A.1.3 Radiated

A.1.3.1 Description

This is the test for the maximum radiated power from the EUT.

FDD Band 7/TDD Band 38/41: Part 27.50(h)(2) specifies "Mobile stations are limited to 2.0 watts EIRP".

FDD Band 12/71: Part 27.50(c)(10) specifies "Portable stations(hand-held devices) in the 600 MHz uplink band and the 698–746 MHz band, and fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP".

FDD Band 13: Part 27.50(b) specifies "Portable stations(hand-held devices) transmitting in the 746–757 MHz, 776–788 MHz, and 805–806 MHz bands are limited to 3 watts ERP".

FDD Band 2/25: Part 24.232(c) specifies "Mobile and portable stations are limited to 2 watts EIRP".

LTE Band 26(814MHz~824MHz): Part 90.635(b) specifies "The maximum output power of the transmitter for mobile stations is 100 watts".

FDD Band 5/26(824MHz~849MHz): Part 22.913(a) specifies "The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts".

FDD Band 4/66: Part 27.50(d)(4) specifies "Fixed, mobile, and portable(handheld) stations operating in the 1710–1755 MHz band and mobile and portable stations operating in the 1695–1710 MHz and 1755–1780 MHz bands are limited to 1 watt EIRP".

A.1.3.2 Method of Measurement

According to KDB 412172 D01 and ANSI C63.26 the relevant equation for determining the maximum ERP or EIRP from the measured RF output power is given in Equation as follows:

$$\mathbf{ERP\ or\ EIRP} = \mathbf{P_T} + \mathbf{G_T} - \mathbf{L_C}$$

where;

- $\mathbf{ERP\ or\ EIRP}$ = effective radiated power or equivalent isotropically radiated power(expressed in the same units as P_T.
- $\mathbf{P_T}$ = transmitter output power, in this report the unit express as dBm;
- $\mathbf{G_T}$ = gain of the transmitting antenna, in dBd(ERP) or dBi(EIRP);
- $\mathbf{L_C}$ = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

Alternatively, the EIRP can be determined from Equation above and then converted to ERP based on the maximum antenna gain relationship by applying the following equation:

$$\mathbf{ERP} = \mathbf{EIRP} - \mathbf{2.15dB}$$

Note: The antenna gain information was provided by the client. The laboratory is not responsible for identifying its authenticity during the test.

A.1.3.3 Limits and Measurement Results

LTE Band 7-EIRP

Limits: ≤33dBm(2W)

Bandwidth	RB size/offset	Frequency (MHz)	Conducted Power(dBm)				EIRP(dBm)(Gt-Lc =-2.9)			
			QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
5MHz	1 RB high	2567.5	22.79	22.26	21.39	18.32	19.89	19.36	18.49	15.42
		2535.0	22.89	22.23	20.89	18.10	19.99	19.33	17.99	15.20
		2502.5	22.85	22.28	21.38	18.00	19.95	19.38	18.48	15.10
	1 RB low	2567.5	22.89	22.17	21.02	18.19	19.99	19.27	18.12	15.29
		2535.0	22.76	22.53	21.27	18.21	19.86	19.63	18.37	15.31
		2502.5	23.06	22.20	21.26	18.26	20.16	19.30	18.36	15.36
	50% RB mid	2567.5	21.98	21.04	20.07	18.36	19.08	18.14	17.17	15.46
		2535.0	22.09	20.82	19.95	18.21	19.19	17.92	17.05	15.31
		2502.5	22.22	21.18	20.15	18.05	19.32	18.28	17.25	15.15
	100% RB	2567.5	21.86	21.08	20.08	18.04	18.96	18.18	17.18	15.14
		2535.0	21.91	20.86	19.98	18.20	19.01	17.96	17.08	15.30
		2502.5	22.00	21.28	19.96	18.09	19.10	18.38	17.06	15.19
10MHz	1 RB high	2565.0	22.99	22.18	21.50	18.29	20.09	19.28	18.60	15.39
		2535.0	22.70	22.08	21.00	18.21	19.80	19.18	18.10	15.31
		2505.0	22.94	22.24	21.16	17.94	20.04	19.34	18.26	15.04
	1 RB low	2565.0	22.69	22.09	21.26	18.40	19.79	19.19	18.36	15.50
		2535.0	22.82	22.33	21.37	18.06	19.92	19.43	18.47	15.16
		2505.0	22.88	22.33	21.22	18.11	19.98	19.43	18.32	15.21
	50% RB mid	2565.0	22.09	21.14	20.02	18.33	19.19	18.24	17.12	15.43
		2535.0	22.17	21.07	20.05	18.30	19.27	18.17	17.15	15.40
		2505.0	22.10	21.10	20.11	18.12	19.20	18.20	17.21	15.22
	100% RB	2565.0	21.99	20.97	19.95	18.06	19.09	18.07	17.05	15.16
		2535.0	21.97	21.13	20.05	18.07	19.07	18.23	17.15	15.17
		2505.0	22.25	21.30	19.97	18.32	19.35	18.40	17.07	15.42
15MHz	1 RB high	2562.5	23.04	22.10	21.57	18.36	20.14	19.20	18.67	15.46
		2535.0	22.77	22.13	21.03	18.19	19.87	19.23	18.13	15.29
		2507.5	22.91	22.25	21.12	17.99	20.01	19.35	18.22	15.09
	1 RB low	2562.5	22.97	22.00	21.29	18.32	20.07	19.10	18.39	15.42
		2535.0	22.87	22.30	21.20	18.00	19.97	19.40	18.30	15.10
		2507.5	22.96	22.21	21.40	18.13	20.06	19.31	18.50	15.23
	50% RB mid	2562.5	22.03	20.91	19.97	18.33	19.13	18.01	17.07	15.43
		2535.0	22.27	20.93	20.11	18.07	19.37	18.03	17.21	15.17
		2507.5	22.04	21.09	20.20	18.15	19.14	18.19	17.30	15.25
	100% RB	2562.5	21.99	21.02	19.89	18.11	19.09	18.12	16.99	15.21
		2535.0	21.97	21.03	19.88	18.25	19.07	18.13	16.98	15.35
		2507.5	22.26	21.34	20.09	18.29	19.36	18.44	17.19	15.39
20MHz	1 RB	2560.0	22.93	22.19	21.47	18.26	20.03	19.29	18.57	15.36

	high	2535.0	22.79	22.08	21.04	18.13	19.89	19.18	18.14	15.23
		2510.0	22.88	22.38	21.24	18.08	19.98	19.48	18.34	15.18
	1 RB low	2560.0	22.82	22.13	21.15	18.28	19.92	19.23	18.25	15.38
		2535.0	22.76	22.41	21.26	18.11	19.86	19.51	18.36	15.21
		2510.0	22.97	22.27	21.31	18.16	20.07	19.37	18.41	15.26
	50% RB mid	2560.0	22.06	21.06	20.01	18.26	19.16	18.16	17.11	15.36
		2535.0	22.21	20.97	20.00	18.17	19.31	18.07	17.10	15.27
		2510.0	22.10	21.17	20.11	18.20	19.20	18.27	17.21	15.30
	100% RB	2560.0	22.00	21.03	20.02	18.02	19.10	18.13	17.12	15.12
		2535.0	21.95	21.00	20.03	18.21	19.05	18.10	17.13	15.31
		2510.0	22.14	21.19	20.08	18.18	19.24	18.29	17.18	15.28

LTE Band 12-ERP

Limits: ≤34.77dBm(3W)

Bandwidth	RB size/offset	Frequency (MHz)	Conducted Power(dBm)				ERP(dBm)(Gt-Lc =-5.3)			
			QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
1.4MHz	1 RB high	715.3	24.18	23.69	22.29	19.51	16.73	16.24	14.84	12.06
		707.5	24.17	23.77	22.54	19.59	16.72	16.32	15.09	12.14
		699.7	24.43	23.31	22.49	19.39	16.98	15.86	15.04	11.94
	1 RB low	715.3	24.38	23.84	22.75	19.54	16.93	16.39	15.30	12.09
		707.5	24.10	23.63	22.47	19.41	16.65	16.18	15.02	11.96
		699.7	24.29	23.95	22.59	19.45	16.84	16.50	15.14	12.00
	50% RB mid	715.3	23.49	22.34	21.55	19.47	16.04	14.89	14.10	12.02
		707.5	23.61	22.53	21.42	19.28	16.16	15.08	13.97	11.83
		699.7	23.31	22.56	21.42	19.53	15.86	15.11	13.97	12.08
	100% RB	715.3	23.41	22.42	21.49	19.47	15.96	14.97	14.04	12.02
		707.5	23.41	22.55	21.45	19.43	15.96	15.10	14.00	11.98
		699.7	23.21	22.47	21.37	19.26	15.76	15.02	13.92	11.81
3MHz	1 RB high	714.5	24.26	23.74	22.21	19.30	16.81	16.29	14.76	11.85
		707.5	24.20	23.74	22.63	19.51	16.75	16.29	15.18	12.06
		700.5	24.38	23.33	22.44	19.58	16.93	15.88	14.99	12.13
	1 RB low	714.5	24.29	23.74	22.79	19.39	16.84	16.29	15.34	11.94
		707.5	24.11	23.62	22.37	19.54	16.66	16.17	14.92	12.09
		700.5	24.38	23.81	22.60	19.37	16.93	16.36	15.15	11.92
	50% RB mid	714.5	23.39	22.36	21.36	19.29	15.94	14.91	13.91	11.84
		707.5	23.47	22.49	21.58	19.31	16.02	15.04	14.13	11.86
		700.5	23.26	22.31	21.40	19.41	15.81	14.86	13.95	11.96
	100% RB	714.5	23.48	22.50	21.59	19.51	16.03	15.05	14.14	12.06
		707.5	23.53	22.40	21.34	19.33	16.08	14.95	13.89	11.88
		700.5	23.31	22.37	21.60	19.46	15.86	14.92	14.15	12.01
5MHz	1 RB high	713.5	24.17	23.73	22.14	19.32	16.72	16.28	14.69	11.87
		707.5	24.22	23.77	22.56	19.54	16.77	16.32	15.11	12.09
		701.5	24.25	23.58	22.38	19.60	16.80	16.13	14.93	12.15
	1 RB low	713.5	24.31	23.77	22.65	19.55	16.86	16.32	15.20	12.10
		707.5	24.23	23.85	22.51	19.47	16.78	16.40	15.06	12.02
		701.5	24.20	23.98	22.79	19.32	16.75	16.53	15.34	11.87
	50% RB mid	713.5	23.36	22.37	21.33	19.55	15.91	14.92	13.88	12.10
		707.5	23.46	22.58	21.34	19.42	16.01	15.13	13.89	11.97
		701.5	23.41	22.48	21.38	19.67	15.96	15.03	13.93	12.22
	100% RB	713.5	23.59	22.36	21.63	19.49	16.14	14.91	14.18	12.04
		707.5	23.36	22.56	21.53	19.32	15.91	15.11	14.08	11.87
		701.5	23.45	22.33	21.53	19.24	16.00	14.88	14.08	11.79
10MHz	1 RB high	711.0	24.20	23.69	22.25	19.43	16.75	16.24	14.80	11.98
		707.5	24.26	23.73	22.58	19.52	16.81	16.28	15.13	12.07

		704.0	24.28	23.43	22.40	19.50	16.83	15.98	14.95	12.05
	1 RB low	711.0	24.41	23.80	22.64	19.43	16.96	16.35	15.19	11.98
		707.5	24.25	23.76	22.52	19.48	16.80	16.31	15.07	12.03
		704.0	24.32	23.89	22.66	19.41	16.87	16.44	15.21	11.96
	50% RB mid	711.0	23.46	22.46	21.46	19.44	16.01	15.01	14.01	11.99
		707.5	23.47	22.44	21.43	19.34	16.02	14.99	13.98	11.89
		704.0	23.40	22.42	21.52	19.52	15.95	14.97	14.07	12.07
	100% RB	711.0	23.45	22.44	21.53	19.42	16.00	14.99	14.08	11.97
		707.5	23.44	22.45	21.47	19.37	15.99	15.00	14.02	11.92
		704.0	23.36	22.36	21.49	19.39	15.91	14.91	14.04	11.94

LTE Band 13-ERP

Limits: ≤34.77dBm(3W)

Bandwidth	RB size/offset	Frequency (MHz)	Conducted Power(dBm)				ERP(dBm)(Gt-Lc =-5.82)			
			QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
5MHz	1 RB high	784.5	24.47	23.54	22.62	19.48	16.50	15.57	14.65	11.51
		782.0	24.47	23.33	22.59	19.19	16.50	15.36	14.62	11.22
		779.5	24.23	23.91	22.36	19.50	16.26	15.94	14.39	11.53
	1 RB low	784.5	24.24	23.67	22.60	19.27	16.27	15.70	14.63	11.30
		782.0	24.28	23.35	22.69	19.27	16.31	15.38	14.72	11.30
		779.5	24.26	23.85	22.38	19.37	16.29	15.88	14.41	11.40
	50% RB mid	784.5	23.33	22.59	21.50	19.47	15.36	14.62	13.53	11.50
		782.0	23.62	22.43	21.30	19.52	15.65	14.46	13.33	11.55
		779.5	23.56	22.59	21.51	19.43	15.59	14.62	13.54	11.46
	100% RB	784.5	23.34	22.46	21.35	19.48	15.37	14.49	13.38	11.51
		782.0	23.32	22.39	21.50	19.43	15.35	14.42	13.53	11.46
		779.5	23.50	22.22	21.63	19.42	15.53	14.25	13.66	11.45
10MHz	1 RB high	782.0	24.34	23.61	22.57	19.41	16.37	15.64	14.60	11.44
	1 RB low	782.0	24.29	23.88	22.47	19.46	16.32	15.91	14.50	11.49
	50% RB mid	782.0	23.49	22.40	21.44	19.44	15.52	14.43	13.47	11.47
	100% RB	782.0	23.43	22.35	21.49	19.45	15.46	14.38	13.52	11.48

LTE Band 25-EIRP

Limits: ≤33dBm(2W)

Bandwidth	RB size/offset	Frequency (MHz)	Conducted Power(dBm)				EIRP(dBm)(Gt-Lc =-1.2)			
			QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
1.4MHz	1 RB high	1914.3	23.72	22.90	21.63	18.72	22.52	21.70	20.43	17.52
		1882.5	23.62	22.80	21.71	18.75	22.42	21.60	20.51	17.55
		1850.7	23.51	23.17	21.79	18.81	22.31	21.97	20.59	17.61
	1 RB low	1914.3	23.40	22.64	21.77	18.67	22.20	21.44	20.57	17.47
		1882.5	23.50	23.03	21.78	18.65	22.30	21.83	20.58	17.45
		1850.7	23.65	22.92	21.77	18.90	22.45	21.72	20.57	17.70
	50% RB mid	1914.3	22.64	21.64	20.82	18.60	21.44	20.44	19.62	17.40
		1882.5	22.88	21.76	20.88	18.55	21.68	20.56	19.68	17.35
		1850.7	22.75	21.71	20.67	18.97	21.55	20.51	19.47	17.77
	100% RB	1914.3	22.51	21.75	20.72	18.70	21.31	20.55	19.52	17.50
		1882.5	22.54	21.77	20.86	19.07	21.34	20.57	19.66	17.87
		1850.7	22.63	21.67	20.58	18.90	21.43	20.47	19.38	17.70
3MHz	1 RB high	1913.5	23.58	22.80	21.73	18.73	22.38	21.60	20.53	17.53
		1882.5	23.45	22.63	21.70	18.96	22.25	21.43	20.50	17.76
		1851.5	23.48	23.06	21.79	19.01	22.28	21.86	20.59	17.81
	1 RB low	1913.5	23.56	22.83	21.82	18.51	22.36	21.63	20.62	17.31
		1882.5	23.72	22.99	21.73	18.68	22.52	21.79	20.53	17.48
		1851.5	23.73	22.97	21.78	18.84	22.53	21.77	20.58	17.64
	50% RB mid	1913.5	22.55	21.60	20.62	18.54	21.35	20.40	19.42	17.34
		1882.5	22.74	21.74	20.82	18.62	21.54	20.54	19.62	17.42
		1851.5	22.60	21.63	20.70	18.95	21.40	20.43	19.50	17.75
	100% RB	1913.5	22.60	21.87	20.89	18.66	21.40	20.67	19.69	17.46
		1882.5	22.58	21.81	20.66	18.79	21.38	20.61	19.46	17.59
		1851.5	22.70	21.69	20.68	18.81	21.50	20.49	19.48	17.61
5MHz	1 RB high	1912.5	23.78	22.96	21.71	18.82	22.58	21.76	20.51	17.62
		1882.5	23.51	22.62	22.00	18.72	22.31	21.42	20.80	17.52
		1852.5	23.49	23.12	21.74	18.96	22.29	21.92	20.54	17.76
	1 RB low	1912.5	23.49	22.64	21.65	18.69	22.29	21.44	20.45	17.49
		1882.5	23.67	23.06	21.90	18.51	22.47	21.86	20.70	17.31
		1852.5	23.61	22.87	21.67	18.74	22.41	21.67	20.47	17.54
	50% RB mid	1912.5	22.63	21.74	20.63	18.66	21.43	20.54	19.43	17.46
		1882.5	22.78	21.89	20.90	18.59	21.58	20.69	19.70	17.39
		1852.5	22.81	21.68	20.65	18.93	21.61	20.48	19.45	17.73
	100% RB	1912.5	22.71	21.91	20.64	18.58	21.51	20.71	19.44	17.38
		1882.5	22.83	21.63	20.74	18.89	21.63	20.43	19.54	17.69
		1852.5	22.80	21.69	20.67	18.89	21.60	20.49	19.47	17.69
10MHz	1 RB high	1910.0	23.75	22.80	21.87	18.73	22.55	21.60	20.67	17.53
		1882.5	23.48	22.82	21.91	18.87	22.28	21.62	20.71	17.67

		1855.0	23.52	22.99	21.71	18.92	22.32	21.79	20.51	17.72
	1 RB low	1910.0	23.35	22.66	21.85	18.46	22.15	21.46	20.65	17.26
		1882.5	23.51	23.01	21.97	18.51	22.31	21.81	20.77	17.31
		1855.0	23.54	22.74	21.86	18.67	22.34	21.54	20.66	17.47
	50% RB mid	1910.0	22.55	21.49	20.73	18.53	21.35	20.29	19.53	17.33
		1882.5	22.74	21.82	20.69	18.57	21.54	20.62	19.49	17.37
		1855.0	22.62	21.55	20.62	19.00	21.42	20.35	19.42	17.80
	100% RB	1910.0	22.75	21.82	20.72	18.67	21.55	20.62	19.52	17.47
		1882.5	22.77	21.76	20.78	18.98	21.57	20.56	19.58	17.78
		1855.0	22.80	21.79	20.51	18.90	21.60	20.59	19.31	17.70
15MHz	1 RB high	1907.5	23.75	22.86	21.83	18.69	22.55	21.66	20.63	17.49
		1882.5	23.38	22.79	21.93	18.70	22.18	21.59	20.73	17.50
		1857.5	23.36	23.16	21.87	18.82	22.16	21.96	20.67	17.62
	1 RB low	1907.5	23.42	22.70	21.86	18.57	22.22	21.50	20.66	17.37
		1882.5	23.58	23.01	21.75	18.60	22.38	21.81	20.55	17.40
		1857.5	23.73	22.90	21.91	18.73	22.53	21.70	20.71	17.53
	50% RB mid	1907.5	22.59	21.63	20.60	18.55	21.39	20.43	19.40	17.35
		1882.5	22.94	21.95	20.93	18.57	21.74	20.75	19.73	17.37
		1857.5	22.82	21.58	20.85	18.87	21.62	20.38	19.65	17.67
	100% RB	1907.5	22.54	21.67	20.67	18.68	21.34	20.47	19.47	17.48
		1882.5	22.83	21.80	20.79	18.77	21.63	20.60	19.59	17.57
		1857.5	22.78	21.64	20.60	18.97	21.58	20.44	19.40	17.77
20MHz	1 RB high	1905.0	23.64	22.94	21.74	18.70	22.44	21.74	20.54	17.50
		1882.5	23.52	22.76	21.85	18.81	22.32	21.56	20.65	17.61
		1860.0	23.51	23.04	21.86	18.90	22.31	21.84	20.66	17.70
	1 RB low	1905.0	23.50	22.73	21.79	18.59	22.30	21.53	20.59	17.39
		1882.5	23.61	22.96	21.87	18.66	22.41	21.76	20.67	17.46
		1860.0	23.64	22.87	21.81	18.77	22.44	21.67	20.61	17.57
	50% RB mid	1905.0	22.63	21.63	20.74	18.59	21.43	20.43	19.54	17.39
		1882.5	22.79	21.82	20.81	18.55	21.59	20.62	19.61	17.35
		1860.0	22.70	21.62	20.75	18.95	21.50	20.42	19.55	17.75
	100% RB	1905.0	22.65	21.76	20.74	18.67	21.45	20.56	19.54	17.47
		1882.5	22.69	21.76	20.76	18.92	21.49	20.56	19.56	17.72
		1860.0	22.72	21.66	20.64	18.91	21.52	20.46	19.44	17.71

LTE Band 26(814MHz~824MHz)-ERP
Limits: ≤50dBm(100W)

Bandwidth	RB size/offset	Frequency (MHz)	Conducted Power(dBm)				ERP(dBm)(Gt-Lc =-4.53)			
			QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
1.4MHz	1 RB high	823.3	23.71	22.82	21.93	18.60	17.03	16.14	15.25	11.92
		819.0	23.68	22.88	21.72	18.83	17.00	16.20	15.04	12.15
		814.7	23.65	22.82	22.21	18.82	16.97	16.14	15.53	12.14
	1 RB low	823.3	23.69	22.77	21.87	18.77	17.01	16.09	15.19	12.09
		819.0	23.68	22.80	21.64	18.84	17.00	16.12	14.96	12.16
		814.7	23.70	22.77	22.05	18.95	17.02	16.09	15.37	12.27
	50% RB mid	823.3	23.68	23.02	21.77	18.80	17.00	16.34	15.09	12.12
		819.0	23.68	22.97	21.79	18.91	17.00	16.29	15.11	12.23
		814.7	23.75	22.98	21.79	18.83	17.07	16.30	15.11	12.15
	100% RB	823.3	22.76	21.94	20.81	18.79	16.08	15.26	14.13	12.11
		819.0	22.76	21.91	20.83	18.78	16.08	15.23	14.15	12.10
		814.7	22.73	21.95	20.78	18.81	16.05	15.27	14.10	12.13
3MHz	1 RB high	822.5	23.75	22.81	21.74	18.84	17.07	16.13	15.06	12.16
		819.0	23.72	22.79	21.73	18.84	17.04	16.11	15.05	12.16
		815.5	23.79	22.80	21.78	18.89	17.11	16.12	15.10	12.21
	1 RB low	822.5	23.79	22.77	21.68	18.74	17.11	16.09	15.00	12.06
		819.0	23.76	22.84	21.67	18.87	17.08	16.16	14.99	12.19
		815.5	23.83	22.88	21.70	18.86	17.15	16.20	15.02	12.18
	50% RB mid	822.5	22.81	21.90	20.95	18.91	16.13	15.22	14.27	12.23
		819.0	22.77	21.83	20.89	18.88	16.09	15.15	14.21	12.20
		815.5	22.82	21.90	20.80	18.93	16.14	15.22	14.12	12.25
	100% RB	822.5	22.80	21.81	20.92	18.90	16.12	15.13	14.24	12.22
		819.0	22.79	21.82	20.82	18.85	16.11	15.14	14.14	12.17
		815.5	22.82	21.82	20.86	18.86	16.14	15.14	14.18	12.18
5MHz	1 RB high	821.5	23.76	22.88	21.96	18.91	17.08	16.20	15.28	12.23
		819.0	23.77	22.88	21.97	18.94	17.09	16.20	15.29	12.26
		816.5	23.82	22.97	22.04	18.95	17.14	16.29	15.36	12.27
	1 RB low	821.5	23.76	22.89	22.18	18.87	17.08	16.21	15.50	12.19
		819.0	23.80	22.91	22.15	18.95	17.12	16.23	15.47	12.27
		816.5	23.86	23.01	22.21	18.96	17.18	16.33	15.53	12.28
	50% RB mid	821.5	22.86	21.87	21.01	19.01	16.18	15.19	14.33	12.33
		819.0	22.86	21.89	21.00	18.99	16.18	15.21	14.32	12.31
		816.5	22.81	21.90	20.92	19.02	16.13	15.22	14.24	12.34
	100% RB	821.5	22.86	21.75	20.92	18.94	16.18	15.07	14.24	12.26
		819.0	22.81	21.76	20.89	18.91	16.13	15.08	14.21	12.23
		816.5	22.84	21.87	20.95	18.95	16.16	15.19	14.27	12.27
10MHz	1 RB high	819.0	23.74	22.79	21.78	18.88	17.06	16.11	15.10	12.20

	1 RB low	819.0	23.72	22.83	21.72	18.91	17.04	16.15	15.04	12.23
	50% RB mid	819.0	23.75	22.81	21.80	18.82	17.07	16.13	15.12	12.14
	100% RB	819.0	23.80	22.87	21.55	18.94	17.12	16.19	14.87	12.26

LTE Band 26(824MHz-849MHz）-ERP

Limits: ≤38.45dBm(7W)

Bandwidth	RB size/offset	Frequency (MHz)	Conducted Power(dBm)				ERP(dBm)(Gt-Lc =-4.53)			
			QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
1.4MHz	1 RB high	848.3	23.67	22.92	21.85	18.73	16.99	16.24	15.17	12.05
		836.5	23.78	22.89	22.12	18.79	17.10	16.21	15.44	12.11
		824.7	23.66	22.73	22.24	18.96	16.98	16.05	15.56	12.28
	1 RB low	848.3	23.68	22.97	21.72	18.59	17.00	16.29	15.04	11.91
		836.5	23.75	22.86	21.96	18.96	17.07	16.18	15.28	12.28
		824.7	23.66	22.76	22.16	18.94	16.98	16.08	15.48	12.26
	50% RB mid	848.3	23.73	23.08	21.81	18.83	17.05	16.40	15.13	12.15
		836.5	23.79	23.07	21.85	18.91	17.11	16.39	15.17	12.23
		824.7	23.73	22.98	22.01	18.98	17.05	16.30	15.33	12.30
	100% RB	848.3	22.80	21.68	20.86	18.87	16.12	15.00	14.18	12.19
		836.5	22.72	21.63	20.83	18.77	16.04	14.95	14.15	12.09
		824.7	22.75	21.94	21.00	18.88	16.07	15.26	14.32	12.20
3MHz	1 RB high	847.5	23.80	22.85	21.80	18.94	17.12	16.17	15.12	12.26
		836.5	23.83	22.89	21.87	18.97	17.15	16.21	15.19	12.29
		825.5	23.81	22.94	21.81	18.91	17.13	16.26	15.13	12.23
	1 RB low	847.5	23.84	22.94	21.76	18.97	17.16	16.26	15.08	12.29
		836.5	23.83	22.91	21.83	18.90	17.15	16.23	15.15	12.22
		825.5	23.81	22.90	21.77	18.85	17.13	16.22	15.09	12.17
	50% RB mid	847.5	22.87	21.93	20.97	18.98	16.19	15.25	14.29	12.30
		836.5	22.89	21.90	21.03	18.89	16.21	15.22	14.35	12.21
		825.5	22.84	21.90	20.85	18.96	16.16	15.22	14.17	12.28
	100% RB	847.5	22.90	21.85	20.85	19.02	16.22	15.17	14.17	12.34
		836.5	22.84	21.82	20.79	18.90	16.16	15.14	14.11	12.22
		825.5	22.83	21.83	20.91	18.89	16.15	15.15	14.23	12.21
5MHz	1 RB high	846.5	23.82	22.93	22.09	19.03	17.14	16.25	15.41	12.35
		836.5	23.89	23.00	22.09	18.99	17.21	16.32	15.41	12.31
		826.5	23.79	22.85	22.06	19.01	17.11	16.17	15.38	12.33
	1 RB low	846.5	23.89	22.96	22.28	19.03	17.21	16.28	15.60	12.35
		836.5	23.85	22.96	22.22	18.94	17.17	16.28	15.54	12.26
		826.5	23.82	22.95	22.18	18.92	17.14	16.27	15.50	12.24
	50% RB mid	846.5	22.92	21.99	21.06	19.10	16.24	15.31	14.38	12.42
		836.5	22.93	21.91	21.11	19.01	16.25	15.23	14.43	12.33
		826.5	22.84	21.89	20.96	19.02	16.16	15.21	14.28	12.34
	100% RB	846.5	22.93	21.87	20.97	19.05	16.25	15.19	14.29	12.37
		836.5	22.85	21.81	20.96	18.90	16.17	15.13	14.28	12.22
		826.5	22.85	21.83	20.97	18.92	16.17	15.15	14.29	12.24
10MHz	1 RB high	844.0	23.80	22.89	21.87	18.93	17.12	16.21	15.19	12.25
		836.5	23.82	23.02	21.89	18.97	17.14	16.34	15.21	12.29
		829.0	23.81	22.93	21.82	18.89	17.13	16.25	15.14	12.21

	1 RB low	844.0	23.89	22.93	21.72	18.94	17.21	16.25	15.04	12.26
		836.5	23.89	23.04	21.65	18.91	17.21	16.36	14.97	12.23
		829.0	23.81	22.87	21.65	18.84	17.13	16.19	14.97	12.16
	50% RB mid	844.0	22.94	21.97	21.10	18.98	16.26	15.29	14.42	12.30
		836.5	22.93	21.96	21.07	19.02	16.25	15.28	14.39	12.34
		829.0	22.95	22.02	21.00	19.04	16.27	15.34	14.32	12.36
	100% RB	844.0	22.94	21.96	20.97	18.96	16.26	15.28	14.29	12.28
		836.5	22.86	21.93	20.92	18.92	16.18	15.25	14.24	12.24
		829.0	22.93	21.97	21.00	18.98	16.25	15.29	14.32	12.30
15MHz	1 RB high	841.5	23.69	23.16	22.20	19.12	17.01	16.48	15.52	12.44
		836.5	23.75	23.23	22.23	19.21	17.07	16.55	15.55	12.53
		831.5	23.71	22.99	22.19	19.17	17.03	16.31	15.51	12.49
	1 RB low	841.5	23.72	23.18	22.11	19.06	17.04	16.50	15.43	12.38
		836.5	23.67	23.12	22.17	19.00	16.99	16.44	15.49	12.32
		831.5	23.60	22.88	22.17	18.93	16.92	16.20	15.49	12.25
	50% RB mid	841.5	22.86	21.76	20.89	18.83	16.18	15.08	14.21	12.15
		836.5	22.86	21.71	20.87	18.77	16.18	15.03	14.19	12.09
		831.5	22.80	21.69	20.85	18.75	16.12	15.01	14.17	12.07
	100% RB	841.5	22.82	21.81	20.86	18.84	16.14	15.13	14.18	12.16
		836.5	22.79	21.77	20.77	18.79	16.11	15.09	14.09	12.11
		831.5	22.78	21.79	20.83	18.83	16.10	15.11	14.15	12.15

LTE Band 41-EIRP

Limits: ≤33dBm(2W)

Bandwidth	RB size/offset	Frequency (MHz)	Conducted Power(dBm)				EIRP(dBm)(Gt-Lc =-2.78)			
			QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
5MHz	1 RB high	2687.5	25.60	24.72	23.64	19.50	22.82	21.94	20.86	16.72
		2593.0	25.37	24.87	23.68	19.78	22.59	22.09	20.90	17.00
		2498.5	25.36	24.61	23.71	19.41	22.58	21.83	20.93	16.63
	1 RB low	2687.5	25.49	24.77	24.05	19.57	22.71	21.99	21.27	16.79
		2593.0	25.52	25.00	23.84	19.55	22.74	22.22	21.06	16.77
		2498.5	25.36	24.83	23.59	19.66	22.58	22.05	20.81	16.88
	50% RB mid	2687.5	24.79	23.63	22.68	19.94	22.01	20.85	19.90	17.16
		2593.0	24.64	23.48	22.58	19.57	21.86	20.70	19.80	16.79
		2498.5	24.50	23.63	22.44	19.70	21.72	20.85	19.66	16.92
	100% RB	2687.5	24.67	23.60	22.62	19.76	21.89	20.82	19.84	16.98
		2593.0	24.72	23.58	22.86	19.54	21.94	20.80	20.08	16.76
		2498.5	24.39	23.71	22.56	19.48	21.61	20.93	19.78	16.70
10MHz	1 RB high	2685.0	25.61	24.92	23.70	19.79	22.83	22.14	20.92	17.01
		2593.0	25.49	24.83	23.69	19.68	22.71	22.05	20.91	16.90
		2501.0	25.49	24.80	23.50	19.49	22.71	22.02	20.72	16.71
	1 RB low	2685.0	25.50	25.07	23.89	19.60	22.72	22.29	21.11	16.82
		2593.0	25.52	25.14	23.98	19.55	22.74	22.36	21.20	16.77
		2501.0	25.27	24.79	23.54	19.59	22.49	22.01	20.76	16.81
	50% RB mid	2685.0	24.57	23.87	22.79	19.82	21.79	21.09	20.01	17.04
		2593.0	24.79	23.57	22.44	19.59	22.01	20.79	19.66	16.81
		2501.0	24.40	23.60	22.42	19.79	21.62	20.82	19.64	17.01
	100% RB	2685.0	24.76	23.69	22.57	19.80	21.98	20.91	19.79	17.02
		2593.0	24.60	23.71	22.69	19.76	21.82	20.93	19.91	16.98
		2501.0	24.55	23.42	22.63	19.47	21.77	20.64	19.85	16.69
15MHz	1 RB high	2682.5	25.43	24.81	23.92	19.72	22.65	22.03	21.14	16.94
		2593.0	25.52	24.90	23.63	19.62	22.74	22.12	20.85	16.84
		2503.5	25.37	24.64	23.51	19.60	22.59	21.86	20.73	16.82
	1 RB low	2682.5	25.54	24.77	24.10	19.67	22.76	21.99	21.32	16.89
		2593.0	25.57	24.84	23.95	19.61	22.79	22.06	21.17	16.83
		2503.5	25.54	24.60	23.67	19.75	22.76	21.82	20.89	16.97
	50% RB mid	2682.5	24.69	23.76	22.55	19.77	21.91	20.98	19.77	16.99
		2593.0	24.90	23.61	22.65	19.53	22.12	20.83	19.87	16.75
		2503.5	24.62	23.55	22.65	19.77	21.84	20.77	19.87	16.99
	100% RB	2682.5	24.66	23.69	22.73	19.91	21.88	20.91	19.95	17.13
		2593.0	24.70	23.70	22.79	19.57	21.92	20.92	20.01	16.79
		2503.5	24.65	23.41	22.52	19.66	21.87	20.63	19.74	16.88
20MHz	1 RB high	2680.0	25.46	24.87	23.78	19.65	22.68	22.09	21.00	16.87
		2593.0	25.47	24.79	23.68	19.65	22.69	22.01	20.90	16.87
		2506.0	25.42	24.73	23.63	19.53	22.64	21.95	20.85	16.75

	1 RB low	2680.0	25.56	24.92	23.95	19.59	22.78	22.14	21.17	16.81
		2593.0	25.57	24.99	23.88	19.56	22.79	22.21	21.10	16.78
		2506.0	25.39	24.73	23.62	19.62	22.61	21.95	20.84	16.84
	50% RB mid	2680.0	24.64	23.77	22.64	19.84	21.86	20.99	19.86	17.06
		2593.0	24.77	23.62	22.57	19.59	21.99	20.84	19.79	16.81
		2506.0	24.54	23.55	22.53	19.76	21.76	20.77	19.75	16.98
	100% RB	2680.0	24.72	23.75	22.72	19.87	21.94	20.97	19.94	17.09
		2593.0	24.66	23.70	22.75	19.68	21.88	20.92	19.97	16.90
		2506.0	24.52	23.56	22.58	19.51	21.74	20.78	19.80	16.73

LTE Band 66-EIRP

Limits: ≤30dBm(1W)

Bandwidth	RB size/offset	Frequency (MHz)	Conducted Power(dBm)				EIRP(dBm)(Gt-Lc =-1.71)			
			QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
1.4MHz	1 RB high	1779.3	23.38	23.18	22.11	18.48	21.67	21.47	20.40	16.77
		1745.0	23.60	22.73	21.83	18.46	21.89	21.02	20.12	16.75
		1710.7	23.86	22.99	22.28	18.60	22.15	21.28	20.57	16.89
	1 RB low	1779.3	23.27	22.79	22.17	18.38	21.56	21.08	20.46	16.67
		1745.0	23.58	22.94	21.92	18.74	21.87	21.23	20.21	17.03
		1710.7	23.45	23.07	21.84	18.45	21.74	21.36	20.13	16.74
	50% RB mid	1779.3	22.83	21.64	20.56	18.80	21.12	19.93	18.85	17.09
		1745.0	22.95	21.57	20.71	18.43	21.24	19.86	19.00	16.72
		1710.7	22.67	21.91	20.95	18.43	20.96	20.20	19.24	16.72
	100% RB	1779.3	22.38	21.51	20.48	18.53	20.67	19.80	18.77	16.82
		1745.0	22.53	21.47	20.75	18.45	20.82	19.76	19.04	16.74
		1710.7	22.80	21.98	20.87	18.82	21.09	20.27	19.16	17.11
3MHz	1 RB high	1778.5	23.34	23.15	22.07	18.56	21.63	21.44	20.36	16.85
		1745.0	23.47	22.70	21.83	18.28	21.76	20.99	20.12	16.57
		1711.5	23.71	23.09	22.37	18.79	22.00	21.38	20.66	17.08
	1 RB low	1778.5	23.41	22.76	22.10	18.60	21.70	21.05	20.39	16.89
		1745.0	23.78	22.91	22.07	18.61	22.07	21.20	20.36	16.90
		1711.5	23.47	23.08	22.04	18.61	21.76	21.37	20.33	16.90
	50% RB mid	1778.5	22.57	21.48	20.51	18.89	20.86	19.77	18.80	17.18
		1745.0	22.91	21.62	20.80	18.46	21.20	19.91	19.09	16.75
		1711.5	22.82	21.84	20.87	18.41	21.11	20.13	19.16	16.70
	100% RB	1778.5	22.48	21.59	20.50	18.60	20.77	19.88	18.79	16.89
		1745.0	22.66	21.52	20.80	18.48	20.95	19.81	19.09	16.77
		1711.5	22.76	21.84	20.68	18.84	21.05	20.13	18.97	17.13
5MHz	1 RB high	1777.5	23.38	23.02	22.14	18.54	21.67	21.31	20.43	16.83
		1745.0	23.67	22.70	21.95	18.24	21.96	20.99	20.24	16.53
		1712.5	23.79	23.04	22.22	18.76	22.08	21.33	20.51	17.05
	1 RB low	1777.5	23.54	22.93	21.91	18.44	21.83	21.22	20.20	16.73
		1745.0	23.66	23.08	22.01	18.48	21.95	21.37	20.30	16.77
		1712.5	23.59	22.82	21.82	18.59	21.88	21.11	20.11	16.88
	50% RB mid	1777.5	22.61	21.66	20.39	18.96	20.90	19.95	18.68	17.25
		1745.0	22.76	21.69	20.80	18.45	21.05	19.98	19.09	16.74
		1712.5	22.75	21.95	20.79	18.52	21.04	20.24	19.08	16.81
	100% RB	1777.5	22.49	21.56	20.56	18.41	20.78	19.85	18.85	16.70
		1745.0	22.71	21.71	20.58	18.33	21.00	20.00	18.87	16.62
		1712.5	22.80	21.75	20.76	18.72	21.09	20.04	19.05	17.01
10MHz	1 RB high	1775.0	23.53	23.21	22.02	18.43	21.82	21.50	20.31	16.72
		1745.0	23.58	22.63	21.79	18.45	21.87	20.92	20.08	16.74

		1715.0	23.60	23.08	22.18	18.73	21.89	21.37	20.47	17.02
	1 RB low	1775.0	23.52	22.77	21.98	18.53	21.81	21.06	20.27	16.82
		1745.0	23.60	23.09	22.06	18.55	21.89	21.38	20.35	16.84
		1715.0	23.61	22.83	21.93	18.45	21.90	21.12	20.22	16.74
	50% RB mid	1775.0	22.64	21.68	20.50	18.94	20.93	19.97	18.79	17.23
		1745.0	22.92	21.61	20.59	18.55	21.21	19.90	18.88	16.84
		1715.0	22.72	21.78	20.89	18.33	21.01	20.07	19.18	16.62
	100% RB	1775.0	22.42	21.41	20.49	18.44	20.71	19.70	18.78	16.73
		1745.0	22.66	21.54	20.72	18.52	20.95	19.83	19.01	16.81
		1715.0	22.86	21.81	20.71	18.84	21.15	20.10	19.00	17.13
15MHz	1 RB high	1772.5	23.62	23.05	21.95	18.67	21.91	21.34	20.24	16.96
		1745.0	23.61	22.69	21.69	18.36	21.90	20.98	19.98	16.65
		1717.5	23.68	23.00	22.41	18.79	21.97	21.29	20.70	17.08
	1 RB low	1772.5	23.39	22.82	22.01	18.60	21.68	21.11	20.30	16.89
		1745.0	23.57	22.94	22.07	18.75	21.86	21.23	20.36	17.04
		1717.5	23.53	22.99	22.00	18.46	21.82	21.28	20.29	16.75
	50% RB mid	1772.5	22.47	21.55	20.54	18.73	20.76	19.84	18.83	17.02
		1745.0	22.74	21.68	20.81	18.66	21.03	19.97	19.10	16.95
		1717.5	22.86	21.83	20.86	18.48	21.15	20.12	19.15	16.77
	100% RB	1772.5	22.45	21.63	20.39	18.56	20.74	19.92	18.68	16.85
		1745.0	22.70	21.48	20.81	18.49	20.99	19.77	19.10	16.78
		1717.5	22.81	21.88	20.76	18.84	21.10	20.17	19.05	17.13
20MHz	1 RB high	1770.0	23.47	23.13	21.99	18.53	21.76	21.42	20.28	16.82
		1745.0	23.52	22.77	21.84	18.37	21.81	21.06	20.13	16.66
		1720.0	23.71	23.05	22.30	18.75	22.00	21.34	20.59	17.04
	1 RB low	1770.0	23.42	22.84	22.02	18.51	21.71	21.13	20.31	16.80
		1745.0	23.66	22.97	22.01	18.60	21.95	21.26	20.30	16.89
		1720.0	23.56	22.96	21.92	18.55	21.85	21.25	20.21	16.84
	50% RB mid	1770.0	22.51	21.55	20.53	18.83	20.80	19.84	18.82	17.12
		1745.0	22.87	21.71	20.69	18.58	21.16	20.00	18.98	16.87
		1720.0	22.79	21.90	20.85	18.45	21.08	20.19	19.14	16.74
	100% RB	1770.0	22.50	21.53	20.46	18.45	20.79	19.82	18.75	16.74
		1745.0	22.66	21.59	20.70	18.48	20.95	19.88	18.99	16.77
		1720.0	22.86	21.86	20.80	18.86	21.15	20.15	19.09	17.15

LTE Band 71-ERP

Limits: ≤34.77dBm(3W)

Bandwidth	RB size/offset	Frequency (MHz)	Conducted Power(dBm)				ERP(dBm)(Gt-Lc =-5.5)			
			QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
5MHz	1 RB high	695.5	23.73	22.92	22.05	18.62	16.08	15.27	14.40	10.97
		680.5	23.59	22.96	21.83	19.00	15.94	15.31	14.18	11.35
		665.5	23.61	22.92	21.95	18.78	15.96	15.27	14.30	11.13
	1 RB low	695.5	23.76	23.07	22.00	18.83	16.11	15.42	14.35	11.18
		680.5	23.56	22.98	22.02	18.75	15.91	15.33	14.37	11.10
		665.5	23.63	23.13	22.15	18.51	15.98	15.48	14.50	10.86
	50% RB mid	695.5	22.71	21.73	20.98	18.69	15.06	14.08	13.33	11.04
		680.5	22.98	21.73	20.71	18.85	15.33	14.08	13.06	11.20
		665.5	22.75	21.74	20.98	18.88	15.10	14.09	13.33	11.23
	100% RB	695.5	22.95	21.86	20.82	18.92	15.30	14.21	13.17	11.27
		680.5	22.86	21.81	20.79	18.60	15.21	14.16	13.14	10.95
		665.5	22.81	21.95	21.04	18.74	15.16	14.30	13.39	11.09
10MHz	1 RB high	693.0	23.69	23.06	22.04	18.46	16.04	15.41	14.39	10.81
		680.5	23.74	23.13	21.97	18.90	16.09	15.48	14.32	11.25
		668.0	23.68	23.14	21.72	18.61	16.03	15.49	14.07	10.96
	1 RB low	693.0	23.82	23.15	21.75	18.87	16.17	15.50	14.10	11.22
		680.5	23.52	22.99	22.03	18.62	15.87	15.34	14.38	10.97
		668.0	23.67	23.20	22.01	18.56	16.02	15.55	14.36	10.91
	50% RB mid	693.0	22.92	22.02	20.99	18.68	15.27	14.37	13.34	11.03
		680.5	22.75	21.78	20.81	19.03	15.10	14.13	13.16	11.38
		668.0	22.75	21.79	20.76	18.91	15.10	14.14	13.11	11.26
	100% RB	693.0	22.95	21.78	20.85	18.87	15.30	14.13	13.20	11.22
		680.5	22.88	21.83	20.81	18.82	15.23	14.18	13.16	11.17
		668.0	22.73	21.79	20.94	18.87	15.08	14.14	13.29	11.22
15MHz	1 RB high	690.5	23.66	22.90	22.03	18.68	16.01	15.25	14.38	11.03
		680.5	23.57	23.16	21.90	18.84	15.92	15.51	14.25	11.19
		670.5	23.46	22.93	21.84	18.68	15.81	15.28	14.19	11.03
	1 RB low	690.5	23.73	22.96	21.78	19.00	16.08	15.31	14.13	11.35
		680.5	23.66	22.87	21.81	18.51	16.01	15.22	14.16	10.86
		670.5	23.86	23.09	22.03	18.81	16.21	15.44	14.38	11.16
	50% RB mid	690.5	22.94	21.83	20.74	18.60	15.29	14.18	13.09	10.95
		680.5	22.74	21.69	20.70	18.77	15.09	14.04	13.05	11.12
		670.5	22.90	21.85	20.82	19.05	15.25	14.20	13.17	11.40
	100% RB	690.5	22.74	21.93	20.78	18.95	15.09	14.28	13.13	11.30
		680.5	22.70	21.72	20.94	18.80	15.05	14.07	13.29	11.15
		670.5	22.98	21.91	21.01	18.74	15.33	14.26	13.36	11.09
20MHz	1 RB high	688.0	23.62	22.96	21.94	18.60	15.97	15.31	14.29	10.95
		680.5	23.65	23.10	21.91	18.88	16.00	15.45	14.26	11.23

		673.0	23.61	23.07	21.80	18.64	15.96	15.42	14.15	10.99
	1 RB low	688.0	23.74	23.05	21.88	18.93	16.09	15.40	14.23	11.28
		680.5	23.66	22.90	21.92	18.60	16.01	15.25	14.27	10.95
		673.0	23.75	23.07	22.00	18.66	16.10	15.42	14.35	11.01
	50% RB mid	688.0	22.84	21.88	20.84	18.75	15.19	14.23	13.19	11.10
		680.5	22.88	21.68	20.80	18.90	15.23	14.03	13.15	11.25
		673.0	22.80	21.79	20.83	18.91	15.15	14.14	13.18	11.26
	100% RB	688.0	22.87	21.84	20.86	18.87	15.22	14.19	13.21	11.22
		680.5	22.81	21.77	20.84	18.69	15.16	14.12	13.19	11.04
		673.0	22.83	21.82	20.99	18.73	15.18	14.17	13.34	11.08

LTE CA Band 41C
Limits:≤33dBm(2W)

Bandwidth	Frequency (MHz)	Frequency (MHz)	Modulation	PCC RB		SCC RB		Power (dBm)	EIRP(dBm) (Gt-Lc =-2.78)
				Size	Offset	Size	Offset		
5MHz/20MHz	2583.8	2595.5	QPSK	1	24	1	0	23.45	20.67
			QPSK	25	0	100	0	21.87	19.09
			16QAM	1	24	1	0	22.72	19.94
			16QAM	25	0	100	0	20.70	17.92
			64QAM	1	24	1	0	21.76	18.98
			64QAM	25	0	100	0	20.53	17.75
			256QAM	1	24	1	0	19.03	16.25
			256QAM	25	0	100	0	18.94	16.16
10MHz/15MHz	2585.9	2597.9	QPSK	1	49	1	0	23.49	20.71
			QPSK	50	0	75	0	21.56	18.78
			16QAM	1	49	1	0	22.85	20.07
			16QAM	50	0	75	0	20.56	17.78
			64QAM	1	49	1	0	21.17	18.39
			64QAM	50	0	75	0	21.02	18.24
			256QAM	1	49	1	0	18.91	16.13
			256QAM	50	0	75	0	19.03	16.25
10MHz/20MHz	2583.6	2598	QPSK	1	49	1	0	23.68	20.90
			QPSK	50	0	100	0	21.60	18.82
			16QAM	1	49	1	0	22.82	20.04
			16QAM	50	0	100	0	20.93	18.15
			64QAM	1	49	1	0	21.64	18.86
			64QAM	50	0	100	0	21.04	18.26
			256QAM	1	49	1	0	18.91	16.13
			256QAM	50	0	100	0	19.04	16.26
15MHz/10MHz	2588.1	2600.1	QPSK	1	74	1	0	23.78	21.00
			QPSK	75	0	50	0	21.63	18.85
			16QAM	1	74	1	0	22.52	19.74
			16QAM	75	0	50	0	21.03	18.25
			64QAM	1	74	1	0	21.89	19.11
			64QAM	75	0	50	0	21.07	18.29
			256QAM	1	74	1	0	18.55	15.77
			256QAM	75	0	50	0	18.57	15.79
15MHz/15MHz	2585.5	2600.5	QPSK	1	74	1	0	23.45	20.67
			QPSK	75	0	75	0	21.94	19.16
			16QAM	1	74	1	0	22.28	19.50
			16QAM	75	0	75	0	20.58	17.80
			64QAM	1	74	1	0	21.46	18.68

			64QAM	75	0	75	0	20.58	17.80
			256QAM	1	74	1	0	18.88	16.10
			256QAM	75	0	75	0	18.60	15.82
15MHz/20MHz	2583.3	2600.4	QPSK	1	74	1	0	23.69	20.91
			QPSK	75	0	100	0	21.60	18.82
			16QAM	1	74	1	0	22.58	19.80
			16QAM	75	0	100	0	20.59	17.81
			64QAM	1	74	1	0	21.48	18.70
			64QAM	75	0	100	0	21.05	18.27
			256QAM	1	74	1	0	18.45	15.67
			256QAM	75	0	100	0	18.58	15.80
20MHz/5MHz	2590.5	2602.2	QPSK	1	99	1	0	24.03	21.25
			QPSK	100	0	25	0	21.63	18.85
			16QAM	1	99	1	0	23.01	20.23
			16QAM	100	0	25	0	20.66	17.88
			64QAM	1	99	1	0	22.17	19.39
			64QAM	100	0	25	0	21.09	18.31
			256QAM	1	99	1	0	18.94	16.16
			256QAM	100	0	25	0	18.61	15.83
20MHz/10MHz	2588.1	2602.5	QPSK	1	99	1	0	23.99	21.21
			QPSK	100	0	50	0	21.62	18.84
			16QAM	1	99	1	0	23.00	20.22
			16QAM	100	0	50	0	20.64	17.86
			64QAM	1	99	1	0	22.10	19.32
			64QAM	100	0	50	0	20.68	17.90
			256QAM	1	99	1	0	18.88	16.10
			256QAM	100	0	50	0	18.61	15.83
20MHz/15MHz	2585.6	2602.7	QPSK	1	99	1	0	23.59	20.81
			QPSK	100	0	75	0	22.01	19.23
			16QAM	1	99	1	0	22.37	19.59
			16QAM	100	0	75	0	20.59	17.81
			64QAM	1	99	1	0	21.61	18.83
			64QAM	100	0	75	0	20.87	18.09
			256QAM	1	99	1	0	18.54	15.76
			256QAM	100	0	75	0	19.03	16.25
20MHz/20MHz	2583.1	2602.9	QPSK	1	99	1	0	23.57	20.79
			QPSK	100	0	100	0	22.00	19.22
			16QAM	1	99	1	0	22.30	19.52
			16QAM	100	0	100	0	20.61	17.83
			64QAM	1	99	1	0	21.57	18.79
			64QAM	100	0	100	0	21.03	18.25
			256QAM	1	99	1	0	18.99	16.21
			256QAM	100	0	100	0	18.83	16.05

Note: Expanded measurement uncertainty is U = 0.578 dB, k = 2.

A.2 Emission Limit

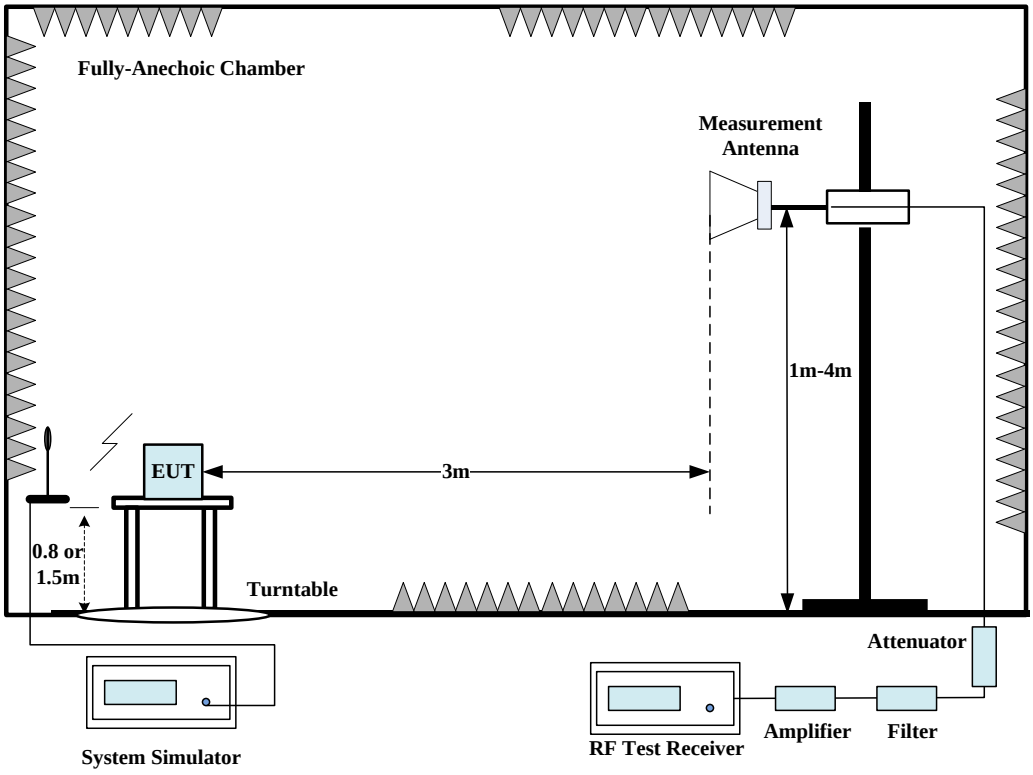
A.2.1 Measurement Method

The measurement procedures in TIA-603E-2016 are used.

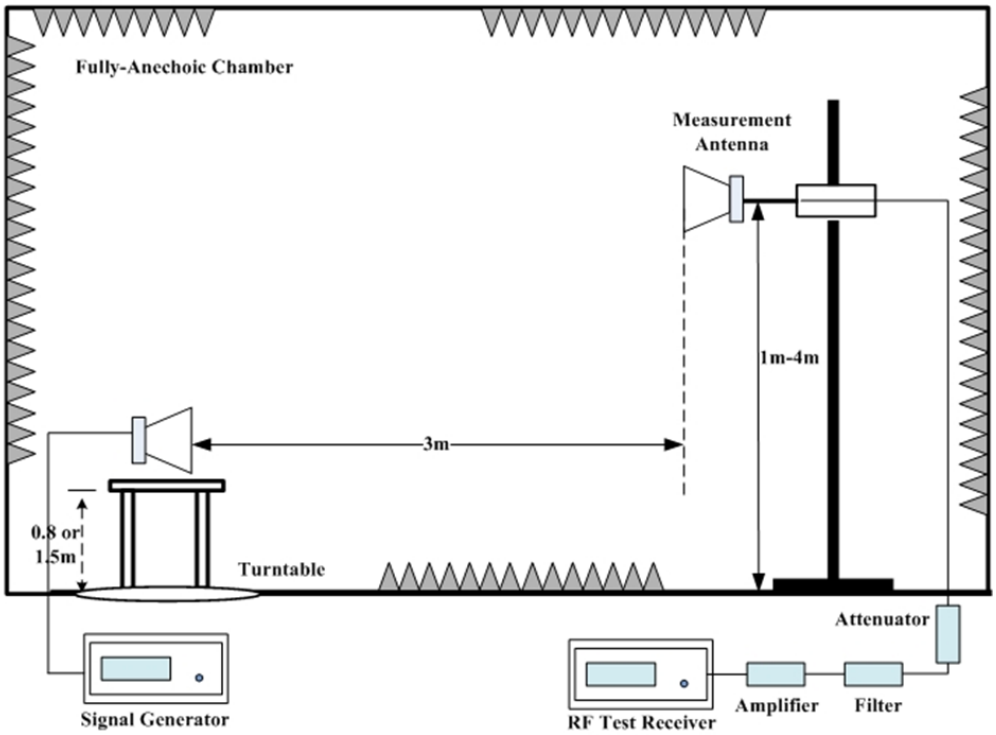
The spectrum was scanned from 30 MHz to the 10th harmonic of the highest frequency generated within the equipment, which is the transmitted carrier. The resolution bandwidth is set 1MHz. The spectrum was scanned with the mobile station transmitting at carrier frequencies that pertain to low, mid and high channels of each LTE Band.

The procedure of radiated spurious emissions is as follows:

For measurements performed at frequencies less than or equal to 1 GHz, the EUT was placed on a 80cm-high non-conductive support; For measurements performed at frequencies above 1GHz,EUT was placed on a 1.5-meter-high non-conductive support. A measurement antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. In the initial test, the height of the measurement antenna was varied from 1 m to 4 m for the relative positioning that produces the maximum radiated signal level. The test setup refers to figure below. Detected emissions were maximized at each frequency by rotating the EUT through 360° and adjusting the receiving antenna polarization. The radiated emission measurements of all non-harmonic and harmonics of the transmit frequency through the 10th harmonic were measured with peak detector.



1. The EUT is then put into continuously transmitting mode at its maximum power level during the test. And the maximum value of the receiver should be recorded as (Pr).
2. The EUT shall be replaced by a substitution antenna. The test setup refers to figure below.



In the chamber, a substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. The height of measurement antenna varied between 1 m to 4 m to maximize the received signal amplitude for each emission that was detected and measured in the initial test. A power (P_{Mea}) is applied to the input of the substitution antenna and adjusts the level of the signal generator output until the value of the receiver reach the previously recorded (P_r). The power of signal source (P_{Mea}) is recorded. The test was performed with the measurement antenna in both vertical and horizontal polarization.

3. The Path loss (P_{pl}) between the Signal Source and the Substitution Antenna and the Substitution Antenna Gain (G_a) were recorded after test.A amplifier was connected in for the test. The Path loss (P_{pl}) is the summation of the cable loss and the gain of the amplifier.
4. The measurement results are obtained as described below:

$$\text{Power (EIRP)} = P_{Mea} - P_{pl} + G_a$$

This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi) and known input power.ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP -2.15dBi.

A.2.2 Measurement Limit

FDD Band 7/TDD Band 38/41: Part 27.53(m) specifies for mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall

not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

FDD Band 12/13/17/71: Part 27.53(g) states for operations in the 600 MHz band and the 698–746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

FDD Band 2/25: Part 24.238 specify that the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

LTE Band 26(814MHz~824MHz): Part 90.691 states that out-of-band emission requirement shall apply only to the ‘‘outer’’ channels included in an EA license and to spectrum adjacent to interior channels used by incumbent licensees. The emission limits are as follows: For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116Log10(f/6.1) decibels or 50 + 10 Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz. For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + 10Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

FDD Band 5/26(824MHz~849MHz): Part 22.917 specify that the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

FDD Band 4/66: Part 27.53(h) specify that the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

A.2.3 Measurement Results

Radiated emissions measurements were made only at the upper, middle, and lower carrier frequencies of each LTE Band. It was decided that measurements at these three carrier frequencies would be sufficient to demonstrate compliance with emissions limits because it was seen that all the significant spurs occur well outside the band and no radiation was seen from a carrier in one block of each LTE Band into any of the other blocks. The equipment must still, however, meet emissions requirements with the carrier at all frequencies over which it is capable of operating and it is the manufacturer's responsibility to verify this. The range of evaluated frequency is from 30MHz to 26GHz.

Note 1: All CA UL combination bands have been tested, only the worst cases are reported.
Note 2: Both of Vertical and Horizontal polarizations are evaluated, but only the worst case is recorded in this report.

A.2.4 Measurement Results Table

Frequency	Channel	Frequency Range	Result
LTE Bands	Low	9kHz-26GHz	Pass
	Middle	9kHz-26GHz	Pass
	High	9kHz-26GHz	Pass

A.2.5 Sweep Table

Subrange	RBW	VBW
9~150 kHz	0.2kHz	0.6kHz
150kHz~30MHz	9kHz	27kHz
30MHz~1 GHz	100KHz	300KHz
1~20 GHz	1 MHz	3 MHz

A.2.6 Measurement Result

LTE Band 7, 5 MHz, QPSK, Channel 20775

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5005.02	-60.00	6.59	11.31	-55.28	-25.00	30.28	H
7508.01	-50.16	8.36	10.30	-48.22	-25.00	23.22	H
10012.01	-52.42	9.21	11.91	-49.72	-25.00	24.72	H
12516.01	-53.07	10.22	13.30	-49.99	-25.00	24.99	V
15017.00	-53.39	11.24	14.52	-50.11	-25.00	25.11	H
17506.00	-45.38	12.75	13.02	-45.11	-25.00	20.11	V

LTE Band 7, 5 MHz, QPSK, Channel 21100

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5073.02	-61.75	6.70	11.45	-57.00	-25.00	32.00	H
7606.01	-54.07	8.00	10.41	-51.66	-25.00	26.66	H
10146.01	-53.34	9.39	12.00	-50.73	-25.00	25.73	H
12691.01	-53.90	10.31	13.12	-51.09	-25.00	26.09	H
15193.00	-54.14	11.40	14.88	-50.66	-25.00	25.66	V
17759.00	-47.30	12.51	13.54	-46.27	-25.00	21.27	H

LTE Band 7, 5 MHz, QPSK, Channel 21425

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5137.02	-55.31	6.86	11.57	-50.60	-25.00	25.60	H
7703.01	-48.05	8.42	10.70	-45.77	-25.00	20.77	V
10273.01	-51.51	9.55	12.00	-49.06	-25.00	24.06	V
12841.01	-53.39	10.66	12.86	-51.19	-25.00	26.19	V
15412.00	-53.57	11.41	15.12	-49.86	-25.00	24.86	H
17986.00	-45.30	12.90	13.40	-44.80	-25.00	19.80	V

LTE Band 12, 1.4MHz, QPSK, Channel 23017

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Correction	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1342.01	-58.11	3.16	7.25	2.15	-56.17	-13.00	43.17	H
2000.01	-52.38	4.05	7.60	2.15	-50.98	-13.00	37.98	H
2688.00	-48.24	4.78	9.80	2.15	-45.37	-13.00	32.37	H
3348.02	-63.71	5.32	10.50	2.15	-60.68	-13.00	47.68	V
4014.02	-60.35	6.06	10.40	2.15	-58.16	-13.00	45.16	V
4690.02	-60.79	6.50	11.18	2.15	-58.26	-13.00	45.26	V

LTE Band 12, 1.4MHz, QPSK, Channel 23095

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Correction	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1427.01	-57.57	3.27	7.85	2.15	-55.14	-13.00	42.14	H
2127.00	-52.63	4.22	8.28	2.15	-50.72	-13.00	37.72	H
2835.00	-48.88	4.95	10.64	2.15	-45.34	-13.00	32.34	H
3529.02	-63.42	5.61	10.60	2.15	-60.58	-13.00	47.58	V
4257.02	-60.14	6.23	10.63	2.15	-57.89	-13.00	44.89	V
4964.01	-59.87	6.67	11.23	2.15	-57.46	-13.00	44.46	V

LTE Band 12, 1.4MHz, QPSK, Channel 23173

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Correction	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1430.01	-54.81	3.28	7.86	2.15	-52.38	-13.00	39.38	H
2156.00	-52.04	4.25	8.70	2.15	-49.74	-13.00	36.74	H
2868.00	-48.43	4.97	10.74	2.15	-44.81	-13.00	31.81	H
3586.02	-61.60	6.19	10.60	2.15	-59.34	-13.00	46.34	V
4288.02	-59.39	6.21	10.75	2.15	-57.00	-13.00	44.00	V
5010.01	-59.45	6.59	11.32	2.15	-56.87	-13.00	43.87	V

LTE Band 13, 5MHz, QPSK, Channel 23205

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Correction	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1559.53	-70.63	3.47	9.10	0.00	-67.15	-40.00	27.15	H
2338.98	-51.86	4.44	10.08	2.15	-48.37	-13.00	35.37	V
3119.02	-63.45	5.38	10.22	2.15	-60.76	-13.00	47.76	H
3893.02	-62.38	6.10	10.40	2.15	-60.23	-13.00	47.23	H
4676.02	-60.83	6.49	11.15	2.15	-58.32	-13.00	45.32	V
5457.01	-58.79	6.90	11.29	2.15	-56.55	-13.00	43.55	V

LTE Band 13, 5MHz, QPSK, Channel 23230

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Correction	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1560.58	-70.75	3.47	9.11	0.00	-67.26	-40.00	27.26	H
2346.70	-51.51	4.45	10.09	2.15	-48.02	-13.00	35.02	V
3128.02	-62.73	5.40	10.19	2.15	-60.09	-13.00	47.09	H
3911.02	-61.60	6.12	10.38	2.15	-59.49	-13.00	46.49	H
4691.52	-61.04	6.50	11.18	2.15	-58.51	-13.00	45.51	H
5477.01	-59.46	6.97	11.25	2.15	-57.33	-13.00	44.33	H

LTE Band 13, 5MHz, QPSK, Channel 23255

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Correction	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1569.33	-70.41	3.48	9.19	0.00	-66.85	-40.00	26.85	H
2353.47	-52.11	4.46	10.12	2.15	-48.60	-13.00	35.60	H
3130.52	-62.00	5.40	10.18	2.15	-59.37	-13.00	46.37	H
3921.52	-61.54	6.12	10.36	2.15	-59.45	-13.00	46.45	H
4713.02	-60.59	6.52	11.25	2.15	-58.01	-13.00	45.01	V
5483.51	-58.74	7.00	11.23	2.15	-56.66	-13.00	43.66	V

LTE Band 25, 1.4MHz, QPSK, Channel 26047

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3748.02	-63.11	6.30	10.31	-59.10	-13.00	46.10	V
5553.02	-58.02	7.18	11.20	-54.00	-13.00	41.00	V
7428.01	-54.72	8.19	10.16	-52.75	-13.00	39.75	V
9274.01	-54.40	9.09	11.65	-51.84	-13.00	38.84	V
11096.01	-51.72	9.84	12.70	-48.86	-13.00	35.86	V
12982.01	-52.37	10.47	12.72	-50.12	-13.00	37.12	V

LTE Band 25, 1.4MHz, QPSK, Channel 26365

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3790.02	-63.70	6.17	10.30	-59.57	-13.00	46.57	V
5649.02	-59.07	7.27	11.20	-55.14	-13.00	42.14	V
7497.01	-54.83	8.39	10.29	-52.93	-13.00	39.93	H
9437.01	-53.78	9.22	11.67	-51.33	-13.00	38.33	V
11340.01	-51.86	10.02	12.76	-49.12	-13.00	36.12	H
13134.01	-51.76	10.79	12.67	-49.88	-13.00	36.88	H

LTE Band 25, 1.4MHz, QPSK, Channel 26683

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3863.02	-64.14	6.09	10.40	-59.83	-13.00	46.83	H
5744.02	-57.75	7.27	11.11	-53.91	-13.00	40.91	V
7678.01	-54.97	8.33	10.61	-52.69	-13.00	39.69	V
9610.01	-54.52	9.14	11.92	-51.74	-13.00	38.74	V
11472.01	-52.85	9.88	12.70	-50.03	-13.00	37.03	V
13403.01	-51.72	10.57	12.40	-49.89	-13.00	36.89	V

LTE Band 26(824MHz~849MHz), 1.4MHz, QPSK, Channel 26797

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Correction	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1638.01	-58.69	3.56	9.50	2.15	-54.90	-13.00	41.90	H
2461.00	-48.52	4.58	10.36	2.15	-44.89	-13.00	31.89	V
3298.02	-64.72	5.29	10.40	2.15	-61.76	-13.00	48.76	V
4143.02	-61.30	6.08	10.40	2.15	-59.13	-13.00	46.13	H
4963.01	-60.09	6.67	11.23	2.15	-57.68	-13.00	44.68	V
5759.01	-58.22	7.25	11.08	2.15	-56.54	-13.00	43.54	V

LTE Band 26(824MHz~849MHz), 1.4MHz, QPSK, Channel 26915

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Correction	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1680.01	-59.13	3.59	9.56	2.15	-55.31	-13.00	42.31	H
2509.00	-45.96	4.63	10.18	2.15	-42.56	-13.00	29.56	H
3345.02	-61.87	5.31	10.49	2.15	-58.84	-13.00	45.84	H
4189.02	-60.32	6.18	10.48	2.15	-58.17	-13.00	45.17	H
5008.01	-59.12	6.59	11.32	2.15	-56.54	-13.00	43.54	V
5860.01	-58.38	7.27	10.74	2.15	-57.06	-13.00	44.06	H

LTE Band 26(824MHz~849MHz), 1.4MHz, QPSK, Channel 27033

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Correction	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1698.01	-58.77	3.60	9.60	2.15	-54.92	-13.00	41.92	V
2545.00	-44.32	4.66	10.11	2.15	-41.02	-13.00	28.02	H
3393.02	-55.92	5.36	10.50	2.15	-52.93	-13.00	39.93	H
4252.02	-59.91	6.24	10.61	2.15	-57.69	-13.00	44.69	V
5105.01	-59.58	6.79	11.51	2.15	-57.01	-13.00	44.01	H
5941.01	-58.00	7.47	10.50	2.15	-57.12	-13.00	44.12	V

LTE Band 26(814MHz~824MHz), 1.4MHz, QPSK, Channel 26697

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Correction	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1635.01	-57.15	3.55	9.50	2.15	-53.35	-13.00	40.35	H
2444.00	-50.56	4.57	10.40	2.15	-46.88	-13.00	33.88	H
7349.01	-53.49	8.11	10.00	2.15	-53.75	-13.00	40.75	V
8152.01	-52.64	8.42	11.30	2.15	-51.91	-13.00	38.91	H
8964.00	-51.62	9.07	11.63	2.15	-51.21	-13.00	38.21	H
9772.00	-52.73	8.97	12.00	2.15	-51.85	-13.00	38.85	H

LTE Band 26(814MHz~824MHz), 1.4MHz, QPSK, Channel 26740

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Correction	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1648.01	-57.60	3.56	9.50	2.15	-53.81	-13.00	40.81	H
2457.00	-49.98	4.58	10.37	2.15	-46.34	-13.00	33.34	H
3278.02	-63.37	5.28	10.36	2.15	-60.44	-13.00	47.44	V
4076.02	-61.19	6.04	10.40	2.15	-58.98	-13.00	45.98	V
4923.01	-59.46	6.73	11.31	2.15	-57.03	-13.00	44.03	H
5738.01	-58.38	7.28	11.12	2.15	-56.69	-13.00	43.69	V

LTE Band 26(814MHz~824MHz), 1.4MHz, QPSK, Channel 26783

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Correction	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1830.01	-56.38	3.80	9.52	2.15	-52.81	-13.00	39.81	H
2470.00	-47.73	4.59	10.32	2.15	-44.15	-13.00	31.15	H
7340.01	-52.87	8.11	9.98	2.15	-53.15	-13.00	40.15	H
8380.00	-52.55	8.64	11.40	2.15	-51.94	-13.00	38.94	V
8939.00	-51.79	8.98	11.58	2.15	-51.34	-13.00	38.34	V
9756.00	-51.72	8.94	12.00	2.15	-50.81	-13.00	37.81	H

LTE Band 41, 5MHz, QPSK, Channel 39675

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
4999.02	-61.01	6.60	11.30	-56.31	-25.00	31.31	V
7496.01	-44.91	8.38	10.29	-43.00	-25.00	18.00	H
9995.01	-52.97	9.18	11.91	-50.24	-25.00	25.24	H
12496.01	-52.97	10.18	13.30	-49.85	-25.00	24.85	V
14990.00	-53.51	11.21	14.46	-50.26	-25.00	25.26	V
17485.00	-45.40	12.69	13.06	-45.03	-25.00	20.03	V

LTE Band 41, 5MHz, QPSK, Channel 40620

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5186.02	-59.79	6.94	11.67	-55.06	-25.00	30.06	V
7781.01	-52.78	8.31	10.82	-50.27	-25.00	25.27	H
10375.01	-52.64	9.76	12.08	-50.32	-25.00	25.32	H
12966.01	-50.40	10.48	12.73	-48.15	-25.00	23.15	H
15558.00	-55.11	11.50	15.36	-51.25	-25.00	26.25	H
16858.00	-50.70	12.05	14.06	-48.69	-25.00	23.69	V

LTE Band 41, 5MHz, QPSK, Channel 41565

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5378.02	-59.16	6.88	11.44	-54.60	-25.00	29.60	H
8063.01	-49.91	8.32	11.27	-46.96	-25.00	21.96	H
10729.01	-52.95	9.38	12.13	-50.20	-25.00	25.20	V
13438.01	-50.24	10.60	12.44	-48.40	-25.00	23.40	H
16143.00	-53.76	11.80	15.27	-50.29	-25.00	25.29	H
17479.00	-45.33	12.68	13.08	-44.93	-25.00	19.93	H

LTE Band 66, 1.4MHz QPSK, Channel 131979

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3420.02	-75.68	5.38	10.46	-70.60	-13.00	57.60	H
5134.02	-71.61	6.86	11.57	-66.90	-13.00	53.90	H
6854.01	-67.48	7.82	10.39	-64.91	-13.00	51.91	H
8570.01	-65.47	8.55	11.34	-62.68	-13.00	49.68	H
10239.01	-64.13	9.43	12.00	-61.56	-13.00	48.56	H
11922.01	-63.98	10.42	13.12	-61.28	-13.00	48.28	V

LTE Band 66, 1.4MHz, QPSK, Channel 132322

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3493.02	-64.99	5.51	10.57	-59.93	-25.00	34.93	V
5237.02	-61.39	7.00	11.70	-56.69	-25.00	31.69	V
6983.01	-56.88	8.17	10.40	-54.65	-25.00	29.65	H
8711.01	-55.25	8.39	11.30	-52.34	-25.00	27.34	V
10465.01	-53.05	9.70	12.17	-50.58	-25.00	25.58	H
12206.01	-53.24	10.06	13.42	-49.88	-25.00	24.88	H

LTE Band 66, 1.4MHz, QPSK, Channel 132665

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3502.02	-75.15	5.52	10.60	-70.07	-13.00	57.07	V
5247.02	-72.80	7.00	11.70	-68.10	-13.00	55.10	V
7010.01	-67.57	8.28	10.42	-65.43	-13.00	52.43	V
8700.01	-65.78	8.36	11.30	-62.84	-13.00	49.84	V
10481.01	-64.03	9.68	12.18	-61.53	-13.00	48.53	V
12162.01	-63.92	10.17	13.29	-60.80	-13.00	47.80	H

LTE Band 71, 5MHz, QPSK, Channel 133147

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Correction	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1302.01	-57.09	3.12	7.01	2.15	-55.35	-13.00	42.35	H
1997.01	-51.81	4.04	7.64	2.15	-50.36	-13.00	37.36	H
2674.00	-47.83	4.76	9.80	2.15	-44.94	-13.00	31.94	H
3338.02	-64.59	5.31	10.48	2.15	-61.57	-13.00	48.57	V
4007.02	-60.47	6.06	10.40	2.15	-58.28	-13.00	45.28	V
4688.02	-60.45	6.50	11.18	2.15	-57.92	-13.00	44.92	V

LTE Band 71, 5MHz, QPSK, Channel 133297

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Correction	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1367.01	-59.05	3.20	7.47	2.15	-56.93	-13.00	43.93	H
2042.00	-52.91	4.14	7.35	2.15	-51.85	-13.00	38.85	H
2710.00	-48.10	4.80	9.86	2.15	-45.19	-13.00	32.19	H
3416.02	-63.68	5.38	10.47	2.15	-60.74	-13.00	47.74	H
4082.02	-61.17	6.04	10.40	2.15	-58.96	-13.00	45.96	V
4772.01	-60.94	6.61	11.40	2.15	-58.30	-13.00	45.30	V

LTE Band 71, 5MHz, QPSK, Channel 133447

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Correction	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1415.01	-57.86	3.25	7.83	2.15	-55.43	-13.00	42.43	H
2112.00	-52.52	4.20	8.07	2.15	-50.80	-13.00	37.80	V
2811.00	-49.79	4.93	10.54	2.15	-46.33	-13.00	33.33	H
3493.02	-63.11	5.51	10.57	2.15	-60.20	-13.00	47.20	V
4176.02	-59.56	6.15	10.45	2.15	-57.41	-13.00	44.41	H
4854.01	-60.22	6.72	11.40	2.15	-57.69	-13.00	44.69	H

LTE CA Band 41C, 5MHz+20MHz, QPSK, CH39683+39800

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5005.32	-62.43	6.59	11.31	-57.71	-25.00	32.71	V
7468.60	-55.59	8.31	10.24	-53.66	-25.00	28.66	H
10014.38	-54.63	9.22	11.91	-51.94	-25.00	26.94	H
12502.03	-53.17	10.18	13.30	-50.05	-25.00	25.05	V
15002.35	-53.93	11.22	14.50	-50.65	-25.00	25.65	H
17487.19	-46.16	12.70	13.05	-45.81	-25.00	20.81	H

LTE CA Band 41C, 5MHz+20MHz, QPSK, CH40528+40645

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5143.60	-62.03	6.87	11.59	-57.31	-25.00	32.31	H
7733.91	-55.82	8.38	10.70	-53.50	-25.00	28.50	V
10347.19	-53.93	9.72	12.05	-51.60	-25.00	26.60	H
12948.75	-53.54	10.49	12.75	-51.28	-25.00	26.28	H
15504.85	-54.28	11.53	15.30	-50.51	-25.00	25.51	H
16802.34	-52.28	12.11	14.00	-50.39	-25.00	25.39	H

LTE CA Band 41C, 5MHz+20MHz, QPSK, CH41373+41490

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5336.73	-61.11	6.96	11.53	-56.54	-25.00	31.54	H
8005.79	-54.84	8.32	11.21	-51.95	-25.00	26.95	H
10651.41	-53.79	9.29	12.15	-50.93	-25.00	25.93	V
13318.13	-52.72	10.58	12.56	-50.74	-25.00	25.74	V
15980.63	-55.75	11.78	15.56	-51.97	-25.00	26.97	H
17333.44	-48.30	12.41	13.67	-47.04	-25.00	22.04	V

LTE CA Band 2A_4A, 10MHz+5MHz, QPSK, CH18650+19975

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3712.01	-64.20	6.40	10.45	-60.15	-13.00	47.15	V
5553.01	-60.79	7.18	11.20	-56.77	-13.00	43.77	H
7440.01	-55.07	8.23	10.18	-53.12	-13.00	40.12	V
9253.01	-55.34	9.05	11.69	-52.70	-13.00	39.70	V
11112.00	-53.04	9.78	12.71	-50.11	-13.00	37.11	V
12985.00	-51.92	10.47	12.71	-49.68	-13.00	36.68	H

LTE CA Band 2A_4A, 10MHz+5MHz, QPSK, CH18900+20175

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3771.01	-63.66	6.23	10.30	-59.59	-13.00	46.59	V
5645.01	-60.77	7.27	11.20	-56.84	-13.00	43.84	H
7535.01	-55.71	8.25	10.30	-53.66	-13.00	40.66	H
9398.01	-53.85	9.04	11.60	-51.29	-13.00	38.29	H
11288.00	-53.04	9.92	12.80	-50.16	-13.00	37.16	V
13153.00	-52.27	10.70	12.65	-50.32	-13.00	37.32	H

LTE CA Band 2A_4A, 10MHz+5MHz, QPSK, CH19150+20375

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3822.01	-64.13	6.07	10.34	-59.86	-13.00	46.86	V
5724.01	-60.40	7.30	11.15	-56.55	-13.00	43.55	V
7625.01	-55.47	8.09	10.45	-53.11	-13.00	40.11	H
9519.01	-54.59	9.47	11.78	-52.28	-13.00	39.28	H
11430.00	-52.85	9.99	12.70	-50.14	-13.00	37.14	V
13363.00	-52.52	10.57	12.47	-50.62	-13.00	37.62	H

LTE CA Band 2A_12A, 10MHz+5MHz, QPSK, CH18650+23035

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3710.01	-58.63	6.40	10.46	-54.57	-13.00	41.57	V
5567.01	-45.08	7.20	11.20	-41.08	-13.00	28.08	V
7429.01	-54.96	8.20	10.16	-53.00	-13.00	40.00	V
9280.01	-54.50	9.11	11.64	-51.97	-13.00	38.97	H
11101.00	-52.36	9.83	12.70	-49.49	-13.00	36.49	V
13003.00	-52.33	10.48	12.70	-50.11	-13.00	37.11	V

LTE CA Band 2A_12A, 10MHz+5MHz, QPSK, CH18900+23095

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3760.01	-56.81	6.26	10.30	-52.77	-13.00	39.77	V
5640.01	-44.78	7.27	11.20	-40.85	-13.00	27.85	H
7528.01	-55.32	8.28	10.30	-53.30	-13.00	40.30	H
9404.01	-53.96	9.06	11.61	-51.41	-13.00	38.41	H
11303.00	-53.07	10.00	12.80	-50.27	-13.00	37.27	V
13187.00	-52.43	10.55	12.61	-50.37	-13.00	37.37	V

LTE CA Band 2A_12A, 10MHz+5MHz, QPSK, CH19150+23155

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3810.01	-58.22	6.11	10.32	-54.01	-13.00	41.01	V
5717.01	-46.10	7.30	11.17	-42.23	-13.00	29.23	H
7622.01	-55.09	8.07	10.44	-52.72	-13.00	39.72	H
9510.01	-53.70	9.51	11.74	-51.47	-13.00	38.47	H
11434.00	-53.14	9.98	12.70	-50.42	-13.00	37.42	H
13311.00	-51.54	10.58	12.58	-49.54	-13.00	36.54	V

LTE CA Band 2A_66A, 10MHz+10MHz, QPSK, CH18650+132022

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3443.01	-65.42	5.42	10.41	-60.43	-13.00	47.43	H
5147.01	-60.83	6.88	11.59	-56.12	-13.00	43.12	V
6858.01	-57.17	7.81	10.38	-54.60	-13.00	41.60	V
8597.01	-54.53	8.50	11.39	-51.64	-13.00	38.64	V
10302.01	-53.86	9.65	12.00	-51.51	-13.00	38.51	V
12008.00	-53.32	10.07	13.19	-50.20	-13.00	37.20	V

LTE CA Band 2A_66A, 10MHz+10MHz, QPSK, CH19150+132622

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3513.01	-64.96	5.54	10.60	-59.90	-13.00	46.90	V
5237.01	-58.55	7.00	11.70	-53.85	-13.00	40.85	V
6981.01	-56.79	8.15	10.40	-54.54	-13.00	41.54	V
8702.01	-54.93	8.37	11.30	-52.00	-13.00	39.00	V
10490.01	-53.45	9.67	12.19	-50.93	-13.00	37.93	H
12200.00	-54.14	10.06	13.40	-50.80	-13.00	37.80	V

LTE CA Band 2A_66A, 10MHz+10MHz, QPSK, CH18650+132022

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3531.01	-65.71	5.63	10.60	-60.74	-13.00	47.74	V
5324.01	-55.27	6.99	11.55	-50.71	-13.00	37.71	V
7129.01	-56.83	8.17	10.50	-54.50	-13.00	41.50	H
8881.01	-54.74	8.81	11.46	-52.09	-13.00	39.09	V
10646.00	-53.83	9.29	12.15	-50.97	-13.00	37.97	V
12449.00	-54.01	10.31	13.35	-50.97	-13.00	37.97	H

LTE CA Band 12A_66A, 5MHz+10MHz, QPSK, CH23035+132022

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Correction	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1403.76	-59.37	3.24	7.81	2.15	-56.95	-13.00	43.95	V
2105.00	-53.28	4.20	7.97	2.15	-51.66	-13.00	38.66	V
2808.50	-50.72	4.93	10.53	2.15	-47.27	-13.00	34.27	V
3512.36	-64.73	5.54	10.60	2.15	-61.82	-13.00	48.82	V
4205.64	-61.56	6.22	10.51	2.15	-59.42	-13.00	46.42	V
4906.89	-61.92	6.73	11.37	2.15	-59.43	-13.00	46.43	V

LTE CA Band 12A_66A, 5MHz+10MHz, QPSK, CH23095+132322

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Correction	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1415.26	-58.66	3.25	7.83	2.15	-56.23	-13.00	43.23	H
2124.50	-53.31	4.21	8.24	2.15	-51.43	-13.00	38.43	H
2838.00	-50.01	4.95	10.65	2.15	-46.46	-13.00	33.46	H
3529.24	-64.78	5.61	10.60	2.15	-61.94	-13.00	48.94	V
4244.08	-61.71	6.25	10.59	2.15	-59.52	-13.00	46.52	H
4952.83	-60.66	6.68	11.21	2.15	-58.28	-13.00	45.28	V

LTE CA Band 12A_66A, 5MHz+10MHz, QPSK, CH23155+132622

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Correction	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3534.39	-64.49	5.66	10.60	2.15	-61.70	-13.00	48.70	V
5325.49	-55.72	6.99	11.55	2.15	-53.31	-13.00	40.31	V
7084.70	-55.50	8.18	10.50	2.15	-55.33	-13.00	42.33	H
8884.23	-53.88	8.82	11.47	2.15	-53.38	-13.00	40.38	H
10658.92	-52.61	9.29	12.14	2.15	-51.91	-13.00	38.91	H
12427.04	-53.33	10.37	13.37	2.15	-52.48	-13.00	39.48	H

Note: Peak EIRP (dBm) = PMea(dBm) - Path Loss(dB) + Antenna Gain(dBi)

Note: Expanded measurement uncertainty is U = 5.76 dB, k = 2.

A.3 Frequency Stability

A.3.1 Method of Measurement

Frequency stability is a measure of the frequency drift due to temperature and supply voltage variations, with reference to the frequency measured at +20 °C and rated supply voltage. Two reference points are established at the applicable unwanted emissions limit using a RBW equal to the RBW required by the unwanted emissions specification of the applicable regulatory standard. These reference points measured using the lowest and highest channel of operation shall be identified as F_L and F_H respectively.

In order to measure the carrier frequency under the condition of AFC lock, it is necessary to make measurements with the EUT in a “call mode”. This is accomplished with the use of CMW500.

1. Measure the carrier frequency at room temperature.
2. Subject the EUT to overnight soak at -30℃.
3. With the EUT, powered via nominal voltage, connected to the CMW500, and in a simulated call on middle channel for each LTE band, measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.
4. Repeat the above measurements at 10℃ increments from -30℃ to +50℃. Allow at least 1.5 hours at each temperature, unpowered, before making measurements.
5. Re-measure carrier frequency at room temperature with nominal voltage. Vary supply voltage from minimum voltage to maximum voltage, in 0.1Volt increments re-measuring carrier frequency at each voltage. Pause at nominal voltage for 1.5 hours unpowered, to allow any self-heating to stabilize, before continuing.
6. Subject the EUT to overnight soak at +50℃.
7. With the EUT, powered via nominal voltage, connected to the CMW500 and in a simulated call on the center channel, measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.
8. Repeat the above measurements at 10 ℃ decrements from +50℃ to -30℃. Allow at least 1.5 hours at each temperature, unpowered, before making measurements.
9. At all temperature levels hold the temperature to +/- 0.5℃ during the measurement procedure.

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. As this transceiver is considered "Hand carried, battery powered equipment" Section 2.1055(d)(2) applies. This requires that the lower voltage for frequency stability testing be specified by the manufacturer. This transceiver is specified to operate with an input voltage of the lower, higher and nominal voltage. Operation above or below these voltage limits is prohibited by transceiver software in order to prevent improper operation as well as to protect components from overstress.

A.3.2 Measurement results

LTE Band 7, 20MHz bandwidth QPSK (worst case of all bandwidths)

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.87	2500.641	2569.423	-0.36	0.0001
50				9.21	0.0036
40				-1.00	0.0004
30				8.94	0.0035
10				8.74	0.0034
0				8.65	0.0034
-10				8.93	0.0035
-20				8.17	0.0032
-30					

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
3.6	20	2500.641	2569.423	8.27	0.0033
4.45				9.96	0.0039

LTE Band 12, 10MHz bandwidth QPSK (worst case of all bandwidths)

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.87	699.481	715.519	-0.03	0.0000
50				-4.96	0.0070
40				-0.13	0.0002
30				-6.42	0.0091
10				-4.99	0.0071
0				-0.50	0.0007
-10				0.06	0.0001
-20				-5.55	0.0078
-30					

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
3.6	20	699.481	715.519	-5.72	0.0081
4.45				1.22	0.0017

LTE Band 13, 10MHz bandwidth QPSK (worst case of all bandwidths)

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.87	777.465	786.535		
50				-5.91	0.0076
40				1.33	0.0017
30				-0.26	0.0003
10				0.10	0.0001
0				1.17	0.0015
-10				-0.53	0.0007
-20				-5.66	0.0072
-30				1.52	0.0019

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
3.6	20	777.465	786.535	0.10	0.0001
4.45				0.84	0.0011

LTE Band 25, 20MHz bandwidth QPSK (worst case of all bandwidths)

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.87	1850.865	1914.199		
50				-1.22	0.0006
40				-0.39	0.0002
30				-0.23	0.0001
10				0.07	0.0000
0				-1.10	0.0006
-10				-2.06	0.0011
-20				-0.99	0.0005
-30				-0.20	0.0001

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
3.6	20	1850.865	1914.199	-0.70	0.0004
4.45				-1.43	0.0008

LTE Band 26(814MHz~824MHz), 10MHz bandwidth QPSK (worst case of all bandwidths)

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.87	814.389	823.606	-4.86	0.0059
50				1.09	0.0013
40				-4.56	0.0056
30				0.27	0.0003
10				-4.06	0.0050
0				-4.63	0.0057
-10				-5.85	0.0071
-20				1.20	0.0015
-30					

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
3.6	20	814.389	823.606	1.54	0.0019
4.45				-4.09	0.0050

LTE Band 26(824MHz~849MHz), 15MHz bandwidth QPSK (worst case of all bandwidths)

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.87	824.577	848.471	-0.34	0.0004
50				-0.06	0.0001
40				0.26	0.0003
30				0.57	0.0007
10				-0.27	0.0003
0				0.13	0.0002
-10				0.09	0.0001
-20				5.89	0.0070
-30					

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
3.6	20	824.577	848.471	0.39	0.0005
4.45				7.15	0.0085

LTE Band 41, 20MHz bandwidth QPSK (worst case of all bandwidths)

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.87	2496.417	2689.519		
50				-0.57	0.0002
40				0.69	0.0003
30				1.65	0.0006
10				0.01	0.0000
0				0.67	0.0003
-10				-0.10	0.0000
-20				-3.73	0.0014
-30				0.76	0.0003

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
3.6	20	2496.417	2689.519	-1.72	0.0007
4.45				0.56	0.0002

LTE Band 66, 20MHz bandwidth QPSK (worst case of all bandwidths)

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.87	1710.833	1779.199		
50				-1.30	0.0007
40				-0.92	0.0005
30				-1.56	0.0009
10				-2.56	0.0015
0				-0.87	0.0005
-10				-0.40	0.0002
-20				-1.30	0.0007
-30				-0.73	0.0004

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
3.6	20	1710.833	1779.199	-0.46	0.0003
4.45				-1.02	0.0006

LTE Band 71, 20MHz bandwidth QPSK (worst case of all bandwidths)

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.87	663.994	697.006	-5.98	0.0088
50				-5.24	0.0077
40				-6.15	0.0090
30				-0.21	0.0003
10				-5.75	0.0084
0				-5.52	0.0081
-10				-4.92	0.0072
-20				-6.17	0.0091
-30					

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
3.6	20	663.994	697.006	-5.19	0.0076
4.45				-5.08	0.0075

LTE CA_band 41, 20MHz+20MHz bandwidth QPSK(worst case of all bandwidths)

Frequency Error vs Voltage

Temperature(℃)	Voltage(V)	FL(MHz)	FH(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.87	2496.940	2689.060	1.02	0.0004
50				0.86	0.0003
40				2.25	0.0009
30				1.87	0.0007
10				1.82	0.0007
0				2.93	0.0011
-10				2.68	0.0010
-20				4.62	0.0018
-30					

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	FL(MHz)	FH(MHz)	Offset(Hz)	Frequency error(ppm)
3.6	20	2496.940	2689.060	3.69	0.0014
4.45				3.75	0.0014

Note: Expanded measurement uncertainty is U = 0.01 PPM, k = 2.

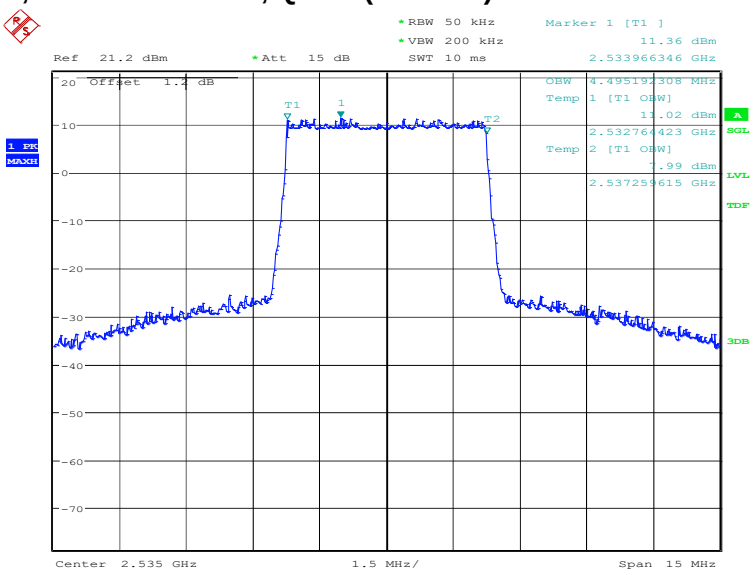
A.4 Occupied Bandwidth

Occupied bandwidth measurements are only provided for selected frequencies in order to reduce the amount of submitted data. Data were taken at the mid frequencies frequency. The table below lists the measured 99% BW. Spectrum analyzer plots are included on the following pages.
The measurement method is from ANSI C63.26:
a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be set wide enough to capture all modulation products including the emission skirts.
b) The nominal IF filter 3 dB bandwidth (RBW) shall be in the range of 1% to 5% of the anticipated OBW, and the VBW shall be set ≥ 3 × RBW.
c) Set the reference level of the instrument as required to prevent the signal amplitude from exceeding the maximum spectrum analyzer input mixer level for linear operation.
d) Set the detection mode to peak, and the trace mode to max-hold.

LTE band 7, 5MHz (99%)

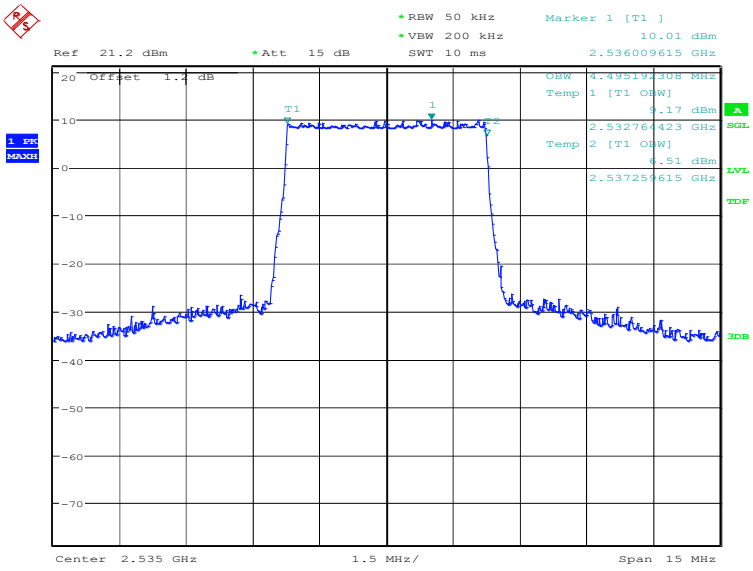
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
2535.0	QPSK	16QAM
	4495.19	4495.19

LTE band 7, 5MHz Bandwidth, QPSK (99% BW)



Date: 10.MAR.2023 13:54:44

LTE band 7, 5MHz Bandwidth, 16QAM (99% BW)

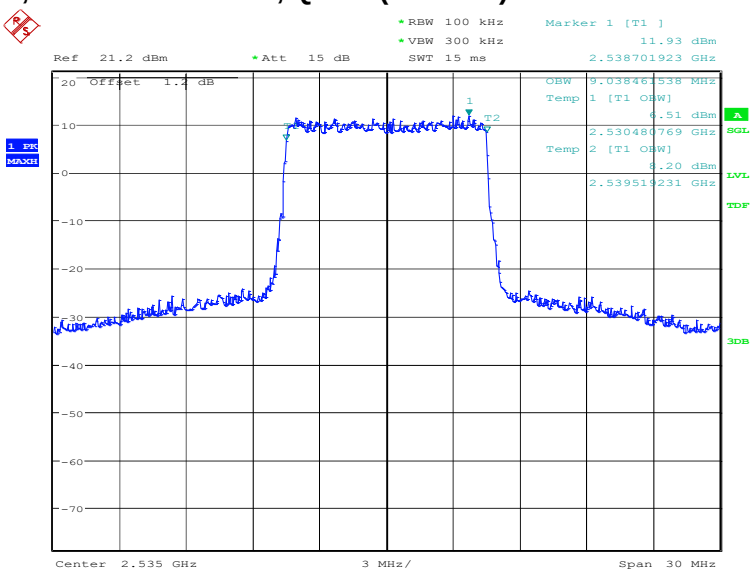


Date: 10.MAR.2023 13:55:24

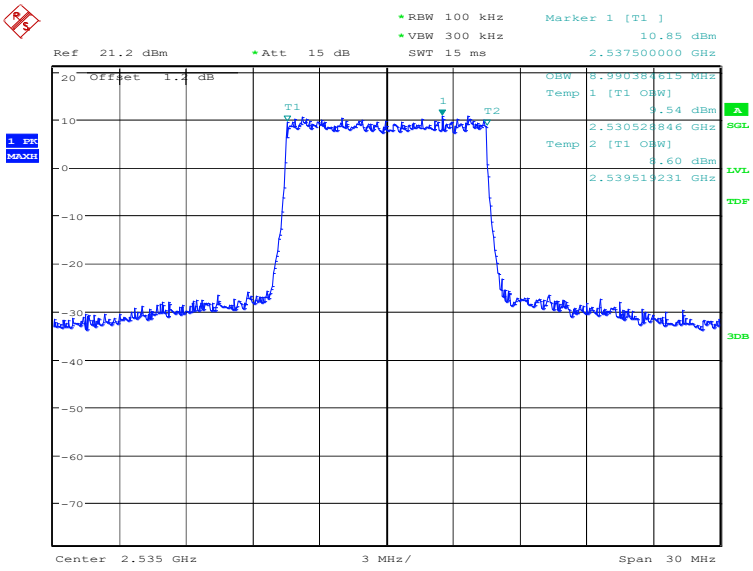
LTE band 7, 10MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
2535.0	QPSK	16QAM
	9038.46	8990.38

LTE band 7, 10MHz Bandwidth, QPSK (99% BW)



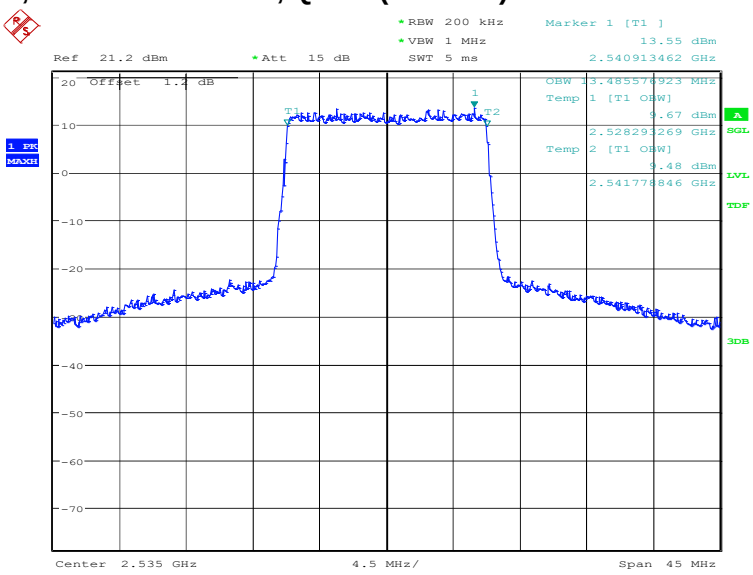
LTE band 7, 10MHz Bandwidth, 16QAM (99% BW)



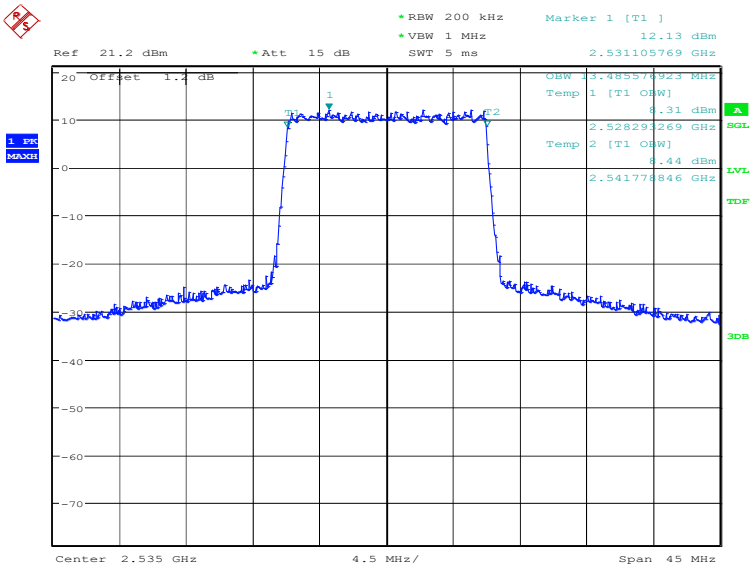
LTE band 7, 15MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
2535.0	QPSK	16QAM
	13485.58	13485.58

LTE band 7, 15MHz Bandwidth, QPSK (99% BW)



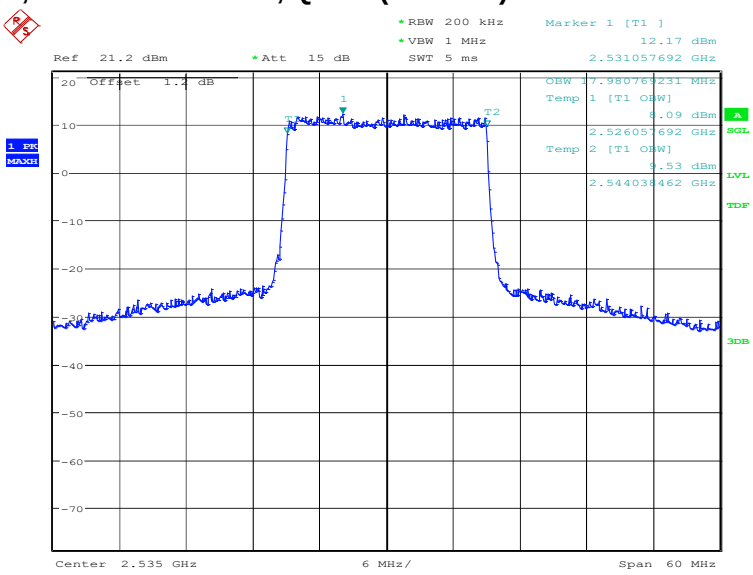
LTE band 7, 15MHz Bandwidth, 16QAM (99% BW)



LTE band 7, 20MHz (99%)

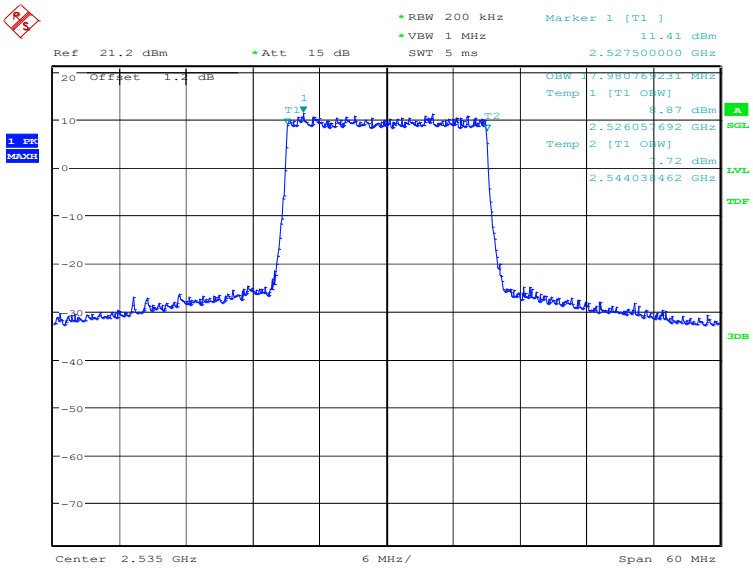
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
2535.0	QPSK	16QAM
	17980.77	17980.77

LTE band 7, 20MHz Bandwidth, QPSK (99% BW)



Date: 10.MAR.2023 13:58:52

LTE band 7, 20MHz Bandwidth, 16QAM (99% BW)

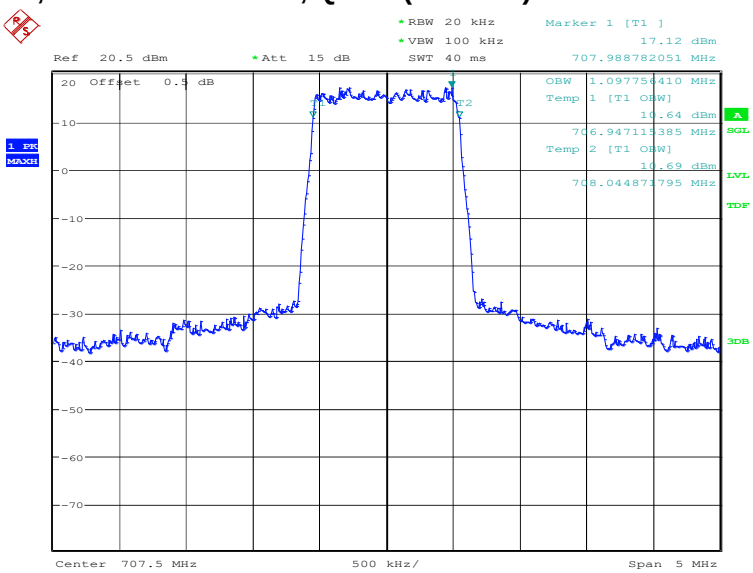


Date: 10.MAR.2023 13:59:32

LTE band 12, 1.4MHz (99%)

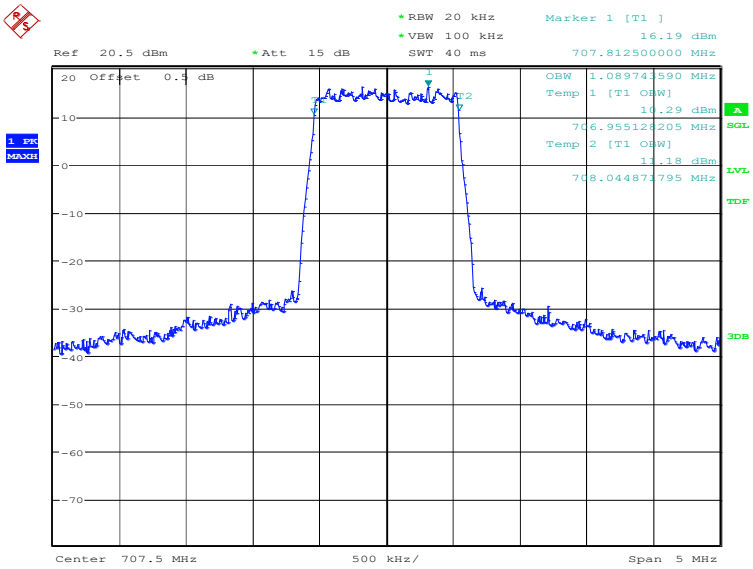
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
707.5	QPSK	16QAM
	1097.76	1089.74

LTE band 12, 1.4MHz Bandwidth, QPSK (99% BW)



Date: 9.MAR.2023 17:11:46

LTE band 12, 1.4MHz Bandwidth, 16QAM (99% BW)

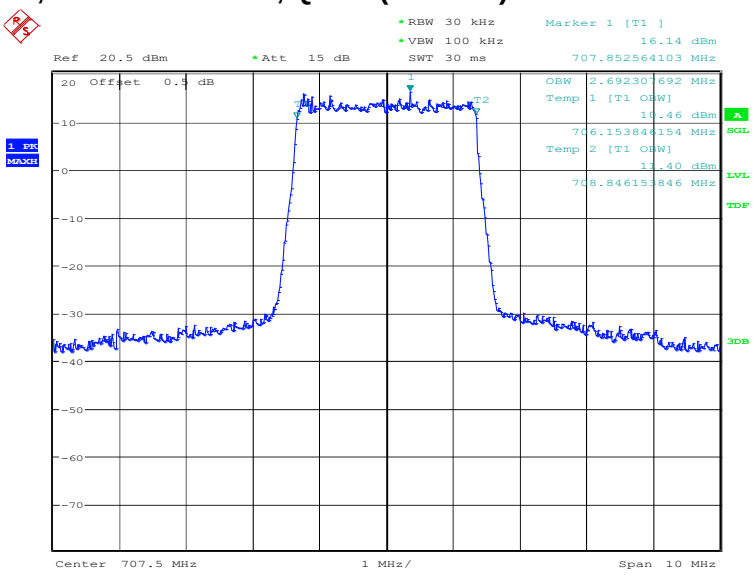


Date: 9.MAR.2023 17:12:26

LTE band 12, 3MHz (99%)

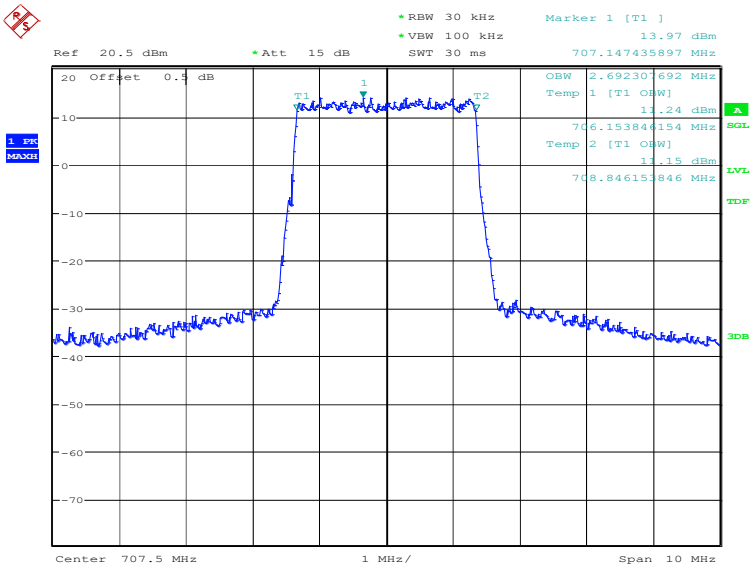
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
707.5	QPSK	16QAM
	2692.31	2692.31

LTE band 12, 3MHz Bandwidth, QPSK (99% BW)



Date: 9.MAR.2023 17:13:08

LTE band 12, 3MHz Bandwidth, 16QAM (99% BW)

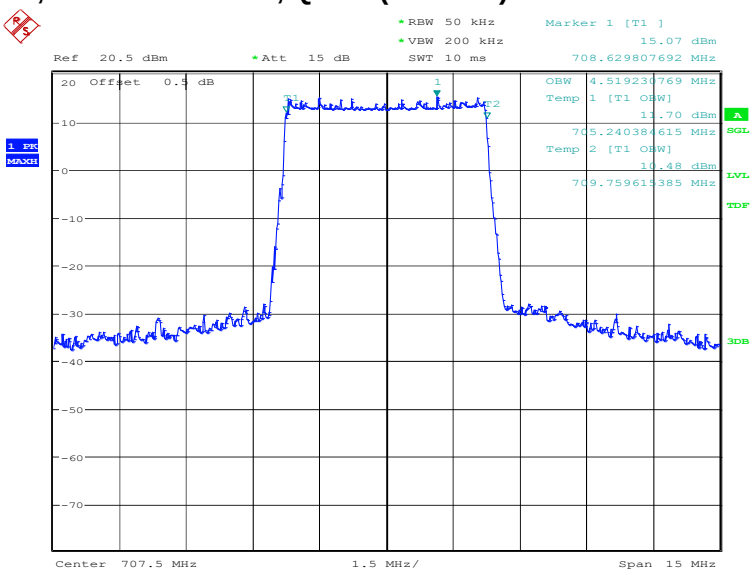


Date: 9.MAR.2023 17:13:48

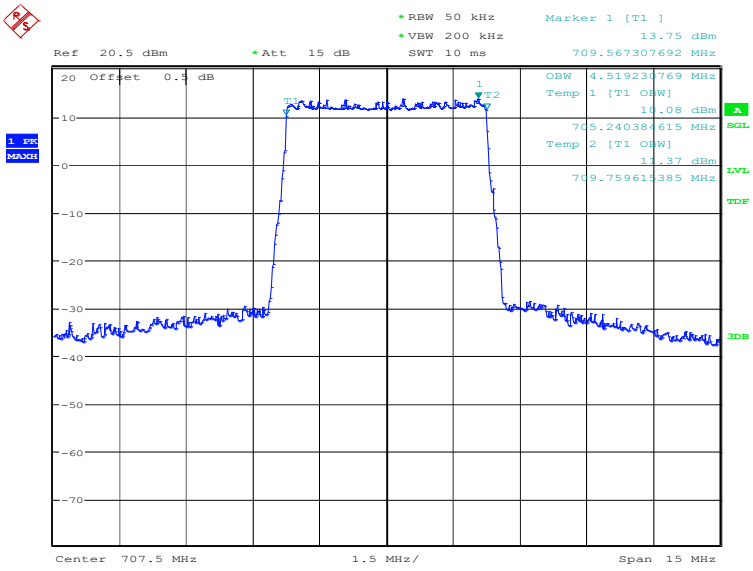
LTE band 12, 5MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
707.5	QPSK	16QAM
	4519.23	4519.23

LTE band 12, 5MHz Bandwidth, QPSK (99% BW)



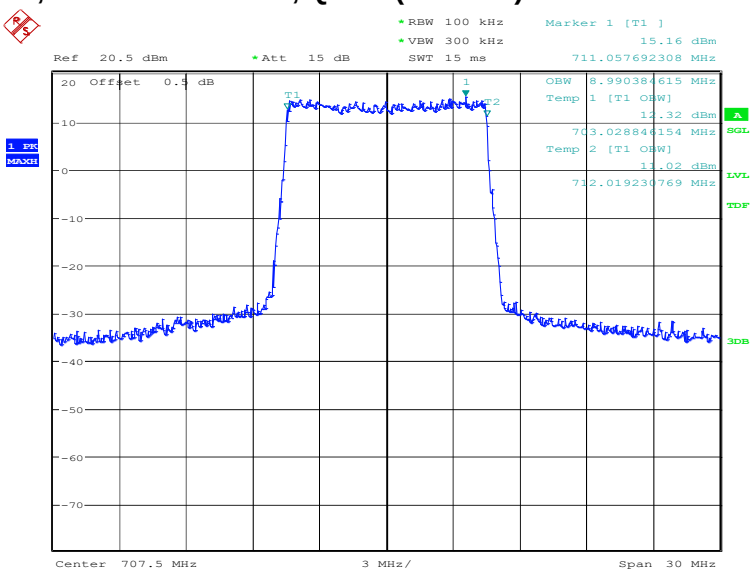
LTE band 12, 5MHz Bandwidth, 16QAM (99% BW)



LTE band 12, 10MHz (99%)

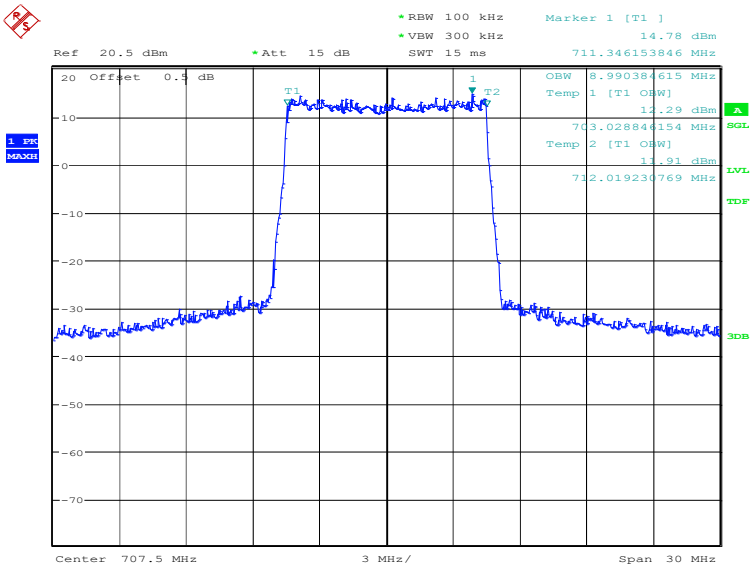
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
707.5	QPSK	16QAM
	8990.38	8990.38

LTE band 12, 10MHz Bandwidth, QPSK (99% BW)



Date: 9.MAR.2023 17:15:54

LTE band 12, 10MHz Bandwidth, 16QAM (99% BW)

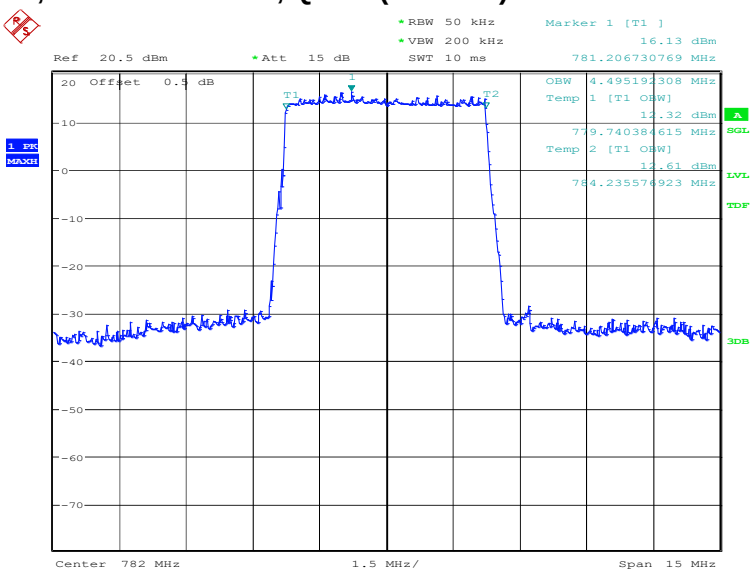


Date: 9.MAR.2023 17:16:34

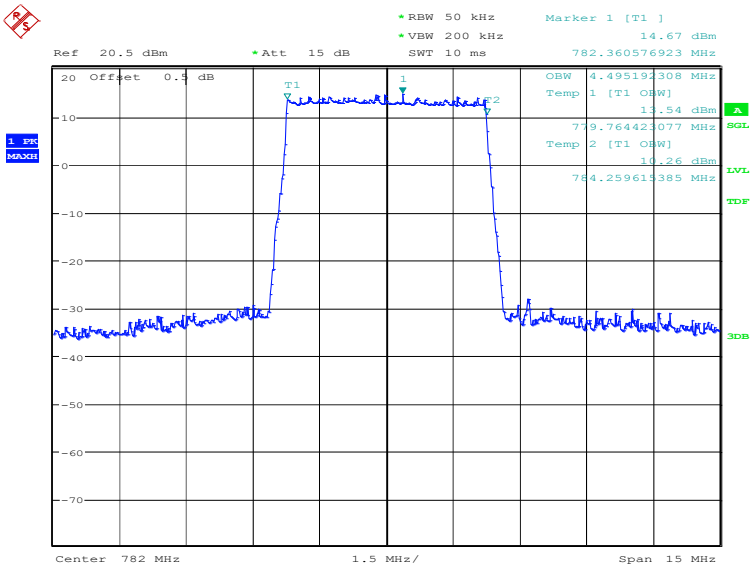
LTE band 13, 5MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
782.0	QPSK	16QAM
	4495.19	4495.19

LTE band 13, 5MHz Bandwidth, QPSK (99% BW)



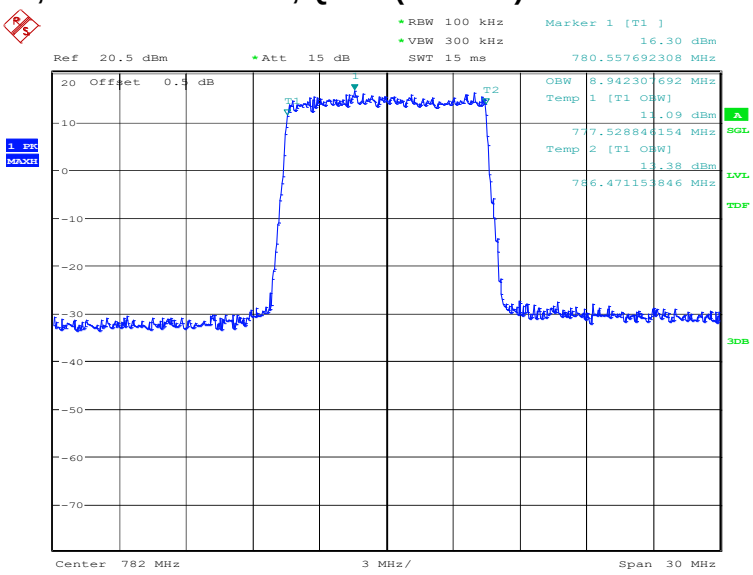
LTE band 13, 5MHz Bandwidth,16QAM (99% BW)



LTE band 13, 10MHz (99%)

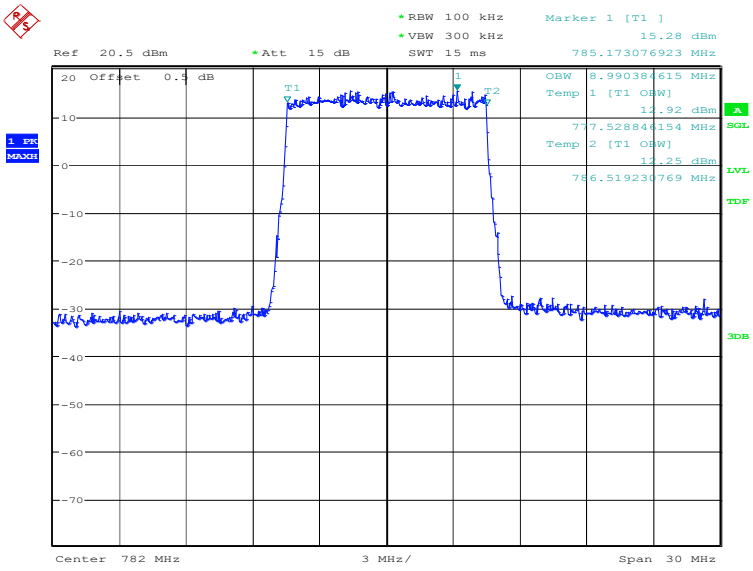
Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
782.0	QPSK	16QAM
	8942.31	8990.38

LTE band 13, 10MHz Bandwidth, QPSK (99% BW)



Date: 9.MAR.2023 17:18:52

LTE band 13, 10MHz Bandwidth,16QAM (99% BW)

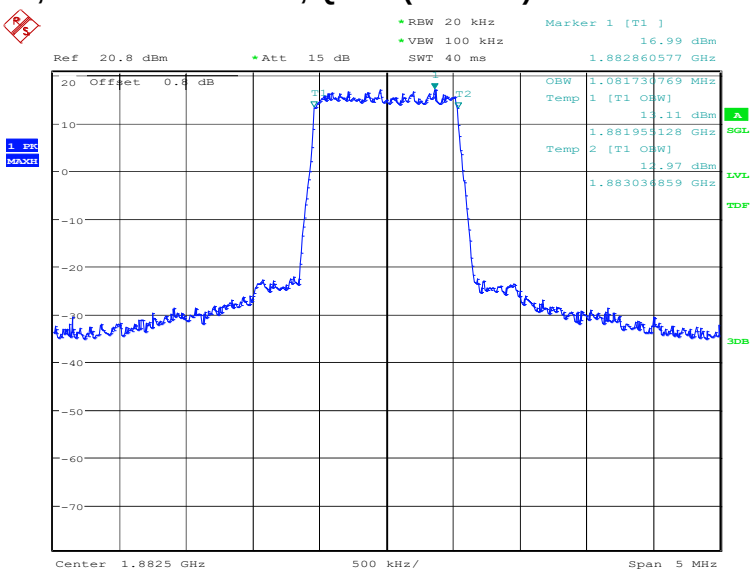


Date: 9.MAR.2023 17:19:32

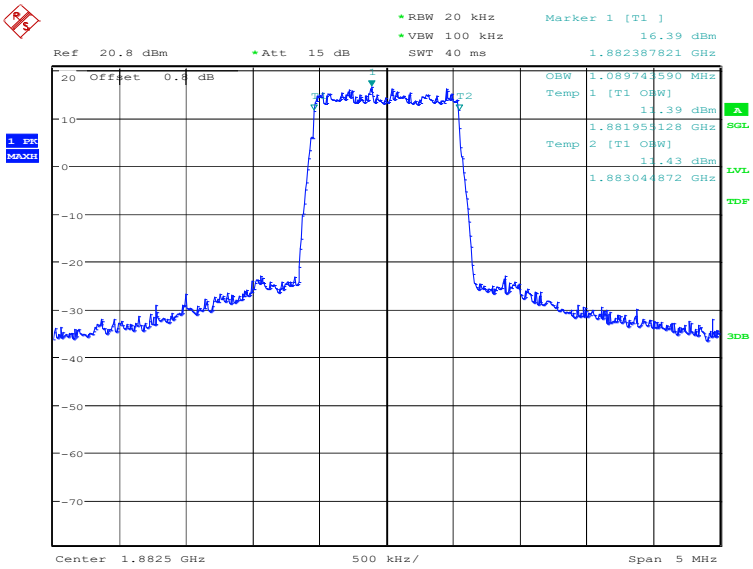
LTE band 25, 1.4MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
1882.5	QPSK	16QAM
	1081.73	1089.74

LTE band 25, 1.4MHz Bandwidth, QPSK (99% BW)



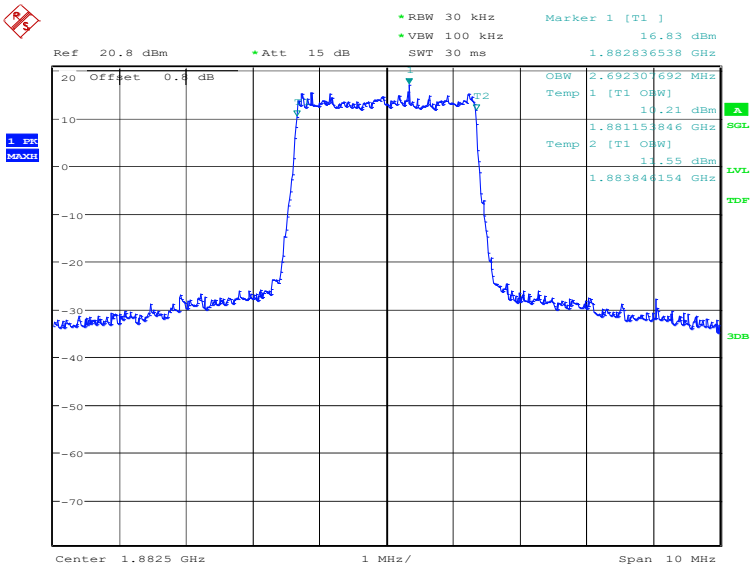
LTE band 25, 1.4MHz Bandwidth, 16QAM (99% BW)



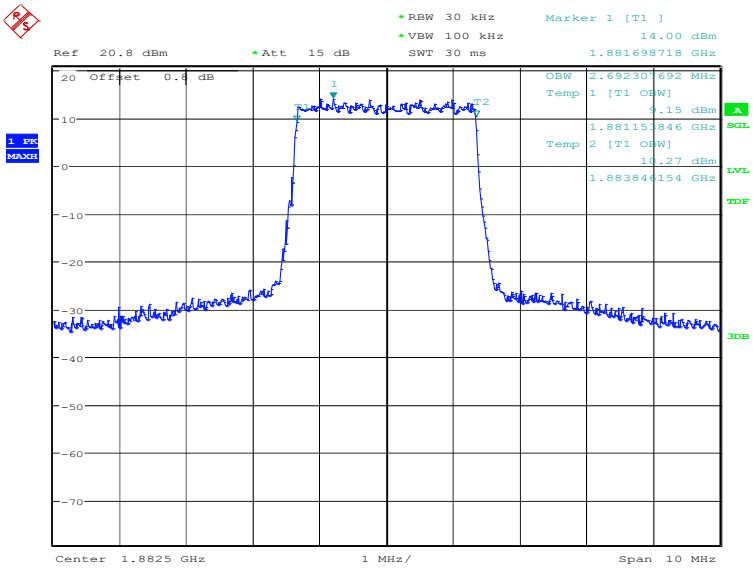
LTE band 25, 3MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
1882.5	QPSK	16QAM
	2692.31	2692.31

LTE band 25, 3MHz Bandwidth, QPSK (99% BW)



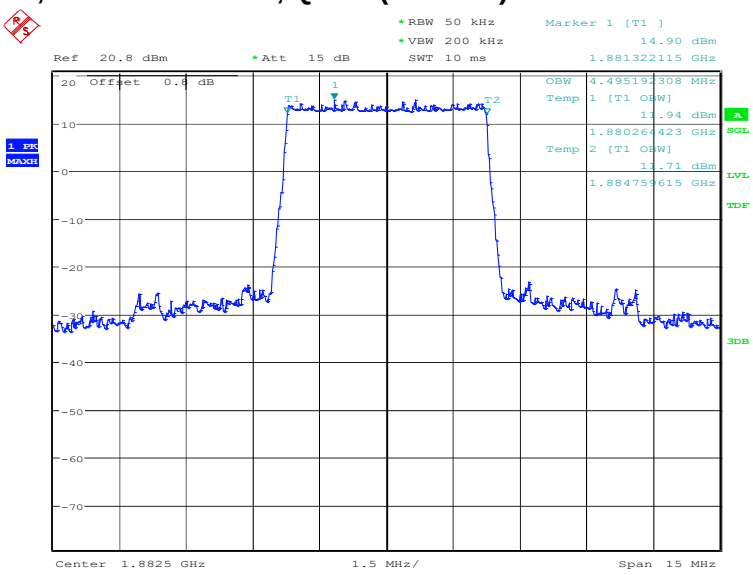
LTE band 25, 3MHz Bandwidth, 16QAM (99% BW)



LTE band 25, 5MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
1882.5	QPSK	16QAM
	4495.19	4495.19

LTE band 25, 5MHz Bandwidth, QPSK (99% BW)



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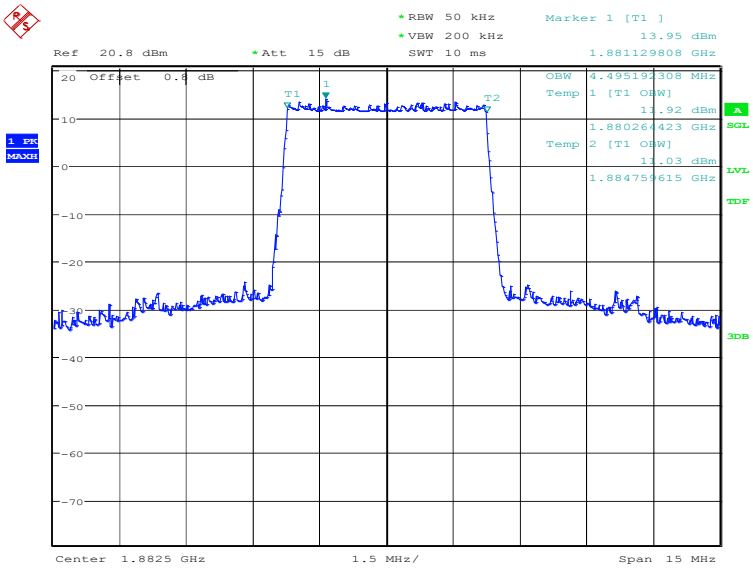
LTE band 25, 5MHz Bandwidth, 16QAM (99% BW)

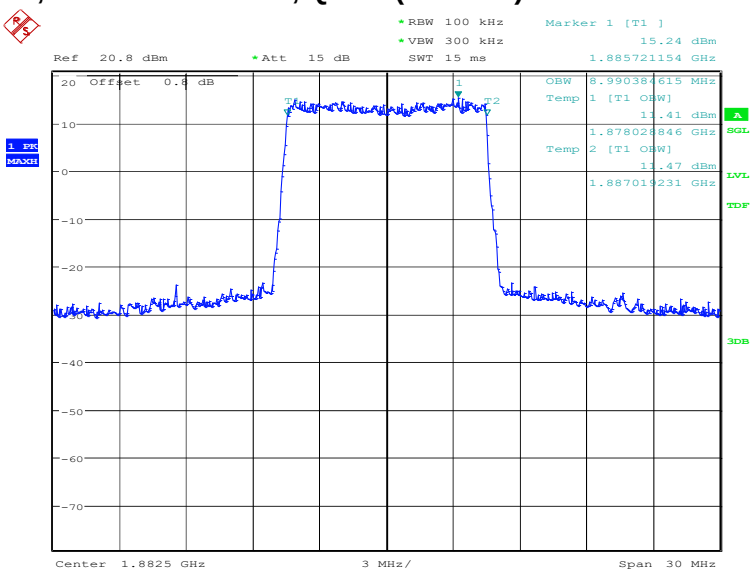


Date: 10.MAR.2023 11:22:30

LTE band 25, 10MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	
1882.5	QPSK	16QAM
	8990.38	8990.38

LTE band 25, 10MHz Bandwidth, QPSK (99% BW)



LTE band 25, 10MHz Bandwidth, 16QAM (99% BW)