

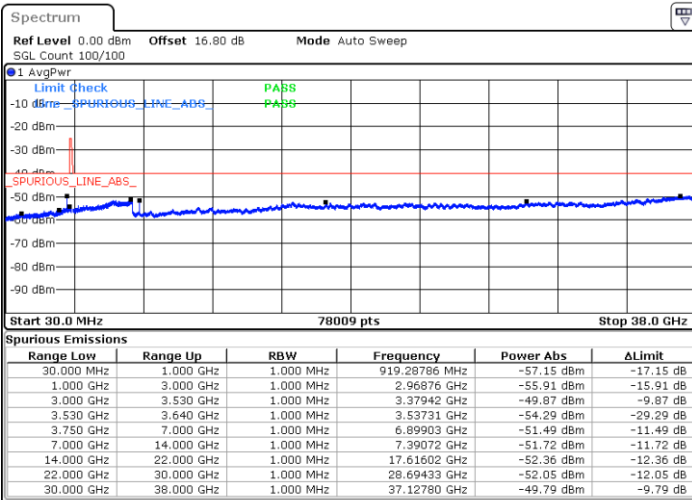


LTE Band 48 / 5MHz

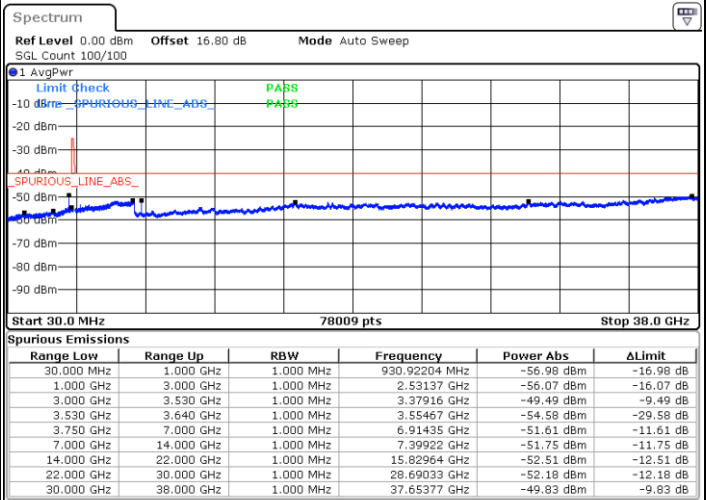
64QAM

Highest Channel / 1RB0

Highest Channel / 1RBmax



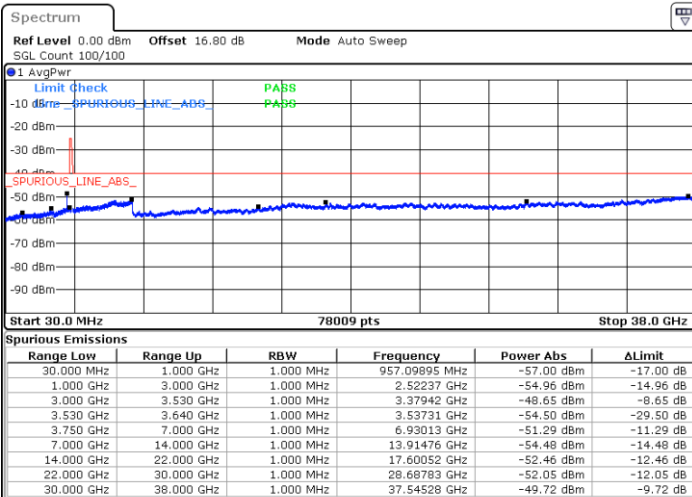
Date: 20 JUN.2020 22:31:32



Date: 20 JUN.2020 22:50:53

Highest Channel / FullIRB

N/A



Date: 20 JUN.2020 22:41:13

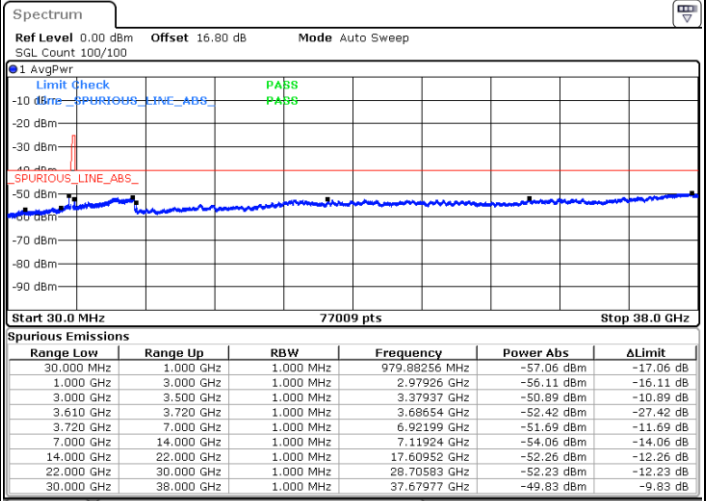
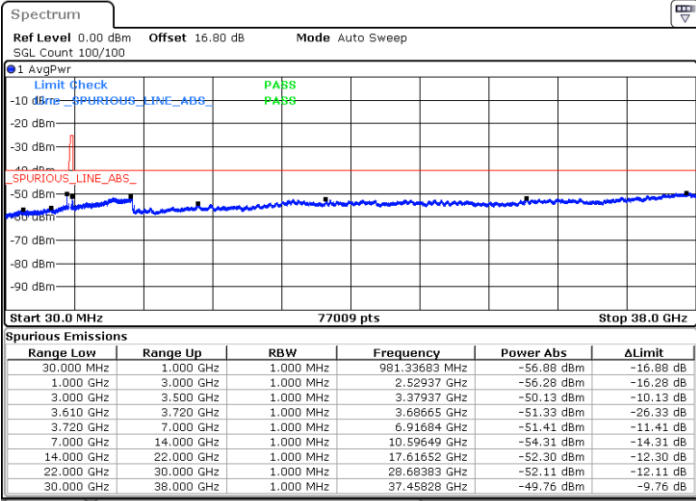


LTE Band 48 / 10MHz

64QAM

Lowest Channel / 1RB0

Lowest Channel / 1RBmax

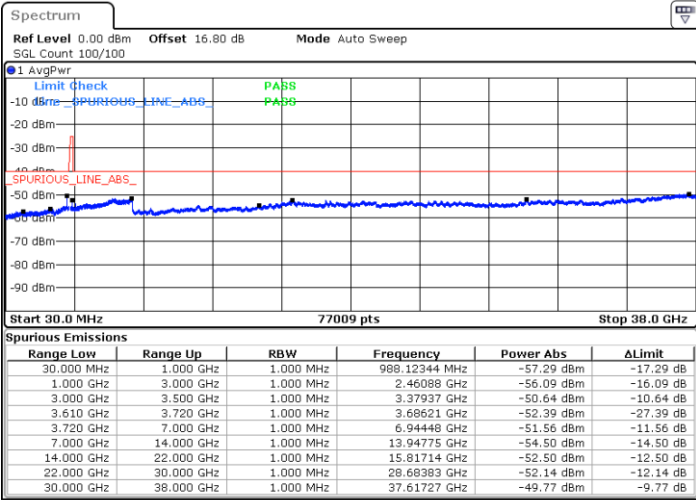


Date: 20 JUN.2020 22:51:58

Date: 20 JUN.2020 23:11:20

Lowest Channel / FullIRB

N/A



Date: 20 JUN.2020 23:01:40

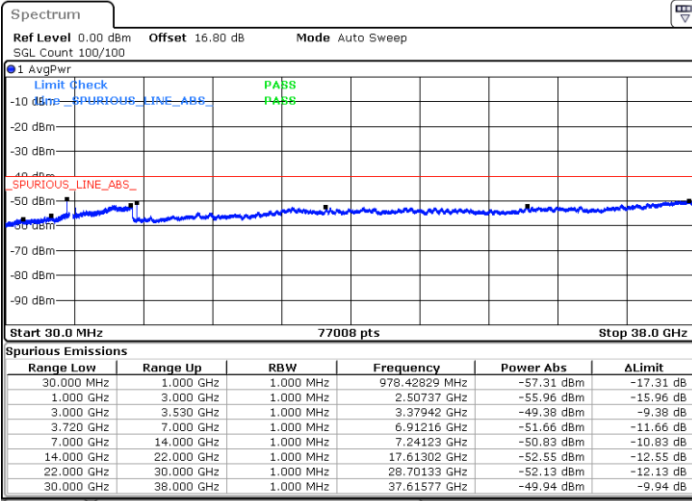


LTE Band 48 / 10MHz

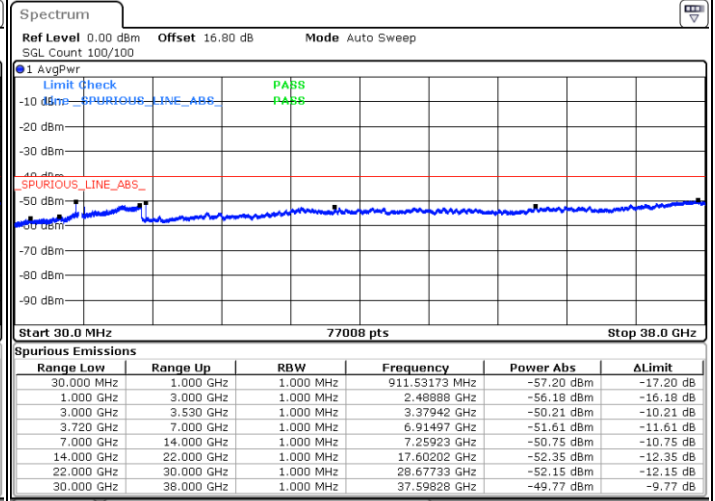
64QAM

MiddleChannel / 1RB0

Middle Channel / 1RBmax



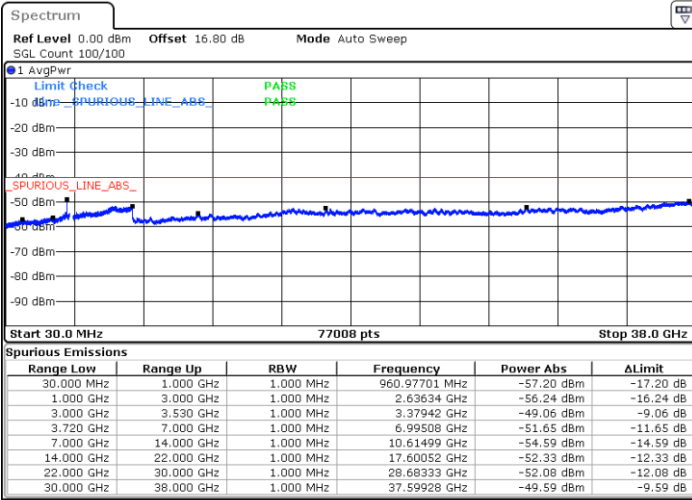
Date: 20 JUN.2020 22:57:20



Date: 20 JUN.2020 23:16:41

Middle Channel / FullIRB

N/A



Date: 20 JUN.2020 23:07:01

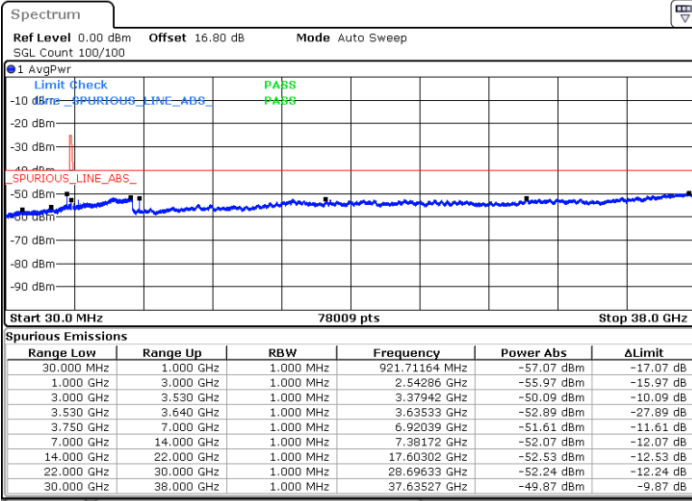


LTE Band 48 / 10MHz

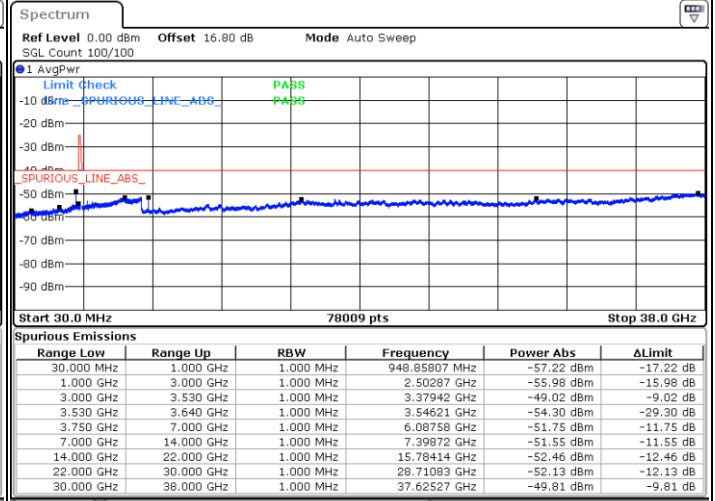
64QAM

Highest Channel / 1RB0

Highest Channel / 1RBmax



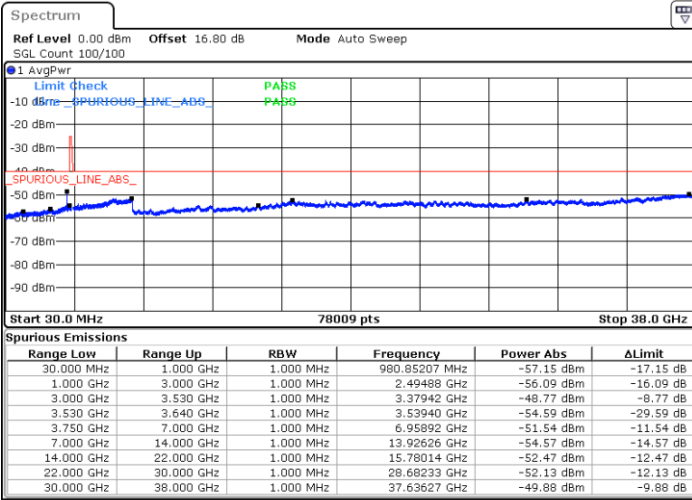
Date: 20 JUN.2020 22:58:25



Date: 20 JUN.2020 23:17:46

Highest Channel / FullIRB

N/A



Date: 20 JUN.2020 23:08:05

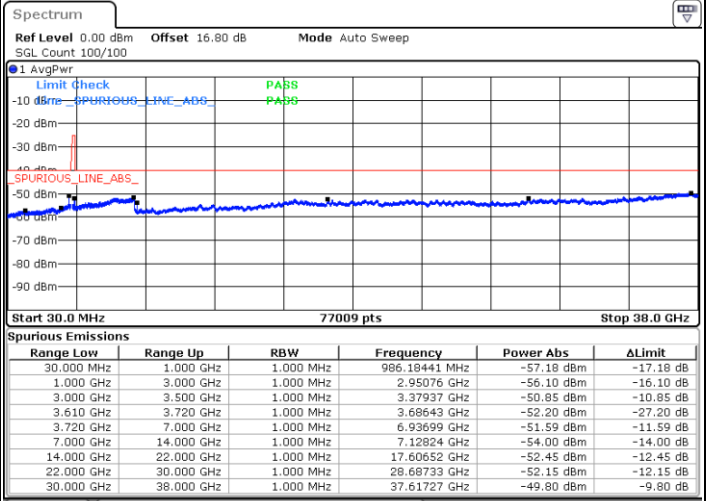
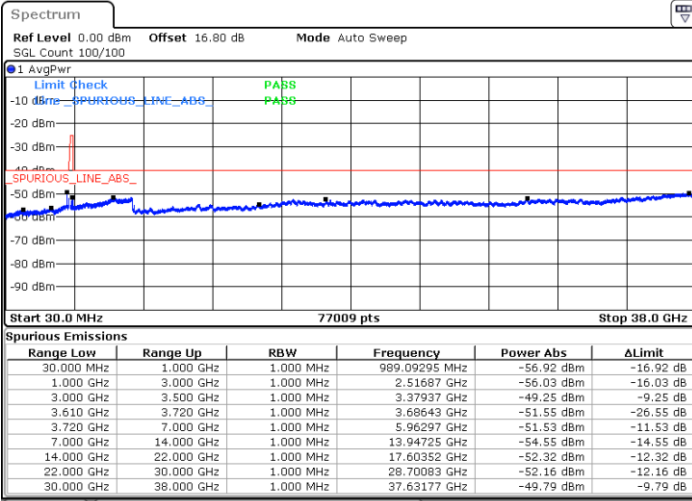


LTE Band 48 / 15MHz

64QAM

Lowest Channel / 1RB0

Lowest Channel / 1RBmax

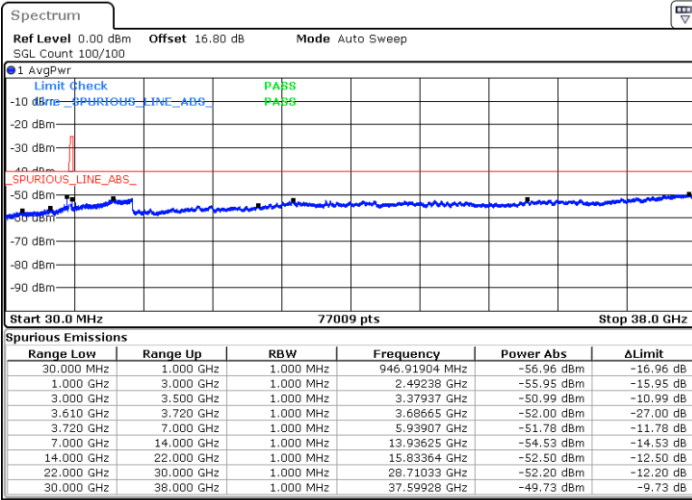


Date: 20 JUN.2020 23:23:10

Date: 20 JUN.2020 23:42:31

Lowest Channel / FullIRB

N/A



Date: 20 JUN.2020 23:32:51

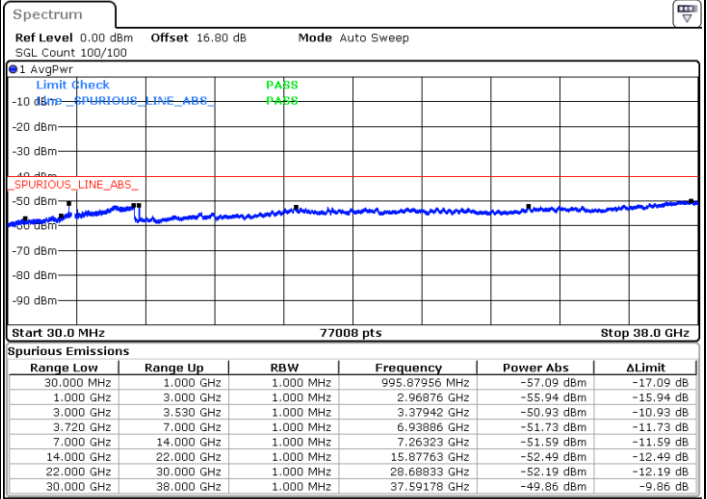
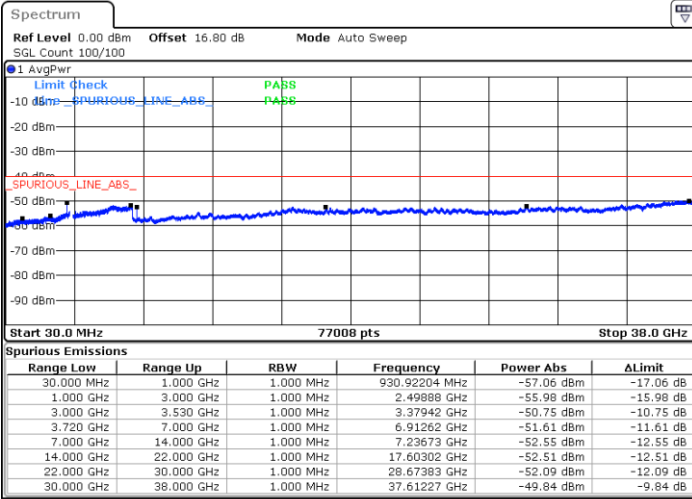


LTE Band 48 / 15MHz

64QAM

Middle Channel / 1RB0

Middle Channel / 1RBmax

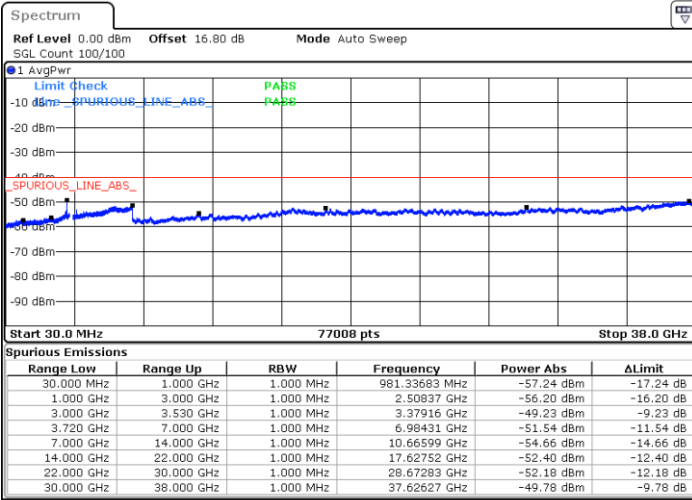


Date: 20 JUN.2020 23:24:15

Date: 20 JUN.2020 23:43:35

Middle Channel / FullRB

N/A



Date: 20 JUN.2020 23:33:55

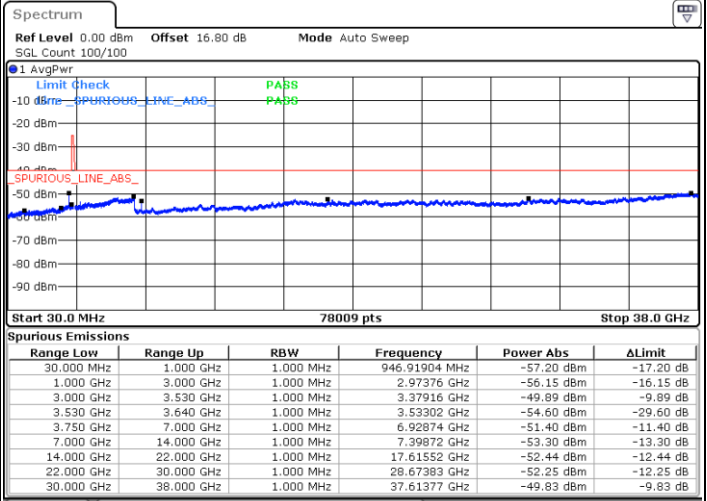
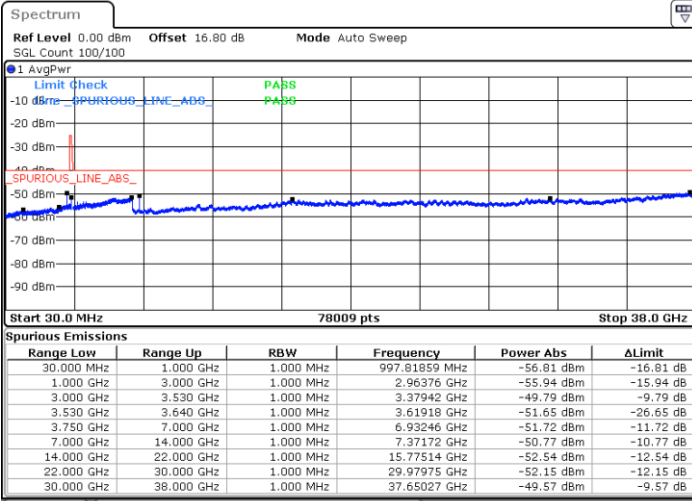


LTE Band 48 / 15MHz

64QAM

Highest Channel / 1RB0

Highest Channel / 1RBmax

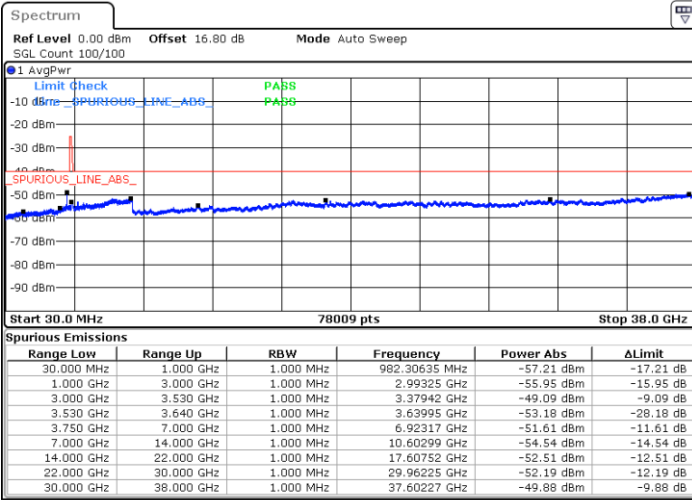


Date: 20 JUN.2020 23:29:37

Date: 20 JUN.2020 23:48:57

Highest Channel / FullIRB

N/A



Date: 20 JUN.2020 23:39:17

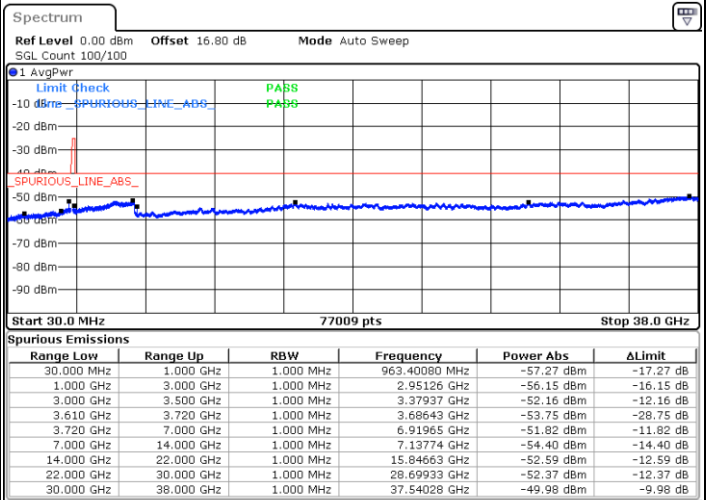
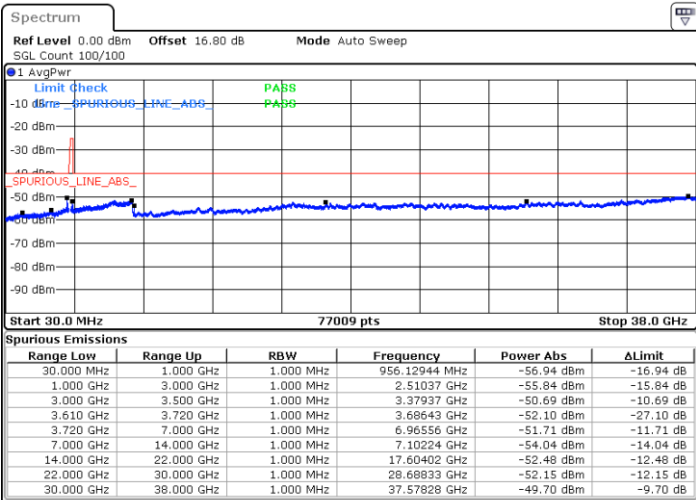


LTE Band 48 / 20MHz

64QAM

Lowest Channel / 1RB0

Lowest Channel / 1RBmax

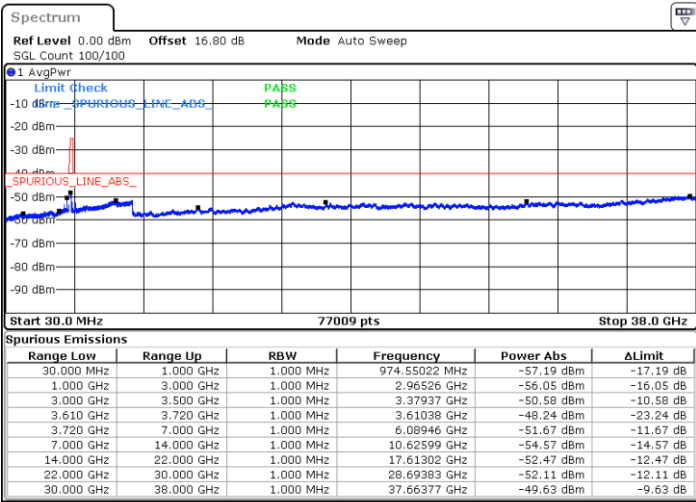


Date: 20 JUN.2020 23:59:43

Date: 21 JUN.2020 08:24:38

Lowest Channel / FullIRB

N/A



Date: 20 JUN.2020 23:50:03

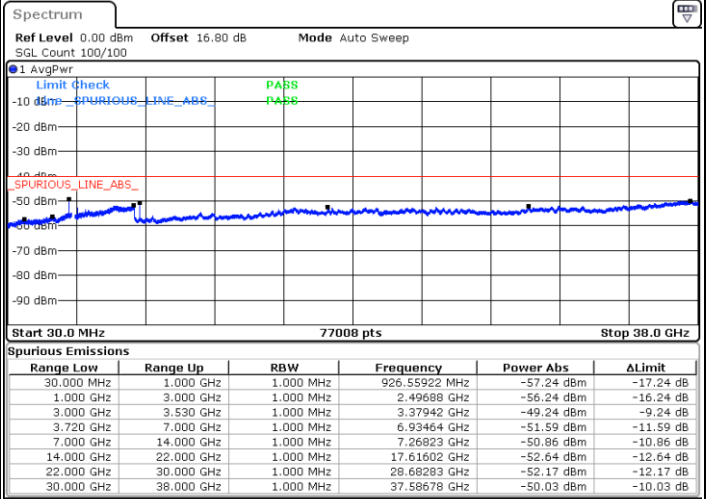
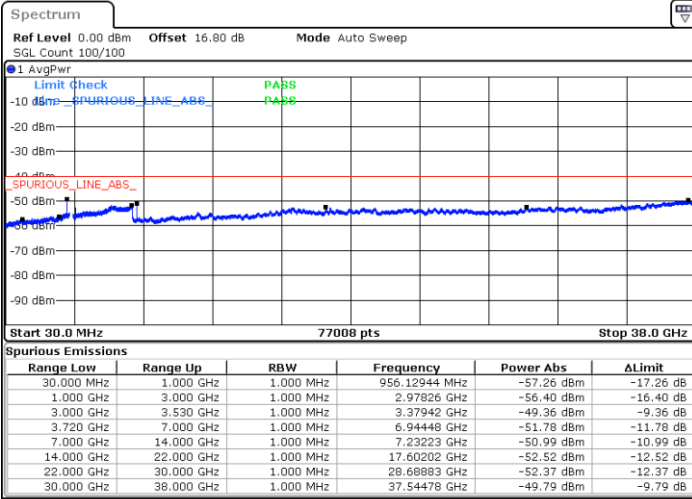


LTE Band 48 / 20MHz

64QAM

Middle Channel / 1RB0

Middle Channel / 1RBmax

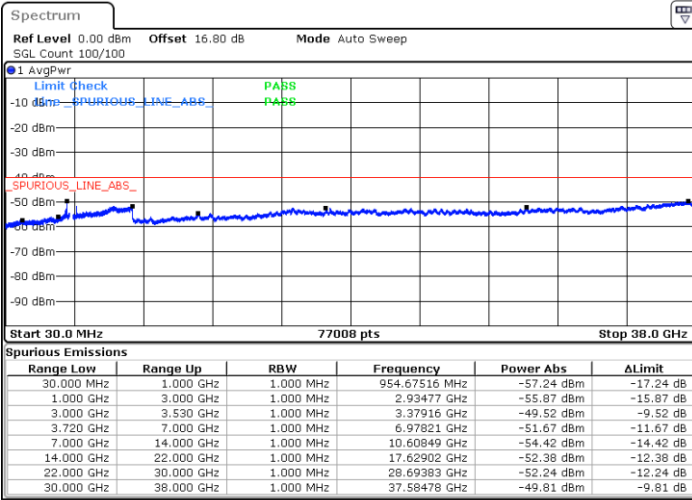


Date: 21.JUN.2020 08:20:18

Date: 21.JUN.2020 08:30:00

Middle Channel / FullRB

N/A



Date: 20.JUN.2020 23:55:24

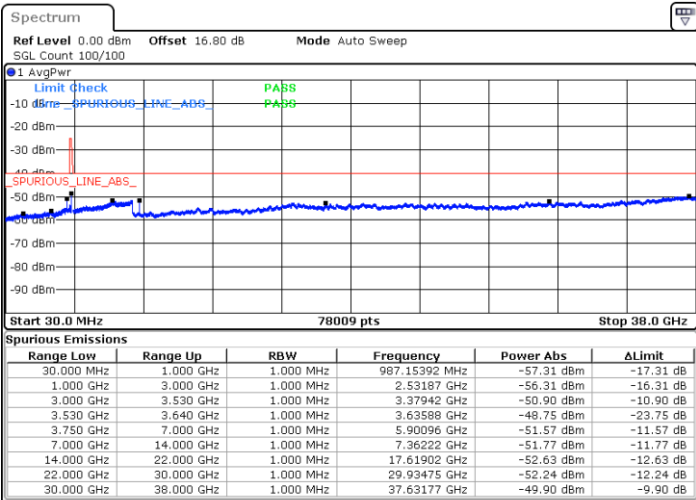


LTE Band 48 / 20MHz

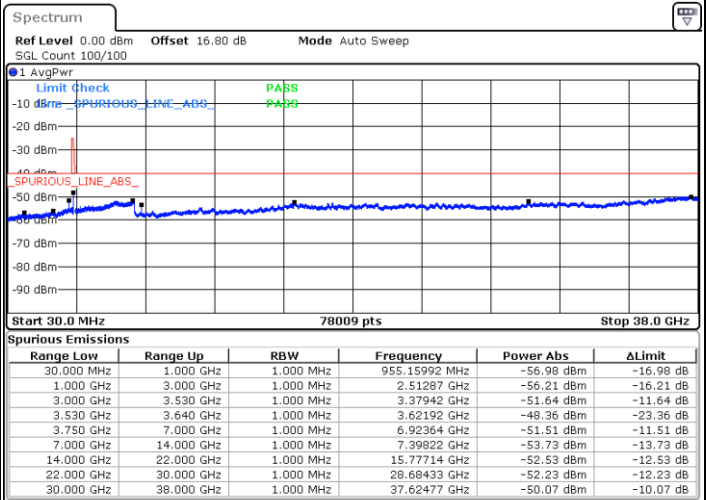
64QAM

Highest Channel / 1RB0

Highest Channel / 1RBmax



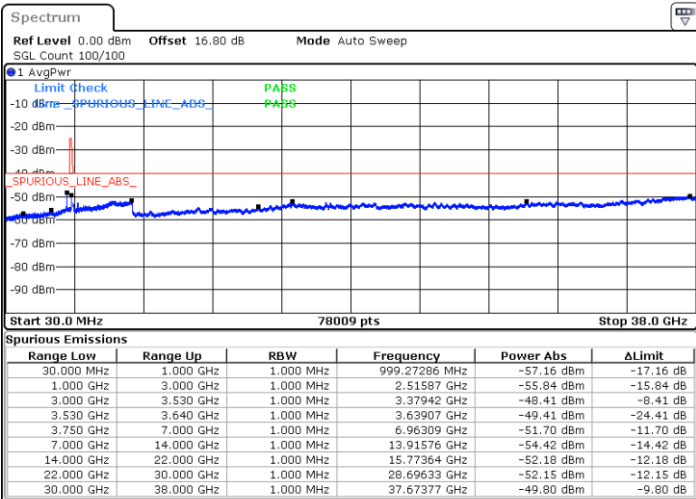
Date: 21 JUN.2020 08:21:22



Date: 21 JUN.2020 08:31:05

Highest Channel / FullIRB

N/A



Date: 20 JUN.2020 23:56:28



Frequency Stability

Test Conditions		LTE Band 48 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0043	PASS
40	Normal Voltage	0.0031	
30	Normal Voltage	0.0040	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0038	
0	Normal Voltage	0.0033	
-10	Normal Voltage	0.0028	
-20	Normal Voltage	0.0010	
-30	Normal Voltage	0.0034	
20	Maximum Voltage	0.0030	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0054	

Note:

1. Normal Voltage =4.0 V. ; Battery End Point (BEP) =3.5 V. ; Maximum Voltage =4.45 V.
2. The frequency fundamental emissions stay within the authorized frequency block.



Appendix B. Test Results of EIRP and Radiated Test

EIRP

<Reporting Only>

<PT Antenna>

LTE Band 48 / 5MHz (Average) (GT - LC = -1.5 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	20.84	0.1213	19.34	0.0859
Middle		1	0	20.85	0.1216	19.35	0.0861
Highest		1	0	20.81	0.1205	19.31	0.0853
Lowest	16QAM	1	0	18.26	0.0670	16.76	0.0474
Middle		1	0	18.30	0.0676	16.80	0.0479
Highest		1	0	18.29	0.0675	16.79	0.0478
Lowest	64QAM	1	0	17.11	0.0514	15.61	0.0364
Middle		1	0	17.14	0.0518	15.64	0.0366
Highest		1	0	17.07	0.0509	15.57	0.0361

LTE Band 48 / 10MHz (Average) (GT - LC = -1.5 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	20.85	0.1216	19.35	0.0861
Middle		1	0	20.88	0.1225	19.38	0.0867
Highest		1	0	20.85	0.1216	19.35	0.0861
Lowest	16QAM	1	0	18.28	0.0673	16.78	0.0476
Middle		1	0	18.31	0.0678	16.81	0.0480
Highest		1	0	18.27	0.0671	16.77	0.0475
Lowest	64QAM	1	0	17.10	0.0513	15.60	0.0363
Middle		1	0	17.09	0.0512	15.59	0.0362
Highest		1	0	17.01	0.0502	15.51	0.0356

LTE Band 48 / 15MHz (Average) (GT - LC = -1.5 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	20.87	0.1222	19.37	0.0865
Middle		1	0	20.87	0.1222	19.37	0.0865
Highest		1	0	20.79	0.1199	19.29	0.0849
Lowest	16QAM	1	0	18.28	0.0673	16.78	0.0476
Middle		1	0	18.29	0.0675	16.79	0.0478
Highest		1	0	18.30	0.0676	16.80	0.0479
Lowest	64QAM	1	0	17.07	0.0509	15.57	0.0361
Middle		1	0	17.12	0.0515	15.62	0.0365
Highest		1	0	17.02	0.0504	15.52	0.0356



LTE Band 48 / 20MHz (Average) (GT - LC = -1.5 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	20.93	0.1239	19.43	0.0877
Middle		1	0	20.90	0.1230	19.40	0.0871
Highest		1	0	20.89	0.1227	19.39	0.0869
Lowest	16QAM	1	0	18.36	0.0685	16.86	0.0485
Middle		1	0	18.38	0.0689	16.88	0.0488
Highest		1	0	18.34	0.0682	16.84	0.0483
Lowest	64QAM	1	0	17.11	0.0514	15.61	0.0364
Middle		1	0	17.15	0.0519	15.65	0.0367
Highest		1	0	17.08	0.0511	15.58	0.0361



EIRP

LTE Band 48 / Conducted Power (dBm/10MHz)									
BW	1.4MHz			3MHz			5MHz		
Mod.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Lowest CH	-	-	-	-	-	-	20.84	18.26	17.11
Middle CH	-	-	-	-	-	-	20.85	18.30	17.14
Highest CH	-	-	-	-	-	-	20.81	18.29	17.07
LTE Band 48 / Conducted Power (dBm/10MHz)									
BW	10MHz			15MHz			20MHz		
Mod.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Lowest CH	20.85	18.28	17.10	20.87	18.28	17.07	20.93	18.36	17.11
Middle CH	20.88	18.31	17.09	20.87	18.29	17.12	20.90	18.38	17.15
Highest CH	20.85	18.27	17.01	20.79	18.30	17.02	20.89	18.34	17.08

LTE Band 48 / EIRP Power (dBm/10MHz)									
BW	1.4MHz			3MHz			5MHz		
Mod.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Lowest CH	-	-	-	-	-	-	19.34	16.76	15.61
Middle CH	-	-	-	-	-	-	19.35	16.80	15.64
Highest CH	-	-	-	-	-	-	19.31	16.79	15.57
LTE Band 48 / EIRP Power (dBm/10MHz)									
BW	10MHz			15MHz			20MHz		
Mod.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Lowest CH	19.35	16.78	15.60	19.37	16.78	15.57	19.43	16.86	15.61
Middle CH	19.38	16.81	15.59	19.37	16.79	15.62	19.40	16.88	15.65
Highest CH	19.35	16.77	15.51	19.29	16.80	15.52	19.39	16.84	15.58
Antenna Gain	-1.5 dBi								
Limit	23dBm / 10MHz								
Result	PASS								



<ASDIV Antenna>

LTE Band 48 / 5MHz (Average) (GT - LC = -1.5 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	23.86	0.2432	22.36	0.1722
Middle		1	0	23.86	0.2432	22.36	0.1722
Highest		1	0	23.86	0.2432	22.36	0.1722
Lowest	16QAM	1	0	21.63	0.1455	20.13	0.1030
Middle		1	0	21.50	0.1413	20.00	0.1000
Highest		1	0	21.53	0.1422	20.03	0.1007
Lowest	64QAM	1	0	20.46	0.1112	18.96	0.0787
Middle		1	0	20.44	0.1107	18.94	0.0783
Highest		1	0	20.37	0.1089	18.87	0.0771

LTE Band 48 / 10MHz (Average) (GT - LC = -1.5 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	23.91	0.2460	22.41	0.1742
Middle		1	0	23.92	0.2466	22.42	0.1746
Highest		1	0	23.80	0.2399	22.30	0.1698
Lowest	16QAM	1	0	21.64	0.1459	20.14	0.1033
Middle		1	0	21.56	0.1432	20.06	0.1014
Highest		1	0	21.55	0.1429	20.05	0.1012
Lowest	64QAM	1	0	20.44	0.1107	18.94	0.0783
Middle		1	0	20.50	0.1122	19.00	0.0794
Highest		1	0	20.34	0.1081	18.84	0.0766

LTE Band 48 / 15MHz (Average) (GT - LC = -1.5 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	23.90	0.2455	22.40	0.1738
Middle		1	0	23.90	0.2455	22.40	0.1738
Highest		1	0	23.84	0.2421	22.34	0.1714
Lowest	16QAM	1	0	21.59	0.1442	20.09	0.1021
Middle		1	0	21.49	0.1409	19.99	0.0998
Highest		1	0	21.53	0.1422	20.03	0.1007
Lowest	64QAM	1	0	20.42	0.1102	18.92	0.0780
Middle		1	0	20.46	0.1112	18.96	0.0787
Highest		1	0	20.42	0.1102	18.92	0.0780



LTE Band 48 / 20MHz (Average) (GT - LC = -1.5 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	23.93	0.2472	22.43	0.1750
Middle		1	0	23.96	0.2489	22.46	0.1762
Highest		1	0	23.89	0.2449	22.39	0.1734
Lowest	16QAM	1	0	21.68	0.1472	20.18	0.1042
Middle		1	0	21.59	0.1442	20.09	0.1021
Highest		1	0	21.61	0.1449	20.11	0.1026
Lowest	64QAM	1	0	20.52	0.1127	19.02	0.0798
Middle		1	0	20.50	0.1122	19.00	0.0794
Highest		1	0	20.43	0.1104	18.93	0.0782



EIRP

LTE Band 48 / Conducted Power (dBm/10MHz)									
BW	1.4MHz			3MHz			5MHz		
Mod.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Lowest CH	-	-	-	-	-	-	23.86	21.63	20.46
Middle CH	-	-	-	-	-	-	23.86	21.50	20.44
Highest CH	-	-	-	-	-	-	23.86	21.53	20.37

LTE Band 48 / Conducted Power (dBm/10MHz)									
BW	10MHz			15MHz			20MHz		
Mod.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Lowest CH	23.91	21.64	20.44	23.90	21.59	20.42	23.93	21.68	20.52
Middle CH	23.92	21.56	20.50	23.90	21.49	20.46	23.96	21.59	20.50
Highest CH	23.80	21.55	20.34	23.84	21.53	20.42	23.89	21.61	20.43

LTE Band 48 / EIRP Power (dBm/10MHz)									
BW	1.4MHz			3MHz			5MHz		
Mod.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Lowest CH	-	-	-	-	-	-	22.36	20.13	18.96
Middle CH	-	-	-	-	-	-	22.36	20.00	18.94
Highest CH	-	-	-	-	-	-	22.36	20.03	18.87

LTE Band 48 / EIRP Power (dBm/10MHz)									
BW	10MHz			15MHz			20MHz		
Mod.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Lowest CH	22.41	20.14	18.94	22.40	20.09	18.92	22.43	20.18	19.02
Middle CH	22.42	20.06	19.00	22.40	19.99	18.96	22.46	20.09	19.00
Highest CH	22.30	20.05	18.84	22.34	20.03	18.92	22.39	20.11	18.93
Antenna Gain	-1.5 dBi								
Limit	23dBm / 10MHz								
Result	PASS								



Radiated Spurious Emission

<Open Mode>

<PT Antenna>

<Ant. 1>

LTE Band 48

LTE Band 48 / 20MHz / QPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	7102	-44.55	-40	-4.55	-46.53	-54.51	1.78	11.74	H
	10653	-56.91	-40	-16.91	-59.18	-65.34	2.47	10.90	H
	14204	-55.54	-40	-15.54	-62.6	-64.38	2.87	11.71	H
	21307	-52.57	-40	-12.57	-74.42	-69.29	1.98	18.70	H
	24858	-50.74	-40	-10.74	-75.4	-66.75	2.07	18.07	H
	28409	-50.62	-40	-10.62	-76.14	-67.87	2.32	19.56	H
									H
	7102	-46.83	-40	-6.83	-48.42	-56.79	1.78	11.74	V
	10653	-57.16	-40	-17.16	-59.18	-65.59	2.47	10.90	V
	14204	-55.82	-40	-15.82	-62.61	-64.66	2.87	11.71	V
	21307	-53.39	-40	-13.39	-75.11	-70.11	1.98	18.70	V
	24858	-49.87	-40	-9.87	-75.74	-65.88	2.07	18.07	V
	28409	-48.47	-40	-8.47	-75.81	-65.72	2.32	19.56	V
									V



Middle	7232	-50.23	-40	-10.23	-52.61	-59.91	1.85	11.53	H
	10848	-57.94	-40	-17.94	-60.27	-66.27	2.57	10.90	H
	14464	-56.81	-40	-16.81	-64.08	-65.04	2.85	11.09	H
	18077	-53.96	-40	-13.96	-72.07	-70.19	1.76	17.98	H
	21697	-52.51	-40	-12.51	-74.03	-69.30	1.99	18.78	H
	25313	-50.39	-40	-10.39	-75.55	-66.99	2.14	18.74	H
									H
	7232	-51.63	-40	-11.63	-53.74	-61.31	1.85	11.53	V
	10848	-58.24	-40	-18.24	-60.36	-66.57	2.57	10.90	V
	14464	-57.44	-40	-17.44	-63.88	-65.67	2.85	11.09	V
	18077	-53.23	-40	-13.23	-72.43	-69.46	1.76	17.98	V
	21697	-53.23	-40	-13.23	-74.74	-70.02	1.99	18.78	V
	25313	-49.64	-40	-9.64	-76.06	-66.24	2.14	18.74	V
									V
Highest	7362	-56.62	-40	-16.62	-58.95	-66.03	1.92	11.32	H
	11043	-56.68	-40	-16.68	-59.15	-65.00	2.63	10.95	H
	14724	-55.23	-40	-15.23	-64.07	-64.03	2.91	11.72	H
	18405	-54.28	-40	-14.28	-72.59	-70.33	1.87	17.92	H
	22087	-52.51	-40	-12.51	-74.68	-69.30	2.08	18.87	H
	25768	-49.87	-40	-9.87	-75.86	-66.89	2.03	19.05	H
									H
	7362	-57.29	-40	-17.29	-59.44	-66.70	1.92	11.32	V
	11043	-57.20	-40	-17.20	-59.51	-65.52	2.63	10.95	V
	14724	-56.98	-40	-16.98	-64.15	-65.78	2.91	11.72	V
	18405	-54.91	-40	-14.91	-72.38	-70.96	1.87	17.92	V
	22087	-53.02	-40	-13.02	-75.19	-69.81	2.08	18.87	V
	25768	-48.56	-40	-8.56	-75.74	-65.58	2.03	19.05	V
									V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



<ASDIV Antenna>

<Ant. 2>

LTE Band 48

LTE Band 48 / 20MHz / QPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	7100	-58.09	-40	-18.09	-60.06	-68.06	1.77	11.74	H
	10653	-57.70	-40	-17.70	-59.97	-66.13	2.47	10.90	H
	14205	-55.65	-40	-15.65	-62.71	-64.49	2.87	11.71	H
	21041	-51.71	-40	-11.71	-74.29	-68.34	2.07	18.70	H
	24859	-50.98	-40	-10.98	-75.64	-66.99	2.07	18.07	H
	28411	-50.91	-40	-10.91	-76.43	-68.16	2.32	19.56	H
									H
	7100	-58.71	-40	-18.71	-60.29	-68.68	1.77	11.74	V
	10653	-57.56	-40	-17.56	-59.58	-65.99	2.47	10.90	V
	14205	-56.21	-40	-16.21	-62.99	-65.05	2.87	11.71	V
	21041	-51.86	-40	-11.86	-74.13	-68.49	2.07	18.70	V
	24859	-49.56	-40	-9.56	-75.43	-65.57	2.07	18.07	V
	28411	-49.01	-40	-9.01	-76.35	-66.26	2.32	19.56	V
									V



Middle	7230	-58.09	-40	-18.09	-60.46	-67.78	1.84	11.53	H
	10848	-58.29	-40	-18.29	-60.62	-66.62	2.57	10.90	H
	14462	-57.05	-40	-17.05	-64.32	-65.29	2.85	11.09	H
	18077	-54.27	-40	-14.27	-72.38	-70.50	1.76	17.98	H
	21696	-53.21	-40	-13.21	-74.73	-70.00	1.99	18.78	H
	25314	-51.21	-40	-11.21	-76.37	-67.81	2.14	18.74	H
									H
	7230	-58.51	-40	-18.51	-60.62	-68.20	1.84	11.53	V
	10848	-58.44	-40	-18.44	-60.56	-66.77	2.57	10.90	V
	14462	-57.97	-40	-17.97	-64.42	-66.21	2.85	11.09	V
	18077	-54.95	-40	-14.95	-72.13	-71.18	1.76	17.98	V
	21696	-53.30	-40	-13.30	-74.81	-70.09	1.99	18.78	V
	25314	-49.76	-40	-9.76	-76.19	-66.36	2.14	18.74	V
									V
Highest	7360	-58.52	-40	-18.52	-60.86	-67.93	1.91	11.32	H
	11043	-58.52	-40	-18.52	-60.99	-66.84	2.63	10.95	H
	14724	-56.20	-40	-16.20	-65.04	-65.00	2.91	11.72	H
	18399	-54.12	-40	-14.12	-72.43	-70.17	1.87	17.92	H
	22084	-52.51	-40	-12.51	-74.67	-69.30	2.08	18.87	H
	25770	-50.21	-40	-10.21	-76.21	-67.23	2.03	19.05	H
									H
	7360	-58.84	-40	-18.84	-60.99	-68.25	1.91	11.32	V
	11043	-58.25	-40	-18.25	-60.56	-66.57	2.63	10.95	V
	14724	-57.78	-40	-17.78	-64.95	-66.58	2.91	11.72	V
	18399	-55.09	-40	-15.09	-72.52	-71.14	1.87	17.92	V
	22084	-52.34	-40	-12.34	-74.5	-69.13	2.08	18.87	V
	25770	-48.59	-40	-8.59	-75.77	-65.61	2.03	19.05	V
									V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.