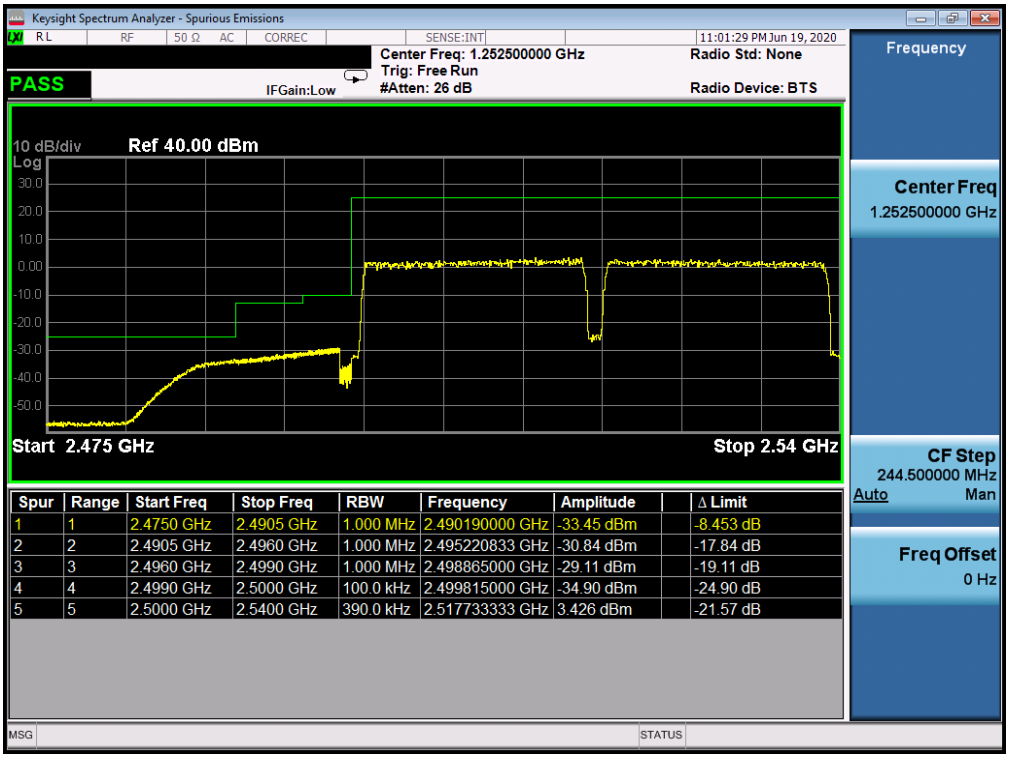


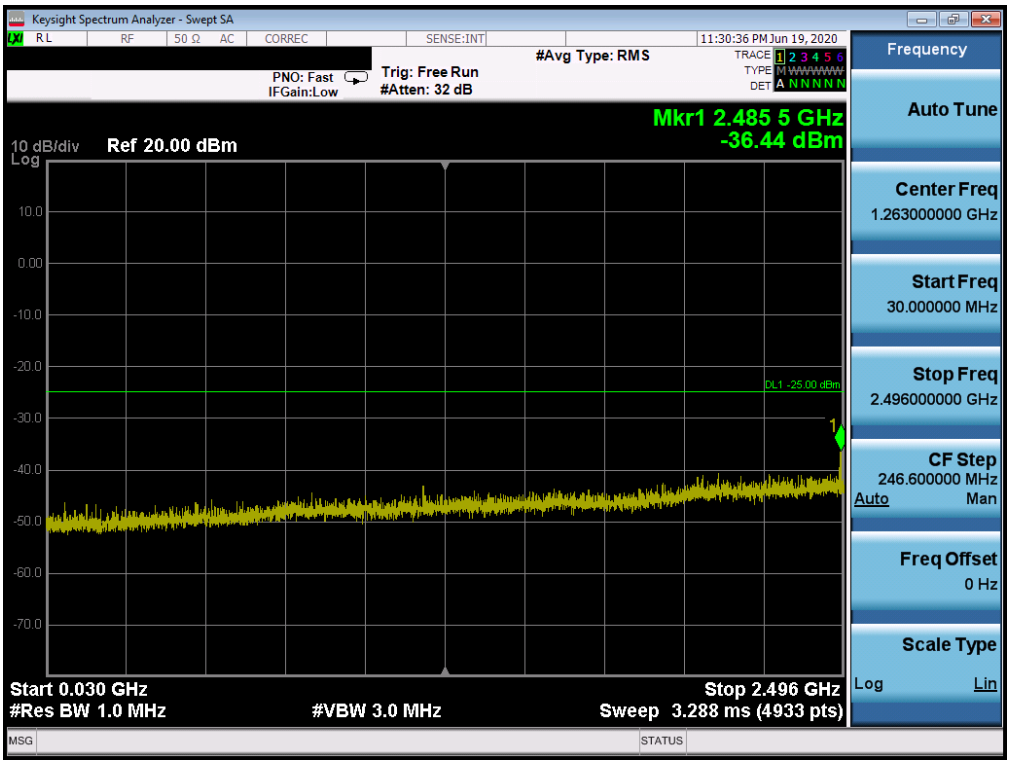
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.4750 GHz	2.4905 GHz	1.000 MHz	2.490190000 GHz	-33.45 dBm	-8.453 dB
2	2	2.4905 GHz	2.4960 GHz	1.000 MHz	2.495220833 GHz	-30.84 dBm	-17.84 dB
3	3	2.4960 GHz	2.4990 GHz	1.000 MHz	2.498865000 GHz	-29.11 dBm	-19.11 dB
4	4	2.4990 GHz	2.5000 GHz	100.0 kHz	2.499815000 GHz	-34.90 dBm	-24.90 dB
5	5	2.5000 GHz	2.5400 GHz	390.0 kHz	2.517733333 GHz	3.426 dBm	-21.57 dB

Plot 7-422. Lower ACP Plot (Band 7 QPSK – PCC:20 MHz SCC:20 MHz – Full RB)

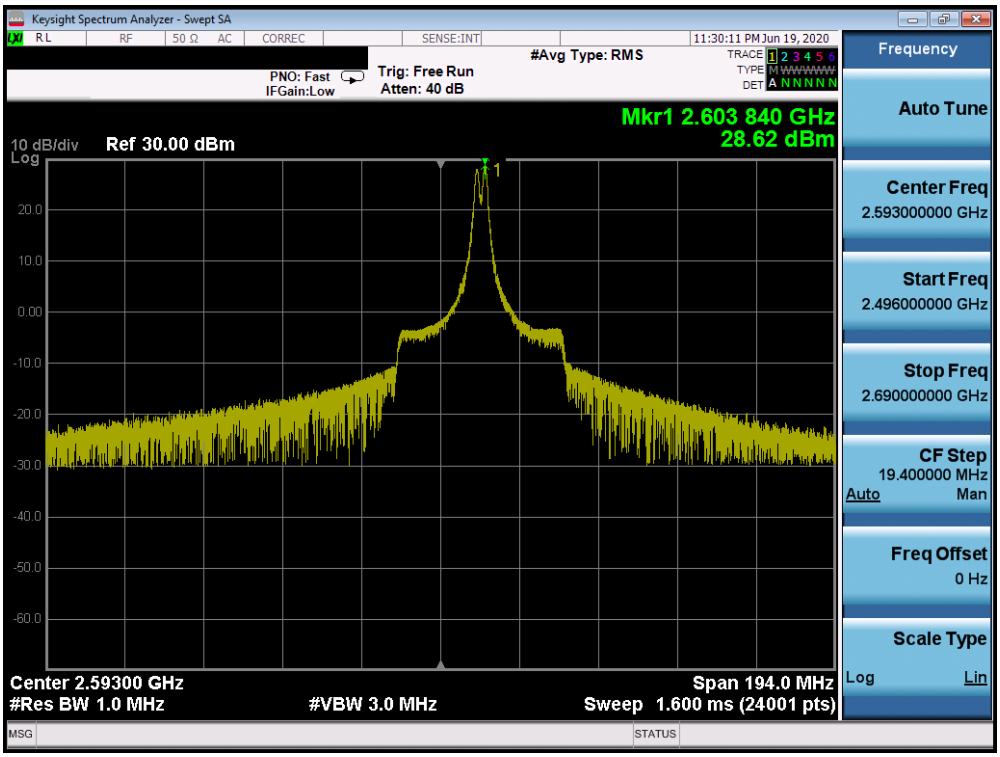
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.5300 GHz	2.5700 GHz	240.0 kHz	2.536133333 GHz	0.995 dBm	-24.00 dB
2	2	2.5700 GHz	2.5710 GHz	100.0 kHz	2.570505000 GHz	-34.47 dBm	-24.47 dB
3	3	2.5710 GHz	2.5750 GHz	1.000 MHz	2.571033333 GHz	-28.57 dBm	-18.57 dB
4	5	2.5750 GHz	2.5950 GHz	1.000 MHz	2.575366667 GHz	-31.75 dBm	-6.750 dB

Plot 7-423. Upper ACP Plot (Band 7 QPSK – PCC:20 MHz SCC:20 MHz – Full RB)

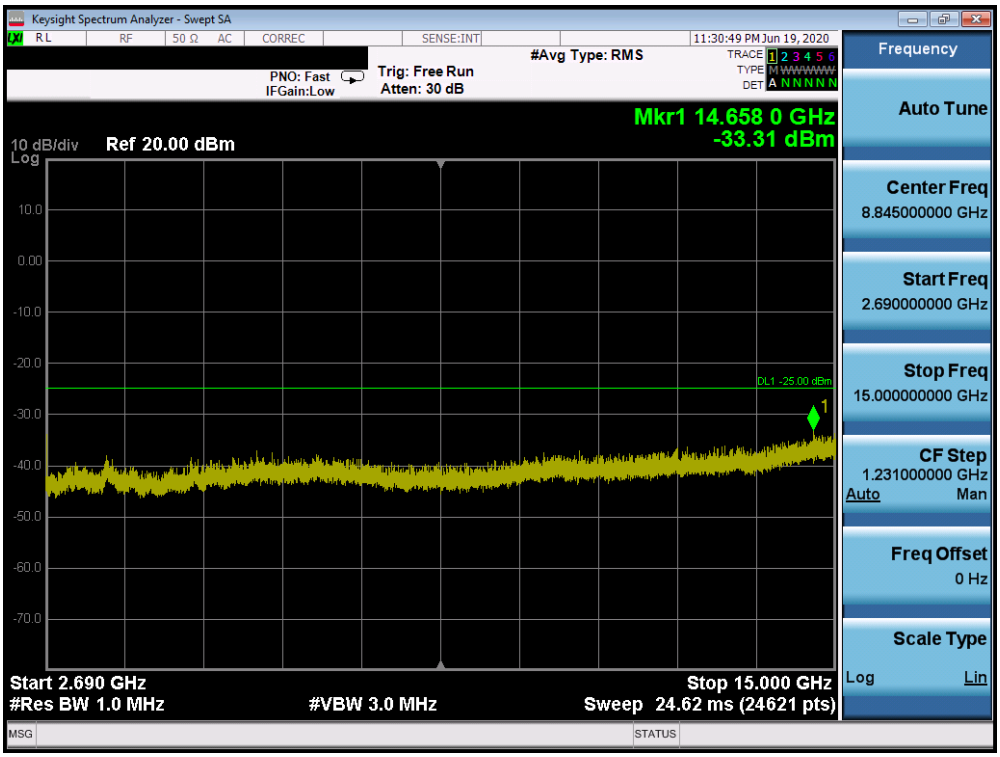
Band 41



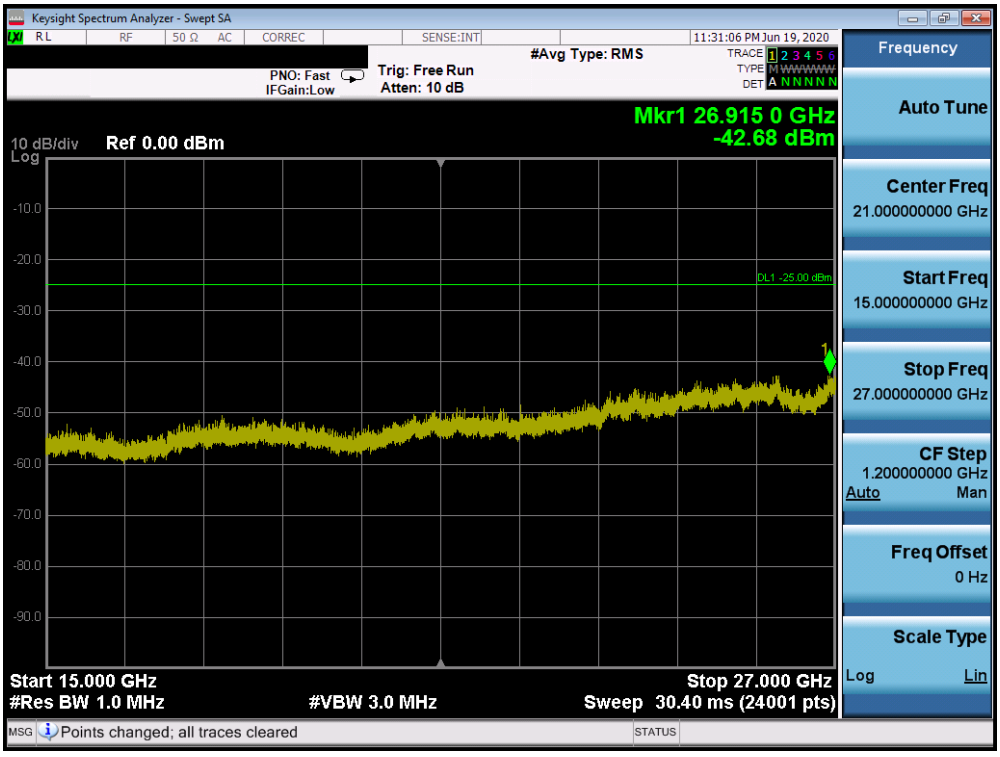
Plot 7-424. Conducted Spurious Plot (Band 41 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Mid Channel)



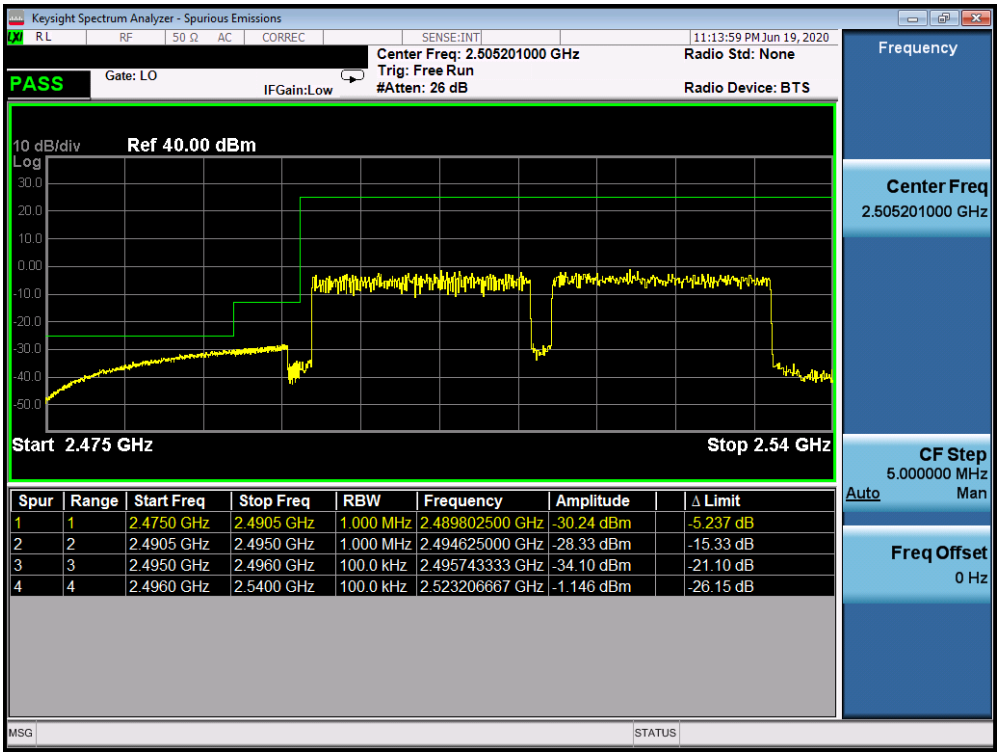
Plot 7-425. Conducted Spurious Plot (Band 41 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Mid Channel)



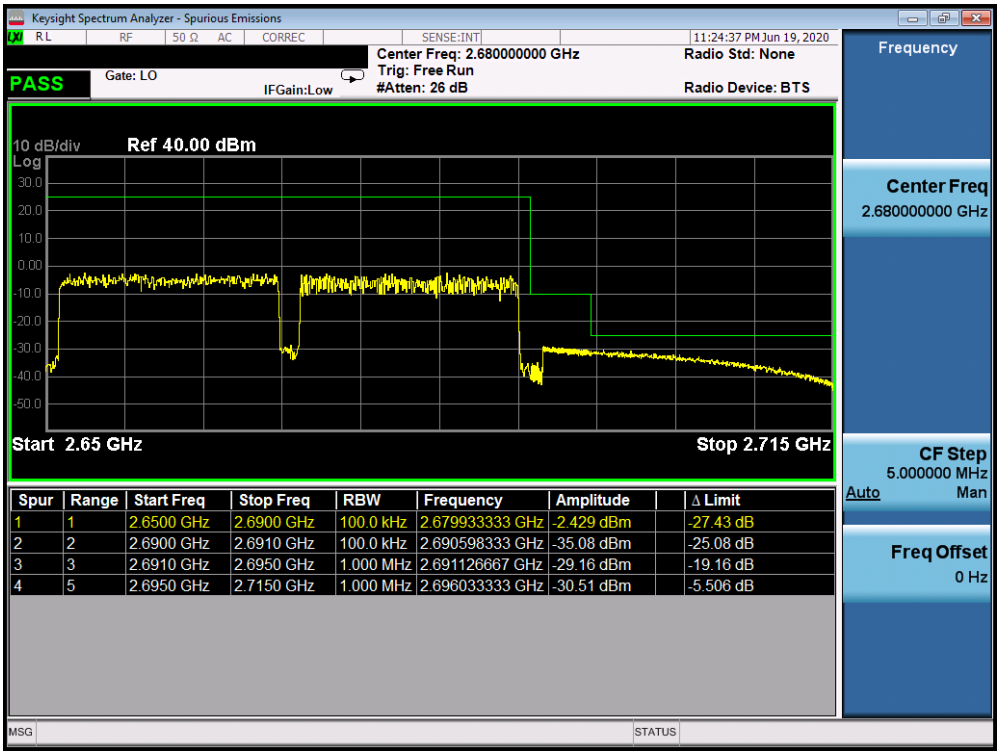
Plot 7-426. Conducted Spurious Plot (Band 41 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Mid Channel)



Plot 7-427. Conducted Spurious Plot (Band 41 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Mid Channel)



Plot 7-428. Lower ACP Plot (Band 41 QPSK – PCC:20 MHz SCC:20 MHz – Full RB)



Plot 7-429. Upper ACP Plot (Band 41 QPSK – PCC:20 MHz SCC:20 MHz – Full RB)

7.8 Radiated Power (ERP/EIRP)

Test Overview

Effective Radiated Power (ERP) and Equivalent Isotropic Radiated Power (EIRP) measurements are calculated by adding highest antenna gain to maximum measured conducted output power. All measurements are performed as RMS average measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

Test Procedures Used

KDB 971168 D01 v03r01 – Section 5.2.1
ANSI C63.26 – Section 5.2.5.5

Test Settings

The relevant equation for determining the ERP or EIRP from the conducted RF output power measured is:

ERP/EIRP = PMeas – LC + GT

Where:

ERP/EIRP = effective or equivalent radiated power, respectively (expressed in the same units as PMeas, typically dBW or dBm)

PMeas = measured transmitter output power or PSD, in dBW or dBm

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

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

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

Figure 7-7. ERP/EIRP Measurement Setup

Test Notes

1. The EUT was tested in all possible test configurations. The worst case emissions are reported with the EUT modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.
2. This unit was tested with its standard battery.
3. The Level (dBm) readings in the table were taken with a correction table loaded into the base station simulator. The correction table was used to account for the signal attenuation in the connecting cable between the transmitter and antenna.
4. The Ant. Gains (GT) are listed in dBi.

7.8.1 Antenna C - ERP/EIRP

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
665.50	5	QPSK	1 / 0	25.50	-0.50	**22.85**	**0.193**	34.77	-11.92
680.50	5	QPSK	1 / 0	25.44	-0.50	22.79	0.190	34.77	-11.98
695.50	5	QPSK	1 / 24	25.23	-0.50	22.58	0.181	34.77	-12.19
665.50	5	16-QAM	1 / 0	24.82	-0.50	**22.17**	0.165	34.77	-12.60
665.50	5	64-QAM	1 / 0	23.86	-0.50	**21.21**	0.132	34.77	-13.56
668.00	10	QPSK	1 / 0	25.50	-0.50	**22.85**	**0.193**	34.77	-11.92
680.50	10	QPSK	1 / 0	25.36	-0.50	22.71	0.187	34.77	-12.06
693.00	10	QPSK	1 / 49	25.40	-0.50	22.75	0.188	34.77	-12.02
668.00	10	16-QAM	1 / 49	24.74	-0.50	22.09	0.162	34.77	-12.68
668.00	10	64-QAM	1 / 49	23.71	-0.50	21.06	0.128	34.77	-13.71
670.50	15	QPSK	1 / 36	25.50	-0.50	**22.85**	**0.193**	34.77	-11.92
680.50	15	QPSK	1 / 36	25.20	-0.50	22.55	0.180	34.77	-12.22
690.50	15	QPSK	1 / 0	25.26	-0.50	22.61	0.182	34.77	-12.16
670.50	15	16-QAM	1 / 36	24.72	-0.50	22.07	0.161	34.77	-12.70
670.50	15	64-QAM	1 / 36	23.71	-0.50	**21.06**	0.128	34.77	-13.71
673.00	20	QPSK	1 / 99	25.47	-0.50	22.82	0.191	34.77	-11.95
680.50	20	QPSK	1 / 99	25.41	-0.50	22.76	0.189	34.77	-12.01
688.00	20	QPSK	1 / 0	25.50	-0.50	**22.85**	**0.193**	34.77	-11.92
688.00	20	16-QAM	1 / 99	24.90	-0.50	**22.25**	0.168	34.77	-12.52
688.00	20	64-QAM	1 / 99	23.72	-0.50	21.07	0.128	34.77	-13.70

Table 7-16. Antenna C (Port A) ERP Data (Band 71)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
699.70	1.4	QPSK	1 / 0	25.36	-0.50	22.71	0.187	34.77	-12.06	24.86	0.306	36.99	-12.13
707.50	1.4	QPSK	1 / 0	25.29	-0.50	22.64	0.184	34.77	-12.13	24.79	0.301	36.99	-12.20
715.30	1.4	QPSK	1 / 5	25.50	-0.50	**22.85**	**0.193**	34.77	-11.92	**25.00**	**0.316**	36.99	-11.99
715.30	1.4	16-QAM	1 / 2	24.57	-0.50	21.92	0.156	34.77	-12.85	24.07	0.255	36.99	-12.92
715.30	1.4	64-QAM	1 / 2	23.78	-0.50	**21.13**	0.130	34.77	-13.64	**23.28**	0.213	36.99	-13.71
700.50	3	QPSK	1 / 7	25.50	-0.50	**22.85**	**0.193**	34.77	-11.92	**25.00**	**0.316**	36.99	-11.99
707.50	3	QPSK	1 / 14	25.49	-0.50	22.84	0.192	34.77	-11.93	24.99	0.316	36.99	-12.00
714.50	3	QPSK	1 / 7	25.44	-0.50	22.79	0.190	34.77	-11.98	24.94	0.312	36.99	-12.05
700.50	3	16-QAM	1 / 7	24.87	-0.50	22.22	0.167	34.77	-12.55	24.37	0.274	36.99	-12.62
700.50	3	64-QAM	1 / 14	23.93	-0.50	**21.28**	0.134	34.77	-13.49	**23.43**	0.220	36.99	-13.56
701.50	5	QPSK	1 / 0	25.42	-0.50	22.77	0.189	34.77	-12.00	24.92	0.310	36.99	-12.07
707.50	5	QPSK	1 / 24	25.50	-0.50	**22.85**	**0.193**	34.77	-11.92	**25.00**	**0.316**	36.99	-11.99
713.50	5	QPSK	1 / 24	25.34	-0.50	22.69	0.186	34.77	-12.08	24.84	0.305	36.99	-12.15
707.50	5	16-QAM	1 / 12	24.76	-0.50	22.11	0.163	34.77	-12.66	24.26	0.267	36.99	-12.73
707.50	5	64-QAM	1 / 0	23.82	-0.50	**21.17**	0.131	34.77	-13.60	**23.32**	0.215	36.99	-13.67
704.00	10	QPSK	1 / 0	25.50	-0.50	**22.85**	**0.193**	34.77	-11.92	**25.00**	**0.316**	36.99	-11.99
707.50	10	QPSK	1 / 49	25.44	-0.50	22.79	0.190	34.77	-11.98	24.94	0.312	36.99	-12.05
711.00	10	QPSK	1 / 49	25.50	-0.50	**22.85**	**0.193**	34.77	-11.92	**25.00**	**0.316**	36.99	-11.99
704.00	10	16-QAM	1 / 0	24.92	-0.50	22.27	0.169	34.77	-12.50	24.42	0.277	36.99	-12.57
704.00	10	64-QAM	1 / 0	23.76	-0.50	21.11	0.129	34.77	-13.66	23.26	0.212	36.99	-13.73

Table 7-17. Antenna C (Port A) ERP/EIRP Data (Band 12)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
706.50	5	QPSK	1 / 24	25.41	-0.50	22.76	0.189	34.77	-12.01	24.91	0.310	36.99	-12.08
710.00	5	QPSK	1 / 24	25.50	-0.50	**22.85**	**0.193**	34.77	-11.92	**25.00**	**0.316**	36.99	-11.99
713.50	5	QPSK	1 / 24	25.35	-0.50	22.70	0.186	34.77	-12.07	24.85	0.305	36.99	-12.14
710.00	5	16-QAM	1 / 12	24.87	-0.50	**22.22**	0.167	34.77	-12.55	**24.37**	0.274	36.99	-12.62
710.00	5	64-QAM	1 / 0	23.69	-0.50	21.04	0.127	34.77	-13.73	23.19	0.208	36.99	-13.80
709.00	10	QPSK	1 / 25	25.44	-0.50	22.79	0.190	34.77	-11.98	24.94	0.312	36.99	-12.05
710.00	10	QPSK	1 / 0	25.49	-0.50	22.84	0.192	34.77	-11.93	24.99	0.316	36.99	-12.00
711.00	10	QPSK	1 / 49	25.50	-0.50	**22.85**	**0.193**	34.77	-11.92	**25.00**	**0.316**	36.99	-11.99
711.00	10	16-QAM	1 / 25	24.81	-0.50	22.16	0.164	34.77	-12.61	24.31	0.270	36.99	-12.68
711.00	10	64-QAM	1 / 49	23.71	-0.50	21.06	0.128	34.77	-13.71	23.21	0.209	36.99	-13.78

Table 7-18. Antenna C (Port A) ERP/EIRP Data (Band 17)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
779.50	5	QPSK	1 / 0	25.50	-0.50	**22.85**	**0.193**	34.77	-11.92	**25.00**	**0.316**	36.99	-11.99
782.00	5	QPSK	1 / 0	25.16	-0.50	22.51	0.178	34.77	-12.26	24.66	0.292	36.99	-12.33
784.50	5	QPSK	1 / 0	24.96	-0.50	22.31	0.170	34.77	-12.46	24.46	0.279	36.99	-12.53
779.50	5	16-QAM	1 / 0	24.69	-0.50	**22.04**	0.160	34.77	-12.73	**24.19**	0.262	36.99	-12.80
779.50	5	64-QAM	1 / 0	23.72	-0.50	**21.07**	0.128	34.77	-13.70	**23.22**	0.210	36.99	-13.77
782.00	10	QPSK	1 / 0	25.50	-0.50	**22.85**	**0.193**	34.77	-11.92	**25.00**	**0.316**	36.99	-11.99
782.00	10	16-QAM	1 / 0	24.84	-0.50	**22.19**	0.166	34.77	-12.58	**24.34**	0.272	36.99	-12.65
782.00	10	64-QAM	1 / 0	23.86	-0.50	**21.21**	0.132	34.77	-13.56	**23.36**	0.217	36.99	-13.63

Table 7-19. Antenna C (Port A) ERP/EIRP Data (Band 13)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
824.70	1.4	QPSK	1 / 0	25.30	-0.80	22.35	0.172	38.45	-16.10	24.50	0.282	40.61	-16.11
836.50	1.4	QPSK	1 / 5	25.33	-0.80	22.38	0.173	38.45	-16.07	24.53	0.284	40.61	-16.08
848.30	1.4	QPSK	1 / 0	25.50	-0.80	**22.55**	**0.180**	38.45	-15.90	**24.70**	**0.295**	40.61	-15.91
848.30	1.4	16-QAM	1 / 0	24.65	-0.80	21.70	0.148	38.45	-16.75	23.85	0.243	40.61	-16.76
848.30	1.4	64-QAM	1 / 0	23.86	-0.80	**20.91**	0.123	38.45	-17.54	**23.06**	0.202	40.61	-17.55
825.50	3	QPSK	1 / 0	25.43	-0.80	22.48	0.177	38.45	-15.97	24.63	0.290	40.61	-15.98
836.50	3	QPSK	1 / 7	25.50	-0.80	**22.55**	**0.180**	38.45	-15.90	**24.70**	**0.295**	40.61	-15.91
847.50	3	QPSK	1 / 7	25.49	-0.80	22.54	0.179	38.45	-15.91	24.69	0.294	40.61	-15.92
836.50	3	16-QAM	1 / 7	25.00	-0.80	**22.05**	0.160	38.45	-16.40	**24.20**	0.263	40.61	-16.41
836.50	3	64-QAM	1 / 0	23.85	-0.80	20.90	0.123	38.45	-17.55	23.05	0.202	40.61	-17.56
826.50	5	QPSK	1 / 0	25.39	-0.80	22.44	0.175	38.45	-16.01	24.59	0.288	40.61	-16.02
836.50	5	QPSK	1 / 24	25.50	-0.80	**22.55**	**0.180**	38.45	-15.90	**24.70**	**0.295**	40.61	-15.91
846.50	5	QPSK	1 / 0	25.37	-0.80	22.42	0.175	38.45	-16.03	24.57	0.286	40.61	-16.04
836.50	5	16-QAM	1 / 24	24.86	-0.80	**21.91**	0.155	38.45	-16.54	**24.06**	0.255	40.61	-16.55
836.50	5	64-QAM	1 / 12	23.80	-0.80	**20.85**	0.122	38.45	-17.60	**23.00**	0.200	40.61	-17.61
829.00	10	QPSK	1 / 0	25.43	-0.80	22.48	0.177	38.45	-15.97	24.63	0.290	40.61	-15.98
836.50	10	QPSK	1 / 49	25.48	-0.80	22.53	0.179	38.45	-15.92	24.68	0.294	40.61	-15.93
844.00	10	QPSK	1 / 25	25.50	-0.80	**22.55**	**0.180**	38.45	-15.90	**24.70**	**0.295**	40.61	-15.91
844.00	10	16-QAM	1 / 0	24.86	-0.80	21.91	0.155	38.45	-16.54	24.06	0.255	40.61	-16.55
844.00	10	64-QAM	1 / 25	23.74	-0.80	20.79	0.120	38.45	-17.66	22.94	0.197	40.61	-17.67

Table 7-20. Antenna C (Port A) ERP/EIRP Data (Band 5)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
824.70	1.4	QPSK	1 / 0	25.49	-0.80	22.54	0.179	38.45	-15.91	24.69	0.294	40.61	-15.92
836.50	1.4	QPSK	1 / 5	25.41	-0.80	22.46	0.176	38.45	-15.99	24.61	0.289	40.61	-16.00
848.30	1.4	QPSK	1 / 0	25.50	-0.80	**22.55**	**0.180**	38.45	-15.90	**24.70**	**0.295**	40.61	-15.91
848.30	1.4	16-QAM	1 / 5	24.97	-0.80	22.02	0.159	38.45	-16.43	24.17	0.261	40.61	-16.44
848.30	1.4	64-QAM	1 / 5	24.20	-0.80	**21.25**	0.133	38.45	-17.20	**23.40**	0.219	40.61	-17.21
825.50	3	QPSK	1 / 0	25.42	-0.80	22.47	0.177	38.45	-15.98	24.62	0.290	40.61	-15.99
836.50	3	QPSK	1 / 7	25.38	-0.80	22.43	0.175	38.45	-16.02	24.58	0.287	40.61	-16.03
847.50	3	QPSK	1 / 7	25.50	-0.80	**22.55**	**0.180**	38.45	-15.90	**24.70**	**0.295**	40.61	-15.91
847.50	3	16-QAM	1 / 7	25.02	-0.80	22.07	0.161	38.45	-16.38	24.22	0.264	40.61	-16.39
847.50	3	64-QAM	1 / 0	24.04	-0.80	21.09	0.129	38.45	-17.36	23.24	0.211	40.61	-17.37
826.50	5	QPSK	1 / 0	25.35	-0.80	22.40	0.174	38.45	-16.05	24.55	0.285	40.61	-16.06
836.50	5	QPSK	1 / 0	25.37	-0.80	22.42	0.175	38.45	-16.03	24.57	0.286	40.61	-16.04
846.50	5	QPSK	1 / 0	25.50	-0.80	**22.55**	**0.180**	38.45	-15.90	**24.70**	**0.295**	40.61	-15.91
846.50	5	16-QAM	1 / 12	24.93	-0.80	21.98	0.158	38.45	-16.47	24.13	0.259	40.61	-16.48
846.50	5	64-QAM	1 / 0	24.12	-0.80	**21.17**	0.131	38.45	-17.28	**23.32**	0.215	40.61	-17.29
829.00	10	QPSK	1 / 0	25.37	-0.80	22.42	0.175	38.45	-16.03	24.57	0.286	40.61	-16.04
836.50	10	QPSK	1 / 49	25.50	-0.80	**22.55**	**0.180**	38.45	-15.90	**24.70**	**0.295**	40.61	-15.91
844.00	10	QPSK	1 / 25	25.48	-0.80	22.53	0.179	38.45	-15.92	24.68	0.294	40.61	-15.93
836.50	10	16-QAM	1 / 49	24.98	-0.80	22.03	0.160	38.45	-16.42	24.18	0.262	40.61	-16.43
836.50	10	64-QAM	1 / 25	23.90	-0.80	20.95	0.124	38.45	-17.50	23.10	0.204	40.61	-17.51

Table 7-21. Antenna C (Port A) ERP/EIRP Data (Band 26)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1710.70	1.4	QPSK	1 / 5	25.42	1.40	26.82	0.481	30.00	-3.18
1732.50	1.4	QPSK	1 / 5	25.47	1.40	26.87	0.486	30.00	-3.13
1754.30	1.4	QPSK	1 / 2	25.50	1.40	**26.90**	**0.490**	30.00	-3.10
1754.30	1.4	16-QAM	1 / 2	24.48	1.40	25.88	0.387	30.00	-4.12
1754.30	1.4	64-QAM	1 / 5	23.57	1.40	24.97	0.314	30.00	-5.03
1711.50	3	QPSK	1 / 7	25.41	1.40	26.81	0.480	30.00	-3.19
1732.50	3	QPSK	1 / 7	25.50	1.40	**26.90**	**0.490**	30.00	-3.10
1753.50	3	QPSK	1 / 7	25.29	1.40	26.69	0.467	30.00	-3.31
1732.50	3	16-QAM	1 / 7	24.81	1.40	**26.21**	0.418	30.00	-3.79
1732.50	3	64-QAM	1 / 14	23.56	1.40	24.96	0.313	30.00	-5.04
1712.50	5	QPSK	1 / 0	25.50	1.40	**26.90**	**0.490**	30.00	-3.10
1732.50	5	QPSK	1 / 24	25.50	1.40	**26.90**	**0.490**	30.00	-3.10
1752.50	5	QPSK	1 / 24	25.30	1.40	26.70	0.468	30.00	-3.30
1712.50	5	16-QAM	1 / 12	24.82	1.40	**26.22**	0.419	30.00	-3.78
1712.50	5	64-QAM	1 / 12	23.68	1.40	25.08	0.322	30.00	-4.92
1715.00	10	QPSK	1 / 0	25.38	1.40	26.78	0.476	30.00	-3.22
1732.50	10	QPSK	1 / 25	25.45	1.40	**26.85**	0.484	30.00	-3.15
1750.00	10	QPSK	1 / 49	25.31	1.40	26.71	0.469	30.00	-3.29
1732.50	10	16-QAM	1 / 49	24.78	1.40	26.18	0.415	30.00	-3.82
1732.50	10	64-QAM	1 / 25	23.56	1.40	**24.96**	0.313	30.00	-5.04
1717.50	15	QPSK	1 / 0	25.50	1.40	**26.90**	**0.490**	30.00	-3.10
1732.50	15	QPSK	1 / 36	25.45	1.40	26.85	0.484	30.00	-3.15
1747.50	15	QPSK	1 / 0	25.39	1.40	26.79	0.478	30.00	-3.21
1717.50	15	16-QAM	1 / 0	24.51	1.40	25.91	0.390	30.00	-4.09
1717.50	15	64-QAM	1 / 0	23.69	1.40	25.09	0.323	30.00	-4.91
1720.00	20	QPSK	1 / 0	25.45	1.40	26.85	0.484	30.00	-3.15
1732.50	20	QPSK	1 / 99	25.45	1.40	26.85	0.484	30.00	-3.15
1745.00	20	QPSK	1 / 0	25.50	1.40	**26.90**	**0.490**	30.00	-3.10
1745.00	20	16-QAM	1 / 50	24.89	1.40	26.29	0.426	30.00	-3.71
1745.00	20	64-QAM	1 / 99	23.76	1.40	25.16	0.328	30.00	-4.84

Table 7-22. Antenna C (Port A) EIRP Data (Band 4)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1710.70	1.4	QPSK	1 / 0	25.42	1.40	26.82	0.481	30.00	-3.18
1745.00	1.4	QPSK	1 / 0	25.40	1.40	26.80	0.479	30.00	-3.20
1779.30	1.4	QPSK	1 / 0	25.45	1.40	**26.85**	0.484	30.00	-3.15
1779.30	1.4	16-QAM	1 / 5	24.46	1.40	25.86	0.385	30.00	-4.14
1779.30	1.4	64-QAM	1 / 0	23.71	1.40	**25.11**	0.324	30.00	-4.89
1711.50	3	QPSK	1 / 7	25.42	1.40	**26.82**	0.481	30.00	-3.18
1745.00	3	QPSK	1 / 7	25.35	1.40	26.75	0.473	30.00	-3.25
1778.50	3	QPSK	1 / 7	25.18	1.40	26.58	0.455	30.00	-3.42
1711.50	3	16-QAM	1 / 0	24.87	1.40	**26.27**	0.424	30.00	-3.73
1711.50	3	64-QAM	1 / 0	23.56	1.40	24.96	0.313	30.00	-5.04
1712.50	5	QPSK	1 / 0	25.50	1.40	**26.90**	**0.490**	30.00	-3.10
1745.00	5	QPSK	1 / 0	25.46	1.40	26.86	0.485	30.00	-3.14
1777.50	5	QPSK	1 / 0	25.18	1.40	26.58	0.455	30.00	-3.42
1712.50	5	16-QAM	1 / 0	24.88	1.40	**26.28**	0.425	30.00	-3.72
1712.50	5	64-QAM	1 / 0	23.79	1.40	**25.19**	0.330	30.00	-4.81
1715.00	10	QPSK	1 / 0	25.40	1.40	26.80	0.479	30.00	-3.20
1745.00	10	QPSK	1 / 0	25.41	1.40	**26.81**	0.480	30.00	-3.19
1775.00	10	QPSK	1 / 0	25.30	1.40	26.70	0.468	30.00	-3.30
1745.00	10	16-QAM	1 / 0	24.90	1.40	**26.30**	0.427	30.00	-3.70
1745.00	10	64-QAM	1 / 0	23.67	1.40	**25.07**	0.321	30.00	-4.93
1717.50	15	QPSK	1 / 0	25.50	1.40	**26.90**	**0.490**	30.00	-3.10
1745.00	15	QPSK	1 / 0	25.41	1.40	26.81	0.480	30.00	-3.19
1772.50	15	QPSK	1 / 0	25.37	1.40	26.77	0.475	30.00	-3.23
1717.50	15	16-QAM	1 / 0	24.56	1.40	25.96	0.394	30.00	-4.04
1717.50	15	64-QAM	1 / 0	23.63	1.40	25.03	0.318	30.00	-4.97
1720.00	20	QPSK	1 / 0	25.48	1.40	26.88	0.488	30.00	-3.12
1745.00	20	QPSK	1 / 0	25.47	1.40	26.87	0.486	30.00	-3.13
1770.00	20	QPSK	1 / 0	25.50	1.40	**26.90**	**0.490**	30.00	-3.10
1770.00	20	16-QAM	1 / 0	24.74	1.40	26.14	0.411	30.00	-3.86
1770.00	20	64-QAM	1 / 0	23.64	1.40	25.04	0.319	30.00	-4.96

Table 7-23. Antenna C (Port A) EIRP Data (Band 66)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1850.70	1.4	QPSK	1 / 5	25.38	2.30	**27.68**	0.586	33.01	-5.33
1880.00	1.4	QPSK	1 / 5	25.10	2.30	27.40	0.550	33.01	-5.61
1909.30	1.4	QPSK	1 / 2	25.16	2.30	27.46	0.557	33.01	-5.55
1850.70	1.4	16-QAM	1 / 5	24.82	2.30	**27.12**	0.515	33.01	-5.89
1850.70	1.4	64-QAM	1 / 5	23.72	2.30	**26.02**	0.400	33.01	-6.99
1851.50	3	QPSK	1 / 7	25.34	2.30	**27.64**	0.581	33.01	-5.37
1880.00	3	QPSK	1 / 7	25.12	2.30	27.42	0.552	33.01	-5.59
1908.50	3	QPSK	1 / 7	24.95	2.30	27.25	0.531	33.01	-5.76
1851.50	3	16-QAM	1 / 7	24.73	2.30	**27.03**	0.505	33.01	-5.98
1851.50	3	64-QAM	1 / 7	23.65	2.30	**25.95**	0.394	33.01	-7.06
1852.50	5	QPSK	1 / 0	25.47	2.30	**27.77**	0.598	33.01	-5.24
1880.00	5	QPSK	1 / 24	25.27	2.30	27.57	0.571	33.01	-5.44
1907.50	5	QPSK	1 / 0	25.05	2.30	27.35	0.543	33.01	-5.66
1852.50	5	16-QAM	1 / 0	24.80	2.30	**27.10**	0.513	33.01	-5.91
1852.50	5	64-QAM	1 / 24	23.72	2.30	**26.02**	0.400	33.01	-6.99
1855.00	10	QPSK	1 / 0	25.36	2.30	**27.66**	0.583	33.01	-5.35
1880.00	10	QPSK	1 / 49	25.13	2.30	27.43	0.553	33.01	-5.58
1905.00	10	QPSK	1 / 0	25.16	2.30	27.46	0.557	33.01	-5.55
1855.00	10	16-QAM	1 / 49	24.60	2.30	26.90	0.490	33.01	-6.11
1855.00	10	64-QAM	1 / 0	23.70	2.30	**26.00**	0.398	33.01	-7.01
1857.50	15	QPSK	1 / 0	25.50	2.30	**27.80**	**0.603**	33.01	-5.21
1880.00	15	QPSK	1 / 0	25.29	2.30	27.59	0.574	33.01	-5.42
1902.50	15	QPSK	1 / 0	25.20	2.30	27.50	0.562	33.01	-5.51
1857.50	15	16-QAM	1 / 0	24.67	2.30	26.97	0.498	33.01	-6.04
1857.50	15	64-QAM	1 / 0	23.75	2.30	**26.05**	0.403	33.01	-6.96
1860.00	20	QPSK	1 / 0	25.45	2.30	**27.75**	0.596	33.01	-5.26
1880.00	20	QPSK	1 / 99	25.22	2.30	27.52	0.565	33.01	-5.49
1900.00	20	QPSK	1 / 0	25.39	2.30	27.69	0.587	33.01	-5.32
1860.00	20	16-QAM	1 / 0	24.75	2.30	**27.05**	0.507	33.01	-5.96
1860.00	20	64-QAM	1 / 0	23.58	2.30	25.88	0.387	33.01	-7.13

Table 7-24. Antenna C (Port A) EIRP Data (Band 2)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1850.70	1.4	QPSK	1 / 5	25.39	2.30	**27.69**	0.587	33.01	-5.32
1882.50	1.4	QPSK	1 / 5	25.10	2.30	27.40	0.550	33.01	-5.61
1914.30	1.4	QPSK	1 / 5	25.24	2.30	27.54	0.568	33.01	-5.47
1850.70	1.4	16-QAM	1 / 0	24.63	2.30	**26.93**	0.493	33.01	-6.08
1850.70	1.4	64-QAM	1 / 0	23.62	2.30	25.92	0.391	33.01	-7.09
1851.50	3	QPSK	1 / 7	25.37	2.30	**27.67**	0.585	33.01	-5.34
1882.50	3	QPSK	1 / 7	25.11	2.30	27.41	0.551	33.01	-5.60
1913.50	3	QPSK	1 / 7	25.03	2.30	27.33	0.541	33.01	-5.68
1851.50	3	16-QAM	1 / 7	24.73	2.30	**27.03**	0.505	33.01	-5.98
1851.50	3	64-QAM	1 / 7	23.70	2.30	**26.00**	0.398	33.01	-7.01
1852.50	5	QPSK	1 / 0	25.50	2.30	**27.80**	**0.603**	33.01	-5.21
1882.50	5	QPSK	1 / 24	25.27	2.30	27.57	0.571	33.01	-5.44
1912.50	5	QPSK	1 / 24	25.10	2.30	27.40	0.550	33.01	-5.61
1852.50	5	16-QAM	1 / 12	24.83	2.30	**27.13**	0.516	33.01	-5.88
1852.50	5	64-QAM	1 / 0	23.75	2.30	**26.05**	0.403	33.01	-6.96
1855.00	10	QPSK	1 / 0	25.35	2.30	**27.65**	0.582	33.01	-5.36
1882.50	10	QPSK	1 / 49	25.23	2.30	27.53	0.566	33.01	-5.48
1910.00	10	QPSK	1 / 49	25.05	2.30	27.35	0.543	33.01	-5.66
1855.00	10	16-QAM	1 / 0	24.63	2.30	26.93	0.493	33.01	-6.08
1855.00	10	64-QAM	1 / 0	23.75	2.30	**26.05**	0.403	33.01	-6.96
1857.50	15	QPSK	1 / 0	25.47	2.30	**27.77**	0.598	33.01	-5.24
1882.50	15	QPSK	1 / 74	25.29	2.30	27.59	0.574	33.01	-5.42
1907.50	15	QPSK	1 / 0	25.13	2.30	27.43	0.553	33.01	-5.58
1857.50	15	16-QAM	1 / 0	24.70	2.30	27.00	0.501	33.01	-6.01
1857.50	15	64-QAM	1 / 0	23.72	2.30	**26.02**	0.400	33.01	-6.99
1860.00	20	QPSK	1 / 0	25.45	2.30	**27.75**	0.596	33.01	-5.26
1882.50	20	QPSK	1 / 99	25.24	2.30	27.54	0.568	33.01	-5.47
1905.00	20	QPSK	1 / 0	25.39	2.30	27.69	0.587	33.01	-5.32
1860.00	20	16-QAM	1 / 99	24.69	2.30	26.99	0.500	33.01	-6.02
1860.00	20	64-QAM	1 / 99	23.63	2.30	25.93	0.392	33.01	-7.08

Table 7-25. Antenna C (Port A) EIRP Data (Band 25)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
2307.50	5	QPSK	1 / 0	21.80	1.40	**23.20**	**0.209**	23.98	-0.78
2312.50	5	QPSK	1 / 12	21.80	1.40	**23.20**	**0.209**	23.98	-0.78
2312.50	5	16-QAM	1 / 24	21.22	1.40	**22.62**	0.183	23.98	-1.36
2312.50	5	64-QAM	1 / 24	20.37	1.40	21.77	0.150	23.98	-2.21
2310.00	10	QPSK	1 / 49	21.80	1.40	**23.20**	**0.209**	23.98	-0.78
2310.00	10	16-QAM	1 / 0	21.32	1.40	22.72	0.187	23.98	-1.26
2310.00	10	64-QAM	1 / 25	20.21	1.40	21.61	0.145	23.98	-2.37

Table 7-26. Antenna C (Port A) EIRP Data (Band 30)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
2502.50	5	QPSK	1 / 0	25.50	1.70	**27.20**	**0.525**	33.01	-5.81
2535.00	5	QPSK	1 / 12	25.49	1.70	27.19	0.524	33.01	-5.82
2567.50	5	QPSK	1 / 0	25.35	1.70	27.05	0.507	33.01	-5.96
2502.50	5	16-QAM	1 / 12	24.90	1.70	**26.60**	0.457	33.01	-6.41
2502.50	5	64-QAM	1 / 0	23.53	1.70	25.23	0.333	33.01	-7.78
2505.00	10	QPSK	1 / 49	25.46	1.70	27.16	0.520	33.01	-5.85
2535.00	10	QPSK	1 / 49	25.50	1.70	**27.20**	**0.525**	33.01	-5.81
2565.00	10	QPSK	1 / 25	25.34	1.70	27.04	0.506	33.01	-5.97
2535.00	10	16-QAM	1 / 49	24.77	1.70	**26.47**	0.444	33.01	-6.54
2535.00	10	64-QAM	1 / 49	23.56	1.70	25.26	0.336	33.01	-7.75
2507.50	15	QPSK	1 / 74	25.50	1.70	**27.20**	**0.525**	33.01	-5.81
2535.00	15	QPSK	1 / 74	25.46	1.70	27.16	0.520	33.01	-5.85
2562.50	15	QPSK	1 / 36	25.36	1.70	27.06	0.508	33.01	-5.95
2507.50	15	16-QAM	1 / 74	24.54	1.70	26.24	0.421	33.01	-6.77
2507.50	15	64-QAM	1 / 36	23.60	1.70	25.30	0.339	33.01	-7.71
2510.00	20	QPSK	1 / 99	25.45	1.70	27.15	0.519	33.01	-5.86
2535.00	20	QPSK	1 / 99	25.50	1.70	**27.20**	**0.525**	33.01	-5.81
2560.00	20	QPSK	1 / 99	25.49	1.70	27.19	0.524	33.01	-5.82
2535.00	20	16-QAM	1 / 99	24.81	1.70	26.51	0.448	33.01	-6.50
2535.00	20	64-QAM	1 / 0	23.70	1.70	25.40	0.347	33.01	-7.61

Table 7-27. Antenna C (Port A) EIRP Data (Band 7)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
2498.50	5	QPSK	1 / 24	26.97	1.70	28.67	0.736	33.01	-4.34
2593.00	5	QPSK	1 / 0	26.72	1.70	28.42	0.695	33.01	-4.59
2687.50	5	QPSK	1 / 24	26.85	1.70	28.55	0.716	33.01	-4.46
2687.50	5	16-QAM	1 / 24	26.55	1.70	28.25	0.668	33.01	-4.76
2687.50	5	64-QAM	1 / 0	25.52	1.70	27.22	0.527	33.01	-5.79
2501.00	10	QPSK	1 / 49	26.98	1.70	28.68	0.738	33.01	-4.33
2593.00	10	QPSK	1 / 0	26.74	1.70	28.44	0.698	33.01	-4.57
2685.00	10	QPSK	1 / 0	26.99	1.70	28.69	0.740	33.01	-4.32
2501.00	10	16-QAM	1 / 49	26.58	1.70	28.28	0.673	33.01	-4.73
2501.00	10	64-QAM	1 / 49	25.46	1.70	27.16	0.520	33.01	-5.85
2503.50	15	QPSK	1 / 0	26.98	1.70	28.68	0.738	33.01	-4.33
2593.00	15	QPSK	1 / 0	26.75	1.70	28.45	0.700	33.01	-4.56
2682.50	15	QPSK	1 / 74	26.99	1.70	28.69	0.740	33.01	-4.32
2682.50	15	16-QAM	1 / 0	26.48	1.70	28.18	0.658	33.01	-4.83
2682.50	15	64-QAM	1 / 0	25.60	1.70	**27.30**	0.537	33.01	-5.71
2506.00	20	QPSK	1 / 99	27.00	1.70	**28.70**	**0.741**	33.01	-4.31
2593.00	20	QPSK	1 / 0	27.00	1.70	**28.70**	**0.741**	33.01	-4.31
2680.00	20	QPSK	1 / 99	26.84	1.70	28.54	0.714	33.01	-4.47
2593.00	20	16-QAM	1 / 0	26.64	1.70	28.34	0.682	33.01	-4.67
2593.00	20	64-QAM	1 / 50	25.62	1.70	**27.32**	0.540	33.01	-5.69

Table 7-28. Antenna C (Port A) EIRP Data (Band 41 PC2)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
2498.50	5	QPSK	1 / 0	25.50	1.70	**27.20**	**0.525**	33.01	-5.81
2593.00	5	QPSK	1 / 12	25.20	1.70	26.90	0.490	33.01	-6.11
2687.50	5	QPSK	1 / 0	25.07	1.70	26.77	0.475	33.01	-6.24
2498.50	5	16-QAM	1 / 0	24.51	1.70	**26.21**	0.418	33.01	-6.80
2498.50	5	64-QAM	1 / 0	23.79	1.70	**25.49**	0.354	33.01	-7.52
2501.00	10	QPSK	1 / 0	25.42	1.70	27.12	0.515	33.01	-5.89
2593.00	10	QPSK	1 / 0	25.26	1.70	26.96	0.497	33.01	-6.05
2685.00	10	QPSK	1 / 25	25.00	1.70	26.70	0.468	33.01	-6.31
2501.00	10	16-QAM	1 / 49	24.32	1.70	26.02	0.400	33.01	-6.99
2501.00	10	64-QAM	1 / 49	23.60	1.70	25.30	0.339	33.01	-7.71
2503.50	15	QPSK	1 / 0	25.44	1.70	27.14	0.518	33.01	-5.87
2593.00	15	QPSK	1 / 36	25.18	1.70	26.88	0.488	33.01	-6.13
2682.50	15	QPSK	1 / 0	25.22	1.70	26.92	0.492	33.01	-6.09
2503.50	15	16-QAM	1 / 74	24.46	1.70	**26.16**	0.413	33.01	-6.85
2503.50	15	64-QAM	1 / 74	23.74	1.70	**25.44**	0.350	33.01	-7.57
2506.00	20	QPSK	1 / 0	25.45	1.70	27.15	0.519	33.01	-5.86
2593.00	20	QPSK	1 / 0	25.28	1.70	26.98	0.499	33.01	-6.03
2680.00	20	QPSK	1 / 0	25.14	1.70	26.84	0.483	33.01	-6.17
2506.00	20	16-QAM	1 / 0	24.45	1.70	**26.15**	0.412	33.01	-6.86
2506.00	20	64-QAM	1 / 0	23.73	1.70	**25.43**	0.349	33.01	-7.58

Table 7-29. Antenna C (Port A) EIRP Data (Band 41 PC3)

7.8.2 Antenna D - ERP/EIRP

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
665.50	5	QPSK	1 / 0	24.50	-0.70	21.65	**0.146**	34.77	-13.12
680.50	5	QPSK	1 / 0	24.43	-0.70	21.58	0.144	34.77	-13.19
695.50	5	QPSK	1 / 0	24.48	-0.70	21.63	0.146	34.77	-13.14
665.50	5	16-QAM	1 / 0	23.78	-0.70	20.93	0.124	34.77	-13.84
665.50	5	64-QAM	1 / 0	22.65	-0.70	19.80	0.095	34.77	-14.97
668.00	10	QPSK	1 / 0	24.50	-0.70	21.65	**0.146**	34.77	-13.12
680.50	10	QPSK	1 / 49	24.47	-0.70	21.62	0.145	34.77	-13.15
693.00	10	QPSK	1 / 0	24.37	-0.70	21.52	0.142	34.77	-13.25
668.00	10	16-QAM	1 / 0	23.71	-0.70	20.86	0.122	34.77	-13.91
668.00	10	64-QAM	1 / 0	22.60	-0.70	19.75	0.094	34.77	-15.02
670.50	15	QPSK	1 / 0	24.50	-0.70	21.65	**0.146**	34.77	-13.12
680.50	15	QPSK	1 / 0	24.47	-0.70	21.62	0.145	34.77	-13.15
690.50	15	QPSK	1 / 0	24.41	-0.70	21.56	0.143	34.77	-13.21
670.50	15	16-QAM	1 / 36	23.84	-0.70	20.99	0.126	34.77	-13.78
670.50	15	64-QAM	1 / 0	22.84	-0.70	19.99	0.100	34.77	-14.78
673.00	20	QPSK	1 / 0	24.50	-0.70	21.65	**0.146**	34.77	-13.12
680.50	20	QPSK	1 / 0	24.32	-0.70	21.47	0.140	34.77	-13.30
688.00	20	QPSK	1 / 0	24.46	-0.70	21.61	0.145	34.77	-13.16
673.00	20	16-QAM	1 / 0	23.54	-0.70	20.69	0.117	34.77	-14.08
673.00	20	64-QAM	1 / 0	22.70	-0.70	19.85	0.097	34.77	-14.92

Table 7-30. Antenna D (Port B) ERP Data (Band 71)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
699.70	1.4	QPSK	1 / 0	24.37	-0.70	21.52	0.142	34.77	-13.25	23.67	0.233	36.99	-13.32
707.50	1.4	QPSK	1 / 0	24.35	-0.70	21.50	0.141	34.77	-13.27	23.65	0.232	36.99	-13.34
715.30	1.4	QPSK	1 / 5	24.50	-0.70	**21.65**	**0.146**	34.77	-13.12	**23.80**	**0.240**	36.99	-13.19
715.30	1.4	16-QAM	1 / 5	23.65	-0.70	20.80	0.120	34.77	-13.97	22.95	0.197	36.99	-14.04
715.30	1.4	64-QAM	1 / 2	22.67	-0.70	19.82	0.096	34.77	-14.95	21.97	0.157	36.99	-15.02
700.50	3	QPSK	1 / 7	24.50	-0.70	**21.65**	**0.146**	34.77	-13.12	**23.80**	**0.240**	36.99	-13.19
707.50	3	QPSK	1 / 0	24.50	-0.70	**21.65**	**0.146**	34.77	-13.12	**23.80**	**0.240**	36.99	-13.19
714.50	3	QPSK	1 / 0	24.50	-0.70	**21.65**	**0.146**	34.77	-13.12	**23.80**	**0.240**	36.99	-13.19
700.50	3	16-QAM	1 / 0	23.91	-0.70	21.06	0.128	34.77	-13.71	23.21	0.209	36.99	-13.78
700.50	3	64-QAM	1 / 7	22.77	-0.70	19.92	0.098	34.77	-14.85	22.07	0.161	36.99	-14.92
701.50	5	QPSK	1 / 0	24.42	-0.70	21.57	0.144	34.77	-13.20	23.72	0.236	36.99	-13.27
707.50	5	QPSK	1 / 0	24.50	-0.70	**21.65**	**0.146**	34.77	-13.12	**23.80**	**0.240**	36.99	-13.19
713.50	5	QPSK	1 / 0	24.30	-0.70	21.45	0.140	34.77	-13.32	23.60	0.229	36.99	-13.39
707.50	5	16-QAM	1 / 0	23.89	-0.70	**21.04**	0.127	34.77	-13.73	**23.19**	0.208	36.99	-13.80
707.50	5	64-QAM	1 / 0	22.83	-0.70	**19.98**	0.100	34.77	-14.79	**22.13**	0.163	36.99	-14.86
704.00	10	QPSK	1 / 0	24.50	-0.70	**21.65**	**0.146**	34.77	-13.12	**23.80**	**0.240**	36.99	-13.19
707.50	10	QPSK	1 / 0	24.43	-0.70	21.58	0.144	34.77	-13.19	23.73	0.236	36.99	-13.26
711.00	10	QPSK	1 / 0	24.49	-0.70	21.64	0.146	34.77	-13.13	23.79	0.239	36.99	-13.20
704.00	10	16-QAM	1 / 0	23.98	-0.70	**21.13**	0.130	34.77	-13.64	**23.28**	0.213	36.99	-13.71
704.00	10	64-QAM	1 / 0	22.68	-0.70	19.83	0.096	34.77	-14.94	21.98	0.158	36.99	-15.01

Table 7-31. Antenna D (Port B) ERP/EIRP Data (Band 12)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
706.50	5	QPSK	1 / 0	24.49	-0.70	**21.64**	0.146	34.77	-13.13	**23.79**	0.239	36.99	-13.20
710.00	5	QPSK	1 / 0	24.32	-0.70	21.47	0.140	34.77	-13.30	23.62	0.230	36.99	-13.37
713.50	5	QPSK	1 / 24	24.49	-0.70	**21.64**	0.146	34.77	-13.13	**23.79**	0.239	36.99	-13.20
706.50	5	16-QAM	1 / 0	23.88	-0.70	**21.03**	0.127	34.77	-13.74	**23.18**	0.208	36.99	-13.81
706.50	5	64-QAM	1 / 0	22.77	-0.70	**19.92**	0.098	34.77	-14.85	**22.07**	0.161	36.99	-14.92
709.00	10	QPSK	1 / 0	24.50	-0.70	**21.65**	**0.146**	34.77	-13.12	**23.80**	**0.240**	36.99	-13.19
710.00	10	QPSK	1 / 0	24.45	-0.70	21.60	0.145	34.77	-13.17	23.75	0.237	36.99	-13.24
711.00	10	QPSK	1 / 0	24.37	-0.70	21.52	0.142	34.77	-13.25	23.67	0.233	36.99	-13.32
709.00	10	16-QAM	1 / 0	23.70	-0.70	20.85	0.122	34.77	-13.92	23.00	0.200	36.99	-13.99
709.00	10	64-QAM	1 / 0	22.64	-0.70	19.79	0.095	34.77	-14.98	21.94	0.156	36.99	-15.05

Table 7-32. Antenna D (Port B) ERP/EIRP Data (Band 17)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
779.50	5	QPSK	1 / 0	24.50	-0.70	**21.65**	**0.146**	34.77	-13.12	**23.80**	**0.240**	36.99	-13.19
782.00	5	QPSK	1 / 0	24.39	-0.70	21.54	0.143	34.77	-13.23	23.69	0.234	36.99	-13.30
784.50	5	QPSK	1 / 0	24.47	-0.70	21.62	0.145	34.77	-13.15	23.77	0.238	36.99	-13.22
782.00	5	16-QAM	1 / 0	23.92	-0.70	**21.07**	0.128	34.77	-13.70	**23.22**	0.210	36.99	-13.77
782.00	5	64-QAM	1 / 0	22.78	-0.70	**19.93**	0.098	34.77	-14.84	**22.08**	0.161	36.99	-14.91
782.00	10	QPSK	1 / 0	24.50	-0.70	**21.65**	**0.146**	34.77	-13.12	**23.80**	**0.240**	36.99	-13.19
782.00	10	16-QAM	1 / 0	23.89	-0.70	**21.04**	0.127	34.77	-13.73	**23.19**	0.208	36.99	-13.80
782.00	10	64-QAM	1 / 0	22.75	-0.70	**19.90**	0.098	34.77	-14.87	**22.05**	0.160	36.99	-14.94

Table 7-33. Antenna D (Port B) ERP/EIRP Data (Band 13)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
824.70	1.4	QPSK	1 / 2	24.50	-0.60	**21.75**	**0.150**	38.45	-16.70	**23.90**	**0.245**	40.61	-16.71
836.50	1.4	QPSK	1 / 2	24.46	-0.60	21.71	0.148	38.45	-16.74	23.86	0.243	40.61	-16.75
848.30	1.4	QPSK	1 / 2	24.29	-0.60	21.54	0.143	38.45	-16.91	23.69	0.234	40.61	-16.92
824.70	1.4	16-QAM	1 / 5	23.67	-0.60	**20.92**	0.124	38.45	-17.53	**23.07**	0.203	40.61	-17.54
824.70	1.4	64-QAM	1 / 0	22.79	-0.60	**20.04**	0.101	38.45	-18.41	**22.19**	0.166	40.61	-18.42
825.50	3	QPSK	1 / 14	24.50	-0.60	**21.75**	**0.150**	38.45	-16.70	**23.90**	**0.245**	40.61	-16.71
836.50	3	QPSK	1 / 0	24.34	-0.60	21.59	0.144	38.45	-16.86	23.74	0.237	40.61	-16.87
847.50	3	QPSK	1 / 0	24.31	-0.60	21.56	0.143	38.45	-16.89	23.71	0.235	40.61	-16.90
825.50	3	16-QAM	1 / 14	23.74	-0.60	**20.99**	0.126	38.45	-17.46	**23.14**	0.206	40.61	-17.47
825.50	3	64-QAM	1 / 7	22.55	-0.60	19.80	0.095	38.45	-18.65	21.95	0.157	40.61	-18.66
826.50	5	QPSK	1 / 24	24.50	-0.60	**21.75**	**0.150**	38.45	-16.70	**23.90**	**0.245**	40.61	-16.71
836.50	5	QPSK	1 / 12	24.34	-0.60	21.59	0.144	38.45	-16.86	23.74	0.237	40.61	-16.87
846.50	5	QPSK	1 / 24	24.50	-0.60	**21.75**	**0.150**	38.45	-16.70	**23.90**	**0.245**	40.61	-16.71
826.50	5	16-QAM	1 / 24	23.89	-0.60	**21.14**	0.130	38.45	-17.31	**23.29**	0.213	40.61	-17.32
826.50	5	64-QAM	1 / 24	22.74	-0.60	**19.99**	0.100	38.45	-18.46	**22.14**	0.164	40.61	-18.47
829.00	10	QPSK	1 / 49	24.50	-0.60	**21.75**	**0.150**	38.45	-16.70	**23.90**	**0.245**	40.61	-16.71
836.50	10	QPSK	1 / 25	24.44	-0.60	21.69	0.148	38.45	-16.76	23.84	0.242	40.61	-16.77
844.00	10	QPSK	1 / 25	24.31	-0.60	21.56	0.143	38.45	-16.89	23.71	0.235	40.61	-16.90
829.00	10	16-QAM	1 / 49	23.76	-0.60	**21.01**	0.126	38.45	-17.44	**23.16**	0.207	40.61	-17.45
829.00	10	64-QAM	1 / 49	22.63	-0.60	19.88	0.097	38.45	-18.57	22.03	0.160	40.61	-18.58

Table 7-34. Antenna D (Port B) ERP/EIRP Data (Band 5)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
824.70	1.4	QPSK	1 / 0	24.39	-0.60	21.64	0.146	38.45	-16.81	23.79	0.239	40.61	-16.82
836.50	1.4	QPSK	1 / 5	24.31	-0.60	21.56	0.143	38.45	-16.89	23.71	0.235	40.61	-16.90
848.30	1.4	QPSK	1 / 0	24.44	-0.60	**21.69**	0.148	38.45	-16.76	**23.84**	0.242	40.61	-16.77
848.30	1.4	16-QAM	1 / 0	23.57	-0.60	20.82	0.121	38.45	-17.63	22.97	0.198	40.61	-17.64
848.30	1.4	64-QAM	1 / 2	22.71	-0.60	**19.96**	0.099	38.45	-18.49	**22.11**	0.163	40.61	-18.50
825.50	3	QPSK	1 / 0	24.35	-0.60	**21.60**	0.145	38.45	-16.85	**23.75**	0.237	40.61	-16.86
836.50	3	QPSK	1 / 7	24.29	-0.60	21.54	0.143	38.45	-16.91	23.69	0.234	40.61	-16.92
847.50	3	QPSK	1 / 7	24.26	-0.60	21.51	0.142	38.45	-16.94	23.66	0.232	40.61	-16.95
825.50	3	16-QAM	1 / 0	23.67	-0.60	20.92	0.124	38.45	-17.53	23.07	0.203	40.61	-17.54
825.50	3	64-QAM	1 / 0	22.66	-0.60	**19.91**	0.098	38.45	-18.54	**22.06**	0.161	40.61	-18.55
826.50	5	QPSK	1 / 0	24.44	-0.60	21.69	0.148	38.45	-16.76	23.84	0.242	40.61	-16.77
836.50	5	QPSK	1 / 24	24.49	-0.60	**21.74**	**0.149**	38.45	-16.71	**23.89**	**0.245**	40.61	-16.72
846.50	5	QPSK	1 / 0	24.26	-0.60	21.51	0.142	38.45	-16.94	23.66	0.232	40.61	-16.95
836.50	5	16-QAM	1 / 24	23.81	-0.60	**21.06**	0.128	38.45	-17.39	**23.21**	0.209	40.61	-17.40
836.50	5	64-QAM	1 / 24	22.69	-0.60	19.94	0.099	38.45	-18.51	22.09	0.162	40.61	-18.52
829.00	10	QPSK	1 / 0	24.39	-0.60	**21.64**	0.146	38.45	-16.81	**23.79**	0.239	40.61	-16.82
836.50	10	QPSK	1 / 49	24.38	-0.60	21.63	0.146	38.45	-16.82	23.78	0.239	40.61	-16.83
844.00	10	QPSK	1 / 0	24.32	-0.60	21.57	0.144	38.45	-16.88	23.72	0.236	40.61	-16.89
829.00	10	16-QAM	1 / 0	23.72	-0.60	20.97	0.125	38.45	-17.48	23.12	0.205	40.61	-17.49
829.00	10	64-QAM	1 / 0	22.68	-0.60	**19.93**	0.098	38.45	-18.52	**22.08**	0.161	40.61	-18.53

Table 7-35. Antenna D (Port B) ERP/EIRP Data (Band 26)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1710.70	1.4	QPSK	1 / 5	23.46	2.00	25.46	0.352	30.00	-4.54
1732.50	1.4	QPSK	1 / 0	23.50	2.00	**25.50**	**0.355**	30.00	-4.50
1754.30	1.4	QPSK	1 / 5	23.38	2.00	25.38	0.345	30.00	-4.62
1732.50	1.4	16-QAM	1 / 5	22.93	2.00	**24.93**	0.311	30.00	-5.07
1732.50	1.4	64-QAM	1 / 5	21.85	2.00	**23.85**	0.243	30.00	-6.15
1711.50	3	QPSK	1 / 7	23.50	2.00	**25.50**	**0.355**	30.00	-4.50
1732.50	3	QPSK	1 / 7	23.50	2.00	**25.50**	**0.355**	30.00	-4.50
1753.50	3	QPSK	1 / 7	23.12	2.00	25.12	0.325	30.00	-4.88
1711.50	3	16-QAM	1 / 7	22.85	2.00	24.85	0.305	30.00	-5.15
1711.50	3	64-QAM	1 / 7	21.75	2.00	**23.75**	0.237	30.00	-6.25
1712.50	5	QPSK	1 / 0	23.40	2.00	25.40	0.347	30.00	-4.60
1732.50	5	QPSK	1 / 0	23.50	2.00	**25.50**	**0.355**	30.00	-4.50
1752.50	5	QPSK	1 / 24	23.14	2.00	25.14	0.327	30.00	-4.86
1732.50	5	16-QAM	1 / 0	22.78	2.00	**24.78**	0.301	30.00	-5.22
1732.50	5	64-QAM	1 / 12	21.83	2.00	**23.83**	0.242	30.00	-6.17
1715.00	10	QPSK	1 / 0	23.28	2.00	25.28	0.337	30.00	-4.72
1732.50	10	QPSK	1 / 25	23.39	2.00	**25.39**	0.346	30.00	-4.61
1750.00	10	QPSK	1 / 0	23.07	2.00	25.07	0.321	30.00	-4.93
1732.50	10	16-QAM	1 / 49	22.92	2.00	**24.92**	0.310	30.00	-5.08
1732.50	10	64-QAM	1 / 49	21.80	2.00	**23.80**	0.240	30.00	-6.20
1717.50	15	QPSK	1 / 0	23.44	2.00	**25.44**	0.350	30.00	-4.56
1732.50	15	QPSK	1 / 36	23.40	2.00	25.40	0.347	30.00	-4.60
1747.50	15	QPSK	1 / 0	23.10	2.00	25.10	0.324	30.00	-4.90
1717.50	15	16-QAM	1 / 0	22.55	2.00	24.55	0.285	30.00	-5.45
1717.50	15	64-QAM	1 / 0	21.80	2.00	23.80	0.240	30.00	-6.20
1720.00	20	QPSK	1 / 0	23.45	2.00	**25.45**	0.351	30.00	-4.55
1732.50	20	QPSK	1 / 50	23.38	2.00	25.38	0.345	30.00	-4.62
1745.00	20	QPSK	1 / 0	23.44	2.00	25.44	0.350	30.00	-4.56
1720.00	20	16-QAM	1 / 0	22.72	2.00	24.72	0.296	30.00	-5.28
1720.00	20	64-QAM	1 / 0	21.71	2.00	23.71	0.235	30.00	-6.29

Table 7-36. Antenna D (Port B) EIRP Data (Band 4)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1710.70	1.4	QPSK	1 / 0	23.45	2.00	25.45	0.351	30.00	-4.55
1745.00	1.4	QPSK	1 / 5	23.50	2.00	**25.50**	**0.355**	30.00	-4.50
1779.30	1.4	QPSK	1 / 0	23.50	2.00	**25.50**	**0.355**	30.00	-4.50
1745.00	1.4	16-QAM	1 / 2	22.80	2.00	24.80	0.302	30.00	-5.20
1745.00	1.4	64-QAM	1 / 0	21.66	2.00	23.66	0.232	30.00	-6.34
1711.50	3	QPSK	1 / 0	23.50	2.00	**25.50**	**0.355**	30.00	-4.50
1745.00	3	QPSK	1 / 7	23.49	2.00	25.49	0.354	30.00	-4.51
1778.50	3	QPSK	1 / 7	23.46	2.00	25.46	0.352	30.00	-4.54
1711.50	3	16-QAM	1 / 0	22.84	2.00	24.84	0.305	30.00	-5.16
1711.50	3	64-QAM	1 / 14	21.74	2.00	23.74	0.237	30.00	-6.26
1712.50	5	QPSK	1 / 12	23.50	2.00	**25.50**	**0.355**	30.00	-4.50
1745.00	5	QPSK	1 / 0	23.46	2.00	25.46	0.352	30.00	-4.54
1777.50	5	QPSK	1 / 0	23.41	2.00	25.41	0.348	30.00	-4.59
1712.50	5	16-QAM	1 / 24	22.83	2.00	**24.83**	0.304	30.00	-5.17
1712.50	5	64-QAM	1 / 0	21.63	2.00	23.63	0.231	30.00	-6.37
1715.00	10	QPSK	1 / 0	23.47	2.00	25.47	0.352	30.00	-4.53
1745.00	10	QPSK	1 / 0	23.50	2.00	**25.50**	**0.355**	30.00	-4.50
1775.00	10	QPSK	1 / 0	23.48	2.00	25.48	0.353	30.00	-4.52
1745.00	10	16-QAM	1 / 0	22.94	2.00	**24.94**	0.312	30.00	-5.06
1745.00	10	64-QAM	1 / 0	21.83	2.00	23.83	0.242	30.00	-6.17
1717.50	15	QPSK	1 / 0	23.50	2.00	**25.50**	**0.355**	30.00	-4.50
1745.00	15	QPSK	1 / 74	23.38	2.00	25.38	0.345	30.00	-4.62
1772.50	15	QPSK	1 / 36	23.47	2.00	25.47	0.352	30.00	-4.53
1717.50	15	16-QAM	1 / 0	22.63	2.00	24.63	0.290	30.00	-5.37
1717.50	15	64-QAM	1 / 0	21.78	2.00	**23.78**	0.239	30.00	-6.22
1720.00	20	QPSK	1 / 0	23.50	2.00	**25.50**	**0.355**	30.00	-4.50
1745.00	20	QPSK	1 / 0	23.48	2.00	25.48	0.353	30.00	-4.52
1770.00	20	QPSK	1 / 99	23.42	2.00	25.42	0.348	30.00	-4.58
1720.00	20	16-QAM	1 / 0	22.83	2.00	24.83	0.304	30.00	-5.17
1720.00	20	64-QAM	1 / 50	21.77	2.00	23.77	0.238	30.00	-6.23

Table 7-37. Antenna D (Port B) EIRP Data (Band 66)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1850.70	1.4	QPSK	1 / 5	23.45	2.60	**26.05**	0.403	33.01	-6.96
1880.00	1.4	QPSK	1 / 5	23.24	2.60	25.84	0.384	33.01	-7.17
1909.30	1.4	QPSK	1 / 5	23.23	2.60	25.83	0.383	33.01	-7.18
1850.70	1.4	16-QAM	1 / 2	22.73	2.60	**25.33**	0.341	33.01	-7.68
1850.70	1.4	64-QAM	1 / 2	21.78	2.60	**24.38**	0.274	33.01	-8.63
1851.50	3	QPSK	1 / 7	23.42	2.60	**26.02**	0.400	33.01	-6.99
1880.00	3	QPSK	1 / 7	23.25	2.60	25.85	0.385	33.01	-7.16
1908.50	3	QPSK	1 / 7	23.35	2.60	25.95	0.394	33.01	-7.06
1851.50	3	16-QAM	1 / 0	22.78	2.60	**25.38**	0.345	33.01	-7.63
1851.50	3	64-QAM	1 / 7	21.78	2.60	**24.38**	0.274	33.01	-8.63
1852.50	5	QPSK	1 / 0	23.50	2.60	**26.10**	**0.407**	33.01	-6.91
1880.00	5	QPSK	1 / 24	23.37	2.60	25.97	0.395	33.01	-7.04
1907.50	5	QPSK	1 / 24	23.23	2.60	25.83	0.383	33.01	-7.18
1852.50	5	16-QAM	1 / 0	23.02	2.60	**25.62**	0.365	33.01	-7.39
1852.50	5	64-QAM	1 / 12	21.90	2.60	**24.50**	0.282	33.01	-8.51
1855.00	10	QPSK	1 / 0	23.44	2.60	**26.04**	0.402	33.01	-6.97
1880.00	10	QPSK	1 / 49	23.23	2.60	25.83	0.383	33.01	-7.18
1905.00	10	QPSK	1 / 0	23.21	2.60	25.81	0.381	33.01	-7.20
1855.00	10	16-QAM	1 / 25	22.75	2.60	**25.35**	0.343	33.01	-7.66
1855.00	10	64-QAM	1 / 0	21.73	2.60	**24.33**	0.271	33.01	-8.68
1857.50	15	QPSK	1 / 0	23.50	2.60	**26.10**	**0.407**	33.01	-6.91
1880.00	15	QPSK	1 / 0	23.31	2.60	25.91	0.390	33.01	-7.10
1902.50	15	QPSK	1 / 0	23.25	2.60	25.85	0.385	33.01	-7.16
1857.50	15	16-QAM	1 / 0	22.58	2.60	25.18	0.330	33.01	-7.83
1857.50	15	64-QAM	1 / 0	21.82	2.60	**24.42**	0.277	33.01	-8.59
1860.00	20	QPSK	1 / 0	23.49	2.60	**26.09**	0.406	33.01	-6.92
1880.00	20	QPSK	1 / 0	23.33	2.60	25.93	0.392	33.01	-7.08
1900.00	20	QPSK	1 / 50	23.42	2.60	26.02	0.400	33.01	-6.99
1860.00	20	16-QAM	1 / 0	22.80	2.60	25.40	0.347	33.01	-7.61
1860.00	20	64-QAM	1 / 99	21.68	2.60	24.28	0.268	33.01	-8.73

Table 7-38. Antenna D (Port B) EIRP Data (Band 2)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1850.70	1.4	QPSK	1 / 5	23.46	2.60	**26.06**	0.404	33.01	-6.95
1882.50	1.4	QPSK	1 / 5	23.26	2.60	25.86	0.385	33.01	-7.15
1914.30	1.4	QPSK	1 / 5	23.32	2.60	25.92	0.391	33.01	-7.09
1850.70	1.4	16-QAM	1 / 2	22.79	2.60	**25.39**	0.346	33.01	-7.62
1850.70	1.4	64-QAM	1 / 2	21.76	2.60	**24.36**	0.273	33.01	-8.65
1851.50	3	QPSK	1 / 7	23.46	2.60	**26.06**	0.404	33.01	-6.95
1882.50	3	QPSK	1 / 7	23.25	2.60	25.85	0.385	33.01	-7.16
1913.50	3	QPSK	1 / 7	23.21	2.60	25.81	0.381	33.01	-7.20
1851.50	3	16-QAM	1 / 7	22.76	2.60	**25.36**	0.344	33.01	-7.65
1851.50	3	64-QAM	1 / 0	21.82	2.60	**24.42**	0.277	33.01	-8.59
1852.50	5	QPSK	1 / 0	23.50	2.60	**26.10**	**0.407**	33.01	-6.91
1882.50	5	QPSK	1 / 24	23.40	2.60	26.00	0.398	33.01	-7.01
1912.50	5	QPSK	1 / 24	23.22	2.60	25.82	0.382	33.01	-7.19
1852.50	5	16-QAM	1 / 12	22.85	2.60	**25.45**	0.351	33.01	-7.56
1852.50	5	64-QAM	1 / 12	21.86	2.60	**24.46**	0.279	33.01	-8.55
1855.00	10	QPSK	1 / 0	23.45	2.60	**26.05**	0.403	33.01	-6.96
1882.50	10	QPSK	1 / 49	23.34	2.60	25.94	0.393	33.01	-7.07
1910.00	10	QPSK	1 / 49	23.24	2.60	25.84	0.384	33.01	-7.17
1855.00	10	16-QAM	1 / 25	22.70	2.60	25.30	0.339	33.01	-7.71
1855.00	10	64-QAM	1 / 0	21.71	2.60	**24.31**	0.270	33.01	-8.70
1857.50	15	QPSK	1 / 0	23.50	2.60	**26.10**	**0.407**	33.01	-6.91
1882.50	15	QPSK	1 / 74	23.28	2.60	25.88	0.387	33.01	-7.13
1907.50	15	QPSK	1 / 0	23.25	2.60	25.85	0.385	33.01	-7.16
1857.50	15	16-QAM	1 / 74	22.56	2.60	25.16	0.328	33.01	-7.85
1857.50	15	64-QAM	1 / 0	21.86	2.60	**24.46**	0.279	33.01	-8.55
1860.00	20	QPSK	1 / 0	23.50	2.60	**26.10**	**0.407**	33.01	-6.91
1882.50	20	QPSK	1 / 0	23.29	2.60	25.89	0.388	33.01	-7.12
1905.00	20	QPSK	1 / 0	23.46	2.60	26.06	0.404	33.01	-6.95
1860.00	20	16-QAM	1 / 50	22.80	2.60	**25.40**	0.347	33.01	-7.61
1860.00	20	64-QAM	1 / 99	21.66	2.60	24.26	0.267	33.01	-8.75

Table 7-39. Antenna D (Port B) EIRP Data (Band 25)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
2307.50	5	QPSK	1 / 24	21.30	1.70	**23.00**	**0.200**	23.98	-0.98
2312.50	5	QPSK	1 / 12	21.30	1.70	**23.00**	**0.200**	23.98	-0.98
2312.50	5	16-QAM	1 / 12	20.39	1.70	**22.09**	0.162	23.98	-1.89
2312.50	5	64-QAM	1 / 0	19.27	1.70	20.97	0.125	23.98	-3.01
2310.00	10	QPSK	1 / 49	21.20	1.70	**22.90**	0.195	23.98	-1.08
2310.00	10	16-QAM	1 / 25	20.10	1.70	21.80	0.151	23.98	-2.18
2310.00	10	64-QAM	1 / 49	19.08	1.70	20.78	0.120	23.98	-3.20

Table 7-40. Antenna D (Port B) EIRP Data (Band 30)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
2502.50	5	QPSK	1 / 0	22.95	2.00	24.95	0.313	33.01	-8.06
2535.00	5	QPSK	1 / 24	23.04	2.00	**25.04**	0.319	33.01	-7.97
2567.50	5	QPSK	1 / 12	22.95	2.00	24.95	0.313	33.01	-8.06
2535.00	5	16-QAM	1 / 24	22.38	2.00	**24.38**	0.274	33.01	-8.63
2535.00	5	64-QAM	1 / 24	21.42	2.00	23.42	0.220	33.01	-9.59
2505.00	10	QPSK	1 / 49	22.91	2.00	24.91	0.310	33.01	-8.10
2535.00	10	QPSK	1 / 49	23.02	2.00	**25.02**	0.318	33.01	-7.99
2565.00	10	QPSK	1 / 25	22.96	2.00	24.96	0.313	33.01	-8.05
2535.00	10	16-QAM	1 / 25	22.36	2.00	24.36	0.273	33.01	-8.65
2535.00	10	64-QAM	1 / 49	21.26	2.00	23.26	0.212	33.01	-9.75
2507.50	15	QPSK	1 / 74	23.10	2.00	**25.10**	**0.324**	33.01	-7.91
2535.00	15	QPSK	1 / 74	22.94	2.00	24.94	0.312	33.01	-8.07
2562.50	15	QPSK	1 / 36	22.95	2.00	24.95	0.313	33.01	-8.06
2507.50	15	16-QAM	1 / 74	22.33	2.00	24.33	0.271	33.01	-8.68
2507.50	15	64-QAM	1 / 36	21.27	2.00	**23.27**	0.212	33.01	-9.74
2510.00	20	QPSK	1 / 50	23.08	2.00	25.08	0.322	33.01	-7.93
2535.00	20	QPSK	1 / 99	23.05	2.00	25.05	0.320	33.01	-7.96
2560.00	20	QPSK	1 / 50	23.10	2.00	**25.10**	**0.324**	33.01	-7.91
2560.00	20	16-QAM	1 / 50	22.47	2.00	**24.47**	0.280	33.01	-8.54
2560.00	20	64-QAM	1 / 50	21.51	2.00	23.51	0.224	33.01	-9.50

Table 7-41. Antenna D (Port B) EIRP Data (Band 7)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
2498.50	5	QPSK	1 / 24	24.55	2.00	26.55	0.452	33.01	-6.46
2593.00	5	QPSK	1 / 24	24.48	2.00	26.48	0.445	33.01	-6.53
2687.50	5	QPSK	1 / 0	24.66	2.00	**26.66**	0.463	33.01	-6.35
2687.50	5	16-QAM	1 / 24	23.61	2.00	**25.61**	0.364	33.01	-7.40
2687.50	5	64-QAM	1 / 24	23.22	2.00	**25.22**	0.333	33.01	-7.79
2501.00	10	QPSK	1 / 49	24.73	2.00	26.73	0.471	33.01	-6.28
2593.00	10	QPSK	1 / 0	24.75	2.00	**26.75**	**0.473**	33.01	-6.26
2685.00	10	QPSK	1 / 0	24.54	2.00	26.54	0.451	33.01	-6.47
2593.00	10	16-QAM	1 / 49	23.87	2.00	**25.87**	0.386	33.01	-7.14
2593.00	10	64-QAM	1 / 0	22.65	2.00	24.65	0.292	33.01	-8.36
2503.50	15	QPSK	1 / 36	24.68	2.00	26.68	0.466	33.01	-6.33
2593.00	15	QPSK	1 / 36	24.75	2.00	**26.75**	**0.473**	33.01	-6.26
2682.50	15	QPSK	1 / 0	24.53	2.00	26.53	0.450	33.01	-6.48
2593.00	15	16-QAM	1 / 36	23.80	2.00	**25.80**	0.380	33.01	-7.21
2593.00	15	64-QAM	1 / 74	22.62	2.00	24.62	0.290	33.01	-8.39
2506.00	20	QPSK	1 / 99	24.68	2.00	**26.68**	0.466	33.01	-6.33
2593.00	20	QPSK	1 / 0	24.67	2.00	26.67	0.465	33.01	-6.34
2680.00	20	QPSK	1 / 0	24.54	2.00	26.54	0.451	33.01	-6.47
2593.00	20	16-QAM	1 / 99	23.66	2.00	**25.66**	0.368	33.01	-7.35
2593.00	20	64-QAM	1 / 99	22.75	2.00	**24.75**	0.299	33.01	-8.26

Table 7-42. Antenna D (Port B) EIRP Data (Band 41 PC2)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Conducted Power [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
2498.50	5	QPSK	1 / 24	23.11	2.00	**25.11**	0.324	33.01	-7.90
2593.00	5	QPSK	1 / 0	23.00	2.00	25.00	0.316	33.01	-8.01
2687.50	5	QPSK	1 / 24	23.10	2.00	25.10	0.324	33.01	-7.91
2687.50	5	16-QAM	1 / 24	22.11	2.00	**24.11**	0.258	33.01	-8.90
2687.50	5	64-QAM	1 / 24	21.77	2.00	**23.77**	0.238	33.01	-9.24
2501.00	10	QPSK	1 / 49	23.25	2.00	**25.25**	**0.335**	33.01	-7.76
2593.00	10	QPSK	1 / 0	23.12	2.00	25.12	0.325	33.01	-7.89
2685.00	10	QPSK	1 / 49	23.25	2.00	**25.25**	**0.335**	33.01	-7.76
2685.00	10	16-QAM	1 / 0	22.34	2.00	24.34	0.272	33.01	-8.67
2685.00	10	64-QAM	1 / 49	21.33	2.00	23.33	0.215	33.01	-9.68
2503.50	15	QPSK	1 / 0	23.10	2.00	25.10	0.324	33.01	-7.91
2593.00	15	QPSK	1 / 0	23.06	2.00	25.06	0.321	33.01	-7.95
2682.50	15	QPSK	1 / 0	23.25	2.00	**25.25**	**0.335**	33.01	-7.76
2682.50	15	16-QAM	1 / 0	22.26	2.00	24.26	0.267	33.01	-8.75
2682.50	15	64-QAM	1 / 74	21.77	2.00	**23.77**	0.238	33.01	-9.24
2506.00	20	QPSK	1 / 99	23.16	2.00	25.16	0.328	33.01	-7.85
2593.00	20	QPSK	1 / 99	23.14	2.00	25.14	0.327	33.01	-7.87
2680.00	20	QPSK	1 / 50	23.25	2.00	**25.25**	**0.335**	33.01	-7.76
2680.00	20	16-QAM	1 / 0	22.28	2.00	**24.28**	0.268	33.01	-8.73
2680.00	20	64-QAM	1 / 99	21.80	2.00	**23.80**	0.240	33.01	-9.21

Table 7-43. Antenna D (Port B) EIRP Data (Band 41 PC3)

7.9 Radiated Spurious Emissions

Test Overview

Radiated spurious emissions measurements are performed using the substitution method described in ANSI/TIA-603-E-2016 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using vertically and horizontally polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized broadband horn antennas.

Test Procedures Used

KDB 971168 D01 v03r01 – Section 5.8

ANSI/TIA-603-E-2016 – Section 2.2.12

Test Settings

1. RBW = 100kHz for emissions below 1GHz and 1MHz for emissions above 1GHz
2. VBW ≥ 3 x RBW
3. Span = 1.5 times the OBW
4. No. of sweep points ≥ 2 x span / RBW
5. Detector = RMS
6. Trace mode = Average (Max Hold for pulsed emissions)
7. The trace was allowed to stabilize

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

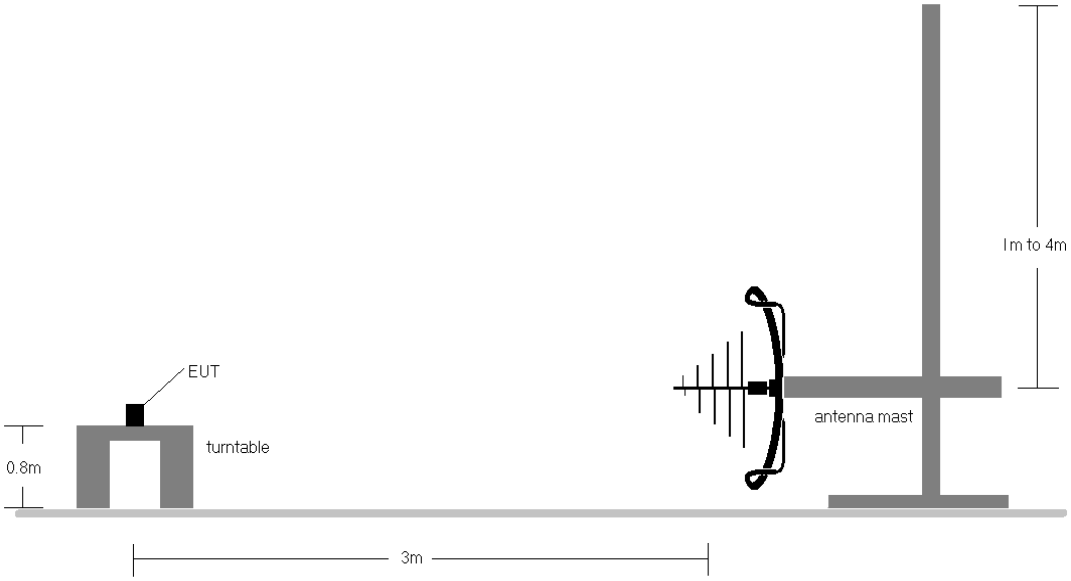


Figure 7-8. Test Instrument & Measurement Setup < 1GHz

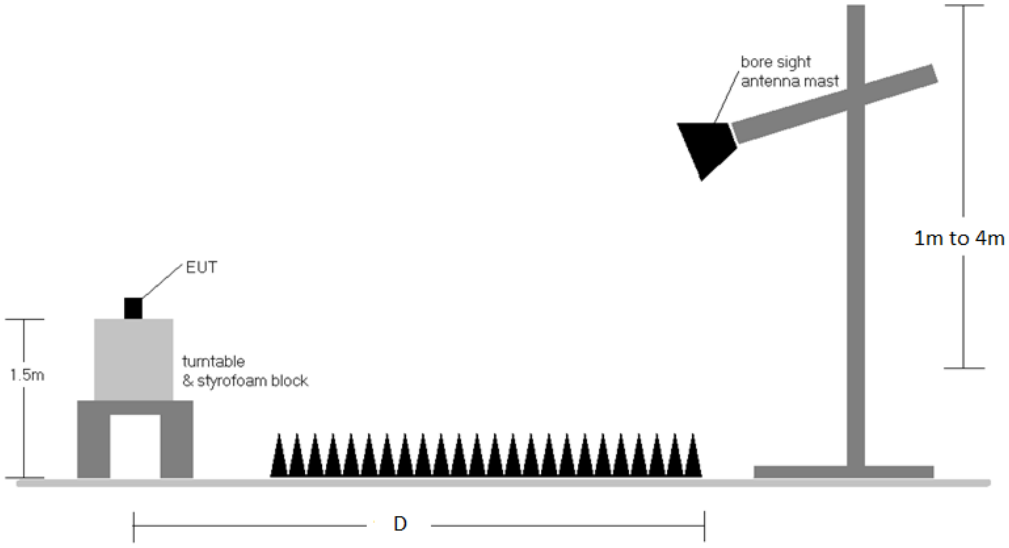


Figure 7-9. Test Instrument & Measurement Setup > 1GHz

Test Notes

1) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case emissions are reported with modulations, offsets and channel bandwidth configurations in this section. 1RB config was found and reported as a worst case RB size.

2) This unit was tested with its standard battery.

3) The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter. The worst-case emissions are reported.

4) D is the measurement test distance and emissions 1-18GHz were measured at a 3 meters test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.

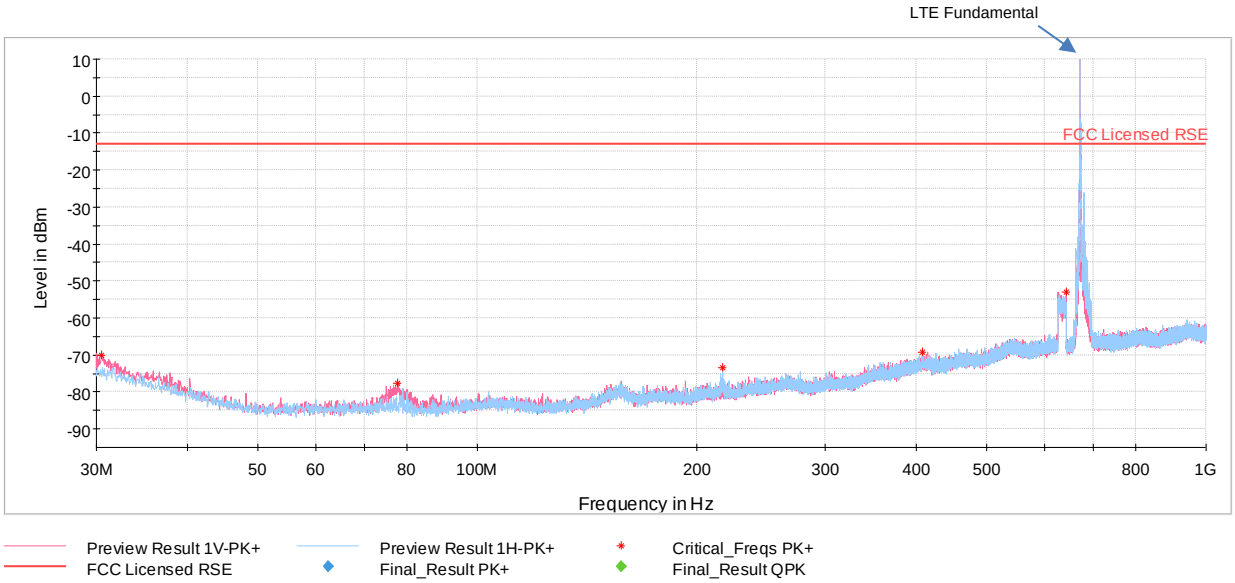
5) The "-" shown in the following RSE tables are used to denote a noise floor measurement.

6) No significant emissions were found for below 1GHz and Above 18GHz measurement.

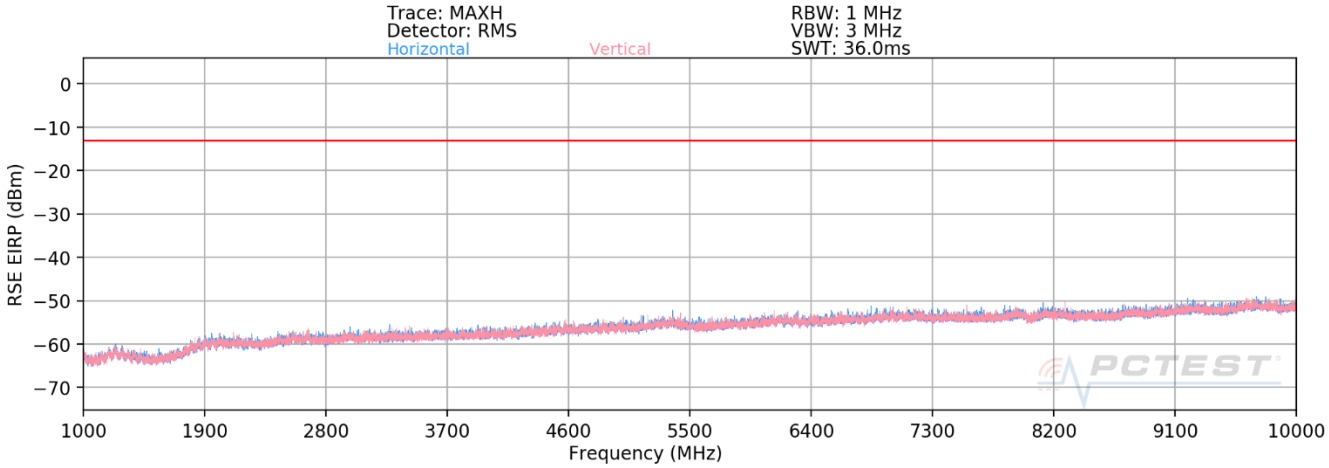
7) For LTE Band 30 pre-scans above 1GHz, the RBW is set to 1MHz and VBW to 30kHz. For final measurements above 1GHz, the RBW is set to 1MHz and VBW to 3MHz when measuring with an RMS detector and trace averaging.

8) Below 1GHz pre-scan plot shows no significant emissions.

7.9.1 Antenna C (Port A) Radiated Spurious Emissions Measurements Band 71



Plot 7-430. Radiated Spurious Emissions below 1GHz (Band 71) with AC/DC Adapter



Plot 7-431. Radiated Spurious Emissions above 1GHz (Band 71)

OPERATING FREQUENCY:	673.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1346.00	H	112	20	-70.59	3.71	-66.89	-53.9
2019.00	V	192	355	-66.40	2.98	-63.42	-50.4
2692.00	V	-	-	-69.04	4.84	-64.20	-51.2
3365.00	V	-	-	-70.28	6.58	-63.69	-50.7
4038.00	V	-	-	-70.76	7.85	-62.92	-49.9
4711.00	V	-	-	-70.78	8.60	-62.18	-49.2

Table 7-44. Radiated Spurious Data (Band 71 – Low Channel)

OPERATING FREQUENCY:	680.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1361.00	V	250	57	-71.62	3.58	-68.04	-55.0
2041.50	-	-	-	-68.03	2.95	-65.08	-52.1
2722.00	-	-	-	-69.51	4.93	-64.58	-51.6
3402.50	-	-	-	-70.40	6.63	-63.77	-50.8
4083.00	-	-	-	-70.92	7.82	-63.10	-50.1
4763.50	-	-	-	-70.68	8.61	-62.06	-49.1

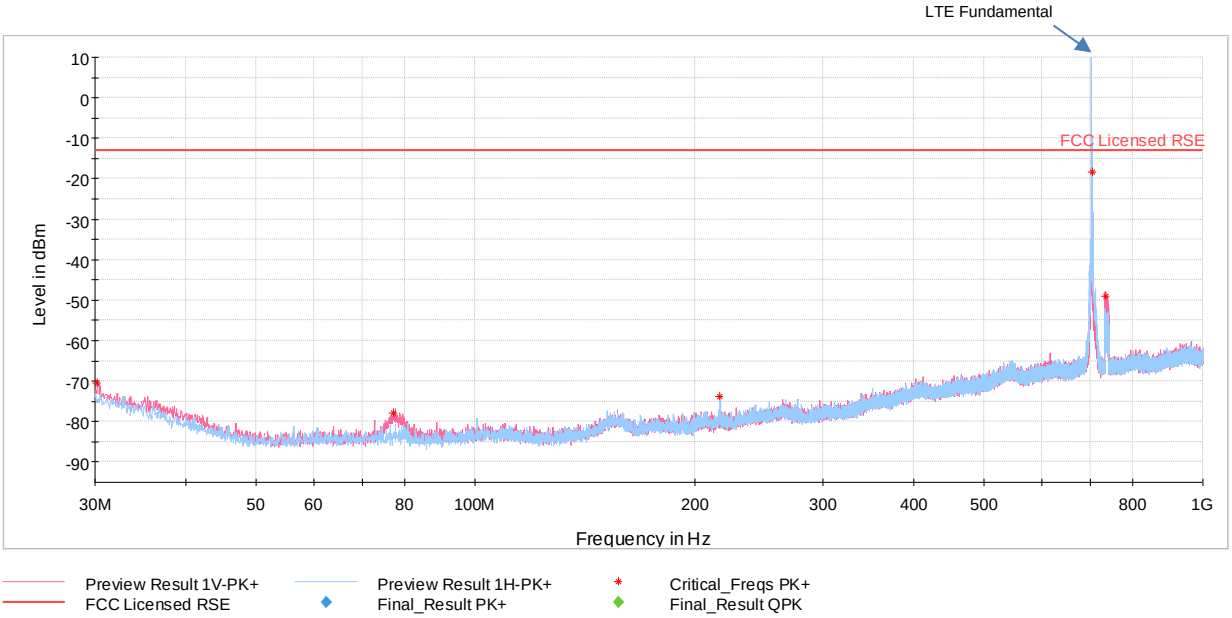
Table 7-45. Radiated Spurious Data (Band 71 – Mid Channel)

OPERATING FREQUENCY:	688.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

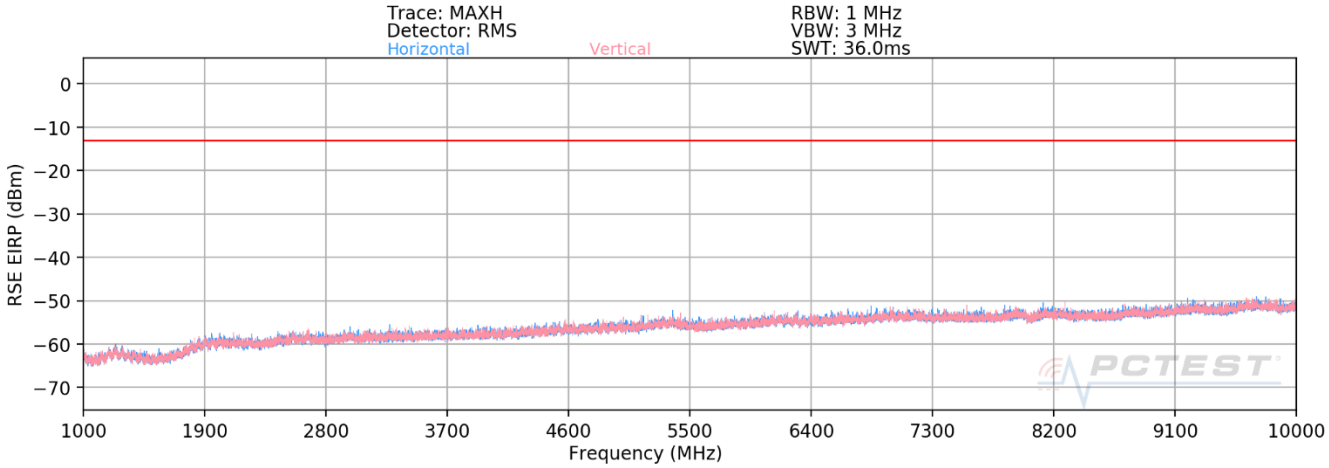
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1376.00	-	-	-	-71.15	3.33	-67.82	-54.8
2064.00	-	-	-	-67.95	2.93	-65.02	-52.0
2752.00	-	-	-	-69.59	5.09	-64.50	-51.5
3440.00	-	-	-	-70.58	6.69	-63.89	-50.9
4128.00	-	-	-	-71.10	7.85	-63.25	-50.3
4816.00	-	-	-	-70.69	8.59	-62.09	-49.1

Table 7-46. Radiated Spurious Data (Band 71 – High Channel)

Band 12/17



Plot 7-432. Radiated Spurious Emissions below 1GHz (Band 12/17) with AC/DC Adapter



Plot 7-433. Radiated Spurious Emissions above 1GHz (Band 12/17)

OPERATING FREQUENCY:	704.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1408.00	-	-	-	-71.54	3.20	-68.35	-55.3
2112.00	-	-	-	-68.17	3.13	-65.04	-52.0
2816.00	-	-	-	-69.88	5.31	-64.57	-51.6
3520.00	-	-	-	-70.33	6.80	-63.53	-50.5
4224.00	-	-	-	-71.12	8.03	-63.08	-50.1

Table 7-47. Radiated Spurious Data (Band 12/17 – Low Channel)

OPERATING FREQUENCY:	707.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1415.00	-	-	-	-71.55	3.26	-68.28	-55.3
2122.50	-	-	-	-68.40	3.18	-65.23	-52.2
2830.00	-	-	-	-69.76	5.30	-64.46	-51.5
3537.50	-	-	-	-70.13	6.80	-63.33	-50.3
4245.00	-	-	-	-70.92	8.05	-62.87	-49.9
4952.50	-	-	-	-70.91	8.84	-62.07	-49.1

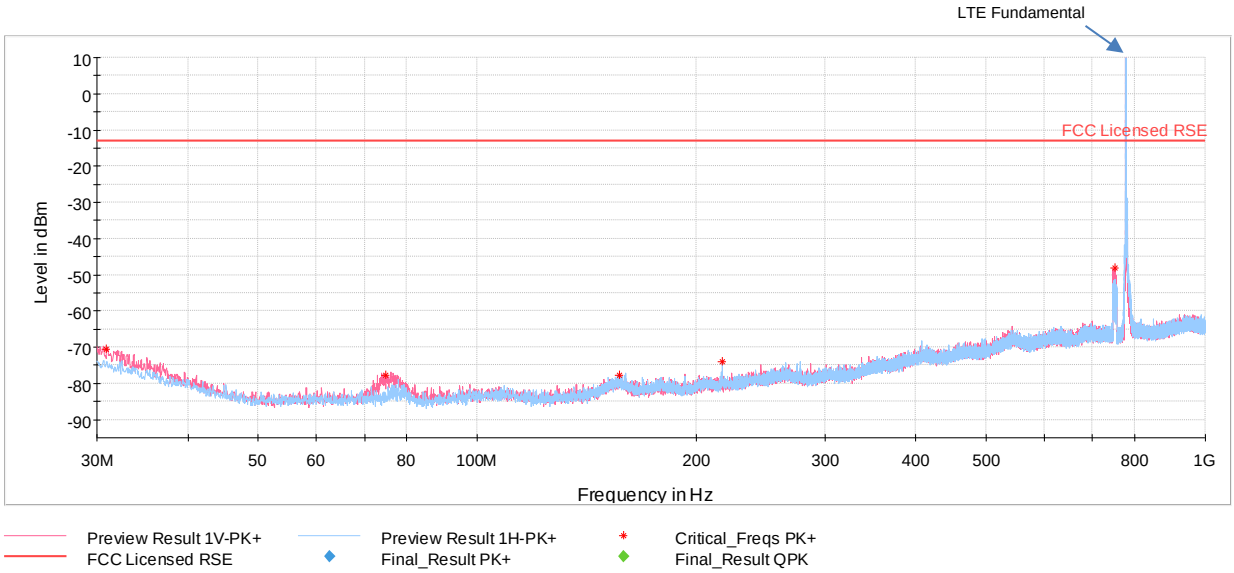
Table 7-48. Radiated Spurious Data (Band 12/17 – Mid Channel)

OPERATING FREQUENCY:	711.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

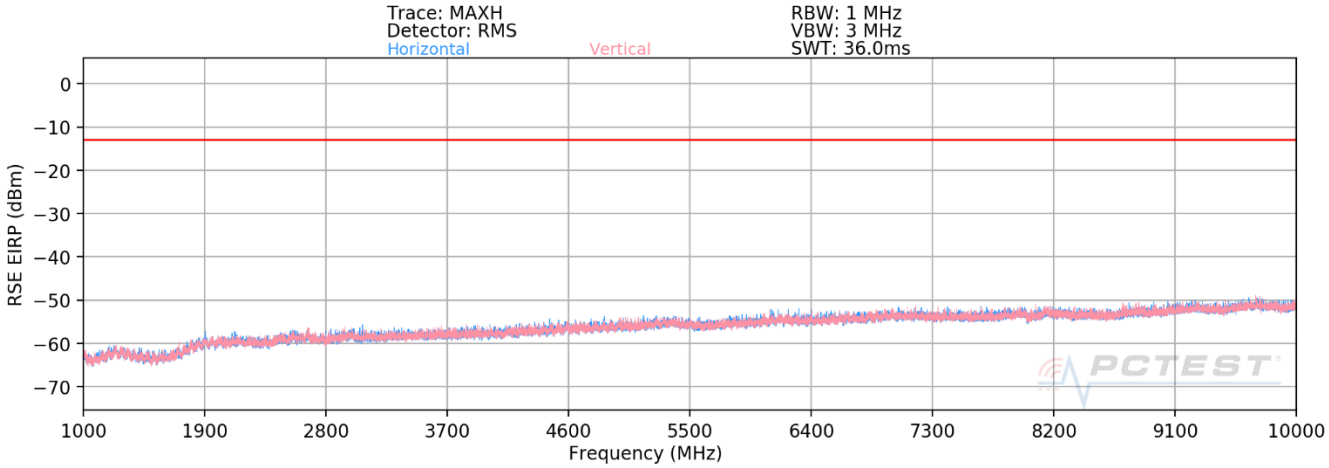
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1422.00	-	-	-	-71.80	3.35	-68.45	-55.5
2133.00	-	-	-	-67.92	3.23	-64.69	-51.7
2844.00	-	-	-	-69.75	5.37	-64.38	-51.4
3555.00	-	-	-	-70.51	6.81	-63.69	-50.7
4266.00	-	-	-	-70.75	8.05	-62.69	-49.7

Table 7-49. Radiated Spurious Data (Band 12/17 – High Channel)

Band 13



Plot 7-434. Radiated Spurious Emissions below 1GHz (Band 13) with AC/DC Adapter



Plot 7-435. Radiated Spurious Emissions above 1GHz (Band 13)

OPERATING FREQUENCY:	779.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	5.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
2338.50	V	158	159	-67.19	3.95	-63.25	-50.2
3118.00	V	-	-	-69.70	6.09	-63.61	-50.6
3897.50	V	-	-	-70.93	7.65	-63.28	-50.3
4677.00	V	-	-	-70.56	8.55	-62.01	-49.0

Table 7-50. Radiated Spurious Data (Band 13 – Low Channel)

OPERATING FREQUENCY:	782.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
2346.00	V	-	-	-70.22	3.97	-66.25	-53.2
3128.00	V	-	-	-70.53	6.13	-64.40	-51.4
3910.00	V	-	-	-71.24	7.67	-63.57	-50.6

Table 7-51. Radiated Spurious Data (Band 13 – Mid Channel)

OPERATING FREQUENCY:	784.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	5.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
2353.50	V	-	-	-59.14	3.94	-55.20	-42.2
3138.00	V	-	-	-70.65	6.17	-64.48	-51.5
3922.50	V	-	-	-70.90	7.69	-63.21	-50.2

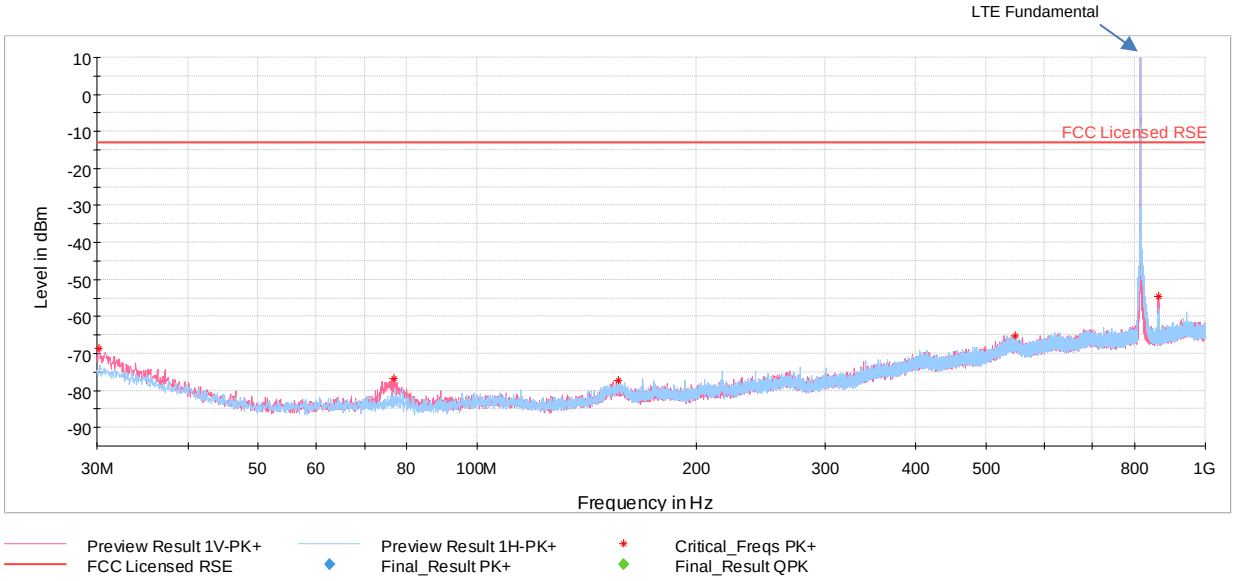
Table 7-52. Radiated Spurious Data (Band 13 – High Channel)

MODULATION SIGNAL:	QPSK	
BANDWIDTH:	5.00	MHz
DISTANCE:	3	meters
NARROWBAND EMISSION LIMIT:	-50	dBm
WIDEBAND EMISSION LIMIT:	-40	dBm/MHz

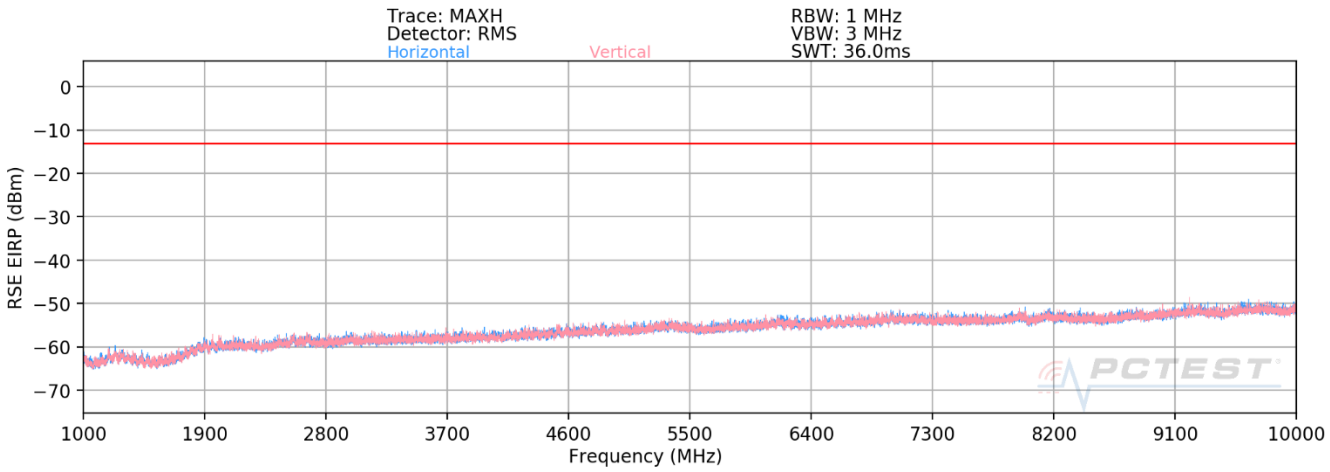
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1559.00	-	-	-	-72.28	3.73	-68.55	-28.6
1564.00	-	-	-	-72.78	3.71	-69.07	-29.1
1569.00	-	143	156	-71.96	3.68	-68.28	-28.3

Table 7-53. Radiated Spurious Data (Band 13 – 1559-1610MHz Band)

Band 26/5



Plot 7-436. Radiated Spurious Emissions below 1GHz (Band 26/5) with AC/DC Adapter



Plot 7-437. Radiated Spurious Emissions above 1GHz (Band 26/5)

OPERATING FREQUENCY:	829.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1658.00	H	-	-	-71.25	3.80	-67.44	-54.4
2487.00	H	339	153	-68.78	4.34	-64.45	-51.4
3316.00	H	-	-	-70.11	6.51	-63.59	-50.6
4145.00	H	-	-	-70.04	7.88	-62.17	-49.2
4974.00	H	-	-	-69.94	8.83	-61.11	-48.1

Table 7-54. Radiated Spurious Data (Band 26/5 – Low Channel)

OPERATING FREQUENCY:	836.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1673.00	H	-	-	-70.89	3.69	-67.19	-54.2
2509.50	H	-	-	-68.53	4.20	-64.33	-51.3
3346.00	H	-	-	-69.97	6.55	-63.41	-50.4

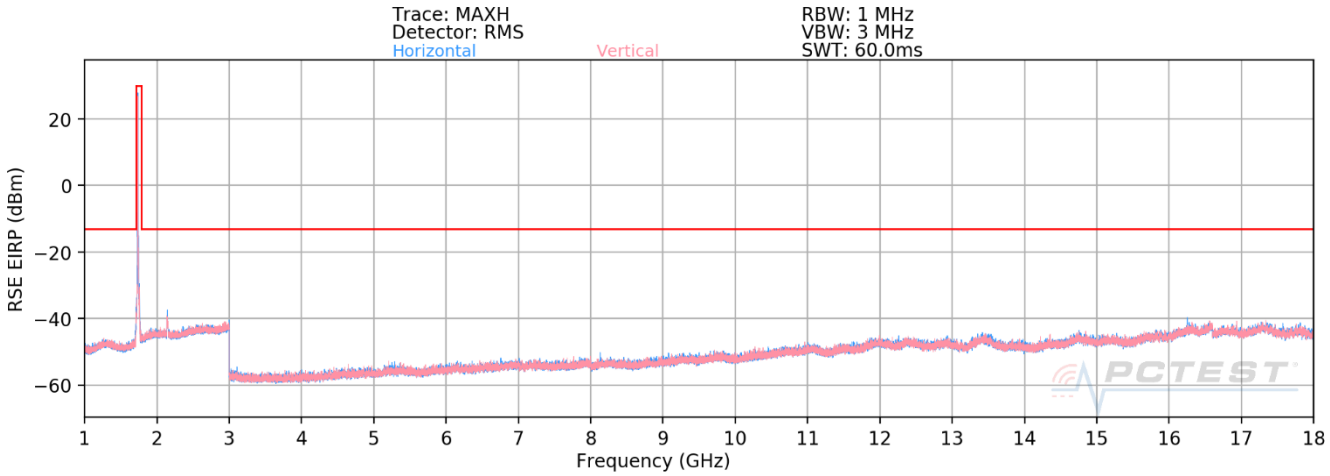
Table 7-55. Radiated Spurious Data (Band 26/5 – Mid Channel)

OPERATING FREQUENCY:	844.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1688.00	H	-	-	-70.45	3.70	-66.76	-53.8
2532.00	H	-	-	-68.48	4.36	-64.12	-51.1
3376.00	H	-	-	-70.19	6.60	-63.59	-50.6

Table 7-56. Radiated Spurious Data (Band 26/5 – High Channel)

Band 66/4



Plot 7-438. Radiated Spurious Emissions above 1GHz (Band 66/4)

OPERATING FREQUENCY:	1720.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3440.00	H	-	-	-70.24	6.69	-63.55	-50.6
5160.00	H	116	284	-69.23	9.08	-60.15	-47.1
6880.00	H	-	-	-69.34	9.54	-59.80	-46.8
8600.00	H	-	-	-69.75	9.65	-60.10	-47.1
10320.00	H	-	-	-66.71	9.56	-57.15	-44.2

Table 7-57. Radiated Spurious Data (Band 66/4 – Low Channel)

OPERATING FREQUENCY:	1745.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3490.00	H	-	-	-69.90	6.79	-63.11	-50.1
5235.00	H	118	241	-69.42	9.16	-60.26	-47.3
6980.00	H	-	-	-69.73	9.49	-60.24	-47.2
8725.00	H	-	-	-69.77	9.63	-60.14	-47.1
10470.00	H	-	-	-66.04	9.46	-56.58	-43.6

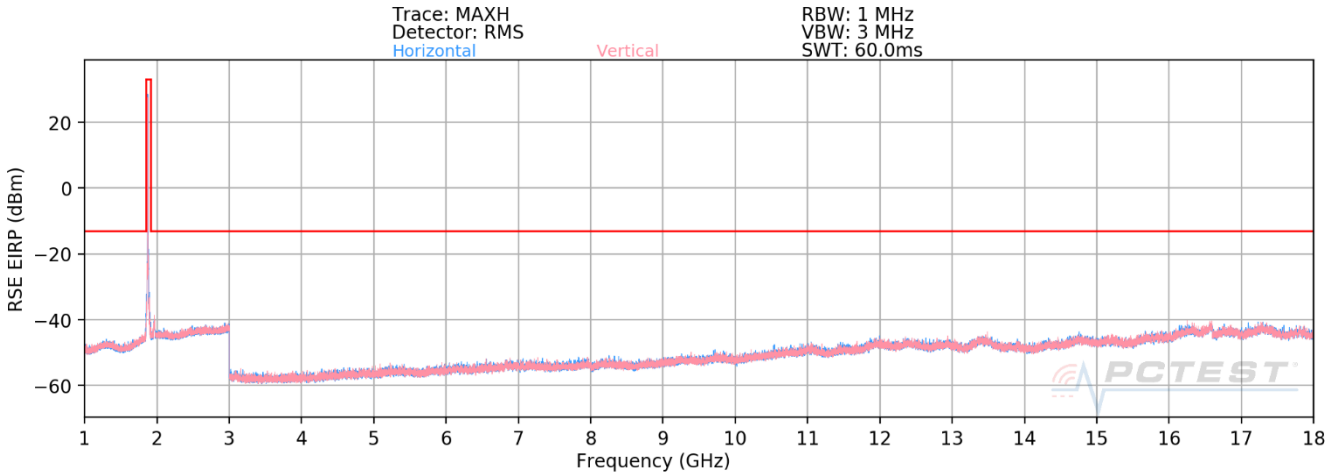
Table 7-58. Radiated Spurious Data (Band 66/4 – Mid Channel)

OPERATING FREQUENCY:	1770.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3540.00	H	-	-	-69.89	6.80	-63.10	-50.1
5310.00	H	-	-	-70.25	9.11	-61.14	-48.1
7080.00	H	-	-	-69.56	9.46	-60.11	-47.1
8850.00	H	-	-	-68.56	9.58	-58.98	-46.0
10620.00	H	-	-	-66.13	9.42	-56.71	-43.7

Table 7-59. Radiated Spurious Data (Band 66/4 – High Channel)

Band 25/2



Plot 7-439. Radiated Spurious Emissions above 1GHz (Band 25/2)

OPERATING FREQUENCY:	1860.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3720.00	H	-	-	-69.89	7.29	-62.59	-49.6
5580.00	H	-	-	-70.84	9.37	-61.47	-48.5
7440.00	H	-	-	-69.72	9.44	-60.28	-47.3

Table 7-60. Radiated Spurious Data (Band 25/2 – Low Channel)

OPERATING FREQUENCY:	1882.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3765.00	H	-	-	-70.64	7.30	-63.34	-50.3
5647.50	H	-	-	-72.93	9.37	-63.56	-50.6
7530.00	H	-	-	-70.98	9.44	-61.54	-48.5

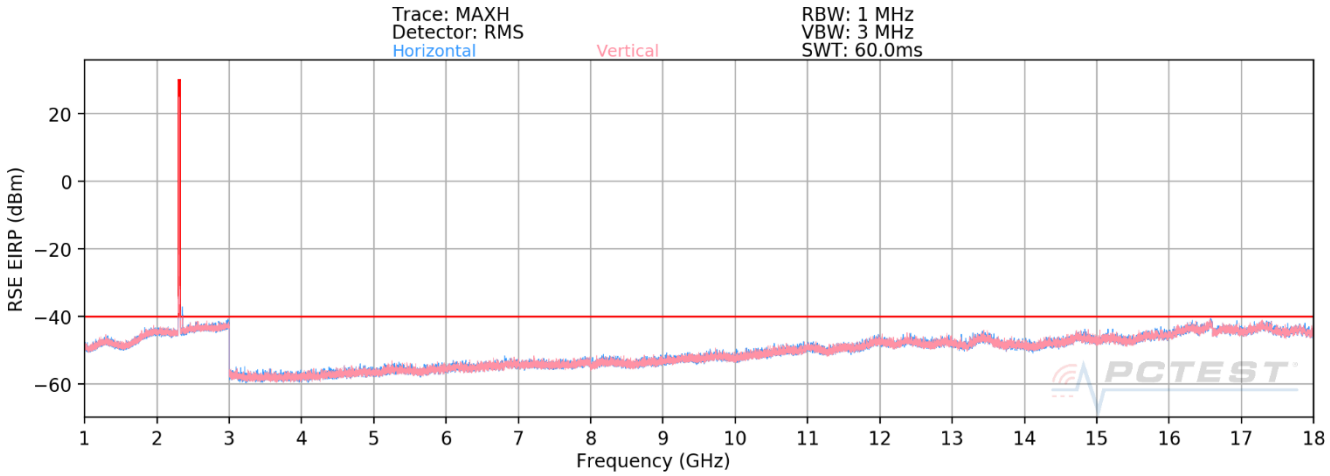
Table 7-61. Radiated Spurious Data (Band 25/2 – Mid Channel)

OPERATING FREQUENCY:	1905.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

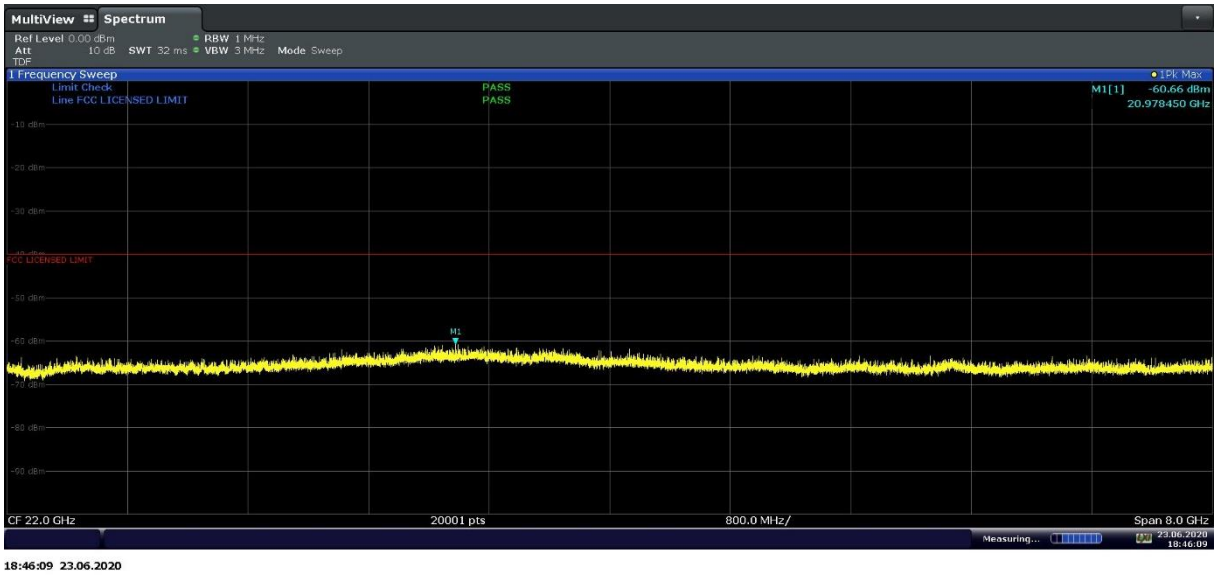
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3810.00	H	-	-	-70.14	7.37	-62.77	-49.8
5715.00	H	-	-	-70.57	9.38	-61.19	-48.2
7620.00	H	-	-	-69.46	9.38	-60.08	-47.1

Table 7-62. Radiated Spurious Data (Band 25/2 – High Channel)

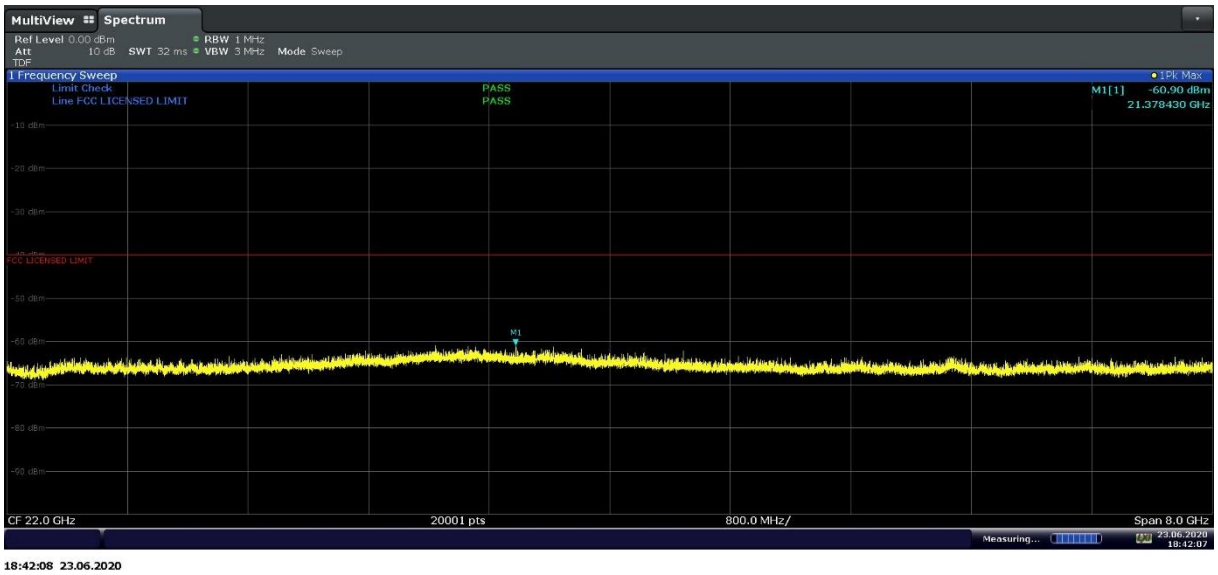
Band 30



Plot 7-440. Radiated Spurious Emissions 1GHz - 18GHz (Band 30)



Plot 7-441. Radiated Spurious Emissions 18GHz-26GHz (Band 30, Pol. H)



Plot 7-442. Radiated Spurious Emissions 18GHz-26GHz (Band 30, Pol. V)

OPERATING FREQUENCY:	2307.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	5.0	MHz
DISTANCE:	3	meters
LIMIT:	-40	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
4615.00	V	184	163	-70.12	8.42	-61.69	-21.7
6922.50	H	111	53	-66.92	9.51	-57.41	-17.4
9230.00	V	-	-	-67.16	9.54	-57.63	-17.6
11537.50	V	-	-	-64.43	9.54	-54.89	-14.9

Table 7-63. Radiated Spurious Data (Band 30 – Low Channel)

OPERATING FREQUENCY:	2310.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-40	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
4620.00	V	319	183	-69.08	8.44	-60.65	-20.6
6930.00	V	-	-	-69.27	9.51	-59.76	-19.8
9240.00	V	-	-	-68.44	9.54	-58.90	-18.9
11550.00	V	-	-	-65.01	9.56	-55.45	-15.4

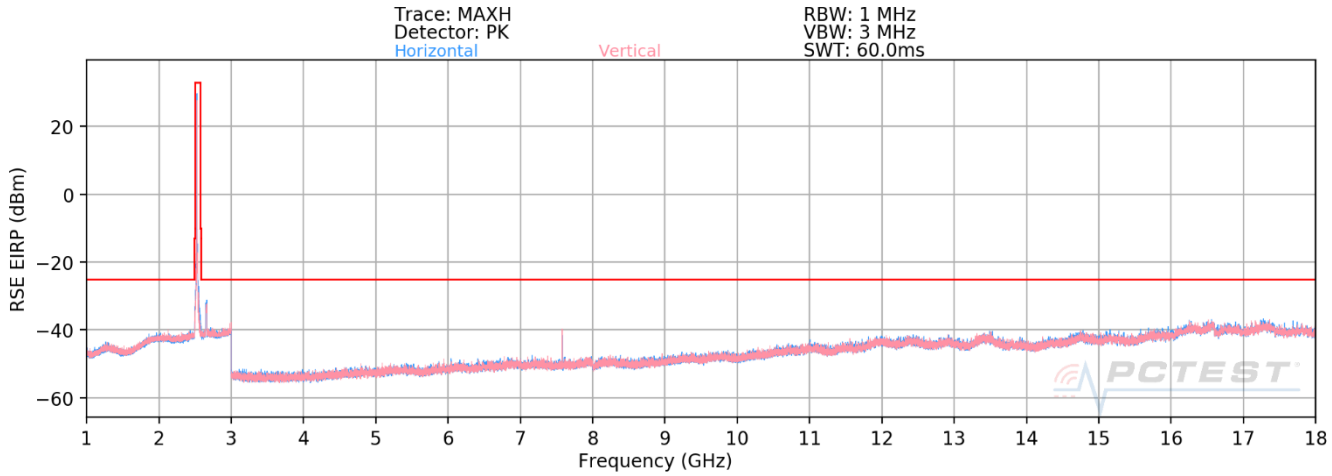
Table 7-64. Radiated Spurious Data (Band 30 – Mid Channel)

OPERATING FREQUENCY:	2312.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	5.0	MHz
DISTANCE:	3	meters
LIMIT:	-40	dBm

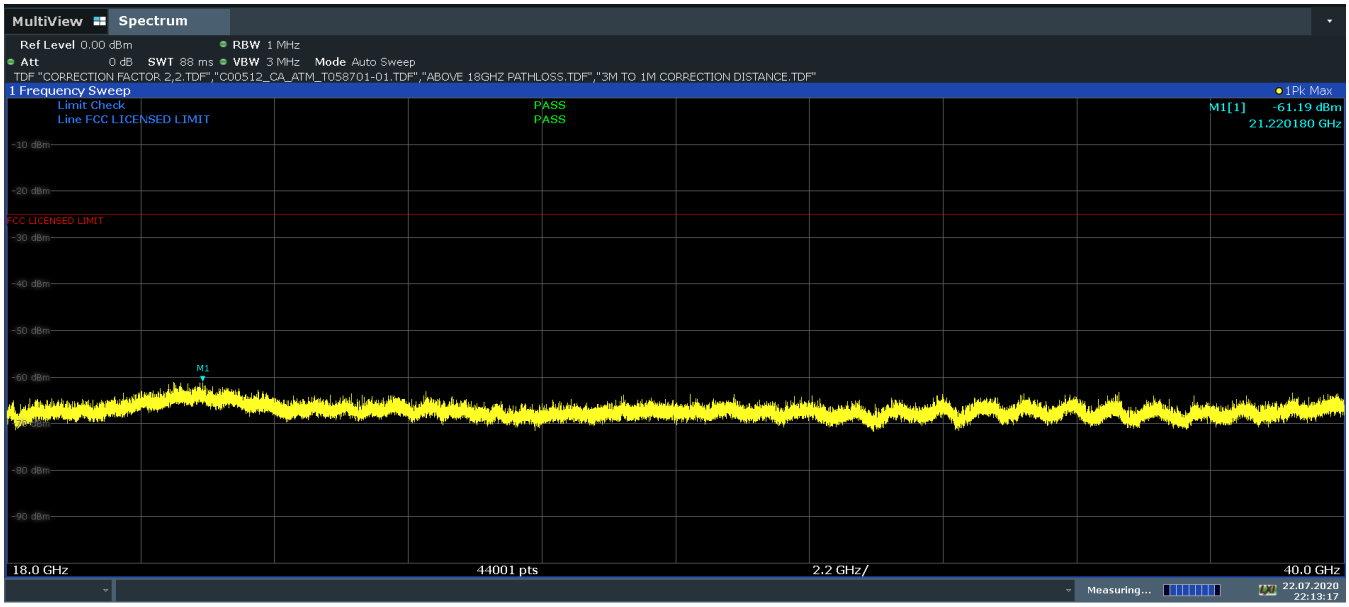
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
4625.00	V	274	171	-66.97	8.45	-58.53	-18.5
6937.50	V	117	306	-67.64	9.50	-58.13	-18.1
9250.00	V	-	-	-67.56	9.54	-58.02	-18.0
11562.50	V	-	-	-65.11	9.55	-55.56	-15.6

Table 7-65. Radiated Spurious Data (Band 30 – High Channel)

Band 7

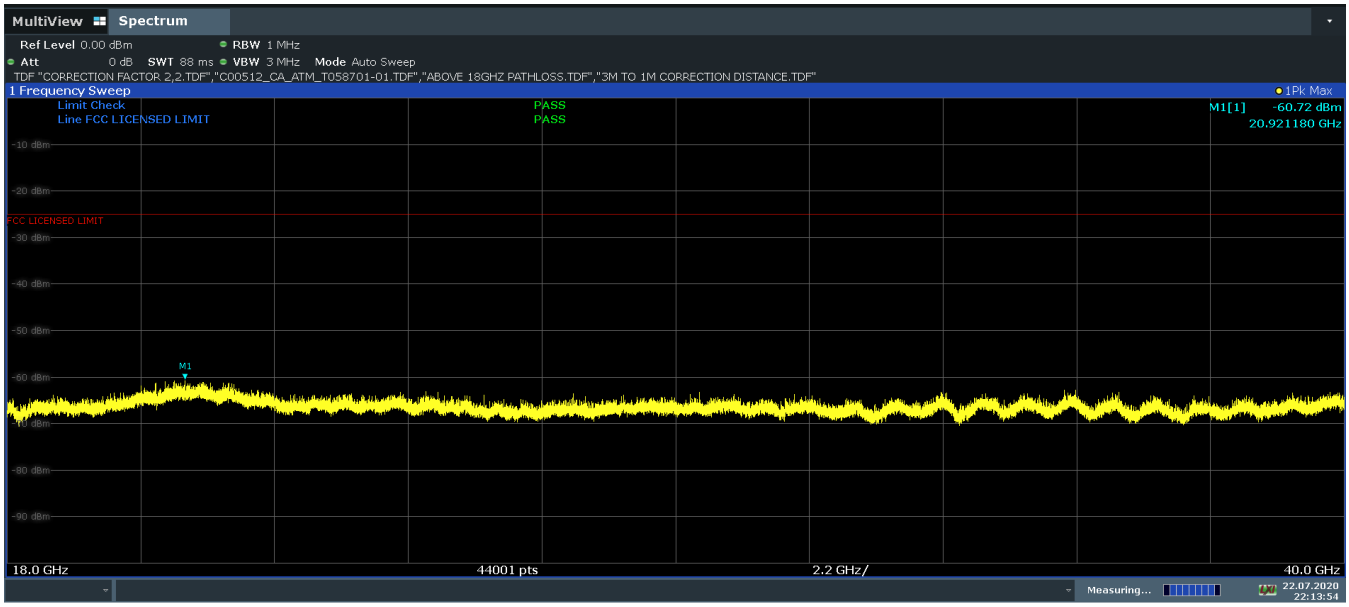


Plot 7-443. Radiated Spurious Emissions 1GHz - 18GHz (Band 7)



22:13:17 22.07.2020

Plot 7-444. Radiated Spurious Emissions Above 18GHz (Band 7, Pol H)



22:13:54 22.07.2020

Plot 7-445. Radiated Spurious Emissions Above 18GHz (Band 7, Pol. V)

OPERATING FREQUENCY:	2510.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5020.00	V	266	180	-67.87	8.86	-59.00	-34.0
7530.00	V	236	202	-58.04	9.44	-48.60	-23.6
10040.00	V	-	-	-67.67	9.55	-58.11	-33.1
12550.00	V	-	-	-62.08	9.30	-52.78	-27.8
15060.00	V	-	-	-61.95	9.07	-52.88	-27.9

Table 7-66. Radiated Spurious Data (Band 7 – Low Channel)

OPERATING FREQUENCY:	2535.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5070.00	H	-	-	-69.93	8.94	-60.99	-36.0
7605.00	H	230	206	-58.38	9.37	-49.01	-24.0
10140.00	H	-	-	-66.89	9.59	-57.30	-32.3
12675.00	H	-	-	-63.47	9.27	-54.19	-29.2
15210.00	H	-	-	-62.11	8.98	-53.13	-28.1

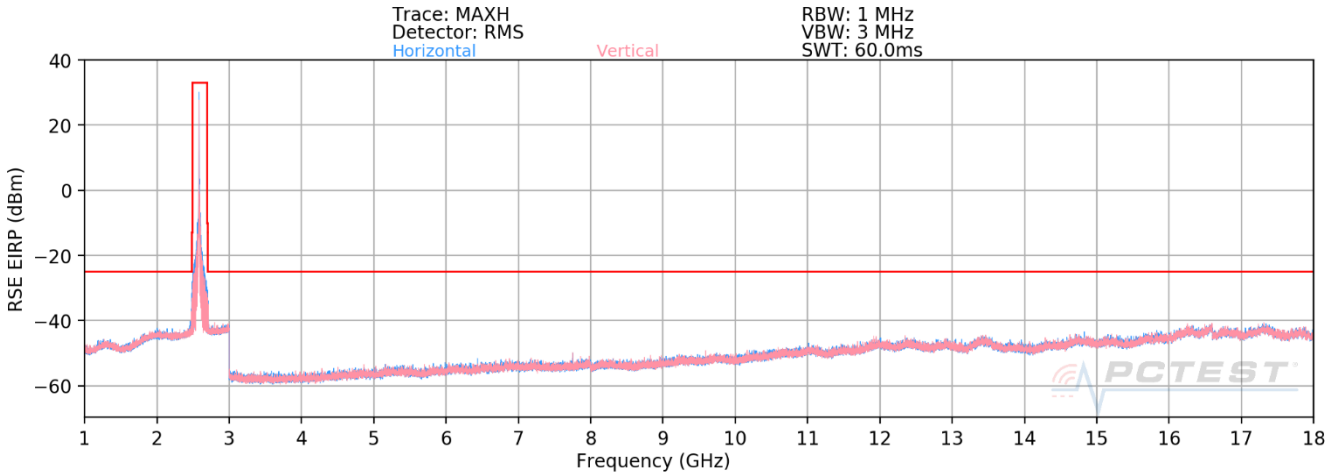
Table 7-67. Radiated Spurious Data (Band 7 – Mid Channel)

OPERATING FREQUENCY:	2560.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

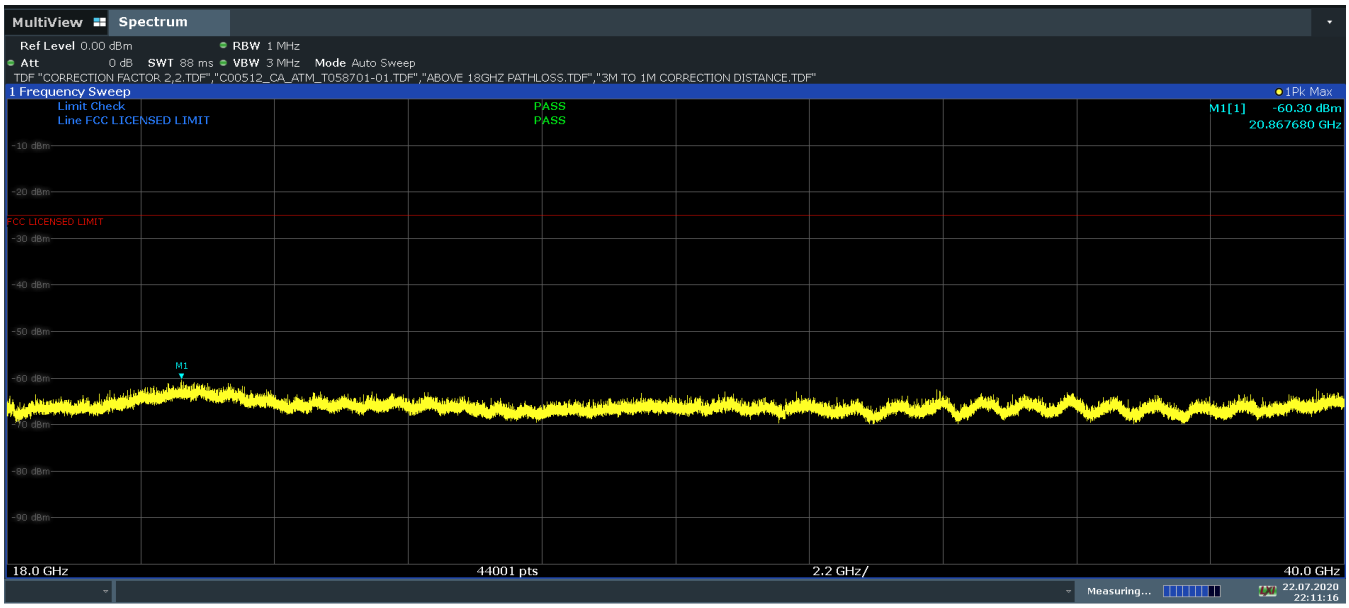
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5120.00	V	125	172	-66.10	9.01	-57.09	-32.1
7680.00	V	232	182	-59.37	9.40	-49.97	-25.0
10240.00	V	-	-	-67.10	9.56	-57.54	-32.5
12800.00	V	-	-	-63.37	9.28	-54.09	-29.1
15360.00	V	-	-	-62.72	8.86	-53.86	-28.9

Table 7-68. Radiated Spurious Data (Band 7 – High Channel)

Band 41

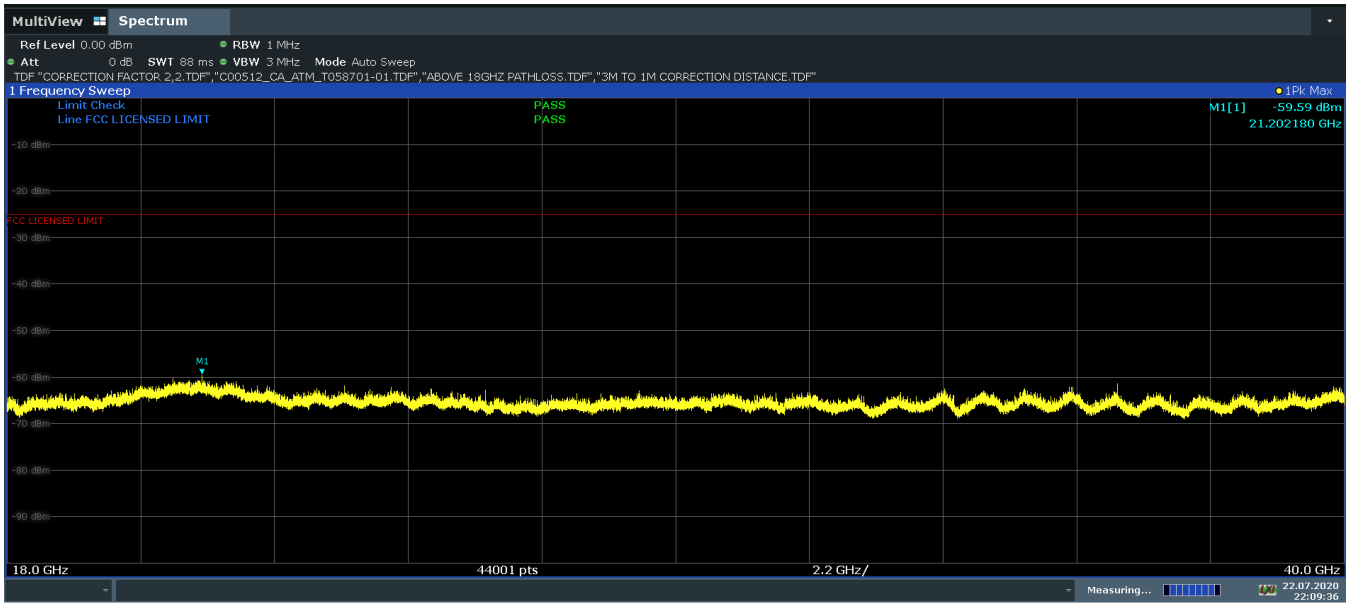


Plot 7-446. Radiated Spurious Emissions 1GHz - 18GHz (Band 41)



22:11:17 22.07.2020

Plot 7-447. Radiated Spurious Emissions Above 18GHz (Band 41, Pol. H)



22:09:37 22.07.2020

Plot 7-448. Radiated Spurious Emissions Above 18GHz (Band 41, Pol. V)

OPERATING FREQUENCY:	2506.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5012.00	H	111	304	-56.92	8.86	-48.05	-23.1
7518.00	H	192	7	-56.72	9.44	-47.28	-22.3
10024.00	H	-	-	-58.67	9.55	-49.11	-24.1
12530.00	H	-	-	-54.93	9.30	-45.63	-20.6
15036.00	H	-	-	-54.09	9.07	-45.02	-20.0

Table 7-69. Radiated Spurious Data (Band 41 – Low Channel)

OPERATING FREQUENCY:	2593.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5186.00	H	-	-	-60.85	9.13	-51.72	-26.7
7779.00	V	232	181	-55.59	9.38	-46.21	-21.2
10372.00	V	-	-	-57.67	9.52	-48.15	-23.1
12965.00	V	-	-	-56.34	9.17	-47.17	-22.2
15558.00	V	-	-	-52.90	8.75	-44.15	-19.1

Table 7-70. Radiated Spurious Data (Band 41 – Mid Channel)

OPERATING FREQUENCY:	2680.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5360.00	V	-	-	-61.22	9.13	-52.09	-27.1
8040.00	V	248	162	-57.59	9.41	-48.18	-23.2
10720.00	V	-	-	-56.98	9.49	-47.49	-22.5
13400.00	V	-	-	-55.32	9.03	-46.29	-21.3
16080.00	V	-	-	-52.80	9.01	-43.79	-18.8

Table 7-71. Radiated Spurious Data (Band 41 – High Channel)

7.9.2 Antenna D (Port B) Radiated Spurious Emissions Measurements
Band 71

OPERATING FREQUENCY:	673.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1346.00	H	230	235	-70.09	3.71	-66.39	-53.4
2019.00	H	-	-	-67.70	2.98	-64.72	-51.7
2692.00	H	-	-	-69.04	4.84	-64.20	-51.2
3365.00	H	-	-	-70.08	6.58	-63.49	-50.5

Table 7-72. Radiated Spurious Data (Band 71 – Low Channel)

OPERATING FREQUENCY:	680.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1361.00	H	173	216	-70.31	3.58	-66.73	-53.7
2041.50	H	-	-	-67.83	2.95	-64.88	-51.9
2722.00	H	-	-	-69.68	4.93	-64.75	-51.7
3402.50	H	-	-	-70.52	6.63	-63.89	-50.9

Table 7-73. Radiated Spurious Data (Band 71 – Mid Channel)

OPERATING FREQUENCY:	688.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1376.00	H	-	-	-71.30	3.33	-67.97	-55.0
2064.00	H	-	-	-67.59	2.93	-64.66	-51.7
2752.00	H	-	-	-69.44	5.09	-64.35	-51.4

Table 7-74. Radiated Spurious Data (Band 71 – High Channel)

Band 12/17

OPERATING FREQUENCY:	704.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1408.00	H	-	-	-70.70	3.20	-67.51	-54.5
2112.00	H	-	-	-67.53	3.13	-64.40	-51.4
2816.00	H	-	-	-69.22	5.31	-63.91	-50.9

Table 7-75. Radiated Spurious Data (Band 12/17 – Low Channel)

OPERATING FREQUENCY:	707.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1415.00	H	-	-	-71.55	3.26	-68.28	-55.3
2122.50	H	-	-	-68.27	3.18	-65.10	-52.1
2830.00	H	-	-	-69.18	5.30	-63.88	-50.9

Table 7-76. Radiated Spurious Data (Band 12/17 – Mid Channel)

OPERATING FREQUENCY:	711.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1422.00	H	-	-	-71.64	3.35	-68.29	-55.3
2133.00	H	-	-	-67.44	3.23	-64.21	-51.2
2844.00	H	-	-	-69.17	5.37	-63.80	-50.8

Table 7-77. Radiated Spurious Data (Band 12/17 – High Channel)

Band 13

OPERATING FREQUENCY:	779.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	5.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
2338.50	H	-	-	-68.36	3.95	-64.42	-51.4
3118.00	H	-	-	-69.87	6.09	-63.78	-50.8
3897.50	H	-	-	-70.87	7.65	-63.22	-50.2

Table 7-78. Radiated Spurious Data (Band 13 – Low Channel)

OPERATING FREQUENCY:	782.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
2346.00	H	-	-	-69.05	3.97	-65.08	-52.1
3128.00	H	-	-	-70.07	6.13	-63.94	-50.9
3910.00	H	-	-	-70.75	7.67	-63.08	-50.1

Table 7-79. Radiated Spurious Data (Band 13 – Mid Channel)

OPERATING FREQUENCY:	784.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	5.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
2353.50	H	-	-	-69.42	3.94	-65.48	-52.5
3138.00	H	-	-	-70.06	6.17	-63.89	-50.9
3922.50	H	-	-	-70.31	7.69	-62.62	-49.6

Table 7-80. Radiated Spurious Data (Band 13 – High Channel)

MODULATION SIGNAL:	QPSK	
BANDWIDTH:	5.00	MHz
DISTANCE:	3	meters
NARROWBAND EMISSION LIMIT:	-50	dBm
WIDEBAND EMISSION LIMIT:	-40	dBm/MHz

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1559.00	H	221	247	-71.34	3.73	-67.61	-27.6
1564.00	H	196	242	-71.87	3.71	-68.16	-28.2
1569.00	H	293	207	-72.21	3.68	-68.53	-28.5

Table 7-81. Radiated Spurious Data (Band 13 – 1559-1610MHz Band)

Band 26/5

OPERATING FREQUENCY:	829.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1658.00	H	-	-	-71.98	3.80	-68.17	-55.2
2487.00	H	-	-	-68.98	4.34	-64.65	-51.6
3316.00	H	-	-	-70.18	6.51	-63.67	-50.7

Table 7-82. Radiated Spurious Data (Band 26/5 – Low Channel)

OPERATING FREQUENCY:	836.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1673.00	H	-	-	-71.65	3.69	-67.95	-55.0
2509.50	H	-	-	-68.42	4.20	-64.22	-51.2
3346.00	H	-	-	-70.14	6.55	-63.59	-50.6

Table 7-83. Radiated Spurious Data (Band 26/5 – Mid Channel)

OPERATING FREQUENCY:	844.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1688.00	H	-	-	-71.40	3.70	-67.70	-54.7
2532.00	H	-	-	-68.71	4.36	-64.36	-51.4
3376.00	H	-	-	-70.52	6.60	-63.92	-50.9

Table 7-84. Radiated Spurious Data (Band 26/5 – High Channel)

Band 66/4

OPERATING FREQUENCY:	1720.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3440.00	H	-	-	-69.27	6.69	-62.58	-49.6
5160.00	H	-	-	-69.23	9.08	-60.15	-47.1
6880.00	H	-	-	-66.76	9.54	-57.22	-44.2

Table 7-85. Radiated Spurious Data (Band 66/4 – Low Channel)

OPERATING FREQUENCY:	1745.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3490.00	H	-	-	-68.81	6.79	-62.02	-49.0
5235.00	H	-	-	-69.30	9.16	-60.14	-47.1
6980.00	H	-	-	-67.08	9.49	-57.59	-44.6

Table 7-86. Radiated Spurious Data (Band 66/4 – Mid Channel)

OPERATING FREQUENCY:	1770.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3540.00	H	-	-	-68.55	6.80	-61.76	-48.8
5310.00	H	-	-	-68.99	9.11	-59.88	-46.9
7080.00	H	-	-	-66.96	9.46	-57.51	-44.5

Table 7-87. Radiated Spurious Data (Band 66/4 – High Channel)

Band 25/2

OPERATING FREQUENCY:	1860.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3720.00	H	-	-	-69.17	7.29	-61.87	-48.9
5580.00	H	-	-	-69.60	9.37	-60.23	-47.2
7440.00	H	-	-	-67.44	9.44	-58.00	-45.0

Table 7-88. Radiated Spurious Data (Band 25/2 – Low Channel)

OPERATING FREQUENCY:	1882.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3765.00	H	-	-	-69.63	7.30	-62.33	-49.3
5647.50	H	-	-	-69.70	9.37	-60.33	-47.3
7530.00	H	-	-	-67.02	9.44	-57.58	-44.6

Table 7-89. Radiated Spurious Data (Band 25/2 – Mid Channel)

OPERATING FREQUENCY:	1905.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3810.00	H	-	-	-69.20	7.37	-61.83	-48.8
5715.00	H	-	-	-69.33	9.38	-59.95	-47.0
7620.00	H	-	-	-66.97	9.38	-57.59	-44.6

Table 7-90. Radiated Spurious Data (Band 25/2 – High Channel)

Band 30

OPERATING FREQUENCY:	2307.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	5.0	MHz
DISTANCE:	3	meters
LIMIT:	-40	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
4615.00	H	-	-	-70.58	8.42	-62.16	-22.2
6922.50	V	171	119	-68.84	9.51	-59.34	-19.3
9230.00	H	-	-	-67.89	9.54	-58.35	-18.4
11537.50	H	-	-	-65.66	9.54	-56.12	-16.1

Table 7-91. Radiated Spurious Data (Band 30 – Low Channel)

OPERATING FREQUENCY:	2310.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-40	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
4620.00	H	-	-	-68.48	8.44	-60.05	-20.0
6930.00	H	-	-	-67.23	9.51	-57.72	-17.7
9240.00	V	348	130	-64.02	9.54	-54.48	-14.5
11550.00	H	-	-	-62.83	9.56	-53.27	-13.3

Table 7-92. Radiated Spurious Data (Band 30 – Mid Channel)

OPERATING FREQUENCY:	2312.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	5.0	MHz
DISTANCE:	3	meters
LIMIT:	-40	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
4625.00	H	-	-	-70.91	8.45	-62.47	-22.5
6937.50	V	155	143	-68.78	9.50	-59.28	-19.3
9250.00	H	-	-	-68.13	9.54	-58.59	-18.6
11562.50	H	-	-	-65.11	9.55	-55.56	-15.6

Table 7-93. Radiated Spurious Data (Band 30 – High Channel)

Band 7

OPERATING FREQUENCY:	2510.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5020.00	H	152	350	-68.22	8.86	-59.35	-34.4
7530.00	H	-	-	-68.98	9.44	-59.54	-34.5
10040.00	H	-	-	-67.54	9.55	-57.98	-33.0
12550.00	H	-	-	-63.11	9.30	-53.81	-28.8

Table 7-94. Radiated Spurious Data (Band 7 – Low Channel)

OPERATING FREQUENCY:	2535.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5070.00	H	-	-	-70.46	8.94	-61.52	-36.5
7605.00	H	160	292	-68.97	9.37	-59.60	-34.6
10140.00	H	-	-	-67.09	9.59	-57.50	-32.5
12675.00	H	-	-	-63.19	9.27	-53.91	-28.9
15210.00	H	-	-	-61.48	8.98	-52.50	-27.5

Table 7-95. Radiated Spurious Data (Band 7 – Mid Channel)

OPERATING FREQUENCY:	2560.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5120.00	H	-	-	-70.52	9.01	-61.51	-36.5
7680.00	H	302	255	-66.37	9.40	-56.97	-32.0
10240.00	H	-	-	-66.13	9.56	-56.57	-31.6
12800.00	H	-	-	-62.71	9.28	-53.43	-28.4
15360.00	H	-	-	-62.05	8.86	-53.19	-28.2

Table 7-96. Radiated Spurious Data (Band 7 – High Channel)

Band 41

OPERATING FREQUENCY:	2506.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5012.00	H	-	-	-61.70	8.85	-52.86	-27.9
7522.00	H	305	253	-52.42	9.44	-42.98	-18.0
10032.00	H	-	-	-57.93	9.55	-48.38	-23.4
12542.00	H	-	-	-54.43	9.30	-45.13	-20.1
15052.00	H	-	-	-52.57	9.08	-43.49	-18.5

Table 7-97. Radiated Spurious Data (Band 41 – Low Channel)

OPERATING FREQUENCY:	2593.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5186.00	H	-	-	-60.49	9.13	-51.36	-26.4
7779.00	H	-	-	-69.24	9.38	-59.86	-34.9
10372.00	H	-	-	-56.91	9.52	-47.39	-22.4

Table 7-98. Radiated Spurious Data (Band 41 – Mid Channel)

OPERATING FREQUENCY:	2680.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5360.00	H	145	288	-59.77	9.13	-50.64	-25.6
8040.00	H	198	257	-43.58	9.41	-34.17	-9.2
10720.00	H	-	-	-57.53	9.49	-48.04	-23.0
13400.00	H	-	-	-54.61	9.03	-45.58	-20.6
16080.00	H	-	-	-53.30	9.01	-44.29	-19.3

Table 7-99. Radiated Spurious Data (Band 41 – High Channel)

7.10 Uplink Carrier Aggregation Radiated Measurements

§2.1053, §27.53(m)

Test Overview

Radiated spurious emissions measurements are performed using the substitution method described in ANSI/TIA-603-D-2010 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using vertically and horizontally polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized broadband horn antennas. All measurements are performed as peak measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

Test Procedures Used

KDB 971168 D01 v02r02 – Section 5.8

ANSI/TIA-603-D-2010 – Section 2.2.12

Test Settings

1. RBW = 100kHz for emissions below 1GHz and 1MHz for emissions above 1GHz
2. VBW ≥ 3 x RBW
3. No. of sweep points ≥ 2 x span / RBW
4. Detector = RMS
5. Trace mode = trace average for continuous emissions, max hold for pulse emissions
6. The trace was allowed to stabilize

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

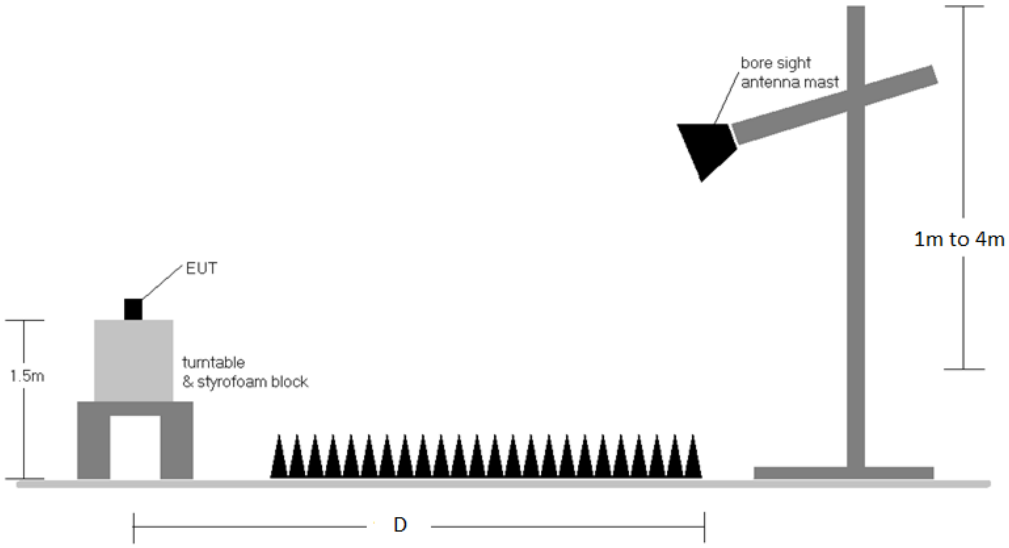


Figure 7-10. Test Instrument & Measurement Setup

Test Notes

1) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case emissions are reported with modulations, offsets and channel bandwidth configurations in this section. 1RB config was found and reported as a worst case RB size..

2) This unit was tested with its standard battery.

3) Radiated spurious emissions measurements were evaluated for the two contiguous channels using various combinations of RB size, RB offset, modulation, and channel bandwidth. The worst case (highest) emissions were found while operating with QPSK modulation with both carriers set to transmit using 1RB.

4) The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter. The worst-case emissions are reported.

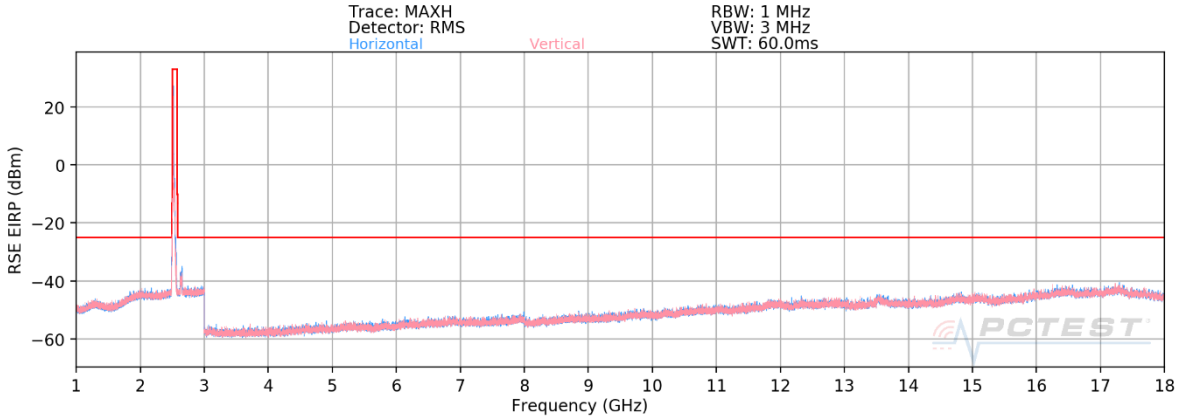
5) No significant emissions were found for below 1GHz and Above 18GHz measurement.

6) Emissions below 18GHz were measured at a 3 meter test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.

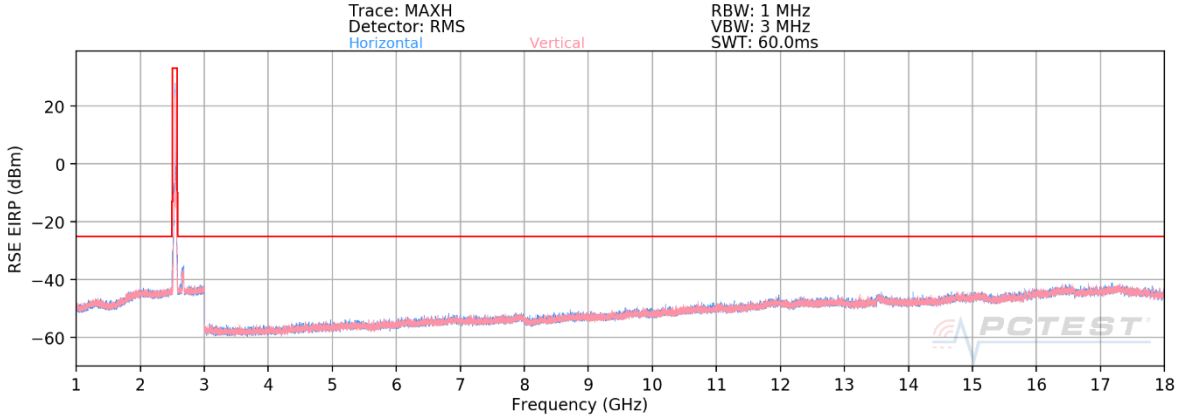
7) No significant emissions were found as a result of two uplink carriers operating contiguously.

7.10.1 Antenna C (Port A) Radiated Spurious Emissions Measurements

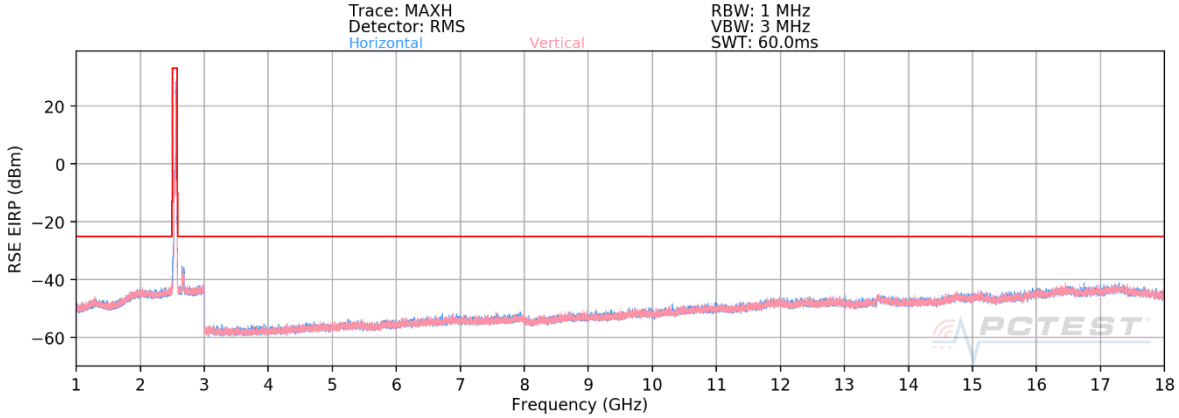
Band 7



Plot 7-449. Radiated Spurious Emissions (ULCA B7 PCC: RB 1 Offset 99, SCC: RB 1 Offset 0 – Low Channel)



Plot 7-450. Radiated Spurious Emissions (ULCA B7 PCC: RB 1 Offset 0, SCC: RB 1 Offset 99 – Mid Channel)



Plot 7-451. Radiated Spurious Emissions (ULCA B7 PCC: RB 1 Offset 0, SCC: RB 1 Offset 99 – High Channel)

OPERATING FREQUENCY (PCC):	2510.00	MHz
OPERATING FREQUENCY (SCC):	2529.80	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5020.00	V	-	-	-62.39	8.86	-53.52	-28.5
7530.00	V	-	-	-60.43	9.44	-50.99	-26.0
10040.00	V	-	-	-58.83	9.55	-49.27	-24.3

Table 7-100. Radiated Spurious Data (ULCA B7 PCC: RB 1 Offset 99, SCC: RB 1 Offset 0 – Low Channel)

OPERATING FREQUENCY (PCC):	2535.00	MHz
OPERATING FREQUENCY (SCC):	2554.80	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5070.00	V	-	-	-62.03	8.94	-53.09	-28.1
7605.00	V	-	-	-60.27	9.37	-50.90	-25.9
10140.00	V	-	-	-58.34	9.59	-48.75	-23.8

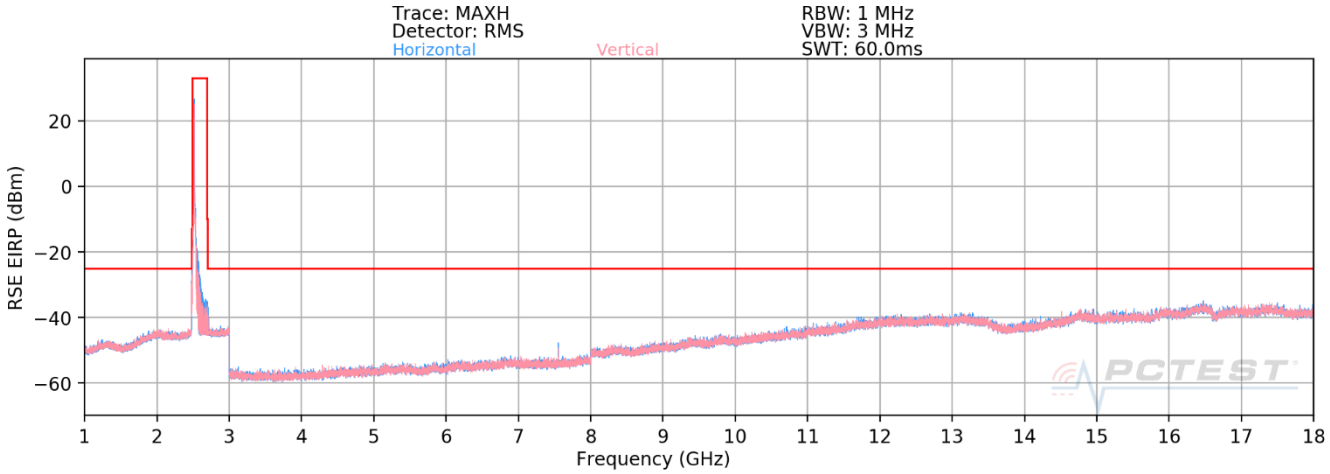
Table 7-101. Radiated Spurious Data (ULCA B7 PCC: RB 1 Offset 0, SCC: RB 1 Offset 99 – Mid Channel)

OPERATING FREQUENCY (PCC):	2560.00	MHz
OPERATING FREQUENCY (SCC):	2540.20	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

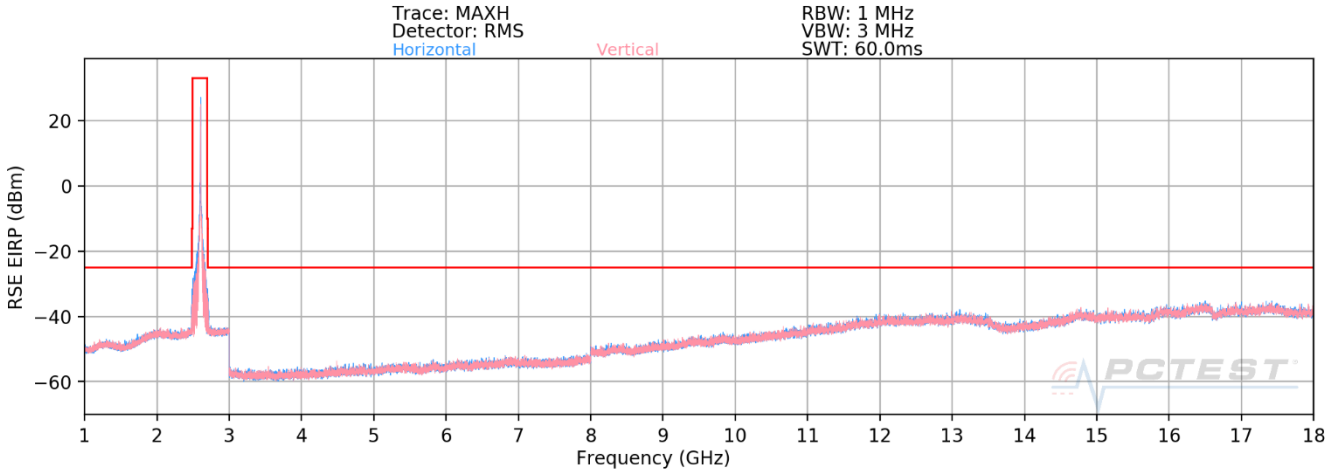
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5120.00	V	-	-	-62.26	9.01	-53.25	-28.3
7680.00	V	-	-	-58.80	9.40	-49.40	-24.4
10240.00	V	-	-	-58.39	9.56	-48.83	-23.8

Table 7-102. Radiated Spurious Data (ULCA B7 PCC: RB 1 Offset 0, SCC: RB 1 Offset 99 – High Channel)

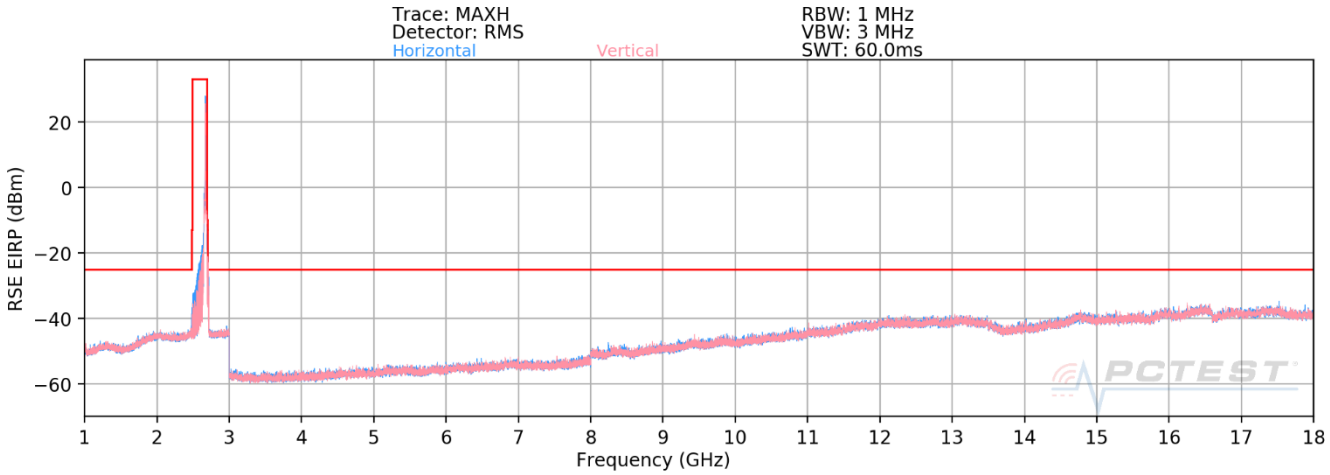
Band 41



Plot 7-452. Radiated Spurious Emissions (ULCA B41 PCC: RB 1 Offset 99, SCC: RB 1 Offset 0 – Low Channel)



Plot 7-453. Radiated Spurious Emissions (ULCA B41 PCC: RB 1 Offset 0, SCC: RB 1 Offset 99 – Mid Channel)



Plot 7-454. Radiated Spurious Emissions (ULCA B41 PCC: RB 1 Offset 0, SCC: RB 1 Offset 99 – High Channel)

OPERATING FREQUENCY (PCC):	2506.00	MHz
OPERATING FREQUENCY (SCC):	2525.80	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5012.00	V	-	-	-62.48	8.85	-53.64	-28.6
7518.00	V	-	-	-60.27	9.44	-50.83	-25.8
10024.00	V	-	-	-58.41	9.54	-48.87	-23.9

Table 7-103. Radiated Spurious Data (ULCA B41 PCC: RB 1 Offset 99, SCC: RB 1 Offset 0 – Low Channel)

OPERATING FREQUENCY (PCC):	2593.00	MHz
OPERATING FREQUENCY (SCC):	2612.80	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5186.00	V	-	-	-62.05	9.13	-52.92	-27.9
7779.00	V	-	-	-60.03	9.38	-50.65	-25.6
10372.00	V	-	-	-57.29	9.52	-47.77	-22.8

Table 7-104. Radiated Spurious Data (ULCA B41 PCC: RB 1 Offset 0, SCC: RB 1 Offset 99 – Mid Channel)

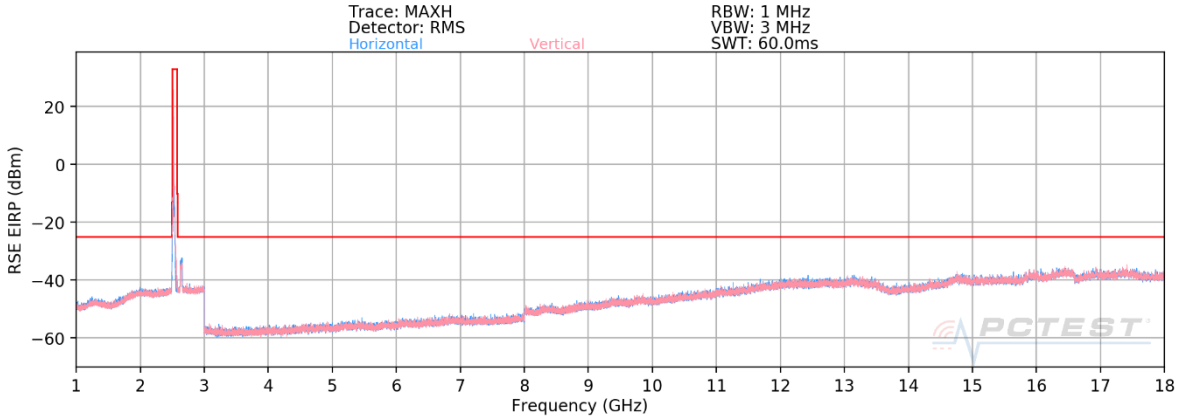
OPERATING FREQUENCY (PCC):	2680.00	MHz
OPERATING FREQUENCY (SCC):	2660.20	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5360.00	V	-	-	-58.86	9.13	-49.73	-24.7
8040.00	V	-	-	-60.99	9.41	-51.58	-26.6
10720.00	V	-	-	-57.26	9.49	-47.77	-22.8

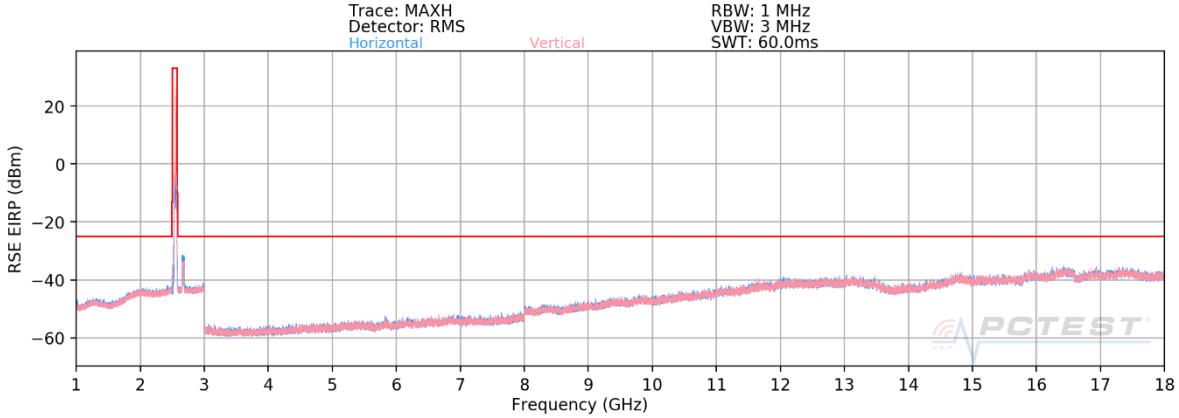
Table 7-105. Radiated Spurious Data (ULCA B41 PCC: RB 1 Offset 0, SCC: RB 1 Offset 99 – High Channel)

7.10.2 Antenna D (Port B) Radiated Spurious Emissions Measurements

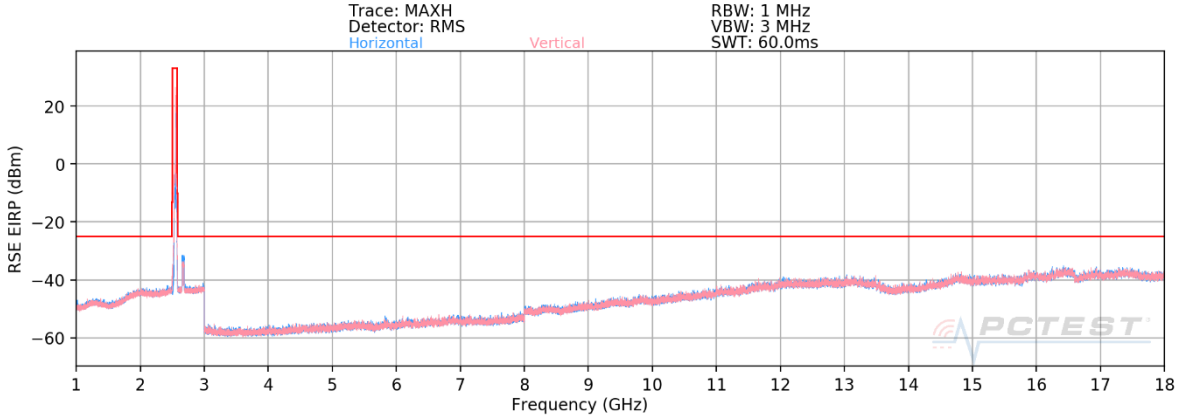
Band 7



Plot 7-455. Radiated Spurious Emissions (ULCA B7 PCC: RB 1 Offset 99, SCC: RB 1 Offset 0 – Low Channel)



Plot 7-456. Radiated Spurious Emissions (ULCA B7 PCC: RB 1 Offset 0, SCC: RB 1 Offset 99 – Mid Channel)



Plot 7-457. Radiated Spurious Emissions (ULCA B7 PCC: RB 1 Offset 0, SCC: RB 1 Offset 99 – High Channel)

OPERATING FREQUENCY (PCC):	2510.00	MHz
OPERATING FREQUENCY (SCC):	2529.80	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5020.00	H	-	-	-72.29	8.86	-63.42	-38.4
7530.00	H	-	-	-69.66	9.44	-60.22	-35.2
10040.00	H	-	-	-66.36	9.55	-56.80	-31.8

Table 7-106. Radiated Spurious Data (ULCA B7 PCC: RB 1 Offset 99, SCC: RB 1 Offset 0 – Low Channel)

OPERATING FREQUENCY (PCC):	2535.00	MHz
OPERATING FREQUENCY (SCC):	2554.80	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5070.00	H	-	-	-71.98	8.94	-63.04	-38.0
7605.00	H	-	-	-69.77	9.37	-60.40	-35.4
10140.00	H	-	-	-66.02	9.59	-56.43	-31.4

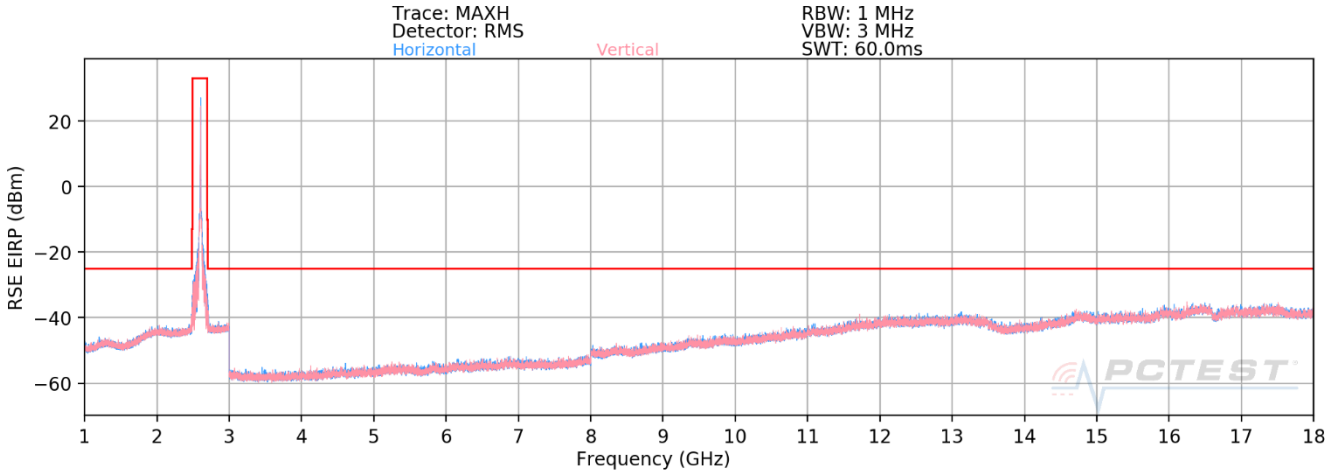
Table 7-107. Radiated Spurious Data (ULCA B7 PCC: RB 1 Offset 0, SCC: RB 1 Offset 99 – Mid Channel)

OPERATING FREQUENCY (PCC):	2560.00	MHz
OPERATING FREQUENCY (SCC):	2540.20	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

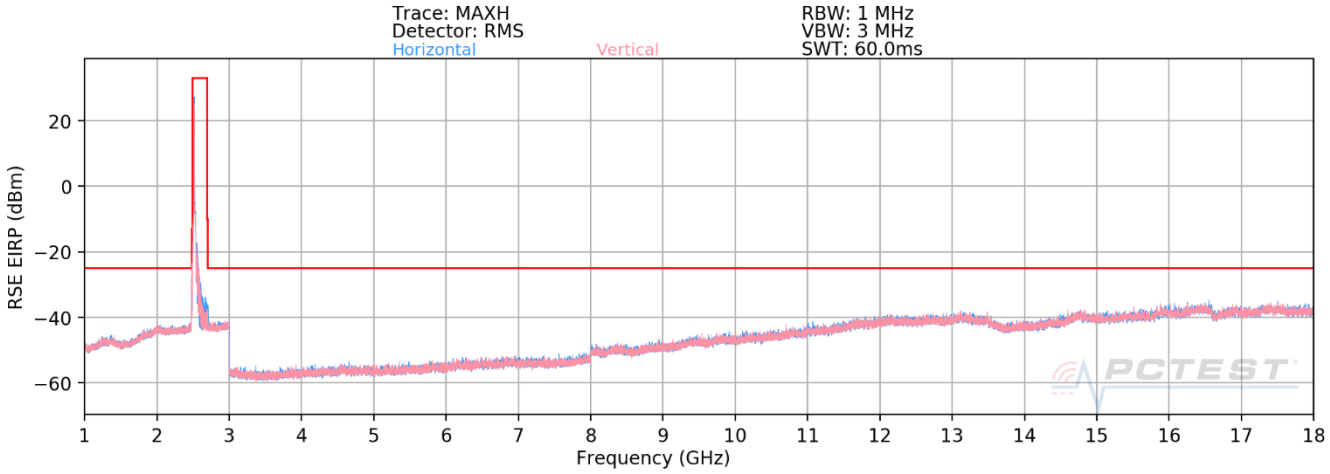
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5120.00	H	-	-	-70.65	9.01	-61.64	-36.6
7680.00	H	-	-	-69.29	9.40	-59.89	-34.9
10240.00	H	-	-	-65.91	9.56	-56.35	-31.3

Table 7-108. Radiated Spurious Data (ULCA B7 PCC: RB 1 Offset 0, SCC: RB 1 Offset 99 – High Channel)

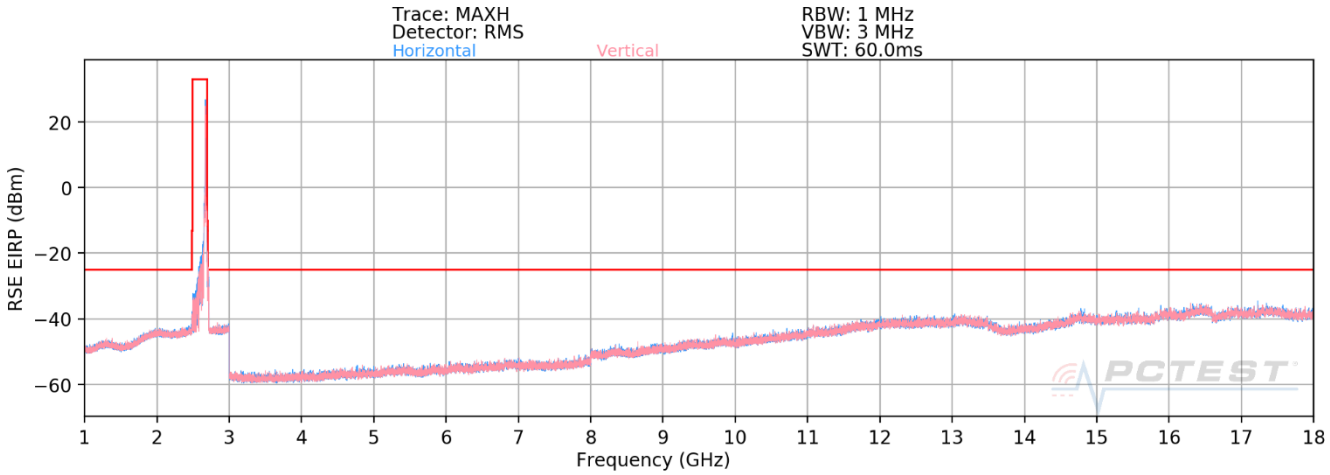
Band 41



Plot 7-458. Radiated Spurious Emissions (ULCA B41 PCC: RB 1 Offset 99, SCC: RB 1 Offset 0 – Low Channel)



Plot 7-459. Radiated Spurious Emissions (ULCA B41 PCC: RB 1 Offset 0, SCC: RB 1 Offset 99 – Mid Channel)



Plot 7-460. Radiated Spurious Emissions (ULCA B41 PCC: RB 1 Offset 0, SCC: RB 1 Offset 99 – High Channel)

OPERATING FREQUENCY (PCC):	2506.00	MHz
OPERATING FREQUENCY (SCC):	2525.80	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5012.00	H	-	-	-62.58	8.85	-53.74	-28.7
7518.00	H	-	-	-60.55	9.44	-51.11	-26.1
10024.00	H	-	-	-53.40	9.54	-43.86	-18.9

Table 7-109. Radiated Spurious Data (ULCA B41 PCC: RB 1 Offset 99, SCC: RB 1 Offset 0 – Low Channel)

OPERATING FREQUENCY (PCC):	2593.00	MHz
OPERATING FREQUENCY (SCC):	2612.80	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5186.00	H	-	-	-61.90	9.13	-52.77	-27.8
7779.00	H	-	-	-58.30	9.38	-48.92	-23.9
10372.00	H	-	-	-54.88	9.52	-45.36	-20.4

Table 7-110. Radiated Spurious Data (ULCA B41 PCC: RB 1 Offset 0, SCC: RB 1 Offset 99 – Mid Channel)

OPERATING FREQUENCY (PCC):	2680.00	MHz
OPERATING FREQUENCY (SCC):	2660.20	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	EIRP Level at Sub Ant Port [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5360.00	H	-	-	-62.26	9.13	-53.13	-28.1
8040.00	H	-	-	-60.50	9.41	-51.09	-26.1
10720.00	H	-	-	-56.03	9.49	-46.54	-21.5

Table 7-111. Radiated Spurious Data (ULCA B41 PCC: RB 1 Offset 0, SCC: RB 1 Offset 99 – High Channel)

7.11 Frequency Stability / Temperature Variation

Test Overview and Limit

Frequency stability testing is performed in accordance with the guidelines of ANSI/TIA-603-E-2016. The frequency stability of the transmitter is measured by:

a.) **Temperature:** The temperature is varied from -30°C to +50°C in 10°C increments using an environmental chamber.

b.) **Primary Supply Voltage:** The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

For Part 22, the frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5 ppm) of the center frequency. For Part 24, Part 27, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Test Procedure Used

ANSI C63.26 2015
TIA-603-E-2016

Test Settings

1. The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).
2. The equipment is turned on in a "standby" condition for fifteen minutes before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
3. Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

Test Setup

The EUT was connected via an RF cable to a spectrum analyzer with the EUT placed inside an environmental chamber.

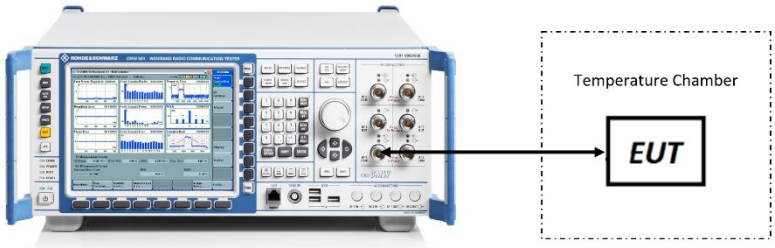


Figure 7-11. Test Instrument & Measurement Setup

Test Notes

All port were tested and only the worst case data were reported

Band 71 Frequency Stability Measurements

OPERATING FREQUENCY:	680,500,000	Hz
CHANNEL:	113297	
REFERENCE VOLTAGE:	3.80	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	- 30	680,500,003	3	0.0000004
100 %		- 20	680,500,003	3	0.0000004
100 %		- 10	680,500,004	4	0.0000006
100 %		0	680,500,004	4	0.0000006
100 %		+ 10	680,500,005	5	0.0000007
100 %		+ 20	680,500,004	4	0.0000006
100 %		+ 30	680,500,004	4	0.0000006
100 %		+ 40	680,500,004	4	0.0000006
100 %		+ 50	680,500,014	14	0.0000021
BATT. ENDPOINT	3.40	+ 20	680,500,006	6	0.0000009

Table 7-112. Frequency Stability Data (Band 71 - 20MHz QPSK - Full RB Configuration)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

Band 71 Frequency Stability Measurements

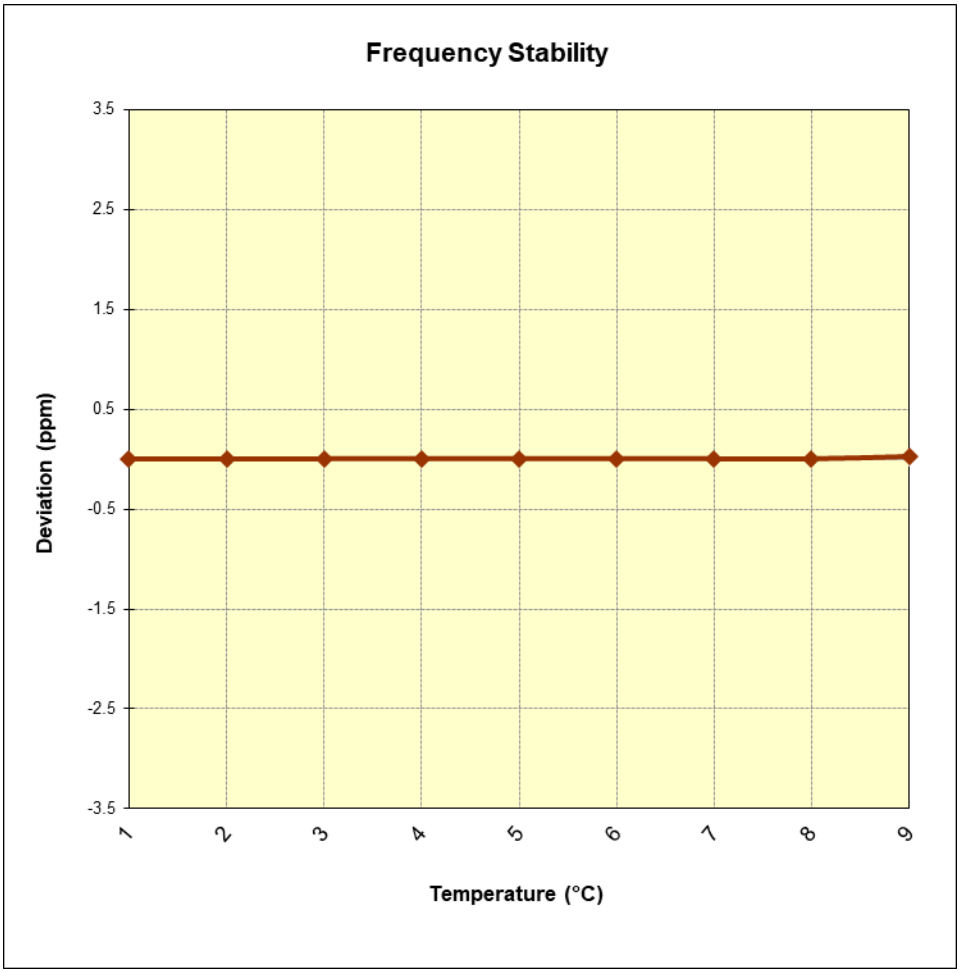


Figure 7-12. Frequency Stability Graph (Band 71 - 20MHz QPSK - Full RB Configuration)

Band 12/17 Frequency Stability Measurements

OPERATING FREQUENCY:	707,500,000	Hz
CHANNEL:	23790	
REFERENCE VOLTAGE:	3.80	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	- 30	707,500,006	6	0.0000008
100 %		- 20	707,500,007	7	0.0000010
100 %		- 10	707,500,008	8	0.0000011
100 %		0	707,500,005	5	0.0000007
100 %		+ 10	707,500,014	14	0.0000020
100 %		+ 20	707,500,009	9	0.0000013
100 %		+ 30	707,500,011	11	0.0000016
100 %		+ 40	707,500,014	14	0.0000020
100 %		+ 50	707,500,011	11	0.0000016
BATT. ENDPOINT	3.40	+ 20	707,500,011	11	0.0000016

Table 7-113. Frequency Stability Data (Band 12/17 - 10MHz QPSK - Full RB Configuration)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

Band 12/17 Frequency Stability Measurements

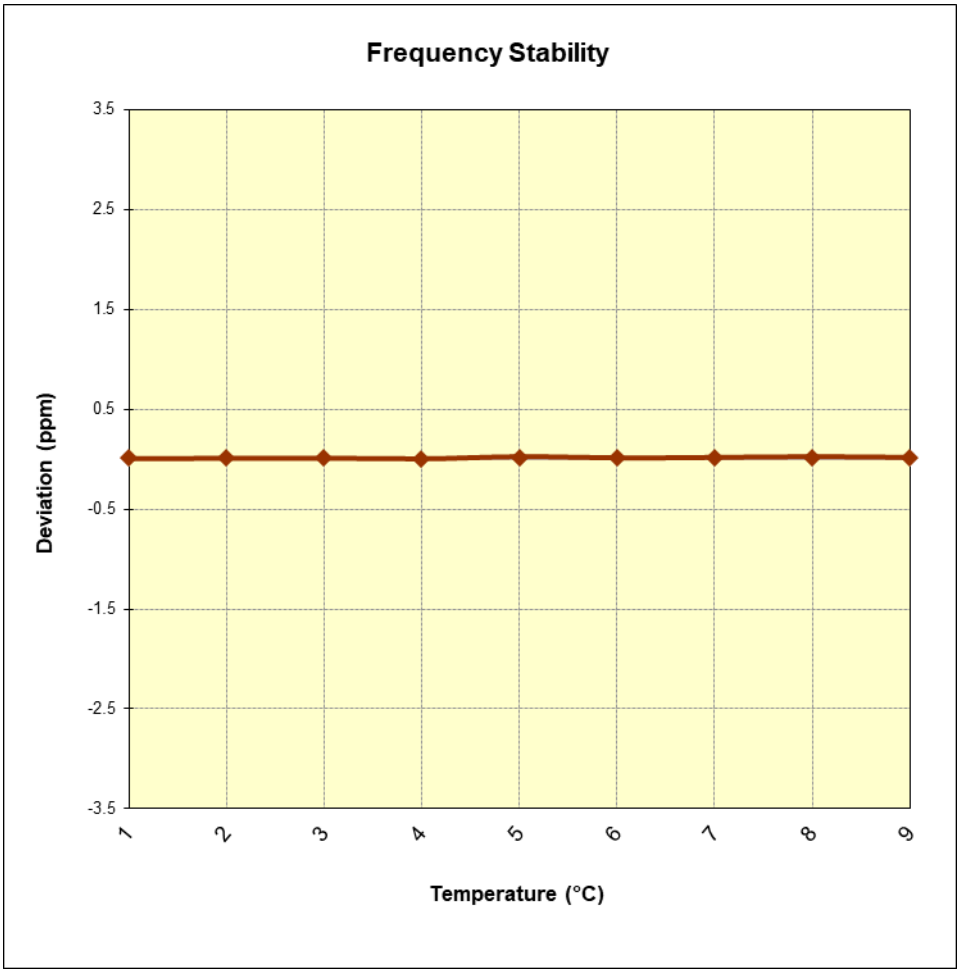


Figure 7-13. Frequency Stability Graph (Band 12/17 - 10MHz QPSK - Full RB Configuration)

Band 13 Frequency Stability Measurements

OPERATING FREQUENCY:	782,000,000	Hz
CHANNEL:	23230	
REFERENCE VOLTAGE:	3.80	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	- 30	782,000,015	15	0.0000019
100 %		- 20	782,000,005	5	0.0000006
100 %		- 10	782,000,009	9	0.0000012
100 %		0	782,000,008	8	0.0000010
100 %		+ 10	782,000,007	7	0.0000009
100 %		+ 20	782,000,006	6	0.0000008
100 %		+ 30	782,000,004	4	0.0000005
100 %		+ 40	782,000,009	9	0.0000012
100 %		+ 50	782,000,009	9	0.0000012
BATT. ENDPOINT	3.40	+ 20	782,000,007	7	0.0000009

Table 7-114. Frequency Stability Data (Band 13 - 10MHz QPSK - Full RB Configuration)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

Band 13 Frequency Stability Measurements

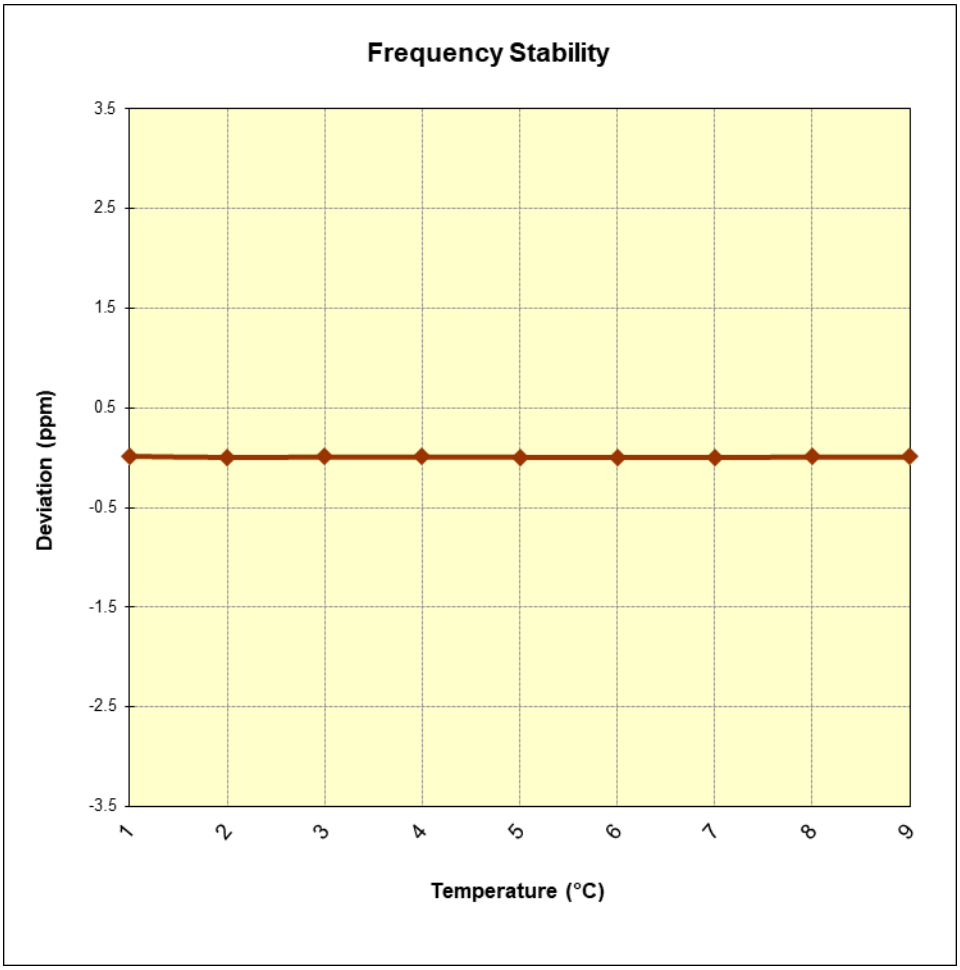


Figure 7-14. Frequency Stability Graph (Band 13 - 10MHz QPSK - Full RB Configuration)

Band 26/5 Frequency Stability Measurements

OPERATING FREQUENCY:	831,500,000	Hz
CHANNEL:	26865	
REFERENCE VOLTAGE:	3.80	VDC
DEVIATION LIMIT:	± 0.00025 % or 2.5 ppm	

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	- 30	831,500,004	4	0.0000005
100 %		- 20	831,500,004	4	0.0000005
100 %		- 10	831,500,004	4	0.0000005
100 %		0	831,500,005	5	0.0000006
100 %		+ 10	831,500,007	7	0.0000008
100 %		+ 20	831,500,004	4	0.0000005
100 %		+ 30	831,500,005	5	0.0000006
100 %		+ 40	831,500,004	4	0.0000005
100 %		+ 50	831,500,009	9	0.0000011
BATT. ENDPOINT	3.40	+ 20	831,500,005	5	0.0000006

Table 7-115. Frequency Stability Data (Band 26/5 - 10MHz QPSK - Full RB Configuration)

Band 26/5 Frequency Stability Measurements

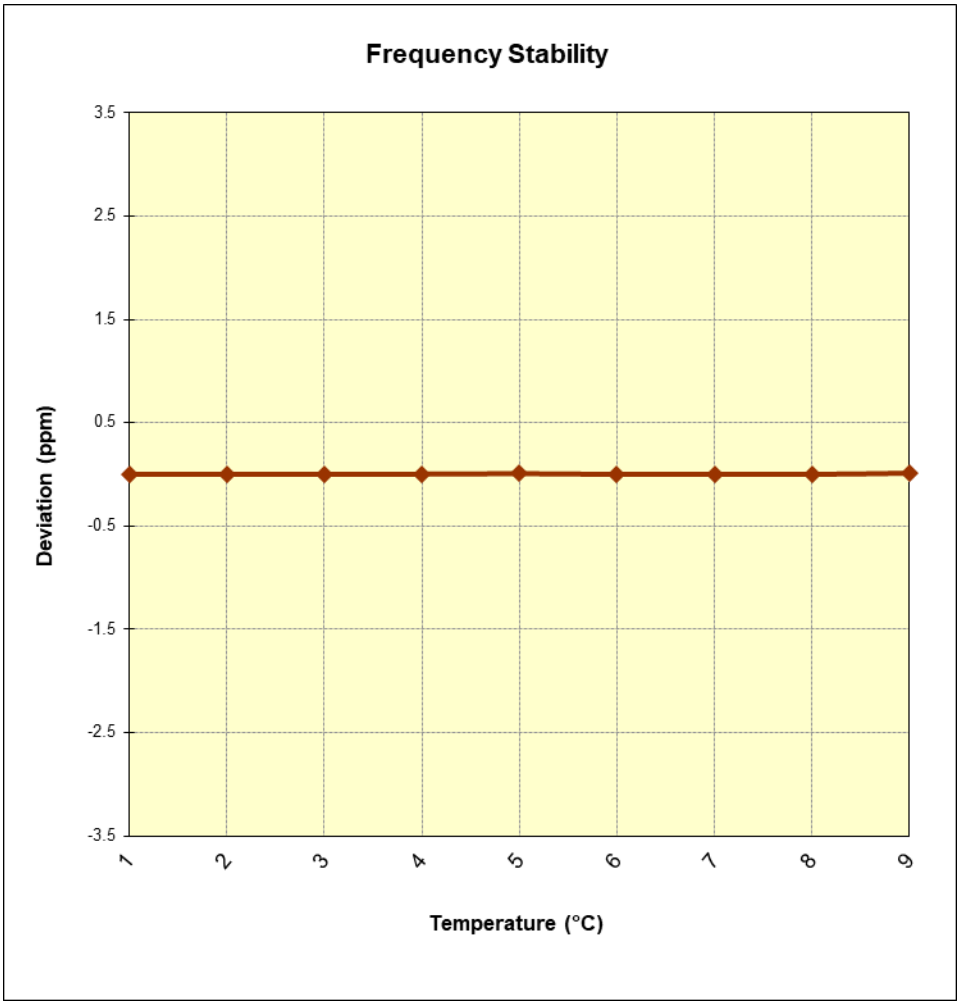


Figure 7-15. Frequency Stability Graph (Band 26/5 - 10MHz QPSK - Full RB Configuration)

Band 66/4 Frequency Stability Measurements

OPERATING FREQUENCY:	1,745,000,000	Hz
CHANNEL:	132322	
REFERENCE VOLTAGE:	3.80	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	- 30	1,745,000,002	2	0.0000001
100 %		- 20	1,745,000,002	2	0.0000001
100 %		- 10	1,745,000,002	2	0.0000001
100 %		0	1,745,000,002	2	0.0000001
100 %		+ 10	1,745,000,003	3	0.0000002
100 %		+ 20	1,745,000,007	7	0.0000004
100 %		+ 30	1,745,000,003	3	0.0000002
100 %		+ 40	1,745,000,002	2	0.0000001
100 %		+ 50	1,745,000,007	7	0.0000004
BATT. ENDPOINT	3.40	+ 20	1,745,000,006	6	0.0000003

Table 7-116. Frequency Stability Data (Band 66/4 - 20MHz QPSK - Full RB Configuration)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

Band 66/4 Frequency Stability Measurements

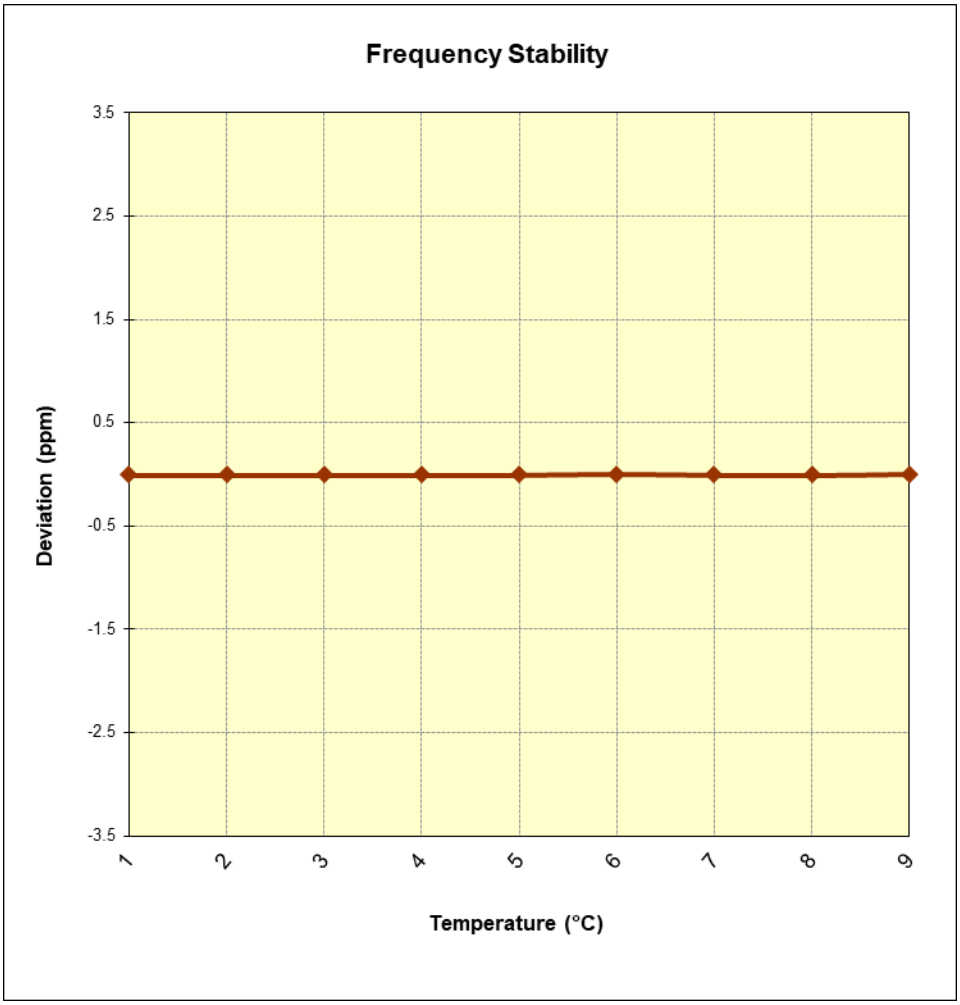


Figure 7-16. Frequency Stability Graph (Band 66/4 - 20MHz QPSK - Full RB Configuration)

Band 25/2 Frequency Stability Measurements

OPERATING FREQUENCY:	1,882,500,000	Hz
CHANNEL:	26365	
REFERENCE VOLTAGE:	3.80	VDC
DEVIATION LIMIT:	± 0.00025 % or 2.5 ppm	

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	- 30	1,882,500,003	3	0.0000002
100 %		- 20	1,882,500,002	2	0.0000001
100 %		- 10	1,882,500,003	3	0.0000002
100 %		0	1,882,500,003	3	0.0000002
100 %		+ 10	1,882,500,003	3	0.0000002
100 %		+ 20	1,882,500,004	4	0.0000002
100 %		+ 30	1,882,500,004	4	0.0000002
100 %		+ 40	1,882,500,003	3	0.0000002
100 %		+ 50	1,882,500,010	10	0.0000005
BATT. ENDPOINT	3.40	+ 20	1,882,500,008	8	0.0000004

Table 7-117. Frequency Stability Data (Band 25/2 - 20MHz QPSK - Full RB Configuration)

Band 25/2 Frequency Stability Measurements

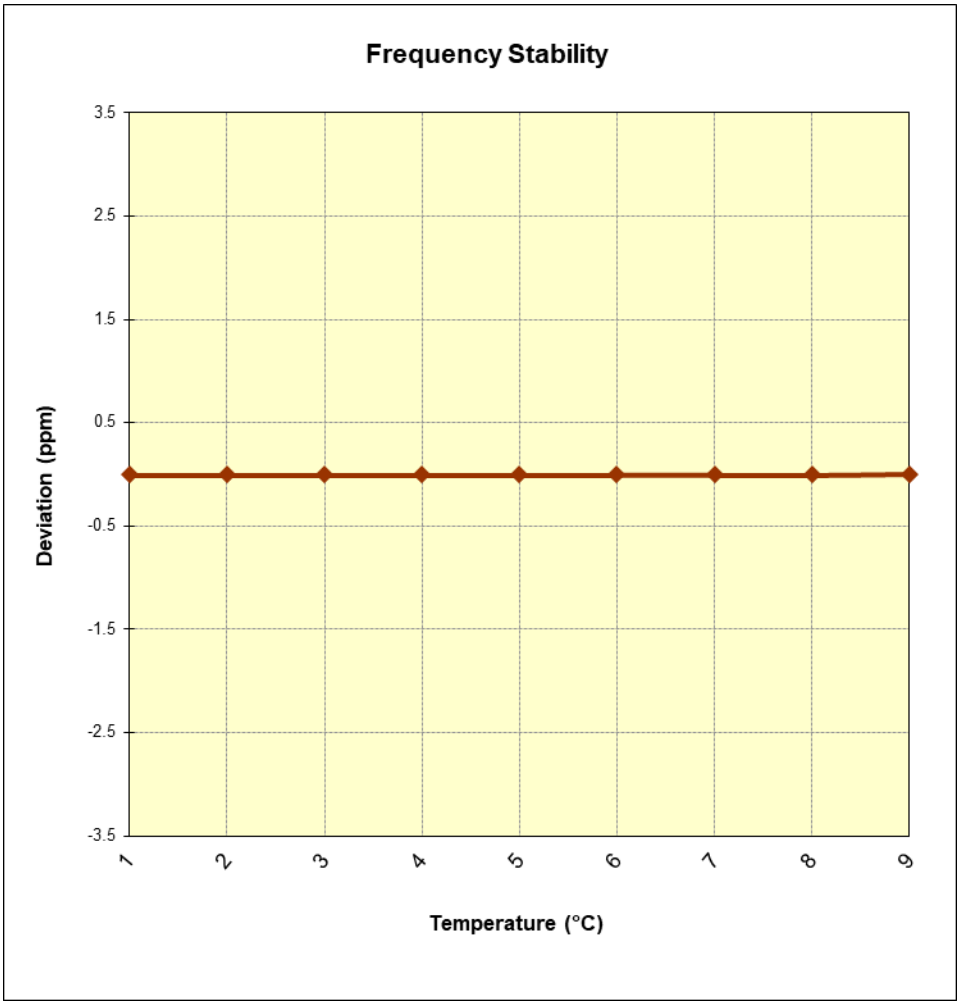


Figure 7-17. Frequency Stability Graph (Band 25/2 - 20MHz QPSK - Full RB Configuration)

Band 30 Frequency Stability Measurements

OPERATING FREQUENCY:	2,310,000,000	Hz
CHANNEL:	27710	
REFERENCE VOLTAGE:	3.80	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	- 30	2,310,000,003	3	0.0000001
100 %		- 20	2,310,000,003	3	0.0000001
100 %		- 10	2,310,000,003	3	0.0000001
100 %		0	2,310,000,003	3	0.0000001
100 %		+ 10	2,310,000,003	3	0.0000001
100 %		+ 20	2,310,000,005	5	0.0000002
100 %		+ 30	2,310,000,004	4	0.0000002
100 %		+ 40	2,310,000,003	3	0.0000001
100 %		+ 50	2,310,000,009	9	0.0000004
BATT. ENDPOINT	3.40	+ 20	2,310,000,006	6	0.0000003

Table 7-118. Frequency Stability Data (Band 30 - 10MHz QPSK - Full RB Configuration)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

Band 30 Frequency Stability Measurements

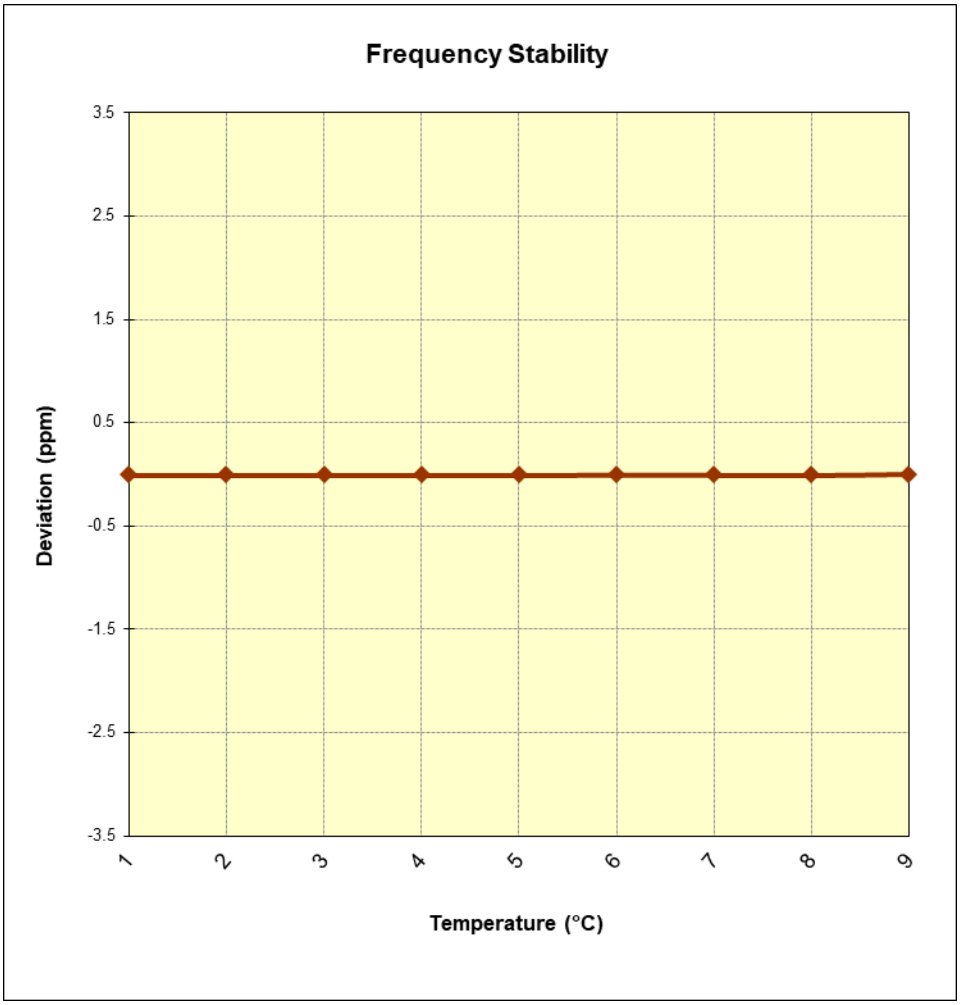


Figure 7-18. Frequency Stability Graph (Band 30 - 10MHz QPSK - Full RB Configuration)

Band 7 Frequency Stability Measurements

OPERATING FREQUENCY:	2,535,000,000	Hz
CHANNEL:	21100	
REFERENCE VOLTAGE:	3.80	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	- 30	2,535,000,003	3	0.0000001
100 %		- 20	2,535,000,004	4	0.0000002
100 %		- 10	2,535,000,003	3	0.0000001
100 %		0	2,535,000,004	4	0.0000002
100 %		+ 10	2,535,000,008	8	0.0000003
100 %		+ 20	2,535,000,013	13	0.0000005
100 %		+ 30	2,535,000,004	4	0.0000002
100 %		+ 40	2,535,000,004	4	0.0000002
100 %		+ 50	2,535,000,007	7	0.0000003
BATT. ENDPOINT	3.40	+ 20	2,535,000,009	9	0.0000004

Table 7-119. Frequency Stability Data (Band 7 - 20MHz QPSK - Full RB Configuration)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

Band 7 Frequency Stability Measurements

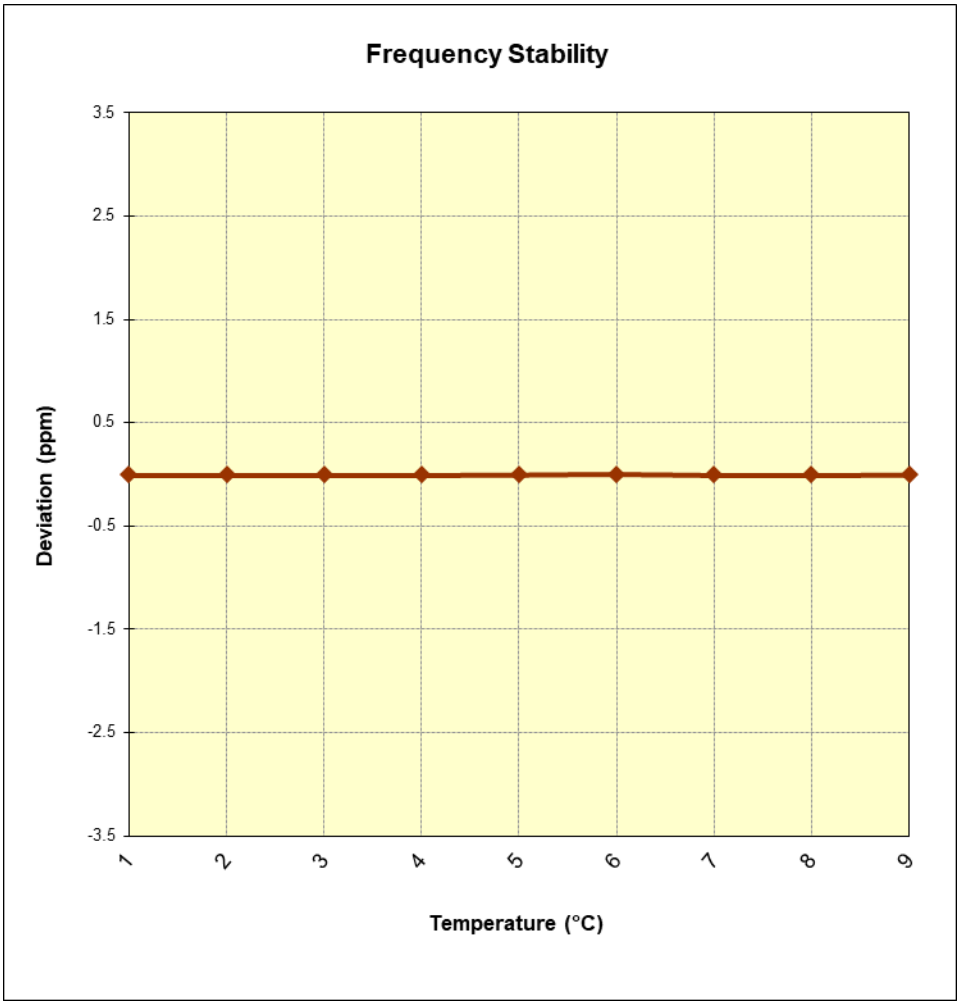


Figure 7-19. Frequency Stability Graph (Band 7 - 20MHz QPSK - Full RB Configuration)

Band 41 Frequency Stability Measurements

OPERATING FREQUENCY:	2,593,000,000	Hz
CHANNEL:	40620	
REFERENCE VOLTAGE:	3.80	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	- 30	2,593,000,014	14	0.0000005
100 %		- 20	2,593,000,052	52	0.0000020
100 %		- 10	2,593,000,048	48	0.0000019
100 %		0	2,593,000,017	17	0.0000007
100 %		+ 10	2,593,000,047	47	0.0000018
100 %		+ 20	2,593,000,058	58	0.0000022
100 %		+ 30	2,593,000,052	52	0.0000020
100 %		+ 40	2,593,000,015	15	0.0000006
100 %		+ 50	2,593,000,015	15	0.0000006
BATT. ENDPOINT	3.40	+ 20	2,593,000,057	57	0.0000022

Table 7-120. Frequency Stability Data (Band 41 - 20MHz QPSK - Full RB Configuration)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

Band 41 Frequency Stability Measurements

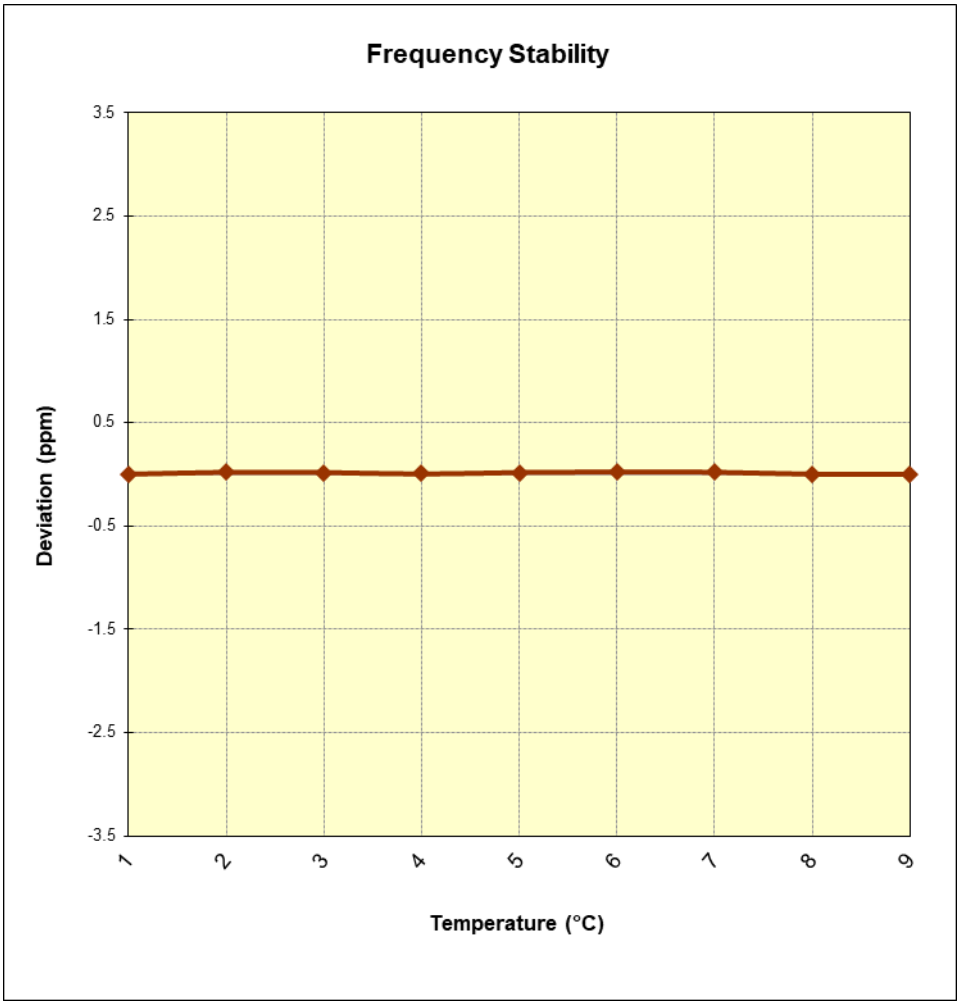


Figure 7-20. Frequency Stability Graph (Band 41 - 20MHz QPSK - Full RB Configuration)

8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **Apple Tablet Device** **FCC ID: BCGA2428** complies with all the requirements of Part 22, 24, & 27 of the FCC Rules for LTE operation only.