

47 CFR PART 2
47 CFR PART 22 H
47 CFR PART 27
RSS-Gen Issue 5
RSS-132 Issue 4
RSS-195 Issue 2
RSS-199 Issue 4

TEST REPORT

For

GMLINK IoT Gateway

MODEL NUMBER: GBM-NL100

REPORT NUMBER: 4791227002-1-RF-1

ISSUE DATE: December 3, 2024

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Prepared for

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Revision History

Rev.	Issue Date	Revisions	Revised By
V0	Oct. 23, 2024	Initial Issue	\
V1	Nov. 6, 2024	Updated by following CO' comments	James Qin
V2	Nov. 8, 2024	Updated by following CO' comments	James Qin
V3	Nov. 12, 2024	Updated by following CO' comments	James Qin
V4	Nov. 14, 2024	Antenna type updated	James Qin
V5	Nov. 26, 2024	Updated by following CO' comments	James Qin
V6	December 3, 2024	Updated by following CO' comments	James Qin

Note:

- 1.This test report is only published to and used by the applicant, and it is not for evidence purpose in China.
2. The measurement result for the sample received is <Pass> according to < 47 CFR PART 22 H >< 47 CFR PART 27 > < RSS-Gen Issue 5, RSS-132 ISSUE 4, RSS-195 ISSUE 2, RSS-199 ISSUE 4 >when < Simple Acceptance > decision rule is applied.

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1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name: GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI
Address: Jinji West Rd, Qianshan, Zhuhai, Guangdong, 519070, P. R. China

Manufacturer Information

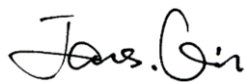
Company Name: GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI
Address: Jinji West Rd, Qianshan, Zhuhai, Guangdong, 519070, P. R. China

EUT Information

EUT Name: GMLINK IoT Gateway
LTE category: Cat.1
Model: GBM-NL100
Brand: GREE GMLINK
Sample Received Date: July 3, 2024
Sample Status: Normal
Sample ID: 7311289
Date of Tested: Sep 19, 2024 ~ Oct. 22, 2024

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
47 CFR PART 22 H	PASS
47 CFR PART 27	PASS
RSS-Gen Issue 5, RSS-132 ISSUE 4, RSS-195 ISSUE 2, RSS-199 ISSUE 4	PASS

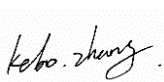
Prepared By:



James Qin

Project Engineer

Checked By:



Kebo Zhang

Senior Project Engineer

Approved By:



Stephen Guo

Operations Manager

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.26-2015, 971168 D01 Power Meas License Digital Systems v03r01, 971168 D02 Misc Rev Approv License Devices v02r01, 412172 D01 v01r01 Determining ERP and EIRP, 47 CFR PART 2, 47 CFR PART 22 H, 47 CFR PART 27, RSS-Gen Issue 5, RSS-132 ISSUE 4, RSS-195 ISSUE 2, RSS-199 ISSUE 4.

3. FACILITIES AND ACCREDITATION

Accreditation Certificate	A2LA (Certificate No.: 4102.01) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with A2LA. FCC (FCC Designation No.: CN1187) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. Has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules ISED (Company No.: 21320) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been registered and fully described in a report filed with ISED. The Company Number is 21320 and the test lab Conformity Assessment Body Identifier (CABID) is CN0046. VCCI (Registration No.: G-20192, C-20153, T-20155 and R-20202) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with VCCI, the Membership No. is 3793. Facility Name: Chamber D, the VCCI registration No. is G-20192 and R-20202. Shielding Room B, the VCCI registration No. is C-20153 and T-20155.
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Note 1: All tests measurement facilities use to collect the measurement data are located at Building 10, Innovation Technology Park, Song Shan Lake Hi tech Development Zone, Dongguan, 523808, China

Note 2: The test anechoic chamber in UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch had been calibrated and compared to the open field sites and the test anechoic chamber is shown to be equivalent to or worst case from the open field site.

Note 3: For below 30 MHz, lab had performed measurements at test anechoic chamber and comparing to measurements obtained on an open field site. And these measurements below 30 MHz had been correlated to measurements performed on an OFS.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations and is traceable to recognize national standards.

4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Test Item	Uncertainty
Conduction emission	3.62 dB
Radiated Emission (Included Fundamental Emission) (9 kHz ~ 30 MHz)	2.2 dB
Radiated Emission (Included Fundamental Emission) (30 MHz ~ 1 GHz)	4.00 dB
Radiated Emission (Included Fundamental Emission) (1 GHz to 40 GHz)	5.78 dB (1 GHz-18 GHz)
	5.23dB (18 GHz-26 GHz)
	5.64 dB (26 GHz-40 GHz)
Bandwidth	1.1 %
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95 % confidence level using a coverage factor of k=2.	

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

EUT Name:	GMLINK IoT Gateway
Model:	GBM-NL100

5.2. TEST CHANNEL CONFIGURATION

Band	Test Frequency ID	Bandwidth [MHz]	NUL	Frequency of Uplink [MHz]	NDL	Frequency of Downlink [MHz]
Band 5	Low Range	1.4	20407	824.7	2407	869.7
		3	20415	825.5	2415	870.5
		5	20425	826.5	2425	871.5
		10	20450	829	2450	874
	Mid Range	1.4/3/5/10	20525	836.5	2525	881.5
	High Range	1.4	20643	848.3	2643	893.3
		3	20635	847.5	2635	892.5
		5	20625	846.5	2625	891.5
		10	20600	844	2600	889

Band	Test Frequency ID	Bandwidth [MHz]	EARFCN	Frequency (UL and DL) [MHz]
Band 40 (Lower range)	Low Range	5	2307.5	38725
		10	\	\
	Mid Range	5/10	2310	38750
	High Range	5	2312.5	38775
		10	\	\

Band	Test Frequency ID	Bandwidth [MHz]	EARFCN	Frequency (UL and DL) [MHz]
Band 40 (Upper range)	Low Range	5	2352.5	39175
		10	\	\
	Mid Range	5/10	2355	39200
	High Range	5	2357.5	39225
		10	\	\

Band	Test Frequency ID	Bandwidth [MHz]	EARFCN	Frequency (UL and DL) [MHz]
Band 41	Low Range	5	40065	2537.5
		10	40090	2540
		15	40115	2542.5
		20	40140	2545
	Mid Range	5/10/15/20	40640	2595
	High Range	5	41215	2652.5
		10	41190	2650
		15	41165	2647.5
		20	41140	2645

Note: same spectrum allocated for FCC and ISDE.

5.3. MAXIMUM AVERAGE OUTPUT POWER

LTE Band 5

Part 22H, RSS-132 ISSUE 4								
ERP Limit(W)		7.0						
Antenna Gain (dBi)		2.84						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	ERP Average (dBm)	ERP Average (W)	99% OBW (kHz)	Emission Designator
1.4	QPSK	824.7	848.3	24.31	25.00	0.316	1093	1M09G7W
	16QAM			23.90	24.59	0.288	1106	1M11D7W
3	QPSK	825.5	847.5	24.46	25.15	0.327	2688	2M69G7W
	16QAM			23.40	24.09	0.256	2682	2M68D7W
5	QPSK	826.5	846.5	24.33	25.02	0.318	4481	4M48G7W
	16QAM			23.38	24.07	0.255	4490	4M49D7W
10	QPSK	829	844	24.34	25.03	0.318	8927	8M93G7W
	16QAM			23.38	24.07	0.255	5002	5M00D7W

LTE Band 40(2305-2315)

Part 27, RSS-195 ISSUE 2								
EIRP Limit(W)		0.25						
Antenna Gain (dBi)		1.23						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% OBW (kHz)	Emission Designator
5	QPSK	2307.5	2312.5	21.97	23.20	0.209	4500	4M50G7W
	16QAM			21.46	22.69	0.186	4495	4M50D7W
10	QPSK	2310.0	2310.0	21.80	23.03	0.201	8996	9M00G7W
	16QAM			21.42	22.65	0.184	4984	4M98D7W

LTE Band 40(2350-2360)

Part 27, RSS-195 ISSUE 2								
EIRP Limit(W)		0.25						
Antenna Gain (dBi)		2.18						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% OBW (kHz)	Emission Designator
5	QPSK	2352.5	2357.5	21.72	23.90	0.245	4507	4M51G7W
	16QAM			21.38	23.56	0.227	4529	4M53D7W
10	QPSK	2355.0	2355.0	21.71	23.89	0.245	8986	8M99G7W
	16QAM			21.36	23.54	0.226	4984	4M98D7W

LTE Band 41

Part 27, RSS-199 ISSUE 4								
EIRP Limit(W)		2.0						
Antenna Gain (dBi)		4.94						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% OBW (kHz)	Emission Designator
5	QPSK	2537.5	2652.5	22.77	27.71	0.590	4496	4M50G7W
	16QAM			21.83	26.77	0.475	4496	4M50D7W
10	QPSK	2540	2650	22.84	27.78	0.600	8982	8M98G7W
	16QAM			21.97	26.91	0.491	4984	4M98D7W
15	QPSK	2542.5	2647.5	22.74	27.68	0.586	13504	13M5G7W
	16QAM			21.95	26.89	0.489	5111	5M11D7W
20	QPSK	2545	2645	22.77	27.71	0.590	18039	18M0G7W
	16QAM			21.91	26.85	0.484	5499	5M50D7W

5.4. WORST-CASE CONFIGURATION AND MODE

During all testing, EUT is in link mode with base station emulator at maximum power level. The worst-case scenario for all measurements is based on the average conducted output power measurement investigation results. Output power measurements were measured on QPSK, 16QAM. All testing was performed using QPSK and 16QAM modulations to represent the worst case.

The radiated spurious emissions measurements were carried out in semi-anechoic chamber with 3-meter test range, and EUT was investigated in three orthogonal orientations X,Y and Z. It was determined that X orientation was the worst-case.

Radiated spurious emissions were investigated below 30 MHz, 30 MHz - 1 GHz and above 1 GHz. There are no emissions found on below 1GHz and above 18 GHz, the emissions between 1 GHz – 18 GHz are tested at the low, mid, high channel and the worse configuration.

Test Items	Worst case test configuration			
Description	Modulation	Channel	Bandwidth (MHz)	RB Configuration
Radiated Spurious Emissions	QPSK	L, M, H	Maximum BW	RB size=1, RB Location= Low

5.5. DESCRIPTION OF AVAILABLE ANTENNAS

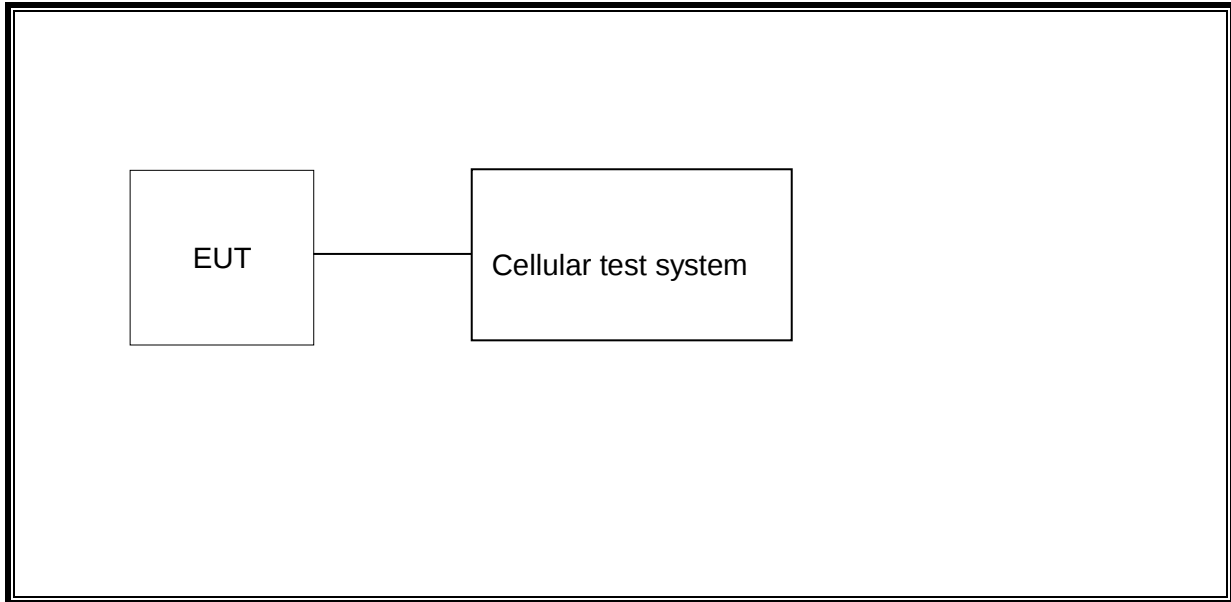
Antenna	Band	Antenna Type	MAX Antenna Gain (dBi)
Ant0	LTE Band 5	Monopole antenna	2.84
Ant0	LTE Band 40(2305-2315MHz)	Monopole antenna	1.23
Ant0	LTE Band 40(2350-2360 MHz)	Monopole antenna	2.18
Ant0	LTE Band 41	Monopole antenna	4.94

Band	Transmit and Receive Mode	Description
LTE Band 5	☒ 1TX, 1RX	Main antenna can be used as transmitting/receiving antenna
LTE Band 40	☒ 1TX, 1RX	Main antenna can be used as transmitting/receiving antenna
LTE Band 41	☒ 1TX, 1RX	Main antenna can be used as transmitting/receiving antenna

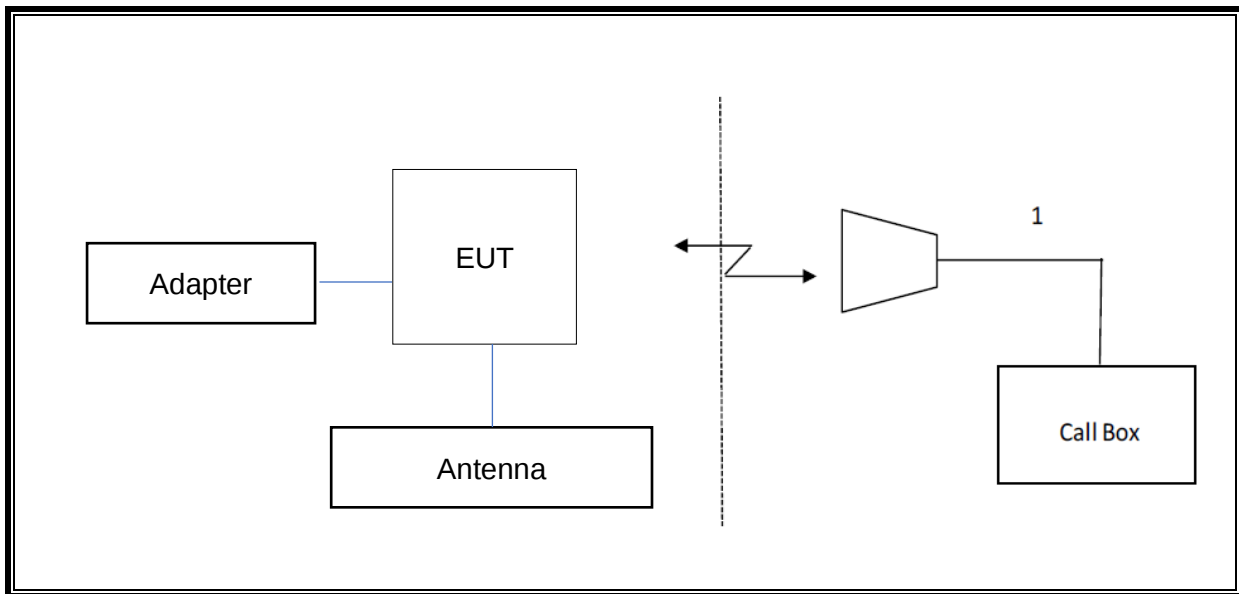
Note: The value of the antenna gain was declared by customer.

5.7. DESCRIPTION OF TEST SETUP

Conducted



Radiated



6. MEASURING INSTRUMENT AND SOFTWARE USED

Antenna Terminal Test						
Instrument						
Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
☒	Spectrum Analyzer	R&S	FSV40	S422060001	Oct.12, 2023	Oct.11, 2024
☒	Spectrum Analyzer	R&S	FSV40	S422060001	Sep.28, 2024	Sep.27, 2025
☒	Wideband Radio Communication Tester	R&S	CMW500	161166	Oct.12, 2023	Oct.11, 2024
☒	Wideband Radio Communication Tester	R&S	CMW500	161166	Sep.28, 2024	Sep.27, 2025
Software						
Used	Description		Manufacturer	Name		Version
☒	Tonsend Cellular Test System		Tonsend	JS1120 RF Auto Test System		3.1.46
Radiated Test						
Instrument						
Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
☒	MXE EMI Receiver	KESIGHT	N9038A	MY56400036	Oct.12, 2023	Oct.11, 2024
☒	Hybrid Log Periodic Antenna	TDK	HLP-3003C	130960	Jun. 28, 2024	Jun. 27, 2027
☒	Preamplifier	HP	8447D	2944A09099	Oct.12, 2023	Oct.11, 2024
☒	EMI Measurement Receiver	R&S	ESR26	101377	Oct.12, 2023	Oct.11, 2024
☒	Horn Antenna	TDK	HRN-0118	130939	April 29, 2022	April 30, 2025
☒	Horn Antenna	Schwarzbeck	BBHA9170	856	Feb 28, 2022	Feb 28, 2025
☒	Preamplifier	TDK	PA-02-0118	TRS-305-00067	Oct.12, 2023	Oct.11, 2024
☒	Preamplifier	TDK	PA-02-2	TRS-307-00003	Oct.12, 2023	Oct.11, 2024
☒	Loop antenna	Schwarzbeck	1519B	00008	Dec.14, 2021	Dec.13, 2024
☒	High Pass Filter	Wi	WHKX10-2700-3000-18000-40SS	23	Oct.12, 2023	Oct.11, 2024
Software						
Used	Description		Manufacturer	Name		Version
☒	Test Software for Radiated disturbance		Farad	EZ-EMC		Ver. UL-3A1

7. ANTENNA TERMINAL TEST RESULTS

7.1. EFFECTIVE (ISOTROPIC) RADIATED POWER OF TRANSMITTER

RULE PART(S)

FCC: §2.1046, §22.913, §27.50

RSS-132 ISSUE 4, RSS-195 ISSUE 2, RSS-199 ISSUE 4

LIMITS

22.913(a) The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

27.50(a) For mobile and portable stations transmitting in the 2305-2315 MHz band or the 2350-2360 MHz band, the average EIRP must not exceed 50 milliwatts within any 1 megahertz of authorized bandwidth, except that for mobile and portable stations compliant with 3GPP LTE standards or another advanced mobile broadband protocol that avoids concentrating energy at the edge of the operating band the average EIRP must not exceed 250 milliwatts within any 5 megahertz of authorized bandwidth but may exceed 50 milliwatts within any 1 megahertz of authorized bandwidth.

27.50(h) Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

In addition, when the transmitter power is measured in terms of average value, the peak-to-average ratio of the power shall not exceed 13 dB.

TEST PROCEDURE

Refer to ANSI C63.26:2015 and KDB 971168 D01 Section 5.6

$ERP/EIRP = P_{Meas} + GT - LC$

where:

ERP or EIRP = effective or equivalent isotropically radiated power, respectively (expressed in the same units as P_{Meas} , typically dBW or dBm);

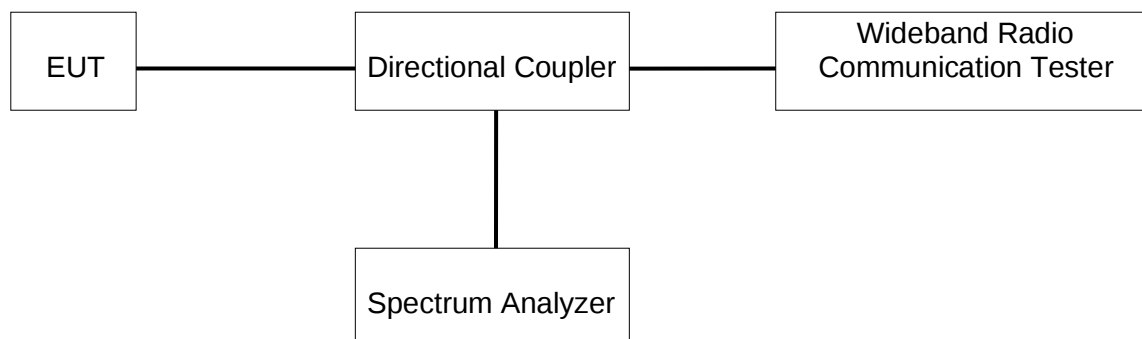
P_{Meas} = measured transmitter output power or PSD, in dBm or dBW;

GT = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

LC = signal attenuation in the connecting cable between the transmitter and antenna, in dB

The transmitter has a maximum output powers as follows and maximum ERP/EIRP is tabulated in section 5.3.

TEST SETUP



TEST ENVIRONMENT

Temperature	22.9°C	Relative Humidity	62.8%
Atmosphere Pressure	101kPa	Test Voltage	DC 24 V

RESULTS

7.1.1. LTE Band 5

LTE FDD B5				Conducted Power(dBm)		
Bandwidth (MHz)	Modulation	RB size	RB offset	Channel No.	Channel No.	Channel No.
				20407	20525	20643
				Fre. (MHz)	Fre. (MHz)	Fre. (MHz)
				824.70	836.50	848.30
1.4	QPSK	1	0	23.96	23.18	24.29
		1	2	23.58	23.27	23.48
		1	5	23.12	22.67	23.40
		3	0	23.76	23.23	24.31
		3	1	23.60	23.29	23.27
		3	3	23.14	22.91	23.32
		6	0	23.30	22.82	23.92
	16QAM	1	0	23.43	22.63	22.60
		1	2	23.08	22.91	23.90
		1	5	23.07	23.21	23.42
		3	0	23.22	22.56	23.86
		3	1	23.26	22.70	23.87
		3	3	23.22	23.12	23.50
		6	0	22.14	21.73	23.01
Bandwidth (MHz)	Modulation	RB size	RB offset	Channel No.	Channel No.	Channel No.
				20415	20525	20635
				Fre. (MHz)	Fre. (MHz)	Fre. (MHz)
				825.50	836.50	847.50
3	QPSK	1	0	23.80	23.14	24.46
		1	8	23.33	23.27	23.28
		1	14	23.21	22.67	23.30
		8	0	23.21	22.66	24.00
		8	4	23.12	22.92	23.89
		8	7	23.08	23.09	23.37
		15	0	22.50	22.25	22.86
	16QAM	1	0	22.70	23.03	23.40
		1	8	22.51	22.33	22.28
		1	14	22.18	22.96	22.50
		8	0	22.11	21.67	23.00
		8	4	22.20	21.55	23.26
		8	7	22.15	22.21	22.52
		15	0	22.00	22.05	22.05
Bandwidth (MHz)	Modulation	RB size	RB offset	Channel No.	Channel No.	Channel No.
				20425	20525	20625
				Fre. (MHz)	Fre. (MHz)	Fre. (MHz)
				826.50	836.50	846.50
5	QPSK	1	0	23.93	23.19	24.33
		1	12	23.52	23.42	23.50
		1	24	23.25	22.69	23.28
		12	0	23.39	22.61	23.88
		12	6	23.22	22.92	23.98
		12	13	23.33	23.26	23.35
		25	0	22.57	22.25	22.85
	16QAM	1	0	22.66	23.01	23.38
		1	12	22.53	22.41	22.38
		1	24	22.34	22.93	22.59
		12	0	22.18	21.65	22.93
		12	6	22.17	21.55	23.17
		12	13	22.08	22.02	22.57
		25	0	22.21	21.99	22.16
	Modulation	RB size	RB offset	Channel No.	Channel No.	Channel No.

Bandwidth (MHz)				20450	20525	20600
				Fre. (MHz)	Fre. (MHz)	Fre. (MHz)
				829.00	836.50	844.00
10	QPSK	1	0	23.82	23.10	24.34
		1	24	23.48	23.37	23.39
		1	49	23.18	22.81	23.26
		25	0	23.34	22.68	23.95
		25	12	23.14	22.77	23.89
		25	25	23.19	23.16	23.40
		50	0	22.49	22.24	22.86
	16QAM	1	0	22.61	22.88	23.38
		1	24	22.48	22.28	22.40
		1	49	22.33	22.87	22.49
		25	0	22.20	21.76	23.07
		25	12	22.13	21.70	23.13
		25	25	22.17	22.08	22.42
		50	0	N/A	N/A	N/A

7.1.2. LTE Band 40

LTE Band 40(2305-2315)

LTE FDD B40				Conducted Power(dBm)		
Bandwidth (MHz)	Modulation	RB size	RB offset	Channel No.	Channel No.	Channel No.
				38725	38750	38775
				Fre. (MHz)	Fre. (MHz)	Fre. (MHz)
				2307.5	2310.00	2312.5
5	QPSK	1	0	21.90	21.94	21.79
		1	12	21.62	21.97	21.69
		1	24	21.70	21.89	21.73
		12	0	20.11	20.20	20.04
		12	6	20.23	20.32	20.18
		12	13	20.35	20.24	20.28
		25	0	20.67	20.63	20.68
	16QAM	1	0	21.45	21.24	21.44
		1	12	21.30	21.25	21.39
		1	24	21.38	21.46	21.49
		12	0	19.77	19.40	19.77
		12	6	19.37	19.33	19.97
		12	13	19.56	19.46	19.62
		25	0	19.59	19.67	19.69
Bandwidth (MHz)	Modulation	RB size	RB offset	Channel No.	Channel No.	Channel No.
				\	38750	\
				Fre. (MHz)	Fre. (MHz)	Fre. (MHz)
				\	2310.00	\
10	QPSK	1	0	N/A	21.50	N/A
		1	12	N/A	21.80	N/A
		1	24	N/A	21.52	N/A
		12	0	N/A	21.33	N/A
		12	6	N/A	21.17	N/A
		12	13	N/A	21.24	N/A
		25	0	N/A	20.37	N/A
	16QAM	1	0	N/A	21.28	N/A
		1	12	N/A	21.42	N/A
		1	24	N/A	21.38	N/A
		12	0	N/A	19.72	N/A
		12	6	N/A	19.51	N/A
		12	13	N/A	19.55	N/A
		25	0	N/A	21.50	N/A

LTE Band 40(2350-2360)

LTE FDD B40				Conducted Power(dBm)		
Bandwidth (MHz)	Modulation	RB size	RB offset	Channel No.	Channel No.	Channel No.
				39175	39200	39225
				Fre. (MHz)	Fre. (MHz)	Fre. (MHz)
				2352.50	2355.00	2357.50
5	QPSK	1	0	21.59	21.64	21.62
		1	12	21.50	21.72	21.30
		1	24	21.61	21.63	21.55
		12	0	21.19	21.25	21.36
		12	6	21.01	21.38	21.26
		12	13	21.11	21.22	21.18
		25	0	21.02	20.99	20.79
	16QAM	1	0	21.19	21.25	21.36
		1	12	21.01	21.38	21.26
		1	24	21.11	21.22	21.18
		12	0	19.80	19.88	19.73
		12	6	19.72	19.82	19.71
		12	13	19.80	19.88	19.73
		25	0	19.75	19.77	19.76
Bandwidth (MHz)	Modulation	RB size	RB offset	Channel No.	Channel No.	Channel No.
				\	39200	\
				Fre. (MHz)	Fre. (MHz)	Fre. (MHz)
				\	2355.00	\
10	QPSK	1	0	N/A	21.60	N/A
		1	12	N/A	21.71	N/A
		1	24	N/A	21.55	N/A
		12	0	N/A	21.31	N/A
		12	6	N/A	21.02	N/A
		12	13	N/A	21.25	N/A
		25	0	N/A	20.45	N/A
	16QAM	1	0	N/A	21.19	N/A
		1	12	N/A	21.36	N/A
		1	24	N/A	21.23	N/A
		12	0	N/A	19.59	N/A
		12	6	N/A	19.65	N/A
		12	13	N/A	19.47	N/A
		25	0	N/A	N/A	N/A

7.1.3. LTE Band 41

LTE FDD B41				Conducted Power(dBm)		
Bandwidth (MHz)	Modulation	RB size	RB offset	Channel No.	Channel No.	Channel No.
				40065	40640	41215
				Fre. (MHz)	Fre. (MHz)	Fre. (MHz)
				2537.50	2595.00	2652.50
5	QPSK	1	0	22.75	22.77	22.61
		1	12	22.60	22.73	22.45
		1	24	22.41	22.29	22.18
		12	0	21.76	21.74	21.72
		12	6	21.81	21.61	21.57
		12	13	21.61	21.52	21.48
		25	0	21.64	21.59	21.63
	16QAM	1	0	21.51	21.83	21.22
		1	12	21.69	21.71	21.13
		1	24	21.72	21.12	21.32
		12	0	20.44	20.65	20.22
		12	6	20.42	20.63	20.11
		12	13	20.58	20.45	20.21
		25	0	20.24	20.09	20.14
Bandwidth (MHz)	Modulation	RB size	RB offset	Channel No.	Channel No.	Channel No.
				40090	40640	41190
				Fre. (MHz)	Fre. (MHz)	Fre. (MHz)
				2540.00	2595.00	2650.00
10	QPSK	1	0	22.59	22.78	22.41
		1	24	22.84	22.66	22.61
		1	49	22.66	22.34	22.28
		25	0	21.65	21.58	21.68
		25	12	21.88	21.88	21.76
		25	25	21.65	21.63	21.42
		50	0	21.63	21.71	21.72
	16QAM	1	0	21.52	21.80	21.13
		1	24	21.82	21.47	21.27
		1	49	21.69	21.15	21.97
		25	0	20.67	20.75	20.13
		25	12	20.51	20.44	19.96
		25	25	20.57	20.45	20.18
		50	0	N/A	N/A	N/A
Bandwidth (MHz)	Modulation	RB size	RB offset	Channel No.	Channel No.	Channel No.
				40115	40640	41165
				Fre. (MHz)	Fre. (MHz)	Fre. (MHz)
				2542.50	2595.00	2647.50
15	QPSK	1	0	22.72	22.74	22.41
		1	38	22.65	22.64	22.53
		1	74	22.50	22.23	22.41
		36	0	21.76	21.87	21.80
		36	18	21.76	21.68	21.73
		36	37	21.67	21.49	21.43
		75	0	21.59	21.73	21.62
	16QAM	1	0	21.56	21.95	21.06
		1	38	21.62	21.72	21.08
		1	74	21.69	21.19	21.90
		36	0	N/A	N/A	N/A
		36	18	N/A	N/A	N/A
		36	37	N/A	N/A	N/A
		75	0	N/A	N/A	N/A
	Modulation	RB size	RB offset	Channel No.	Channel No.	Channel No.

Bandwidth (MHz)				40140	40640	41140
				Fre. (MHz)	Fre. (MHz)	Fre. (MHz)
				2545.00	2595.00	2645.00
20	QPSK	1	0	22.63	22.77	22.51
		1	49	22.72	22.58	22.56
		1	99	22.56	22.21	22.32
		50	0	21.77	21.73	21.68
		50	25	21.75	21.73	21.70
		50	50	21.68	21.50	21.57
		100	0	21.71	21.59	21.61
	16QAM	1	0	21.62	21.80	21.17
		1	49	21.74	21.61	21.15
		1	99	21.59	21.25	21.91
		50	0	N/A	N/A	N/A
		50	25	N/A	N/A	N/A
		50	50	N/A	N/A	N/A
		100	0	N/A	N/A	N/A

7.2. PEAK TO AVERAGE RADIO

LIMITS

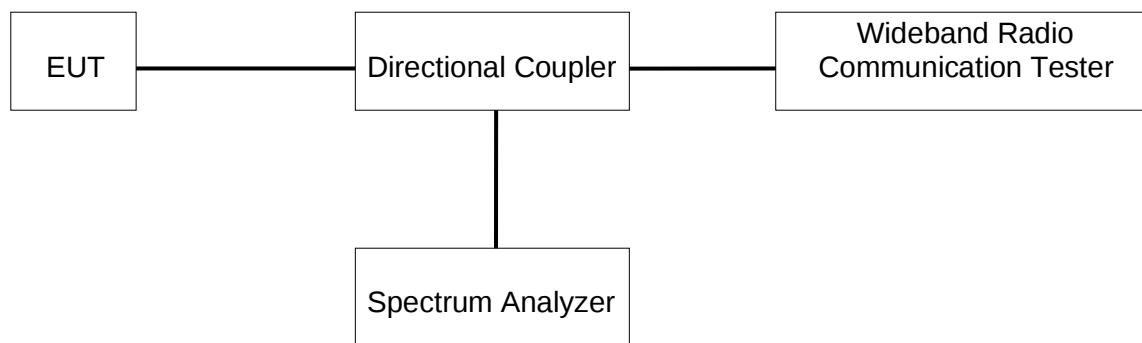
In addition, when the transmitter power is measured in terms of average value, the peak-to-average ratio of the power shall not exceed 13 dB.

TEST PROCEDURE

Refer to KDB 971168 D01 Power Meas License Digital Systems v03r01;

The transmitter output was connected to a CMW500 Test Set and configured to operate at maximum power. The PAR was measured on the Spectrum Analyzer.

TEST SETUP



TEST ENVIRONMENT

Temperature	22.9°C	Relative Humidity	62.8%
Atmosphere Pressure	101kPa	Test Voltage	DC 24 V

RESULTS

Middle was used to measure as the worst case. The results from all CCDF plots are passed with 13dB peak-to-average power ratio criteria.

Please refer to Appendix LTE.

7.3. OCCUPIED BANDWIDTH

RULE PART(S)

FCC: §2.1049

RSS-132 ISSUE 4, RSS-195 ISSUE 2, RSS-199 ISSUE 4

LIMITS

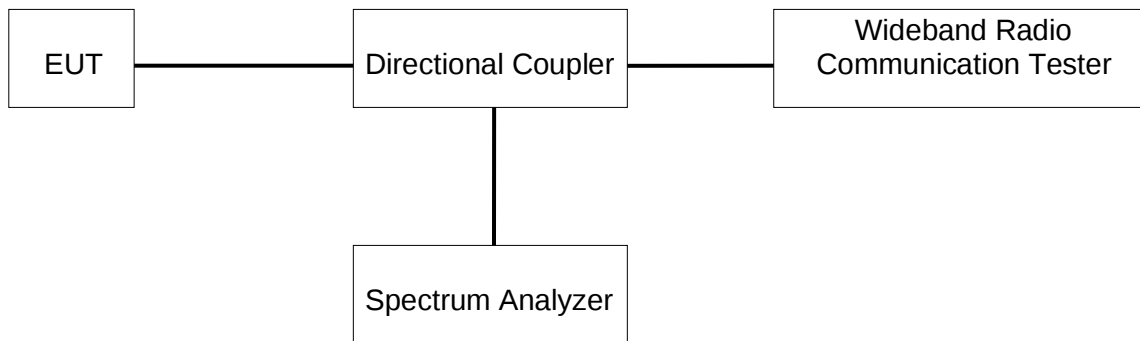
For reporting purposes only.

TEST PROCEDURE

The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer. The occupied bandwidth was measured with the spectrum analyzer at the low, middle and high channel in each band. The -26dB bandwidth was also measured and recorded.

(Refer to KDB 971168 D01 Power Meas License Digital Systems v03r01)

TEST SETUP



TEST ENVIRONMENT

Temperature	22.9°C	Relative Humidity	62.8%
Atmosphere Pressure	101kPa	Test Voltage	DC 24 V

RESULTS

There is no limit required and power is the same for low, middle and high channel, therefore, only middle channel was tested.

Please refer to Appendix LTE.

7.4. BAND EDGE EMISSIONS

RULE PART(S)

FCC §2.1051, §22.917, §27.53

RSS-132 ISSUE 4, RSS-195 ISSUE 2, RSS-199 ISSUE 4

LIMITS

§22.917, §27.53

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.

RSS-132

(i) In the first 1.0 MHz band immediately outside and adjacent to each of the sub-bands specified in Section 5.1, the power of emissions per any 1% of the occupied bandwidth shall be attenuated below the transmitter output power P (dBW) by at least $43 + 10 \log(p)$ dB.

(ii) After the first 1.0 MHz immediately outside and adjacent to each of the sub-bands, the power of emissions in any 100 kHz bandwidth shall be attenuated below the transmitter output power P (dBW) by at least $43 + 10 \log(p)$ dB. If the measurement is performed using 1% of the occupied bandwidth, power integration over 100 kHz is required.

RSS-195 Issue 2

Unwanted Emissions for Base Station, Fixed Station and High-Power Fixed Subscriber Equipment

Frequency (MHz)	Attenuation (dB)
<2200	$43 + 10 \log_{10}(p)$
2200 - 2285	$75 + 10 \log_{10}(p)$
2285 - 2287.5	$72 + 10 \log_{10}(p)$
2287.5 - 2300	$70 + 10 \log_{10}(p)$
2300 - 2305	$43 + 10 \log_{10}(p)$
2305 - 2320	$43 + 10 \log_{10}(p)$ ^{Note}
2320 - 2345	$75 + 10 \log_{10}(p)$
2345 - 2360	$43 + 10 \log_{10}(p)$ ^{Note}
2360 - 2362.5	$43 + 10 \log_{10}(p)$
2362.5 - 2365	$55 + 10 \log_{10}(p)$
2365 - 2367.5	$70 + 10 \log_{10}(p)$
2367.5 - 2370	$72 + 10 \log_{10}(p)$
2370 - 2395	$75 + 10 \log_{10}(p)$
>2395	$43 + 10 \log_{10}(p)$

Note:

1. Measured at the edges of the highest and lowest frequency range(s) in which the equipment is designed to operate. See Section 5.2 of RSS-195 Issue 2 for the permitted frequency ranges for the various equipment types.

RSS-199 Issue 4

Unwanted emission limits for fixed station, base station and fixed subscriber equipment

Offset from the edge of the frequency block or frequency block group (MHz)	Unwanted emission limits
≤ 1	-13 dBm/(1% of OB*)
> 1	-13 dBm/MHz

*OB is the occupied bandwidth

TEST PROCEDURE

Refer to KDB 971168 D01 Power Meas License Digital Systems v03r01

The transmitter output was connected to a CMW500 Test Set and configured to operate at maximum power.

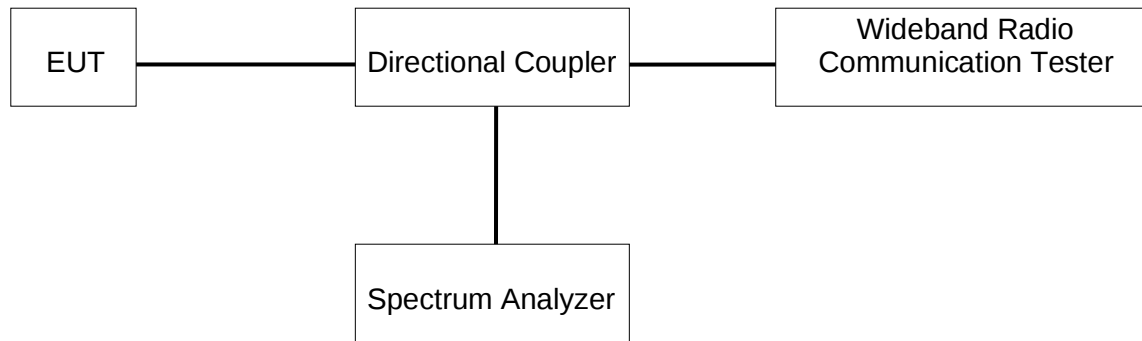
The band edge emissions were measured at the required operating frequencies in each band on the Spectrum Analyzer.

- a) Set the RBW = 1 ~ 5 % of OBW (Typically limited to a minimum RBW of 1% of the OBW)
- b) Set VBW $\geq 3 \times$ RBW;
- c) Set span ≥ 1.5 times the OBW;
- d) Sweep time = Auto;
- e) Detector = RMS;
- f) Ensure that the number of measurement points $\geq 2 \times$ Span/RBW;
- g) Trace mode = Average (100);

Test procedure for LTE Band 41

(m)(6)Measurement procedure. Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed; for mobile digital stations, in the 1 megahertz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least two percent may be employed, except when the 1 megahertz band is 2495-2496 MHz, in which case a resolution bandwidth of at least one percent may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 megahertz or 1 percent of emission bandwidth, as specified; or 1 megahertz or 2 percent for mobile digital stations, except in the band 2495-2496 MHz). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power. With respect to television operations, measurements must be made of the separate visual and aural operating powers at sufficiently frequent intervals to ensure compliance with the rules.

TEST SETUP



TEST ENVIRONMENT

Temperature	22.9°C	Relative Humidity	62.8%
Atmosphere Pressure	101kPa	Test Voltage	DC 24 V

RESULTS

Please refer to Appendix LTE.

7.5. SPURIOUS EMISSION AT ANTENNA TERMINAL

RULE PART(S)

FCC: §2.1051, §22.901, §22.917, §27.53

RSS-132 ISSUE 4, RSS-195 ISSUE 2, RSS-199 ISSUE 4

LIMITS

FCC: §22.901, §22.917, §27.53

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.

RSS-132

(i) In the first 1.0 MHz band immediately outside and adjacent to each of the sub-bands specified in Section 5.1, the power of emissions per any 1% of the occupied bandwidth shall be attenuated below the transmitter output power P (dBW) by at least $43 + 10 \log(p)$ dB.

(ii) After the first 1.0 MHz immediately outside and adjacent to each of the sub-bands, the power of emissions in any 100 kHz bandwidth shall be attenuated below the transmitter output power P (dBW) by at least $43 + 10 \log(p)$ dB. If the measurement is performed using 1% of the occupied bandwidth, power integration over 100 kHz is required.

RSS-195 Issue 2

Unwanted Emissions for Base Station, Fixed Station and High-Power Fixed Subscriber Equipment

Frequency (MHz)	Attenuation (dB)
<2200	$43 + 10 \log_{10}(p)$
2200 - 2285	$75 + 10 \log_{10}(p)$
2285 - 2287.5	$72 + 10 \log_{10}(p)$
2287.5 - 2300	$70 + 10 \log_{10}(p)$
2300 - 2305	$43 + 10 \log_{10}(p)$
2305 - 2320	$43 + 10 \log_{10}(p)$ ^{Note}
2320 - 2345	$75 + 10 \log_{10}(p)$
2345 - 2360	$43 + 10 \log_{10}(p)$ ^{Note}
2360 - 2362.5	$43 + 10 \log_{10}(p)$
2362.5 - 2365	$55 + 10 \log_{10}(p)$
2365 - 2367.5	$70 + 10 \log_{10}(p)$
2367.5 - 2370	$72 + 10 \log_{10}(p)$
2370 - 2395	$75 + 10 \log_{10}(p)$
>2395	$43 + 10 \log_{10}(p)$

Note:

2. Measured at the edges of the highest and lowest frequency range(s) in which the equipment is designed to operate. See Section 5.2 of RSS-195 Issue 2 for the permitted frequency ranges for the various equipment types.

RSS-199 Issue 4

Unwanted emission limits for fixed station, base station and fixed subscriber equipment

Offset from the edge of the frequency block or frequency block group (MHz)	Unwanted emission limits
≤ 1	-13 dBm/(1% of OB*)
> 1	-13 dBm/MHz

*OB is the occupied bandwidth

TEST PROCEDURE

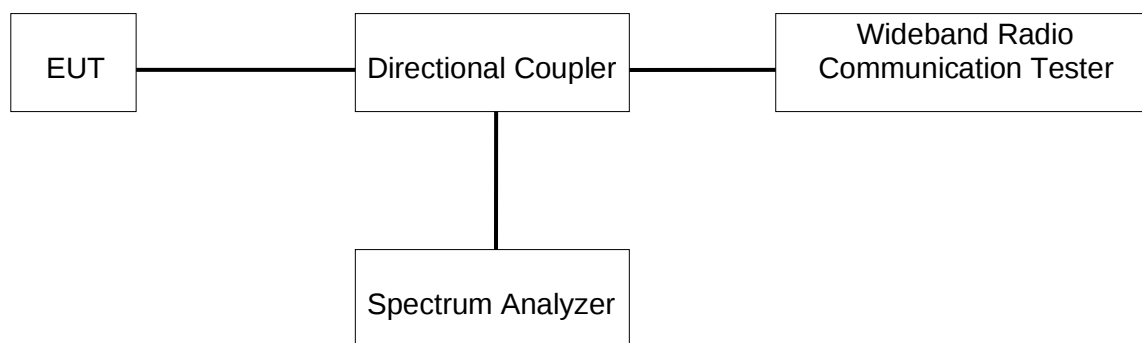
Per KDB 971168 D01 Power Meas License Digital Systems v03r01

The RF output of the transmitter was connected to a spectrum analyzer through a calibrated coaxial cable. Sufficient scans were taken to show the out-of-band Emissions, if any, up to 10th harmonic. Multiple sweeps were recorded in maximum hold mode using a peak detector to ensure that the worst-case emissions were caught.

- Set the RBW = 100 kHz for emission below 1GHz and 1MHz for emissions above 1GHz
(Tests were performed 1 MHz [Worst case], to sweep 1 time for all frequency range)
- Set VBW $\geq 3 \times$ RBW;
- Set span ≥ 1.5 times the OBW;
- Sweep time = auto couple;
- Detector = rms;
- Ensure that the number of measurement points = Max (40001);
- Trace mode = average (LTE 5), Maxhold (LTE Band7);

Note: Please refer to section 5.4 for bandwidth and RB setting about LTE bands.

TEST SETUP



TEST ENVIRONMENT

Temperature	22.9°C	Relative Humidity	62.8%
Atmosphere Pressure	101kPa	Test Voltage	DC 24 V

RESULTS

Please refer to Appendix LTE.

7.6. FREQUENCY STABILITY

RULE PART(S)

FCC: §2.1055, §22.355, §27.54

RSS-132 ISSUE 4, RSS-195 ISSUE 2, RSS-199 ISSUE 4

LIMITS

§22.355 - The carrier frequency shall not depart from the reference frequency in excess of ± 2.5 ppm for mobile stations.

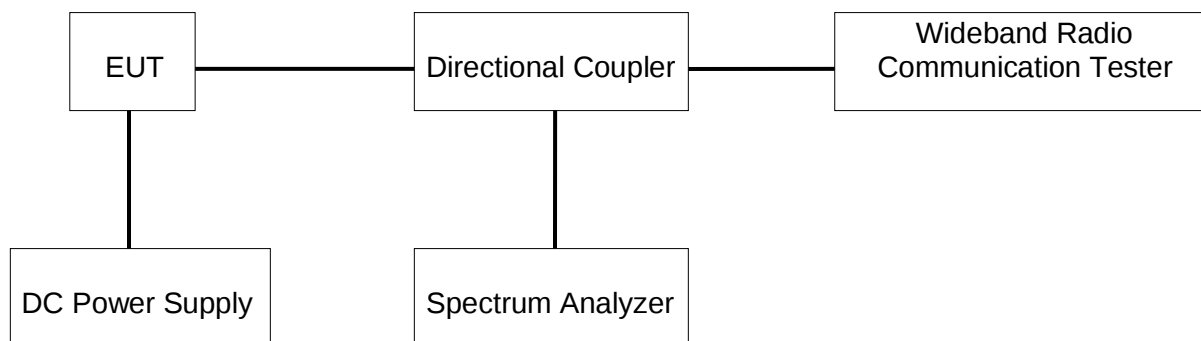
§27.54 - The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

TEST PROCEDURE

Refer to KDB 971168 D01 Power Meas License Digital Systems v03r01.

	Normal Test Conditions	Extreme Test Conditions
Relative Humidity	45 % - 75 %	/
Atmospheric Pressure	100 kPa ~102 kPa	/
Temperature	T _N (Normal Temperature): 24.5 °C	T _L (Low Temperature): -30 °C
		T _H (High Temperature): 50 °C
Supply Voltage	V _N (Normal Voltage): DC 24 V	V _L (Low Voltage): DC 20.4V
		V _H (High Voltage): DC 27.6 V

TEST SETUP



RESULTS

The peak frequency error is recorded (worst-case).

Please refer to Appendix LTE.

8. RADIATED SPURIOUS EMISSIONS

LIMIT

FCC: §27.53 (m), ISSED: RSS-195 ISSUE 2 LTE (40), RSS-199 ISSUE 4 LTE (41)

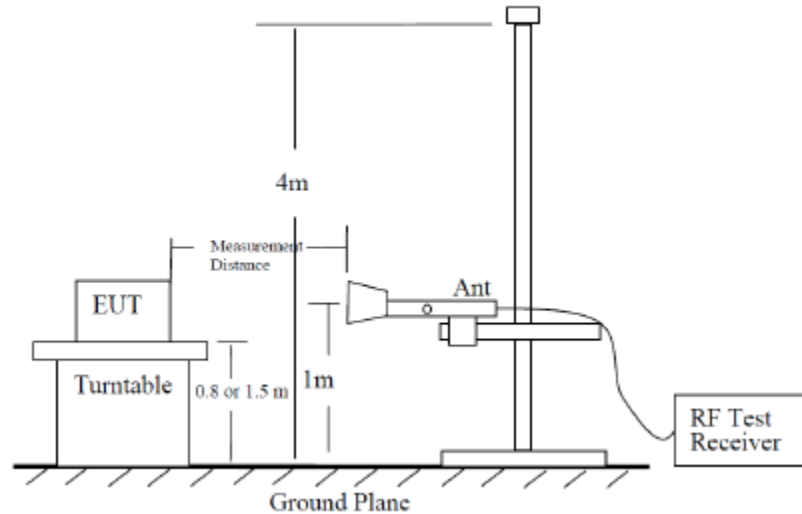
At least $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section.

FCC: §22.917(a) LTE, ISSED: RSS-132 ISSUE 4 (B5)

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.

TEST PROCEDURE

Following the test configuration shown below, radiated emissions measured directly from the EUT and convert the measured field strength or received power to ERP or EIRP, as required, for comparison to the applicable limits. As stated in section 5.5.1 of ANSI C63.26-2015. The field strength measurement method by using a test site validated to the requirement of ANSI C63.4 is an alternative method to the substitution measurement.



Radiated Power Measurement Calculation According to ANSI C63.26-2015

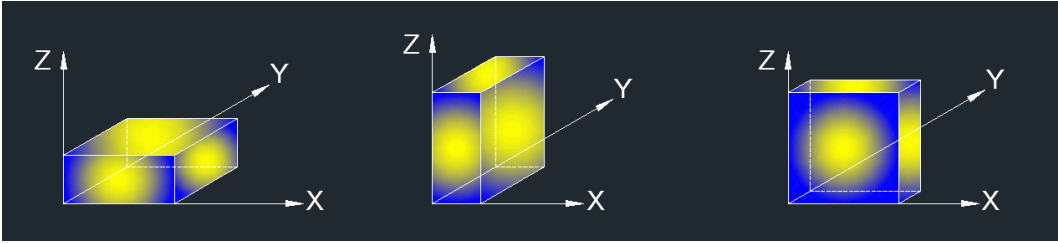
- $E \text{ (dB}\mu\text{V/m)} = \text{Measured amplitude level (dB}\mu\text{V)} + \text{Cable Loss (dB)} + \text{Antenna Factor (dB/m)}.$
- $E \text{ (dB}\mu\text{V/m)} = \text{Measured amplitude level (dBm)} + 107 + \text{Cable Loss (dB)} + \text{Antenna Factor (dB/m)}.$
- $E \text{ (dB}\mu\text{V/m)} = \text{EIRP (dBm)} - 20\log(D) + 104.8$, where D is the measurement distance (in the far field region) in m.
- $\text{EIRP (dBm)} = E \text{ (dB}\mu\text{V/m)} + 20\log(D) - 104.8$, where D is the measurement distance (in the far field region) in m.

So, from d)

The measuring distance is at 3m, then $20 \cdot \log(3) = 9.5424$

Then, $\text{EIRP (dBm)} = E \text{ (dB}\mu\text{V/m)} + 9.5424 - 104.8 = E \text{ (dB}\mu\text{V/m)} - 95.2576$

X axis, Y axis, Z axis:



Note: The EUT was investigated in three orthogonal orientations X/Y/Z on ANT0 and ANT3 to determine the worst-case orientation. X orientation is finally determined the worst.

TEST ENVIRONMENT

Temperature	22.6°C	Relative Humidity	61%
Atmosphere Pressure	101kPa	Test Voltage	DC 24 V

RESULTS

8.1.1. LTE Band 5

QPSK-10 MHz-Low Channel- Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1657.000	59.18	-10.02	49.16	82.25	-33.09	peak
2	2332.000	51.22	-8.74	42.48	82.25	-39.77	peak
3	4141.000	51.59	-2.66	48.93	82.25	-33.32	peak
4	6004.000	40.63	2.70	43.33	82.25	-38.92	peak
5	7345.000	38.77	6.94	45.71	82.25	-36.54	peak
6	9325.000	38.56	11.45	50.01	82.25	-32.24	peak

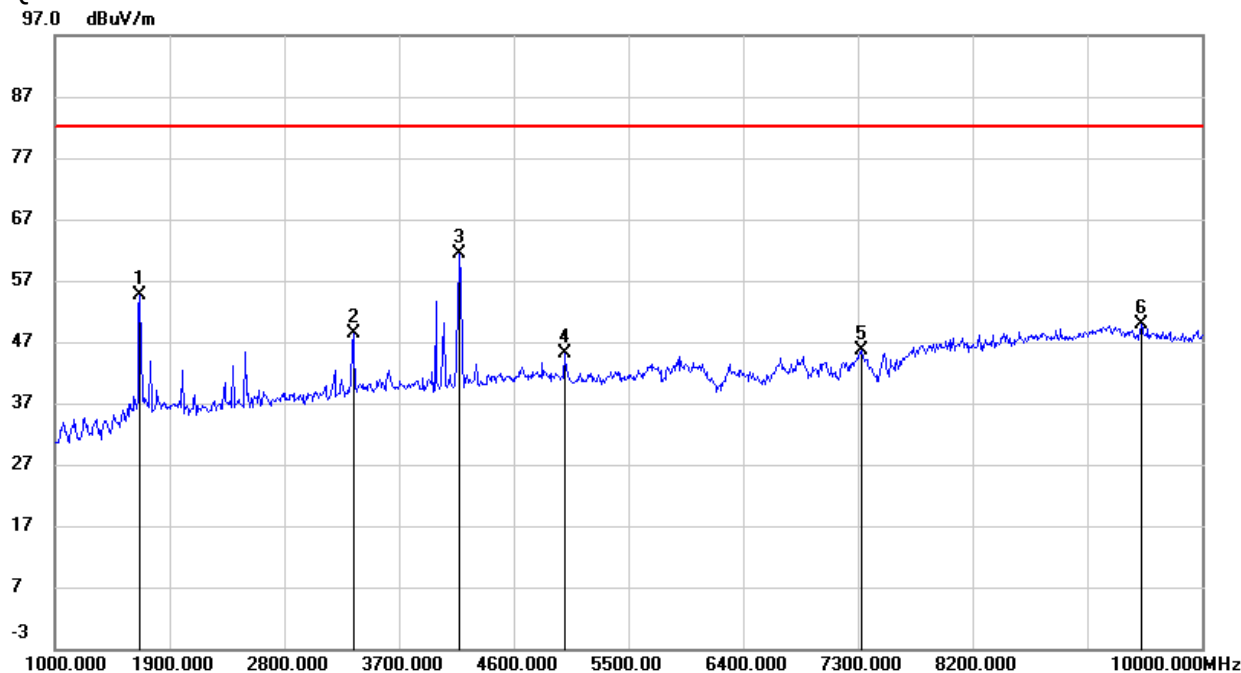
QPSK-10 MHz-Low Channel- Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1657.000	65.16	-9.67	55.49	82.25	-26.76	peak
2	2512.000	59.87	-7.24	52.63	82.25	-29.62	peak
3	4141.000	61.35	-1.62	59.73	82.25	-22.52	peak
4	5860.000	40.92	3.35	44.27	82.25	-37.98	peak
5	7282.000	38.36	7.56	45.92	82.25	-36.33	peak
6	9712.000	38.11	12.02	50.13	82.25	-32.12	peak

QPSK-10 MHz-Mid Channel- Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1666.000	58.40	-9.98	48.42	82.25	-33.83	peak
2	2539.000	51.97	-7.94	44.03	82.25	-38.22	peak
3	4177.000	51.76	-2.54	49.22	82.25	-33.03	peak
4	6004.000	40.76	2.70	43.46	82.25	-38.79	peak
5	7705.000	39.76	7.30	47.06	82.25	-35.19	peak
6	9334.000	38.30	11.47	49.77	82.25	-32.48	peak

QPSK-10 MHz-Mid Channel- Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1666.000	64.13	-9.62	54.51	82.25	-27.74	peak
2	3340.000	51.77	-3.31	48.46	82.25	-33.79	peak
3	4177.000	62.86	-1.51	61.35	82.25	-20.90	peak
4	4996.000	43.95	1.20	45.15	82.25	-37.10	peak
5	7327.000	38.05	7.57	45.62	82.25	-36.63	peak
6	9523.000	38.10	11.87	49.97	82.25	-32.28	peak

QPSK-10 MHz-High Channel- Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1684.000	56.05	-9.93	46.12	82.25	-36.13	peak
2	2494.000	50.98	-8.11	42.87	82.25	-39.38	peak
3	4204.000	48.99	-2.46	46.53	82.25	-35.72	peak
4	6004.000	40.12	2.70	42.82	82.25	-39.43	peak
5	7048.000	39.07	6.38	45.45	82.25	-36.80	peak
6	9280.000	38.56	11.35	49.91	82.25	-32.34	peak

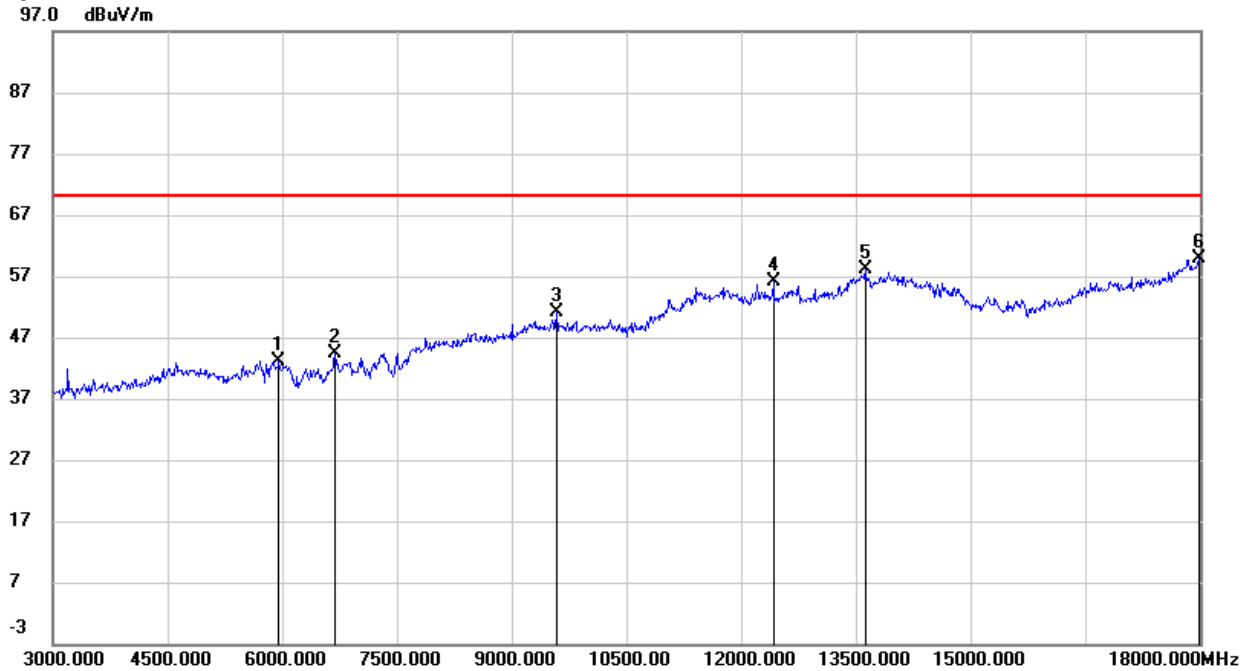
QPSK-10 MHz-High Channel- Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1684.000	60.97	-9.53	51.44	82.25	-30.81	peak
2	3376.000	51.66	-3.17	48.49	82.25	-33.76	peak
3	4204.000	57.73	-1.44	56.29	82.25	-25.96	peak
4	4996.000	43.00	1.20	44.20	82.25	-38.05	peak
5	7669.000	37.85	7.72	45.57	82.25	-36.68	peak
6	9235.000	38.98	11.47	50.45	82.25	-31.80	peak

Note: Limit= -13dBm+95.25=82.25 dBuV/m

8.1.2. LTE Band 40(2305-2315MHz)

QPSK-10 MHz-Mid Channel- Horizontal



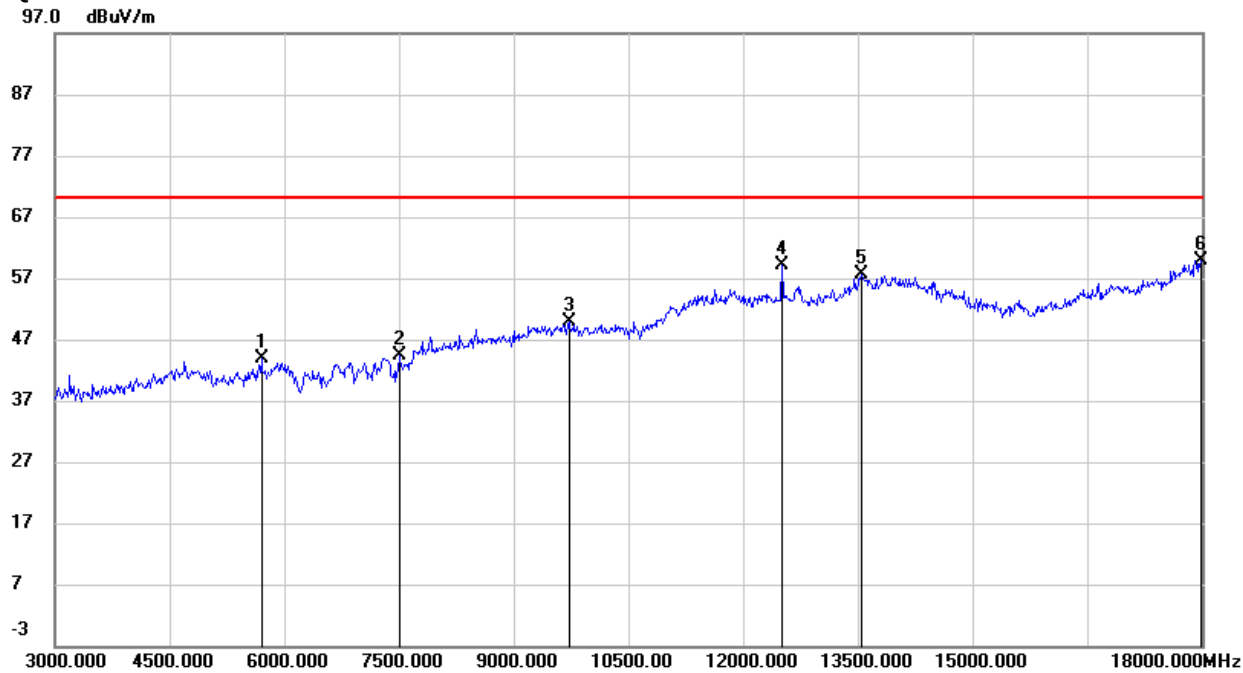
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5955.000	39.98	3.15	43.13	70.25	-27.12	peak
2	6690.000	38.89	5.52	44.41	70.25	-25.84	peak
3	9585.000	38.28	12.73	51.01	70.25	-19.24	peak
4	12420.000	37.07	19.03	56.10	70.25	-14.15	peak
5	13620.000	35.63	22.49	58.12	70.25	-12.13	peak
6	17985.000	30.48	29.29	59.77	70.25	-10.48	peak

QPSK-10 MHz-Mid Channel- Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4620.000	44.12	0.95	45.07	70.25	-25.18	peak
2	7350.000	37.68	7.78	45.46	70.25	-24.79	peak
3	9585.000	37.27	12.61	49.88	70.25	-20.37	peak
4	12690.000	37.20	18.18	55.38	70.25	-14.87	peak
5	14235.000	34.46	21.97	56.43	70.25	-13.82	peak
6	16875.000	33.37	24.85	58.22	70.25	-12.03	peak

8.1.3. LTE Band 40(2350-2360MHz)

QPSK-10 MHz-Mid Channel- Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5700.000	41.10	2.66	43.76	70.25	-26.49	peak
2	7500.000	37.01	7.44	44.45	70.25	-25.80	peak
3	9720.000	36.79	13.08	49.87	70.25	-20.38	peak
4	12510.000	40.12	18.94	59.06	70.25	-11.19	peak
5	13545.000	35.36	22.37	57.73	70.25	-12.52	peak
6	17985.000	30.65	29.29	59.94	70.25	-10.31	peak

QPSK-10 MHz-Mid Channel- Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4695.000	43.73	1.25	44.98	70.25	-25.27	peak
2	7305.000	37.51	7.75	45.26	70.25	-24.99	peak
3	9225.000	38.16	11.34	49.50	70.25	-20.75	peak
4	12615.000	36.27	18.06	54.33	70.25	-15.92	peak
5	14445.000	34.47	21.46	55.93	70.25	-14.32	peak
6	17265.000	32.94	25.14	58.08	70.25	-12.17	peak

Note: Limit= -13dBm+95.25=82.25 dBuV/m

8.1.4. LTE Band 41

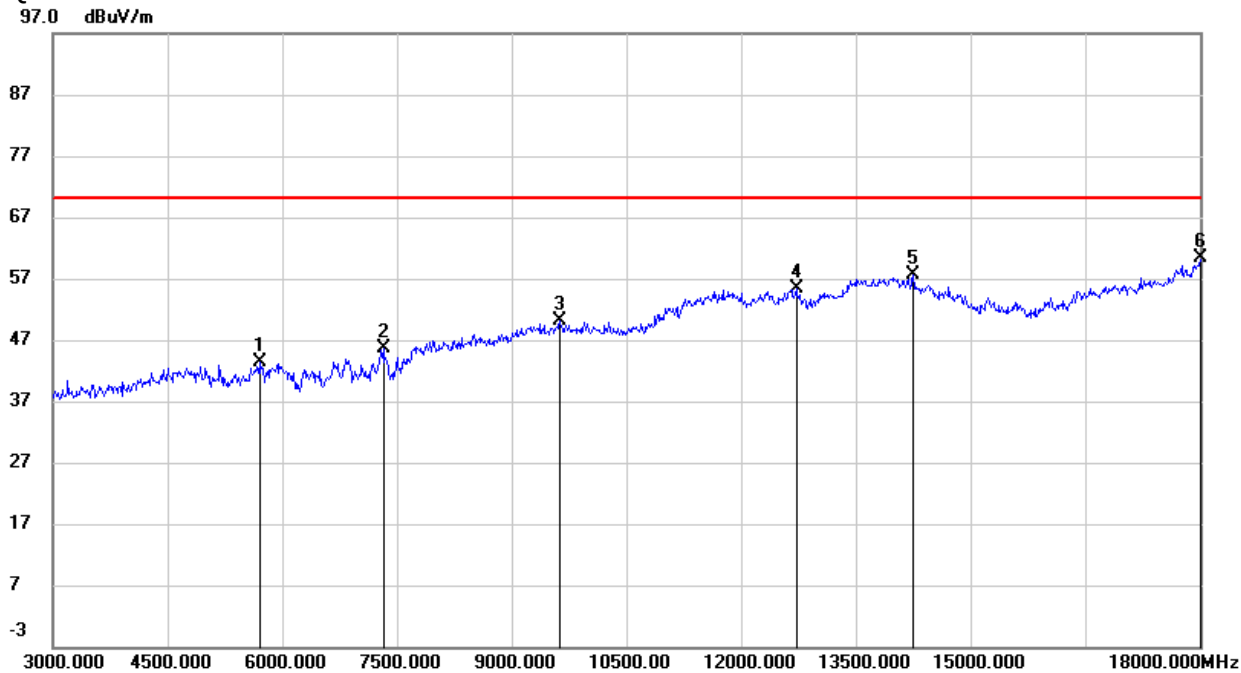
QPSK-20 MHz-Low Channel- Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5865.000	39.83	2.98	42.81	70.25	-27.44	peak
2	7500.000	39.35	7.44	46.79	70.25	-23.46	peak
3	10140.000	36.96	13.28	50.24	70.25	-20.01	peak
4	11340.000	37.32	17.46	54.78	70.25	-15.47	peak
5	13590.000	35.40	22.45	57.85	70.25	-12.40	peak
6	18000.000	29.99	29.44	59.43	70.25	-10.82	peak

QPSK-20 MHz-Low Channel- Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5895.000	39.92	4.07	43.99	70.25	-26.26	peak
2	7305.000	38.32	7.75	46.07	70.25	-24.18	peak
3	9255.000	39.34	11.44	50.78	70.25	-19.47	peak
4	12270.000	36.89	17.93	54.82	70.25	-15.43	peak
5	14010.000	34.41	22.00	56.41	70.25	-13.84	peak
6	17655.000	32.29	25.67	57.96	70.25	-12.29	peak

QPSK-20 MHz-Mid Channel- Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5700.000	40.74	2.66	43.40	70.25	-26.85	peak
2	7320.000	38.39	7.12	45.51	70.25	-24.74	peak
3	9630.000	37.28	12.86	50.14	70.25	-20.11	peak
4	12720.000	36.01	19.28	55.29	70.25	-14.96	peak
5	14250.000	34.73	22.89	57.62	70.25	-12.63	peak
6	18000.000	30.99	29.44	60.43	70.25	-9.82	peak

QPSK-20 MHz-Mid Channel- Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
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1	5715.000	41.32	3.80	45.12	70.25	-25.13	peak
2	7335.000	37.80	7.77	45.57	70.25	-24.68	peak
3	9480.000	37.63	12.28	49.91	70.25	-20.34	peak
4	11865.000	37.50	17.52	55.02	70.25	-15.23	peak
5	13815.000	35.15	21.18	56.33	70.25	-13.92	peak
6	16905.000	33.25	24.88	58.13	70.25	-12.12	peak

QPSK-20 MHz-High Channel- Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4695.000	42.53	0.23	42.76	70.25	-27.49	peak
2	6540.000	39.71	4.96	44.67	70.25	-25.58	peak
3	9375.000	38.26	11.78	50.04	70.25	-20.21	peak
4	12570.000	36.59	18.97	55.56	70.25	-14.69	peak
5	13830.000	35.22	22.88	58.10	70.25	-12.15	peak
6	18000.000	30.58	29.44	60.02	70.25	-10.23	peak

QPSK-20 MHz-High Channel- Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5685.000	40.53	3.76	44.29	70.25	-25.96	peak
2	7350.000	38.22	7.78	46.00	70.25	-24.25	peak
3	9225.000	38.57	11.34	49.91	70.25	-20.34	peak
4	12615.000	36.12	18.06	54.18	70.25	-16.07	peak
5	14295.000	34.70	21.81	56.51	70.25	-13.74	peak
6	16800.000	33.28	24.77	58.05	70.25	-12.20	peak

Note: Limit= -25dBm+95.25=70.25 dBuV/m

END OF REPORT