LTE Band 12, 1.4MHz, QPSK, Channel 23095

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBi)	Peak EIRP (dBm)	Limit（dBm）	Polarization
1843.9	-40.98	4.6	2.9	-42.68	-13	H
2452.7	-39.21	5.3	3.7	-40.81	-13	H
3188.4	-43.51	6.1	4.7	-44.91	-13	H
4558.4	-50.11	7.4	7.3	-50.21	-13	H
6334.0	-52.26	8.8	10.8	-50.26	-13	V
8267.2	-54.24	10.1	17.3	-47.04	-13	V

LTE Band 12, 1.4MHz, QPSK, Channel 23173

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBi)	Peak EIRP (dBm)	Limit（dBm）	Polarization
1844.9	-40.21	4.6	2.9	-41.91	-13	H
2546.2	-38.33	5.4	3.7	-40.03	-13	V
3205.2	-39.29	6.1	4.7	-40.69	-13	H
4555.2	-50.65	7.4	7.3	-50.75	-13	H
5772.8	-51.88	8.5	10.5	-49.88	-13	H
7899.4	-54.23	9.9	16.6	-47.53	-13	H

LTE Band 17, 5MHz, QPSK, Channel 23755

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBi)	Peak EIRP (dBm)	Limit（dBm）	Polarization
1825.5	-40.89	4.6	2.9	-42.59	-13	H
2593.1	-38.04	5.5	3.7	-39.84	-13	V
3188.4	-43.87	6.1	4.7	-45.27	-13	H
4393.2	-51.25	7.3	7.3	-51.25	-13	H
5500.8	-52.5	8.2	9.5	-51.2	-13	V
7347.1	-52.58	9.6	13.7	-48.48	-13	V

LTE Band 17, 5MHz, QPSK, Channel 23790

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBi)	Peak EIRP (dBm)	Limit（dBm）	Polarization
1853.6	-40.53	4.6	2.9	-42.23	-13	H

2477.3	-38.94	5.3	3.7	-40.54	-13	V
3194.8	-39.31	6.1	4.7	-40.71	-13	H
4526.8	-51.16	7.4	7.3	-51.26	-13	H
5944.8	-52.66	8.5	10.4	-50.76	-13	H
7927.6	-54.22	9.8	16.6	-47.42	-13	V

LTE Band 17, 5MHz, QPSK, Channel 23825

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBi)	Peak EIRP (dBm)	Limit（dBm）	Polarization
1849.4	-40.05	4.6	2.9	-41.75	-13	H
2625.4	-36.79	5.5	4.1	-38.19	-13	H
3205.6	-39.63	6.1	4.7	-41.03	-13	H
4536.8	-51.03	7.4	7.3	-51.13	-13	H
6204.8	-52.77	8.7	10.8	-50.67	-13	V
8051.8	-54.43	9.9	16.6	-47.73	-13	V

LTE Band 25, 1.4MHz, QPSK, Channel 26047

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBi)	Peak EIRP (dBm)	Limit（dBm）	Polarization
3701.2	-41.96	6.6	7.7	-40.86	-13	V
5552.0	-33.74	8.2	9.5	-32.44	-13	V
7402.8	-41.82	9.7	14.6	-36.92	-13	H
9254.0	-51.68	10.6	18.5	-43.78	-13	H
11016.8	-49.95	12.0	18.1	-43.85	-13	V
12937.6	-48.17	13.0	20.2	-40.97	-13	H

LTE Band 25, 1.4MHz, QPSK, Channel 26365

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBi)	Peak EIRP (dBm)	Limit（dBm）	Polarization
3701.6	-51.3	6.6	7.7	-50.2	-13	V
5552.8	-42.02	8.2	9.5	-40.72	-13	H
7402.8	-45.79	9.7	14.6	-40.89	-13	V
9254.0	-52.31	10.6	18.5	-44.41	-13	V
11142.8	-49.52	12.1	18.5	-43.12	-13	V

12955.8	-43.15	13.2	20.2	-36.15	-13	V

LTE Band 25, 1.4MHz, QPSK, Channel 26683

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBi)	Peak EIRP (dBm)	Limit（dBm）	Polarization
3828.0	-49.6	6.7	7.7	-48.6	-13	H
5742.8	-39.62	8.5	10.5	-37.62	-13	H
7657.2	-48.35	9.7	15.3	-42.75	-13	V
9570.8	-52.38	10.8	18.6	-44.58	-13	H
11481.6	-48.96	12.3	18.1	-43.16	-13	H
13399.6	-48.33	13.7	23.4	-38.63	-13	V

LTE Band 26(Part 22), 1.4MHz, QPSK, Channel 27033

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBi)	Peak EIRP (dBm)	Limit（dBm）	Polarization
1628.6	-43.85	4.3	2.9	-45.25	-13	H
2509.2	-39.51	5.4	3.7	-41.21	-13	H
3256.8	-49.12	6.1	4.7	-50.52	-13	V
4516.0	-51	7.3	7.3	-51	-13	V
6587.2	-51.01	9.1	11.5	-48.61	-13	V
8035.3	-54.98	9.9	16.6	-48.28	-13	V

LTE Band 26(Part 22), 1.4MHz, QPSK, Channel 26915

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBi)	Peak EIRP (dBm)	Limit（dBm）	Polarization
1857.7	-40.9	4.6	2.9	-42.6	-13	H
2644.2	-38.23	5.5	4.1	-39.63	-13	H
3566.4	-50.17	6.4	4.7	-51.87	-13	H
4560.8	-50.13	7.4	7.3	-50.23	-13	H
5945.2	-52.36	8.5	10.4	-50.46	-13	V
7513.0	-53.98	9.7	14.6	-49.08	-13	V

LTE Band 26(Part 22), 1.4MHz, QPSK, Channel 26797

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBi)	Peak EIRP (dBm)	Limit（dBm）	Polarization
1835.2	-41.48	4.6	2.9	-43.18	-13	V

2621.9	-37.53	5.5	3.7	-39.33	-13	V
3572.4	-50.34	6.4	4.7	-52.04	-13	H
4566.8	-50.26	7.4	7.3	-50.36	-13	H
5956.0	-52.5	8.5	10.4	-50.6	-13	H
7676.8	-52.8	9.8	15.3	-47.3	-13	V

LTE Band 26(Part 90), 1.4MHz, QPSK, Channel 26783

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit（dBm）	Polarization
1628.6	-43.85	4.3	2.9	-45.23	-13	H
2509.2	-39.51	5.4	3.7	-41.21	-13	H
3256.8	-49.12	6.1	4.7	-50.52	-13	V
4516.0	-51	7.3	7.3	-55	-13	V
6587.2	-51.01	9.1	11.5	-48.61	-13	V
8035.3	-54.98	9.9	16.6	-48.28	-13	V

LTE Band 26(Part 90), 1.4MHz, QPSK, Channel 26740

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit（dBm）	Polarization
1857.7	-40.9	4.6	2.9	-42.6	-13	H
2644.2	-38.23	5.5	4.1	-39.53	-13	H
3566.4	-50.17	6.4	4.7	-51.87	-13	H
4560.8	-50.13	7.4	7.3	-50.23	-13	H
5945.2	-52.36	8.5	10.4	-50.46	-13	V
7513.0	-53.98	9.7	14.6	-49.08	-13	V

LTE Band 26(Part 90), 1.4MHz, QPSK, Channel 26697

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit（dBm）	Polarization
1835.2	-41.48	4.6	2.9	-43.12	-13	V
2621.9	-37.53	5.5	3.7	-39.54	-13	V
3572.4	-50.34	6.4	4.7	-52.04	-13	H
4566.8	-50.26	7.4	7.3	-50.37	-13	H
5956.0	-52.5	8.5	10.4	-50.5	-13	H
7676.8	-52.8	9.8	15.3	-47.23	-13	V

LTE Band 41, 5MHz, QPSK, Channel 40065

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBi)	Peak EIRP (dBm)	Limit（dBm）	Polarization
4994.8	-42.02	7.8	9.0	-40.82	-13	H
6426.0	-47.73	8.9	11.5	-45.13	-13	H
7495.2	-46.36	9.7	14.6	-41.46	-13	H
9928.8	-47.26	11.0	17.6	-40.66	-13	V
12181.2	-39.38	12.6	17.5	-34.48	-13	H
13766.8	-41.97	13.9	24.8	-31.07	-13	V

LTE Band 41, 5MHz, QPSK, Channel 40640

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBi)	Peak EIRP (dBm)	Limit（dBm）	Polarization
5176.8	-34.52	8.0	8.7	-33.82	-13	H
6471.6	-33.88	8.9	11.5	-31.28	-13	H
7765.6	-39.11	9.8	15.3	-33.61	-13	V
10354.4	-40.87	11.6	17.4	-35.07	-13	V
12942.5	-39.39	13.0	20.2	-32.19	-13	H
15572.8	-38.15	14.6	24.2	-28.55	-13	V

LTE Band 41, 5MHz, QPSK, Channel 41215

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBi)	Peak EIRP (dBm)	Limit（dBm）	Polarization
5377.6	-33.98	8.1	9.5	-32.58	-13	H
6716.4	-40.53	9.1	12.3	-37.33	-13	H
8066.0	-40.99	9.9	16.6	-34.29	-13	V
10749.6	-42.53	11.7	17.3	-36.93	-13	V
13450.0	-42.16	13.7	23.4	-32.46	-13	V
15697.0	-35.81	14.5	22.2	-28.11	-13	H

LTE Band 66, 1.4MHz, QPSK, Channel 131979

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBi)	Peak EIRP (dBm)	Limit（dBm）	Polarization

3965.6	-53.56	6.8	7.7	-52.66	-13	H
5130.8	-48.17	7.9	8.7	-47.37	-13	H
6840.8	-41.53	9.2	12.3	-38.43	-13	V
8551.2	-53.67	10.3	18.1	-45.87	-13	V
11609.0	-47.58	12.2	18.1	-41.68	-13	H
14257.8	-47.88	13.7	23.5	-38.08	-13	H

LTE Band 66, 1.4MHz, QPSK, Channel 132322

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBi)	Peak EIRP (dBm)	Limit（dBm）	Polarization
3580.4	-48.83	6.5	4.7	-50.63	-13	H
5230.8	-48.7	8.0	8.7	-48	-13	H
6976.0	-49.94	9.3	12.9	-46.34	-13	V
8733.6	-56.6	10.4	18.5	-48.5	-13	H
10582.0	-50.41	11.6	17.1	-44.91	-13	H
12947.4	-46.99	13.0	20.2	-39.79	-13	V

LTE Band 66, 1.4MHz, QPSK, Channel 132665

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBi)	Peak EIRP (dBm)	Limit（dBm）	Polarization
3557.6	-46.67	6.4	4.7	-48.37	-13	H
5336.4	-36.75	8.1	8.7	-36.15	-13	H
7115.2	-42.68	9.4	12.9	-39.18	-13	V
8894.4	-52.6	10.4	18.3	-44.7	-13	V
10870.8	-49.51	11.8	17.3	-44.01	-13	V
14231.2	-44.13	13.7	23.5	-34.33	-13	V

ANNEX A.3. FREQUENCY STABILITY

Reference

FCC: CFR Part 2.1055, 22.235,24.235, 27.54,90.213.

A.3.1 Method of Measurement

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 R&S CMW500 DIGITAL RADIO COMMUNICATION TESTER.

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 LTE band 2,4,5,7,12,17,25,26,41,66. 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 centre 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.

A.3.2 Measurement Limit

According to the JTC standard the frequency stability of the carrier shall be accurate to within 0.1 ppm of the received frequency from the base station. This accuracy is sufficient to meet Sec. 24.235, Frequency Stability. 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 between 3.00VDC and 4.35VDC, with a nominal voltage of 3.80VDC. 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. For the purposes of measuring frequency stability these voltage limits are to be used.

A.3.3 Measurement results

LTE Band 2, 1.4MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
3.00	-6.995	-18.210	0.004	0.010
3.80	-4.964	-18.725	0.003	0.010
4.35	-4.148	-19.312	0.002	0.010

Frequency Error vs Temperature

Temperature (℃)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
50°	-3.777	-17.381	0.002	0.009
40°	-3.333	-18.854	0.002	0.010
30°	-5.407	-19.813	0.003	0.011
20°	-7.195	-16.837	0.004	0.009
10°	-5.293	-16.408	0.003	0.009
0°	-7.839	-17.767	0.004	0.009
- 10°	-5.236	-17.524	0.003	0.009
- 20°	-6.909	-16.937	0.004	0.009
- 30°	-4.134	-17.381	0.002	0.009

LTE Band 4, 1.4MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
3.00	3.791	-13.590	0.002	0.008
3.80	3.490	-13.118	0.002	0.008
4.35	-2.389	-16.665	0.001	0.010

Frequency Error vs Temperature

Temperature (℃)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
50°	3.233	-15.364	0.002	0.009
40°	3.204	-13.332	0.002	0.008
30°	-2.031	-12.746	0.001	0.007
20°	4.449	-13.762	0.003	0.008
10°	4.363	-15.335	0.003	0.009
0°	3.963	-14.477	0.002	0.008
- 10°	2.947	-14.191	0.002	0.008
- 20°	3.576	-15.035	0.002	0.009
- 30°	3.963	-14.276	0.002	0.008

LTE Band 5, 1.4MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
3.00	-2.446	9.570	0.003	0.011
3.80	-1.731	10.457	0.002	0.013
4.35	-2.861	9.513	0.003	0.011

Frequency Error vs Temperature

Temperature (℃)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
50°	1.245	10.471	0.015	0.028
40°	-2.689	7.625	0.003	0.009
30°	-2.761	8.025	0.003	0.010
20°	-2.689	8.755	0.003	0.010
10°	-3.676	8.526	0.004	0.010
0°	-2.661	10.600	0.003	0.013
- 10°	-3.519	10.014	0.004	0.012
- 20°	-2.346	9.084	0.003	0.011
- 30°	-2.160	8.669	0.003	0.010

LTE Band 7, 5MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
3.00	-4.792	11.215	0.002	0.004
3.80	-8.483	-9.198	0.003	0.004
4.35	-6.495	-10.543	0.003	0.004

Frequency Error vs Temperature

Temperature (℃)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
50°	-7.997	11.258	0.002	0.004
40°	-7.310	9.284	0.003	0.004
30°	-7.339	9.956	0.003	0.004
20°	-7.439	10.586	0.003	0.004
10°	-6.752	-8.154	0.003	0.003
0°	-5.093	10.443	0.002	0.004
- 10°	-6.580	9.642	0.003	0.004
- 20°	-3.319	10.772	0.001	0.004
- 30°	-5.493	8.354	0.002	0.003

LTE Band 12, 1.4MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
3.00	-2.160	9.341	0.003	0.013
3.80	-2.189	9.556	0.003	0.014
4.35	-2.761	9.427	0.004	0.013

Frequency Error vs Temperature

Temperature (℃)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
50°	-2.131	11.029	0.003	0.016
40°	-3.276	8.512	0.005	0.012
30°	-2.675	10.686	0.004	0.015
20°	-1.316	10.028	0.002	0.014
10°	-1.645	9.856	0.002	0.014
0°	-1.373	10.371	0.002	0.015
- 10°	-1.974	8.926	0.003	0.013
- 20°	-3.333	8.941	0.005	0.013
- 30°	-1.888	7.811	0.003	0.011

LTE Band 17, 5MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
3.00	-2.689	14.462	0.004	0.020
3.80	-2.089	13.518	0.003	0.019
4.35	-2.160	14.319	0.003	0.020

Frequency Error vs Temperature

Temperature (℃)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
50°	2.046	13.432	0.003	0.019
40°	-2.074	15.678	0.003	0.022
30°	1.187	14.248	0.002	0.020
20°	-1.831	13.819	0.003	0.019
10°	-1.359	13.118	0.002	0.018
0°	-4.406	13.447	0.006	0.019
- 10°	1.717	14.105	0.002	0.020
- 20°	-1.388	14.563	0.002	0.021
- 30°	8.912	14.005	0.013	0.007

LTE Band 25, 1.4MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
3.00	3.633	-16.637	0.002	0.009
3.80	2.232	-14.877	0.001	0.008
4.35	3.219	-16.208	0.002	0.009

Frequency Error vs Temperature

Temperature (℃)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
50°	2.933	-17.109	0.002	0.009
40°	3.018	-17.223	0.002	0.009
30°	3.905	-16.608	0.002	0.009
20°	5.150	-17.810	0.003	0.009
10°	4.191	-15.564	0.002	0.008
0°	-2.961	-16.365	0.002	0.009
- 10°	3.433	-17.438	0.002	0.009
- 20°	-2.289	-16.408	0.001	0.009
- 30°	-3.319	-15.621	0.002	0.008

LTE Band 26（Part22）, 5MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
3.00	-2.761	-15.965	0.003	0.019
3.80	-2.847	-17.409	0.003	0.021
4.35	-3.276	-17.281	0.004	0.021

Frequency Error vs Temperature

Temperature (℃)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
50°	-4.148	-16.565	0.005	0.020
40°	-3.419	-17.595	0.004	0.021
30°	-2.933	-16.909	0.004	0.020
20°	-2.890	-16.494	0.003	0.020
10°	-3.347	-16.365	0.004	0.020
0°	-2.646	-15.249	0.003	0.018
- 10°	-2.618	-15.407	0.003	0.018
- 20°	-1.974	-16.866	0.002	0.020
- 30°	-2.375	-16.465	0.003	0.020

LTE Band 26(Part90), 5MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
3.00	-4.420	-17.352	0.013	0.009
3.80	-2.975	-17.138	0.12	0.008
4.35	-4.663	-17.395	0.011	0.008

Frequency Error vs Temperature

Temperature (℃)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
50°	-3.433	-19.369	0.004	0.024
40°	-3.848	-17.266	0.003	0.021
30°	-2.489	-17.266	0.005	0.020
20°	-4.206	-16.365	0.005	0.020
10°	-3.891	-16.479	0.005	0.021
0°	-3.905	-17.352	0.005	0.021
- 10°	-3.805	-16.894	0.005	0.021
- 20°	-3.133	-16.551	0.004	0.020
- 30°	-3.862	-16.093	0.005	0.020

LTE Band 41, 5MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
3.00	9.799	-7.839	0.004	0.003
3.80	12.960	-9.899	0.005	0.004
4.35	12.703	-12.288	0.005	0.005

Frequency Error vs Temperature

Temperature (℃)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
50°	9.384	61.269	0.004	0.024
40°	9.570	-14.191	0.004	0.005
30°	-9.227	-15.836	0.004	0.006
20°	14.591	-13.075	0.006	0.005
10°	12.116	-13.103	0.005	0.005
0°	11.001	-16.880	0.004	0.007
- 10°	13.103	-16.508	0.005	0.006
- 20°	-8.898	-13.561	0.003	0.005
- 30°	12.360	-9.928	0.005	0.004

LTE Band 66, 1.4MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
3.00	-4.492	-9.270	0.003	0.005
3.80	-5.322	-10.357	0.003	0.006
4.35	-3.133	9.785	0.002	0.006

Frequency Error vs Temperature

Temperature (℃)	Frequency error (Hz)		Frequency error (ppm)	
	QPSK	16QAM	QPSK	16QAM
50°	-4.835	10.171	0.003	0.006
40°	-4.749	-9.227	0.003	0.005
30°	-3.419	-9.928	0.002	0.006
20°	-3.676	9.398	0.002	0.005
10°	-4.578	8.826	0.003	0.005
0°	-5.908	9.899	0.003	0.006
- 10°	-4.921	8.683	0.003	0.005
- 20°	-4.249	-10.242	0.002	0.006
- 30°	-4.334	9.198	0.002	0.005

ANNEX A.4. OCCUPIED BANDWIDTH

Reference

FCC: CFR Part 2.1049(h)(i),90.1215.

A.4.1 Occupied Bandwidth Results

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 frequencies of the US Cellular/PCS frequency bands. The table below lists the measured 99% BW. Spectrum analyzer plots are included on the following pages.

The measurement method is from KDB 9711684:

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 (i.e., two to five times the OBW).

b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.

c) Set the reference level of the instrument as required to keep the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope must be at least 10log (OBW / RBW) below the reference level.

d) Set the detection mode to peak, and the trace mode to max hold.

e) Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.

LTE band 2, 1.4MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
1880.0	QPSK	16QAM
	1.09	1.098

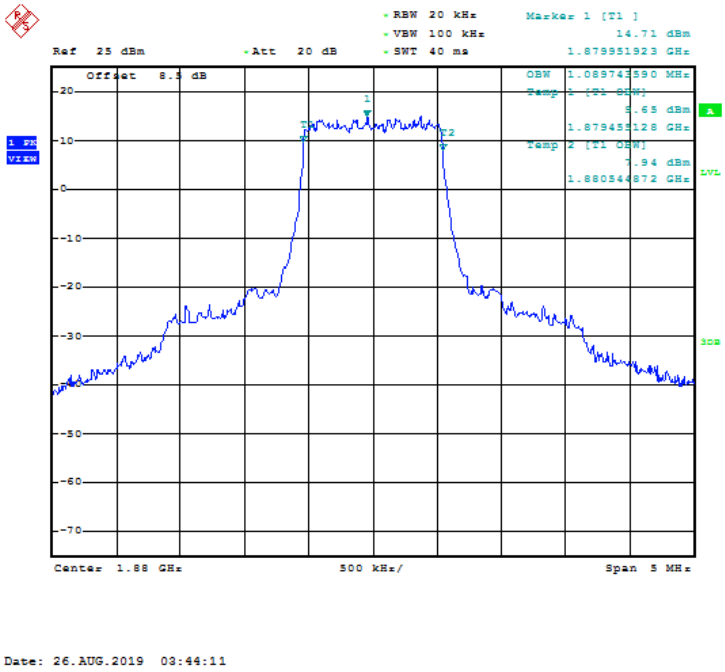

Fig.1 LTE band 2, 1.4MHz Bandwidth, QPSK (99% BW)

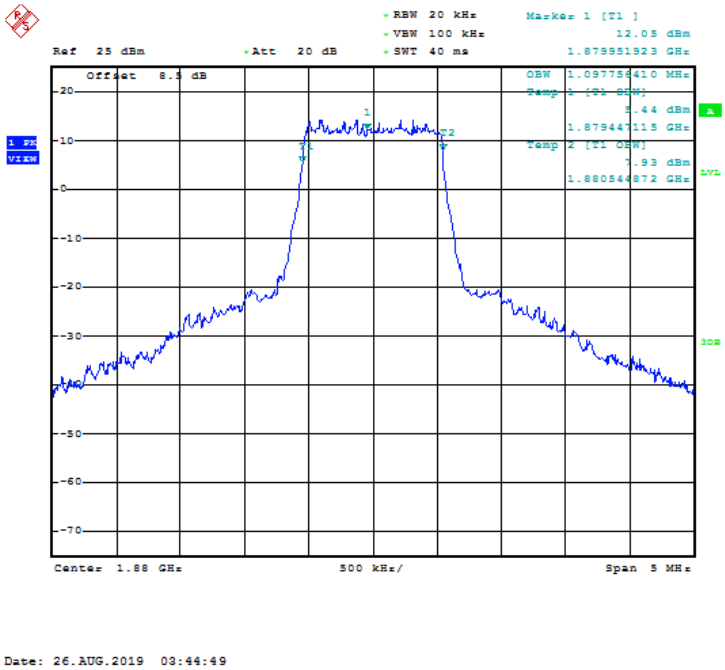

Fig.2 LTE band 2, 1.4MHz Bandwidth, 16QAM (99% BW)

LTE band 2, 3MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
1880.0	QPSK	16QAM
	2.69	2.69

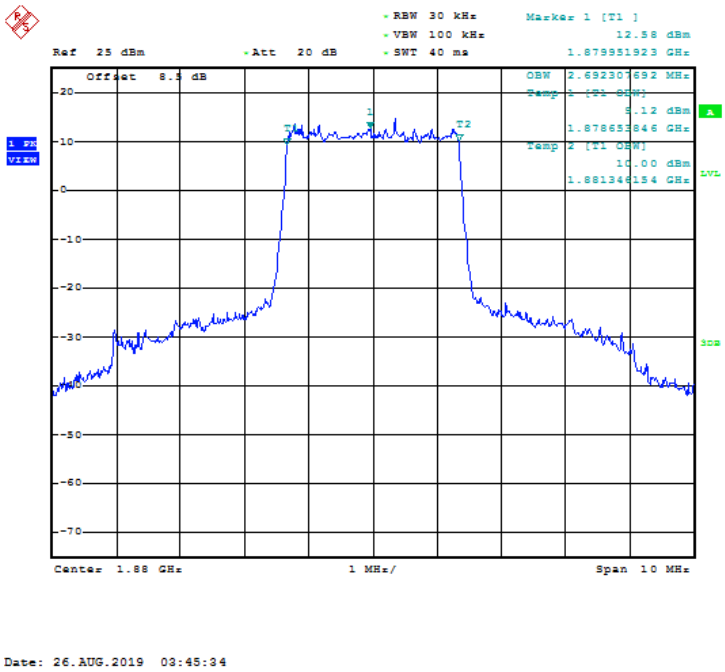

Fig.3 LTE band 2, 3MHz Bandwidth, QPSK (99% BW)

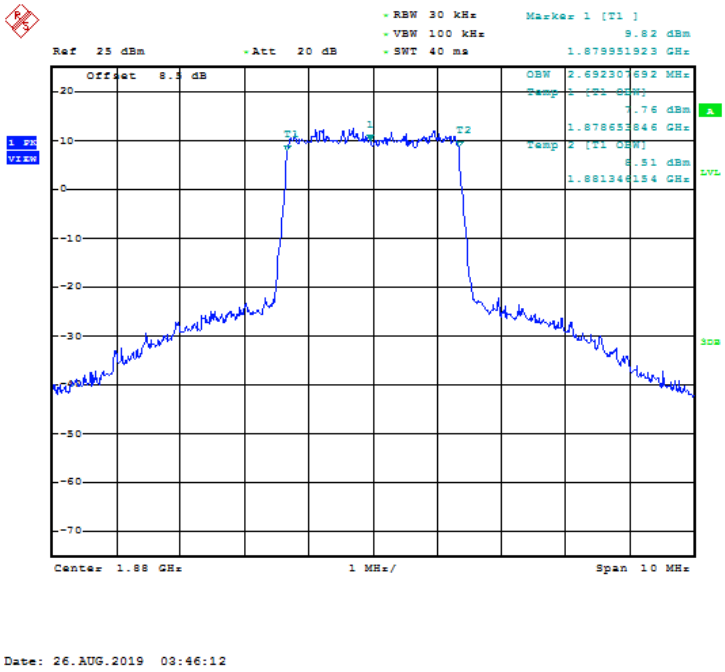

Fig.4 LTE band 2, 3MHz Bandwidth, 16QAM (99% BW)

LTE band 2, 5MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
1880.0	QPSK	16QAM
	4.495	4.471

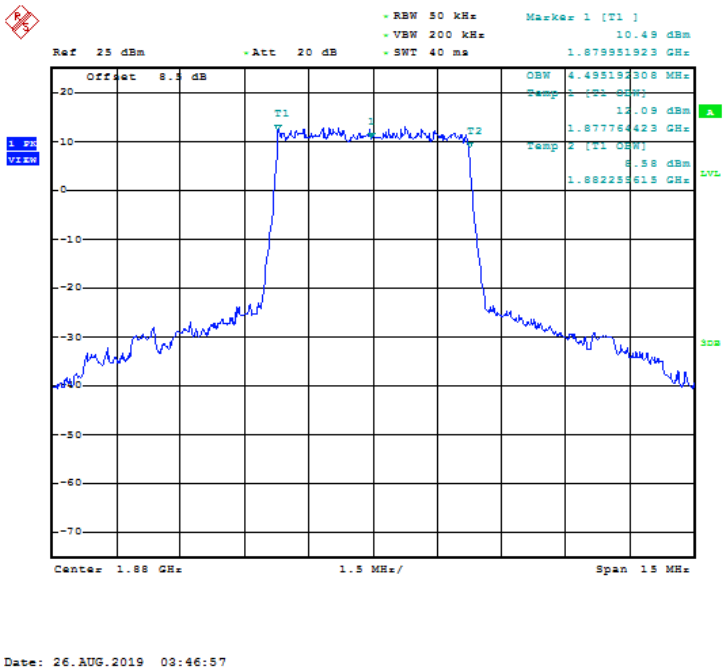

Fig.5 LTE band 2, 5MHz Bandwidth, QPSK (99% BW)

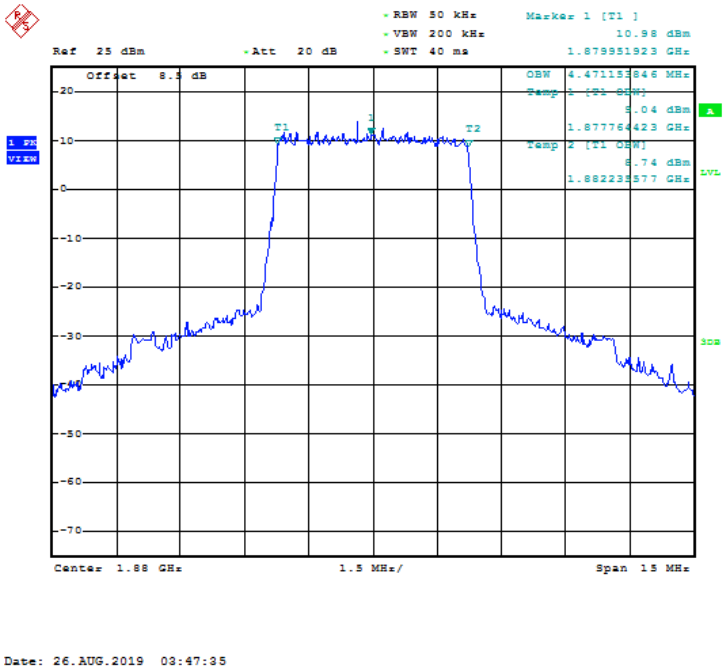

Fig.6 LTE band 2, 5MHz Bandwidth,16QAM (99% BW)

LTE band 2, 10MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
1880.0	QPSK	16QAM
	8.942	8.942

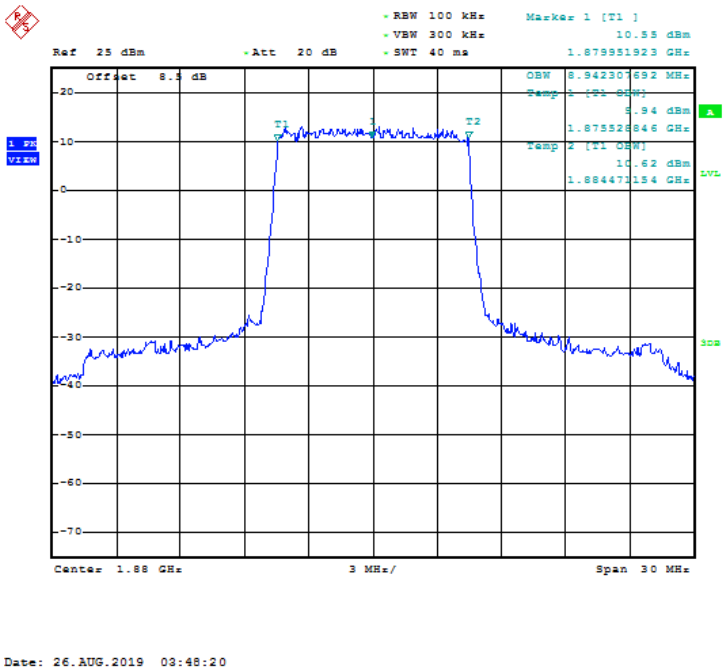

Fig.7 LTE band 2, 10MHz Bandwidth, QPSK (99% BW)

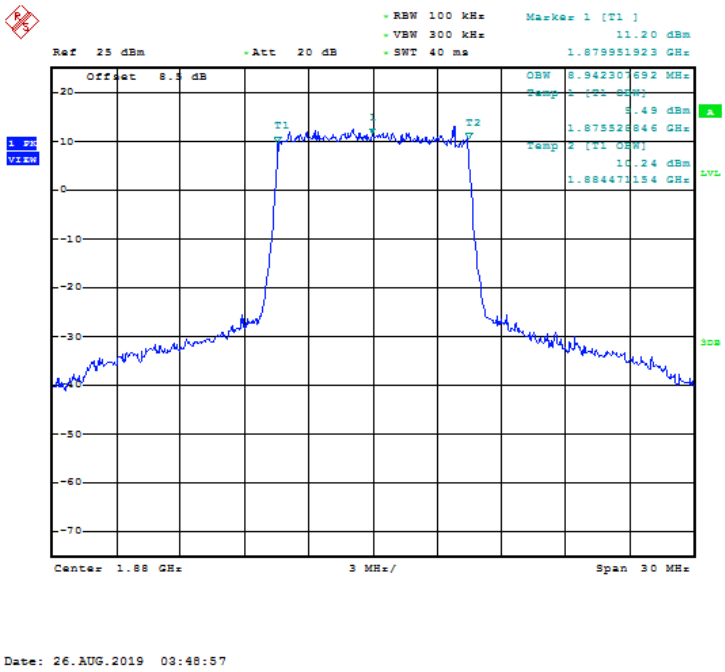

Fig.8 LTE band 2, 10MHz Bandwidth, 16QAM (99% BW)

LTE band 2, 15MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
1880.0	QPSK	16QAM
	13.486	13.413

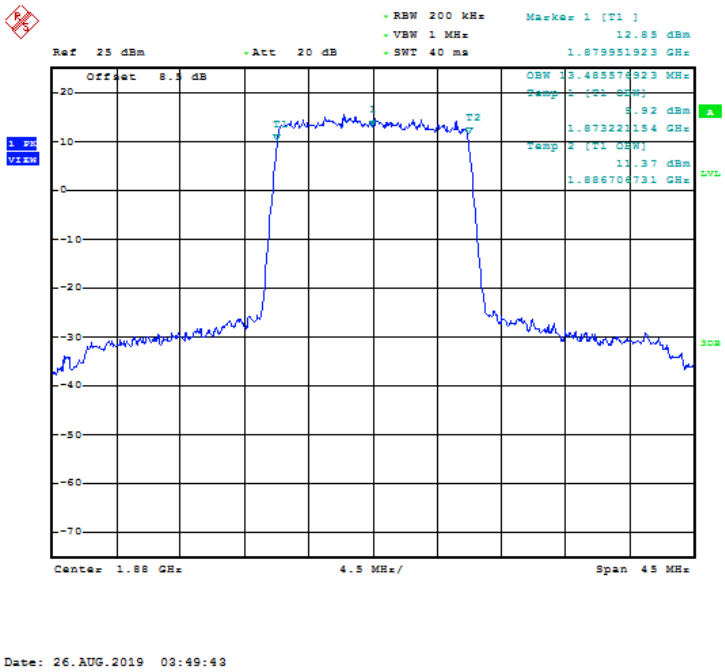

Fig.9 LTE band 2, 15MHz Bandwidth, QPSK (99% BW)

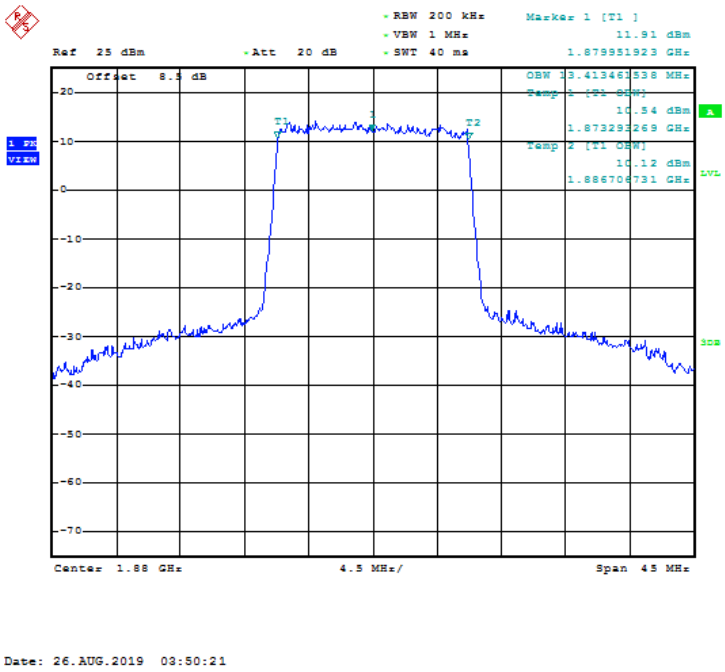

Fig.10 LTE band 2, 15MHz Bandwidth, 16QAM (99% BW)

LTE band 2, 20MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
1880.0	QPSK	16QAM
	17.885	17.981

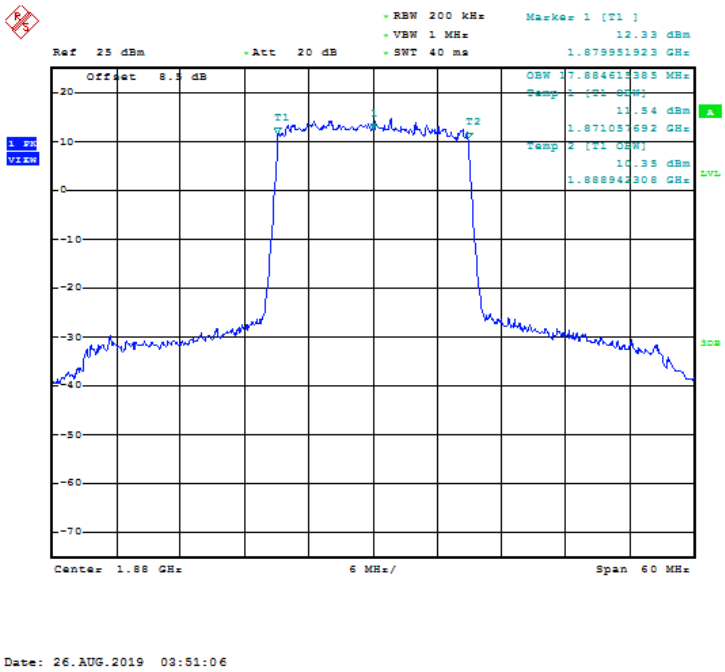

Fig.11 LTE band 2, 20MHz Bandwidth, QPSK (99% BW)

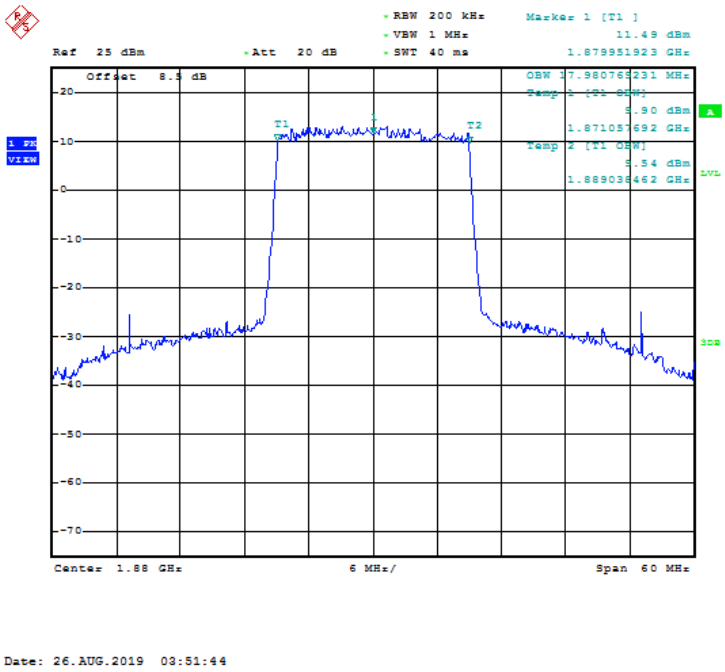

Fig.12 LTE band 2, 20MHz Bandwidth, 16QAM (99% BW)

LTE band 4, 1.4MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
1732.5	QPSK	16QAM
	1.09	1.09

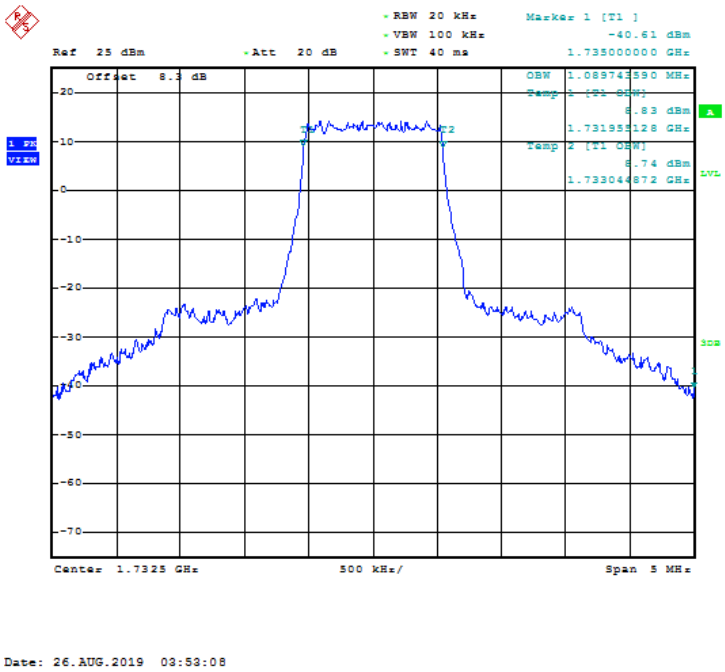

Fig.13 LTE band 4, 1.4MHz Bandwidth, QPSK (99% BW)

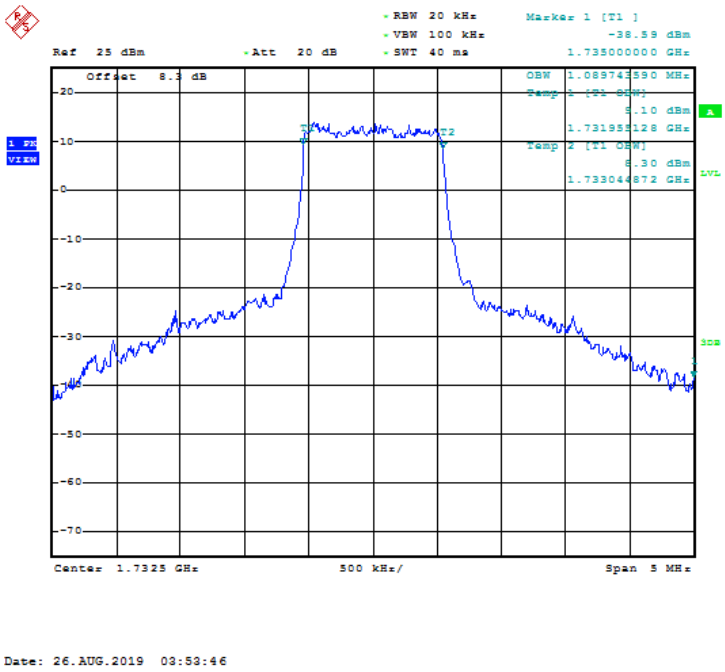

Fig.14 LTE band 4, 1.4MHz Bandwidth, 16QAM (99% BW)

LTE band 4, 3MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
1732.5	QPSK	16QAM
	2.708	2.708

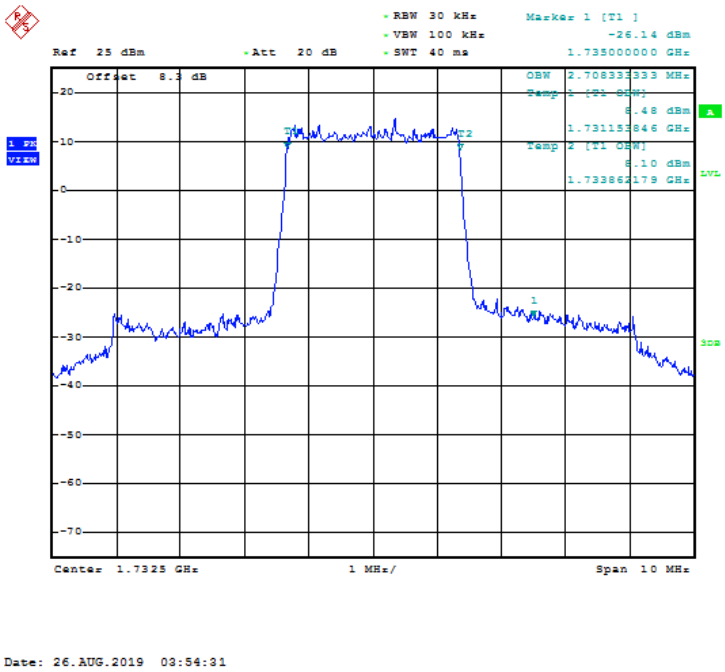

Fig.15 LTE band 4, 3MHz Bandwidth, QPSK (99% BW)

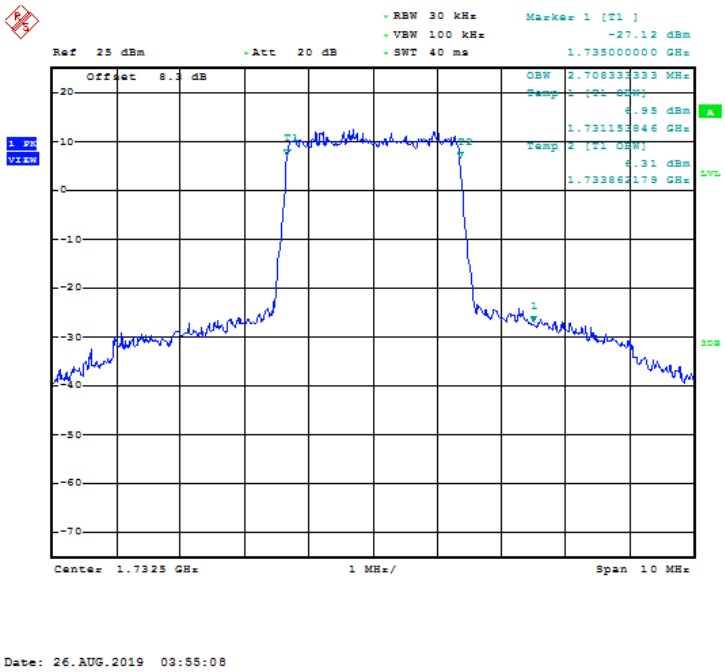

Fig.16 LTE band 4, 3MHz Bandwidth, 16QAM (99% BW)

LTE band 4, 5MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
1732.5	QPSK	16QAM
	4.495	4.495

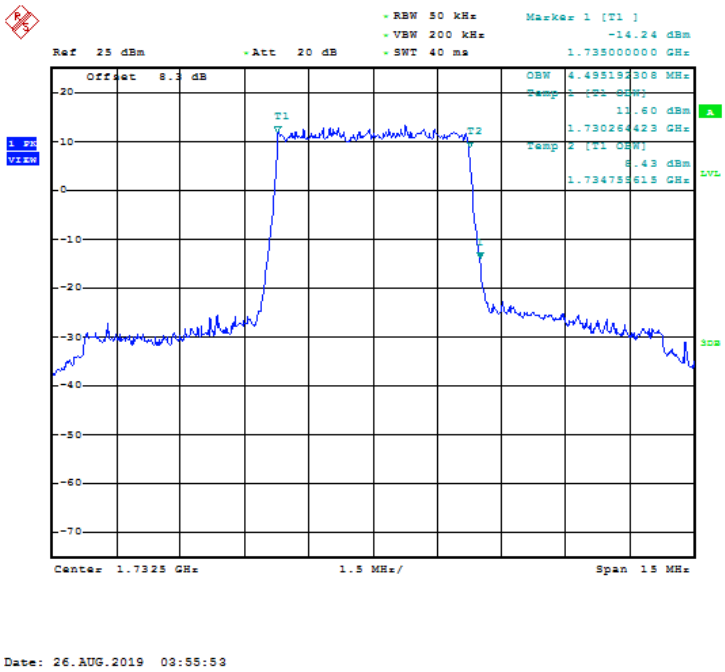

Fig.17 LTE band 4, 5MHz Bandwidth, QPSK (99% BW)

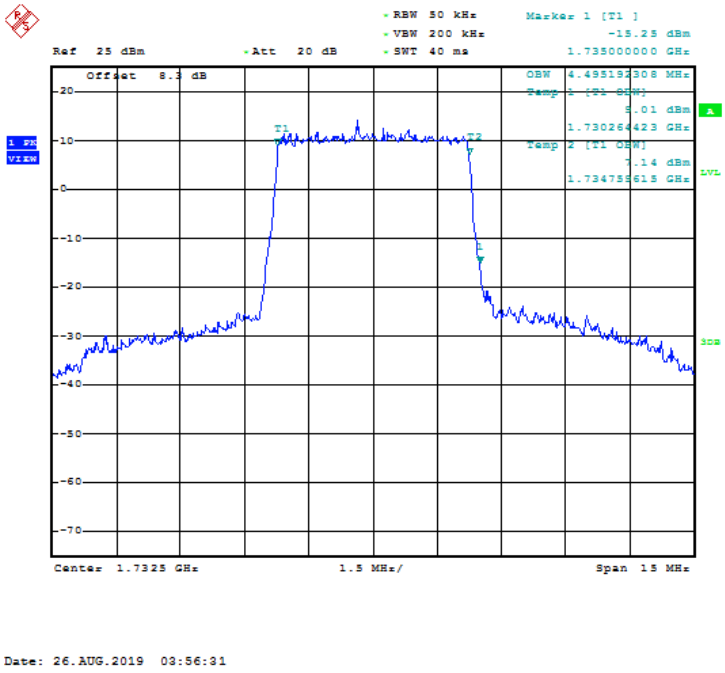

Fig.18 LTE band 4, 5MHz Bandwidth,16QAM (99% BW)

LTE band 4, 10MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
1732.5	QPSK	16QAM
	8.942	8.942

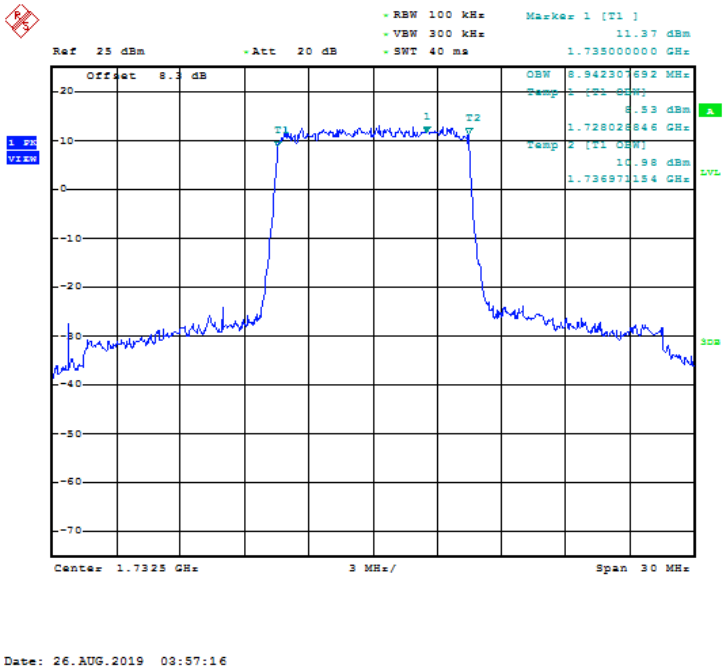

Fig.19 LTE band 4, 10MHz Bandwidth, QPSK (99% BW)

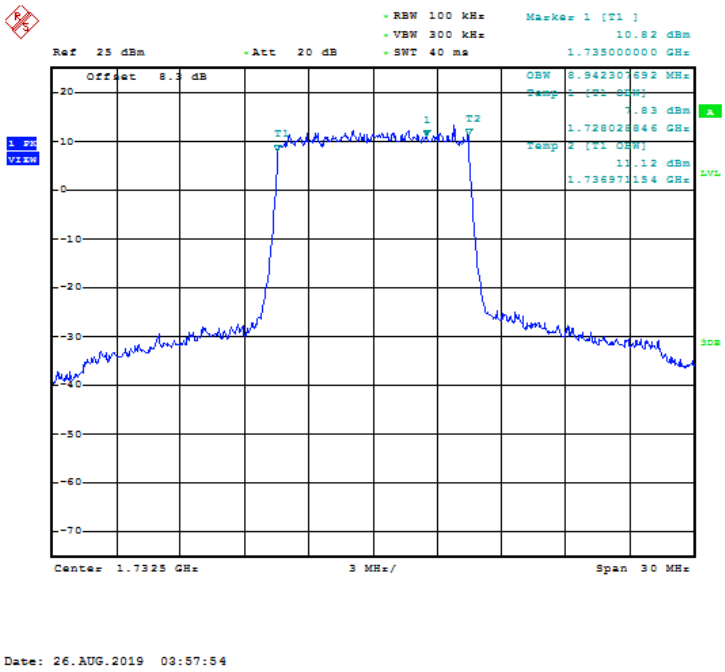

Fig.20 LTE band 4, 10MHz Bandwidth, 16QAM (99% BW)

LTE band 4, 15MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
1732.5	QPSK	16QAM
	13.486	13.413

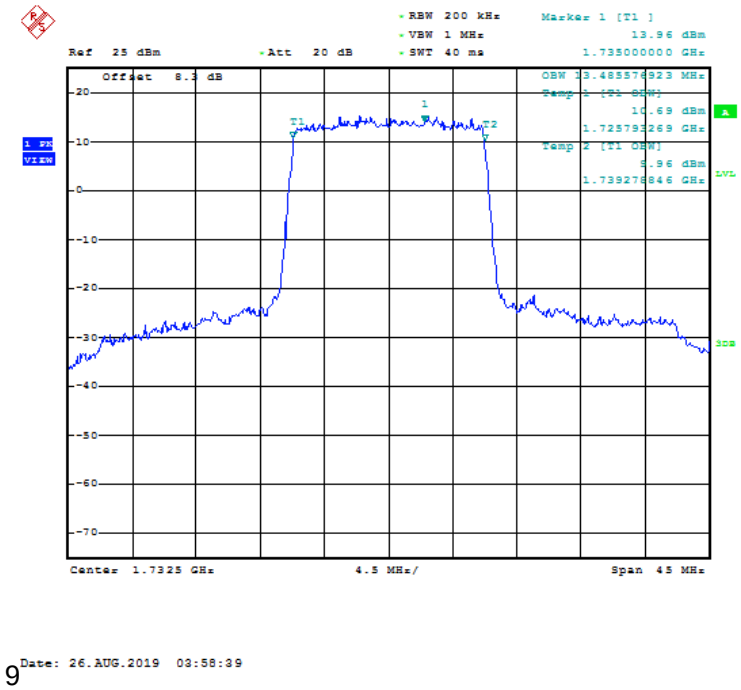

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Fig.21 LTE band 4, 15MHz Bandwidth, QPSK (99% BW)

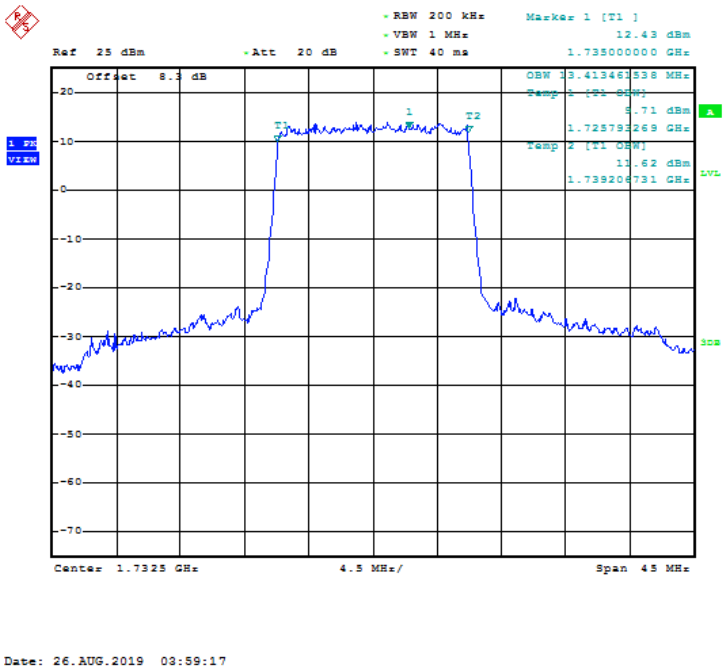

Fig.22 LTE band 4, 15MHz Bandwidth, 16QAM (99% BW)

LTE band 4, 20MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
1732.5	QPSK	16QAM
	17.885	17.981

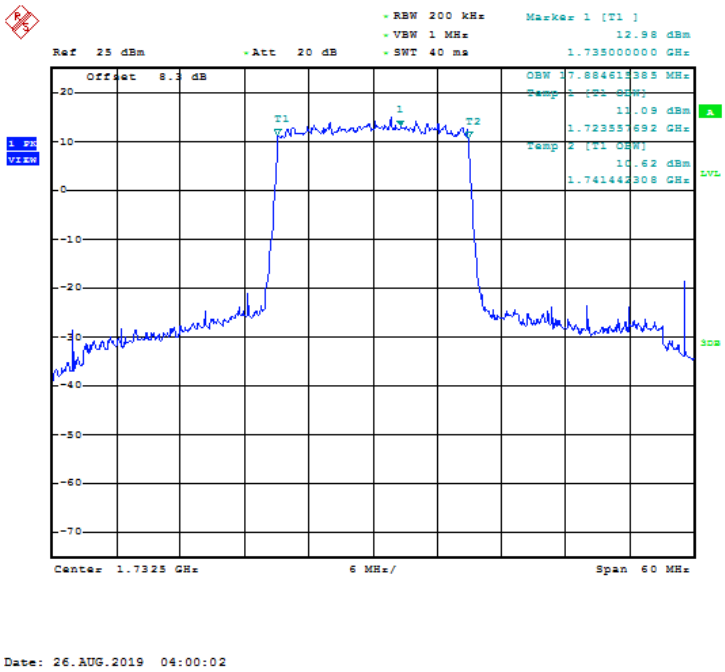

Fig.23 LTE band 4, 20MHz Bandwidth, QPSK (99% BW)

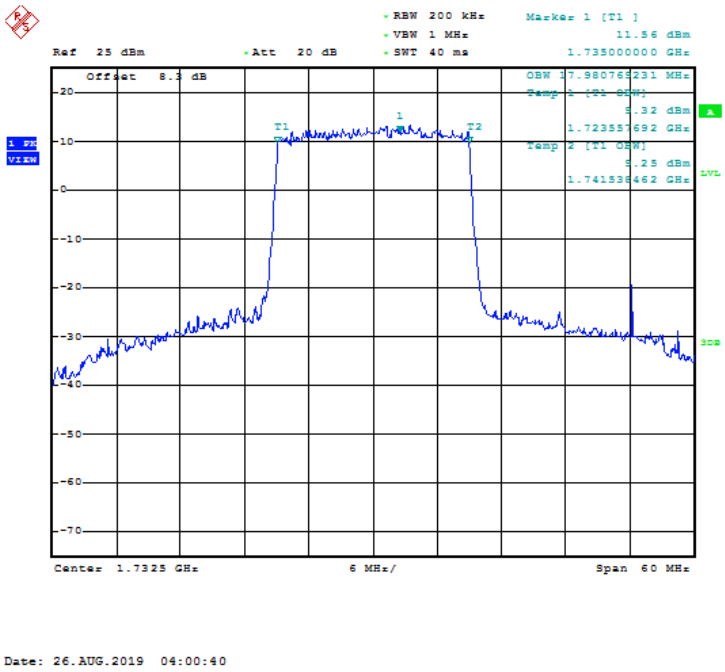

Fig.24 LTE band 4, 20MHz Bandwidth, 16QAM (99% BW)

LTE band 5,1.4MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
836.5	QPSK	16QAM
	1.106	1.09

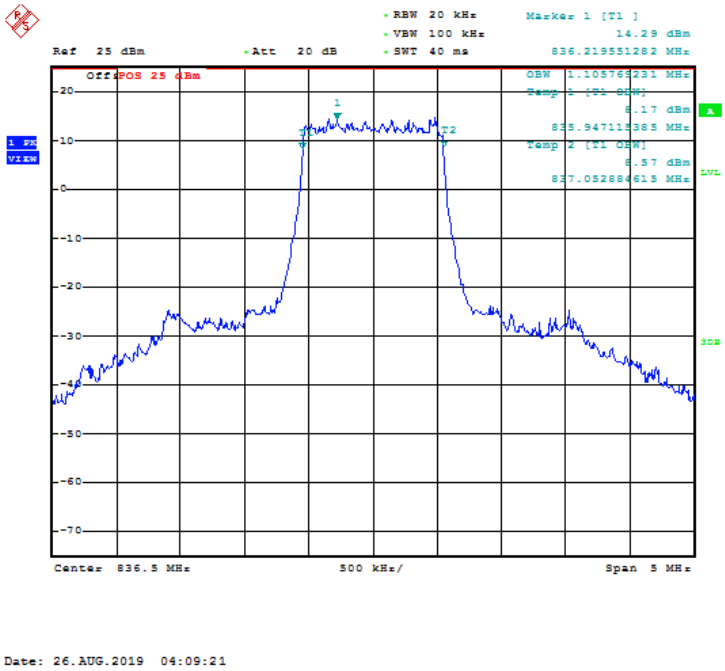

Fig.25 LTE band 5, 1.4MHz Bandwidth, QPSK (99% BW)

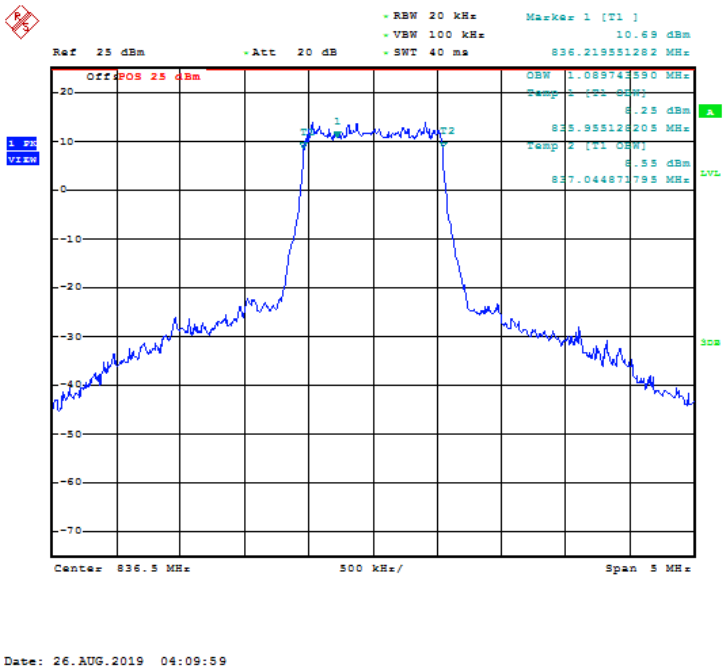

Fig.26 LTE band 5, 1.4MHz Bandwidth, 16QAM (99% BW)

LTE band 5, 3MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
836.5	QPSK	16QAM
	2.708	2.692

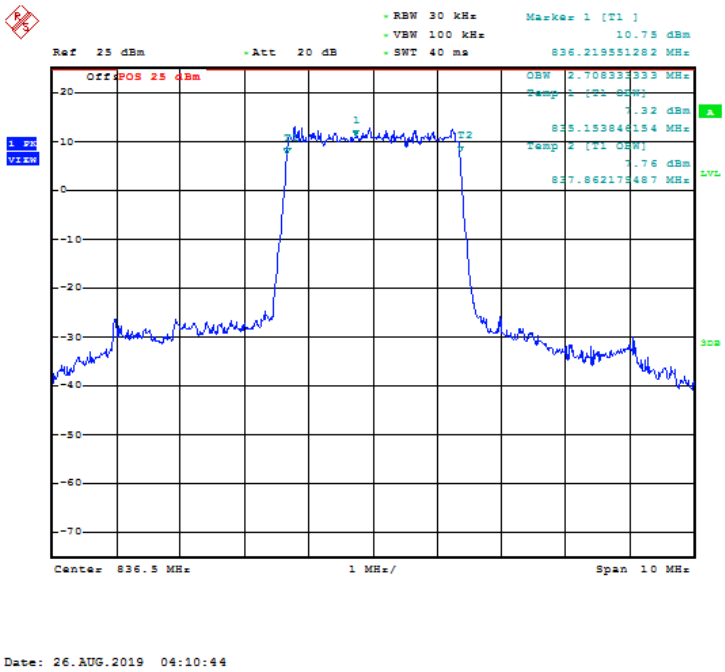

Fig.27 LTE band 5, 3MHz Bandwidth, QPSK (99% BW)

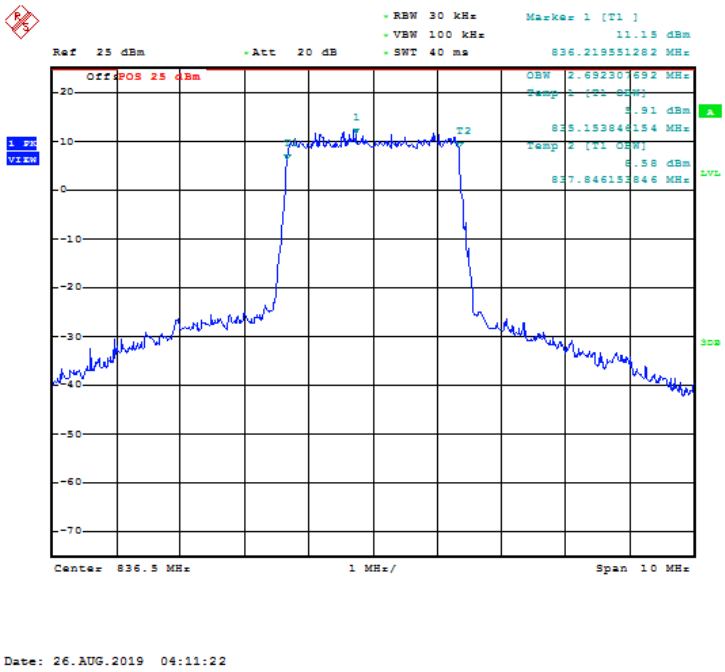

Fig.28 LTE band 5, 3MHz Bandwidth, 16QAM (99% BW)

LTE band 5, 5MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
836.5	QPSK	16QAM
	4.495	4.471

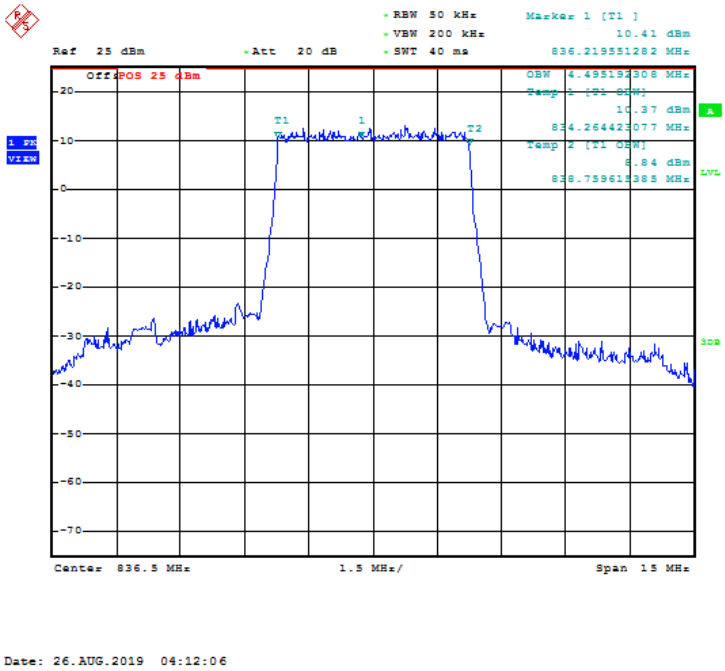

Fig.29 LTE band 5, 5MHz Bandwidth, QPSK (99% BW)

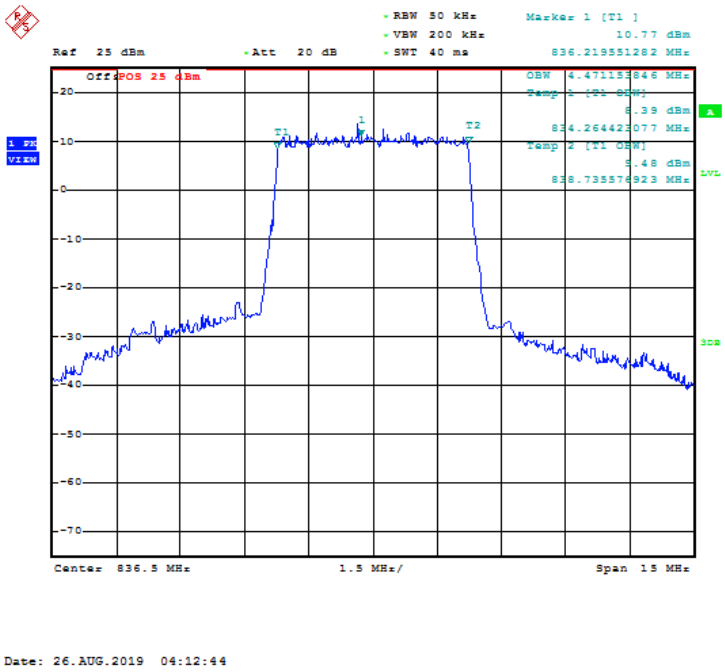

Fig.30 LTE band 5, 5MHz Bandwidth, 16QAM (99% BW)

LTE band 5, 10MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
836.5	QPSK	16QAM
	8.99	8.942

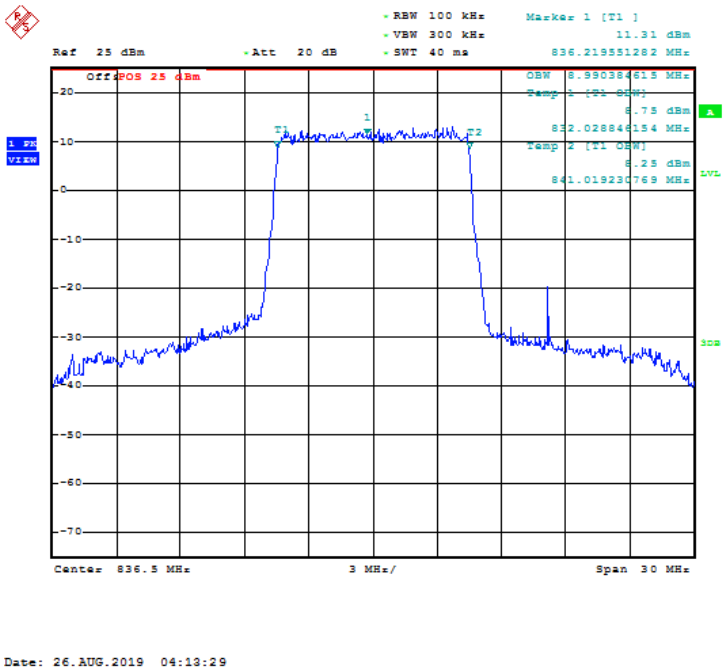

Fig.31 LTE band 5, 10MHz Bandwidth, QPSK (99% BW)

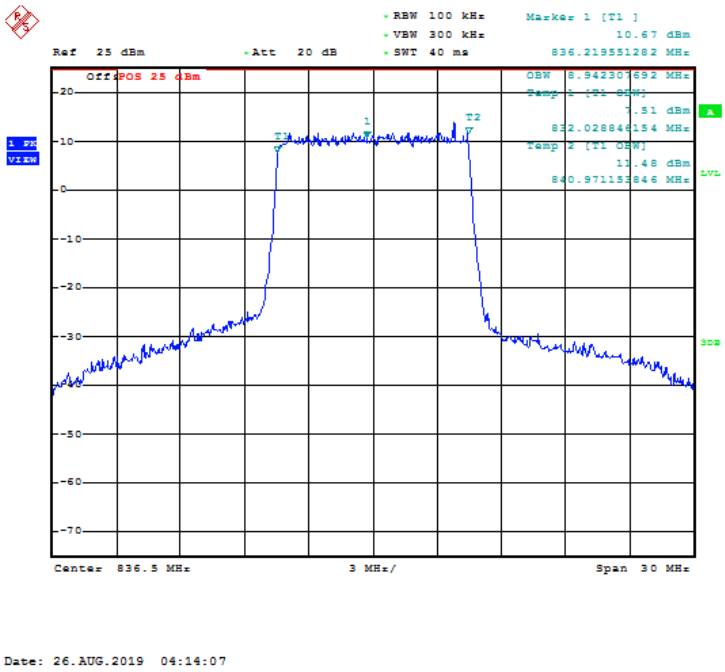

Fig.32 LTE band 5, 10MHz Bandwidth, 16QAM (99% BW)

LTE band 7, 5MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
2535.0	QPSK	16QAM
	4.495	4.495

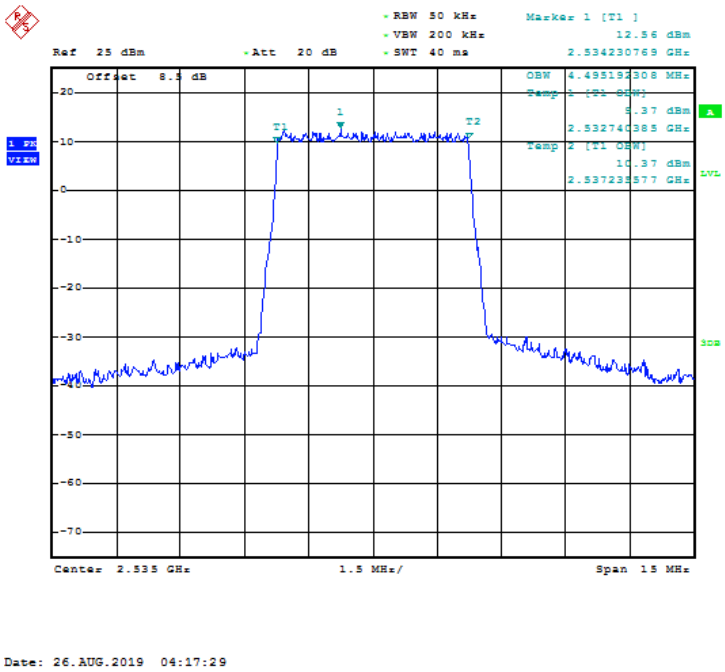

Fig.33 LTE band 7, 5MHz Bandwidth, QPSK (99% BW)

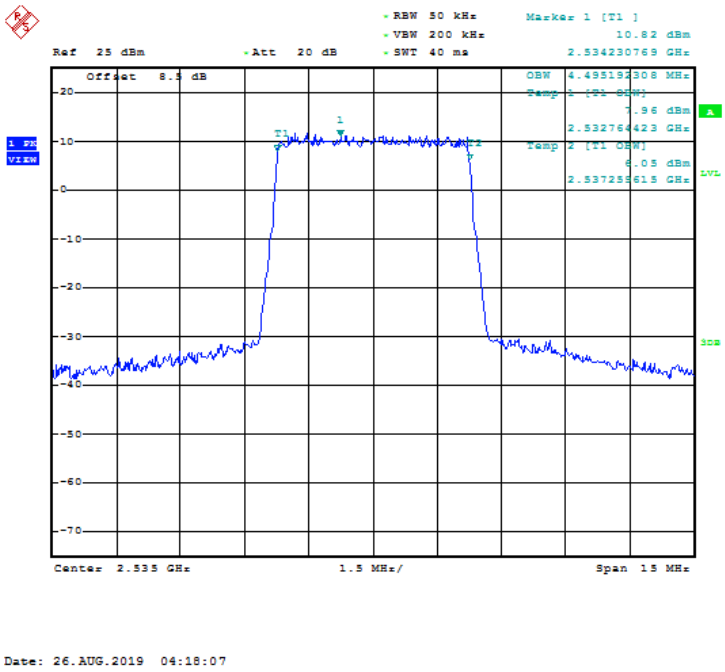

Fig.34 LTE band 7, 5MHz Bandwidth, 16QAM (99% BW)

LTE band 7, 10MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
2535.0	QPSK	16QAM
	8.942	8.942

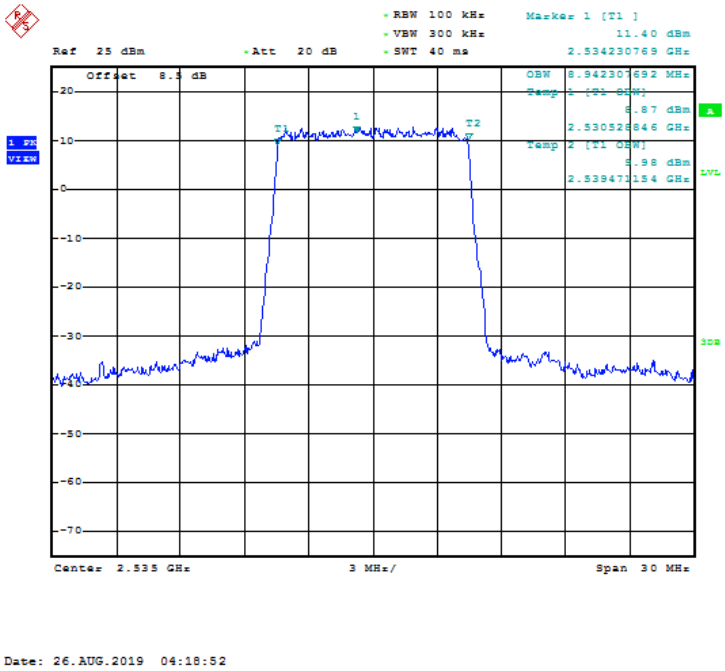

Fig.35 LTE band 7, 10MHz Bandwidth, QPSK (99% BW)

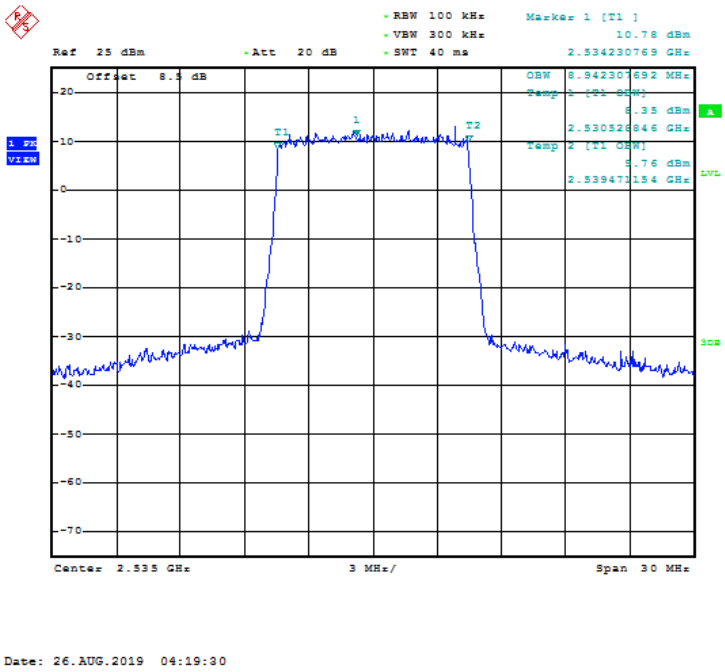

Fig.36 LTE band 7, 10MHz Bandwidth, 16QAM (99% BW)

LTE band 7, 15MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
2535.0	QPSK	16QAM
	13.486	13.413

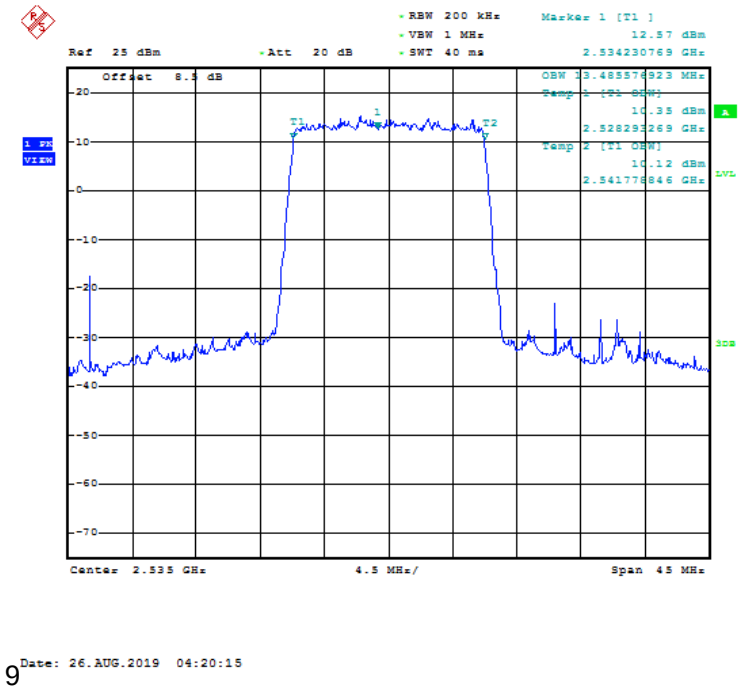

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Fig.37 LTE band 7, 15MHz Bandwidth, QPSK (99% BW)

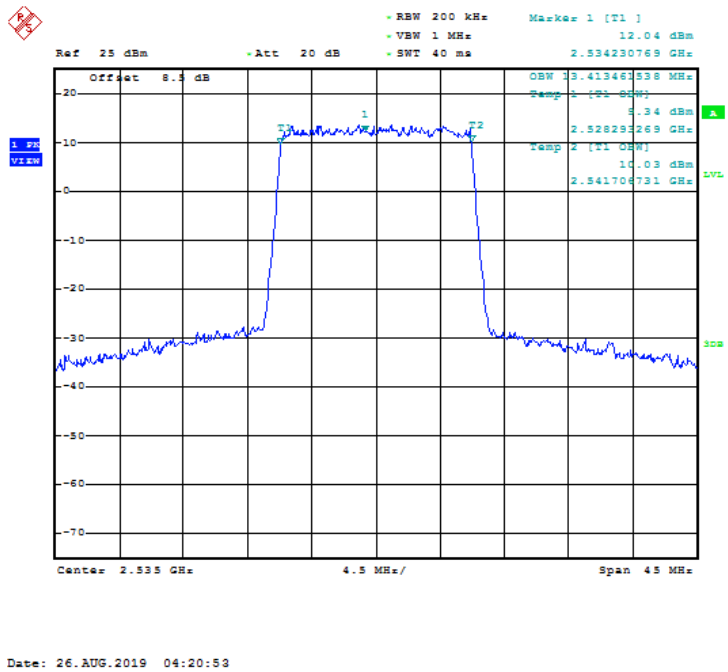

Fig.38 LTE band 7, 15MHz Bandwidth, 16QAM (99% BW)

LTE band 7, 20MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
2535.0	QPSK	16QAM
	17.885	17.981

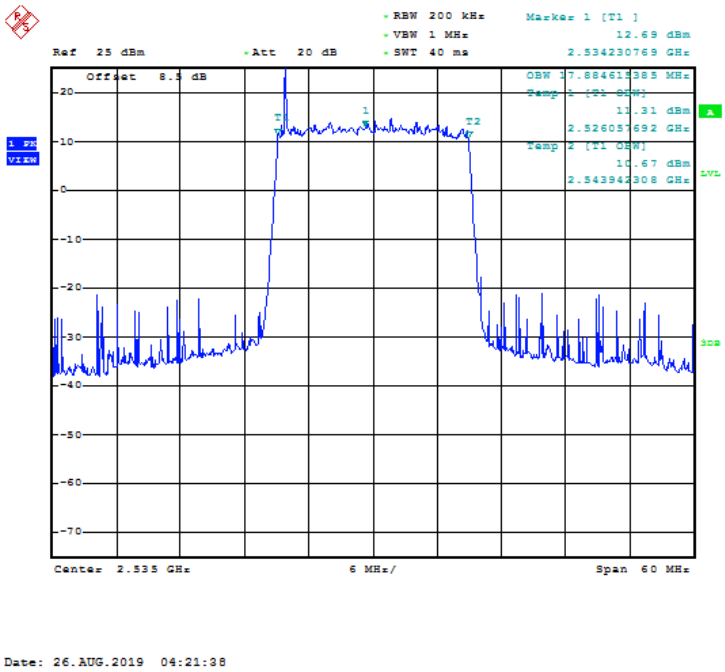

Fig.39 LTE band 7, 20MHz Bandwidth, QPSK (99% BW)

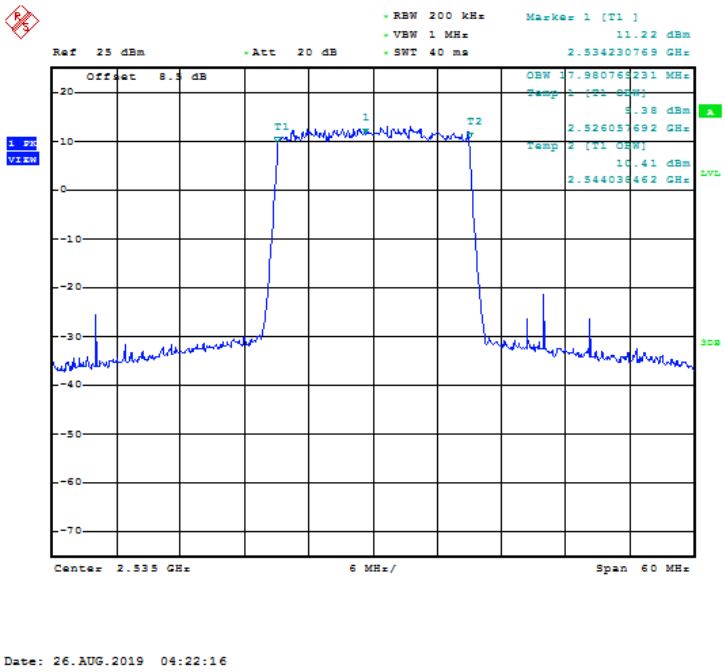

Fig.40 LTE band 7, 20MHz Bandwidth, 16QAM (99% BW)

LTE band 12,1.4MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
836.5	QPSK	16QAM
	1.09	1.09

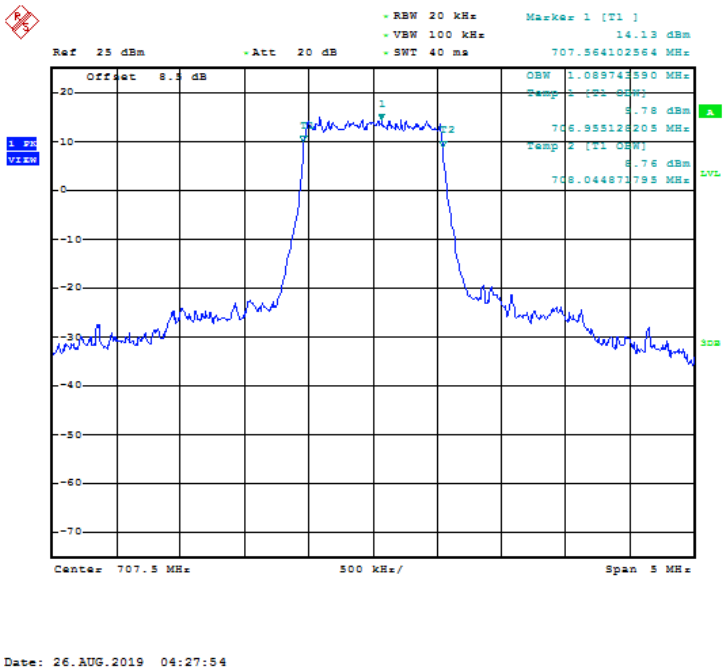

Fig.41 LTE band 12, 1.4MHz Bandwidth, QPSK (99% BW)

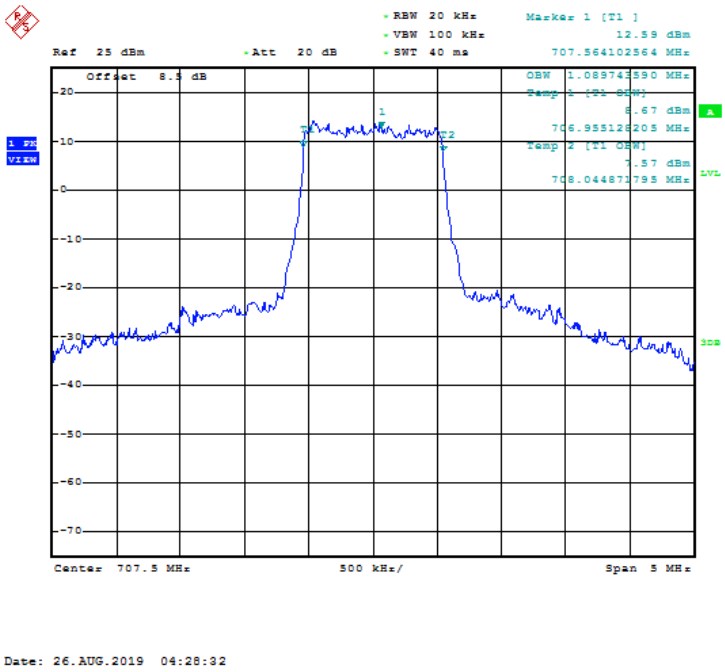

Fig.42 LTE band12, 1.4MHz Bandwidth, 16QAM (99% BW)

LTE band 12, 3MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
836.5	QPSK	16QAM
	2.708	2.708

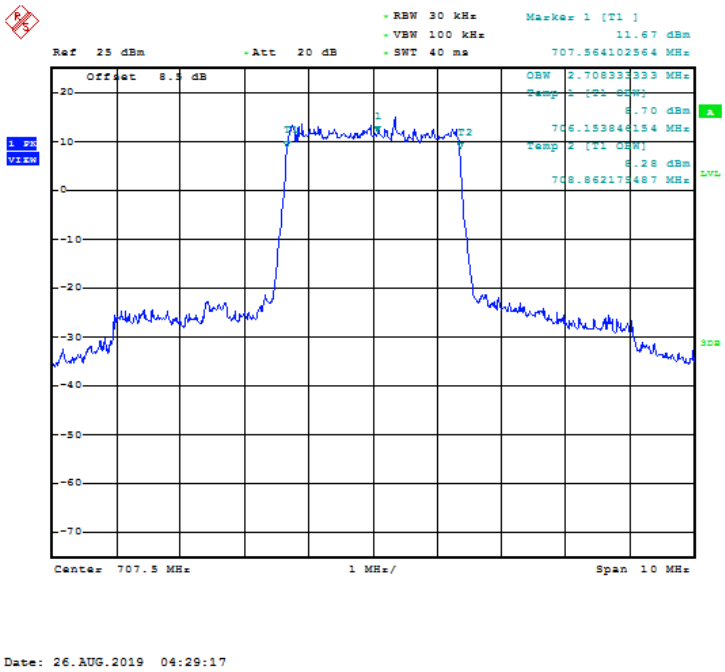

Fig.43 LTE band 12, 3MHz Bandwidth, QPSK (99% BW)

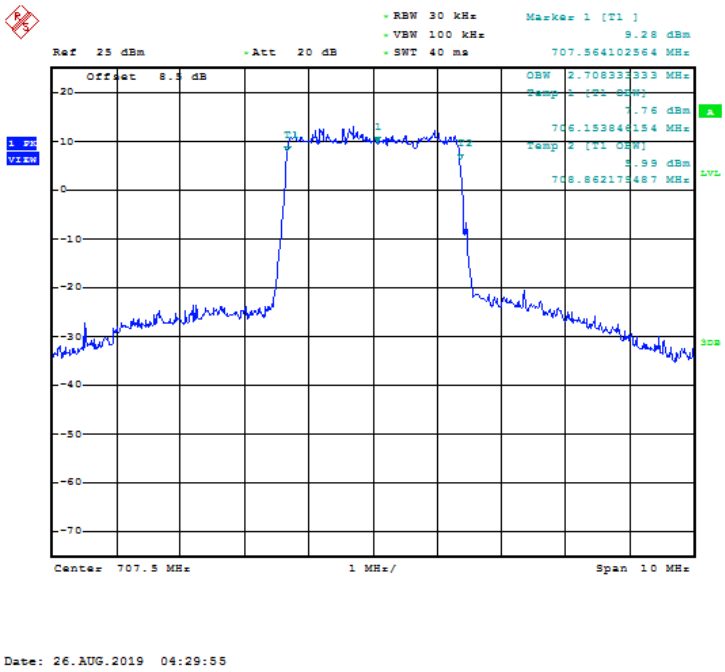

Fig.44 LTE band 12, 3MHz Bandwidth, 16QAM (99% BW)

LTE band 12, 5MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
836.5	QPSK	16QAM
	4.495	4.495

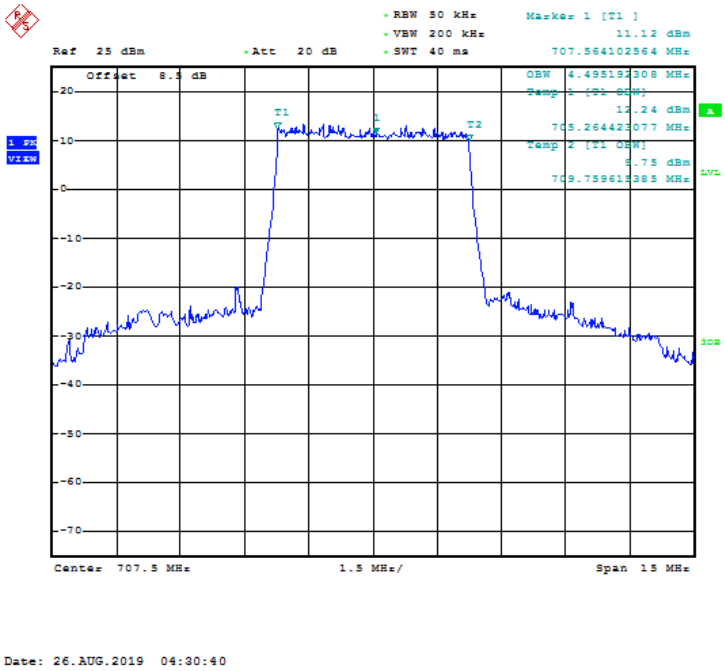

Fig.45 LTE band 12, 5MHz Bandwidth, QPSK (99% BW)

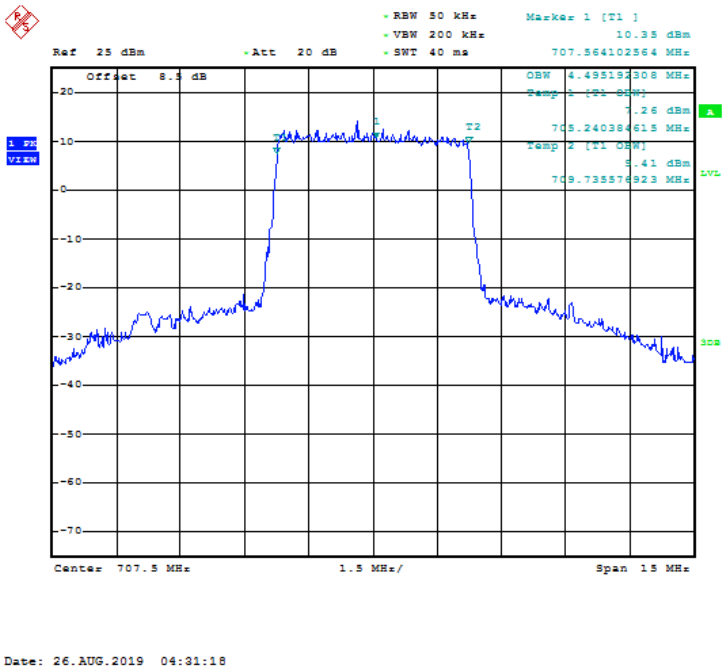

Fig.46 LTE band 12, 5MHz Bandwidth, 16QAM (99% BW)

LTE band 12, 10MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
836.5	QPSK	16QAM
	8.99	8.942

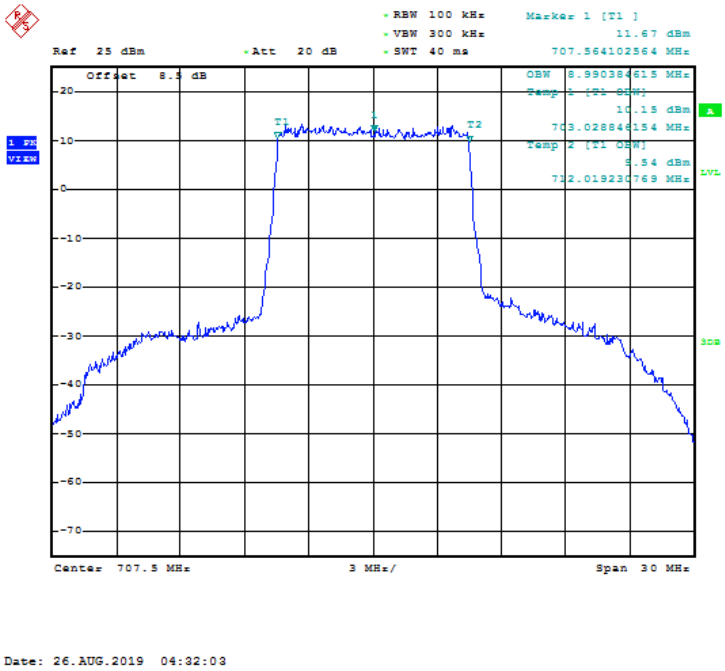

Fig.47 LTE band12, 10MHz Bandwidth, QPSK (99% BW)

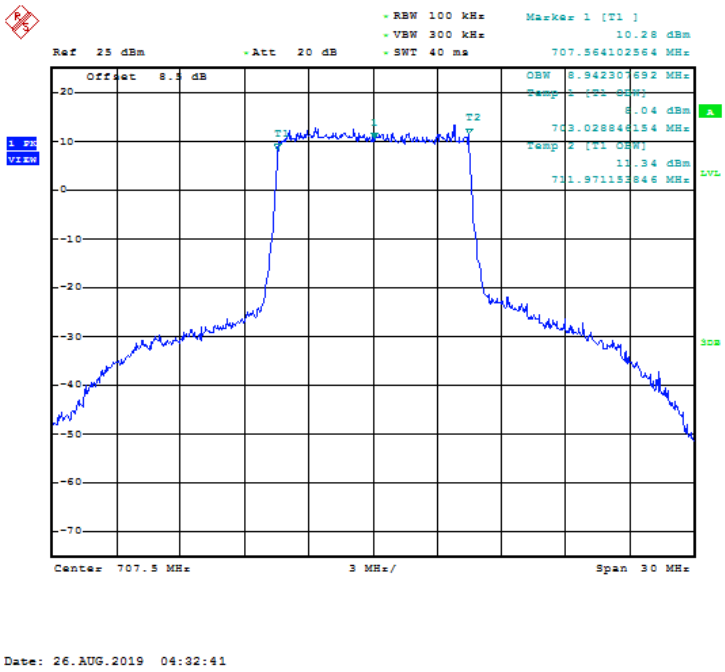

Fig.48 LTE band 12, 10MHz Bandwidth, 16QAM (99% BW)

LTE band 17, 5MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
710.0	QPSK	16QAM
	4.495	4.495

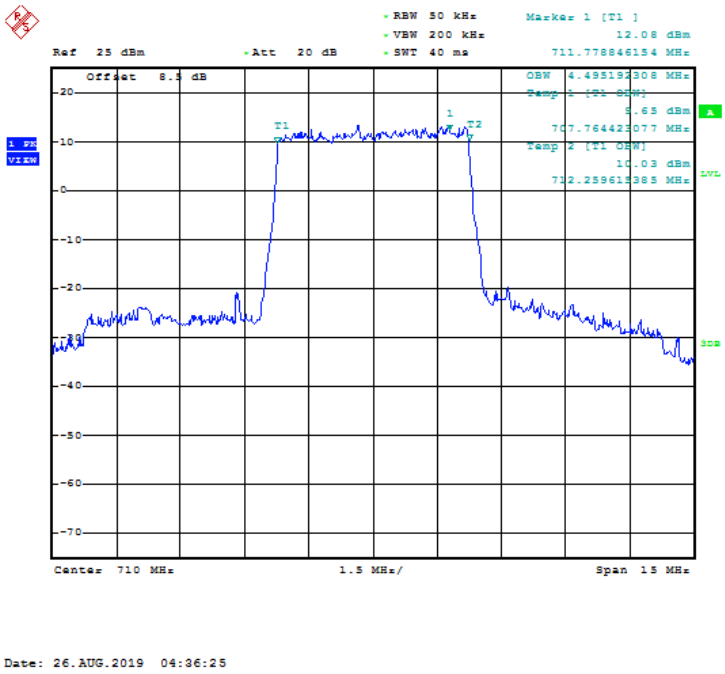

Fig.49 LTE band 17, 5MHz Bandwidth, QPSK (99% BW)

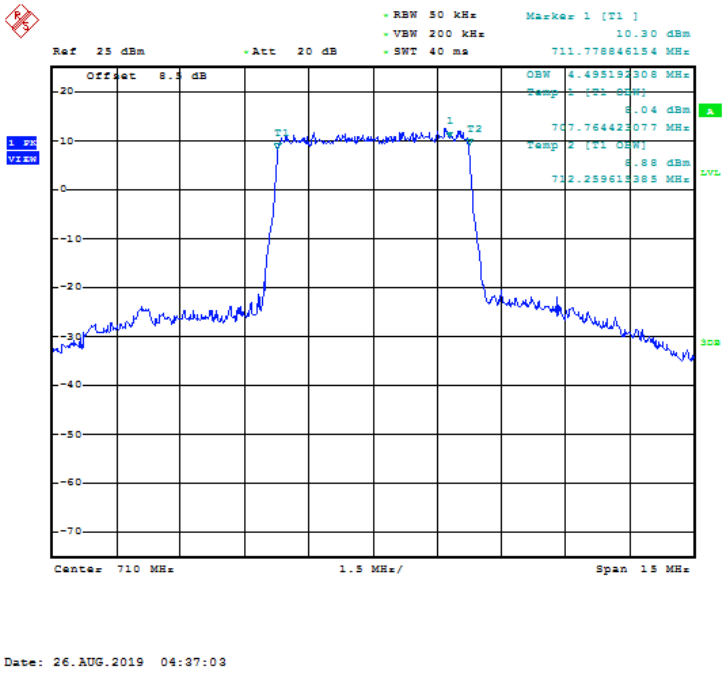

Fig.50 LTE band 17, 5MHz Bandwidth, 16QAM (99% BW)

LTE band 17, 10MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
710.0	QPSK	16QAM
	8.99	8.99

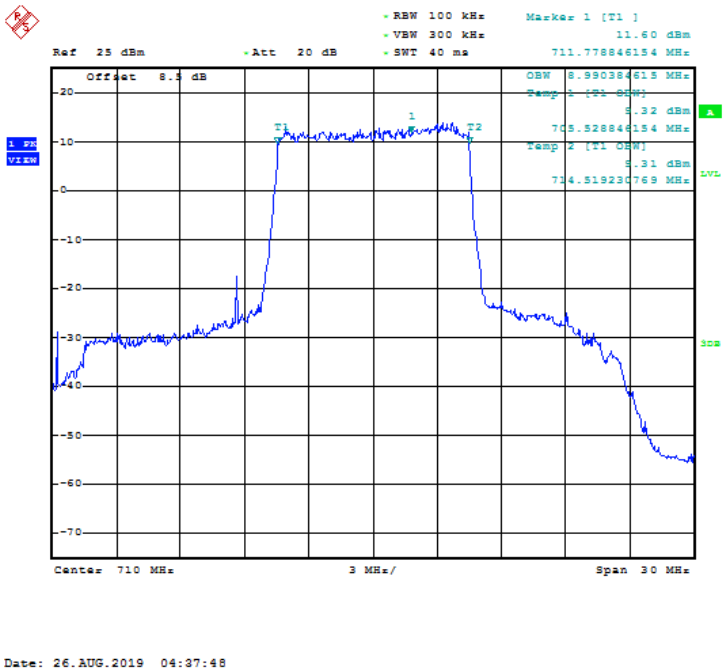

Fig.51 LTE band 17, 10MHz Bandwidth, QPSK (99% BW)

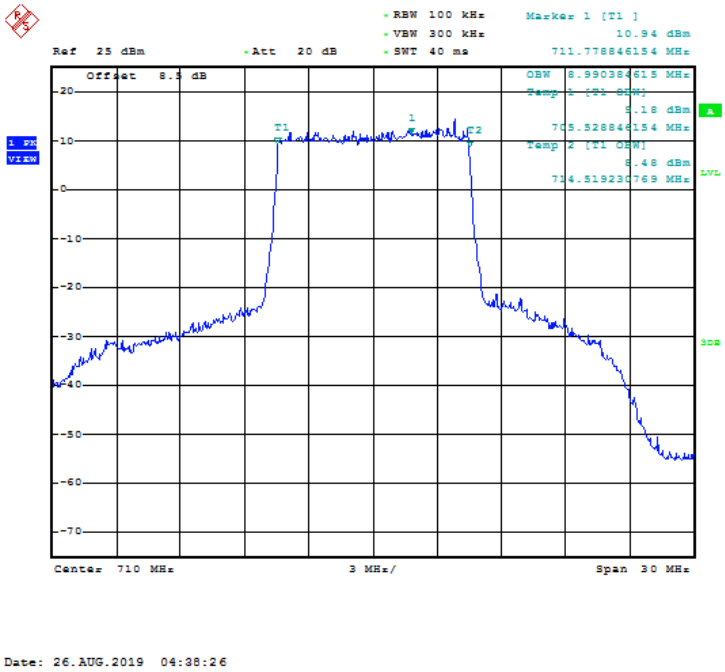

Fig.52 LTE band 17, 10MHz Bandwidth, 16QAM (99% BW)

LTE band 25, 1.4MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
1732.5	QPSK	16QAM
	1.09	1.09

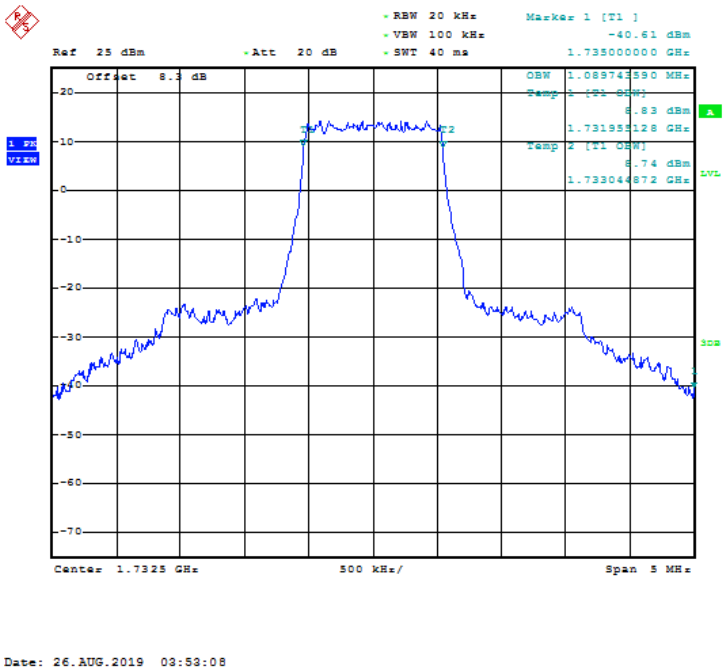

Fig.53 LTE band 25, 1.4MHz Bandwidth, QPSK (99% BW)

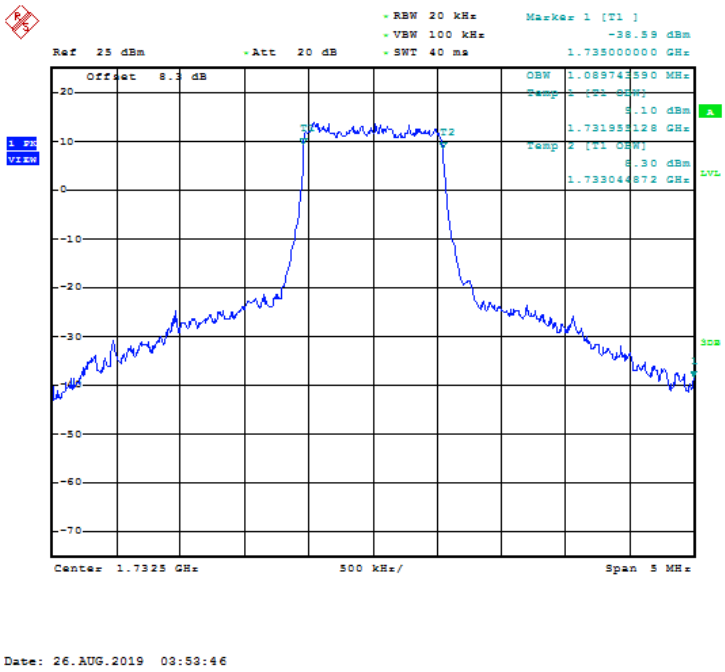

Fig.54 LTE band 25, 1.4MHz Bandwidth, 16QAM (99% BW)

LTE band 25, 3MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
1732.5	QPSK	16QAM
	2.708	2.708

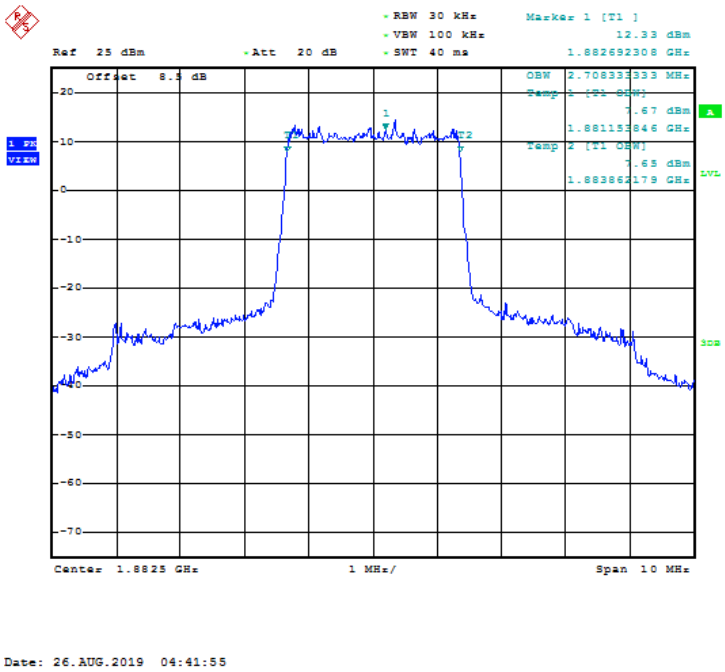

Fig.55 LTE band 25, 3MHz Bandwidth, QPSK (99% BW)

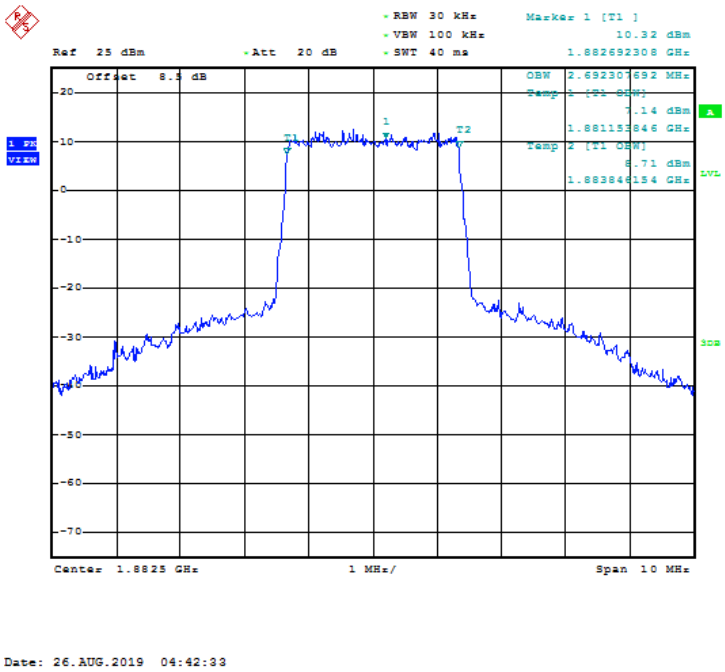

Fig.56 LTE band 25, 3MHz Bandwidth, 16QAM (99% BW)

LTE band 25, 5MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
1732.5	QPSK	16QAM
	4.519	4.519

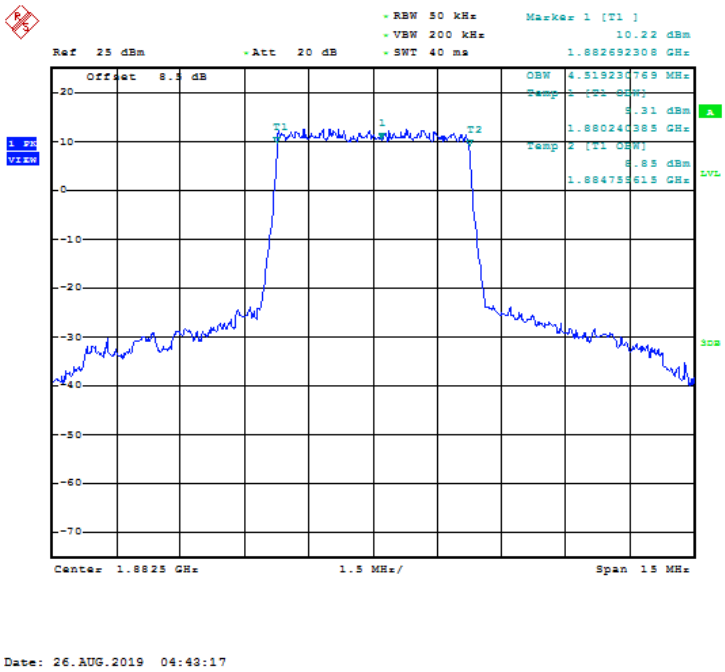

Fig.57 LTE band 25, 5MHz Bandwidth, QPSK (99% BW)

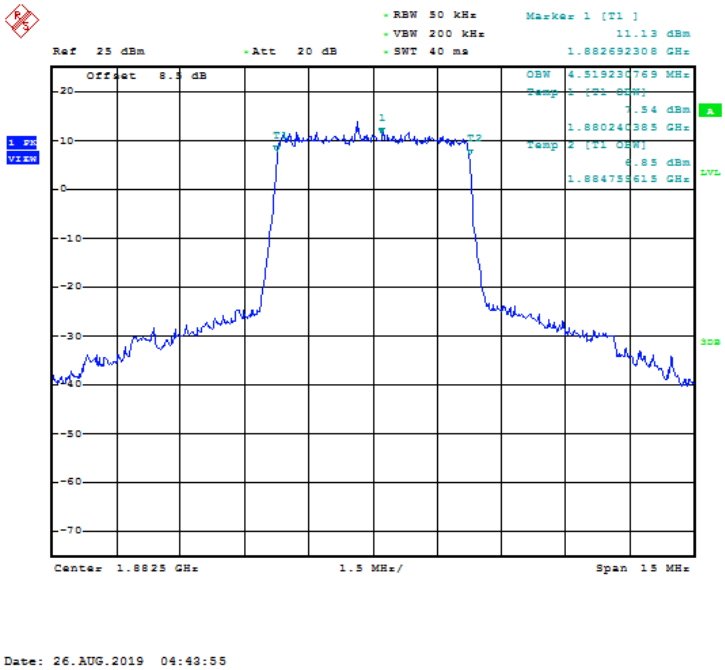

Fig.58 LTE band 25, 5MHz Bandwidth,16QAM (99% BW)

LTE band 25, 10MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
1732.5	QPSK	16QAM
	8.942	8.942

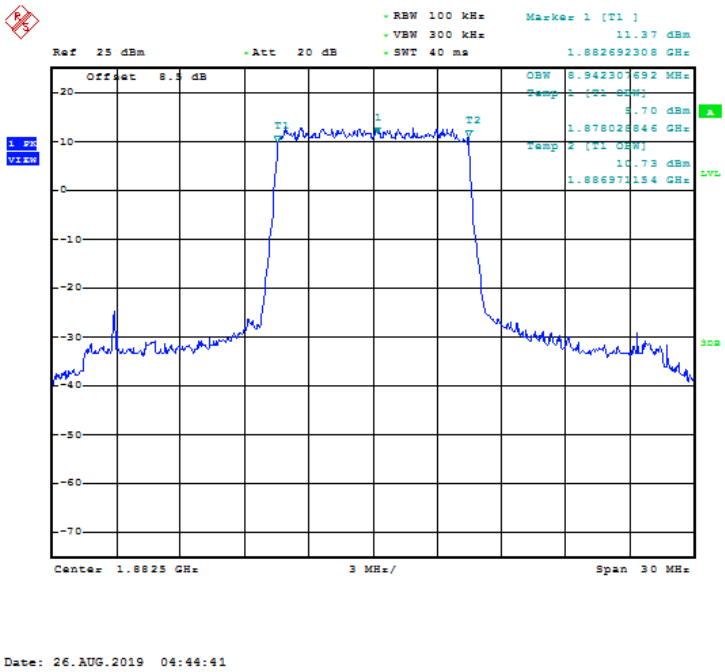

Fig.59 LTE band 25, 10MHz Bandwidth, QPSK (99% BW)

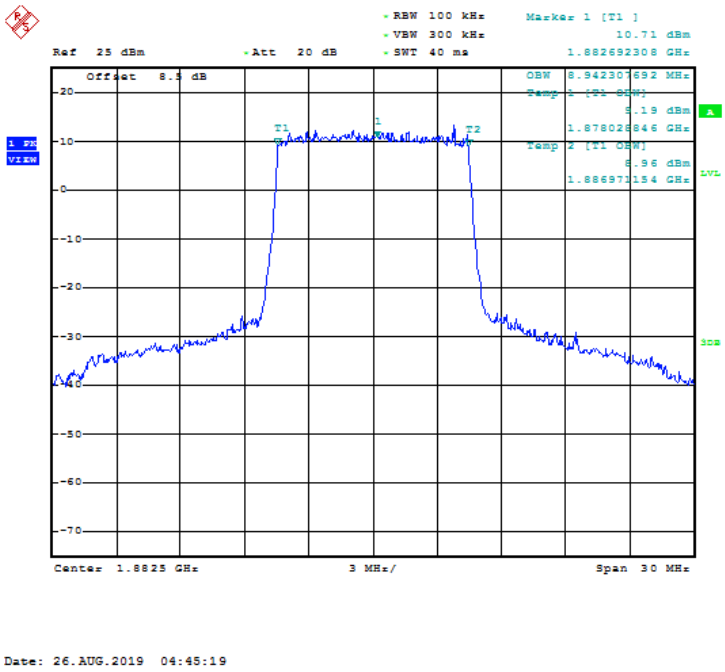

Fig.60 LTE band 25, 10MHz Bandwidth, 16QAM (99% BW)

LTE band 25, 15MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
1732.5	QPSK	16QAM
	13.486	13.486

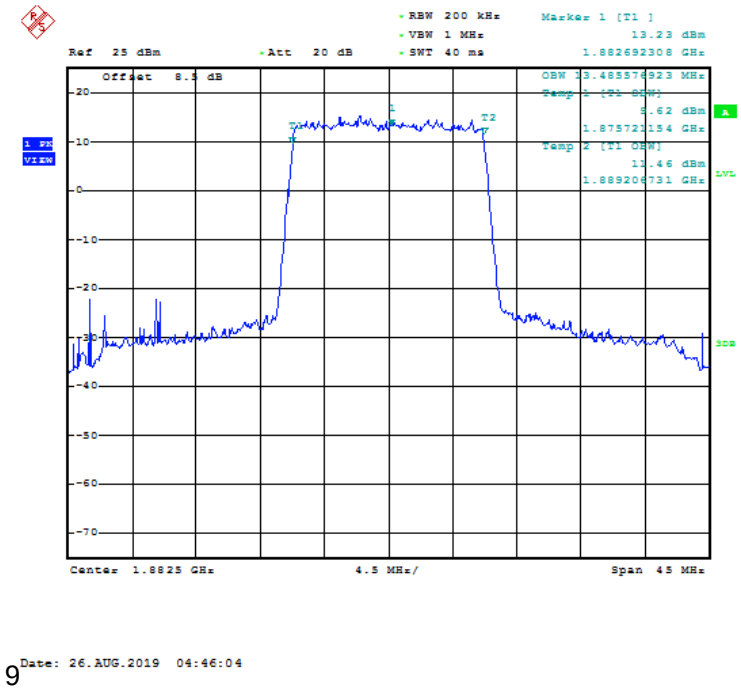

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Fig.61 LTE band 25, 15MHz Bandwidth, QPSK (99% BW)

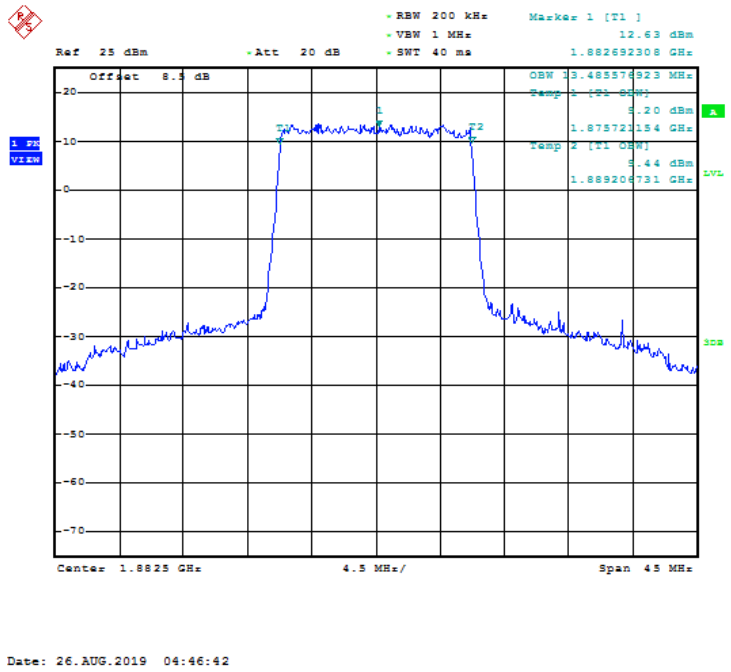

Fig.62 LTE band 25 15MHz Bandwidth, 16QAM (99% BW)

LTE band 25, 20MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
1732.5	QPSK	16QAM
	17.885	17.981

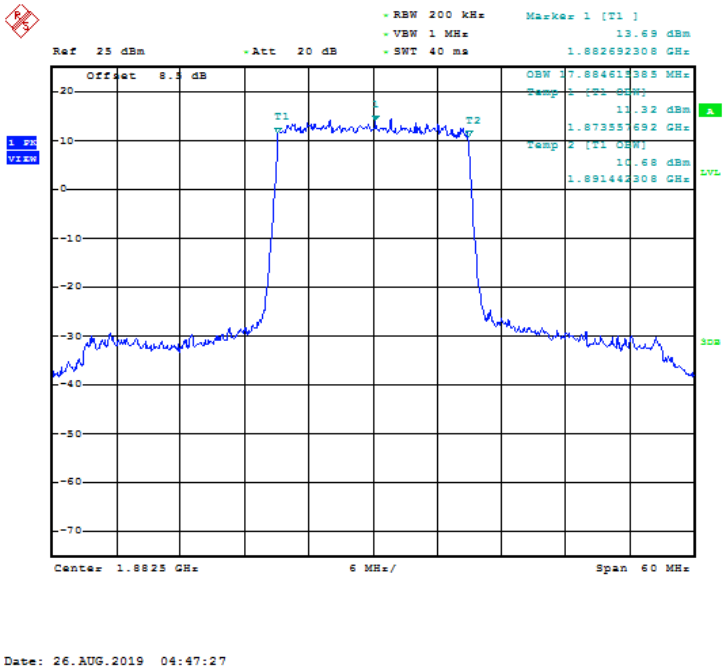

Fig.63 LTE band 25, 20MHz Bandwidth, QPSK (99% BW)

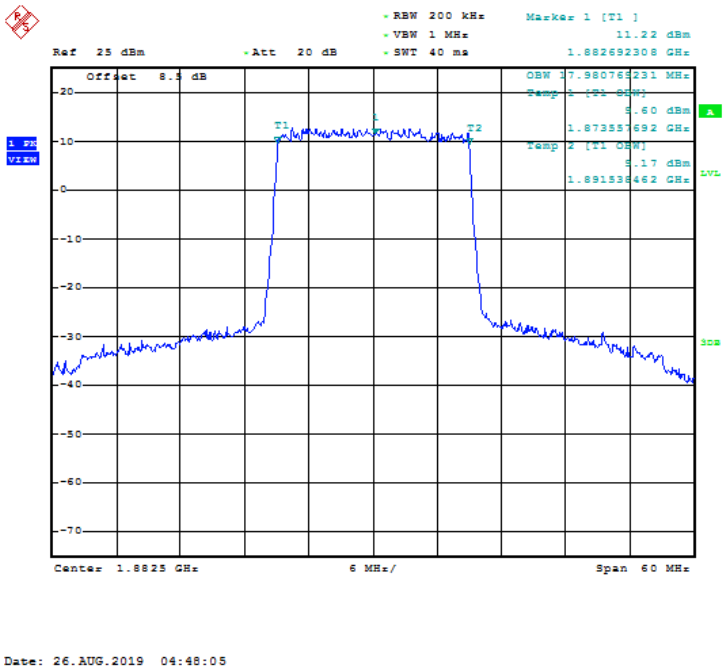

Fig.64 LTE band 25, 20MHz Bandwidth, 16QAM (99% BW)

LTE band 26(Part22), 1.4MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
836.5	QPSK	16QAM
	1.09	1.09

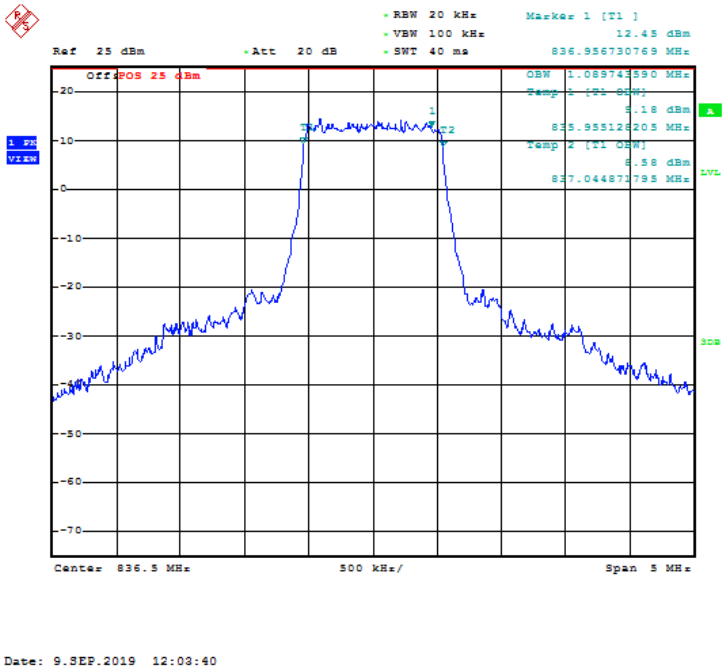

Fig.65 LTE band 26, 1.4MHz Bandwidth, QPSK (99% BW)

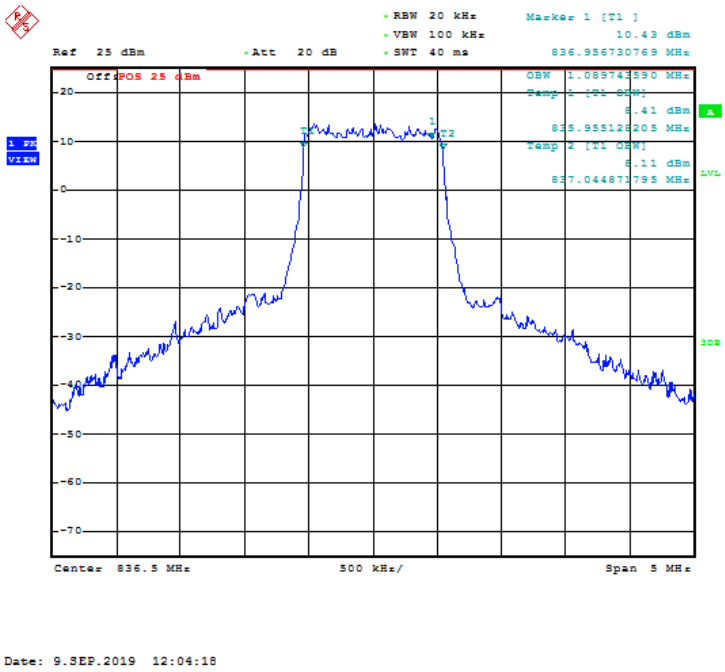

Fig.66 LTE band 26, 1.4MHz Bandwidth, 16QAM (99% BW)

LTE band 26(Part22), 3MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
836.5	QPSK	16QAM
	2.692	2.692

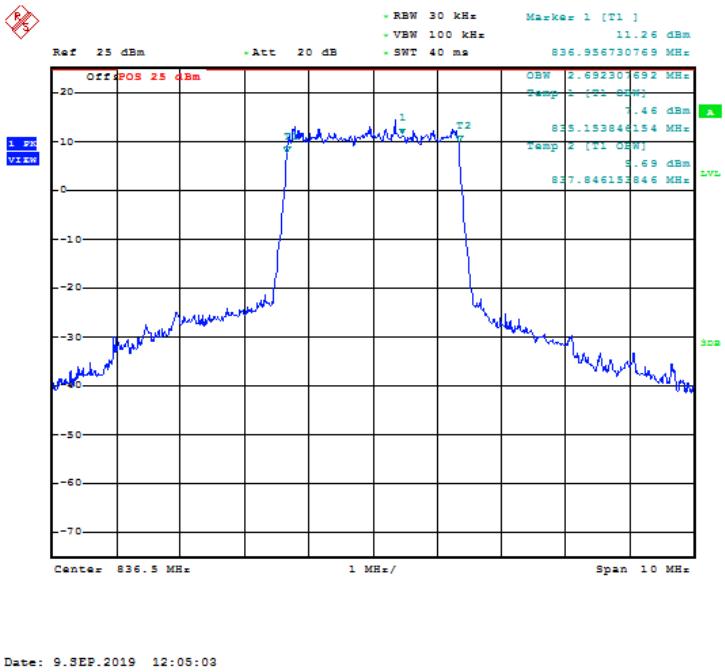

Fig.67 LTE band 26, 3MHz Bandwidth, QPSK (99% BW)

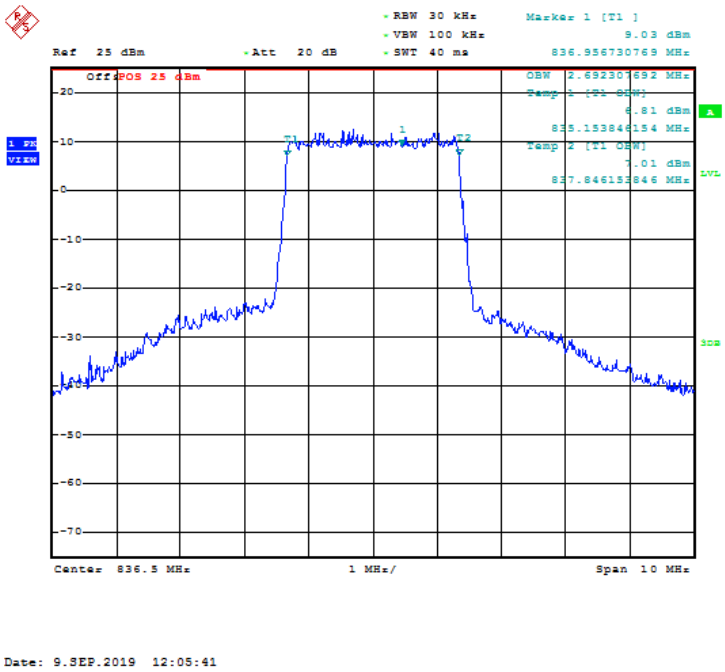

Fig.68 LTE band 26, 3MHz Bandwidth, 16QAM (99% BW)

LTE band 26(Part22), 5MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
836.5	QPSK	16QAM
	4.495	4.471

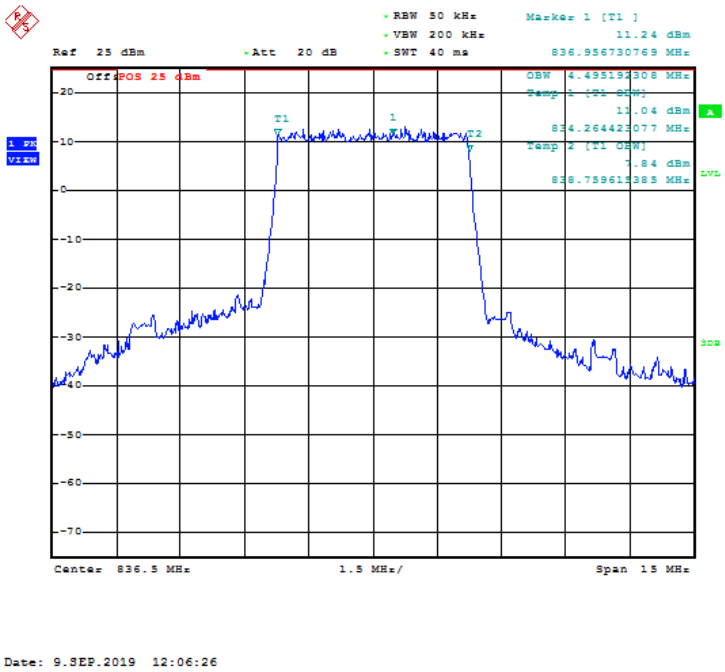

Fig.69 LTE band 26, 5MHz Bandwidth, QPSK (99% BW)

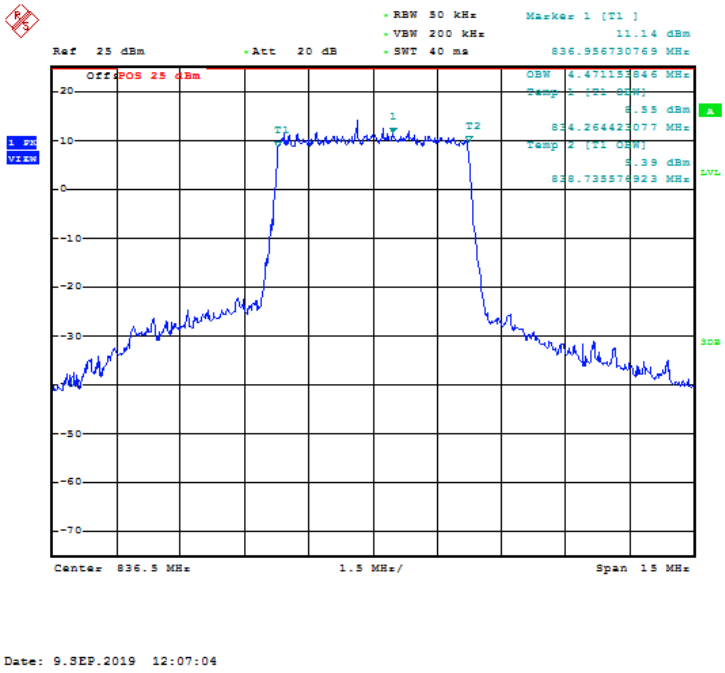

Fig.70 LTE band 26, 5MHz Bandwidth,16QAM (99% BW)

LTE band 26(Part22), 10MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
836.5	QPSK	16QAM
	8.942	8.942

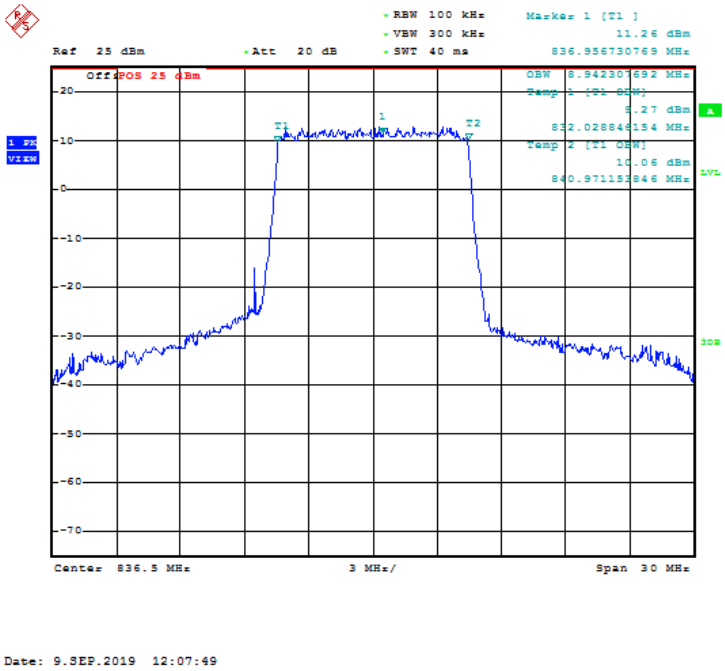

Fig.71 LTE band 26, 10MHz Bandwidth, QPSK (99% BW)

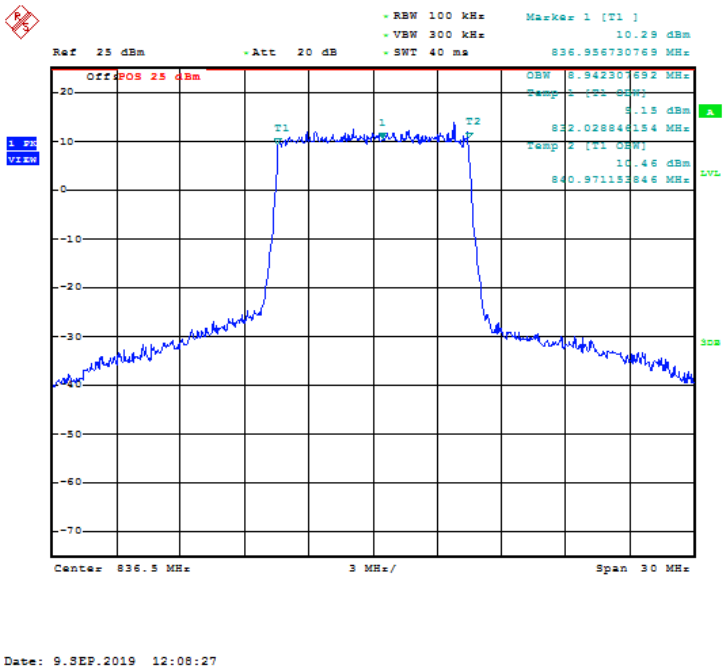

Fig.72 LTE band 26, 10MHz Bandwidth, 16QAM (99% BW)

LTE band 26(Part22), 15MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
836.5	QPSK	16QAM
	13.486	13.413

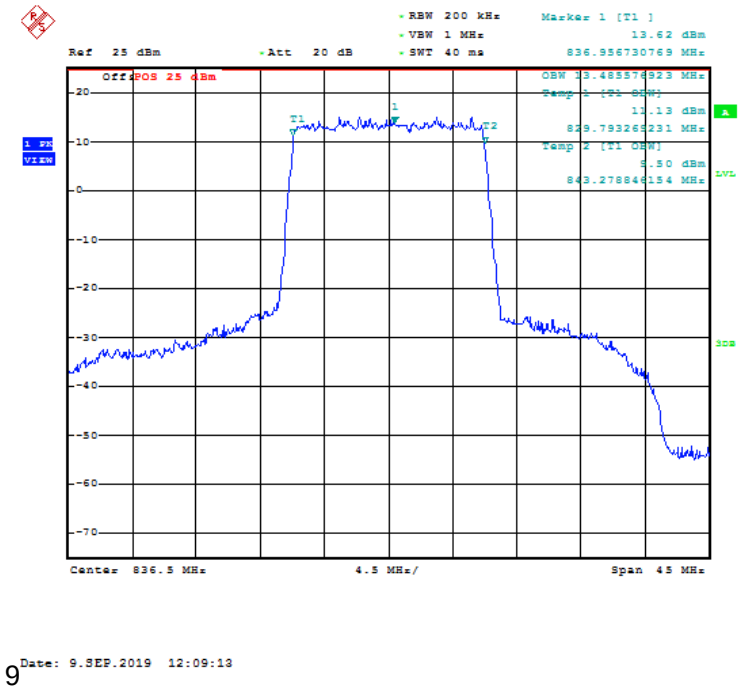

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Fig.73 LTE band 26, 15MHz Bandwidth, QPSK (99% BW)

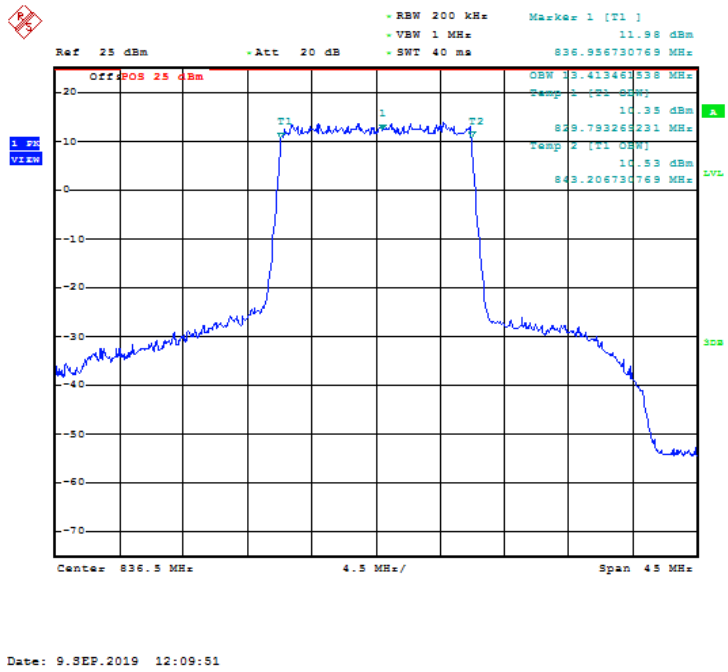


Fig.74 LTE band 26, 15MHz Bandwidth, 16QAM (99% BW)

LTE band 26(Part90), 1.4MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
819.0	QPSK	16QAM
	1.098	1.09

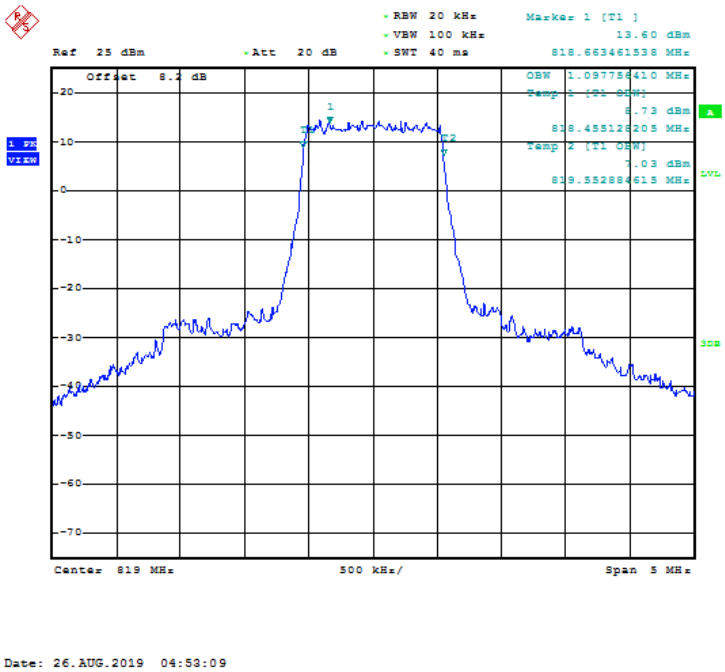


Fig.75 LTE band 26, 1.4MHz Bandwidth, QPSK (99% BW)

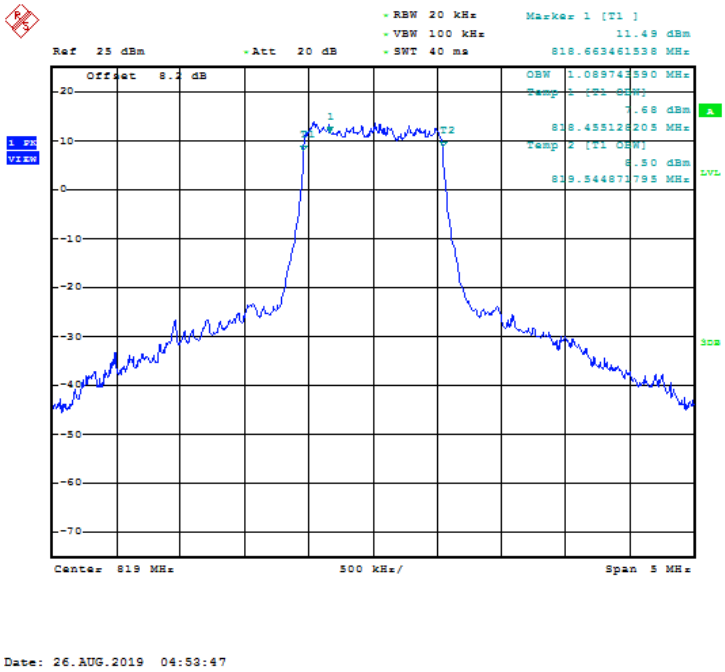


Fig.76 LTE band 26, 1.4MHz Bandwidth, 16QAM (99% BW)

LTE band 26(Part90), 3MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
819.0	QPSK	16QAM
	2.708	2.692

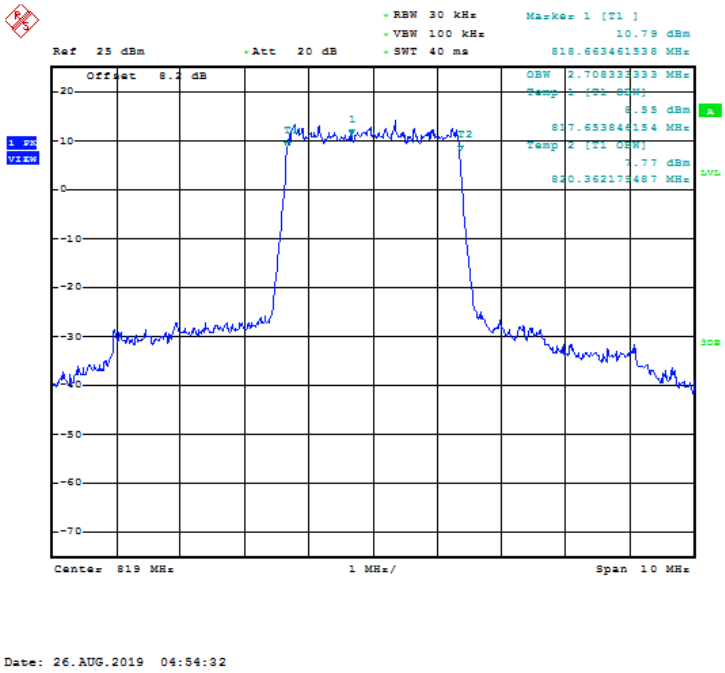


Fig.77 LTE band 26, 3MHz Bandwidth, QPSK (99% BW)

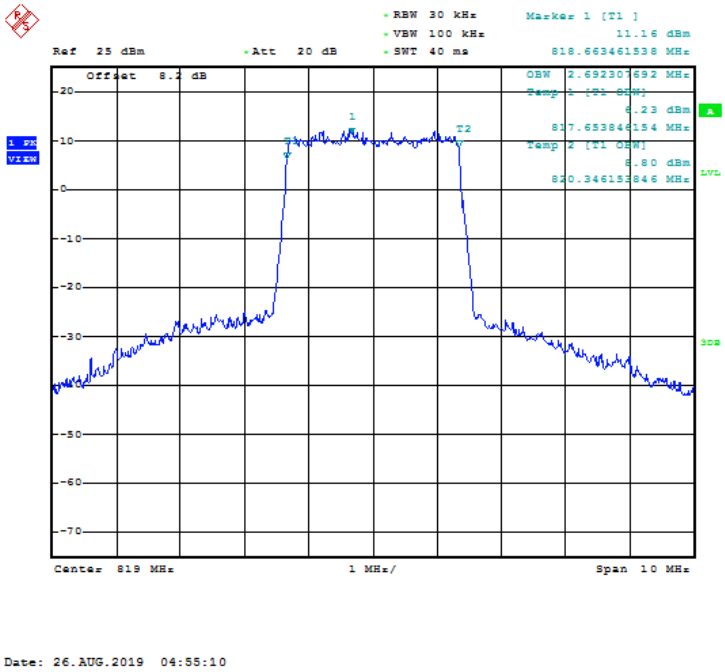


Fig.78 LTE band 26, 3MHz Bandwidth, 16QAM (99% BW)

LTE band 26(Part90), 5MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
819.0	QPSK	16QAM
	4.519	4.471

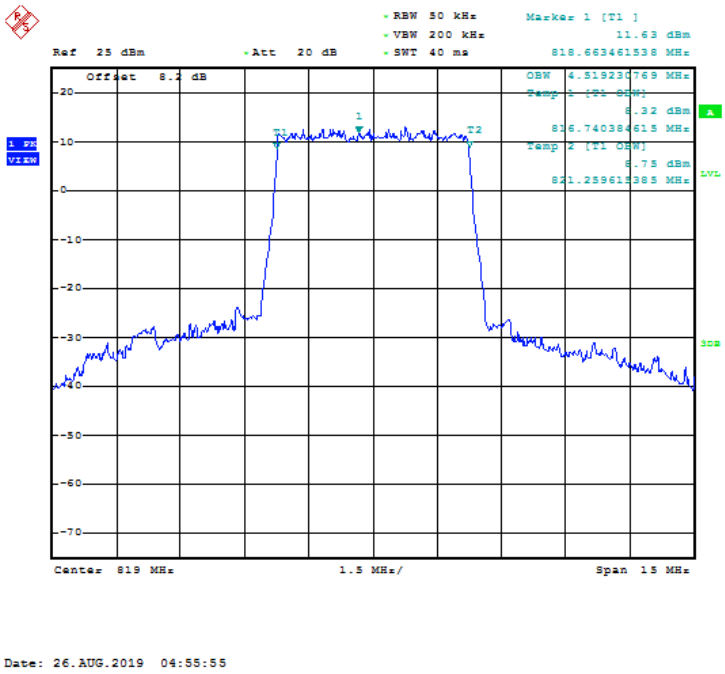


Fig.79 LTE band 26, 5MHz Bandwidth, QPSK (99% BW)

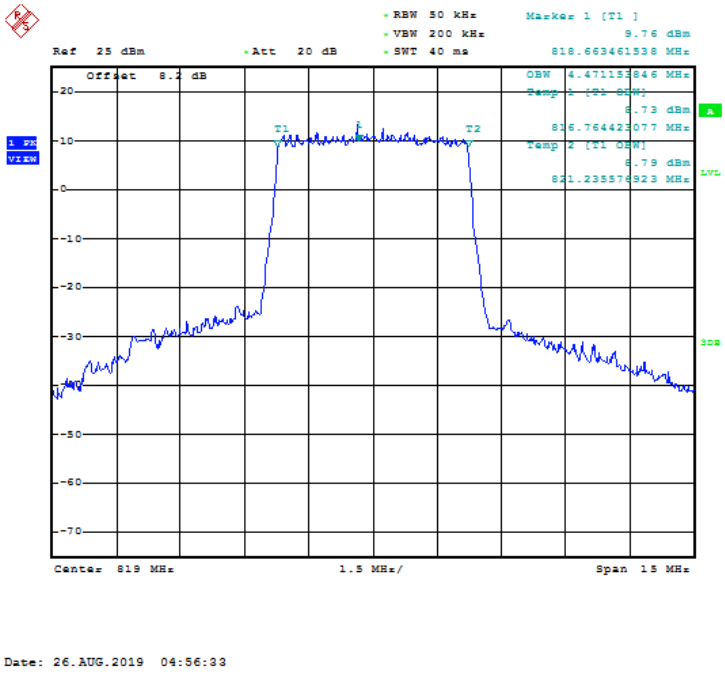


Fig.80 LTE band 26, 5MHz Bandwidth,16QAM (99% BW)

LTE band 26(Part90), 10MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
819.0	QPSK	16QAM
	8.942	8.942

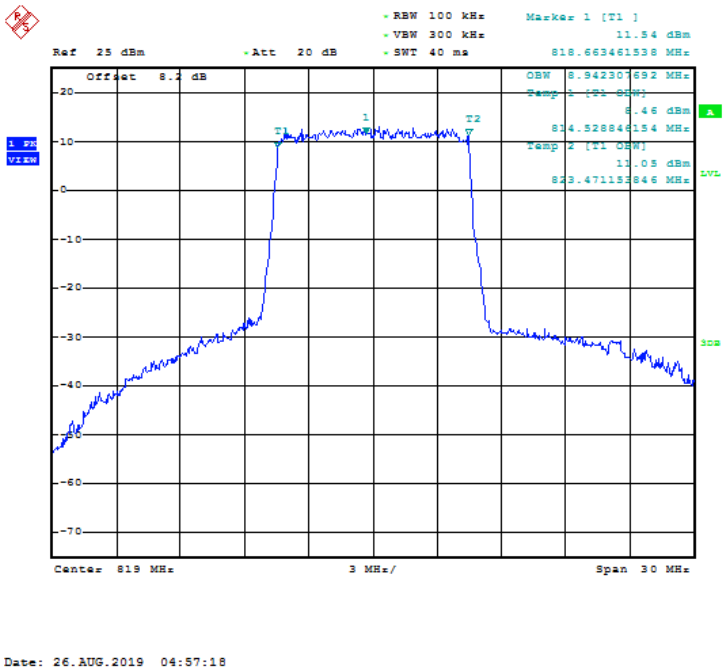


Fig.81 LTE band 26, 10MHz Bandwidth, QPSK (99% BW)

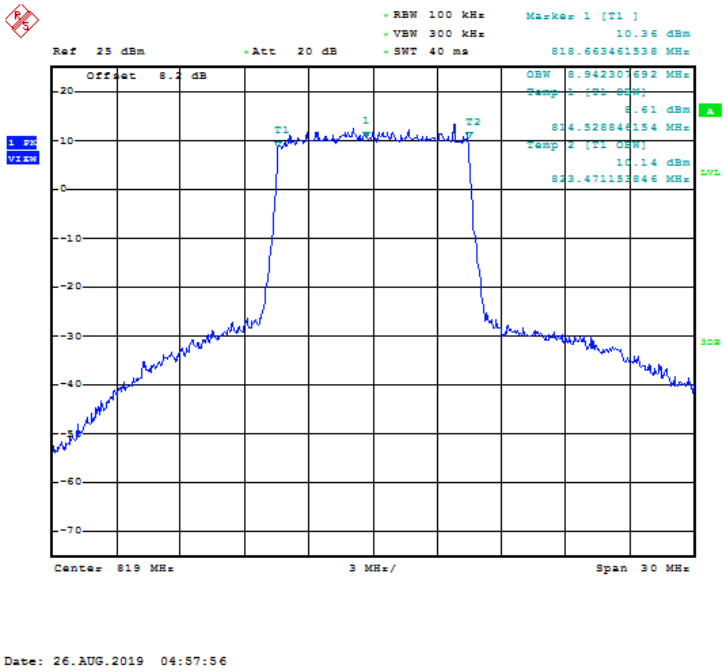


Fig.82 LTE band 26, 10MHz Bandwidth, 16QAM (99% BW)

LTE band 41, 5MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
2595.0	QPSK	16QAM
	4.495	4.495

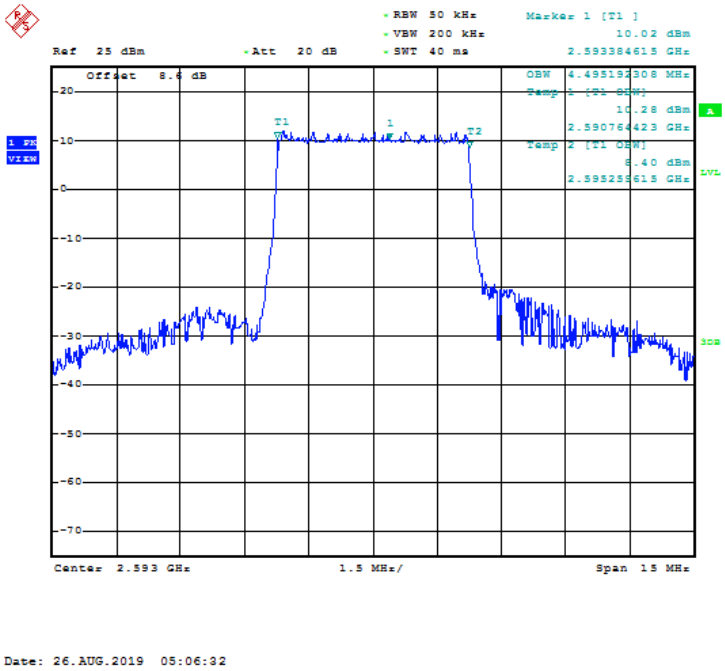


Fig.83 LTE band 41, 5MHz Bandwidth, QPSK (99% BW)

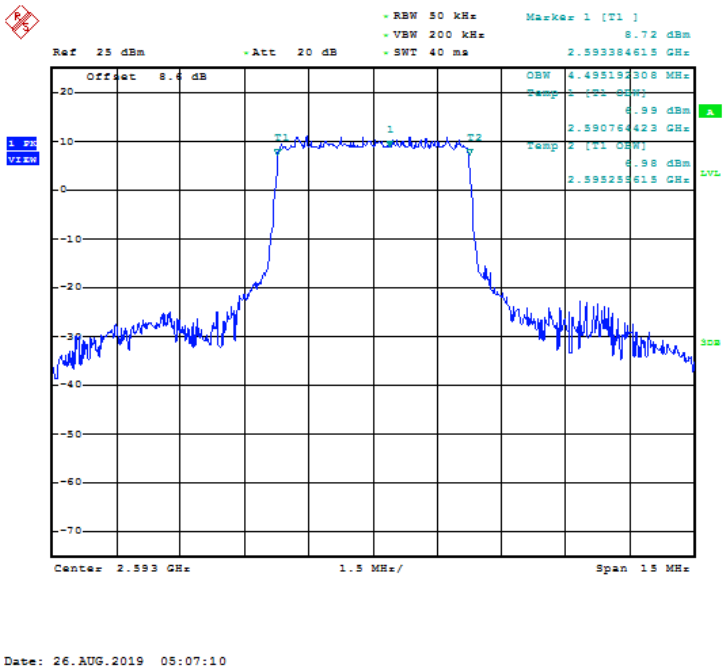


Fig.84 LTE band 41, 5MHz Bandwidth, 16QAM (99% BW)

LTE band 41, 10MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
2595.0	QPSK	16QAM
	8.99	8.99

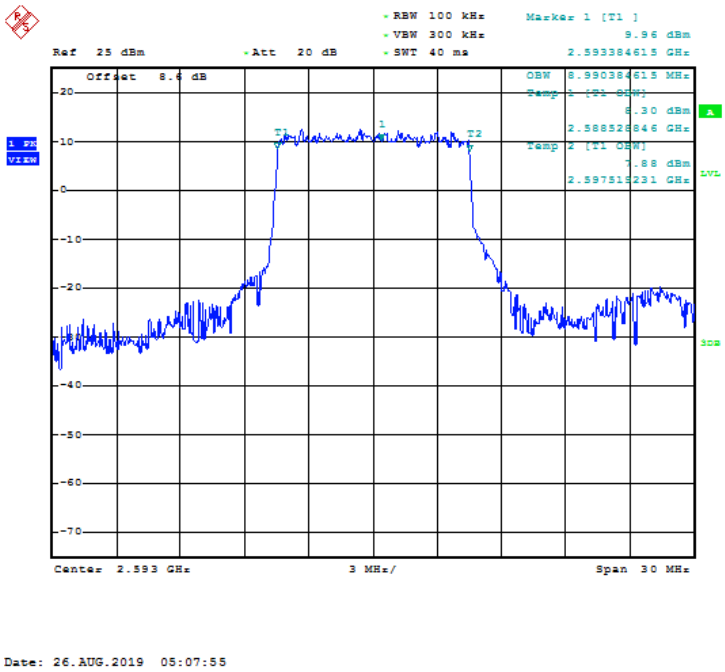


Fig.85 LTE band 41, 10MHz Bandwidth, QPSK (99% BW)

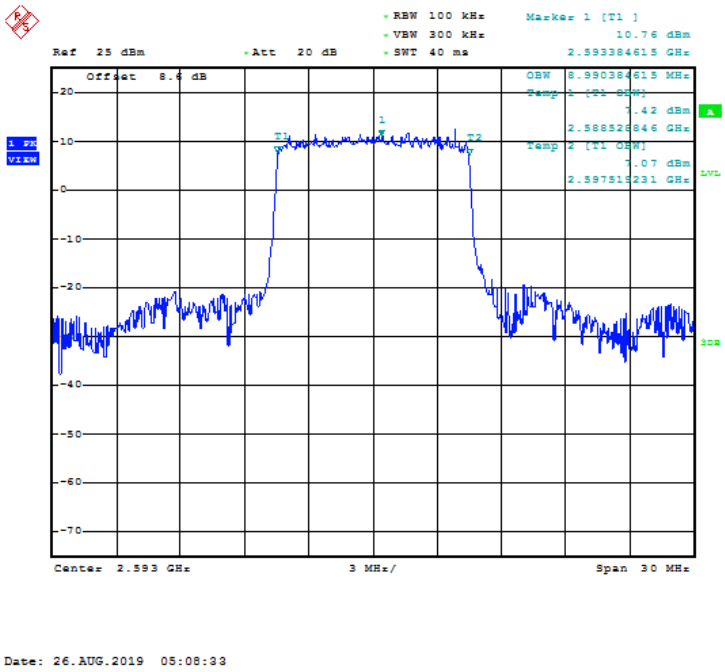


Fig.86 LTE band 41, 10MHz Bandwidth, 16QAM (99% BW)

LTE band 41, 15MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
2595.0	QPSK	16QAM
	13.486	13.558

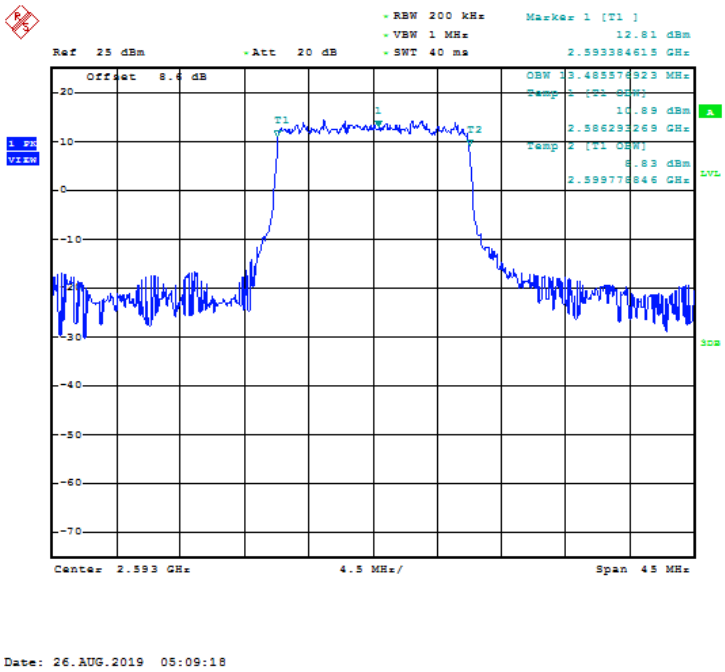


Fig.87 LTE band 41, 15MHz Bandwidth, QPSK (99% BW)

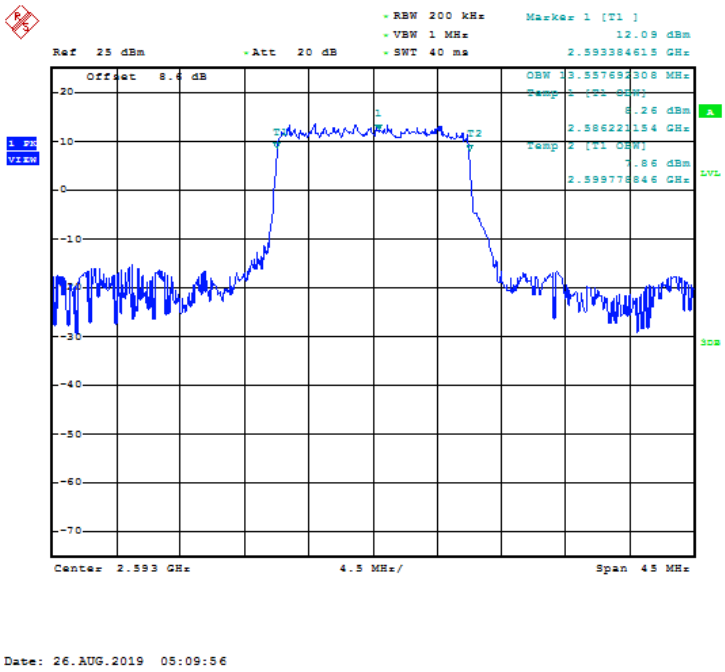


Fig.88 LTE band 41, 15MHz Bandwidth, 16QAM (99% BW)

LTE band 41, 20MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
2595.0	QPSK	16QAM
	17.885	17.885

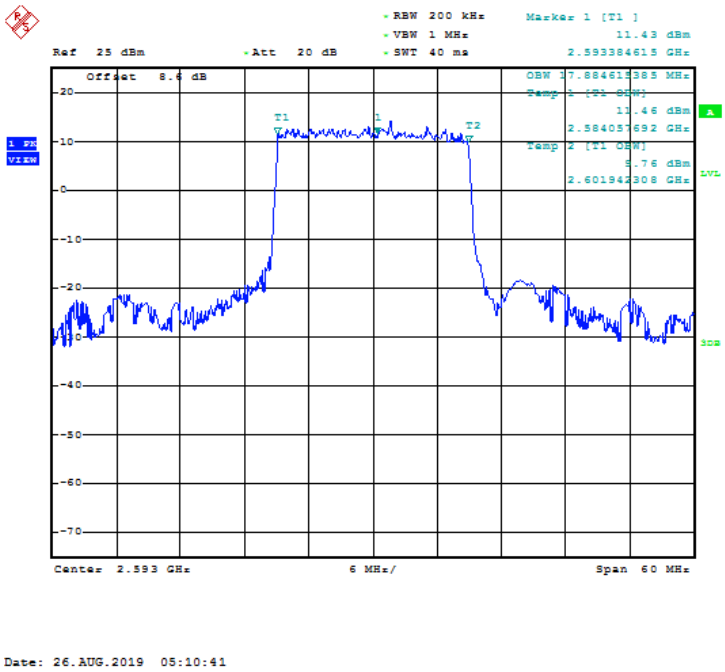


Fig.89 LTE band 41, 20MHz Bandwidth, QPSK (99% BW)

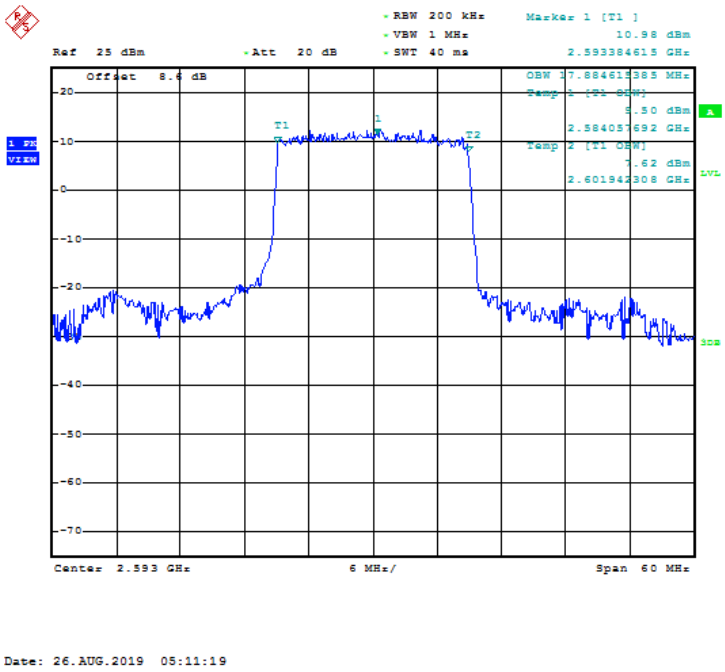


Fig.90 LTE band 41, 20MHz Bandwidth, 16QAM (99% BW)

LTE band 66, 1.4MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
1745.0	QPSK	16QAM
	1.098	1.098

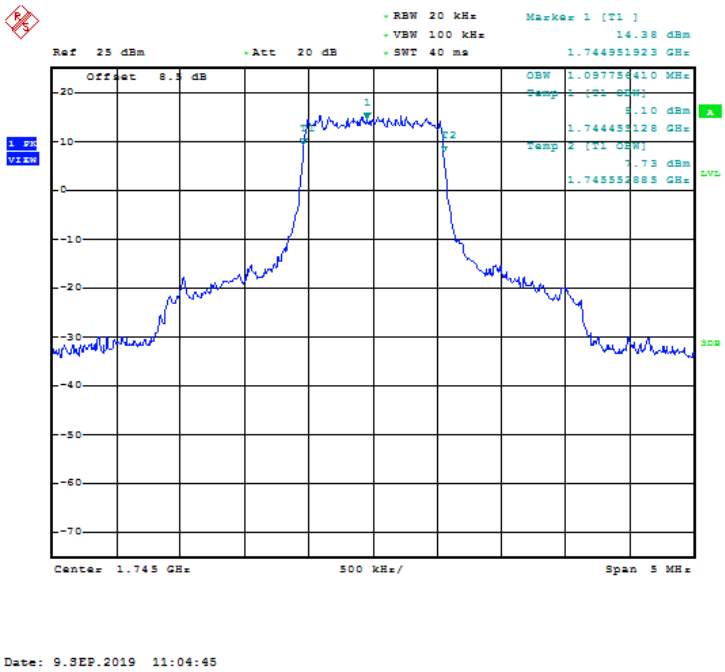


Fig.91 LTE band 66, 1.4MHz Bandwidth, QPSK (99% BW)

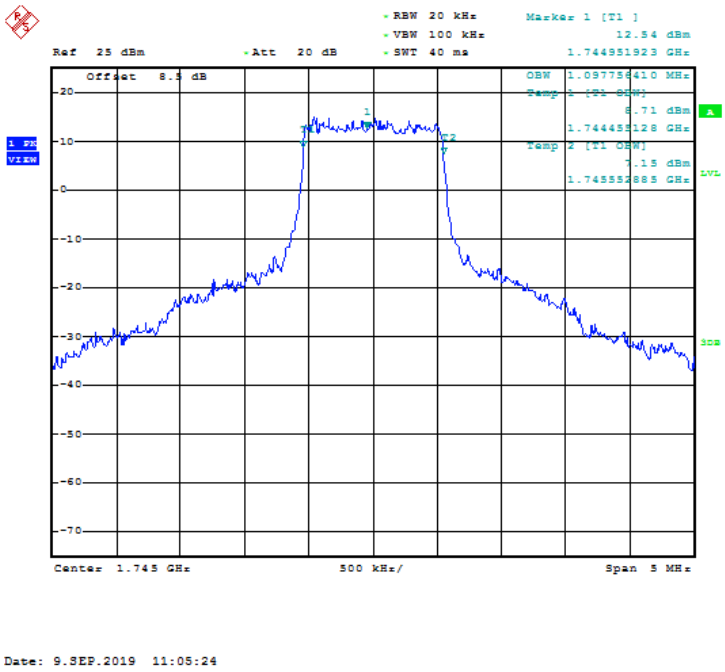


Fig.92 LTE band 66, 1.4MHz Bandwidth, 16QAM (99% BW)

LTE band 66, 3MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
1745.0	QPSK	16QAM
	2.708	2.708

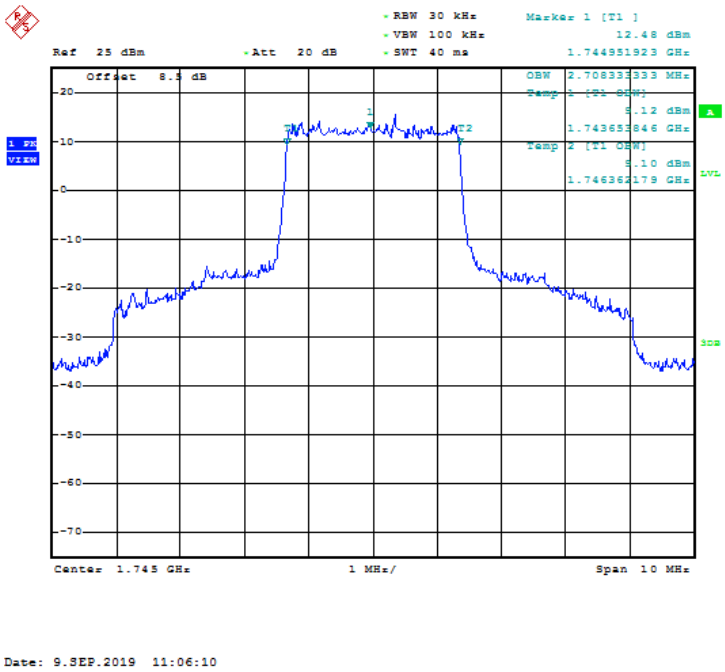


Fig.93 LTE band 66, 3MHz Bandwidth, QPSK (99% BW)

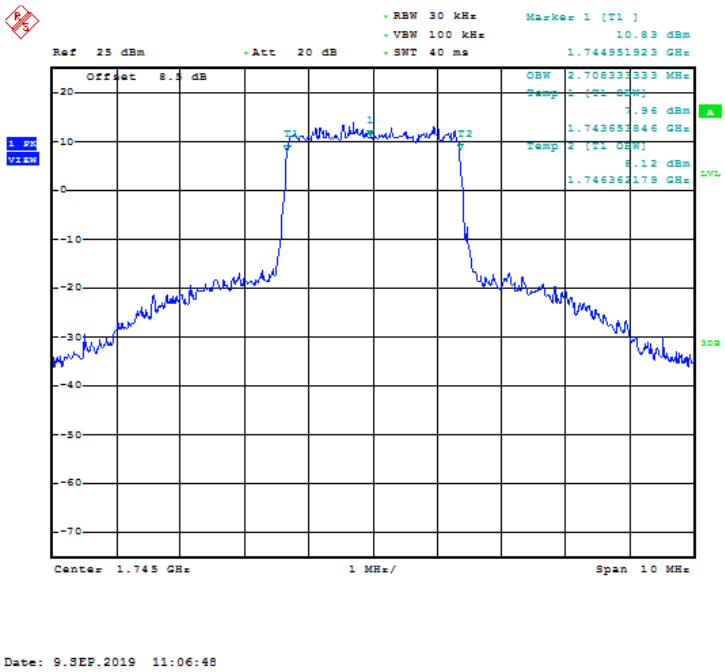


Fig.94 LTE band 66, 3MHz Bandwidth, 16QAM (99% BW)

LTE band 66, 5MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
1745.0	QPSK	16QAM
	4.519	4.519

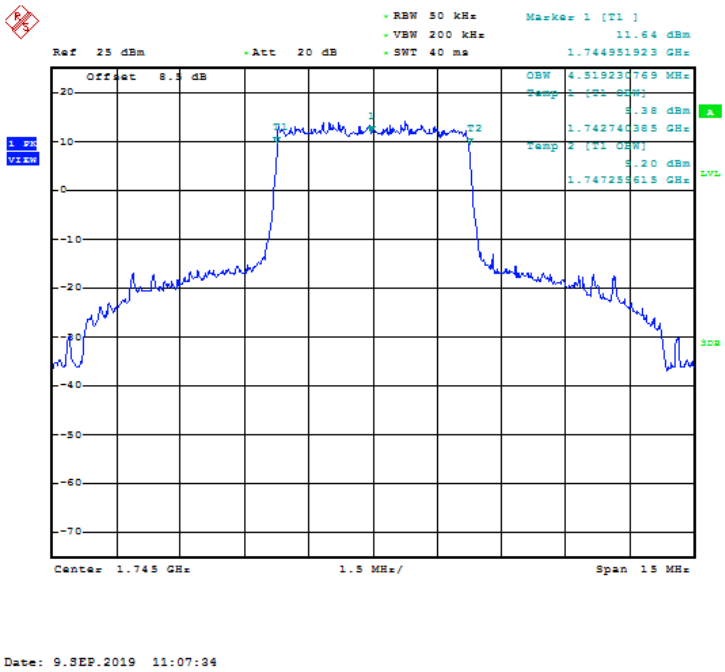


Fig.95 LTE band 66, 5MHz Bandwidth, QPSK (99% BW)

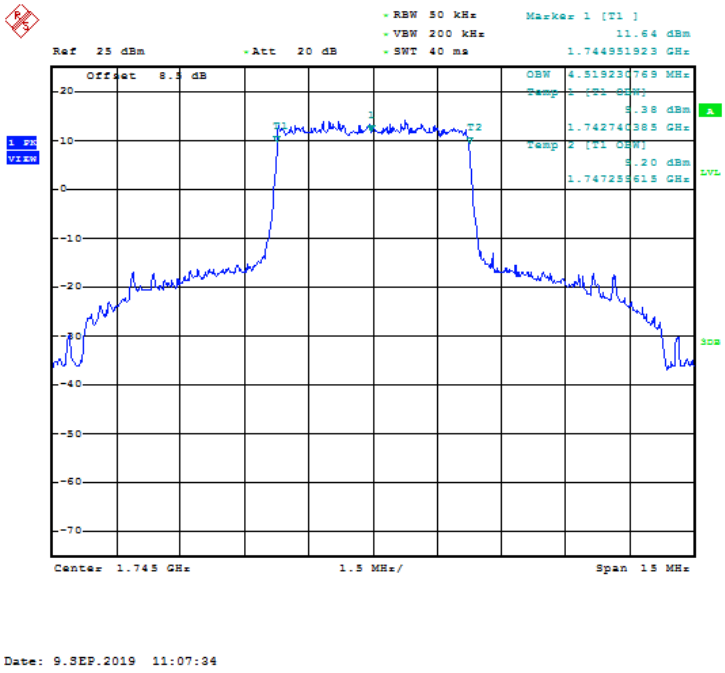


Fig.96 LTE band 66, 5MHz Bandwidth,16QAM (99% BW)

LTE band 66, 10MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
1745.0	QPSK	16QAM
	8.942	8.942

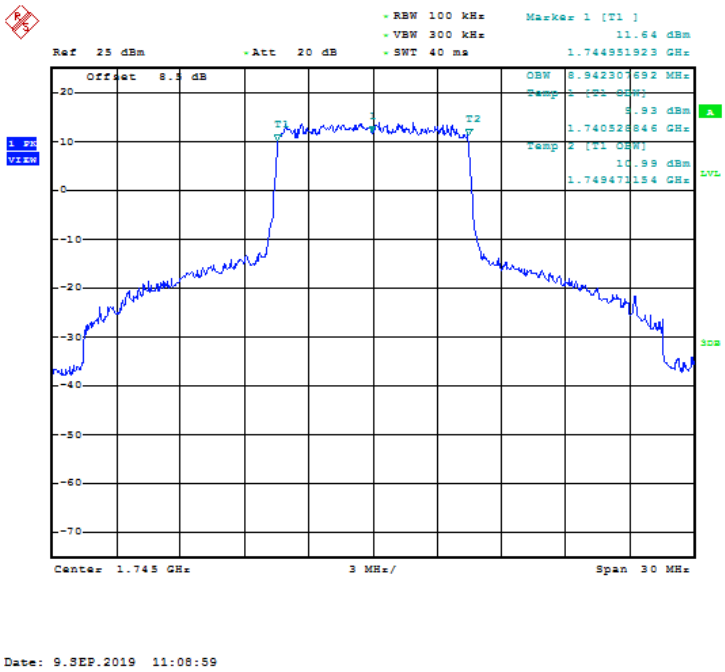


Fig.97 LTE band 66, 10MHz Bandwidth, QPSK (99% BW)

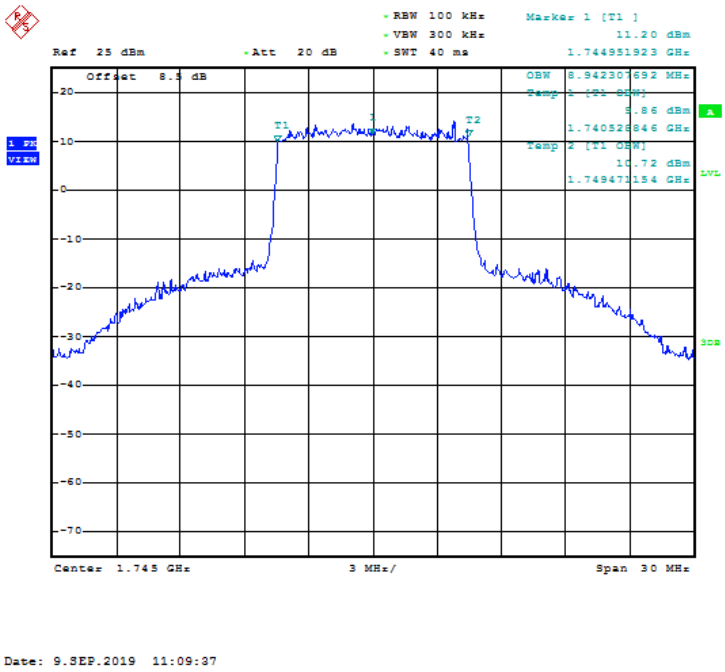
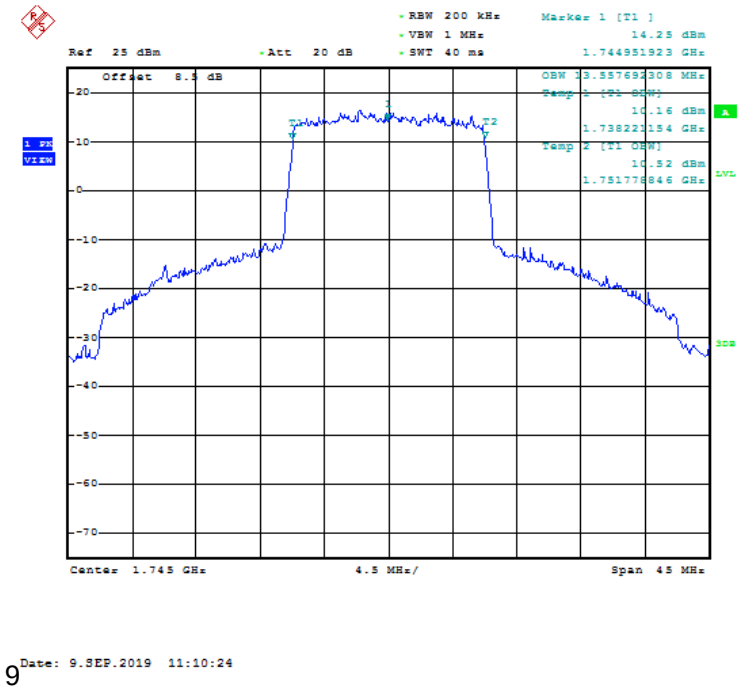


Fig.98 LTE band 66, 10MHz Bandwidth, 16QAM (99% BW)

LTE band 66, 15MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
1745.0	QPSK	16QAM
	13.558	13.486



9

Fig.99 LTE band 66, 15MHz Bandwidth, QPSK (99% BW)

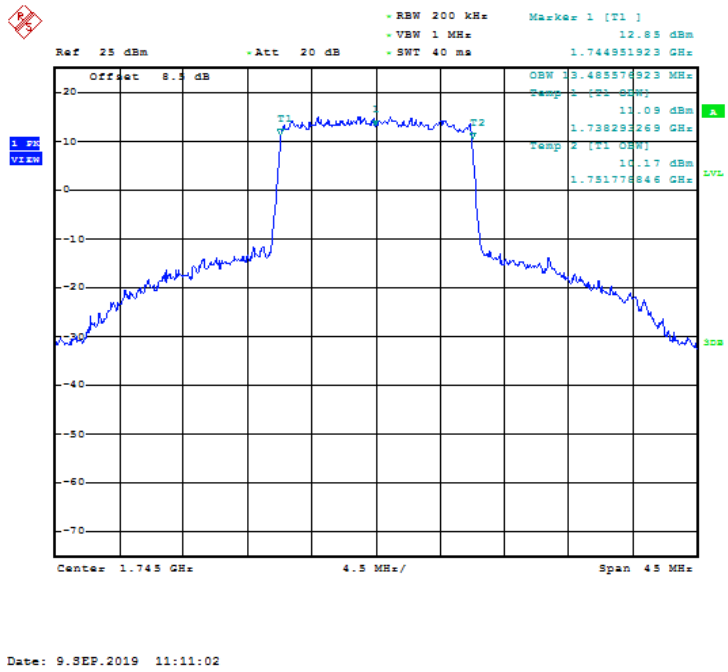


Fig.100 LTE band 66, 15MHz Bandwidth, 16QAM (99% BW)

LTE band 66, 20MHz (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	
1745.0	QPSK	16QAM
	17.885	17.981

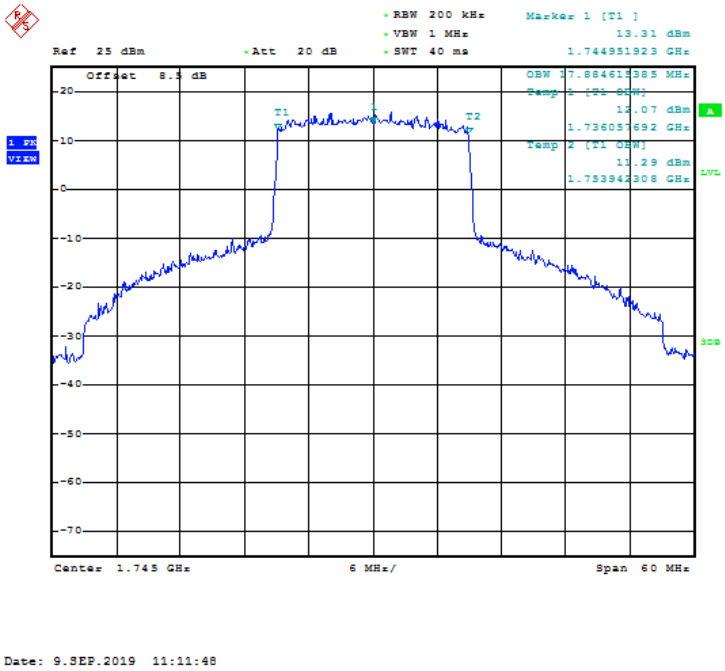


Fig.101 LTE band 66, 20MHz Bandwidth, QPSK (99% BW)

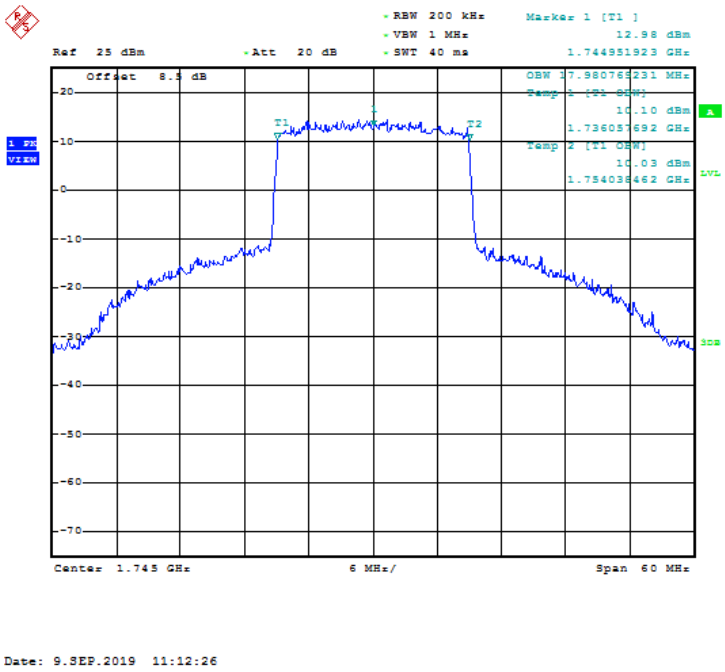


Fig.102 LTE band 66, 20MHz Bandwidth, 16QAM (99% BW)

ANNEX A.5. EMISSION BANDWIDTH

Reference

FCC: CFR Part 22.917(b),24.238(a), 27.53(g),27.53(h), 27.53(m), 90.1215.

A.5.1Emission Bandwidth Results

The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power. Table below lists the measured -26dBc BW. Spectrum analyzer plots are included on the following pages.

LTE band 2, 1.4MHz (-26dBc)

Frequency(MHz)	Occupied Bandwidth (-26dBc)(MHz)	
1880.0	QPSK	16QAM
	1.30	1.29

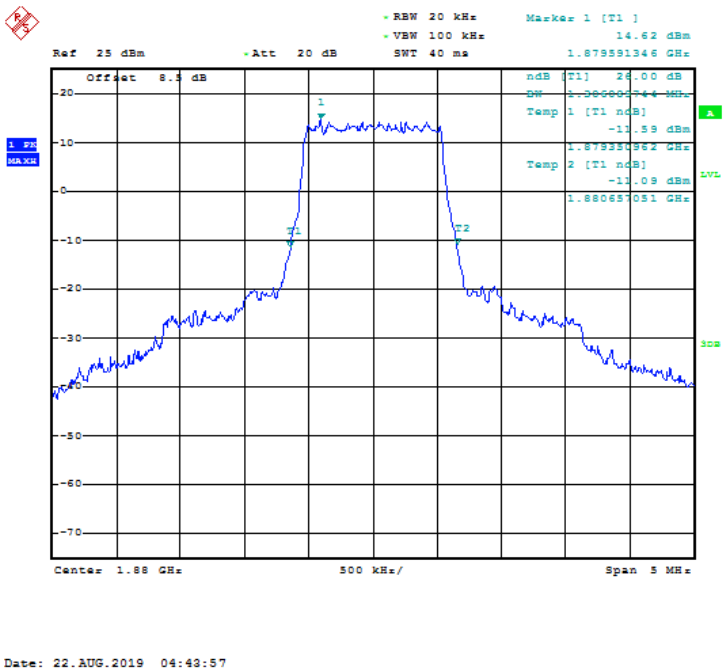


Fig.103 LTE band 2, 1.4MHz Bandwidth, QPSK (-26dBc BW)

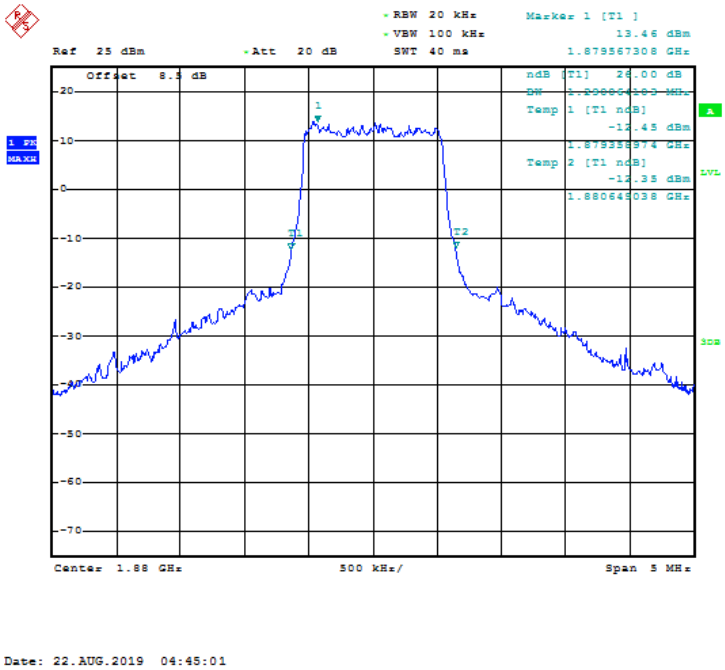


Fig.104 LTE band 2, 1.4MHz Bandwidth, 16QAM (-26dBc BW)

LTE band 2, 3MHz (-26dBc)

Frequency(MHz)	Occupied Bandwidth (-26dBc)(MHz)	
1880.0	QPSK	16QAM
	2.95	2.98

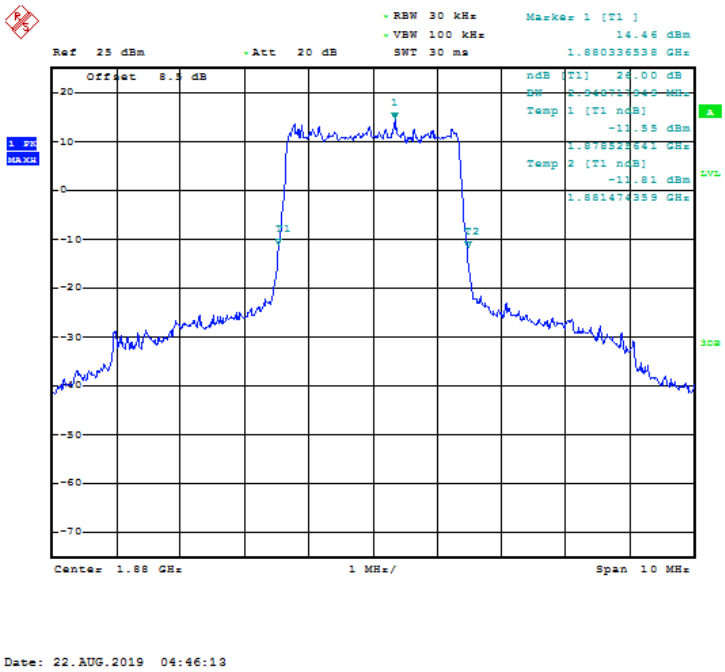


Fig.105 LTE band 2, 3MHz Bandwidth, QPSK (-26dBc BW)

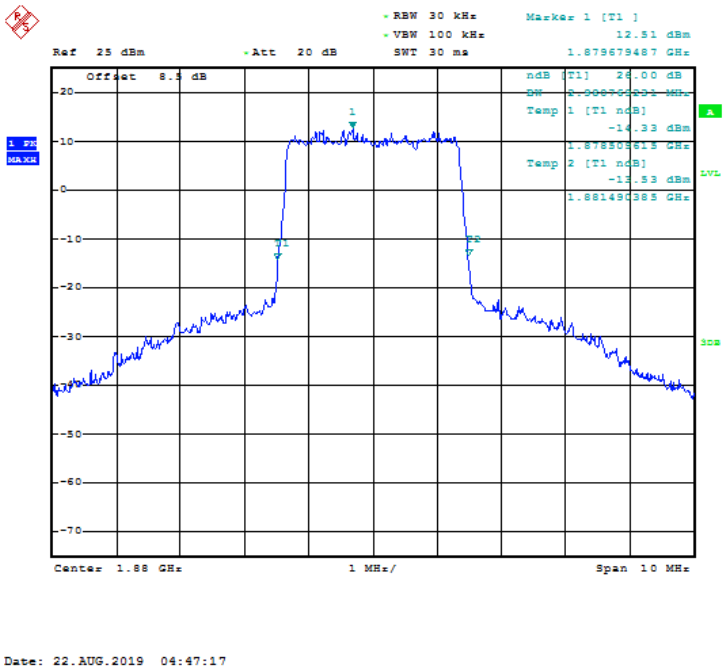


Fig.106 LTE band 2, 3MHz Bandwidth, 16QAM (-26dBc BW)

LTE band 2, 5MHz (-26dBc)

Frequency(MHz)	Occupied Bandwidth (-26dBc)(MHz)	
1880.0	QPSK	16QAM
	4.95	4.90

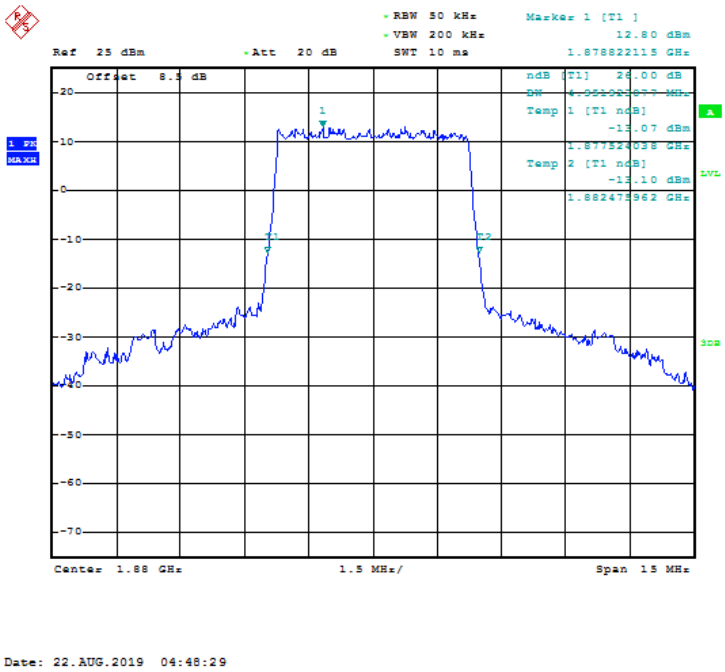


Fig.107 LTE band 2, 5MHz Bandwidth, QPSK (-26dBc BW)

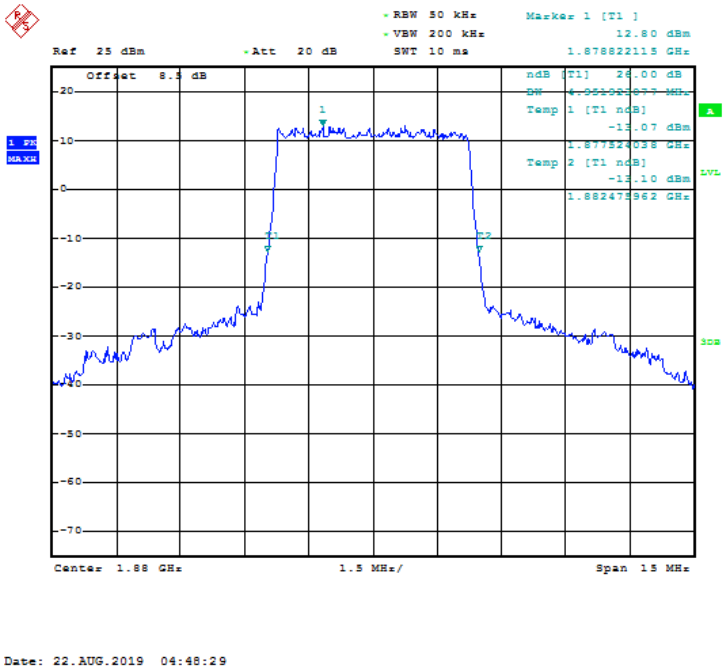


Fig.108 LTE band 2, 5MHz Bandwidth, 16QAM (-26dBc BW)

LTE band 2, 10MHz (-26dBc)

Frequency(MHz)	Occupied Bandwidth (-26dBc)(MHz)	
1880.0	QPSK	16QAM
	9.80	9.71

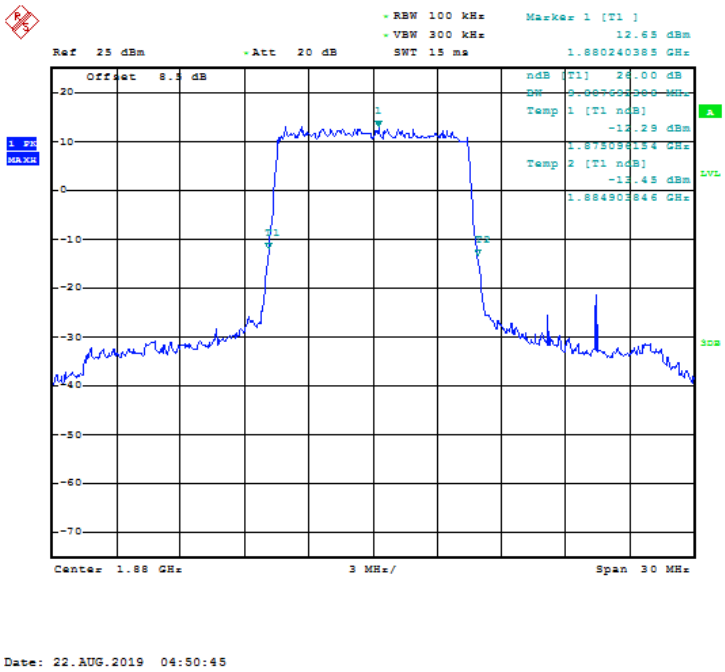


Fig.109 LTE band 2, 10MHz Bandwidth, QPSK (-26dBc BW)

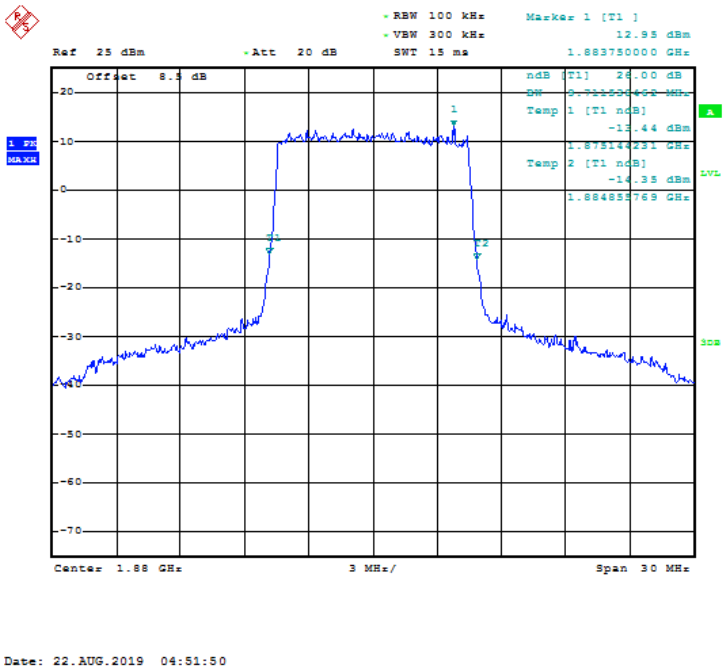


Fig.110 LTE band 2, 10MHz Bandwidth, 16QAM (-26dBc BW)

LTE band 2, 15MHz (-26dBc)

Frequency(MHz)	Occupied Bandwidth (-26dBc)(MHz)	
1880.0	QPSK	16QAM
	14.71	14.63

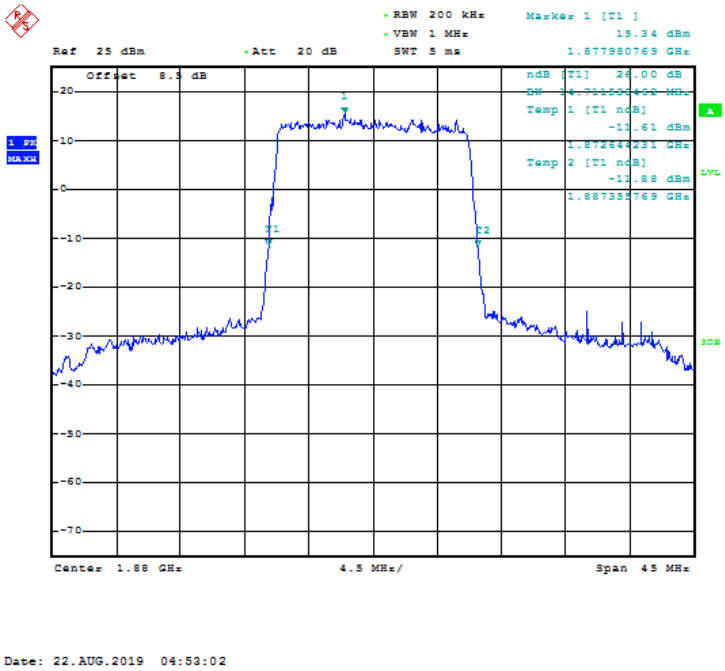


Fig.111 LTE band 2, 15MHz Bandwidth, QPSK (-26dBc BW)

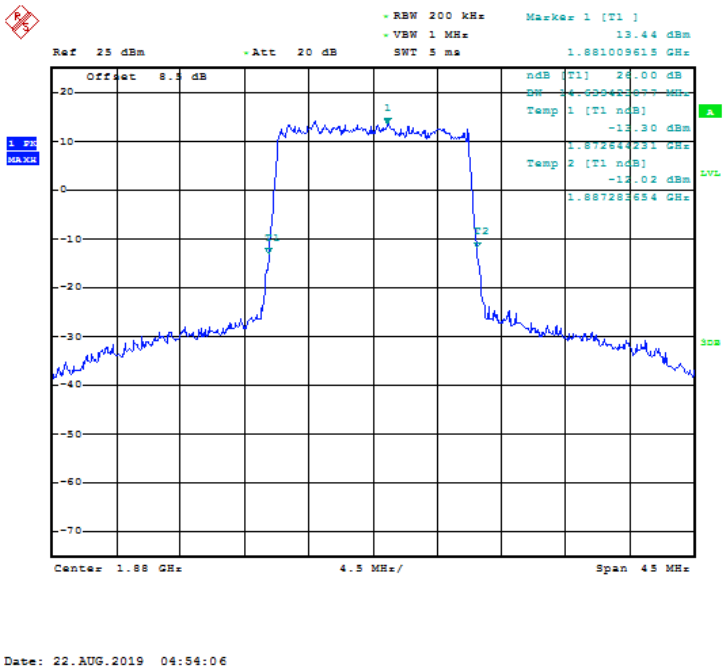


Fig.112 LTE band 2, 15MHz Bandwidth, 16QAM (-26dBc BW)

LTE band 2, 20MHz (-26dBc)

Frequency(MHz)	Occupied Bandwidth (-26dBc)(MHz)	
1880.0	QPSK	16QAM
	19.23	19.32

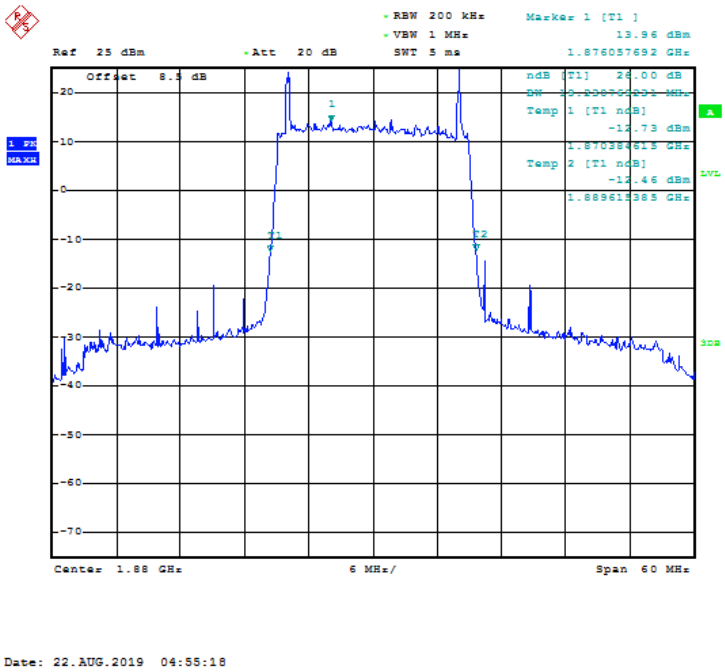


Fig.113 LTE band 2, 20MHz Bandwidth, QPSK (-26dBc BW)

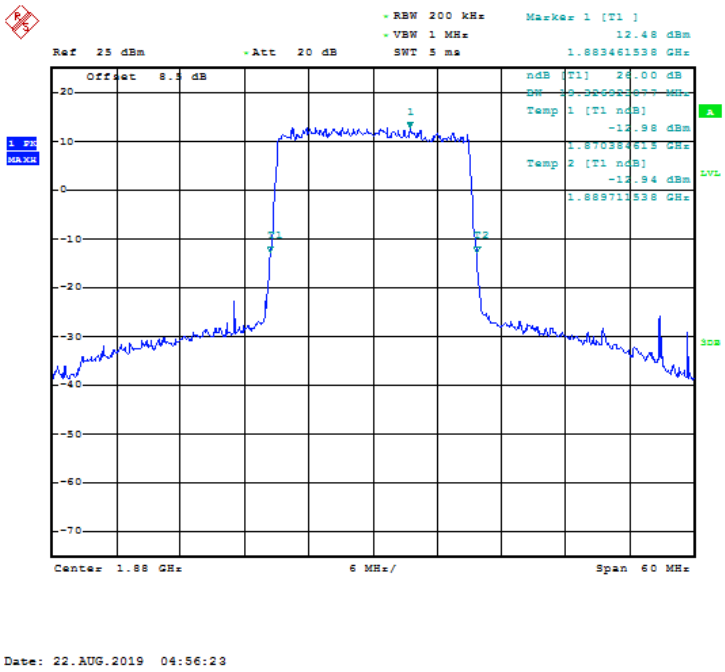


Fig.114 LTE band 2, 20MHz Bandwidth, 16QAM (-26dBc BW)

LTE band 4, 1.4MHz (-26dBc)

Frequency(MHz)	Occupied Bandwidth (-26dBc)(MHz)	
1732.5	QPSK	16QAM
	1.31	1.28

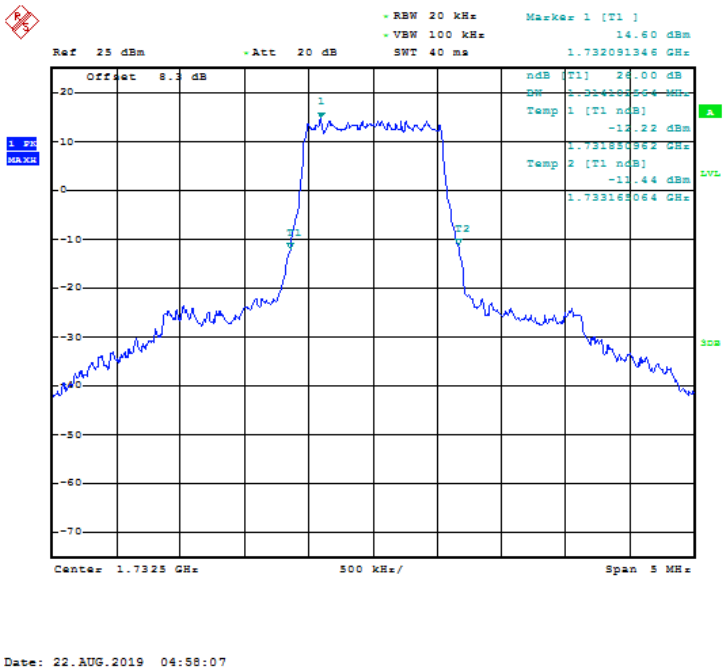


Fig.115 LTE band 4, 1.4MHz Bandwidth, QPSK (-26dBc BW)

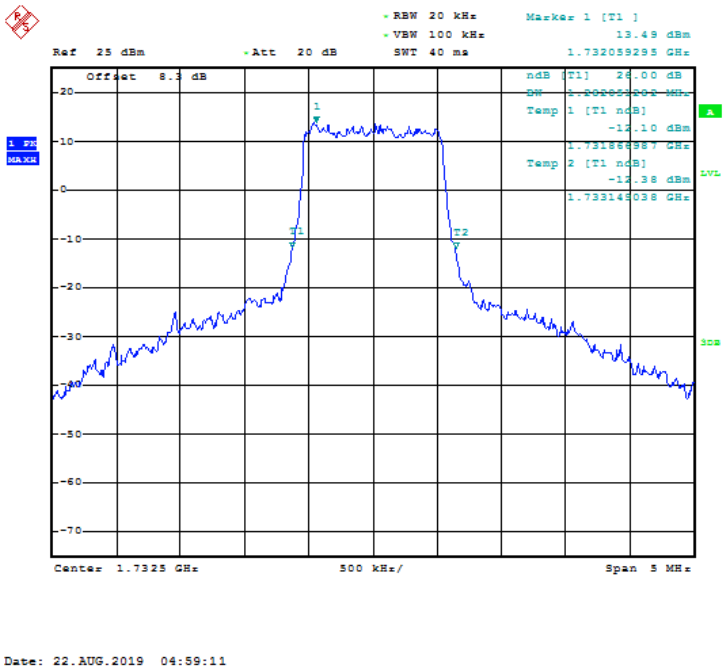


Fig.116 LTE band 4, 1.4MHz Bandwidth, 16QAM (-26dBc BW)

LTE band 4, 3MHz (-26dBc)

Frequency(MHz)	Occupied Bandwidth (-26dBc)(MHz)	
1732.5	QPSK	16QAM
	2.95	2.96

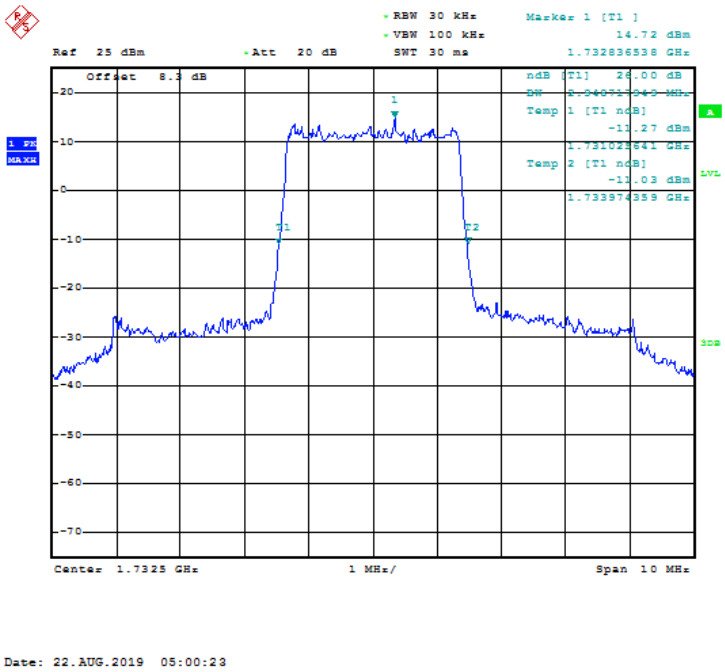


Fig.117 LTE band 4, 3MHz Bandwidth, QPSK (-26dBc BW)

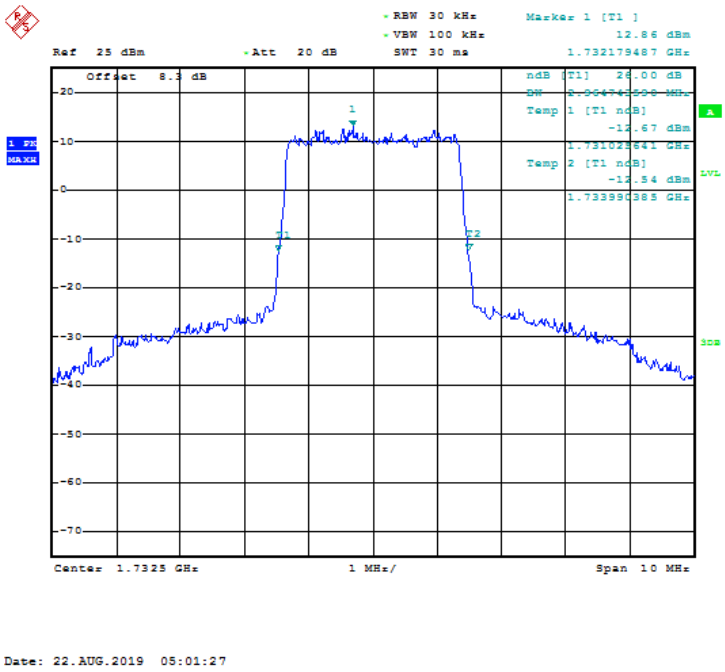


Fig.118 LTE band 4, 3MHz Bandwidth, 16QAM (-26dBc BW)

LTE band 4, 5MHz (-26dBc)

Frequency(MHz)	Occupied Bandwidth (-26dBc)(MHz)	
1732.5	QPSK	16QAM
	4.98	4.95

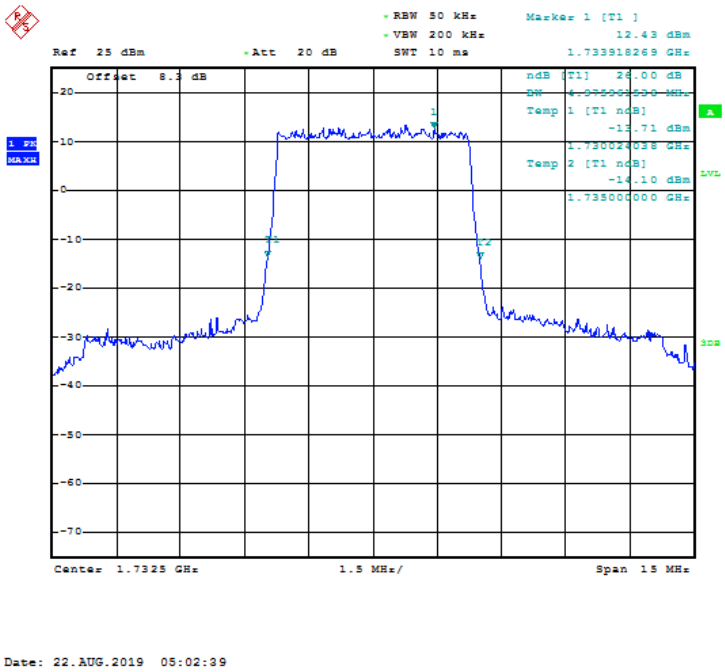


Fig.119 LTE band 4, 5MHz Bandwidth, QPSK (-26dBc BW)

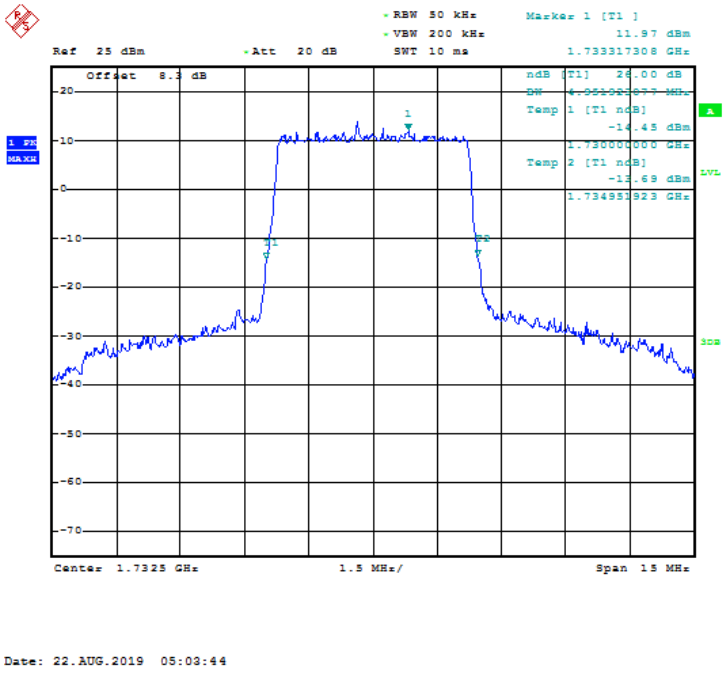


Fig.120 LTE band 4, 5MHz Bandwidth, 16QAM (-26dBc BW)

LTE band 4, 10MHz (-26dBc)

Frequency(MHz)	Occupied Bandwidth (-26dBc)(MHz)	
1732.5	QPSK	16QAM
	9.81	9.71

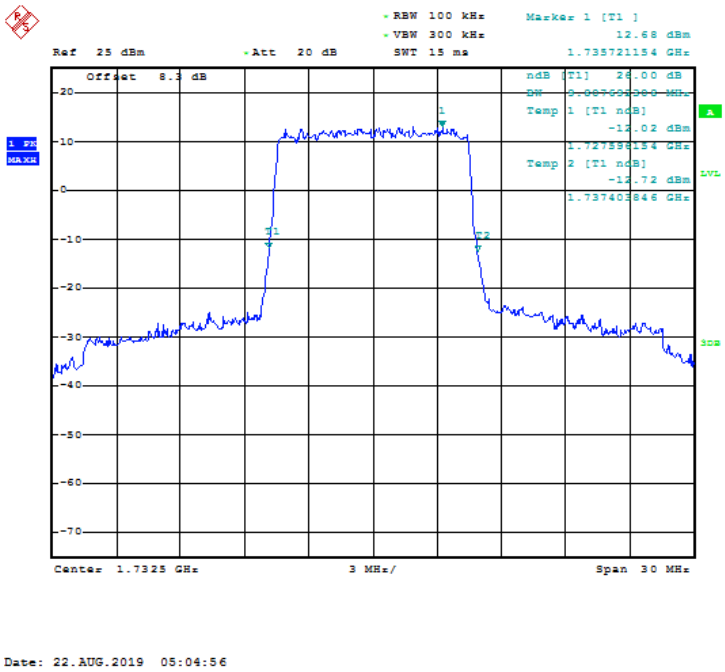


Fig.121 LTE band 4, 10MHz Bandwidth, QPSK (-26dBc BW)

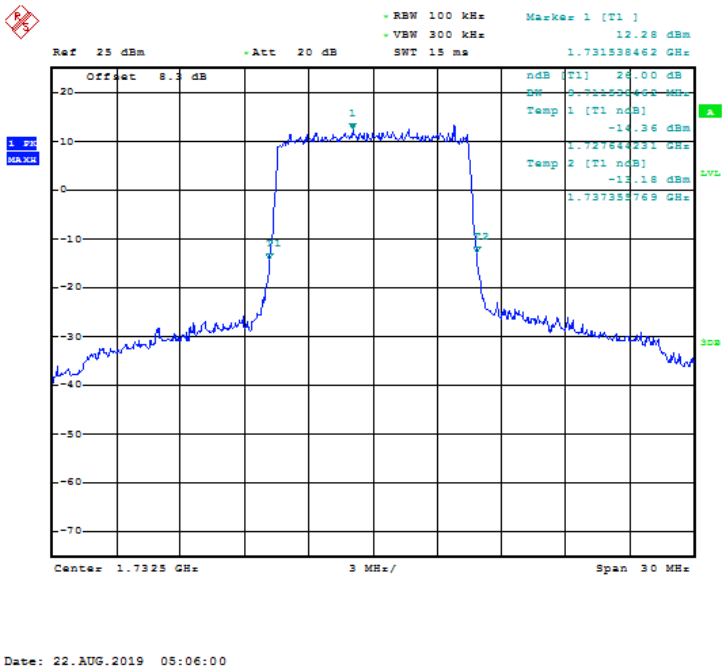


Fig.122 LTE band 4, 10MHz Bandwidth, 16QAM (-26dBc BW)

LTE band 4, 15MHz (-26dBc)

Frequency(MHz)	Occupied Bandwidth (-26dBc)(MHz)	
1732.5	QPSK	16QAM
	14.78	14.71

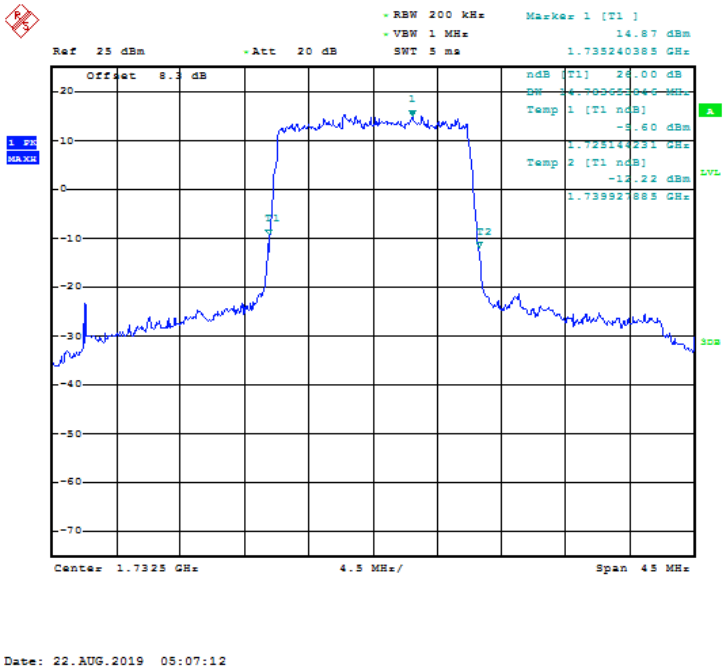


Fig.123 LTE band 4, 15MHz Bandwidth, QPSK (-26dBc BW)

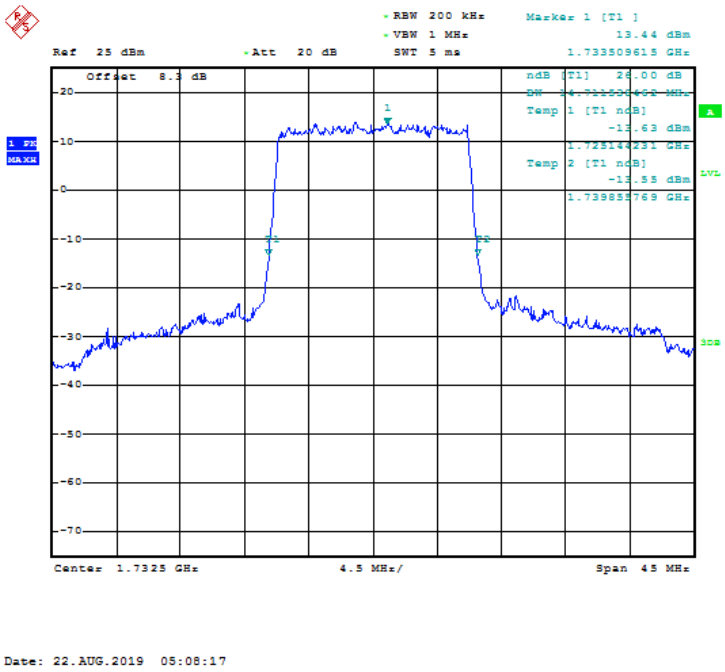


Fig.124 LTE band 4, 15MHz Bandwidth, 16QAM (-26dBc BW)

LTE band 4, 20MHz (-26dBc)

Frequency(MHz)	Occupied Bandwidth (-26dBc)(MHz)	
1732.5	QPSK	16QAM
	19.23	19.32

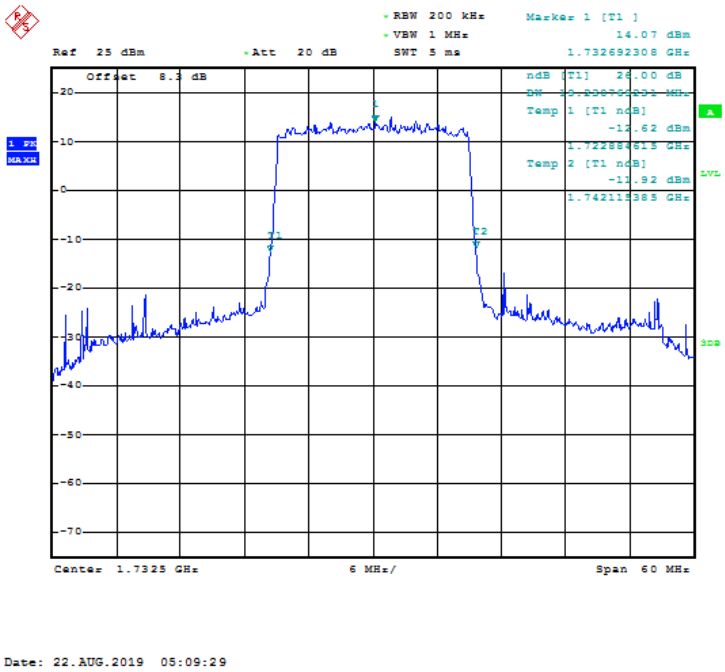


Fig.125 LTE band 4, 20MHz Bandwidth, QPSK (-26dBc BW)

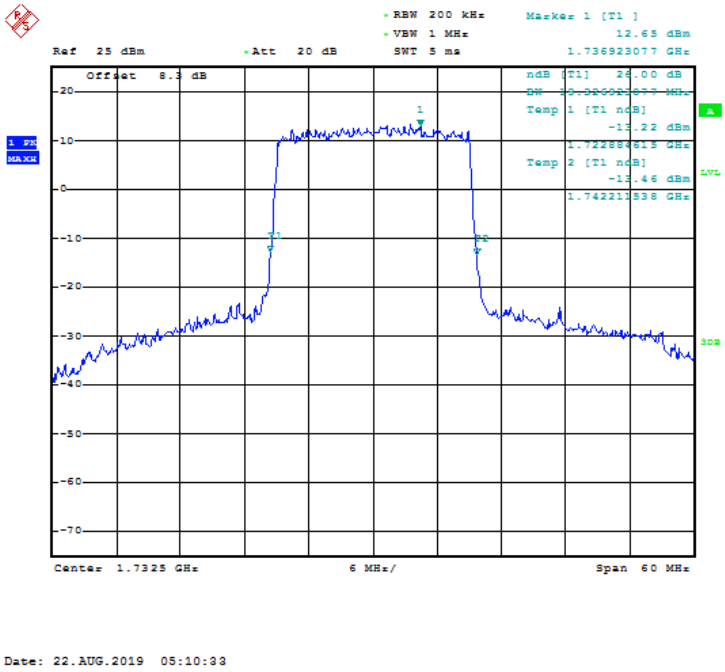


Fig.126 LTE band 4, 20MHz Bandwidth, 16QAM (-26dBc BW)

LTE band 5, 1.4MHz (-26dBc)

Frequency(MHz)	Occupied Bandwidth (-26dBc)(MHz)	
836.5	QPSK	16QAM
	1.30	1.30

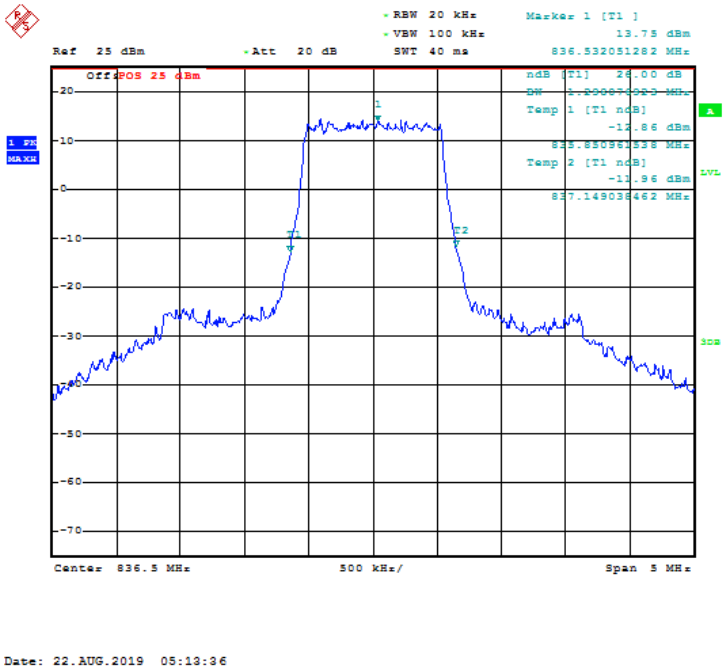


Fig.127 LTE band 5, 1.4MHz Bandwidth, QPSK (-26dBc BW)

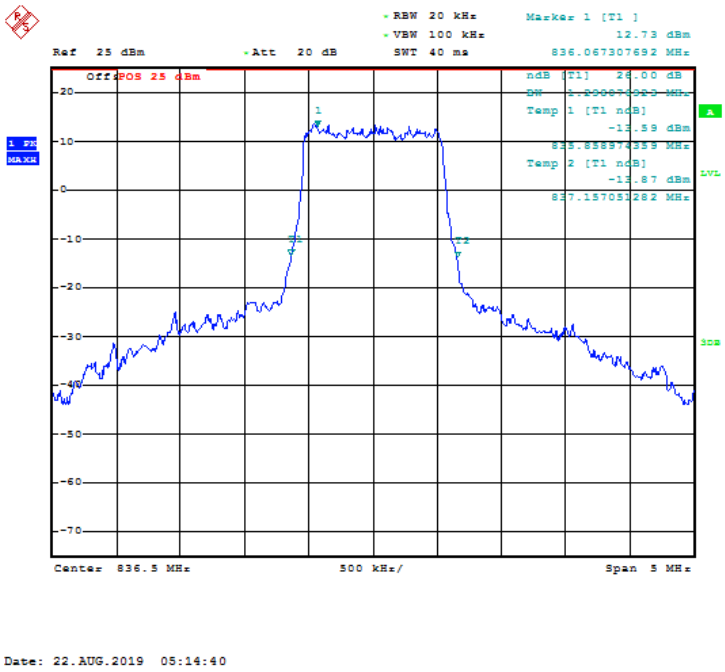


Fig.128 LTE band 5, 1.4MHz Bandwidth, 16QAM (-26dBc BW)

LTE band 5, 3MHz (-26dBc)

Frequency(MHz)	Occupied Bandwidth (-26dBc)(kHz)	
836.5	QPSK	16QAM
	2.95	2.30

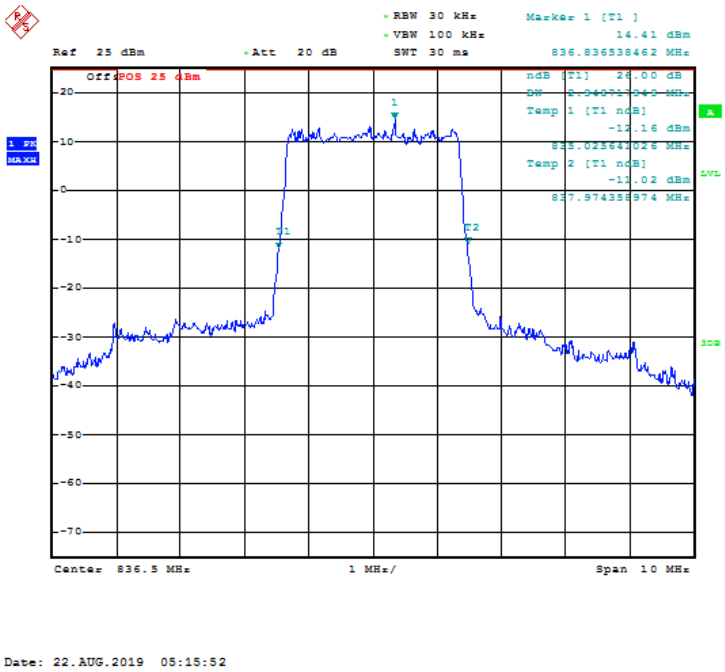


Fig.129 LTE band 5, 3MHz Bandwidth, QPSK (-26dBc BW)

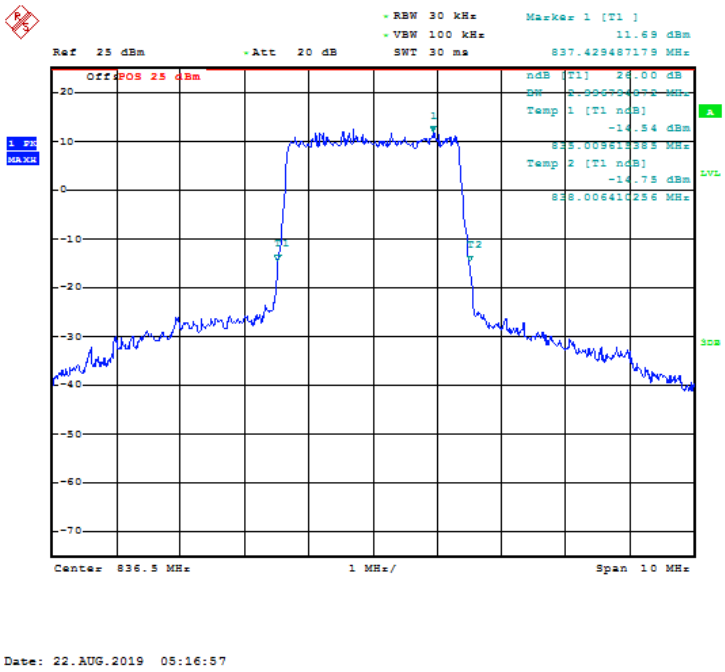


Fig.130 LTE band 5, 3MHz Bandwidth, 16QAM (-26dBc BW)

LTE band 5, 5MHz (-26dBc)

Frequency(MHz)	Occupied Bandwidth (-26dBc)(MHz)	
836.5	QPSK	16QAM
	4.98	4.98

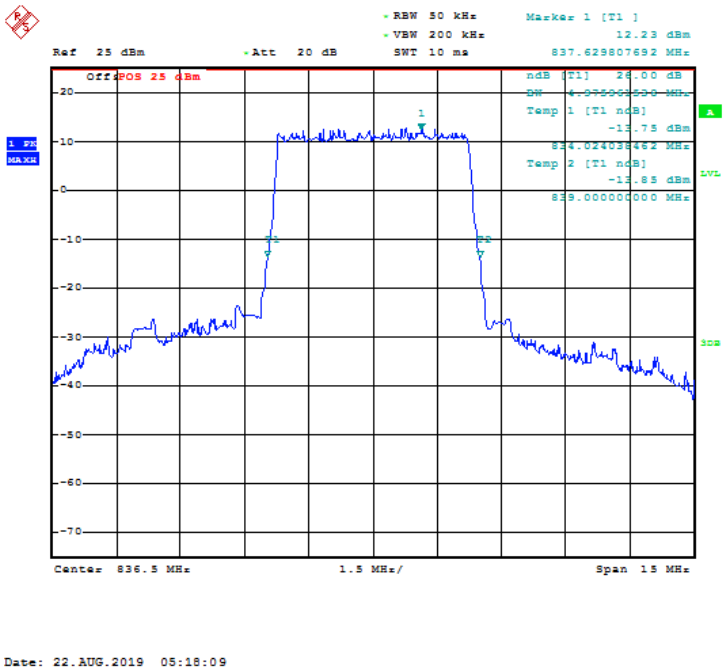


Fig.131 LTE band 5, 5MHz Bandwidth, QPSK (-26dBc BW)

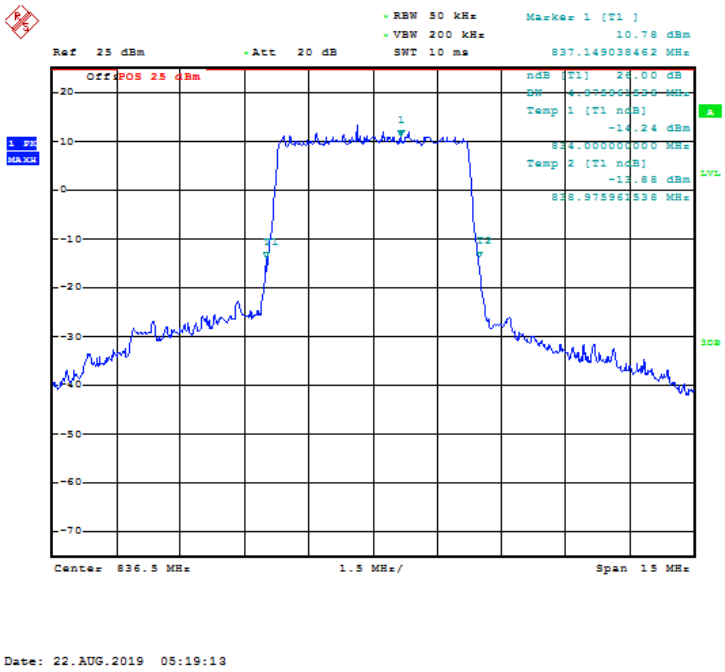


Fig.132 LTE band 5, 5MHz Bandwidth, 16QAM (-26dBc BW)

LTE band 5, 10MHz (-26dBc)

Frequency(MHz)	Occupied Bandwidth (-26dBc)(MHz)	
836.5	QPSK	16QAM
	9.81	9.71

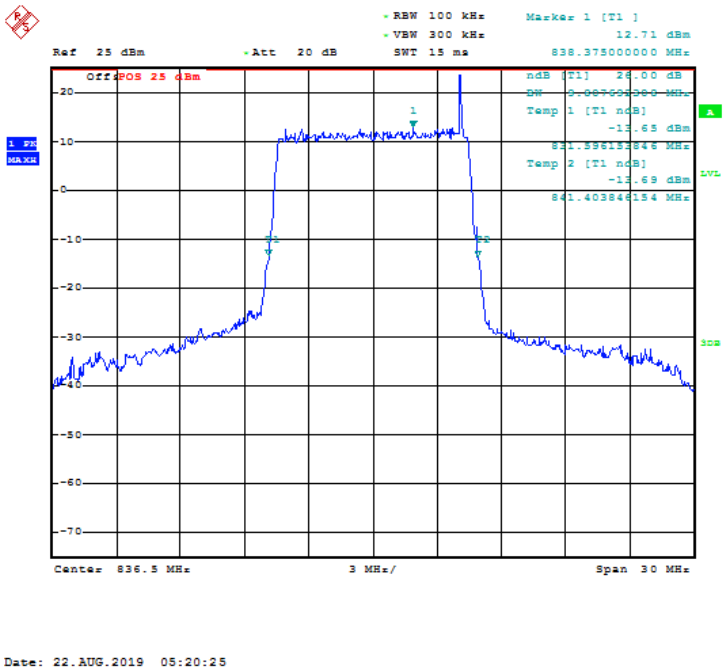


Fig.133 LTE band 5, 10MHz Bandwidth, QPSK (-26dBc BW)

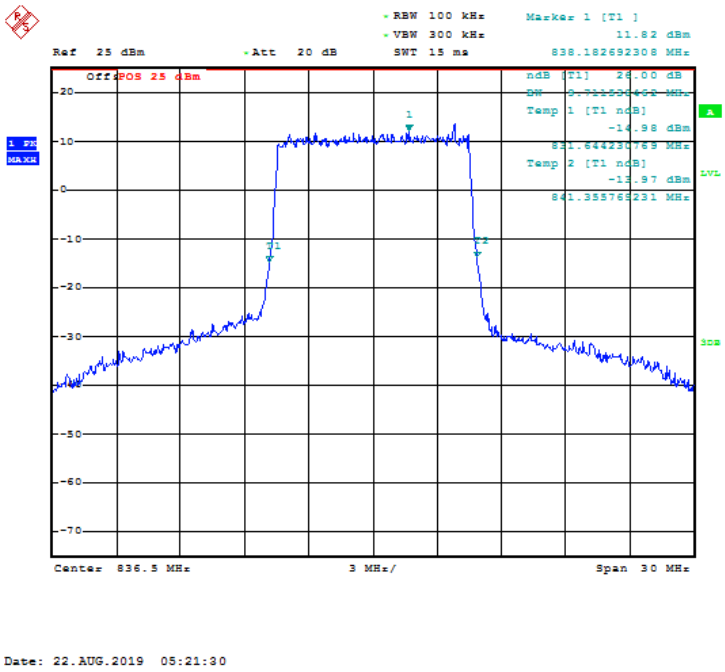


Fig.134 LTE band 5, 10MHz Bandwidth, 16QAM (-26dBc BW)

LTE band 7, 5MHz (-26dBc)

Frequency(MHz)	Occupied Bandwidth (-26dBc)(MHz)	
2535.0	QPSK	16QAM
	4.98	4.98

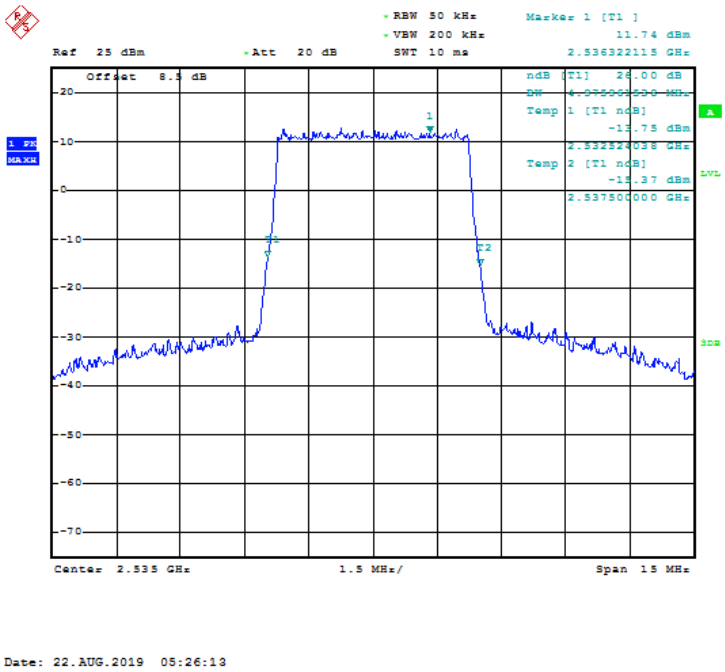


Fig.135 LTE band 7, 5MHz Bandwidth, QPSK (-26dBc BW)

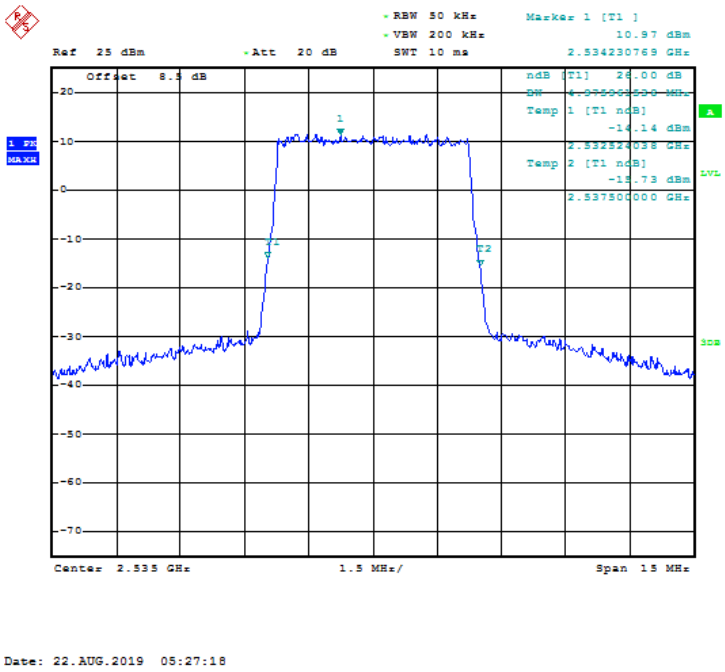


Fig.136 LTE band 7, 5MHz Bandwidth, 16QAM (-26dBc BW)

LTE band 7, 10MHz (-26dBc)

Frequency(MHz)	Occupied Bandwidth (-26dBc)(kHz)	
2535.0	QPSK	16QAM
	9.86	9.76

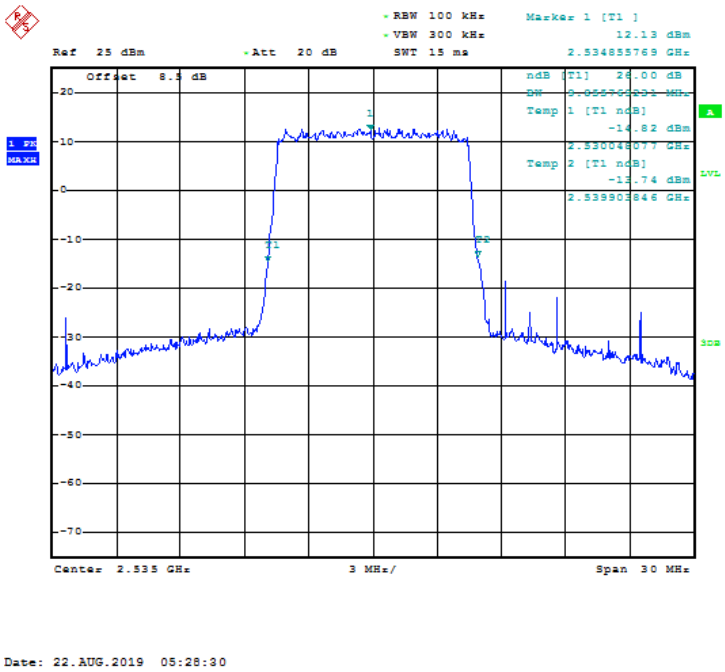


Fig.137 LTE band 7, 10MHz Bandwidth, QPSK (-26dBc BW)

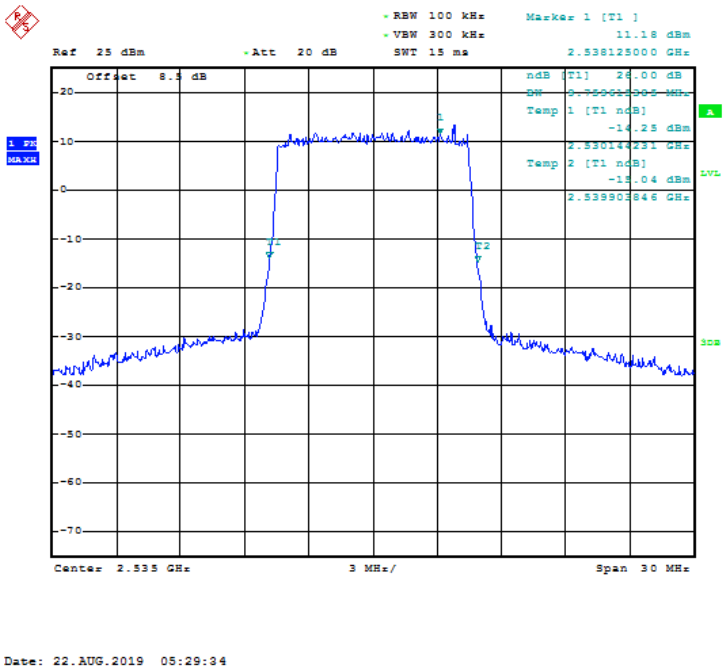


Fig.138 LTE band 7, 10MHz Bandwidth, 16QAM (-26dBc BW)

LTE band 7, 15MHz (-26dBc)

Frequency(MHz)	Occupied Bandwidth (-26dBc)(MHz)	
2535.0	QPSK	16QAM
	14.71	14.71

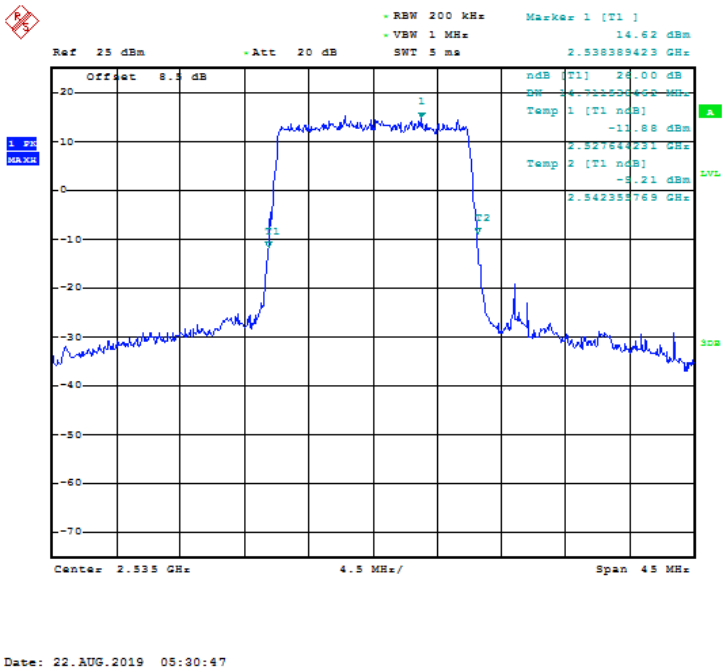


Fig.139 LTE band 7, 15MHz Bandwidth, QPSK (-26dBc BW)

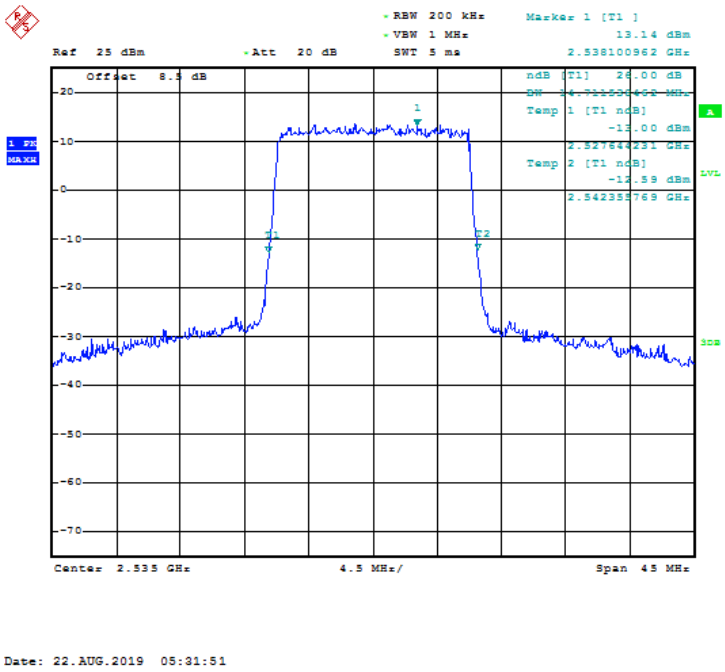


Fig.140 LTE band 7, 15MHz Bandwidth, 16QAM (-26dBc BW)

LTE band 7, 20MHz (-26dBc)

Frequency(MHz)	Occupied Bandwidth (-26dBc)(MHz)	
2535.0	QPSK	16QAM
	19.23	19.33

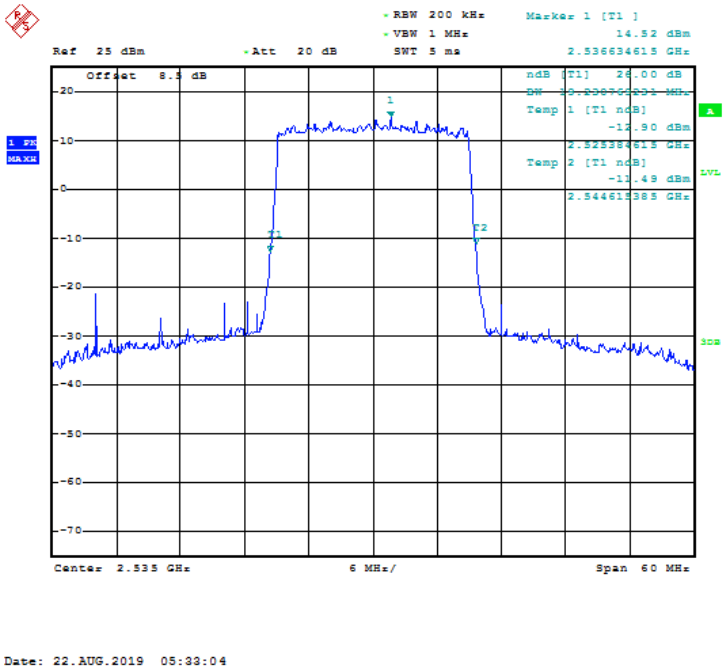


Fig.141 LTE band 7, 20MHz Bandwidth, QPSK (-26dBc BW)

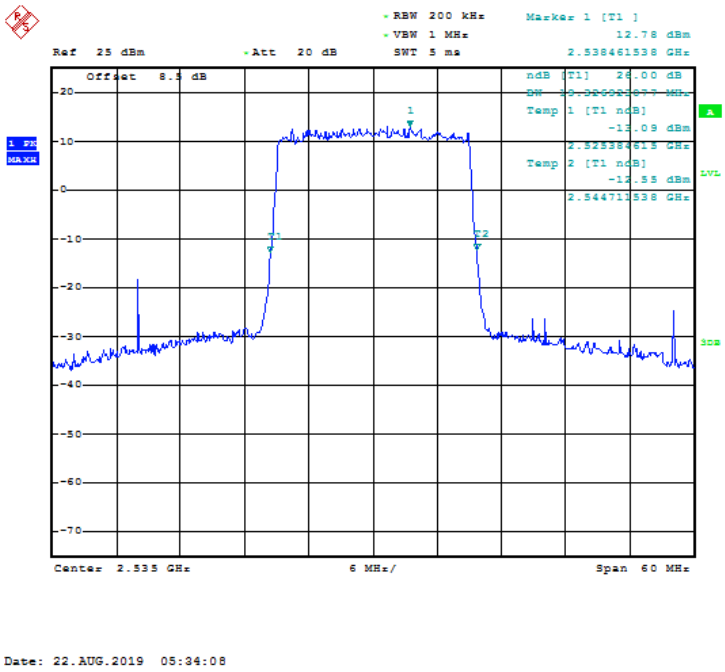


Fig.142 LTE band 7, 20MHz Bandwidth, 16QAM (-26dBc BW)

LTE band 12, 1.4MHz (-26dBc)

Frequency(MHz)	Occupied Bandwidth (-26dBc)(MHz)	
836.5	QPSK	16QAM
	1.28	1.29

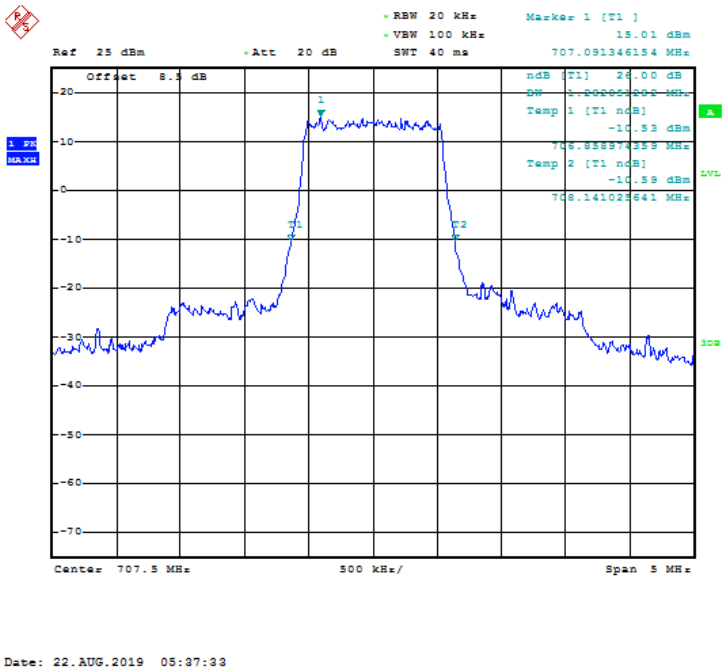


Fig.143 LTE band 12, 1.4MHz Bandwidth, QPSK (-26dBc BW)

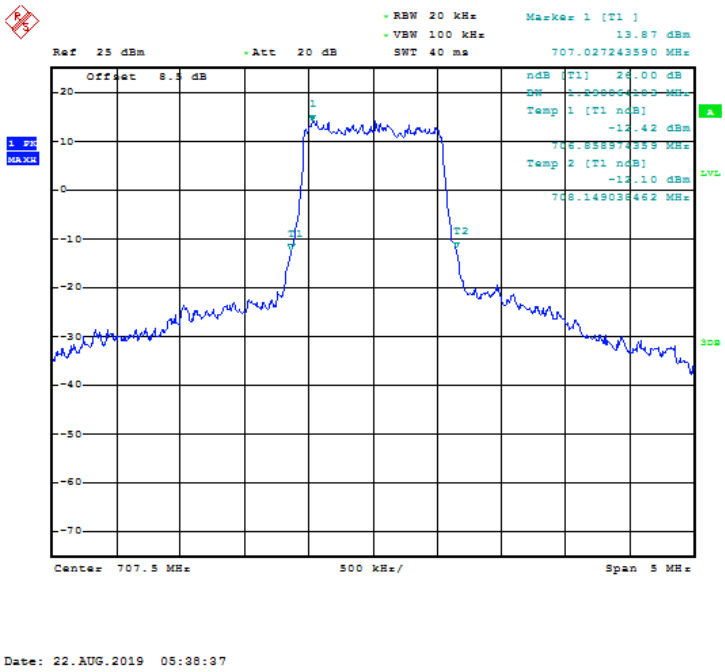


Fig.144 LTE band 12, 1.4MHz Bandwidth, 16QAM (-26dBc BW)

LTE band 12, 3MHz (-26dBc)

Frequency(MHz)	Occupied Bandwidth (-26dBc)(kHz)	
836.5	QPSK	16QAM
	2.98	2.30

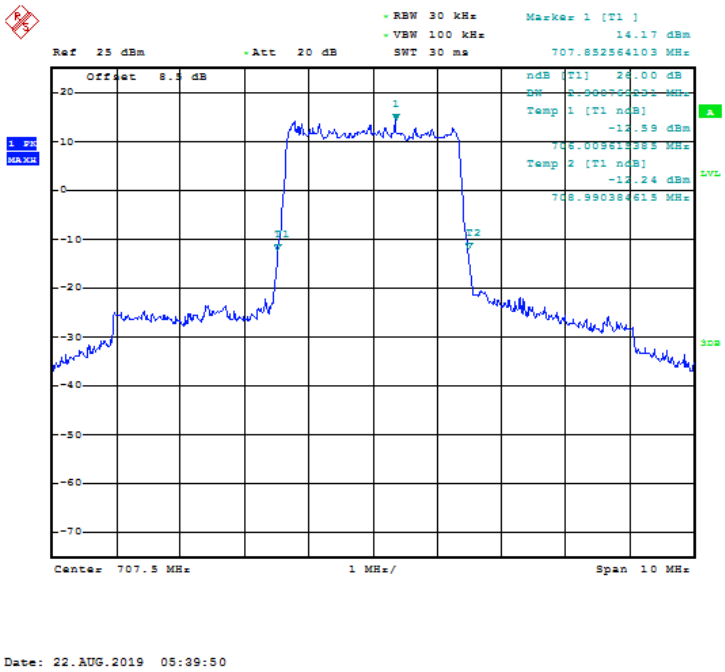


Fig.145 LTE band 12, 3MHz Bandwidth, QPSK (-26dBc BW)

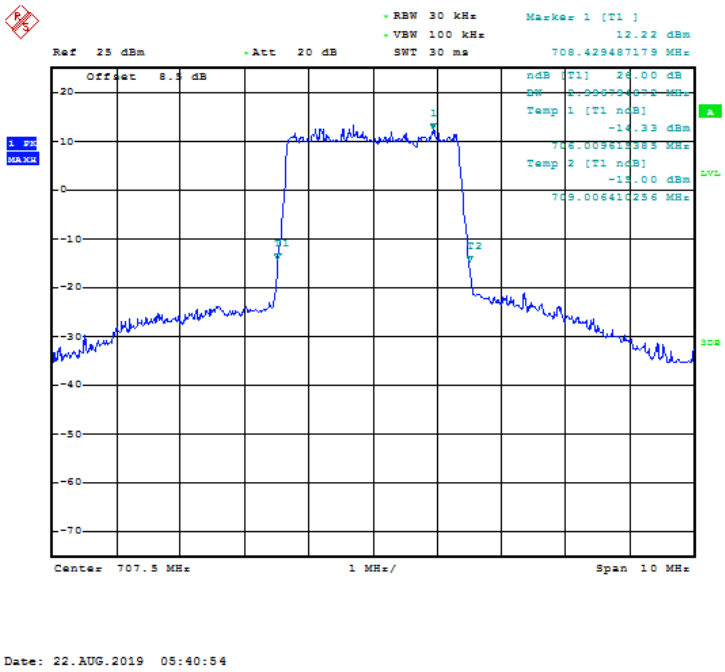


Fig.146 LTE band 12, 3MHz Bandwidth, 16QAM (-26dBc BW)

LTE band 12, 5MHz (-26dBc)

Frequency(MHz)	Occupied Bandwidth (-26dBc)(MHz)	
836.5	QPSK	16QAM
	4.98	4.90

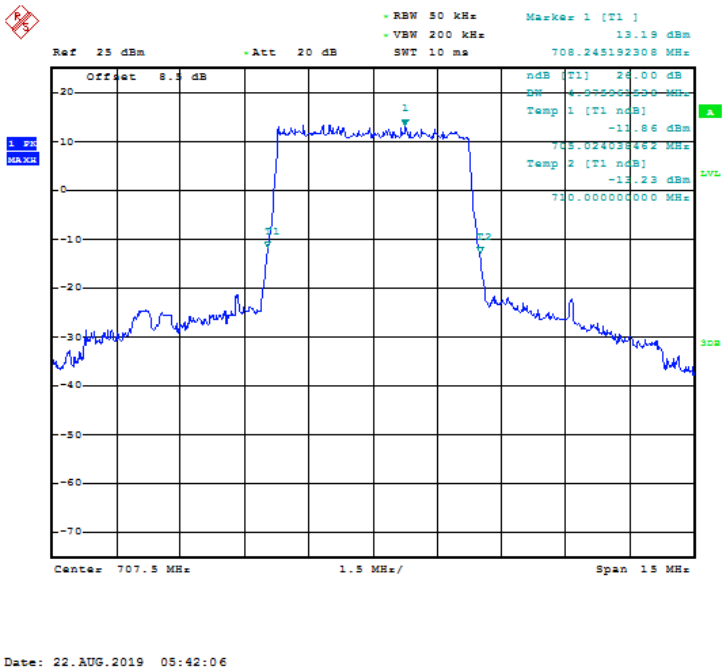


Fig.147 LTE band 12, 5MHz Bandwidth, QPSK (-26dBc BW)

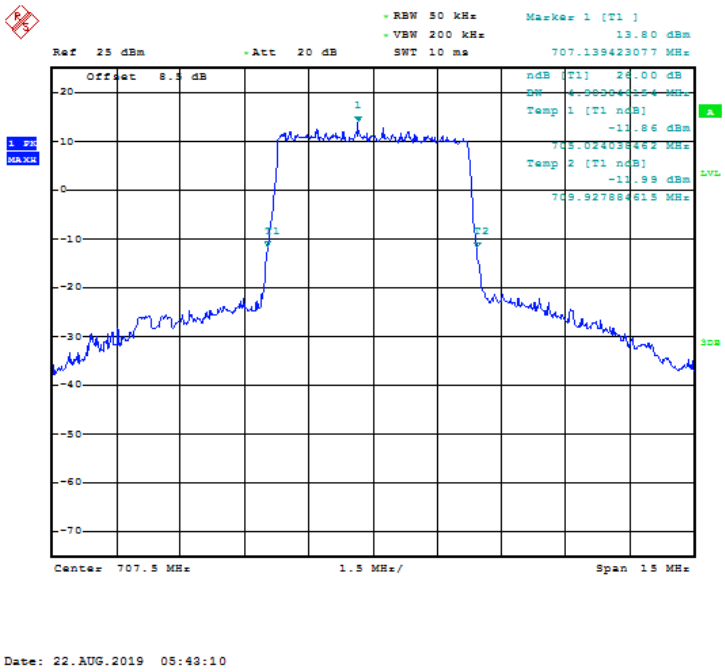


Fig.148 LTE band 12, 5MHz Bandwidth, 16QAM (-26dBc BW)

LTE band 12, 10MHz (-26dBc)

Frequency(MHz)	Occupied Bandwidth (-26dBc)(MHz)	
836.5	QPSK	16QAM
	9.86	9.76

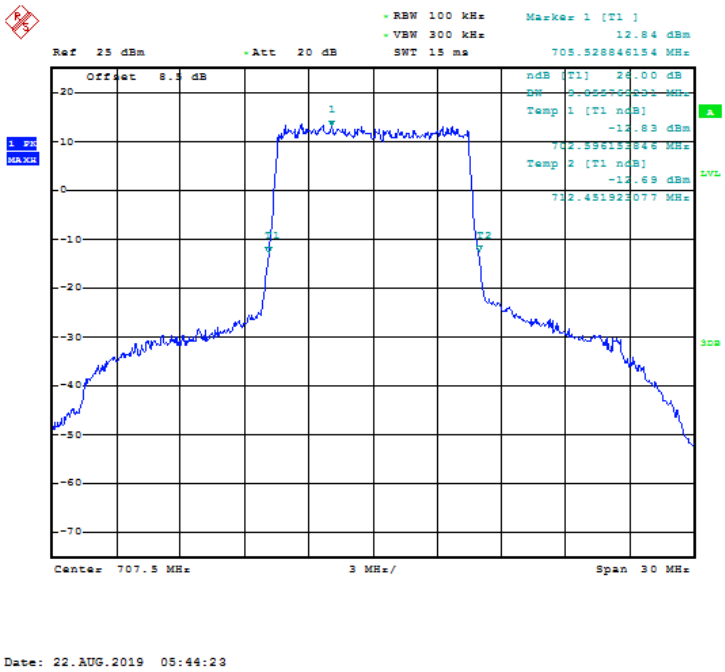


Fig.149 LTE band 12, 10MHz Bandwidth, QPSK (-26dBc BW)

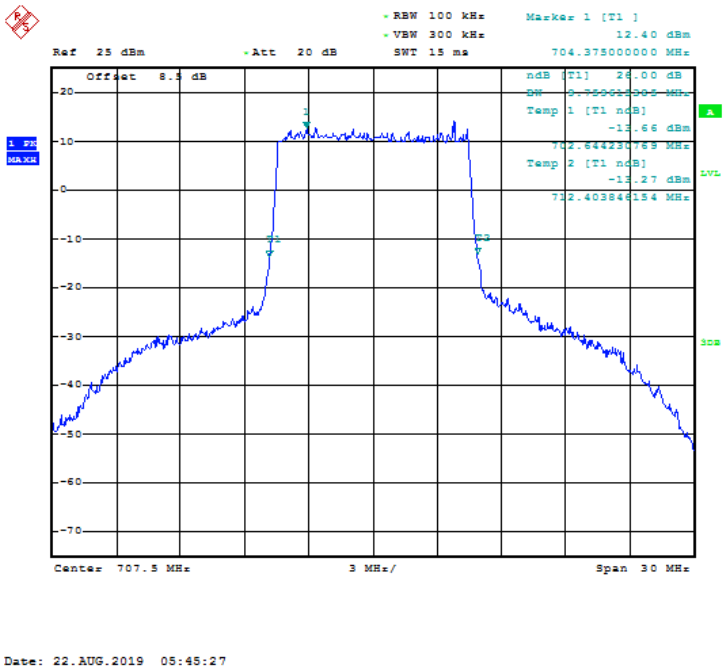


Fig.150 LTE band 12, 10MHz Bandwidth, 16QAM (-26dBc BW)

LTE band 17, 5MHz (-26dBc)

Frequency(MHz)	Occupied Bandwidth (-26dBc)(MHz)	
710.0	QPSK	16QAM
	5.00	4.93

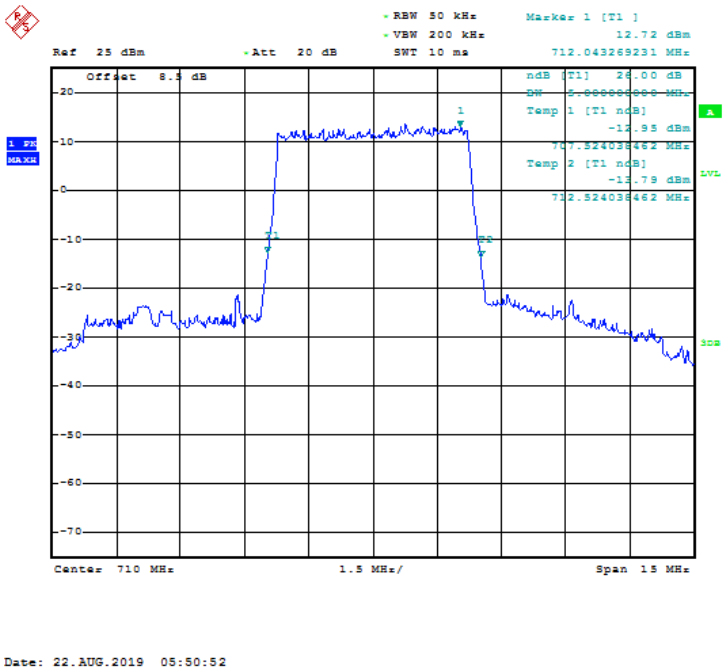


Fig.151 LTE band 17, 5MHz Bandwidth, QPSK (-26dBc BW)

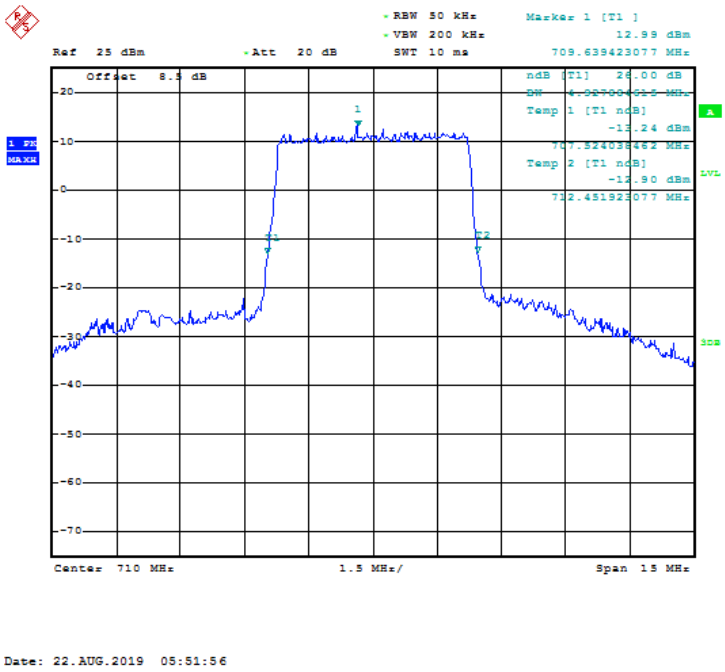


Fig.152 LTE band 17, 5MHz Bandwidth, 16QAM (-26dBc BW)

LTE band 17, 10MHz (-26dBc)

Frequency(MHz)	Occupied Bandwidth (-26dBc)(MHz)	
710.0	QPSK	16QAM
	9.76	9.66

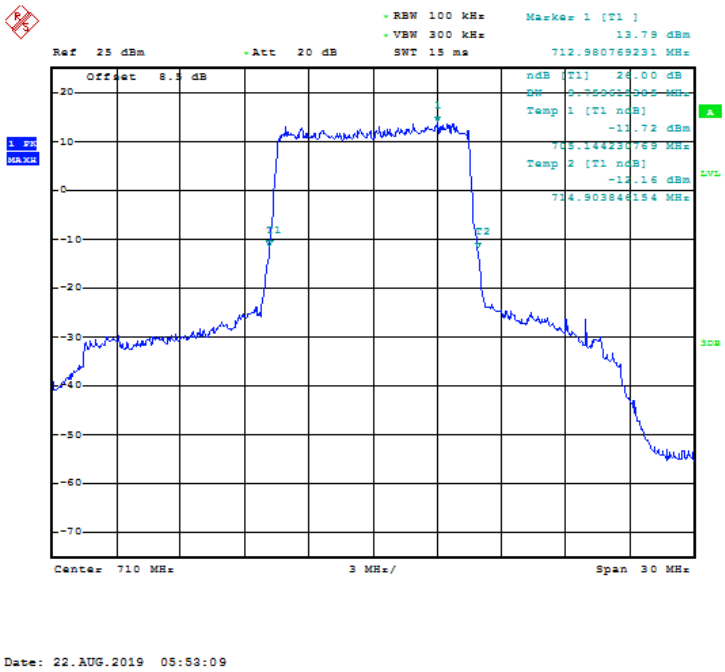


Fig.153 LTE band 17, 10MHz Bandwidth, QPSK (-26dBc BW)

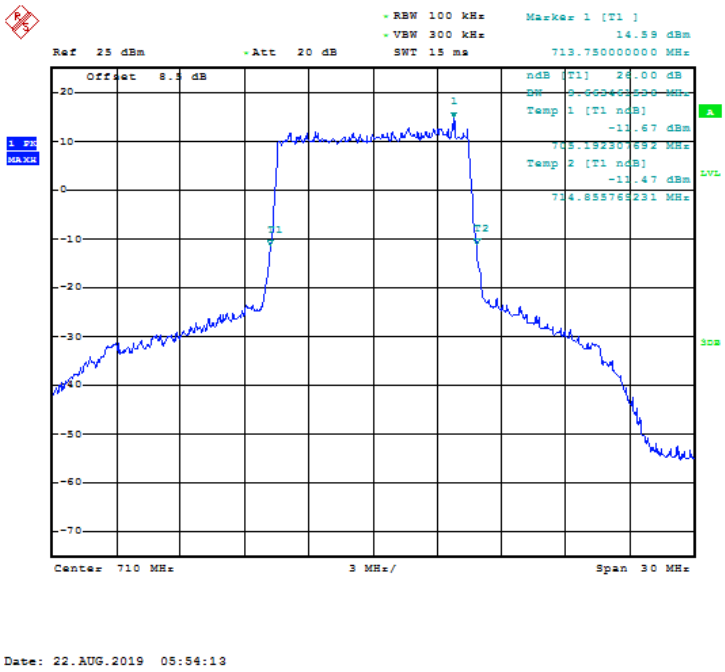


Fig.154 LTE band 17, 10MHz Bandwidth, 16QAM (-26dBc BW)

LTE band 25, 1.4MHz (-26dBc)

Frequency(MHz)	Occupied Bandwidth (-26dBc)(MHz)	
1882.5	QPSK	16QAM
	1.31	1.29

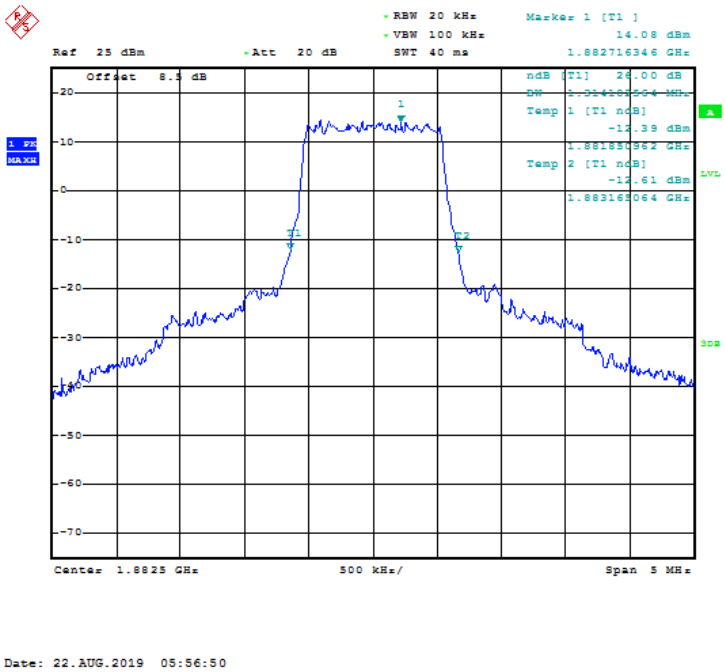


Fig.155 LTE band 25, 1.4MHz Bandwidth, QPSK (-26dBc BW)

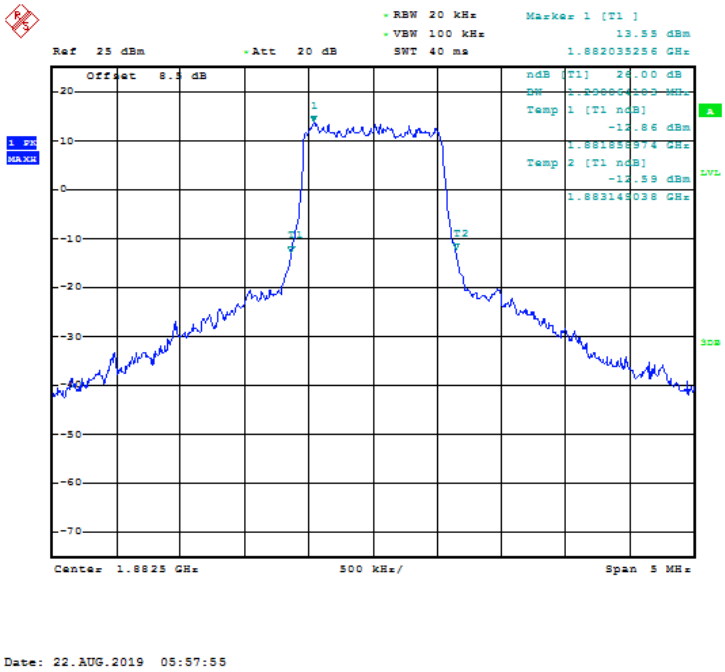


Fig.156 LTE band 25, 1.4MHz Bandwidth, 16QAM (-26dBc BW)

LTE band 25, 3MHz (-26dBc)

Frequency(MHz)	Occupied Bandwidth (-26dBc)(MHz)	
1882.5	QPSK	16QAM
	2.95	2.30

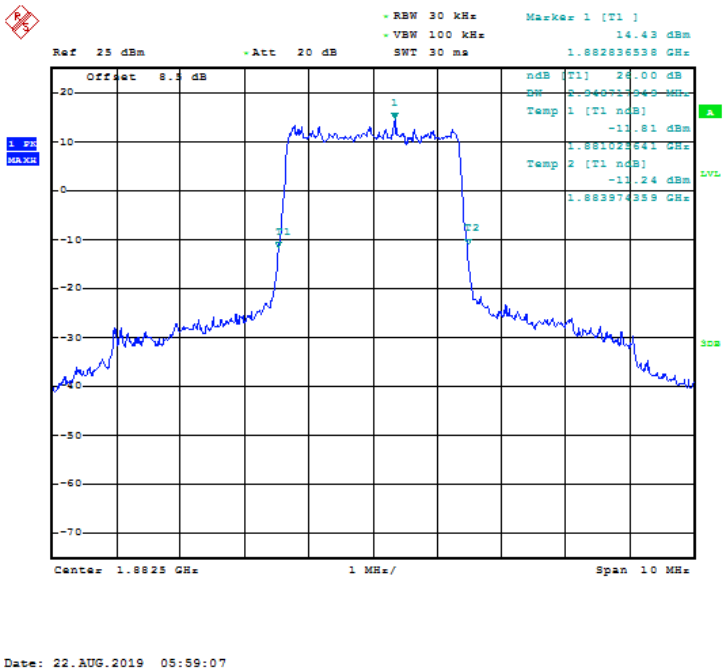


Fig.157 LTE band 25, 3MHz Bandwidth, QPSK (-26dBc BW)

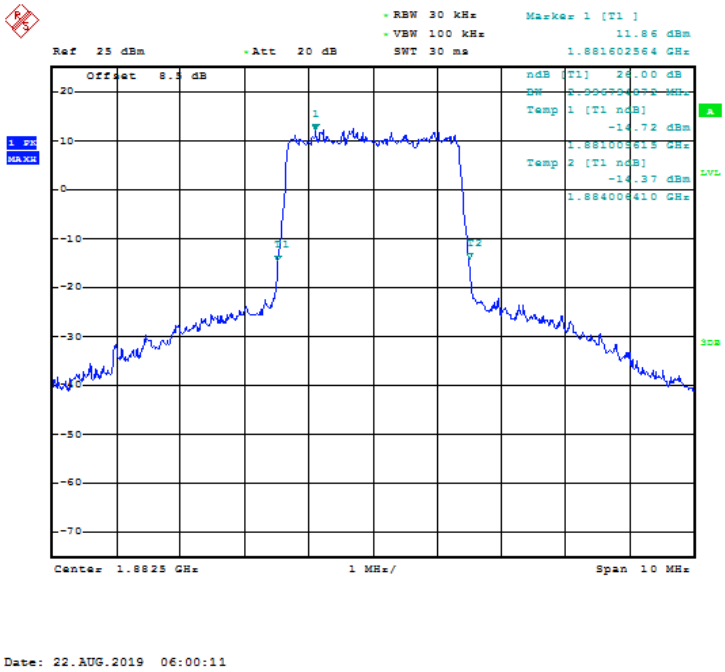


Fig.158 LTE band 25, 3MHz Bandwidth, 16QAM (-26dBc BW)

LTE band 25, 5MHz (-26dBc)

Frequency(MHz)	Occupied Bandwidth (-26dBc)(MHz)	
1882.5	QPSK	16QAM
	4.95	4.93

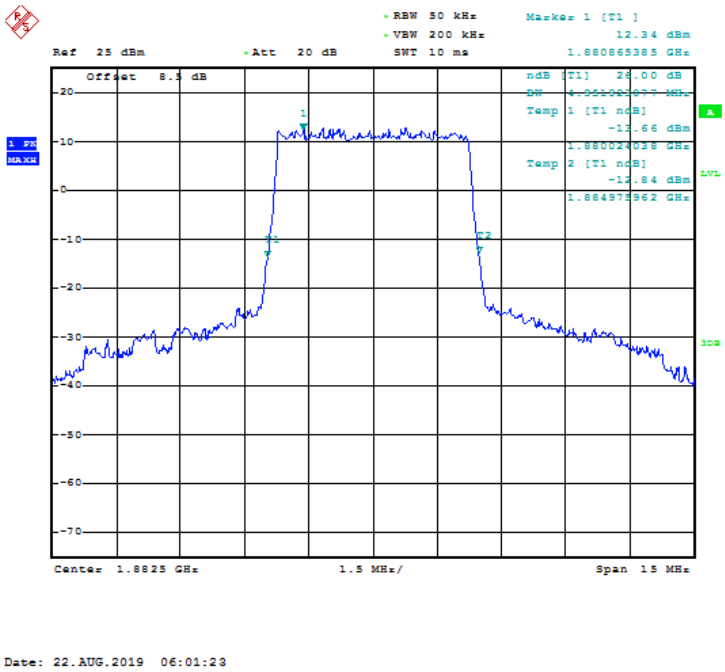


Fig.159 LTE band 25, 5MHz Bandwidth, QPSK (-26dBc BW)

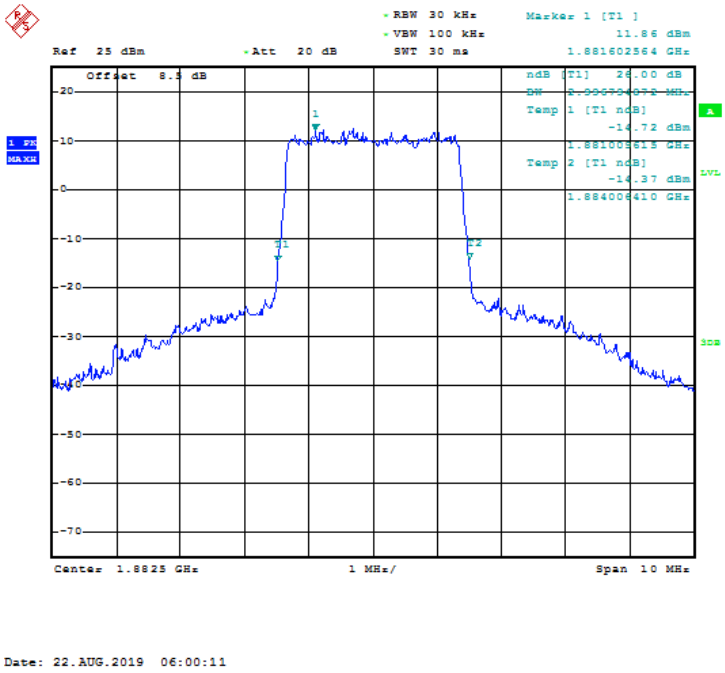


Fig.160 LTE band 25, 5MHz Bandwidth, 16QAM (-26dBc BW)

LTE band 25, 10MHz (-26dBc)

Frequency(MHz)	Occupied Bandwidth (-26dBc)(MHz)	
1882.5	QPSK	16QAM
	9.81	9.71

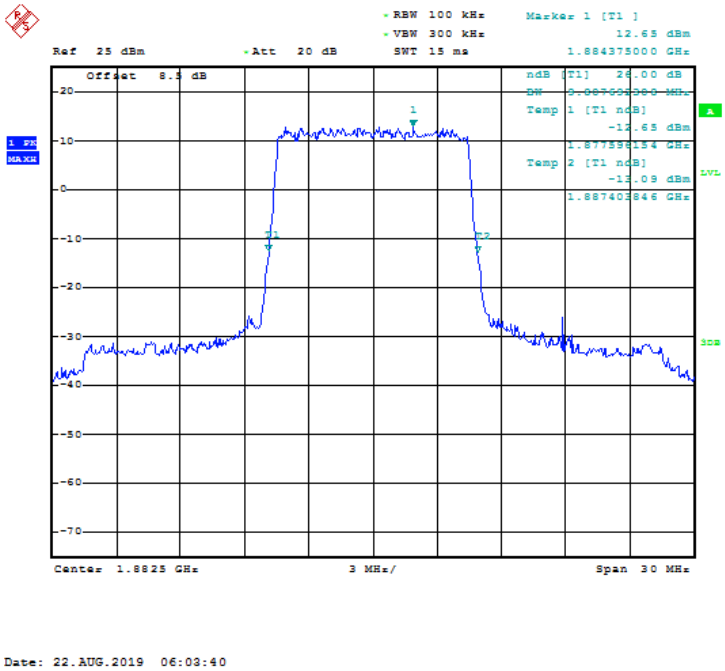


Fig.161 LTE band 25, 10MHz Bandwidth, QPSK (-26dBc BW)

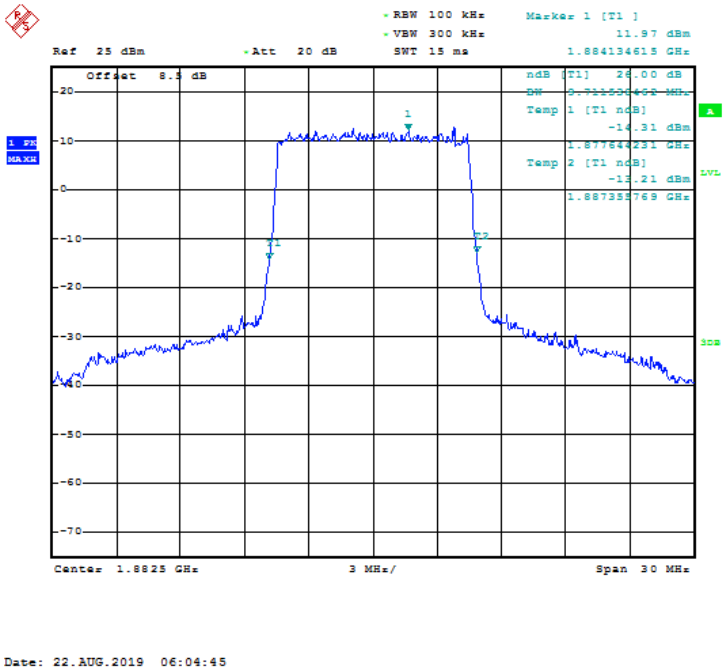


Fig.162 LTE band 25, 10MHz Bandwidth, 16QAM (-26dBc BW)

LTE band 25, 15MHz (-26dBc)

Frequency(MHz)	Occupied Bandwidth (-26dBc)(MHz)	
1882.5	QPSK	16QAM
	14.71	14.57

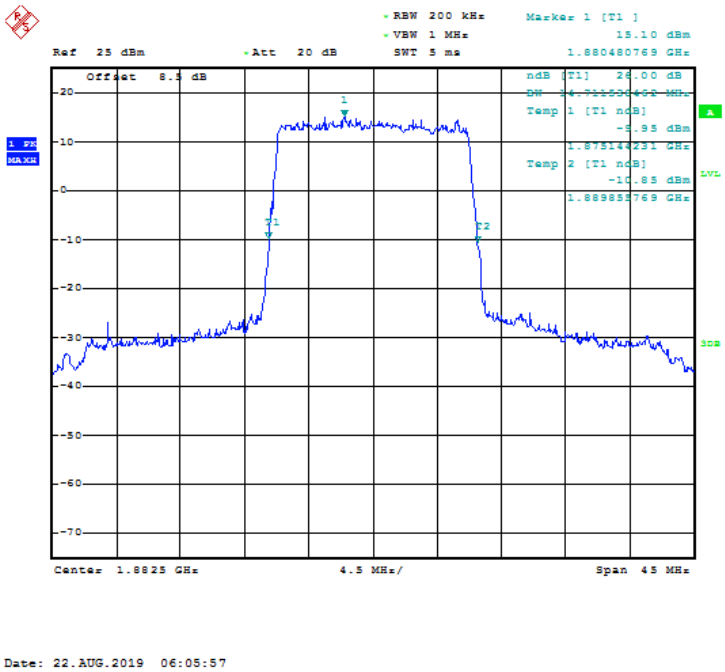


Fig.163 LTE band 25, 15MHz Bandwidth, QPSK (-26dBc BW)

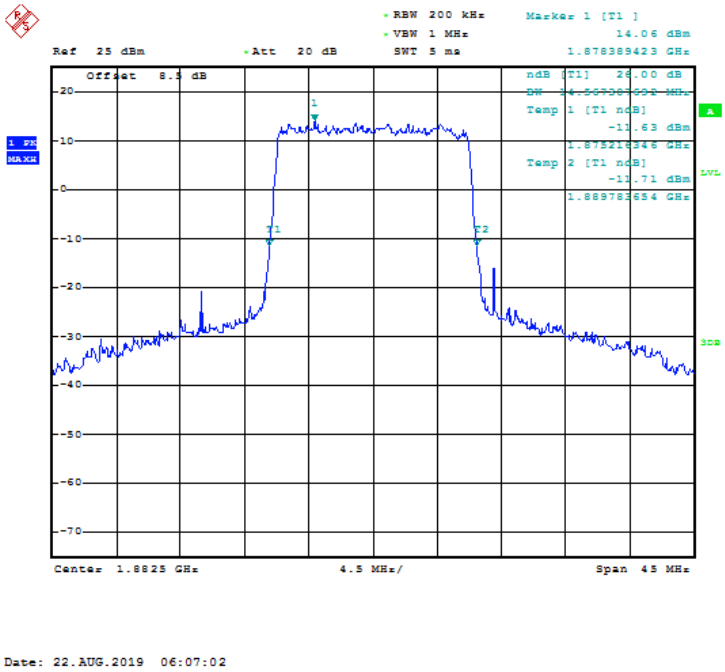


Fig.164 LTE band 25, 15MHz Bandwidth, 16QAM (-26dBc BW)

LTE band 25, 20MHz (-26dBc)

Frequency(MHz)	Occupied Bandwidth (-26dBc)(MHz)	
1882.5	QPSK	16QAM
	19.23	19.33

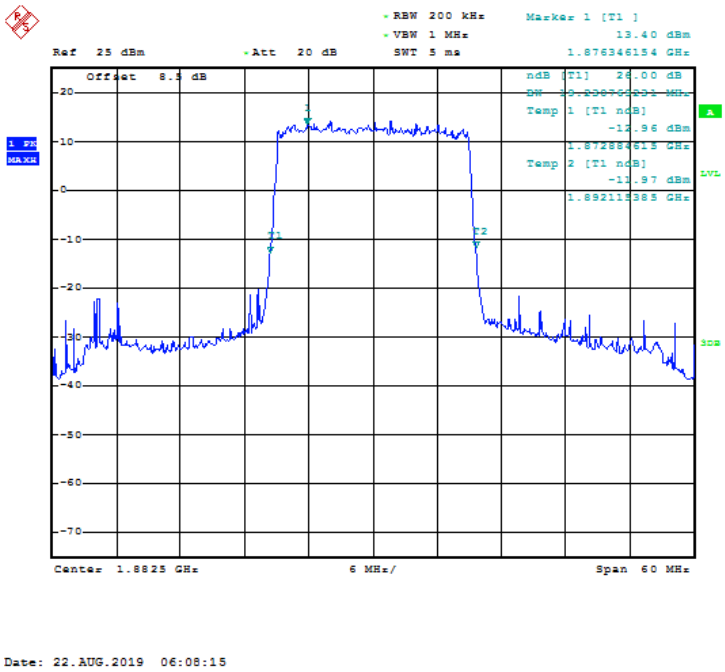


Fig.165 LTE band 25, 20MHz Bandwidth, QPSK (-26dBc BW)

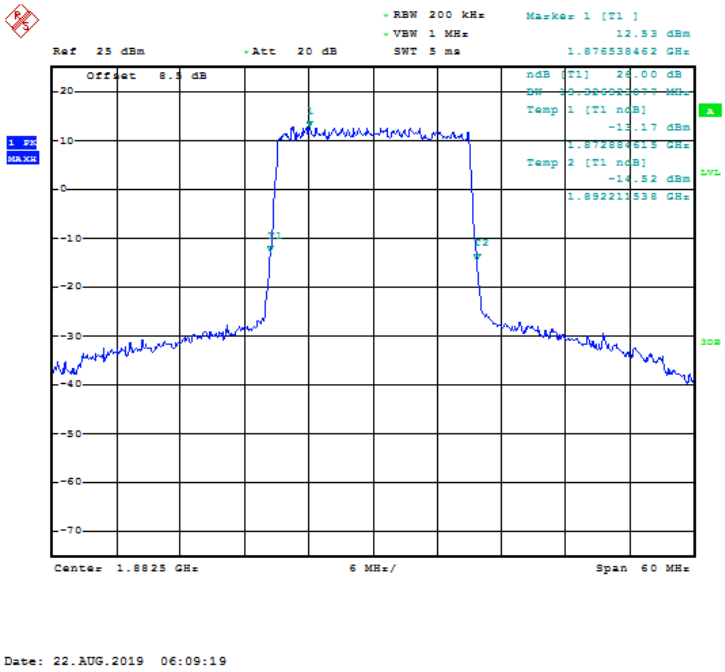


Fig.166 LTE band 25, 20MHz Bandwidth, 16QAM (-26dBc BW)