	21.00	0-3		
	256-QAM	50	25	20.84	20.97	21.00	21.00	0-3		
		50	50	20.81	20.99	20.99	21.00	0-3		
		100	0	20.83	20.93	20.99	21.00	0-3		
		1	0	18.81	18.81	18.84	19.00	0-5		
		1	50	18.81	18.99	18.82	19.00	0-5		
		1	99	18.84	18.93	18.95	19.00	0-5		
15	QPSK	50	0	18.93	18.93	18.89	19.00	0-5		
		50	25	18.94	18.88	18.85	19.00	0-5		
		50	50	18.85	18.92	18.82	19.00	0-5		
		100	0	18.99	18.89	18.91	19.00	0-5		
		Frequency (MHz)				1857.5	1880	1902.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
		Channel				18675	18900	19125		
15	QPSK	1	0	23.30	23.32	23.26	24.00	0		
		1	36	23.43	23.30	23.43	24.00	0		
		1	74	23.30	23.43	23.32	24.00	0		
		36	0	22.27	22.32	22.30	23.00	0-1		
		36	18	22.33	22.29	22.37	23.00	0-1		
		36	37	22.38	22.35	22.25	23.00	0-1		
	16-QAM	75	0	22.38	22.38	22.43	23.00	0-1		
		1	0	22.40	22.32	22.34	23.00	0-1		
		1	36	22.27	22.32	22.36	23.00	0-1		
		1	74	22.40	22.41	22.36	23.00	0-1		
		36	0	21.44	21.35	21.43	22.00	0-2		
		36	18	21.39	21.40	21.34	22.00	0-2		
	64-QAM	36	37	21.38	21.37	21.34	22.00	0-2		
		75	0	21.41	21.25	21.26	22.00	0-2		
		1	0	21.35	21.26	21.31	22.00	0-2		
		1	36	21.40	21.29	21.32	22.00	0-2		
		1	74	21.42	21.32	21.37	22.00	0-2		
		36	0	20.27	20.43	20.31	21.00	0-3		
	256-QAM	36	18	20.30	20.26	20.31	21.00	0-3		
		36	37	20.34	20.42	20.25	21.00	0-3		
		75	0	20.32	20.26	20.43	21.00	0-3		
		1	0	18.41	18.37	18.40	19.00	0-5		
		1	36	18.40	18.33	18.37	19.00	0-5		
		1	74	18.28	18.32	18.43	19.00	0-5		
15	QPSK	36	0	18.27	18.42	18.35	19.00	0-5		
		36	18	18.27	18.39	18.30	19.00	0-5		
		36	37	18.44	18.38	18.28	19.00	0-5		
		75	0	18.28	18.38	18.39	19.00	0-5		

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LTE Band 2									
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Frequency (MHz)			1855	1880	1905				
Channel			18650	18900	19150				
10	QPSK	1	0	23.32	23.25	23.29	24.00	0	
		1	25	23.31	23.27	23.28	24.00	0	
		1	49	23.29	23.30	23.31	24.00	0	
		25	0	22.26	22.43	22.27	23.00	0-1	
		25	12	22.41	22.39	22.27	23.00	0-1	
		25	25	22.34	22.39	22.42	23.00	0-1	
	16-QAM	50	0	22.31	22.32	22.34	23.00	0-1	
		1	0	22.33	22.30	22.42	23.00	0-1	
		1	25	22.36	22.26	22.25	23.00	0-1	
		1	49	22.34	22.34	22.35	23.00	0-1	
		25	0	21.40	21.29	21.33	22.00	0-2	
		25	12	21.27	21.31	21.29	22.00	0-2	
	64-QAM	25	25	21.34	21.36	21.36	22.00	0-2	
		50	0	21.29	21.43	21.39	22.00	0-2	
		1	0	21.28	21.36	21.33	22.00	0-2	
		1	25	21.39	21.42	21.32	22.00	0-2	
		1	49	21.27	21.40	21.33	22.00	0-2	
		25	0	20.43	20.32	20.33	21.00	0-3	
	256-QAM	25	12	20.38	20.43	20.37	21.00	0-3	
		25	25	20.25	20.38	20.35	21.00	0-3	
		50	0	20.41	20.44	20.29	21.00	0-3	
		1	0	18.34	18.39	18.31	19.00	0-5	
		1	25	18.31	18.39	18.30	19.00	0-5	
		1	49	18.41	18.25	18.33	19.00	0-5	
	Frequency (MHz)			1852.5	1880	1907.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
	Channel			18625	18900	19175			
	5	QPSK	1	0	23.39	23.29	23.28	24.00	0
			1	12	23.28	23.38	23.43	24.00	0
1			24	23.25	23.38	23.42	24.00	0	
12			0	22.41	22.35	22.42	23.00	0-1	
12			6	22.40	22.38	22.38	23.00	0-1	
12			13	22.36	22.35	22.28	23.00	0-1	
16-QAM		25	0	22.38	22.31	22.29	23.00	0-1	
		1	0	22.34	22.38	22.40	23.00	0-1	
		1	12	22.43	22.33	22.40	23.00	0-1	
		1	24	22.44	22.26	22.35	23.00	0-1	
		12	0	21.36	21.36	21.27	22.00	0-2	
		12	6	21.41	21.37	21.42	22.00	0-2	
64-QAM		12	13	21.29	21.43	21.34	22.00	0-2	
		25	0	21.27	21.41	21.39	22.00	0-2	
		1	0	21.35	21.26	21.30	22.00	0-2	
		1	12	21.33	21.36	21.28	22.00	0-2	
		1	24	21.43	21.26	21.26	22.00	0-2	
		12	0	20.34	20.30	20.42	21.00	0-3	
256-QAM		12	6	20.27	20.36	20.40	21.00	0-3	
		12	13	20.37	20.42	20.26	21.00	0-3	
		25	0	20.26	20.34	20.43	21.00	0-3	
		1	0	18.29	18.32	18.26	19.00	0-5	
		1	12	18.30	18.39	18.43	19.00	0-5	
		1	24	18.29	18.31	18.33	19.00	0-5	
Frequency (MHz)			1852.5	1880	1907.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)		
Channel			18625	18900	19175				
5		QPSK	12	0	22.41	22.35	22.42	23.00	0-1
			12	6	22.40	22.38	22.38	23.00	0-1
	12		13	22.36	22.35	22.28	23.00	0-1	
	25		0	22.38	22.31	22.29	23.00	0-1	
	16-QAM	1	0	22.34	22.38	22.40	23.00	0-1	
		1	12	22.43	22.33	22.40	23.00	0-1	
		1	24	22.44	22.26	22.35	23.00	0-1	
		12	0	21.36	21.36	21.27	22.00	0-2	
	64-QAM	12	6	21.41	21.37	21.42	22.00	0-2	
		12	13	21.29	21.43	21.34	22.00	0-2	
		25	0	21.27	21.41	21.39	22.00	0-2	
		1	0	21.35	21.26	21.30	22.00	0-2	
256-QAM	1	12	21.33	21.36	21.28	22.00	0-2		
	1	24	21.43	21.26	21.26	22.00	0-2		
	12	0	20.34	20.30	20.42	21.00	0-3		
	12	6	20.27	20.36	20.40	21.00	0-3		
256-QAM	12	13	20.37	20.42	20.26	21.00	0-3		
	25	0	20.26	20.34	20.43	21.00	0-3		
	1	0	18.29	18.32	18.26	19.00	0-5		
	1	12	18.30	18.39	18.43	19.00	0-5		
256-QAM	1	24	18.29	18.31	18.33	19.00	0-5		
	12	0	18.28	18.34	18.41	19.00	0-5		
	12	6	18.31	18.43	18.33	19.00	0-5		
	12	13	18.27	18.34	18.35	19.00	0-5		
25	0	18.30	18.26	18.28	19.00	0-5			

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LTE Band 4									
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Frequency (MHz)			1720	1732.5	1745				
Channel			20050	20175	20300				
20	QPSK	1	0	22.87	23.82	23.12	24.00	0	
		1	50	23.55	23.69	23.67	24.00	0	
		1	99	23.81	23.78	23.61	24.00	0	
		50	0	22.27	22.21	22.33	23.00	0-1	
		50	25	22.26	22.17	22.29	23.00	0-1	
		50	50	22.39	22.25	22.35	23.00	0-1	
	16-QAM	100	0	22.42	22.27	22.33	23.00	0-1	
		1	0	22.40	22.26	22.30	23.00	0-1	
		1	50	22.38	22.36	22.42	23.00	0-1	
		1	99	22.38	22.29	22.30	23.00	0-1	
		50	0	21.35	21.27	21.39	22.00	0-2	
		50	25	21.40	21.44	21.41	22.00	0-2	
	64-QAM	50	50	21.33	21.41	21.26	22.00	0-2	
		100	0	21.35	21.26	21.31	22.00	0-2	
		1	0	21.29	21.34	21.25	22.00	0-2	
		1	50	21.26	21.26	21.25	22.00	0-2	
		1	99	21.31	21.44	21.29	22.00	0-2	
		50	0	20.35	20.32	20.40	21.00	0-3	
	256-QAM	50	25	20.35	20.40	20.41	21.00	0-3	
		50	50	20.42	20.42	20.39	21.00	0-3	
		100	0	20.39	20.37	20.44	21.00	0-3	
		1	0	18.33	18.27	18.36	19.00	0-5	
		1	50	18.32	18.41	18.35	19.00	0-5	
		1	99	18.40	18.30	18.29	19.00	0-5	
	Frequency (MHz)			1717.5	1732.5	1747.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
	Channel			20025	20175	20325			
	15	QPSK	1	0	23.37	23.25	23.43	24.00	0
			1	36	23.36	23.34	23.26	24.00	0
1			74	23.29	23.44	23.27	24.00	0	
36			0	22.39	22.44	22.42	23.00	0-1	
36			18	22.39	22.40	22.27	23.00	0-1	
36			37	22.30	22.42	22.38	23.00	0-1	
16-QAM		75	0	22.27	22.29	22.40	23.00	0-1	
		1	0	22.25	22.31	22.42	23.00	0-1	
		1	36	22.25	22.26	22.32	23.00	0-1	
		1	74	22.27	22.31	22.31	23.00	0-1	
		36	0	21.27	21.34	21.30	22.00	0-2	
		36	18	21.26	21.41	21.28	22.00	0-2	
64-QAM		36	37	21.28	21.33	21.40	22.00	0-2	
		75	0	21.29	21.34	21.39	22.00	0-2	
		1	0	21.29	21.26	21.34	22.00	0-2	
		1	36	21.34	21.32	21.39	22.00	0-2	
		1	74	21.38	21.29	21.36	22.00	0-2	
		36	0	20.38	20.40	20.34	21.00	0-3	
256-QAM		36	18	20.25	20.30	20.36	21.00	0-3	
		36	37	20.26	20.39	20.43	21.00	0-3	
		75	0	20.41	20.33	20.40	21.00	0-3	
		1	0	18.26	18.36	18.33	19.00	0-5	
		1	36	18.30	18.31	18.27	19.00	0-5	
		1	74	18.37	18.42	18.40	19.00	0-5	
Frequency (MHz)			1717.5	1732.5	1747.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)		
Channel			20025	20175	20325				
15		QPSK	36	0	22.39	22.44	22.42	23.00	0-1
			36	18	22.39	22.40	22.27	23.00	0-1
	36		37	22.30	22.42	22.38	23.00	0-1	
	75		0	22.27	22.29	22.40	23.00	0-1	
	16-QAM	1	0	22.25	22.31	22.42	23.00	0-1	
		1	36	22.25	22.26	22.32	23.00	0-1	
		1	74	22.27	22.31	22.31	23.00	0-1	
		36	0	21.27	21.34	21.30	22.00	0-2	
	64-QAM	36	18	21.26	21.41	21.28	22.00	0-2	
		36	37	21.28	21.33	21.40	22.00	0-2	
		75	0	21.29	21.34	21.39	22.00	0-2	
		1	0	21.29	21.26	21.34	22.00	0-2	
256-QAM	1	36	21.34	21.32	21.39	22.00	0-2		
	1	74	21.38	21.29	21.36	22.00	0-2		
	36	0	20.38	20.40	20.34	21.00	0-3		
	36	18	20.25	20.30	20.36	21.00	0-3		
256-QAM	36	37	20.26	20.39	20.43	21.00	0-3		
	75	0	20.41	20.33	20.40	21.00	0-3		
	1	0	18.26	18.36	18.33	19.00	0-5		
	1	36	18.30	18.31	18.27	19.00	0-5		
256-QAM	1	74	18.37	18.42	18.40	19.00	0-5		
	36	0	18.42	18.26	18.35	19.00	0-5		
	36	18	18.43	18.40	18.30	19.00	0-5		
	36	37	18.25	18.30	18.44	19.00	0-5		
75	0	18.25	18.33	18.39	19.00	0-5			

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LTE Band 4										
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)		
Frequency (MHz)				1715	1732.5	1750				
Channel				20000	20175	20350				
10	QPSK	1	0	23.44	23.38	23.25	24.00	0		
		1	25	23.27	23.42	23.41	24.00	0		
		1	49	23.32	23.39	23.41	24.00	0		
		25	0	22.40	22.37	22.25	23.00	0-1		
		25	12	22.27	22.40	22.31	23.00	0-1		
		25	25	22.29	22.36	22.32	23.00	0-1		
	16-QAM	50	0	22.36	22.38	22.42	23.00	0-1		
		1	0	22.34	22.44	22.44	23.00	0-1		
		1	25	22.25	22.40	22.36	23.00	0-1		
		1	49	22.32	22.40	22.38	23.00	0-1		
		25	0	21.32	21.41	21.30	22.00	0-2		
		25	12	21.29	21.34	21.38	22.00	0-2		
	64-QAM	25	25	21.30	21.38	21.26	22.00	0-2		
		50	0	21.29	21.27	21.37	22.00	0-2		
		1	0	21.39	21.44	21.31	22.00	0-2		
		1	25	21.44	21.37	21.42	22.00	0-2		
		1	49	21.40	21.29	21.30	22.00	0-2		
		25	0	20.31	20.27	20.33	21.00	0-3		
	256-QAM	25	12	20.28	20.39	20.38	21.00	0-3		
		25	25	20.34	20.40	20.44	21.00	0-3		
		50	0	20.41	20.29	20.25	21.00	0-3		
		1	0	18.28	18.31	18.31	19.00	0-5		
		1	25	18.28	18.36	18.28	19.00	0-5		
		1	49	18.37	18.26	18.36	19.00	0-5		
	5	QPSK	25	0	18.26	18.42	18.44	19.00	0-5	
			25	12	18.43	18.38	18.26	19.00	0-5	
			25	25	18.27	18.36	18.38	19.00	0-5	
			50	0	18.38	18.37	18.34	19.00	0-5	
Frequency (MHz)				1712.5	1732.5	1752.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)		
Channel				19975	20175	20375				
5		QPSK	1	0	23.37	23.39	23.32	24.00	0	
			1	12	23.32	23.31	23.31	24.00	0	
			1	24	23.37	23.32	23.37	24.00	0	
			12	0	22.39	22.42	22.29	23.00	0-1	
			12	6	22.36	22.39	22.42	23.00	0-1	
			12	13	22.37	22.32	22.34	23.00	0-1	
		16-QAM	25	0	22.32	22.30	22.34	23.00	0-1	
			1	0	22.32	22.28	22.25	23.00	0-1	
			1	12	22.31	22.42	22.30	23.00	0-1	
			1	24	22.35	22.34	22.32	23.00	0-1	
			12	0	21.26	21.29	21.25	22.00	0-2	
			12	6	21.43	21.31	21.25	22.00	0-2	
		64-QAM	12	13	21.26	21.40	21.40	22.00	0-2	
			25	0	21.39	21.36	21.42	22.00	0-2	
			1	0	21.42	21.38	21.40	22.00	0-2	
			1	12	21.29	21.25	21.34	22.00	0-2	
			1	24	21.26	21.26	21.38	22.00	0-2	
			12	0	20.37	20.28	20.36	21.00	0-3	
		256-QAM	12	6	20.39	20.36	20.25	21.00	0-3	
			12	13	20.41	20.34	20.39	21.00	0-3	
			25	0	20.34	20.37	20.42	21.00	0-3	
			1	0	18.41	18.36	18.42	19.00	0-5	
	1		12	18.32	18.30	18.43	19.00	0-5		
	1		24	18.44	18.44	18.25	19.00	0-5		
	5	256-QAM	12	0	18.28	18.30	18.34	19.00	0-5	
			12	6	18.25	18.36	18.25	19.00	0-5	
			12	13	18.29	18.26	18.25	19.00	0-5	
			25	0	18.32	18.33	18.37	19.00	0-5	

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LTE Band 4									
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Frequency (MHz)			1711.5	1732.5	1753.5				
Channel			19965	20175	20385				
3	QPSK	1	0	23.30	23.41	23.33	24.00	0	
		1	7	23.35	23.44	23.33	24.00	0	
		1	14	23.25	23.42	23.31	24.00	0	
		8	0	22.37	22.27	22.25	23.00	0-1	
		8	4	22.38	22.25	22.35	23.00	0-1	
		8	7	22.31	22.40	22.25	23.00	0-1	
	16-QAM	15	0	22.44	22.42	22.36	23.00	0-1	
		1	0	22.43	22.37	22.26	23.00	0-1	
		1	7	22.29	22.29	22.36	23.00	0-1	
		1	14	22.33	22.36	22.35	23.00	0-1	
		8	0	21.29	21.43	21.43	22.00	0-2	
		8	4	21.31	21.30	21.43	22.00	0-2	
	64-QAM	8	7	21.26	21.30	21.25	22.00	0-2	
		15	0	21.40	21.42	21.34	22.00	0-2	
		1	0	21.27	21.32	21.26	22.00	0-2	
		1	7	21.36	21.39	21.26	22.00	0-2	
		1	14	21.29	21.44	21.44	22.00	0-2	
		8	0	20.42	20.33	20.37	21.00	0-3	
	256-QAM	8	4	20.39	20.34	20.37	21.00	0-3	
		8	7	20.32	20.36	20.41	21.00	0-3	
		15	0	20.41	20.30	20.30	21.00	0-3	
		1	0	18.26	18.37	18.43	19.00	0-5	
		1	7	18.28	18.44	18.37	19.00	0-5	
		1	14	18.27	18.30	18.36	19.00	0-5	
	1.4	QPSK	8	0	18.43	18.35	18.25	19.00	0-5
			8	4	18.30	18.33	18.31	19.00	0-5
			8	7	18.39	18.27	18.39	19.00	0-5
15			0	18.31	18.29	18.41	19.00	0-5	
Frequency (MHz)			1710.7	1732.5	1754.3	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)		
Channel			19957	20175	20393				
1.4		QPSK	1	0	23.41	23.25	23.31	24.00	0
			1	2	23.40	23.29	23.44	24.00	0
			1	5	23.36	23.40	23.40	24.00	0
			3	0	23.38	23.21	23.28	24.00	0.00
			3	2	23.36	23.19	23.42	24.00	0.00
			3	3	23.29	23.29	23.29	24.00	0.00
		16-QAM	6	0	22.32	22.40	22.37	23.00	0-1
			1	0	22.30	22.37	22.42	23.00	0-1
			1	2	22.30	22.26	22.33	23.00	0-1
			1	5	22.39	22.43	22.41	23.00	0-1
			3	0	22.21	22.29	22.31	23.00	0-1
			3	2	22.23	22.16	22.30	23.00	0-1
		64-QAM	3	3	22.30	22.39	22.31	23.00	0-1
			6	0	21.38	21.44	21.32	22.00	0-2
			1	0	21.25	21.25	21.40	22.00	0-2
			1	2	21.42	21.40	21.36	22.00	0-2
			1	5	21.27	21.40	21.28	22.00	0-2
			3	0	21.17	21.20	21.32	22.00	0-2
		256-QAM	3	2	21.36	21.35	21.31	22.00	0-2
			3	3	21.17	21.30	21.18	22.00	0-2
			6	0	20.29	20.29	20.28	21.00	0-3
	1		0	18.41	18.41	18.31	19.00	0-5	
	1		2	18.25	18.35	18.33	19.00	0-5	
	1		5	18.30	18.34	18.31	19.00	0-5	
	256-QAM	3	0	18.32	18.33	18.32	19.00	0-5	
		3	2	18.31	18.34	18.28	19.00	0-5	
		3	3	18.25	18.28	18.31	19.00	0-5	
6		0	18.35	18.30	18.35	19.00	0-5		

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LTE Band 5										
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)		
Frequency (MHz)			829	836.5	844					
Channel			20450	20525	20600					
10	QPSK	1	0	23.91	23.72	23.95	24.50	0		
		1	25	23.90	23.66	23.94	24.50	0		
		1	49	23.63	23.87	23.89	24.50	0		
		25	0	22.60	22.52	22.71	23.50	0-1		
		25	12	22.67	22.61	22.60	23.50	0-1		
		25	25	22.63	22.65	22.59	23.50	0-1		
	16-QAM	50	0	22.64	22.68	22.62	23.50	0-1		
		1	0	22.63	22.53	22.52	23.50	0-1		
		1	25	22.68	22.54	22.55	23.50	0-1		
		1	49	22.67	22.68	22.68	23.50	0-1		
		25	0	21.60	21.61	21.53	22.50	0-2		
		25	12	21.56	21.66	21.63	22.50	0-2		
	64-QAM	25	25	21.60	21.71	21.54	22.50	0-2		
		50	0	21.58	21.70	21.71	22.50	0-2		
		1	0	21.57	21.66	21.52	22.50	0-2		
		1	25	21.59	21.60	21.53	22.50	0-2		
		1	49	21.64	21.53	21.52	22.50	0-2		
		25	0	20.67	20.54	20.65	21.50	0-3		
	256-QAM	25	12	20.52	20.61	20.67	21.50	0-3		
		25	25	20.52	20.68	20.52	21.50	0-3		
		50	0	20.56	20.70	20.56	21.50	0-3		
		1	0	18.63	18.66	18.59	19.50	0-5		
		1	25	18.53	18.64	18.61	19.50	0-5		
		1	49	18.68	18.69	18.56	19.50	0-5		
	5	QPSK	25	0	18.60	18.52	18.64	19.50	0-5	
			25	12	18.60	18.58	18.65	19.50	0-5	
			25	25	18.65	18.58	18.56	19.50	0-5	
			50	0	18.64	18.71	18.60	19.50	0-5	
			Frequency (MHz)			826.5	836.5	846.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
			Channel			20425	20525	20625		
5		QPSK	1	0	23.58	23.53	23.54	24.50	0	
			1	12	23.67	23.61	23.60	24.50	0	
			1	24	23.59	23.71	23.52	24.50	0	
			12	0	22.56	22.65	22.58	23.50	0-1	
			12	6	22.58	22.54	22.67	23.50	0-1	
			12	13	22.52	22.52	22.70	23.50	0-1	
		16-QAM	25	0	22.62	22.62	22.65	23.50	0-1	
			1	0	22.60	22.64	22.68	23.50	0-1	
			1	12	22.57	22.54	22.69	23.50	0-1	
			1	24	22.67	22.56	22.68	23.50	0-1	
			12	0	21.70	21.70	21.56	22.50	0-2	
			12	6	21.55	21.63	21.59	22.50	0-2	
		64-QAM	12	13	21.70	21.53	21.64	22.50	0-2	
			25	0	21.54	21.65	21.63	22.50	0-2	
			1	0	21.70	21.62	21.64	22.50	0-2	
			1	12	21.65	21.65	21.53	22.50	0-2	
			1	24	21.68	21.62	21.60	22.50	0-2	
			12	0	20.70	20.70	20.69	21.50	0-3	
		256-QAM	12	6	20.69	20.63	20.62	21.50	0-3	
			12	13	20.61	20.66	20.57	21.50	0-3	
			25	0	20.57	20.62	20.55	21.50	0-3	
			1	0	18.60	18.62	18.70	19.50	0-5	
			1	12	18.55	18.52	18.54	19.50	0-5	
			1	24	18.60	18.63	18.70	19.50	0-5	
5	QPSK	12	0	18.66	18.69	18.56	19.50	0-5		
		12	6	18.57	18.68	18.68	19.50	0-5		
		12	13	18.62	18.53	18.53	19.50	0-5		
		25	0	18.60	18.66	18.67	19.50	0-5		

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LTE Band 5										
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)		
Frequency (MHz)				825.5	836.5	847.5				
Channel				20415	20525	20635				
3	QPSK	1	0	23.59	23.64	23.62	24.50	0		
		1	7	23.63	23.64	23.66	24.50	0		
		1	14	23.57	23.56	23.71	24.50	0		
		8	0	22.69	22.70	22.69	23.50	0-1		
		8	4	22.52	22.54	22.63	23.50	0-1		
		8	7	22.55	22.56	22.58	23.50	0-1		
	16-QAM	15	0	22.66	22.71	22.57	23.50	0-1		
		1	0	22.69	22.53	22.64	23.50	0-1		
		1	7	22.60	22.63	22.67	23.50	0-1		
		1	14	22.53	22.68	22.63	23.50	0-1		
		8	0	21.58	21.70	21.54	22.50	0-2		
		8	4	21.60	21.64	21.60	22.50	0-2		
	64-QAM	8	7	21.59	21.64	21.57	22.50	0-2		
		15	0	21.67	21.53	21.58	22.50	0-2		
		1	0	21.54	21.54	21.60	22.50	0-2		
		1	7	21.53	21.71	21.57	22.50	0-2		
		1	14	21.59	21.56	21.59	22.50	0-2		
		8	0	20.68	20.52	20.71	21.50	0-3		
	256-QAM	8	4	20.70	20.53	20.56	21.50	0-3		
		8	7	20.61	20.55	20.54	21.50	0-3		
		15	0	20.57	20.64	20.58	21.50	0-3		
		1	0	18.69	18.53	18.66	19.50	0-5		
		1	7	18.67	18.65	18.55	19.50	0-5		
		1	14	18.52	18.52	18.60	19.50	0-5		
	1.4	QPSK	8	0	18.63	18.52	18.67	19.50	0-5	
			8	4	18.62	18.62	18.61	19.50	0-5	
			8	7	18.56	18.68	18.53	19.50	0-5	
15			0	18.62	18.52	18.65	19.50	0-5		
Frequency (MHz)				824.7	836.5	848.3	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)		
Channel				20407	20525	20643				
1.4		QPSK	1	0	23.61	23.58			23.69	24.50
			1	2	23.65	23.70	23.62	24.50	0	
			1	5	23.68	23.60	23.59	24.50	0	
			3	0	23.51	23.56	23.58	24.50	0.00	
			3	2	23.56	23.68	23.57	24.50	0.00	
			3	3	23.64	23.58	23.54	24.50	0.00	
		16-QAM	6	0	22.67	22.66	22.63	23.50	0-1	
			1	0	22.60	22.66	22.68	23.50	0-1	
			1	2	22.60	22.68	22.59	23.50	0-1	
			1	5	22.54	22.56	22.69	23.50	0-1	
			3	0	22.51	22.57	22.63	23.50	0-1	
			3	2	22.56	22.60	22.53	23.50	0-1	
		64-QAM	3	3	22.52	22.45	22.61	23.50	0-1	
			6	0	21.64	21.54	21.62	22.50	0-2	
			1	0	21.63	21.57	21.52	22.50	0-2	
			1	2	21.62	21.66	21.67	22.50	0-2	
			1	5	21.58	21.52	21.67	22.50	0-2	
			3	0	21.57	21.47	21.44	22.50	0-2	
		256-QAM	3	2	21.60	21.62	21.59	22.50	0-2	
			3	3	21.47	21.46	21.65	22.50	0-2	
			6	0	20.54	20.59	20.68	21.50	0-3	
	1		0	18.64	18.63	18.69	19.50	0-5		
	1		2	18.60	18.55	18.61	19.50	0-5		
	1		5	18.55	18.65	18.53	19.50	0-5		
	256-QAM	3	0	18.58	18.55	18.64	19.50	0-5		
		3	2	18.61	18.65	18.54	19.50	0-5		
		3	3	18.69	18.61	18.64	19.50	0-5		
6		0	18.70	18.58	18.71	19.50	0-5			

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LTE Band 7									
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Frequency (MHz)				2510	2535	2560			
Channel				20850	21100	21350			
20	QPSK	1	0	23.38	23.44	23.36	24.00	0	
		1	50	23.37	23.42	22.95	24.00	0	
		1	99	23.42	23.51	22.60	24.00	0	
		50	0	22.34	22.34	22.39	23.00	0-1	
		50	25	22.37	22.46	22.47	23.00	0-1	
		50	50	22.33	22.35	22.48	23.00	0-1	
	16-QAM	100	0	22.34	22.33	22.43	23.00	0-1	
		1	0	22.39	22.45	22.37	23.00	0-1	
		1	50	22.42	22.32	22.49	23.00	0-1	
		1	99	22.33	22.39	22.43	23.00	0-1	
		50	0	21.38	21.43	21.46	22.00	0-2	
		50	25	21.47	21.31	21.39	22.00	0-2	
	64-QAM	50	50	21.42	21.31	21.50	22.00	0-2	
		100	0	21.42	21.39	21.40	22.00	0-2	
		1	0	21.43	21.43	21.32	22.00	0-2	
		1	50	21.41	21.35	21.44	22.00	0-2	
		1	99	21.46	21.49	21.47	22.00	0-2	
		50	0	20.37	20.49	20.37	21.00	0-3	
	256-QAM	50	25	20.41	20.39	20.38	21.00	0-3	
		50	50	20.37	20.35	20.36	21.00	0-3	
		100	0	20.37	20.33	20.32	21.00	0-3	
		1	0	18.47	18.32	18.34	19.00	0-5	
		1	50	18.36	18.42	18.42	19.00	0-5	
		1	99	18.45	18.45	18.42	19.00	0-5	
	Frequency (MHz)				2507.5	2535	2562.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
	Channel				20825	21100	21375		
	15	QPSK	1	0	23.45	23.45	23.39	24.00	0
			1	36	23.34	23.43	23.38	24.00	0
			1	74	23.46	23.36	23.44	24.00	0
			36	0	22.31	22.34	22.39	23.00	0-1
36			18	22.40	22.31	22.38	23.00	0-1	
36			37	22.32	22.45	22.34	23.00	0-1	
16-QAM		75	0	22.50	22.49	22.45	23.00	0-1	
		1	0	22.40	22.49	22.45	23.00	0-1	
		1	36	22.43	22.50	22.40	23.00	0-1	
		1	74	22.32	22.45	22.49	23.00	0-1	
		36	0	21.38	21.34	21.34	22.00	0-2	
		36	18	21.44	21.41	21.48	22.00	0-2	
64-QAM		36	37	21.48	21.32	21.46	22.00	0-2	
		75	0	21.50	21.45	21.38	22.00	0-2	
		1	0	21.38	21.46	21.38	22.00	0-2	
		1	36	21.46	21.38	21.50	22.00	0-2	
		1	74	21.50	21.31	21.42	22.00	0-2	
		36	0	20.38	20.42	20.44	21.00	0-3	
256-QAM		36	18	20.39	20.42	20.46	21.00	0-3	
		36	37	20.38	20.38	20.33	21.00	0-3	
		75	0	20.39	20.47	20.42	21.00	0-3	
		1	0	18.47	18.46	18.49	19.00	0-5	
		1	36	18.47	18.40	18.37	19.00	0-5	
		1	74	18.31	18.46	18.49	19.00	0-5	
Frequency (MHz)				2507.5	2535	2562.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Channel				20825	21100	21375			
15	QPSK	36	0	22.31	22.34	22.39	23.00	0-1	
		36	18	22.40	22.31	22.38	23.00	0-1	
		36	37	22.32	22.45	22.34	23.00	0-1	
		75	0	22.50	22.49	22.45	23.00	0-1	
		1	0	22.40	22.49	22.45	23.00	0-1	
		1	36	22.43	22.50	22.40	23.00	0-1	
	16-QAM	1	74	22.32	22.45	22.49	23.00	0-1	
		36	0	21.38	21.34	21.34	22.00	0-2	
		36	18	21.44	21.41	21.48	22.00	0-2	
		36	37	21.48	21.32	21.46	22.00	0-2	
		75	0	21.50	21.45	21.38	22.00	0-2	
		1	0	21.38	21.46	21.38	22.00	0-2	
64-QAM	1	36	21.46	21.38	21.50	22.00	0-2		
	1	74	21.50	21.31	21.42	22.00	0-2		
	36	0	20.38	20.42	20.44	21.00	0-3		
	36	18	20.39	20.42	20.46	21.00	0-3		
	36	37	20.38	20.38	20.33	21.00	0-3		
	75	0	20.39	20.47	20.42	21.00	0-3		
256-QAM	1	0	18.47	18.46	18.49	19.00	0-5		
	1	36	18.47	18.40	18.37	19.00	0-5		
	1	74	18.31	18.46	18.49	19.00	0-5		
	36	0	18.44	18.33	18.40	19.00	0-5		
	36	18	18.44	18.44	18.44	19.00	0-5		
	36	37	18.42	18.40	18.43	19.00	0-5		
75	0	18.47	18.50	18.43	19.00	0-5			

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LTE Band 7									
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Frequency (MHz)				2505	2535	2565			
Channel				20800	21100	21400			
10	QPSK	1	0	23.31	23.38	23.46	24.00	0	
		1	25	23.45	23.44	23.46	24.00	0	
		1	49	23.31	23.33	23.40	24.00	0	
		25	0	22.34	22.41	22.40	23.00	0-1	
		25	12	22.33	22.45	22.39	23.00	0-1	
		25	25	22.35	22.44	22.48	23.00	0-1	
	16-QAM	50	0	22.44	22.34	22.49	23.00	0-1	
		1	0	22.46	22.47	22.45	23.00	0-1	
		1	25	22.34	22.50	22.43	23.00	0-1	
		1	49	22.33	22.50	22.48	23.00	0-1	
		25	0	21.31	21.35	21.33	22.00	0-2	
		25	12	21.49	21.40	21.47	22.00	0-2	
	64-QAM	25	25	21.49	21.40	21.43	22.00	0-2	
		50	0	21.44	21.47	21.32	22.00	0-2	
		1	0	21.41	21.44	21.31	22.00	0-2	
		1	25	21.37	21.39	21.31	22.00	0-2	
		1	49	21.41	21.47	21.41	22.00	0-2	
		25	0	20.42	20.45	20.50	21.00	0-3	
	256-QAM	25	12	20.47	20.37	20.31	21.00	0-3	
		25	25	20.45	20.33	20.33	21.00	0-3	
		50	0	20.48	20.48	20.43	21.00	0-3	
		1	0	18.47	18.37	18.37	19.00	0-5	
		1	25	18.36	18.44	18.38	19.00	0-5	
		1	49	18.39	18.40	18.46	19.00	0-5	
	Frequency (MHz)				2502.5	2535	2567.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
	Channel				20775	21100	21425		
	5	QPSK	1	0	23.31	23.46	23.45	24.00	0
			1	12	23.33	23.34	23.46	24.00	0
			1	24	23.44	23.31	23.32	24.00	0
			12	0	22.31	22.36	22.46	23.00	0-1
12			6	22.37	22.36	22.36	23.00	0-1	
12			13	22.42	22.47	22.50	23.00	0-1	
16-QAM		25	0	22.50	22.43	22.50	23.00	0-1	
		1	0	22.31	22.43	22.40	23.00	0-1	
		1	12	22.48	22.44	22.37	23.00	0-1	
		1	24	22.50	22.44	22.50	23.00	0-1	
		12	0	21.42	21.47	21.36	22.00	0-2	
		12	6	21.35	21.50	21.42	22.00	0-2	
64-QAM		12	13	21.32	21.39	21.34	22.00	0-2	
		25	0	21.39	21.45	21.31	22.00	0-2	
		1	0	21.35	21.31	21.34	22.00	0-2	
		1	12	21.49	21.44	21.37	22.00	0-2	
		1	24	21.49	21.37	21.36	22.00	0-2	
		12	0	20.33	20.40	20.40	21.00	0-3	
256-QAM		12	6	20.42	20.32	20.47	21.00	0-3	
		12	13	20.32	20.43	20.41	21.00	0-3	
		25	0	20.50	20.43	20.47	21.00	0-3	
		1	0	18.37	18.36	18.40	19.00	0-5	
		1	12	18.36	18.42	18.39	19.00	0-5	
		1	24	18.41	18.48	18.37	19.00	0-5	
12	0	18.39	18.50	18.49	19.00	0-5			
12	6	18.44	18.40	18.50	19.00	0-5			
12	13	18.31	18.41	18.37	19.00	0-5			
25	0	18.38	18.39	18.39	19.00	0-5			

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LTE Band 12										
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)		
Frequency (MHz)				704	707.5	711				
Channel				23060	23095	23130				
10	QPSK	1	0	23.46	23.56	23.54	24.50	0		
		1	25	23.44	23.38	23.53	24.50	0		
		1	49	23.59	23.32	23.42	24.50	0		
		25	0	22.19	22.25	22.27	23.50	0-1		
		25	12	22.21	22.30	22.33	23.50	0-1		
		25	25	22.23	22.31	22.25	23.50	0-1		
	16-QAM	50	0	22.21	22.16	22.15	23.50	0-1		
		1	0	22.25	22.24	22.26	23.50	0-1		
		1	25	22.15	22.22	22.21	23.50	0-1		
		1	49	22.28	22.31	22.24	23.50	0-1		
		25	0	21.21	21.25	21.30	22.50	0-2		
		25	12	21.17	21.15	21.23	22.50	0-2		
	64-QAM	25	25	21.33	21.22	21.23	22.50	0-2		
		50	0	21.18	21.28	21.31	22.50	0-2		
		1	0	21.21	21.15	21.26	22.50	0-2		
		1	25	21.22	21.31	21.19	22.50	0-2		
		1	49	21.31	21.29	21.22	22.50	0-2		
		25	0	20.14	20.32	20.19	21.50	0-3		
	256-QAM	25	12	20.30	20.19	20.26	21.50	0-3		
		25	25	20.21	20.15	20.32	21.50	0-3		
		50	0	20.31	20.15	20.17	21.50	0-3		
		1	0	18.15	18.33	18.20	19.50	0-5		
		1	25	18.24	18.28	18.22	19.50	0-5		
		1	49	18.29	18.22	18.17	19.50	0-5		
	5	QPSK	25	0	18.29	18.28	18.29	19.50	0-5	
			25	12	18.26	18.30	18.15	19.50	0-5	
			25	25	18.18	18.16	18.19	19.50	0-5	
			50	0	18.28	18.18	18.30	19.50	0-5	
Frequency (MHz)				701.5	707.5	713.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)		
Channel				23035	23095	23155				
5		QPSK	1	0	23.32	23.15	23.23	24.50	0	
			1	12	23.28	23.23	23.31	24.50	0	
			1	24	23.27	23.25	23.24	24.50	0	
			12	0	22.33	22.23	22.18	23.50	0-1	
			12	6	22.23	22.31	22.22	23.50	0-1	
			12	13	22.25	22.19	22.17	23.50	0-1	
		16-QAM	25	0	22.19	22.15	22.18	23.50	0-1	
			1	0	22.27	22.20	22.17	23.50	0-1	
			1	12	22.26	22.16	22.18	23.50	0-1	
			1	24	22.24	22.16	22.19	23.50	0-1	
			12	0	21.29	21.29	21.20	22.50	0-2	
			12	6	21.19	21.17	21.22	22.50	0-2	
		64-QAM	12	13	21.16	21.24	21.25	22.50	0-2	
			25	0	21.31	21.14	21.18	22.50	0-2	
			1	0	21.16	21.14	21.32	22.50	0-2	
			1	12	21.17	21.23	21.18	22.50	0-2	
			1	24	21.17	21.31	21.14	22.50	0-2	
			12	0	20.27	20.16	20.17	21.50	0-3	
		256-QAM	12	6	20.22	20.16	20.16	21.50	0-3	
			12	13	20.21	20.18	20.28	21.50	0-3	
			25	0	20.24	20.23	20.25	21.50	0-3	
			1	0	18.23	18.30	18.20	19.50	0-5	
	1		12	18.27	18.33	18.20	19.50	0-5		
	1		24	18.21	18.21	18.14	19.50	0-5		
	5	QPSK	12	0	18.20	18.17	18.23	19.50	0-5	
			12	6	18.16	18.18	18.14	19.50	0-5	
			12	13	18.30	18.24	18.21	19.50	0-5	
			25	0	18.22	18.24	18.23	19.50	0-5	

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LTE Band 12									
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Frequency (MHz)			700.5	707.5	714.5				
Channel			23025	23095	23165				
3	QPSK	1	0	23.16	23.26	23.27	24.50	0	
		1	7	23.18	23.19	23.21	24.50	0	
		1	14	23.24	23.28	23.15	24.50	0	
		8	0	22.20	22.15	22.23	23.50	0-1	
		8	4	22.33	22.28	22.27	23.50	0-1	
		8	7	22.16	22.28	22.21	23.50	0-1	
	16-QAM	15	0	22.23	22.25	22.26	23.50	0-1	
		1	0	22.20	22.28	22.23	23.50	0-1	
		1	7	22.32	22.15	22.16	23.50	0-1	
		1	14	22.30	22.28	22.19	23.50	0-1	
		8	0	21.20	21.17	21.28	22.50	0-2	
		8	4	21.27	21.23	21.26	22.50	0-2	
	64-QAM	8	7	21.32	21.28	21.32	22.50	0-2	
		15	0	21.32	21.17	21.19	22.50	0-2	
		1	0	21.14	21.27	21.18	22.50	0-2	
		1	7	21.26	21.25	21.18	22.50	0-2	
		1	14	21.32	21.17	21.32	22.50	0-2	
		8	0	20.14	20.30	20.26	21.50	0-3	
	256-QAM	8	4	20.15	20.30	20.32	21.50	0-3	
		8	7	20.26	20.14	20.30	21.50	0-3	
		15	0	20.15	20.33	20.32	21.50	0-3	
		1	0	18.19	18.28	18.31	19.50	0-5	
		1	7	18.15	18.18	18.19	19.50	0-5	
		1	14	18.33	18.25	18.30	19.50	0-5	
1.4	QPSK	8	0	18.32	18.16	18.16	19.50	0-5	
		8	4	18.26	18.20	18.15	19.50	0-5	
		8	7	18.21	18.32	18.25	19.50	0-5	
		15	0	18.27	18.15	18.24	19.50	0-5	
		Frequency (MHz)			699.7	707.5	715.3	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
		Channel			23017	23095	23173		
	1.4	QPSK	1	0	23.26	23.21	23.21	24.50	0
			1	2	23.32	23.32	23.30	24.50	0
			1	5	23.24	23.15	23.27	24.50	0
			3	0	23.17	23.11	23.16	24.50	0.00
			3	2	23.27	23.28	23.22	24.50	0.00
			3	3	23.21	23.05	23.23	24.50	0.00
16-QAM		6	0	22.25	22.30	22.16	23.50	0-1	
		1	0	22.18	22.16	22.22	23.50	0-1	
		1	2	22.21	22.24	22.31	23.50	0-1	
		1	5	22.22	22.16	22.16	23.50	0-1	
		3	0	22.11	22.07	22.18	23.50	0-1	
		3	2	22.15	22.22	22.20	23.50	0-1	
64-QAM		3	3	22.12	22.11	22.10	23.50	0-1	
		6	0	21.28	21.25	21.16	22.50	0-2	
		1	0	21.22	21.17	21.16	22.50	0-2	
		1	2	21.26	21.21	21.24	22.50	0-2	
		1	5	21.26	21.24	21.14	22.50	0-2	
		3	0	21.18	21.13	21.06	22.50	0-2	
256-QAM		3	2	21.18	21.18	21.18	22.50	0-2	
		3	3	21.24	21.15	21.05	22.50	0-2	
		6	0	20.18	20.29	20.19	21.50	0-3	
		1	0	18.21	18.17	18.30	19.50	0-5	
		1	2	18.33	18.18	18.30	19.50	0-5	
		1	5	18.16	18.33	18.24	19.50	0-5	

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LTE Band 13								
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)			782	782	782			
Channel			23230	23230	23230			
10	QPSK	1	0	23.30			24.50	0
		1	25	23.43			24.50	0
		1	49	23.36			24.50	0
		25	0	22.19			23.50	0-1
		25	12	22.23			23.50	0-1
		25	25	22.29			23.50	0-1
	16-QAM	50	0	22.13			23.50	0-1
		1	0	22.22			23.50	0-1
		1	25	22.14			23.50	0-1
		1	49	22.15			23.50	0-1
		25	0	21.10			22.50	0-2
		25	12	21.11			22.50	0-2
	64-QAM	25	25	21.10			22.50	0-2
		50	0	21.21			22.50	0-2
		1	0	21.18			22.50	0-2
		1	25	21.22			22.50	0-2
		1	49	21.17			22.50	0-2
		25	0	20.19			21.50	0-3
	256-QAM	25	12	20.19			21.50	0-3
		25	25	20.12			21.50	0-3
		50	0	20.15			21.50	0-3
		1	0	18.14			19.50	0-5
		1	25	18.22			19.50	0-5
		1	49	18.29			19.50	0-5
Frequency (MHz)			779.5	782	784.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Channel			23205	23230	23255			
5	QPSK	1	0	23.26	23.21	23.15	24.50	0
		1	12	23.19	23.20	23.27	24.50	0
		1	24	23.23	23.28	23.20	24.50	0
		12	0	22.26	22.20	22.24	23.50	0-1
		12	6	22.20	22.25	22.21	23.50	0-1
		12	13	22.24	22.25	22.15	23.50	0-1
	16-QAM	25	0	22.25	22.13	22.23	23.50	0-1
		1	0	22.16	22.14	22.24	23.50	0-1
		1	12	22.10	22.25	22.23	23.50	0-1
		1	24	22.15	22.10	22.12	23.50	0-1
		12	0	21.26	21.17	21.15	22.50	0-2
		12	6	21.27	21.18	21.14	22.50	0-2
	64-QAM	12	13	21.17	21.17	21.19	22.50	0-2
		25	0	21.29	21.22	21.14	22.50	0-2
		1	0	21.15	21.14	21.26	22.50	0-2
		1	12	21.20	21.16	21.17	22.50	0-2
		1	24	21.22	21.14	21.15	22.50	0-2
		12	0	20.19	20.28	20.12	21.50	0-3
	256-QAM	12	6	20.20	20.13	20.24	21.50	0-3
		12	13	20.21	20.25	20.16	21.50	0-3
		25	0	20.23	20.20	20.28	21.50	0-3
		1	0	18.13	18.13	18.17	19.50	0-5
		1	12	18.10	18.28	18.19	19.50	0-5
		1	24	18.26	18.16	18.24	19.50	0-5
Frequency (MHz)			779.5	782	784.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Channel			23205	23230	23255			
5	QPSK	12	0	18.18	18.14	18.19	19.50	0-5
		12	6	18.28	18.19	18.20	19.50	0-5
		12	13	18.12	18.27	18.13	19.50	0-5
		25	0	18.15	18.14	18.18	19.50	0-5

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LTE Band 14								
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)			793	793	793			
Channel			23330	23330	23330			
10	QPSK	1	0	23.62			24.50	0
		1	25	23.69			24.50	0
		1	49	23.63			24.50	0
		25	0	22.46			23.50	0-1
		25	12	22.45			23.50	0-1
		25	25	22.42			23.50	0-1
	16-QAM	50	0	22.50			23.50	0-1
		1	0	22.43			23.50	0-1
		1	25	22.39			23.50	0-1
		1	49	22.47			23.50	0-1
		25	0	21.49			22.50	0-2
		25	12	21.51			22.50	0-2
	64-QAM	25	25	21.52			22.50	0-2
		50	0	21.38			22.50	0-2
		1	0	21.43			22.50	0-2
		1	25	21.38			22.50	0-2
		1	49	21.54			22.50	0-2
		25	0	20.47			21.50	0-3
	256-QAM	25	12	20.41			21.50	0-3
		25	25	20.40			21.50	0-3
		50	0	20.43			21.50	0-3
		1	0	18.48			19.50	0-5
		1	25	18.40			19.50	0-5
		1	49	18.44			19.50	0-5
	Frequency (MHz)			790.5	793	795.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Channel			23305	23330	23355			
5	QPSK	1	0	23.43	23.40	23.37	24.50	0
		1	12	23.43	23.45	23.50	24.50	0
		1	24	23.53	23.37	23.49	24.50	0
		12	0	22.48	22.47	22.53	23.50	0-1
		12	6	22.48	22.44	22.51	23.50	0-1
		12	13	22.36	22.38	22.48	23.50	0-1
	16-QAM	25	0	22.52	22.45	22.48	23.50	0-1
		1	0	22.46	22.40	22.41	23.50	0-1
		1	12	22.55	22.37	22.55	23.50	0-1
		1	24	22.51	22.52	22.45	23.50	0-1
		12	0	21.40	21.40	21.55	22.50	0-2
		12	6	21.53	21.43	21.38	22.50	0-2
	64-QAM	12	13	21.38	21.46	21.42	22.50	0-2
		25	0	21.46	21.52	21.45	22.50	0-2
		1	0	21.46	21.42	21.55	22.50	0-2
		1	12	21.53	21.46	21.44	22.50	0-2
		1	24	21.51	21.43	21.45	22.50	0-2
		12	0	20.37	20.49	20.51	21.50	0-3
	256-QAM	12	6	20.39	20.44	20.55	21.50	0-3
		12	13	20.51	20.36	20.50	21.50	0-3
		25	0	20.37	20.38	20.43	21.50	0-3
		1	0	18.55	18.55	18.48	19.50	0-5
		1	12	18.47	18.52	18.48	19.50	0-5
		1	24	18.44	18.43	18.48	19.50	0-5
	Frequency (MHz)			790.5	793	795.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Channel			23305	23330	23355			
5	QPSK	12	0	18.38	18.43	18.55	19.50	0-5
		12	6	18.41	18.54	18.52	19.50	0-5
		12	13	18.39	18.37	18.51	19.50	0-5
		25	0	18.40	18.53	18.53	19.50	0-5

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LTE Band 17									
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Frequency (MHz)				709	710	711			
Channel				23780	23790	23800			
10	QPSK	1	0	23.44	23.45	23.32	24.50	0	
		1	25	23.46	23.42	23.31	24.50	0	
		1	49	23.43	23.41	23.29	24.50	0	
		25	0	22.20	22.25	22.28	23.50	0-1	
		25	12	22.18	22.21	22.22	23.50	0-1	
		25	25	22.25	22.11	22.23	23.50	0-1	
	16-QAM	50	0	22.19	22.11	22.24	23.50	0-1	
		1	0	22.16	22.21	22.15	23.50	0-1	
		1	25	22.29	22.26	22.29	23.50	0-1	
		1	49	22.28	22.16	22.20	23.50	0-1	
		25	0	21.11	21.17	21.22	22.50	0-2	
		25	12	21.14	21.21	21.16	22.50	0-2	
	64-QAM	25	25	21.18	21.29	21.20	22.50	0-2	
		50	0	21.25	21.14	21.27	22.50	0-2	
		1	0	21.24	21.10	21.15	22.50	0-2	
		1	25	21.17	21.19	21.28	22.50	0-2	
		1	49	21.14	21.29	21.15	22.50	0-2	
		25	0	20.28	20.10	20.15	21.50	0-3	
	256-QAM	25	12	20.10	20.11	20.14	21.50	0-3	
		25	25	20.11	20.25	20.16	21.50	0-3	
		50	0	20.22	20.12	20.11	21.50	0-3	
		1	0	18.20	18.29	18.13	19.50	0-5	
		1	25	18.23	18.27	18.13	19.50	0-5	
		1	49	18.16	18.27	18.15	19.50	0-5	
	Frequency (MHz)				706.5	710	713.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
	Channel				23755	23790	23825		
	5	QPSK	1	0	23.28	23.16	23.15	24.50	0
			1	12	23.13	23.28	23.14	24.50	0
1			24	23.19	23.12	23.19	24.50	0	
12			0	22.27	22.11	22.17	23.50	0-1	
12			6	22.16	22.18	22.25	23.50	0-1	
12			13	22.23	22.25	22.10	23.50	0-1	
16-QAM		25	0	22.24	22.29	22.12	23.50	0-1	
		1	0	22.26	22.10	22.19	23.50	0-1	
		1	12	22.12	22.10	22.28	23.50	0-1	
		1	24	22.14	22.15	22.15	23.50	0-1	
		12	0	21.18	21.14	21.20	22.50	0-2	
		12	6	21.28	21.18	21.10	22.50	0-2	
64-QAM		12	13	21.12	21.22	21.23	22.50	0-2	
		25	0	21.18	21.10	21.21	22.50	0-2	
		1	0	21.10	21.23	21.12	22.50	0-2	
		1	12	21.22	21.16	21.23	22.50	0-2	
		1	24	21.29	21.17	21.29	22.50	0-2	
		12	0	20.15	20.22	20.26	21.50	0-3	
256-QAM		12	6	20.23	20.10	20.22	21.50	0-3	
		12	13	20.29	20.24	20.11	21.50	0-3	
		25	0	20.22	20.22	20.27	21.50	0-3	
		1	0	18.28	18.15	18.17	19.50	0-5	
		1	12	18.24	18.27	18.19	19.50	0-5	
		1	24	18.26	18.23	18.18	19.50	0-5	
Frequency (MHz)				706.5	710	713.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Channel				23755	23790	23825			
5		QPSK	12	6	22.16	22.18	22.25	23.50	0-1
			12	13	22.23	22.25	22.10	23.50	0-1
	25		0	22.24	22.29	22.12	23.50	0-1	
	1		0	22.26	22.10	22.19	23.50	0-1	
	16-QAM	1	12	22.12	22.10	22.28	23.50	0-1	
		1	24	22.14	22.15	22.15	23.50	0-1	
		12	0	21.18	21.14	21.20	22.50	0-2	
		12	6	21.28	21.18	21.10	22.50	0-2	
	64-QAM	12	13	21.12	21.22	21.23	22.50	0-2	
		25	0	21.18	21.10	21.21	22.50	0-2	
		1	0	21.10	21.23	21.12	22.50	0-2	
		1	12	21.22	21.16	21.23	22.50	0-2	
256-QAM	1	24	21.29	21.17	21.29	22.50	0-2		
	12	0	20.15	20.22	20.26	21.50	0-3		
	12	6	20.23	20.10	20.22	21.50	0-3		
	12	13	20.29	20.24	20.11	21.50	0-3		
256-QAM	25	0	20.22	20.22	20.27	21.50	0-3		
	1	0	18.28	18.15	18.17	19.50	0-5		
	1	12	18.24	18.27	18.19	19.50	0-5		
	1	24	18.26	18.23	18.18	19.50	0-5		
256-QAM	12	0	18.21	18.22	18.17	19.50	0-5		
	12	6	18.16	18.15	18.18	19.50	0-5		
	12	13	18.13	18.23	18.19	19.50	0-5		
	25	0	18.25	18.10	18.28	19.50	0-5		

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LTE Band 25									
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Frequency (MHz)			1860	1882.5	1905				
Channel			26140	26365	26590				
20	QPSK	1	0	23.29	23.57	22.65	24.00	0	
		1	50	23.07	22.61	22.64	24.00	0	
		1	99	22.58	23.37	22.12	24.00	0	
		50	0	21.23	21.35	21.30	23.00	0-1	
		50	25	21.18	21.21	21.28	23.00	0-1	
		50	50	21.19	21.27	21.25	23.00	0-1	
	16-QAM	100	0	21.25	21.34	21.22	23.00	0-1	
		1	0	21.36	21.32	21.29	23.00	0-1	
		1	50	21.20	21.31	21.31	23.00	0-1	
		1	99	21.33	21.31	21.35	23.00	0-1	
		50	0	20.34	20.20	20.35	22.00	0-2	
		50	25	20.31	20.36	20.31	22.00	0-2	
	64-QAM	50	50	20.32	20.20	20.28	22.00	0-2	
		100	0	20.21	20.18	20.25	22.00	0-2	
		1	0	20.18	20.26	20.30	22.00	0-2	
		1	50	20.31	20.26	20.26	22.00	0-2	
		1	99	20.23	20.18	20.35	22.00	0-2	
		50	0	19.34	19.22	19.17	21.00	0-3	
	256-QAM	50	25	19.22	19.27	19.25	21.00	0-3	
		50	50	19.32	19.18	19.29	21.00	0-3	
		100	0	19.32	19.26	19.22	21.00	0-3	
		1	0	17.17	17.29	17.24	19.00	0-5	
		1	50	17.32	17.32	17.27	19.00	0-5	
		1	99	17.27	17.29	17.20	19.00	0-5	
	Frequency (MHz)			1857.5	1882.5	1907.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
	Channel			26115	26365	26615			
	15	QPSK	1	0	22.19	22.19	22.22	24.00	0
			1	36	22.27	22.29	22.35	24.00	0
			1	74	22.24	22.26	22.17	24.00	0
			36	0	21.35	21.30	21.32	23.00	0-1
36			18	21.17	21.31	21.30	23.00	0-1	
36			37	21.26	21.21	21.18	23.00	0-1	
16-QAM		75	0	21.36	21.25	21.20	23.00	0-1	
		1	0	21.24	21.30	21.28	23.00	0-1	
		1	36	21.20	21.32	21.36	23.00	0-1	
		1	74	21.27	21.29	21.34	23.00	0-1	
		36	0	20.29	20.34	20.28	22.00	0-2	
		36	18	20.21	20.24	20.28	22.00	0-2	
64-QAM		36	37	20.29	20.23	20.18	22.00	0-2	
		75	0	20.21	20.26	20.29	22.00	0-2	
		1	0	20.23	20.24	20.27	22.00	0-2	
		1	36	20.27	20.31	20.19	22.00	0-2	
		1	74	20.17	20.23	20.19	22.00	0-2	
		36	0	19.33	19.29	19.26	21.00	0-3	
256-QAM		36	18	19.18	19.35	19.27	21.00	0-3	
		36	37	19.24	19.33	19.21	21.00	0-3	
		75	0	19.25	19.23	19.32	21.00	0-3	
		1	0	17.21	17.20	17.32	19.00	0-5	
		1	36	17.25	17.30	17.28	19.00	0-5	
		1	74	17.25	17.29	17.31	19.00	0-5	
36	0	17.19	17.28	17.27	19.00	0-5			
36	18	17.30	17.35	17.27	19.00	0-5			
36	37	17.36	17.19	17.35	19.00	0-5			
75	0	17.19	17.29	17.34	19.00	0-5			

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LTE Band 25									
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Frequency (MHz)				1855	1882.5	1910			
Channel				26090	26365	26640			
10	QPSK	1	0	22.36	22.23	22.36	24.00	0	
		1	25	22.31	22.27	22.19	24.00	0	
		1	49	22.17	22.33	22.33	24.00	0	
		25	0	21.23	21.29	21.24	23.00	0-1	
		25	12	21.31	21.27	21.22	23.00	0-1	
		25	25	21.24	21.23	21.30	23.00	0-1	
	16-QAM	50	0	21.26	21.27	21.31	23.00	0-1	
		1	0	21.30	21.29	21.25	23.00	0-1	
		1	25	21.32	21.24	21.33	23.00	0-1	
		1	49	21.36	21.28	21.21	23.00	0-1	
		25	0	20.36	20.21	20.25	22.00	0-2	
		25	12	20.23	20.35	20.35	22.00	0-2	
	64-QAM	25	25	20.26	20.28	20.18	22.00	0-2	
		50	0	20.25	20.26	20.34	22.00	0-2	
		1	0	20.24	20.21	20.32	22.00	0-2	
		1	25	20.25	20.20	20.20	22.00	0-2	
		1	49	20.34	20.28	20.21	22.00	0-2	
		25	0	19.33	19.36	19.20	21.00	0-3	
	256-QAM	25	12	19.18	19.33	19.17	21.00	0-3	
		25	25	19.20	19.23	19.18	21.00	0-3	
		50	0	19.24	19.29	19.23	21.00	0-3	
		1	0	17.28	17.31	17.23	19.00	0-5	
		1	25	17.24	17.35	17.33	19.00	0-5	
		1	49	17.23	17.35	17.23	19.00	0-5	
	Frequency (MHz)				1852.5	1882.5	1912.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
	Channel				26065	26365	26665		
	5	QPSK	1	0	22.24	22.21	22.26	24.00	0
			1	12	22.28	22.26	22.28	24.00	0
			1	24	22.34	22.30	22.26	24.00	0
			12	0	21.24	21.29	21.25	23.00	0-1
12			6	21.31	21.25	21.24	23.00	0-1	
12			13	21.31	21.18	21.22	23.00	0-1	
16-QAM		25	0	21.23	21.18	21.25	23.00	0-1	
		1	0	21.35	21.25	21.28	23.00	0-1	
		1	12	21.20	21.21	21.29	23.00	0-1	
		1	24	21.18	21.31	21.35	23.00	0-1	
		12	0	20.33	20.31	20.20	22.00	0-2	
		12	6	20.27	20.26	20.36	22.00	0-2	
64-QAM		12	13	20.28	20.28	20.27	22.00	0-2	
		25	0	20.20	20.30	20.33	22.00	0-2	
		1	0	20.34	20.24	20.28	22.00	0-2	
		1	12	20.36	20.26	20.35	22.00	0-2	
		1	24	20.30	20.32	20.27	22.00	0-2	
		12	0	19.32	19.26	19.28	21.00	0-3	
256-QAM		12	6	19.27	19.33	19.19	21.00	0-3	
		12	13	19.29	19.26	19.21	21.00	0-3	
		25	0	19.25	19.32	19.30	21.00	0-3	
		1	0	17.25	17.19	17.28	19.00	0-5	
		1	12	17.18	17.18	17.22	19.00	0-5	
		1	24	17.22	17.26	17.17	19.00	0-5	
12	0	17.33	17.28	17.23	19.00	0-5			
12	6	17.25	17.19	17.26	19.00	0-5			
12	13	17.27	17.23	17.32	19.00	0-5			
25	0	17.28	17.19	17.24	19.00	0-5			

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LTE Band 25										
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)		
Frequency (MHz)				1851.5	1882.5	1913.5				
Channel				26055	26365	26675				
3	QPSK	1	0	22.18	22.31	22.21	24.00	0		
		1	7	22.25	22.22	22.32	24.00	0		
		1	14	22.21	22.35	22.34	24.00	0		
		8	0	21.30	21.26	21.27	23.00	0-1		
		8	4	21.21	21.19	21.18	23.00	0-1		
		8	7	21.34	21.20	21.26	23.00	0-1		
	16-QAM	15	0	21.31	21.30	21.26	23.00	0-1		
		1	0	21.23	21.18	21.20	23.00	0-1		
		1	7	21.31	21.27	21.23	23.00	0-1		
		1	14	21.26	21.24	21.18	23.00	0-1		
		8	0	20.22	20.30	20.24	22.00	0-2		
		8	4	20.25	20.27	20.21	22.00	0-2		
	64-QAM	8	7	20.36	20.23	20.31	22.00	0-2		
		15	0	20.33	20.24	20.17	22.00	0-2		
		1	0	20.17	20.28	20.33	22.00	0-2		
		1	7	20.26	20.36	20.35	22.00	0-2		
		1	14	20.21	20.35	20.20	22.00	0-2		
		8	0	19.19	19.25	19.35	21.00	0-3		
	256-QAM	8	4	19.28	19.32	19.33	21.00	0-3		
		8	7	19.18	19.25	19.22	21.00	0-3		
		15	0	19.24	19.35	19.17	21.00	0-3		
		1	0	17.33	17.35	17.31	19.00	0-5		
		1	7	17.22	17.29	17.17	19.00	0-5		
		1	14	17.26	17.36	17.25	19.00	0-5		
	1.4	QPSK	8	0	17.17	17.25	17.30	19.00	0-5	
			8	4	17.36	17.35	17.20	19.00	0-5	
			8	7	17.35	17.18	17.19	19.00	0-5	
15			0	17.18	17.23	17.34	19.00	0-5		
Frequency (MHz)				1850.7	1882.5	1914.3	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)		
Channel				26047	26365	26683				
1.4		QPSK	1	0	22.17	22.26	22.21	24.00	0	
			1	2	22.19	22.31	22.25	24.00	0	
			1	5	22.20	22.25	22.35	24.00	0	
			3	0	22.09	22.15	22.12	24.00	0.00	
			3	2	22.15	22.23	22.19	24.00	0.00	
			3	3	22.18	22.14	22.26	24.00	0.00	
		16-QAM	6	0	21.32	21.17	21.24	23.00	0-1	
			1	0	21.23	21.20	21.26	23.00	0-1	
			1	2	21.28	21.34	21.33	23.00	0-1	
			1	5	21.20	21.27	21.19	23.00	0-1	
			3	0	21.15	21.10	21.16	23.00	0-1	
			3	2	21.26	21.23	21.24	23.00	0-1	
		64-QAM	3	3	21.15	21.24	21.14	23.00	0-1	
			6	0	20.30	20.35	20.21	22.00	0-2	
			1	0	20.22	20.24	20.19	22.00	0-2	
			1	2	20.20	20.22	20.32	22.00	0-2	
			1	5	20.27	20.33	20.29	22.00	0-2	
			3	0	20.11	20.21	20.12	22.00	0-2	
		256-QAM	3	2	20.12	20.13	20.23	22.00	0-2	
			3	3	20.18	20.29	20.23	22.00	0-2	
			6	0	19.33	19.17	19.31	21.00	0-3	
	1		0	17.31	17.24	17.23	19.00	0-5		
	1		2	17.24	17.25	17.30	19.00	0-5		
	1		5	17.18	17.36	17.28	19.00	0-5		
	256-QAM	3	0	17.18	17.31	17.33	19.00	0-5		
		3	2	17.28	17.29	17.36	19.00	0-5		
		3	3	17.29	17.35	17.24	19.00	0-5		
6		0	17.33	17.20	17.23	19.00	0-5			

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LTE Band 26										
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)		
Frequency (MHz)			821.5	831.5	841.5					
Channel			26765	26865	26965					
15	QPSK	1	0	23.85	24.25	24.08	24.50	0		
		1	36	23.71	24.06	23.89	24.50	0		
		1	74	24.09	23.81	23.29	24.50	0		
		36	0	22.15	22.16	22.11	23.50	0-1		
		36	18	22.09	22.21	22.19	23.50	0-1		
		36	37	22.25	22.14	22.22	23.50	0-1		
	16-QAM	75	0	22.16	22.14	22.17	23.50	0-1		
		1	0	22.21	22.22	22.18	23.50	0-1		
		1	36	22.21	22.21	22.13	23.50	0-1		
		1	74	22.24	22.23	22.18	23.50	0-1		
		36	0	21.18	21.24	21.26	22.50	0-2		
		36	18	21.17	21.13	21.09	22.50	0-2		
	64-QAM	36	37	21.19	21.26	21.22	22.50	0-2		
		75	0	21.08	21.25	21.10	22.50	0-2		
		1	0	21.11	21.26	21.18	22.50	0-2		
		1	36	21.24	21.07	21.25	22.50	0-2		
		1	74	21.25	21.10	21.12	22.50	0-2		
		36	0	20.08	20.19	20.14	21.50	0-3		
	256-QAM	36	18	20.23	20.20	20.11	21.50	0-3		
		36	37	20.10	20.16	20.08	21.50	0-3		
		75	0	20.12	20.12	20.07	21.50	0-3		
		1	0	18.19	18.11	18.21	19.50	0-5		
		1	36	18.25	18.09	18.19	19.50	0-5		
		1	74	18.25	18.25	18.07	19.50	0-5		
	10	QPSK	36	0	18.24	18.25	18.23	19.50	0-5	
			36	18	18.19	18.12	18.26	19.50	0-5	
			36	37	18.22	18.21	18.08	19.50	0-5	
			75	0	18.23	18.18	18.12	19.50	0-5	
			Frequency (MHz)			819	831.5	844	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
			Channel			26740	26865	26990		
10		QPSK	1	0	23.18	23.12	23.20	24.50	0	
			1	25	23.11	23.18	23.25	24.50	0	
			1	49	23.23	23.13	23.22	24.50	0	
			25	0	22.10	22.07	22.20	23.50	0-1	
			25	12	22.13	22.13	22.13	23.50	0-1	
			25	25	22.09	22.12	22.20	23.50	0-1	
		16-QAM	50	0	22.23	22.26	22.25	23.50	0-1	
			1	0	22.15	22.17	22.07	23.50	0-1	
			1	25	22.25	22.08	22.19	23.50	0-1	
			1	49	22.22	22.09	22.22	23.50	0-1	
			25	0	21.23	21.12	21.14	22.50	0-2	
			25	12	21.11	21.18	21.13	22.50	0-2	
		64-QAM	25	25	21.23	21.21	21.18	22.50	0-2	
			50	0	21.12	21.08	21.16	22.50	0-2	
			1	0	21.10	21.14	21.17	22.50	0-2	
			1	25	21.21	21.21	21.21	22.50	0-2	
			1	49	21.21	21.14	21.14	22.50	0-2	
			25	0	20.14	20.24	20.24	21.50	0-3	
		256-QAM	25	12	20.08	20.16	20.19	21.50	0-3	
			25	25	20.18	20.22	20.18	21.50	0-3	
			50	0	20.15	20.11	20.16	21.50	0-3	
			1	0	18.14	18.10	18.15	19.50	0-5	
			1	25	18.24	18.19	18.10	19.50	0-5	
			1	49	18.25	18.20	18.07	19.50	0-5	
10	QPSK	25	0	18.11	18.22	18.24	19.50	0-5		
		25	12	18.24	18.10	18.20	19.50	0-5		
		25	25	18.24	18.11	18.09	19.50	0-5		
		50	0	18.15	18.13	18.25	19.50	0-5		

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LTE Band 26								
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)			816.5	831.5	846.5			
Channel			26715	26865	27015			
5	QPSK	1	0	23.25	23.08	23.23	24.50	0
		1	12	23.07	23.14	23.14	24.50	0
		1	24	23.12	23.21	23.13	24.50	0
		12	0	22.16	22.25	22.24	23.50	0-1
		12	6	22.14	22.14	22.20	23.50	0-1
	16-QAM	12	13	22.18	22.19	22.15	23.50	0-1
		25	0	22.19	22.20	22.12	23.50	0-1
		1	0	22.13	22.10	22.12	23.50	0-1
		1	12	22.20	22.25	22.24	23.50	0-1
		1	24	22.15	22.21	22.16	23.50	0-1
	64-QAM	12	0	21.22	21.09	21.26	22.50	0-2
		12	6	21.19	21.10	21.24	22.50	0-2
		12	13	21.25	21.12	21.23	22.50	0-2
		25	0	21.23	21.09	21.07	22.50	0-2
		1	0	21.11	21.08	21.19	22.50	0-2
	256-QAM	1	12	21.14	21.13	21.26	22.50	0-2
		1	24	21.18	21.07	21.25	22.50	0-2
		12	0	20.22	20.25	20.11	21.50	0-3
		12	6	20.23	20.24	20.20	21.50	0-3
		12	13	20.10	20.19	20.18	21.50	0-3
	256-QAM	25	0	20.12	20.13	20.10	21.50	0-3
		1	0	18.26	18.16	18.25	19.50	0-5
		1	12	18.10	18.16	18.22	19.50	0-5
		1	24	18.13	18.23	18.07	19.50	0-5
		12	0	18.16	18.21	18.24	19.50	0-5
256-QAM	12	6	18.26	18.20	18.07	19.50	0-5	
	12	13	18.08	18.07	18.25	19.50	0-5	
	25	0	18.13	18.10	18.15	19.50	0-5	
	Frequency (MHz)			815.5	831.5	847.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
	Channel			26705	26865	27025		
3	QPSK	1	0	23.20	23.24	23.24	24.50	0
		1	7	23.19	23.23	23.21	24.50	0
		1	14	23.15	23.15	23.13	24.50	0
		8	0	22.14	22.18	22.13	23.50	0-1
		8	4	22.09	22.26	22.10	23.50	0-1
	16-QAM	8	7	22.16	22.24	22.12	23.50	0-1
		15	0	22.26	22.16	22.19	23.50	0-1
		1	0	22.17	22.16	22.07	23.50	0-1
		1	7	22.20	22.10	22.16	23.50	0-1
		1	14	22.16	22.16	22.11	23.50	0-1
	64-QAM	8	0	21.20	21.23	21.16	22.50	0-2
		8	4	21.17	21.21	21.10	22.50	0-2
		8	7	21.11	21.13	21.21	22.50	0-2
		15	0	21.11	21.24	21.11	22.50	0-2
		1	0	21.18	21.13	21.13	22.50	0-2
	256-QAM	1	7	21.16	21.09	21.19	22.50	0-2
		1	14	21.18	21.14	21.08	22.50	0-2
		8	0	20.08	20.08	20.09	21.50	0-3
		8	4	20.26	20.21	20.09	21.50	0-3
		8	7	20.26	20.11	20.09	21.50	0-3
	256-QAM	15	0	20.08	20.22	20.20	21.50	0-3
		1	0	18.09	18.11	18.07	19.50	0-5
		1	7	18.09	18.09	18.12	19.50	0-5
		1	14	18.12	18.13	18.11	19.50	0-5
		8	0	18.21	18.24	18.14	19.50	0-5
256-QAM	8	4	18.08	18.13	18.23	19.50	0-5	
	8	7	18.19	18.23	18.23	19.50	0-5	
	15	0	18.22	18.08	18.12	19.50	0-5	

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LTE Band 26								
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				814.7	831.5	848.3		
Channel				26697	26865	27033		
1.4	QPSK	1	0	23.14	23.23	23.22	24.50	0
		1	2	23.10	23.26	23.13	24.50	0
		1	5	23.12	23.23	23.19	24.50	0
		3	0	23.08	23.17	23.15	24.50	0.00
		3	2	23.02	23.20	23.06	24.50	0.00
		3	3	23.10	23.14	23.17	24.50	0.00
	16-QAM	6	0	22.18	22.24	22.12	23.50	0-1
		1	0	22.07	22.24	22.18	23.50	0-1
		1	2	22.07	22.13	22.11	23.50	0-1
		1	5	22.13	22.24	22.13	23.50	0-1
		3	0	22.02	22.14	22.16	23.50	0-1
		3	2	22.01	22.08	22.06	23.50	0-1
	64-QAM	3	3	22.08	22.19	22.02	23.50	0-1
		6	0	21.09	21.16	21.10	22.50	0-2
		1	0	21.19	21.08	21.22	22.50	0-2
		1	2	21.08	21.12	21.12	22.50	0-2
		1	5	21.15	21.12	21.17	22.50	0-2
		3	0	21.08	20.99	21.19	22.50	0-2
	256-QAM	3	2	21.04	21.03	21.08	22.50	0-2
		3	3	21.12	21.03	21.10	22.50	0-2
		6	0	20.13	20.08	20.11	21.50	0-3
		1	0	18.17	18.15	18.13	19.50	0-5
		1	2	18.12	18.15	18.23	19.50	0-5
		1	5	18.21	18.07	18.09	19.50	0-5
3		0	18.21	18.24	18.11	19.50	0-5	
3		2	18.22	18.25	18.11	19.50	0-5	
3		3	18.13	18.19	18.09	19.50	0-5	
6		0	18.21	18.09	18.10	19.50	0-5	

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LTE Band 30								
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)			2310	2310	2310			
Channel			27710	27710	27710			
10	QPSK	1	0	22.97			23.00	0
		1	25	22.96			23.00	0
		1	49	22.85			23.00	0
		25	0	21.50			22.00	0-1
		25	12	21.59			22.00	0-1
		25	25	21.54			22.00	0-1
	16-QAM	50	0	21.60			22.00	0-1
		1	0	21.50			22.00	0-1
		1	25	21.51			22.00	0-1
		1	49	21.50			22.00	0-1
		25	0	20.58			21.00	0-2
		25	12	20.48			21.00	0-2
	64-QAM	25	25	20.54			21.00	0-2
		50	0	20.54			21.00	0-2
		1	0	20.50			21.00	0-2
		1	25	20.56			21.00	0-2
		1	49	20.57			21.00	0-2
		25	0	19.63			20.00	0-3
	256-QAM	25	12	19.63			20.00	0-3
		25	25	19.49			20.00	0-3
		50	0	19.66			20.00	0-3
		1	0	17.64			18.00	0-5
		1	25	17.54			18.00	0-5
		1	49	17.61			18.00	0-5
	Frequency (MHz)			2307.5	2310	2312.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Channel			27685	27710	27735			
5	QPSK	1	0	22.54	22.57	22.49	23.00	0
		1	12	22.56	22.49	22.47	23.00	0
		1	24	22.49	22.48	22.66	23.00	0
		12	0	21.48	21.51	21.50	22.00	0-1
		12	6	21.50	21.58	21.55	22.00	0-1
		12	13	21.51	21.49	21.50	22.00	0-1
	16-QAM	25	0	21.52	21.66	21.55	22.00	0-1
		1	0	21.52	21.55	21.54	22.00	0-1
		1	12	21.60	21.49	21.48	22.00	0-1
		1	24	21.55	21.51	21.64	22.00	0-1
		12	0	20.59	20.53	20.47	21.00	0-2
		12	6	20.62	20.63	20.59	21.00	0-2
	64-QAM	12	13	20.52	20.66	20.56	21.00	0-2
		25	0	20.55	20.59	20.64	21.00	0-2
		1	0	20.62	20.53	20.55	21.00	0-2
		1	12	20.59	20.59	20.59	21.00	0-2
		1	24	20.57	20.52	20.63	21.00	0-2
		12	0	19.51	19.66	19.47	20.00	0-3
	256-QAM	12	6	19.61	19.65	19.65	20.00	0-3
		12	13	19.52	19.62	19.60	20.00	0-3
		25	0	19.52	19.63	19.47	20.00	0-3
		1	0	17.60	17.53	17.65	18.00	0-5
		1	12	17.61	17.48	17.61	18.00	0-5
		1	24	17.51	17.49	17.65	18.00	0-5
	Frequency (MHz)			2307.5	2310	2312.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Channel			27685	27710	27735			
5	QPSK	1	0	22.54	22.57	22.49	23.00	0
		1	12	22.56	22.49	22.47	23.00	0
		1	24	22.49	22.48	22.66	23.00	0
		12	0	21.48	21.51	21.50	22.00	0-1
		12	6	21.50	21.58	21.55	22.00	0-1
		12	13	21.51	21.49	21.50	22.00	0-1
	16-QAM	25	0	21.52	21.66	21.55	22.00	0-1
		1	0	21.52	21.55	21.54	22.00	0-1
		1	12	21.60	21.49	21.48	22.00	0-1
		1	24	21.55	21.51	21.64	22.00	0-1
		12	0	20.59	20.53	20.47	21.00	0-2
		12	6	20.62	20.63	20.59	21.00	0-2
	64-QAM	12	13	20.52	20.66	20.56	21.00	0-2
		25	0	20.55	20.59	20.64	21.00	0-2
		1	0	20.62	20.53	20.55	21.00	0-2
		1	12	20.59	20.59	20.59	21.00	0-2
		1	24	20.57	20.52	20.63	21.00	0-2
		12	0	19.51	19.66	19.47	20.00	0-3
	256-QAM	12	6	19.61	19.65	19.65	20.00	0-3
		12	13	19.52	19.62	19.60	20.00	0-3
		25	0	19.52	19.63	19.47	20.00	0-3
		1	0	17.60	17.53	17.65	18.00	0-5
		1	12	17.61	17.48	17.61	18.00	0-5
		1	24	17.51	17.49	17.65	18.00	0-5

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LTE Band 66								
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				1720	1745	1770		
Channel				132072	132322	132572		
20	QPSK	1	0	22.98	23.29	24.00	24.00	0
		1	50	23.56	23.89	23.32	24.00	0
		1	99	23.81	23.92	23.96	24.00	0
		50	0	22.27	22.25	22.19	23.00	0-1
		50	25	22.29	22.29	22.24	23.00	0-1
		50	50	22.33	22.23	22.35	23.00	0-1
	100	0	22.34	22.26	22.23	23.00	0-1	
	16-QAM	1	0	22.28	22.31	22.19	23.00	0-1
		1	50	22.24	22.35	22.22	23.00	0-1
		1	99	22.29	22.17	22.17	23.00	0-1
		50	0	21.22	21.26	21.24	22.00	0-2
		50	25	21.34	21.26	21.16	22.00	0-2
		50	50	21.27	21.19	21.22	22.00	0-2
	64-QAM	100	0	21.22	21.17	21.34	22.00	0-2
		1	0	21.33	21.25	21.29	22.00	0-2
		1	50	21.33	21.31	21.21	22.00	0-2
		1	99	21.30	21.23	21.22	22.00	0-2
		50	0	20.23	20.21	20.28	21.00	0-3
		50	25	20.33	20.35	20.17	21.00	0-3
	256-QAM	50	50	20.24	20.31	20.17	21.00	0-3
		100	0	20.20	20.20	20.16	21.00	0-3
		1	0	18.20	18.28	18.23	19.00	0-5
		1	50	18.27	18.16	18.18	19.00	0-5
		1	99	18.19	18.35	18.18	19.00	0-5
50		0	18.25	18.33	18.26	19.00	0-5	
Frequency (MHz)				1717.5	1745	1772.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Channel				132047	132322	132597		
15	QPSK	1	0	23.34	23.35	23.17	24.00	0
		1	36	23.33	23.35	23.27	24.00	0
		1	74	23.33	23.25	23.18	24.00	0
		36	0	22.25	22.31	22.22	23.00	0-1
		36	18	22.25	22.27	22.18	23.00	0-1
		36	37	22.32	22.30	22.18	23.00	0-1
	16-QAM	75	0	22.16	22.27	22.19	23.00	0-1
		1	0	22.20	22.31	22.29	23.00	0-1
		1	36	22.24	22.19	22.20	23.00	0-1
		1	74	22.19	22.22	22.32	23.00	0-1
		36	0	21.31	21.25	21.17	22.00	0-2
		36	18	21.16	21.21	21.30	22.00	0-2
	64-QAM	36	37	21.25	21.17	21.30	22.00	0-2
		75	0	21.23	21.25	21.26	22.00	0-2
		1	0	21.25	21.18	21.32	22.00	0-2
		1	36	21.20	21.22	21.35	22.00	0-2
		1	74	21.16	21.26	21.32	22.00	0-2
		36	0	20.30	20.23	20.25	21.00	0-3
	256-QAM	36	18	20.25	20.22	20.17	21.00	0-3
		36	37	20.17	20.26	20.21	21.00	0-3
		75	0	20.19	20.30	20.28	21.00	0-3
		1	0	18.19	18.29	18.29	19.00	0-5
		1	36	18.20	18.23	18.32	19.00	0-5
		1	74	18.23	18.27	18.32	19.00	0-5
36	0	18.22	18.27	18.19	19.00	0-5		
36	18	18.24	18.30	18.27	19.00	0-5		
36	37	18.25	18.27	18.17	19.00	0-5		
75	0	18.16	18.35	18.32	19.00	0-5		

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LTE Band 66									
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Frequency (MHz)				1715	1745	1775			
Channel				132022	132322	132622			
10	QPSK	1	0	23.29	23.27	23.23	24.00	0	
		1	25	23.27	23.19	23.34	24.00	0	
		1	49	23.27	23.33	23.34	24.00	0	
		25	0	22.32	22.28	22.32	23.00	0-1	
		25	12	22.29	22.27	22.25	23.00	0-1	
		25	25	22.32	22.34	22.20	23.00	0-1	
	16-QAM	50	0	22.27	22.28	22.32	23.00	0-1	
		1	0	22.20	22.28	22.23	23.00	0-1	
		1	25	22.17	22.18	22.30	23.00	0-1	
		1	49	22.22	22.27	22.28	23.00	0-1	
		25	0	21.22	21.17	21.24	22.00	0-2	
		25	12	21.33	21.30	21.23	22.00	0-2	
	64-QAM	25	25	21.22	21.18	21.25	22.00	0-2	
		50	0	21.31	21.19	21.16	22.00	0-2	
		1	0	21.16	21.28	21.35	22.00	0-2	
		1	25	21.20	21.19	21.22	22.00	0-2	
		1	49	21.27	21.21	21.26	22.00	0-2	
		25	0	20.16	20.31	20.23	21.00	0-3	
	256-QAM	25	12	20.17	20.25	20.30	21.00	0-3	
		25	25	20.31	20.28	20.16	21.00	0-3	
		50	0	20.20	20.20	20.18	21.00	0-3	
		1	0	18.21	18.21	18.20	19.00	0-5	
		1	25	18.34	18.27	18.32	19.00	0-5	
		1	49	18.28	18.26	18.24	19.00	0-5	
	Frequency (MHz)				1712.5	1745	1777.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
	Channel				131997	132322	132647		
	5	QPSK	1	0	23.26	23.20	23.26	24.00	0
			1	12	23.27	23.33	23.22	24.00	0
1			24	23.20	23.35	23.19	24.00	0	
12			0	22.30	22.26	22.26	23.00	0-1	
12			6	22.29	22.20	22.25	23.00	0-1	
12			13	22.24	22.17	22.30	23.00	0-1	
16-QAM		25	0	22.30	22.22	22.23	23.00	0-1	
		1	0	22.25	22.22	22.26	23.00	0-1	
		1	12	22.23	22.29	22.24	23.00	0-1	
		1	24	22.31	22.22	22.33	23.00	0-1	
		12	0	21.25	21.22	21.16	22.00	0-2	
		12	6	21.26	21.17	21.17	22.00	0-2	
64-QAM		12	13	21.18	21.18	21.24	22.00	0-2	
		25	0	21.29	21.20	21.17	22.00	0-2	
		1	0	21.20	21.35	21.23	22.00	0-2	
		1	12	21.31	21.21	21.26	22.00	0-2	
		1	24	21.16	21.33	21.34	22.00	0-2	
		12	0	20.29	20.24	20.27	21.00	0-3	
256-QAM		12	6	20.32	20.24	20.19	21.00	0-3	
		12	13	20.33	20.32	20.26	21.00	0-3	
		25	0	20.16	20.26	20.24	21.00	0-3	
		1	0	18.25	18.24	18.25	19.00	0-5	
		1	12	18.25	18.27	18.31	19.00	0-5	
		1	24	18.18	18.35	18.27	19.00	0-5	
Frequency (MHz)				1712.5	1745	1777.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Channel				131997	132322	132647			
5		QPSK	12	0	22.30	22.26	22.26	23.00	0-1
			12	6	22.29	22.20	22.25	23.00	0-1
	12		13	22.24	22.17	22.30	23.00	0-1	
	25		0	22.30	22.22	22.23	23.00	0-1	
	16-QAM	1	0	22.25	22.22	22.26	23.00	0-1	
		1	12	22.23	22.29	22.24	23.00	0-1	
		1	24	22.31	22.22	22.33	23.00	0-1	
		12	0	21.25	21.22	21.16	22.00	0-2	
	64-QAM	12	6	21.26	21.17	21.17	22.00	0-2	
		12	13	21.18	21.18	21.24	22.00	0-2	
		25	0	21.29	21.20	21.17	22.00	0-2	
		1	0	21.20	21.35	21.23	22.00	0-2	
256-QAM	1	12	21.31	21.21	21.26	22.00	0-2		
	1	24	21.16	21.33	21.34	22.00	0-2		
	12	0	20.29	20.24	20.27	21.00	0-3		
	12	6	20.32	20.24	20.19	21.00	0-3		
256-QAM	12	13	20.33	20.32	20.26	21.00	0-3		
	25	0	20.16	20.26	20.24	21.00	0-3		
	1	0	18.25	18.24	18.25	19.00	0-5		
	1	12	18.25	18.27	18.31	19.00	0-5		
256-QAM	1	24	18.18	18.35	18.27	19.00	0-5		
	12	0	18.24	18.17	18.33	19.00	0-5		
	12	6	18.22	18.19	18.24	19.00	0-5		
	12	13	18.28	18.18	18.27	19.00	0-5		
25	0	18.24	18.25	18.22	19.00	0-5			

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LTE Band 66											
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)			
Frequency (MHz)				1711.5	1745	1778.5					
Channel				131987	132322	132657					
3	QPSK	1	0	23.27	23.19	23.30	24.00	0			
		1	7	23.35	23.16	23.24	24.00	0			
		1	14	23.28	23.29	23.22	24.00	0			
		8	0	22.26	22.30	22.33	23.00	0-1			
		8	4	22.24	22.30	22.28	23.00	0-1			
		8	7	22.30	22.29	22.22	23.00	0-1			
	16-QAM	15	0	22.33	22.32	22.24	23.00	0-1			
		1	0	22.16	22.24	22.17	23.00	0-1			
		1	7	22.26	22.33	22.17	23.00	0-1			
		1	14	22.23	22.33	22.21	23.00	0-1			
		8	0	21.23	21.22	21.25	22.00	0-2			
		8	4	21.35	21.25	21.19	22.00	0-2			
	64-QAM	8	7	21.21	21.35	21.25	22.00	0-2			
		15	0	21.32	21.25	21.23	22.00	0-2			
		1	0	21.24	21.25	21.28	22.00	0-2			
		1	7	21.25	21.26	21.25	22.00	0-2			
		1	14	21.16	21.27	21.30	22.00	0-2			
		8	0	20.27	20.19	20.29	21.00	0-3			
	256-QAM	8	4	20.24	20.32	20.25	21.00	0-3			
		8	7	20.23	20.30	20.17	21.00	0-3			
		15	0	20.22	20.25	20.17	21.00	0-3			
		1	0	18.30	18.32	18.19	19.00	0-5			
		1	7	18.24	18.18	18.28	19.00	0-5			
		1	14	18.27	18.35	18.19	19.00	0-5			
	1.4	QPSK	8	0	18.23	18.24	18.16	19.00	0-5		
			8	4	18.17	18.27	18.29	19.00	0-5		
			8	7	18.31	18.24	18.30	19.00	0-5		
			15	0	18.31	18.21	18.23	19.00	0-5		
			Frequency (MHz)				1710.7	1745	1779.3	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
			Channel				131979	132322	132665		
1.4		QPSK	1	0	23.27	23.27	23.27	24.00	0		
			1	2	23.16	23.25	23.27	24.00	0		
			1	5	23.28	23.27	23.34	24.00	0		
			3	0	23.23	23.16	23.22	24.00	0.00		
			3	2	23.10	23.22	23.18	24.00	0.00		
			3	3	23.24	23.17	23.31	24.00	0.00		
		16-QAM	6	0	22.28	22.35	22.34	23.00	0-1		
			1	0	22.26	22.24	22.28	23.00	0-1		
			1	2	22.18	22.31	22.33	23.00	0-1		
			1	5	22.23	22.26	22.21	23.00	0-1		
			3	0	22.15	22.19	22.26	23.00	0-1		
			3	2	22.14	22.21	22.30	23.00	0-1		
		64-QAM	3	3	22.17	22.15	22.13	23.00	0-1		
			6	0	21.20	21.28	21.24	22.00	0-2		
			1	0	21.27	21.33	21.21	22.00	0-2		
			1	2	21.30	21.18	21.20	22.00	0-2		
			1	5	21.26	21.25	21.34	22.00	0-2		
			3	0	21.23	21.31	21.14	22.00	0-2		
		256-QAM	3	2	21.27	21.10	21.13	22.00	0-2		
			3	3	21.21	21.15	21.26	22.00	0-2		
			6	0	20.33	20.20	20.24	21.00	0-3		
			1	0	18.19	18.29	18.22	19.00	0-5		
			1	2	18.19	18.22	18.30	19.00	0-5		
			1	5	18.24	18.31	18.33	19.00	0-5		
1.4	256-QAM	3	0	18.16	18.19	18.21	19.00	0-5			
		3	2	18.34	18.28	18.21	19.00	0-5			
		3	3	18.24	18.32	18.17	19.00	0-5			
		6	0	18.26	18.22	18.17	19.00	0-5			

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**Tx5-LTE TDD Band 38 / Band 41 power table:**

LTE Band 38									
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Frequency (MHz)			2580	2595	2610				
Channel			37850	38000	38150				
20	QPSK	1	0	23.96	23.83	23.68	24.00	0	
		1	50	23.86	23.77	23.87	24.00	0	
		1	99	23.85	23.63	23.88	24.00	0	
		50	0	22.22	22.34	22.39	23.00	0-1	
		50	25	22.34	22.41	22.28	23.00	0-1	
		50	50	22.31	22.28	22.38	23.00	0-1	
	16-QAM	100	0	22.36	22.38	22.41	23.00	0-1	
		1	0	22.35	22.27	22.24	23.00	0-1	
		1	50	22.32	22.22	22.32	23.00	0-1	
		1	99	22.38	22.32	22.25	23.00	0-1	
		50	0	21.33	21.33	21.35	22.00	0-2	
		50	25	21.31	21.35	21.22	22.00	0-2	
	64-QAM	50	50	21.29	21.30	21.23	22.00	0-2	
		100	0	21.33	21.41	21.24	22.00	0-2	
		1	0	21.32	21.30	21.23	22.00	0-2	
		1	50	21.30	21.38	21.22	22.00	0-2	
		1	99	21.31	21.34	21.40	22.00	0-2	
		50	0	20.25	20.40	20.23	21.00	0-3	
	256-QAM	50	25	20.39	20.33	20.28	21.00	0-3	
		50	50	20.37	20.31	20.40	21.00	0-3	
		100	0	20.41	20.39	20.39	21.00	0-3	
		1	0	18.33	18.41	18.38	19.00	0-5	
		1	50	18.27	18.31	18.33	19.00	0-5	
		1	99	18.28	18.26	18.36	19.00	0-5	
	Frequency (MHz)			2577.5	2595	2612.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
	Channel			37825	38000	38175			
	15	QPSK	1	0	23.29	23.23	23.33	24.00	0
			1	36	23.29	23.25	23.26	24.00	0
			1	74	23.40	23.27	23.32	24.00	0
			36	0	22.25	22.28	22.41	23.00	0-1
36			18	22.37	22.22	22.22	23.00	0-1	
36			37	22.22	22.24	22.33	23.00	0-1	
16-QAM		75	0	22.25	22.40	22.22	23.00	0-1	
		1	0	22.23	22.30	22.33	23.00	0-1	
		1	36	22.41	22.39	22.39	23.00	0-1	
		1	74	22.28	22.40	22.37	23.00	0-1	
		36	0	21.35	21.22	21.25	22.00	0-2	
		36	18	21.33	21.24	21.23	22.00	0-2	
64-QAM		36	37	21.29	21.27	21.40	22.00	0-2	
		75	0	21.25	21.40	21.23	22.00	0-2	
		1	0	21.37	21.38	21.34	22.00	0-2	
		1	36	21.22	21.29	21.24	22.00	0-2	
		1	74	21.38	21.29	21.31	22.00	0-2	
		36	0	20.31	20.36	20.28	21.00	0-3	
256-QAM		36	18	20.23	20.35	20.26	21.00	0-3	
		36	37	20.30	20.34	20.33	21.00	0-3	
		75	0	20.31	20.29	20.38	21.00	0-3	
		1	0	18.32	18.35	18.25	19.00	0-5	
		1	36	18.28	18.34	18.34	19.00	0-5	
		1	74	18.22	18.29	18.26	19.00	0-5	
Frequency (MHz)			2577.5	2595	2612.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)		
Channel			37825	38000	38175				
15		QPSK	1	0	18.32	18.35	18.25	19.00	0-5
			1	36	18.28	18.34	18.34	19.00	0-5
			1	74	18.22	18.29	18.26	19.00	0-5
			36	0	18.28	18.33	18.26	19.00	0-5
	16-QAM	36	18	18.31	18.41	18.30	19.00	0-5	
		36	37	18.38	18.29	18.34	19.00	0-5	
		75	0	18.22	18.34	18.30	19.00	0-5	
		75	0	18.22	18.34	18.30	19.00	0-5	

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LTE Band 38									
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Frequency (MHz)				2575	2595	2615			
Channel				37800	38000	38200			
10	QPSK	1	0	23.39	23.34	23.36	24.00	0	
		1	25	23.34	23.40	23.34	24.00	0	
		1	49	23.34	23.31	23.24	24.00	0	
		25	0	22.31	22.25	22.41	23.00	0-1	
		25	12	22.37	22.32	22.34	23.00	0-1	
		25	25	22.25	22.40	22.25	23.00	0-1	
	16-QAM	50	0	22.31	22.28	22.31	23.00	0-1	
		1	0	22.41	22.33	22.39	23.00	0-1	
		1	25	22.28	22.39	22.35	23.00	0-1	
		1	49	22.33	22.39	22.27	23.00	0-1	
		25	0	21.22	21.40	21.25	22.00	0-2	
		25	12	21.30	21.33	21.31	22.00	0-2	
	64-QAM	25	25	21.37	21.35	21.30	22.00	0-2	
		50	0	21.32	21.24	21.22	22.00	0-2	
		1	0	21.30	21.37	21.29	22.00	0-2	
		1	25	21.33	21.39	21.32	22.00	0-2	
		1	49	21.29	21.29	21.32	22.00	0-2	
		25	0	20.35	20.24	20.26	21.00	0-3	
	256-QAM	25	12	20.30	20.24	20.31	21.00	0-3	
		25	25	20.35	20.24	20.34	21.00	0-3	
		50	0	20.29	20.32	20.32	21.00	0-3	
		1	0	18.34	18.22	18.40	19.00	0-5	
		1	25	18.39	18.30	18.30	19.00	0-5	
		1	49	18.33	18.23	18.28	19.00	0-5	
	256-QAM	25	0	18.29	18.29	18.33	19.00	0-5	
25		12	18.39	18.36	18.38	19.00	0-5		
25		25	18.37	18.33	18.22	19.00	0-5		
50		0	18.29	18.35	18.39	19.00	0-5		
Frequency (MHz)				2572.5	2595	2617.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Channel				37775	38000	38225			
5	QPSK	1	0	23.24	23.37	23.23	24.00	0	
		1	12	23.34	23.40	23.29	24.00	0	
		1	24	23.41	23.23	23.40	24.00	0	
		12	0	22.40	22.32	22.40	23.00	0-1	
		12	6	22.30	22.23	22.31	23.00	0-1	
		12	13	22.41	22.29	22.30	23.00	0-1	
	16-QAM	25	0	22.30	22.31	22.37	23.00	0-1	
		1	0	22.37	22.31	22.39	23.00	0-1	
		1	12	22.22	22.36	22.36	23.00	0-1	
		1	24	22.26	22.41	22.41	23.00	0-1	
		12	0	21.26	21.23	21.36	22.00	0-2	
		12	6	21.23	21.32	21.29	22.00	0-2	
	64-QAM	12	13	21.36	21.31	21.27	22.00	0-2	
		25	0	21.34	21.41	21.35	22.00	0-2	
		1	0	21.36	21.25	21.27	22.00	0-2	
		1	12	21.34	21.37	21.39	22.00	0-2	
		1	24	21.35	21.28	21.34	22.00	0-2	
		12	0	20.25	20.31	20.25	21.00	0-3	
	256-QAM	12	6	20.30	20.38	20.30	21.00	0-3	
		12	13	20.41	20.33	20.26	21.00	0-3	
		25	0	20.39	20.25	20.36	21.00	0-3	
		1	0	18.24	18.37	18.25	19.00	0-5	
		1	12	18.23	18.33	18.37	19.00	0-5	
		1	24	18.39	18.37	18.28	19.00	0-5	
	256-QAM	12	0	18.35	18.36	18.28	19.00	0-5	
12		6	18.39	18.37	18.36	19.00	0-5		
12		13	18.26	18.22	18.40	19.00	0-5		
25		0	18.32	18.25	18.39	19.00	0-5		

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LTE Band 41										
BW(MHz)	Modulation	RB Size	RB Offset	Conducted power (dBm)					Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)			2506	2549.5	2593	2636.5	2680			
Channel			39750	40185	40620	41055	41490			
20	QPSK	1	0	23.92	23.73	23.72	23.43	23.68	24.00	0
		1	50	23.93	23.57	23.44	23.31	23.57	24.00	0
		1	99	23.95	23.63	23.52	23.58	23.31	24.00	0
		50	0	22.44	22.38	22.34	22.27	22.36	23.00	0-1
		50	25	22.31	22.43	22.29	22.34	22.35	23.00	0-1
		50	50	22.35	22.37	22.27	22.26	22.31	23.00	0-1
	100	0	22.39	22.25	22.27	22.31	22.33	23.00	0-1	
	16-QAM	1	0	22.36	22.27	22.33	22.40	22.27	23.00	0-1
		1	50	22.28	22.35	22.33	22.44	22.35	23.00	0-1
		1	99	22.42	22.40	22.28	22.36	22.30	23.00	0-1
		50	0	21.44	21.35	21.32	21.40	21.25	22.00	0-2
		50	25	21.43	21.38	21.37	21.31	21.38	22.00	0-2
		50	50	21.39	21.44	21.28	21.39	21.28	22.00	0-2
	100	0	21.40	21.25	21.28	21.27	21.38	22.00	0-2	
	64-QAM	1	0	21.43	21.34	21.41	21.42	21.26	22.00	0-2
		1	50	21.36	21.38	21.27	21.29	21.32	22.00	0-2
		1	99	21.38	21.42	21.30	21.38	21.39	22.00	0-2
		50	0	20.28	20.39	20.29	20.40	20.38	21.00	0-3
		50	25	20.44	20.35	20.43	20.40	20.41	21.00	0-3
		50	50	20.28	20.40	20.28	20.34	20.31	21.00	0-3
	100	0	20.34	20.34	20.41	20.28	20.36	21.00	0-3	
	256-QAM	1	0	18.25	18.36	18.34	18.31	18.39	19.00	0-5
		1	50	18.44	18.41	18.42	18.34	18.38	19.00	0-5
		1	99	18.25	18.42	18.33	18.38	18.33	19.00	0-5
		50	0	18.26	18.33	18.35	18.34	18.36	19.00	0-5
		50	25	18.34	18.42	18.36	18.41	18.30	19.00	0-5
		50	50	18.44	18.27	18.34	18.37	18.44	19.00	0-5
	100	0	18.44	18.40	18.35	18.42	18.41	19.00	0-5	
Frequency (MHz)			2503.5	2548.3	2593	2637.8	2682.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Channel			39725	40173	40620	41068	41515			
15	QPSK	1	0	23.26	23.39	23.40	23.25	23.25	24.00	0
		1	36	23.43	23.37	23.34	23.35	23.26	24.00	0
		1	74	23.27	23.32	23.40	23.27	23.43	24.00	0
		36	0	22.27	22.44	22.34	22.43	22.39	23.00	0-1
		36	18	22.38	22.27	22.33	22.25	22.36	23.00	0-1
		36	37	22.44	22.40	22.36	22.35	22.33	23.00	0-1
	75	0	22.36	22.34	22.33	22.33	22.35	23.00	0-1	
	16-QAM	1	0	22.40	22.36	22.29	22.26	22.27	23.00	0-1
		1	36	22.33	22.36	22.36	22.35	22.38	23.00	0-1
		1	74	22.42	22.29	22.33	22.40	22.26	23.00	0-1
		36	0	21.31	21.33	21.42	21.37	21.40	22.00	0-2
		36	18	21.29	21.35	21.43	21.26	21.38	22.00	0-2
		36	37	21.41	21.42	21.39	21.25	21.42	22.00	0-2
	75	0	21.44	21.37	21.28	21.30	21.29	22.00	0-2	
	64-QAM	1	0	21.28	21.37	21.32	21.37	21.35	22.00	0-2
		1	36	21.25	21.27	21.44	21.31	21.33	22.00	0-2
		1	74	21.37	21.43	21.36	21.25	21.37	22.00	0-2
		36	0	20.25	20.32	20.34	20.34	20.43	21.00	0-3
		36	18	20.43	20.40	20.33	20.44	20.33	21.00	0-3
		36	37	20.41	20.37	20.30	20.38	20.30	21.00	0-3
	75	0	20.33	20.28	20.38	20.31	20.30	21.00	0-3	
	256-QAM	1	0	18.36	18.27	18.25	18.30	18.35	19.00	0-5
		1	36	18.33	18.34	18.37	18.41	18.38	19.00	0-5
		1	74	18.40	18.39	18.41	18.27	18.30	19.00	0-5
		36	0	18.31	18.35	18.34	18.28	18.42	19.00	0-5
		36	18	18.27	18.25	18.40	18.35	18.26	19.00	0-5
		36	37	18.43	18.38	18.38	18.34	18.43	19.00	0-5
	75	0	18.30	18.34	18.31	18.42	18.39	19.00	0-5	

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LTE Band 41											
BW(MHz)	Modulation	RB Size	RB Offset	Conducted power (dBm)					Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Frequency (MHz)			2501	2547	2593	2639	2685				
Channel			39700	40160	40620	41080	41540				
10	QPSK	1	0	23.27	23.34	23.32	23.31	23.29	24.00	0	
		1	25	23.42	23.36	23.31	23.40	23.31	24.00	0	
		1	49	23.31	23.43	23.43	23.25	23.44	24.00	0	
		25	0	22.27	22.32	22.29	22.27	22.39	23.00	0-1	
		25	12	22.39	22.29	22.25	22.36	22.25	23.00	0-1	
		25	25	22.36	22.39	22.40	22.40	22.33	23.00	0-1	
	16-QAM	50	0	22.41	22.34	22.32	22.28	22.26	23.00	0-1	
		1	0	22.39	22.44	22.32	22.40	22.42	23.00	0-1	
		1	25	22.36	22.42	22.33	22.33	22.28	23.00	0-1	
		1	49	22.38	22.32	22.36	22.41	22.40	23.00	0-1	
		25	0	21.43	21.25	21.26	21.42	21.33	22.00	0-2	
		25	12	21.41	21.42	21.40	21.28	21.43	22.00	0-2	
	64-QAM	25	25	21.27	21.42	21.41	21.35	21.31	22.00	0-2	
		50	0	21.33	21.25	21.26	21.30	21.28	22.00	0-2	
		1	0	21.34	21.40	21.30	21.35	21.33	22.00	0-2	
		1	25	21.39	21.44	21.38	21.28	21.44	22.00	0-2	
		1	49	21.37	21.25	21.43	21.44	21.41	22.00	0-2	
		25	0	20.42	20.43	20.34	20.28	20.38	21.00	0-3	
	256-QAM	25	12	20.44	20.27	20.33	20.39	20.42	21.00	0-3	
		25	25	20.30	20.34	20.27	20.31	20.29	21.00	0-3	
		50	0	20.25	20.27	20.29	20.35	20.36	21.00	0-3	
		1	0	18.25	18.42	18.27	18.30	18.36	19.00	0-5	
		1	25	18.43	18.35	18.29	18.38	18.32	19.00	0-5	
		1	49	18.31	18.26	18.35	18.39	18.34	19.00	0-5	
	Frequency (MHz)			2498.5	2547.8	2593	2640.3	2687.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
	Channel			39675	40148	40620	41093	41565			
	5	QPSK	1	0	23.36	23.39	23.34	23.36	23.31	24.00	0
			1	12	23.35	23.43	23.43	23.30	23.27	24.00	0
			1	24	23.39	23.25	23.30	23.38	23.33	24.00	0
			12	0	22.31	22.36	22.25	22.28	22.31	23.00	0-1
12			6	22.41	22.35	22.33	22.31	22.42	23.00	0-1	
12			13	22.37	22.36	22.34	22.35	22.26	23.00	0-1	
16-QAM		25	0	22.37	22.44	22.28	22.41	22.40	23.00	0-1	
		1	0	22.33	22.43	22.43	22.25	22.30	23.00	0-1	
		1	12	22.40	22.36	22.36	22.40	22.41	23.00	0-1	
		1	24	22.41	22.36	22.41	22.43	22.25	23.00	0-1	
		12	0	21.37	21.33	21.32	21.31	21.35	22.00	0-2	
		12	6	21.39	21.31	21.32	21.39	21.26	22.00	0-2	
64-QAM		12	13	21.36	21.39	21.39	21.26	21.25	22.00	0-2	
		25	0	21.40	21.37	21.42	21.38	21.34	22.00	0-2	
		1	0	21.42	21.38	21.39	21.42	21.33	22.00	0-2	
		1	12	21.41	21.37	21.25	21.35	21.33	22.00	0-2	
		1	24	21.39	21.29	21.29	21.38	21.30	22.00	0-2	
		12	0	20.39	20.31	20.42	20.31	20.41	21.00	0-3	
256-QAM		12	6	20.26	20.42	20.35	20.35	20.29	21.00	0-3	
		12	13	20.36	20.25	20.32	20.30	20.30	21.00	0-3	
		25	0	20.33	20.43	20.31	20.33	20.27	21.00	0-3	
		1	0	18.30	18.36	18.40	18.29	18.32	19.00	0-5	
		1	12	18.35	18.35	18.28	18.44	18.40	19.00	0-5	
		1	24	18.33	18.35	18.29	18.28	18.37	19.00	0-5	
Frequency (MHz)			2498.5	2547.8	2593	2640.3	2687.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)		
Channel			39675	40148	40620	41093	41565				
5		QPSK	1	0	23.36	23.39	23.34	23.36	23.31	24.00	0
			1	12	23.35	23.43	23.43	23.30	23.27	24.00	0
			1	24	23.39	23.25	23.30	23.38	23.33	24.00	0
			12	0	22.31	22.36	22.25	22.28	22.31	23.00	0-1
	12		6	22.41	22.35	22.33	22.31	22.42	23.00	0-1	
	12		13	22.37	22.36	22.34	22.35	22.26	23.00	0-1	
	16-QAM	25	0	22.37	22.44	22.28	22.41	22.40	23.00	0-1	
		1	0	22.33	22.43	22.43	22.25	22.30	23.00	0-1	
		1	12	22.40	22.36	22.36	22.40	22.41	23.00	0-1	
		1	24	22.41	22.36	22.41	22.43	22.25	23.00	0-1	
		12	0	21.37	21.33	21.32	21.31	21.35	22.00	0-2	
		12	6	21.39	21.31	21.32	21.39	21.26	22.00	0-2	
	64-QAM	12	13	21.36	21.39	21.39	21.26	21.25	22.00	0-2	
		25	0	21.40	21.37	21.42	21.38	21.34	22.00	0-2	
		1	0	21.42	21.38	21.39	21.42	21.33	22.00	0-2	
		1	12	21.41	21.37	21.25	21.35	21.33	22.00	0-2	
		1	24	21.39	21.29	21.29	21.38	21.30	22.00	0-2	
		12	0	20.39	20.31	20.42	20.31	20.41	21.00	0-3	
	256-QAM	12	6	20.26	20.42	20.35	20.35	20.29	21.00	0-3	
		12	13	20.36	20.25	20.32	20.30	20.30	21.00	0-3	
		25	0	20.33	20.43	20.31	20.33	20.27	21.00	0-3	
		1	0	18.30	18.36	18.40	18.29	18.32	19.00	0-5	
		1	12	18.35	18.35	18.28	18.44	18.40	19.00	0-5	
		1	24	18.33	18.35	18.29	18.28	18.37	19.00	0-5	

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LTE Band 41 (HPUE)										
BW(MHz)	Modulation	RB Size	RB Offset	Conducted power (dBm)					Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)			2506	2549.5	2593	2636.5	2680			
Channel			39750	40185	40620	41055	41490			
20	QPSK	1	0	25.93	26.04	26.12	26.10	26.08	27.00	0
		1	50	26.00	26.01	26.10	26.06	26.03	27.00	0
		1	99	25.81	25.99	26.07	26.09	25.99	27.00	0
		50	0	25.12	25.32	25.14	25.36	25.23	26.00	0-1
		50	25	25.20	25.17	25.07	25.03	25.19	26.00	0-1
		50	50	25.18	25.08	25.05	25.05	25.14	26.00	0-1
	100	0	25.07	25.07	25.18	25.00	25.10	26.00	0-1	
	16-QAM	1	0	25.10	25.09	25.02	25.04	25.02	26.00	0-1
		1	50	25.12	25.05	25.05	25.10	25.11	26.00	0-1
		1	99	25.02	25.12	25.10	25.05	25.13	26.00	0-1
		50	0	23.11	23.04	23.08	23.02	23.11	25.00	0-2
		50	25	23.17	23.16	23.13	23.15	23.14	25.00	0-2
		50	50	23.12	23.09	23.04	23.04	23.03	25.00	0-2
	100	0	23.07	23.00	23.03	23.06	23.18	25.00	0-2	
	64-QAM	1	0	23.08	23.03	23.01	23.07	23.14	25.00	0-2
		1	50	23.06	23.01	23.14	23.11	23.22	25.00	0-2
		1	99	23.04	22.99	23.00	23.07	23.16	25.00	0-2
		50	0	22.43	22.42	22.56	22.55	22.38	24.00	0-3
		50	25	22.51	22.48	22.41	22.50	22.41	24.00	0-3
		50	50	22.24	22.39	22.37	22.52	22.29	24.00	0-3
	100	0	22.36	22.31	22.42	22.46	22.37	24.00	0-3	
	256-QAM	1	0	20.42	20.34	20.55	20.51	20.42	22.00	0-5
		1	50	20.47	20.39	20.37	20.45	20.36	22.00	0-5
		1	99	20.17	20.33	20.31	20.49	20.45	22.00	0-5
		50	0	20.32	20.27	20.37	20.41	20.32	22.00	0-5
		50	25	20.41	20.40	20.44	20.43	20.43	22.00	0-5
		50	50	20.40	20.45	20.47	20.42	20.41	22.00	0-5
	100	0	20.37	20.40	20.38	20.41	20.36	22.00	0-5	
	Frequency (MHz)			2503.5	2548.3	2593	2637.8	2682.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
	Channel			39725	40173	40620	41068	41515		
15	QPSK	1	0	26.11	26.11	26.06	26.08	26.07	27.00	0
		1	36	26.04	26.07	26.03	26.08	26.01	27.00	0
		1	74	25.98	25.98	26.05	26.04	26.00	27.00	0
		36	0	25.13	25.11	25.13	25.07	25.14	26.00	0-1
		36	18	25.04	25.00	25.10	25.00	25.07	26.00	0-1
		36	37	25.00	25.08	25.13	25.04	25.03	26.00	0-1
	75	0	25.14	25.10	25.10	25.11	25.12	26.00	0-1	
	16-QAM	1	0	25.12	25.20	25.01	25.03	25.21	26.00	0-1
		1	36	25.03	25.05	25.00	25.12	25.04	26.00	0-1
		1	74	25.01	25.08	25.10	25.06	25.07	26.00	0-1
		36	0	23.08	23.04	23.07	23.03	23.01	25.00	0-2
		36	18	23.10	23.07	23.07	23.08	23.06	25.00	0-2
		36	37	22.09	23.21	23.10	23.16	23.02	25.00	0-2
	75	0	23.02	23.09	23.24	23.02	23.07	25.00	0-2	
	64-QAM	1	0	23.01	23.04	23.01	23.15	23.09	25.00	0-2
		1	36	23.11	23.09	23.05	23.09	23.08	25.00	0-2
		1	74	23.09	23.18	23.12	23.09	23.14	25.00	0-2
		36	0	22.56	22.50	22.52	22.49	22.55	24.00	0-3
		36	18	22.39	22.32	22.37	22.41	22.39	24.00	0-3
		36	37	22.30	22.37	22.29	22.34	22.34	24.00	0-3
	75	0	22.36	22.39	22.38	22.37	22.42	24.00	0-3	
	256-QAM	1	0	20.54	20.50	20.48	20.48	20.49	22.00	0-5
		1	36	20.35	20.30	20.35	20.30	20.32	22.00	0-5
		1	74	20.22	20.22	20.22	20.31	20.28	22.00	0-5
		36	0	20.30	20.37	20.34	20.33	20.31	22.00	0-5
		36	18	20.35	20.37	20.44	20.38	20.41	22.00	0-5
		36	37	20.43	20.39	20.46	20.38	20.47	22.00	0-5
	75	0	20.33	20.35	20.29	20.36	20.31	22.00	0-5	

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LTE Band 41 (HPUE)											
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)					Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Frequency (Mhz)			2501	2547	2593	2639	2685				
Channel			39700	40160	40620	41080	41540				
10	QPSK	1	0	26.05	26.06	26.05	26.06	26.05	27.00	0	
		1	25	26.08	26.06	26.01	26.09	26.10	27.00	0	
		1	49	26.02	26.02	26.03	26.04	26.07	27.00	0	
		25	0	25.13	25.06	25.10	25.06	25.11	26.00	0-1	
		25	12	25.00	25.00	25.03	25.06	25.02	26.00	0-1	
		25	25	25.02	25.01	25.04	25.02	25.01	26.00	0-1	
	16-QAM	50	0	25.13	25.16	25.18	25.18	25.09	26.00	0-1	
		1	0	25.12	25.01	25.01	25.17	25.10	26.00	0-1	
		1	25	25.02	25.08	25.00	25.00	25.01	26.00	0-1	
		1	49	25.05	25.09	25.07	25.08	25.07	26.00	0-1	
		25	0	23.07	23.02	23.14	23.09	23.08	25.00	0-2	
		25	12	23.10	23.08	23.11	23.06	23.05	25.00	0-2	
	64-QAM	25	25	23.13	23.11	23.04	23.08	23.06	25.00	0-2	
		50	0	23.12	23.01	23.00	23.02	23.04	25.00	0-2	
		1	0	23.05	23.14	23.00	23.00	23.06	25.00	0-2	
		1	25	23.12	23.12	23.09	23.07	23.05	25.00	0-2	
		1	49	23.00	23.16	23.11	23.15	23.10	25.00	0-2	
		25	0	22.52	22.56	22.54	22.53	22.56	24.00	0-3	
	256-QAM	25	12	22.37	22.32	22.37	22.36	22.36	24.00	0-3	
		25	25	22.35	22.36	22.29	22.29	22.29	24.00	0-3	
		50	0	22.42	22.38	22.36	22.35	22.35	24.00	0-3	
		1	0	20.46	20.55	20.46	20.55	20.50	22.00	0-5	
		1	25	20.33	20.30	20.29	20.34	20.31	22.00	0-5	
		1	49	20.27	20.23	20.28	20.26	20.23	22.00	0-5	
	Frequency (Mhz)			2498.5	2547.8	2593	2640.3	2687.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
	Channel			39675	40148	40620	41093	41565			
	5	QPSK	1	0	25.84	25.87	25.92	25.87	25.86	27.00	0
			1	12	26.00	25.95	25.97	25.95	25.97	27.00	0
			1	24	25.74	25.72	25.74	25.78	25.73	27.00	0
			12	0	25.04	25.04	25.03	25.03	25.06	26.00	0-1
12			6	25.11	25.15	25.12	25.14	25.14	26.00	0-1	
12			13	25.16	25.12	25.10	25.13	25.11	26.00	0-1	
16-QAM		25	0	25.07	25.03	25.02	25.07	25.05	26.00	0-1	
		1	0	25.03	25.01	25.05	25.03	25.05	26.00	0-1	
		1	12	25.08	25.12	25.05	25.09	25.03	26.00	0-1	
		1	24	25.01	25.00	25.12	25.09	25.02	26.00	0-1	
		12	0	23.08	23.05	23.07	23.08	23.03	25.00	0-2	
		12	6	23.09	23.16	23.17	23.15	23.16	25.00	0-2	
64-QAM		12	13	23.03	23.06	23.08	23.03	23.09	25.00	0-2	
		25	0	23.05	23.07	23.06	23.04	23.02	25.00	0-2	
		1	0	23.08	23.06	23.03	23.01	23.05	25.00	0-2	
		1	12	23.02	23.03	23.05	23.02	23.02	25.00	0-2	
		1	24	23.03	23.03	23.09	23.01	23.08	25.00	0-2	
		12	0	22.42	22.37	22.34	22.42	22.42	24.00	0-3	
256-QAM		12	6	22.50	22.46	22.47	22.51	22.50	24.00	0-3	
		12	13	22.19	22.21	22.19	22.15	22.24	24.00	0-3	
		25	0	22.35	22.29	22.29	22.34	22.28	24.00	0-3	
		1	0	20.42	20.35	20.36	20.33	20.35	22.00	0-5	
		1	12	20.43	20.41	20.45	20.45	20.42	22.00	0-5	
		1	24	20.11	20.09	20.15	20.13	20.11	22.00	0-5	
Frequency (Mhz)			2498.5	2547.8	2593	2640.3	2687.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)		
Channel			39675	40148	40620	41093	41565				
5		QPSK	1	0	25.84	25.87	25.92	25.87	25.86	27.00	0
			1	12	26.00	25.95	25.97	25.95	25.97	27.00	0
			1	24	25.74	25.72	25.74	25.78	25.73	27.00	0
			12	0	25.04	25.04	25.03	25.03	25.06	26.00	0-1
	12		6	25.11	25.15	25.12	25.14	25.14	26.00	0-1	
	12		13	25.16	25.12	25.10	25.13	25.11	26.00	0-1	
	16-QAM	25	0	25.07	25.03	25.02	25.07	25.05	26.00	0-1	
		1	0	25.03	25.01	25.05	25.03	25.05	26.00	0-1	
		1	12	25.08	25.12	25.05	25.09	25.03	26.00	0-1	
		1	24	25.01	25.00	25.12	25.09	25.02	26.00	0-1	
		12	0	23.08	23.05	23.07	23.08	23.03	25.00	0-2	
		12	6	23.09	23.16	23.17	23.15	23.16	25.00	0-2	
	64-QAM	12	13	23.03	23.06	23.08	23.03	23.09	25.00	0-2	
		25	0	23.05	23.07	23.06	23.04	23.02	25.00	0-2	
		1	0	23.08	23.06	23.03	23.01	23.05	25.00	0-2	
		1	12	23.02	23.03	23.05	23.02	23.02	25.00	0-2	
		1	24	23.03	23.03	23.09	23.01	23.08	25.00	0-2	
		12	0	22.42	22.37	22.34	22.42	22.42	24.00	0-3	
	256-QAM	12	6	22.50	22.46	22.47	22.51	22.50	24.00	0-3	
		12	13	22.19	22.21	22.19	22.15	22.24	24.00	0-3	
		25	0	22.35	22.29	22.29	22.34	22.28	24.00	0-3	
		1	0	20.42	20.35	20.36	20.33	20.35	22.00	0-5	
		1	12	20.43	20.41	20.45	20.45	20.42	22.00	0-5	
		1	24	20.11	20.09	20.15	20.13	20.11	22.00	0-5	

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**Tx5-5G NR n2 / n5 / n12 / n66 power table:**

5G NR n2									
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Frequency (MHz)				1860	1880	1900			
Channel				372000	376000	380000			
20	Pi/2 BPSK	1	1	23.83	23.32	23.91	24.00	0	
		1	53	23.20	23.17	23.07	24.00	0	
		1	104	23.21	23.14	23.09	24.00	0	
		50	0	23.11	23.20	23.09	24.00	0	
		50	28	23.19	23.13	23.15	24.00	0	
		50	56	23.14	23.11	23.05	24.00	0	
	QPSK	100	0	22.73	22.72	22.71	23.50	0-0.5	
		1	1	23.14	23.13	23.05	24.00	0	
		1	53	23.19	23.11	23.15	24.00	0	
		1	104	23.20	23.12	23.12	24.00	0	
		50	0	23.09	23.06	23.20	24.00	0	
		50	28	23.17	23.15	23.15	24.00	0	
	16-QAM	50	56	23.07	23.22	23.13	24.00	0	
		100	0	22.15	22.16	22.12	23.00	0-1	
		16-QAM	1	1	22.04	22.14	22.23	23.00	0-1
		64QAM	1	1	20.57	20.57	20.55	21.50	0-2.5
256-QAM	1	1	18.71	18.63	18.54	19.50	0-4.5		
Frequency (MHz)				1857.5	1880	1902.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Channel				371500	376000	380500			
15	Pi/2 BPSK	1	1	23.04	23.20	23.22	24.00	0	
Frequency (MHz)				1855	1880	1905	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Channel				371000	376000	381000			
10	Pi/2 BPSK	1	1	23.21	23.12	23.23	24.00	0	
Frequency (MHz)				1852.5	1880	1907.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Channel				370500	376000	381500			
5	Pi/2 BPSK	1	1	23.15	23.08	23.15	24.00	0	

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5G NR n5								
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				834	836.5	839		
Channel				166800	167300	167800		
20	Pi/2 BPSK	1	1	23.91	23.98	23.93	24.00	0
		1	53	23.62	23.53	23.49	24.00	0
		1	104	23.58	23.51	23.47	24.00	0
		50	0	23.58	23.65	23.55	24.00	0
		50	28	23.55	23.54	23.50	24.00	0
		50	56	23.63	23.48	23.56	24.00	0
	QPSK	100	0	23.01	23.03	23.15	23.50	0-0.5
		1	1	23.47	23.64	23.53	24.00	0
		1	53	23.60	23.55	23.61	24.00	0
		1	104	23.48	23.56	23.60	24.00	0
		50	0	23.66	23.56	23.57	24.00	0
		50	28	23.51	23.61	23.58	24.00	0
	16-QAM	50	56	23.59	23.57	23.51	24.00	0
		100	0	22.63	22.55	22.49	23.00	0-1
64QAM	1	1	22.49	22.49	22.59	23.00	0-1	
256-QAM	1	1	21.07	21.09	20.99	21.50	0-2.5	
		1	1	18.97	19.08	18.99	19.50	0-4.5
Frequency (MHz)				831.5	836.5	841.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Channel				166300	167300	168300		
15	Pi/2 BPSK	1	1	23.58	23.61	23.48	24.00	0
Frequency (MHz)				829	836.5	844	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Channel				166300	167300	168800		
10	Pi/2 BPSK	1	1	23.66	23.49	23.60	24.00	0
Frequency (MHz)				826.5	836.5	846.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Channel				165300	167300	169300		
5	Pi/2 BPSK	1	1	23.61	23.62	23.62	24.00	0

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5G NR n12								
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				706.5	707.5	708.5		
Channel				141300	141500	141700		
15	Pi/2 BPSK	1	1	23.91	23.89	23.84	24.00	0
		1	40	23.77	23.68	23.64	24.00	0
		1	77	23.73	23.66	23.62	24.00	0
		36	0	23.73	23.80	23.70	24.00	0
		36	22	23.70	23.69	23.65	24.00	0
		36	43	23.78	23.63	23.71	24.00	0
		75	0	23.16	23.18	23.30	23.50	0-0.5
	QPSK	1	1	23.62	23.79	23.68	24.00	0
		1	40	23.75	23.70	23.76	24.00	0
		1	77	23.63	23.71	23.75	24.00	0
		36	0	23.81	23.71	23.72	24.00	0
		36	22	23.66	23.76	23.73	24.00	0
		36	43	23.74	23.72	23.66	24.00	0
	75	0	22.78	22.70	22.64	23.00	0-1	
	16-QAM	1	1	22.64	22.64	22.74	23.00	0-1
64QAM	1	1	21.22	21.24	21.14	21.50	0-2.5	
256-QAM	1	1	19.12	19.23	19.14	19.50	0-4.5	
Frequency (MHz)				704	707.5	711	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Channel				140800	141500	142200		
10	Pi/2 BPSK	1	1	23.73	23.76	23.63	24.00	0
Frequency (MHz)				701.5	707.5	713.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Channel				140300	141500	142200		
5	Pi/2 BPSK	1	1	23.81	23.64	23.75	24.00	0

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5G NR n66								
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				1720	1745	1770		
Channel				344000	349000	354000		
20	Pi/2 BPSK	1	1	23.78	23.84	23.98	24.00	0
		1	53	23.67	23.58	23.54	24.00	0
		1	104	23.63	23.56	23.52	24.00	0
		50	0	23.63	23.70	23.60	24.00	0
		50	28	23.60	23.59	23.55	24.00	0
		50	56	23.68	23.53	23.61	24.00	0
	QPSK	100	0	23.06	23.08	23.20	23.50	0-0.5
		1	1	23.52	23.69	23.58	24.00	0
		1	53	23.65	23.60	23.66	24.00	0
		1	104	23.53	23.61	23.65	24.00	0
		50	0	23.71	23.61	23.62	24.00	0
		50	28	23.56	23.66	23.63	24.00	0
	16-QAM	50	56	23.64	23.62	23.56	24.00	0
		100	0	22.68	22.60	22.54	23.00	0-1
64QAM	1	1	22.54	22.54	22.64	23.00	0-1	
256-QAM	1	1	21.12	21.14	21.04	21.50	0-2.5	
		1	1	19.02	19.13	19.04	19.50	0-4.5
Frequency (MHz)				1717.5	1745	1772.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Channel				343500	349000	354500		
15	Pi/2 BPSK	1	1	23.63	23.66	23.53	24.00	0
Frequency (MHz)				1715	1745	1775	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Channel				343000	349000	355000		
10	Pi/2 BPSK	1	1	23.71	23.54	23.65	24.00	0
Frequency (MHz)				1712.5	1745	1777.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Channel				342500	349000	355500		
5	Pi/2 BPSK	1	1	23.54	23.54	23.53	24.00	0

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**Tx8-LTE FDD Band 2 / Band 7 / Band 66 power table:**

LTE Band 2										
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)		
Frequency (MHz)			1860	1880	1900					
Channel			18700	18900	19100					
20	QPSK	1	0	20.49	20.59	20.43	21.90	0		
		1	50	20.47	20.41	20.40	21.90	0		
		1	99	20.32	20.25	20.28	21.90	0		
		50	0	20.21	20.23	20.33	21.90	0		
		50	25	20.27	20.30	20.34	21.90	0		
		50	50	20.26	20.37	20.36	21.90	0		
	16-QAM	100	0	20.33	20.23	20.22	21.90	0		
		1	0	20.37	20.40	20.37	21.90	0		
		1	50	20.33	20.34	20.38	21.90	0		
		1	99	20.28	20.27	20.27	21.90	0		
		50	0	20.24	20.36	20.24	21.90	0		
		50	25	20.21	20.24	20.37	21.90	0		
	64-QAM	50	50	20.40	20.39	20.37	21.90	0		
		100	0	20.32	20.40	20.27	21.90	0		
		1	0	20.29	20.39	20.35	21.90	0		
		1	50	20.24	20.21	20.34	21.90	0		
		1	99	20.21	20.30	20.28	21.90	0		
		50	0	20.34	20.26	20.36	21.90	0		
	256-QAM	50	25	20.34	20.22	20.24	21.90	0		
		50	50	20.34	20.28	20.39	21.90	0		
		100	0	20.21	20.30	20.38	21.90	0		
		1	0	20.21	20.26	20.38	21.90	0		
		1	50	20.40	20.29	20.39	21.90	0		
		1	99	20.30	20.29	20.32	21.90	0		
	15	QPSK	50	0	20.36	20.23	20.39	21.90	0	
			50	25	20.25	20.23	20.33	21.90	0	
			50	50	20.25	20.23	20.39	21.90	0	
			100	0	20.23	20.40	20.22	21.90	0	
			Frequency (MHz)			1857.5	1880	1902.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
			Channel			18675	18900	19125		
		15	QPSK	1	0	20.45	20.55	20.39		
				1	36	20.40	20.34	20.33	21.90	0
				1	74	20.28	20.21	20.24	21.90	0
				36	0	20.26	20.24	20.24	21.90	0
				36	18	20.39	20.34	20.38	21.90	0
				36	37	20.33	20.24	20.34	21.90	0
16-QAM			75	0	20.27	20.28	20.36	21.90	0	
			1	0	20.33	20.21	20.35	21.90	0	
			1	36	20.32	20.40	20.35	21.90	0	
			1	74	20.38	20.33	20.21	21.90	0	
			36	0	20.21	20.32	20.25	21.90	0	
			36	18	20.26	20.37	20.33	21.90	0	
64-QAM			36	37	20.21	20.24	20.25	21.90	0	
			75	0	20.26	20.32	20.29	21.90	0	
			1	0	20.36	20.30	20.39	21.90	0	
			1	36	20.39	20.37	20.27	21.90	0	
			1	74	20.21	20.21	20.35	21.90	0	
			36	0	20.32	20.33	20.40	21.90	0	
256-QAM			36	18	20.40	20.30	20.38	21.90	0	
			36	37	20.31	20.25	20.25	21.90	0	
			75	0	20.26	20.36	20.30	21.90	0	
			1	0	20.30	20.21	20.35	21.90	0	
			1	36	20.33	20.35	20.23	21.90	0	
			1	74	20.40	20.28	20.38	21.90	0	
15		256-QAM	36	0	20.28	20.27	20.26	21.90	0	
			36	18	20.35	20.31	20.25	21.90	0	
			36	37	20.37	20.37	20.24	21.90	0	
			75	0	20.29	20.28	20.33	21.90	0	

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LTE Band 2									
BW(MHz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Frequency (MHz)			1855	1880	1905				
Channel			18650	18900	19150				
10	QPSK	1	0	20.40	20.50	20.34	21.90	0	
		1	25	20.33	20.27	20.26	21.90	0	
		1	49	20.23	20.16	20.19	21.90	0	
		25	0	20.25	20.21	20.23	21.90	0	
		25	12	20.27	20.21	20.37	21.90	0	
		25	25	20.25	20.34	20.31	21.90	0	
	16-QAM	50	0	20.22	20.21	20.37	21.90	0	
		1	0	20.36	20.37	20.22	21.90	0	
		1	25	20.35	20.35	20.40	21.90	0	
		1	49	20.30	20.27	20.30	21.90	0	
		25	0	20.39	20.31	20.21	21.90	0	
		25	12	20.38	20.29	20.32	21.90	0	
	64-QAM	25	25	20.24	20.21	20.28	21.90	0	
		50	0	20.23	20.40	20.36	21.90	0	
		1	0	20.29	20.32	20.34	21.90	0	
		1	25	20.26	20.34	20.21	21.90	0	
		1	49	20.33	20.34	20.39	21.90	0	
		25	0	20.21	20.30	20.37	21.90	0	
	256-QAM	25	12	20.31	20.31	20.37	21.90	0	
		25	25	20.30	20.23	20.24	21.90	0	
		50	0	20.31	20.33	20.24	21.90	0	
		1	0	20.21	20.28	20.30	21.90	0	
		1	25	20.22	20.21	20.24	21.90	0	
		1	49	20.24	20.37	20.39	21.90	0	
	Frequency (MHz)			1852.5	1880	1907.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
	Channel			18625	18900	19175			
	5	QPSK	1	0	20.36	20.46	20.30	21.90	0
			1	12	20.27	20.21	20.20	21.90	0
			1	24	20.21	20.14	20.17	21.90	0
			12	0	20.22	20.31	20.36	21.90	0
12			6	20.22	20.24	20.39	21.90	0	
12			13	20.36	20.25	20.33	21.90	0	
16-QAM		25	0	20.38	20.30	20.37	21.90	0	
		1	0	20.27	20.32	20.37	21.90	0	
		1	12	20.37	20.29	20.22	21.90	0	
		1	24	20.36	20.40	20.25	21.90	0	
		12	0	20.35	20.33	20.39	21.90	0	
		12	6	20.39	20.22	20.28	21.90	0	
64-QAM		12	13	20.34	20.32	20.37	21.90	0	
		25	0	20.31	20.23	20.30	21.90	0	
		1	0	20.34	20.30	20.26	21.90	0	
		1	12	20.26	20.38	20.31	21.90	0	
		1	24	20.21	20.34	20.26	21.90	0	
		12	0	20.24	20.21	20.40	21.90	0	
256-QAM		12	6	20.36	20.38	20.25	21.90	0	
		12	13	20.22	20.32	20.34	21.90	0	
		25	0	20.31	20.39	20.30	21.90	0	
		1	0	20.26	20.29	20.23	21.90	0	
		1	12	20.38	20.22	20.25	21.90	0	
		1	24	20.29	20.38	20.22	21.90	0	
12		0	20.35	20.26	20.31	21.90	0		
12		6	20.29	20.28	20.27	21.90	0		
12		13	20.28	20.33	20.26	21.90	0		
25		0	20.32	20.39	20.36	21.90	0		

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LTE Band 7									
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Frequency (MHz)				2510	2535	2560			
Channel				20850	21100	21350			
20	QPSK	1	0	19.25	19.42	19.33	20.50	0	
		1	50	19.20	19.19	19.20	20.50	0	
		1	99	19.12	19.16	19.17	20.50	0	
		50	0	19.14	19.23	19.07	20.50	0	
		50	25	19.10	19.07	19.17	20.50	0	
		50	50	19.08	19.15	19.14	20.50	0	
	16-QAM	100	0	19.09	19.05	19.15	20.50	0	
		1	0	19.17	19.22	19.16	20.50	0	
		1	50	19.23	19.09	19.09	20.50	0	
		1	99	19.05	19.23	19.20	20.50	0	
		50	0	19.12	19.11	19.11	20.50	0	
		50	25	19.20	19.15	19.12	20.50	0	
	64-QAM	50	50	19.10	19.09	19.10	20.50	0	
		100	0	19.09	19.21	19.07	20.50	0	
		1	0	19.22	19.20	19.18	20.50	0	
		1	50	19.07	19.19	19.16	20.50	0	
		1	99	19.22	19.07	19.15	20.50	0	
		50	0	19.10	19.13	19.10	20.50	0	
	256-QAM	50	25	19.21	19.08	19.19	20.50	0	
		50	50	19.08	19.14	19.10	20.50	0	
		100	0	19.09	19.10	19.22	20.50	0	
		1	0	19.04	19.04	19.22	20.50	0	
		1	50	19.09	19.16	19.16	20.50	0	
		1	99	19.16	19.04	19.22	20.50	0	
	Frequency (MHz)				2507.5	2535	2562.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
	Channel				20825	21100	21375		
	15	QPSK	1	0	19.13	19.30	19.21	20.50	0
			1	36	18.78	18.77	18.78	20.50	0
			1	74	18.72	18.79	18.77	20.50	0
			36	0	19.18	19.11	19.14	20.50	0
36			18	19.05	19.05	19.07	20.50	0	
36			37	19.17	19.20	19.09	20.50	0	
16-QAM		75	0	19.10	19.04	19.18	20.50	0	
		1	0	19.12	19.06	19.16	20.50	0	
		1	36	19.11	19.13	19.18	20.50	0	
		1	74	19.09	19.15	19.04	20.50	0	
		36	0	19.12	19.20	19.23	20.50	0	
		36	18	19.07	19.06	19.11	20.50	0	
64-QAM		36	37	19.07	19.14	19.17	20.50	0	
		75	0	19.15	19.16	19.05	20.50	0	
		1	0	19.14	19.17	19.11	20.50	0	
		1	36	19.16	19.11	19.08	20.50	0	
		1	74	19.11	19.15	19.18	20.50	0	
		36	0	19.19	19.15	19.11	20.50	0	
256-QAM		36	18	19.21	19.18	19.18	20.50	0	
		36	37	19.23	19.20	19.20	20.50	0	
		75	0	19.04	19.05	19.15	20.50	0	
		1	0	19.12	19.12	19.12	20.50	0	
		1	36	19.10	19.15	19.07	20.50	0	
		1	74	19.20	19.20	19.13	20.50	0	
36		0	19.20	19.04	19.07	20.50	0		
36		18	19.20	19.10	19.04	20.50	0		
36		37	19.10	19.04	19.12	20.50	0		
75		0	19.17	19.05	19.08	20.50	0		

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LTE Band 7									
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Frequency (MHz)				2505	2535	2565			
Channel				20800	21100	21400			
10	QPSK	1	0	18.76	18.93	18.84	20.50	0	
		1	25	18.62	18.63	18.64	20.50	0	
		1	49	18.73	18.73	18.56	20.50	0	
		25	0	19.16	19.23	19.07	20.50	0	
		25	12	19.19	19.23	19.04	20.50	0	
		25	25	19.07	19.12	19.17	20.50	0	
	16-QAM	50	0	19.21	19.09	19.08	20.50	0	
		1	0	19.23	19.08	19.18	20.50	0	
		1	25	19.21	19.17	19.16	20.50	0	
		1	49	19.08	19.15	19.13	20.50	0	
		25	0	19.17	19.19	19.15	20.50	0	
		25	12	19.19	19.12	19.10	20.50	0	
	64-QAM	25	25	19.07	19.11	19.05	20.50	0	
		50	0	19.22	19.08	19.13	20.50	0	
		1	0	19.19	19.20	19.18	20.50	0	
		1	25	19.22	19.04	19.11	20.50	0	
		1	49	19.16	19.19	19.10	20.50	0	
		25	0	19.11	19.09	19.16	20.50	0	
	256-QAM	25	12	19.17	19.17	19.11	20.50	0	
		25	25	19.21	19.15	19.15	20.50	0	
		50	0	19.14	19.07	19.10	20.50	0	
		1	0	19.18	19.12	19.06	20.50	0	
		1	25	19.05	19.14	19.11	20.50	0	
		1	49	19.04	19.04	19.17	20.50	0	
	Frequency (MHz)				2502.5	2535	2567.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
	Channel				20775	21100	21425		
	5	QPSK	1	0	18.75	18.92	18.83	20.50	0
			1	12	18.67	18.67	18.72	20.50	0
			1	24	18.87	18.87	18.56	20.50	0
			12	0	19.17	19.11	19.13	20.50	0.00
12			6	19.09	19.15	19.13	20.50	0.00	
12			13	19.15	19.16	19.18	20.50	0.00	
16-QAM		25	0	19.17	19.19	19.21	20.50	0.00	
		1	0	19.18	19.07	19.18	20.50	0.00	
		1	12	19.11	19.16	19.20	20.50	0.00	
		1	24	19.06	19.13	19.22	20.50	0.00	
		12	0	19.12	19.14	19.20	20.50	0.00	
		12	6	19.17	19.14	19.21	20.50	0.00	
64-QAM		12	13	19.19	19.11	19.23	20.50	0.00	
		25	0	19.22	19.20	19.04	20.50	0.00	
		1	0	19.05	19.10	19.18	20.50	0.00	
		1	12	19.14	19.19	19.08	20.50	0.00	
		1	24	19.06	19.19	19.08	20.50	0.00	
		12	0	19.11	19.16	19.19	20.50	0.00	
256-QAM		12	6	19.08	19.19	19.14	20.50	0.00	
		12	13	19.19	19.07	19.16	20.50	0.00	
		25	0	19.13	19.23	19.19	20.50	0.00	
		1	0	19.04	19.09	19.15	20.50	0.00	
		1	12	19.09	19.06	19.20	20.50	0.00	
		1	24	19.14	19.12	19.06	20.50	0.00	
12		0	19.10	19.22	19.13	20.50	0.00		
12		6	19.07	19.11	19.08	20.50	0.00		
12		13	19.21	19.05	19.10	20.50	0.00		
25		0	19.16	19.13	19.07	20.50	0.00		

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LTE Band 66									
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Frequency (MHz)				1720	1745	1770			
Channel				132072	132322	132572			
20	QPSK	1	0	20.37	20.22	20.44	21.60	0	
		1	50	20.33	20.26	20.28	21.60	0	
		1	99	20.28	20.17	20.18	21.60	0	
		50	0	20.17	20.03	20.20	21.60	0	
		50	25	20.07	20.14	20.05	21.60	0	
		50	50	20.08	20.15	20.07	21.60	0	
	16-QAM	100	0	20.13	20.20	20.15	21.60	0	
		1	0	20.13	20.06	20.11	21.60	0	
		1	50	20.11	20.03	20.16	21.60	0	
		1	99	20.16	20.06	20.18	21.60	0	
		50	0	20.16	20.11	20.21	21.60	0	
		50	25	20.17	20.21	20.15	21.60	0	
	64-QAM	50	50	20.05	20.19	20.20	21.60	0	
		100	0	20.04	20.18	20.03	21.60	0	
		1	0	20.16	20.11	20.10	21.60	0	
		1	50	20.09	20.13	20.11	21.60	0	
		1	99	20.02	20.09	20.03	21.60	0	
		50	0	20.10	20.21	20.07	21.60	0	
	256-QAM	50	25	20.10	20.16	20.04	21.60	0	
		50	50	20.15	20.10	20.10	21.60	0	
		100	0	20.04	20.17	20.14	21.60	0	
		1	0	20.04	20.10	20.10	21.60	0	
		1	50	20.12	20.10	20.12	21.60	0	
		1	99	20.14	20.21	20.18	21.60	0	
	Frequency (MHz)				1717.5	1745	1772.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
	Channel				132047	132322	132597		
	15	QPSK	1	0	20.15	20.10	20.10	21.60	0
			1	36	20.06	20.05	20.09	21.60	0
			1	74	20.10	20.08	20.07	21.60	0
			36	0	20.18	20.14	20.12	21.60	0
36			18	20.06	20.13	20.15	21.60	0	
36			37	20.08	20.05	20.13	21.60	0	
16-QAM		75	0	20.02	20.21	20.11	21.60	0	
		1	0	20.02	20.13	20.14	21.60	0	
		1	36	20.07	20.15	20.07	21.60	0	
		1	74	20.07	20.08	20.16	21.60	0	
		36	0	20.20	20.21	20.06	21.60	0	
		36	18	20.03	20.07	20.16	21.60	0	
64-QAM		36	37	20.11	20.10	20.18	21.60	0	
		75	0	20.10	20.02	20.21	21.60	0	
		1	0	20.04	20.15	20.04	21.60	0	
		1	36	20.04	20.20	20.08	21.60	0	
		1	74	20.12	20.09	20.19	21.60	0	
		36	0	20.10	20.18	20.12	21.60	0	
256-QAM		36	18	20.02	20.20	20.08	21.60	0	
		36	37	20.06	20.17	20.16	21.60	0	
		75	0	20.17	20.04	20.04	21.60	0	
		1	0	20.11	20.11	20.17	21.60	0	
		1	36	20.07	20.19	20.19	21.60	0	
		1	74	20.14	20.02	20.04	21.60	0	
Frequency (MHz)				1717.5	1745	1772.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Channel				132047	132322	132597			
15		QPSK	36	0	20.18	20.14	20.12	21.60	0
			36	18	20.06	20.13	20.15	21.60	0
			36	37	20.08	20.05	20.13	21.60	0
			75	0	20.02	20.21	20.11	21.60	0
	1		0	20.02	20.13	20.14	21.60	0	
	1		36	20.07	20.15	20.07	21.60	0	
	16-QAM	1	74	20.07	20.08	20.16	21.60	0	
		36	0	20.20	20.21	20.06	21.60	0	
		36	18	20.03	20.07	20.16	21.60	0	
		36	37	20.11	20.10	20.18	21.60	0	
		75	0	20.10	20.02	20.21	21.60	0	
		1	0	20.04	20.15	20.04	21.60	0	
	64-QAM	1	36	20.04	20.20	20.08	21.60	0	
		1	74	20.12	20.09	20.19	21.60	0	
36		0	20.10	20.18	20.12	21.60	0		
36		18	20.02	20.20	20.08	21.60	0		
36		37	20.06	20.17	20.16	21.60	0		
75		0	20.17	20.04	20.04	21.60	0		
256-QAM	1	0	20.11	20.11	20.17	21.60	0		
	1	36	20.07	20.19	20.19	21.60	0		
	36	0	20.08	20.07	20.15	21.60	0		
	36	18	20.04	20.12	20.06	21.60	0		
	36	37	20.20	20.19	20.16	21.60	0		
	75	0	20.15	20.18	20.04	21.60	0		

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LTE Band 66									
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Frequency (MHz)				1715	1745	1775			
Channel				132022	132322	132622			
10	QPSK	1	0	20.20	20.06	20.17	21.60	0	
		1	25	20.15	20.08	20.21	21.60	0	
		1	49	20.19	20.10	20.15	21.60	0	
		25	0	20.07	20.16	20.18	21.60	0	
		25	12	20.18	20.03	20.13	21.60	0	
		25	25	20.08	20.15	20.14	21.60	0	
	16-QAM	50	0	20.04	20.19	20.11	21.60	0	
		1	0	20.08	20.02	20.09	21.60	0	
		1	25	20.09	20.05	20.20	21.60	0	
		1	49	20.19	20.16	20.05	21.60	0	
		25	0	20.16	20.12	20.17	21.60	0	
		25	12	20.18	20.15	20.15	21.60	0	
	64-QAM	25	25	20.08	20.09	20.07	21.60	0	
		50	0	20.09	20.11	20.07	21.60	0	
		1	0	20.06	20.20	20.20	21.60	0	
		1	25	20.08	20.15	20.17	21.60	0	
		1	49	20.09	20.08	20.13	21.60	0	
		25	0	20.06	20.08	20.20	21.60	0	
	256-QAM	25	12	20.10	20.02	20.05	21.60	0	
		25	25	20.09	20.16	20.13	21.60	0	
		50	0	20.07	20.07	20.04	21.60	0	
		1	0	20.15	20.08	20.12	21.60	0	
		1	25	20.02	20.05	20.07	21.60	0	
		1	49	20.05	20.18	20.07	21.60	0	
	Frequency (MHz)				1712.5	1745	1777.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
	Channel				131997	132322	132647		
	5	QPSK	1	0	20.05	20.14	20.20	21.60	0
			1	12	20.06	20.20	20.16	21.60	0
			1	24	20.11	20.17	20.05	21.60	0
			12	0	20.14	20.09	20.14	21.60	0
12			6	20.13	20.19	20.06	21.60	0	
12			13	20.10	20.18	20.21	21.60	0	
16-QAM		25	0	20.05	20.11	20.17	21.60	0	
		1	0	20.16	20.19	20.19	21.60	0	
		1	12	20.07	20.11	20.11	21.60	0	
		1	24	20.20	20.16	20.08	21.60	0	
		12	0	20.04	20.11	20.08	21.60	0	
		12	6	20.14	20.02	20.10	21.60	0	
64-QAM		12	13	20.09	20.20	20.16	21.60	0	
		25	0	20.18	20.16	20.20	21.60	0	
		1	0	20.11	20.19	20.05	21.60	0	
		1	12	20.07	20.10	20.14	21.60	0	
		1	24	20.06	20.19	20.09	21.60	0	
		12	0	20.13	20.20	20.14	21.60	0	
256-QAM		12	6	20.12	20.17	20.21	21.60	0	
		12	13	20.06	20.15	20.17	21.60	0	
		25	0	20.09	20.21	20.21	21.60	0	
		1	0	20.14	20.18	20.10	21.60	0	
		1	12	20.16	20.04	20.12	21.60	0	
		1	24	20.11	20.10	20.09	21.60	0	
	12	0	20.13	20.21	20.20	21.60	0		
	12	6	20.16	20.04	20.15	21.60	0		
12	13	20.15	20.12	20.10	21.60	0			
25	0	20.04	20.17	20.13	21.60	0			

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LTE Band 66										
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)		
Frequency (MHz)			1711.5	1745	1778.5					
Channel			131987	132322	132657					
3	QPSK	1	0	20.02	20.13	20.17	21.60	0		
		1	7	20.16	20.05	20.10	21.60	0		
		1	14	20.11	20.14	20.16	21.60	0		
		8	0	20.09	20.10	20.16	21.60	0		
		8	4	20.04	20.04	20.21	21.60	0		
		8	7	20.19	20.11	20.21	21.60	0		
	16-QAM	15	0	20.20	20.19	20.18	21.60	0		
		1	0	20.21	20.06	20.18	21.60	0		
		1	7	20.05	20.05	20.07	21.60	0		
		1	14	20.13	20.05	20.02	21.60	0		
		8	0	20.17	20.15	20.09	21.60	0		
		8	4	20.18	20.02	20.05	21.60	0		
	64-QAM	8	7	20.05	20.04	20.09	21.60	0		
		15	0	20.12	20.04	20.09	21.60	0		
		1	0	20.06	20.18	20.03	21.60	0		
		1	7	20.07	20.02	20.19	21.60	0		
		1	14	20.21	20.08	20.13	21.60	0		
		8	0	20.19	20.11	20.04	21.60	0		
	256-QAM	8	4	20.05	20.04	20.08	21.60	0		
		8	7	20.18	20.08	20.13	21.60	0		
		15	0	20.20	20.14	20.12	21.60	0		
		1	0	20.10	20.09	20.11	21.60	0		
		1	7	20.16	20.06	20.17	21.60	0		
		1	14	20.19	20.07	20.15	21.60	0		
	1.4	QPSK	8	0	20.19	20.20	20.10	21.60	0	
			8	4	20.09	20.20	20.20	21.60	0	
			8	7	20.18	20.05	20.08	21.60	0	
			15	0	20.03	20.05	20.19	21.60	0	
			Frequency (MHz)			1710.7	1745	1779.3	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
			Channel			131979	132322	132665		
		1.4	QPSK	1	0	20.03	20.04	20.10		
				1	2	20.04	20.05	20.20	21.60	0
				1	5	20.12	20.04	20.15	21.60	0
				3	0	20.12	20.19	20.13	21.60	0
				3	2	20.14	20.09	20.16	21.60	0
				3	3	20.17	20.12	20.10	21.60	0
16-QAM			6	0	20.10	20.14	20.12	21.60	0	
			1	0	20.12	20.02	20.03	21.60	0	
			1	2	20.05	20.05	20.21	21.60	0	
			1	5	20.05	20.04	20.05	21.60	0	
			3	0	20.12	20.11	20.07	21.60	0	
			3	2	20.19	20.17	20.18	21.60	0	
64-QAM			3	3	20.09	20.04	20.17	21.60	0	
			6	0	20.09	20.10	20.18	21.60	0	
			1	0	20.11	20.08	20.12	21.60	0	
			1	2	20.04	20.11	20.17	21.60	0	
			1	5	20.19	20.19	20.10	21.60	0	
			3	0	20.16	20.11	20.14	21.60	0	
256-QAM			3	2	20.21	20.10	20.18	21.60	0	
			3	3	20.06	20.18	20.06	21.60	0	
			6	0	20.19	20.18	20.17	21.60	0	
			1	0	20.20	20.21	20.04	21.60	0	
			1	2	20.18	20.04	20.21	21.60	0	
			1	5	20.12	20.12	20.17	21.60	0	
1.4		QPSK	3	0	20.05	20.14	20.12	21.60	0	
			3	2	20.03	20.21	20.14	21.60	0	
			3	3	20.07	20.20	20.02	21.60	0	
			6	0	20.10	20.07	20.16	21.60	0	

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**Tx8-LTE TDD Band 42 / Band 48 power table:**

LTE Band 42									
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Frequency (MHz)				3560	3575	3590			
Channel				43190	43340	43490			
20	QPSK	1	0	18.93	19.09	19.16	20.50	0	
		1	50	18.95	19.00	19.04	20.50	0	
		1	99	18.91	18.98	19.02	20.50	0	
		50	0	18.82	18.90	18.82	20.50	0	
		50	25	18.86	18.85	18.87	20.50	0	
		50	50	18.88	18.75	18.76	20.50	0	
	16-QAM	100	0	18.84	18.80	18.90	20.50	0	
		1	0	18.87	18.72	18.85	20.50	0	
		1	50	18.90	18.86	18.91	20.50	0	
		1	99	18.82	18.82	18.78	20.50	0	
		50	0	18.83	18.72	18.86	20.50	0	
		50	25	18.79	18.83	18.87	20.50	0	
	64-QAM	50	50	18.78	18.75	18.88	20.50	0	
		100	0	18.91	18.73	18.87	20.50	0	
		1	0	18.75	18.89	18.76	20.50	0	
		1	50	18.78	18.81	18.77	20.50	0	
		1	99	18.83	18.79	18.76	20.50	0	
		50	0	18.82	18.91	18.89	20.50	0	
	256-QAM	50	25	18.83	18.91	18.80	20.50	0	
		50	50	18.72	18.85	18.76	20.50	0	
		100	0	18.79	18.82	18.85	20.50	0	
		1	0	18.87	18.90	18.80	20.50	0	
		1	50	18.76	18.82	18.72	20.50	0	
		1	99	18.72	18.73	18.74	20.50	0	
	Frequency (MHz)				3407.5	3453.8	3592.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
	Channel				41665	42128	43515		
	15	QPSK	1	0	18.90	19.06	19.13	20.50	0
			1	36	18.93	18.98	19.02	20.50	0
			1	74	18.92	18.97	19.01	20.50	0
			36	0	18.89	18.86	18.73	20.50	0
36			18	18.81	18.86	18.72	20.50	0	
36			37	18.86	18.74	18.86	20.50	0	
16-QAM		75	0	18.73	18.88	18.76	20.50	0	
		1	0	18.79	18.90	18.75	20.50	0	
		1	36	18.74	18.84	18.89	20.50	0	
		1	74	18.85	18.73	18.83	20.50	0	
		36	0	18.88	18.87	18.73	20.50	0	
		36	18	18.82	18.87	18.89	20.50	0	
64-QAM		36	37	18.80	18.75	18.79	20.50	0	
		75	0	18.87	18.85	18.86	20.50	0	
		1	0	18.80	18.74	18.75	20.50	0	
		1	36	18.74	18.89	18.90	20.50	0	
		1	74	18.85	18.83	18.87	20.50	0	
		36	0	18.88	18.73	18.77	20.50	0	
256-QAM		36	18	18.77	18.90	18.87	20.50	0	
		36	37	18.90	18.84	18.74	20.50	0	
		75	0	18.85	18.73	18.81	20.50	0	
		1	0	18.72	18.76	18.78	20.50	0	
		1	36	18.91	18.84	18.82	20.50	0	
		1	74	18.90	18.88	18.86	20.50	0	
256-QAM		36	0	18.82	18.86	18.86	20.50	0	
		36	18	18.86	18.79	18.76	20.50	0	
		36	37	18.79	18.89	18.89	20.50	0	
		75	0	18.76	18.86	18.89	20.50	0	

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LTE Band 42									
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Frequency (MHz)				3405	3452.5	3595			
Channel				41640	42115	43540			
10	QPSK	1	0	18.83	18.99	19.06	20.50	0	
		1	25	18.88	18.93	18.97	20.50	0	
		1	49	18.88	18.93	18.97	20.50	0	
		25	0	18.74	18.85	18.85	20.50	0	
		25	12	18.84	18.89	18.79	20.50	0	
		25	25	18.75	18.77	18.91	20.50	0	
	16-QAM	50	0	18.84	18.80	18.77	20.50	0	
		1	0	18.75	18.83	18.77	20.50	0	
		1	25	18.75	18.79	18.89	20.50	0	
		1	49	18.72	18.77	18.83	20.50	0	
		25	0	18.82	18.91	18.72	20.50	0	
		25	12	18.76	18.75	18.75	20.50	0	
	64-QAM	25	25	18.86	18.84	18.82	20.50	0	
		50	0	18.81	18.72	18.90	20.50	0	
		1	0	18.81	18.89	18.85	20.50	0	
		1	25	18.75	18.80	18.81	20.50	0	
		1	49	18.88	18.80	18.87	20.50	0	
		25	0	18.91	18.75	18.88	20.50	0	
	256-QAM	25	12	18.72	18.74	18.89	20.50	0	
		25	25	18.81	18.81	18.80	20.50	0	
		50	0	18.75	18.88	18.75	20.50	0	
		1	0	18.87	18.83	18.91	20.50	0	
		1	25	18.81	18.74	18.85	20.50	0	
		1	49	18.78	18.81	18.75	20.50	0	
	Frequency (MHz)				3402.5	3451.3	3597.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
	Channel				41615	42103	43565		
	5	QPSK	1	0	18.80	18.96	19.03	20.50	0
			1	12	18.86	18.91	18.95	20.50	0
			1	24	18.84	18.89	18.93	20.50	0
			12	0	18.90	18.79	18.86	20.50	0
12			6	18.90	18.78	18.81	20.50	0	
12			13	18.86	18.74	18.83	20.50	0	
16-QAM		25	0	18.91	18.87	18.87	20.50	0	
		1	0	18.75	18.74	18.89	20.50	0	
		1	12	18.72	18.73	18.85	20.50	0	
		1	24	18.72	18.82	18.74	20.50	0	
		12	0	18.76	18.74	18.75	20.50	0	
		12	6	18.85	18.90	18.88	20.50	0	
64-QAM		12	13	18.74	18.78	18.75	20.50	0	
		25	0	18.87	18.80	18.82	20.50	0	
		1	0	18.83	18.89	18.72	20.50	0	
		1	12	18.73	18.73	18.90	20.50	0	
		1	24	18.89	18.85	18.90	20.50	0	
		12	0	18.81	18.77	18.78	20.50	0	
256-QAM		12	6	18.89	18.80	18.81	20.50	0	
		12	13	18.88	18.91	18.89	20.50	0	
		25	0	18.79	18.75	18.85	20.50	0	
		1	0	18.89	18.85	18.72	20.50	0	
		1	12	18.77	18.77	18.89	20.50	0	
		1	24	18.91	18.75	18.90	20.50	0	
Frequency (MHz)				3402.5	3451.3	3597.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Channel				41615	42103	43565			
5	QPSK	1	0	18.80	18.96	19.03	20.50	0	
		1	12	18.86	18.91	18.95	20.50	0	
		1	24	18.84	18.89	18.93	20.50	0	
		12	0	18.90	18.79	18.86	20.50	0	
	16-QAM	12	6	18.90	18.78	18.81	20.50	0	
		12	13	18.86	18.74	18.83	20.50	0	
		25	0	18.91	18.87	18.87	20.50	0	
		1	0	18.75	18.74	18.89	20.50	0	
	64-QAM	1	12	18.72	18.73	18.85	20.50	0	
		1	24	18.72	18.82	18.74	20.50	0	
		12	0	18.76	18.74	18.75	20.50	0	
		12	6	18.85	18.90	18.88	20.50	0	
256-QAM	12	13	18.74	18.78	18.75	20.50	0		
	25	0	18.87	18.80	18.82	20.50	0		
	1	0	18.83	18.89	18.72	20.50	0		
	1	12	18.73	18.73	18.90	20.50	0		
64-QAM	1	24	18.89	18.85	18.90	20.50	0		
	12	0	18.81	18.77	18.78	20.50	0		
	12	6	18.89	18.80	18.81	20.50	0		
	12	13	18.88	18.91	18.89	20.50	0		
256-QAM	25	0	18.79	18.75	18.85	20.50	0		
	1	0	18.89	18.85	18.72	20.50	0		
	1	12	18.77	18.77	18.89	20.50	0		
	1	24	18.91	18.75	18.90	20.50	0		
Frequency (MHz)				3402.5	3451.3	3597.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Channel				41615	42103	43565			
5	QPSK	1	0	18.80	18.96	19.03	20.50	0	
		1	12	18.86	18.91	18.95	20.50	0	
		1	24	18.84	18.89	18.93	20.50	0	
		12	0	18.90	18.79	18.86	20.50	0	
	16-QAM	12	6	18.90	18.78	18.81	20.50	0	
		12	13	18.86	18.74	18.83	20.50	0	
		25	0	18.91	18.87	18.87	20.50	0	
		1	0	18.75	18.74	18.89	20.50	0	
	64-QAM	1	12	18.72	18.73	18.85	20.50	0	
		1	24	18.72	18.82	18.74	20.50	0	
		12	0	18.76	18.74	18.75	20.50	0	
		12	6	18.85	18.90	18.88	20.50	0	
256-QAM	12	13	18.74	18.78	18.75	20.50	0		
	25	0	18.87	18.80	18.82	20.50	0		
	1	0	18.83	18.89	18.72	20.50	0		
	1	12	18.73	18.73	18.90	20.50	0		
64-QAM	1	24	18.89	18.85	18.90	20.50	0		
	12	0	18.81	18.77	18.78	20.50	0		
	12	6	18.89	18.80	18.81	20.50	0		
	12	13	18.88	18.91	18.89	20.50	0		
256-QAM	25	0	18.79	18.75	18.85	20.50	0		
	1	0	18.89	18.85	18.72	20.50	0		
	1	12	18.77	18.77	18.89	20.50	0		
	1	24	18.91	18.75	18.90	20.50	0		

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LTE Band 48										
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)				Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Frequency (MHz)				3560	3603.3	3646.7	3690			
Channel				55340	55773	56207	56640			
20	QPSK	1	0	19.23	19.13	19.18	19.25	19.80	0	
		1	50	19.12	19.04	19.17	19.22	19.80	0	
		1	99	19.17	19.09	19.22	19.21	19.80	0	
		50	0	19.06	18.93	18.99	18.92	19.80	0	
		50	25	19.00	19.05	19.07	18.98	19.80	0	
		50	50	19.08	18.91	18.92	18.99	19.80	0	
	16-QAM	100	0	18.96	19.06	18.99	18.91	19.80	0	
		1	0	18.99	18.92	19.02	18.98	19.80	0	
		1	50	18.92	19.06	19.02	18.97	19.80	0	
		1	99	19.01	18.98	18.97	19.00	19.80	0	
		50	0	18.94	18.91	19.05	19.02	19.80	0	
		50	25	18.95	19.06	18.91	18.95	19.80	0	
	64-QAM	50	50	18.94	19.05	18.99	19.04	19.80	0	
		100	0	19.07	18.95	18.93	18.96	19.80	0	
		1	0	18.99	18.98	19.05	18.96	19.80	0	
		1	50	19.06	18.98	18.94	19.10	19.80	0	
		1	99	19.06	19.07	18.93	19.04	19.80	0	
		50	0	19.10	19.06	19.02	19.09	19.80	0	
	256-QAM	50	25	18.98	19.10	19.09	19.06	19.80	0	
		50	50	18.94	19.05	19.01	18.92	19.80	0	
		100	0	19.05	19.06	18.98	18.91	19.80	0	
		1	0	18.91	18.98	19.00	19.07	19.80	0	
		1	50	18.96	19.02	18.95	18.95	19.80	0	
		1	99	19.00	19.01	19.09	19.05	19.80	0	
	Frequency (MHz)				3557.5	3602.5	3647.5	3692.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
	Channel				55315	55765	56215	56665		
	15	QPSK	1	0	18.91	19.07	18.97	18.93	19.80	0
			1	36	18.95	19.09	19.03	18.97	19.80	0
			1	74	19.00	19.10	19.07	18.93	19.80	0
			36	0	18.94	18.95	18.97	19.00	19.80	0
36			18	18.95	19.04	19.05	19.01	19.80	0	
36			37	18.95	18.91	19.05	19.07	19.80	0	
16-QAM		75	0	19.04	18.92	19.08	19.01	19.80	0	
		1	0	18.97	19.07	19.10	19.10	19.80	0	
		1	36	19.10	19.09	18.93	18.96	19.80	0	
		1	74	18.96	18.92	19.02	19.01	19.80	0	
		36	0	18.93	18.98	19.05	18.91	19.80	0	
		36	18	18.91	19.07	18.97	18.92	19.80	0	
64-QAM		36	37	19.06	18.98	19.01	19.00	19.80	0	
		75	0	19.01	18.93	18.95	19.10	19.80	0	
		1	0	19.03	18.93	19.00	18.92	19.80	0	
		1	36	19.01	19.05	19.07	19.10	19.80	0	
		1	74	18.94	19.10	19.01	19.00	19.80	0	
		36	0	19.04	18.96	18.94	18.98	19.80	0	
256-QAM		36	18	19.01	18.99	18.96	19.00	19.80	0	
		36	37	19.09	18.96	18.95	19.03	19.80	0	
		75	0	19.08	19.00	18.97	18.97	19.80	0	
		1	0	18.95	19.07	19.09	19.05	19.80	0	
		1	36	18.94	19.02	19.03	19.02	19.80	0	
		1	74	18.99	19.06	19.08	19.04	19.80	0	
Frequency (MHz)				3557.5	3602.5	3647.5	3692.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Channel				55315	55765	56215	56665			
		QPSK	1	0	18.91	19.07	18.97	18.93	19.80	0
			1	36	18.95	19.09	19.03	18.97	19.80	0
			1	74	19.00	19.10	19.07	18.93	19.80	0
			36	0	18.94	18.95	18.97	19.00	19.80	0
	16-QAM	36	18	18.95	19.04	19.05	19.01	19.80	0	
		36	37	18.95	18.91	19.05	19.07	19.80	0	
		75	0	19.04	18.92	19.08	19.01	19.80	0	
		1	0	18.97	19.07	19.10	19.10	19.80	0	
	64-QAM	1	36	19.10	19.09	18.93	18.96	19.80	0	
		1	74	18.96	18.92	19.02	19.01	19.80	0	
		36	0	18.93	18.98	19.05	18.91	19.80	0	
		36	18	18.91	19.07	18.97	18.92	19.80	0	
256-QAM	36	37	19.06	18.98	19.01	19.00	19.80	0		
	75	0	19.01	18.93	18.95	19.10	19.80	0		
	1	0	19.03	18.93	19.00	18.92	19.80	0		
	1	36	19.01	19.05	19.07	19.10	19.80	0		
Frequency (MHz)				3557.5	3602.5	3647.5	3692.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Channel				55315	55765	56215	56665			
	QPSK	1	0	18.91	19.07	18.97	18.93	19.80	0	
		1	36	18.95	19.09	19.03	18.97	19.80	0	
		1	74	19.00	19.10	19.07	18.93	19.80	0	
		36	0	18.94	18.95	18.97	19.00	19.80	0	
	16-QAM	36	18	18.95	19.04	19.05	19.01	19.80	0	
		36	37	18.95	18.91	19.05	19.07	19.80	0	
		75	0	19.04	18.92	19.08	19.01	19.80	0	
		1	0	18.97	19.07	19.10	19.10	19.80	0	
	64-QAM	1	36	19.10	19.09	18.93	18.96	19.80	0	
		1	74	18.96	18.92	19.02	19.01	19.80	0	
		36	0	18.93	18.98	19.05	18.91	19.80	0	
		36	18	18.91	19.07	18.97	18.92	19.80	0	
256-QAM	36	37	19.06	18.98	19.01	19.00	19.80	0		
	75	0	19.01	18.93	18.95	19.10	19.80	0		
	1	0	19.03	18.93	19.00	18.92	19.80	0		
	1	36	19.01	19.05	19.07	19.10	19.80	0		
Frequency (MHz)				3557.5	3602.5	3647.5	3692.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)	
Channel				55315	55765	56215	56665			

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LTE Band 48									
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)				Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				3555	3601.7	3648.3	3695		
Channel				55290	55757	56223	56690		
10	QPSK	1	0	19.03	18.96	18.91	19.03	19.80	0
		1	25	19.05	18.91	18.95	18.94	19.80	0
		1	49	19.03	18.99	19.01	19.00	19.80	0
		25	0	18.95	19.07	19.05	18.99	19.80	0
		25	12	19.10	19.08	19.02	19.04	19.80	0
		25	25	18.98	18.93	18.93	19.02	19.80	0
		50	0	19.03	19.04	18.93	19.04	19.80	0
	16-QAM	1	0	19.09	19.03	18.99	18.91	19.80	0
		1	25	19.02	18.98	19.05	19.10	19.80	0
		1	49	19.03	19.00	18.96	19.06	19.80	0
		25	0	18.91	19.06	18.97	19.04	19.80	0
		25	12	18.94	18.92	18.92	19.09	19.80	0
		25	25	18.94	19.04	19.05	19.09	19.80	0
		50	0	18.92	19.00	19.07	18.97	19.80	0
	64-QAM	1	0	18.95	19.07	19.08	19.09	19.80	0
		1	25	19.03	19.04	18.99	18.91	19.80	0
		1	49	18.96	18.97	19.07	18.95	19.80	0
		25	0	19.09	19.01	19.04	18.91	19.80	0
		25	12	19.07	19.01	19.03	18.93	19.80	0
		25	25	19.09	19.02	18.94	19.00	19.80	0
		50	0	18.91	19.06	19.08	18.99	19.80	0
	256-QAM	1	0	19.02	18.94	18.99	19.10	19.80	0
		1	25	19.04	19.01	19.09	19.02	19.80	0
		1	49	19.06	19.06	18.98	18.98	19.80	0
		25	0	19.08	18.96	19.09	19.08	19.80	0
		25	12	19.00	18.93	18.91	18.96	19.80	0
		25	25	18.98	18.94	19.07	19.04	19.80	0
		50	0	19.09	18.97	19.04	19.08	19.80	0
Frequency (MHz)				3552.5	3600.8	3649.2	3697.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Channel				55265	55748	56232	56715		
5	QPSK	1	0	19.06	19.01	18.96	19.07	19.80	0
		1	12	19.02	19.01	18.99	19.01	19.80	0
		1	24	19.03	18.99	18.91	18.92	19.80	0
		12	0	18.94	18.96	19.10	18.97	19.80	0
		12	6	18.92	19.06	19.05	19.02	19.80	0
		12	13	18.91	19.09	19.05	19.01	19.80	0
		25	0	18.92	19.07	19.07	18.98	19.80	0
	16-QAM	1	0	18.95	19.02	19.07	19.09	19.80	0
		1	12	19.01	19.07	19.06	19.10	19.80	0
		1	24	18.97	19.00	19.00	18.97	19.80	0
		12	0	19.04	18.91	18.95	18.98	19.80	0
		12	6	19.09	19.02	19.09	19.02	19.80	0
		12	13	18.94	19.06	19.03	19.10	19.80	0
		25	0	19.03	18.94	19.02	18.93	19.80	0
	64-QAM	1	0	19.08	18.92	18.94	18.94	19.80	0
		1	12	19.05	19.02	19.07	19.05	19.80	0
		1	24	18.91	19.00	18.97	18.95	19.80	0
		12	0	18.96	19.01	18.95	19.02	19.80	0
		12	6	18.95	18.95	18.95	19.05	19.80	0
		12	13	19.05	19.10	19.00	18.98	19.80	0
		25	0	19.03	18.95	19.02	18.98	19.80	0
	256-QAM	1	0	18.97	19.06	18.98	18.92	19.80	0
		1	12	19.09	19.04	18.94	18.99	19.80	0
		1	24	19.07	18.93	19.08	19.03	19.80	0
		12	0	19.00	18.96	18.97	19.00	19.80	0
		12	6	18.92	19.01	19.01	18.98	19.80	0
		12	13	19.09	18.96	18.91	18.99	19.80	0
		25	0	18.97	19.00	19.02	18.94	19.80	0

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**Tx8-5G NR n2 / n7 / n41 / n66 power table:**

5G NR n2								
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				1860	1880	1900		
Channel				372000	376000	380000		
20	Pi/2 BPSK	1	1	19.46	19.78	19.41	20.80	0
		1	53	19.32	19.70	19.26	20.80	0
		1	104	19.29	19.63	19.26	20.80	0
		50	0	19.41	19.68	19.36	20.80	0
		50	28	19.21	19.58	19.17	20.80	0
		50	56	19.30	19.63	19.22	20.80	0
	QPSK	100	0	19.35	19.27	19.22	20.80	0
		1	1	19.12	19.43	19.07	20.80	0
		1	53	19.25	19.60	19.25	20.80	0
		1	104	19.32	19.65	19.26	20.80	0
		50	0	19.28	19.66	19.28	20.80	0
		50	28	19.01	19.36	18.96	20.80	0
	16-QAM	50	56	19.08	19.44	19.02	20.80	0
		100	0	19.30	19.39	19.23	20.80	0
256-QAM		1	1	19.38	19.27	19.37	20.80	0
Frequency (MHz)				1857.5	1880	1902.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Channel				371500	376000	380500		
15	Pi/2 BPSK	1	1	19.21	19.42	19.28	20.80	0
Frequency (MHz)				1855	1880	1905	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Channel				371000	376000	381000		
10	Pi/2 BPSK	1	1	19.16	19.37	19.31	20.80	0
Frequency (MHz)				1852.5	1880	1907.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Channel				370500	376000	381500		
5	Pi/2 BPSK	1	1	19.01	19.22	19.18	20.80	0

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5G NR n7								
BW(MHz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				2510	2535	2560		
Channel				502000	507000	512000		
20	Pi/2 BPSK	1	1	19.08	18.88	18.95	20.10	0
		1	53	18.92	18.84	18.87	20.10	0
		1	104	18.89	18.86	18.81	20.10	0
		50	0	19.02	18.94	19.01	20.10	0
		50	28	18.81	18.77	18.73	20.10	0
		50	56	18.90	18.83	18.85	20.10	0
		100	0	18.78	18.84	18.87	20.10	0
	QPSK	1	1	18.87	18.76	18.74	20.10	0
		1	53	18.72	18.73	18.76	20.10	0
		1	104	18.86	18.80	18.87	20.10	0
		50	0	18.83	18.80	18.83	20.10	0
		50	28	18.75	18.69	18.70	20.10	0
		50	56	18.81	18.77	18.75	20.10	0
	100	0	18.74	18.75	18.70	20.10	0	
16-QAM	1	1	18.77	18.75	18.78	20.10	0	
64QAM	1	1	18.69	18.71	18.87	20.10	0	
256-QAM	1	1	18.70	18.70	18.73	20.10	0	
Frequency (MHz)				2507.5	2535	2562.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Channel				501500	507000	512500		
15	Pi/2 BPSK	1	1	18.92	19.03	18.89	20.10	0
Frequency (MHz)				2505	2535	2565	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Channel				501000	507000	513000		
10	Pi/2 BPSK	1	1	18.78	18.92	18.85	20.10	0
Frequency (MHz)				2502.5	2535	2567.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Channel				500500	507000	513500		
5	Pi/2 BPSK	1	1	18.80	18.91	18.93	20.10	0

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5G NR n41								
BW(MHz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				2546.01	2592.99	2640		
Channel				509202	518598	528000		
15	Pi/2 BPSK	1	1	17.04	17.03	17.28	18.30	0
		1	137	16.90	16.83	16.91	18.30	0
		1	271	16.87	16.82	16.88	18.30	0
		135	0	16.99	16.90	17.02	18.30	0
		135	69	16.79	16.72	16.81	18.30	0
		135	138	16.88	16.86	16.91	18.30	0
		270	0	16.93	16.94	16.91	18.30	0
	QPSK	1	1	16.84	16.84	16.98	18.30	0
		1	137	16.89	16.87	16.93	18.30	0
		1	271	16.99	16.86	16.93	18.30	0
		135	0	16.82	16.95	16.94	18.30	0
		135	69	16.98	16.83	16.86	18.30	0
		135	138	16.92	16.85	16.86	18.30	0
	270	0	16.83	16.89	16.84	18.30	0	
	16-QAM	1	1	16.97	16.90	16.81	18.30	0
64QAM	1	1	16.96	16.94	16.91	18.30	0	
256-QAM	1	1	16.83	16.96	16.99	18.30	0	
Frequency (MHz)				2541	2592.99	2644.98	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Channel				508200	518598	528996		
90	Pi/2 BPSK	1	1	16.92	17.21	17.14	18.30	0
Frequency (MHz)				2536.02	2592.99	2649.99	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Channel				507204	518598	529998		
80	Pi/2 BPSK	1	1	17.01	17.15	16.99	18.30	0
Frequency (MHz)				2526	2592.99	2659.98	Target Power + Max. Tolerance (dBm)	Target Power + Max. Tolerance (dBm)
Channel				505200	518598	531996		
60	Pi/2 BPSK	1	1	16.87	16.92	16.88	18.30	0
Frequency (MHz)				2521.02	2592.99	2664.99	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Channel				504204	518598	532998		
50	Pi/2 BPSK	1	1	16.90	16.82	16.86	18.30	0
Frequency (MHz)				2516.01	2592.99	2670	Target Power + Max. Tolerance (dBm)	Target Power + Max. Tolerance (dBm)
Channel				503202	518598	534000		
40	Pi/2 BPSK	1	1	16.84	16.87	16.83	18.30	0
Frequency (MHz)				2506.02	2592.99	2679.99	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Channel				501204	518598	535998		
20	Pi/2 BPSK	1	1	16.71	16.79	16.80	18.30	0

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5G NR n41(HPUE)								
BW(Mhz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				2546.01	2592.99	2640		
Channel				509202	518598	528000		
15	Pi/2 BPSK	1	1	19.29	19.35	19.36	19.40	0
		1	137	19.13	19.17	19.27	19.40	0
		1	271	19.11	19.27	19.14	19.40	0
		135	0	19.15	19.08	19.23	19.40	0
		135	69	19.08	19.21	19.19	19.40	0
		135	138	19.12	19.15	19.17	19.40	0
		270	0	19.22	19.27	19.26	19.40	0
	QPSK	1	1	19.11	19.24	19.19	19.40	0
		1	137	19.17	19.15	19.12	19.40	0
		1	271	19.18	19.22	19.26	19.40	0
		135	0	19.22	19.21	19.10	19.40	0
		135	69	19.16	19.22	19.11	19.40	0
		135	138	19.19	19.20	19.11	19.40	0
	270	0	19.22	19.09	19.26	19.40	0	
16-QAM	1	1	19.15	19.20	19.17	19.40	0	
64QAM	1	1	19.18	19.15	19.23	19.40	0	
256-QAM	1	1	19.08	19.19	19.17	19.40	0	
Frequency (MHz)							Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Channel								
90	Pi/2 BPSK	1	1	19.16	19.18	19.24	19.40	0
Frequency (MHz)							Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Channel								
80	Pi/2 BPSK	1	1	19.14	19.17	19.24	19.40	0
Frequency (MHz)							Target Power + Max. Tolerance (dBm)	Target Power + Max. Tolerance (dBm)
Channel								
60	Pi/2 BPSK	1	1	19.23	19.16	19.25	19.40	0
Frequency (MHz)							Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Channel								
50	Pi/2 BPSK	1	1	19.19	19.18	19.12	19.40	0
Frequency (MHz)							Target Power + Max. Tolerance (dBm)	Target Power + Max. Tolerance (dBm)
Channel								
40	Pi/2 BPSK	1	1	19.10	19.11	19.14	19.40	0
Frequency (MHz)							Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Channel								
20	Pi/2 BPSK	1	1	19.19	19.08	19.09	19.40	0

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5G NR n66								
BW(MHz)	Modulation	RB Size	RB Offset	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)				1720	1745	1770		
Channel				344000	349000	354000		
20	Pi/2 BPSK	1	1	19.48	19.36	19.38	20.60	0
		1	53	19.20	19.17	19.15	20.60	0
		1	104	19.17	19.13	19.16	20.60	0
		50	0	19.29	19.24	19.22	20.60	0
		50	28	19.09	19.07	19.01	20.60	0
		50	56	19.18	19.11	19.11	20.60	0
		100	0	19.28	19.24	19.22	20.60	0
	QPSK	1	1	19.21	19.16	19.27	20.60	0
		1	53	19.32	19.25	19.23	20.60	0
		1	104	19.32	19.35	19.34	20.60	0
		50	0	19.29	19.16	19.23	20.60	0
		50	28	19.28	19.21	19.27	20.60	0
		50	56	19.20	19.32	19.26	20.60	0
	16-QAM	1	1	19.18	19.17	19.23	20.60	0
64QAM	1	1	19.16	19.23	19.20	20.60	0	
256-QAM	1	1	19.34	19.31	19.28	20.60	0	
Frequency (MHz)				1717.5	1745	1772.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Channel				343500	349000	354500		
15	Pi/2 BPSK	1	1	19.21	19.26	19.32	20.60	0
Frequency (MHz)				1715	1745	1775	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Channel				343000	349000	355000		
10	Pi/2 BPSK	1	1	19.18	19.11	19.17	20.60	0
Frequency (MHz)				1712.5	1745	1777.5	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Channel				342500	349000	355500		
5	Pi/2 BPSK	1	1	19.10	19.03	19.15	20.60	0

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### 1.3.1 Intra-band ULCA power table

CA_5B														
Combination 50RB + 50RB (10MHz + 10MHz)														
PCC						SCC						MPR (dB)	UL CA power	
Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset	Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset		Measured (dBm)	Tune-up limit (dBm)
10	QPSK	844	20600	1	0	10	QPSK	834.1	20501	1	49	0	23.85	24.50
10	QPSK	829	20450	1	49	10	QPSK	838.9	20549	1	0	0	23.61	24.50

CA_5B														
Combination 50RB + 25RB (10MHz + 5MHz)														
PCC						SCC						MPR (dB)	UL CA power	
Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset	Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset		Measured (dBm)	Tune-up limit (dBm)
10	QPSK	844	20600	1	0	5	QPSK	836.8	20528	1	49	0	23.82	24.50

CA_7C														
Combination 100RB + 100RB (20MHz + 20MHz)														
PCC						SCC						MPR (dB)	UL CA power	
Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset	Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset		Measured (dBm)	Tune-up limit (dBm)
20	QPSK	2510	20850	1	99	20	QPSK	2529.8	21048	1	0	0	23.39	24.00
20	QPSK	2560	21350	1	0	20	QPSK	2540.2	21152	1	99	0	23.31	24.00

CA_7C														
Combination 75RB + 100RB (15MHz + 20MHz)														
PCC						SCC						MPR (dB)	UL CA power	
Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset	Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset		Measured (dBm)	Tune-up limit (dBm)
20	QPSK	2510	20850	1	99	15	QPSK	2527.1	21021	1	0	0	23.27	24.00
20	QPSK	2560	21350	1	0	15	QPSK	2542.9	21179	1	74	0	23.29	24.00

CA_7C														
Combination 75RB + 75RB (15MHz + 15MHz)														
PCC						SCC						MPR (dB)	UL CA power	
Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset	Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset		Measured (dBm)	Tune-up limit (dBm)
15	QPSK	2507.5	20825	1	74	15	QPSK	2522.5	20975	1	0	0	23.26	24.00
15	QPSK	2562.5	21375	1	0	15	QPSK	2547.5	21225	1	74	0	23.20	24.00

CA_7C														
Combination 75RB + 50RB (15MHz + 10MHz)														
PCC						SCC						MPR (dB)	UL CA power	
Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset	Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset		Measured (dBm)	Tune-up limit (dBm)
15	QPSK	2507.5	20825	1	74	10	QPSK	2519.5	20945	1	49	0	23.28	24.00

CA_7C														
Combination 50RB + 100RB (10MHz + 20MHz)														
PCC						SCC						MPR (dB)	UL CA power	
Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset	Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset		Measured (dBm)	Tune-up limit (dBm)
20	QPSK	2510	20850	1	0	10	QPSK	2524.4	20994	1	49	0	23.36	24.00

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CA_66B														
Combination 50RB + 50RB (10MHz + 10MHz)														
PCC						SCC						MPR (dB)	UL CA power	
Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset	Bandwidth h [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset		Measured (dBm)	Tune-up limit (dBm)
10	QPSK	1775	132622	1	49	10	QPSK	1765.1	132523	1	0	0	23.29	24.00
10	QPSK	1715	132022	1	0	10	QPSK	1724.9	132121	1	49	0	23.13	24.00

CA_66B														
Combination 25RB + 75RB (5MHz + 15MHz)														
PCC						SCC						MPR (dB)	UL CA power	
Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset	Bandwidth h [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset		Measured (dBm)	Tune-up limit (dBm)
15	QPSK	1717.5	132047	1	0	5	QPSK	1726.8	132140	1	24	0	23.20	24.00
15	QPSK	1772.5	132597	1	36	5	QPSK	1763.2	132504	1	0	0	23.08	24.00

CA_66B														
Combination 25RB + 50RB (5MHz + 10MHz)														
PCC						SCC						MPR (dB)	UL CA power	
Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset	Bandwidth h [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset		Measured (dBm)	Tune-up limit (dBm)
10	QPSK	1775	132622	1	49	5	QPSK	1767.8	132550	1	0	0	23.26	24.00
10	QPSK	1715	132022	1	0	5	QPSK	1722.2	132094	1	24	0	23.17	24.00

CA_66B														
Combination 25RB + 25RB (5MHz + 5MHz)														
PCC						SCC						MPR (dB)	UL CA power	
Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset	Bandwidth h [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset		Measured (dBm)	Tune-up limit (dBm)
5	QPSK	1712.5	131997	1	12	5	QPSK	1717.3	132045	1	0	0	23.14	24.00
5	QPSK	1777.5	132647	1	0	5	QPSK	1772.7	132599	1	24	0	23.20	24.00

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CA_66C														
Combination 100RB + 100RB (20MHz + 20MHz)														
PCC						SCC						MPR (dB)	UL CA power	
Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset	Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset		Measured (dBm)	Tune-up limit (dBm)
20	QPSK	1770	132572	1	0	20	QPSK	1750.2	132374	1	99	0	23.97	24.00
20	QPSK	1720	132072	1	99	20	QPSK	1739.8	132270	1	0	0	23.78	24.00

CA_66C														
Combination 100RB + 25RB (20MHz + 5MHz)														
PCC						SCC						MPR (dB)	UL CA power	
Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset	Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset		Measured (dBm)	Tune-up limit (dBm)
20	QPSK	1770	132572	1	0	5	QPSK	1758.3	132455	1	24	0	23.85	24.00
20	QPSK	1720	132072	1	99	5	QPSK	1731.7	132189	1	0	0	23.62	24.00

CA_66C														
Combination 75RB + 100RB (15MHz + 20MHz)														
PCC						SCC						MPR (dB)	UL CA power	
Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset	Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset		Measured (dBm)	Tune-up limit (dBm)
20	QPSK	1770	132572	1	0	15	QPSK	1752.9	132401	1	74	0	23.93	24.00
20	QPSK	1720	132072	1	99	15	QPSK	1737.1	132243	1	0	0	23.60	24.00

CA_66C														
Combination 75RB + 75RB (15MHz + 15MHz)														
PCC						SCC						MPR (dB)	UL CA power	
Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset	Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset		Measured (dBm)	Tune-up limit (dBm)
15	QPSK	1717.5	132047	1	0	15	QPSK	1732.5	132197	1	74	0	23.22	24.00
15	QPSK	1772.5	132597	1	36	15	QPSK	1757.5	132447	1	0	0	23.14	24.00

CA_66C														
Combination 50RB + 100RB (10MHz + 20MHz)														
PCC						SCC						MPR (dB)	UL CA power	
Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset	Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset		Measured (dBm)	Tune-up limit (dBm)
20	QPSK	1770	132572	1	0	10	QPSK	1756.6	132428	1	49	0	23.92	24.00
20	QPSK	1720	132072	1	99	10	QPSK	1734.4	132216	1	0	0	23.65	24.00

CA_66C														
Combination 50RB + 75RB (10MHz + 15MHz)														
PCC						SCC						MPR (dB)	UL CA power	
Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset	Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset		Measured (dBm)	Tune-up limit (dBm)
15	QPSK	1717.5	132047	1	0	10	QPSK	1729.5	132167	1	49	0	23.28	24.00
15	QPSK	1772.5	132597	1	36	10	QPSK	1760.5	132477	1	0	0	23.25	24.00

CA_38C														
Combination 100RB + 100RB (20MHz + 20MHz)														
PCC						SCC						MPR (dB)	UL CA power	
Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset	Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset		Measured (dBm)	Tune-up limit (dBm)
20	QPSK	2580	37850	1	0	20	QPSK	2599.8	38048	1	99	0	23.91	24.00
20	QPSK	2610	38150	1	99	20	QPSK	2590.2	37952	1	0	0	23.71	24.00

CA_38C														
Combination 75RB + 75RB (15MHz + 15MHz)														
PCC						SCC						MPR (dB)	UL CA power	
Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset	Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset		Measured (dBm)	Tune-up limit (dBm)
15	QPSK	2577.5	37825	1	74	15	QPSK	2592.5	37975	1	0	0	23.29	24.00
15	QPSK	2612.5	38175	1	0	15	QPSK	2597.5	38025	1	74	0	23.26	24.00

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CA 41C														
Combination 100RB + 100RB (20MHz + 20MHz)														
PCC						SCC						MPR (dB)	UL CA power	
Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset	Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset		Measured (dBm)	Tune-up limit (dBm)
20	QPSK	2506	39750	1	99	20	QPSK	2525.8	39948	1	0	0	23.94	24.00
20	QPSK	2680	41490	1	0	20	QPSK	2660.2	41292	1	99	0	23.57	24.00

CA 41C														
Combination 75RB + 100RB (15MHz + 20MHz)														
PCC						SCC						MPR (dB)	UL CA power	
Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset	Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset		Measured (dBm)	Tune-up limit (dBm)
20	QPSK	2506	39750	1	99	15	QPSK	2523.1	39921	1	0	0	23.90	24.00
20	QPSK	2680	41490	1	0	15	QPSK	2662.9	41319	1	74	0	23.62	24.00

CA 41C														
Combination 75RB + 75RB (15MHz + 15MHz)														
PCC						SCC						MPR (dB)	UL CA power	
Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset	Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset		Measured (dBm)	Tune-up limit (dBm)
15	QPSK	2503.5	39725	1	36	15	QPSK	2518.5	39875	1	74	0	23.40	24.00
15	QPSK	2682.5	41515	1	74	15	QPSK	2667.5	41365	1	0	0	23.41	24.00

CA 41C														
Combination 50RB + 100RB (10MHz + 20MHz)														
PCC						SCC						MPR (dB)	UL CA power	
Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset	Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset		Measured (dBm)	Tune-up limit (dBm)
20	QPSK	2506	39750	1	99	10	QPSK	2520.4	39894	1	49	0	23.80	24.00
20	QPSK	2680	41490	1	0	10	QPSK	2665.6	41346	1	49	0	23.55	24.00

CA 41C														
Combination 50RB + 75RB (10MHz + 15MHz)														
PCC						SCC						MPR (dB)	UL CA power	
Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset	Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset		Measured (dBm)	Tune-up limit (dBm)
15	QPSK	2503.5	39725	1	36	10	QPSK	2515.5	39845	1	74	0	23.19	24.00
15	QPSK	2682.5	41515	1	74	10	QPSK	2670.5	41395	1	49	0	23.14	24.00

CA 41C														
Combination 25RB + 100RB (5MHz + 20MHz)														
PCC						SCC						MPR (dB)	UL CA power	
Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset	Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset		Measured (dBm)	Tune-up limit (dBm)
20	QPSK	2506	39750	1	99	5	QPSK	2517.7	39867	1	24	0	23.93	24.00
20	QPSK	2680	41490	1	0	5	QPSK	2668.3	41373	1	24	0	23.47	24.00

CA 48C														
Combination 100RB + 100RB (20MHz + 20MHz)														
PCC						SCC						MPR (dB)	UL CA power	
Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset	Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset		Measured (dBm)	Tune-up limit (dBm)
20	QPSK	3690	56640	1	0	20	QPSK	3670.2	56442	1	99	0	19.07	19.80
20	QPSK	3560	55340	1	0	20	QPSK	3579.8	55538	1	99	0	19.19	19.80

CA 48C														
Combination 75RB + 100RB (15MHz + 20MHz)														
PCC						SCC						MPR (dB)	UL CA power	
Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset	Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset		Measured (dBm)	Tune-up limit (dBm)
20	QPSK	3560	55340	1	0	15	QPSK	3577.1	55511	1	74	0	19.06	19.80
20	QPSK	3690	56640	1	0	15	QPSK	3672.9	56469	1	74	0	19.10	19.80

CA 48C														
Combination 50RB + 100RB (10MHz + 20MHz)														
PCC						SCC						MPR (dB)	UL CA power	
Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset	Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset		Measured (dBm)	Tune-up limit (dBm)
20	QPSK	3690	56640	1	0	10	QPSK	3675.6	56496	1	49	0	19.16	19.80
20	QPSK	3560	55340	1	0	10	QPSK	3574.4	55484	1	49	0	19.10	19.80

CA 48C														
Combination 25RB + 100RB (5MHz + 20MHz)														
PCC						SCC						MPR (dB)	UL CA power	
Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset	Bandwidth [MHz]	Modulation	Frequency [MHz]	Channel	RB size	RB Offset		Measured (dBm)	Tune-up limit (dBm)
20	QPSK	3690	56640	1	0	5	QPSK	3678.3	56523	1	24	0	19.17	19.80
20	QPSK	3560	55340	1	0	5	QPSK	3571.7	55457	1	24	0	19.12	19.80

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### 1.3.2 LTE Downlink CA specification

#### LTE Downlink 2CA conducted power table

Two Component Carrier Maximum Conducted Power															
PCC								SCC				Output power (dBm)		Configurations	
UL				DL				DL				DL CA active	DL CA inactive		
LTE Band	Bandwidth [MHz]	Modulation	RB	RB Offset	Channel	Frequency [MHz]	Channel	Frequency [MHz]	LTE Band	Bandwidth [MHz]	Channel				Frequency [MHz]
12	10	QPSK	1	49	23060	704	5060	734	25	20	8365	1962.5	23.55	23.59	12A-25A
38	20	QPSK	1	0	37850	2580	37850	2580	38	20	38048	2599.8	23.86	23.96	38C
41	20	QPSK	1	99	39750	2506	39750	2506	48	20	55990	3625	23.83	23.95	41A-48A
4	20	QPSK	1	0	20175	1732.5	2175	2132.5	48	20	55990	3625	23.69	23.82	4A-48A
5	10	QPSK	1	0	20600	844	2600	889	25	20	8365	1962.5	23.74	23.95	5A-25A
5	10	QPSK	1	0	20600	844	2600	889	38	20	38000	2595	23.79	23.95	5A-38A
5	10	QPSK	1	0	20600	844	2600	889	41	20	40620	2593	23.77	23.95	5A-41A
7	20	QPSK	1	99	21100	2535	3100	2655	42	20	42590	3500	23.46	23.51	7A-42A
7	15	QPSK	1	74	20825	2507.5	2825	2627.5	7	5	2918	2636.8	23.35	23.46	7B
4	20	QPSK	1	0	20175	1732.5	2175	2132.5	17	10	5790	740	23.61	23.82	4A-17A
2	20	QPSK	1	0	18900	1880	900	1960	17	10	5790	740	23.71	23.91	2A-17A

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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### LTE Downlink 3CA conducted power table

Three Component Carrier Maximum Conducted Power																							
PCC						DL				SCC 1				SCC 2				Output power (dBm)		Configurations			
UL			DL			DL		DL		DL		DL		DL		DL CA active	DL CA inactive						
LTE Band	Bandwidth [MHz]	Modulation	RB	RB Offset	Channel	Frequency [MHz]	Channel	Frequency [MHz]	LTE Band	Bandwidth [MHz]	Channel	Frequency [MHz]	LTE Band	Bandwidth [MHz]	Channel	Frequency [MHz]	LTE Band	Bandwidth [MHz]	Channel	Frequency [MHz]			
25	20	QPSK	1	0	26365	1882.5	8365	1962.5	25	20	8140	1940	25	20	8590	1985	25	20	8590	1985	23.41	23.57	25A-25A-25A
25	20	QPSK	1	0	26140	1860	8140	1940	25	20	8590	1985	26	15	8865	876.5	23.09	23.29	25A-25A-26A				
25	20	QPSK	1	0	26140	1860	8140	1940	25	20	8590	1985	41	20	40620	2593	23.27	23.29	25A-25A-41A				
25	20	QPSK	1	0	26365	1882.5	8365	1962.5	26	15	8865	876.5	41	20	40620	2593	23.48	23.57	25A-26A-41A				
2	20	QPSK	1	0	18900	1880	900	1960	4	20	2175	2132.5	13	10	751	5230	23.76	23.91	2A-4A-13A				
2	20	QPSK	1	0	18900	1880	900	1960	5	10	2525	881.5	7	20	3100	2655	23.81	23.91	2A-5A-7A				
48	20	QPSK	1	0	55340	3560	55340	3560	48	20	56640	3690	71	20	68786	637	21.83	21.96	48A-48A-71A				
48	20	QPSK	1	0	55340	3560	55340	3560	48	20	55538	3579.8	71	20	68786	637	21.86	21.96	48C-71A				
4	20	QPSK	1	0	20175	1732.5	2175	2132.5	48	20	55340	3560	48	20	55538	3579.8	23.78	23.82	4A-48C				
4	20	QPSK	1	99	20050	1720	2050	2120	4	20	2300	2145	13	10	5230	751	23.72	23.81	4A-4A-13A				
4	20	QPSK	1	99	20050	1720	2050	2120	4	20	2300	2145	71	20	68786	637	23.64	23.81	4A-4A-71A				
4	20	QPSK	1	99	20050	1720	2050	2120	4	20	2300	2145	7	20	3100	2655	23.78	23.81	4A-4A-7A				
5	10	QPSK	1	0	20690	844	2600	889	7	20	2850	2630	7	20	3350	2980	23.78	23.95	5A-7A-7A				
5	10	QPSK	1	0	20690	844	2600	889	7	20	2850	2630	7	20	3048	2648.8	23.82	23.95	5A-7C				

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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### LTE Downlink 4CA conducted power table

Four Component Carrier Maximum Conducted Power																											
PCC					SCC 1					SCC 2					SCC 3					Output power (dBm)		Configurations					
LTE Band	Bandwidth (MHz)	Modulation	RB	RB Offset	Channel	Frequency (MHz)	Channel	Frequency (MHz)	LTE Band	Bandwidth (MHz)	Channel	Frequency (MHz)	LTE Band	Bandwidth (MHz)	Channel	Frequency (MHz)	LTE Band	Bandwidth (MHz)	Channel	Frequency (MHz)	DL CA active		DL CA inactive				
13	10	QPSK	1	25	23220	782	5230	751	48	20	5990	3625	86	10	6706	2175	86	10	6706	2175	86	10	6724	2189	23.27	23.43	13A-66A-66B
13	10	QPSK	1	25	23220	782	5230	751	48	20	5990	3625	86	10	6706	2175	86	10	6706	2175	86	10	6724	2189	23.27	23.43	13A-66A-66C
13	10	QPSK	1	25	23220	782	5230	751	66	20	6976	2145	66	20	6636	2120	66	20	6726	2190	66	20	6726	2190	23.32	23.43	13A-66A-66A-66A
25	20	QPSK	1	0	26140	1860	8140	1940	25	20	8590	1985	41	20	39750	2506	41	20	39944	2525.8	41	20	39944	2525.8	23.20	23.29	25A-25A-41C
25	20	QPSK	1	0	26365	1862.5	8365	1962.5	26	15	8885	876.5	41	20	39750	2506	41	20	39944	2525.8	41	20	39944	2525.8	23.46	23.57	25A-26A-41C
2	20	QPSK	1	0	18900	1880	900	1960	12	10	5995	737.5	86	20	6724	2189	86	20	6724	2189	86	20	6724	2189	23.77	23.91	2A-12A-66C
2	20	QPSK	1	0	18700	1860	700	1940	2	20	1100	1980	12	5	5035	731.5	12	5	5035	731.5	12	5	5035	731.5	23.66	23.85	2A-2A-12A-12A
2	20	QPSK	1	0	18700	1860	700	1940	2	20	1100	1980	4	20	2175	2132.5	12	10	5095	737.5	12	10	5095	737.5	23.67	23.85	2A-2A-4A-12A
2	20	QPSK	1	0	18700	1860	700	1940	2	20	1100	1980	4	20	2050	2120	4	20	2050	2120	4	20	2050	2120	23.70	23.85	2A-2A-4A
2	20	QPSK	1	0	18700	1860	700	1940	2	20	1100	1980	4	20	2175	2132.5	5	10	2525	881.5	5	10	2525	881.5	23.70	23.85	2A-2A-4A-5A
2	20	QPSK	1	0	18700	1860	700	1940	2	20	1100	1980	4	20	2175	2132.5	7	10	6876	637	7	10	6876	637	23.84	23.85	2A-2A-4A-7A
2	20	QPSK	1	0	18700	1860	700	1940	2	20	1100	1980	66	20	6636	2120	66	20	6726	2190	66	20	6726	2190	23.78	23.85	2A-2A-66A-66A
2	20	QPSK	1	0	18700	1860	700	1940	2	20	1100	1980	66	20	6886	2155	71	20	6876	637	23.79	23.85	2A-2A-66A-71A				
2	20	QPSK	1	0	18900	1880	900	1960	4	20	2175	2132.5	12	5	5035	731.5	12	5	5035	731.5	12	5	5035	731.5	23.91	23.91	2A-4A-12A-12A
2	20	QPSK	1	0	18900	1880	900	1960	4	20	2175	2132.5	12	10	5095	737.5	30	10	5095	737.5	30	10	5095	737.5	23.89	23.91	2A-4A-12A-30A
2	20	QPSK	1	0	18900	1880	900	1960	4	20	2175	2132.5	12	5	5035	731.5	12	5	5035	731.5	12	5	5035	731.5	23.84	23.91	2A-4A-12B
2	20	QPSK	1	0	18900	1880	900	1960	4	20	2050	2120	4	20	2300	2145	12	10	5095	737.5	12	10	5095	737.5	23.88	23.91	2A-4A-4A-12A
2	20	QPSK	1	0	18900	1880	900	1960	4	20	2050	2120	4	20	2300	2145	5	10	2525	881.5	30	10	2525	881.5	23.75	23.91	2A-4A-5A-30A
2	20	QPSK	1	0	18900	1880	900	1960	4	20	2175	2132.5	7	20	3100	2655	12	10	5095	737.5	23.85	23.91	2A-4A-7A-12A				
2	20	QPSK	1	0	18900	1880	900	1960	4	20	2175	2132.5	7	20	3350	2680	7	20	3350	2680	23.89	23.91	2A-4A-7A-7A				
2	20	QPSK	1	0	18900	1880	900	1960	4	20	2175	2132.5	7	20	2850	2630	7	20	2850	2630	23.75	23.91	2A-4A-7C				
2	20	QPSK	1	0	18900	1880	900	1960	66	20	6636	2120	66	20	6726	2190	71	20	6876	637	23.85	23.91	2A-66A-66A-71A				
2	20	QPSK	1	0	18900	1880	900	1960	66	20	6706	2170	66	20	6724	2189	71	20	6876	637	23.79	23.91	2A-66C-71A				
2	20	QPSK	1	0	18700	1860	700	1940	2	20	888	1959.8	12	10	5095	737.5	30	10	5095	737.5	23.75	23.85	2C-12A-30A				
2	20	QPSK	1	0	18700	1860	700	1940	2	20	888	1959.8	5	10	2525	881.5	30	10	5095	737.5	23.82	23.85	2C-5A-30A				
2	20	QPSK	1	0	18700	1860	700	1940	2	20	888	1959.8	66	20	6636	2120	66	20	6726	2190	23.81	23.85	2C-66A-66A				
41	20	QPSK	1	99	39750	2506	39750	2506	41	20	41490	2680	41	20	39750	2506	41	20	39944	2525.8	41	20	39944	2525.8	23.84	23.95	41A-41A-41C
41	20	QPSK	1	99	39750	2506	39750	2506	41	20	39750	2506	41	20	40146	2545.6	41	20	40146	2545.6	41	20	40146	2545.6	23.84	23.95	41A-41D
41	20	QPSK	1	99	39750	2506	39750	2506	42	20	42990	3500	42	20	43490	3590	42	20	43292	3570.2	42	20	43292	3570.2	23.81	23.95	41A-42A-42C
41	20	QPSK	1	99	39750	2506	39750	2506	42	20	43490	3590	42	20	43094	3550.4	42	20	43292	3570.2	23.80	23.95	41A-42D				
41	20	QPSK	1	99	39750	2506	39750	2506	41	20	39944	2525.8	41	20	41292	2690.2	41	20	41490	2680	23.83	23.95	41C-41C				
41	20	QPSK	1	99	39750	2506	39750	2506	41	20	39944	2525.8	41	20	40146	2545.6	42	20	43490	3590	23.79	23.95	41D-42D				
42	20	QPSK	1	0	43490	3590	43490	3590	42	20	43094	3550.4	42	20	43094	3550.4	42	20	43292	3570.2	23.73	23.93	42A-42A				
42	20	QPSK	1	0	43490	3590	43490	3590	42	20	42896	3530.6	42	20	43094	3550.4	42	20	43292	3570.2	23.74	23.93	42E				
48	20	QPSK	1	0	55340	3560	55340	3560	48	20	56840	3690	66	20	6636	2120	66	20	6726	2190	21.77	21.96	48A-48A-66A-66A				
48	20	QPSK	1	0	55340	3560	55340	3560	48	20	56840	3690	66	10	6706	2170	66	10	6706	2170	66	10	6724	2189	21.76	21.96	48A-48A-66B
48	20	QPSK	1	0	55340	3560	55340	3560	48	20	56840	3690	66	20	6706	2170	66	20	6724	2189	21.83	21.96	48A-48A-66C				
48	20	QPSK	1	0	55340	3560	55340	3560	48	20	66786	2145	66	20	6636	2120	66	20	6726	2190	21.78	21.96	48A-66A-66A-66A				
48	20	QPSK	1	0	55340	3560	55340	3560	48	20	55338	3579.8	66	20	6636	2120	66	20	6726	2190	21.80	21.96	48C-66A-66A				
4	20	QPSK	1	0	20175	1132.5	2175	2132.5	48	20	55340	3560	48	20	55338	3579.8	48	20	55338	3579.8	23.78	23.82	4A-48D				
4	20	QPSK	1	99	20050	1720	2050	2120	4	20	2300	2145	12	5	5035	731.5	12	5	5035	731.5	23.71	23.81	4A-4A-12A-12A				
4	20	QPSK	1	99	20050	1720	2050	2120	4	20	2300	2145	12	10	5095	737.5	30	10	5095	737.5	23.74	23.81	4A-4A-12A-30A				
4	20	QPSK	1	99	20050	1720	2050	2120	4	20	2300	2145	12	5	5035	731.5	12	5	5035	731.5	23.70	23.81	4A-4A-12B				
4	20	QPSK	1	99	20050	1720	2050	2120	4	20	2300	2145	5	10	2525	881.5	30	10	5095	737.5	23.71	23.81	4A-4A-5A-30A				
5	10	QPSK	1	0	20450	829	2450	874	5	10	2600	889	66	20	6636	2120	66	20	6726	2190	23.81	23.91	5A-5A-66A-66A				
5	10	QPSK	1	0	20450	829	2450	874	5	10	2600	889	66	10	6706	2170	66	10	6706	2170	23.88	23.91	5A-5A-66B				
5	10	QPSK	1	0	20600	844	2600	889	66	20	6636	2120	66	10	67187	2185.1	66	10	6726	2190	23.87	23.95	5A-66A-66C				
5	10	QPSK	1	0	2																						



### LTE Downlink 5CA conducted power table

LTE Band		Bandwidth (MHz)		Modulation		UL		DL		DL		DL		DL		DL		DL		DL		Output power (dBm)		Configurations			
UL	RB	RB Offset	Channel	Frequency (MHz)	Channel	Frequency (MHz)	LTE Band	Bandwidth (MHz)	Channel	Frequency (MHz)	LTE Band	Bandwidth (MHz)	Channel	Frequency (MHz)	LTE Band	Bandwidth (MHz)	Channel	Frequency (MHz)	LTE Band	Bandwidth (MHz)	Channel	Frequency (MHz)	DL CA active		DL CA inactive		
13	10	QPSK	1	25	23230	782	5230	751	48	20	55990	3625	48	20	55340	3560	48	20	55338	3579.8	66	20	66786	2145	23.38	23.43	13A-48A-48C-66A
13	10	QPSK	1	25	23230	782	5230	751	48	20	55990	3625	48	20	55340	3560	48	20	55338	3579.8	66	20	66786	2145	23.38	23.43	13A-48A-48D
13	10	QPSK	1	25	23230	782	5230	751	48	20	55990	3625	48	20	55340	3560	48	20	55338	3579.8	66	20	66786	2145	23.38	23.43	13A-48C-66C
13	10	QPSK	1	25	23230	782	5230	751	48	20	55990	3625	48	20	55340	3560	48	20	55338	3579.8	66	20	66786	2145	23.38	23.43	13A-48C-66D
25	20	QPSK	1	0	26140	1860	1860	1940	25	20	8590	1985	41	20	40422	2973.2	41	20	40920	2993	41	20	40818	2912.8	23.10	23.20	25A-25A-1D
25	20	QPSK	1	0	26135	1852.5	1835	1952.5	41	20	39770	2596	41	20	39950	2596	41	20	40150	2596	41	20	40300	2596	23.40	23.57	25A-41E
2	20	QPSK	1	0	18900	1860	1860	1960	12	10	5095	727.8	37	10	6610	2935	37	10	6630	2935	37	10	6630	2935	23.73	23.91	2A-13A-30A-66A-66B
2	20	QPSK	1	0	18900	1860	1860	1960	13	10	5230	751	48	20	55340	3560	48	20	55338	3579.8	66	20	66786	2145	23.82	23.91	2A-13A-48A-48A-66A
2	20	QPSK	1	0	18900	1860	1860	1960	13	10	5230	751	48	20	55340	3560	48	20	55338	3579.8	66	20	66786	2145	23.77	23.91	2A-13A-48C-66A
2	20	QPSK	1	0	18900	1860	1860	1960	13	10	5230	751	48	20	55340	3560	48	20	55338	3579.8	66	20	66786	2145	23.78	23.91	2A-13A-48C-66B
2	20	QPSK	1	0	18900	1860	1860	1960	13	10	5230	751	48	20	55340	3560	48	20	55338	3579.8	66	20	66786	2145	23.85	23.91	2A-13A-48A-66B
2	20	QPSK	1	0	18900	1860	1860	1960	13	10	5230	751	48	20	55340	3560	48	20	55338	3579.8	66	20	66786	2145	23.79	23.91	2A-13A-48A-66C
2	20	QPSK	1	0	18900	1860	1860	1960	13	10	5230	751	48	20	55340	3560	48	20	55338	3579.8	66	20	66786	2145	23.86	23.91	2A-13A-48C-66D
2	20	QPSK	1	0	18900	1860	1860	1960	14	10	5330	763	66	20	66786	2145	66	20	66930	2120	66	20	67230	2100	23.81	23.91	2A-14A-30A-66A-66A
2	20	QPSK	1	0	18700	1860	1860	1940	2	20	1100	1980	12	10	5095	727.8	37	10	6610	2935	37	10	6630	2935	23.78	23.85	2A-13A-13A-30A-66A
2	20	QPSK	1	0	18700	1860	1860	1940	2	20	1100	1980	12	10	5095	727.8	37	10	6610	2935	37	10	6630	2935	23.73	23.85	2A-13A-12A-66A
2	20	QPSK	1	0	18700	1860	1860	1940	2	20	1100	1980	12	10	5130	741	12	5	7058	733.8	66	20	66786	2145	23.67	23.85	2A-2A-13B-66A
2	20	QPSK	1	0	18700	1860	1860	1940	2	20	1100	1980	13	10	5230	751	66	10	67086	2175	66	20	67230	2100	23.78	23.85	2A-2A-13A-66A-66A
2	20	QPSK	1	0	18700	1860	1860	1940	2	20	1100	1980	13	10	5230	751	66	10	67086	2175	66	20	67230	2100	23.78	23.85	2A-2A-13A-66B
2	20	QPSK	1	0	18700	1860	1860	1940	2	20	1100	1980	14	10	5330	763	66	20	66930	2120	66	20	67230	2100	23.84	23.85	2A-2A-14A-30A-66A
2	20	QPSK	1	0	18700	1860	1860	1940	2	20	1100	1980	5	10	2525	881.5	30	10	66786	2145	66	20	67230	2100	23.75	23.85	2A-2A-14A-30A-66A
2	20	QPSK	1	0	18700	1860	1860	1940	2	20	1100	1980	5	10	2525	881.5	30	10	66786	2145	66	20	67230	2100	23.78	23.85	2A-2A-14A-30A-66B
2	20	QPSK	1	0	18700	1860	1860	1940	2	20	1100	1980	5	10	2525	881.5	30	10	66786	2145	66	20	67230	2100	23.82	23.85	2A-2A-14A-30A-66B
2	20	QPSK	1	0	18700	1860	1860	1940	2	20	1100	1980	5	10	2549	883.9	66	20	66786	2145	66	20	67230	2100	23.71	23.85	2A-2A-2B-66A
2	20	QPSK	1	0	18700	1860	1860	1940	2	20	1100	1980	66	20	66930	2120	66	20	67187	2185.1	66	20	67230	2100	23.88	23.85	2A-2A-66A-66B
2	20	QPSK	1	0	18700	1860	1860	1940	2	20	1100	1980	66	20	66930	2120	66	20	67038	2170.2	66	20	67230	2100	23.83	23.85	2A-2A-66A-66C
2	20	QPSK	1	0	18700	1860	1860	1940	2	20	1100	1980	7	20	3100	2450	12	10	5095	727.8	5	10	66786	2145	23.64	23.85	2A-2A-7A-12A-66A
2	20	QPSK	1	0	18900	1860	1860	1960	48	20	55990	3625	48	20	55340	3560	48	20	55338	3579.8	66	20	66786	2145	23.83	23.91	2A-48A-48C-66A
2	20	QPSK	1	0	18900	1860	1860	1960	48	20	55990	3625	48	20	55340	3560	48	20	55338	3579.8	66	20	66786	2145	23.71	23.91	2A-48A-48D
2	20	QPSK	1	0	18900	1860	1860	1960	48	20	55990	3625	48	20	55340	3560	48	20	55338	3579.8	66	20	66786	2145	23.78	23.91	2A-48C-48C
2	20	QPSK	1	0	18900	1860	1860	1960	48	20	55990	3625	48	20	55340	3560	48	20	55338	3579.8	66	20	66786	2145	23.73	23.91	2A-48C-48D
2	20	QPSK	1	0	18900	1860	1860	1960	5	10	2525	881.5	48	20	55990	3625	48	20	55340	3560	48	20	55338	3579.8	23.76	23.91	2A-5A-48A-48C
2	20	QPSK	1	0	18900	1860	1860	1960	5	10	2525	881.5	48	20	55990	3625	48	20	55340	3560	48	20	55338	3579.8	23.78	23.91	2A-5A-48A-48C
2	20	QPSK	1	0	18900	1860	1860	1960	5	10	2525	881.5	48	20	55990	3625	48	20	55340	3560	48	20	55338	3579.8	23.75	23.91	2A-5A-48A-48D
2	20	QPSK	1	0	18900	1860	1860	1960	5	10	2525	881.5	48	20	55990	3625	48	20	55340	3560	48	20	55338	3579.8	23.81	23.91	2A-5A-48A-48D
2	20	QPSK	1	0	18900	1860	1860	1960	5	10	829	2450	5	10	2549	883.9	66	20	66786	2145	66	20	67230	2100	23.79	23.91	2A-5B-30A-66A
2	20	QPSK	1	0	18900	1860	1860	1960	5	10	829	2450	5	10	2549	883.9	66	20	66786	2145	66	20	67230	2100	23.86	23.91	2A-5B-30A-66A
2	20	QPSK	1	0	18900	1860	1860	1960	5	10	829	2450	5	10	2549	883.9	66	20	66786	2145	66	20	67230	2100	23.82	23.91	2A-5B-30A-66B
2	20	QPSK	1	0	18900	1860	1860	1960	7	20	3100	2450	12	10	5130	741	12	5	7058	733.8	66	20	66786	2145	23.60	23.91	2A-13A-30A-66A
2	20	QPSK	1	0	18700	1860	1860	1940	2	20	868	1959.8	5	10	829	2450	5	10	2549	883.9	30	10	66786	2145	23.65	23.85	2C-5B-30A
41	20	QPSK	1	99	39750	2506	39750	2506	42	20	41880	3410	42	20	41888	3429.8	42	20	41920	3570.2	42	20	43440	3590	23.77	23.96	41A-42C-42C
41	20	QPSK	1	99	39750	2506	39750	2506	41	20	39948	2525.8	41	20	39750	2506	41	20	40148	2545.8	41	20	40148	2545.8	23.76	23.96	41C-41D
41	20	QPSK	1	99	39750	2506	39750	2506	41	20	39948	2525.8	41	20	41890	3410	42	20	41920	3570.2	42	20	43440	3590	23.77	23.95	

### LTE Downlink 6CA conducted power table

Five Component Carrier Maximum Conducted Power																															
PCC					SCC 1				SCC 2				SCC 3				SCC 4				Default power offset		Configurations								
LTE Band	Bandwidth (MHz)	Modulation	RB	RB Offset	Channel	Frequency (MHz)	Channel	Frequency (MHz)	LTE Band	Bandwidth (MHz)	Channel	Frequency (MHz)	LTE Band	Bandwidth (MHz)	Channel	Frequency (MHz)	LTE Band	Bandwidth (MHz)	Channel	Frequency (MHz)	LTE Band	Bandwidth (MHz)		Channel	Frequency (MHz)	DL-CA active	DL-CA inactive				
2	20	QPSK	1	0	18920	18920	18920	18920	48	20	35340	35340	48	20	35338	35338	48	20	35338	35338	48	20	35338	35338	48	20	35338	35338	23.83	23.81	2A-48E-55A
41	20	QPSK	1	0	30750	30750	30750	30750	48	20	35340	35340	48	20	35338	35338	48	20	35338	35338	48	20	35338	35338	48	20	35338	35338	23.83	23.81	41C-48E-55C
13	10	QPSK	1	25	23250	FR2	5230	751	48	20	55340	55340	48	20	55338	55338	48	20	55338	55338	48	20	55338	55338	48	20	55338	55338	23.25	23.43	13A-48E-46A

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## LTE CA information

### A)

The device supports downlink LTE Carrier Aggregation (CA) only. It supports a maximum of 6 carriers in the downlink. Other Release 10 features or higher features are not supported, including Enhanced SC-FDMA, Uplink MIMO or other antenna diversity configurations etc. All uplink communications are identical to the Release 8 Specifications.

The possible downlink LTE CA combinations supported by this device are as below tables per 3GPP TS 36.521-1 V16.6.0. The conducted power measurement results of downlink LTE CA are provided as above per 3GPP TS 36.521-1 V16.6.0. According to KDB 941225 D05A and RF exposure procedures in TCB workshop April 2018, the downlink LTE CA SAR test is not required.

### B)

#### CA combination table

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## Note:

- 1) The channel spacing and aggregated channel bandwidth for CA are identical to the associated specification in 3GPP TS 36.521-1 V16.6.0.
- 2) The reference test frequencies for CA refers to 3GPP TS 36.508 V16.6.0
- 3) Testing is not required in bands or modes not intended/allowed for US operation
- 4) Based on TCB workshop April 2018, only indicate “No” in CA combination table need power measurement

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### 1.3.3 SAR test exclusion for LTE DL MIMO

SAR test exclusion for LTE DL MIMO was determined by UL power measurements with and without DL MIMO. SAR for DL MIMO was not needed since the maximum output power with DL MIMO active was not > 0.25dB higher than the maximum output power with DL MIMO inactive.

DL MIMO maximum power verification								
PCC							Output power (dBm)	
UL							DL MIMO active	DL MIMO inactive
Band	Bandwidth [MHz]	Modulation	RB	RB Offset	Frequency [MHz]	Channel		
LTE B2	20	QPSK	1	0	1880	18900	23.73	23.91
LTE B4	20	QPSK	1	0	1732.5	20175	23.61	23.82
LTE B5	10	QPSK	1	0	844	20600	23.78	23.95
LTE B7	20	QPSK	1	99	2535	21100	23.39	23.51
LTE B12	10	QPSK	1	49	704	23060	23.47	23.59
LTE B13	10	QPSK	1	25	782	23230	23.36	23.43
LTE B14	10	QPSK	1	25	793	23330	23.48	23.69
LTE B17	10	QPSK	1	25	709	23780	23.29	23.46
LTE B25	20	QPSK	1	0	1882.5	26365	23.54	23.57
LTE B26	15	QPSK	1	0	831.5	26865	24.19	24.25
LTE B30	10	QPSK	1	0	2310	27710	22.95	22.97
LTE B38	20	QPSK	1	0	2580	37850	23.93	23.96
LTE B41	20	QPSK	1	99	2506	39750	23.82	23.95
LTE B66	20	QPSK	1	0	1770	132572	23.85	24.00
LTE B42	20	QPSK	1	0	3590	43490	18.99	19.16
LTE B48	20	QPSK	1	0	3690	56640	19.19	19.25

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## 1.4 Test Environment

Ambient Temperature: 22±2° C  
Tissue Simulating Liquid: 22±2° C

## 1.5 Operation Description

For WWAN, the EUT is controlled by using a Radio Communication Tester, and the communication between the EUT and the tester is established by air link. Also, the device is a laptop computer with notebook mode only, so SAR measurement for notebook mode is required.

### Notebook mode

SAR is measured with display screen open at 90 degree and bottom side of keyboard touch against the flat phantom.

### Note:

1. During the SAR testing, the DASY 5 system checks power drift by comparing the e-field strength of one specific location measured at the beginning with that measured at the end of the SAR testing.
2. **UMTS:** The 3G SAR test reduction procedure is applied to HSDPA with 12.2 kbps RMC as the primary mode. Since the maximum output power in a secondary mode (HSDPA) is  $\leq \frac{1}{4}$  dB higher than the primary mode (WCDMA), SAR measurement is not required for the secondary mode (HSDPA). The following 4 sub-tests were completed according to Release 5 procedures in section 5.2 of 3GPP TS 34.121. A summary of these setting are illustrated below:

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Sub-test	$\beta_c$	$\beta_a$	$\beta_a$ (SF)	$\beta_c/\beta_a$	$\beta_{hs}^{(1)}$	CM (dB) <sup>(2)</sup>
1	2/15	15/15	64	2/15	4/15	0.0
2	12/15 <sup>(3)</sup>	15/15 <sup>(3)</sup>	64	12/15 <sup>(3)</sup>	24/15	1.0
3	15/15	8/15	64	15/8	30/15	1.5
4	15/15	4/15	64	15/4	30/15	1.5

Note 1:  $\Delta_{ACK}$ ,  $\Delta_{NACK}$  and  $\Delta_{CQI} = 8 \Leftrightarrow A_{hs} = \beta_{hs}/\beta_c = 30/15 \Leftrightarrow \beta_{hs} = 30/15 * \beta_c$   
 Note 2: CM = 1 for  $\beta_c/\beta_a = 12/15$ ,  $\beta_{hs}/\beta_c = 24/15$ .  
 Note 3: For subtest 2 the  $\beta_c/\beta_a$  ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to  $\beta_c = 11/15$  and  $\beta_a = 15/15$ .

3. **UMTS:** The 3G SAR test reduction procedure is applied to HSPA (HSUPA/HSDPA with RMC) with 12.2 kbps RMC as the primary mode. Since the maximum output power in a secondary mode (HSPA) is  $\leq \frac{1}{4}$  dB higher than the primary mode (WCDMA), SAR measurement is not required for the secondary mode (HSPA). The following 5 sub-tests were completed according to Release 6 procedures in section 5.2 of 3GPP TS 34.121. A summary of these settings are illustrated below:

Sub-test	$\beta_c$	$\beta_a$	$\beta_a$ (SF)	$\beta_c/\beta_a$	$\beta_{hs}^{(1)}$	$\beta_{ec}$	$\beta_{ed}$	$\beta_{ed}$ (SF)	$\beta_{ed}$ (codes)	CM <sup>(2)</sup> (dB)	MPR (dB)	AG <sup>(4)</sup> Index	E- TFCI
1	11/15 <sup>(3)</sup>	15/15 <sup>(3)</sup>	64	11/15 <sup>(3)</sup>	22/15	209/225	1039/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	$\beta_{ed1}: 47/15$ $\beta_{ed2}: 47/15$	4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15 <sup>(4)</sup>	15/15 <sup>(4)</sup>	64	15/15 <sup>(4)</sup>	30/15	24/15	134/15	4	1	1.0	0.0	21	81

Note 1:  $\Delta_{ACK}$ ,  $\Delta_{NACK}$  and  $\Delta_{CQI} = 8 \Leftrightarrow A_{hs} = \beta_{hs}/\beta_c = 30/15 \Leftrightarrow \beta_{hs} = 30/15 * \beta_c$ .  
 Note 2: CM = 1 for  $\beta_c/\beta_a = 12/15$ ,  $\beta_{hs}/\beta_c = 24/15$ . For all other combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.  
 Note 3: For subtest 1 the  $\beta_c/\beta_a$  ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to  $\beta_c = 10/15$  and  $\beta_a = 15/15$ .  
 Note 4: For subtest 5 the  $\beta_c/\beta_a$  ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to  $\beta_c = 14/15$  and  $\beta_a = 15/15$ .  
 Note 5: Testing UE using E-DPDCH Physical Layer category 1 Sub-test 3 is not required according to TS 25.306 Table 5.1g.  
 Note 6:  $\beta_{ed}$  cannot be set directly; it is set by Absolute Grant Value.

4. **UMTS:** The 3G SAR test reduction procedure is applied to HSPA+ with 12.2 kbps RMC as the primary mode. Since the maximum output power in a secondary mode (HSPA+) is  $\leq \frac{1}{4}$  dB higher than the primary mode (WCDMA), SAR measurement is not required for the secondary mode (HSPA+). The following 1 sub-test was completed according to Release 7 procedures in section 5.2 of 3GPP TS34.121. A summary of these settings are illustrated below:

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Table C.11.1.4:  $\beta$  values for transmitter characteristics tests with HS-DPCCH and E-DCH with 16QAM

Sub-test	$\beta_c$ (Note 3)	$\beta_d$	$\beta_{HS}$ (Note 1)	$\beta_{ec}$	$\beta_{ed}$ (2xSF2) (Note 4)	$\beta_{ed}$ (2xSF4) (Note 4)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 4)	E-TFCI (Note 5)	E-TFCI (boost)
1	1	0	30/15	30/15	$\beta_{ed1}$ : 30/15 $\beta_{ed2}$ : 30/15	$\beta_{ed3}$ : 24/15 $\beta_{ed4}$ : 24/15	3.5	2.5	14	105	105
<p>Note 1: <math>\Delta_{ACK}</math>, <math>\Delta_{NACK}</math> and <math>\Delta_{CQI} = 30/15</math> with <math>\beta_{HS} = 30/15 * \beta_c</math>.</p> <p>Note 2: CM = 3.5 and the MPR is based on the relative CM difference, <math>MPR = \text{MAX}(CM-1, 0)</math>.</p> <p>Note 3: DPDCH is not configured, therefore the <math>\beta_c</math> is set to 1 and <math>\beta_d = 0</math> by default.</p> <p>Note 4: <math>\beta_{ed}</math> can not be set directly; it is set by Absolute Grant Value.</p> <p>Note 5: All the sub-tests require the UE to transmit 2SF2+2SF4 16QAM EDCH and they apply for UE using E-DPDCH category 7. E-DCH TTI is set to 2ms TTI and E-DCH table index = 2. To support these E-DCH configurations DPDCH is not allocated. The UE is signalled to use the extrapolation algorithm.</p>											

5. **UMTS:** The 3G SAR test reduction procedure is applied to DC-HSDPA with 12.2 kbps RMC as the primary mode. Power is measured for DC-HSDPA according to the H-Set 12, FRC configuration in Table C.8.1.12 of 3GPP TS 34.121-1 to determine SAR test reduction. A primary and a secondary serving HS-DSCH Cell are required to perform the power measurement and for the results to be acceptable. Since the maximum output power in a secondary mode (DC-HSDPA) is  $\leq 1/4$  dB higher than the primary mode (WCDMA), SAR measurement is not required for the secondary mode (DC-HSDPA). The following tests were completed according to procedures in section 7.3.13 of 3GPP TS 34.108 v9.5.0. A summary of these setting are illustrated below:

The configurations of the fixed reference channels for HSDPA RF tests are described in 3GPP TS 34.121, annex C for FDD and 3GPP TS 34.122

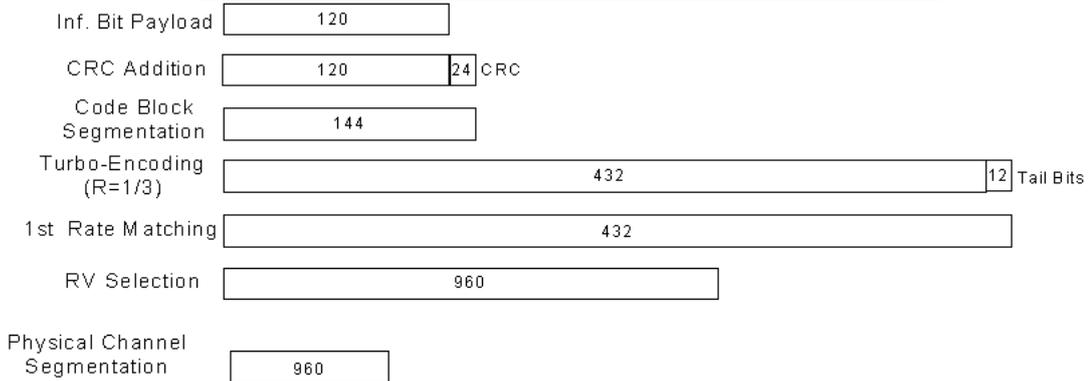
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**Table C.8.1.12: Fixed Reference Channel H-Set 12**

Parameter	Unit	Value
Nominal Avg. Inf. Bit Rate	kbps	60
Inter-TTI Distance	TTI's	1
Number of HARQ Processes	Processes	6
Information Bit Payload ( $N_{INF}$ )	Bits	120
Number Code Blocks	Blocks	1
Binary Channel Bits Per TTI	Bits	960
Total Available SML's in UE	SML's	19200
Number of SML's per HARQ Proc.	SML's	3200
Coding Rate		0.15
Number of Physical Channel Codes	Codes	1
Modulation		QPSK
<p>Note 1: The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table.</p> <p>Note 2: Maximum number of transmission is limited to 1, i.e., retransmission is not allowed. The redundancy and constellation version 0 shall be used.</p>		



**Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)**

The following 4 sub-tests for HSDPA were completed according to Release 8 procedures in section 5.2 of 3GPP TS34.121. A summary of subtest settings are illustrated below:

Sub-test	$\beta_c$	$\beta_a$	$\beta_a$ (SF)	$\beta_c/\beta_a$	$\beta_{hs}^{(1)}$	CM (dB) <sup>(2)</sup>
1	2/15	15/15	64	2/15	4/15	0.0
2	12/15 <sup>(3)</sup>	15/15 <sup>(3)</sup>	64	12/15 <sup>(3)</sup>	24/15	1.0
3	15/15	8/15	64	15/8	30/15	1.5
4	15/15	4/15	64	15/4	30/15	1.5

Note 1:  $\Delta_{ACK}, \Delta_{NACK}$  and  $\Delta_{CQI} = 8 \leftrightarrow A_{hs} = \beta_{hs}/\beta_c = 30/15 \leftrightarrow \beta_{hs} = 30/15 * \beta_c$

Note 2: CM = 1 for  $\beta_c/\beta_a = 12/15, \beta_{hs}/\beta_c = 24/15$ .

Note 3: For subtest 2 the  $\beta_c/\beta_a$  ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to  $\beta_c = 11/15$  and  $\beta_a = 15/15$ .

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6. **LTE: LTE modes test according to KDB 941225D05v02r05.**

a. Per Section 5.2.1, the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation.

- Using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.

- When the reported SAR is  $\leq 0.8$  W/kg, testing of the remaining RB offset configurations and required test channels is not required for 1 RB allocation; otherwise, SAR is required for the remaining required test channels and only for the RB offset configuration with the highest output power for that channel.

- When the reported SAR of a required test channel is  $> 1.45$  W/kg, SAR is required for all three RB offset configurations for that required test channel.

b. Per Section 5.2.2, the largest channel bandwidth and measure SAR for QPSK with 50% RB allocation

- The procedures required for 1 RB allocation in 5.2.1 are applied to measure the SAR for QPSK with 50% RB allocation.

c. Per Section 5.2.3, the largest channel bandwidth and measure SAR for QPSK with 100% RB allocation

- For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation in 5.2.1 and 5.2.2 are  $\leq 0.8$  W/kg.

- Otherwise, SAR is measured for the highest output power channel and if the reported SAR is  $> 1.45$  W/kg, the remaining required test channels must also be tested.

d. Per Section 5.2.4, Higher order modulations

- For each modulation besides QPSK; e.g., 16-QAM, 64-QAM, apply the QPSK procedures in sections 5.2.1, 5.2.2 and 5.2.3 to determine the QAM configurations that may need SAR measurement. For each configuration identified as required for testing, SAR is required only when the highest maximum output power for the configuration in the higher order modulation is  $> \frac{1}{2}$  dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is  $> 1.45$  W/kg.

e. Per Section 5.3, other channel bandwidth standalone SAR test requirements

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- For the other channel bandwidths used by the device in a frequency band, apply all the procedures required for the largest channel bandwidth in section 5.2 to determine the channels and RB configurations that need SAR testing and only measure SAR when the highest maximum output power of a configuration requiring testing in the smaller channel bandwidth is  $> \frac{1}{2}$  dB higher than the equivalent channel configurations in the largest channel bandwidth configuration or the reported SAR of a configuration for the largest channel bandwidth is  $> 1.45$  W/kg. The equivalent channel configuration for the RB allocation, RB offset and modulation etc. is determined for the smaller channel bandwidth according to the same number of RB allocated in the largest channel bandwidth.
- TDD LTE was tested at highest duty factor using UL-DL configuration 0 with 6 UL subframes and 2 special subframes using extended cyclic prefix only and special subframe configuration 6. SAR tests were performed at maximum output power and worst-case transmission duty factor in extended cyclic prefix. Per 3GPP 36.211 Section 4.2, the duty factor for UL-DL configuration 0/special subframe configuration 6 using extended cyclic prefix is 0.633. According to KDB 941225 D05, SAR testing for TDD LTE must be tested using a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by the defined 3GPP TDD LTE configurations. The TDD-LTE of this device supports frame structure type 2 defined in 3GPP TS 36.211 section 4.2, and the frame structure configuration can be tabulated as below.

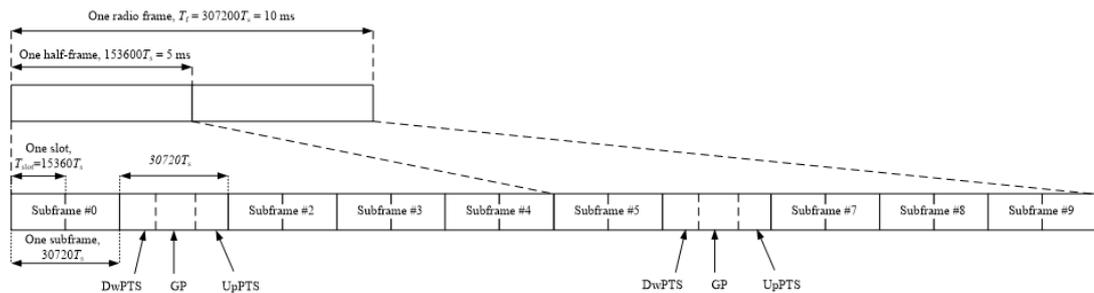


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity)

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**Table 4.2-1: Configuration of special subframe (lengths of DwPTS/GP/UpPTS)**

Special subframe configuration n <sup>o</sup>	Normal cyclic prefix in downlink <sup>o</sup>			Extended cyclic prefix in downlink <sup>o</sup>		
	DwPTS <sup>o</sup>	UpPTS <sup>o</sup>		DwPTS <sup>o</sup>	UpPTS <sup>o</sup>	
		Normal cyclic prefix in uplink <sup>o</sup>	Extended cyclic prefix in uplink <sup>o</sup>		Normal cyclic prefix in uplink <sup>o</sup>	Extended cyclic prefix in uplink <sup>o</sup>
0 <sup>o</sup>	$6592 \cdot T_s$	$(1+X) \cdot 2192 \cdot T_s$	$(1+X) \cdot 2560 \cdot T_s$	$7680 \cdot T_s$	$(1+X) \cdot 2192 \cdot T_s$	$(1+X) \cdot 2560 \cdot T_s$
1 <sup>o</sup>	$19760 \cdot T_s$			$20480 \cdot T_s$		
2 <sup>o</sup>	$21952 \cdot T_s$			$23040 \cdot T_s$		
3 <sup>o</sup>	$24144 \cdot T_s$			$25600 \cdot T_s$		
4 <sup>o</sup>	$26336 \cdot T_s$			$7680 \cdot T_s$		
5 <sup>o</sup>	$6592 \cdot T_s$	$(2+X) \cdot 2192 \cdot T_s$	$(2+X) \cdot 2560 \cdot T_s$	$20480 \cdot T_s$	$(2+X) \cdot 2192 \cdot T_s$	$(2+X) \cdot 2560 \cdot T_s$
6 <sup>o</sup>	$19760 \cdot T_s$			$23040 \cdot T_s$		
7 <sup>o</sup>	$21952 \cdot T_s$			$12800 \cdot T_s$		
8 <sup>o</sup>	$24144 \cdot T_s$			-		
9 <sup>o</sup>	$13168 \cdot T_s$			-		

**Table 4.2-2: Uplink-downlink configurations**

Uplink-downlink configuration <sup>o</sup>	Downlink-to-Uplink Switch-point periodicity <sup>o</sup>	Subframe number <sup>o</sup>									
		0 <sup>o</sup>	1 <sup>o</sup>	2 <sup>o</sup>	3 <sup>o</sup>	4 <sup>o</sup>	5 <sup>o</sup>	6 <sup>o</sup>	7 <sup>o</sup>	8 <sup>o</sup>	9 <sup>o</sup>
0 <sup>o</sup>	5 ms <sup>o</sup>	D <sup>o</sup>	S <sup>o</sup>	U <sup>o</sup>	U <sup>o</sup>	U <sup>o</sup>	D <sup>o</sup>	D <sup>o</sup>	S <sup>o</sup>	U <sup>o</sup>	U <sup>o</sup>
1 <sup>o</sup>	5 ms <sup>o</sup>	D <sup>o</sup>	S <sup>o</sup>	U <sup>o</sup>	U <sup>o</sup>	D <sup>o</sup>	D <sup>o</sup>	S <sup>o</sup>	U <sup>o</sup>	U <sup>o</sup>	D <sup>o</sup>
2 <sup>o</sup>	5 ms <sup>o</sup>	D <sup>o</sup>	S <sup>o</sup>	U <sup>o</sup>	U <sup>o</sup>	U <sup>o</sup>	D <sup>o</sup>	D <sup>o</sup>	S <sup>o</sup>	U <sup>o</sup>	D <sup>o</sup>
3 <sup>o</sup>	10 ms <sup>o</sup>	D <sup>o</sup>	S <sup>o</sup>	U <sup>o</sup>	U <sup>o</sup>	U <sup>o</sup>	D <sup>o</sup>				
4 <sup>o</sup>	10 ms <sup>o</sup>	D <sup>o</sup>	S <sup>o</sup>	U <sup>o</sup>	U <sup>o</sup>	D <sup>o</sup>					
5 <sup>o</sup>	10 ms <sup>o</sup>	D <sup>o</sup>	S <sup>o</sup>	U <sup>o</sup>	D <sup>o</sup>						
6 <sup>o</sup>	5 ms <sup>o</sup>	D <sup>o</sup>	S <sup>o</sup>	U <sup>o</sup>	U <sup>o</sup>	U <sup>o</sup>	D <sup>o</sup>	S <sup>o</sup>	U <sup>o</sup>	U <sup>o</sup>	D <sup>o</sup>

Considering the highest transmission duty cycle, TDD LTE power class 3 was tested using Uplink-Downlink configuration 0 with 6 uplink subframe and 2 special subframe. The special subframe was set to special subframe configuration 6 using extended cyclic prefix uplink. Therefore, SAR testing for TDD LTE was measured at the maximum output power with highest transmission duty cycle of 63.33%. Also, TDD LTE power class 2 was tested using Uplink-Downlink configuration 1 with 4 uplink subframe and 2 special subframe. The special subframe was set to special subframe configuration 6 using extended cyclic prefix uplink. Therefore, SAR testing for TDD LTE was measured at the maximum output power with highest transmission duty cycle of 43.33%

**7. LTE downlink CA:** The device supports a maximum of 6 carriers in the downlink.

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All uplink communications are identical to the Release 8 specifications. Uplink maximum output power is measured with downlink carrier aggregation active, only for the channel with highest measured maximum output power when downlink carrier aggregation is inactive, to confirm that when downlink carrier aggregation is active uplink maximum output power remains within the specified tune-up tolerance limits and not more than  $\frac{1}{4}$  dB higher than the maximum output power measured when downlink carrier aggregation inactive. The downlink channels selected to perform the uplink power measurement must satisfy 3GPP channel spacing (5.4.1A of 3GPP TS 36.521 or equivalent) and channel bandwidth (5.4.2A) requirements. The nominal channel spacing is determined by  $[BW1 + BW2 - 0.1 * |BW1 - BW2|] / 2$  MHz, where BW1 and BW2 are the channel bandwidths of the CC in a 2-CC aggregation configuration. The downlink PCC channel should be paired with the uplink channel according to normal configurations, as if there is no carrier aggregation. The downlink SCC should be adjacent to the PCC and remain within the downlink transmission band for contiguous intra-band CA. For non-contiguous intra-band CA, the SCC should be selected to provide maximum separation from the PCC and must remain fully within the downlink transmission band. For inter-band CA, the SCC should be near the middle of its transmission band. When downlink carrier aggregation is active uplink maximum output power remain within the specified tune-up tolerance limits and not more than  $\frac{1}{4}$  dB higher than the maximum output power measured when downlink carrier aggregation inactive, so SAR evaluation is not required for downlink carrier aggregation.

8. **LTE intra-band UL CA (contiguous):** The device supports LTE intra-band contiguous 2 UL CA for CA\_5B, CA\_7C, CA\_66B, CA\_66C, CA\_38C, CA\_41C and CA\_48C. The maximum output power is measured for each UL CA configuration for the required test channels. UL PCC configuration is determined by the required test channel. SCC and subsequent CCs are added alternatively to either side of the PCC or within the transmission band for channels at the ends of a frequency band. SAR for UL CA is required in highest standalone test position and frequency band combination. Since the maximum output for UL CA is  $\leq$  standalone LTE mode (without CA), PCC is configured according to the highest standalone SAR configuration tested, SCC and subsequent CCs are configured

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according to procedures used for power measurement and parameters (BW, RB etc.) similar to that used for the PCC.

9. **5G NR:** NR implementation of n2, n5, n7, n12, n41 and n66 is limited to EN-DC only, with LTE bands 2/5/7/12/13/25/26/30/41/48/66 acting as anchor bands, SAR tests for NR bands and LTE anchor bands were performed separately due to limitations in SAR probe calibration factor. Due to test setup limitation, SAR testing for NR was performed using factory test mode software to establish the connection.
10. **5G NR:** The device supports NSA only (EN-DC only), SA is not supported, so NR can only be transmitted in EN-DC mode. For WWAN Tx8, only LTE B42 can transmit standalone, other bands only can transmit in EN-DC mode
11. **5G NR:** 5G NR Power/SAR procedure is similar with KDB 941225 D05. **a.** For power measurement reduction of DFT-s-OFDM and CP-OFDM, CP-OFDM will not higher than DFT-s-OFDM based on 3GPP MPR table, so CP-OFDM power measurement is unnecessary **b.** For power measurement reduction of DFT-s-OFDM, 16QAM/64QAM/256QAM will not higher than Pi/2 BPSK and QPSK based on 3GPP MPR table, so Pi/2 BPSK and QPSK are measured fully, and 16QAM/64QAM/256QAM is spot check 1RB allocation/1 RB offset configuration to ensure the output power will not ½ dB higher than Pi/2 BPSK and QPSK. Smaller bandwidth output power will spot check Pi/2 BPSK/1RB allocation/1 RB offset configuration to ensure output power will not ½ dB higher than largest supported bandwidth. **c.** SAR testing start with the largest channel bandwidth and measure SAR for Pi/2 BPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel. **d.** 50% RB allocation for Pi/2 BPSK SAR testing follows 1RB Pi/2 BPSK allocation procedure. **e.** Pi/2 BPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are  $\leq 0.8$  W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is  $> 1.45$  W/kg, the remaining required test channels must also be tested. **f.**

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QPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not  $\frac{1}{2}$  dB higher than the same configuration in Pi/2 BPSK, also reported SAR for the Pi/2 BPSK configuration is less than 1.45 W/kg, QPSK/16QAM/64QAM/256QAM SAR testing are not required. **g.** Smaller bandwidth output power for each RB allocation configuration for this device will not  $\frac{1}{2}$  dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is  $\leq 1.45$  W/kg, smaller bandwidth SAR testing is not required for this device.

12. **General:** According to KDB447498D01v06, testing of other required channels is not required when the reported 1-g SAR for the highest output channel is  $\leq 0.8$  W/kg, when the transmission band is  $\leq 100$  MHz. According to KDB865664D01v01r04, SAR measurement variability must be assessed for each frequency band. When the original highest measured SAR is  $\geq 0.8$  W/kg, repeated that measurement once. Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is  $> 1.20$  or when the original or repeated measurement is  $\geq 1.45$  W/kg ( $\sim 10\%$  from the 1-g SAR limit).

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## 1.6 Smart Transmit feature for RF Exposure compliance

The FCC RF exposure limit is defined based on time-averaged RF exposure. The product implements Qualcomm Smart Transmit feature which controls the instantaneous transmit power for WWAN transmitter to ensure the product in compliance with FCC RF exposure limit over a defined time window, for SAR (transmit frequency  $\leq$  6GHz).

The parameters obtained from SAR characterization (referred to as SAR char, respectively) will be used as input for Smart Transmit. SAR char will be entered via the Embedded File System (EFS) to enable the Smart Transmit Feature.

### <Terminologies in this report>

P <sub>limit</sub>	The time-averaged RF power which corresponds to SAR design target
P <sub>max</sub>	Maximum tune-up power level
SAR_design_target	The design target for SAR compliance. It should be less than SAR limit to account for all device design related uncertainties.
SAR char	P <sub>limit</sub> for all the technologies/bands

### <SAR Characterization>

SAR char must be generated to cover all radio configurations and usage scenarios that the wireless device supports for operating at 6 GHz or below. It will then be used as input for Smart Transmit to control and manage RF exposure for  $f < 6$  GHz.

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### SAR\_design\_target and Uncertainty

SAR\_design\_target is determined by ensuring that it is less than FCC SAR limit after accounting for total device designed related uncertainties specified by the manufacturer

$$\text{SAR\_design\_target} < \text{SAR\_limit} \times 10^{(-\text{total uncertainty}/10)}$$

	Uncertainty dB (k=2)
Total uncertainty	1.0

Exposure	Antenna	Frequency band	SAR_design_target
Laptop mode	Tx5	All	0.445 W/Kg
	Tx8	All	0.445 W/Kg

The Smart Transmit algorithm maintains the time-averaged transmit power, in turn, time-averaged RF exposure of SAR\_design\_target, below the predefined time-averaged power limit, for each characterized technology and band.

Smart Transmit allows the device to transmit at higher power instantaneously, as high as Pmax, when needed, but enforces power limiting to maintain time-averaged transmit power to Plimit. Below table shows Plimit EFS settings and maximum tune up output power Pmax configured for this EUT for laptop mode.

<Plimit for supported technologies and bands (Plimit in EFS file)>

Antenna	Band	Plimit** (dBm)	Pmax* (dBm)
Tx5	WCDMA B II	36.7	23.5
Tx5	WCDMA B IV	34.4	23.5
Tx5	WCDMA B V	40.1	23.5
Tx5	LTE B2	36.4	23
Tx5	LTE B4	36.0	23
Tx5	LTE B5	38.0	23.5
Tx5	LTE B7	38.2	23
Tx5	LTE B12	40.7	23.5
Tx5	LTE B13	36.1	23.5
Tx5	LTE B14	37.6	23.5
Tx5	LTE B17	39.8	23.5

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Tx5	LTE B25	36.1	23
Tx5	LTE B26	37.9	23.5
Tx5	LTE B30	37.5	22
Tx5	LTE B38	34.8	21
Tx5	LTE B41 PC3	34.3	21
Tx5	LTE B41 PC2	33.9	22.4
Tx5	LTE B66	35.2	23
Tx5	5G n2	36.5	23
Tx5	5G n5	39.8	23
Tx5	5G n12	38.0	23
Tx5	5G n66	34.8	23
Tx8	LTE B2	20.9	23
Tx8	LTE B7	19.5	23
Tx8	LTE B42	17.5	21
Tx8	LTE B48	16.8	19
Tx8	LTE B66	20.6	23
Tx8	5G n2	19.8	23
Tx8	5G n7	19.1	23
Tx8	5G n41 PC2	18.4	26
Tx8	5G n41 PC3	17.3	23
Tx8	5G n66	19.6	23

\*Pmax is used for RF tune up procedure. The maximum allowed output power is equal to Pmax + 1dB uncertainty.

\*\*All Plimit power levels entered in the Table correspond to average power levels after accounting for duty cycle in the case TDD modulation schemes (for e.g., LTE TDD).

The max allowed output power is the Plimit + 1dB device uncertainty, and if Plimit is higher than Pmax, the device output power will be Pmax instead.

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4. The Electro-optical converter (EOC) performs the conversion between optical and electrical of the signals for the digital communication to the DAE and for the analog signal from the optical surface detection. The EOC is connected to the measurement server.
5. The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
6. A probe alignment unit which improves the (absolute) accuracy of the probe positioning.
7. A computer operating Windows 7.
8. DASY 5 software.
9. Remote control with teach pendant and additional circuitry for robot safety such as warning lamps, etc.
10. Tissue simulating liquid mixed according to the given recipes.
11. Validation dipole kits allowing to validate the proper functioning of the system.

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## 1.8 System Components

### EX3DV4 E-Field Probe

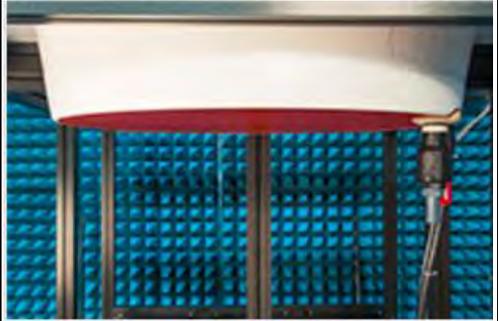
Construction	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Calibration	Basic Broad Band Calibration in air Conversion Factors (CF) for HSL 750/835/1750/1900/2300/2600/3500/3700MHz Additional CF for other liquids and frequencies upon request	
Frequency	10 MHz to > 6 GHz	
Directivity	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)	
Dynamic Range	10 µW/g to > 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 µW/g)	
Dimensions	Tip diameter: 2.5 mm	
Application	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better 30%.	

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## PHANTOM

Model	ELI	
Construction	The ELI phantom is used for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI is fully compatible with the IEC 62209-2 standard and all known tissue simulating liquids. ELI has been optimized regarding its performance and can be integrated into our standard phantom tables. A cover prevents evaporation of the liquid. Reference markings on the phantom allow installation of the complete setup, including all predefined phantom positions and measurement grids, by teaching three points. The phantom is compatible with all SPEAG dosimetric probes and dipoles.	
Shell Thickness	2 ± 0.2 mm	
Filling Volume	Approx. 30 liters	
Dimensions	Major axis: 600 mm Minor axis: 400 mm	

## DEVICE HOLDER

Construction	The device holder (Supporter) for Notebook is made by POM (polyoxymethylene resin) , which is non-metal and non-conductive. The height can be adjusted to fit varies kind of notebooks.	
		Device Holder

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## 1.9 SAR System Verification

The microwave circuit arrangement for system verification is sketched in Fig. b. The daily system accuracy verification occurs within the flat section of the SAM phantom. A SAR measurement was performed to see if the measured SAR was within  $\pm 10\%$  from the target SAR values. These tests were done at 750/835/1750/1900/2300/2600/3500/3700MHz. The tests were conducted on the same days as the measurement of the DUT. The obtained results from the system accuracy verification are displayed in the table 1 (SAR values are normalized to 1W forward power delivered to the dipole). During the tests, the liquid depth above the ear reference points was  $\geq 15\text{ cm} \pm 5\text{ mm}$  (frequency  $\leq 3\text{ GHz}$ ) or  $\geq 10\text{ cm} \pm 5\text{ mm}$  (frequency  $> 3\text{ GHz}$ ) in all the cases. It is seen that the system is operating within its specification, as the results are within acceptable tolerance of the reference values.

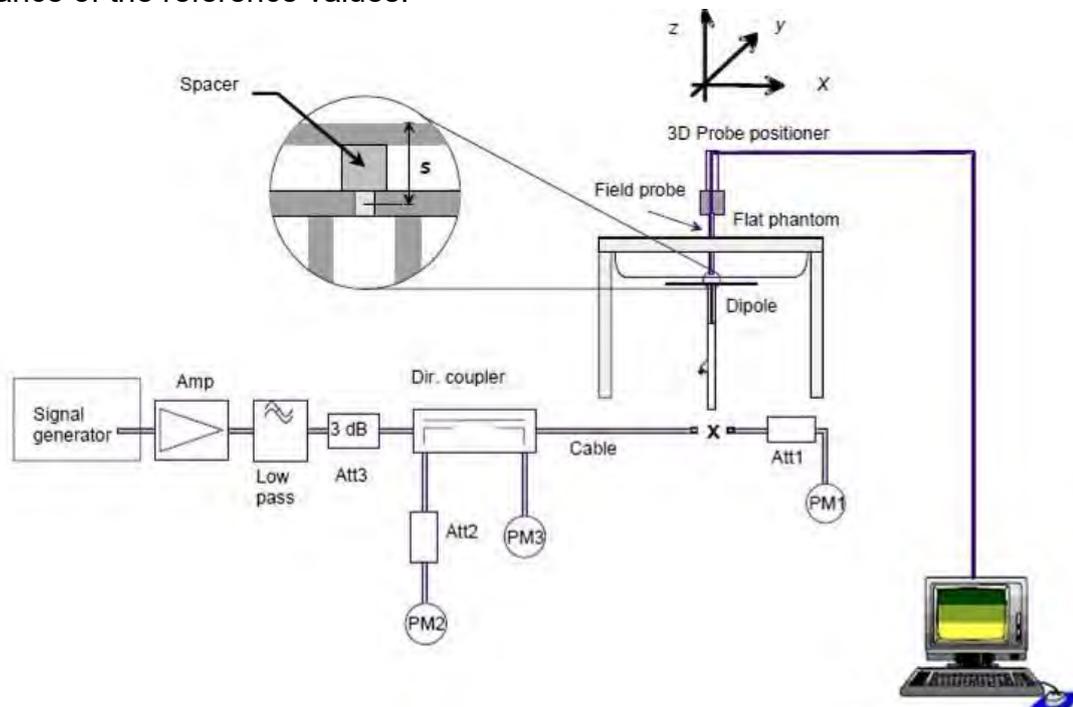


Fig. b The block diagram of system verification

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**Tx5 antenna**
**WNC**

Validation Kit	S/N	Frequency (MHz)		1W Target SAR-1g (mW/g)	pin=250mW Measured SAR-1g (mW/g)	Measured SAR-1g normalized to 1W (mW/g)	Deviation (%)	Measured Date
D750V3	1015	750	Head	8.48	2.09	8.36	-1.42%	Sep. 01, 2020
D835V2	4d063	835	Head	9.52	2.37	9.48	-0.42%	Sep. 02, 2020
D1750V2	1008	1750	Head	36.00	8.67	34.68	-3.67%	Sep. 03, 2020
D1900V2	5d173	1900	Head	39.40	9.67	38.68	-1.83%	Sep. 04, 2020
D2300V2	1023	2300	Head	49.00	11.40	45.60	-6.94%	Sep. 05, 2020
D2600V2	1005	2600	Head	57.30	14.20	56.80	-0.87%	Sep. 06, 2020

**HB**

Validation Kit	S/N	Frequency (MHz)		1W Target SAR-1g (mW/g)	pin=250mW Measured SAR-1g (mW/g)	Measured SAR-1g normalized to 1W (mW/g)	Deviation (%)	Measured Date
D750V3	1015	750	Head	8.48	2.11	8.44	-0.47%	Sep. 07, 2020
D835V2	4d063	835	Head	9.52	2.37	9.48	-0.42%	Sep. 08, 2020
D1750V2	1008	1750	Head	36.00	8.81	35.24	-2.11%	Sep. 09, 2020
D1900V2	5d173	1900	Head	39.40	9.88	39.52	0.30%	Sep. 10, 2020
D2300V2	1023	2300	Head	49.00	11.50	46.00	-6.12%	Sep. 11, 2020
D2600V2	1005	2600	Head	57.30	14.00	56.00	-2.27%	Sep. 12, 2020

**AWAN**

Validation Kit	S/N	Frequency (MHz)		1W Target SAR-1g (mW/g)	pin=250mW Measured SAR-1g (mW/g)	Measured SAR-1g normalized to 1W (mW/g)	Deviation (%)	Measured Date
D750V3	1015	750	Head	8.48	2.25	9.00	6.13%	Sep. 13, 2020
D835V2	4d063	835	Head	9.52	2.24	8.96	-5.88%	Sep. 14, 2020
D1750V2	1008	1750	Head	36.00	8.94	35.76	-0.67%	Sep. 15, 2020
D1900V2	5d173	1900	Head	39.40	10.40	41.60	5.58%	Sep. 16, 2020
D2300V2	1023	2300	Head	49.00	11.10	44.40	-9.39%	Sep. 17, 2020
D2600V2	1005	2600	Head	57.30	14.40	57.60	0.52%	Sep. 18, 2020

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**Tx8 antenna**
**WNC**

Validation Kit	S/N	Frequency (MHz)		1W Target SAR-1g (mW/g)	pin=250mW Measured SAR-1g (mW/g)	Measured SAR-1g normalized to 1W (mW/g)	Deviation (%)	Measured Date
D1750V2	1008	1750	Head	36.00	9.02	36.08	0.22%	Sep. 19, 2020
D1900V2	5d173	1900	Head	39.40	9.48	37.92	-3.76%	Sep. 20, 2020
D2600V2	1005	2600	Head	57.30	14.10	56.40	-1.57%	Sep. 21, 2020
Validation Kit	S/N	Frequency (MHz)		1W Target SAR-1g (mW/g)	pin=100mW Measured SAR-1g (mW/g)	Measured SAR-1g normalized to 1W (mW/g)	Deviation (%)	Measured Date
D3500V2	1009	3500	Head	67.60	6.97	69.70	3.11%	Sep. 22, 2020
D3700V2	1057	3700	Head	68.00	6.79	67.90	-0.15%	Sep. 23, 2020

**HB**

Validation Kit	S/N	Frequency (MHz)		1W Target SAR-1g (mW/g)	pin=250mW Measured SAR-1g (mW/g)	Measured SAR-1g normalized to 1W (mW/g)	Deviation (%)	Measured Date
D1750V2	1008	1750	Head	36.00	9.41	37.64	4.56%	Sep. 24, 2020
D1900V2	5d173	1900	Head	39.40	10.10	40.40	2.54%	Sep. 25, 2020
D2600V2	1005	2600	Head	57.30	14.80	59.20	3.32%	Sep. 26, 2020
Validation Kit	S/N	Frequency (MHz)		1W Target SAR-1g (mW/g)	pin=100mW Measured SAR-1g (mW/g)	Measured SAR-1g normalized to 1W (mW/g)	Deviation (%)	Measured Date
D3500V2	1009	3500	Head	67.60	6.62	66.20	-2.07%	Sep. 27, 2020
D3700V2	1057	3700	Head	68.00	6.95	69.50	2.21%	Sep. 28, 2020

**AWAN**

Validation Kit	S/N	Frequency (MHz)		1W Target SAR-1g (mW/g)	pin=250mW Measured SAR-1g (mW/g)	Measured SAR-1g normalized to 1W (mW/g)	Deviation (%)	Measured Date
D1750V2	1008	1750	Head	36.00	9.26	37.04	2.89%	Sep. 29, 2020
D1900V2	5d173	1900	Head	39.40	10.10	40.40	2.54%	Sep. 30, 2020
D2600V2	1005	2600	Head	57.30	14.50	58.00	1.22%	Oct. 01, 2020
Validation Kit	S/N	Frequency (MHz)		1W Target SAR-1g (mW/g)	pin=100mW Measured SAR-1g (mW/g)	Measured SAR-1g normalized to 1W (mW/g)	Deviation (%)	Measured Date
D3500V2	1009	3500	Head	67.60	6.49	64.90	-3.99%	Oct. 02, 2020
D3700V2	1057	3700	Head	68.00	6.88	68.80	1.18%	Oct. 03, 2020

Table 1. Results of system verification

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### 1.10 Tissue Simulant Fluid for the Frequency Band

The dielectric properties for this Head-simulant fluid were measured by using the Agilent Model 85070E Dielectric Probe (rates frequency band 200 MHz to 20 GHz) in conjunction with Network Analyzer.

All dielectric parameters of tissue simulates were measured within 24 hours of SAR measurements. The measured conductivity and permittivity are all within  $\pm 5\%$  of the target values.

The depth of the tissue simulant in the flat section of the phantom was  $\geq 15 \text{ cm} \pm 5 \text{ mm}$  (Frequency  $\leq 3\text{G}$ ) or  $\geq 10 \text{ cm} \pm 5 \text{ mm}$  (Frequency  $>3\text{G}$ ) during all tests. (Fig. 2)

#### Tx5 antenna

Tissue Type	Measurement Date	Measured Frequency (MHz)	Target Dielectric Constant, $\epsilon_r$	Target Conductivity, $\sigma$ (S/m)	Measured Dielectric Constant, $\epsilon_r$	Measured Conductivity, $\sigma$ (S/m)	% dev $\epsilon_r$	% dev $\sigma$
Head	Sep, 01. 2020	704.00	42.181	0.890	42.950	0.858	1.82%	-3.57%
		706.50	42.168	0.890	42.906	0.859	1.75%	-3.48%
		707.50	42.162	0.890	42.812	0.866	1.54%	-2.70%
		708.50	42.157	0.890	42.800	0.870	1.52%	-2.26%
		709.00	42.155	0.890	42.720	0.871	1.34%	-2.15%
		710.00	42.149	0.890	42.712	0.874	1.33%	-1.83%
		711.00	42.144	0.890	42.656	0.875	1.21%	-1.72%
		750.00	41.942	0.893	42.565	0.885	1.49%	-0.94%
		782.00	41.775	0.896	42.315	0.895	1.29%	-0.10%
	793.00	41.718	0.897	42.287	0.898	1.36%	0.14%	
	Sep, 02. 2020	822.50	41.565	0.899	42.270	0.886	1.70%	-1.45%
		826.40	41.545	0.899	42.267	0.893	1.74%	-0.70%
		829.00	41.531	0.900	42.114	0.903	1.40%	0.39%
		831.50	41.518	0.900	42.101	0.905	1.40%	0.59%
		834.00	41.505	0.900	42.053	0.910	1.32%	1.12%
		835.00	41.500	0.900	41.963	0.915	1.12%	1.67%
		836.50	41.492	0.900	41.858	0.916	0.88%	1.76%
		836.60	41.500	0.902	41.744	0.919	0.59%	1.92%
		839.00	41.500	0.904	41.737	0.926	0.57%	2.40%
		841.50	41.500	0.907	41.654	0.933	0.37%	2.87%
		844.00	41.500	0.910	41.614	0.938	0.27%	3.11%
	846.60	41.500	0.912	41.563	0.940	0.15%	3.01%	
	Sep, 03. 2020	1712.40	40.138	1.349	41.103	1.303	2.40%	-3.43%
		1720.00	40.126	1.354	40.988	1.311	2.15%	-3.15%
		1732.40	40.107	1.361	40.869	1.328	1.90%	-2.41%
		1732.50	40.107	1.361	40.833	1.335	1.81%	-1.90%
		1745.00	40.087	1.368	40.828	1.342	1.85%	-1.91%
		1750.00	40.079	1.371	40.070	1.368	-0.02%	-0.22%
		1752.60	40.075	1.373	39.973	1.370	-0.25%	-0.19%
		1770.00	40.047	1.383	39.778	1.380	-0.67%	-0.19%

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Tissue Type	Measurement Date	Measured Frequency (MHz)	Target Dielectric Constant, $\epsilon_r$	Target Conductivity, $\sigma$ (S/m)	Measured Dielectric Constant, $\epsilon_r$	Measured Conductivity, $\sigma$ (S/m)	% dev $\epsilon_r$	% dev $\sigma$
Head	Sep, 04. 2020	1852.40	40.000	1.400	39.748	1.383	-0.63%	-1.21%
		1860.00	40.000	1.400	39.689	1.384	-0.78%	-1.14%
		1880.00	40.000	1.400	39.538	1.393	-1.16%	-0.50%
		1882.50	40.000	1.400	39.523	1.396	-1.19%	-0.29%
		1900.00	40.000	1.400	39.403	1.399	-1.49%	-0.07%
		1905.00	40.000	1.400	39.165	1.418	-2.09%	1.29%
		1907.60	40.000	1.400	39.123	1.427	-2.19%	1.93%
	Sep, 05. 2020	2300.00	39.467	1.667	38.925	1.655	-1.37%	-0.72%
		2310.00	39.449	1.676	38.842	1.677	-1.54%	0.06%
	Sep, 06. 2020	2506.00	39.129	1.861	38.569	1.804	-1.43%	-3.07%
		2510.00	39.124	1.865	38.566	1.810	-1.43%	-2.97%
		2535.00	39.092	1.893	38.467	1.841	-1.60%	-2.73%
		2549.50	39.073	1.909	38.441	1.867	-1.62%	-2.18%
		2560.00	39.060	1.920	38.305	1.875	-1.93%	-2.34%
		2580.00	39.035	1.942	38.209	1.882	-2.11%	-3.08%
		2593.00	39.018	1.956	38.111	1.899	-2.32%	-2.91%
		2595.00	39.015	1.958	38.105	1.907	-2.33%	-2.61%
		2600.00	39.009	1.964	38.080	1.908	-2.38%	-2.83%
		2610.00	38.996	1.975	38.020	1.922	-2.50%	-2.66%
		2636.50	38.963	2.003	38.000	1.979	-2.47%	-1.22%
2680.00	38.907	2.051	37.969	2.050	-2.41%	-0.04%		

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Tissue Type	Measurement Date	Measured Frequency (MHz)	Target Dielectric Constant, $\epsilon_r$	Target Conductivity, $\sigma$ (S/m)	Measured Dielectric Constant, $\epsilon_r$	Measured Conductivity, $\sigma$ (S/m)	% dev $\epsilon_r$	% dev $\sigma$
Head	Sep, 07, 2020	704.00	42.181	0.890	42.980	0.863	1.90%	-3.01%
		706.50	42.168	0.890	42.916	0.867	1.77%	-2.58%
		707.50	42.162	0.890	42.812	0.869	1.54%	-2.37%
		708.50	42.157	0.890	42.802	0.873	1.53%	-1.93%
		709.00	42.155	0.890	42.800	0.877	1.53%	-1.48%
		710.00	42.149	0.890	42.720	0.882	1.35%	-0.93%
		711.00	42.144	0.890	42.666	0.889	1.24%	-0.15%
		750.00	41.942	0.893	42.575	0.895	1.51%	0.18%
		782.00	41.775	0.896	42.385	0.907	1.46%	1.24%
	793.00	41.718	0.897	42.340	0.919	1.49%	2.48%	
	Sep, 08, 2020	822.50	41.565	0.899	42.337	0.881	1.86%	-2.01%
		826.40	41.545	0.899	42.297	0.885	1.81%	-1.59%
		829.00	41.531	0.900	42.184	0.892	1.57%	-0.84%
		831.50	41.518	0.900	42.131	0.898	1.48%	-0.19%
		834.00	41.505	0.900	42.123	0.907	1.49%	0.79%
		835.00	41.500	0.900	42.003	0.914	1.21%	1.56%
		836.50	41.492	0.900	41.948	0.918	1.10%	1.99%
		836.60	41.500	0.902	41.807	0.923	0.74%	2.36%
		839.00	41.500	0.904	41.744	0.928	0.59%	2.62%
		841.50	41.500	0.907	41.724	0.933	0.54%	2.87%
		844.00	41.500	0.910	41.694	0.941	0.47%	3.44%
	846.60	41.500	0.912	41.633	0.947	0.32%	3.78%	
	Sep, 09, 2020	1712.40	40.138	1.349	41.103	1.305	2.40%	-3.28%
		1720.00	40.126	1.354	40.988	1.318	2.15%	-2.64%
		1732.40	40.107	1.361	40.939	1.329	2.08%	-2.34%
		1732.50	40.107	1.361	40.903	1.343	1.99%	-1.32%
		1745.00	40.087	1.368	40.848	1.349	1.90%	-1.40%
		1750.00	40.079	1.371	40.090	1.371	0.03%	0.00%
		1752.60	40.075	1.373	39.993	1.379	-0.20%	0.47%
	Sep, 10, 2020	1770.00	40.047	1.383	39.838	1.382	-0.52%	-0.05%
		1852.40	40.000	1.400	39.838	1.388	-0.40%	-0.86%
		1860.00	40.000	1.400	39.779	1.392	-0.55%	-0.57%
		1880.00	40.000	1.400	39.583	1.395	-1.04%	-0.36%
		1882.50	40.000	1.400	39.568	1.397	-1.08%	-0.21%
		1900.00	40.000	1.400	39.433	1.399	-1.42%	-0.07%
	Sep, 11, 2020	1905.00	40.000	1.400	39.183	1.423	-2.04%	1.64%
		1907.60	40.000	1.400	39.175	1.428	-2.06%	2.00%
	Sep, 12, 2020	2300.00	39.467	1.667	38.975	1.663	-1.25%	-0.24%
		2310.00	39.449	1.676	38.912	1.678	-1.36%	0.12%
		2506.00	39.129	1.861	38.646	1.808	-1.23%	-2.85%
2510.00		39.124	1.865	38.569	1.816	-1.42%	-2.65%	
2535.00		39.092	1.893	38.507	1.841	-1.50%	-2.73%	
2549.50		39.073	1.909	38.481	1.869	-1.52%	-2.07%	
2560.00		39.060	1.920	38.325	1.879	-1.88%	-2.14%	
2580.00		39.035	1.942	38.239	1.882	-2.04%	-3.08%	
2593.00		39.018	1.956	38.185	1.905	-2.13%	-2.61%	
2595.00		39.015	1.958	38.160	1.909	-2.19%	-2.51%	
2600.00		39.009	1.964	38.141	1.914	-2.23%	-2.53%	
2610.00		38.996	1.975	38.060	1.928	-2.40%	-2.36%	
2636.50		38.963	2.003	38.030	1.988	-2.39%	-0.77%	
2680.00	38.907	2.051	38.029	2.058	-2.26%	0.35%		

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Tissue Type	Measurement Date	Measured Frequency (MHz)	Target Dielectric Constant, $\epsilon_r$	Target Conductivity, $\sigma$ (S/m)	Measured Dielectric Constant, $\epsilon_r$	Measured Conductivity, $\sigma$ (S/m)	% dev $\epsilon_r$	% dev $\sigma$
Head	Sep, 13. 2020	704.00	42.181	0.890	42.910	0.855	1.73%	-3.91%
		706.50	42.168	0.890	42.846	0.862	1.61%	-3.14%
		707.50	42.162	0.890	42.782	0.866	1.47%	-2.70%
		708.50	42.157	0.890	42.780	0.867	1.48%	-2.60%
		709.00	42.155	0.890	42.762	0.871	1.44%	-2.15%
		710.00	42.149	0.890	42.720	0.876	1.35%	-1.60%
		711.00	42.144	0.890	42.646	0.880	1.19%	-1.16%
		750.00	41.942	0.893	42.525	0.883	1.39%	-1.16%
		782.00	41.775	0.896	42.325	0.885	1.32%	-1.21%
	793.00	41.718	0.897	42.277	0.895	1.34%	-0.19%	
	Sep, 14. 2020	822.50	41.565	0.899	42.267	0.890	1.69%	-1.00%
		826.40	41.545	0.899	42.260	0.897	1.72%	-0.26%
		829.00	41.531	0.900	42.134	0.899	1.45%	-0.06%
		831.50	41.518	0.900	42.093	0.903	1.38%	0.36%
		834.00	41.505	0.900	42.091	0.908	1.41%	0.90%
		835.00	41.500	0.900	41.993	0.912	1.19%	1.33%
		836.50	41.492	0.900	41.928	0.915	1.05%	1.65%
		836.60	41.500	0.902	41.717	0.918	0.52%	1.81%
		839.00	41.500	0.904	41.704	0.924	0.49%	2.18%
		841.50	41.500	0.907	41.644	0.933	0.35%	2.87%
	844.00	41.500	0.910	41.604	0.936	0.25%	2.89%	
	846.60	41.500	0.912	41.603	0.939	0.25%	2.90%	
	Sep, 15. 2020	1712.40	40.138	1.349	41.083	1.301	2.35%	-3.58%
		1720.00	40.126	1.354	40.929	1.314	2.00%	-2.93%
		1732.40	40.107	1.361	40.898	1.329	1.97%	-2.34%
		1732.50	40.107	1.361	40.863	1.338	1.89%	-1.68%
		1745.00	40.087	1.368	40.778	1.348	1.72%	-1.47%
		1750.00	40.079	1.371	40.030	1.369	-0.12%	-0.15%
		1752.60	40.075	1.373	39.913	1.371	-0.40%	-0.11%
	1770.00	40.047	1.383	39.808	1.375	-0.60%	-0.55%	
	Sep, 16. 2020	1852.40	40.000	1.400	39.788	1.386	-0.53%	-1.00%
		1860.00	40.000	1.400	39.759	1.387	-0.60%	-0.93%
		1880.00	40.000	1.400	39.558	1.388	-1.11%	-0.86%
		1882.50	40.000	1.400	39.543	1.392	-1.14%	-0.57%
		1900.00	40.000	1.400	39.403	1.397	-1.49%	-0.21%
		1905.00	40.000	1.400	39.135	1.419	-2.16%	1.36%
	Sep, 17. 2020	1907.60	40.000	1.400	39.123	1.422	-2.19%	1.57%
		2300.00	39.467	1.667	38.895	1.659	-1.45%	-0.48%
	Sep, 18. 2020	2310.00	39.449	1.676	38.832	1.671	-1.56%	-0.30%
		2506.00	39.129	1.861	38.626	1.801	-1.28%	-3.23%
		2510.00	39.124	1.865	38.519	1.812	-1.55%	-2.87%
		2535.00	39.092	1.893	38.497	1.835	-1.52%	-3.05%
		2549.50	39.073	1.909	38.461	1.865	-1.57%	-2.28%
		2560.00	39.060	1.920	38.239	1.873	-2.10%	-2.45%
		2580.00	39.035	1.942	38.235	1.877	-2.05%	-3.34%
		2593.00	39.018	1.956	38.141	1.899	-2.25%	-2.91%
		2595.00	39.015	1.958	38.140	1.907	-2.24%	-2.61%
		2600.00	39.009	1.964	38.095	1.908	-2.34%	-2.83%
2610.00		38.996	1.975	38.060	1.923	-2.40%	-2.61%	
2636.50	38.963	2.003	38.029	1.979	-2.40%	-1.22%		
2680.00	38.907	2.051	37.960	2.051	-2.43%	0.00%		

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**Tx8 antenna**

Tissue Type	Measurement Date	Measured Frequency (MHz)	Target Dielectric Constant, $\epsilon_r$	Target Conductivity, $\sigma$ (S/m)	Measured Dielectric Constant, $\epsilon_r$	Measured Conductivity, $\sigma$ (S/m)	% dev $\epsilon_r$	% dev $\sigma$
Head	Sep, 19, 2020	1720.00	40.126	1.354	41.148	1.316	2.55%	-2.78%
		1745.00	40.087	1.368	40.913	1.349	2.06%	-1.40%
		1750.00	40.079	1.371	40.240	1.372	0.40%	0.07%
		1770.00	40.047	1.383	39.968	1.383	-0.20%	0.03%
	Sep, 20, 2020	1860.00	40.000	1.400	39.739	1.386	-0.65%	-1.00%
		1880.00	40.000	1.400	39.683	1.396	-0.79%	-0.29%
		1900.00	40.000	1.400	39.543	1.407	-1.14%	0.50%
	Sep, 21, 2020	2510.00	39.124	1.865	38.626	1.821	-1.27%	-2.38%
		2535.00	39.092	1.893	38.607	1.845	-1.24%	-2.52%
		2546.01	39.078	1.905	38.471	1.867	-1.55%	-1.98%
		2593.00	39.018	1.956	38.261	1.902	-1.94%	-2.76%
		2600.00	39.009	1.964	38.230	1.915	-2.00%	-2.48%
		2640.00	38.958	2.007	38.200	1.973	-1.95%	-1.71%
	Sep, 22, 2020	3500.00	37.929	2.913	37.786	2.866	-0.38%	-1.60%
		3560.00	37.860	2.974	37.751	2.965	-0.29%	-0.30%
		3575.00	37.843	2.989	37.718	2.971	-0.33%	-0.61%
		3590.00	37.826	3.005	37.662	2.977	-0.43%	-0.92%
	Sep, 23, 2020	3603.30	37.811	3.018	37.590	2.985	-0.58%	-1.11%
		3646.70	37.761	3.063	37.543	3.021	-0.58%	-1.37%
		3690.00	37.711	3.107	37.542	3.025	-0.45%	-2.65%
3700.00		37.700	3.118	37.450	3.081	-0.66%	-1.17%	

Tissue Type	Measurement Date	Measured Frequency (MHz)	Target Dielectric Constant, $\epsilon_r$	Target Conductivity, $\sigma$ (S/m)	Measured Dielectric Constant, $\epsilon_r$	Measured Conductivity, $\sigma$ (S/m)	% dev $\epsilon_r$	% dev $\sigma$
Head	Sep, 24, 2020	1720.00	40.126	1.354	41.119	1.329	2.47%	-1.82%
		1745.00	40.087	1.368	40.918	1.363	2.07%	-0.38%
		1750.00	40.079	1.371	40.103	1.371	0.06%	0.00%
		1770.00	40.047	1.383	39.918	1.393	-0.32%	0.75%
	Sep, 25, 2020	1860.00	40.000	1.400	39.898	1.399	-0.25%	-0.07%
		1880.00	40.000	1.400	39.678	1.404	-0.81%	0.29%
		1900.00	40.000	1.400	39.593	1.410	-1.02%	0.71%
	Sep, 26, 2020	2510.00	39.124	1.865	38.709	1.823	-1.06%	-2.28%
		2535.00	39.092	1.893	38.527	1.841	-1.44%	-2.73%
		2546.01	39.078	1.905	38.472	1.879	-1.55%	-1.35%
		2593.00	39.018	1.956	38.269	1.913	-1.92%	-2.20%
		2600.00	39.009	1.964	38.189	1.923	-2.10%	-2.07%
		2640.00	38.958	2.007	38.161	1.994	-2.05%	-0.66%
	Sep, 27, 2020	3500.00	37.929	2.913	37.966	2.880	0.10%	-1.12%
		3560.00	37.860	2.974	37.871	2.965	0.03%	-0.30%
		3575.00	37.843	2.989	37.838	2.973	-0.01%	-0.55%
		3590.00	37.826	3.005	37.832	2.989	0.02%	-0.52%
	Sep, 28, 2020	3603.30	37.811	3.018	37.680	2.999	-0.35%	-0.64%
		3646.70	37.761	3.063	37.580	3.026	-0.48%	-1.20%
		3690.00	37.711	3.107	37.563	3.027	-0.39%	-2.58%
3700.00		37.700	3.118	37.562	3.087	-0.37%	-0.98%	

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Tissue Type	Measurement Date	Measured Frequency (MHz)	Target Dielectric Constant, $\epsilon_r$	Target Conductivity, $\sigma$ (S/m)	Measured Dielectric Constant, $\epsilon_r$	Measured Conductivity, $\sigma$ (S/m)	% dev $\epsilon_r$	% dev $\sigma$
Head	Sep, 29. 2020	1720.00	40.126	1.354	41.059	1.321	2.32%	-2.41%
		1745.00	40.087	1.368	40.913	1.360	2.06%	-0.60%
		1750.00	40.079	1.371	40.060	1.373	-0.05%	0.14%
		1770.00	40.047	1.383	39.809	1.378	-0.60%	-0.33%
	Sep, 30. 2020	1860.00	40.000	1.400	39.798	1.396	-0.50%	-0.29%
		1880.00	40.000	1.400	39.748	1.399	-0.63%	-0.07%
		1900.00	40.000	1.400	39.493	1.402	-1.27%	0.14%
	Oct, 01. 2020	2510.00	39.124	1.865	38.597	1.816	-1.35%	-2.65%
		2535.00	39.092	1.893	38.539	1.840	-1.41%	-2.79%
		2546.01	39.078	1.905	38.521	1.873	-1.42%	-1.67%
		2593.00	39.018	1.956	38.245	1.912	-1.98%	-2.25%
		2600.00	39.009	1.964	38.205	1.922	-2.06%	-2.12%
		2640.00	38.958	2.007	38.080	1.990	-2.25%	-0.86%
	Oct, 02. 2020	3500.00	37.929	2.913	37.966	2.866	0.10%	-1.60%
		3560.00	37.860	2.974	37.848	2.970	-0.03%	-0.13%
		3575.00	37.843	2.989	37.801	2.972	-0.11%	-0.58%
		3590.00	37.826	3.005	37.780	2.984	-0.12%	-0.69%
	Oct, 03. 2020	3603.30	37.811	3.018	37.742	2.998	-0.18%	-0.68%
		3646.70	37.761	3.063	37.723	3.027	-0.10%	-1.17%
		3690.00	37.711	3.107	37.592	3.035	-0.32%	-2.33%
3700.00		37.700	3.118	37.550	3.095	-0.40%	-0.72%	

Table 2. Dielectric Parameters of Tissue Simulant Fluid

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## The composition of the body tissue simulating liquid:

Frequency (MHz)	Mode	Ingredient						Total amount
		DGMBE	Water	Salt	Preventol D-7	Cellulose	Sugar	
750	Head	—	532.98 g	18.3 g	2.4 g	3.2 g	766 g	1.3L(Kg)
850	Head	—	532.98 g	18.3 g	2.4 g	3.2 g	766 g	1.3L(Kg)
1750	Head	444.52 g	552.42 g	3.06 g	—	—	—	1.0L(Kg)
1900	Head	444.52 g	552.42 g	3.06 g	—	—	—	1.0L(Kg)
2300	Head	550ml	450ml	—	—	—	—	1.0L(Kg)
2600	Head	550ml	450ml	—	—	—	—	1.0L(Kg)
3500	Head	550ml	450ml	—	—	—	—	1.0L(Kg)
3700	Head	550ml	450ml	—	—	—	—	1.0L(Kg)

Table 3. Recipes for Tissue Simulating Liquid

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## 1.11 Evaluation Procedures

The entire evaluation of the spatial peak values is performed within the Post-processing engine (SEMCAD). The system always gives the maximum values for the 1 g and 10 g cubes. The algorithm to find the cube with highest averaged SAR is divided into the following stages:

1. The extraction of the measured data (grid and values) from the Zoom Scan.
2. The calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
3. The generation of a high-resolution mesh within the measured volume
4. The interpolation of all measured values from the measurement grid to the high-resolution grid
5. The extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to surface
6. The calculation of the averaged SAR within masses of 1g and 10g.

The probe is calibrated at the center of the dipole sensors that is located 1 to 2.7mm away from the probe tip. During measurements, the probe stops shortly above the phantom surface, depending on the probe and the surface detecting system. Both distances are included as parameters in the probe configuration file. The software always knows exactly how far away the measured point is from the surface. As the probe cannot directly measure at the surface, the values between the deepest measured point and the surface must be extrapolated. The angle between the probe axis and the surface normal line is less than 30 degree.

In the Area Scan, the gradient of the interpolation function is evaluated to find all the extreme of the SAR distribution. The uncertainty on the locations of the extreme is less than 1/20 of the grid size. Only local maximum within -2 dB of the global maximum are searched and passed for the Cube Scan measurement. In the Cube Scan, the interpolation function is used to extrapolate the Peak SAR from the lowest measurement points to the inner phantom surface (the extrapolation distance). The uncertainty increases with the extrapolation distance. To keep the uncertainty within 1% for the 1 g and 10 g cubes, the extrapolation distance should not be larger than 5mm.

The maximum search is automatically performed after each area scan measurement. It is based on splines in two or three dimensions. The procedure can find the maximum for most SAR distributions even with relatively large grid spacing. After the area scanning measurement, the probe is automatically moved to a position at the interpolated maximum. The following scan can directly use this position for reference, e.g., for a finer resolution grid or the cube evaluations. The 1g and 10g peak evaluations are only available for the predefined cube 7x7x7 scans. The routines are verified and optimized for the grid dimensions used in these cube measurements.

The measured volume of 30x30x30mm contains about 30g of tissue.

The first procedure is an extrapolation (incl. Boundary correction) to get the points

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between the lowest measured plane and the surface. The next step uses 3D interpolation to get all points within the measured volume. In the last step, a 1g cube is placed numerically into the volume and its averaged SAR is calculated. This cube is moved around until the highest averaged SAR is found. If the highest SAR is found at the edge of the measured volume, the system will issue a warning: higher SAR values might be found outside of the measured volume. In that case the cube measurement can be repeated, using the new interpolated maximum as the center.

## 1.12 Probe Calibration Procedures

For the calibration of E-field probes in lossy liquids, an electric field with an accurately known field strength must be produced within the measured liquid. For standardization purposes it would be desirable if all measurements which are necessary to assess the correct field strength would be traceable to standardized measurement procedures. In the following two different calibration techniques are summarized:

### 1.12.1 Transfer Calibration with Temperature Probes

In lossy liquids the specific absorption rate (SAR) is related both to the electric field ( $E$ ) and the temperature gradient ( $\delta T / \delta t$ ) in the liquid.

$$SAR = \frac{\sigma}{\rho} |E|^2 = c \frac{\delta T}{\delta t}$$

whereby  $\sigma$  is the conductivity,  $\rho$  the density and  $c$  the heat capacity of the liquid.

Hence, the electric field in lossy liquid can be measured indirectly by measuring the temperature gradient in the liquid. Non-disturbing temperature probes (optical probes or thermistor probes with resistive lines) with high spatial resolution (<1-2 mm) and fast reaction time (<1 s) are available and can be easily calibrated with high precision [1]. The setup and the exciting source have no influence on the calibration; only the relative positioning uncertainties of the standard temperature probe and the E-field probe to be calibrated must be considered. However, several problems limit the available accuracy of probe calibrations with temperature probes:

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1. The temperature gradient is not directly measurable but must be evaluated from temperature measurements at different time steps. Special precaution is necessary to avoid measurement errors caused by temperature gradients due to energy equalizing effects or convection currents in the liquid. Such effects cannot be completely avoided, as the measured field itself destroys the thermal equilibrium in the liquid. With a careful setup these errors can be kept small.
2. The measured volume around the temperature probe is not well defined. It is difficult to calculate the energy transfer from a surrounding gradient temperature field into the probe. These effects must be considered, since temperature probes are calibrated in liquid with homogeneous temperatures. There is no traceable standard for temperature rise measurements.
3. The calibration depends on the assessment of the specific density, the heat capacity and the conductivity of the medium. While the specific density and heat capacity can be measured accurately with standardized procedures ( $\sim 2\%$  for  $c$ ; much better for  $\rho$ ), there is no standard for the measurement of the conductivity. Depending on the method and liquid, the error can well exceed  $\pm 5\%$ .
4. Temperature rise measurements are not very sensitive and therefore are often performed at a higher power level than the E-field measurements. The nonlinearities in the system (e.g., power measurements, different components, etc.) must be considered.

Considering these problems, the possible accuracy of the calibration of E-field probes with temperature gradient measurements in a carefully designed setup is about  $\pm 10\%$  (RSS) [2]. Recently, a setup which is a combination of the waveguide techniques and the thermal measurements was presented in [3]. The estimated uncertainty of the setup is  $\pm 5\%$  (RSS) when the same liquid is used for the calibration and for actual measurements and  $\pm 7-9\%$  (RSS) when not, which is in good agreement with the estimates given in [2].

### 1.12.2 Calibration with Analytical Fields

In this method a technical setup is used in which the field can be calculated analytically from measurements of other physical magnitudes (e.g., input power). This corresponds to the standard field method for probe calibration in air; however, there is no standard defined for fields in lossy liquids.

When using calculated fields in lossy liquids for probe calibration, several points must be considered in the assessment of the uncertainty:

1. The setup must enable accurate determination of the incident power.
2. The accuracy of the calculated field strength will depend on the assessment of the dielectric parameters of the liquid.

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3. Due to the small wavelength in liquids with high permittivity, even small setups might be above the resonant cutoff frequencies. The field distribution in the setup must be carefully checked for conformity with the theoretical field distribution.

## References

1. N. Kuster, Q. Balzano, and J.C. Lin, Eds., *Mobile Communications Safety*, Chapman & Hall, London, 1997.
2. K. Meier, M. Burkhardt, T. Schmid, and N. Kuster, "Broadband calibration of E-field probes in lossy media", *IEEE Transactions on Microwave Theory and Techniques*, vol. 44, no. 10, pp. 1954-1962, Oct. 1996.
3. K. Jokela, P. Hyysalo, and L. Puranen, "Calibration of specific absorption rate (SAR) probes in waveguide at 900 MHz", *IEEE Transactions on Instrumentation and Measurements*, vol. 47, no. 2, pp. 432-438, Apr. 1998.

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### 1.13 Test Standards and Limits

According to FCC 47CFR §2.1093(d) The limits to be used for evaluation are based generally on criteria published by the American National Standards Institute (ANSI) for localized specific absorption rate (“SAR”) in Section 4.2 of “IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz,” ANSI/IEEE C95.1, By the Institute of Electrical and Electronics Engineers, Inc., New York, New York 10017. These criteria for SAR evaluation are similar to those recommended by the National Council on Radiation Protection and Measurements (NCRP) in “Biological Effects and Exposure Criteria for Radio frequency Electromagnetic Fields,” NCRP Report No. 86, Section 17.4.5. Copyright NCRP, 1986, Bethesda, Maryland 20814. SAR is a measure of the rate of energy absorption due to exposure to an RF transmitting source. SAR values have been related to threshold levels for potential biological hazards. The criteria to be used are specified in paragraphs (d)(1) and (d)(2) of this section and shall apply for portable devices transmitting in the frequency range from 100 kHz to 6 GHz. Portable devices that transmit at frequencies above 6 GHz are to be evaluated in terms of the MPE limits specified in § 1.1310 of this chapter. Measurements and calculations to demonstrate compliance with MPE field strength or power density limits for devices operating above 6 GHz should be made at a minimum distance of 5 cm from the radiating source.

1. Limits for Occupational/Controlled exposure: 0.4 W/kg as averaged over the whole-body and spatial peak SAR not exceeding 8 W/kg as averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the hands, wrists, feet and ankles where the spatial peak SAR shall not exceed 20 W/kg, as averaged over an 10 grams of tissue (defined as a tissue volume in the shape of a cube).
2. Occupational/Controlled limits apply when persons are exposed as a consequence of their employment provided these persons are fully aware of and exercise control over their exposure. Awareness of exposure can be accomplished by use of warning labels or by specific training or education through appropriate means, such as an RF safety program in a work environment.
3. Limits for General Population/Uncontrolled exposure: 0.08 W/kg as averaged over the whole-body and spatial peak SAR not exceeding 1.6 W/kg as averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the hands, wrists, feet and ankles where the spatial peak SAR shall not exceed 4 W/kg, as averaged over any 10 grams of

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tissue (defined as a tissue volume in the shape of a cube). General Population/Uncontrolled limits apply when the general public may be exposed, or when persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or do not exercise control over their exposure. Warning labels placed on consumer devices such as cellular telephones will not be sufficient reason to allow these devices to be evaluated subject to limits for occupational/controlled exposure in paragraph (d)(1) of this section. (Table 4.)

Human Exposure	Uncontrolled Environment General Population	Controlled Environment Occupational
Spatial Peak SAR (Brain)	1.60 W/Kg	8.00 W/Kg
Spatial Average SAR (Whole Body)	0.08 W/Kg	0.40 W/Kg
Spatial Peak SAR (Hands/Feet/Ankle/Wrist)	4.00 W/Kg	20.00 W/Kg

Table 4. RF exposure limits

Notes:

1. Uncontrolled environments are defined as locations where there is potential exposure of individuals who have no knowledge or control of their potential exposure.
2. Controlled environments are defined as locations where there is potential exposure of individuals who have knowledge of their potential exposure and can exercise control over their exposure.

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## 2. Summary of Results

### 2.1 Decision rules

Reported measurement data comply with IEEE 1528-2013:

Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

### 2.2 Summary of Results

#### Notebook mode

#### Tx5-WCDMA Band II / Band IV / Band V

Plot page	Band	Position	Antenna						WNC		HB		AWAN	
			Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Averaged SAR over 1g (W/kg)		Averaged SAR over 1g (W/kg)	
									Measured	Reported	Measured	Reported	Measured	Reported
-	WCDMA Band II	Bottom side	0	9262	1852.4	24.5	23.80	117.49%	0.020	0.023	0.021	0.024	0.019	0.022
-		Bottom side	0	9400	1880	24.5	23.79	117.76%	0.021	0.025	0.020	0.024	0.017	0.020
121		Bottom side	0	9538	1907.6	24.5	23.86	115.88%	0.023	0.027	0.022	0.025	0.016	0.018
-	WCDMA Band IV	Bottom side	0	1312	1712.4	24.5	23.72	119.67%	0.029	0.035	0.026	0.031	0.025	0.030
-		Bottom side	0	1412	1732.4	24.5	23.81	117.22%	0.034	0.040	0.032	0.037	0.024	0.028
122		Bottom side	0	1513	1752.6	24.5	23.84	116.41%	0.039	0.045	0.033	0.039	0.029	0.034
-	WCDMA Band V	Bottom side	0	4132	826.4	24.5	23.93	114.02%	0.009	0.010	0.006	0.007	0.007	0.008
123		Bottom side	0	4183	836.6	24.5	24.08	110.15%	0.011	0.012	0.007	0.008	0.008	0.009
-		Bottom side	0	4233	846.6	24.5	23.95	113.50%	0.008	0.009	0.006	0.007	0.004	0.005

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**Tx5-LTE FDD Band 2 / Band 4 / Band 5 / Band 7 / Band 12 / Band 13 / Band 14 / Band 17 / Band 25 / Band 26 / Band 30**

Plot page	Band	Bandwidth (MHz)	Modulation	Antenna									WNC		HB		AWAN	
				RB Size	RB start	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)					
													Measured	Reported	Measured	Reported	Measured	Reported
-	LTE Band 2	20MHz	QPSK	1 RB	0	Bottom side	0	18700	1860	24	23.85	103.51%	0.023	0.024	0.022	0.023	0.019	0.020
Bottom side						0	18900	1880	24	23.91	102.09%	0.025	0.025	0.023	0.024	0.017	0.018	
50 RB				50	Bottom side	0	19100	1900	24	23.61	109.40%	0.021	0.023	0.021	0.023	0.018	0.020	
					Bottom side	0	18900	1880	23	23.00	100.00%	0.015	0.015	0.012	0.012	0.008	0.008	
-				-	-	-	100 RB	0	19100	1900	23	22.91	102.09%	0.011	0.011	0.008	0.008	0.006
125	LTE Band 4	20MHz	QPSK	1 RB	0	Bottom side	0	20175	1732.5	24	23.82	104.23%	0.027	0.028	0.023	0.024	0.019	0.020
Bottom side						0	20300	1745	24	23.67	107.89%	0.024	0.026	0.020	0.021	0.015	0.016	
50 RB				50	Bottom side	0	20050	1720	24	23.81	104.47%	0.025	0.026	0.021	0.022	0.017	0.017	
					Bottom side	0	20050	1720	23	22.39	115.08%	0.016	0.018	0.012	0.014	0.007	0.008	
-				-	-	-	100 RB	0	20050	1720	23	22.42	114.29%	0.014	0.016	0.010	0.012	0.005
126	LTE Band 5	10MHz	QPSK	1 RB	0	Bottom side	0	20450	829	24.5	23.91	114.55%	0.015	0.017	0.010	0.012	0.007	0.008
Bottom side						0	20600	844	24.5	23.95	113.50%	0.017	0.020	0.014	0.016	0.009	0.011	
25 RB				49	Bottom side	0	20525	836.5	24.5	23.87	115.61%	0.014	0.016	0.012	0.014	0.008	0.009	
					Bottom side	0	20600	844	23.5	22.71	119.95%	0.011	0.013	0.007	0.009	0.004	0.005	
-				-	-	-	50 RB	0	20525	836.5	23.5	22.68	120.78%	0.008	0.010	0.004	0.005	0.001
-	ULCA 5B	10MHz	QPSK	1 RB	0	Bottom side	0	20600	844	24.5	23.85	116.14%	0.014	0.017	0.012	0.014	0.008	0.009
127	LTE Band 7	20MHz	QPSK	1 RB	99	Bottom side	0	21350	2560	24	23.36	115.88%	0.009	0.010	0.005	0.006	0.004	0.005
Bottom side						0	20850	2510	24	23.42	114.29%	0.012	0.014	0.007	0.008	0.007	0.008	
50 RB				50	Bottom side	0	21100	2535	24	23.51	111.94%	0.015	0.017	0.012	0.013	0.010	0.011	
					Bottom side	0	21350	2560	23	22.48	112.72%	0.005	0.006	0.002	0.002	0.002	0.002	
-				-	-	-	100 RB	0	Bottom side	0	21350	2560	23	22.43	114.02%	0.003	0.003	0.002
-	ULCA 7C	20MHz	QPSK	1 RB	99	Bottom side	0	20850	2510	24	23.39	115.08%	0.010	0.011	0.005	0.006	0.006	0.007
128	LTE Band 12	10MHz	QPSK	1 RB	0	Bottom side	0	23095	707.5	24.5	23.56	124.17%	0.005	0.006	0.004	0.006	0.002	0.003
Bottom side						0	23130	711	24.5	23.54	124.74%	0.004	0.005	0.003	0.004	0.003	0.004	
25 RB				12	Bottom side	0	23060	704	24.5	23.59	123.31%	0.009	0.011	0.006	0.008	0.005	0.006	
					Bottom side	0	23130	711	23.5	22.33	130.92%	0.004	0.005	0.003	0.004	0.002	0.003	
-				-	-	-	50 RB	0	Bottom side	0	23060	704	23.5	22.21	134.59%	0.003	0.004	0.003
129	LTE Band 13	10MHz	QPSK	1 RB	25	Bottom side	0	23230	782	24.5	23.30	131.83%	0.020	0.026	0.019	0.025	0.018	0.024
Bottom side						0	23230	782	24.5	23.43	127.94%	0.024	0.030	0.021	0.027	0.022	0.028	
25 RB				49	Bottom side	0	23230	782	24.5	23.36	130.02%	0.021	0.027	0.020	0.026	0.020	0.027	
					Bottom side	0	23230	782	23.5	22.29	132.13%	0.017	0.022	0.016	0.021	0.015	0.020	
-				-	-	-	50 RB	0	Bottom side	0	23230	782	23.5	22.13	137.09%	0.013	0.018	0.012
130	LTE Band 14	10MHz	QPSK	1 RB	0	Bottom side	0	23330	793	24.5	23.62	122.46%	0.015	0.018	0.013	0.016	0.012	0.014
Bottom side						0	23330	793	24.5	23.69	120.50%	0.018	0.021	0.016	0.020	0.015	0.019	
25 RB				49	Bottom side	0	23330	793	24.5	23.63	122.18%	0.016	0.020	0.015	0.019	0.014	0.017	
					Bottom side	0	23330	793	23.5	22.46	127.06%	0.011	0.014	0.010	0.012	0.009	0.011	
-				-	-	-	50 RB	0	Bottom side	0	23330	793	23.5	22.50	125.89%	0.006	0.008	0.005
131	LTE Band 17	10MHz	QPSK	1 RB	0	Bottom side	0	23790	710	24.5	23.45	127.35%	0.007	0.009	0.005	0.006	0.006	0.007
Bottom side						0	23800	711	24.5	23.32	131.22%	0.005	0.007	0.004	0.005	0.004	0.005	
25 RB				25	Bottom side	0	23780	709	24.5	23.46	127.06%	0.010	0.013	0.008	0.010	0.007	0.009	
					Bottom side	0	23800	711	23.5	22.28	132.43%	0.006	0.008	0.005	0.006	0.004	0.005	
-				-	-	-	50 RB	0	Bottom side	0	23800	711	23.5	22.24	133.66%	0.004	0.005	0.003
132	LTE Band 25	20MHz	QPSK	1 RB	0	Bottom side	0	26140	1860	24	23.29	117.76%	0.022	0.026	0.017	0.020	0.013	0.015
Bottom side						0	26365	1882.5	24	23.57	110.41%	0.024	0.027	0.022	0.024	0.017	0.019	
50 RB				0	Bottom side	0	26590	1905	24	22.65	136.46%	0.018	0.025	0.013	0.018	0.009	0.013	
					Bottom side	0	26365	1882.5	23	21.35	146.22%	0.015	0.022	0.010	0.015	0.007	0.010	
-				-	-	-	100 RB	0	Bottom side	0	26365	1882.5	23	21.34	146.55%	0.011	0.016	0.007
133	LTE Band 26	15MHz	QPSK	1 RB	0	Bottom side	0	26865	831.5	24.5	24.25	105.93%	0.017	0.018	0.016	0.017	0.014	0.015
Bottom side						0	26965	841.5	24.5	24.08	110.15%	0.015	0.017	0.014	0.015	0.013	0.014	
36 RB				74	Bottom side	0	26825	822.5	24.5	24.09	109.90%	0.018	0.020	0.017	0.018	0.015	0.016	
					Bottom side	0	26825	822.5	23.5	22.25	133.35%	0.011	0.015	0.010	0.014	0.009	0.012	
-				-	-	-	75 RB	0	Bottom side	0	26965	841.5	23.5	22.17	135.83%	0.007	0.010	0.006
134	LTE Band 30	10MHz	QPSK	1 RB	0	Bottom side	0	27710	2310	23	22.97	100.69%	0.013	0.013	0.012	0.012	0.009	0.010
Bottom side						0	27710	2310	23	22.96	100.93%	0.015	0.016	0.014	0.014	0.008	0.008	
25 RB				49	Bottom side	0	27710	2310	23	22.85	103.51%	0.010	0.010	0.011	0.011	0.005	0.005	
					Bottom side	0	27710	2310	22	21.59	109.90%	0.006	0.007	0.006	0.006	0.003	0.003	
-				-	-	-	50 RB	0	Bottom side	0	27710	2310	22	21.60	109.65%	0.003	0.003	0.002

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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**Tx5-LTE TDD Band 38 / Band 41 / LTE FDD Band 66**

Plot page	Band	Bandwidth (MHz)	Modulation	Antenna									WNC		HB		AWAN	
				RB Size	RB start	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Averaged SAR over 1g (W/kg)		Averaged SAR over 1g (W/kg)	
													Measured	Reported	Measured	Reported	Measured	Reported
135	LTE Band 38	20MHz	QPSK	1 RB	0	Bottom side	0	37850	2580	24	23.96	100.93%	0.023	0.023	0.021	0.021	0.021	0.021
-						Bottom side	0	38000	2595	24	23.83	103.99%	0.018	0.019	0.018	0.019	0.016	0.016
-						Bottom side	0	38150	2610	24	23.88	102.80%	0.020	0.021	0.019	0.019	0.018	0.018
-						Bottom side	0	38000	2595	23	22.41	114.55%	0.016	0.019	0.015	0.018	0.014	0.016
-	ULCA 38C	20MHz	QPSK	1 RB	0	Bottom side	0	37850	2580	24	23.91	102.09%	0.018	0.019	0.016	0.017	0.014	0.014
-						Bottom side	0	40185	2549.5	24	23.73	106.41%	0.022	0.023	0.020	0.022	0.018	0.019
-						Bottom side	0	40620	2593	24	23.72	106.66%	0.018	0.019	0.018	0.020	0.016	0.017
-						Bottom side	0	41490	2680	24	23.68	107.65%	0.017	0.018	0.011	0.012	0.015	0.016
136	LTE Band 41	20MHz	QPSK	1 RB	0	Bottom side	0	39750	2506	24	23.95	101.16%	0.026	0.026	0.024	0.024	0.022	0.022
-						Bottom side	0	41055	2636.5	24	23.58	110.15%	0.016	0.018	0.009	0.010	0.012	0.013
-						Bottom side	0	39750	2506	23	22.44	113.76%	0.012	0.014	0.007	0.008	0.005	0.006
-						Bottom side	0	39750	2506	23	22.39	115.08%	0.010	0.012	0.005	0.006	0.002	0.002
-	ULCA 41C	20MHz	QPSK	1 RB	99	Bottom side	0	39750	2506	24	23.94	101.39%	0.023	0.024	0.022	0.023	0.020	0.020
-						Bottom side	0	40185	2549.5	27	26.04	124.74%	0.022	0.027	0.016	0.020	0.014	0.017
-						Bottom side	0	40620	2593	27	26.12	122.46%	0.032	0.039	0.025	0.031	0.021	0.025
-						Bottom side	0	41055	2636.5	27	26.10	123.03%	0.028	0.034	0.022	0.027	0.017	0.021
137	LTE Band 41 (HPUE)	20MHz	QPSK	1 RB	0	Bottom side	0	41490	2680	27	26.08	123.59%	0.024	0.030	0.019	0.024	0.016	0.020
-						Bottom side	0	39750	2506	27	25.97	126.77%	0.018	0.023	0.013	0.016	0.011	0.014
-						Bottom side	0	41055	2636.5	27	25.36	145.88%	0.024	0.035	0.017	0.025	0.015	0.022
-						Bottom side	0	40620	2593	26	25.18	120.78%	0.021	0.025	0.014	0.017	0.012	0.015
138	LTE Band 66	20MHz	QPSK	1 RB	0	Bottom side	0	132572	1770	24	24.00	100.00%	0.034	0.034	0.031	0.031	0.027	0.027
-						Bottom side	0	132072	1720	24	23.81	104.47%	0.029	0.030	0.028	0.029	0.022	0.022
-						Bottom side	0	132322	1745	24	23.92	101.86%	0.032	0.033	0.029	0.029	0.023	0.023
-						Bottom side	0	132572	1770	23	22.35	116.14%	0.025	0.029	0.021	0.025	0.016	0.019
-	ULCA 66B	10MHz	QPSK	1 RB	49	Bottom side	0	132622	1775	24	23.29	117.76%	0.024	0.028	0.025	0.029	0.022	0.026
-						Bottom side	0	132572	1770	24	23.97	100.69%	0.030	0.031	0.027	0.027	0.025	0.025
-	ULCA 66C	20MHz	QPSK	1 RB	0	Bottom side	0	132572	1770	24	23.97	100.69%	0.030	0.031	0.027	0.027	0.025	0.025

**Tx5-5G NR n2 / n5 / n12 / n66**

Plot page	Band	Bandwidth (MHz)	Modulation	Antenna									WNC		HB		AWAN	
				RB Size	RB start	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Averaged SAR over 1g (W/kg)		Averaged SAR over 1g (W/kg)	
													Measured	Reported	Measured	Reported	Measured	Reported
-	NR n2	20MHz	Pi/2 BPSK	1 RB	1	Bottom side	0	372000	1860	24	23.83	103.99%	0.021	0.022	0.020	0.020	0.017	0.018
-						Bottom side	0	376000	1880	24	23.32	116.95%	0.015	0.018	0.014	0.016	0.011	0.012
139						Bottom side	0	380000	1900	24	23.91	102.09%	0.025	0.025	0.023	0.024	0.020	0.020
-						Bottom side	0	376000	1880	24	23.20	120.23%	0.018	0.022	0.016	0.019	0.012	0.015
-	NR n5	20MHz	Pi/2 BPSK	1 RB	1	Bottom side	0	372000	1860	23.5	22.73	119.40%	0.015	0.018	0.013	0.015	0.009	0.011
-						Bottom side	0	166800	834	24	23.91	102.09%	0.008	0.008	0.006	0.007	0.003	0.003
140						Bottom side	0	167300	836.5	24	23.98	100.46%	0.012	0.012	0.010	0.010	0.010	0.010
-						Bottom side	0	167800	839	24	23.93	101.62%	0.011	0.011	0.008	0.008	0.005	0.005
-	NR n12	15MHz	Pi/2 BPSK	1 RB	1	Bottom side	0	167300	836.5	24	23.65	108.39%	0.010	0.011	0.007	0.008	0.004	0.005
-						Bottom side	0	167800	839	23.5	23.15	108.39%	0.006	0.007	0.003	0.004	0.001	0.001
141						Bottom side	0	141300	706.5	24	23.91	102.09%	0.017	0.017	0.014	0.015	0.013	0.013
-						Bottom side	0	141500	707.5	24	23.89	102.57%	0.014	0.014	0.011	0.011	0.011	0.011
-	NR n66	20MHz	Pi/2 BPSK	1 RB	1	Bottom side	0	141700	708.5	24	23.84	103.75%	0.012	0.012	0.009	0.010	0.009	0.010
-						Bottom side	0	141500	707.5	24	23.80	104.71%	0.010	0.010	0.007	0.008	0.007	0.007
-						Bottom side	0	141700	708.5	23.5	23.30	104.71%	0.007	0.007	0.005	0.005	0.004	0.004
-						Bottom side	0	344000	1720	24	23.78	105.20%	0.031	0.033	0.029	0.031	0.025	0.026
142	NR n66	20MHz	Pi/2 BPSK	1 RB	1	Bottom side	0	349000	1745	24	23.84	103.75%	0.034	0.035	0.031	0.032	0.026	0.027
-						Bottom side	0	354000	1770	24	23.98	100.46%	0.036	0.036	0.034	0.034	0.030	0.030
-						Bottom side	0	349000	1745	24	23.70	107.15%	0.028	0.030	0.026	0.028	0.022	0.024
-	-	-	-	100 RB	0	Bottom side	0	354000	1770	23.5	23.20	107.15%	0.022	0.024	0.020	0.021	0.016	0.017

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**Tx8-LTE FDD Band 2 / Band 7 / Band 42 / Band 48 / Band 66**

Plot page	Band	Bandwidth (MHz)	Modulation	RB Size	RB start	Antenna						Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	WNC		HB		AWAN	
						Position	Distance (mm)	CH	Freq. (MHz)	Averaged SAR over 1g (W/kg)					Averaged SAR over 1g (W/kg)		Averaged SAR over 1g (W/kg)			
										Measured	Reported				Measured	Reported	Measured	Reported		
-	LTE Band 2	20MHz	QPSK	1 RB	0	Bottom side	0	18700	1860	21.9	20.49	138.36%	0.342	0.473	0.332	0.459	0.323	0.447		
143						Bottom side	0	18900	1880	21.9	20.59	135.21%	0.366	0.495	0.351	0.475	0.348	0.471		
-						Bottom side	0	19100	1900	21.9	20.43	140.28%	0.333	0.467	0.322	0.452	0.317	0.445		
-						Bottom side	0	18900	1880	21.9	20.37	142.23%	0.312	0.444	0.308	0.438	0.302	0.430		
-						100 RB	Bottom side	0	18700	1860	21.9	20.33	143.55%	0.297	0.426	0.287	0.412	0.274	0.393	
-	LTE Band 7	20MHz	QPSK	1 RB	0	Bottom side	0	20850	2510	20.5	19.25	133.35%	0.342	0.456	0.318	0.424	0.312	0.416		
144						Bottom side	0	21100	2535	20.5	19.42	128.23%	0.390	0.500	0.361	0.463	0.349	0.448		
-						Bottom side	0	21350	2560	20.5	19.33	130.92%	0.361	0.473	0.345	0.452	0.328	0.429		
-						Bottom side	0	21100	2535	20.5	19.23	133.97%	0.298	0.399	0.278	0.372	0.271	0.363		
-						100 RB	Bottom side	0	21350	2560	20.5	19.15	136.46%	0.275	0.375	0.253	0.345	0.241	0.329	
-	LTE Band 42	20MHz	QPSK	1 RB	0	Bottom side	0	43340	3575	20.5	19.09	138.36%	0.309	0.428	0.289	0.400	0.281	0.389		
145						Bottom side	0	43490	3590	20.5	19.16	136.14%	0.320	0.436	0.314	0.427	0.310	0.422		
-						Bottom side	0	43190	3560	20.5	18.95	142.89%	0.289	0.413	0.271	0.387	0.267	0.382		
-						50 RB	Bottom side	0	43340	3575	20.5	18.90	144.54%	0.274	0.396	0.261	0.377	0.256	0.370	
-						100 RB	Bottom side	0	43490	3590	20.5	18.90	144.54%	0.251	0.363	0.234	0.338	0.220	0.318	
-	LTE Band 48	20MHz	QPSK	1 RB	0	Bottom side	0	55340	3560	19.8	19.23	114.02%	0.387	0.441	0.372	0.424	0.366	0.417		
146						Bottom side	0	55773	3603.3	19.8	19.13	116.68%	0.361	0.421	0.354	0.413	0.347	0.405		
-						Bottom side	0	56640	3690	19.8	19.25	113.50%	0.417	0.473	0.405	0.460	0.387	0.439		
-						Bottom side	0	56207	3646.7	19.8	19.22	114.29%	0.342	0.391	0.333	0.381	0.320	0.366		
-						50 RB	Bottom side	0	55340	3560	19.8	19.08	118.03%	0.325	0.384	0.320	0.378	0.316	0.373	
-	ULCA 48C	20MHz	QPSK	1 RB	0	Bottom side	0	55340	3560	19.8	19.19	115.08%	0.374	0.430	0.346	0.398	0.322	0.371		
147						Bottom side	0	132072	1720	21.6	20.37	132.74%	0.342	0.454	0.330	0.438	0.324	0.430		
-						Bottom side	0	132572	1770	21.6	20.44	130.62%	0.359	0.469	0.342	0.447	0.336	0.439		
-						Bottom side	0	132322	1745	21.6	20.26	136.14%	0.321	0.437	0.318	0.433	0.311	0.423		
-						50 RB	Bottom side	0	132572	1770	21.6	20.20	138.04%	0.309	0.427	0.305	0.421	0.301	0.415	
-	LTE Band 66	20MHz	QPSK	1 RB	0	Bottom side	0	132322	1745	21.6	20.20	138.04%	0.303	0.418	0.294	0.406	0.287	0.396		

**Tx8-5G NR n2 / n7 / n41 / n66**

Plot page	Band	Bandwidth (MHz)	Modulation	RB Size	RB start	Antenna						Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	WNC		HB		AWAN	
						Position	Distance (mm)	CH	Freq. (MHz)	Averaged SAR over 1g (W/kg)					Averaged SAR over 1g (W/kg)		Averaged SAR over 1g (W/kg)			
										Measured	Reported				Measured	Reported	Measured	Reported		
-	NR n2	20MHz	Pi/2 BPSK	1 RB	1	Bottom side	0	372000	1860	20.8	19.46	136.14%	0.341	0.464	0.335	0.456	0.326	0.444		
148						Bottom side	0	376000	1880	20.8	19.78	126.47%	0.381	0.482	0.374	0.473	0.363	0.459		
-						Bottom side	0	380000	1900	20.8	19.41	137.72%	0.324	0.446	0.310	0.427	0.303	0.417		
-						50 RB	Bottom side	0	376000	1880	20.8	19.68	129.42%	0.346	0.448	0.329	0.426	0.319	0.413	
-						100 RB	Bottom side	0	372000	1860	20.8	19.35	139.64%	0.342	0.478	0.332	0.464	0.321	0.448	
-	NR n7	20MHz	Pi/2 BPSK	1 RB	1	Bottom side	0	502000	2510	20.1	19.08	126.47%	0.390	0.493	0.376	0.476	0.365	0.462		
149						Bottom side	0	507000	2535	20.1	18.88	132.43%	0.331	0.438	0.323	0.428	0.314	0.416		
-						Bottom side	0	512000	2560	20.1	18.95	130.32%	0.358	0.467	0.340	0.443	0.335	0.437		
-						50 RB	Bottom side	0	502000	2510	20.1	19.02	128.23%	0.378	0.485	0.366	0.469	0.359	0.460	
-						100 RB	Bottom side	0	512000	2560	20.1	18.87	132.74%	0.314	0.417	0.311	0.413	0.306	0.406	
-	NR n41	100MHz	Pi/2 BPSK	1 RB	1	Bottom side	0	509202	2546	18.3	17.04	133.66%	0.195	0.261	0.187	0.250	0.173	0.231		
150						Bottom side	0	518598	2593	18.3	17.03	133.97%	0.173	0.232	0.179	0.240	0.162	0.217		
-						Bottom side	0	528000	2640	18.3	17.28	126.47%	0.216	0.273	0.200	0.253	0.192	0.243		
-						135 RB	Bottom side	0	528000	2640	18.3	17.02	134.28%	0.201	0.270	0.185	0.248	0.174	0.234	
-						270 RB	Bottom side	0	518598	2593	18.3	16.94	136.77%	0.161	0.220	0.156	0.213	0.144	0.197	
-	NR n41 (HPUE)	100MHz	Pi/2 BPSK	1 RB	1	Bottom side	0	509202	2546	19.4	19.29	102.57%	0.182	0.187	0.165	0.169	0.152	0.156		
151						Bottom side	0	518598	2593	19.4	19.35	101.16%	0.166	0.168	0.133	0.135	0.127	0.128		
-						Bottom side	0	528000	2640	19.4	19.36	100.93%	0.214	0.216	0.189	0.191	0.172	0.174		
-						135 RB	Bottom side	0	528000	2640	19.4	19.23	103.99%	0.204	0.212	0.167	0.174	0.144	0.150	
-						270 RB	Bottom side	0	518598	2593	19.4	19.27	103.04%	0.208	0.214	0.159	0.164	0.137	0.141	
-	NR n66	20MHz	Pi/2 BPSK	1 RB	1	Bottom side	0	344000	1720	20.6	19.48	129.42%	0.268	0.347	0.251	0.325	0.232	0.300		
152						Bottom side	0	349000	1745	20.6	19.36	133.05%	0.227	0.302	0.221	0.294	0.203	0.270		
-						Bottom side	0	354000	1770	20.6	19.38	132.43%	0.248	0.328	0.213	0.282	0.193	0.256		
-						50 RB	Bottom side	0	344000	1720	20.6	19.29	135.21%	0.211	0.285	0.206	0.279	0.197	0.264	
-						100 RB	Bottom side	0	344000	1720	20.6	19.28	135.52%	0.209	0.283	0.202	0.274	0.195	0.264	

Note:

$$\text{Scaling} = \frac{\text{reported SAR}}{\text{measured SAR}} = \frac{P2(\text{mW})}{P1(\text{mW})} = 10^{\left(\frac{P2-P1}{10}\right)}(\text{dBm})$$

Reported SAR = measured SAR \* (scaling)

Where P2 is maximum specified power, P1 is measured conducted power

**2.3 Reporting statements of conformity**

The conformity statement in this report is based solely on the test results, measurement uncertainty is excluded.

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### 3. Simultaneous Transmission Analysis

#### Simultaneous Transmission Scenarios:

NO.	Simultaneous Transmit Configurations	Body
1	WWAN + 2.4GHz MIMO	YES
2	WWAN + 5GHz MIMO	YES
3	WWAN + BT + 5GHz MIMO	YES
4	WWAN + 2.4GHz WLAN Tx1	YES
5	WWAN + 2.4GHz WLAN Tx2 + BT Tx1	YES
6	WWAN + 5GHz WLAN Tx2 + BT Tx1	YES
7	WWAN + 5GHz WLAN Tx1 + BT Tx1	YES

**Note :**

1. The Intel AX201NGW WLAN/BT module is also integrated into this host, WLAN/BT power and WLAN SAR testing data, which can be referred to Intel SAR test report, Report No.:200525-02.TR01(FCC ID:PD9AX201NG) and these results are used for simultaneous transmission analysis.
2. According to Intel SAR report, the test positions and 1g SAR result used for the testing below are based on the SISO standalone WLAN SAR result. When the MIMO operation active will be reduced by 3dB within each SISO operation, therefore the MIMO SAR was estimated based on SISO standalone results to perform the simultaneous transmission analysis with WWAN operation.

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### 3.1 Estimated SAR calculation

According to KDB447498 D01v06 – When standalone SAR test exclusion applies to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to following to determine simultaneous transmission SAR test exclusion:

$$\text{Estimated SAR} = \frac{\text{Max.tune up power (mW)}}{\text{Min. test separation distance(mm)}} \times \frac{\sqrt{f(\text{GHz})}}{7.5}$$

If the minimum test separation distance is < 5mm, a distance of 5mm is used for estimated SAR calculation. When the test separation distance is >50mm, the 0.4W/kg is used for SAR-1g.

### 3.2 SPLSR evaluation and analysis

Per KDB447498D01, when the sum of SAR is larger than the limit, SAR test exclusion is determined by the SAR sum to peak location separation ratio(SPLSR).

The simultaneous transmitting antennas in each operating mode and exposure condition combination must be considered one pair at a time to determine the SAR to peak location separation ratio to qualify for test exclusion.

The ratio is determined by  $(\text{SAR1} + \text{SAR2})^{1.5}/R_i$ , rounded to two decimal digits, and must be  $\leq 0.04$  for all antenna pairs in the configuration to qualify for 1-g SAR test exclusion.

SAR1 and SAR2 are the highest reported or estimated SAR for each antenna in the pair, and  $R_i$  is the separation distance between the peak SAR locations for the antenna pair in mm.

When standalone test exclusion applies, SAR is estimated; the peak location is assumed to be at the feed-point or geometric center of the antenna.

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### Tx5 antenna

WWAN	Exposure position 1g(W/kg)	1	2	3	4	5	6	7	8	9	10	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6	Scenario 7
		WWAN Ant 5	WLAN 2.4GHz Main(Tx2)	WLAN 2.4GHz Aux(Tx1)	WLAN 5GHz Main(Tx2)	WLAN 5GHz Aux(Tx1)	BT Aux (Tx1)	WLAN 2.4GHz MIMO(Tx2)	WLAN 2.4GHz MIMO(Tx1)	WLAN 5GHz MIMO(Tx2)	WLAN 5GHz MIMO(Tx1)	1+7+8 Sum	1+9+10 Sum	1+6+9+10 Sum	1+3 Sum	1+2+6 Sum	1+4+6 Sum	1+5+6 Sum
WCDMA II	Laptop Bottom	0.027	0.870	0.810	0.780	0.930	0.110	0.435	0.405	0.390	0.465	0.867	0.882	0.992	0.837	1.007	0.917	1.067
WCDMA IV	Laptop Bottom	0.045	0.870	0.810	0.780	0.930	0.110	0.435	0.405	0.390	0.465	0.885	0.900	1.010	0.855	1.025	0.935	1.085
WCDMA V	Laptop Bottom	0.012	0.870	0.810	0.780	0.930	0.110	0.435	0.405	0.390	0.465	0.852	0.867	0.977	0.822	0.992	0.902	1.052
LTE B2	Laptop Bottom	0.025	0.870	0.810	0.780	0.930	0.110	0.435	0.405	0.390	0.465	0.865	0.880	0.990	0.835	1.005	0.915	1.065
LTE B4	Laptop Bottom	0.028	0.870	0.810	0.780	0.930	0.110	0.435	0.405	0.390	0.465	0.868	0.883	0.993	0.838	1.008	0.918	1.068
LTE B5	Laptop Bottom	0.020	0.870	0.810	0.780	0.930	0.110	0.435	0.405	0.390	0.465	0.860	0.875	0.985	0.830	1.000	0.910	1.060
LTE B7	Laptop Bottom	0.017	0.870	0.810	0.780	0.930	0.110	0.435	0.405	0.390	0.465	0.857	0.872	0.982	0.827	0.997	0.907	1.057
LTE B12	Laptop Bottom	0.011	0.870	0.810	0.780	0.930	0.110	0.435	0.405	0.390	0.465	0.851	0.866	0.976	0.821	0.991	0.901	1.051
LTE B13	Laptop Bottom	0.030	0.870	0.810	0.780	0.930	0.110	0.435	0.405	0.390	0.465	0.870	0.885	0.995	0.840	1.010	0.920	1.070
LTE B14	Laptop Bottom	0.021	0.870	0.810	0.780	0.930	0.110	0.435	0.405	0.390	0.465	0.861	0.876	0.986	0.831	1.001	0.911	1.061
LTE B17	Laptop Bottom	0.013	0.870	0.810	0.780	0.930	0.110	0.435	0.405	0.390	0.465	0.853	0.868	0.978	0.823	0.993	0.903	1.053
LTE B25	Laptop Bottom	0.027	0.870	0.810	0.780	0.930	0.110	0.435	0.405	0.390	0.465	0.867	0.882	0.992	0.837	1.007	0.917	1.067
LTE B26	Laptop Bottom	0.020	0.870	0.810	0.780	0.930	0.110	0.435	0.405	0.390	0.465	0.860	0.875	0.985	0.830	1.000	0.910	1.060
LTE B30	Laptop Bottom	0.016	0.870	0.810	0.780	0.930	0.110	0.435	0.405	0.390	0.465	0.856	0.871	0.981	0.826	0.996	0.906	1.056
LTE B38	Laptop Bottom	0.023	0.870	0.810	0.780	0.930	0.110	0.435	0.405	0.390	0.465	0.863	0.878	0.988	0.833	1.003	0.913	1.063
LTE B41	Laptop Bottom	0.026	0.870	0.810	0.780	0.930	0.110	0.435	0.405	0.390	0.465	0.866	0.881	0.991	0.836	1.006	0.916	1.066
LTE B41(HPUE)	Laptop Bottom	0.039	0.870	0.810	0.780	0.930	0.110	0.435	0.405	0.390	0.465	0.879	0.894	1.004	0.849	1.019	0.929	1.079
LTE B66	Laptop Bottom	0.034	0.870	0.810	0.780	0.930	0.110	0.435	0.405	0.390	0.465	0.874	0.889	0.999	0.844	1.014	0.924	1.074
5G n2	Laptop Bottom	0.025	0.870	0.810	0.780	0.930	0.110	0.435	0.405	0.390	0.465	0.865	0.880	0.990	0.835	1.005	0.915	1.065
5G n5	Laptop Bottom	0.012	0.870	0.810	0.780	0.930	0.110	0.435	0.405	0.390	0.465	0.852	0.867	0.977	0.822	0.992	0.902	1.052
5G n12	Laptop Bottom	0.017	0.870	0.810	0.780	0.930	0.110	0.435	0.405	0.390	0.465	0.857	0.872	0.982	0.827	0.997	0.907	1.057
5G n66	Laptop Bottom	0.036	0.870	0.810	0.780	0.930	0.110	0.435	0.405	0.390	0.465	0.876	0.891	1.001	0.846	1.016	0.926	1.076

### Tx8 antenna

WWAN	Exposure position 1g(W/kg)	1	2	3	4	5	6	7	8	9	10	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6	Scenario 7
		WWAN Ant 8	WLAN 2.4GHz Main(Tx2)	WLAN 2.4GHz Aux(Tx1)	WLAN 5GHz Main(Tx2)	WLAN 5GHz Aux(Tx1)	BT Aux (Tx1)	WLAN 2.4GHz MIMO(Tx2)	WLAN 2.4GHz MIMO(Tx1)	WLAN 5GHz MIMO(Tx2)	WLAN 5GHz MIMO(Tx1)	1+7+8 Sum	1+9+10 Sum	1+6+9+10 Sum	1+3 Sum	1+2+6 Sum	1+4+6 Sum	1+5+6 Sum
LTE B2	Laptop Bottom	0.495	0.870	0.810	0.780	0.930	0.110	0.435	0.405	0.390	0.465	1.335	1.350	1.460	1.305	1.475	1.385	1.535
LTE B7	Laptop Bottom	0.500	0.870	0.810	0.780	0.930	0.110	0.435	0.405	0.390	0.465	1.340	1.355	1.465	1.310	1.480	1.390	1.540
LTE B42	Laptop Bottom	0.436	0.870	0.810	0.780	0.930	0.110	0.435	0.405	0.390	0.465	1.276	1.291	1.401	1.246	1.416	1.326	1.476
LTE B48	Laptop Bottom	0.473	0.870	0.810	0.780	0.930	0.110	0.435	0.405	0.390	0.465	1.313	1.328	1.438	1.283	1.453	1.363	1.513
LTE B66	Laptop Bottom	0.469	0.870	0.810	0.780	0.930	0.110	0.435	0.405	0.390	0.465	1.309	1.324	1.434	1.279	1.449	1.359	1.509
5G n2	Laptop Bottom	0.482	0.870	0.810	0.780	0.930	0.110	0.435	0.405	0.390	0.465	1.322	1.337	1.447	1.292	1.462	1.372	1.522
5G n7	Laptop Bottom	0.493	0.870	0.810	0.780	0.930	0.110	0.435	0.405	0.390	0.465	1.333	1.348	1.458	1.303	1.473	1.383	1.533
5G n41	Laptop Bottom	0.273	0.870	0.810	0.780	0.930	0.110	0.435	0.405	0.390	0.465	1.113	1.128	1.238	1.083	1.253	1.163	1.313
5G n41(HPUE)	Laptop Bottom	0.216	0.870	0.810	0.780	0.930	0.110	0.435	0.405	0.390	0.465	1.056	1.071	1.181	1.026	1.196	1.106	1.256
5G n66	Laptop Bottom	0.347	0.870	0.810	0.780	0.930	0.110	0.435	0.405	0.390	0.465	1.187	1.202	1.312	1.157	1.327	1.237	1.387

### Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because either the sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is ≤ 0.04 for all circumstances that require SPLSR calculation.

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## 4. Instruments List

Manufacturer	Device	Type	Serial number	Date of last calibration	Date of next calibration
SPEAG	Dosimetric E-Field Probe	EX3DV4	7509	Mar.25,2020	Mar.24,2021
SPEAG	System Validation Dipole	D750V3	1015	Aug.13,2020	Aug.12,2021
		D835V2	4d063	Aug.13,2020	Aug.12,2021
		D1750V2	1008	Aug.14,2020	Aug.13,2021
		D1900V2	5d173	Apr.22,2020	Apr.21,2021
		D2300V2	1023	Aug.13,2020	Aug.12,2021
		D2600V2	1005	Jan.29,2020	Jan.28,2021
		D3500V2	1009	Aug.12,2020	Aug.11,2021
		D3700V2	1057	Nov.04,2019	Nov.03,2020
SPEAG	Data acquisition Electronics	DAE4	877	Mar.17,2020	Mar.16,2021
SPEAG	Software	DASY 52 V52.10.4	N/A	Calibration not required	Calibration not required
SPEAG	Phantom	ELI	N/A	Calibration not required	Calibration not required
Agilent	Network Analyzer	E5071C	MY46100433	Dec.13,2019	Dec.12,2020
Agilent	Dielectric Probe Kit	85070E	MY44300677	Calibration not required	Calibration not required
Agilent	Dual-directional coupler	772D	MY46151242	Aug.17,2020	Aug.16,2021
		778D	MY48220468	Aug.17,2020	Aug.16,2021
Agilent	RF Signal Generator	N5181A	MY50141235	May.04,2020	May.03,2021
Agilent	Power Meter	E4417A	MY51410006	Mar.09,2020	Mar.08,2021
Agilent	Power Sensor	E9301H	MY51470001	Mar.09,2020	Mar.08,2021
			MY51470002	Mar.09,2020	Mar.08,2021

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Manufacturer	Device	Type	Serial number	Date of last calibration	Date of next calibration
TECPEL	Digital thermometer	DTM-303A	TP130074	Apr.10,2020	Apr.09,2021
Anritsu	Radio Communication Test	MT8820C	6201061049	Dec.08,2019	Dec.07,2020
R&S	Radio Communication Test	CMW 500	125470	Dec.11,2019	Dec.10,2020

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## 5. Measurements

Date: 2020/9/4

Report No. : ES/2020/80024

### WCDMA Band II\_Body\_Bottom\_side\_CH 9538\_0mm

Communication System: WCDMA; Frequency: 1907.6 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 1908$  MHz;  $\sigma = 1.427$  S/m;  $\epsilon_r = 39.123$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient temperature: 21.5°C; Liquid temperature: 21.9°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(8.07, 8.07, 8.07) @ 1907.6 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (51x101x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.0304 W/kg

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.447 V/m; Power Drift = 0.15 dB

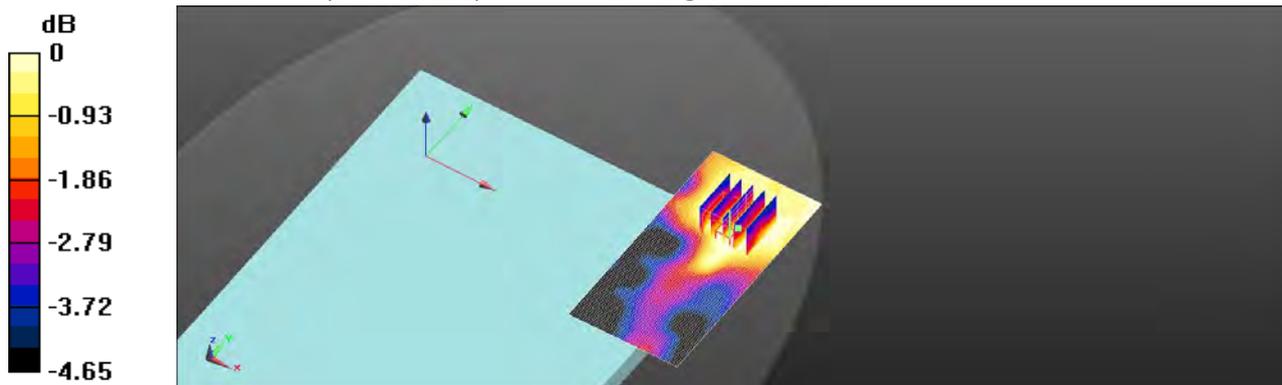
Peak SAR (extrapolated) = 0.0260 W/kg

**SAR(1 g) = 0.023 W/kg; SAR(10 g) = 0.019 W/kg**

Smallest distance from peaks to all points 3 dB below: Larger than measurement grid

Ratio of SAR at M2 to SAR at M1 = 89.7%

Maximum value of SAR (measured) = 0.0247 W/kg



0 dB = 0.0247 W/kg = -16.07 dBW/kg

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**Report No. :ES/2020/80024**

**WCDMA Band IV\_Body\_Bottom\_side\_CH 1513\_0mm**

Communication System: WCDMA; Frequency: 1752.6 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 1753$  MHz;  $\sigma = 1.37$  S/m;  $\epsilon_r = 39.973$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient temperature: 22.3°C; Liquid temperature: 22.7°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(8.34, 8.34, 8.34) @ 1752.6 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (51x81x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.0414 W/kg

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.953 V/m; Power Drift = 0.17 dB

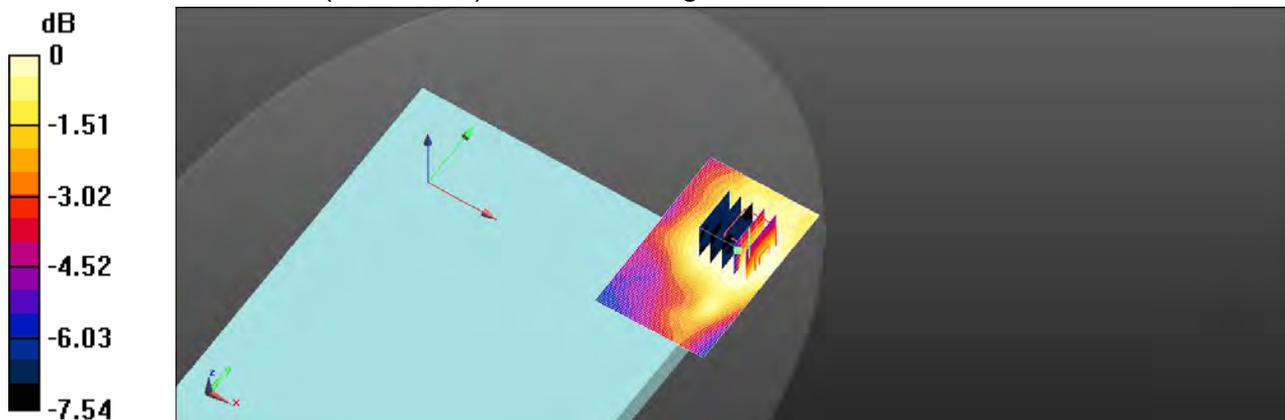
Peak SAR (extrapolated) = 0.0600 W/kg

**SAR(1 g) = 0.039 W/kg; SAR(10 g) = 0.020 W/kg**

Smallest distance from peaks to all points 3 dB below: Larger than measurement grid

Ratio of SAR at M2 to SAR at M1 = 83.5%

Maximum value of SAR (measured) = 0.0369 W/kg



0 dB = 0.0369 W/kg = -14.33 dBW/kg

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**Report No. :ES/2020/80024**

**WCDMA Band V\_ Bottom\_side CH 4183\_0mm**

Communication System: WCDMA; Frequency: 836.6 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 837 \text{ MHz}$ ;  $\sigma = 0.919 \text{ S/m}$ ;  $\epsilon_r = 41.744$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.5°C; Liquid temperature: 22.1°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(9.73, 9.73, 9.73) @ 836.6 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (51x81x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.0194 W/kg

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.777 V/m; Power Drift = 0.18 dB

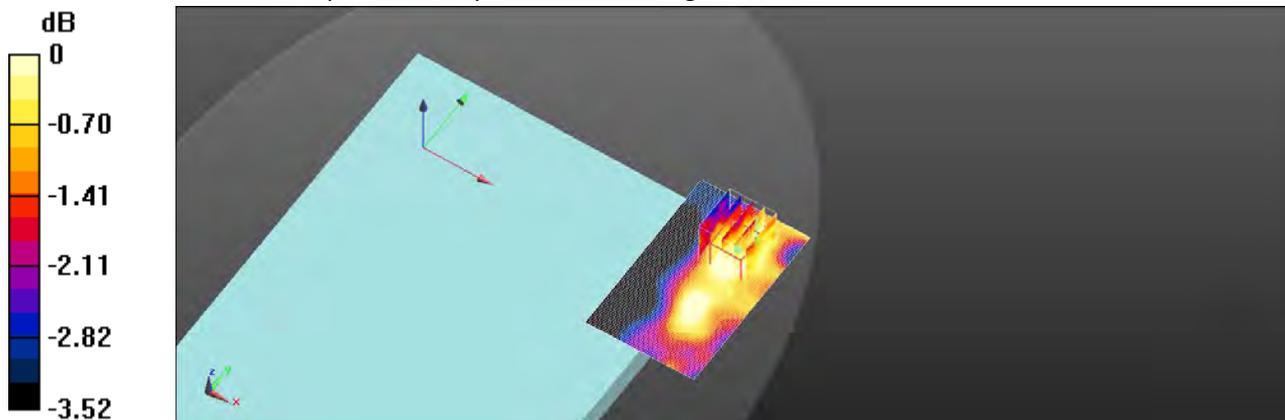
Peak SAR (extrapolated) = 0.0120 W/kg

**SAR(1 g) = 0.011 W/kg; SAR(10 g) = 0.010 W/kg**

Smallest distance from peaks to all points 3 dB below: Larger than measurement grid

Ratio of SAR at M2 to SAR at M1 = 98.3%

Maximum value of SAR (measured) = 0.0113 W/kg



0 dB = 0.0113 W/kg = -19.47 dBW/kg

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**Report No. :ES/2020/80024**

**LTE Band 2 (20MHz)\_Body\_Bottom side\_CH 18900\_QPSK\_1-0\_0mm**

Communication System: LTE; Frequency: 1880 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.393$  S/m;  $\epsilon_r = 39.538$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient temperature: 21.5°C; Liquid temperature: 21.9°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(8.07, 8.07, 8.07) @ 1880 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (51x101x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.0313 W/kg

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.224 V/m; Power Drift = -0.12 dB

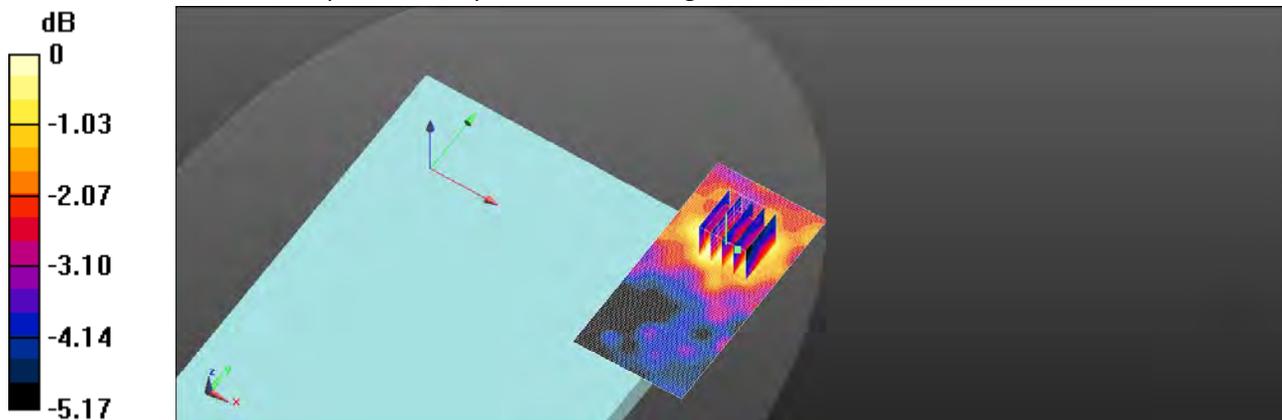
Peak SAR (extrapolated) = 0.0310 W/kg

**SAR(1 g) = 0.025 W/kg; SAR(10 g) = 0.019 W/kg**

Smallest distance from peaks to all points 3 dB below: Larger than measurement grid

Ratio of SAR at M2 to SAR at M1 = 80.7%

Maximum value of SAR (measured) = 0.0291 W/kg



0 dB = 0.0291 W/kg = -15.36 dBW/kg

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**Report No. :ES/2020/80024**

**LTE Band 4 (20MHz)\_Body\_Bottom side\_CH 20175\_QPSK\_1-0\_0mm**

Communication System: LTE; Frequency: 1732.5 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 1732.5$  MHz;  $\sigma = 1.335$  S/m;  $\epsilon_r = 40.833$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient temperature: 22.3°C; Liquid temperature: 22.7°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(8.34, 8.34, 8.34) @ 1732.5 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (51x101x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.0353 W/kg

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.006 V/m; Power Drift = 0.19 dB

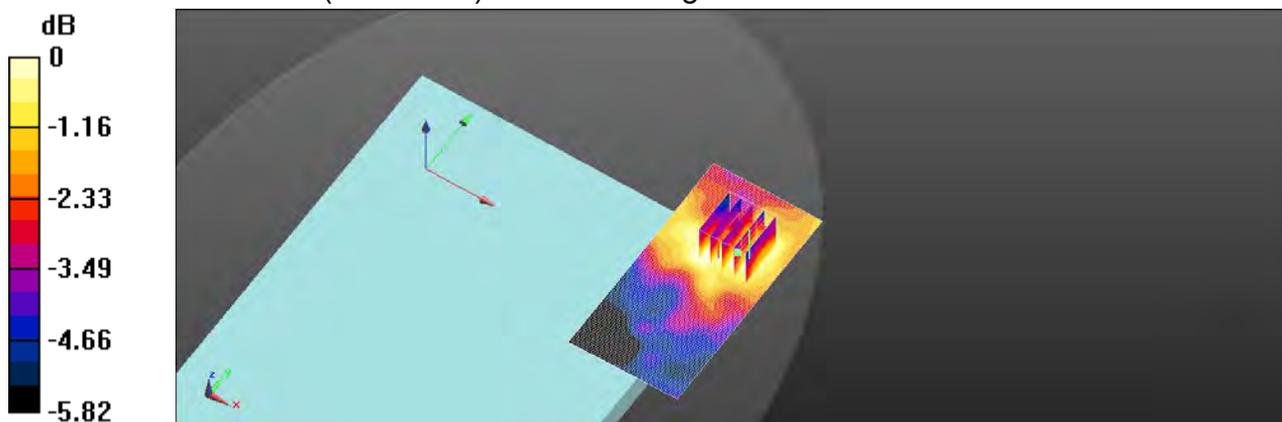
Peak SAR (extrapolated) = 0.0320 W/kg

**SAR(1 g) = 0.027 W/kg; SAR(10 g) = 0.021 W/kg**

Smallest distance from peaks to all points 3 dB below: Larger than measurement grid

Ratio of SAR at M2 to SAR at M1 = 84.2%

Maximum value of SAR (measured) = 0.0290 W/kg



0 dB = 0.0290 W/kg = -15.38 dBW/kg

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Date: 2020/9/2

**Report No. :ES/2020/80024**

**LTE Band 5 (10MHz)\_Body\_Bottom side\_CH 20600\_QPSK\_1-0\_0mm**

Communication System: LTE; Frequency: 844 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 844 \text{ MHz}$ ;  $\sigma = 0.938 \text{ S/m}$ ;  $\epsilon_r = 41.614$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.5°C; Liquid temperature: 22.1°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(9.73, 9.73, 9.73) @ 844 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (51x101x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.0196 W/kg

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.279 V/m; Power Drift = -0.16 dB

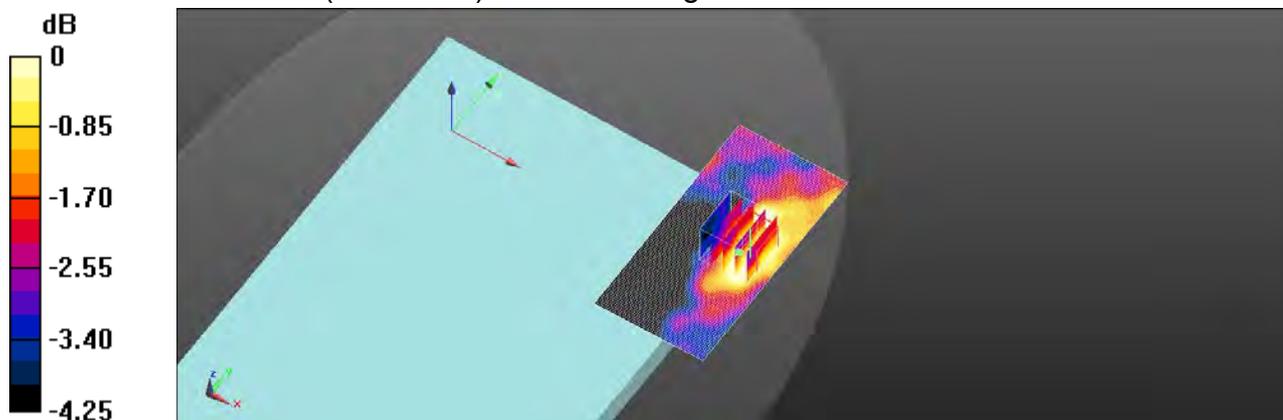
Peak SAR (extrapolated) = 0.0180 W/kg

**SAR(1 g) = 0.017 W/kg; SAR(10 g) = 0.015 W/kg**

Smallest distance from peaks to all points 3 dB below: Larger than measurement grid

Ratio of SAR at M2 to SAR at M1 = 96.6%

Maximum value of SAR (measured) = 0.0179 W/kg



0 dB = 0.0179 W/kg = -17.47 dBW/kg

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**Report No. :ES/2020/80024**

**LTE Band 7 (20MHz)\_Body\_Bottom side\_CH 21100\_QPSK\_1-99\_0mm**

Communication System: LTE; Frequency: 2535 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 2535$  MHz;  $\sigma = 1.841$  S/m;  $\epsilon_r = 38.467$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient temperature: 22.3°C; Liquid temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(7.23, 7.23, 7.23) @ 2535 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (71x121x1):** Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 0.0253 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.477 V/m; Power Drift = 0.15 dB

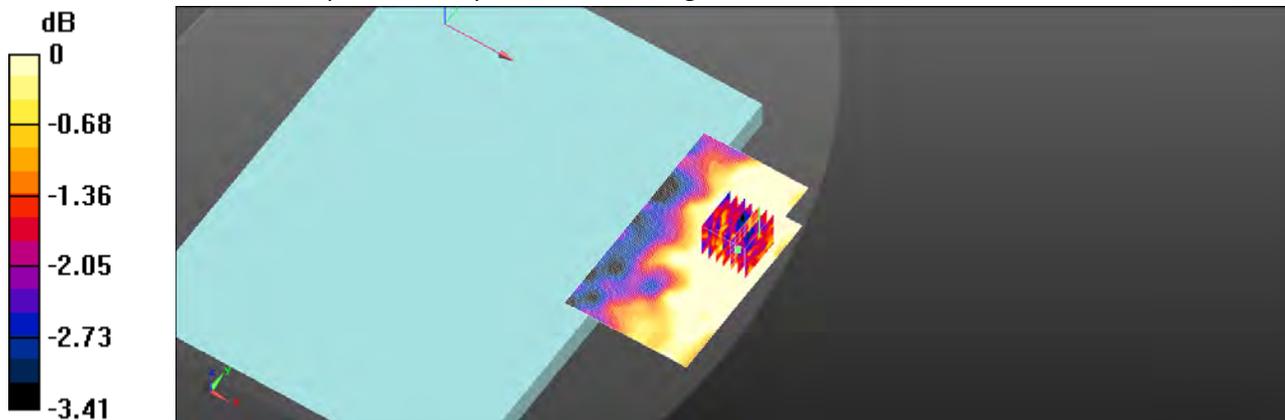
Peak SAR (extrapolated) = 0.0220 W/kg

**SAR(1 g) = 0.015 W/kg; SAR(10 g) = 0.013 W/kg**

Smallest distance from peaks to all points 3 dB below: Larger than measurement grid

Ratio of SAR at M2 to SAR at M1 = 77.4%

Maximum value of SAR (measured) = 0.0178 W/kg



0 dB = 0.0178 W/kg = -17.50 dBW/kg

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**Report No. :ES/2020/80024**

**LTE Band 12 (10MHz)\_Body\_Bottom side\_CH 23060\_QPSK\_1-49\_0mm**

Communication System: LTE; Frequency: 704 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 704 \text{ MHz}$ ;  $\sigma = 0.858 \text{ S/m}$ ;  $\epsilon_r = 42.95$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.1°C; Liquid temperature: 22.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(9.94, 9.94, 9.94) @ 704 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (51x101x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.0470 W/kg

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.698 V/m; Power Drift = 0.18 dB

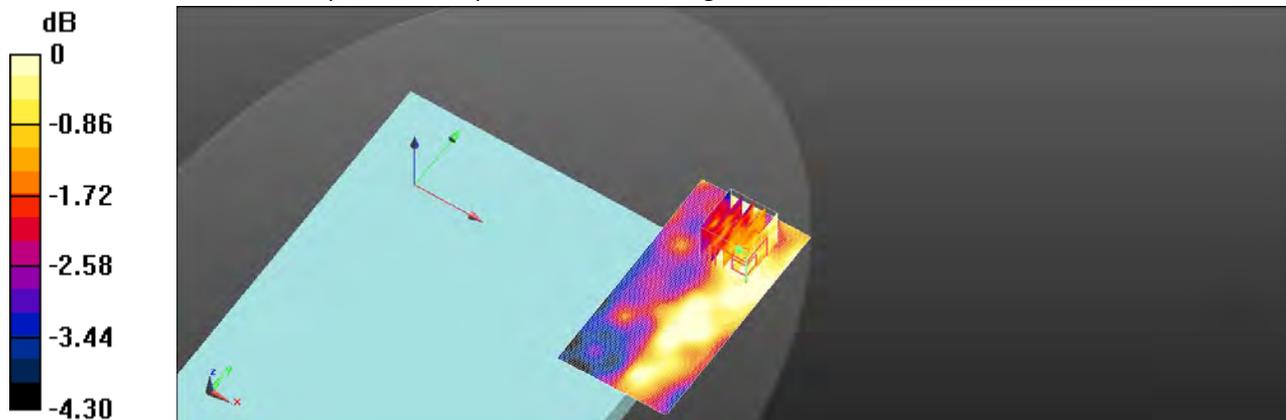
Peak SAR (extrapolated) = 0.00999 W/kg

**SAR(1 g) = 0.00855 W/kg; SAR(10 g) = 0.00763 W/kg**

Smallest distance from peaks to all points 3 dB below: Larger than measurement grid

Ratio of SAR at M2 to SAR at M1 = 94.6%

Maximum value of SAR (measured) = 0.00976 W/kg



0 dB = 0.00976 W/kg = -20.11 dBW/kg

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**Report No. :ES/2020/80024**

**LTE Band 13 (10MHz)\_Body\_Bottom side\_CH 23230\_QPSK\_1-25\_0mm**

Communication System: LTE; Frequency: 782 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 782 \text{ MHz}$ ;  $\sigma = 0.895 \text{ S/m}$ ;  $\epsilon_r = 42.315$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.1°C; Liquid temperature: 22.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(9.94, 9.94, 9.94) @ 782 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (51x101x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.0294 W/kg

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.149 V/m; Power Drift = 0.16 dB

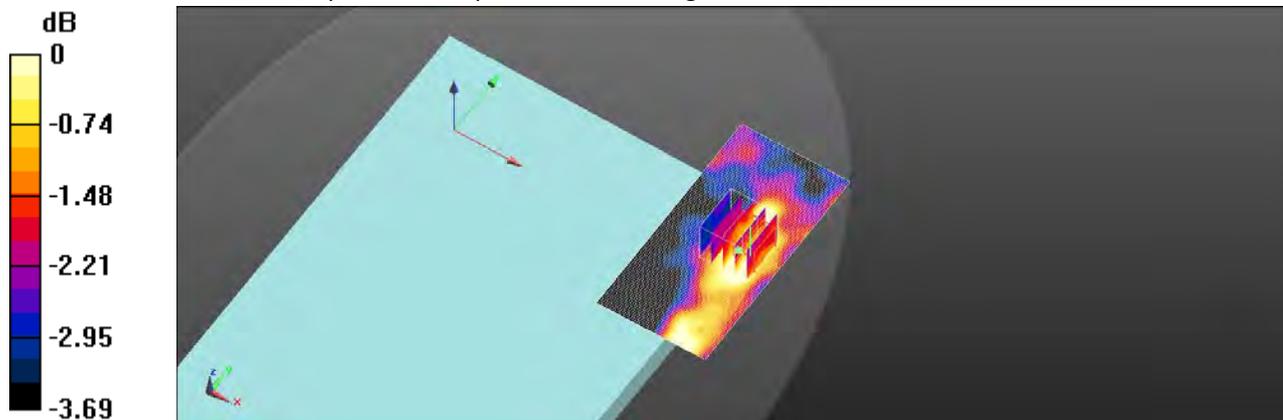
Peak SAR (extrapolated) = 0.0260 W/kg

**SAR(1 g) = 0.024 W/kg; SAR(10 g) = 0.020 W/kg**

Smallest distance from peaks to all points 3 dB below: Larger than measurement grid

Ratio of SAR at M2 to SAR at M1 = 93.3%

Maximum value of SAR (measured) = 0.0246 W/kg



0 dB = 0.0246 W/kg = -16.09 dBW/kg

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**Report No. :ES/2020/80024**

**LTE Band 14 (10MHz)\_Body\_Bottom side\_CH 23330\_QPSK\_1-25\_0mm**

Communication System: LTE; Frequency: 793 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 793 \text{ MHz}$ ;  $\sigma = 0.898 \text{ S/m}$ ;  $\epsilon_r = 42.287$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.1°C; Liquid temperature: 22.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(9.94, 9.94, 9.94) @ 793 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (51x101x1):** Interpolated grid:  $dx=15 \text{ mm}$ ,  $dy=15 \text{ mm}$

Maximum value of SAR (interpolated) = 0.0222 W/kg

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 2.337 V/m; Power Drift = -0.19 dB

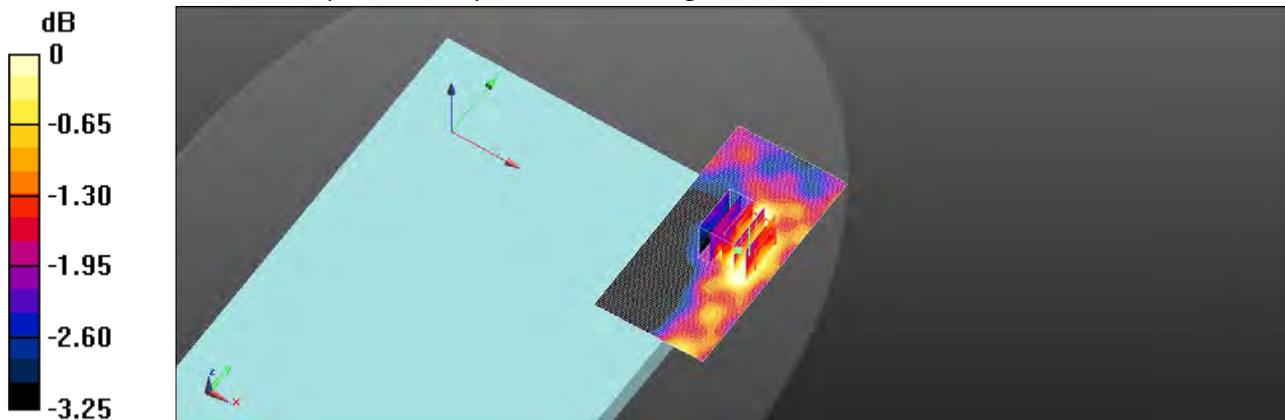
Peak SAR (extrapolated) = 0.0190 W/kg

**SAR(1 g) = 0.018 W/kg; SAR(10 g) = 0.015 W/kg**

Smallest distance from peaks to all points 3 dB below: Larger than measurement grid

Ratio of SAR at M2 to SAR at M1 = 91.9%

Maximum value of SAR (measured) = 0.0184 W/kg



0 dB = 0.0184 W/kg = -17.35 dBW/kg

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Date: 2020/9/1

**Report No. :ES/2020/80024**
**LTE Band 17 (10MHz)\_Body\_Bottom side\_CH 23780\_QPSK\_1-25\_0mm**

Communication System: LTE; Frequency: 709 MHz; Duty cycle= 1:1

 Medium parameters used:  $f = 709 \text{ MHz}$ ;  $\sigma = 0.871 \text{ S/m}$ ;  $\epsilon_r = 42.72$ ;  $\rho = 1000 \text{ kg/m}^3$ 

Phantom section: Flat Section

Ambient temperature: 22.1°C; Liquid temperature: 22.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(9.94, 9.94, 9.94) @ 709 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (51x101x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.0127 W/kg

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.277 V/m; Power Drift = -0.12 dB

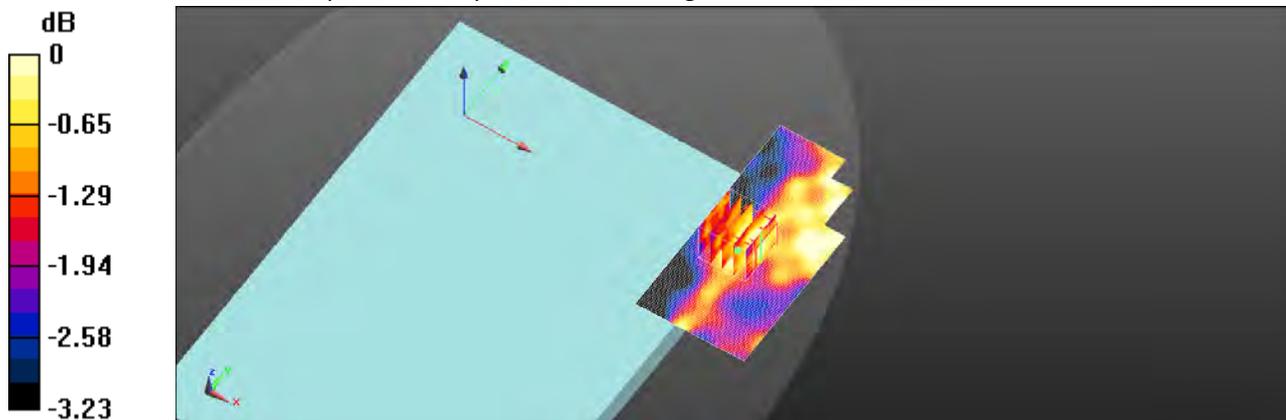
Peak SAR (extrapolated) = 0.0110 W/kg

**SAR(1 g) = 0.010 W/kg; SAR(10 g) = 0.00953 W/kg**

Smallest distance from peaks to all points 3 dB below: Larger than measurement grid

Ratio of SAR at M2 to SAR at M1 = 99.7%

Maximum value of SAR (measured) = 0.0106 W/kg



0 dB = 0.0106 W/kg = -19.75 dBW/kg

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**Report No. :ES/2020/80024**

**LTE Band 25 (20MHz)\_Body\_Bottom side\_CH 26365\_QPSK\_1-0\_0mm**

Communication System: LTE; Frequency: 1882.5 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 1882.5 \text{ MHz}$ ;  $\sigma = 1.396 \text{ S/m}$ ;  $\epsilon_r = 39.523$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 21.5°C; Liquid temperature: 21.9°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(8.07, 8.07, 8.07) @ 1882.5 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (51x101x1):** Interpolated grid:  $dx=15 \text{ mm}$ ,  $dy=15 \text{ mm}$

Maximum value of SAR (interpolated) = 0.0274 W/kg

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 2.276 V/m; Power Drift = 0.11 dB

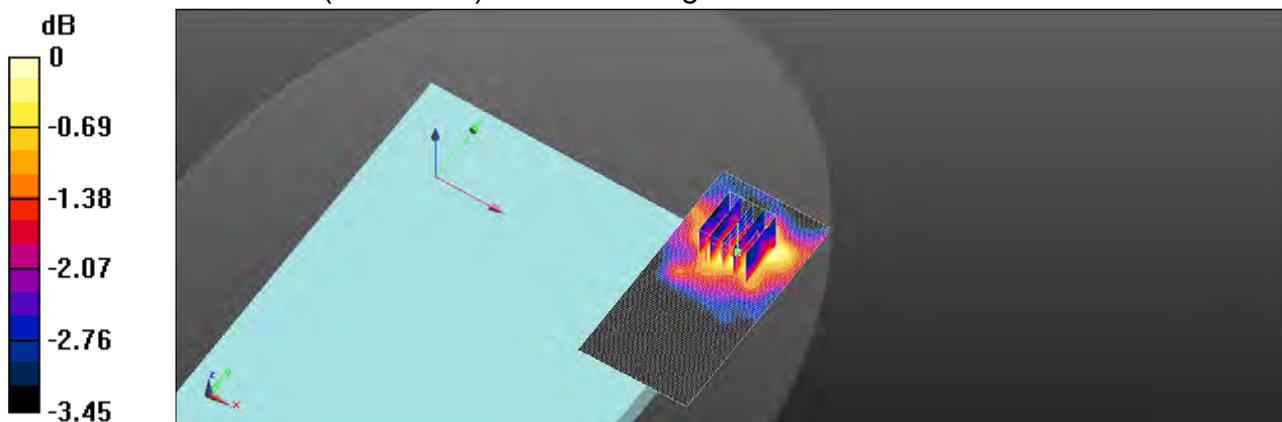
Peak SAR (extrapolated) = 0.0320 W/kg

**SAR(1 g) = 0.024 W/kg; SAR(10 g) = 0.021 W/kg**

Smallest distance from peaks to all points 3 dB below: Larger than measurement grid

Ratio of SAR at M2 to SAR at M1 = 75.3%

Maximum value of SAR (measured) = 0.0275 W/kg



0 dB = 0.0275 W/kg = -15.61 dBW/kg

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Date: 2020/9/2

**Report No. :ES/2020/80024**

**LTE Band 26 (15MHz)\_Body\_Bottom side\_CH 26825\_QPSK\_1-74\_0mm**

Communication System: LTE; Frequency: 822.5 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 822.5 \text{ MHz}$ ;  $\sigma = 0.886 \text{ S/m}$ ;  $\epsilon_r = 42.27$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.5°C; Liquid temperature: 22.1°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(9.73, 9.73, 9.73) @ 822.5 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (51x101x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.0229 W/kg

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.131 V/m; Power Drift = 0.16 dB

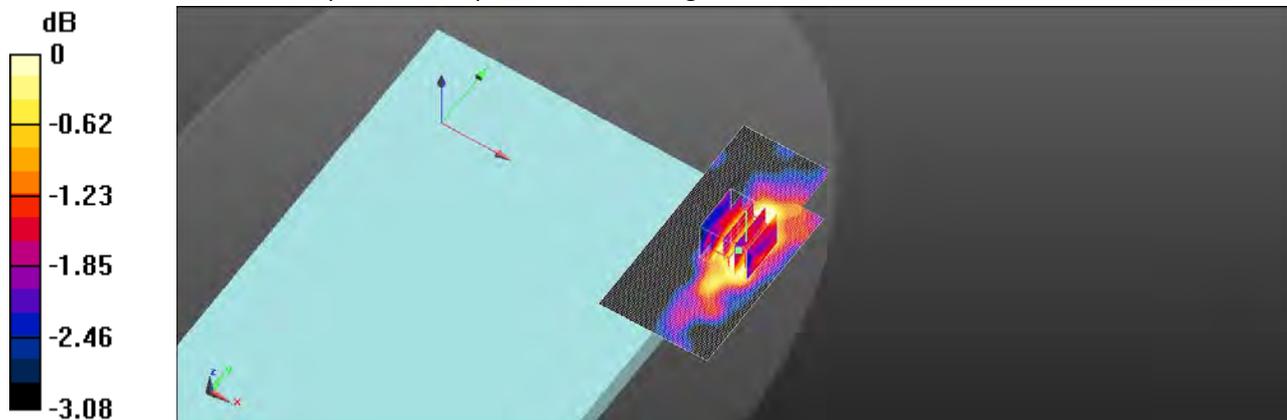
Peak SAR (extrapolated) = 0.0200 W/kg

**SAR(1 g) = 0.018 W/kg; SAR(10 g) = 0.016 W/kg**

Smallest distance from peaks to all points 3 dB below: Larger than measurement grid

Ratio of SAR at M2 to SAR at M1 = 90%

Maximum value of SAR (measured) = 0.0192 W/kg



0 dB = 0.0192 W/kg = -17.17 dBW/kg

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**Report No. :ES/2020/80024**

**LTE Band 30 (10MHz)\_Body\_Bottom side\_CH 27710\_QPSK\_1-25\_0mm**

Communication System: LTE; Frequency: 2310 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 2310$  MHz;  $\sigma = 1.677$  S/m;  $\epsilon_r = 38.842$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient temperature: 22.2°C; Liquid temperature: 21.7°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(7.76, 7.76, 7.76) @ 2310 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (61x121x1):** Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 0.0190 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.157 V/m; Power Drift = 0.19 dB

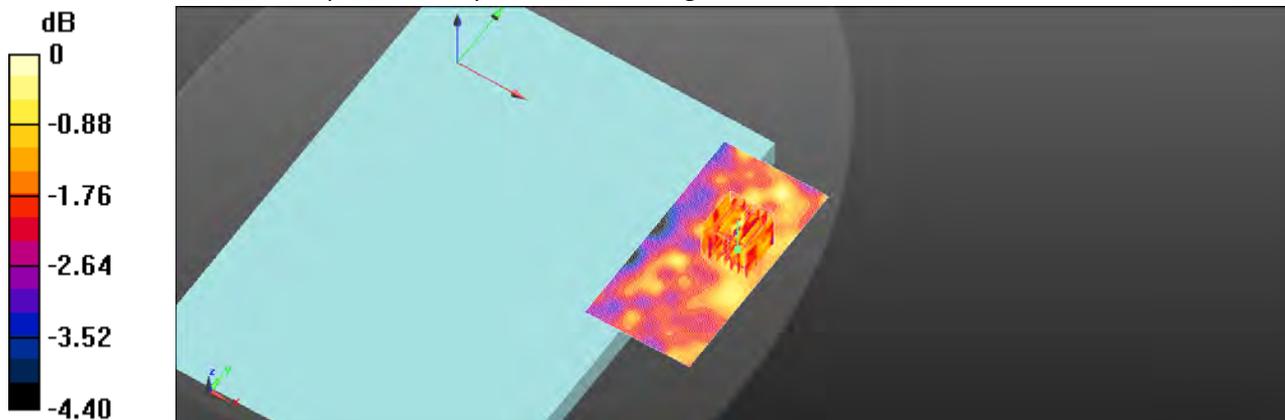
Peak SAR (extrapolated) = 0.0200 W/kg

**SAR(1 g) = 0.015 W/kg; SAR(10 g) = 0.014 W/kg**

Smallest distance from peaks to all points 3 dB below: Larger than measurement grid

Ratio of SAR at M2 to SAR at M1 = 53.5%

Maximum value of SAR (measured) = 0.0201 W/kg



0 dB = 0.0201 W/kg = -16.97 dBW/kg

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Date: 2020/9/6

**Report No. :ES/2020/80024**

**LTE Band 38 (20MHz)\_Body\_Bottom side\_CH 37850\_QPSK\_1-0\_0mm**

Communication System: LTE; Frequency: 2580 MHz; Duty cycle= 1:1.59956

Medium parameters used:  $f = 2580$  MHz;  $\sigma = 1.882$  S/m;  $\epsilon_r = 38.209$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient temperature: 22.3°C; Liquid temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(7.23, 7.23, 7.23) @ 2580 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (71x121x1):** Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 0.0411 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.781 V/m; Power Drift = -0.18 dB

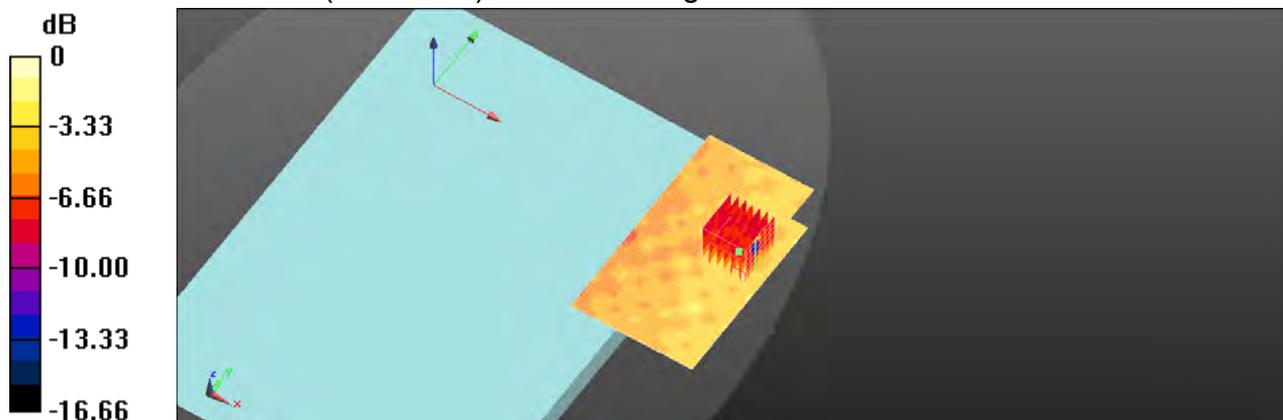
Peak SAR (extrapolated) = 0.0750 W/kg

**SAR(1 g) = 0.023 W/kg; SAR(10 g) = 0.017 W/kg**

Smallest distance from peaks to all points 3 dB below: Larger than measurement grid

Ratio of SAR at M2 to SAR at M1 = 64.2%

Maximum value of SAR (measured) = 0.0752 W/kg



0 dB = 0.0752 W/kg = -11.24 dBW/kg

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**Report No. :ES/2020/80024**

**LTE Band 41 (20MHz)\_Body\_Bottom side\_CH 39750\_QPSK\_1-99\_0mm**

Communication System: LTE; Frequency: 2506 MHz; Duty cycle= 1:1.59956

Medium parameters used:  $f = 2506$  MHz;  $\sigma = 1.804$  S/m;  $\epsilon_r = 38.569$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient temperature: 22.3°C; Liquid temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(7.23, 7.23, 7.23) @ 2506 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (71x121x1):** Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 0.107 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.966 V/m; Power Drift = 0.18 dB

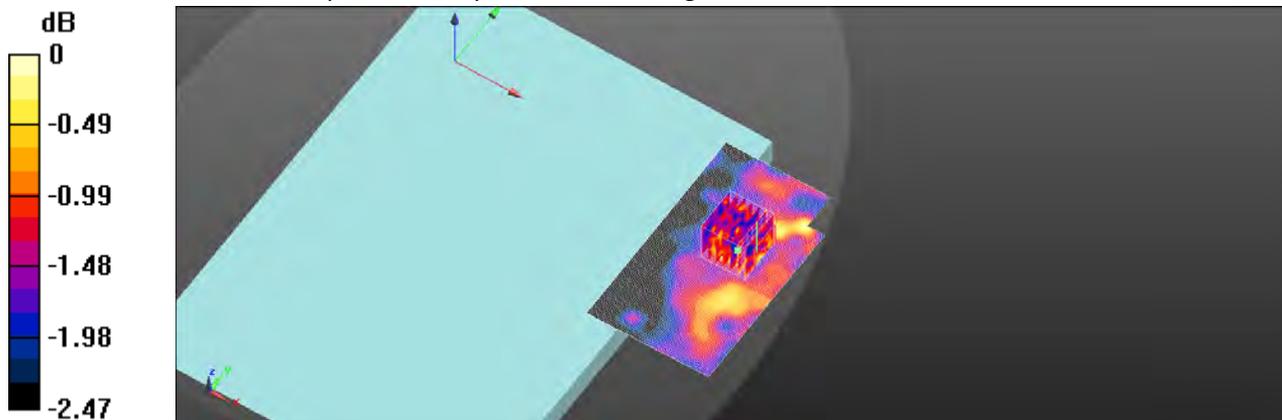
Peak SAR (extrapolated) = 0.0340 W/kg

**SAR(1 g) = 0.026 W/kg; SAR(10 g) = 0.023 W/kg**

Smallest distance from peaks to all points 3 dB below: Larger than measurement grid

Ratio of SAR at M2 to SAR at M1 = 77%

Maximum value of SAR (measured) = 0.0302 W/kg



0 dB = 0.0302 W/kg = -15.20 dBW/kg

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Date: 2020/9/6

**Report No. :ES/2020/80024**

**LTE Band 41 (20MHz)\_Body\_Bottom side\_CH 40620\_QPSK\_1-0\_0mm-HPUE**

Communication System: LTE; Frequency: 2593 MHz; Duty cycle= 1:1.59956

Medium parameters used:  $f = 2593$  MHz;  $\sigma = 1.899$  S/m;  $\epsilon_r = 38.111$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient temperature: 22.3°C; Liquid temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(7.23, 7.23, 7.23) @ 2593 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (71x121x1):** Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 0.0916 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.348 V/m; Power Drift = 0.16 dB

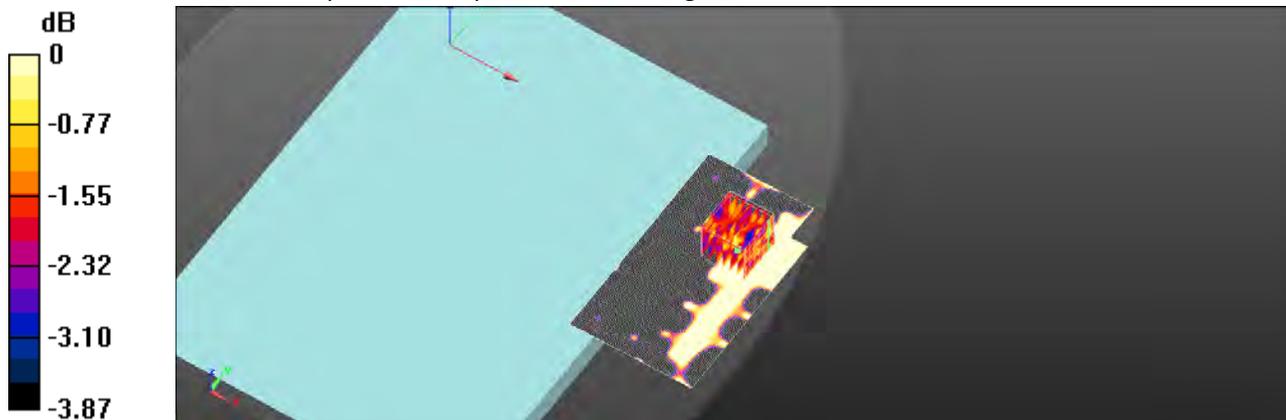
Peak SAR (extrapolated) = 0.0550 W/kg

**SAR(1 g) = 0.032 W/kg; SAR(10 g) = 0.029 W/kg**

Smallest distance from peaks to all points 3 dB below: Larger than measurement grid

Ratio of SAR at M2 to SAR at M1 = 94.8%

Maximum value of SAR (measured) = 0.0436 W/kg



0 dB = 0.0436 W/kg = -13.61 dBW/kg

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Date: 2020/9/3

**Report No. :ES/2020/80024**

**LTE Band 66 (20MHz)\_Body\_Bottom side\_CH 132572\_QPSK\_1-0\_0mm**

Communication System: LTE; Frequency: 1770 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 1770$  MHz;  $\sigma = 1.38$  S/m;  $\epsilon_r = 39.778$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient temperature: 22.3°C; Liquid temperature: 22.7°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(8.34, 8.34, 8.34) @ 1770 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (51x101x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.0354 W/kg

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.662 V/m; Power Drift = 0.17 dB

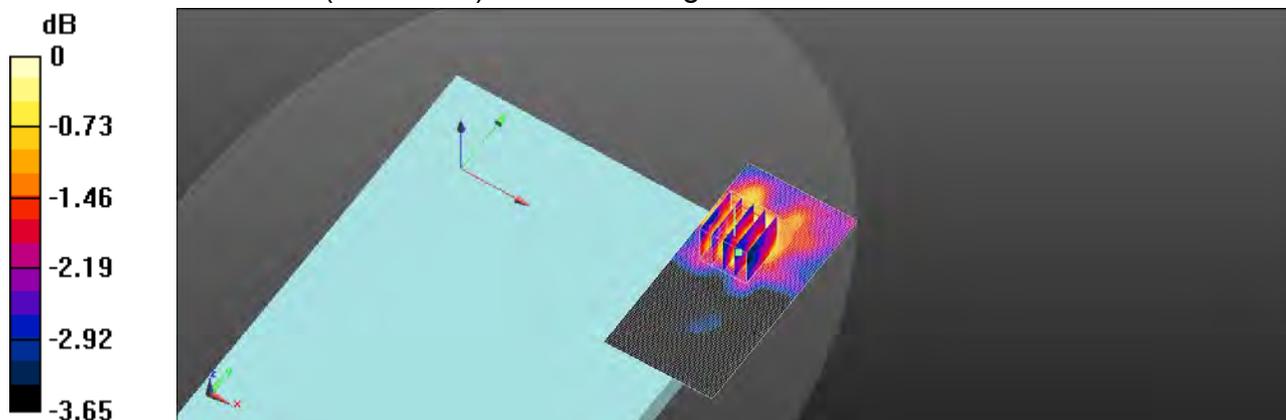
Peak SAR (extrapolated) = 0.0360 W/kg

**SAR(1 g) = 0.034 W/kg; SAR(10 g) = 0.029 W/kg**

Smallest distance from peaks to all points 3 dB below: Larger than measurement grid

Ratio of SAR at M2 to SAR at M1 = 95.6%

Maximum value of SAR (measured) = 0.0353 W/kg



0 dB = 0.0353 W/kg = -14.52 dBW/kg

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**Report No. :ES/2020/80024**

**5G N2 (20MHz)\_Body\_Bottom side\_CH 380000\_BPSK\_1-1\_0mm**

Communication System: 5G NR(20MHz,Pi/2 BPSK,15kHz); Frequency: 1900 MHz; Duty cycle=1:1

Medium parameters used:  $f = 1900 \text{ MHz}$ ;  $\sigma = 1.399 \text{ S/m}$ ;  $\epsilon_r = 39.403$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 21.5°C; Liquid temperature: 21.9°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(8.07, 8.07, 8.07) @ 1900 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (51x101x1):** Interpolated grid:  $dx=15 \text{ mm}$ ,  $dy=15 \text{ mm}$

Maximum value of SAR (interpolated) = 0.0367 W/kg

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 2.329 V/m; Power Drift = -0.14 dB

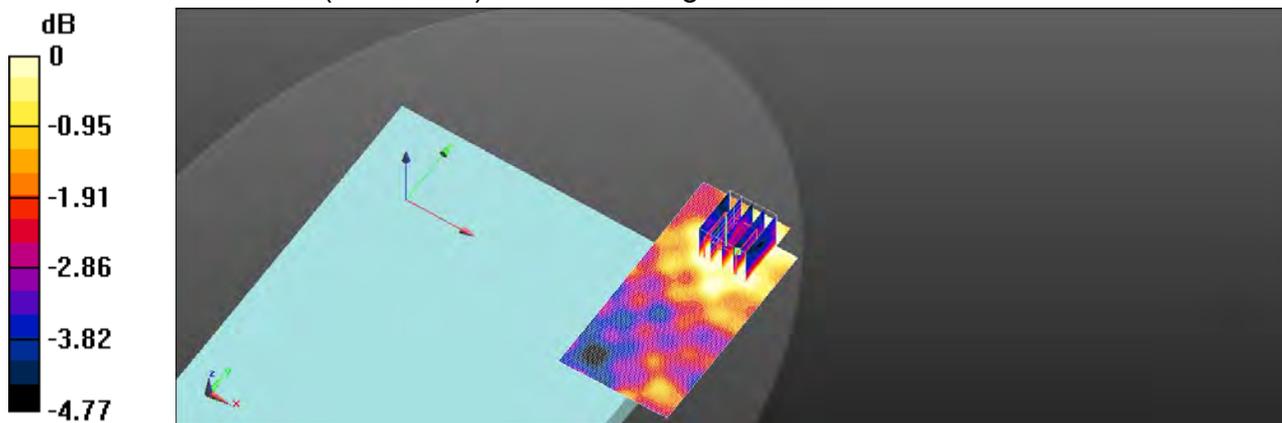
Peak SAR (extrapolated) = 0.0340 W/kg

**SAR(1 g) = 0.025 W/kg; SAR(10 g) = 0.019 W/kg**

Smallest distance from peaks to all points 3 dB below: Larger than measurement grid

Ratio of SAR at M2 to SAR at M1 = 75.1%

Maximum value of SAR (measured) = 0.0291 W/kg



0 dB = 0.0291 W/kg = -15.36 dBW/kg

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**Report No. :ES/2020/80024**

**5G N5 (20MHz)\_Body\_Bottom side\_CH 167300\_BPSK\_1-1\_0mm**

Communication System: 5G NR(20MHz,Pi/2 BPSK,15kHz); Frequency: 836.5 MHz; Duty cycle=1:1

Medium parameters used:  $f = 836.5 \text{ MHz}$ ;  $\sigma = 0.916 \text{ S/m}$ ;  $\epsilon_r = 41.858$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.5°C; Liquid temperature: 22.1°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(9.73, 9.73, 9.73) @ 836.5 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (51x101x1):** Interpolated grid:  $dx=15 \text{ mm}$ ,  $dy=15 \text{ mm}$

Maximum value of SAR (interpolated) = 0.0179 W/kg

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 2.241 V/m; Power Drift = -0.12 dB

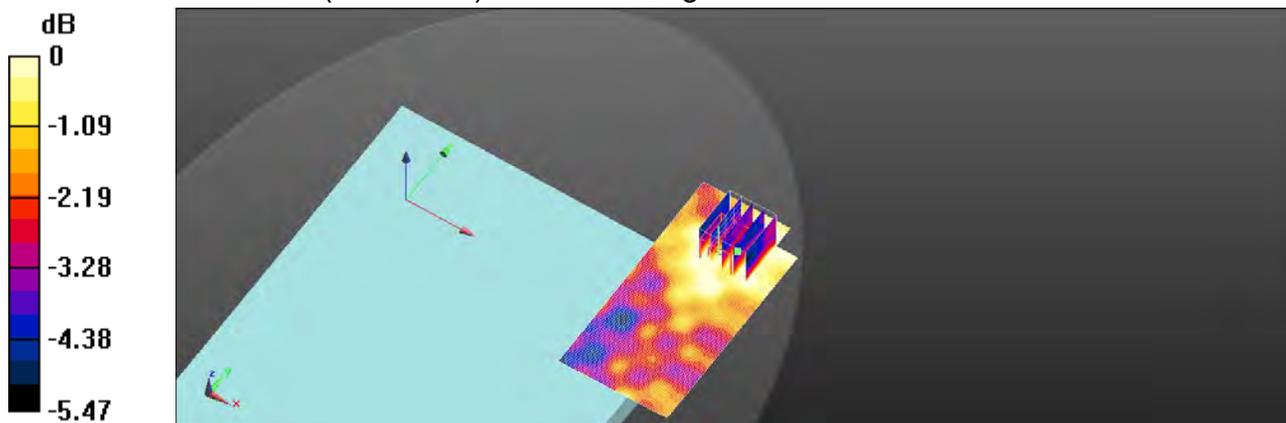
Peak SAR (extrapolated) = 0.0160 W/kg

**SAR(1 g) = 0.012 W/kg; SAR(10 g) = 0.00872 W/kg**

Smallest distance from peaks to all points 3 dB below: Larger than measurement grid

Ratio of SAR at M2 to SAR at M1 = 76.8%

Maximum value of SAR (measured) = 0.0138 W/kg



0 dB = 0.0138 W/kg = -18.60 dBW/kg

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**Report No. :ES/2020/80024**

**5G N12 (15MHz)\_Body\_Bottom side\_CH 141300\_BPSK\_1-1\_0mm**

Communication System: 5G NR(15MHz,Pi/2 BPSK,15kHz); Frequency: 706.5 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 706.5 \text{ MHz}$ ;  $\sigma = 0.859 \text{ S/m}$ ;  $\epsilon_r = 42.906$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.1°C; Liquid temperature: 22.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(9.94, 9.94, 9.94) @ 706.5 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (51x101x1):** Interpolated grid:  $dx=15 \text{ mm}$ ,  $dy=15 \text{ mm}$

Maximum value of SAR (interpolated) = 0.0286 W/kg

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 2.558 V/m; Power Drift = 0.10 dB

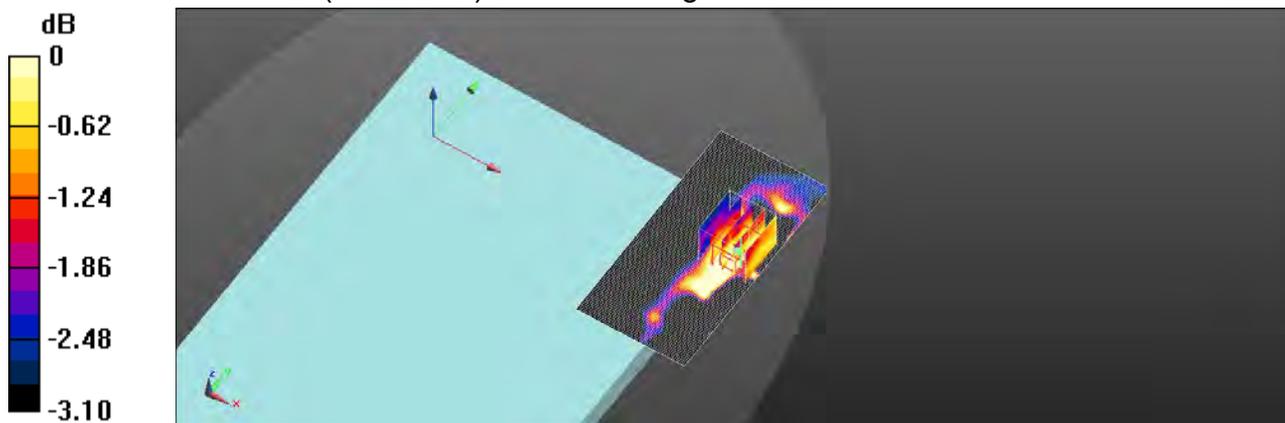
Peak SAR (extrapolated) = 0.0180 W/kg

**SAR(1 g) = 0.017 W/kg; SAR(10 g) = 0.015 W/kg**

Smallest distance from peaks to all points 3 dB below: Larger than measurement grid

Ratio of SAR at M2 to SAR at M1 = 93.3%

Maximum value of SAR (measured) = 0.0176 W/kg



0 dB = 0.0176 W/kg = -17.54 dBW/kg

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Date: 2020/9/3

**Report No. :ES/2020/80024**

**5G N66 (20MHz)\_Body\_Bottom side\_CH 354000\_BPSK\_1-1\_0mm**

Communication System: 5G NR(20MHz,Pi/2 BPSK,15kHz); Frequency: 1770 MHz; Duty cycle=1:1

Medium parameters used:  $f = 1770 \text{ MHz}$ ;  $\sigma = 1.38 \text{ S/m}$ ;  $\epsilon_r = 39.778$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.3°C; Liquid temperature: 22.7°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(8.34, 8.34, 8.34) @ 1770 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (51x101x1):** Interpolated grid:  $dx=15 \text{ mm}$ ,  $dy=15 \text{ mm}$

Maximum value of SAR (interpolated) = 0.0417 W/kg

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 2.813 V/m; Power Drift = 0.15 dB

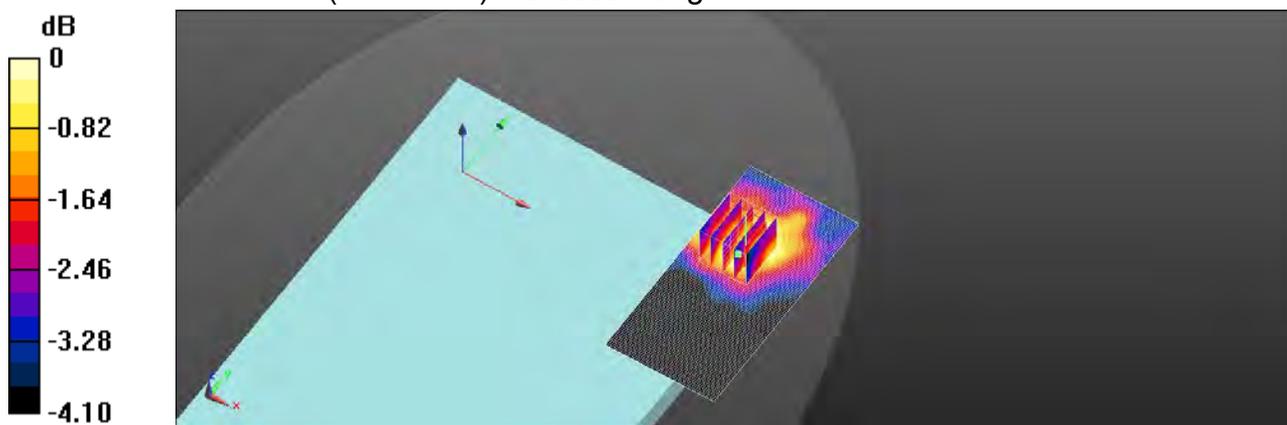
Peak SAR (extrapolated) = 0.0400 W/kg

**SAR(1 g) = 0.036 W/kg; SAR(10 g) = 0.031 W/kg**

Smallest distance from peaks to all points 3 dB below: Larger than measurement grid

Ratio of SAR at M2 to SAR at M1 = 91.3%

Maximum value of SAR (measured) = 0.0385 W/kg



0 dB = 0.0385 W/kg = -14.15 dBW/kg

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**Report No. :ES/2020/80024**

**LTE Band 2 (20MHz)\_Body\_Bottom side\_CH 18900\_QPSK\_1-0\_0mm**

Communication System: LTE; Frequency: 1880 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 1880 \text{ MHz}$ ;  $\sigma = 1.396 \text{ S/m}$ ;  $\epsilon_r = 39.683$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.2°C; Liquid temperature: 21.7°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(8.07, 8.07, 8.07) @ 1880 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Configuration/Body/Area Scan (51x101x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.454 W/kg

**Configuration/Body/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.785 V/m; Power Drift = 0.13 dB

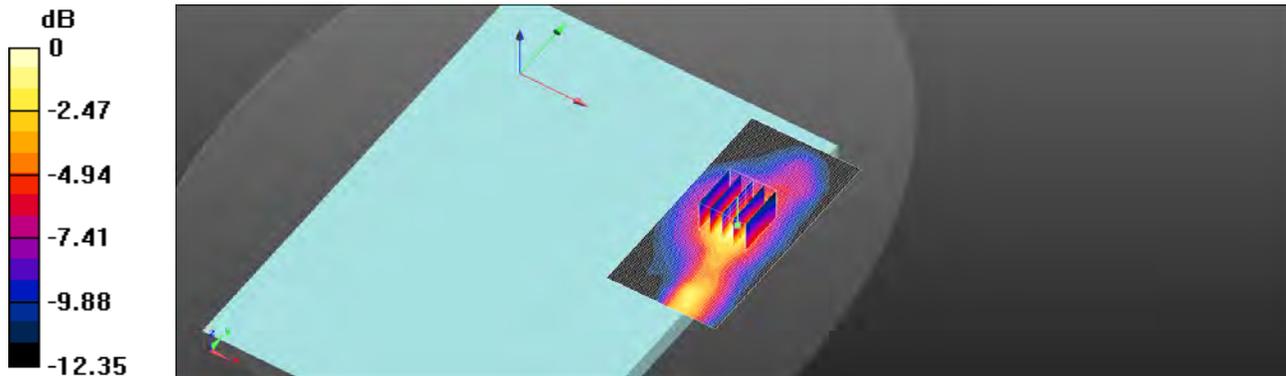
Peak SAR (extrapolated) = 0.539 W/kg

**SAR(1 g) = 0.366 W/kg; SAR(10 g) = 0.236 W/kg**

Smallest distance from peaks to all points 3 dB below = 11.6 mm

Ratio of SAR at M2 to SAR at M1 = 62.8%

Maximum value of SAR (measured) = 0.446 W/kg



0 dB = 0.446 W/kg = -3.51 dBW/kg

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**Report No. :ES/2020/80024**

**LTE Band 7 (20MHz)\_Body\_Bottom side\_CH 21100\_QPSK\_1-0\_0mm**

Communication System: LTE; Frequency: 2535 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 2535 \text{ MHz}$ ;  $\sigma = 1.845 \text{ S/m}$ ;  $\epsilon_r = 38.607$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 21.4°C; Liquid temperature: 22.0°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(7.23, 7.23, 7.23) @ 2535 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (61x121x1):** Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 0.544 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.652 V/m; Power Drift = 0.12 dB

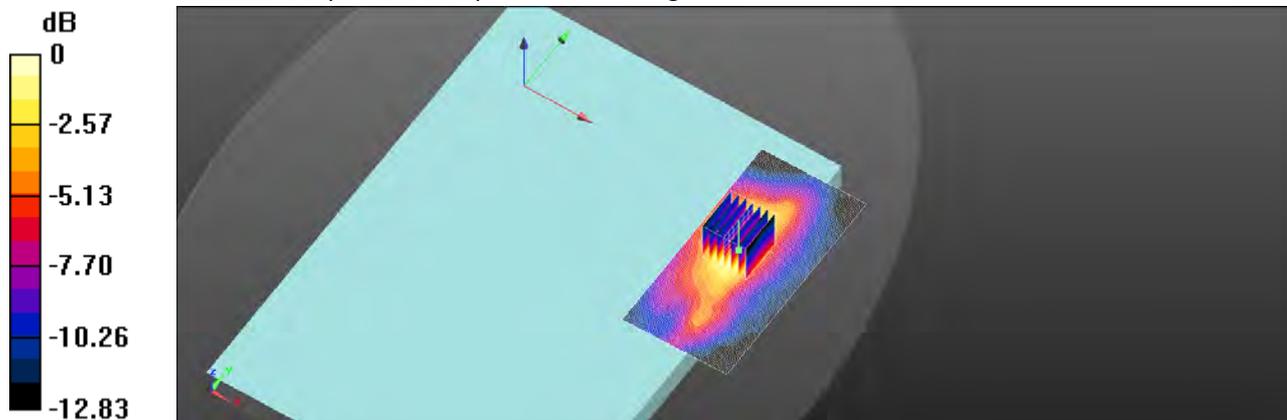
Peak SAR (extrapolated) = 0.686 W/kg

**SAR(1 g) = 0.390 W/kg; SAR(10 g) = 0.227 W/kg**

Smallest distance from peaks to all points 3 dB below = 11.2 mm

Ratio of SAR at M2 to SAR at M1 = 58.8%

Maximum value of SAR (measured) = 0.536 W/kg



0 dB = 0.536 W/kg = -2.71 dBW/kg

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**Report No. :ES/2020/80024**

**LTE Band 42 (20MHz)\_Body\_Bottom side\_CH 43490\_QPSK\_1-0\_0mm**

Communication System: LTE; Frequency: 3590 MHz; Duty cycle= 1:1.59956

Medium parameters used:  $f = 3590$  MHz;  $\sigma = 2.977$  S/m;  $\epsilon_r = 37.662$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient temperature: 21.8°C; Liquid temperature: 21.5°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(6.73, 6.73, 6.73) @ 3590 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (51x131x1):** Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 0.475 W/kg

**Zoom Scan (7x7x8)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=4mm

Reference Value = 2.583 V/m; Power Drift = 0.04 dB

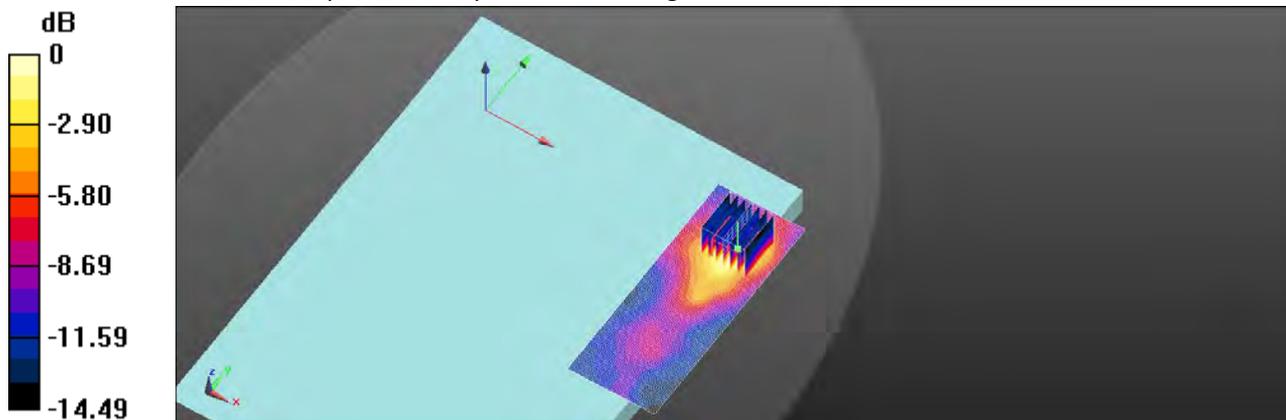
Peak SAR (extrapolated) = 0.689 W/kg

**SAR(1 g) = 0.320 W/kg; SAR(10 g) = 0.161 W/kg**

Smallest distance from peaks to all points 3 dB below = 11.4 mm

Ratio of SAR at M2 to SAR at M1 = 49.4%

Maximum value of SAR (measured) = 0.461 W/kg



0 dB = 0.461 W/kg = -3.36 dBW/kg

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**Report No. :ES/2020/80024**

**LTE Band 48 (20MHz)\_Body\_Bottom side\_CH 56640\_QPSK\_1-0\_0mm**

Communication System: LTE; Frequency: 3690 MHz; Duty cycle= 1:1.59956

Medium parameters used:  $f = 3690$  MHz;  $\sigma = 3.025$  S/m;  $\epsilon_r = 37.542$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient temperature: 21.5°C; Liquid temperature: 21.9°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(6.67, 6.67, 6.67) @ 3690 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (51x131x1):** Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 0.667 W/kg

**Zoom Scan (7x7x8)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=4mm

Reference Value = 2.892 V/m; Power Drift = -0.12 dB

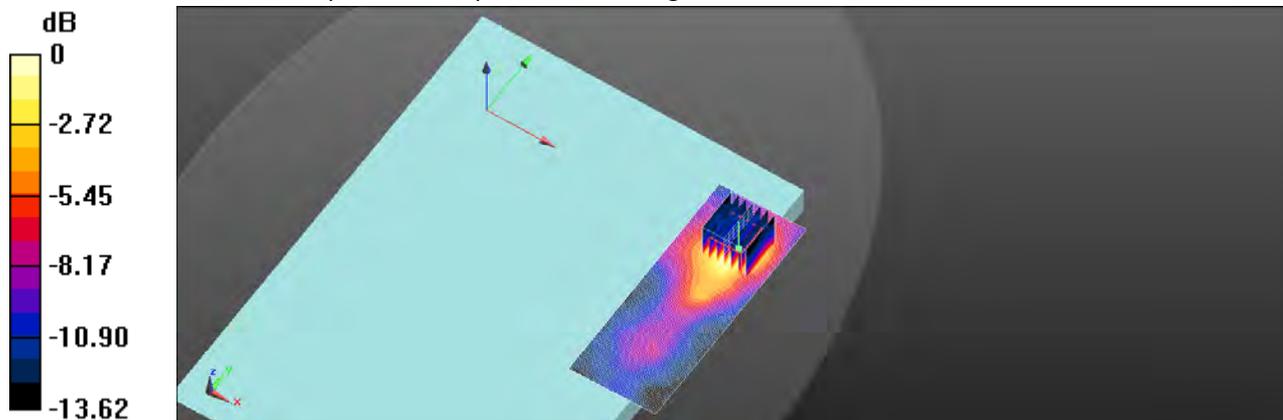
Peak SAR (extrapolated) = 0.965 W/kg

**SAR(1 g) = 0.417 W/kg; SAR(10 g) = 0.201 W/kg**

Smallest distance from peaks to all points 3 dB below = 11.2 mm

Ratio of SAR at M2 to SAR at M1 = 49.6%

Maximum value of SAR (measured) = 0.648 W/kg



0 dB = 0.648 W/kg = -1.88 dBW/kg

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**Report No. :ES/2020/80024**

**LTE Band 66 (20MHz)\_Body\_Bottom side\_CH 132572\_QPSK\_1-0\_0mm**

Communication System: LTE; Frequency: 1770 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 1770 \text{ MHz}$ ;  $\sigma = 1.383 \text{ S/m}$ ;  $\epsilon_r = 39.968$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.4°C; Liquid temperature: 21.9°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(8.34, 8.34, 8.34) @ 1770 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (51x121x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.433 W/kg

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.033 V/m; Power Drift = 0.11 dB

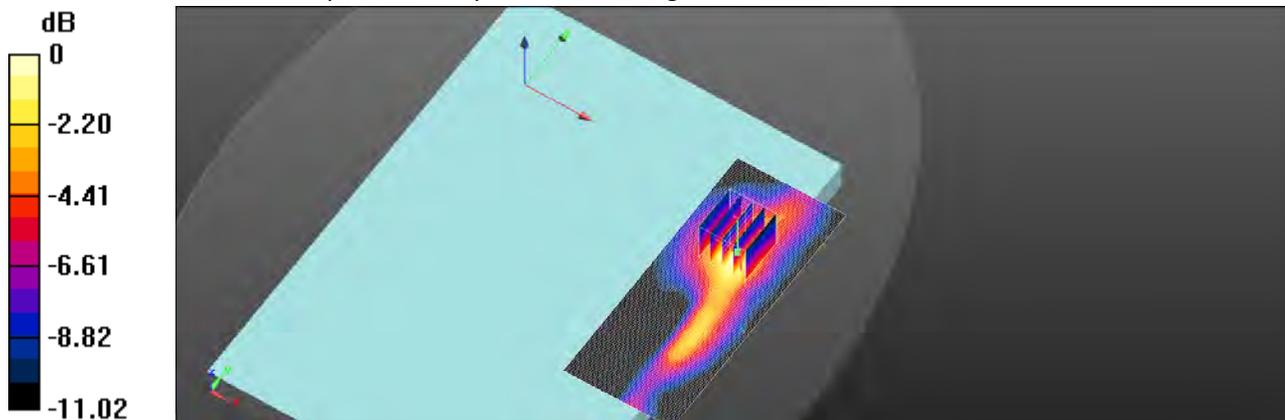
Peak SAR (extrapolated) = 0.554 W/kg

**SAR(1 g) = 0.359 W/kg; SAR(10 g) = 0.225 W/kg**

Smallest distance from peaks to all points 3 dB below = 12.9 mm

Ratio of SAR at M2 to SAR at M1 = 63.1%

Maximum value of SAR (measured) = 0.459 W/kg



0 dB = 0.459 W/kg = -3.38 dBW/kg

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**Report No. :ES/2020/80024**

**5G N2 (20MHz)\_Body\_Bottom side\_CH 376000\_BPSK\_1-1\_0mm**

Communication System: 5G NR(20MHz,Pi/2 BPSK,15kHz); Frequency: 1880 MHz; Duty cycle=1:1

Medium parameters used:  $f = 1880 \text{ MHz}$ ;  $\sigma = 1.396 \text{ S/m}$ ;  $\epsilon_r = 39.683$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.2°C; Liquid temperature: 21.7°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(8.07, 8.07, 8.07) @ 1880 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (51x91x1):** Interpolated grid:  $dx=15 \text{ mm}$ ,  $dy=15 \text{ mm}$

Maximum value of SAR (interpolated) = 0.466 W/kg

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 2.601 V/m; Power Drift = 0.01 dB

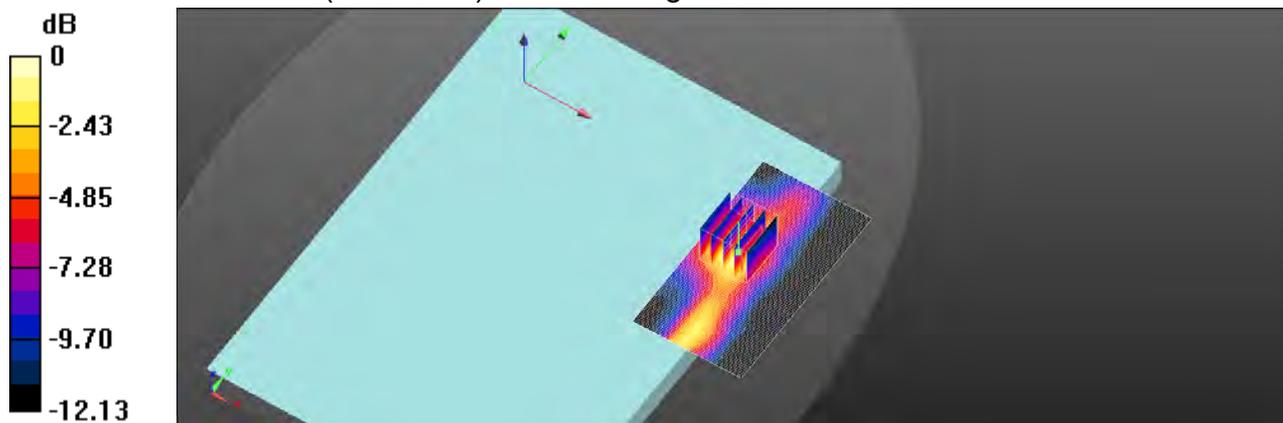
Peak SAR (extrapolated) = 0.635 W/kg

**SAR(1 g) = 0.381 W/kg; SAR(10 g) = 0.225 W/kg**

Smallest distance from peaks to all points 3 dB below = 12.2 mm

Ratio of SAR at M2 to SAR at M1 = 61.4%

Maximum value of SAR (measured) = 0.514 W/kg



0 dB = 0.514 W/kg = -2.89 dBW/kg

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**Report No. :ES/2020/80024**

**5G N7 (20MHz)\_Body\_Bottom side\_CH 502000\_BPSK\_1-1\_0mm**

Communication System: 5G NR(20MHz,Pi/2 BPSK,15kHz); Frequency: 2510 MHz; Duty cycle=1:1

Medium parameters used:  $f = 2510 \text{ MHz}$ ;  $\sigma = 1.821 \text{ S/m}$ ;  $\epsilon_r = 38.626$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 21.4°C; Liquid temperature: 22.0°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(7.23, 7.23, 7.23) @ 2510 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (61x111x1):** Interpolated grid:  $dx=12 \text{ mm}$ ,  $dy=12 \text{ mm}$

Maximum value of SAR (interpolated) = 0.567 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 2.756 V/m; Power Drift = 0.12 dB

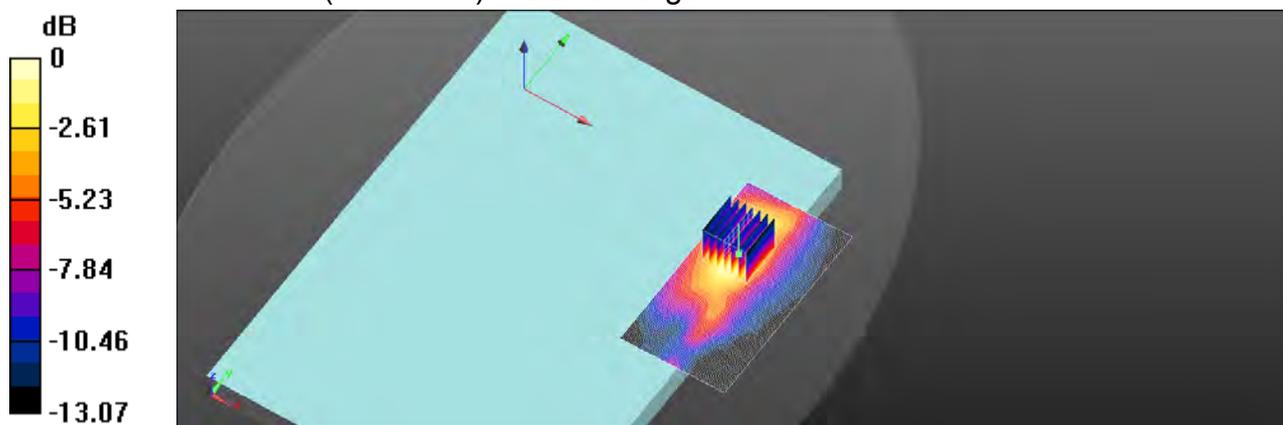
Peak SAR (extrapolated) = 0.682 W/kg

**SAR(1 g) = 0.390 W/kg; SAR(10 g) = 0.229 W/kg**

Smallest distance from peaks to all points 3 dB below = 11.7 mm

Ratio of SAR at M2 to SAR at M1 = 56.8%

Maximum value of SAR (measured) = 0.525 W/kg



0 dB = 0.525 W/kg = -2.80 dBW/kg

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**Report No. :ES/2020/80024**

**5G N41 (100MHz)\_Body\_Bottom side\_CH 528000\_BPSK\_1-1\_0mm**

Communication System: 5G NR(20MHz,Pi/2 BPSK,15kHz); Frequency: 2640 MHz; Duty cycle=1:1

Medium parameters used:  $f = 2640 \text{ MHz}$ ;  $\sigma = 1.973 \text{ S/m}$ ;  $\epsilon_r = 38.2$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 21.4°C; Liquid temperature: 22.0°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(7.23, 7.23, 7.23) @ 2640 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (61x111x1):** Interpolated grid:  $dx=12 \text{ mm}$ ,  $dy=12 \text{ mm}$

Maximum value of SAR (interpolated) = 0.309 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 2.987 V/m; Power Drift = -0.10 dB

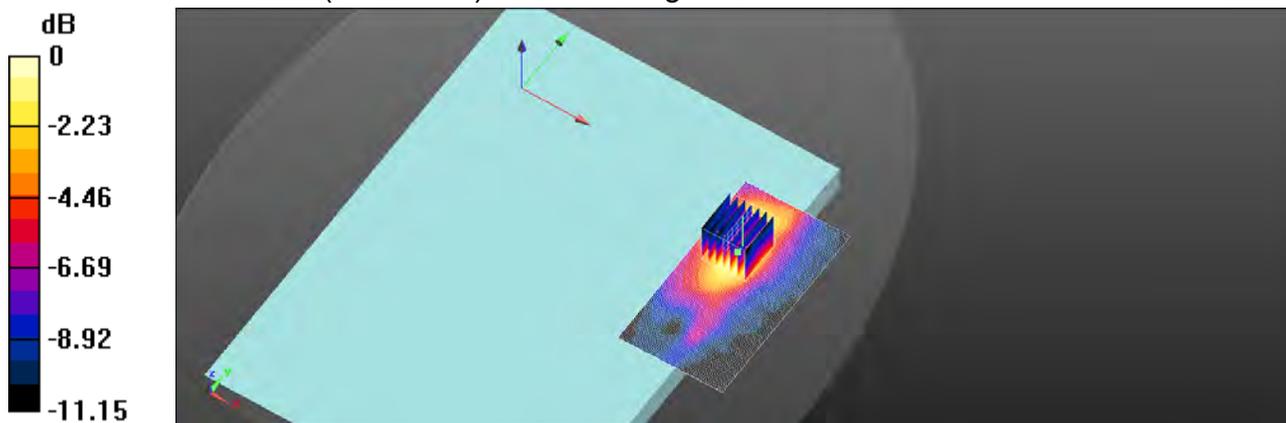
Peak SAR (extrapolated) = 0.366 W/kg

**SAR(1 g) = 0.216 W/kg; SAR(10 g) = 0.129 W/kg**

Smallest distance from peaks to all points 3 dB below = 12.6 mm

Ratio of SAR at M2 to SAR at M1 = 60.9%

Maximum value of SAR (measured) = 0.288 W/kg



0 dB = 0.288 W/kg = -5.41 dBW/kg

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**Report No. :ES/2020/80024**

**5G N41 (100MHz)\_Body\_Bottom side\_CH 528000\_BPSK\_1-1\_0mm\_HPUE**

Communication System: 5G NR(20MHz, Pi/2 BPSK,15kHz); Frequency: 2640 MHz; Duty cycle=1:1

Medium parameters used:  $f = 2640 \text{ MHz}$ ;  $\sigma = 1.973 \text{ S/m}$ ;  $\epsilon_r = 38.2$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 21.4°C; Liquid temperature: 22.0°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(7.23, 7.23, 7.23) @ 2640 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (61x111x1):** Interpolated grid:  $dx=12 \text{ mm}$ ,  $dy=12 \text{ mm}$

Maximum value of SAR (interpolated) = 0.306 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 3.382 V/m; Power Drift = -0.02 dB

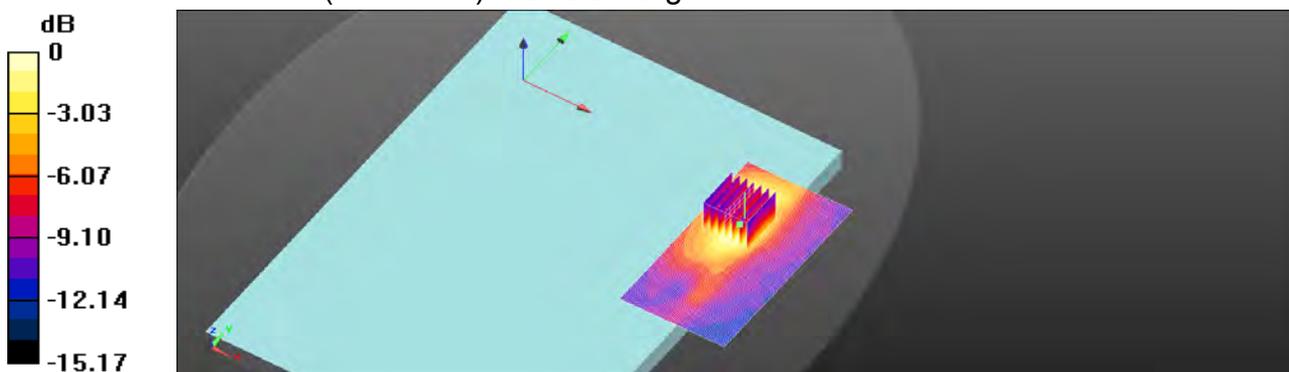
Peak SAR (extrapolated) = 0.363 W/kg

**SAR(1 g) = 0.214 W/kg; SAR(10 g) = 0.128 W/kg**

Smallest distance from peaks to all points 3 dB below = 12.3 mm

Ratio of SAR at M2 to SAR at M1 = 61.2%

Maximum value of SAR (measured) = 0.286 W/kg



0 dB = 0.286 W/kg = -5.44 dBW/kg

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**Report No. :ES/2020/80024**

**5G N66 (20MHz)\_Body\_Bottom side\_CH 34400\_BPSK\_1-1\_0mm**

Communication System: 5G NR(20MHz,Pi/2 BPSK,15kHz); Frequency: 1720 MHz; Duty cycle=1:1

Medium parameters used:  $f = 1720 \text{ MHz}$ ;  $\sigma = 1.316 \text{ S/m}$ ;  $\epsilon_r = 41.148$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.4°C; Liquid temperature: 21.9°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(8.34, 8.34, 8.34) @ 1720 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (51x101x1):** Interpolated grid:  $dx=15 \text{ mm}$ ,  $dy=15 \text{ mm}$

Maximum value of SAR (interpolated) = 0.341 W/kg

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 2.715 V/m; Power Drift = 0.18 dB

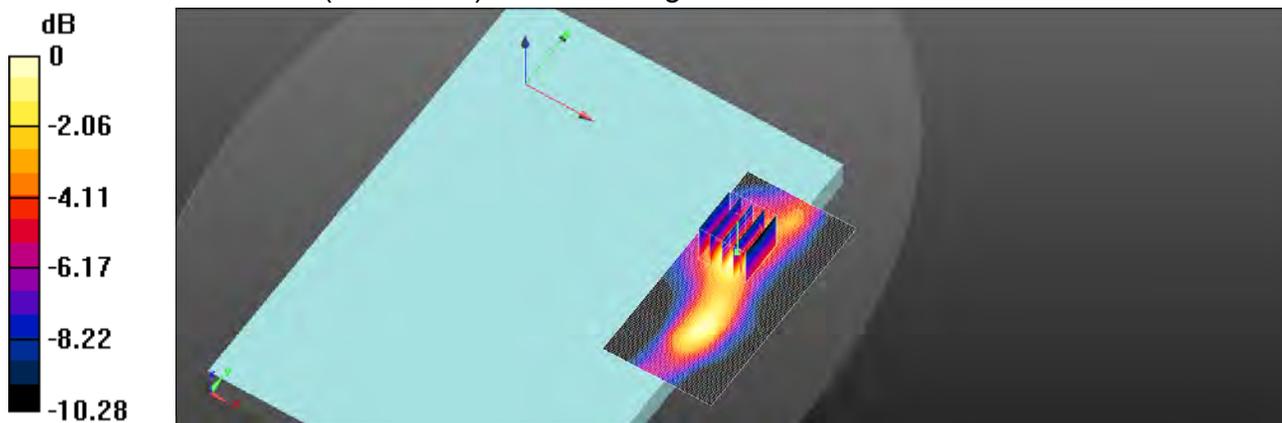
Peak SAR (extrapolated) = 0.436 W/kg

**SAR(1 g) = 0.268 W/kg; SAR(10 g) = 0.165 W/kg**

Smallest distance from peaks to all points 3 dB below = 12.8 mm

Ratio of SAR at M2 to SAR at M1 = 62.9%

Maximum value of SAR (measured) = 0.361 W/kg



0 dB = 0.361 W/kg = -4.42 dBW/kg

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## 6. SAR System Performance Verification

Date: 2020/9/1

**Report No. :ES/2020/80024**
**Dipole 750 MHz\_SN:1015**

Communication System: CW; Frequency: 750 MHz; Duty cycle= 1:1

 Medium parameters used:  $f = 750 \text{ MHz}$ ;  $\sigma = 0.885 \text{ S/m}$ ;  $\epsilon_r = 42.565$ ;  $\rho = 1000 \text{ kg/m}^3$ 

Phantom section: Flat Section

Ambient temperature: 22.1°C; Liquid temperature: 22.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(9.94, 9.94, 9.94) @ 750 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Pin=250mW/Area Scan (61x141x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 2.58 W/kg

**Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

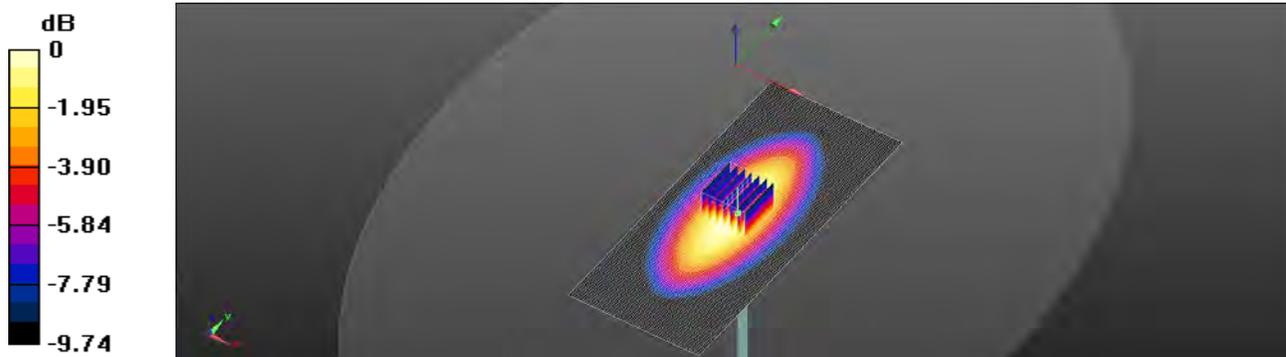
Reference Value = 54.43 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 2.99 W/kg

**SAR(1 g) = 2.09 W/kg; SAR(10 g) = 1.41 W/kg**

Smallest distance from peaks to all points 3 dB below = 16 mm

Maximum value of SAR (measured) = 2.60 W/kg



0 dB = 2.60 W/kg = 4.15 dBW/kg

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Date: 2020/9/2

**Report No. :ES/2020/80024**

**Dipole 835 MHz\_SN:4d063**

Communication System: CW; Frequency: 835 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.915 \text{ S/m}$ ;  $\epsilon_r = 41.963$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.5°C; Liquid temperature: 22.1°C

DASY5 Configuration:

- Probe: EX3DV4 – SN7509; ConvF(9.73, 9.73, 9.73) @ 835 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Pin=250mW/Area Scan (41x121x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 3.03 W/kg

**Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 56.89 V/m; Power Drift = -0.01 dB

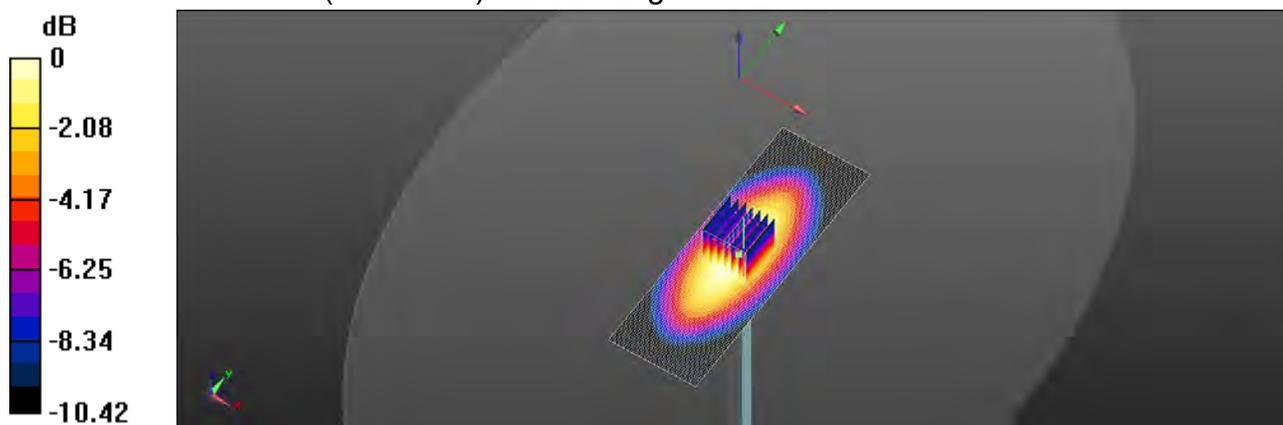
Peak SAR (extrapolated) = 3.56 W/kg

**SAR(1 g) = 2.37 W/kg; SAR(10 g) = 1.53 W/kg**

Smallest distance from peaks to all points 3 dB below = 16 mm

Ratio of SAR at M2 to SAR at M1 = 66.4%

Maximum value of SAR (measured) = 3.03 W/kg



0 dB = 3.03 W/kg = 4.81 dBW/kg

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Date: 2020/9/3

**Report No. :ES/2020/80024**

**Dipole 1750 MHz\_SN:1008**

Communication System: CW; Frequency: 1750 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.368$  S/m;  $\epsilon_r = 40.07$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient temperature: 22.3°C; Liquid temperature: 22.7°C

DASY5 Configuration:

- Probe: EX3DV4 – SN7509; ConvF(8.34, 8.34, 8.34) @ 1750 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Pin=250mW/Area Scan (61x61x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 12.4 W/kg

**Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 94.64 V/m; Power Drift = 0.01 dB

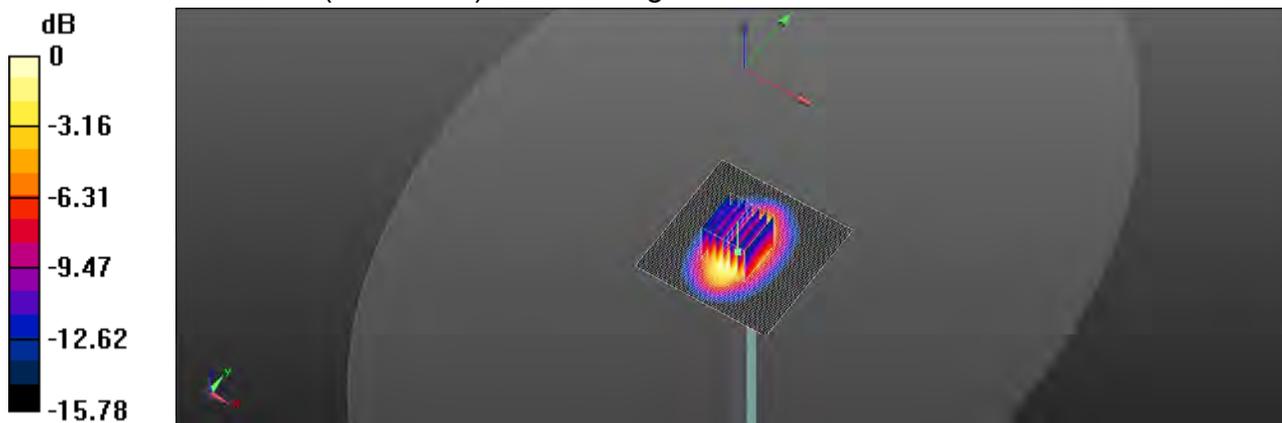
Peak SAR (extrapolated) = 15.3 W/kg

**SAR(1 g) = 8.67 W/kg; SAR(10 g) = 4.72 W/kg**

Smallest distance from peaks to all points 3 dB below = 10 mm

Ratio of SAR at M2 to SAR at M1 = 57.7%

Maximum value of SAR (measured) = 12.1 W/kg



0 dB = 12.1 W/kg = 10.83 dBW/kg

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Date: 2020/9/4

**Report No. :ES/2020/80024**

**Dipole 1900 MHz\_SN:5d173**

Communication System: CW; Frequency: 1900 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 1900 \text{ MHz}$ ;  $\sigma = 1.399 \text{ S/m}$ ;  $\epsilon_r = 39.403$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 21.5°C; Liquid temperature: 21.9°C

DASY5 Configuration:

- Probe: EX3DV4 – SN7509; ConvF(8.07, 8.07, 8.07) @ 1900 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Pin=250mW/Area Scan (61x61x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 13.2 W/kg

**Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 98.26 V/m; Power Drift = 0.01 dB

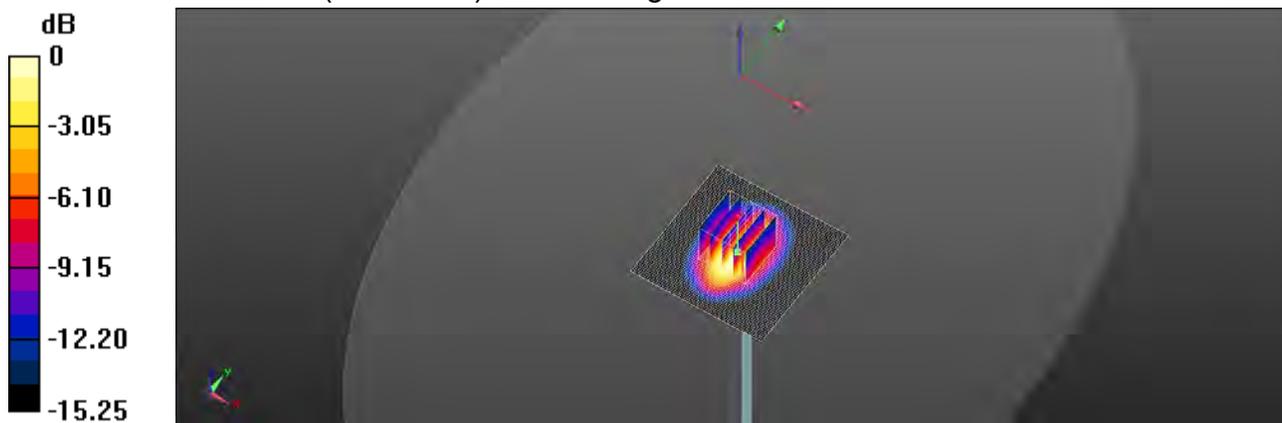
Peak SAR (extrapolated) = 16.2 W/kg

**SAR(1 g) = 9.67 W/kg; SAR(10 g) = 5.43 W/kg**

Smallest distance from peaks to all points 3 dB below = 10.1 mm

Ratio of SAR at M2 to SAR at M1 = 59.4%

Maximum value of SAR (measured) = 13.2 W/kg



0 dB = 13.2 W/kg = 11.21 dBW/kg

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Date: 2020/9/5

**Report No. :ES/2020/80024**

**Dipole 2300 MHz\_SN:1023**

Communication System: CW; Frequency: 2300 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 2300 \text{ MHz}$ ;  $\sigma = 1.655 \text{ S/m}$ ;  $\epsilon_r = 38.925$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.2°C; Liquid temperature: 21.7°C

DASY5 Configuration:

- Probe: EX3DV4 – SN7509; ConvF(7.76, 7.76, 7.76) @ 2300 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Pin=250mW/Area Scan (51x51x1):** Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 17.8 W/kg

**Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 94.12 V/m; Power Drift = 0.08 dB

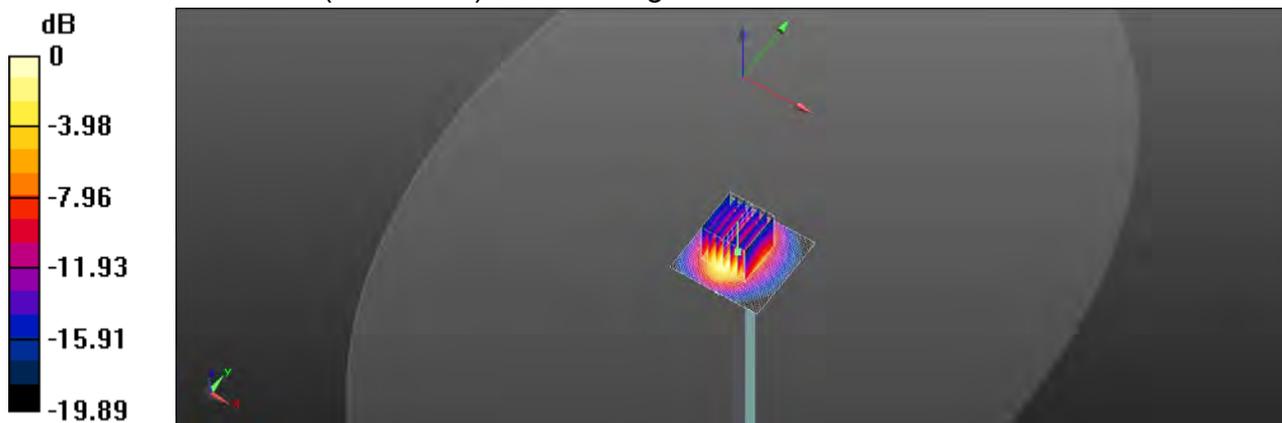
Peak SAR (extrapolated) = 22.2 W/kg

**SAR(1 g) = 11.4 W/kg; SAR(10 g) = 5.57 W/kg**

Smallest distance from peaks to all points 3 dB below = 9.2 mm

Ratio of SAR at M2 to SAR at M1 = 52.5%

Maximum value of SAR (measured) = 17.0 W/kg



0 dB = 17.0 W/kg = 12.30 dBW/kg

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Date: 2020/9/6

**Report No. :ES/2020/80024**

**Dipole 2600 MHz\_SN:1005**

Communication System: CW; Frequency: 2600 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 2600 \text{ MHz}$ ;  $\sigma = 1.908 \text{ S/m}$ ;  $\epsilon_r = 38.08$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.3°C; Liquid temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 – SN7509; ConvF(7.23, 7.23, 7.23) @ 2600 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Pin=250mW/Area Scan (61x61x1):** Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 22.7 W/kg

**Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 103.8 V/m; Power Drift = 0.08 dB

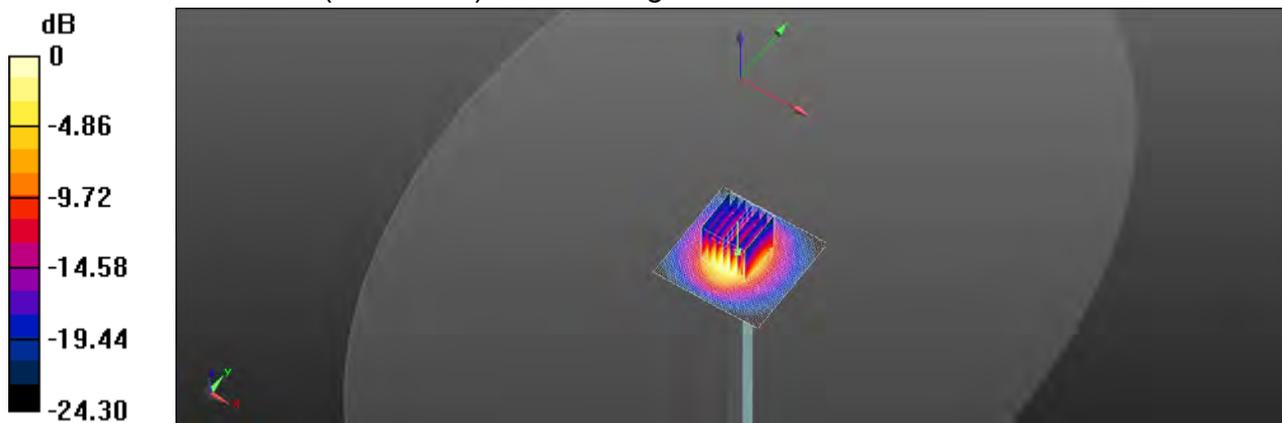
Peak SAR (extrapolated) = 30.9 W/kg

**SAR(1 g) = 14.2 W/kg; SAR(10 g) = 6.29 W/kg**

Smallest distance from peaks to all points 3 dB below = 9 mm

Ratio of SAR at M2 to SAR at M1 = 46%

Maximum value of SAR (measured) = 22.4 W/kg



0 dB = 22.4 W/kg = 13.50 dBW/kg

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Date: 2020/9/7

**Report No. :ES/2020/80024**

**Dipole 750 MHz\_SN:1015**

Communication System: CW; Frequency: 750 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 750 \text{ MHz}$ ;  $\sigma = 0.895 \text{ S/m}$ ;  $\epsilon_r = 42.575$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 21.3°C; Liquid temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - 7509; ConvF(9.94, 9.94, 9.94) @ 750 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Pin=250mW/Area Scan (61x141x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 2.61 W/kg

**Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 54.86 V/m; Power Drift = -0.01 dB

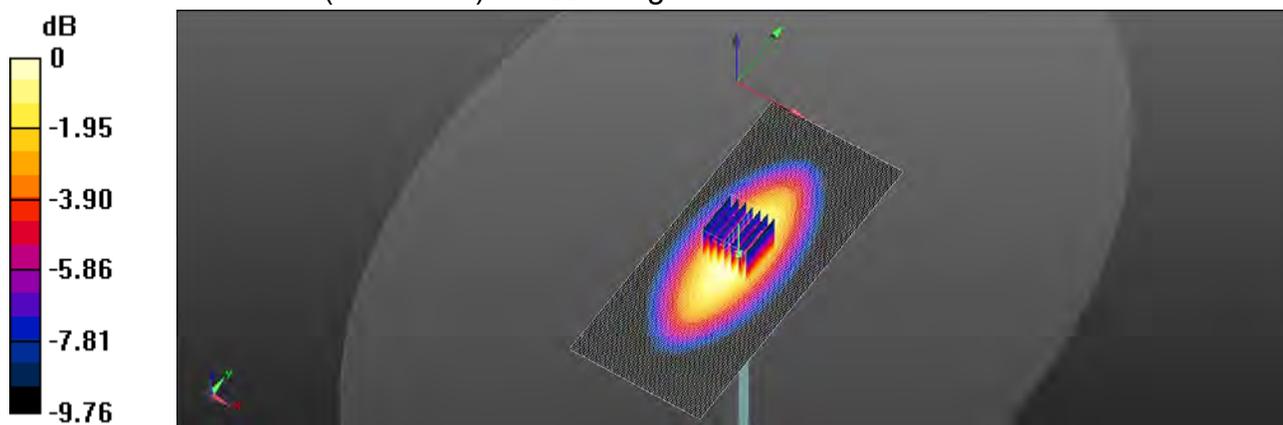
Peak SAR (extrapolated) = 3.02 W/kg

**SAR(1 g) = 2.11 W/kg; SAR(10 g) = 1.42 W/kg**

Smallest distance from peaks to all points 3 dB below = 18 mm

Ratio of SAR at M2 to SAR at M1 = 69.7%

Maximum value of SAR (measured) = 2.63 W/kg



0 dB = 2.63 W/kg = 4.20 dBW/kg

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Date: 2020/9/8

**Report No. :ES/2020/80024**

**Dipole 835 MHz\_SN:4d063**

Communication System: CW; Frequency: 835 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.914 \text{ S/m}$ ;  $\epsilon_r = 42.003$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 21.9°C; Liquid temperature: 22.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(9.73, 9.73, 9.73) @ 835 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Pin=250mW/Area Scan (41x121x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 3.02 W/kg

**Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 57.09 V/m; Power Drift = -0.01 dB

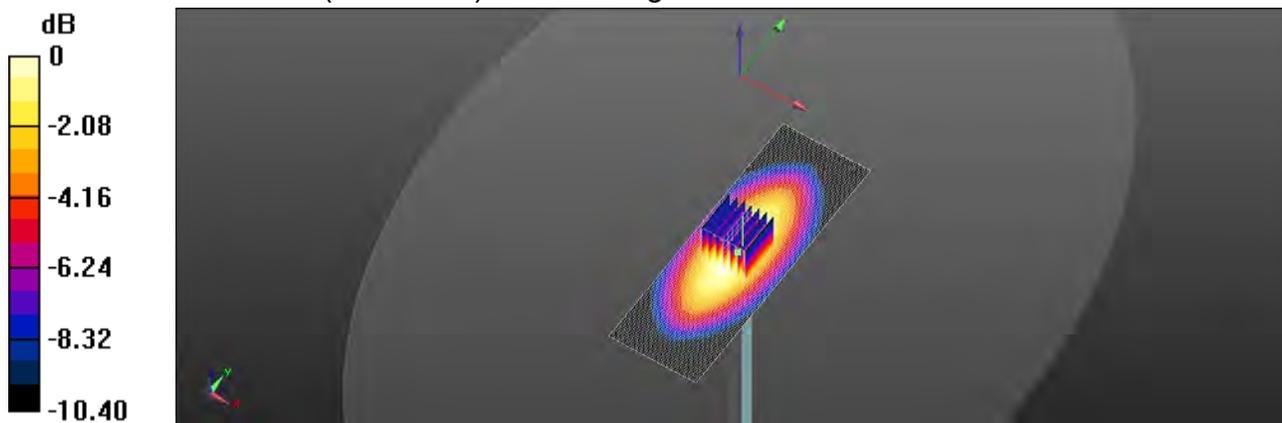
Peak SAR (extrapolated) = 3.55 W/kg

**SAR(1 g) = 2.37 W/kg; SAR(10 g) = 1.54 W/kg**

Smallest distance from peaks to all points 3 dB below = 19 mm

Ratio of SAR at M2 to SAR at M1 = 67.2%

Maximum value of SAR (measured) = 3.04 W/kg



0 dB = 3.04 W/kg = 4.83 dBW/kg

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**Report No. :ES/2020/80024**

**Dipole 1750 MHz\_SN:1008**

Communication System: CW; Frequency: 1750 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 1750 \text{ MHz}$ ;  $\sigma = 1.371 \text{ S/m}$ ;  $\epsilon_r = 40.09$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.1°C; Liquid temperature: 22.5°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(8.34, 8.34, 8.34) @ 1750 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Pin=250mW/Area Scan (61x61x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 12.6 W/kg

**Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 95.21 V/m; Power Drift = 0.01 dB

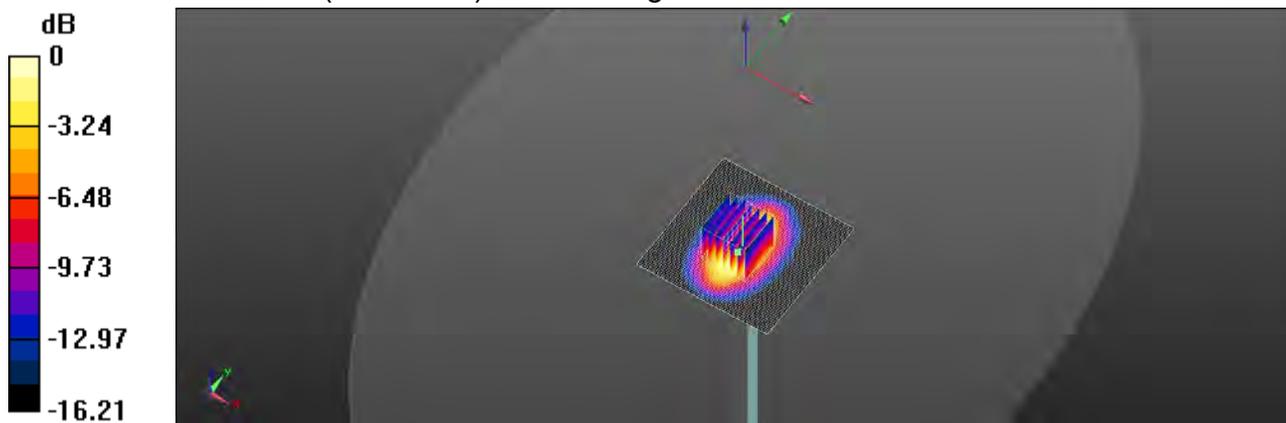
Peak SAR (extrapolated) = 15.5 W/kg

**SAR(1 g) = 8.81 W/kg; SAR(10 g) = 4.79 W/kg**

Smallest distance from peaks to all points 3 dB below = 10 mm

Ratio of SAR at M2 to SAR at M1 = 57.6%

Maximum value of SAR (measured) = 12.4 W/kg



0 dB = 12.4 W/kg = 10.93 dBW/kg

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**Report No. :ES/2020/80024**

**Dipole 1900 MHz\_SN:5d173**

Communication System: CW; Frequency: 1900 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 1900 \text{ MHz}$ ;  $\sigma = 1.399 \text{ S/m}$ ;  $\epsilon_r = 39.433$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.4°C; Liquid temperature: 21.8°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(8.07, 8.07, 8.07) @ 1900 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Pin=250mW/Area Scan (61x61x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 13.6 W/kg

**Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 93.82 V/m; Power Drift = 0.04 dB

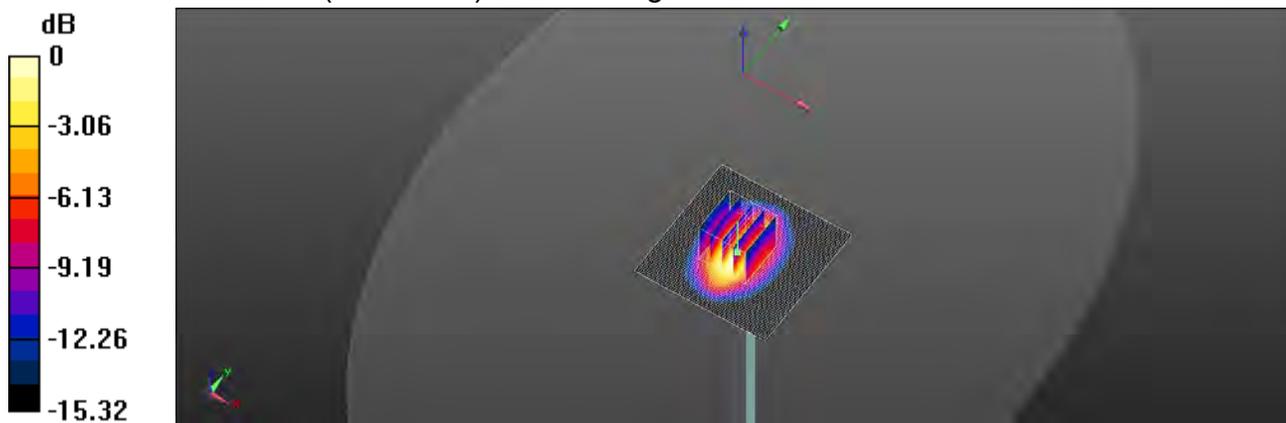
Peak SAR (extrapolated) = 16.8 W/kg

**SAR(1 g) = 9.88 W/kg; SAR(10 g) = 5.46 W/kg**

Smallest distance from peaks to all points 3 dB below = 9.6 mm

Ratio of SAR at M2 to SAR at M1 = 59.6%

Maximum value of SAR (measured) = 13.6 W/kg



0 dB = 13.6 W/kg = 11.34 dBW/kg

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**Report No. :ES/2020/80024**

**Dipole 2300 MHz\_SN:1023**

Communication System: CW; Frequency: 2300 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 2300$  MHz;  $\sigma = 1.663$  S/m;  $\epsilon_r = 38.975$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient temperature: 22.3°C; Liquid temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(7.76, 7.76, 7.76) @ 2300 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Pin=250mW/Area Scan (51x51x1):** Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 18.1 W/kg

**Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 94.42 V/m; Power Drift = 0.10 dB

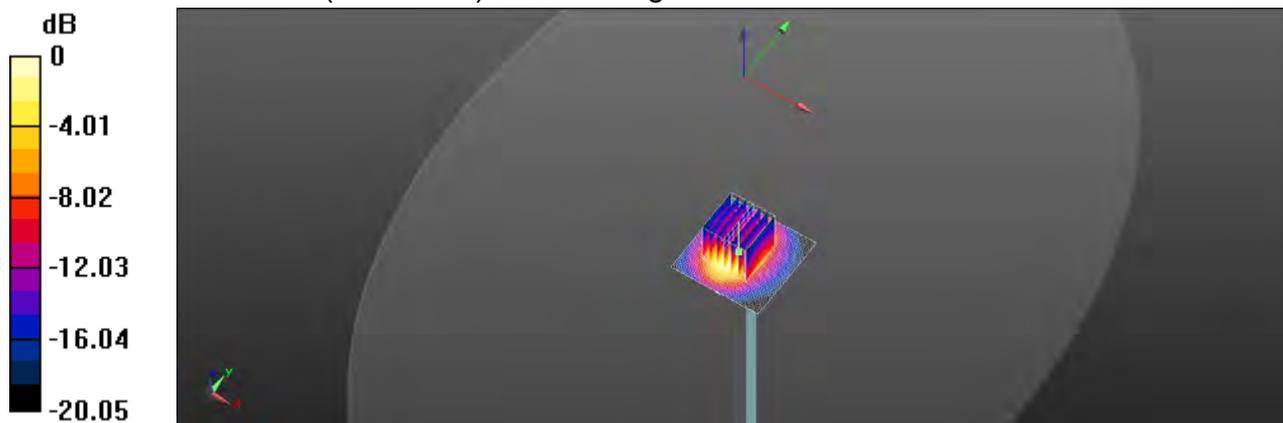
Peak SAR (extrapolated) = 22.4 W/kg

**SAR(1 g) = 11.5 W/kg; SAR(10 g) = 5.6 W/kg**

Smallest distance from peaks to all points 3 dB below = 9 mm

Ratio of SAR at M2 to SAR at M1 = 52.4%

Maximum value of SAR (measured) = 17.2 W/kg



0 dB = 17.2 W/kg = 12.36 dBW/kg

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**Report No. :ES/2020/80024**

**Dipole 2600 MHz\_SN:1005**

Communication System: CW; Frequency: 2600 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 2600 \text{ MHz}$ ;  $\sigma = 1.914 \text{ S/m}$ ;  $\epsilon_r = 38.141$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.7°C; Liquid temperature: 22.3°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(7.23, 7.23, 7.23) @ 2600 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Pin=250mW/Area Scan (61x61x1):** Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 22.3 W/kg

**Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 98.73 V/m; Power Drift = 0.11 dB

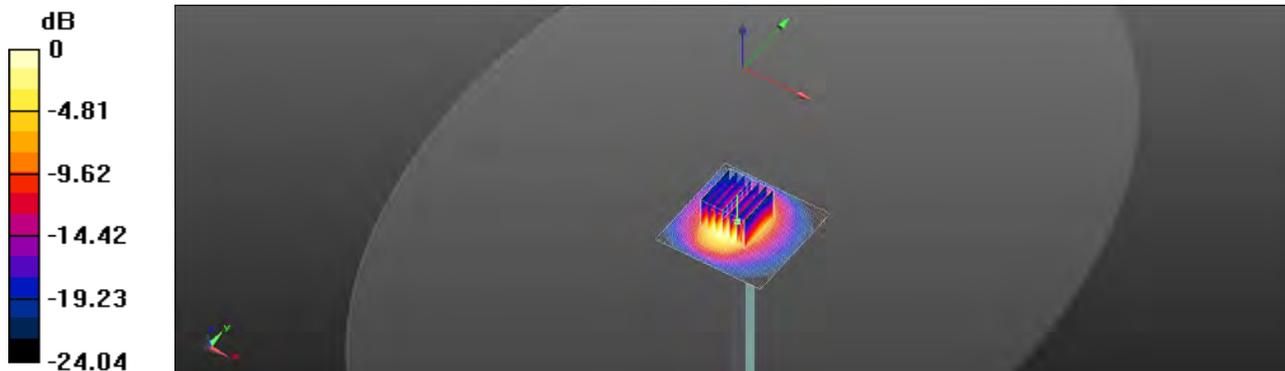
Peak SAR (extrapolated) = 30.8 W/kg

**SAR(1 g) = 14 W/kg; SAR(10 g) = 6.27 W/kg**

Smallest distance from peaks to all points 3 dB below = 9.1 mm

Ratio of SAR at M2 to SAR at M1 = 45.1%

Maximum value of SAR (measured) = 22.1 W/kg



0 dB = 22.1 W/kg = 13.44 dBW/kg

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**Report No. :ES/2020/80024**

**Dipole 750 MHz\_SN:1015**

Communication System: CW; Frequency: 750 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 750 \text{ MHz}$ ;  $\sigma = 0.883 \text{ S/m}$ ;  $\epsilon_r = 42.525$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature:  $21.8^\circ\text{C}$ ; Liquid temperature:  $22.1^\circ\text{C}$

DASY5 Configuration:

- Probe: EX3DV4 - 7509; ConvF(9.94, 9.94, 9.94) @ 750 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Pin=250mW/Area Scan (41x141x1):** Interpolated grid:  $dx=15 \text{ mm}$ ,  $dy=15 \text{ mm}$

Maximum value of SAR (interpolated) =  $2.80 \text{ W/kg}$

**Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $53.86 \text{ V/m}$ ; Power Drift =  $0.02 \text{ dB}$

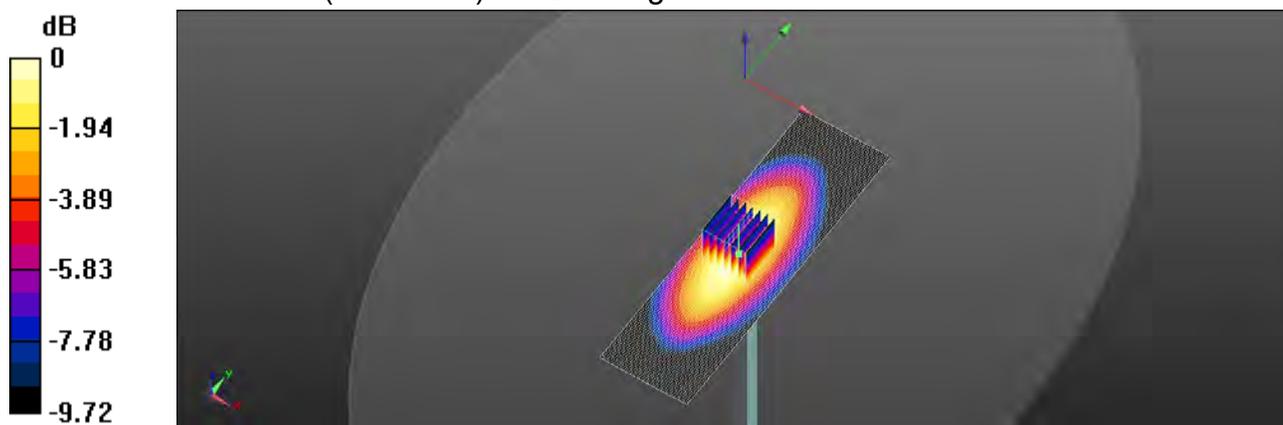
Peak SAR (extrapolated) =  $3.32 \text{ W/kg}$

**SAR(1 g) =  $2.25 \text{ W/kg}$ ; SAR(10 g) =  $1.51 \text{ W/kg}$**

Smallest distance from peaks to all points 3 dB below =  $17 \text{ mm}$

Ratio of SAR at M2 to SAR at M1 =  $68.4\%$

Maximum value of SAR (measured) =  $2.84 \text{ W/kg}$



0 dB =  $2.84 \text{ W/kg}$  =  $4.53 \text{ dBW/kg}$

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**Report No. :ES/2020/80024**

**Dipole 835 MHz\_SN:4d063**

Communication System: CW; Frequency: 835 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.912 \text{ S/m}$ ;  $\epsilon_r = 41.993$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.0°C; Liquid temperature: 22.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(9.73, 9.73, 9.73) @ 835 MHz; Calibrated: 2020/3/25  
Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Pin=250mW/Area Scan (41x121x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 2.83 W/kg

**Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 58.26 V/m; Power Drift = 0.03 dB

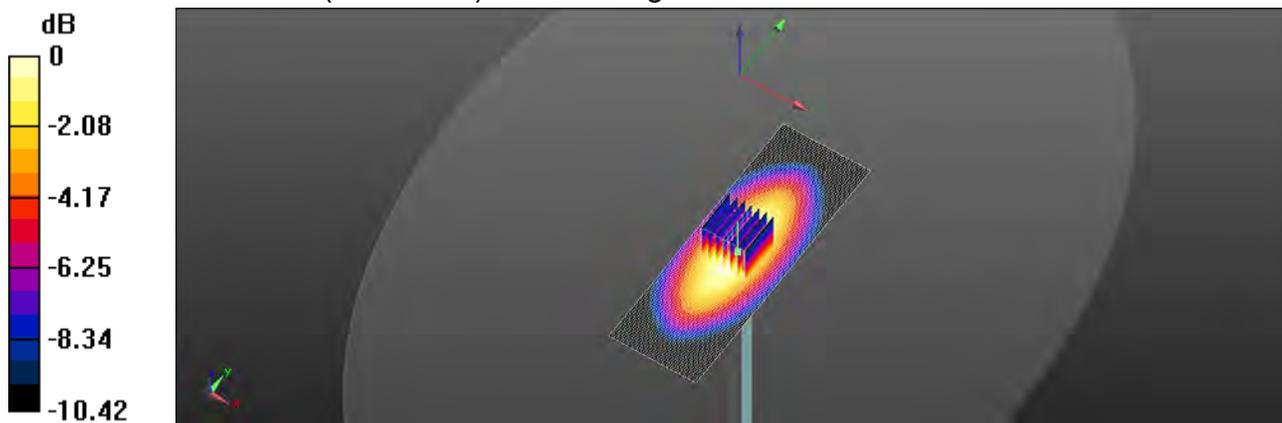
Peak SAR (extrapolated) = 3.31 W/kg

**SAR(1 g) = 2.24 W/kg; SAR(10 g) = 1.48 W/kg**

Smallest distance from peaks to all points 3 dB below = 21.9 mm

Ratio of SAR at M2 to SAR at M1 = 67.7%

Maximum value of SAR (measured) = 2.84 W/kg



0 dB = 2.84 W/kg = 4.53 dBW/kg

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**Report No. :ES/2020/80024**

**Dipole 1750 MHz\_SN:1008**

Communication System: CW; Frequency: 1750 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 1750 \text{ MHz}$ ;  $\sigma = 1.369 \text{ S/m}$ ;  $\epsilon_r = 40.03$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 21.8°C; Liquid temperature: 22.3°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(8.34, 8.34, 8.34) @ 1750 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Pin=250mW/Area Scan (61x61x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 12.8 W/kg

**Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 96.04 V/m; Power Drift = 0.03 dB

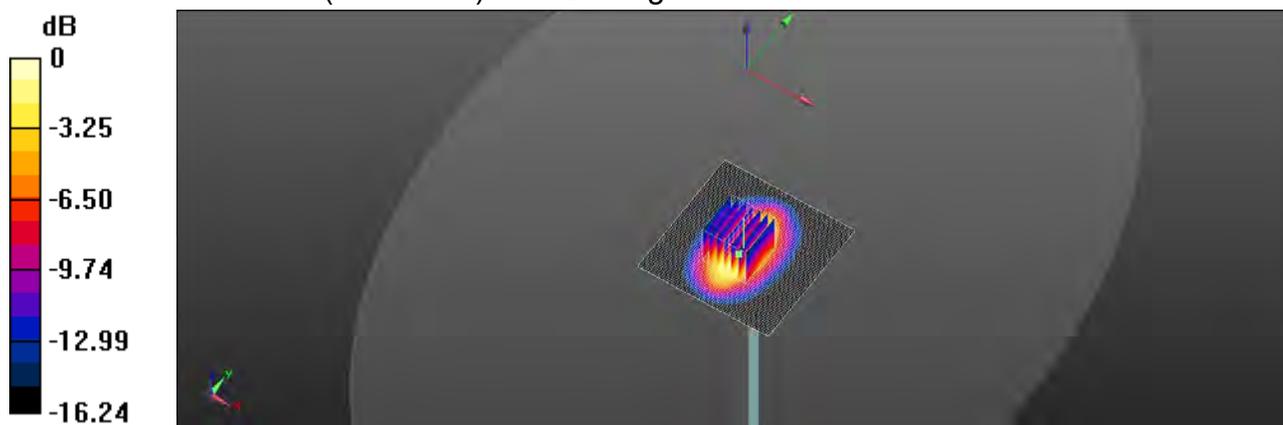
Peak SAR (extrapolated) = 15.8 W/kg

**SAR(1 g) = 8.94 W/kg; SAR(10 g) = 4.85 W/kg**

Smallest distance from peaks to all points 3 dB below = 10 mm

Ratio of SAR at M2 to SAR at M1 = 57.4%

Maximum value of SAR (measured) = 12.5 W/kg



0 dB = 12.5 W/kg = 10.97 dBW/kg

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**Report No. :ES/2020/80024**

**Dipole 1900 MHz\_SN:5d173**

Communication System: CW; Frequency: 1900 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 1900 \text{ MHz}$ ;  $\sigma = 1.397 \text{ S/m}$ ;  $\epsilon_r = 39.403$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 21.7°C; Liquid temperature: 22.1°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(8.07, 8.07, 8.07) @ 1900 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Pin=250mW/Area Scan (61x61x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 14.5 W/kg

**Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 97.81 V/m; Power Drift = 0.03 dB

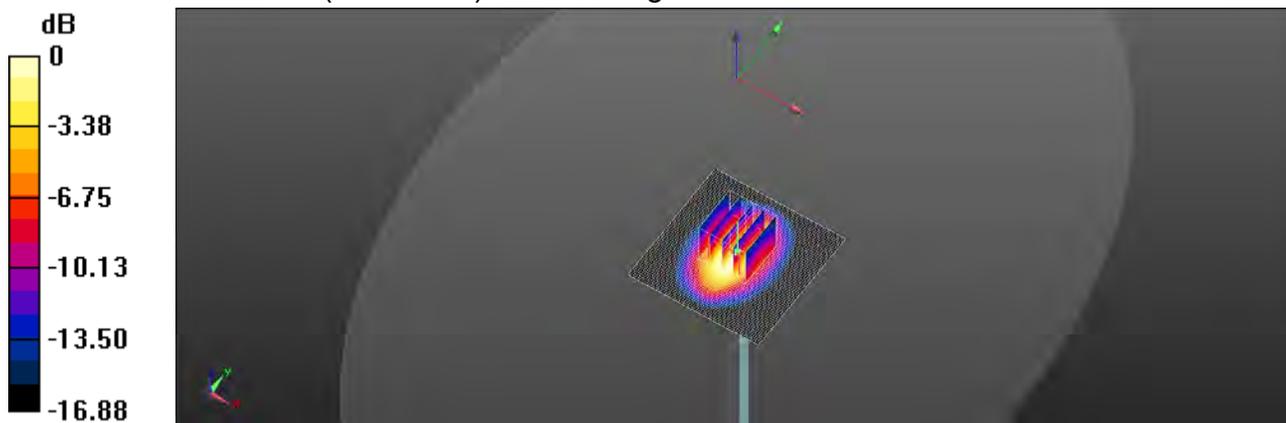
Peak SAR (extrapolated) = 18.1 W/kg

**SAR(1 g) = 10.4 W/kg; SAR(10 g) = 5.57 W/kg**

Smallest distance from peaks to all points 3 dB below = 9.6 mm

Ratio of SAR at M2 to SAR at M1 = 57.7%

Maximum value of SAR (measured) = 14.5 W/kg



0 dB = 14.5 W/kg = 11.61 dBW/kg

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**Report No. :ES/2020/80024**

**Dipole 2300 MHz\_SN:1023**

Communication System: CW; Frequency: 2300 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 2300$  MHz;  $\sigma = 1.659$  S/m;  $\epsilon_r = 38.895$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient temperature: 22.2°C; Liquid temperature: 21.5°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(7.76, 7.76, 7.76) @ 2300 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Pin=250mW/Area Scan (51x51x1):** Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 17.4 W/kg

**Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 94.02 V/m; Power Drift = 0.13 dB

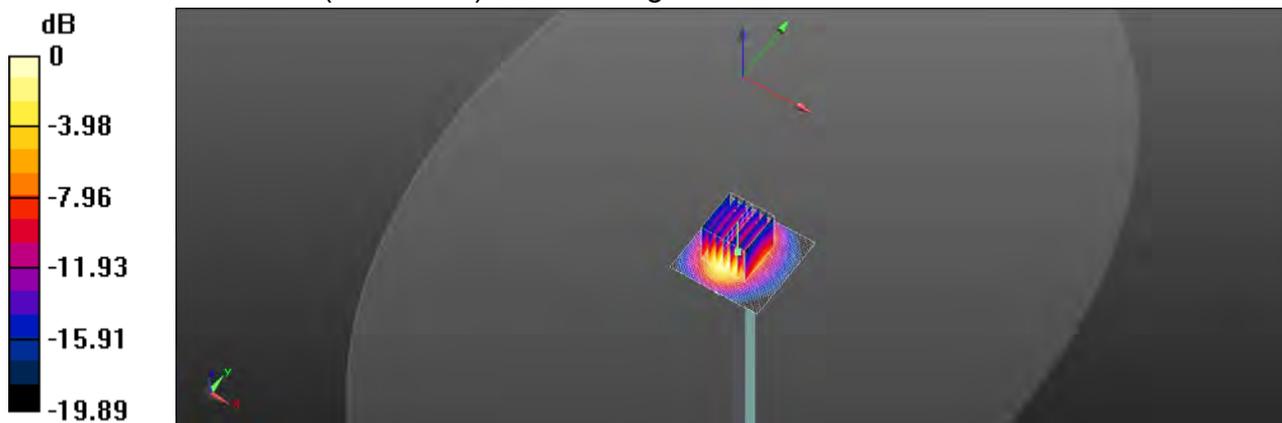
Peak SAR (extrapolated) = 21.4 W/kg

**SAR(1 g) = 11.1 W/kg; SAR(10 g) = 5.41 W/kg**

Smallest distance from peaks to all points 3 dB below = 9.5 mm

Ratio of SAR at M2 to SAR at M1 = 52.8%

Maximum value of SAR (measured) = 16.5 W/kg



0 dB = 16.5 W/kg = 12.17 dBW/kg

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**Report No. :ES/2020/80024**

**Dipole 2600 MHz\_SN:1005**

Communication System: CW; Frequency: 2600 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 2600$  MHz;  $\sigma = 1.908$  S/m;  $\epsilon_r = 38.095$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient temperature: 21.9°C; Liquid temperature: 22.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(7.23, 7.23, 7.23) @ 2600 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Pin=250mW/Area Scan (61x61x1):** Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 22.8 W/kg

**Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 99.98 V/m; Power Drift = 0.11 dB

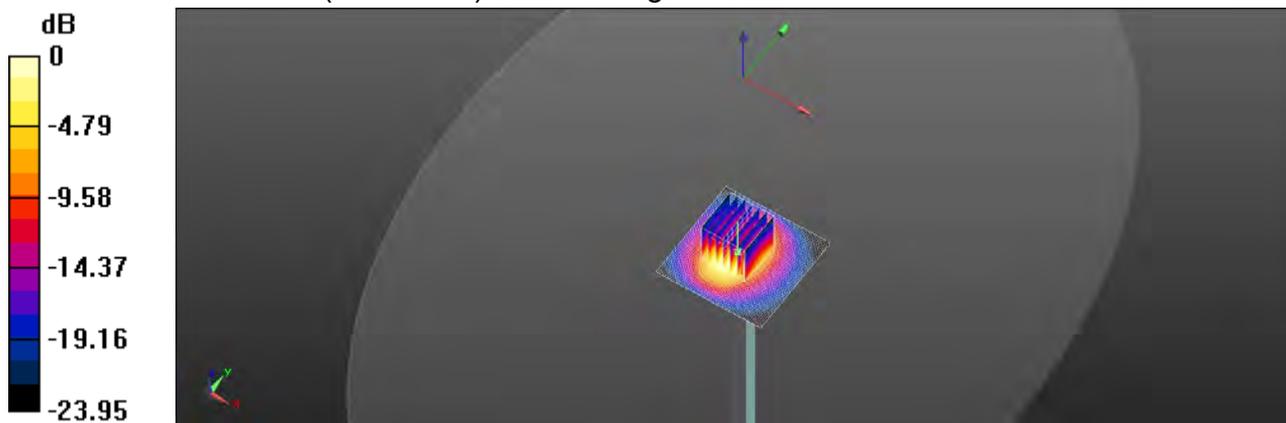
Peak SAR (extrapolated) = 31.4 W/kg

**SAR(1 g) = 14.4 W/kg; SAR(10 g) = 6.43 W/kg**

Smallest distance from peaks to all points 3 dB below = 9.1 mm

Ratio of SAR at M2 to SAR at M1 = 45.2%

Maximum value of SAR (measured) = 22.5 W/kg



0 dB = 22.5 W/kg = 13.52 dBW/kg

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**Report No. :ES/2020/80024**

**Dipole 1750 MHz\_SN:1008**

Communication System: CW; Frequency: 1750 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 1750 \text{ MHz}$ ;  $\sigma = 1.372 \text{ S/m}$ ;  $\epsilon_r = 40.24$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.4°C; Liquid temperature: 21.9°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(8.34, 8.34, 8.34) @ 1750 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Pin=250mW/Area Scan (61x61x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 12.6 W/kg

**Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 92.64 V/m; Power Drift = 0.05 dB

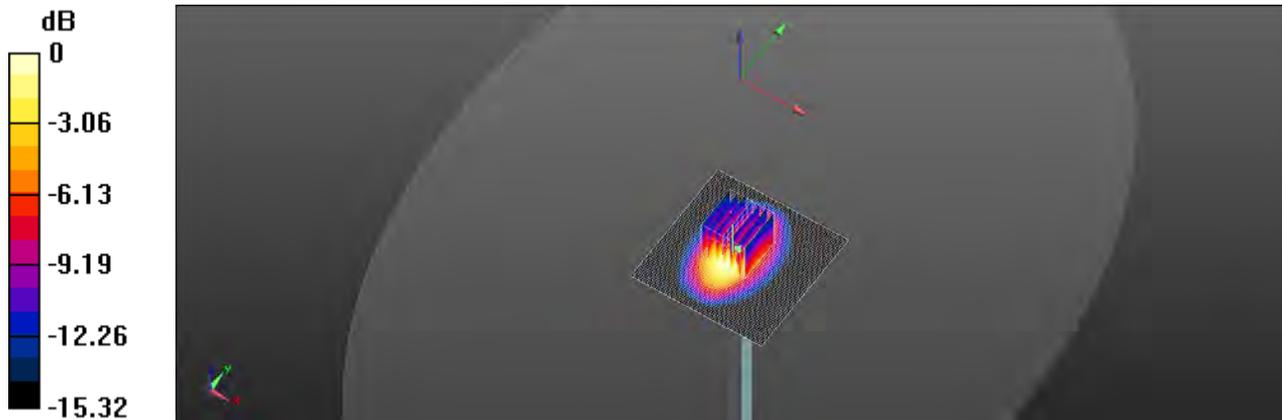
Peak SAR (extrapolated) = 15.2 W/kg

**SAR(1 g) = 9.02 W/kg; SAR(10 g) = 5.03 W/kg**

Smallest distance from peaks to all points 3 dB below = 10.8 mm

Ratio of SAR at M2 to SAR at M1 = 60.4%

Maximum value of SAR (measured) = 12.4 W/kg



0 dB = 12.4 W/kg = 10.93 dBW/kg

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**Report No. :ES/2020/80024**

**Dipole 1900 MHz\_SN:5d173**

Communication System: CW; Frequency: 1900 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.407$  S/m;  $\epsilon_r = 39.543$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient temperature: 22.2°C; Liquid temperature: 21.7°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(8.07, 8.07, 8.07) @ 1900 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Pin=250mW/Area Scan (61x61x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 13.0 W/kg

**Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 93.82 V/m; Power Drift = 0.04 dB

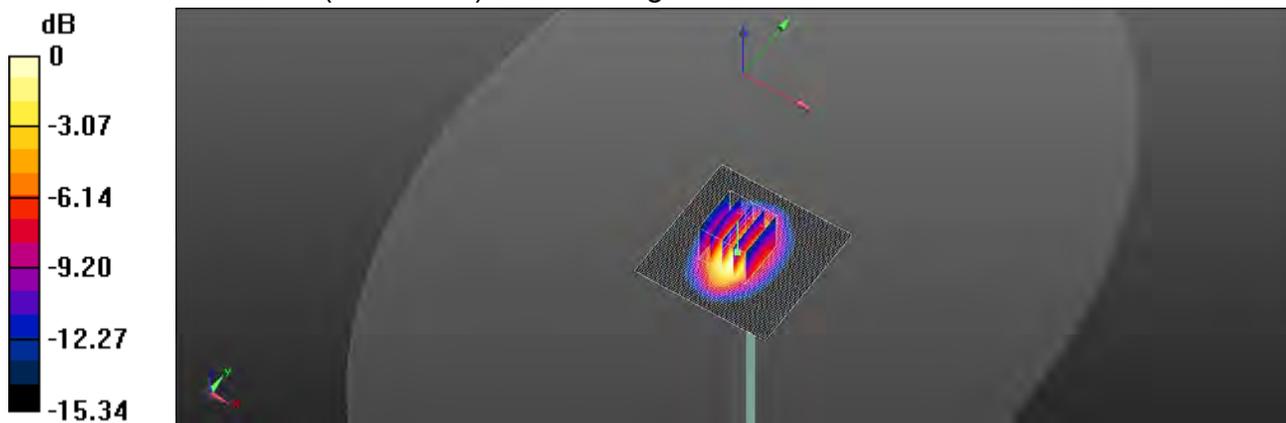
Peak SAR (extrapolated) = 16.1 W/kg

**SAR(1 g) = 9.48 W/kg; SAR(10 g) = 5.24 W/kg**

Smallest distance from peaks to all points 3 dB below = 9.6 mm

Ratio of SAR at M2 to SAR at M1 = 59.6%

Maximum value of SAR (measured) = 13.1 W/kg



0 dB = 13.1 W/kg = 11.17 dBW/kg

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**Report No. :ES/2020/80024**

**Dipole 2600 MHz\_SN:1005**

Communication System: CW; Frequency: 2600 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 2600$  MHz;  $\sigma = 1.915$  S/m;  $\epsilon_r = 38.23$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient temperature: 21.4°C; Liquid temperature: 22.0°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(7.23, 7.23, 7.23) @ 2600 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Pin=250mW/Area Scan (61x61x1):** Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 22.5 W/kg

**Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 99.08 V/m; Power Drift = 0.11 dB

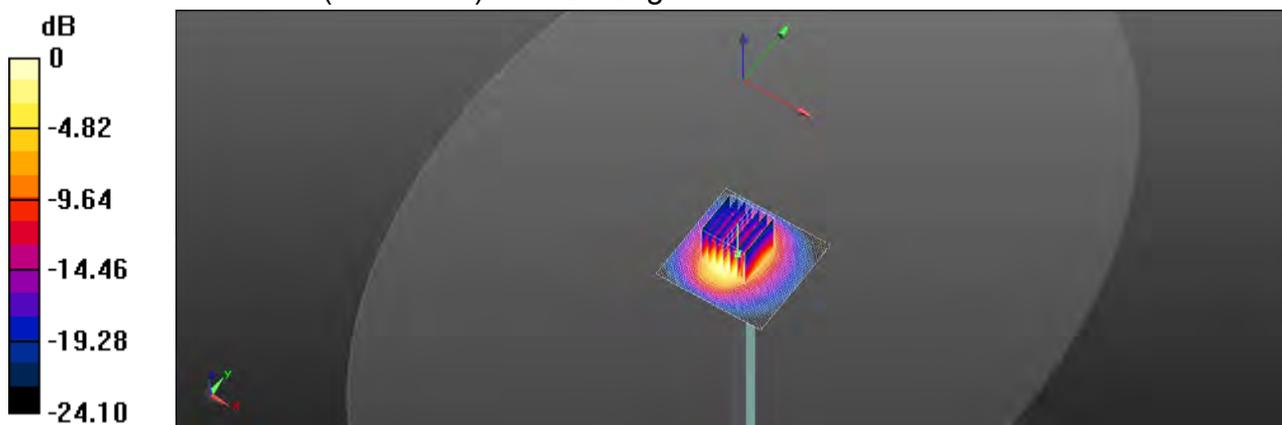
Peak SAR (extrapolated) = 31.0 W/kg

**SAR(1 g) = 14.1 W/kg; SAR(10 g) = 6.31 W/kg**

Smallest distance from peaks to all points 3 dB below = 9 mm

Ratio of SAR at M2 to SAR at M1 = 45.3%

Maximum value of SAR (measured) = 22.3 W/kg



0 dB = 22.3 W/kg = 13.48 dBW/kg

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**Report No. :ES/2020/80024**

**Dipole 3500 MHz\_SN:1009**

Communication System: CW; Frequency: 3500 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 3500 \text{ MHz}$ ;  $\sigma = 2.866 \text{ S/m}$ ;  $\epsilon_r = 37.786$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 21.8°C; Liquid temperature: 21.5°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(6.73, 6.73, 6.73) @ 3500 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Pin=100mW/Area Scan (61x81x1):** Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 13.0 W/kg

**Pin=100mW/Zoom Scan (7x7x8)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=4mm

Reference Value = 60.64 V/m; Power Drift = -0.05 dB

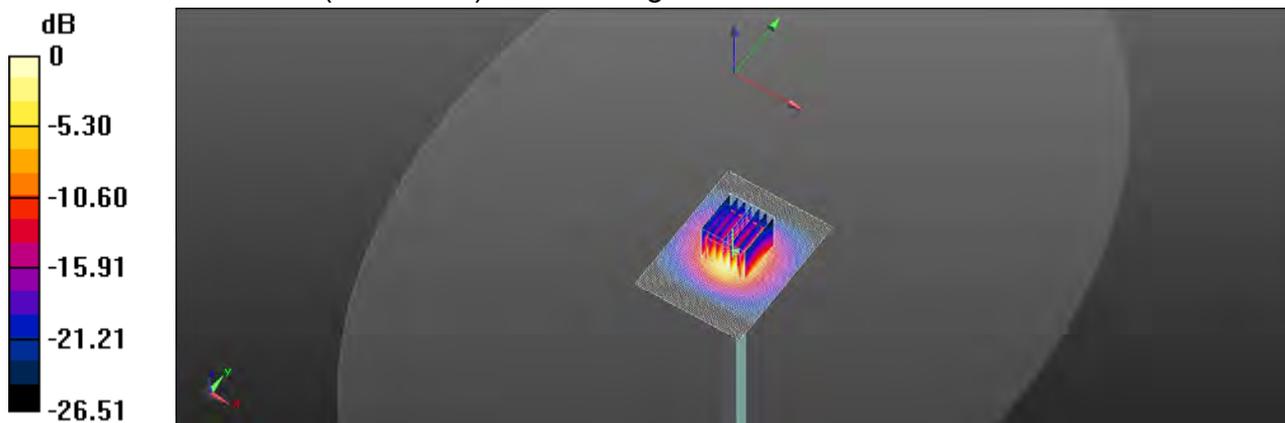
Peak SAR (extrapolated) = 18.2 W/kg

**SAR(1 g) = 6.97 W/kg; SAR(10 g) = 2.48 W/kg**

Smallest distance from peaks to all points 3 dB below = 8.2 mm

Ratio of SAR at M2 to SAR at M1 = 49.3%

Maximum value of SAR (measured) = 12.5 W/kg



0 dB = 12.5 W/kg = 10.97 dBW/kg

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**Report No. :ES/2020/80024**

**Dipole 3700 MHz\_SN:1057**

Communication System: CW; Frequency: 3700 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 3700 \text{ MHz}$ ;  $\sigma = 3.081 \text{ S/m}$ ;  $\epsilon_r = 37.45$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 21.5°C; Liquid temperature: 21.9°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(6.67, 6.67, 6.67) @ 3700 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Pin=100mW/Area Scan (61x71x1):** Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 13.6 W/kg

**Pin=100mW/Zoom Scan (7x7x8)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=4mm

Reference Value = 65.44 V/m; Power Drift = -0.03 dB

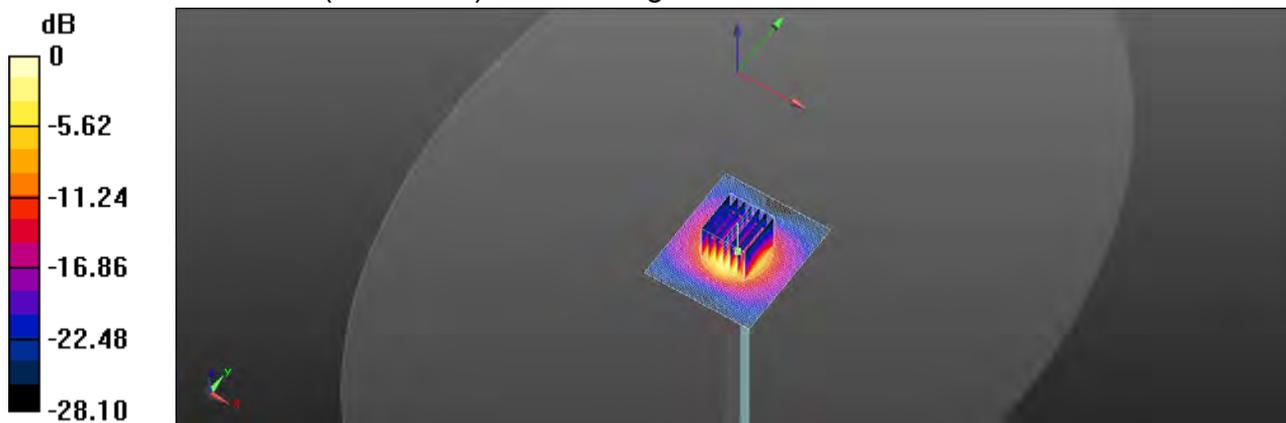
Peak SAR (extrapolated) = 18.6 W/kg

**SAR(1 g) = 6.79 W/kg; SAR(10 g) = 2.5 W/kg**

Smallest distance from peaks to all points 3 dB below = 8.9 mm

Ratio of SAR at M2 to SAR at M1 = 43%

Maximum value of SAR (measured) = 12.0 W/kg



0 dB = 12.0 W/kg = 10.79 dBW/kg

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**Report No. :ES/2020/80024**

**Dipole 1750 MHz\_SN:1008**

Communication System: CW; Frequency: 1750 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.371$  S/m;  $\epsilon_r = 40.103$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient temperature: 21.3°C; Liquid temperature: 21.8°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(8.34, 8.34, 8.34) @ 1750 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Pin=250mW/Area Scan (61x61x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 12.9 W/kg

**Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 97.99 V/m; Power Drift = 0.03 dB

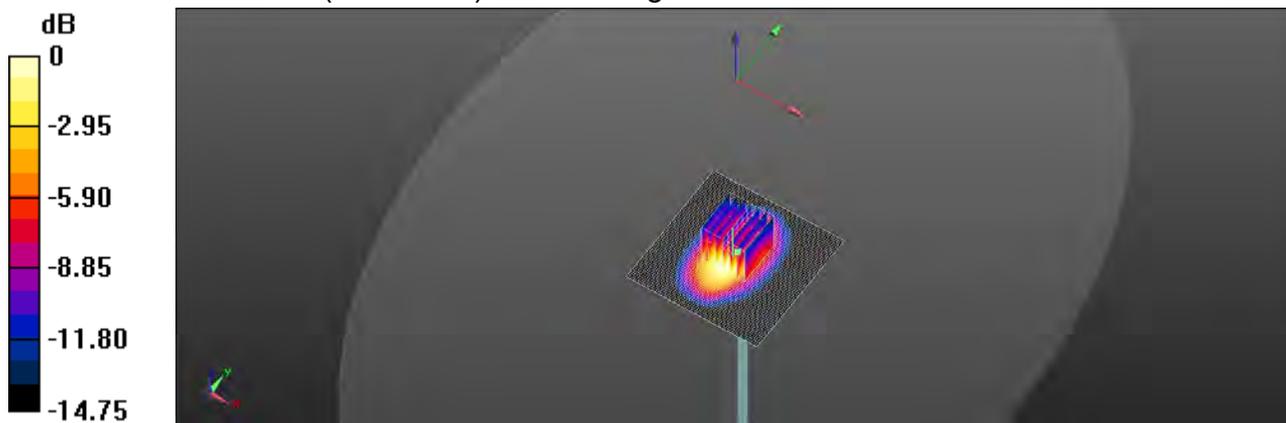
Peak SAR (extrapolated) = 15.7 W/kg

**SAR(1 g) = 9.41 W/kg; SAR(10 g) = 5.01 W/kg**

Smallest distance from peaks to all points 3 dB below = 10.2 mm

Ratio of SAR at M2 to SAR at M1 = 61.5%

Maximum value of SAR (measured) = 12.7 W/kg



0 dB = 12.7 W/kg = 11.04 dBW/kg

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**Report No. :ES/2020/80024**

**Dipole 1900 MHz\_SN:5d173**

Communication System: CW; Frequency: 1900 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 1900 \text{ MHz}$ ;  $\sigma = 1.41 \text{ S/m}$ ;  $\epsilon_r = 39.593$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.4°C; Liquid temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(8.07, 8.07, 8.07) @ 1900 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Pin=250mW/Area Scan (61x61x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 14.0 W/kg

**Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 98.72 V/m; Power Drift = 0.03 dB

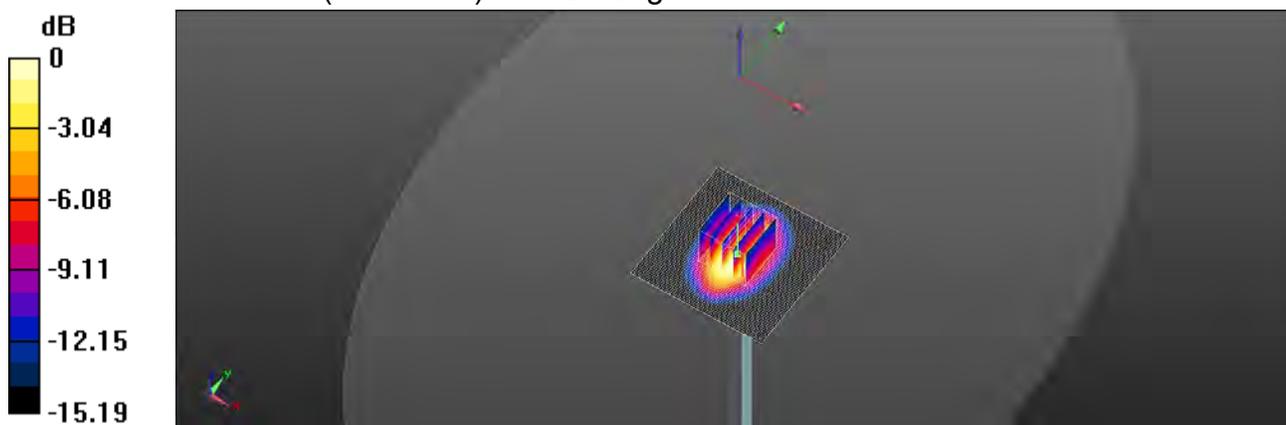
Peak SAR (extrapolated) = 17.3 W/kg

**SAR(1 g) = 10.1 W/kg; SAR(10 g) = 5.36 W/kg**

Smallest distance from peaks to all points 3 dB below = 10.1 mm

Ratio of SAR at M2 to SAR at M1 = 59.5%

Maximum value of SAR (measured) = 14.0 W/kg



0 dB = 14.0 W/kg = 11.46 dBW/kg

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**Report No. :ES/2020/80024**

**Dipole 2600 MHz\_SN:1005**

Communication System: CW; Frequency: 2600 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 2600 \text{ MHz}$ ;  $\sigma = 1.923 \text{ S/m}$ ;  $\epsilon_r = 38.189$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.2°C; Liquid temperature: 21.8°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(7.23, 7.23, 7.23) @ 2600 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Pin=250mW/Area Scan (61x61x1):** Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 23.5 W/kg

**Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 101.2 V/m; Power Drift = 0.11 dB

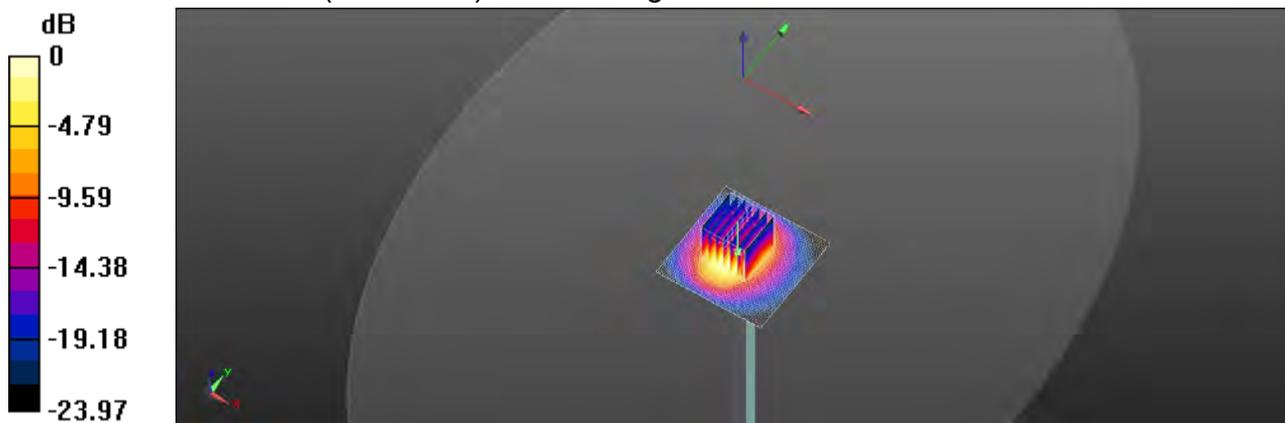
Peak SAR (extrapolated) = 32.3 W/kg

**SAR(1 g) = 14.8 W/kg; SAR(10 g) = 6.62 W/kg**

Smallest distance from peaks to all points 3 dB below = 9.1 mm

Ratio of SAR at M2 to SAR at M1 = 45.3%

Maximum value of SAR (measured) = 23.2 W/kg



0 dB = 23.2 W/kg = 13.65 dBW/kg

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**Report No. :ES/2020/80024**

**Dipole 3500 MHz\_SN:1009**

Communication System: CW; Frequency: 3500 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 3500 \text{ MHz}$ ;  $\sigma = 2.88 \text{ S/m}$ ;  $\epsilon_r = 37.966$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 21.5°C; Liquid temperature: 21.9°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(6.73, 6.73, 6.73) @ 3500 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Pin=100mW/Area Scan (61x71x1):** Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 12.0 W/kg

**Pin=100mW/Zoom Scan (7x7x8)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=4mm

Reference Value = 60.85 V/m; Power Drift = 0.09 dB

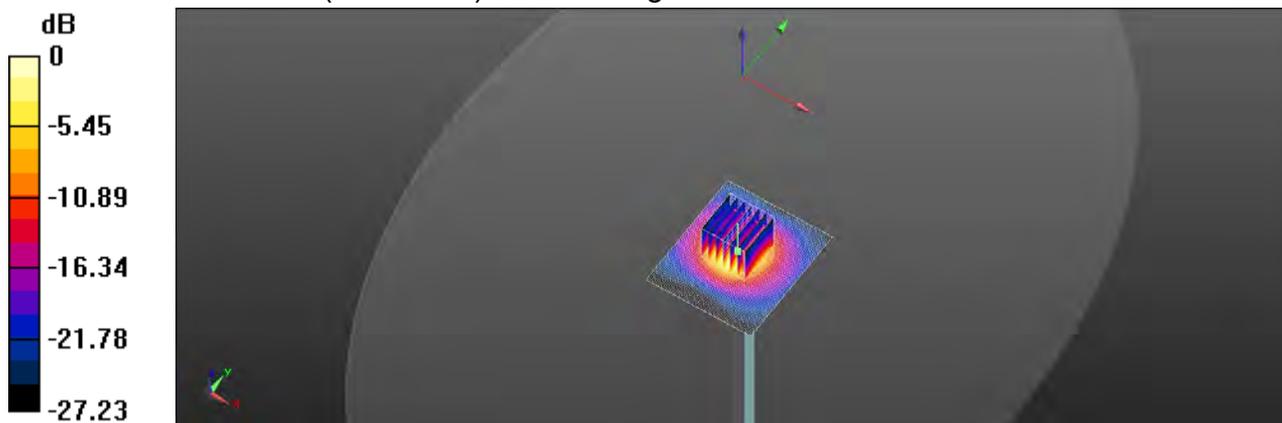
Peak SAR (extrapolated) = 17.3 W/kg

**SAR(1 g) = 6.62 W/kg; SAR(10 g) = 2.52 W/kg**

Smallest distance from peaks to all points 3 dB below = 8.9 mm

Ratio of SAR at M2 to SAR at M1 = 45.1%

Maximum value of SAR (measured) = 11.4 W/kg



0 dB = 11.4 W/kg = 10.57 dBW/kg

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**Report No. :ES/2020/80024**

**Dipole 3700 MHz\_SN:1057**

Communication System: CW; Frequency: 3700 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 3700 \text{ MHz}$ ;  $\sigma = 3.087 \text{ S/m}$ ;  $\epsilon_r = 37.562$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.6°C; Liquid temperature: 22.1°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(6.67, 6.67, 6.67) @ 3700 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Pin=100mW/Area Scan (61x71x1):** Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 13.8 W/kg

**Pin=100mW/Zoom Scan (7x7x8)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=4mm

Reference Value = 65.65 V/m; Power Drift = -0.01 dB

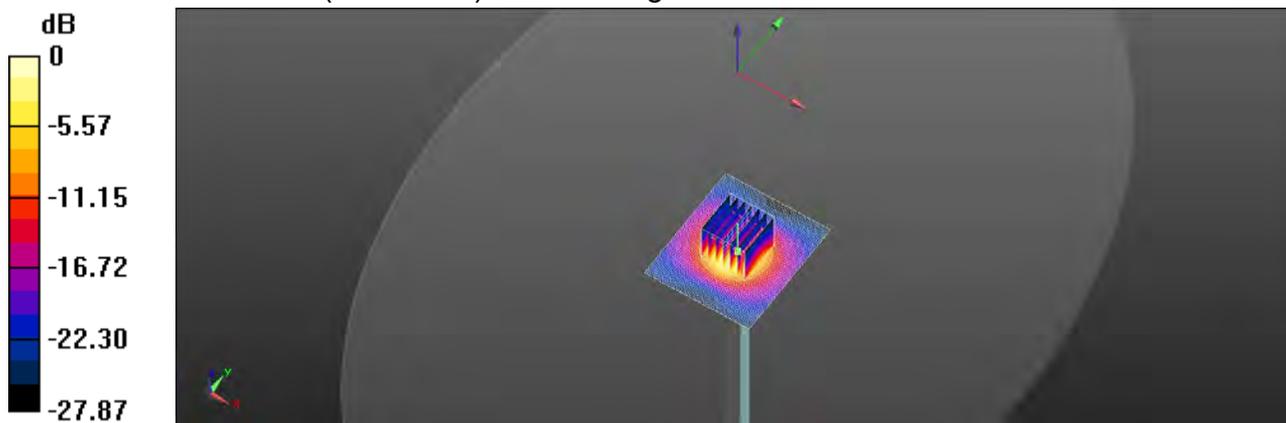
Peak SAR (extrapolated) = 18.7 W/kg

**SAR(1 g) = 6.95 W/kg; SAR(10 g) = 2.57 W/kg**

Smallest distance from peaks to all points 3 dB below = 8.9 mm

Ratio of SAR at M2 to SAR at M1 = 43.4%

Maximum value of SAR (measured) = 12.2 W/kg



0 dB = 12.2 W/kg = 10.86 dBW/kg

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**Report No. :ES/2020/80024**

**Dipole 1750 MHz\_SN:1008**

Communication System: CW; Frequency: 1750 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 1750 \text{ MHz}$ ;  $\sigma = 1.373 \text{ S/m}$ ;  $\epsilon_r = 40.06$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 21.5°C; Liquid temperature: 21.9°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(8.34, 8.34, 8.34) @ 1750 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Pin=250mW/Area Scan (61x61x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 12.8 W/kg

**Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 93.62 V/m; Power Drift = 0.09 dB

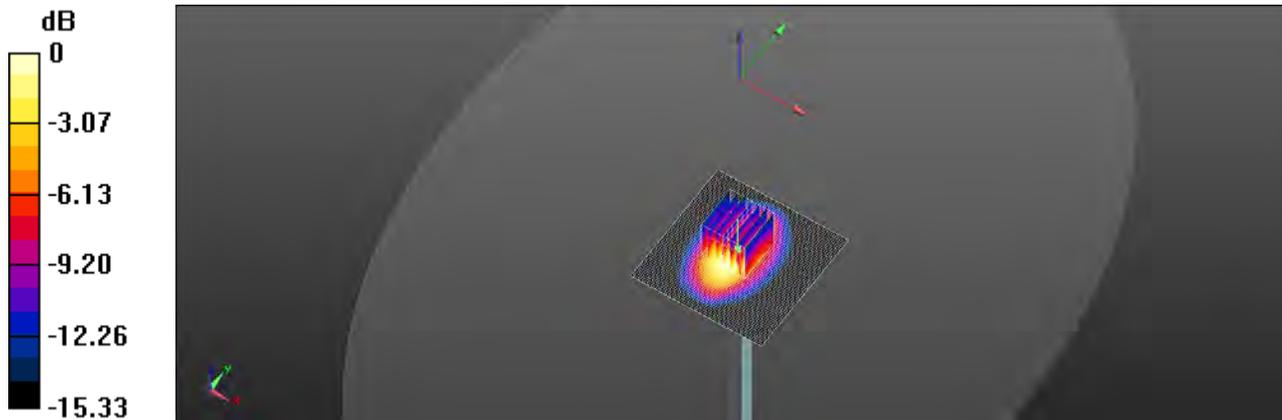
Peak SAR (extrapolated) = 15.6 W/kg

**SAR(1 g) = 9.26 W/kg; SAR(10 g) = 5.03 W/kg**

Smallest distance from peaks to all points 3 dB below = 10.2 mm

Ratio of SAR at M2 to SAR at M1 = 60.5%

Maximum value of SAR (measured) = 12.7 W/kg



0 dB = 12.7 W/kg = 11.04 dBW/kg

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**Report No. :ES/2020/80024**

**Dipole 1900 MHz\_SN:5d173**

Communication System: CW; Frequency: 1900 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 1900 \text{ MHz}$ ;  $\sigma = 1.402 \text{ S/m}$ ;  $\epsilon_r = 39.493$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 21.8°C; Liquid temperature: 21.5°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(8.07, 8.07, 8.07) @ 1900 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Pin=250mW/Area Scan (61x61x1):** Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 14.0 W/kg

**Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 98.72 V/m; Power Drift = 0.03 dB

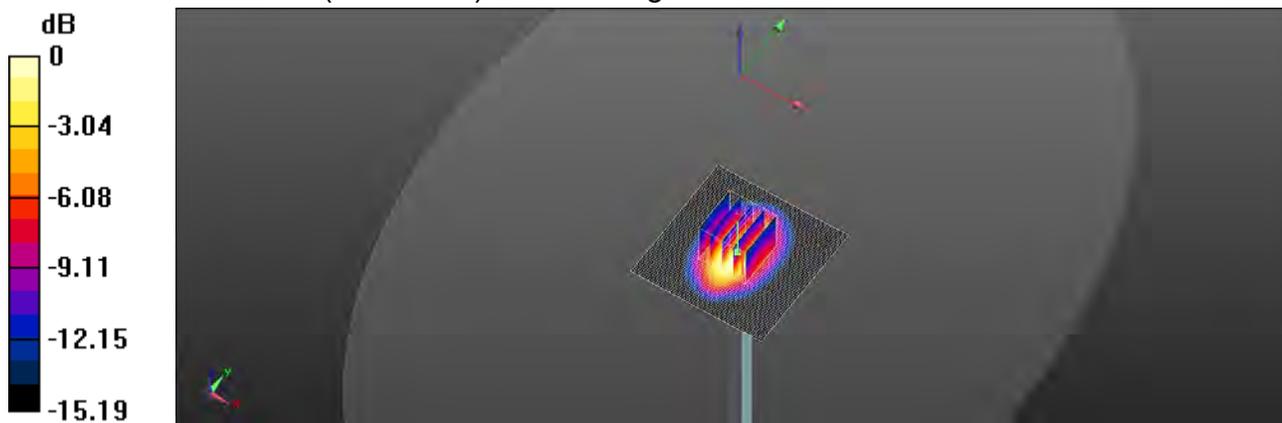
Peak SAR (extrapolated) = 17.3 W/kg

**SAR(1 g) = 10.1 W/kg; SAR(10 g) = 5.26 W/kg**

Smallest distance from peaks to all points 3 dB below = 10.1 mm

Ratio of SAR at M2 to SAR at M1 = 59.5%

Maximum value of SAR (measured) = 14.0 W/kg



0 dB = 14.0 W/kg = 11.46 dBW/kg

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**Report No. :ES/2020/80024**

**Dipole 2600 MHz\_SN:1005**

Communication System: CW; Frequency: 2600 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 2600 \text{ MHz}$ ;  $\sigma = 1.922 \text{ S/m}$ ;  $\epsilon_r = 38.205$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.7°C; Liquid temperature: 22.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(7.23, 7.23, 7.23) @ 2600 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Pin=250mW/Area Scan (61x61x1):** Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 23.2 W/kg

**Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 100.5 V/m; Power Drift = 0.11 dB

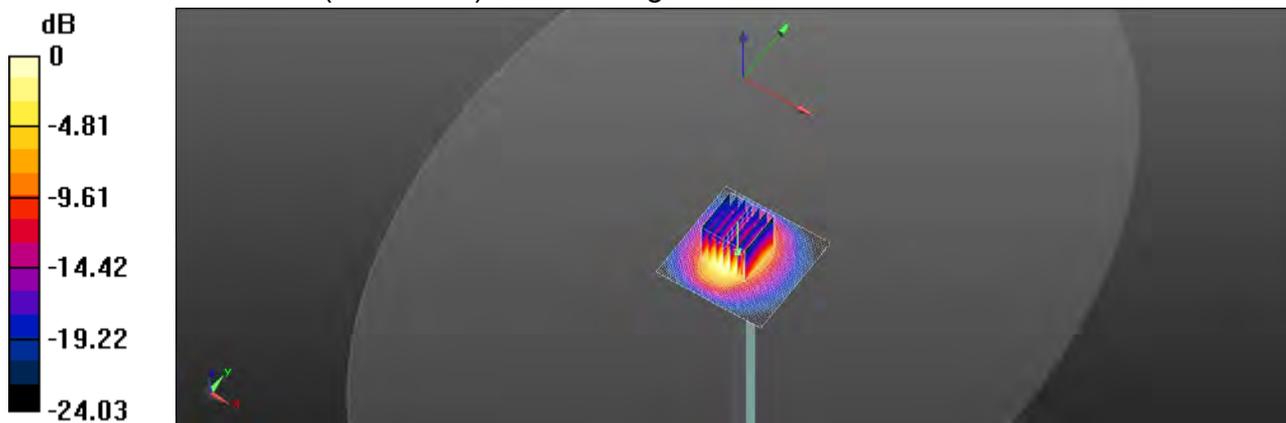
Peak SAR (extrapolated) = 31.9 W/kg

**SAR(1 g) = 14.5 W/kg; SAR(10 g) = 6.51 W/kg**

Smallest distance from peaks to all points 3 dB below = 9.1 mm

Ratio of SAR at M2 to SAR at M1 = 45.2%

Maximum value of SAR (measured) = 22.9 W/kg



0 dB = 22.9 W/kg = 13.60 dBW/kg

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**Report No. :ES/2020/80024**
**Dipole 3500 MHz\_SN:1009**

Communication System: CW; Frequency: 3500 MHz; Duty cycle= 1:1

 Medium parameters used:  $f = 3500$  MHz;  $\sigma = 2.866$  S/m;  $\epsilon_r = 37.966$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient temperature: 22.3°C; Liquid temperature: 22.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(6.73, 6.73, 6.73) @ 3500 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Pin=100mW/Area Scan (61x71x1):** Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 11.7 W/kg

**Pin=100mW/Zoom Scan (7x7x8)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=4mm

Reference Value = 60.21 V/m; Power Drift = 0.06 dB

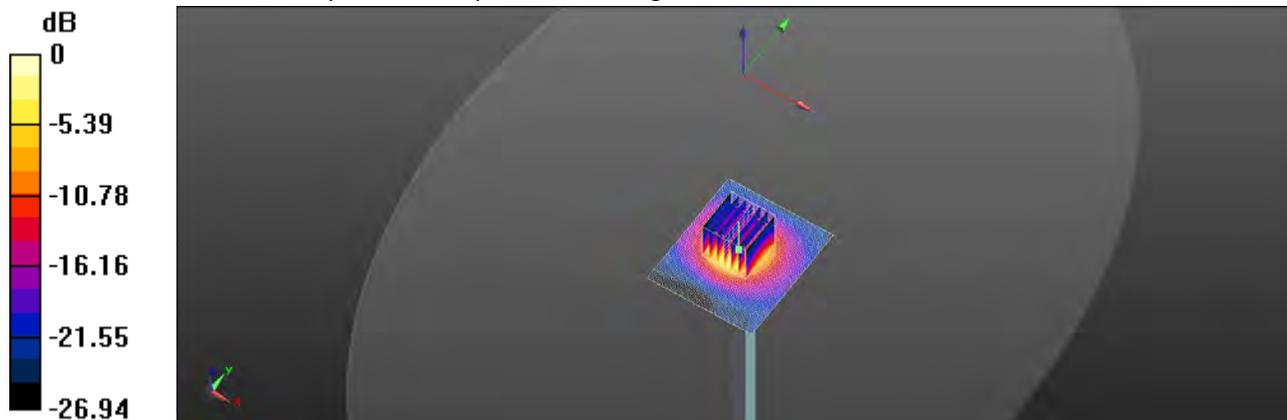
Peak SAR (extrapolated) = 17.4 W/kg

**SAR(1 g) = 6.49 W/kg; SAR(10 g) = 2.45 W/kg**

Smallest distance from peaks to all points 3 dB below = 8.9 mm

Ratio of SAR at M2 to SAR at M1 = 44.2%

Maximum value of SAR (measured) = 11.1 W/kg



0 dB = 11.1 W/kg = 10.45 dBW/kg

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**Report No. :ES/2020/80024**

**Dipole 3700 MHz\_SN:1057**

Communication System: CW; Frequency: 3700 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 3700 \text{ MHz}$ ;  $\sigma = 3.095 \text{ S/m}$ ;  $\epsilon_r = 37.55$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 21.4°C; Liquid temperature: 22.3°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7509; ConvF(6.67, 6.67, 6.67) @ 3700 MHz; Calibrated: 2020/3/25
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn877; Calibrated: 2020/3/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Pin=100mW/Area Scan (61x71x1):** Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 13.7 W/kg

**Pin=100mW/Zoom Scan (7x7x8)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=4mm

Reference Value = 65.47 V/m; Power Drift = 0.02 dB

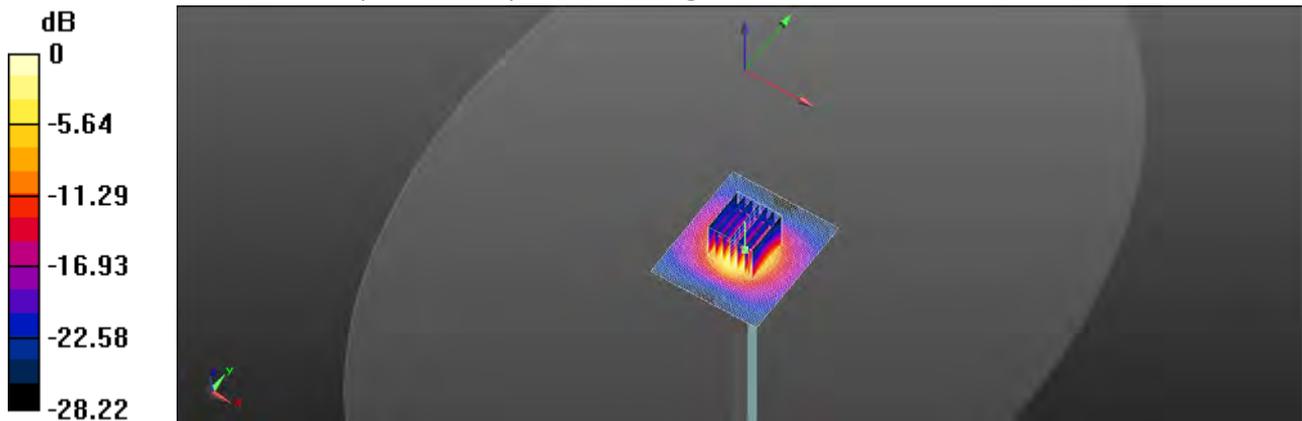
Peak SAR (extrapolated) = 18.7 W/kg

**SAR(1 g) = 6.88 W/kg; SAR(10 g) = 2.54 W/kg**

Smallest distance from peaks to all points 3 dB below = 8.9 mm

Ratio of SAR at M2 to SAR at M1 = 43.1%

Maximum value of SAR (measured) = 12.1 W/kg



0 dB = 12.1 W/kg = 10.83 dBW/kg

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## 7. Uncertainty Budget

Measurement Uncertainty evaluation template for DUT SAR test (3-6G)

A	c	D	e		f	g	h=c * f / e	i=c * g / e	k
Source of Uncertainty	Tolerance/ Uncertainty	Probability Distributio	Div	Div Value	ci (1g)	ci (10g)	Standard uncertainty	Standard uncertainty	vi, or Veff
<b>Measurement system</b>									
Probe calibration	6.55%	N	1	1	1	1	6.55%	6.55%	∞
<i>Isotropy , Axial</i>	3.50%	R	$\sqrt{3}$	1.732	1	1	2.02%	2.02%	∞
<i>Isotropy, Hemispherical</i>	9.60%	R	$\sqrt{3}$	1.732	1	1	5.54%	5.54%	∞
Modulation Response	2.40%	R	$\sqrt{3}$	1.732	1	1	1.40%	1.40%	∞
Boundary Effect	1.00%	R	$\sqrt{3}$	1.732	1	1	0.58%	0.58%	∞
Linearity	4.70%	R	$\sqrt{3}$	1.732	1	1	2.71%	2.71%	∞
Detection Limits	1.00%	R	$\sqrt{3}$	1.732	1	1	0.58%	0.58%	∞
Readout Electronics	0.30%	N	1	1	1	1	0.30%	0.30%	∞
Response time	0.80%	R	$\sqrt{3}$	1.732	1	1	0.46%	0.46%	∞
Integration Time	2.60%	R	$\sqrt{3}$	1.732	1	1	1.50%	1.50%	∞
<b>Measurement drift (class A evaluation)</b>	1.75%	R	$\sqrt{3}$	1.732	1	1	1.01%	1.01%	∞
RF ambient condition - noise	3.00%	R	$\sqrt{3}$	1.732	1	1	1.73%	1.73%	∞
RF ambient conditions - reflections	3.00%	R	$\sqrt{3}$	1.732	1	1	1.73%	1.73%	∞
Probe positioner Mechanical restrictions	0.40%	R	$\sqrt{3}$	1.732	1	1	0.23%	0.23%	∞
Probe Positioning with respect to phantom shell	2.90%	R	$\sqrt{3}$	1.732	1	1	1.67%	1.67%	∞
Post-processing	1.00%	R	$\sqrt{3}$	1.732	1	1	0.58%	0.58%	∞
Max SAR Eval	1.00%	R	$\sqrt{3}$	1.732	1	1	0.58%	0.58%	∞
<b>Test Sample related</b>									
Test sample positioning	2.90%	N	1	1	1	1	2.90%	2.90%	M-1
Device Holder Uncertainty	3.60%	N	1	1	1	1	3.60%	3.60%	M-1
Drift of output power	5.00%	R	$\sqrt{3}$	1.732	1	1	2.89%	2.89%	∞
<b>Phantom and Setup</b>									
Phantom Uncertainty	4.00%	R	$\sqrt{3}$	1.732	1	1	2.31%	2.31%	∞
Liquid permittivity (mea.)	0.66%	N	1	1	0.64	0.43	0.42%	0.28%	M
Liquid Conductivity (mea.)	2.65%	N	1	1	0.6	0.49	1.59%	1.30%	M
Combined standard uncertainty		RSS					11.83%	11.78%	
Expant uncertainty (95% confidence interval), K=2							23.66%	23.56%	

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Measurement Uncertainty evaluation template for DUT SAR test (0.3-3G)

A	c	D	e		f	g	h=c * f / e	i=c * g / e	k
Source of Uncertainty	Tolerance/ Uncertainty	Probability Distributio	Div	Div Value	ci (1g)	ci (10g)	Standard uncertainty	Standard uncertainty	vi, or Veff
<b>Measurement system</b>									
Probe calibration	6.00%	N	1	1	1	1	6.00%	6.00%	∞
<i>Isotropy, Axial</i>	3.50%	R	√3	1.732	1	1	2.02%	2.02%	∞
<i>Isotropy, Hemispherical</i>	9.60%	R	√3	1.732	1	1	5.54%	5.54%	∞
Modulation Response	2.40%	R	√3	1.732	1	1	1.40%	1.40%	∞
Boundary Effect	1.00%	R	√3	1.732	1	1	0.58%	0.58%	∞
Linearity	4.70%	R	√3	1.732	1	1	2.71%	2.71%	∞
Detection Limits	1.00%	R	√3	1.732	1	1	0.58%	0.58%	∞
Readout Electronics	0.30%	N	1	1	1	1	0.30%	0.30%	∞
Response time	0.80%	R	√3	1.732	1	1	0.46%	0.46%	∞
Integration Time	2.60%	R	√3	1.732	1	1	1.50%	1.50%	∞
<b>Measurement drift (class A evaluation)</b>	1.75%	R	√3	1.732	1	1	1.01%	1.01%	∞
RF ambient condition - noise	3.00%	R	√3	1.732	1	1	1.73%	1.73%	∞
RF ambient conditions - reflections	3.00%	R	√3	1.732	1	1	1.73%	1.73%	∞
Probe positioner Mechanical restrictions	0.40%	R	√3	1.732	1	1	0.23%	0.23%	∞
Probe Positioning with respect to phantom shell	2.90%	R	√3	1.732	1	1	1.67%	1.67%	∞
Post-processing	1.00%	R	√3	1.732	1	1	0.58%	0.58%	∞
Max SAR Eval	1.00%	R	√3	1.732	1	1	0.58%	0.58%	∞
<b>Test Sample related</b>									
Test sample positioning	2.90%	N	1	1	1	1	2.90%	2.90%	M-1
Device Holder Uncertainty	3.60%	N	1	1	1	1	3.60%	3.60%	M-1
Drift of output power	5.00%	R	√3	1.732	1	1	2.89%	2.89%	∞
<b>Phantom and Setup</b>									
Phantom Uncertainty	4.00%	R	√3	1.732	1	1	2.31%	2.31%	∞
Liquid permittivity (mea.)	2.55%	N	1	1	0.64	0.43	1.63%	1.10%	M
Liquid Conductivity (mea.)	3.91%	N	1	1	0.6	0.49	2.35%	1.92%	M
Combined standard uncertainty		RSS					11.77%	11.62%	
Expant uncertainty (95% confidence interval), K=2							23.54%	23.24%	

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## Appendixes

**Refer to separated files for the following appendixes.**

**ES202080024 SAR\_Appendix A Photographs**

**ES202080024 SAR\_Appendix B DAE & Probe Cal. Certificate**

**ES202080024 SAR\_Appendix C Phantom Description & Dipole Cal. Certificate**

**- End of report -**

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