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	24.49	-2.60	**19.74**	0.094	38.45	-18.71	**21.89**	0.155	40.61	-18.72
836.50	1.4	QPSK	1 / 0	24.41	-2.60	19.66	0.092	38.45	-18.79	21.81	0.152	40.61	-18.80
848.30	1.4	QPSK	3 / 2	24.39	-2.60	19.64	0.092	38.45	-18.81	21.79	0.151	40.61	-18.82
824.70	1.4	16-QAM	1 / 0	23.60	-2.60	18.85	0.077	38.45	-19.60	21.00	0.126	40.61	-19.61
836.50	1.4	16-QAM	1 / 0	23.65	-2.60	**18.90**	0.078	38.45	-19.55	**21.05**	0.127	40.61	-19.56
848.30	1.4	16-QAM	1 / 0	23.62	-2.60	18.87	0.077	38.45	-19.58	21.02	0.126	40.61	-19.59
824.70	1.4	64-QAM	1 / 0	23.35	-2.60	**18.60**	0.072	38.45	-19.85	**20.75**	0.119	40.61	-19.86
836.50	1.4	64-QAM	1 / 0	23.12	-2.60	18.37	0.069	38.45	-20.08	20.52	0.113	40.61	-20.09
848.30	1.4	64-QAM	1 / 0	23.22	-2.60	18.47	0.070	38.45	-19.98	20.62	0.115	40.61	-19.99
825.50	3	QPSK	1 / 0	24.32	-2.60	**19.57**	0.091	38.45	-18.88	**21.72**	0.149	40.61	-18.89
836.50	3	QPSK	1 / 0	24.25	-2.60	19.50	0.089	38.45	-18.95	21.65	0.146	40.61	-18.96
847.50	3	QPSK	1 / 0	24.26	-2.60	19.51	0.089	38.45	-18.94	21.66	0.147	40.61	-18.95
825.50	3	16-QAM	1 / 0	23.73	-2.60	**18.98**	0.079	38.45	-19.47	**21.13**	0.130	40.61	-19.48
836.50	3	16-QAM	1 / 0	23.40	-2.60	18.65	0.073	38.45	-19.80	20.80	0.120	40.61	-19.81
847.50	3	16-QAM	1 / 0	23.62	-2.60	18.87	0.077	38.45	-19.58	21.02	0.126	40.61	-19.59
825.50	3	64-QAM	1 / 0	23.15	-2.60	18.40	0.069	38.45	-20.05	20.55	0.114	40.61	-20.06
836.50	3	64-QAM	1 / 14	23.22	-2.60	**18.47**	0.070	38.45	-19.98	**20.62**	0.115	40.61	-19.99
847.50	3	64-QAM	1 / 14	23.21	-2.60	18.46	0.070	38.45	-19.99	20.61	0.115	40.61	-20.00
826.50	5	QPSK	1 / 0	24.50	-2.60	**19.75**	**0.094**	38.45	-18.70	**21.90**	**0.155**	40.61	-18.71
836.50	5	QPSK	1 / 0	24.38	-2.60	19.63	0.092	38.45	-18.82	21.78	0.151	40.61	-18.83
846.50	5	QPSK	1 / 0	24.41	-2.60	19.66	0.092	38.45	-18.79	21.81	0.152	40.61	-18.80
826.50	5	16-QAM	1 / 0	23.64	-2.60	18.89	0.077	38.45	-19.56	21.04	0.127	40.61	-19.57
836.50	5	16-QAM	1 / 0	23.73	-2.60	18.98	0.079	38.45	-19.47	21.13	0.130	40.61	-19.48
846.50	5	16-QAM	1 / 0	23.78	-2.60	**19.03**	0.080	38.45	-19.42	**21.18**	0.131	40.61	-19.43
826.50	5	64-QAM	1 / 0	23.22	-2.60	18.47	0.070	38.45	-19.98	20.62	0.115	40.61	-19.99
836.50	5	64-QAM	1 / 24	23.25	-2.60	18.50	0.071	38.45	-19.95	20.65	0.116	40.61	-19.96
846.50	5	64-QAM	1 / 24	23.36	-2.60	**18.61**	0.073	38.45	-19.84	**20.76**	0.119	40.61	-19.85
829.00	10	QPSK	1 / 0	24.49	-2.60	**19.74**	0.094	38.45	-18.71	**21.89**	0.155	40.61	-18.72
836.50	10	QPSK	1 / 0	24.42	-2.60	19.67	0.093	38.45	-18.78	21.82	0.152	40.61	-18.79
844.00	10	QPSK	1 / 0	24.44	-2.60	19.69	0.093	38.45	-18.76	21.84	0.153	40.61	-18.77
829.00	10	16-QAM	1 / 0	23.76	-2.60	**19.01**	0.080	38.45	-19.44	**21.16**	0.131	40.61	-19.45
836.50	10	16-QAM	1 / 0	23.64	-2.60	18.89	0.077	38.45	-19.56	21.04	0.127	40.61	-19.57
844.00	10	16-QAM	1 / 0	23.61	-2.60	18.86	0.077	38.45	-19.59	21.01	0.126	40.61	-19.60
829.00	10	64-QAM	1 / 0	23.22	-2.60	18.47	0.070	38.45	-19.98	20.62	0.115	40.61	-19.99
836.50	10	64-QAM	1 / 49	23.17	-2.60	18.42	0.070	38.45	-20.03	20.57	0.114	40.61	-20.04
844.00	10	64-QAM	1 / 49	23.26	-2.60	**18.51**	0.071	38.45	-19.94	**20.66**	0.116	40.61	-19.95
831.50	15	QPSK	1 / 0	24.45	-2.60	19.70	0.093	38.45	-18.75	21.85	0.153	40.61	-18.76
836.50	15	QPSK	1 / 0	24.50	-2.60	**19.75**	**0.094**	38.45	-18.70	**21.90**	**0.155**	40.61	-18.71
841.50	15	QPSK	1 / 0	24.50	-2.60	**19.75**	**0.094**	38.45	-18.70	**21.90**	**0.155**	40.61	-18.71
831.50	15	16-QAM	1 / 0	24.29	-2.60	**19.54**	0.090	38.45	-18.91	**21.69**	0.148	40.61	-18.92
836.50	15	16-QAM	1 / 0	24.00	-2.60	19.25	0.084	38.45	-19.20	21.40	0.138	40.61	-19.21
841.50	15	16-QAM	1 / 0	24.11	-2.60	19.36	0.086	38.45	-19.09	21.51	0.142	40.61	-19.10
831.50	15	64-QAM	1 / 74	23.27	-2.60	**18.52**	0.071	38.45	-19.93	**20.67**	0.117	40.61	-19.94
836.50	15	64-QAM	1 / 74	23.26	-2.60	18.51	0.071	38.45	-19.94	20.66	0.116	40.61	-19.95
841.50	15	64-QAM	1 / 74	22.82	-2.60	18.07	0.064	38.45	-20.38	20.22	0.105	40.61	-20.39

Table 7-34. ERP 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	23.50	-0.80	**22.70**	**0.186**	30.00	-7.30
1732.50	1.4	QPSK	3 / 2	23.44	-0.80	22.64	0.184	30.00	-7.36
1754.30	1.4	QPSK	3 / 2	23.50	-0.80	**22.70**	**0.186**	30.00	-7.30
1710.70	1.4	16-QAM	1 / 0	22.72	-0.80	21.92	0.156	30.00	-8.08
1732.50	1.4	16-QAM	1 / 0	22.88	-0.80	**22.08**	0.161	30.00	-7.92
1754.30	1.4	16-QAM	1 / 0	22.70	-0.80	21.90	0.155	30.00	-8.10
1710.70	1.4	64-QAM	1 / 0	21.71	-0.80	20.91	0.123	30.00	-9.09
1732.50	1.4	64-QAM	1 / 5	21.85	-0.80	21.05	0.127	30.00	-8.95
1754.30	1.4	64-QAM	1 / 0	21.96	-0.80	**21.16**	0.131	30.00	-8.84
1711.50	3	QPSK	1 / 0	23.49	-0.80	**22.69**	0.186	30.00	-7.31
1732.50	3	QPSK	1 / 0	23.39	-0.80	22.59	0.182	30.00	-7.41
1753.50	3	QPSK	1 / 0	23.46	-0.80	22.66	0.185	30.00	-7.34
1711.50	3	16-QAM	1 / 0	22.82	-0.80	**22.02**	0.159	30.00	-7.98
1732.50	3	16-QAM	1 / 0	22.73	-0.80	21.93	0.156	30.00	-8.07
1753.50	3	16-QAM	1 / 0	22.74	-0.80	21.94	0.156	30.00	-8.06
1711.50	3	64-QAM	1 / 0	21.71	-0.80	20.91	0.123	30.00	-9.09
1732.50	3	64-QAM	1 / 0	21.74	-0.80	**20.94**	0.124	30.00	-9.06
1753.50	3	64-QAM	1 / 0	21.72	-0.80	20.92	0.124	30.00	-9.08
1712.50	5	QPSK	1 / 0	23.45	-0.80	22.65	0.184	30.00	-7.35
1732.50	5	QPSK	1 / 0	23.42	-0.80	22.62	0.183	30.00	-7.38
1752.50	5	QPSK	1 / 0	23.48	-0.80	**22.68**	0.185	30.00	-7.32
1712.50	5	16-QAM	1 / 0	22.61	-0.80	21.81	0.152	30.00	-8.19
1732.50	5	16-QAM	1 / 0	22.83	-0.80	22.03	0.160	30.00	-7.97
1752.50	5	16-QAM	1 / 0	22.97	-0.80	**22.17**	0.165	30.00	-7.83
1712.50	5	64-QAM	1 / 0	21.77	-0.80	20.97	0.125	30.00	-9.03
1732.50	5	64-QAM	1 / 24	21.78	-0.80	20.98	0.125	30.00	-9.02
1752.50	5	64-QAM	1 / 0	21.91	-0.80	**21.11**	0.129	30.00	-8.89
1715.00	10	QPSK	1 / 0	23.44	-0.80	**22.64**	0.184	30.00	-7.36
1732.50	10	QPSK	1 / 0	23.43	-0.80	22.63	0.183	30.00	-7.37
1750.00	10	QPSK	1 / 49	23.42	-0.80	22.62	0.183	30.00	-7.38
1715.00	10	16-QAM	1 / 49	22.31	-0.80	21.51	0.142	30.00	-8.49
1732.50	10	16-QAM	1 / 0	22.64	-0.80	21.84	0.153	30.00	-8.16
1750.00	10	16-QAM	1 / 0	22.74	-0.80	**21.94**	0.156	30.00	-8.06
1715.00	10	64-QAM	1 / 0	21.73	-0.80	20.93	0.124	30.00	-9.07
1732.50	10	64-QAM	1 / 49	21.78	-0.80	**20.98**	0.125	30.00	-9.02
1750.00	10	64-QAM	1 / 0	21.70	-0.80	20.90	0.123	30.00	-9.10
1717.50	15	QPSK	1 / 0	23.43	-0.80	22.63	0.183	30.00	-7.37
1732.50	15	QPSK	1 / 0	23.50	-0.80	**22.70**	**0.186**	30.00	-7.30
1747.50	15	QPSK	1 / 0	23.47	-0.80	22.67	0.185	30.00	-7.33
1717.50	15	16-QAM	1 / 0	22.47	-0.80	21.67	0.147	30.00	-8.33
1732.50	15	16-QAM	1 / 0	22.67	-0.80	**21.87**	0.154	30.00	-8.13
1747.50	15	16-QAM	1 / 0	22.49	-0.80	21.69	0.148	30.00	-8.31
1717.50	15	64-QAM	1 / 74	21.87	-0.80	**21.07**	0.128	30.00	-8.93
1732.50	15	64-QAM	1 / 74	21.77	-0.80	20.97	0.125	30.00	-9.03
1747.50	15	64-QAM	1 / 0	21.80	-0.80	21.00	0.126	30.00	-9.00
1720.00	20	QPSK	1 / 0	23.33	-0.80	22.53	0.179	30.00	-7.47
1732.50	20	QPSK	1 / 0	23.44	-0.80	22.64	0.184	30.00	-7.36
1745.00	20	QPSK	1 / 0	23.49	-0.80	**22.69**	0.186	30.00	-7.31
1720.00	20	16-QAM	1 / 0	22.51	-0.80	**21.71**	0.148	30.00	-8.29
1732.50	20	16-QAM	1 / 0	22.43	-0.80	21.63	0.146	30.00	-8.37
1745.00	20	16-QAM	1 / 0	22.40	-0.80	21.60	0.145	30.00	-8.40
1720.00	20	64-QAM	1 / 99	21.93	-0.80	21.13	0.130	30.00	-8.87
1732.50	20	64-QAM	1 / 0	21.71	-0.80	20.91	0.123	30.00	-9.09
1745.00	20	64-QAM	1 / 0	21.95	-0.80	**21.15**	0.130	30.00	-8.85

Table 7-35. 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	23.48	-0.80	22.68	0.185	30.00	-7.32
1745.00	1.4	QPSK	1 / 5	23.49	-0.80	**22.69**	0.186	30.00	-7.31
1779.30	1.4	QPSK	3 / 2	23.49	-0.80	**22.69**	0.186	30.00	-7.31
1710.70	1.4	16-QAM	1 / 0	22.73	-0.80	21.93	0.156	30.00	-8.07
1745.00	1.4	16-QAM	1 / 0	22.84	-0.80	**22.04**	0.160	30.00	-7.96
1779.30	1.4	16-QAM	1 / 0	22.76	-0.80	21.96	0.157	30.00	-8.04
1710.70	1.4	64-QAM	1 / 0	21.93	-0.80	**21.13**	0.130	30.00	-8.87
1745.00	1.4	64-QAM	1 / 0	21.81	-0.80	21.01	0.126	30.00	-8.99
1779.30	1.4	64-QAM	1 / 0	21.71	-0.80	20.91	0.123	30.00	-9.09
1711.50	3	QPSK	1 / 0	23.48	-0.80	**22.68**	0.185	30.00	-7.32
1745.00	3	QPSK	1 / 0	23.46	-0.80	22.66	0.185	30.00	-7.34
1778.50	3	QPSK	1 / 0	23.48	-0.80	**22.68**	0.185	30.00	-7.32
1711.50	3	16-QAM	1 / 0	22.81	-0.80	22.01	0.159	30.00	-7.99
1745.00	3	16-QAM	1 / 0	22.88	-0.80	**22.08**	0.161	30.00	-7.92
1778.50	3	16-QAM	1 / 0	22.73	-0.80	21.93	0.156	30.00	-8.07
1711.50	3	64-QAM	1 / 14	21.71	-0.80	20.91	0.123	30.00	-9.09
1745.00	3	64-QAM	1 / 14	21.72	-0.80	**20.92**	0.124	30.00	-9.08
1778.50	3	64-QAM	1 / 14	21.66	-0.80	20.86	0.122	30.00	-9.14
1712.50	5	QPSK	1 / 0	23.50	-0.80	**22.70**	**0.186**	30.00	-7.30
1745.00	5	QPSK	1 / 0	23.41	-0.80	22.61	0.182	30.00	-7.39
1777.50	5	QPSK	1 / 0	23.45	-0.80	22.65	0.184	30.00	-7.35
1712.50	5	16-QAM	1 / 0	22.92	-0.80	22.12	0.163	30.00	-7.88
1745.00	5	16-QAM	1 / 0	22.87	-0.80	22.07	0.161	30.00	-7.93
1777.50	5	16-QAM	1 / 0	22.97	-0.80	**22.17**	0.165	30.00	-7.83
1712.50	5	64-QAM	1 / 0	21.83	-0.80	21.03	0.127	30.00	-8.97
1745.00	5	64-QAM	1 / 24	21.87	-0.80	**21.07**	0.128	30.00	-8.93
1777.50	5	64-QAM	1 / 24	21.85	-0.80	21.05	0.127	30.00	-8.95
1715.00	10	QPSK	1 / 0	23.45	-0.80	22.65	0.184	30.00	-7.35
1745.00	10	QPSK	1 / 0	23.48	-0.80	**22.68**	0.185	30.00	-7.32
1775.00	10	QPSK	1 / 0	23.47	-0.80	22.67	0.185	30.00	-7.33
1715.00	10	16-QAM	1 / 0	22.81	-0.80	**22.01**	0.159	30.00	-7.99
1745.00	10	16-QAM	1 / 0	22.75	-0.80	21.95	0.157	30.00	-8.05
1775.00	10	16-QAM	1 / 0	22.77	-0.80	21.97	0.157	30.00	-8.03
1715.00	10	64-QAM	1 / 49	21.74	-0.80	20.94	0.124	30.00	-9.06
1745.00	10	64-QAM	1 / 0	21.76	-0.80	**20.96**	0.125	30.00	-9.04
1775.00	10	64-QAM	1 / 0	21.71	-0.80	20.91	0.123	30.00	-9.09
1717.50	15	QPSK	1 / 0	23.39	-0.80	**22.59**	0.182	30.00	-7.41
1745.00	15	QPSK	1 / 0	23.31	-0.80	22.51	0.178	30.00	-7.49
1772.50	15	QPSK	1 / 0	23.26	-0.80	22.46	0.176	30.00	-7.54
1717.50	15	16-QAM	1 / 0	22.73	-0.80	**21.93**	0.156	30.00	-8.07
1745.00	15	16-QAM	1 / 0	22.69	-0.80	21.89	0.155	30.00	-8.11
1772.50	15	16-QAM	1 / 0	22.63	-0.80	21.83	0.152	30.00	-8.17
1717.50	15	64-QAM	1 / 74	21.72	-0.80	20.92	0.124	30.00	-9.08
1745.00	15	64-QAM	1 / 0	21.90	-0.80	**21.10**	0.129	30.00	-8.90
1772.50	15	64-QAM	1 / 0	21.67	-0.80	20.87	0.122	30.00	-9.13
1720.00	20	QPSK	1 / 0	23.49	-0.80	**22.69**	0.186	30.00	-7.31
1745.00	20	QPSK	1 / 0	23.35	-0.80	22.55	0.180	30.00	-7.45
1770.00	20	QPSK	1 / 0	23.40	-0.80	22.60	0.182	30.00	-7.40
1720.00	20	16-QAM	1 / 0	22.60	-0.80	**21.80**	0.151	30.00	-8.20
1745.00	20	16-QAM	1 / 0	22.60	-0.80	**21.80**	0.151	30.00	-8.20
1770.00	20	16-QAM	1 / 0	22.60	-0.80	**21.80**	0.151	30.00	-8.20
1720.00	20	64-QAM	1 / 99	21.93	-0.80	**21.13**	0.130	30.00	-8.87
1745.00	20	64-QAM	1 / 0	21.71	-0.80	20.91	0.123	30.00	-9.09
1770.00	20	64-QAM	1 / 99	21.82	-0.80	21.02	0.126	30.00	-8.98

Table 7-36. 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	3 / 2	23.50	0.00	**23.50**	**0.224**	33.01	-9.51
1880.00	1.4	QPSK	1 / 5	23.45	0.00	23.45	0.221	33.01	-9.56
1909.30	1.4	QPSK	1 / 0	23.47	0.00	23.47	0.222	33.01	-9.54
1850.70	1.4	16-QAM	1 / 0	22.81	0.00	**22.81**	0.191	33.01	-10.20
1880.00	1.4	16-QAM	1 / 0	22.76	0.00	22.76	0.189	33.01	-10.25
1909.30	1.4	16-QAM	1 / 0	22.81	0.00	**22.81**	0.191	33.01	-10.20
1850.70	1.4	64-QAM	1 / 5	21.75	0.00	21.75	0.150	33.01	-11.26
1880.00	1.4	64-QAM	1 / 5	21.80	0.00	21.80	0.151	33.01	-11.21
1909.30	1.4	64-QAM	1 / 5	21.92	0.00	**21.92**	0.156	33.01	-11.09
1851.50	3	QPSK	1 / 0	23.48	0.00	23.48	0.223	33.01	-9.53
1880.00	3	QPSK	1 / 0	23.50	0.00	**23.50**	**0.224**	33.01	-9.51
1908.50	3	QPSK	1 / 0	23.47	0.00	23.47	0.222	33.01	-9.54
1851.50	3	16-QAM	1 / 0	22.75	0.00	22.75	0.188	33.01	-10.26
1880.00	3	16-QAM	1 / 14	22.74	0.00	22.74	0.188	33.01	-10.27
1908.50	3	16-QAM	1 / 0	22.87	0.00	**22.87**	0.194	33.01	-10.14
1851.50	3	64-QAM	1 / 14	21.75	0.00	**21.75**	0.150	33.01	-11.26
1880.00	3	64-QAM	1 / 14	21.72	0.00	21.72	0.149	33.01	-11.29
1908.50	3	64-QAM	1 / 14	21.71	0.00	21.71	0.148	33.01	-11.30
1852.50	5	QPSK	1 / 0	23.48	0.00	23.48	0.223	33.01	-9.53
1880.00	5	QPSK	1 / 0	23.49	0.00	**23.49**	0.223	33.01	-9.52
1907.50	5	QPSK	1 / 0	23.45	0.00	23.45	0.221	33.01	-9.56
1852.50	5	16-QAM	1 / 24	22.65	0.00	22.65	0.184	33.01	-10.36
1880.00	5	16-QAM	1 / 0	22.69	0.00	22.69	0.186	33.01	-10.32
1907.50	5	16-QAM	1 / 0	22.74	0.00	**22.74**	0.188	33.01	-10.27
1852.50	5	64-QAM	1 / 24	21.80	0.00	21.80	0.151	33.01	-11.21
1880.00	5	64-QAM	1 / 24	21.92	0.00	**21.92**	0.156	33.01	-11.09
1907.50	5	64-QAM	1 / 24	21.87	0.00	21.87	0.154	33.01	-11.14
1855.00	10	QPSK	1 / 0	23.49	0.00	**23.49**	0.223	33.01	-9.52
1880.00	10	QPSK	1 / 0	23.43	0.00	23.43	0.220	33.01	-9.58
1905.00	10	QPSK	1 / 0	23.43	0.00	23.43	0.220	33.01	-9.58
1855.00	10	16-QAM	1 / 0	22.62	0.00	**22.62**	0.183	33.01	-10.39
1880.00	10	16-QAM	1 / 0	22.53	0.00	22.53	0.179	33.01	-10.48
1905.00	10	16-QAM	1 / 0	22.36	0.00	22.36	0.172	33.01	-10.65
1855.00	10	64-QAM	1 / 49	21.87	0.00	**21.87**	0.154	33.01	-11.14
1880.00	10	64-QAM	1 / 49	21.78	0.00	21.78	0.151	33.01	-11.23
1905.00	10	64-QAM	1 / 49	21.75	0.00	21.75	0.150	33.01	-11.26
1857.50	15	QPSK	1 / 0	23.48	0.00	**23.48**	0.223	33.01	-9.53
1880.00	15	QPSK	1 / 0	23.47	0.00	23.47	0.222	33.01	-9.54
1902.50	15	QPSK	1 / 0	23.47	0.00	23.47	0.222	33.01	-9.54
1857.50	15	16-QAM	1 / 0	22.68	0.00	22.68	0.185	33.01	-10.33
1880.00	15	16-QAM	1 / 0	22.71	0.00	22.71	0.187	33.01	-10.30
1902.50	15	16-QAM	1 / 0	22.72	0.00	**22.72**	0.187	33.01	-10.29
1857.50	15	64-QAM	1 / 0	21.88	0.00	**21.88**	0.154	33.01	-11.13
1880.00	15	64-QAM	1 / 74	21.75	0.00	21.75	0.150	33.01	-11.26
1902.50	15	64-QAM	1 / 74	21.80	0.00	21.80	0.151	33.01	-11.21
1860.00	20	QPSK	1 / 0	23.49	0.00	**23.49**	0.223	33.01	-9.52
1880.00	20	QPSK	1 / 0	23.38	0.00	23.38	0.218	33.01	-9.63
1900.00	20	QPSK	1 / 0	23.33	0.00	23.33	0.215	33.01	-9.68
1860.00	20	16-QAM	1 / 0	22.69	0.00	**22.69**	0.186	33.01	-10.32
1880.00	20	16-QAM	1 / 99	22.21	0.00	22.21	0.166	33.01	-10.80
1900.00	20	16-QAM	1 / 0	22.68	0.00	22.68	0.185	33.01	-10.33
1860.00	20	64-QAM	1 / 99	21.97	0.00	**21.97**	0.157	33.01	-11.04
1880.00	20	64-QAM	1 / 99	21.72	0.00	21.72	0.149	33.01	-11.29
1900.00	20	64-QAM	1 / 99	21.91	0.00	21.91	0.155	33.01	-11.10

Table 7-37. 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	23.49	0.00	23.49	0.223	33.01	-9.52
1882.50	1.4	QPSK	3 / 2	23.50	0.00	**23.50**	**0.224**	33.01	-9.51
1914.30	1.4	QPSK	1 / 0	23.46	0.00	23.46	0.222	33.01	-9.55
1850.70	1.4	16-QAM	1 / 5	22.99	0.00	**22.99**	0.199	33.01	-10.02
1882.50	1.4	16-QAM	1 / 0	22.70	0.00	22.70	0.186	33.01	-10.31
1914.30	1.4	16-QAM	1 / 0	22.77	0.00	22.77	0.189	33.01	-10.24
1850.70	1.4	64-QAM	3 / 2	21.65	0.00	21.65	0.146	33.01	-11.36
1882.50	1.4	64-QAM	3 / 2	21.72	0.00	**21.72**	0.149	33.01	-11.29
1914.30	1.4	64-QAM	1 / 5	21.67	0.00	21.67	0.147	33.01	-11.34
1851.50	3	QPSK	1 / 0	23.47	0.00	23.47	0.222	33.01	-9.54
1882.50	3	QPSK	1 / 0	23.50	0.00	**23.50**	**0.224**	33.01	-9.51
1913.50	3	QPSK	1 / 0	23.48	0.00	23.48	0.223	33.01	-9.53
1851.50	3	16-QAM	1 / 0	22.80	0.00	22.80	0.191	33.01	-10.21
1882.50	3	16-QAM	1 / 0	22.92	0.00	22.92	0.196	33.01	-10.09
1913.50	3	16-QAM	1 / 0	22.95	0.00	**22.95**	0.197	33.01	-10.06
1851.50	3	64-QAM	1 / 14	21.62	0.00	21.62	0.145	33.01	-11.39
1882.50	3	64-QAM	1 / 0	21.82	0.00	**21.82**	0.152	33.01	-11.19
1913.50	3	64-QAM	1 / 0	21.77	0.00	21.77	0.150	33.01	-11.24
1852.50	5	QPSK	1 / 0	23.43	0.00	23.43	0.220	33.01	-9.58
1882.50	5	QPSK	1 / 0	23.49	0.00	**23.49**	0.223	33.01	-9.52
1912.50	5	QPSK	1 / 0	23.47	0.00	23.47	0.222	33.01	-9.54
1852.50	5	16-QAM	1 / 0	23.06	0.00	23.06	0.202	33.01	-9.95
1882.50	5	16-QAM	1 / 0	22.90	0.00	22.90	0.195	33.01	-10.11
1912.50	5	16-QAM	1 / 0	23.09	0.00	**23.09**	0.204	33.01	-9.92
1852.50	5	64-QAM	1 / 0	21.87	0.00	**21.87**	0.154	33.01	-11.14
1882.50	5	64-QAM	1 / 24	21.84	0.00	21.84	0.153	33.01	-11.17
1912.50	5	64-QAM	1 / 0	21.67	0.00	21.67	0.147	33.01	-11.34
1855.00	10	QPSK	1 / 0	22.80	0.00	22.80	0.191	33.01	-10.21
1882.50	10	QPSK	1 / 0	23.46	0.00	**23.46**	0.222	33.01	-9.55
1910.00	10	QPSK	1 / 0	23.43	0.00	23.43	0.220	33.01	-9.58
1855.00	10	16-QAM	1 / 0	22.75	0.00	22.75	0.188	33.01	-10.26
1882.50	10	16-QAM	1 / 0	22.80	0.00	**22.80**	0.191	33.01	-10.21
1910.00	10	16-QAM	1 / 0	22.55	0.00	22.55	0.180	33.01	-10.46
1855.00	10	64-QAM	1 / 49	21.75	0.00	21.75	0.150	33.01	-11.26
1882.50	10	64-QAM	1 / 49	21.82	0.00	**21.82**	0.152	33.01	-11.19
1910.00	10	64-QAM	1 / 49	21.72	0.00	21.72	0.149	33.01	-11.29
1857.50	15	QPSK	1 / 0	23.49	0.00	**23.49**	0.223	33.01	-9.52
1882.50	15	QPSK	1 / 0	23.42	0.00	23.42	0.220	33.01	-9.59
1907.50	15	QPSK	1 / 0	23.37	0.00	23.37	0.217	33.01	-9.64
1857.50	15	16-QAM	1 / 0	22.63	0.00	22.63	0.183	33.01	-10.38
1882.50	15	16-QAM	1 / 0	22.38	0.00	22.38	0.173	33.01	-10.63
1907.50	15	16-QAM	1 / 0	22.68	0.00	**22.68**	0.185	33.01	-10.33
1857.50	15	64-QAM	1 / 0	21.64	0.00	21.64	0.146	33.01	-11.37
1882.50	15	64-QAM	1 / 74	21.84	0.00	**21.84**	0.153	33.01	-11.17
1907.50	15	64-QAM	1 / 74	21.67	0.00	21.67	0.147	33.01	-11.34
1860.00	20	QPSK	1 / 0	23.47	0.00	**23.47**	0.222	33.01	-9.54
1882.50	20	QPSK	1 / 0	23.35	0.00	23.35	0.216	33.01	-9.66
1905.00	20	QPSK	1 / 99	23.38	0.00	23.38	0.218	33.01	-9.63
1860.00	20	16-QAM	1 / 0	22.91	0.00	**22.91**	0.195	33.01	-10.10
1882.50	20	16-QAM	1 / 0	22.90	0.00	22.90	0.195	33.01	-10.11
1905.00	20	16-QAM	1 / 0	22.87	0.00	22.87	0.194	33.01	-10.14
1860.00	20	64-QAM	1 / 99	21.74	0.00	21.74	0.149	33.01	-11.27
1882.50	20	64-QAM	1 / 0	21.60	0.00	21.60	0.145	33.01	-11.41
1905.00	20	64-QAM	1 / 99	21.75	0.00	**21.75**	0.150	33.01	-11.26

Table 7-38. 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	22.53	0.80	23.33	0.215	23.98	-0.65
2312.50	5	QPSK	1 / 0	22.54	0.80	**23.34**	**0.216**	23.98	-0.64
2307.50	5	16-QAM	1 / 24	21.89	0.80	22.69	0.186	23.98	-1.29
2312.50	5	16-QAM	1 / 0	21.70	0.80	**22.50**	0.178	23.98	-1.48
2307.50	5	64-QAM	1 / 24	20.94	0.80	21.74	0.149	23.98	-2.24
2312.50	5	64-QAM	1 / 0	20.80	0.80	21.60	0.145	23.98	-2.38
2310.00	10	QPSK	1 / 0	22.54	0.80	**23.34**	**0.216**	23.98	-0.64
2310.00	10	16-QAM	1 / 0	21.81	0.80	22.61	0.182	23.98	-1.37
2310.00	10	64-QAM	1 / 0	20.91	0.80	21.71	0.148	23.98	-2.27

Table 7-39. 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	22.58	1.40	23.98	0.250	33.01	-9.03
2535.00	5	QPSK	1 / 0	22.74	1.40	24.14	0.259	33.01	-8.87
2567.50	5	QPSK	1 / 0	22.94	1.40	**24.34**	0.272	33.01	-8.67
2502.50	5	16-QAM	1 / 0	22.00	1.40	23.40	0.219	33.01	-9.61
2535.00	5	16-QAM	1 / 0	21.94	1.40	23.34	0.216	33.01	-9.67
2567.50	5	16-QAM	1 / 0	22.30	1.40	**23.70**	0.234	33.01	-9.31
2502.50	5	64-QAM	1 / 24	21.41	1.40	22.81	0.191	33.01	-10.20
2535.00	5	64-QAM	1 / 24	21.52	1.40	**22.92**	0.196	33.01	-10.09
2567.50	5	64-QAM	1 / 0	21.46	1.40	22.86	0.193	33.01	-10.15
2505.00	10	QPSK	1 / 0	22.91	1.40	24.31	0.270	33.01	-8.70
2535.00	10	QPSK	1 / 0	22.84	1.40	24.24	0.265	33.01	-8.77
2565.00	10	QPSK	1 / 0	23.18	1.40	**24.58**	0.287	33.01	-8.43
2505.00	10	16-QAM	1 / 0	22.05	1.40	23.45	0.221	33.01	-9.56
2535.00	10	16-QAM	1 / 0	22.32	1.40	23.72	0.236	33.01	-9.29
2565.00	10	16-QAM	1 / 0	22.50	1.40	**23.90**	0.245	33.01	-9.11
2505.00	10	64-QAM	1 / 49	21.42	1.40	22.82	0.191	33.01	-10.19
2535.00	10	64-QAM	1 / 49	21.45	1.40	22.85	0.193	33.01	-10.16
2565.00	10	64-QAM	1 / 0	21.57	1.40	**22.97**	0.198	33.01	-10.04
2507.50	15	QPSK	1 / 0	23.18	1.40	24.58	0.287	33.01	-8.43
2535.00	15	QPSK	1 / 0	23.03	1.40	24.43	0.277	33.01	-8.58
2562.50	15	QPSK	1 / 0	23.22	1.40	**24.62**	0.290	33.01	-8.39
2507.50	15	16-QAM	1 / 0	22.26	1.40	23.66	0.232	33.01	-9.35
2535.00	15	16-QAM	1 / 0	22.41	1.40	**23.81**	0.240	33.01	-9.20
2562.50	15	16-QAM	1 / 0	22.34	1.40	23.74	0.237	33.01	-9.27
2507.50	15	64-QAM	1 / 74	21.27	1.40	22.67	0.185	33.01	-10.34
2535.00	15	64-QAM	1 / 74	21.42	1.40	**22.82**	0.191	33.01	-10.19
2562.50	15	64-QAM	1 / 0	21.40	1.40	22.80	0.191	33.01	-10.21
2510.00	20	QPSK	1 / 0	23.25	1.40	**24.65**	**0.292**	33.01	-8.36
2535.00	20	QPSK	1 / 0	23.24	1.40	24.64	0.291	33.01	-8.37
2560.00	20	QPSK	1 / 0	23.17	1.40	24.57	0.286	33.01	-8.44
2510.00	20	16-QAM	1 / 0	22.50	1.40	**23.90**	0.245	33.01	-9.11
2535.00	20	16-QAM	1 / 0	22.21	1.40	23.61	0.230	33.01	-9.40
2560.00	20	16-QAM	1 / 0	22.18	1.40	23.58	0.228	33.01	-9.43
2510.00	20	64-QAM	1 / 99	21.15	1.40	22.55	0.180	33.01	-10.46
2535.00	20	64-QAM	1 / 99	21.39	1.40	**22.79**	0.190	33.01	-10.22
2560.00	20	64-QAM	1 / 0	21.21	1.40	22.61	0.182	33.01	-10.40

Table 7-40. 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 / 0	24.63	1.40	26.03	0.401	33.01	-6.98
2593.00	5	QPSK	1 / 24	24.65	1.40	26.05	0.403	33.01	-6.96
2687.50	5	QPSK	1 / 24	24.72	1.40	**26.12**	0.409	33.01	-6.89
2498.50	5	16-QAM	1 / 0	23.71	1.40	**25.11**	0.324	33.01	-7.90
2593.00	5	16-QAM	1 / 24	23.70	1.40	25.10	0.324	33.01	-7.91
2687.50	5	16-QAM	1 / 24	23.71	1.40	**25.11**	0.324	33.01	-7.90
2498.50	5	64-QAM	1 / 24	22.71	1.40	**24.11**	0.258	33.01	-8.90
2593.00	5	64-QAM	1 / 24	22.69	1.40	24.09	0.256	33.01	-8.92
2687.50	5	64-QAM	1 / 0	22.69	1.40	24.09	0.256	33.01	-8.92
2501.00	10	QPSK	1 / 0	24.67	1.40	26.07	0.405	33.01	-6.94
2593.00	10	QPSK	1 / 49	24.74	1.40	26.14	0.411	33.01	-6.87
2685.00	10	QPSK	1 / 49	24.75	1.40	**26.15**	**0.412**	33.01	-6.86
2501.00	10	16-QAM	1 / 0	23.87	1.40	25.27	0.337	33.01	-7.74
2593.00	10	16-QAM	1 / 49	23.90	1.40	25.30	0.339	33.01	-7.71
2685.00	10	16-QAM	1 / 49	23.92	1.40	**25.32**	0.340	33.01	-7.69
2501.00	10	64-QAM	1 / 49	22.61	1.40	24.01	0.252	33.01	-9.00
2593.00	10	64-QAM	1 / 0	22.70	1.40	24.10	0.257	33.01	-8.91
2685.00	10	64-QAM	1 / 49	22.65	1.40	24.05	0.254	33.01	-8.96
2503.50	15	QPSK	1 / 0	24.69	1.40	26.09	0.406	33.01	-6.92
2593.00	15	QPSK	1 / 74	24.70	1.40	26.10	0.407	33.01	-6.91
2682.50	15	QPSK	1 / 74	24.71	1.40	**26.11**	0.408	33.01	-6.90
2503.50	15	16-QAM	1 / 74	23.74	1.40	25.14	0.327	33.01	-7.87
2593.00	15	16-QAM	1 / 74	23.91	1.40	**25.31**	0.340	33.01	-7.70
2682.50	15	16-QAM	1 / 74	23.89	1.40	25.29	0.338	33.01	-7.72
2503.50	15	64-QAM	1 / 0	22.42	1.40	23.82	0.241	33.01	-9.19
2593.00	15	64-QAM	1 / 74	22.71	1.40	**24.11**	0.258	33.01	-8.90
2682.50	15	64-QAM	1 / 74	22.57	1.40	23.97	0.249	33.01	-9.04
2506.00	20	QPSK	1 / 99	24.59	1.40	25.99	0.397	33.01	-7.02
2593.00	20	QPSK	1 / 99	24.74	1.40	**26.14**	0.411	33.01	-6.87
2680.00	20	QPSK	1 / 99	24.70	1.40	26.10	0.407	33.01	-6.91
2506.00	20	16-QAM	1 / 99	23.72	1.40	25.12	0.325	33.01	-7.89
2593.00	20	16-QAM	1 / 99	23.98	1.40	**25.38**	0.345	33.01	-7.63
2680.00	20	16-QAM	1 / 99	23.88	1.40	25.28	0.337	33.01	-7.73
2506.00	20	64-QAM	1 / 0	22.61	1.40	24.01	0.252	33.01	-9.00
2593.00	20	64-QAM	1 / 99	22.72	1.40	24.12	0.258	33.01	-8.89
2680.00	20	64-QAM	1 / 0	22.77	1.40	**24.17**	0.261	33.01	-8.84

Table 7-41. EIRP Data (Band 41)

7.9 Radiated Spurious Emissions Measurements

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.

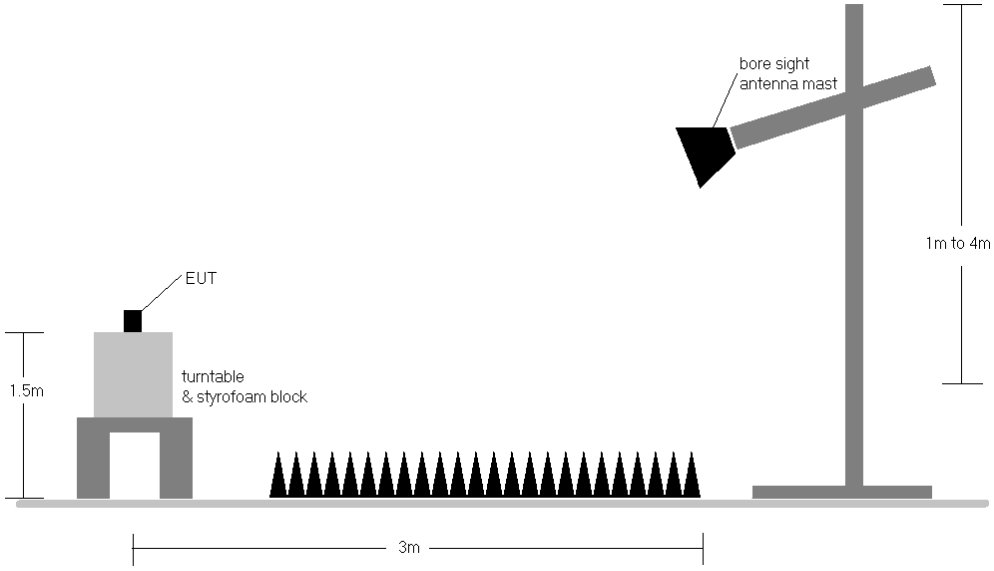


Figure 7-8. Test Instrument & Measurement Setup

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

4) 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.

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

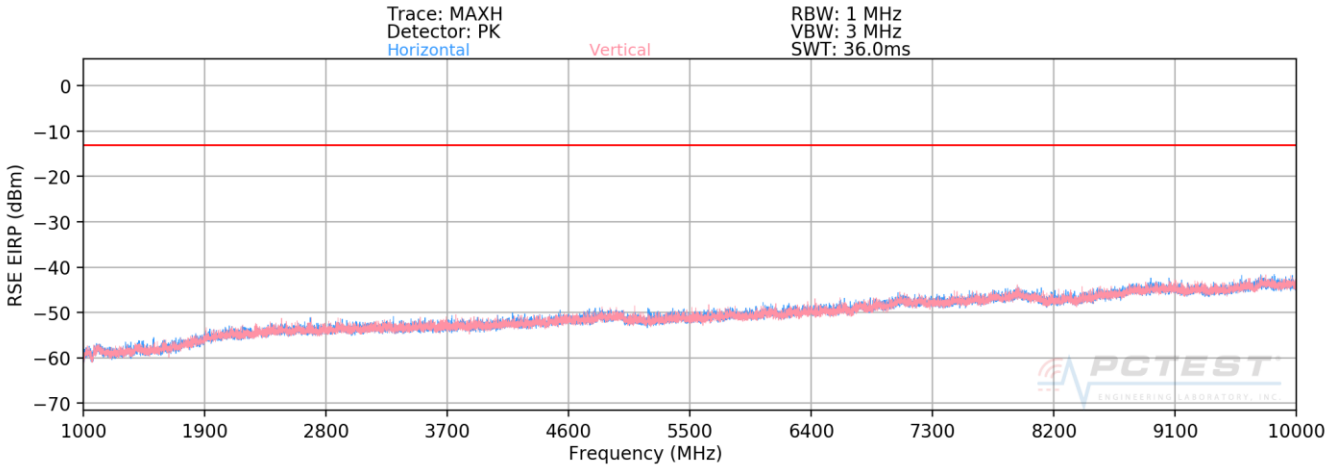
6) All ports were tested and only the worst case data were reported.

7) Refer to Table 2-1 Section 2.3 of this test report for correlation between Antennas and Ports.

8) For LTE Band 30 the spurious emissions at 18GHz are compliant when measuring with a RMS detector and trace averaging.

7.9.1 ANT WF3 (Port A) Radiated Spurious Emissions Measurements

Band 71



Plot 7-450. Radiated Spurious Plot 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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1346.00	H	122	52	-70.61	3.29	-67.32	-54.3
2019.00	H	-	-	-68.51	4.11	-64.40	-51.4
2692.00	H	-	-	-68.99	5.91	-63.08	-50.1
3365.00	H	-	-	-69.89	7.25	-62.65	-49.6

Table 7-42. 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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1361.00	H	-	-	-71.33	3.43	-67.90	-54.9
2041.50	H	-	-	-68.13	4.24	-63.89	-50.9
2722.00	H	-	-	-68.62	5.96	-62.67	-49.7

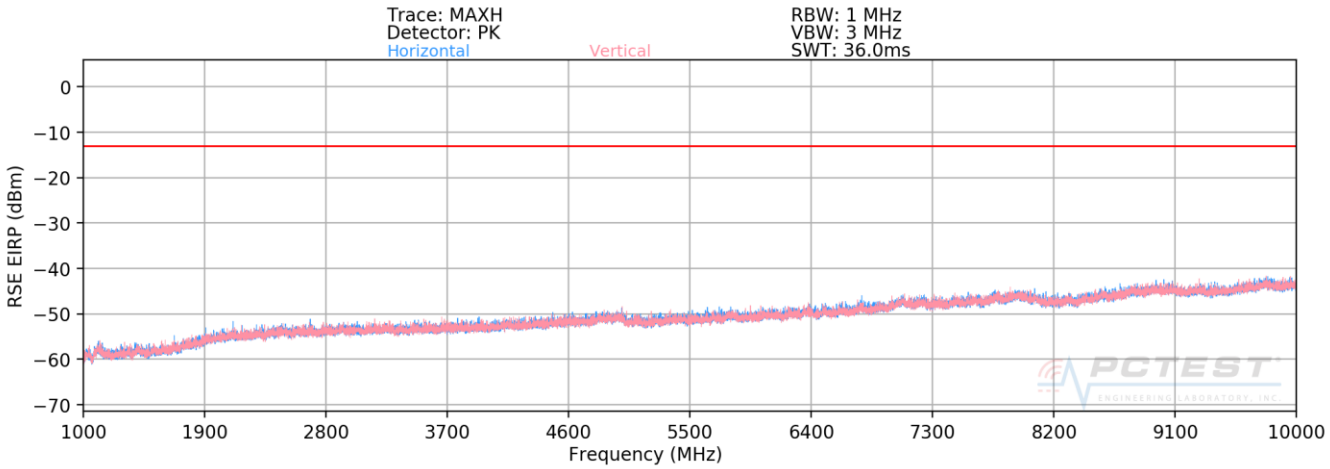
Table 7-43. Radiated Spurious Data (Band 71 – Mid Channel)

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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1376.00	H	-	-	-71.70	3.56	-68.14	-55.1
2064.00	H	-	-	-66.55	4.37	-62.18	-49.2
2752.00	H	-	-	-68.21	6.00	-62.21	-49.2

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

Band 12/17



Plot 7-451. Radiated Spurious Plot 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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1408.00	H	-	-	-70.78	3.84	-66.95	-53.9
2112.00	H	-	-	-68.60	4.65	-63.95	-50.9
2816.00	H	-	-	-68.78	6.03	-62.75	-49.8

Table 7-45. 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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1415.00	H	120	98	-70.74	3.90	-66.85	-53.8
2122.50	H	-	-	-68.45	4.71	-63.75	-50.7
2830.00	H	-	-	-68.68	6.03	-62.64	-49.6
3537.50	H	-	-	-69.85	7.28	-62.57	-49.6
4245.00	H	-	-	-69.31	7.61	-61.70	-48.7

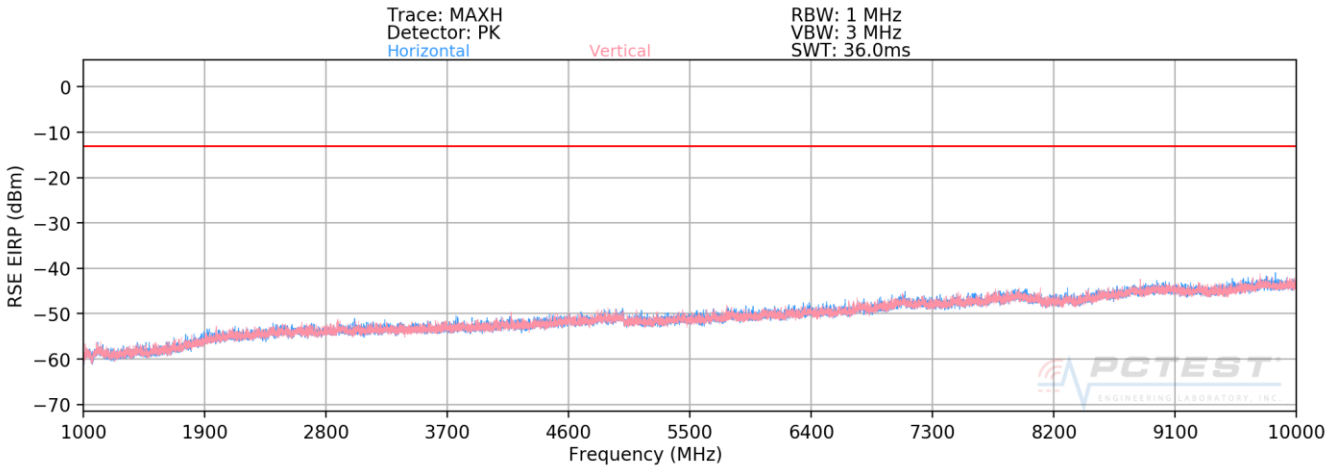
Table 7-46. Radiated Spurious Data (Band 12/17 – Mid Channel)

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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1422.00	H	-	-	-71.26	3.96	-67.31	-54.3
2133.00	H	-	-	-68.71	4.77	-63.94	-50.9
2844.00	H	-	-	-68.76	6.04	-62.72	-49.7

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

Band 13



Plot 7-452. Radiated Spurious Plot 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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
2338.50	H	-	-	-69.17	5.47	-63.70	-50.7
3118.00	H	-	-	-69.33	6.63	-62.70	-49.7

Table 7-48. 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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
2346.00	H	-	-	-69.19	5.48	-63.71	-50.7
3128.00	H	-	-	-69.40	6.67	-62.72	-49.7

Table 7-49. 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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
2353.50	H	-	-	-69.49	5.49	-64.01	-51.0
3138.00	H	-	-	-69.20	6.72	-62.49	-49.5

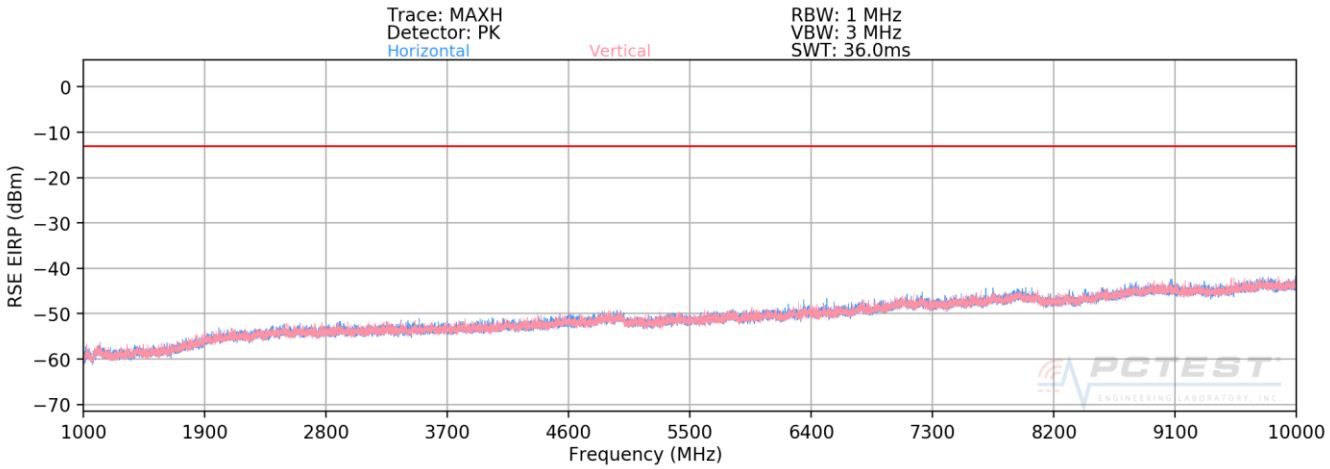
Table 7-50. Radiated Spurious Data (Band 13 – High Channel)

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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1559.00	H	-	-	-71.81	4.55	-67.26	-27.3
1564.00	H	-	-	-71.90	4.55	-67.35	-27.4
1569.00	H	-	-	-71.66	4.54	-67.12	-27.1

Table 7-51. Radiated Spurious Data (Band 13 – 1559-1610MHz Band)

Band 26/5



Plot 7-453. Radiated Spurious Plot 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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1658.00	H	-	-	-71.15	4.47	-66.68	-53.7
2487.00	H	-	-	-68.75	5.59	-63.16	-50.2
3316.00	H	-	-	-69.96	7.23	-62.74	-49.7

Table 7-52. 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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1673.00	H	-	-	-71.29	4.46	-66.83	-53.8
2509.50	H	-	-	-69.00	5.62	-63.38	-50.4
3346.00	H	-	-	-69.93	7.24	-62.69	-49.7

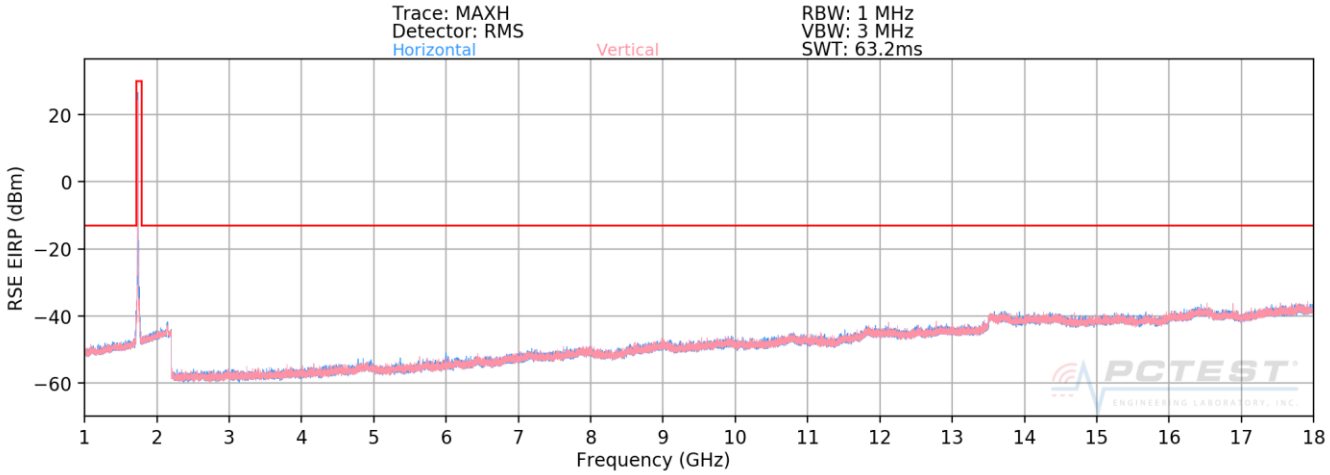
Table 7-53. Radiated Spurious Data (Band 26/5 – Mid Channel)

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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1688.00	H	-	-	-71.28	4.45	-66.83	-53.8
2532.00	H	-	-	-68.83	5.65	-63.18	-50.2
3376.00	H	-	-	-70.30	7.25	-63.05	-50.1

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

Band 66/4



Plot 7-454. Radiated Spurious Plot 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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3440.00	V	146	178	-69.80	7.28	-62.52	-49.5
5160.00	V	-	-	-69.36	7.88	-61.48	-48.5
6880.00	V	-	-	-68.30	8.91	-59.39	-46.4
8600.00	V	-	-	-66.65	10.36	-56.29	-43.3

Table 7-55. 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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3490.00	V	138	185	-69.92	7.30	-62.62	-49.6
5235.00	V	-	-	-69.06	7.73	-61.33	-48.3
6980.00	V	-	-	-67.52	9.15	-58.36	-45.4
8725.00	V	-	-	-66.45	10.31	-56.14	-43.1

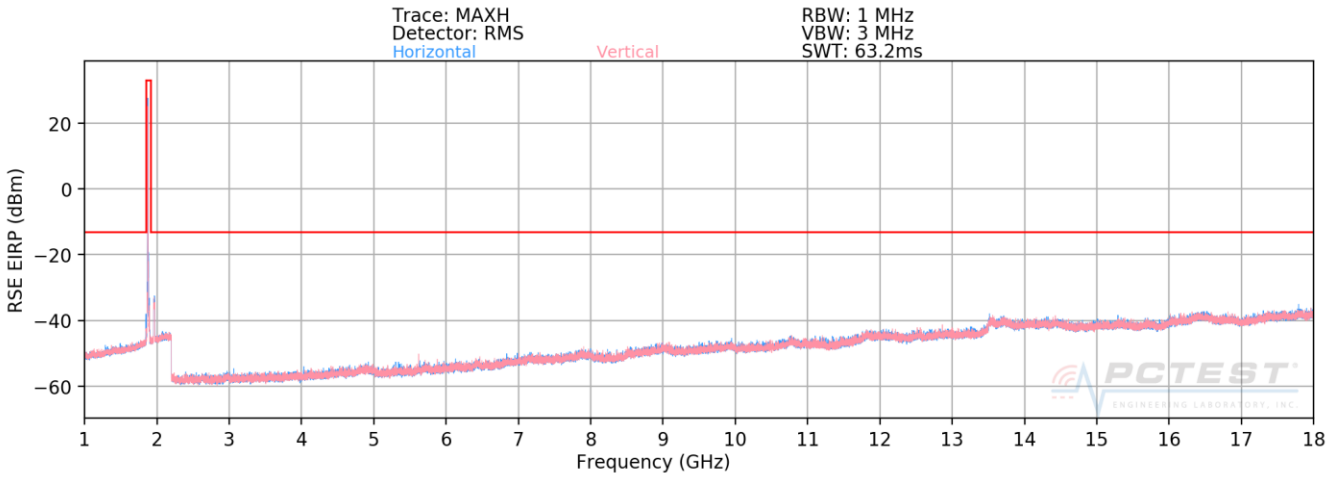
Table 7-56. Radiated Spurious Data (Band 66/4 – Mid Channel)

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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3540.00	V	-	-	-70.39	7.28	-63.10	-50.1
5310.00	V	-	-	-68.97	7.87	-61.10	-48.1
7080.00	V	-	-	-67.57	9.20	-58.37	-45.4

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

Band 25/2



Plot 7-455. Radiated Spurious Plot 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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3720.00	H	-	-	-69.82	7.21	-62.61	-49.6
5580.00	H	-	-	-69.23	8.27	-60.96	-48.0
7440.00	H	-	-	-67.56	9.58	-57.97	-45.0

Table 7-58. 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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3765.00	H	-	-	-68.87	7.24	-61.63	-48.6
5647.50	H	-	-	-67.91	8.16	-59.74	-46.7
7530.00	H	-	-	-66.53	9.69	-56.84	-43.8

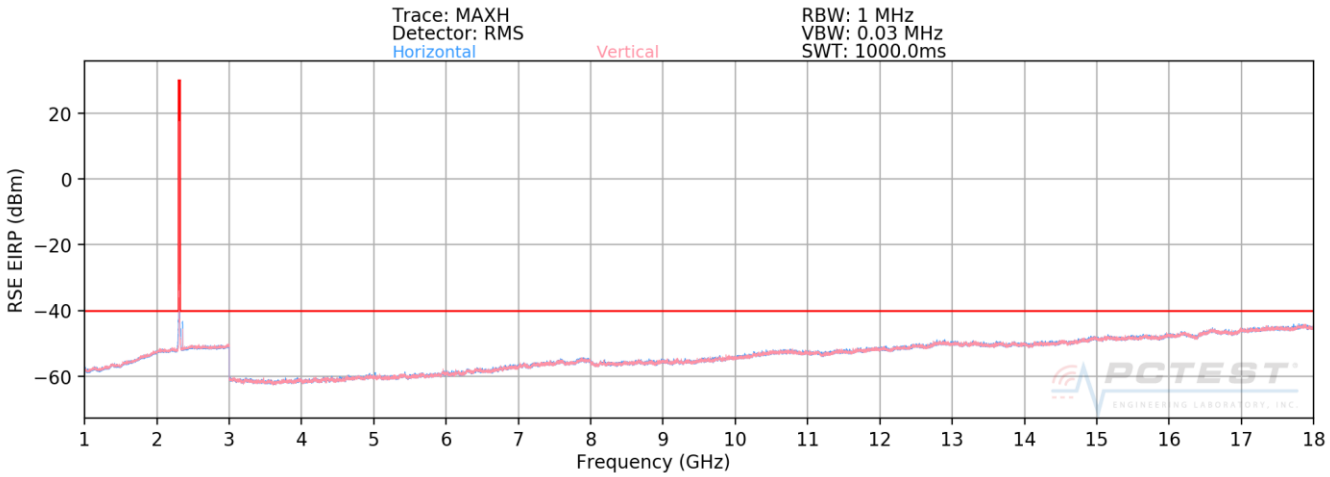
Table 7-59. Radiated Spurious Data (Band 25/2 – Mid Channel)

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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3810.00	H	-	-	-69.61	7.37	-62.24	-49.2
5715.00	H	-	-	-68.58	8.05	-60.52	-47.5
7620.00	H	-	-	-67.63	9.65	-57.98	-45.0

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

Band 30



Plot 7-456. Radiated Spurious Plot 1GHz - 18GHz (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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
4615.00	H	-	-	-69.70	7.81	-61.89	-21.9
6922.50	H	-	-	-67.46	9.02	-58.44	-18.4
9230.00	H	-	-	-66.64	10.50	-56.14	-16.1

Table 7-61. 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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
4620.00	H	-	-	-69.49	7.80	-61.69	-21.7
6930.00	H	-	-	-67.86	9.03	-58.82	-18.8
9240.00	H	-	-	-66.56	10.50	-56.06	-16.1

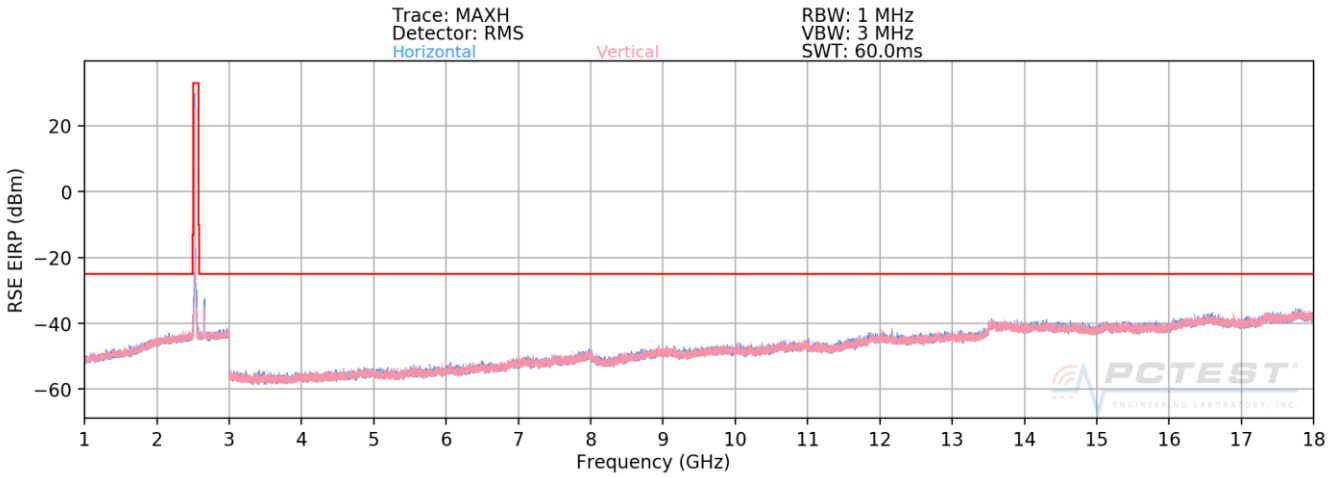
Table 7-62. Radiated Spurious Data (Band 30 – Mid Channel)

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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
4625.00	H	-	-	-69.60	7.80	-61.81	-21.8
6937.50	H	-	-	-67.71	9.05	-58.66	-18.7
9250.00	H	-	-	-66.12	10.50	-55.62	-15.6

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

Band 7



Plot 7-457. Radiated Spurious Plot 1GHz - 18GHz (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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5020.00	H	-	-	-68.17	8.16	-60.01	-35.0
7530.00	H	-	-	-66.26	9.69	-56.57	-31.6
10040.00	H	-	-	-63.96	10.48	-53.47	-28.5

Table 7-64. 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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5070.00	H	-	-	-68.68	8.06	-60.62	-35.6
7605.00	H	-	-	-67.65	9.66	-58.00	-33.0
10140.00	H	-	-	-66.01	10.44	-55.57	-30.6

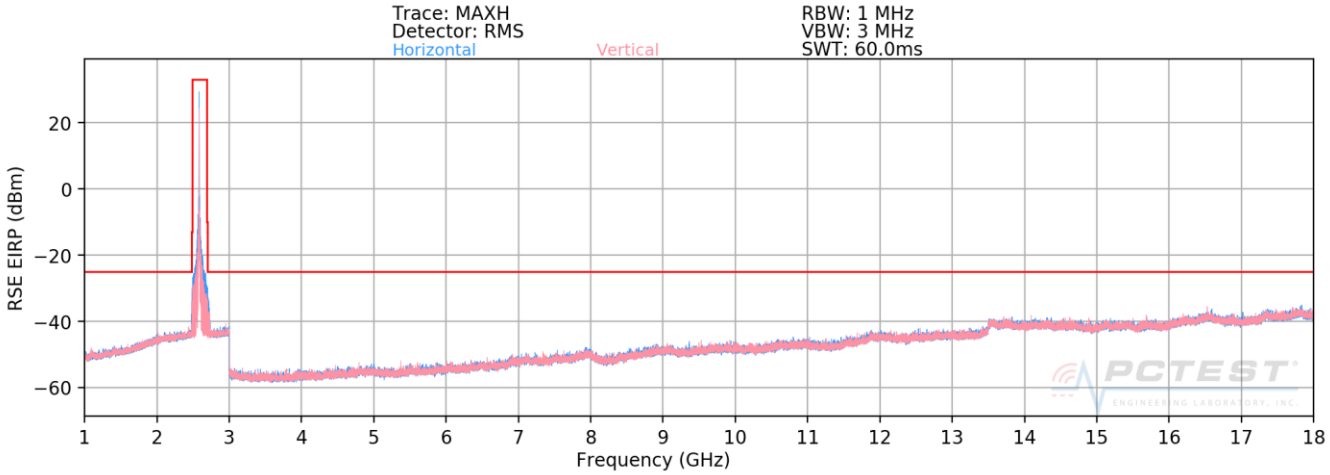
Table 7-65. Radiated Spurious Data (Band 7 – Mid Channel)

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

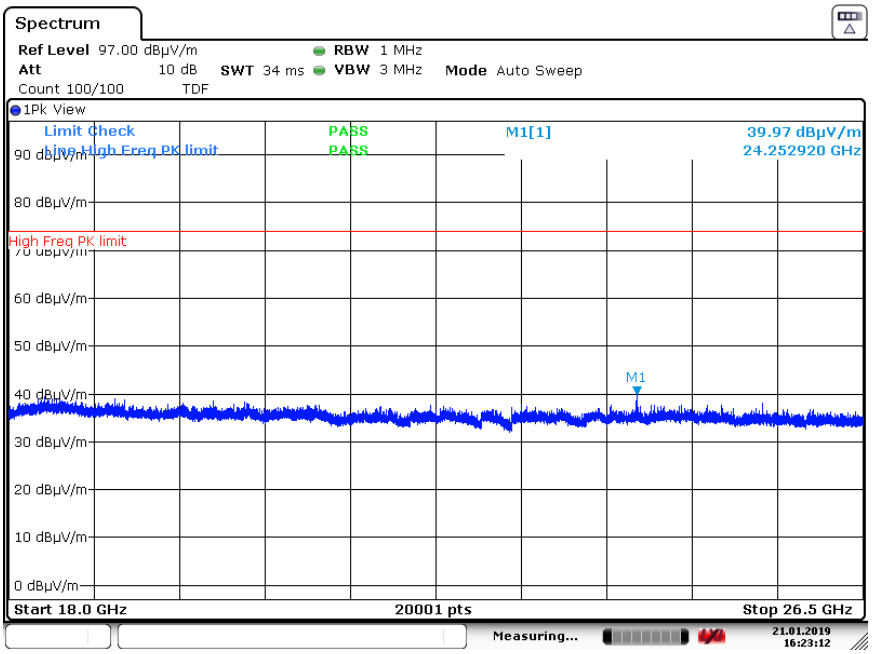
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5120.00	H	-	-	-68.70	7.96	-60.74	-35.7
7680.00	H	-	-	-66.43	9.63	-56.80	-31.8
10240.00	H	-	-	-64.04	10.40	-53.63	-28.6

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

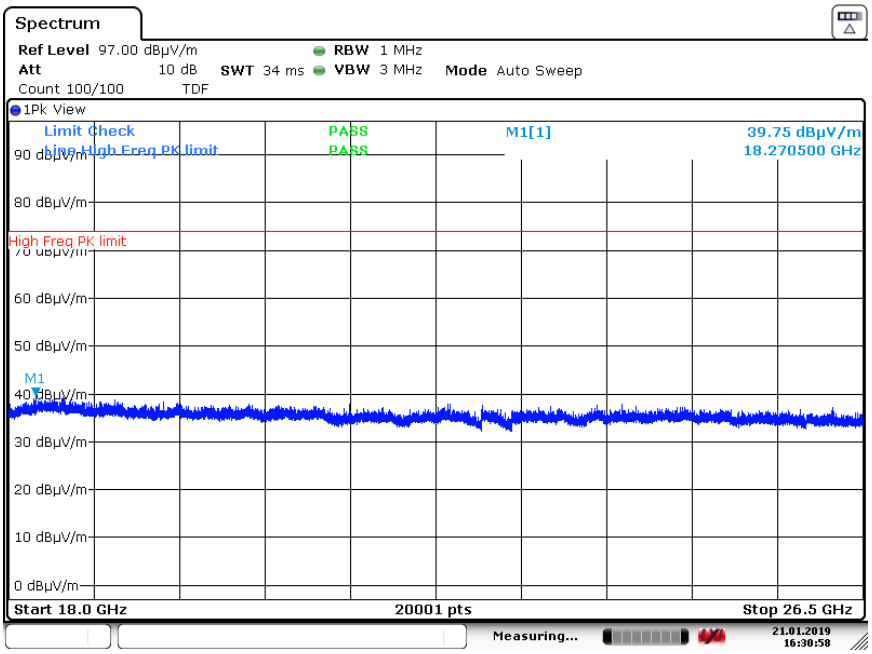
Band 41



Plot 7-458. Radiated Spurious Plot 1GHz - 18GHz (Band 41)



Plot 7-459. Radiated Spurious Plot 18GHz – 26.5GHz (Band 41, Pol. H)



Plot 7-460. Radiated Spurious Plot 18GHz – 26.5GHz (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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5012.00	H	-	-	-59.47	8.18	-51.29	-26.3
7518.00	H	-	-	-57.25	9.69	-47.56	-22.6
10024.00	H	-	-	-55.48	10.49	-44.99	-20.0

Table 7-67. 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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5186.00	H	-	-	-57.75	7.83	-49.93	-24.9
7779.00	H	-	-	-57.29	9.66	-47.64	-22.6
10372.00	H	-	-	-56.38	10.30	-46.08	-21.1

Table 7-68. Radiated Spurious Data (Band 41 – Mid Channel)

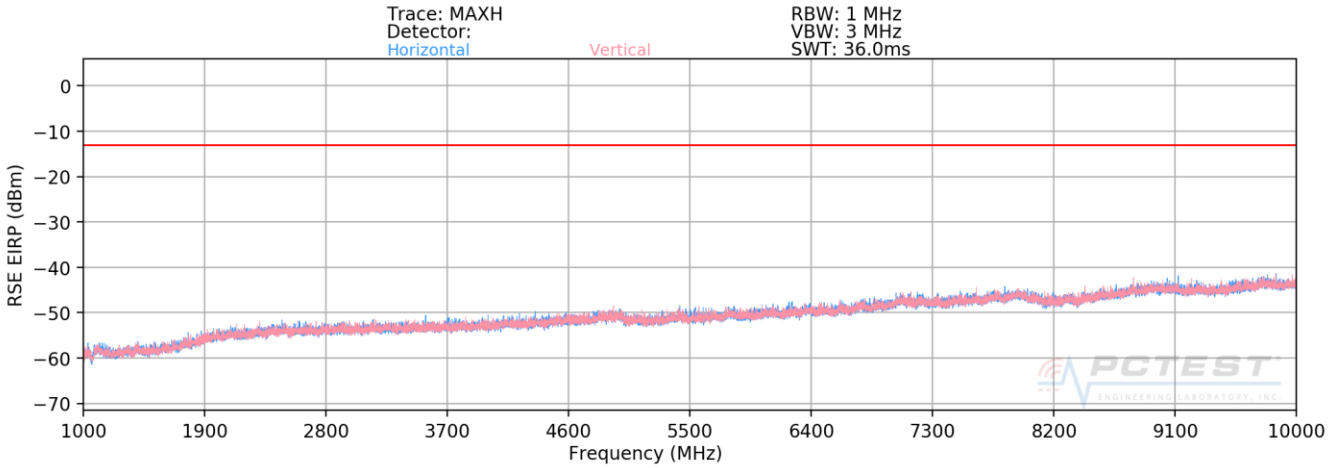
OPERATING FREQUENCY:	2680.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5360.00	H	-	-	-58.88	8.01	-50.87	-25.9
8040.00	H	-	-	-57.35	10.07	-47.28	-22.3
10720.00	H	-	-	-54.81	10.64	-44.17	-19.2

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

7.9.2 ANT WF5 (Port B) Radiated Spurious Emissions Measurements

Band 71



Plot 7-461. Radiated Spurious Plot 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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1346.00	H	-	-	-70.86	3.29	-67.57	-54.6
2019.00	H	-	-	-68.43	4.11	-64.32	-51.3
2692.00	H	-	-	-69.03	5.91	-63.12	-50.1

Table 7-70. 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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1361.00	H	-	-	-71.33	3.43	-67.90	-54.9
2041.50	H	-	-	-68.08	4.24	-63.84	-50.8
2722.00	H	-	-	-68.79	5.96	-62.84	-49.8

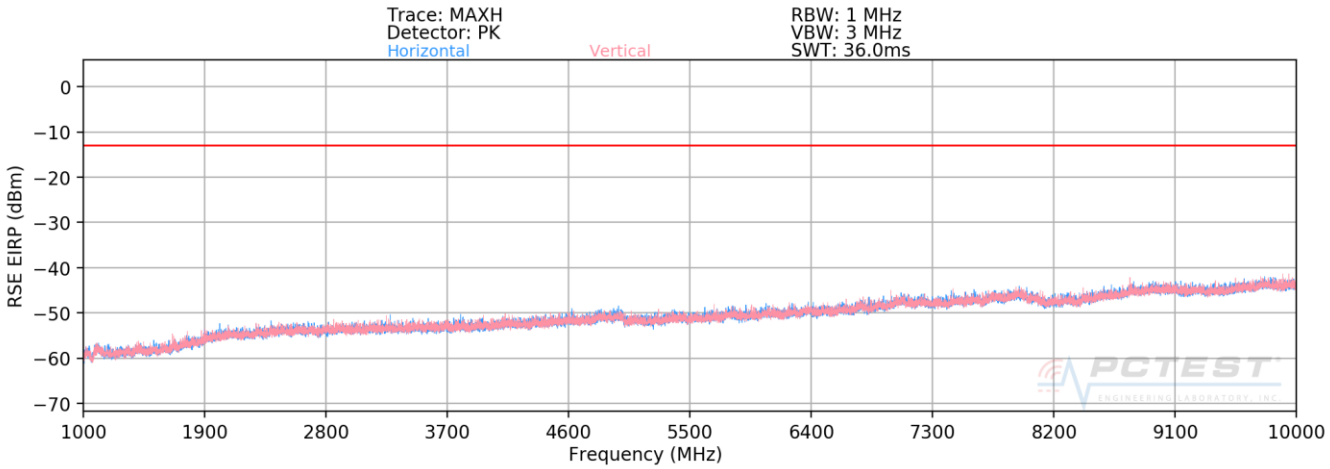
Table 7-71. Radiated Spurious Data (Band 71 – Mid Channel)

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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1376.00	H	-	-	-71.33	3.56	-67.77	-54.8
2064.00	H	-	-	-67.87	4.37	-63.50	-50.5
2752.00	H	-	-	-68.88	6.00	-62.88	-49.9

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

Band 12/17



Plot 7-462. Radiated Spurious Plot 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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1408.00	H	-	-	-70.69	3.84	-66.86	-53.9
2112.00	H	-	-	-68.41	4.65	-63.76	-50.8
2816.00	H	-	-	-68.79	6.03	-62.76	-49.8

Table 7-73. 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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1415.00	H	-	-	-70.83	3.90	-66.94	-53.9
2122.50	H	-	-	-68.43	4.71	-63.73	-50.7
2830.00	H	-	-	-68.56	6.03	-62.52	-49.5

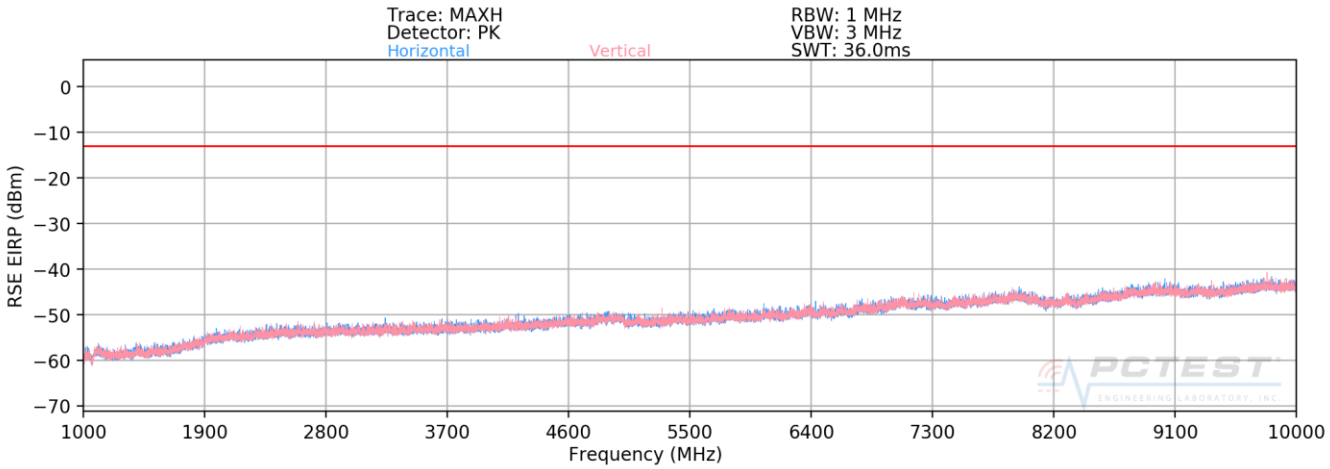
Table 7-74. Radiated Spurious Data (Band 12/17 – Mid Channel)

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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1422.00	H	-	-	-71.04	3.96	-67.09	-54.1
2133.00	H	-	-	-68.60	4.77	-63.83	-50.8
2844.00	H	-	-	-68.67	6.04	-62.63	-49.6

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

Band 13



Plot 7-463. Radiated Spurious Plot 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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
2338.50	H	-	-	-69.18	5.47	-63.71	-50.7
3118.00	H	-	-	-69.23	6.63	-62.60	-49.6

Table 7-76. 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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
2346.00	H	-	-	-69.21	5.48	-63.73	-50.7
3128.00	H	-	-	-69.32	6.67	-62.64	-49.6

Table 7-77. 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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
2353.50	H	-	-	-69.35	5.49	-63.87	-50.9
3138.00	H	-	-	-69.37	6.72	-62.66	-49.7

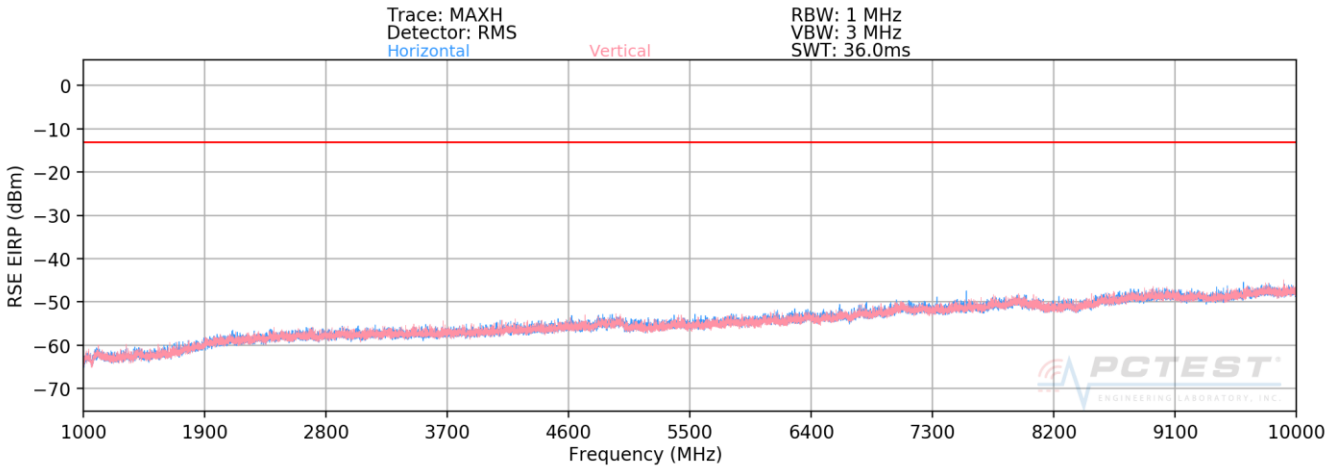
Table 7-78. Radiated Spurious Data (Band 13 – High Channel)

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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1559.00	H	-	-	-71.92	4.55	-67.37	-27.4
1564.00	H	-	-	-71.76	4.55	-67.21	-27.2
1569.00	H	-	-	-71.74	4.54	-67.20	-27.2

Table 7-79. Radiated Spurious Data (Band 13 – 1559-1610MHz Band)

Band 26/5



Plot 7-464. Radiated Spurious Plot 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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1658.00	H	-	-	-71.38	4.47	-66.91	-53.9
2487.00	H	-	-	-69.10	5.59	-63.51	-50.5
3316.00	H	-	-	-70.57	7.23	-63.35	-50.3

Table 7-80. 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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1673.00	H	-	-	-71.13	4.46	-66.67	-53.7
2509.50	H	-	-	-68.99	5.62	-63.37	-50.4
3346.00	H	-	-	-70.13	7.24	-62.89	-49.9

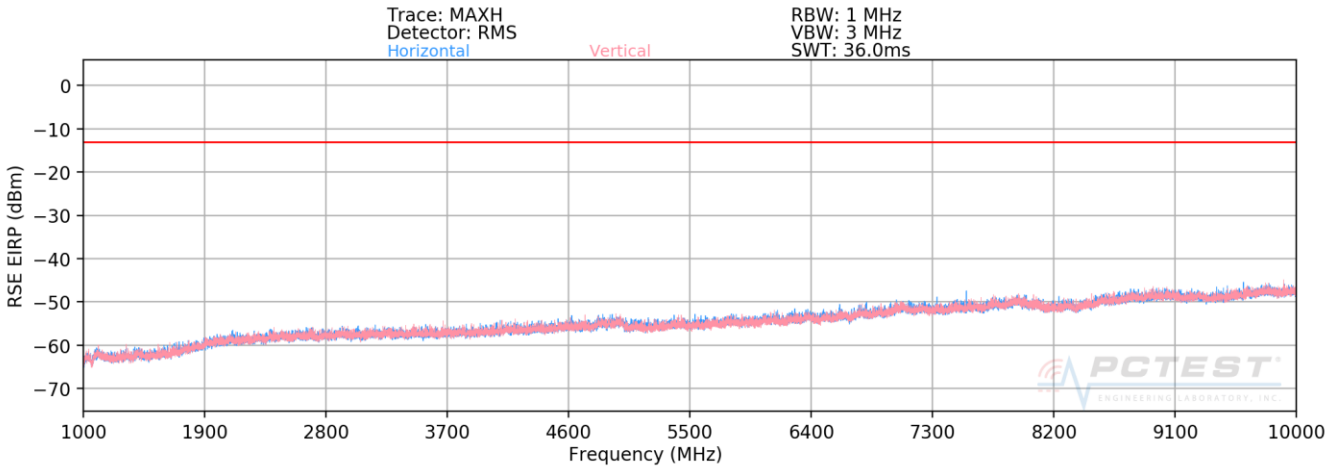
Table 7-81. Radiated Spurious Data (Band 26/5 – Mid Channel)

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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1688.00	H	-	-	-71.19	4.45	-66.74	-53.7
2532.00	H	-	-	-69.20	5.65	-63.55	-50.6
3376.00	H	-	-	-70.27	7.25	-63.02	-50.0

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

Band 66/4



Plot 7-465. Radiated Spurious Plot 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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3440.00	H	-	-	-69.77	7.28	-62.49	-49.5
5160.00	H	-	-	-68.21	7.88	-60.33	-47.3
6880.00	H	-	-	-67.14	8.91	-58.23	-45.2

Table 7-83. 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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3490.00	H	-	-	-70.02	7.30	-62.72	-49.7
5235.00	H	-	-	-68.90	7.73	-61.17	-48.2
6980.00	H	-	-	-67.43	9.15	-58.27	-45.3

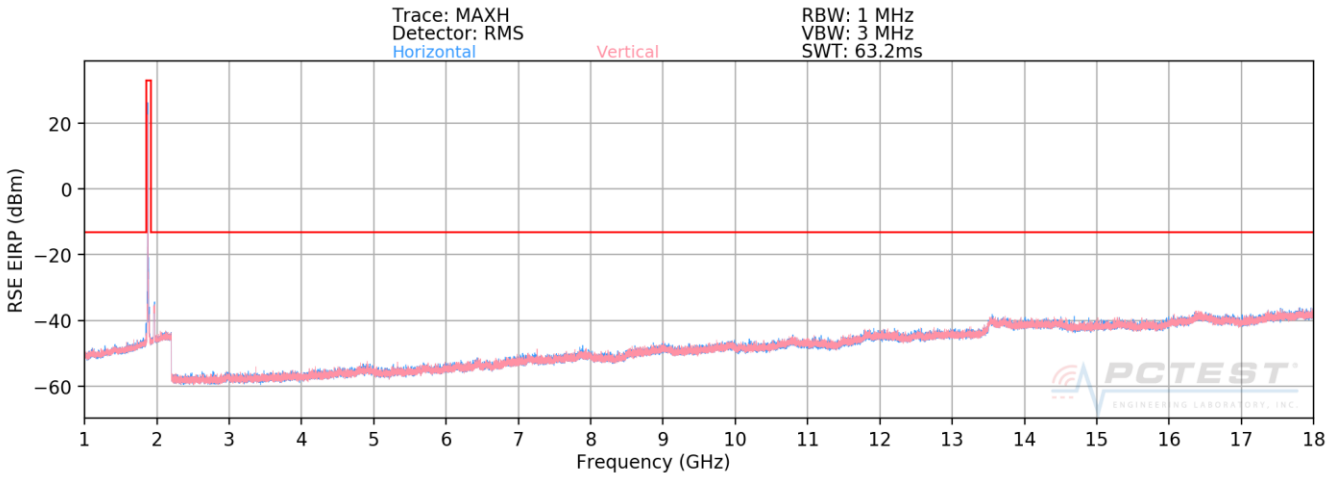
Table 7-84. Radiated Spurious Data (Band 66/4 – Mid Channel)

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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3540.00	H	-	-	-69.57	7.28	-62.28	-49.3
5310.00	H	-	-	-68.40	7.87	-60.53	-47.5
7080.00	H	-	-	-66.77	9.20	-57.57	-44.6

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

Band 25/2



Plot 7-466. Radiated Spurious Plot 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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3720.00	H	-	-	-69.95	7.21	-62.74	-49.7
5580.00	H	-	-	-69.35	8.27	-61.08	-48.1
7440.00	H	-	-	-67.37	9.58	-57.78	-44.8

Table 7-86. 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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3765.00	H	-	-	-69.62	7.24	-62.38	-49.4
5647.50	H	-	-	-68.51	8.16	-60.34	-47.3
7530.00	H	-	-	-67.47	9.69	-57.78	-44.8

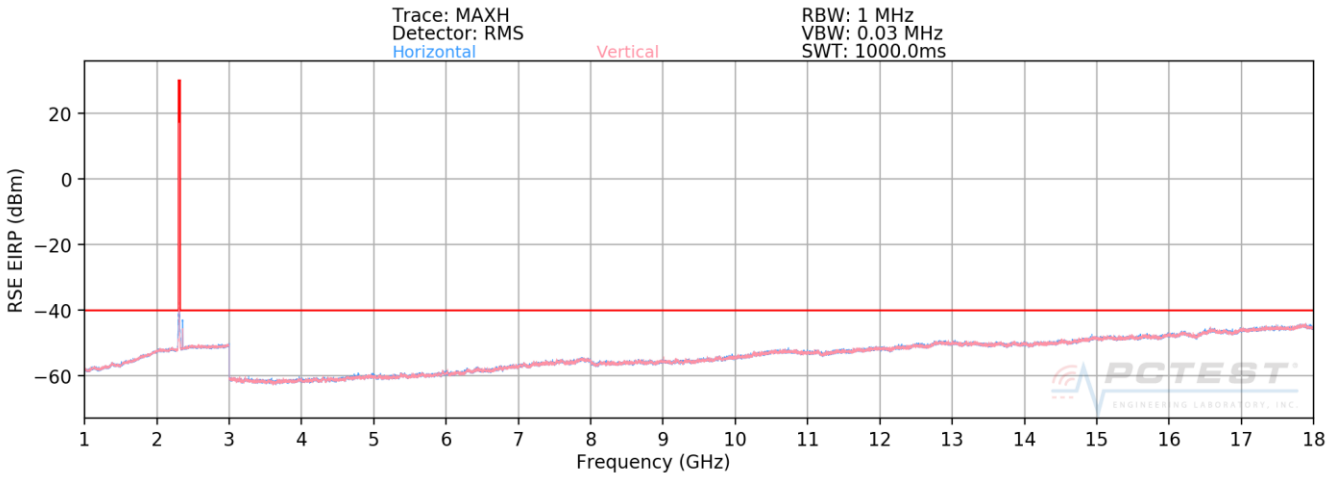
Table 7-87. Radiated Spurious Data (Band 25/2 – Mid Channel)

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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3810.00	H	-	-	-69.67	7.37	-62.30	-49.3
5715.00	H	-	-	-68.76	8.05	-60.70	-47.7
7620.00	H	-	-	-67.69	9.65	-58.04	-45.0

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

Band 30



Plot 7-467. Radiated Spurious Plot 1GHz - 18GHz (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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
4615.00	H	-	-	-68.22	7.81	-60.41	-20.4
6922.50	H	-	-	-67.75	9.02	-58.73	-18.7
9230.00	H	-	-	-66.39	10.50	-55.89	-15.9

Table 7-89. 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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
4620.00	H	-	-	-69.49	7.80	-61.69	-21.7
6930.00	H	-	-	-67.80	9.03	-58.76	-18.8
9240.00	H	-	-	-66.28	10.50	-55.78	-15.8

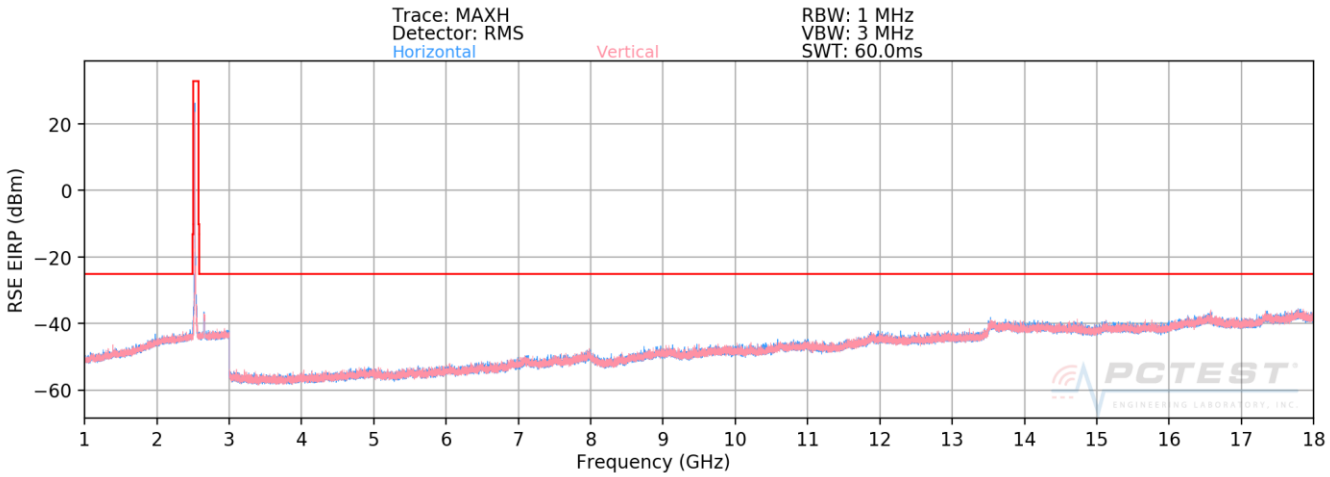
Table 7-90. Radiated Spurious Data (Band 30 – Mid Channel)

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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
4625.00	H	-	-	-69.34	7.80	-61.55	-21.5
6937.50	H	-	-	-67.80	9.05	-58.75	-18.7
9250.00	H	-	-	-66.40	10.50	-55.90	-15.9

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

Band 7



Plot 7-468. Radiated Spurious Plot 1GHz - 18GHz (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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5020.00	H	-	-	-68.16	8.16	-60.00	-35.0
7530.00	H	-	-	-66.20	9.69	-56.51	-31.5
10040.00	H	-	-	-63.81	10.48	-53.32	-28.3

Table 7-92. 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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5070.00	H	-	-	-68.43	8.06	-60.37	-35.4
7605.00	H	-	-	-66.98	9.66	-57.33	-32.3
10140.00	H	-	-	-64.03	10.44	-53.59	-28.6

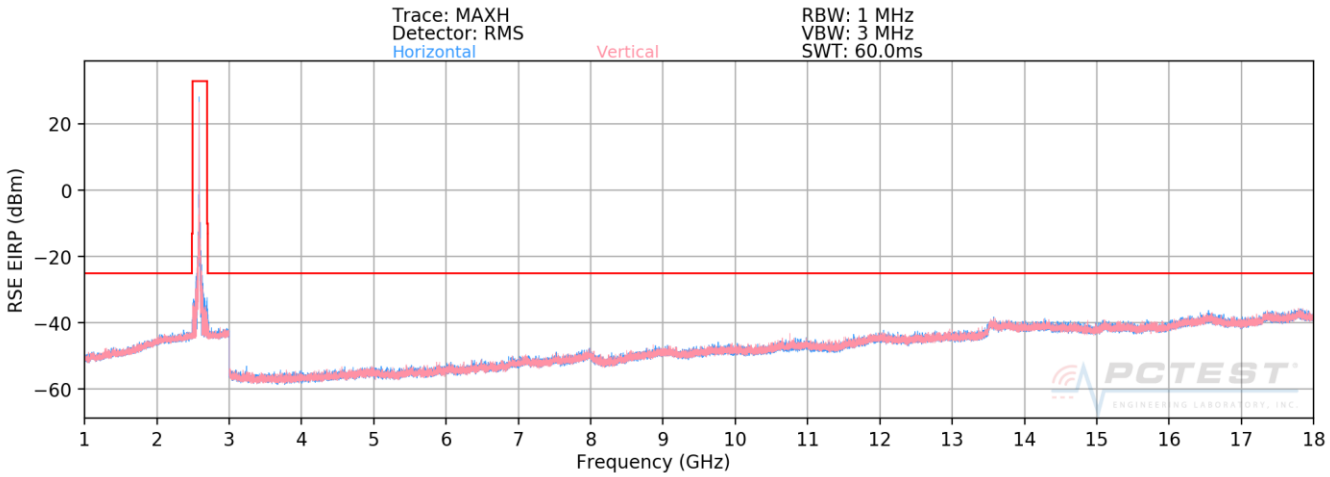
Table 7-93. Radiated Spurious Data (Band 7 – Mid Channel)

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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5120.00	H	-	-	-68.66	7.96	-60.70	-35.7
7680.00	H	-	-	-66.37	9.63	-56.74	-31.7
10240.00	H	-	-	-63.98	10.40	-53.57	-28.6

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

Band 41



Plot 7-469. Radiated Spurious Plot 1GHz - 18GHz (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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5012.00	H	-	-	-58.59	8.18	-50.41	-25.4
7518.00	H	191	209	-56.86	9.69	-47.17	-22.2
10024.00	H	-	-	-54.37	10.49	-43.88	-18.9
12530.00	H	-	-	-52.90	10.81	-42.08	-17.1
15036.00	H	-	-	-50.04	11.80	-38.24	-13.2
17542.00	H	-	-	-45.34	11.17	-34.18	-9.2

Table 7-95. 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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5186.00	H	-	-	-58.61	7.83	-50.79	-25.8
7779.00	H	185	154	-55.86	9.66	-46.21	-21.2
10372.00	H	-	-	-54.38	10.30	-44.08	-19.1
12965.00	H	-	-	-52.00	11.16	-40.84	-15.8
15558.00	H	-	-	-49.51	11.28	-38.23	-13.2

Table 7-96. 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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5360.00	H	-	-	-59.20	8.01	-51.19	-26.2
8040.00	H	134	209	-56.98	10.07	-46.91	-21.9
10720.00	H	-	-	-54.54	10.64	-43.90	-18.9
13400.00	H	-	-	-52.04	11.12	-40.92	-15.9
16080.00	H	-	-	-47.66	10.53	-37.13	-12.1

Table 7-97. 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.

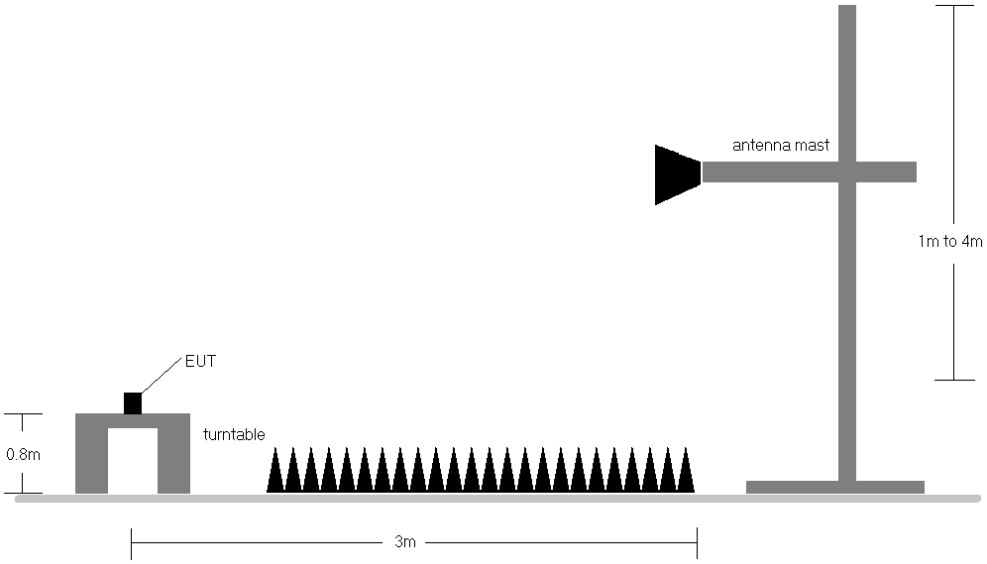


Figure 7-9. Test Instrument & Measurement Setup

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 the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.

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.

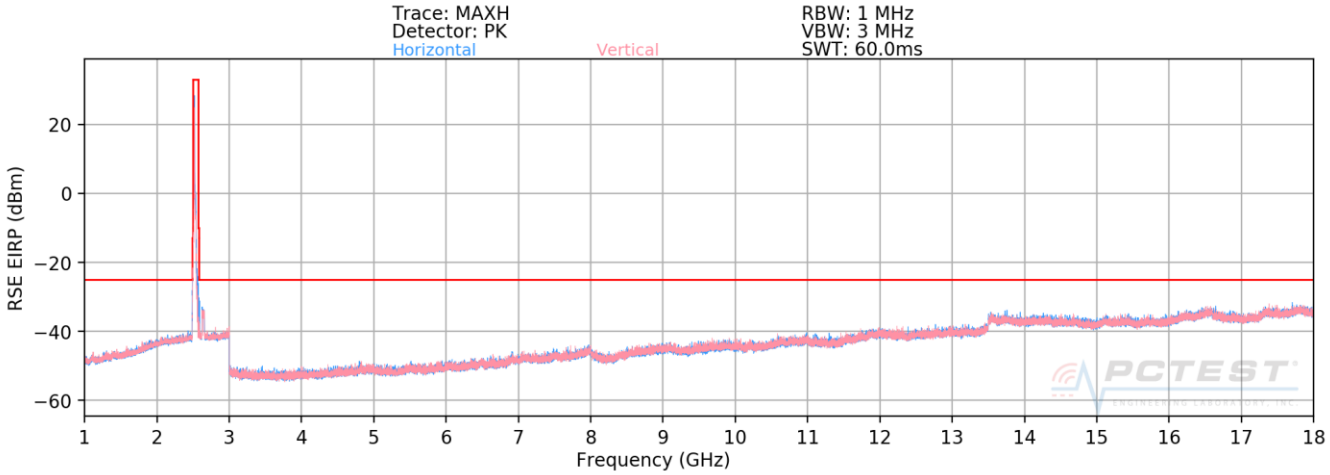
5) Emissions below 18GHz were measured at a 3 meter test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.

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

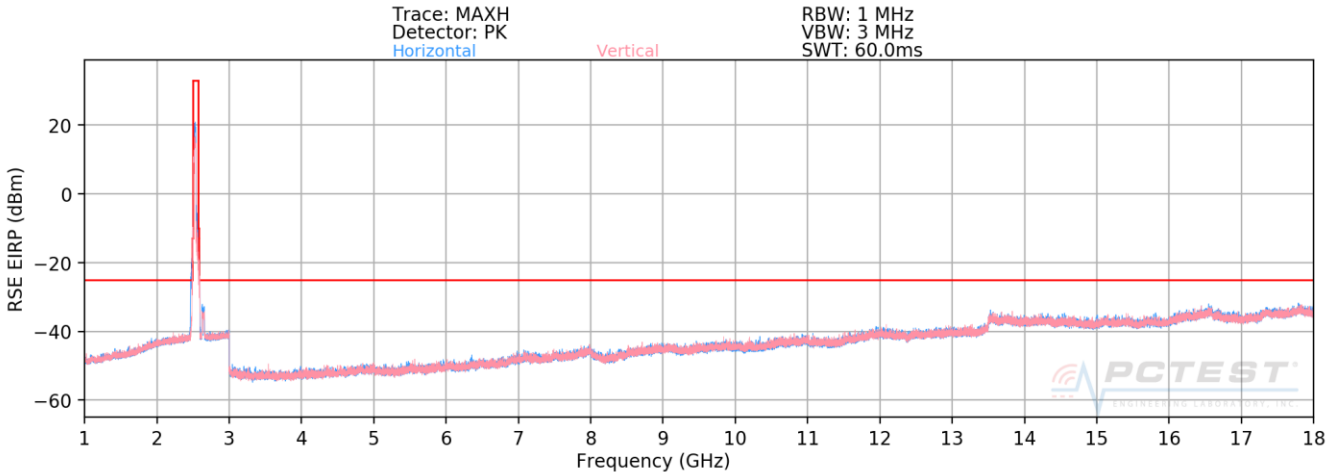
7) All ports were tested and only the worst case data were reported.

8) Refer to Table 2-1 Section 2.3 of this test report for correlation between Antennas and Ports.

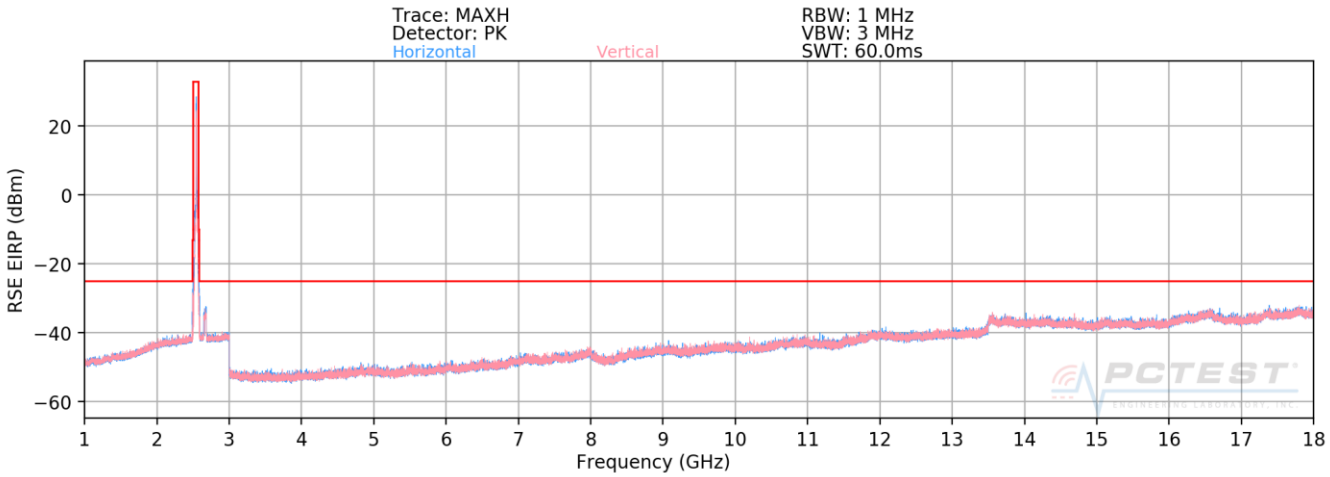
Band 7



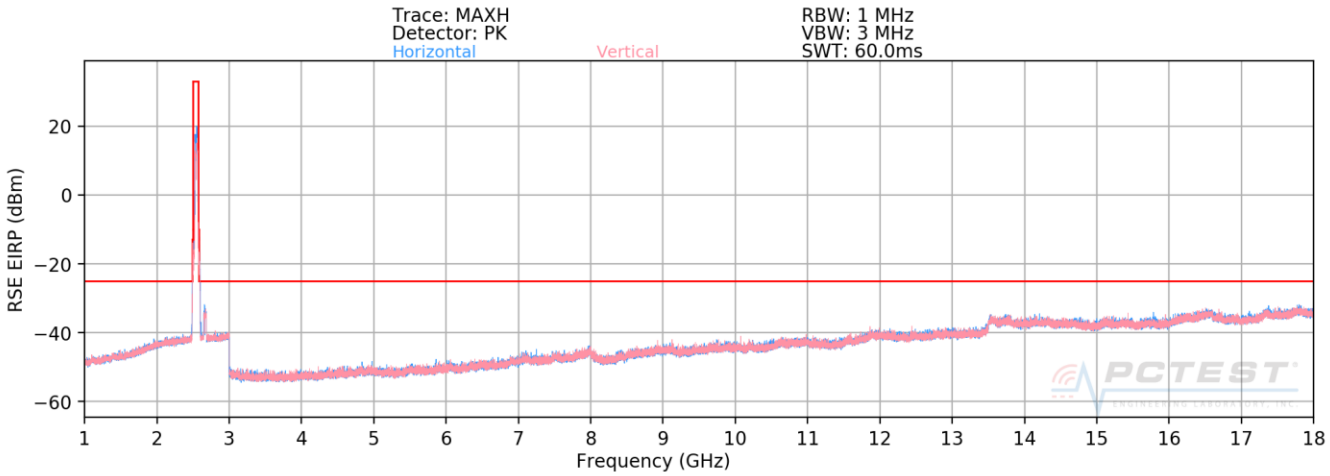
Plot 7-470. Radiated Spurious Plot (ULCA B7 PCC: RB 1 Offset 99, SCC: RB 1 Offset 0 – Low Channel)



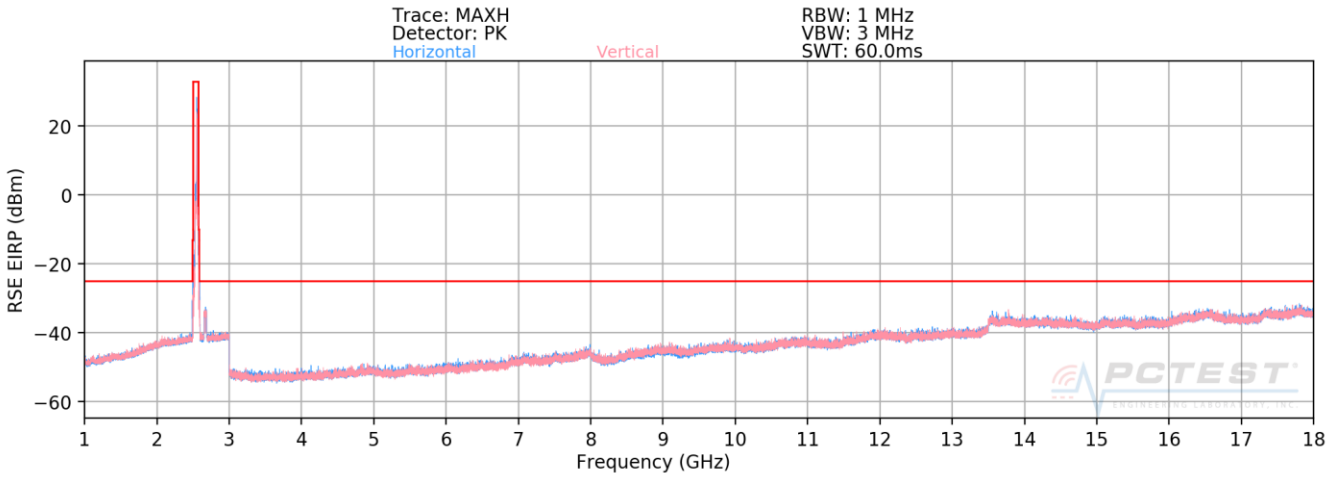
Plot 7-471. Radiated Spurious Plot (ULCA B7 PCC: RB 100 Offset 0, SCC: RB 100 Offset 0 – Low Channel)



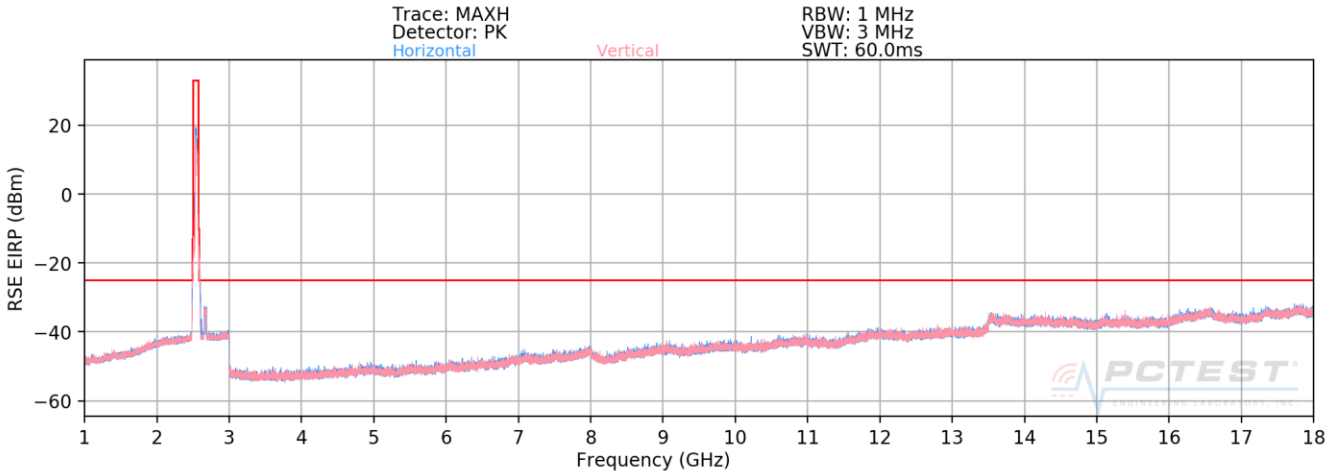
Plot 7-472. Radiated Spurious Plot (ULCA B7 PCC: RB 1 Offset 0, SCC: RB 1 Offset 99 – Mid Channel)



Plot 7-473. Radiated Spurious Plot (ULCA B7 PCC: RB 100 Offset 0, SCC: RB 100 Offset 0 – Mid Channel)



Plot 7-474. Radiated Spurious Plot (ULCA B7 PCC: RB 1 Offset 0, SCC: RB 1 Offset 99 – High Channel)



Plot 7-475. Radiated Spurious Plot (ULCA B7 PCC: RB 100 Offset 0, SCC: RB 100 Offset 0 – High Channel)

OPERATING FREQUENCY (PCC):	2510.00	MHz
OPERATING FREQUENCY (SCC):	2529.80	MHz
CHANNEL (PCC):	20850	
CHANNEL (SCC):	21048	
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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5020.00	H	-	-	-68.29	8.16	-60.13	-60.1
7530.00	H	-	-	-66.08	9.69	-56.39	-56.4
10040.00	H	-	-	-63.50	10.48	-53.01	-53.0

Table 7-98. 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
CHANNEL (PCC):	21100	
CHANNEL (SCC):	21298	
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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5070.00	H	-	-	-68.26	8.06	-60.20	-60.2
7605.00	H	-	-	-66.34	9.66	-56.69	-56.7
10140.00	H	-	-	-63.84	10.44	-53.40	-53.4

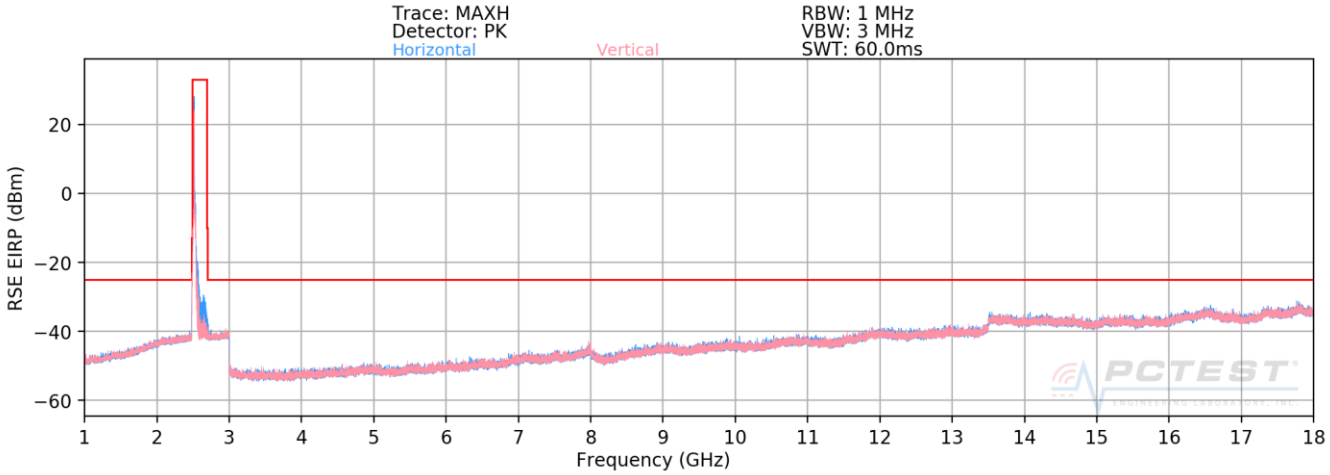
Table 7-99. Radiated Spurious Data (ULCA B7 PCC: RB 1 Offset 0, SCC: RB 1 Offset 99 – Mid Channel)

OPERATING FREQUENCY (PCC):	2560.00	MHz
OPERATING FREQUENCY (SCC):	2540.20	MHz
CHANNEL (PCC):	21350	
CHANNEL (SCC):	21152	
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

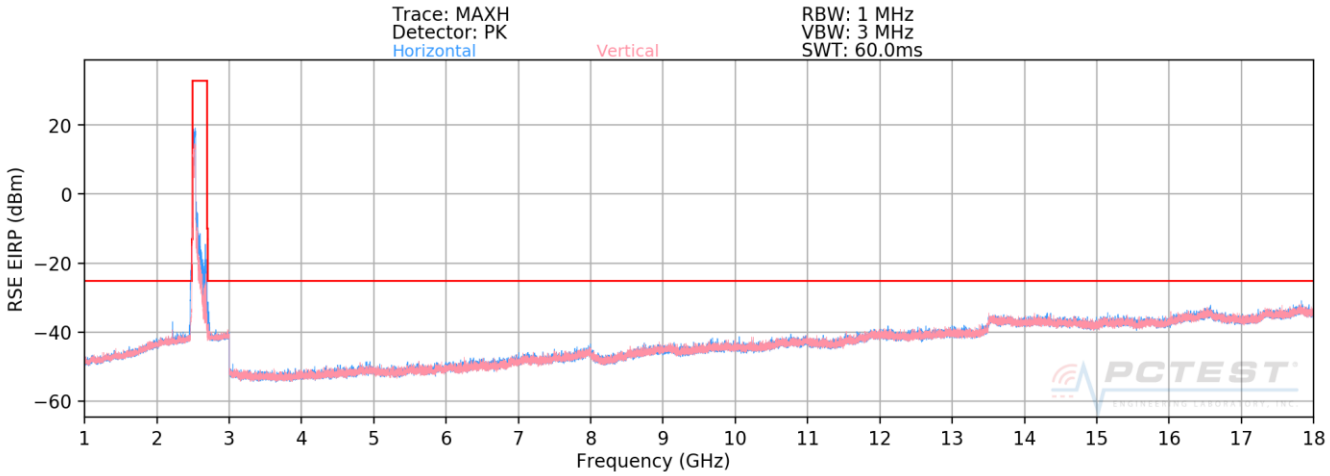
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5120.00	H	-	-	-68.53	7.96	-60.57	-60.6
7680.00	H	-	-	-66.50	9.63	-56.87	-56.9
10240.00	H	-	-	-64.06	10.40	-53.65	-53.7

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

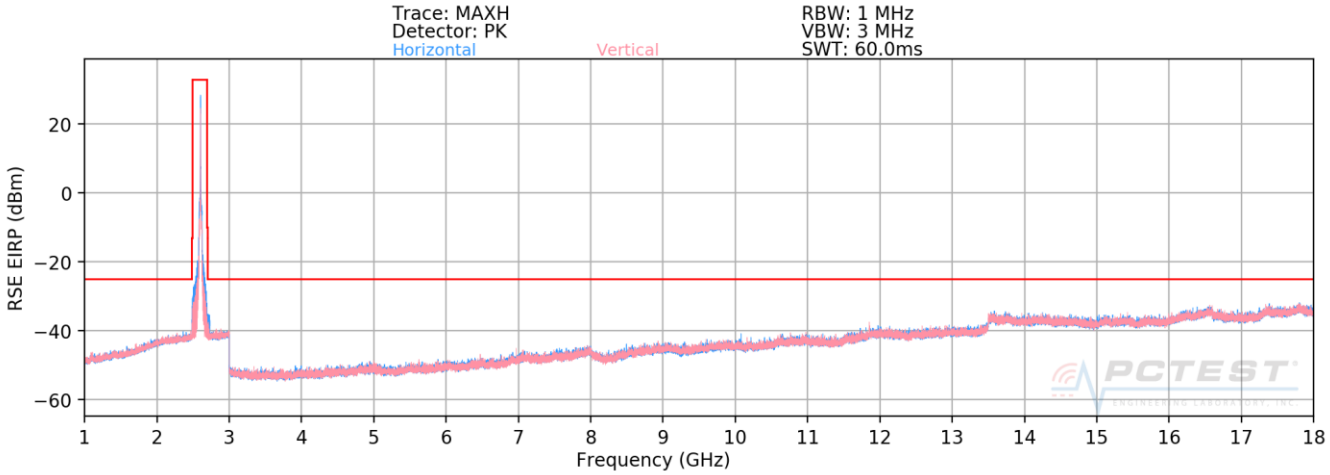
Band 41



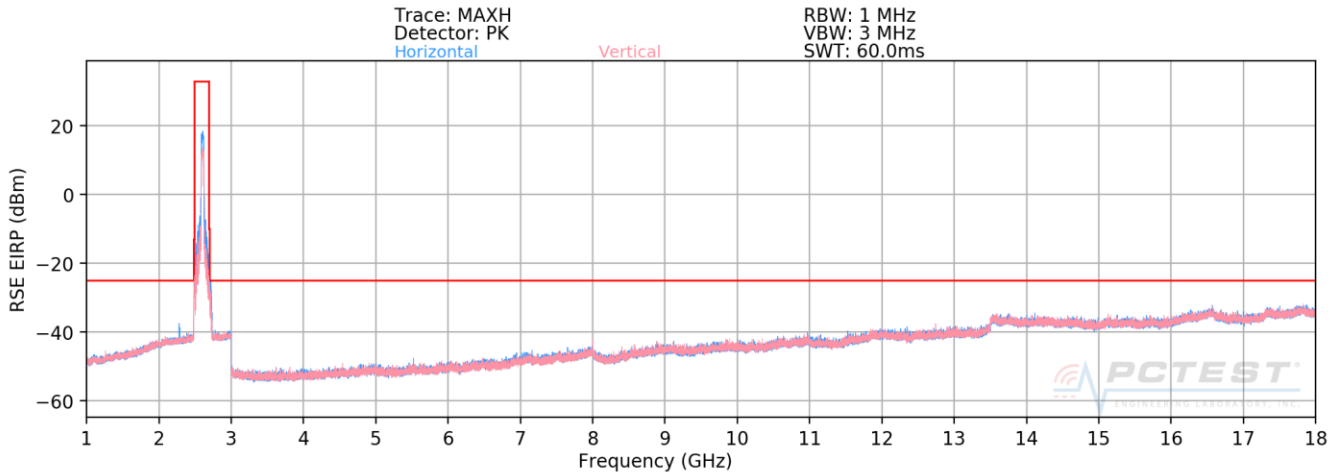
Plot 7-476. Radiated Spurious Plot (ULCA B41 PCC: RB 1 Offset 99, SCC: RB 1 Offset 0 – Low Channel)



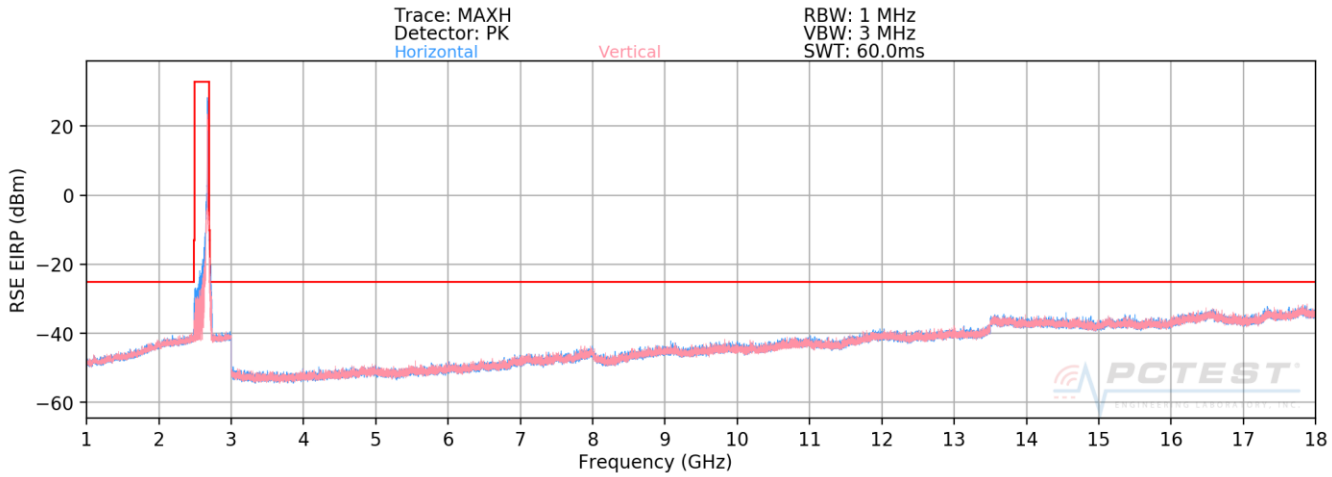
Plot 7-477. Radiated Spurious Plot (ULCA B41 PCC: RB 100 Offset 0, SCC: RB 100 Offset 0 – Low Channel)



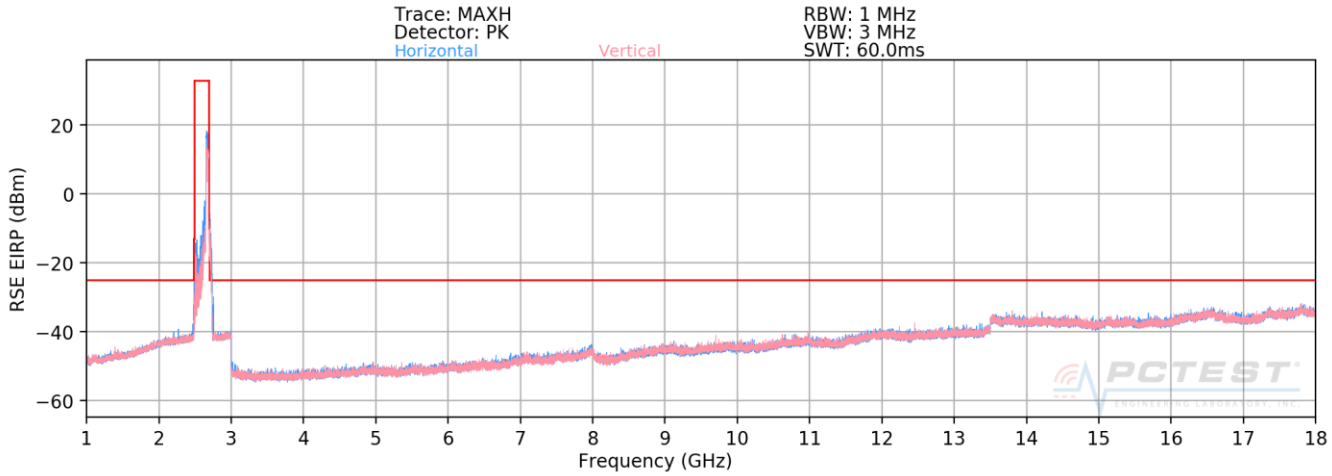
Plot 7-478. Radiated Spurious Plot (ULCA B41 PCC: RB 1 Offset 0, SCC: RB 1 Offset 99 – Mid Channel)



Plot 7-479. Radiated Spurious Plot (ULCA B41 PCC: RB 100 Offset 0, SCC: RB 100 Offset 0 – Mid Channel)



Plot 7-480. Radiated Spurious Plot (ULCA B41 PCC: RB 1 Offset 0, SCC: RB 1 Offset 99 – High Channel)



Plot 7-481. Radiated Spurious Plot (ULCA B41 PCC: RB 100 Offset 0, SCC: RB 100 Offset 0 – High Channel)

OPERATING FREQUENCY (PCC):	2506.00	MHz
OPERATING FREQUENCY (SCC):	2525.80	MHz
CHANNEL (PCC):	39750	
CHANNEL (SCC):	39948	
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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5012.00	H	-	-	-59.23	8.18	-51.05	-51.1
7518.00	H	-	-	-56.27	9.69	-46.58	-46.6
10024.00	H	-	-	-53.68	10.49	-43.19	-43.2

Table 7-101. 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
CHANNEL (PCC):	40620	
CHANNEL (SCC):	40818	
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	0	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5186.00	H	-	-	-58.64	7.83	-50.82	-50.8
7779.00	H	-	-	-57.37	9.61	-47.76	-47.8
10372.00	H	-	-	-54.89	10.40	-44.49	-44.5

Table 7-102. 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
CHANNEL (PCC):	41490	
CHANNEL (SCC):	41292	
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]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5360.00	H	-	-	-59.28	8.01	-51.27	-51.3
8040.00	H	-	-	-57.18	9.94	-47.24	-47.2
10720.00	H	-	-	-53.63	10.22	-43.41	-43.4

Table 7-103. 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/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.

Test Notes

None

Band 71 Frequency Stability Measurements

OPERATING FREQUENCY:	680,500,000	Hz
CHANNEL:	133297	
REFERENCE VOLTAGE:	3.80	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	- 30	680,500,001	1	0.0000002
100 %		- 20	680,500,002	2	0.0000003
100 %		- 10	680,500,003	3	0.0000004
100 %		0	680,500,003	3	0.0000005
100 %		+ 10	680,500,004	4	0.0000005
100 %		+ 20	680,500,004	4	0.0000006
100 %		+ 30	680,500,003	3	0.0000005
100 %		+ 40	680,500,004	4	0.0000006
100 %		+ 50	680,500,003	3	0.0000005
BATT. ENDPOINT	3.40	+ 20	680,500,004	4	0.0000006

Table 7-104. Frequency Stability Data (Band 71)

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

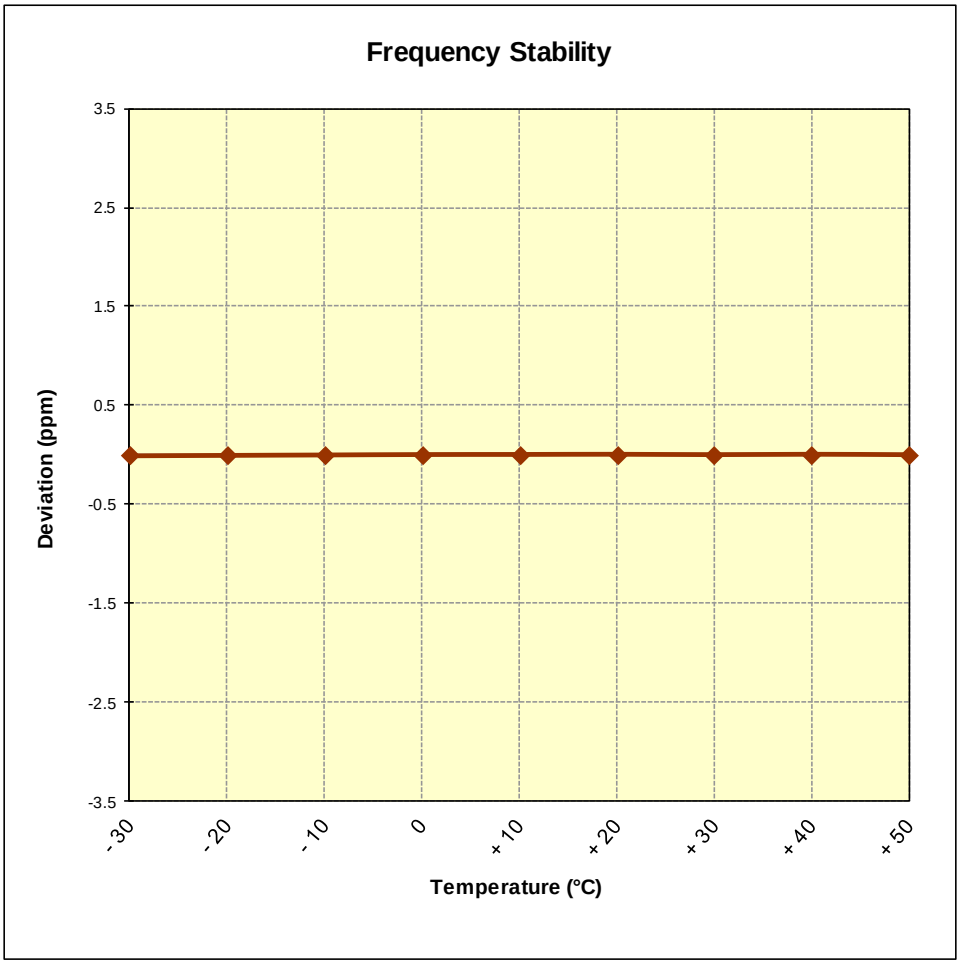


Figure 7-10. Frequency Stability Graph (Band 71)

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	707,500,003	3	0.0000004
100 %		- 20	707,500,004	4	0.0000006
100 %		- 10	707,500,006	6	0.0000009
100 %		0	707,500,006	6	0.0000008
100 %		+ 10	707,500,005	5	0.0000007
100 %		+ 20	707,500,004	4	0.0000005
100 %		+ 30	707,500,003	3	0.0000005
100 %		+ 40	707,500,003	3	0.0000004
100 %		+ 50	707,500,003	3	0.0000005
BATT. ENDPOINT	3.40	+ 20	707,500,003	3	0.0000004

Table 7-105. Frequency Stability Data (Band 12/17)

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 Frequency Stability Measurements

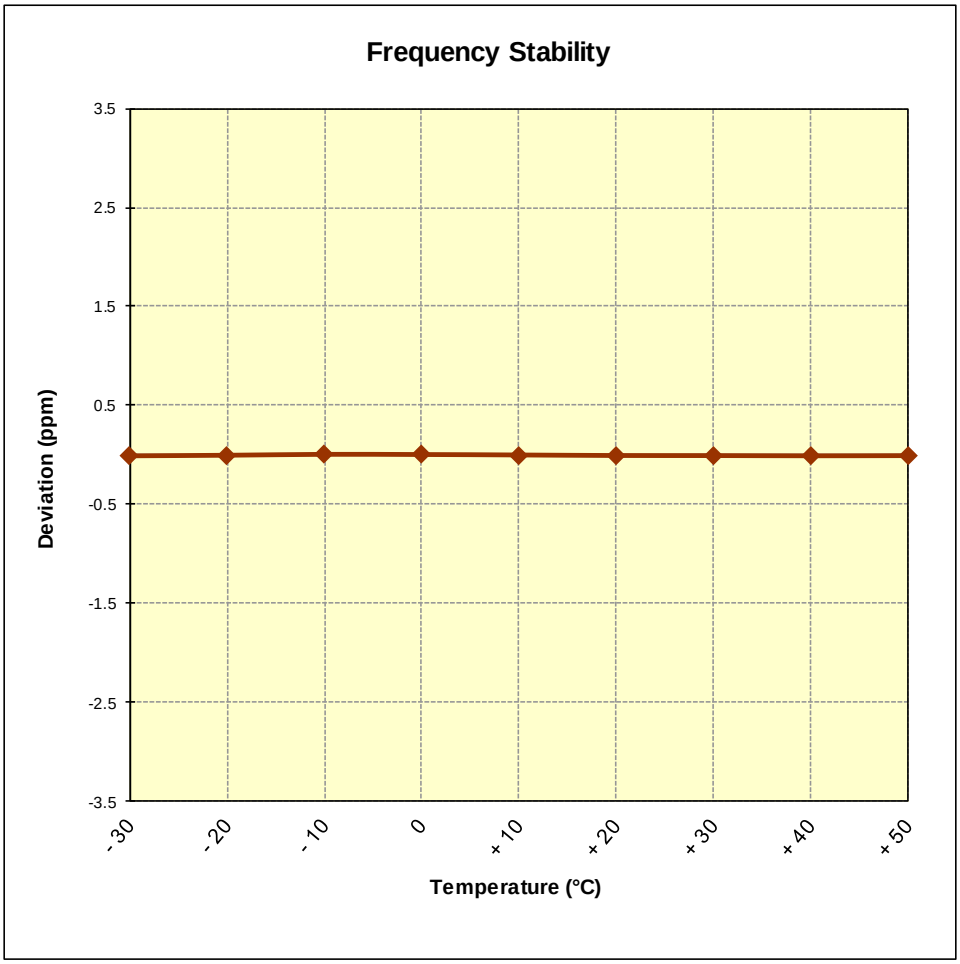


Figure 7-11. Frequency Stability Graph (Band 12/17)

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	782,000,004	4	0.0000005
100 %		- 20	782,000,004	4	0.0000005
100 %		- 10	782,000,004	4	0.0000005
100 %		0	782,000,003	3	0.0000004
100 %		+ 10	782,000,004	4	0.0000005
100 %		+ 20	782,000,003	3	0.0000004
100 %		+ 30	782,000,004	4	0.0000005
100 %		+ 40	782,000,004	4	0.0000005
100 %		+ 50	782,000,004	4	0.0000005
BATT. ENDPOINT	3.40	+ 20	782,000,004	4	0.0000005

Table 7-106. Frequency Stability Data (Band 13)

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

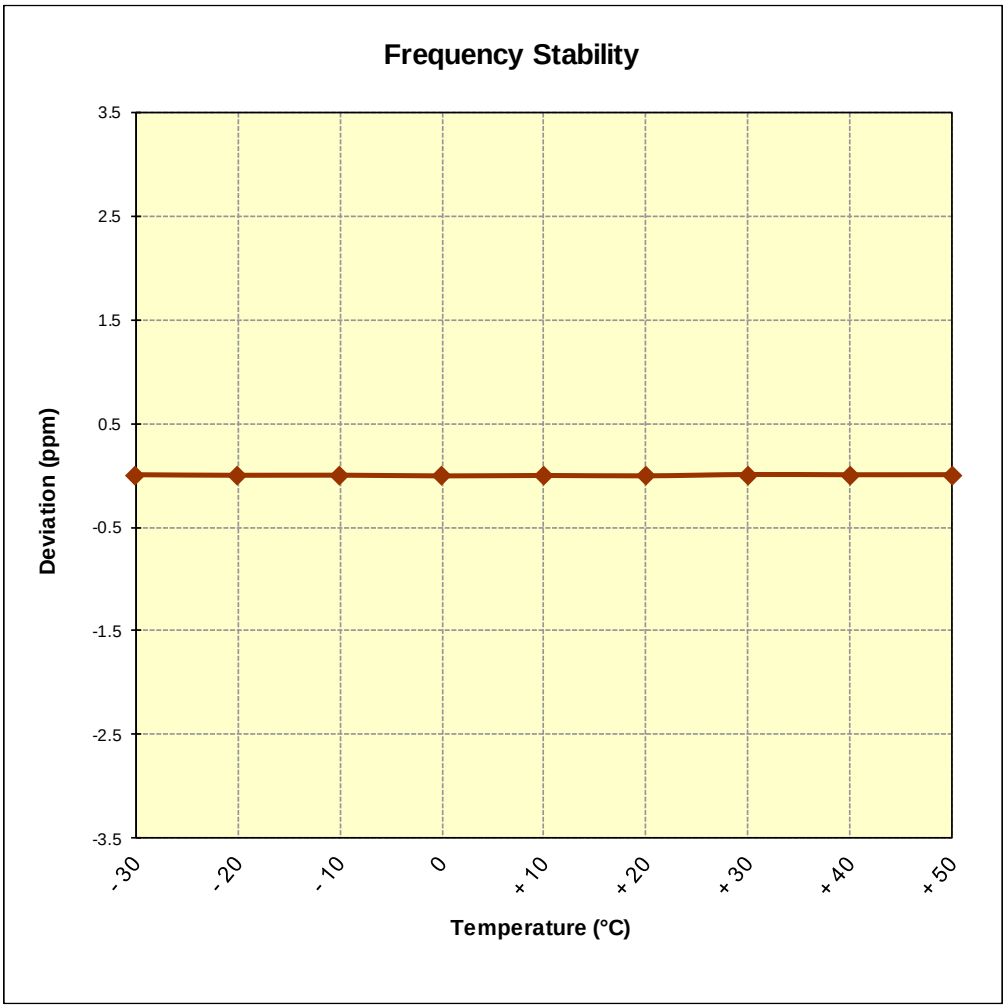


Figure 7-12. Frequency Stability Graph (Band 13)

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	831,500,003	3	0.0000004
100 %		- 20	831,500,002	2	0.0000002
100 %		- 10	831,500,004	4	0.0000005
100 %		0	831,500,004	4	0.0000005
100 %		+ 10	831,500,004	4	0.0000005
100 %		+ 20	831,500,003	3	0.0000004
100 %		+ 30	831,500,004	4	0.0000005
100 %		+ 40	831,500,004	4	0.0000005
100 %		+ 50	831,500,003	3	0.0000004
BATT. ENDPOINT	3.40	+ 20	831,500,004	4	0.0000005

Table 7-107. Frequency Stability Data (Band 26/5)

Band 26 Frequency Stability Measurements

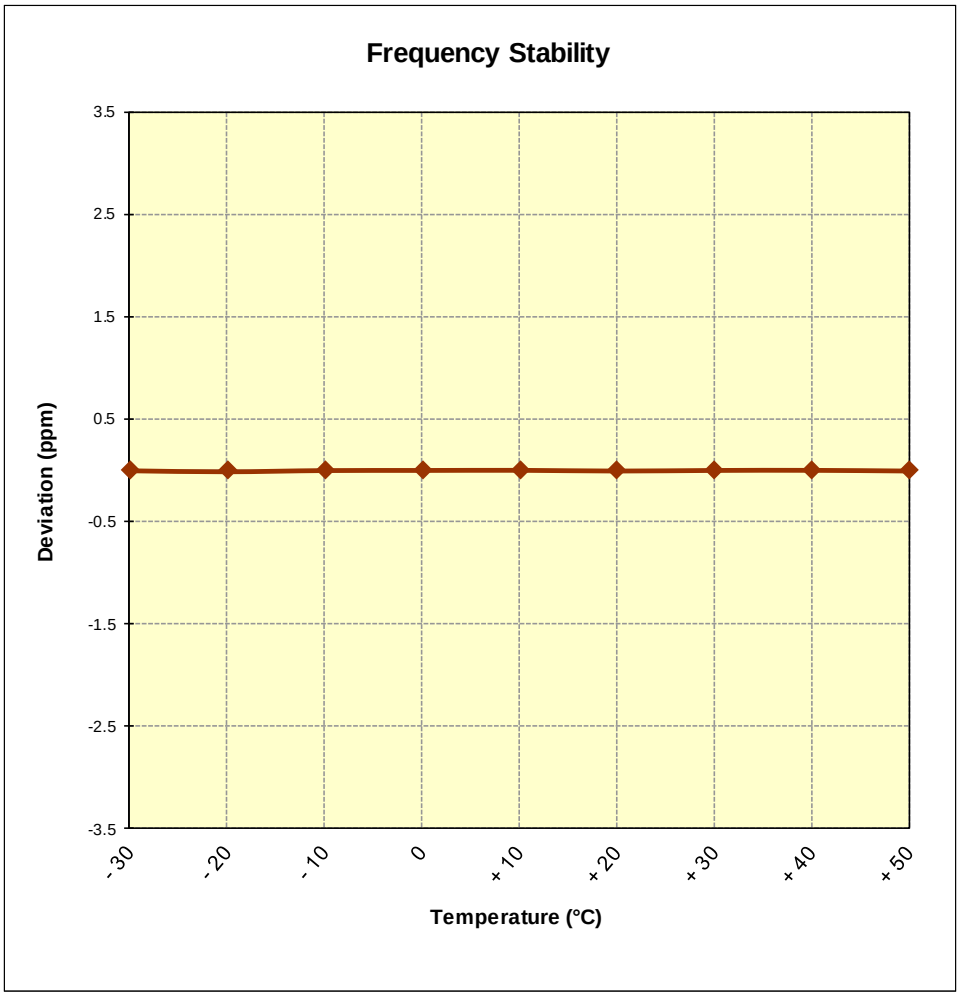


Figure 7-13. Frequency Stability Graph (Band 26/5)

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	1,745,000,000	0	0.0000000
100 %		- 20	1,745,000,001	1	0.0000001
100 %		- 10	1,745,000,001	1	0.0000001
100 %		0	1,745,000,001	1	0.0000001
100 %		+ 10	1,745,000,001	1	0.0000000
100 %		+ 20	1,745,000,001	1	0.0000001
100 %		+ 30	1,745,000,002	2	0.0000001
100 %		+ 40	1,745,000,000	0	0.0000000
100 %		+ 50	1,745,000,001	1	0.0000000
BATT. ENDPOINT	3.40	+ 20	1,745,000,002	2	0.0000001

Table 7-108. Frequency Stability Data (Band 66/4)

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 Frequency Stability Measurements

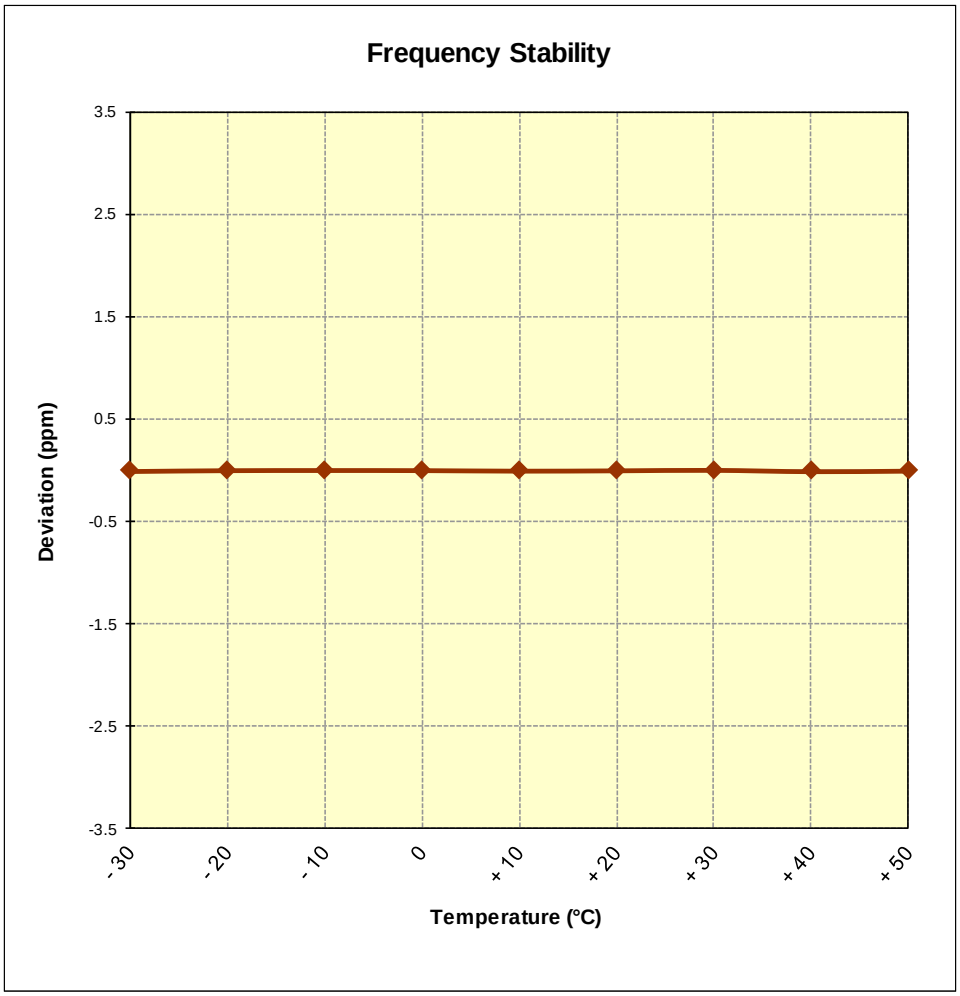


Figure 7-14. Frequency Stability Graph (Band 66)

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	1,882,500,002	2	0.0000001
100 %		- 20	1,882,500,001	1	0.0000000
100 %		- 10	1,882,500,004	4	0.0000002
100 %		0	1,882,500,005	5	0.0000002
100 %		+ 10	1,882,500,002	2	0.0000001
100 %		+ 20	1,882,500,003	3	0.0000001
100 %		+ 30	1,882,500,002	2	0.0000001
100 %		+ 40	1,882,500,001	1	0.0000001
100 %		+ 50	1,882,500,004	4	0.0000002
BATT. ENDPOINT	3.40	+ 20	1,882,500,003	3	0.0000001

Table 7-109. Frequency Stability Data (Band 25/2)

Band 25 Frequency Stability Measurements

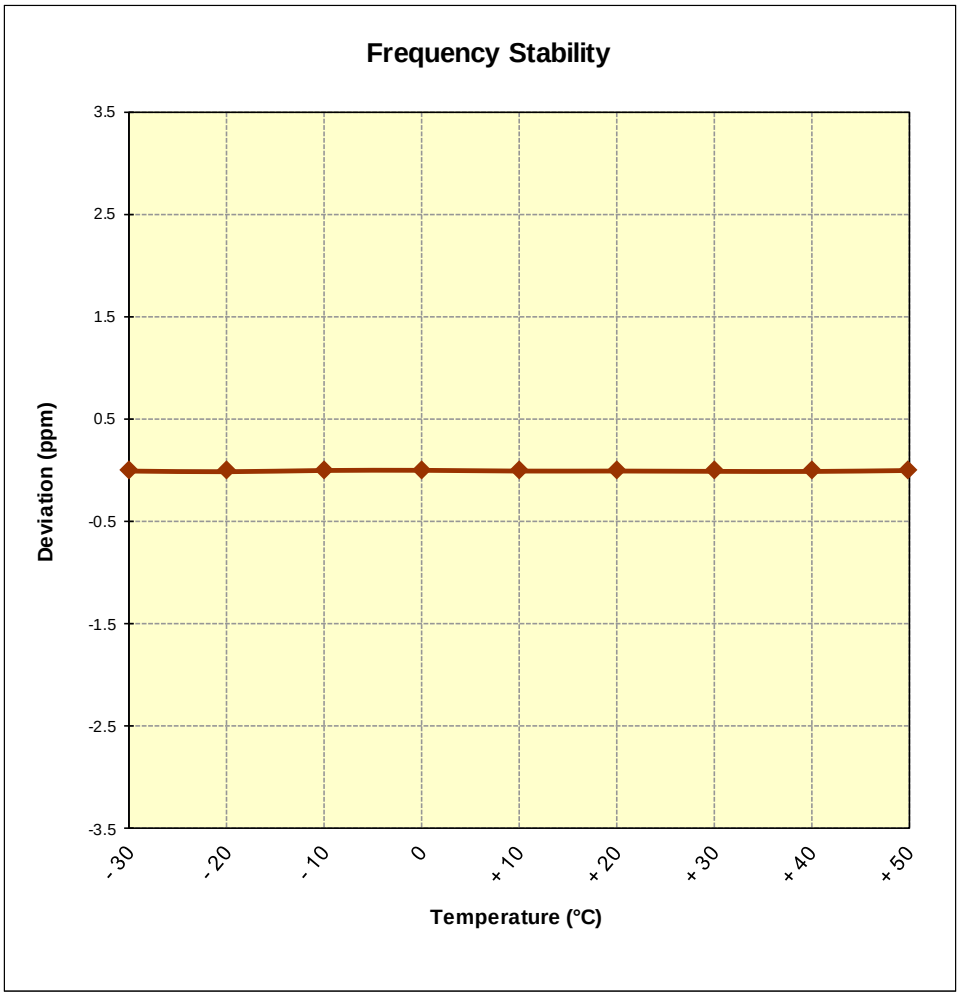


Figure 7-15. Frequency Stability Graph (Band 25)

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	2,310,000,002	2	0.0000001
100 %		- 10	2,310,000,004	4	0.0000002
100 %		0	2,310,000,003	3	0.0000001
100 %		+ 10	2,309,999,999	-1	0.0000000
100 %		+ 20	2,310,000,000	0	0.0000000
100 %		+ 30	2,310,000,001	1	0.0000000
100 %		+ 40	2,310,000,003	3	0.0000001
100 %		+ 50	2,310,000,006	6	0.0000003
BATT. ENDPOINT	3.40	+ 20	2,310,000,002	2	0.0000001

Table 7-110. Frequency Stability Data (Band 30)

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

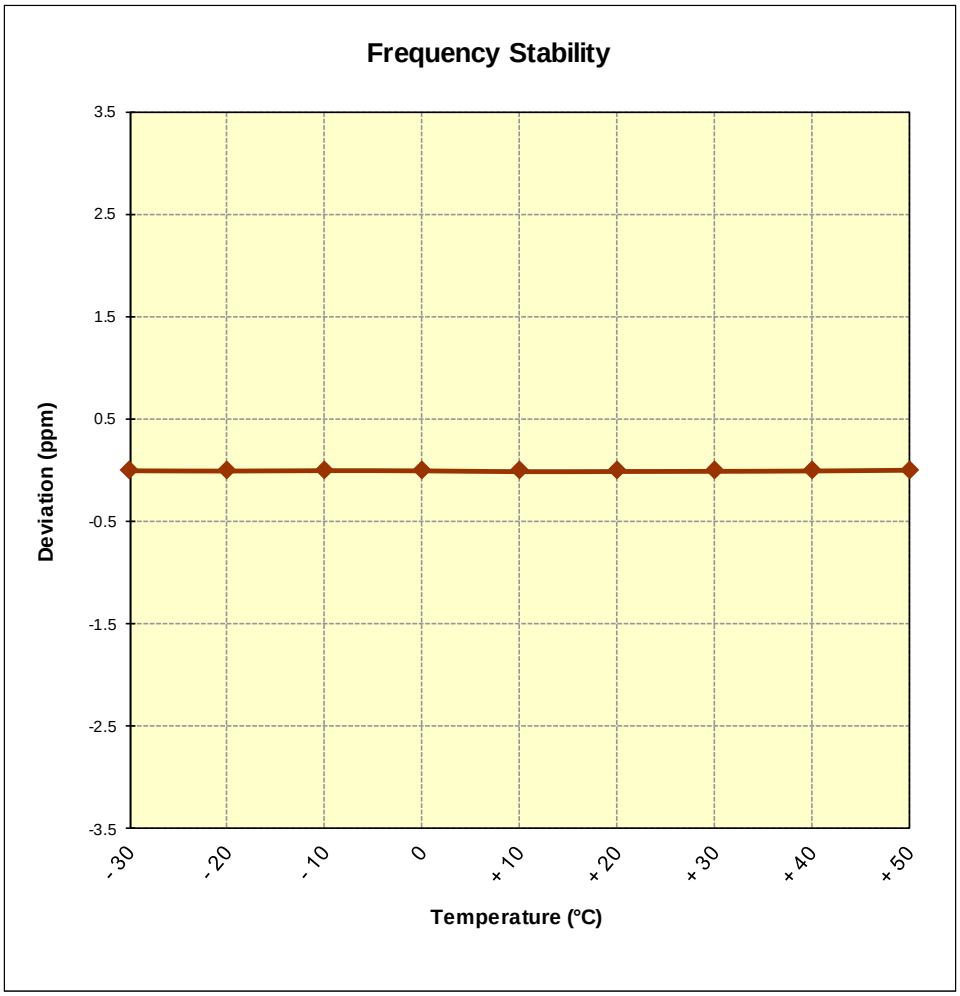


Figure 7-16. Frequency Stability Graph (Band 30)

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	2,535,000,001	1	0.0000001
100 %		- 20	2,535,000,002	2	0.0000001
100 %		- 10	2,535,000,000	0	0.0000000
100 %		0	2,535,000,001	1	0.0000000
100 %		+ 10	2,535,000,001	1	0.0000000
100 %		+ 20	2,535,000,002	2	0.0000001
100 %		+ 30	2,535,000,002	2	0.0000001
100 %		+ 40	2,535,000,003	3	0.0000001
100 %		+ 50	2,535,000,007	7	0.0000003
BATT. ENDPOINT	3.40	+ 20	2,535,000,004	4	0.0000001

Table 7-111. Frequency Stability Data (Band 7)

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

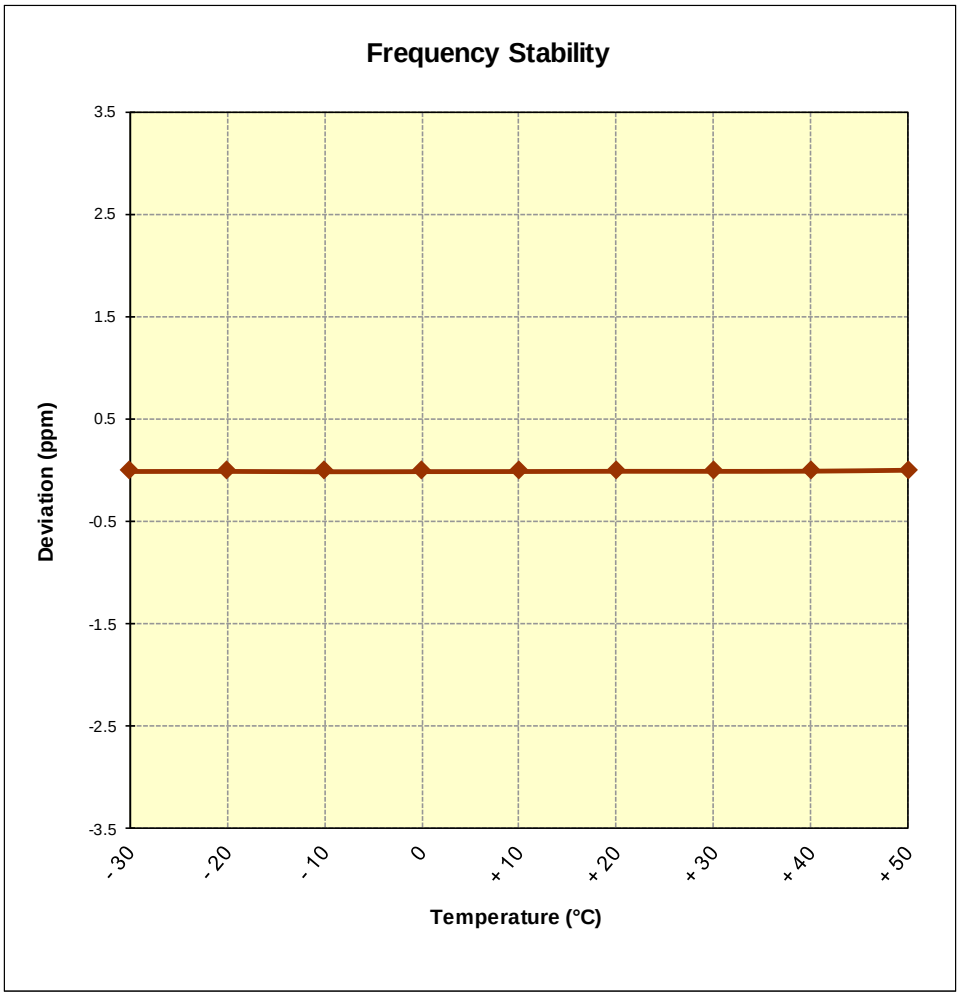


Figure 7-17. Frequency Stability Graph (Band 7)

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	2,593,000,000	0	0.0000000
100 %		- 20	2,593,000,001	1	0.0000000
100 %		- 10	2,593,000,001	1	0.0000000
100 %		0	2,593,000,003	3	0.0000001
100 %		+ 10	2,592,999,999	-1	0.0000000
100 %		+ 20	2,593,000,002	2	0.0000001
100 %		+ 30	2,592,999,999	-1	0.0000000
100 %		+ 40	2,593,000,001	1	0.0000000
100 %		+ 50	2,593,000,000	0	0.0000000
BATT. ENDPOINT	3.40	+ 20	2,593,000,003	3	0.0000001

Table 7-112. Frequency Stability Data (Band 41)

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

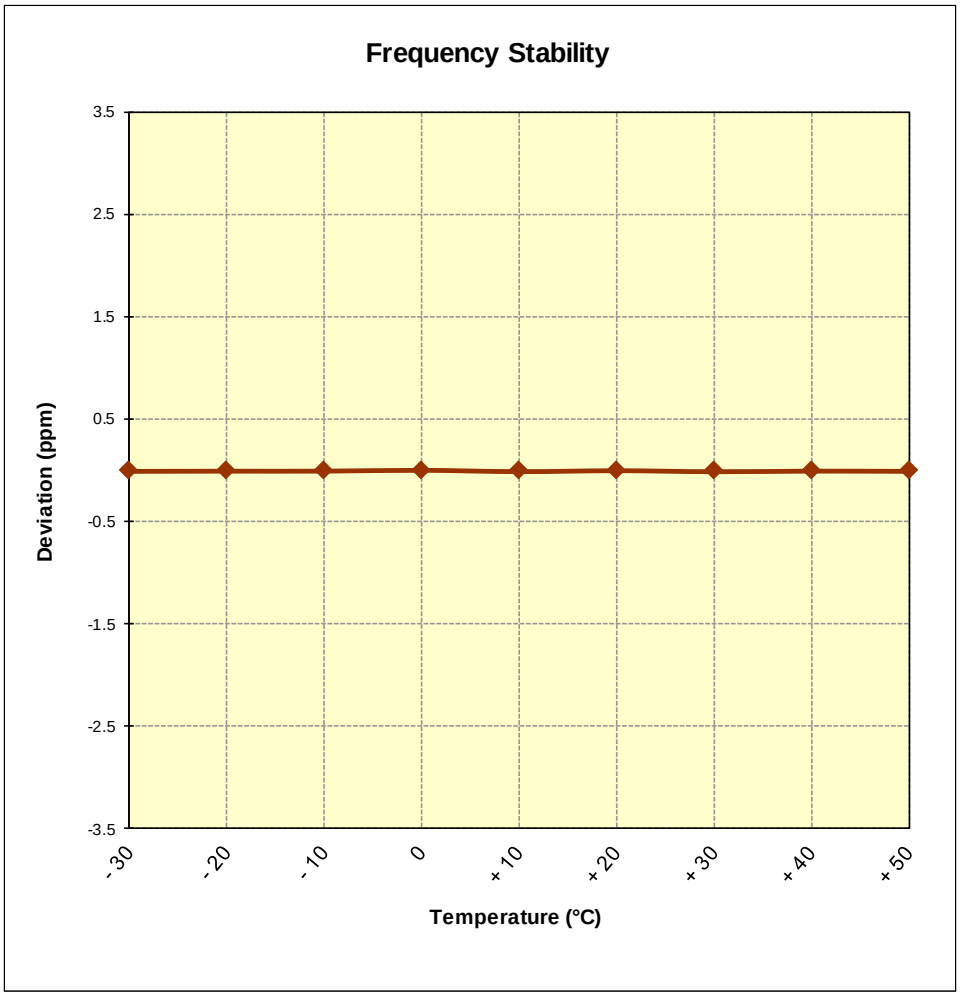


Figure 7-18. Frequency Stability Graph (Band 41)

8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **Apple Tablet Device FCC ID: BCGA2126** complies with all the requirements of Part 22, 24, & 27 of the FCC Rules for LTE operation only.