LTE CA Band 66B-EIRP

Limits: ≤30dBm(1W)

Bandwidth	Frequency (MHz)	Frequency (MHz)	Modulation	PCC RB		SCC RB		Conducted Power (dBm)	EIRP(dBm) (Gt-Lc =-1.83)
				Size	Offset	Size	Offset		
5MHz/5MHz	1752.6	1757.4	QPSK	1	24	1	0	23.46	21.63
			QPSK	25	0	25	0	21.49	19.66
			16QAM	1	24	1	0	22.46	20.63
			16QAM	25	0	25	0	20.54	18.71
			64QAM	1	24	1	0	20.51	18.68
			64QAM	25	0	25	0	20.61	18.78
			256QAM	1	24	1	0	18.55	16.72
			256QAM	25	0	25	0	18.77	16.94
5MHz/10MHz	1750.3	1757.5	QPSK	1	24	1	0	23.53	21.70
			QPSK	25	0	50	0	21.60	19.77
			16QAM	1	24	1	0	22.49	20.66
			16QAM	25	0	50	0	20.83	19.00
			64QAM	1	24	1	0	20.41	18.58
			64QAM	25	0	50	0	20.39	18.56
			256QAM	1	24	1	0	18.43	16.60
			256QAM	25	0	50	0	18.59	16.76
5MHz/15MHz	1748.1	1757.4	QPSK	1	24	1	0	23.57	21.74
			QPSK	25	0	75	0	21.48	19.65
			16QAM	1	24	1	0	22.51	20.68
			16QAM	25	0	75	0	20.12	18.29
			64QAM	1	24	1	0	20.42	18.59
			64QAM	25	0	75	0	20.52	18.69
			256QAM	1	24	1	0	18.47	16.64
			256QAM	25	0	75	0	18.54	16.71
10MHz/5MHz	1752.5	1759.7	QPSK	1	49	1	0	23.50	21.67
			QPSK	50	0	25	0	21.57	19.74
			16QAM	1	49	1	0	22.86	21.03
			16QAM	50	0	25	0	20.75	18.92
			64QAM	1	49	1	0	20.55	18.72
			64QAM	50	0	25	0	20.81	18.98
			256QAM	1	49	1	0	18.68	16.85
			256QAM	50	0	25	0	18.83	17.00
10MHz/10MHz	1750.1	1760	QPSK	1	49	1	0	23.78	21.95
			QPSK	50	0	50	0	21.66	19.83
			16QAM	1	49	1	0	22.85	21.02
			16QAM	50	0	50	0	20.80	18.97
			64QAM	1	49	1	0	20.61	18.78
			64QAM	50	0	50	0	20.77	18.94
			256QAM	1	49	1	0	18.75	16.92

			256QAM	50	0	50	0	18.85	17.02
15MHz/5MHz	1752.6	1761.9	QPSK	1	74	1	0	23.78	21.95
			QPSK	75	0	25	0	21.71	19.88
			16QAM	1	74	1	0	22.67	20.84
			16QAM	75	0	25	0	20.79	18.96
			64QAM	1	74	1	0	20.65	18.82
			64QAM	75	0	25	0	20.83	19.00
			256QAM	1	74	1	0	18.79	16.96
			256QAM	75	0	25	0	18.83	17.00

LTE CA Band 66C-EIRP

Limits: ≤30dBm(1W)

Bandwidth	Frequency (MHz)	Frequency (MHz)	Modulation	PCC RB		SCC RB		Conducted Power (dBm)	EIRP(dBm) (Gt-Lc =-1.83)
				Size	Offset	Size	Offset		
5MHz/20MHz	1745.8	1757.5	QPSK	1	24	1	0	23.66	21.83
			QPSK	25	0	100	0	21.84	20.01
			16QAM	1	24	1	0	22.74	20.91
			16QAM	25	0	100	0	20.80	18.97
			64QAM	1	24	1	0	20.65	18.82
			64QAM	25	0	100	0	20.84	19.01
			256QAM	1	24	1	0	18.75	16.92
			256QAM	25	0	100	0	18.84	17.01
10MHz/15MHz	1747.9	1759.9	QPSK	1	49	1	0	23.72	21.89
			QPSK	50	0	75	0	21.69	19.86
			16QAM	1	49	1	0	22.79	20.96
			16QAM	50	0	75	0	20.74	18.91
			64QAM	1	49	1	0	20.51	18.68
			64QAM	50	0	75	0	20.73	18.90
			256QAM	1	49	1	0	18.64	16.81
			256QAM	50	0	75	0	18.75	16.92
10MHz/20MHz	1745.6	1760	QPSK	1	49	1	0	23.69	21.86
			QPSK	50	0	100	0	21.80	19.97
			16QAM	1	49	1	0	22.81	20.98
			16QAM	50	0	100	0	20.77	18.94
			64QAM	1	49	1	0	20.51	18.68
			64QAM	50	0	100	0	20.82	18.99
			256QAM	1	49	1	0	18.69	16.86
			256QAM	50	0	100	0	18.80	16.97
15MHz/10MHz	1750.1	1762.1	QPSK	1	74	1	0	23.76	21.93
			QPSK	75	0	50	0	21.69	19.86
			16QAM	1	74	1	0	22.55	20.72
			16QAM	75	0	50	0	20.73	18.90
			64QAM	1	74	1	0	20.51	18.68
			64QAM	75	0	50	0	20.72	18.89
			256QAM	1	74	1	0	18.66	16.83
			256QAM	75	0	50	0	18.69	16.86
15MHz/15MHz	1747.5	1762.5	QPSK	1	74	1	0	23.82	21.99
			QPSK	75	0	75	0	21.73	19.90
			16QAM	1	74	1	0	22.56	20.73
			16QAM	75	0	75	0	20.72	18.89
			64QAM	1	74	1	0	20.53	18.70
			64QAM	75	0	75	0	20.75	18.92
			256QAM	1	74	1	0	18.91	17.08

			256QAM	75	0	75	0	18.68	16.85
15MHz/20MHz	1745.3	1762.4	QPSK	1	74	1	0	23.73	21.90
			QPSK	75	0	100	0	21.72	19.89
			16QAM	1	74	1	0	22.54	20.71
			16QAM	75	0	100	0	20.74	18.91
			64QAM	1	74	1	0	20.50	18.67
			64QAM	75	0	100	0	20.82	18.99
			256QAM	1	74	1	0	18.64	16.81
			256QAM	75	0	100	0	18.76	16.93
20MHz/5MHz	1752.5	1764.2	QPSK	1	99	1	0	23.80	21.97
			QPSK	100	0	25	0	21.70	19.87
			16QAM	1	99	1	0	22.76	20.93
			16QAM	100	0	25	0	20.71	18.88
			64QAM	1	99	1	0	20.85	19.02
			64QAM	100	0	25	0	20.72	18.89
			256QAM	1	99	1	0	18.60	16.77
			256QAM	100	0	25	0	18.70	16.87
20MHz/10MHz	1750.1	1764.5	QPSK	1	99	1	0	23.87	22.04
			QPSK	100	0	50	0	21.72	19.89
			16QAM	1	99	1	0	22.83	21.00
			16QAM	100	0	50	0	20.73	18.90
			64QAM	1	99	1	0	20.89	19.06
			64QAM	100	0	50	0	20.76	18.93
			256QAM	1	99	1	0	18.65	16.82
			256QAM	100	0	50	0	18.69	16.86
20MHz/15MHz	1747.6	1764.7	QPSK	1	99	1	0	23.87	22.04
			QPSK	100	0	75	0	21.73	19.90
			16QAM	1	99	1	0	22.80	20.97
			16QAM	100	0	75	0	20.73	18.90
			64QAM	1	99	1	0	20.90	19.07
			64QAM	100	0	75	0	20.76	18.93
			256QAM	1	99	1	0	18.66	16.83
			256QAM	100	0	75	0	18.71	16.88
20MHz/20MHz	1745.1	1764.9	QPSK	1	99	1	0	23.89	22.06
			QPSK	100	0	100	0	21.74	19.91
			16QAM	1	99	1	0	22.83	21.00
			16QAM	100	0	100	0	20.70	18.87
			64QAM	1	99	1	0	20.90	19.07
			64QAM	100	0	100	0	20.73	18.90
			256QAM	1	99	1	0	18.70	16.87
			256QAM	100	0	100	0	18.73	16.90

A.2 Emission Limit

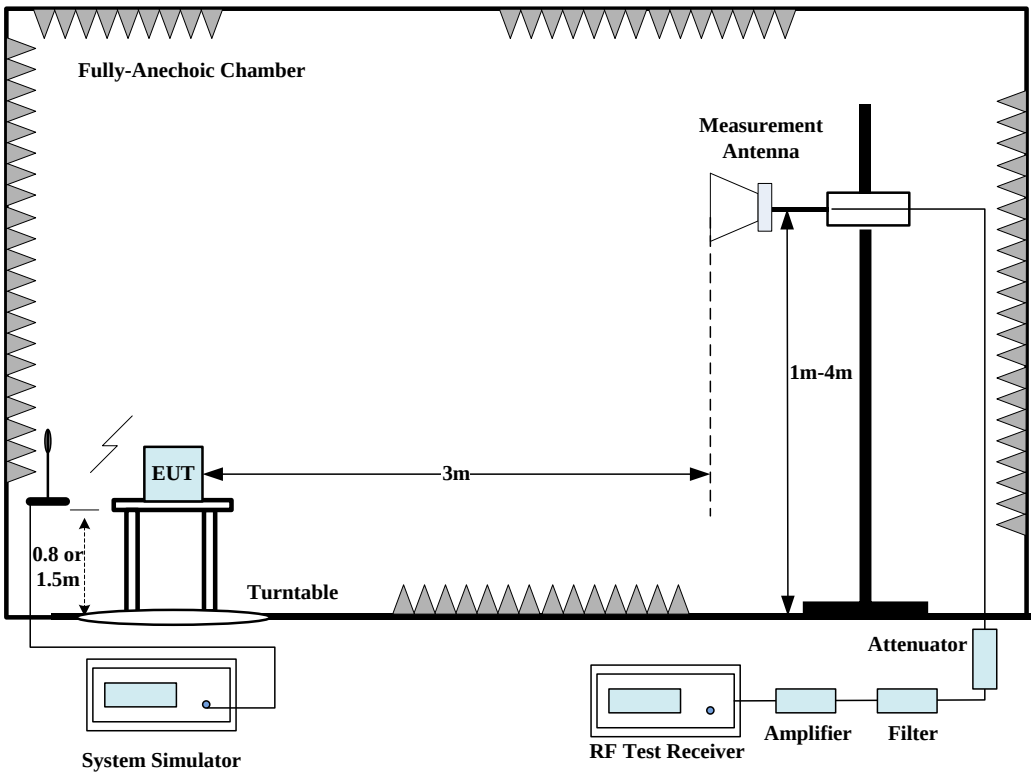
A.2.1 Measurement Method

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

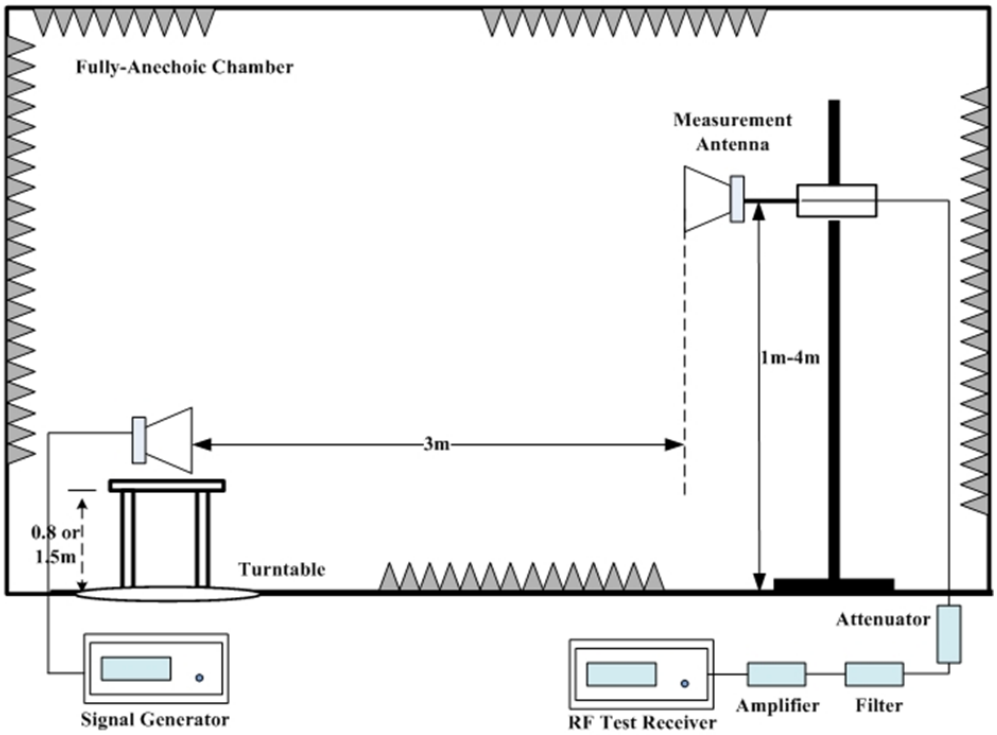
The spectrum was scanned from 30 MHz to the 10th harmonic of the highest frequency generated within the equipment, which is the transmitted carrier. The resolution bandwidth is set 1MHz. The spectrum was scanned with the mobile station transmitting at carrier frequencies that pertain to low, mid and 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 25: Part 24.238 specifies 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 12/13/71: 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 14: Part 90.543 states that for operations in the 758–768 MHz and the 788–798 MHz bands, the power of any emission outside the 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, in accordance with the following: (1) On all frequencies between 769–775 MHz and 799–805 MHz, by a factor not less than 76 + 10 log (P) dB in a 6.25 kHz band segment, for base and fixed stations. (2) On all frequencies between 769–775 MHz and 799–805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations. (3) On any frequency between 775–788 MHz, above 805 MHz, and below 758 MHz, by at least 43 + 10 log (P) dB. (4) Compliance with the provisions of paragraphs (e)(1) and (2) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment. (5) Compliance with the provisions of paragraph (e)(3) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of 30 kHz may be employed.

LTE Band 26_Part90: 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 26_Part22: Part 22.917 specifies 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 30: Part 27.53(a) states for mobile and portable stations operating in the 2305–2315 MHz and 2350–2360 MHz bands: By a factor of not less than: 43 +10 log (P) dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation, not less than 55 + 10 log (P) dB on all frequencies between 2320 and 2324 MHz and on all frequencies between 2341 and 2345 MHz, not less than 61 + 10 log (P) dB on all frequencies between 2324 and 2328 MHz and on all frequencies between 2337 and 2341 MHz, and not less than 67 + 10 log (P) dB on all frequencies between 2328 and 2337MHz; By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2300 and 2305 MHz, 55 + 10 log (P) dB on all frequencies between 2296 and 2300MHz,

61 + 10 log (P) dB on all frequencies between 2292 and 2296 MHz, 67 + 10 log (P) dB on all frequencies between 2288 and 2292 MHz, and 70 + 10 log (P) dB below 2288 MHz; By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2360 and 2365 MHz, and not less than 70 + 10 log (P) dB above 2365 MHz.

FDD Band 7/TDD Band 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 66: Part 27.53(h) specifies 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_5M_20775

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak EiRP(dBm)	Limit (dBm)	Margin (dB)	Polarization
5005.00	-38.51	10.40	10.23	-38.68	-25.00	13.68	V
7508.00	-41.74	12.70	12.04	-42.40	-25.00	17.40	H
10011.00	-42.44	15.25	13.10	-44.59	-25.00	19.59	V
12513.00	-43.33	17.12	13.30	-47.15	-25.00	22.15	V
15015.00	-41.45	19.49	13.89	-47.05	-25.00	22.05	V
17518.00	-40.71	20.22	14.38	-46.55	-25.00	21.55	H

LTE Band 7_5M_21100

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak EiRP(dBm)	Limit (dBm)	Margin (dB)	Polarization
5070.50	-38.98	10.83	10.32	-39.49	-25.00	14.49	V
7605.50	-38.73	12.81	12.14	-39.40	-25.00	14.40	H
10140.50	-41.11	15.58	13.07	-43.63	-25.00	18.63	V
12676.00	-41.53	17.08	13.33	-45.28	-25.00	20.28	V
15211.50	-39.22	19.22	13.87	-44.57	-25.00	19.57	H
17741.50	-36.81	20.87	14.62	-43.06	-25.00	18.06	H

LTE Band 7_5M_21425

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak EiRP(dBm)	Limit (dBm)	Margin (dB)	Polarization
5137.50	-45.73	10.77	10.41	-46.09	-25.00	21.09	V
7702.50	-49.61	12.96	12.27	-50.31	-25.00	25.31	H
10274.00	-41.79	16.04	13.13	-44.69	-25.00	19.69	V
12839.50	-43.53	17.39	13.51	-47.41	-25.00	22.41	H
15405.00	-42.60	18.91	13.76	-47.75	-25.00	22.75	V
17973.50	-40.96	20.76	14.74	-46.98	-25.00	21.98	V

LB Band 12_1.4M_CH23017

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Correction (dB)	Peak ERP(dBm)	Limit (dBm)	Margin (dB)	Polarization
1399.50	-54.20	5.61	3.93	2.15	-58.03	-13.00	45.03	H
2099.00	-52.88	6.62	4.96	2.15	-56.69	-13.00	43.69	H
2799.00	-46.78	7.75	6.75	2.15	-49.93	-13.00	36.93	V
3498.00	-57.23	8.70	8.23	2.15	-59.85	-13.00	46.85	H
4198.00	-56.22	9.69	9.28	2.15	-58.78	-13.00	45.78	H
4898.00	-55.62	10.32	10.13	2.15	-57.96	-13.00	44.96	H

LB Band 12_1.4M_CH23095

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Correction (dB)	Peak ERP(dBm)	Limit (dBm)	Margin (dB)	Polarization
1415.50	-57.77	5.40	4.30	2.15	-61.02	-13.00	48.02	V
2123.00	-51.90	6.73	5.15	2.15	-55.63	-13.00	42.63	V
2831.00	-45.26	7.85	6.83	2.15	-48.43	-13.00	35.43	V
3538.00	-54.49	8.71	8.27	2.15	-57.08	-13.00	44.08	V
4246.00	-55.91	9.64	9.33	2.15	-58.37	-13.00	45.37	H
7076.00	-44.83	12.46	11.63	2.15	-47.81	-13.00	34.81	V

LB Band 12_1.4M_CH23173

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Correction (dB)	Peak ERP(dBm)	Limit (dBm)	Margin (dB)	Polarization
1431.00	-57.16	5.47	4.53	2.15	-60.25	-13.00	47.25	H
2146.50	-50.61	6.87	5.27	2.15	-54.37	-13.00	41.37	V
2862.00	-42.62	7.98	6.81	2.15	-45.94	-13.00	32.94	H
3577.00	-55.17	8.97	8.35	2.15	-57.93	-13.00	44.93	H
4292.00	-53.81	9.78	9.38	2.15	-56.36	-13.00	43.36	H
7153.50	-42.83	12.84	11.64	2.15	-46.18	-13.00	33.18	H

LTE Band 13_5M_23205

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Correction (dB)	Peak ERP(dBm)	Limit (dBm)	Margin (dB)	Polarization
1559.00	-59.41	5.80	6.07	0.00	-59.14	-13.00	46.14	H
2339.00	-53.10	7.00	5.82	2.15	-56.42	-13.00	43.42	V
3118.00	-57.57	8.17	7.01	2.15	-60.88	-13.00	47.88	H
3898.00	-56.37	9.36	8.52	2.15	-59.36	-13.00	46.36	V
4677.00	-56.48	10.75	9.75	2.15	-59.62	-13.00	46.62	H
5457.00	-55.83	11.03	10.57	2.15	-58.44	-13.00	45.44	H

LTE Band 13_5M_23230

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Correction (dB)	Peak ERP(dBm)	Limit (dBm)	Margin (dB)	Polarization
1564.00	-59.16	5.90	6.11	0.00	-58.95	-13.00	45.95	H
2346.00	-53.52	7.03	5.81	2.15	-56.89	-13.00	43.89	V
3128.00	-56.77	8.36	7.09	2.15	-60.18	-13.00	47.18	V
3910.00	-56.70	9.49	8.61	2.15	-59.73	-13.00	46.73	H
4692.00	-56.78	10.22	9.78	2.15	-59.36	-13.00	46.36	V
5473.00	-55.55	11.19	10.59	2.15	-58.30	-13.00	45.30	V

LTE Band 13_5M_23255

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Correction (dB)	Peak ERP(dBm)	Limit (dBm)	Margin (dB)	Polarization
1570.00	-57.01	5.81	6.16	0.00	-56.66	-13.00	43.66	V
2355.00	-52.86	7.03	5.87	2.15	-56.17	-13.00	43.17	V
3139.50	-54.64	8.32	7.18	2.15	-57.93	-13.00	44.93	H
3925.00	-56.88	9.46	8.63	2.15	-59.86	-13.00	46.86	H
4710.00	-55.75	10.47	9.73	2.15	-58.63	-13.00	45.63	H
5495.00	-55.97	10.93	10.61	2.15	-58.43	-13.00	45.43	V

LTE Band 14, 5MHz,CH23305,QPSK

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Correction (dB)	Peak ERP(dBm)	Limit (dBm)	Margin (dB)	Polarization
1581.18	-66.44	3.50	5.35	0.00	-66.74	-40.00	26.74	H
2370.03	-47.74	4.48	5.71	2.15	-48.66	-13.00	35.66	V
3162.50	-57.95	5.35	7.39	2.15	-58.06	-13.00	45.06	V
3953.00	-57.99	6.10	8.83	2.15	-57.41	-13.00	44.41	H
4739.00	-57.09	6.55	9.64	2.15	-56.15	-13.00	43.15	H
5538.50	-56.68	7.17	10.59	2.15	-55.41	-13.00	42.41	V

LTE Band 14, 5MHz,CH23330,QPSK

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Correction (dB)	Peak ERP(dBm)	Limit (dBm)	Margin (dB)	Polarization
1586.54	-66.03	3.50	5.34	0.00	-66.34	-40.00	26.34	V
2376.49	-47.79	4.49	5.73	2.15	-48.70	-13.00	35.70	V
3173.00	-56.58	5.34	7.42	2.15	-56.65	-13.00	43.65	V
3962.00	-56.70	6.10	8.85	2.15	-56.10	-13.00	43.10	H
4762.00	-56.98	6.59	9.66	2.15	-56.06	-13.00	43.06	H
5550.50	-56.11	7.18	10.59	2.15	-54.85	-13.00	41.85	V

LTE Band 14, 5MHz,CH23355,QPSK

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Correction (dB)	Peak ERP(dBm)	Limit (dBm)	Margin (dB)	Polarization
1591.38	-64.28	3.51	5.34	0.00	-64.60	-40.00	24.60	V
2382.44	-47.58	4.50	5.75	2.15	-48.48	-13.00	35.48	H
3182.50	-56.53	5.32	7.44	2.15	-56.56	-13.00	43.56	H
3975.50	-57.18	6.09	8.87	2.15	-56.55	-13.00	43.55	H
4773.00	-56.89	6.61	9.67	2.15	-55.98	-13.00	42.98	H
5571.00	-56.48	7.20	10.59	2.15	-55.24	-13.00	42.24	V

LTE Band 25, 1.4MHz,CH26047,QPSK

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3701.50	-64.42	3.47	10.39	-57.50	-13.00	44.50	V
5552.50	-60.01	5.33	11.20	-54.14	-13.00	41.14	V
7403.50	-51.19	8.08	10.10	-49.17	-13.00	36.17	V
9254.00	-46.91	8.85	11.70	-44.06	-13.00	31.06	V
11103.50	-49.22	9.74	12.60	-46.36	-13.00	33.36	H
12968.50	-45.71	12.54	12.73	-45.52	-13.00	32.52	V

LTE Band 25, 1.4MHz,CH26365,QPSK

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3764.50	-64.33	3.79	10.14	-57.98	-13.00	44.98	H
5644.50	-60.30	5.60	11.39	-54.51	-13.00	41.51	V
7544.50	-53.00	7.47	10.29	-50.18	-13.00	37.18	V
9412.50	-45.23	9.06	11.55	-42.74	-13.00	29.74	H
11285.50	-49.19	10.63	12.61	-47.21	-13.00	34.21	V
13185.00	-45.13	13.13	12.52	-45.74	-13.00	32.74	H

LTE Band 25, 1.4MHz,CH26683,QPSK

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3828.50	-61.71	3.92	9.94	-55.69	-13.00	42.69	V
5748.50	-59.11	5.84	11.30	-53.65	-13.00	40.65	V
7658.50	-54.15	6.91	10.43	-50.63	-13.00	37.63	V
9571.50	-41.50	8.64	11.90	-38.24	-13.00	25.24	H
11492.00	-47.06	12.27	12.51	-46.82	-13.00	33.82	H
13406.50	-44.16	12.47	12.39	-44.24	-13.00	31.24	H

LTE Band 26_Part22, 1.4MHz,CH26797,QPSK

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Correction (dB)	Peak ERP(dBm)	Limit (dBm)	Margin (dB)	Polarization
1649.50	-59.01	2.60	9.50	2.15	-54.26	-13.00	41.26	V
2488.00	-54.68	4.48	10.32	2.15	-50.99	-13.00	37.99	H
5772.00	-58.98	5.68	11.17	2.15	-55.64	-13.00	42.64	V
6598.50	-54.51	7.10	10.31	2.15	-53.45	-13.00	40.45	V
7409.00	-52.41	8.05	10.10	2.15	-52.51	-13.00	39.51	H
8253.50	-52.25	7.59	11.20	2.15	-50.79	-13.00	37.79	H

LTE Band 26_Part22, 1.4MHz,CH26915,QPSK

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Correction (dB)	Peak ERP(dBm)	Limit (dBm)	Margin (dB)	Polarization
1673.50	-57.89	2.66	9.45	2.15	-53.25	-13.00	40.25	V
2510.00	-54.37	4.42	10.30	2.15	-50.64	-13.00	37.64	H
5868.00	-59.98	5.62	10.93	2.15	-56.82	-13.00	43.82	V
6705.00	-55.61	6.22	10.48	2.15	-53.50	-13.00	40.50	H
7538.00	-53.17	7.46	10.28	2.15	-52.50	-13.00	39.50	H
8371.50	-52.26	8.18	11.30	2.15	-51.29	-13.00	38.29	V

LTE Band 26_Part22, 1.4MHz,CH27033,QPSK

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Correction (dB)	Peak ERP(dBm)	Limit (dBm)	Margin (dB)	Polarization
1697.00	-60.03	2.92	9.41	2.15	-55.69	-13.00	42.69	H
2558.00	-54.42	4.53	10.30	2.15	-50.80	-13.00	37.80	H
5936.00	-59.42	6.01	10.73	2.15	-56.85	-13.00	43.85	V
6798.50	-55.89	6.38	10.40	2.15	-54.02	-13.00	41.02	H
7632.50	-53.59	6.73	10.36	2.15	-52.11	-13.00	39.11	H
8492.00	-52.21	8.84	11.30	2.15	-51.90	-13.00	38.90	H

LTE Band 26_Part90, 1.4MHz,CH26697,QPSK

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Correction (dB)	Peak ERP(dBm)	Limit (dBm)	Margin (dB)	Polarization
2448.00	-55.30	4.51	10.39	2.15	-51.57	-13.00	38.57	V
4900.50	-59.95	4.87	11.00	2.15	-55.97	-13.00	42.97	V
5694.50	-59.81	5.68	11.40	2.15	-56.24	-13.00	43.24	V
6519.00	-57.11	6.27	10.60	2.15	-54.93	-13.00	41.93	V
7319.50	-51.91	7.81	9.90	2.15	-51.97	-13.00	38.97	H
8159.00	-53.00	7.10	11.12	2.15	-51.13	-13.00	38.13	H

LTE Band 26_Part90, 1.4MHz,CH26740,QPSK

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Correction (dB)	Peak ERP(dBm)	Limit (dBm)	Margin (dB)	Polarization
2462.50	-54.30	4.31	10.38	2.15	-50.38	-13.00	37.38	V
4914.00	-60.68	4.95	11.06	2.15	-56.72	-13.00	43.72	H
5739.00	-59.90	5.86	11.32	2.15	-56.59	-13.00	43.59	H
6544.00	-56.30	6.30	10.60	2.15	-54.15	-13.00	41.15	H
7384.00	-52.92	7.34	10.04	2.15	-52.37	-13.00	39.37	V
8182.00	-52.02	7.26	11.16	2.15	-50.27	-13.00	37.27	H

LTE Band 26_Part90, 1.4MHz,CH26783,QPSK

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Correction (dB)	Peak ERP(dBm)	Limit (dBm)	Margin (dB)	Polarization
1647.00	-60.79	2.62	9.48	2.15	-56.08	-13.00	43.08	H
2480.50	-54.73	4.34	10.34	2.15	-50.88	-13.00	37.88	H
5769.00	-59.56	5.67	11.19	2.15	-56.19	-13.00	43.19	H
6574.00	-55.86	7.32	10.46	2.15	-54.87	-13.00	41.87	V
7402.00	-51.38	8.09	10.10	2.15	-51.52	-13.00	38.52	H
8238.50	-52.41	7.59	11.20	2.15	-50.95	-13.00	37.95	H

LTE Band 30, 5MHz,CH27685,QPSK

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
4615.00	-61.81	4.68	10.97	-55.52	-40.00	15.52	H
6923.00	-49.45	6.47	10.35	-45.57	-40.00	5.57	H
9230.50	-50.03	8.85	11.74	-47.14	-40.00	7.14	V
11538.50	-56.49	10.59	12.54	-54.54	-40.00	14.54	H
13846.50	-50.81	13.08	12.10	-51.79	-40.00	11.79	H
16153.50	-51.09	18.62	15.10	-54.61	-40.00	14.61	V

LTE Band 30, 5MHz,CH27710,QPSK

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
4620.00	-63.49	4.69	10.96	-57.22	-40.00	17.22	V
6930.50	-55.39	6.47	10.36	-51.50	-40.00	11.50	V
9240.50	-50.10	8.85	11.72	-47.23	-40.00	7.23	V
11551.50	-56.15	10.68	12.55	-54.28	-40.00	14.28	H
13861.50	-50.40	13.10	12.10	-51.40	-40.00	11.40	H
16164.00	-51.26	18.57	15.10	-54.73	-40.00	14.73	V

LTE Band 30, 5MHz,CH27735,QPSK

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
4625.00	-61.30	4.71	10.95	-55.06	-40.00	15.06	H
6938.00	-50.82	6.47	10.38	-46.91	-40.00	6.91	V
9250.50	-52.64	8.85	11.70	-49.79	-40.00	9.79	H
11563.50	-56.59	10.77	12.56	-54.80	-40.00	14.80	H
13863.00	-52.48	13.10	12.10	-53.48	-40.00	13.48	H
16190.00	-51.43	18.43	15.10	-54.76	-40.00	14.76	V

LTE Band 41, 5MHz,CH39675,QPSK

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
4997.50	-53.30	5.17	11.30	-47.17	-25.00	22.17	V
7496.00	-48.68	7.70	10.19	-46.19	-25.00	21.19	H
9995.00	-41.57	9.36	11.79	-39.14	-25.00	14.14	V
12478.00	-45.13	12.73	13.56	-44.30	-25.00	19.30	V
14977.50	-43.86	14.78	14.51	-44.13	-25.00	19.13	H
17501.50	-33.25	19.72	13.10	-39.87	-25.00	14.87	H

LTE Band 41, 5MHz,CH40620,QPSK

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5186.00	-52.87	5.75	11.67	-46.95	-25.00	21.95	V
7779.00	-35.94	7.37	10.76	-32.55	-25.00	7.55	V
10373.00	-47.05	10.72	11.97	-45.80	-25.00	20.80	H
12971.50	-45.14	12.54	12.73	-44.95	-25.00	19.95	V
15559.00	-44.31	16.71	15.60	-45.42	-25.00	20.42	H
17971.50	-33.78	20.00	13.46	-40.32	-25.00	15.32	H

LTE Band 41, 5MHz,CH41565,QPSK

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5375.50	-53.98	5.74	11.65	-48.07	-25.00	23.07	H
8063.00	-43.78	7.86	11.13	-40.51	-25.00	15.51	H
10751.00	-35.77	9.83	12.15	-33.45	-25.00	8.45	H
13444.00	-43.50	12.57	12.36	-43.71	-25.00	18.71	V
16130.00	-43.62	17.02	15.10	-45.54	-25.00	20.54	V
17987.50	-33.63	19.96	13.42	-40.17	-25.00	15.17	V

LTE Band 48_5M_55265

Frequency(MHz)	SG(dBm)	Cable Loss(dB)	Antenna Gain(dBi)	Peak EiRP(dBm)	Limit(dBm)	Margin(dB)	Polarization
7105.00	-45.18	12.36	11.63	-45.90	No limit	NA	H
10657.50	-42.60	15.98	13.10	-45.47	No limit	NA	H
12598.50	-51.59	17.26	13.30	-55.55	No limit	NA	H
14212.00	-50.51	18.52	14.25	-54.78	No limit	NA	H
16784.50	-46.59	20.24	13.27	-53.56	No limit	NA	V
17217.50	-47.55	19.99	14.04	-53.50	No limit	NA	H

LTE Band 48_5M_55990

Frequency(MHz)	SG(dBm)	Cable Loss(dB)	Antenna Gain(dBi)	Peak EiRP(dBm)	Limit(dBm)	Margin(dB)	Polarization
7249.50	-51.95	12.53	11.96	-52.52	No limit	NA	H
10875.00	-45.15	16.29	13.24	-48.20	No limit	NA	V
11981.50	-52.80	16.75	12.93	-56.63	No limit	NA	V
12999.00	-52.19	17.17	13.80	-55.56	No limit	NA	V
13554.00	-51.74	17.80	14.49	-55.06	No limit	NA	V
14500.00	-51.47	18.56	14.03	-56.00	No limit	NA	V

LTE Band 48_5M_56715

Frequency(MHz)	SG(dBm)	Cable Loss(dB)	Antenna Gain(dBi)	Peak EiRP(dBm)	Limit(dBm)	Margin(dB)	Polarization
7395.00	-53.57	13.05	11.86	-54.77	No limit	NA	H
9350.00	-57.27	14.92	13.23	-58.96	No limit	NA	H
11092.50	-47.61	16.51	13.27	-50.86	No limit	NA	H
12795.00	-52.42	17.20	13.43	-56.19	No limit	NA	H
14791.50	-50.67	18.97	13.97	-55.68	No limit	NA	H
16550.50	-47.62	20.35	13.36	-54.61	No limit	NA	V

LB Band 66_1.4M_CH131979

Frequency(MHz)	SG(dBm)	Cable Loss(dB)	Antenna Gain(dBi)	Peak EiRP(dBm)	Limit(dBm)	Margin(dB)	Polarization
3422.00	-56.84	8.67	8.11	-57.40	-13.00	44.40	H
5132.50	-54.83	10.77	10.40	-55.20	-13.00	42.20	V
6844.00	-52.70	12.12	11.52	-53.30	-13.00	40.30	V
8556.00	-51.26	13.96	13.07	-52.15	-13.00	39.15	V
10266.50	-48.43	15.83	13.13	-51.13	-13.00	38.13	V
11977.50	-45.20	16.81	12.93	-49.08	-13.00	36.08	H

LB Band 66_1.4M_CH132322

Frequency(MHz)	SG(dBm)	Cable Loss(dB)	Antenna Gain(dBi)	Peak EiRP(dBm)	Limit(dBm)	Margin(dB)	Polarization
3490.00	-57.48	8.70	8.21	-57.96	-13.00	44.96	V
5235.00	-54.00	10.89	10.37	-54.52	-13.00	41.52	H
6980.00	-53.32	12.58	11.43	-54.47	-13.00	41.47	H
8725.00	-52.00	14.50	13.11	-53.39	-13.00	40.39	H
10471.00	-46.21	15.78	13.17	-48.82	-13.00	35.82	H
12215.00	-46.26	16.83	13.12	-49.97	-13.00	36.97	H

LB Band 66_1.4M_CH132665

Frequency(MHz)	SG(dBm)	Cable Loss(dB)	Antenna Gain(dBi)	Peak EiRP(dBm)	Limit(dBm)	Margin(dB)	Polarization
3558.00	-56.11	9.20	8.32	-57.00	-13.00	44.00	H
5337.00	-53.33	10.69	10.65	-53.37	-13.00	40.37	V
7116.00	-52.74	12.42	11.62	-53.55	-13.00	40.55	H
8894.50	-50.71	14.37	13.09	-51.99	-13.00	38.99	V
10674.00	-47.22	16.04	13.10	-50.17	-13.00	37.17	H
12453.00	-45.10	17.02	13.38	-48.74	-13.00	35.74	H

LTE Band 71, 5MHz,CH133147,QPSK

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Correction (dB)	Peak ERP(dBm)	Limit (dBm)	Margin (dB)	Polarization
2004.00	-57.16	3.35	7.70	2.15	-54.96	-13.00	41.96	H
2660.00	-53.28	4.75	10.20	2.15	-49.98	-13.00	36.98	H
4667.50	-60.71	4.99	10.94	2.15	-56.91	-13.00	43.91	H
5326.50	-62.53	5.08	11.75	2.15	-58.01	-13.00	45.01	H
5981.50	-59.43	5.62	10.70	2.15	-56.50	-13.00	43.50	H
6643.50	-56.64	6.12	10.39	2.15	-54.52	-13.00	41.52	V

LTE Band 71, 5MHz,CH133297,QPSK

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Correction (dB)	Peak ERP(dBm)	Limit (dBm)	Margin (dB)	Polarization
2031.50	-56.37	3.44	7.70	2.15	-54.26	-13.00	41.26	V
2721.50	-52.14	4.88	10.24	2.15	-48.93	-13.00	35.93	V
4770.50	-61.52	4.81	10.96	2.15	-57.52	-13.00	44.52	V
5433.50	-61.41	5.31	11.40	2.15	-57.47	-13.00	44.47	V
6124.00	-58.05	6.13	10.65	2.15	-55.68	-13.00	42.68	H
6795.00	-55.83	6.39	10.39	2.15	-53.98	-13.00	40.98	V

LTE Band 71, 5MHz,CH133447,QPSK

Frequency (MHz)	SG (dBm)	CableLoss (dB)	AntennaGain (dBi)	Correction (dB)	Peak ERP(dBm)	Limit (dBm)	Margin (dB)	Polarization
2097.00	-56.35	3.52	7.79	2.15	-54.23	-13.00	41.23	V
2778.50	-52.02	4.89	10.36	2.15	-48.70	-13.00	35.70	H
4873.50	-61.28	4.72	10.95	2.15	-57.20	-13.00	44.20	V
5577.50	-61.02	5.44	11.26	2.15	-57.35	-13.00	44.35	V
6264.00	-58.53	6.13	10.80	2.15	-56.01	-13.00	43.01	V
6947.50	-55.34	6.47	10.40	2.15	-53.56	-13.00	40.56	V

CA_41C_39683+39800

Frequency(MHz)	SG(dBm)	Cable Loss(dB)	Antenna Gain(dBi)	Peak EiRP(dBm)	Limit(dBm)	Margin(dB)	Polarization
4997.50	-53.80	10.46	10.30	-53.96	-13.00	40.96	H
7501.50	-52.57	12.70	12.03	-53.24	-13.00	40.24	H
10000.50	-48.73	15.75	13.09	-51.39	-13.00	38.39	H
12499.50	-44.27	16.85	13.45	-47.66	-13.00	34.66	V
15002.50	-39.90	19.45	13.90	-45.45	-13.00	32.45	V
17502.50	-40.36	20.32	14.37	-46.31	-13.00	33.31	V

CA_41C_40528+40645

Frequency(MHz)	SG(dBm)	Cable Loss(dB)	Antenna Gain(dBi)	Peak EiRP(dBm)	Limit(dBm)	Margin(dB)	Polarization
5171.00	-54.17	10.65	10.45	-54.37	-13.00	41.37	V
7756.00	-51.81	13.07	12.30	-52.58	-13.00	39.58	H
10336.50	-46.39	16.48	13.12	-49.75	-13.00	36.75	V
12924.50	-44.09	17.53	13.65	-47.98	-13.00	34.98	V
15508.50	-41.96	19.44	13.70	-47.71	-13.00	34.71	V
16684.00	-39.15	20.48	13.22	-46.41	-13.00	33.41	V

CA_41C_41373+41490

Frequency(MHz)	SG(dBm)	Cable Loss(dB)	Antenna Gain(dBi)	Peak EiRP(dBm)	Limit(dBm)	Margin(dB)	Polarization
5338.50	-53.31	10.69	10.65	-53.34	-13.00	40.34	V
8009.50	-51.14	13.36	12.59	-51.91	-13.00	38.91	V
10675.50	-46.99	16.04	13.10	-49.94	-13.00	36.94	V
13347.00	-42.63	17.59	14.21	-46.00	-13.00	33.00	H
16014.00	-38.68	19.74	13.35	-45.07	-13.00	32.07	V
16158.00	-41.05	19.63	13.40	-47.28	-13.00	34.28	H

CA_41C_39683+39800

Frequency(MHz)	SG(dBm)	Cable Loss(dB)	Antenna Gain(dBi)	Peak EiRP(dBm)	Limit(dBm)	Margin(dB)	Polarization
5020.50	-53.80	10.51	10.23	-54.07	-13.00	41.07	H
7535.50	-51.73	13.31	12.07	-52.97	-13.00	39.97	V
10048.50	-48.43	15.25	13.13	-50.55	-13.00	37.55	V
12560.00	-42.54	17.79	13.30	-47.03	-13.00	34.03	H
15068.50	-41.44	18.60	13.87	-46.17	-13.00	33.17	H
17582.00	-40.29	20.81	14.45	-46.65	-13.00	33.65	H

CA_41C_40528+40645

Frequency(MHz)	SG(dBm)	Cable Loss(dB)	Antenna Gain(dBi)	Peak EiRP(dBm)	Limit(dBm)	Margin(dB)	Polarization
5194.50	-53.88	10.82	10.48	-54.22	-13.00	41.22	V
7786.50	-50.42	12.99	12.30	-51.11	-13.00	38.11	H
10386.50	-48.01	15.73	13.14	-50.60	-13.00	37.60	H
12981.50	-44.10	17.59	13.76	-47.93	-13.00	34.93	V
15575.00	-42.06	19.00	13.70	-47.35	-13.00	34.35	V
17276.50	-40.40	20.77	14.15	-47.02	-13.00	34.02	V

CA_41C_41373+41490

Frequency(MHz)	SG(dBm)	Cable Loss(dB)	Antenna Gain(dBi)	Peak EiRP(dBm)	Limit(dBm)	Margin(dB)	Polarization
5363.00	-53.78	10.92	10.61	-54.09	-13.00	41.09	H
8040.50	-50.15	13.64	12.65	-51.14	-13.00	38.14	H
10723.00	-47.58	16.04	13.10	-50.53	-13.00	37.53	V
13401.00	-44.10	17.80	14.30	-47.60	-13.00	34.60	V
16084.00	-40.53	19.35	13.28	-46.60	-13.00	33.60	V
17095.50	-40.14	19.88	13.82	-46.20	-13.00	33.20	H

CA_66B_132022+132121

Frequency(MHz)	SG(dBm)	Cable Loss(dB)	Antenna Gain(dBi)	Peak EiRP(dBm)	Limit(dBm)	Margin(dB)	Polarization
3429.50	-57.06	8.67	8.13	-57.61	-13.00	44.61	H
5143.50	-54.11	11.25	10.42	-54.95	-13.00	41.95	H
6862.00	-51.08	12.46	11.45	-52.08	-13.00	39.08	H
8575.00	-51.77	14.39	13.07	-53.09	-13.00	40.09	V
10288.50	-46.72	15.86	13.13	-49.45	-13.00	36.45	V
12004.00	-43.11	16.56	12.93	-46.73	-13.00	33.73	V

CA_66B_132373+132472

Frequency(MHz)	SG(dBm)	Cable Loss(dB)	Antenna Gain(dBi)	Peak EiRP(dBm)	Limit(dBm)	Margin(dB)	Polarization
3498.50	-56.58	8.70	8.23	-57.05	-13.00	44.05	H
5251.50	-54.00	10.81	10.43	-54.38	-13.00	41.38	V
7004.50	-51.64	12.90	11.52	-53.03	-13.00	40.03	H
8750.50	-50.63	14.36	13.13	-51.86	-13.00	38.86	H
10502.50	-46.80	16.39	13.13	-50.06	-13.00	37.06	H
12255.00	-45.01	16.62	13.18	-48.45	-13.00	35.45	V

CA_66B_132523+132622

Frequency(MHz)	SG(dBm)	Cable Loss(dB)	Antenna Gain(dBi)	Peak EiRP(dBm)	Limit(dBm)	Margin(dB)	Polarization
3530.00	-55.53	8.71	8.26	-55.98	-13.00	42.98	H
5298.00	-53.36	10.73	10.43	-53.66	-13.00	40.66	H
7060.50	-51.79	12.29	11.61	-52.48	-13.00	39.48	V
8830.00	-49.44	14.86	13.13	-51.16	-13.00	38.16	H
10595.50	-47.46	15.73	13.13	-50.06	-13.00	37.06	H
12361.00	-43.17	16.90	13.20	-46.87	-13.00	33.87	V

CA_66B_132022+132121

Frequency(MHz)	SG(dBm)	Cable Loss(dB)	Antenna Gain(dBi)	Peak EiRP(dBm)	Limit(dBm)	Margin(dB)	Polarization
3449.50	-55.96	8.85	8.17	-56.65	-13.00	43.65	H
5176.00	-54.38	10.65	10.46	-54.57	-13.00	41.57	V
6898.50	-51.26	12.35	11.42	-52.20	-13.00	39.20	V
8625.50	-52.20	14.03	13.15	-53.08	-13.00	40.08	H
10347.50	-47.21	16.14	13.12	-50.23	-13.00	37.23	V
12073.50	-45.88	16.42	12.90	-49.40	-13.00	36.40	H

CA_66B_132373+132472

Frequency(MHz)	SG(dBm)	Cable Loss(dB)	Antenna Gain(dBi)	Peak EiRP(dBm)	Limit(dBm)	Margin(dB)	Polarization
3517.50	-55.55	8.68	8.25	-55.98	-13.00	42.98	V
5277.50	-52.36	10.79	10.43	-52.71	-13.00	39.71	V
7041.50	-51.33	12.38	11.67	-52.04	-13.00	39.04	V
8798.00	-50.23	14.32	13.18	-51.37	-13.00	38.37	V
10562.00	-49.12	15.42	13.13	-51.41	-13.00	38.41	H
12321.00	-44.61	16.92	13.20	-48.33	-13.00	35.33	V

CA_66B_132523+132622

Frequency(MHz)	SG(dBm)	Cable Loss(dB)	Antenna Gain(dBi)	Peak EiRP(dBm)	Limit(dBm)	Margin(dB)	Polarization
3551.00	-55.53	9.20	8.30	-56.43	-13.00	43.43	H
5327.00	-54.16	11.18	10.61	-54.74	-13.00	41.74	H
7098.00	-52.19	12.64	11.65	-53.19	-13.00	40.19	H
8875.50	-50.27	14.12	13.11	-51.28	-13.00	38.28	H
10652.00	-47.71	15.98	13.11	-50.58	-13.00	37.58	V
12424.00	-44.37	17.03	13.34	-48.07	-13.00	35.07	V

CA_66C_132025+132145

Frequency(MHz)	SG(dBm)	Cable Loss(dB)	Antenna Gain(dBi)	Peak EiRP(dBm)	Limit(dBm)	Margin(dB)	Polarization
3432.00	-54.02	8.75	8.13	-54.64	-13.00	41.64	H
5147.00	-54.58	11.25	10.43	-55.41	-13.00	42.41	H
6861.00	-51.34	12.46	11.46	-52.34	-13.00	39.34	V
8575.00	-50.69	14.39	13.07	-52.01	-13.00	39.01	H
10290.50	-48.03	15.52	13.13	-50.42	-13.00	37.42	H
12008.50	-44.96	16.56	12.93	-48.59	-13.00	35.59	V

CA_66C_132351+132471

Frequency(MHz)	SG(dBm)	Cable Loss(dB)	Antenna Gain(dBi)	Peak EiRP(dBm)	Limit(dBm)	Margin(dB)	Polarization
3495.50	-56.24	8.70	8.22	-56.71	-13.00	43.71	H
5245.50	-51.62	11.20	10.35	-52.46	-13.00	39.46	V
6994.00	-50.50	12.96	11.44	-52.02	-13.00	39.02	V
8742.00	-51.08	14.07	13.09	-52.06	-13.00	39.06	H
10490.00	-46.44	16.05	13.17	-49.32	-13.00	36.32	H
12237.00	-45.96	16.47	13.16	-49.27	-13.00	36.27	V

CA_66C_132477+132597

Frequency(MHz)	SG(dBm)	Cable Loss(dB)	Antenna Gain(dBi)	Peak EiRP(dBm)	Limit(dBm)	Margin(dB)	Polarization
3518.50	-56.66	8.68	8.25	-57.08	-13.00	44.08	H
5283.00	-53.46	10.78	10.43	-53.80	-13.00	40.80	V
7041.00	-50.88	12.38	11.66	-51.59	-13.00	38.59	H
8800.50	-50.40	14.50	13.13	-51.77	-13.00	38.77	H
10561.00	-49.53	15.42	13.13	-51.81	-13.00	38.81	V
12325.50	-44.03	16.92	13.20	-47.75	-13.00	34.75	V

CA_66C_132025+132145

Frequency(MHz)	SG(dBm)	Cable Loss(dB)	Antenna Gain(dBi)	Peak EiRP(dBm)	Limit(dBm)	Margin(dB)	Polarization
3453.50	-56.06	8.73	8.14	-56.65	-13.00	43.65	V
5184.00	-54.57	10.82	10.47	-54.92	-13.00	41.92	H
6912.50	-50.83	12.35	11.38	-51.81	-13.00	38.81	V
8640.00	-51.37	14.13	13.18	-52.32	-13.00	39.32	H
10363.50	-46.78	16.07	13.13	-49.72	-13.00	36.72	V
12092.00	-44.51	16.87	12.89	-48.49	-13.00	35.49	V

CA_66C_132351+132471

Frequency(MHz)	SG(dBm)	Cable Loss(dB)	Antenna Gain(dBi)	Peak EiRP(dBm)	Limit(dBm)	Margin(dB)	Polarization
3518.50	-55.51	8.68	8.25	-55.93	-13.00	42.93	H
5282.00	-53.88	10.78	10.43	-54.22	-13.00	41.22	V
7043.00	-51.54	12.38	11.67	-52.25	-13.00	39.25	H
8803.50	-50.49	14.50	13.13	-51.85	-13.00	38.85	H
10560.50	-48.86	15.42	13.13	-51.15	-13.00	38.15	V
12324.00	-45.48	16.92	13.20	-49.19	-13.00	36.19	V

CA_66C_132477+132597

Frequency(MHz)	SG(dBm)	Cable Loss(dB)	Antenna Gain(dBi)	Peak EiRP(dBm)	Limit(dBm)	Margin(dB)	Polarization
3545.50	-56.78	8.86	8.28	-57.36	-13.00	44.36	V
5318.50	-53.98	11.22	10.57	-54.62	-13.00	41.62	V
7088.50	-51.91	12.71	11.64	-52.98	-13.00	39.98	H
8861.00	-50.50	14.32	13.12	-51.69	-13.00	38.69	H
10633.50	-46.40	16.11	13.12	-49.39	-13.00	36.39	H
12407.50	-43.63	16.81	13.31	-47.14	-13.00	34.14	V

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

TE band 7, 20MHz bandwidth QPSK(worst case of all bandwidths)

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	FL(MHz)	FH(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.87	2500.640	2569.360		
50				1.69	0.0007
40				-0.23	0.0001
30				-1.63	0.0006
10				-0.46	0.0002
0				-1.10	0.0004
-10				4.71	0.0019
-20				4.25	0.0017
-30				2.95	0.0012

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	FL(MHz)	FH(MHz)	Offset(Hz)	Frequency error(ppm)
3.6	20	2500.640	2569.360	2.43	0.0010
4.45				2.35	0.0009

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

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	FL(MHz)	FH(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.87	699.480	715.520		
50				0.76	0.0011
40				1.15	0.0016
30				0.62	0.0009
10				1.39	0.0020
0				1.60	0.0023
-10				2.25	0.0032
-20				1.92	0.0027
-30				2.06	0.0029

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	FL(MHz)	FH(MHz)	Offset(Hz)	Frequency error(ppm)
3.6	20	699.480	715.520	1.07	0.0015
4.45				1.12	0.0016

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

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	FL(MHz)	FH(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.87	777.490	786.520		
50				-0.26	0.0003
40				0.97	0.0012
30				1.36	0.0017
10				0.49	0.0006
0				1.72	0.0022
-10				-0.29	0.0004
-20				1.43	0.0018
-30				2.43	0.0031

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	FL(MHz)	FH(MHz)	Offset(Hz)	Frequency error(ppm)
3.6	20	777.490	786.520	1.27	0.0016
4.45				1.47	0.0019

LTE band 14, 10MHz bandwidth QPSK(worst case of all bandwidths)

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	FL(MHz)	FH(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.87	788.490	797.510		
50				-0.29	0.0004
40				-1.03	0.0013
30				-1.45	0.0018
10				-2.19	0.0028
0				-1.56	0.0020
-10				-1.39	0.0018
-20				-0.97	0.0012
-30				-1.19	0.0015

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	FL(MHz)	FH(MHz)	Offset(Hz)	Frequency error(ppm)
3.6	20	788.490	797.510	-1.69	0.0021
4.45				-0.43	0.0005

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

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	FL(MHz)	FH(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.87	1850.860	1914.140		
50				-1.07	0.0006
40				-3.23	0.0017
30				-1.35	0.0007
10				-1.95	0.0010
0				-3.61	0.0019
-10				-4.56	0.0024
-20				-1.72	0.0009
-30				-3.51	0.0019

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	FL(MHz)	FH(MHz)	Offset(Hz)	Frequency error(ppm)
3.6	20	1850.860	1914.140	-4.74	0.0025
4.45				-3.26	0.0017

LTE band 26_Part22, 15MHz bandwidth QPSK(worst case of all bandwidths)

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	FL(MHz)	FH(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.87	824.610	848.390		
50				0.34	0.0004
40				-0.17	0.0002
30				-0.41	0.0005
10				-0.49	0.0006
0				-1.00	0.0012
-10				-0.43	0.0005
-20				0.37	0.0004
-30				-0.41	0.0005

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	FL(MHz)	FH(MHz)	Offset(Hz)	Frequency error(ppm)
3.6	20	824.610	848.390	0.24	0.0003
4.45				-1.34	0.0016

LTE band 26_Part90, 10MHz bandwidth QPSK(worst case of all bandwidths)

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	FL(MHz)	FH(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.87	814.430	823.570		
50				0.40	0.0005
40				0.59	0.0007
30				0.62	0.0008
10				-0.34	0.0004
0				0.24	0.0003
-10				0.07	0.0001
-20				-0.56	0.0007
-30				-0.44	0.0005

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	FL(MHz)	FH(MHz)	Offset(Hz)	Frequency error(ppm)
3.6	20	814.430	823.570	0.03	0.0000
4.45				0.14	0.0002

LTE band 30, 10MHz bandwidth QPSK(worst case of all bandwidths)

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	FL(MHz)	FH(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.87	2305.430	2314.570		
50				1.30	0.0006
40				1.56	0.0007
30				1.59	0.0007
10				1.24	0.0005
0				4.65	0.0020
-10				4.41	0.0019
-20				4.15	0.0018
-30				-1.73	0.0007

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	FL(MHz)	FH(MHz)	Offset(Hz)	Frequency error(ppm)
3.6	20	2305.430	2314.570	0.87	0.0004
4.45				1.19	0.0005

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

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	FL(MHz)	FH(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.87	2496.560	2689.420		
50				-0.34	0.0001
40				-1.43	0.0006
30				-1.65	0.0006
10				0.89	0.0003
0				-0.66	0.0003
-10				-1.75	0.0007
-20				-0.82	0.0003
-30				0.47	0.0002

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	FL(MHz)	FH(MHz)	Offset(Hz)	Frequency error(ppm)
3.6	20	2496.560	2689.420	-0.14	0.0001
4.45				-0.96	0.0004

LTE band 48, 20MHz bandwidth QPSK(worst case of all bandwidths)

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	FL(MHz)	FH(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.87	3550.976	3699.024		
50				2.38	0.0007
40				0.67	0.0002
30				1.70	0.0005
10				0.82	0.0002
0				-1.69	0.0005
-10				0.50	0.0001
-20				0.59	0.0002
-30				0.63	0.0002

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	FL(MHz)	FH(MHz)	Offset(Hz)	Frequency error(ppm)
3.6	20	3550.976	3699.024	1.37	0.0004
4.45				-0.06	0.0000

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

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	FL(MHz)	FH(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.87	1710.860	1779.130		
50				0.82	0.0005
40				-3.53	0.0020
30				-3.79	0.0022
10				-5.15	0.0030
0				-5.02	0.0029
-10				-4.32	0.0025
-20				-1.59	0.0009
-30				-0.22	0.0001

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	FL(MHz)	FH(MHz)	Offset(Hz)	Frequency error(ppm)
3.6	20	1710.860	1779.130	-1.56	0.0009
4.45				-1.85	0.0011

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

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	FL(MHz)	FH(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.87	663.880	697.140		
50				0.44	0.0007
40				0.44	0.0007
30				1.10	0.0016
10				0.33	0.0005
0				-0.03	0.0000
-10				0.79	0.0012
-20				-0.04	0.0001
-30				0.07	0.0001

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	FL(MHz)	FH(MHz)	Offset(Hz)	Frequency error(ppm)
3.6	20	663.880	697.140	2.15	0.0032
4.45				0.17	0.0003

LTE CA band 41C, 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	2496.900	2689.080		
50				-1.69	0.0007
40				1.23	0.0005
30				-3.06	0.0012
10				0.29	0.0001
0				-9.47	0.0037
-10				-0.09	0.0000
-20				-1.69	0.0007
-30				-0.44	0.0002

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	FL(MHz)	FH(MHz)	Offset(Hz)	Frequency error(ppm)
3.6	20	2496.900	2689.080	-1.67	0.0006
4.45				-0.70	0.0003

LTE CA band 48C, 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	3550.660	3699.340		
50				-0.64	0.0002
40				0.20	0.0001
30				3.65	0.0010
10				0.10	0.0000
0				0.70	0.0002
-10				0.93	0.0003
-20				-0.66	0.0002
-30				-0.99	0.0003

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	FL(MHz)	FH(MHz)	Offset(Hz)	Frequency error(ppm)
3.6	20	3550.660	3699.340	0.24	0.0001
4.45				-0.70	0.0002

LTE CA band 66B, 10MHz+10MHz 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	1710.360	1779.640		
50				1.52	0.0009
40				-10.41	0.0059
30				-4.06	0.0023
10				-2.16	0.0012
0				-0.23	0.0001
-10				-3.29	0.0019
-20				-2.22	0.0013
-30				-2.69	0.0015

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	FL(MHz)	FH(MHz)	Offset(Hz)	Frequency error(ppm)
3.6	20	1710.360	1779.640	-0.84	0.0005
4.45				0.16	0.0001

LTE CA band 66C, 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	1710.660	1779.320		
50				-3.71	0.0021
40				-1.09	0.0006
30				-2.28	0.0013
10				-2.56	0.0015
0				-0.40	0.0002
-10				0.72	0.0004
-20				1.52	0.0009
-30				1.06	0.0006

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	FL(MHz)	FH(MHz)	Offset(Hz)	Frequency error(ppm)
3.6	20	1710.660	1779.320	0.00	0.0000
4.45				-3.41	0.0019

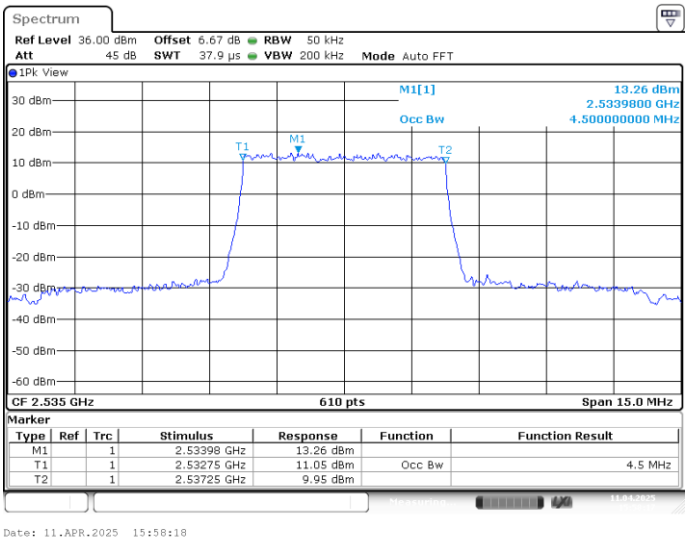
A.4 Occupied Bandwidth

Occupied bandwidth measurements are only provided for selected frequencies in order to reduce the amount of submitted data. Data were taken at the extreme and mid 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.

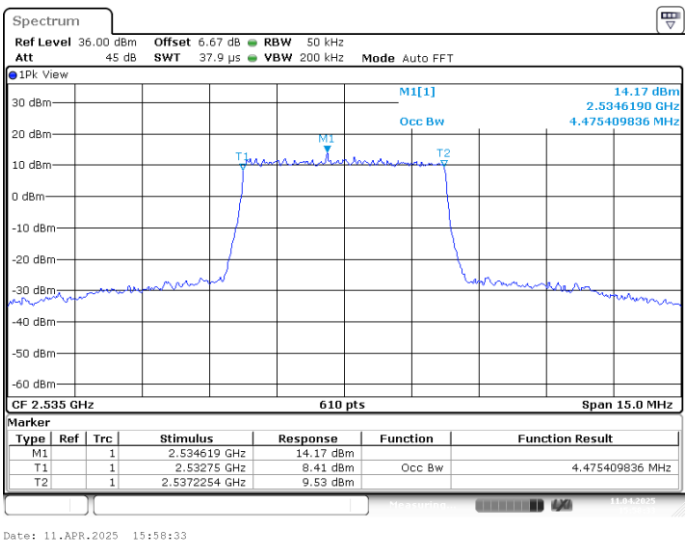
LTE band 7,5MHz(99%)

Frequency (MHz)	Occupied Bandwidth (99%)(MHz)	
	QPSK	16QAM
2535	4.500	4.475

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



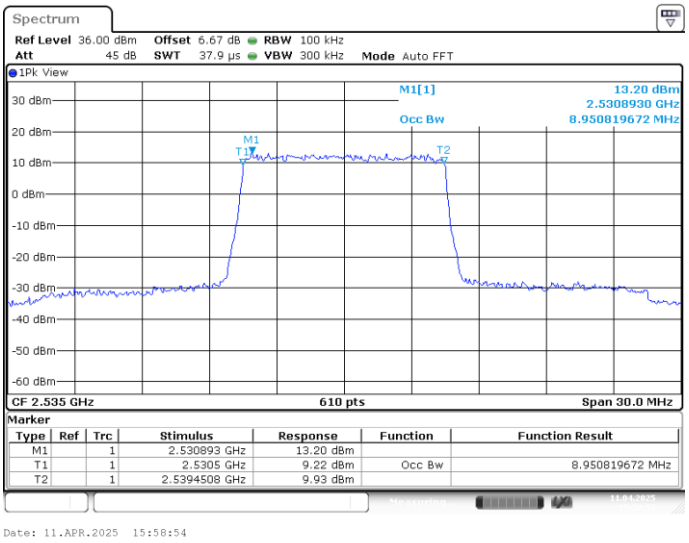
LTE band 7 , 5MHz Bandwidth,MID,16QAM (99% BW)



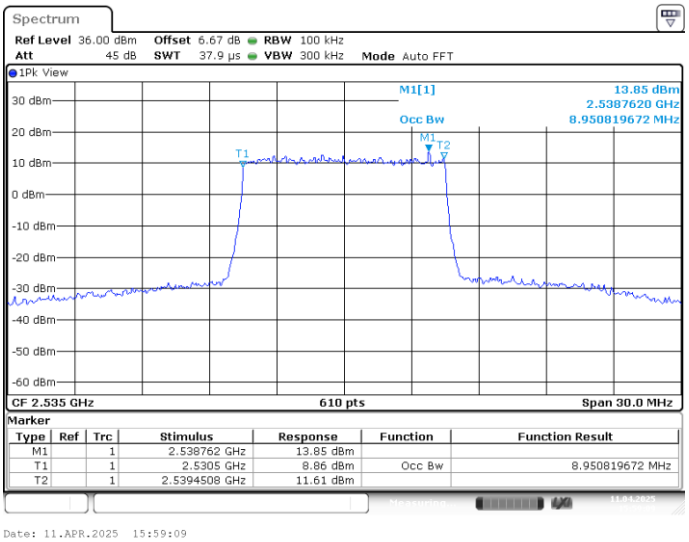
LTE band 7,10MHz(99%)

Frequency (MHz)	Occupied Bandwidth (99%)(MHz)	
	QPSK	16QAM
2535	8.951	8.951

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



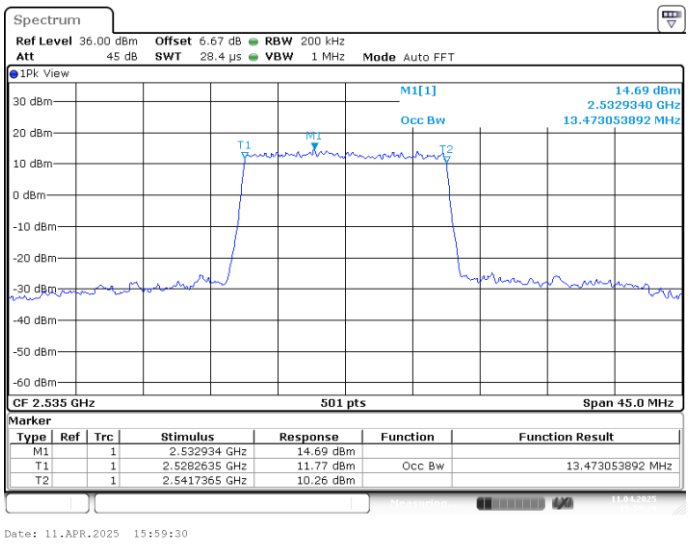
LTE band 7 , 10MHz Bandwidth,MID,16QAM (99% BW)



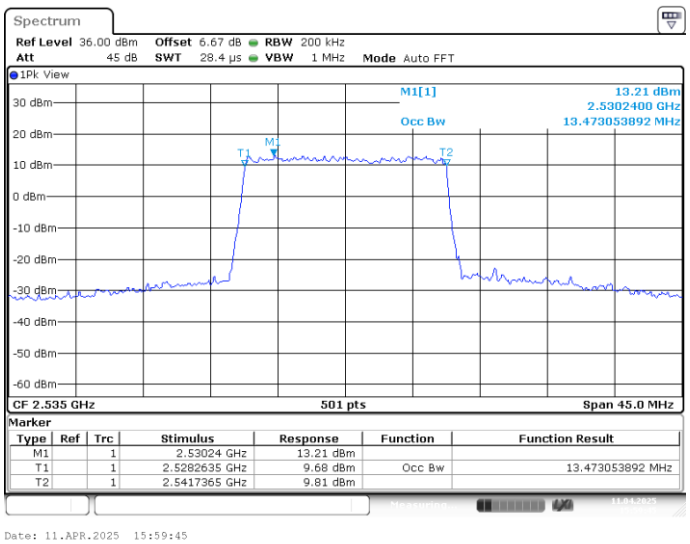
LTE band 7,15MHz(99%)

Frequency (MHz)	Occupied Bandwidth (99%)(MHz)	
	QPSK	16QAM
2535	13.473	13.473

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



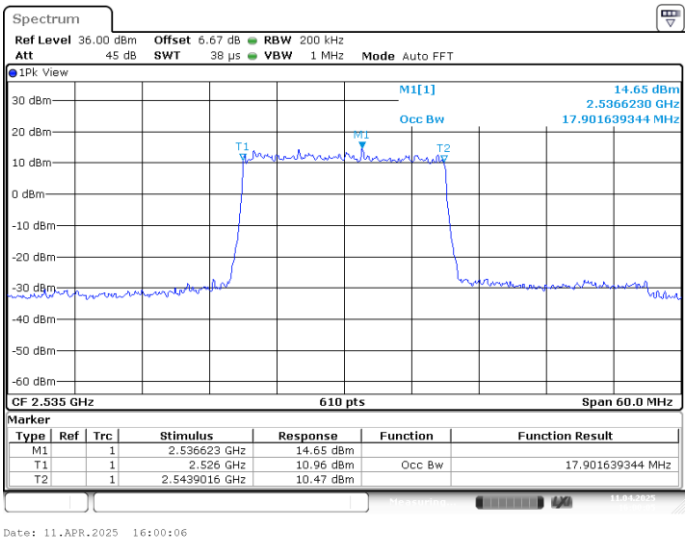
LTE band 7 , 15MHz Bandwidth,MID,16QAM (99% BW)



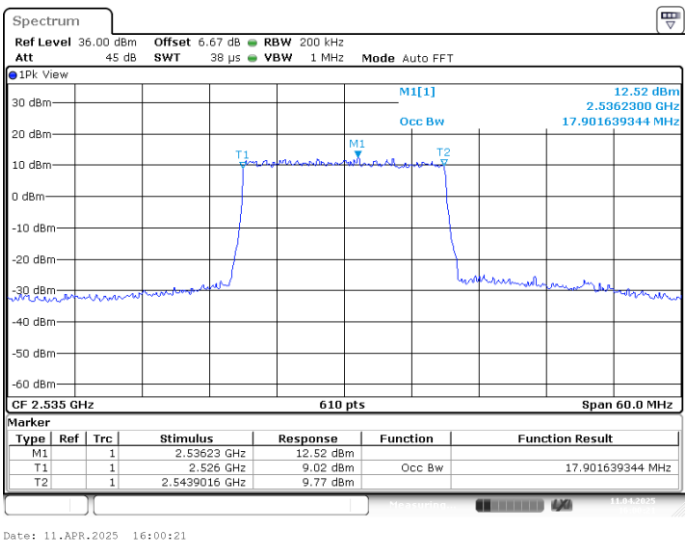
LTE band 7,20MHz(99%)

Frequency (MHz)	Occupied Bandwidth (99%)(MHz)	
	QPSK	16QAM
2535	17.902	17.902

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



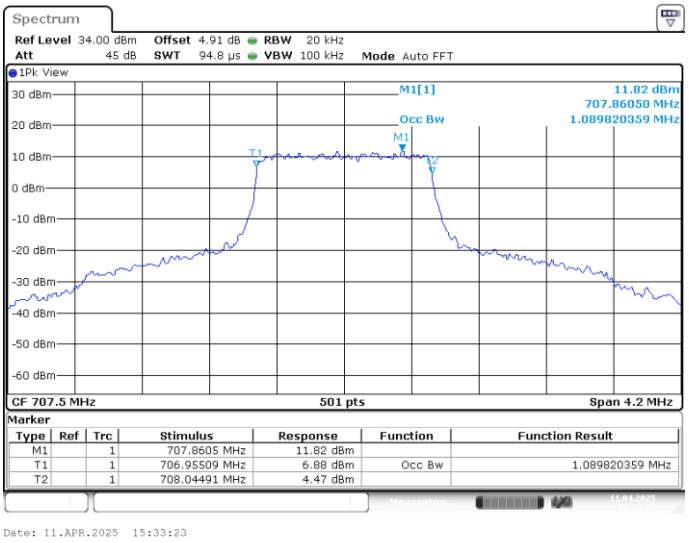
LTE band 7 , 20MHz Bandwidth,MID,16QAM (99% BW)



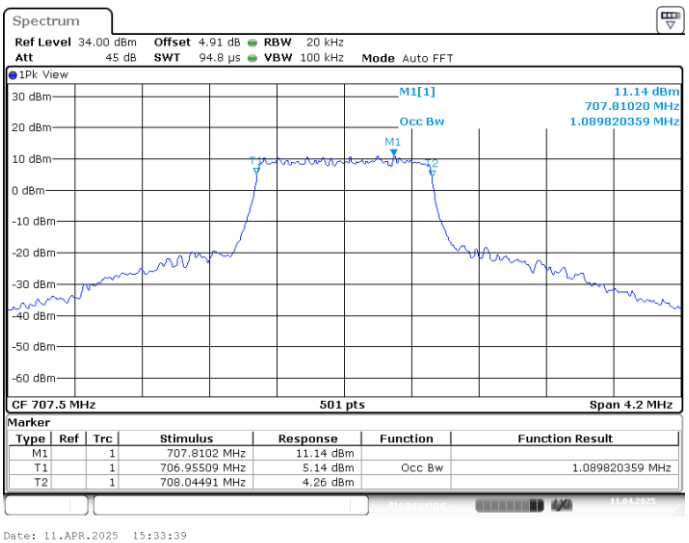
LTE band 12,1.4MHz(99%)

Frequency (MHz)	Occupied Bandwidth (99%)(MHz)	
	QPSK	16QAM
707.5	1.090	1.090

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



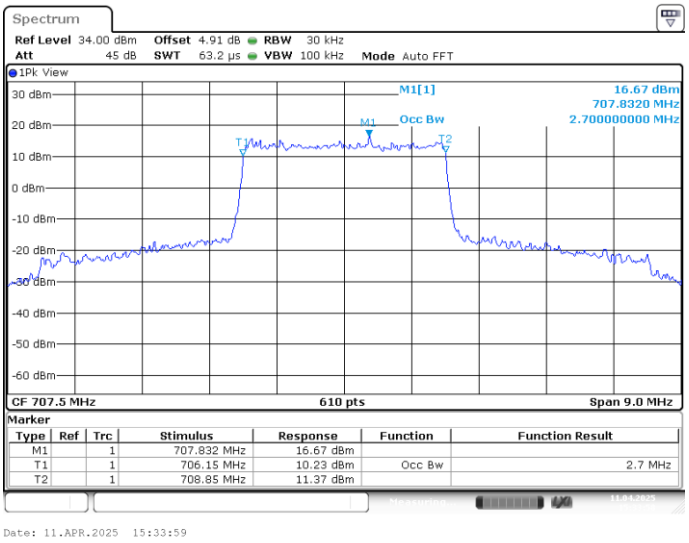
LTE band 12 , 1.4MHz Bandwidth,MID,16QAM (99% BW)



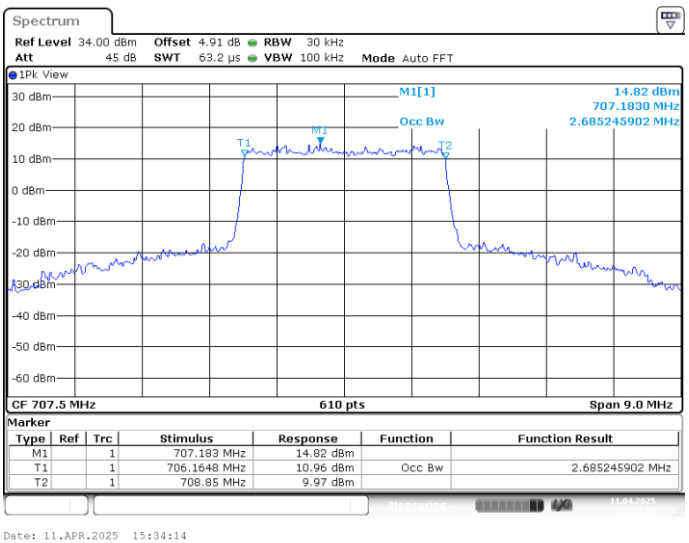
LTE band 12,3MHz(99%)

Frequency (MHz)	Occupied Bandwidth (99%)(MHz)	
	QPSK	16QAM
707.5	2.700	2.685

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



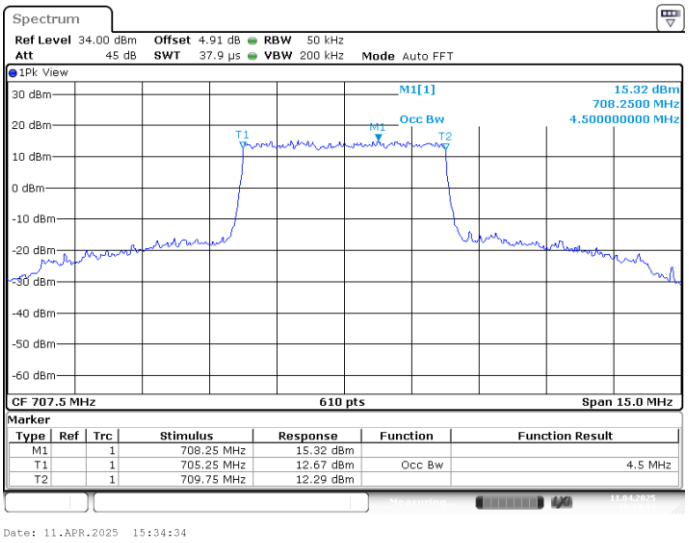
LTE band 12 , 3MHz Bandwidth,MID,16QAM (99% BW)



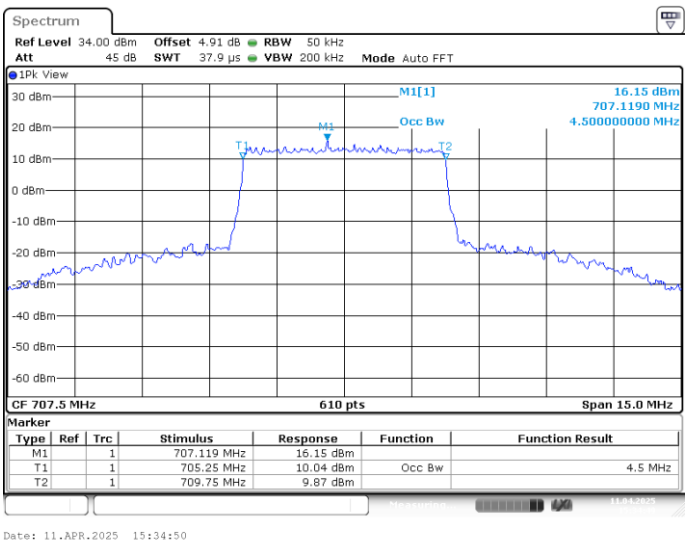
LTE band 12,5MHz(99%)

Frequency (MHz)	Occupied Bandwidth (99%)(MHz)	
	QPSK	16QAM
707.5	4.500	4.500

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



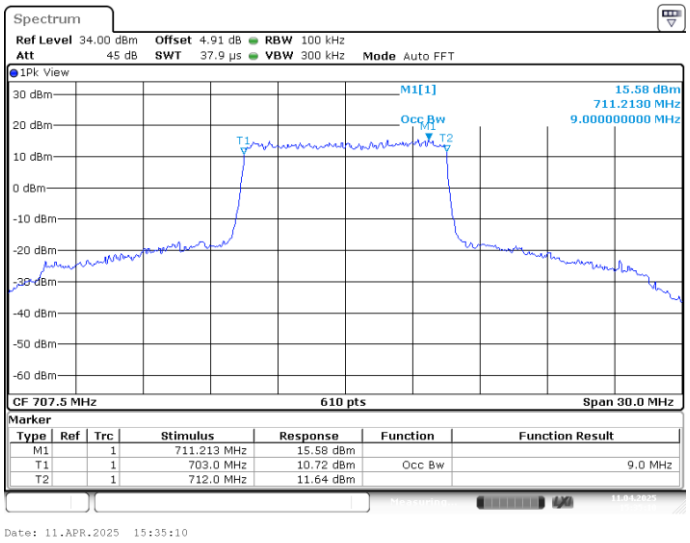
LTE band 12 , 5MHz Bandwidth,MID,16QAM (99% BW)



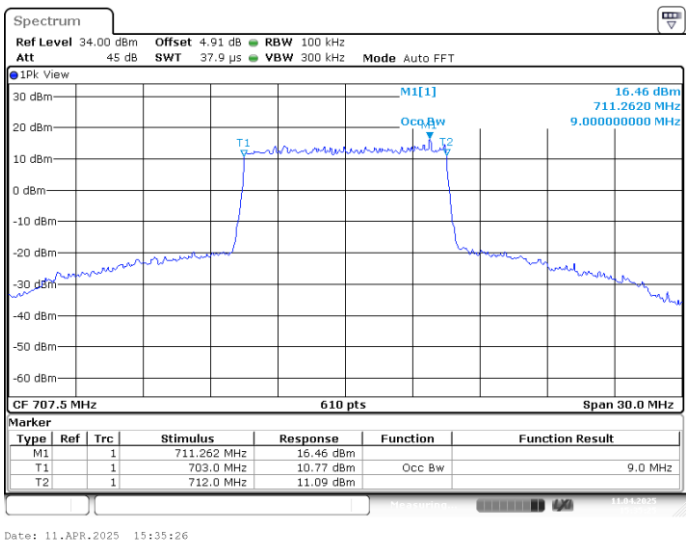
LTE band 12,10MHz(99%)

Frequency (MHz)	Occupied Bandwidth (99%)(MHz)	
	QPSK	16QAM
707.5	9.000	9.000

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



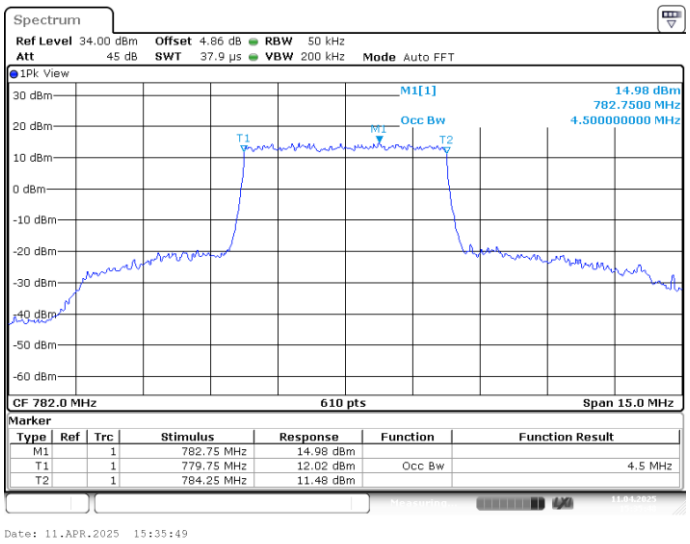
LTE band 12 , 10MHz Bandwidth,MID,16QAM (99% BW)



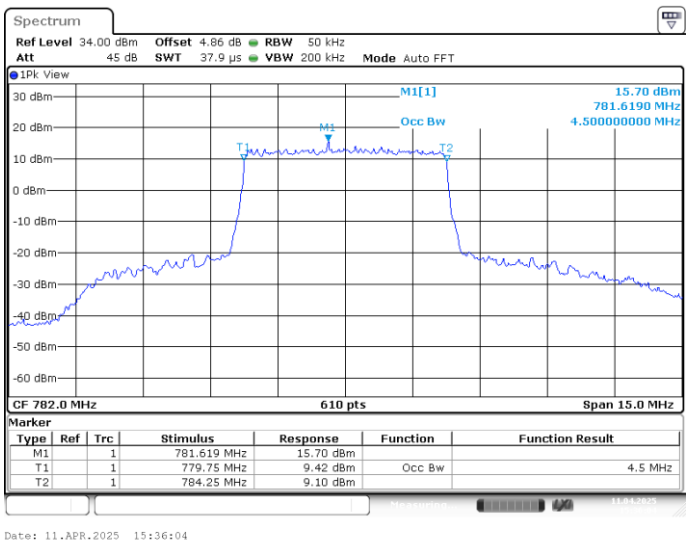
LTE band 13,5MHz(99%)

Frequency (MHz)	Occupied Bandwidth (99%)(MHz)	
	QPSK	16QAM
782	4.500	4.500

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



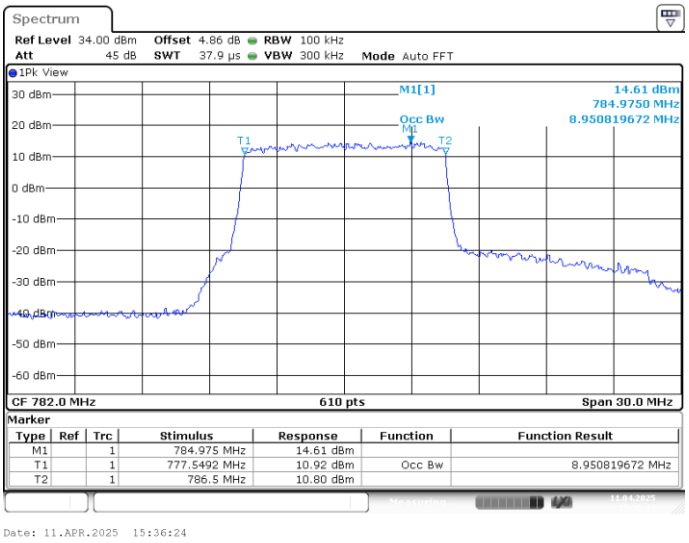
LTE band 13 , 5MHz Bandwidth,MID,16QAM (99% BW)



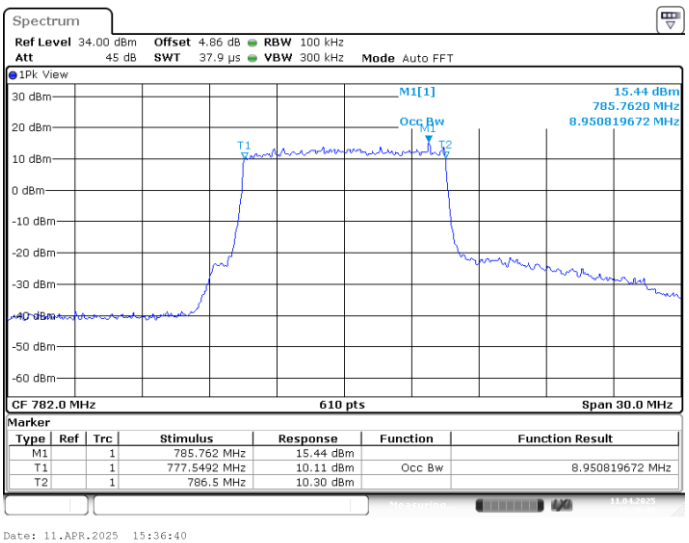
LTE band 13,10MHz(99%)

Frequency (MHz)	Occupied Bandwidth (99%)(MHz)	
	QPSK	16QAM
782	8.951	8.951

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



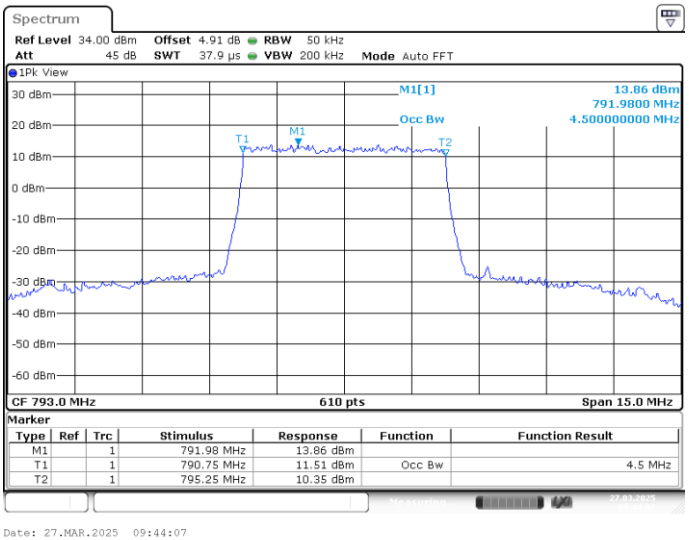
LTE band 13 , 10MHz Bandwidth,MID,16QAM (99% BW)



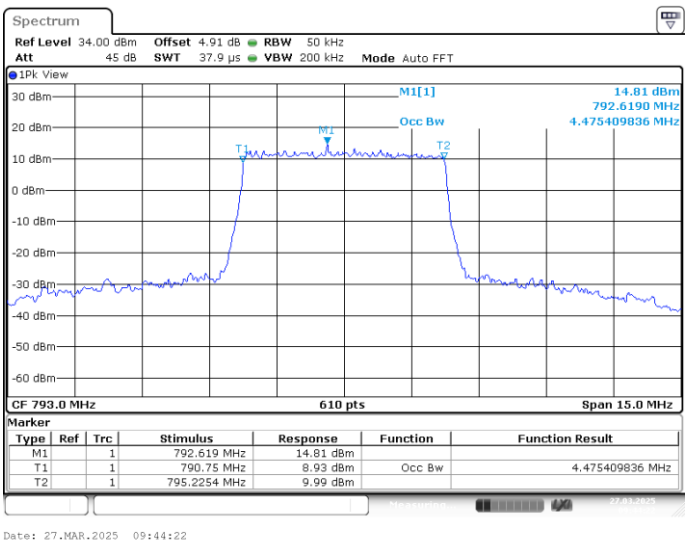
LTE band 14, 5MHz(99%)

Frequency (MHz)	Occupied Bandwidth (99%)(MHz)	
	QPSK	16QAM
793	4.500	4.475

LTE band 14 , 5MHz Bandwidth,MID,QPSK (99% BW)



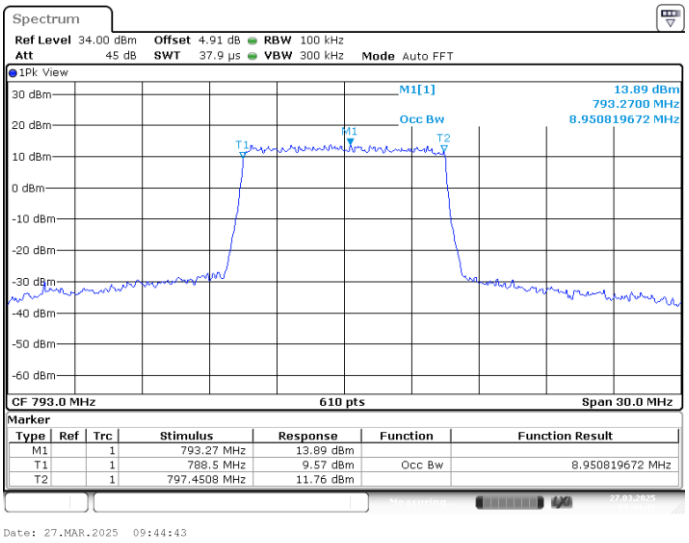
LTE band 14 , 5MHz Bandwidth,MID,16QAM (99% BW)



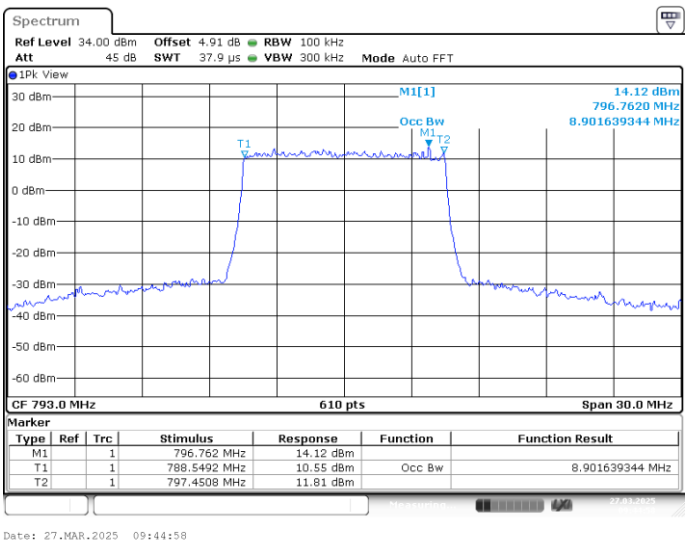
LTE band 14, 10MHz(99%)

Frequency (MHz)	Occupied Bandwidth (99%)(MHz)	
	QPSK	16QAM
793	8.951	8.902

LTE band 14 , 10MHz Bandwidth,MID,QPSK (99% BW)



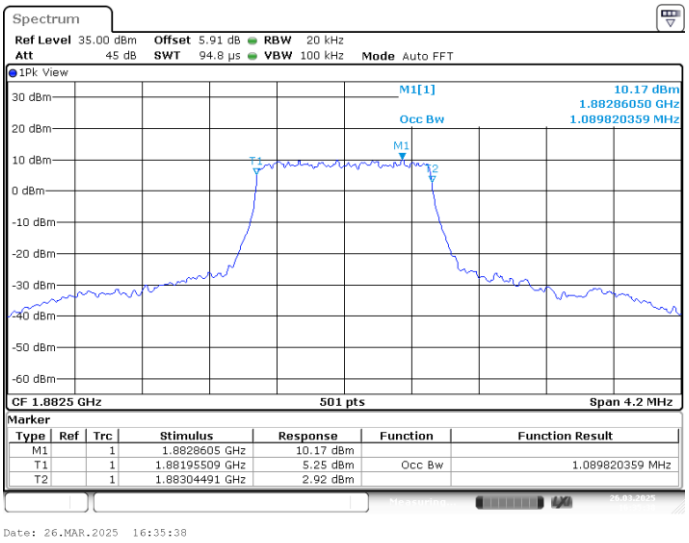
LTE band 14 , 10MHz Bandwidth,MID,16QAM (99% BW)



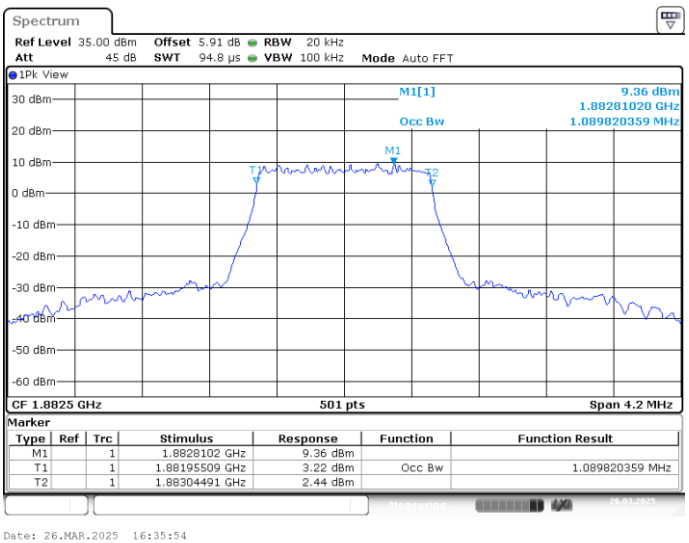
LTE band 25, 1.4MHz(99%)

Frequency (MHz)	Occupied Bandwidth (99%)(MHz)	
	QPSK	16QAM
1882.5	1.090	1.090

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



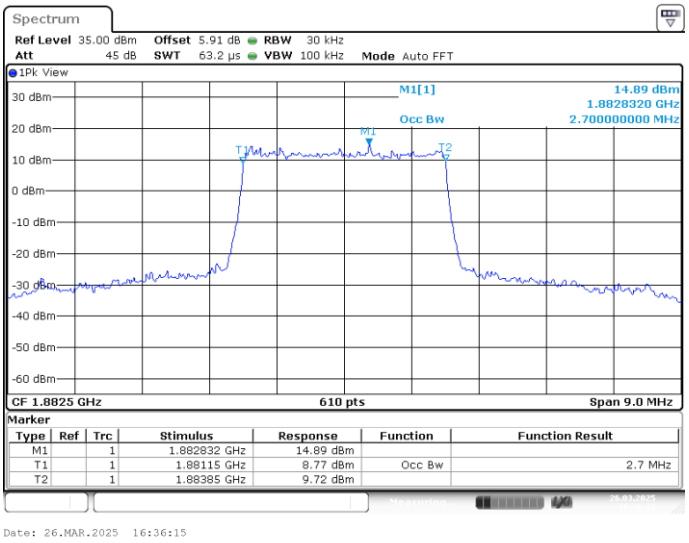
LTE band 25 , 1.4MHz Bandwidth,MID,16QAM (99% BW)



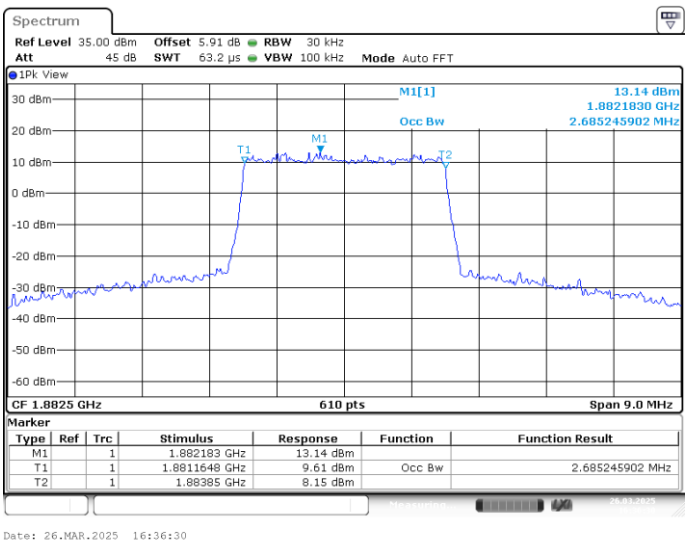
LTE band 25, 3MHz(99%)

Frequency (MHz)	Occupied Bandwidth (99%)(MHz)	
	QPSK	16QAM
1882.5	2.700	2.685

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



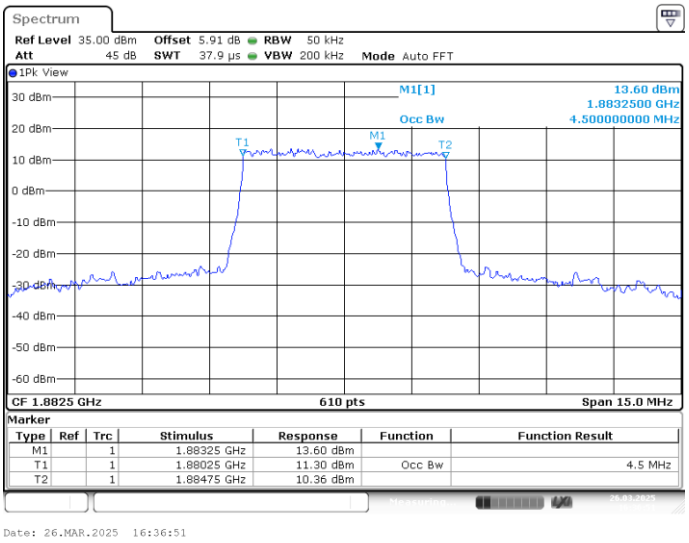
LTE band 25 , 3MHz Bandwidth,MID,16QAM (99% BW)



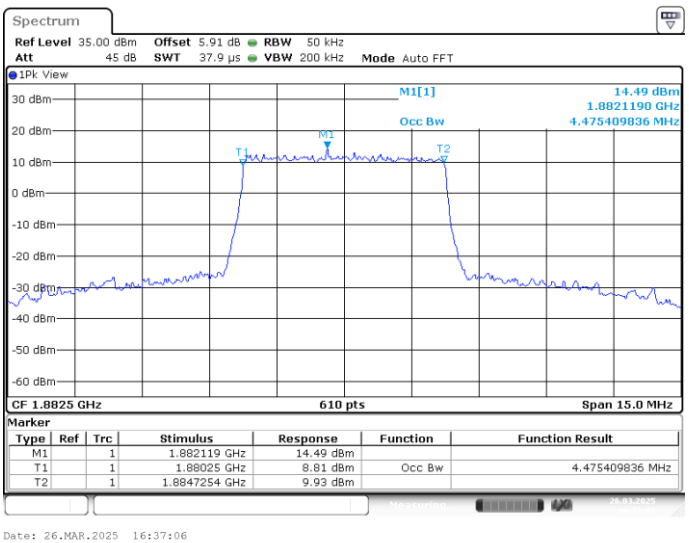
LTE band 25, 5MHz(99%)

Frequency (MHz)	Occupied Bandwidth (99%)(MHz)	
	QPSK	16QAM
1882.5	4.500	4.475

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



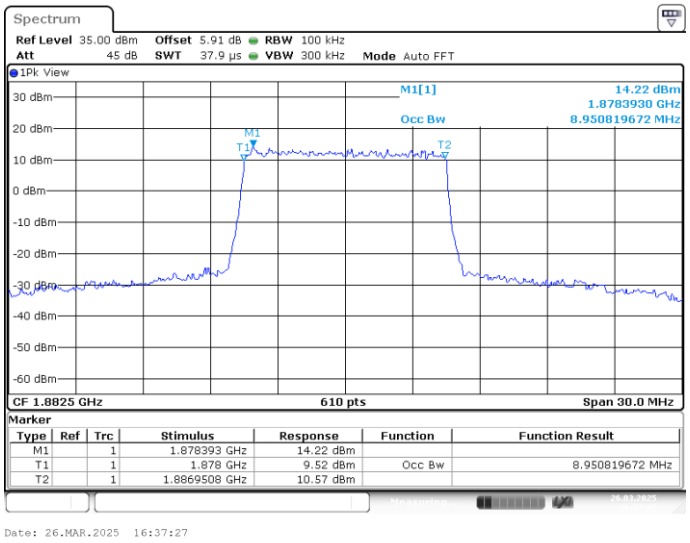
LTE band 25 , 5MHz Bandwidth,MID,16QAM (99% BW)



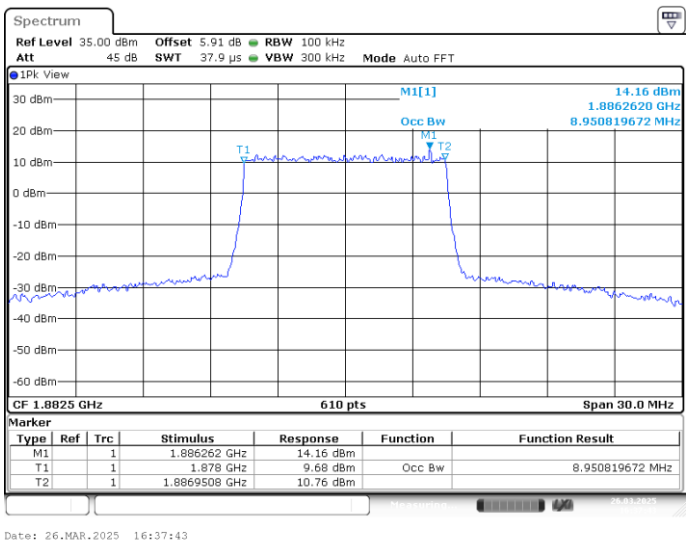
LTE band 25, 10MHz(99%)

Frequency (MHz)	Occupied Bandwidth (99%)(MHz)	
	QPSK	16QAM
1882.5	8.951	8.951

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



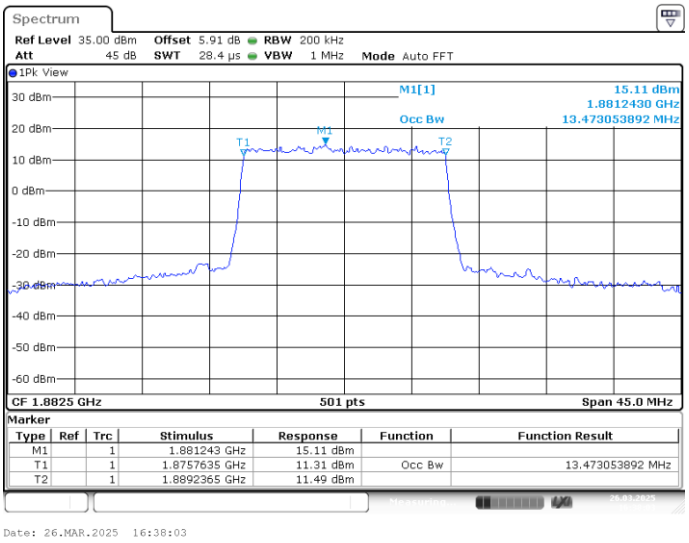
LTE band 25 , 10MHz Bandwidth,MID,16QAM (99% BW)



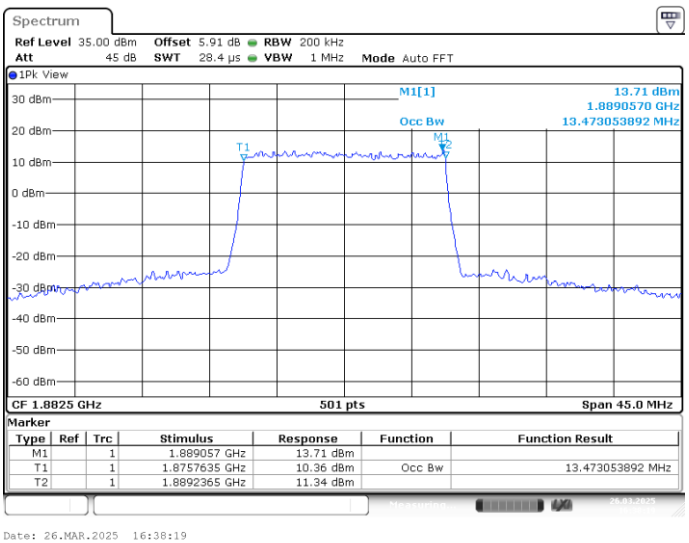
LTE band 25, 15MHz(99%)

Frequency (MHz)	Occupied Bandwidth (99%)(MHz)	
	QPSK	16QAM
1882.5	13.473	13.473

LTE band 25 , 15MHz Bandwidth,MID,QPSK (99% BW)



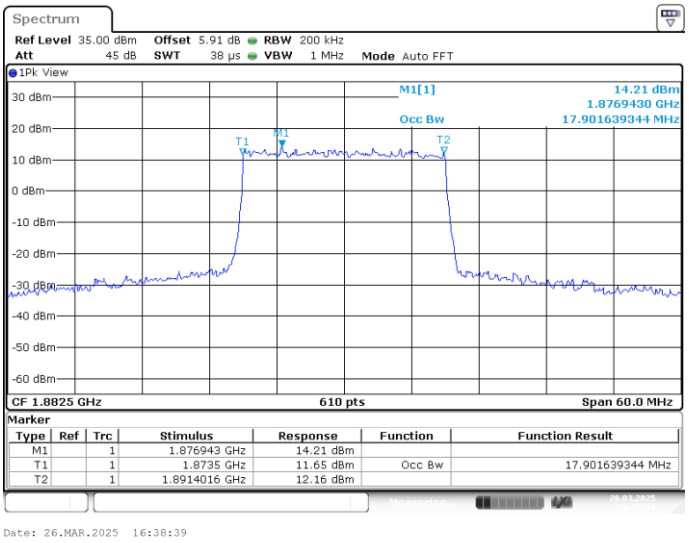
LTE band 25 , 15MHz Bandwidth,MID,16QAM (99% BW)



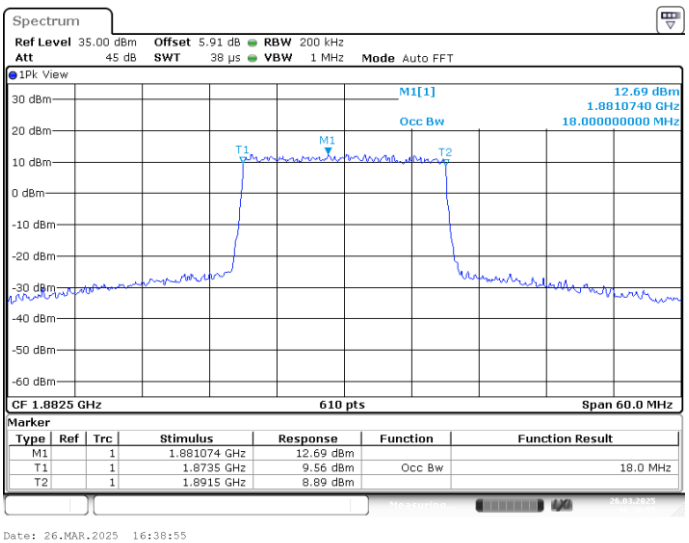
LTE band 25, 20MHz(99%)

Frequency (MHz)	Occupied Bandwidth (99%)(MHz)	
	QPSK	16QAM
1882.5	17.902	18.000

LTE band 25 , 20MHz Bandwidth,MID,QPSK (99% BW)



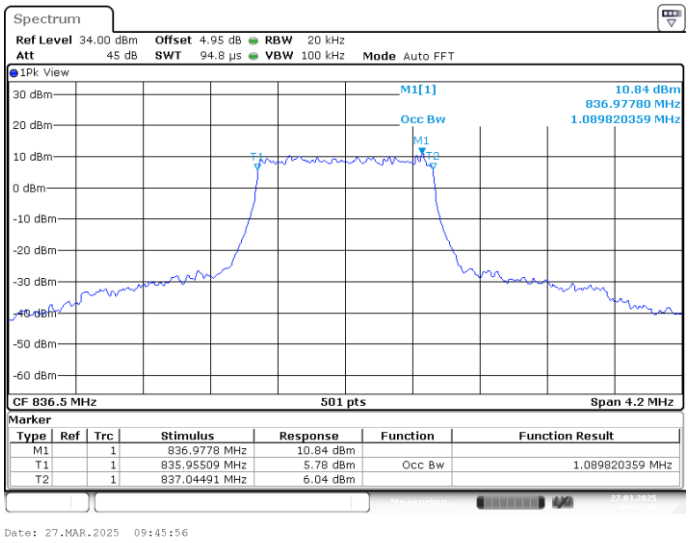
LTE band 25 , 20MHz Bandwidth,MID,16QAM (99% BW)



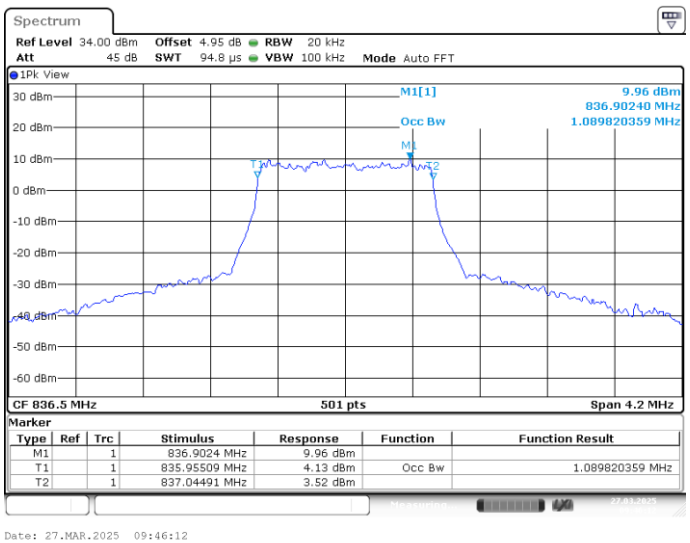
LTE band 26_Part22, 1.4MHz(99%)

Frequency (MHz)	Occupied Bandwidth (99%)(MHz)	
	QPSK	16QAM
836.5	1.090	1.090

LTE band 26 , 1.4MHz Bandwidth,MID,QPSK (99% BW)



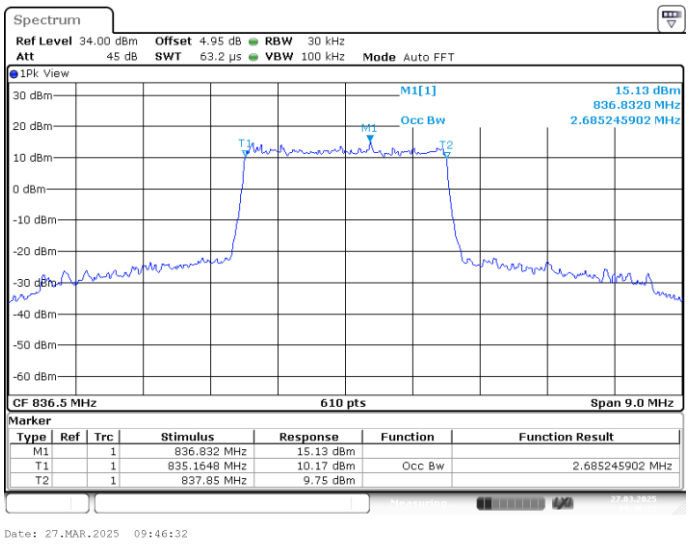
LTE band 26 , 1.4MHz Bandwidth,MID,16QAM (99% BW)



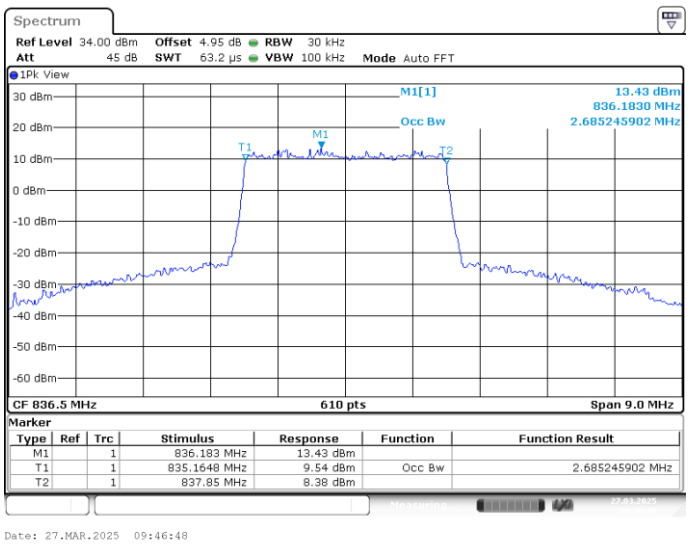
LTE band 26_Part22, 3MHz(99%)

Frequency (MHz)	Occupied Bandwidth (99%)(MHz)	
	QPSK	16QAM
836.5	2.685	2.685

LTE band 26 , 3MHz Bandwidth,MID,QPSK (99% BW)



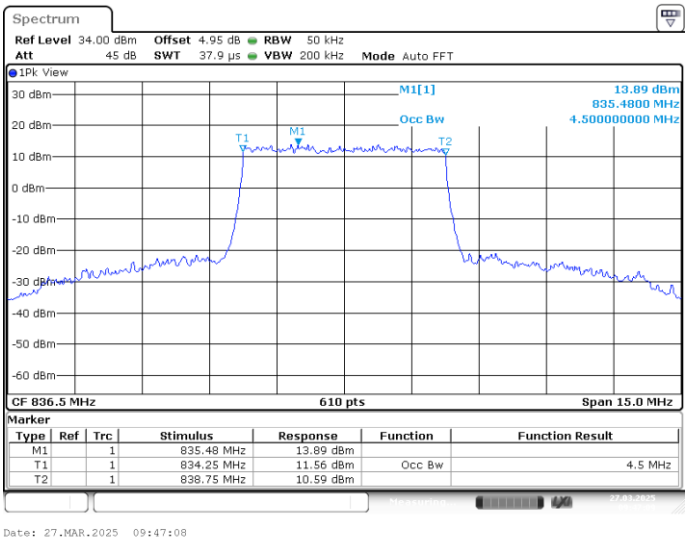
LTE band 26 , 3MHz Bandwidth,MID,16QAM (99% BW)



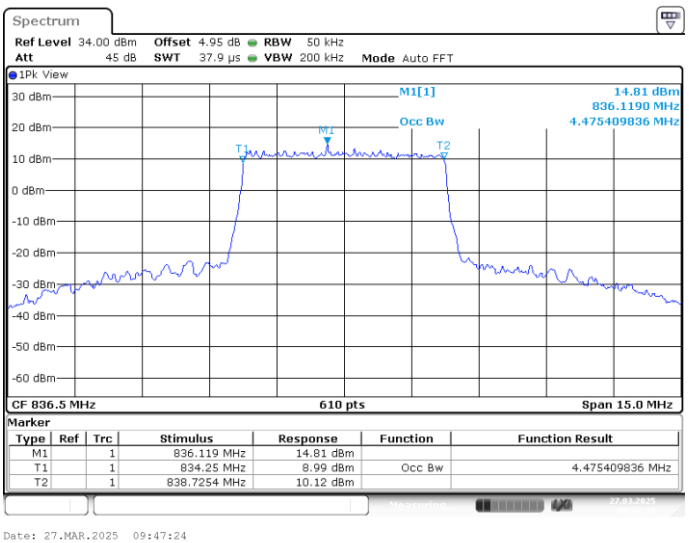
LTE band 26_Part22, 5MHz(99%)

Frequency (MHz)	Occupied Bandwidth (99%)(MHz)	
	QPSK	16QAM
836.5	4.500	4.475

LTE band 26 , 5MHz Bandwidth,MID,QPSK (99% BW)



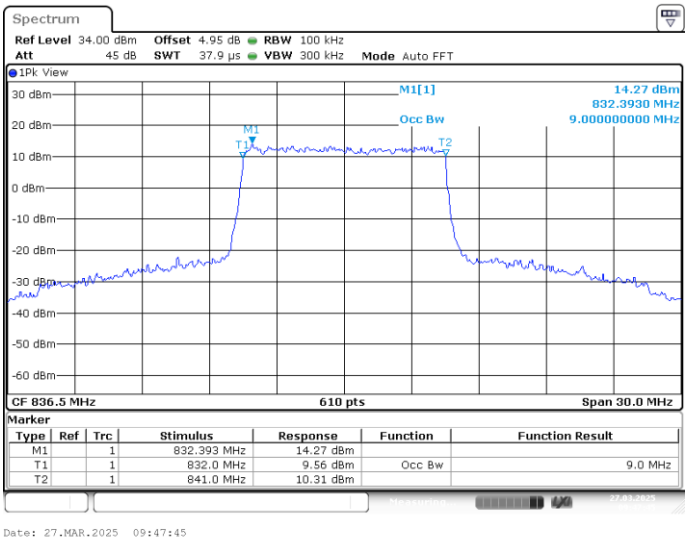
LTE band 26 , 5MHz Bandwidth,MID,16QAM (99% BW)



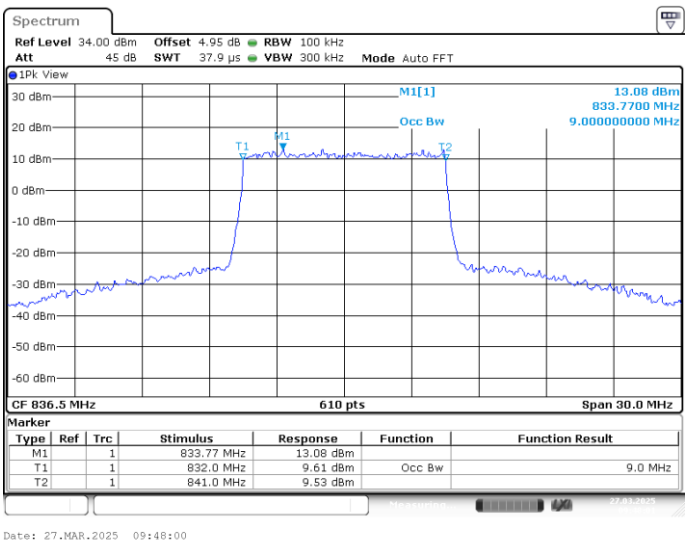
LTE band 26_Part22, 10MHz(99%)

Frequency (MHz)	Occupied Bandwidth (99%)(MHz)	
	QPSK	16QAM
836.5	9.000	9.000

LTE band 26 , 10MHz Bandwidth,MID,QPSK (99% BW)



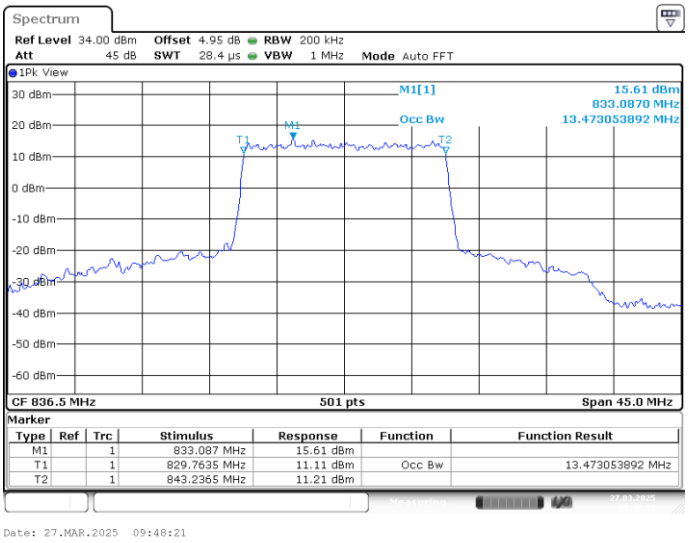
LTE band 26 , 10MHz Bandwidth,MID,16QAM (99% BW)



LTE band 26_Part22, 15MHz(99%)

Frequency (MHz)	Occupied Bandwidth (99%)(MHz)	
	QPSK	16QAM
836.5	13.473	13.473

LTE band 26 , 15MHz Bandwidth,MID,QPSK (99% BW)



LTE band 26 , 15MHz Bandwidth,MID,16QAM (99% BW)