

5MHz Channel Bandwidth - Full RB

Lower Band Edge

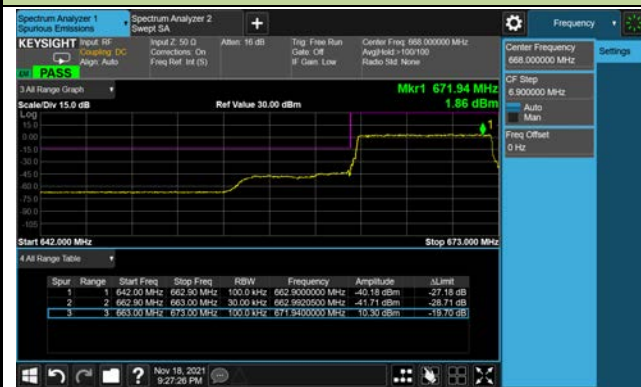


Upper Band Edge



10MHz Channel Bandwidth - Full RB

Lower Band Edge



Upper Band Edge



15MHz Channel Bandwidth - Full RB

Lower Band Edge

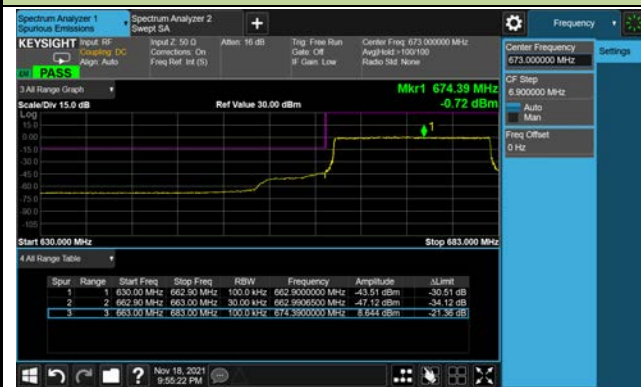


Upper Band Edge



20MHz Channel Bandwidth - Full RB

Lower Band Edge



Upper Band Edge



5.6. Peak to Average Ratio Measurement

5.6.1. Test Limit

A peak to average ratio measurement is performed at the conducted port of the EUT. The spectrum analyzers Complementary Cumulative Distribution Function (CCDF) measurement profile is used to determine the largest deviation between the average and the peak power of the EUT in a given bandwidth. The CCDF curve shows how much time the peak waveform spends at or above a given average power level. The percent of time the signal spends at or above the level defines the probability for that particular power level.

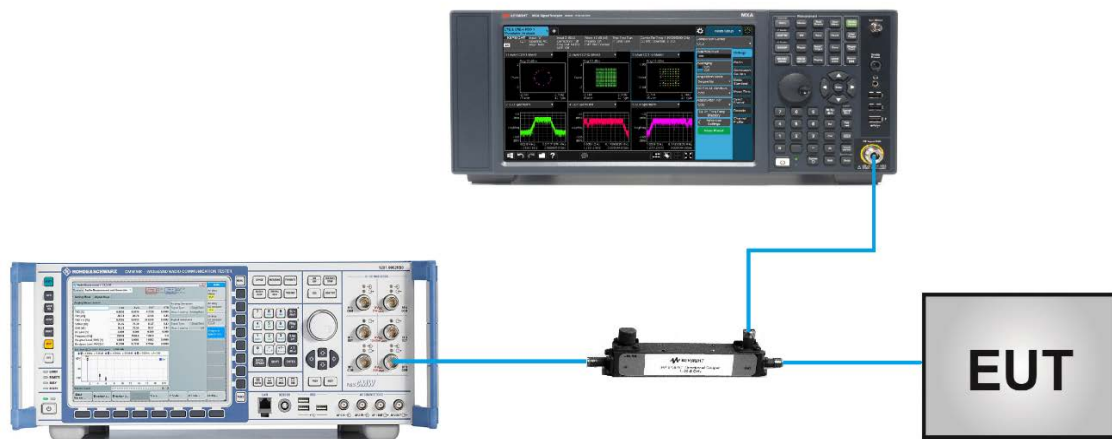
5.6.2. Test Procedure

ANSI C63.26-2015 - Section 5.2.3.4 (CCDF).

5.6.3. Test Setting

1. Set the resolution / measurement bandwidth $\geq$ signal's occupied bandwidth
2. Set the number of counts to a value that stabilizes the measured CCDF curve
3. Record the maximum PARR level associated with a probability of 0.1%

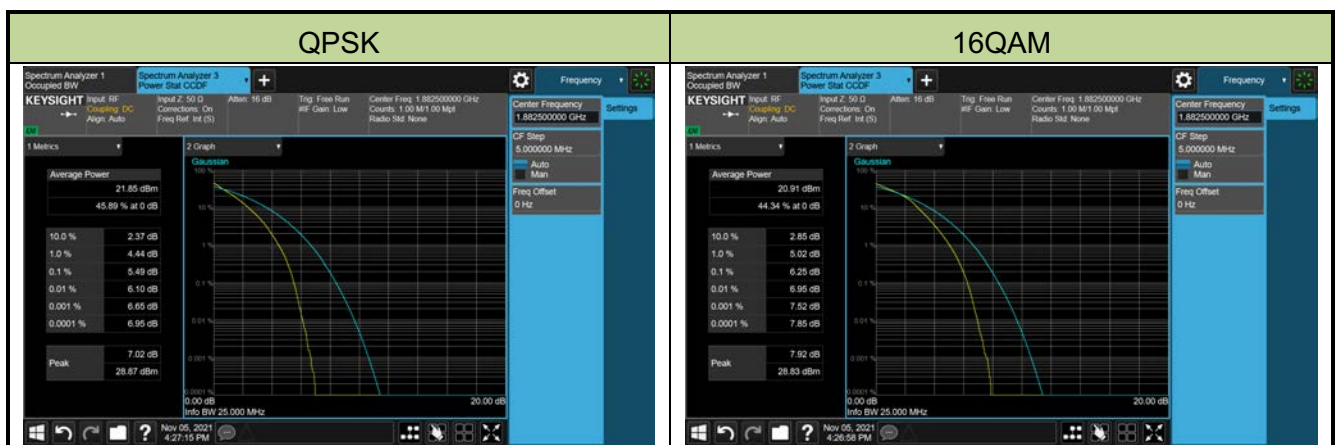
5.6.4. Test Setup



5.6.5. Test Result

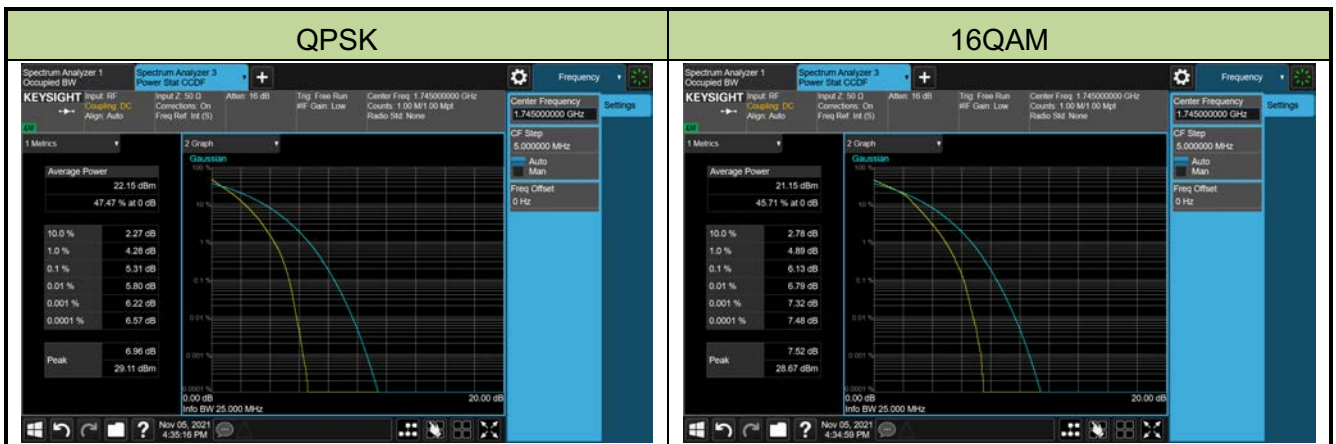
Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/05
Test Band	Band 2/25		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	Peak to Average Ratio (dB)	Limit (dB)	Result
QPSK					
26365	1882.5	20	5.49	≤ 13.00	Pass
16QAM					
26365	1882.5	20	6.25	≤ 13.00	Pass



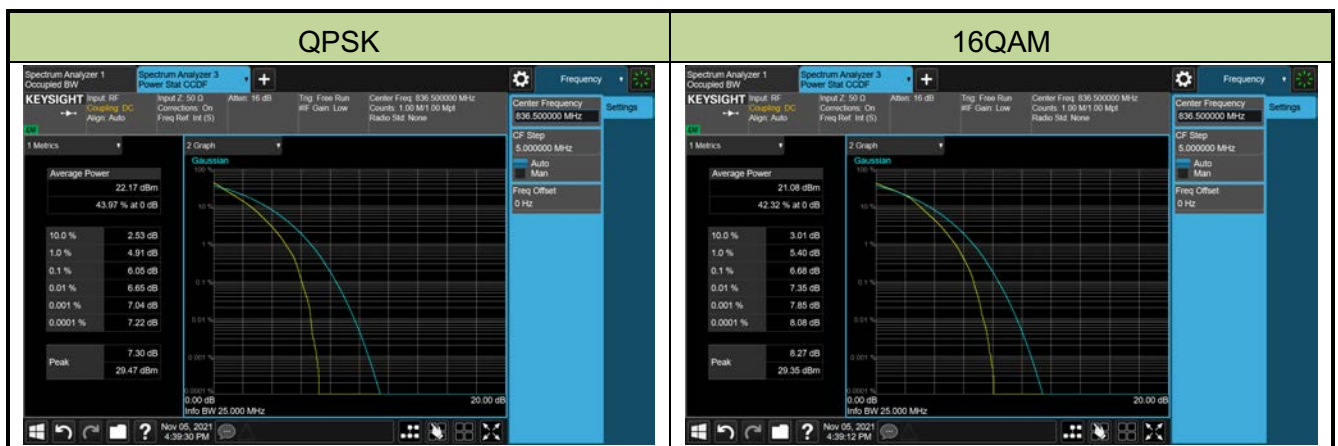
Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/05
Test Band	Band 4/66		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	Peak to Average Ratio (dB)	Limit (dB)	Result
QPSK					
132322	1745.0	20	5.31	≤ 13.00	Pass
16QAM					
132322	1745.0	20	6.13	≤ 13.00	Pass



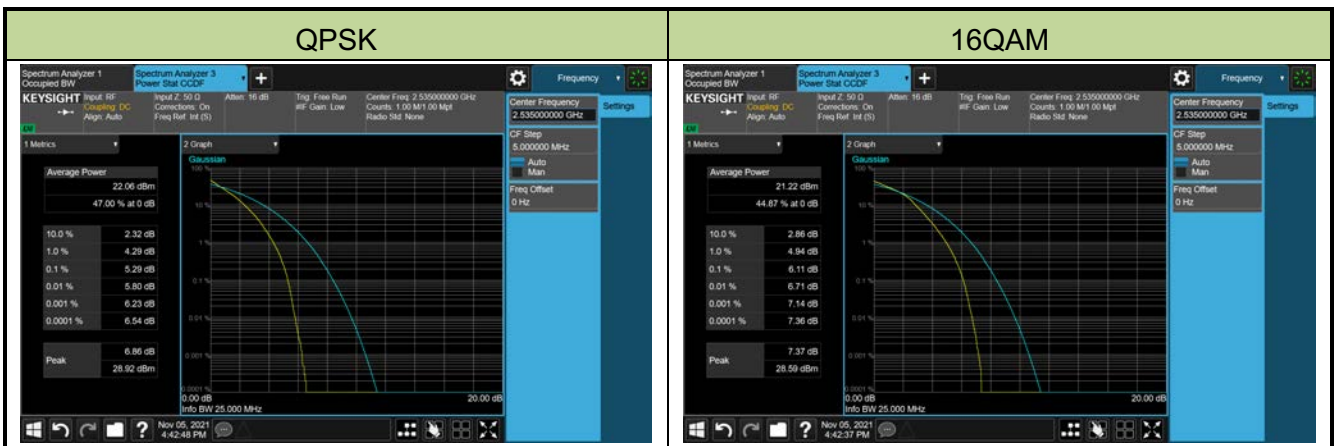
Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/05
Test Band	Band 5/26		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	Peak to Average Ratio (dB)	Limit (dB)	Result
QPSK					
20525	836.5	10	6.05	≤ 13.00	Pass
16QAM					
20525	836.5	10	6.68	≤ 13.00	Pass



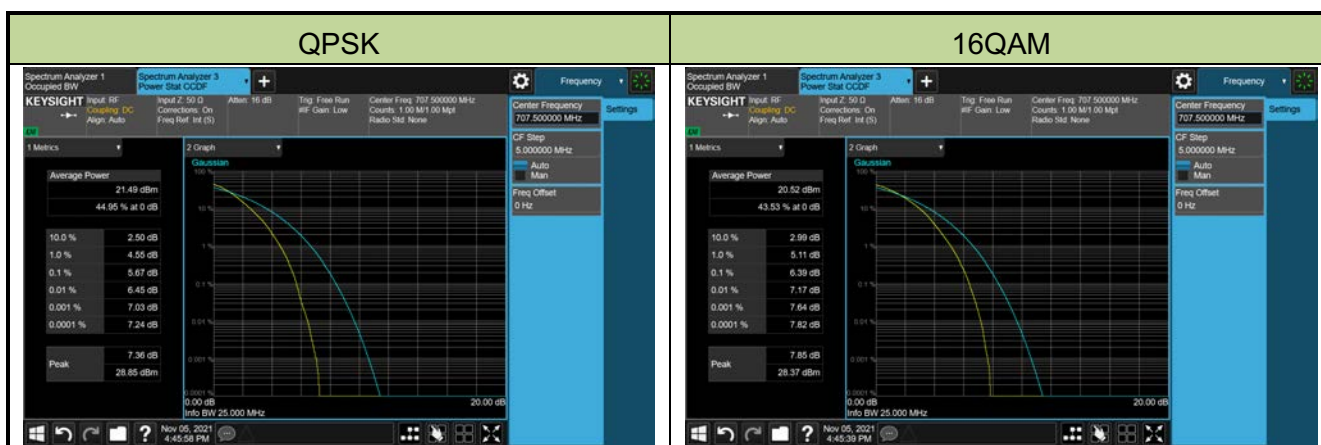
Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/05
Test Band	LTE Band 7		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	Peak to Average Ratio (dB)	Limit (dB)	Result
QPSK					
21100	2535.0	20	5.29	≤ 13.00	Pass
16QAM					
21100	2535.0	20	6.11	≤ 13.00	Pass



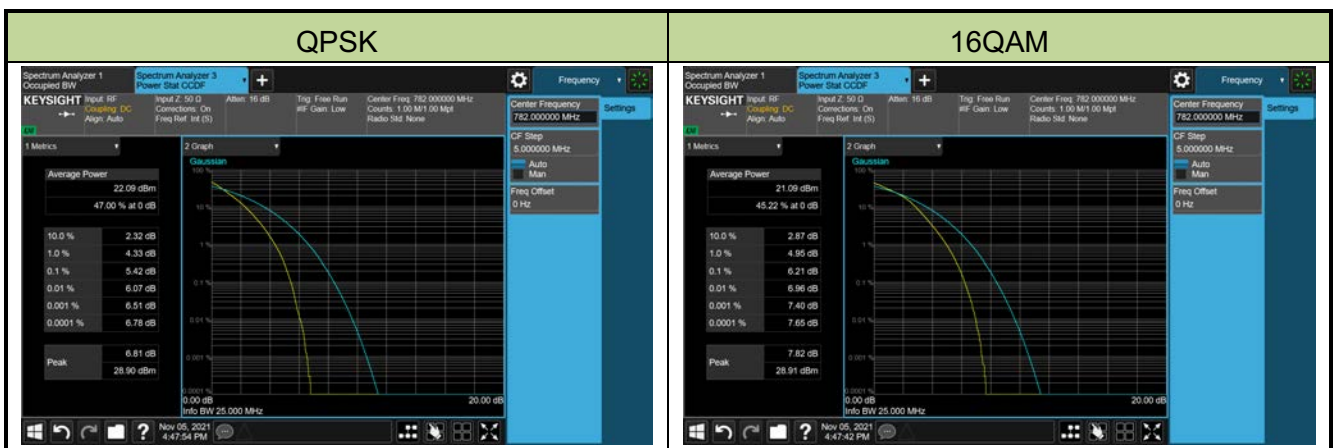
Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/05
Test Band	LTE Band 12		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	Peak to Average Ratio (dB)	Limit (dB)	Result
QPSK					
26365	707.5	10	5.67	≤ 13.00	Pass
16QAM					
26365	707.5	10	6.39	≤ 13.00	Pass



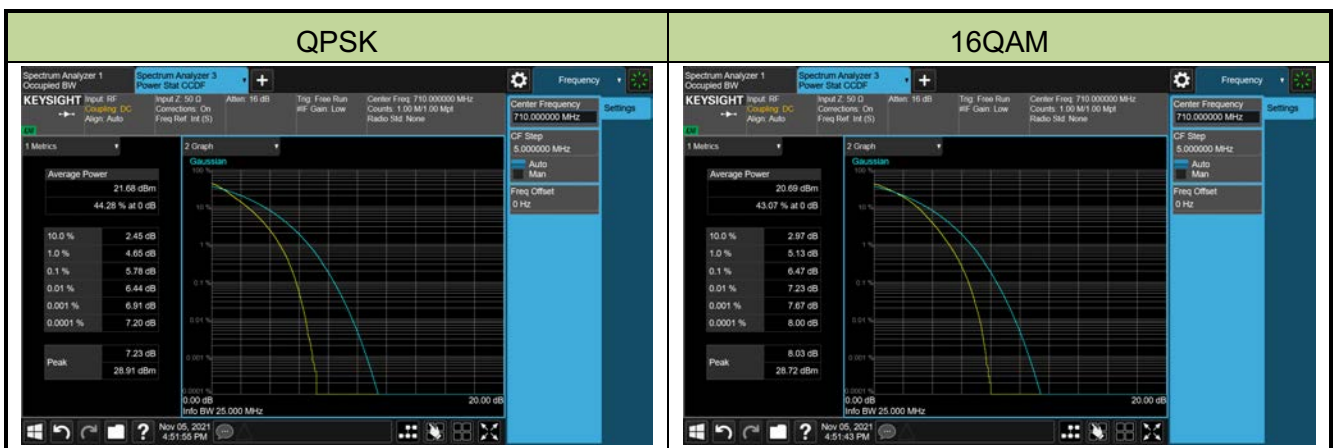
Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/05
Test Band	LTE Band 13		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	Peak to Average Ratio (dB)	Limit (dB)	Result
QPSK					
132322	782	10	5.42	≤ 13.00	Pass
16QAM					
132322	782	10	6.21	≤ 13.00	Pass



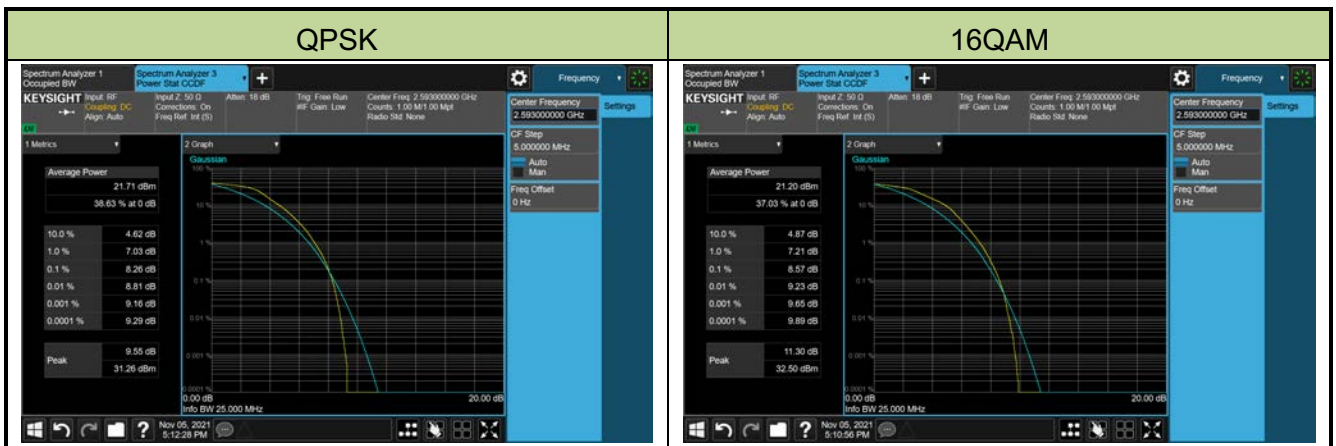
Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/05
Test Band	LTE Band 17		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	Peak to Average Ratio (dB)	Limit (dB)	Result
QPSK					
23790	710.0	10	5.78	≤ 13.00	Pass
16QAM					
23790	710.0	10	6.47	≤ 13.00	Pass



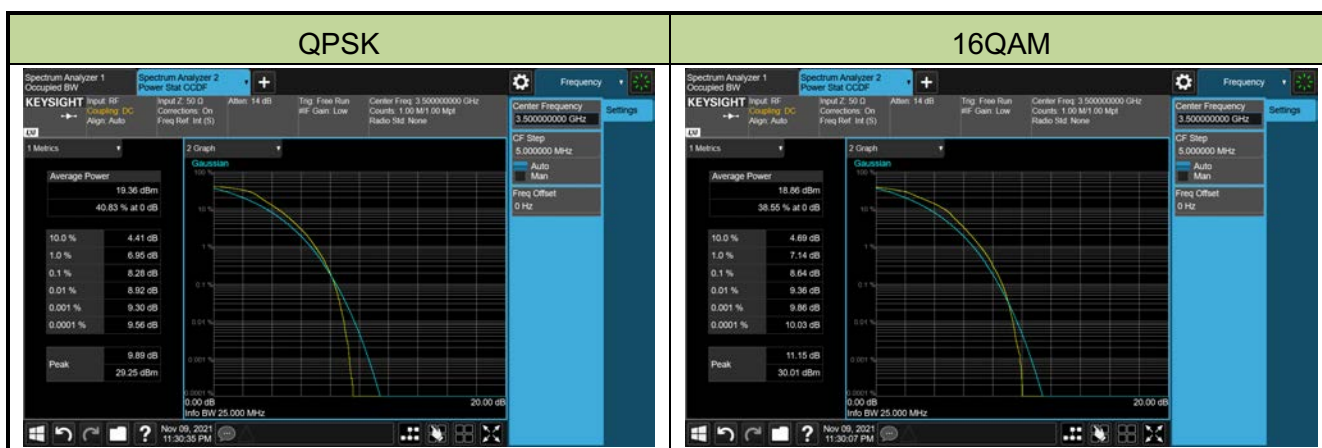
Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/05
Test Band	LTE Band 41		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	Peak to Average Ratio (dB)	Limit (dB)	Result
QPSK					
40620	2593.0	20	8.26	≤ 13.00	Pass
16QAM					
40620	2593.0	20	8.57	≤ 13.00	Pass



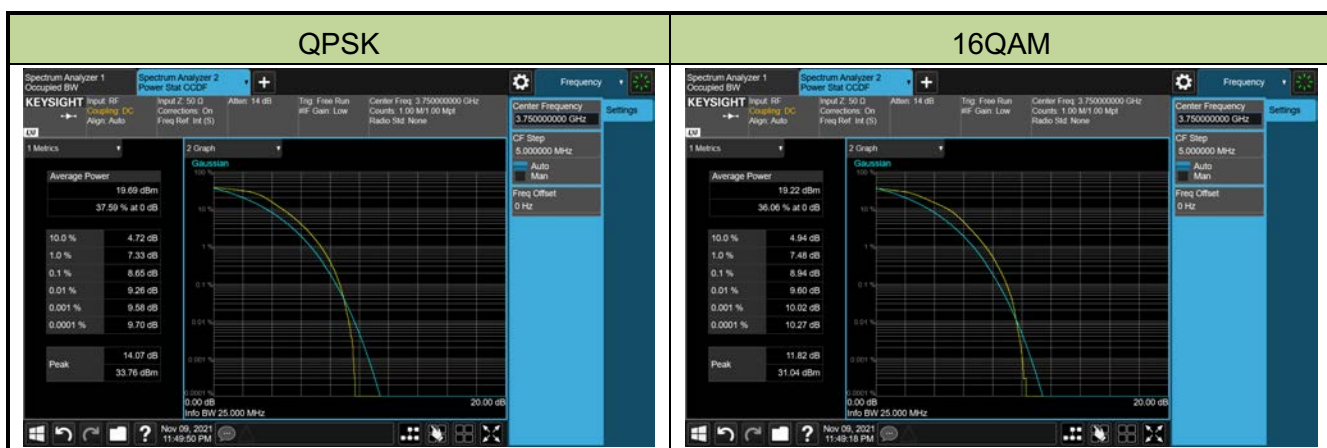
Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/09
Test Band	LTE Band 42		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	Peak to Average Ratio (dB)	Limit (dB)	Result
QPSK					
42590	3500.0	20	8.28	≤ 13.00	Pass
16QAM					
42590	3500.0	20	8.64	≤ 13.00	Pass



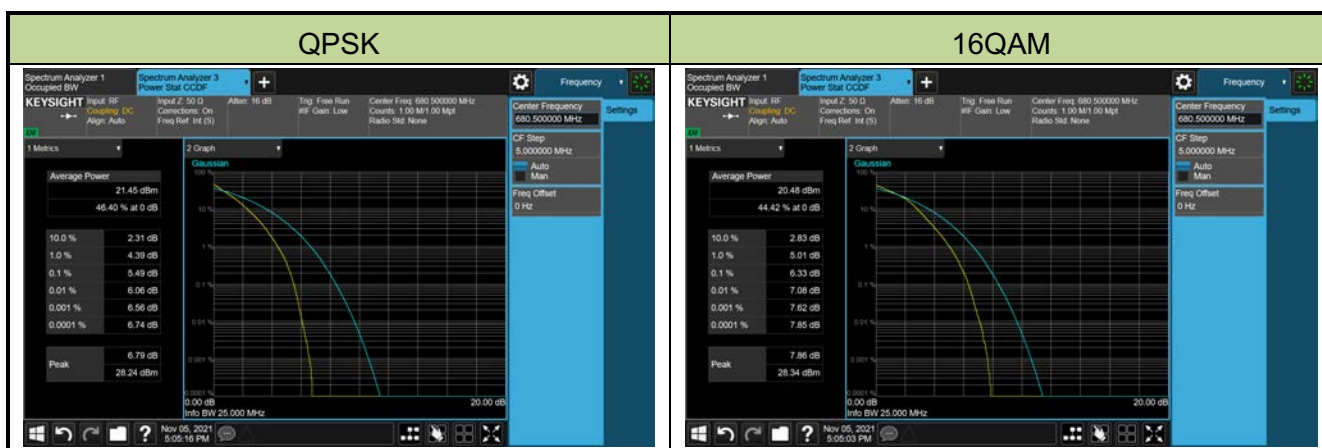
Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/09
Test Band	LTE Band 43		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	Peak to Average Ratio (dB)	Limit (dB)	Result
QPSK					
45090	3750.0	20	6.65	≤ 13.00	Pass
16QAM					
45090	3750.0	20	8.94	≤ 13.00	Pass



Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/05
Test Band	LTE Band 71		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	Peak to Average Ratio (dB)	Limit (dB)	Result
QPSK					
133297	680.5	20	5.49	≤ 13.00	Pass
16QAM					
133297	680.5	20	6.33	≤ 13.00	Pass



5.7. Conducted Spurious Emission Measurement

5.7.1. Test Limit

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst-case configuration. All modes of operation were investigated and the worst-case configuration results are reported in this section.

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.

For Band 7, 41 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 $55 + 10 \log(P)$ dB.

5.7.2. Test Procedure

ANSI C63.26-2015 - Section 5.7

5.7.3. Test Setting

1. Set the analyzer frequency to low, mid, high channel.
 2. RBW = 1MHz
 3. VBW $\geq 3 \times$ RBW
 4. Sweep time = auto
 5. Detector = power averaging (rms)
 6. Set sweep trigger to "free run."
 7. User gate triggered such that the analyzer only sweeps when the device is transmitting at full power.
 8. Trace average at least 100 traces in power averaging (rms) mode if sweep is set to auto-couple.
- To accurately determine the average power over the on and off time of the transmitter, it can be necessary to increase the number of traces to be averaged above 100, or if using a manually configured sweep time, increase the sweep time.

5.7.4. Test Setup



5.7.5.Test Result

Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/15
Test Band	LTE Band 2/25_1RB_QPSK		

Channel	Frequency (MHz)	Channel Bandwidth (MHz)	Frequency Range (MHz)	Max Spurious Emissions (dBm)	Limit (dBm)	Result
26047	1850.7	1.4	30 ~ 20000	-35.38	≤ -13.00	Pass
26365	1882.5	1.4	30 ~ 20000	-35.13	≤ -13.00	Pass
26683	1914.3	1.4	30 ~ 20000	-35.93	≤ -13.00	Pass
26055	1851.5	3	30 ~ 20000	-35.14	≤ -13.00	Pass
26365	1882.5	3	30 ~ 20000	-35.73	≤ -13.00	Pass
26675	1913.5	3	30 ~ 20000	-35.51	≤ -13.00	Pass
26065	1852.5	5	30 ~ 20000	-35.07	≤ -13.00	Pass
26365	1882.5	5	30 ~ 20000	-35.72	≤ -13.00	Pass
26665	1912.5	5	30 ~ 20000	-34.86	≤ -13.00	Pass
16390	1855.0	10	30 ~ 20000	-36.04	≤ -13.00	Pass
26365	1882.5	10	30 ~ 20000	-35.85	≤ -13.00	Pass
26640	1910.0	10	30 ~ 20000	-34.78	≤ -13.00	Pass
26115	1857.5	15	30 ~ 20000	-28.13	≤ -13.00	Pass
26365	1882.5	15	30 ~ 20000	-34.16	≤ -13.00	Pass
26615	1907.5	15	30 ~ 20000	-35.96	≤ -13.00	Pass
26140	1860.0	20	30 ~ 20000	-34.12	≤ -13.00	Pass
26365	1882.5	20	30 ~ 20000	-32.67	≤ -13.00	Pass
26590	1905.0	20	30 ~ 20000	-35.87	≤ -13.00	Pass

Note: Spurious emissions within 9kHz – 30MHz were found more than 20dB below limit line.

1.4MHz Channel Bandwidth

Channel 26047 (1850.7MHz)



Channel 26365 (1882.5MHz)

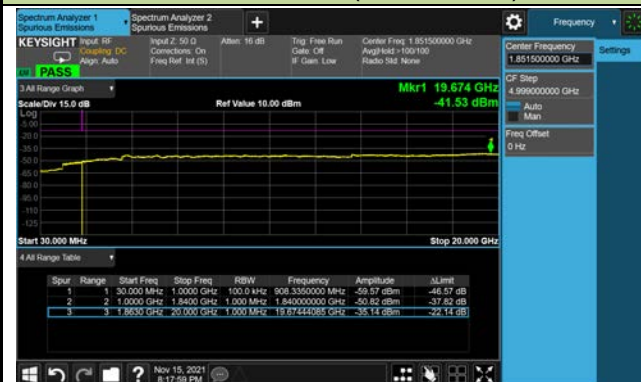


Channel 26683 (1914.3MHz)



3MHz Channel Bandwidth

Channel 26055 (1851.5MHz)



Channel 26365 (1882.5MHz)



Channel 26675 (1913.5MHz)



5MHz Channel Bandwidth

Channel 26065 (1852.5MHz)



Channel 26365 (1882.5MHz)



Channel 26665 (1912.5MHz)



10MHz Channel Bandwidth

Channel 16390 (1855MHz)



Channel 26365 (1882.5MHz)



Channel 26640 (1910MHz)

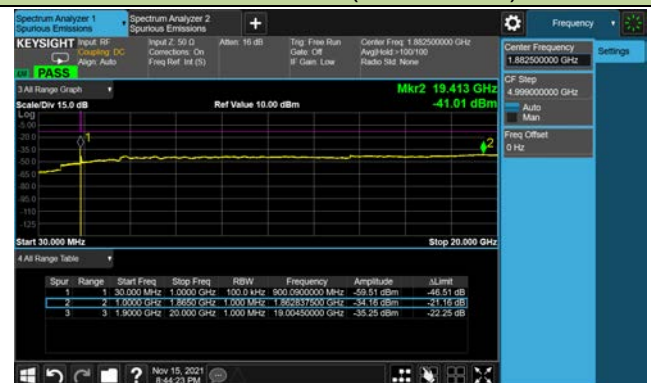


15MHz Channel Bandwidth

Channel 26115 (1857MHz)



Channel 26365 (1882.5MHz)



Channel 26615 (1907.5MHz)



20MHz Channel Bandwidth

Channel 26140 (1860MHz)



Channel 26365 (1882.5MHz)



Channel 26590 (1905MHz)



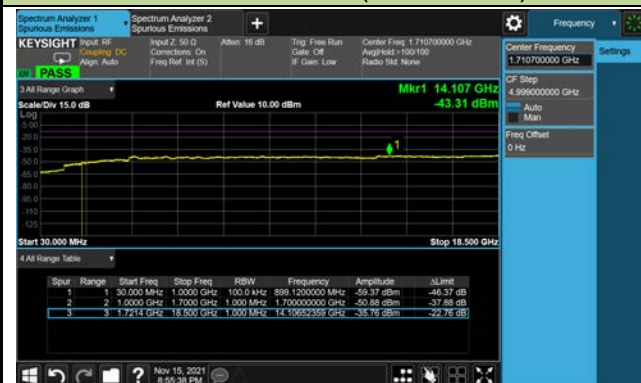
Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/15
Test Band	LTE Band 4/66_1RB_QPSK		

Channel	Frequency (MHz)	Channel Bandwidth (MHz)	Frequency Range (MHz)	Max Spurious Emissions (dBm)	Limit (dBm)	Result
131979	1710.7	1.4	30 ~ 20000	-35.76	≤ -13.00	Pass
132322	1745.0	1.4	30 ~ 20000	-36.55	≤ -13.00	Pass
132665	1779.3	1.4	30 ~ 20000	-36.92	≤ -13.00	Pass
131987	1711.5	3	30 ~ 20000	-35.83	≤ -13.00	Pass
132322	1745.0	3	30 ~ 20000	-36.46	≤ -13.00	Pass
132657	1778.5	3	30 ~ 20000	-35.18	≤ -13.00	Pass
131997	1712.5	5	30 ~ 20000	-37.02	≤ -13.00	Pass
132322	1745.0	5	30 ~ 20000	-36.61	≤ -13.00	Pass
132647	1777.5	5	30 ~ 20000	-37.34	≤ -13.00	Pass
132022	1715.0	10	30 ~ 20000	-36.53	≤ -13.00	Pass
132322	1745.0	10	30 ~ 20000	-36.21	≤ -13.00	Pass
132622	1775.0	10	30 ~ 20000	-36.11	≤ -13.00	Pass
132047	1717.5	15	30 ~ 20000	-34.61	≤ -13.00	Pass
132322	1745.0	15	30 ~ 20000	-34.93	≤ -13.00	Pass
132597	1772.5	15	30 ~ 20000	-35.79	≤ -13.00	Pass
132072	1720.0	20	30 ~ 20000	-32.62	≤ -13.00	Pass
132322	1745.0	20	30 ~ 20000	-33.62	≤ -13.00	Pass
132572	1770.0	20	30 ~ 20000	-36.38	≤ -13.00	Pass

Note: Spurious emissions within 9kHz – 30MHz were found more than 20dB below limit line.

1.4MHz Channel Bandwidth

Channel 131979 (1710.7MHz)



Channel 132322 (1745MHz)

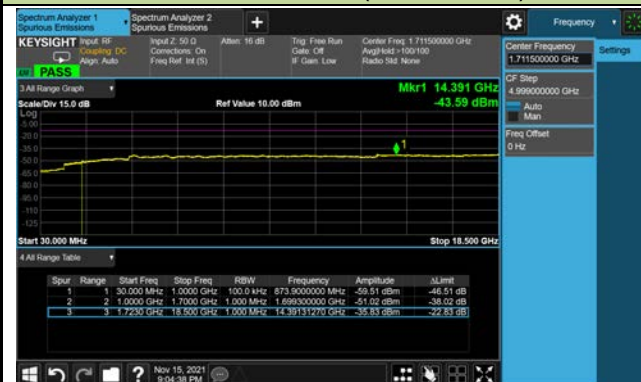


Channel 132665 (1779.3MHz)



3MHz Channel Bandwidth

Channel 131987 (1711.5MHz)



Channel 132322 (1745MHz)



Channel 132657 (1778.5MHz)



5MHz Channel Bandwidth

Channel 131997 (1712.5MHz)



Channel 132322 (1745MHz)



Channel 132647 (1777.5MHz)



10MHz Channel Bandwidth

Channel 132022 (1715MHz)



Channel 132322 (1745MHz)



Channel 132622 (1775MHz)

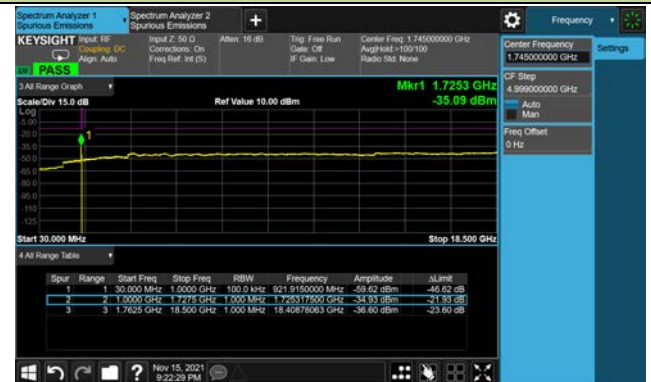


15MHz Channel Bandwidth

Channel 132047 (1717.5MHz)



Channel 132322 (1745MHz)



Channel 132597 (1772.5Hz)



20MHz Channel Bandwidth

Channel 132072 (1720MHz)



Channel 132322 (1745MHz)



Channel 132572 (1770Hz)



Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/15
Test Band	LTE Band 5/26_1RB_QPSK		

Channel	Frequency (MHz)	Channel Bandwidth (MHz)	Frequency Range (MHz)	Max Spurious Emissions (dBm)	Limit (dBm)	Result
26797	824.7	1.4	30 ~ 10000	-36.83	≤ -13.00	Pass
26915	836.5	1.4	30 ~ 10000	-37.20	≤ -13.00	Pass
27033	848.3	1.4	30 ~ 10000	-37.16	≤ -13.00	Pass
26805	825.5	3	30 ~ 10000	-37.37	≤ -13.00	Pass
26915	836.5	3	30 ~ 10000	-37.11	≤ -13.00	Pass
27025	847.5	3	30 ~ 10000	-37.24	≤ -13.00	Pass
26815	826.5	5	30 ~ 10000	-37.80	≤ -13.00	Pass
26915	836.5	5	30 ~ 10000	-37.53	≤ -13.00	Pass
27015	846.5	5	30 ~ 10000	-37.69	≤ -13.00	Pass
26840	829.0	10	30 ~ 10000	-37.79	≤ -13.00	Pass
26915	836.5	10	30 ~ 10000	-37.34	≤ -13.00	Pass
26990	844.0	10	30 ~ 10000	-38.06	≤ -13.00	Pass
26865	831.5	15	30 ~ 10000	-37.66	≤ -13.00	Pass
26915	836.5	15	30 ~ 10000	-37.24	≤ -13.00	Pass
26965	841.5	15	30 ~ 10000	-37.77	≤ -13.00	Pass

Note: Spurious emissions within 9kHz – 30MHz were found more than 20dB below limit line.

1.4MHz Channel Bandwidth

Channel 26697 (814.7MHz)



Channel 25865 (831.5MHz)



Channel 27033 (848.3MHz)



3MHz Channel Bandwidth

Channel 26705 (815.5MHz)



Channel 26865 (831.5MHz)



Channel 27025 (847.5MHz)



5MHz Channel Bandwidth

Channel 26715 (816.5MHz)



Channel 26865 (831.5MHz)

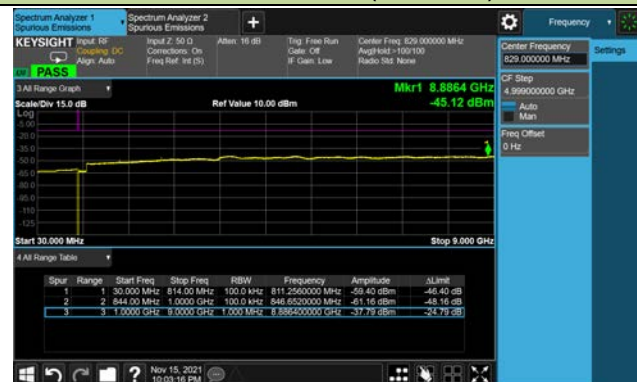


Channel 27015 (846.5MHz)



10MHz Channel Bandwidth

Channel 26740 (819MHz)



Channel 26865 (831.5MHz)



Channel 26990 (844MHz)



15MHz Channel Bandwidth

Channel 26865 (831.5MHz)



Channel 26915 (836.5MHz)



Channel 26965 (841.5MHz)



Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/15
Test Band	LTE Band 7_1RB_QPSK		

Channel	Frequency (MHz)	Channel Bandwidth (MHz)	Frequency Range (MHz)	Max Spurious Emissions (dBm)	Limit (dBm)	Result
20775	2502.5	5	30 ~ 26000	-31.60	≤ -25.00	Pass
21100	2535.0	5	30 ~ 26000	-31.91	≤ -25.00	Pass
21425	2567.5	5	30 ~ 26000	-32.36	≤ -25.00	Pass
20800	2505.0	10	30 ~ 26000	-33.26	≤ -25.00	Pass
21100	2535.0	10	30 ~ 26000	-33.19	≤ -25.00	Pass
21400	2565.0	10	30 ~ 26000	-33.40	≤ -25.00	Pass
20825	2507.5	15	30 ~ 26000	-32.71	≤ -25.00	Pass
21100	2535.0	15	30 ~ 26000	-32.94	≤ -25.00	Pass
21375	2562.5	15	30 ~ 26000	-33.28	≤ -25.00	Pass
20850	2510.0	20	30 ~ 26000	-33.40	≤ -25.00	Pass
21100	2535.0	20	30 ~ 26000	-33.03	≤ -25.00	Pass
21350	2560.0	20	30 ~ 26000	-32.78	≤ -25.00	Pass

Note: Spurious emissions within 9kHz – 30MHz were found more than 20dB below limit line.

5MHz Channel Bandwidth

Channel 20775 (2502.5MHz)/



Channel 21100 (2535MHz)



Channel 21425 (2567.5MHz)



10MHz Channel Bandwidth

Channel 20800 (2505MHz)



Channel 21100 (2535MHz)



Channel 21400 (2565MHz)



15MHz Channel Bandwidth

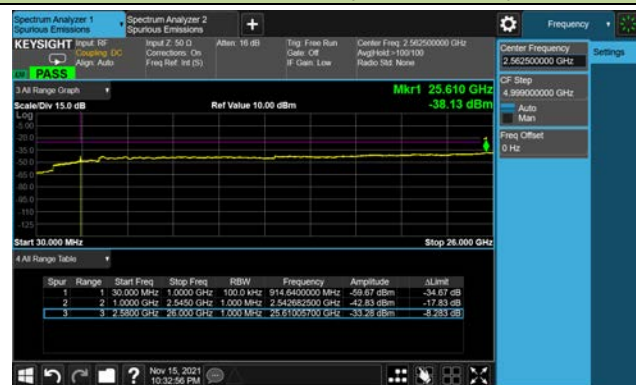
Channel 20825 (2507.5MHz)



Channel 21100 (2535MHz)



Channel 21375 (2562.5MHz)



20MHz Channel Bandwidth

Channel 20850 (2510MHz)



Channel 21100 (2535MHz)



Channel 21350 (2560MHz)



Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/15
Test Band	LTE Band 12_1RB_QPSK		

Channel	Frequency (MHz)	Channel Bandwidth (MHz)	Frequency Range (MHz)	Max Spurious Emissions (dBm)	Limit (dBm)	Result
23017	699.7	1.4	30 ~ 10000	-38.56	≤ -13.00	Pass
23095	707.5	1.4	30 ~ 10000	-37.26	≤ -13.00	Pass
23173	715.3	1.4	30 ~ 10000	-37.94	≤ -13.00	Pass
23025	700.5	3	30 ~ 10000	-37.65	≤ -13.00	Pass
23095	707.5	3	30 ~ 10000	-37.40	≤ -13.00	Pass
23165	714.5	3	30 ~ 10000	-37.98	≤ -13.00	Pass
23035	701.5	5	30 ~ 10000	-37.91	≤ -13.00	Pass
23095	707.5	5	30 ~ 10000	-38.08	≤ -13.00	Pass
23155	713.5	5	30 ~ 10000	-37.70	≤ -13.00	Pass
23060	704.0	10	30 ~ 10000	-38.28	≤ -13.00	Pass
23095	707.5	10	30 ~ 10000	-36.96	≤ -13.00	Pass
23130	711.0	10	30 ~ 10000	-38.50	≤ -13.00	Pass

Note: Spurious emissions within 9kHz – 30MHz were found more than 20dB below limit line.

1.4MHz Channel Bandwidth

Channel 23017 (699.7MHz)



Channel 23095 (707.5MHz)



Channel 23173 (715.3MHz)



3MHz Channel Bandwidth

Channel 23025 (700.5MHz)



Channel 23095 (707.5MHz)



Channel 23165 (714.5MHz)



5MHz Channel Bandwidth

Channel 23035 (701.5MHz)



Channel 23095 (707.5MHz)



Channel 23165 (714.5MHz)



10MHz Channel Bandwidth

Channel 23060 (704.0MHz)



Channel 23095 (707.5MHz)



Channel 23130 (711.0MHz)



Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/15
Test Band	LTE Band 13_1RB_QPSK		

Channel	Frequency (MHz)	Channel Bandwidth (MHz)	Frequency Range (MHz)	Max Spurious Emissions (dBm)	Limit (dBm)	Result
23205	779.5	5	30 ~ 10000	-38.44	≤ -13.00	Pass
23230	782.0	5	30 ~ 10000	-37.33	≤ -13.00	Pass
23255	784.5	5	30 ~ 10000	-36.61	≤ -13.00	Pass
23230	782.0	10	30 ~ 10000	-37.70	≤ -13.00	Pass

Note: Spurious emissions within 9kHz – 30MHz were found more than 20dB below limit line.

5MHz Channel Bandwidth

Channel 23205 (779.5MHz)

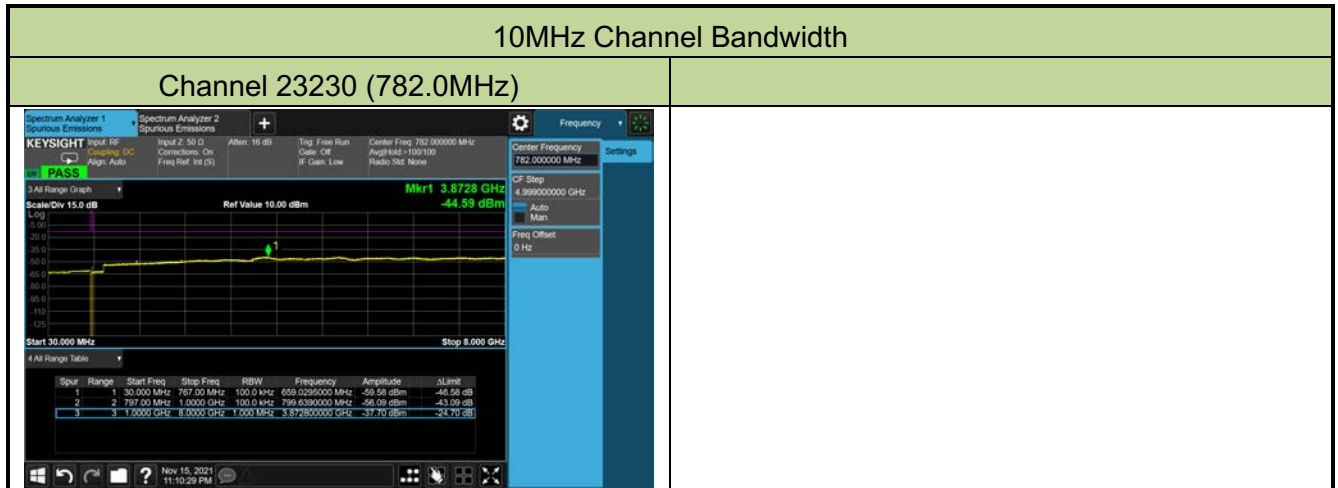


Channel 23230 (782MHz)



Channel 23255 (784.5MHz)





Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/15
Test Band	LTE Band 17_1RB_QPSK		

Channel	Frequency (MHz)	Channel Bandwidth (MHz)	Frequency Range (MHz)	Max Spurious Emissions (dBm)	Limit (dBm)	Result
23755	706.5	5	30 ~ 8000	-37.41	≤ -13.00	Pass
23790	710.0	5	30 ~ 8000	-38.23	≤ -13.00	Pass
23825	713.5	5	30 ~ 8000	-36.40	≤ -13.00	Pass
23780	709.0	10	30 ~ 8000	-37.85	≤ -13.00	Pass
23790	710.0	10	30 ~ 8000	-36.97	≤ -13.00	Pass
23800	711.0	10	30 ~ 8000	-38.27	≤ -13.00	Pass

Note: Spurious emissions within 9kHz – 30MHz were found more than 20dB below limit line.

5MHz Channel Bandwidth

Channel 23755 (706.5MHz)



Channel 23790(710.0MHz)



Channel 23825 (713.5MHz)



10MHz Channel Bandwidth

Channel 23780 (709.0MHz)



Channel 23790(710.0MHz)



Channel 23800 (711MHz)



Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/16
Test Band	LTE Band 41_HPUE_1RB_QPSK		

Channel	Frequency (MHz)	Channel Bandwidth (MHz)	Frequency Range (MHz)	Max Spurious Emissions (dBm)	Limit (dBm)	Result
39675	2498.50	5	30 ~ 27000	-28.86	≤ -25.00	Pass
40620	2593.00	5	30 ~ 27000	-28.55	≤ -25.00	Pass
40565	2687.50	5	30 ~ 27000	-29.30	≤ -25.00	Pass
39700	2501.00	10	30 ~ 27000	-28.59	≤ -25.00	Pass
40620	2593.00	10	30 ~ 27000	-28.20	≤ -25.00	Pass
41540	2685.00	10	30 ~ 27000	-28.06	≤ -25.00	Pass
39725	2503.50	15	30 ~ 27000	-28.68	≤ -25.00	Pass
40620	2593.00	15	30 ~ 27000	-29.06	≤ -25.00	Pass
41515	2682.50	15	30 ~ 27000	-28.66	≤ -25.00	Pass
39750	2506.00	20	30 ~ 27000	-28.03	≤ -25.00	Pass
40620	2593.00	20	30 ~ 27000	-29.15	≤ -25.00	Pass
41490	2680.00	20	30 ~ 27000	-29.35	≤ -25.00	Pass

Note: Spurious emissions within 9kHz – 30MHz were found more than 20dB below limit line.

5MHz Channel Bandwidth

Channel 39675 (2498.5MHz)



Channel 40620 (2593MHz)



Channel 40565 (2687.5MHz)



10MHz Channel Bandwidth

Channel 39700 (2501MHz)



Channel 40620 (2593MHz)



Channel 41540 (2685MHz)



15MHz Channel Bandwidth

Channel 39725 (2503.5MHz)



Channel 40620 (2593MHz)



Channel 41515 (2682.5MHz)



20MHz Channel Bandwidth

Channel 39750 (2506MHz)



Channel 40620 (2593MHz)



Channel 41490 (2680MHz)



Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/17
Test Band	LTE Band 42		

Channel	Frequency (MHz)	Channel Bandwidth (MHz)	Frequency Range (MHz)	Max Spurious Emissions (dBm)	Limit (dBm)	Result
42115	3452.50	5	30 ~ 39000	-40.55	≤ -13.00	Pass
42590	3500.00	5	30 ~ 39000	-39.64	≤ -13.00	Pass
43065	3547.50	5	30 ~ 39000	-39.77	≤ -13.00	Pass
42140	3455.00	10	30 ~ 39000	-40.80	≤ -13.00	Pass
42590	3500.00	10	30 ~ 39000	-39.25	≤ -13.00	Pass
43040	3545.00	10	30 ~ 39000	-39.70	≤ -13.00	Pass
42165	3457.50	15	30 ~ 39000	-40.53	≤ -13.00	Pass
42590	3500.00	15	30 ~ 39000	-39.51	≤ -13.00	Pass
43015	3542.50	15	30 ~ 39000	-40.30	≤ -13.00	Pass
42190	3460.00	20	30 ~ 39000	-40.57	≤ -13.00	Pass
42590	3500.00	20	30 ~ 39000	-40.40	≤ -13.00	Pass
42990	3540.00	20	30 ~ 39000	-38.96	≤ -13.00	Pass

Note: Spurious emissions within 9kHz – 30MHz were found more than 20dB below limit line.

5MHz Channel Bandwidth

Channel 42115 (3452.5MHz)



Channel 42590 (3500MHz)



Channel 43065 (3547.5MHz)



10MHz Channel Bandwidth

Channel 42140 (3455MHz)



Channel 42590 (3500MHz)



Channel 43040 (3545MHz)



15MHz Channel Bandwidth

Channel 42165 (3457.5MHz)



Channel 42590 (3500MHz)



Channel 43015 (3542.5MHz)



20MHz Channel Bandwidth

Channel 42190 (3460MHz)



Channel 42590 (3500MHz)



Channel 43090 (3540MHz)



Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/17
Test Band	LTE Band 43		

Channel	Frequency (MHz)	Channel Bandwidth (MHz)	Frequency Range (MHz)	Max Spurious Emissions (dBm)	Limit (dBm)	Result
44615	3702.50	5	30 ~ 39000	-36.19	≤ -13.00	Pass
45090	3750.00	5	30 ~ 39000	-35.76	≤ -13.00	Pass
45565	3797.50	5	30 ~ 39000	-35.77	≤ -13.00	Pass
44640	3705.00	10	30 ~ 39000	-35.14	≤ -13.00	Pass
45090	3750.00	10	30 ~ 39000	-35.02	≤ -13.00	Pass
45540	3795.00	10	30 ~ 39000	-35.05	≤ -13.00	Pass
44665	3707.50	15	30 ~ 39000	-35.76	≤ -13.00	Pass
45090	3750.00	15	30 ~ 39000	-34.69	≤ -13.00	Pass
45515	3792.50	15	30 ~ 39000	-35.70	≤ -13.00	Pass
44690	3710.00	20	30 ~ 39000	-34.91	≤ -13.00	Pass
45090	3750.00	20	30 ~ 39000	-35.19	≤ -13.00	Pass
45490	3790.00	20	30 ~ 39000	-34.93	≤ -13.00	Pass

Note: Spurious emissions within 9kHz – 30MHz were found more than 20dB below limit line.

5MHz Channel Bandwidth

Channel 44615 (3702.5MHz)



Channel 45090 (3750MHz)



Channel 45565 (3797.5MHz)



10MHz Channel Bandwidth

Channel 44640 (3705MHz)



Channel 45090 (3750MHz)



Channel 45540 (3795MHz)



15MHz Channel Bandwidth

Channel 44665 (3707.5MHz)



Channel 45090 (3750MHz)



Channel 45515 (3792.5MHz)

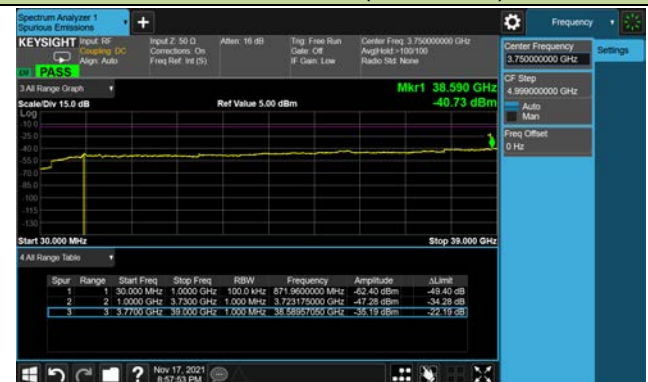


20MHz Channel Bandwidth

Channel 44690 (3710MHz)



Channel 45090 (3750MHz)



Channel 45490 (3790MHz)



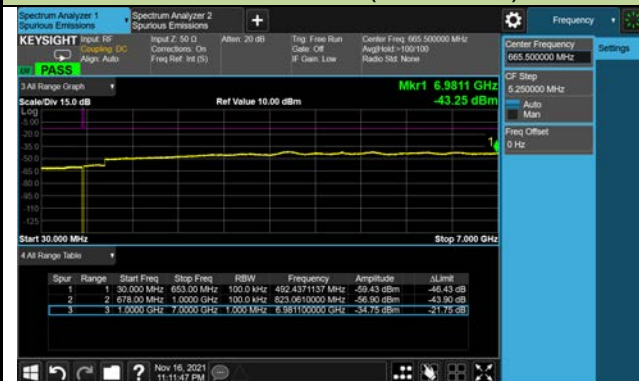
Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/16
Test Band	LTE Band 71_1RB_QPSK		

Channel	Frequency (MHz)	Channel Bandwidth (MHz)	Frequency Range (MHz)	Max Spurious Emissions (dBm)	Limit (dBm)	Result
133147	665.5	5	30 ~ 10000	-34.75	≤ -13.00	Pass
133297	680.5	5	30 ~ 10000	-33.12	≤ -13.00	Pass
133447	695.5	5	30 ~ 10000	-33.91	≤ -13.00	Pass
133172	668.0	10	30 ~ 10000	-33.62	≤ -13.00	Pass
133297	680.5	10	30 ~ 10000	-34.13	≤ -13.00	Pass
133422	693.0	10	30 ~ 10000	-35.05	≤ -13.00	Pass
133197	670.5	15	30 ~ 10000	-34.20	≤ -13.00	Pass
133297	680.5	15	30 ~ 10000	-33.61	≤ -13.00	Pass
133397	690.5	15	30 ~ 10000	-34.22	≤ -13.00	Pass
133222	673.0	20	30 ~ 10000	-35.29	≤ -13.00	Pass
133322	683.0	20	30 ~ 10000	-34.90	≤ -13.00	Pass
133372	688.0	20	30 ~ 10000	-34.53	≤ -13.00	Pass

Note: Spurious emissions within 9kHz – 30MHz were found more than 20dB below limit line.

5MHz Channel Bandwidth

Channel 133147 (665.5MHz)



Channel 133297 (680.5MHz)



Channel 133447 (695.5MHz)



10MHz Channel Bandwidth

Channel 133172 (668.0MHz)



Channel 133297 (680.5MHz)

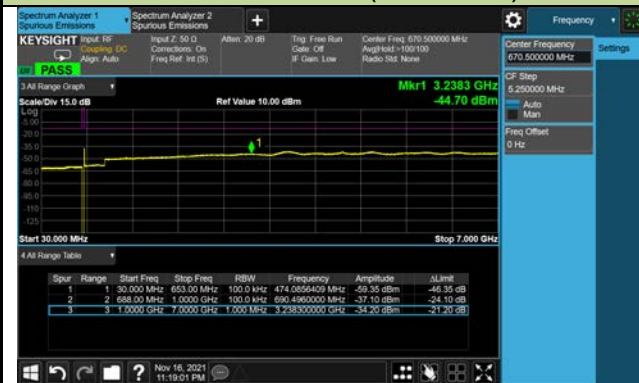


Channel 133422 (693MHz)



15MHz Channel Bandwidth

Channel 133197 (670.5MHz)



Channel 133297 (680.5MHz)



Channel 133397 (690.5MHz)



20MHz Channel Bandwidth

Channel 133222 (673.0MHz)



Channel 133322 (683.0MHz)



Channel 133372 (688.0MHz)



5.8. Radiated Spurious Emission Measurement

5.8.1. Test Limit

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. The emission limit equal to -13dBm.

For Band 7, 41, 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 $55 + 10 \log(P)$ dB. The emission limit equal to -25dBm.

For LTE Band 13, For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz (-40dBm/MHz) equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW (-50dBm) EIRP for discrete emissions of less than 700 Hz bandwidth.

$E \text{ (dB}\mu\text{V/m)} = \text{EIRP (dBm)} - 20 \log D + 104.8$; where D is the measurement distance in meters. The emission limit equal to 82.3dB μ V/m or 70.3dB μ V/m.

5.8.2. Test Procedure

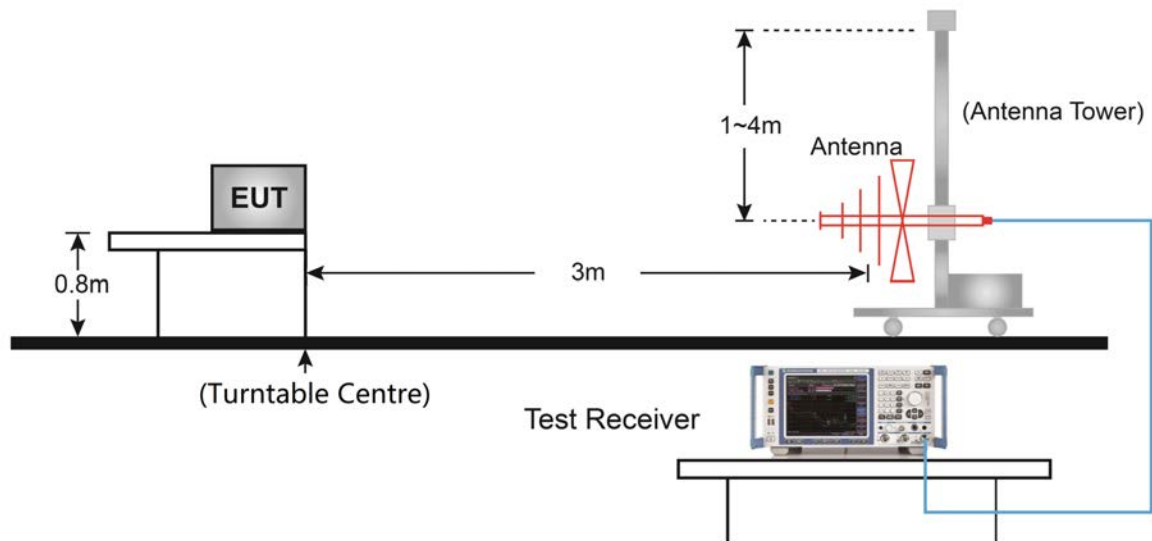
ANSI C63.26-2015 - Section 5.2.7 & 5.5

5.8.3. Test Setting

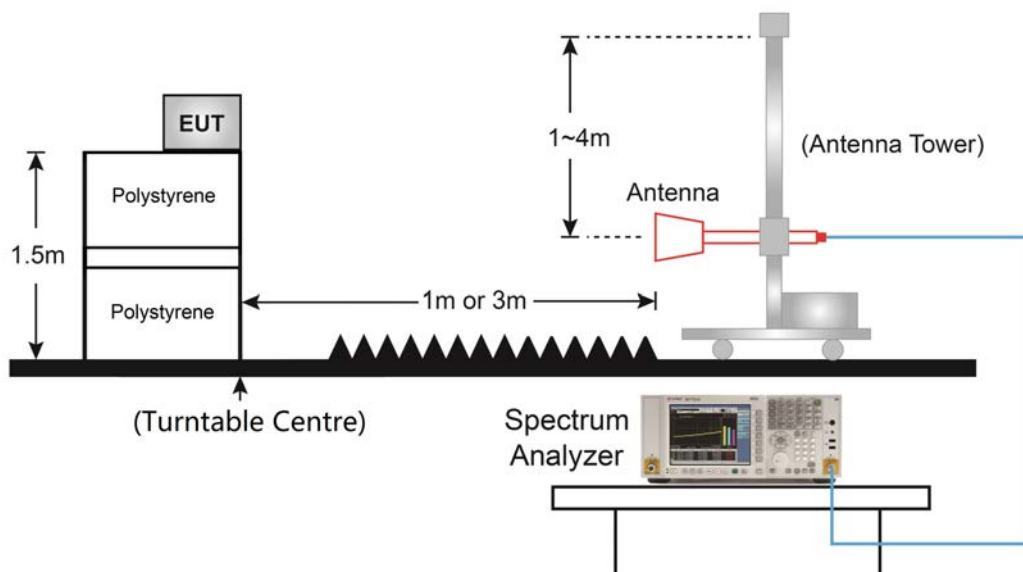
1. RBW = 1MHz
2. VBW $\geq 3 \times$ RBW
3. Sweep time $\geq 10 \times$ (number of points in sweep) $\times$ (transmission symbol period)
4. Detector = Peak
5. Trace mode = max hold
6. The trace was allowed to stabilize

5.8.4. Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



5.8.5. Test Result

Product	LTE Module	Test Site	SIP-AC2
Test Engineer	Allen Zou	Test Date	2021/11/04~2021/11/13
Test Band	LTE Band 2/25_1RB_QPSK		

Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level(dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
Low Channel							
69.29	21.84	15.70	37.54	82.30	-44.76	Peak	Horizontal
961.69	2.81	30.02	32.83	82.30	-49.47	Peak	Horizontal
30.97	17.26	16.53	33.79	82.30	-48.51	Peak	Vertical
66.86	19.87	16.19	36.06	82.30	-46.24	Peak	Vertical
16155.50	45.62	3.99	49.61	82.30	-32.69	Peak	Horizontal
18000.00	45.23	5.63	50.86	82.30	-31.44	Peak	Horizontal
16470.00	44.91	4.60	49.51	82.30	-32.79	Peak	Vertical
17983.00	45.77	5.53	51.30	82.30	-31.00	Peak	Vertical
Middle Channel							
69.77	19.12	15.60	34.72	82.30	-47.58	Peak	Horizontal
950.53	1.94	30.17	32.11	82.30	-50.19	Peak	Horizontal
66.86	19.99	16.19	36.18	82.30	-46.12	Peak	Vertical
929.68	2.05	29.97	32.02	82.30	-50.28	Peak	Vertical
16249.00	45.92	3.44	49.36	82.30	-32.94	Peak	Horizontal
17736.50	45.54	4.85	50.39	82.30	-31.91	Peak	Horizontal
16164.00	44.74	3.92	48.66	82.30	-33.64	Peak	Vertical
17974.50	44.84	5.48	50.32	82.30	-31.98	Peak	Vertical
High Channel							
69.29	18.86	15.70	34.56	82.30	-47.74	Peak	Horizontal
965.57	1.65	29.99	31.64	82.30	-50.66	Peak	Horizontal
66.86	19.87	16.19	36.06	82.30	-46.24	Peak	Vertical
956.35	2.47	30.14	32.61	82.30	-49.69	Peak	Vertical
15467.00	45.25	2.96	48.21	82.30	-34.09	Peak	Horizontal
17116.00	46.08	4.17	50.25	82.30	-32.05	Peak	Horizontal
16852.50	45.10	4.61	49.71	82.30	-32.59	Peak	Vertical
18000.00	45.11	5.63	50.74	82.30	-31.56	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

Product	LTE Module	Test Site	SIP-AC2
Test Engineer	Allen Zou	Test Date	2021/11/04~2021/11/13
Test Band	LTE Band 4/66_1RB_QPSK		

Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level(dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
Low Channel							
69.77	21.44	15.60	37.04	82.30	-45.26	Peak	Horizontal
929.19	2.51	29.96	32.47	82.30	-49.83	Peak	Horizontal
67.35	20.10	16.10	36.20	82.30	-46.10	Peak	Vertical
939.38	3.91	30.05	33.96	82.30	-48.34	Peak	Vertical
16742.00	45.71	4.36	50.07	82.30	-32.23	Peak	Horizontal
17991.50	44.98	5.58	50.56	82.30	-31.74	Peak	Horizontal
16776.00	44.70	4.84	49.54	82.30	-32.76	Peak	Vertical
17940.50	44.81	5.44	50.25	82.30	-32.05	Peak	Vertical
Middle Channel							
69.77	18.68	15.60	34.28	82.30	-48.02	Peak	Horizontal
936.47	2.42	30.04	32.46	82.30	-49.84	Peak	Horizontal
30.97	18.21	16.53	34.74	82.30	-47.56	Peak	Vertical
66.86	19.62	16.19	35.81	82.30	-46.49	Peak	Vertical
16708.00	44.84	4.52	49.36	82.30	-32.94	Peak	Horizontal
18000.00	45.37	5.63	51.00	82.30	-31.30	Peak	Horizontal
16470.00	45.12	4.60	49.72	82.30	-32.58	Peak	Vertical
18000.00	45.37	5.63	51.00	82.30	-31.30	Peak	Vertical
High Channel							
69.29	18.89	15.70	34.59	82.30	-47.71	Peak	Horizontal
950.53	2.59	30.17	32.76	82.30	-49.54	Peak	Horizontal
30.49	17.60	16.45	34.05	82.30	-48.25	Peak	Vertical
67.35	19.81	16.10	35.91	82.30	-46.39	Peak	Vertical
15382.00	45.35	2.76	48.11	82.30	-34.19	Peak	Horizontal
16827.00	45.56	4.31	49.87	82.30	-32.43	Peak	Horizontal
16147.00	45.52	4.05	49.57	82.30	-32.73	Peak	Vertical
17991.50	45.05	5.58	50.63	82.30	-31.67	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

Product	LTE Module	Test Site	SIP-AC2
Test Engineer	Allen Zou	Test Date	2021/11/04~2021/11/13
Test Band	LTE Band 5/26_1RB_QPSK		

Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level(dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
Low Channel							
772.05	21.90	28.38	50.28	82.30	-32.02	Peak	Horizontal
945.68	22.24	30.14	52.38	82.30	-29.92	Peak	Horizontal
763.81	22.33	28.41	50.74	82.30	-31.56	Peak	Vertical
964.11	23.28	29.99	53.27	82.30	-29.03	Peak	Vertical
16912.00	45.37	4.51	49.88	82.30	-32.42	Peak	Horizontal
17949.00	44.90	5.40	50.30	82.30	-32.00	Peak	Horizontal
16767.50	44.96	4.75	49.71	82.30	-32.59	Peak	Vertical
17940.50	45.66	5.44	51.10	82.30	-31.20	Peak	Vertical
Middle Channel							
793.88	22.39	28.40	50.79	82.30	-31.51	Peak	Horizontal
979.15	22.44	29.85	52.29	82.30	-30.01	Peak	Horizontal
794.85	22.21	28.42	50.63	82.30	-31.67	Peak	Vertical
946.65	22.53	30.16	52.69	82.30	-29.61	Peak	Vertical
16359.50	44.80	3.83	48.63	82.30	-33.67	Peak	Horizontal
18000.00	45.32	5.63	50.95	82.30	-31.35	Peak	Horizontal
16393.50	44.63	4.44	49.07	82.30	-33.23	Peak	Vertical
17966.00	44.86	5.43	50.29	82.30	-32.01	Peak	Vertical
High Channel							
825.89	23.28	28.54	51.82	82.30	-30.48	Peak	Horizontal
958.78	21.04	30.09	51.13	82.30	-31.17	Peak	Horizontal
804.06	21.55	28.63	50.18	82.30	-32.12	Peak	Vertical
993.21	22.57	29.87	52.44	82.30	-29.86	Peak	Vertical
16878.00	44.67	4.56	49.23	82.30	-33.07	Peak	Horizontal
17770.50	44.27	5.61	49.88	82.30	-32.42	Peak	Horizontal
15764.50	46.00	3.11	49.11	82.30	-33.19	Peak	Vertical
18000.00	45.17	5.63	50.80	82.30	-31.50	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

Product	LTE Module	Test Site	SIP-AC2
Test Engineer	Allen Zou	Test Date	2021/11/04~2021/11/13
Test Band	LTE Band 7_1RB_QPSK		

Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level(dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
Low Channel							
69.77	20.34	15.60	35.94	70.30	-34.36	Peak	Horizontal
936.47	2.57	30.04	32.61	70.30	-37.69	Peak	Horizontal
66.86	20.26	16.19	36.45	70.30	-33.85	Peak	Vertical
949.08	1.73	30.18	31.91	70.30	-38.39	Peak	Vertical
14387.50	46.29	1.76	48.05	70.30	-22.25	Peak	Horizontal
17303.00	45.18	4.71	49.89	70.30	-20.41	Peak	Horizontal
16767.50	44.93	4.75	49.68	70.30	-20.62	Peak	Vertical
17957.50	45.16	5.41	50.57	70.30	-19.73	Peak	Vertical
Middle Channel							
69.29	19.76	15.70	35.46	70.30	-34.84	Peak	Horizontal
913.67	2.27	29.63	31.90	70.30	-38.40	Peak	Horizontal
30.00	17.89	16.37	34.26	70.30	-36.04	Peak	Vertical
67.35	20.78	16.10	36.88	70.30	-33.42	Peak	Vertical
15722.00	45.64	2.85	48.49	70.30	-21.81	Peak	Horizontal
17286.00	44.74	4.81	49.55	70.30	-20.75	Peak	Horizontal
16376.50	44.88	4.34	49.22	70.30	-21.08	Peak	Vertical
17379.50	44.61	4.96	49.57	70.30	-20.73	Peak	Vertical
High Channel							
69.77	20.24	15.60	35.84	70.30	-34.46	Peak	Horizontal
812.31	3.49	28.68	32.17	70.30	-38.13	Peak	Horizontal
30.00	18.63	16.37	35.00	70.30	-35.30	Peak	Vertical
67.35	19.98	16.10	36.08	70.30	-34.22	Peak	Vertical
14948.50	45.29	2.28	47.57	70.30	-22.73	Peak	Horizontal
16954.50	45.51	4.41	49.92	70.30	-20.38	Peak	Horizontal
14549.00	45.61	1.92	47.53	70.30	-22.77	Peak	Vertical
16402.00	44.92	4.31	49.23	70.30	-21.07	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

Product	LTE Module	Test Site	SIP-AC2
Test Engineer	Allen Zou	Test Date	2021/11/04~2021/11/13
Test Band	LTE Band 12, 1RB, QPSK		

Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level(dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
Low Channel							
819.10	22.05	28.63	50.68	82.30	-31.62	Peak	Horizontal
976.24	22.35	29.90	52.25	82.30	-30.05	Peak	Horizontal
812.31	21.64	28.68	50.32	82.30	-31.98	Peak	Vertical
948.59	22.38	30.18	52.56	82.30	-29.74	Peak	Vertical
16147.00	44.92	4.05	48.97	82.30	-33.33	Peak	Horizontal
17490.00	44.64	5.06	49.70	82.30	-32.60	Peak	Horizontal
15764.50	45.65	3.11	48.76	82.30	-33.54	Peak	Vertical
17541.00	45.70	5.09	50.79	82.30	-31.51	Peak	Vertical
Middle Channel							
860.32	22.65	28.44	51.09	82.30	-31.21	Peak	Horizontal
977.21	22.46	29.88	52.34	82.30	-29.96	Peak	Horizontal
872.93	22.88	28.92	51.80	82.30	-30.50	Peak	Vertical
939.86	21.97	30.05	52.02	82.30	-30.28	Peak	Vertical
16147.00	45.24	4.05	49.29	82.30	-33.01	Peak	Horizontal
18000.00	44.53	5.63	50.16	82.30	-32.14	Peak	Horizontal
15756.00	45.10	3.35	48.45	82.30	-33.85	Peak	Vertical
17456.00	44.97	4.90	49.87	82.30	-32.43	Peak	Vertical
High Channel							
806.00	22.28	28.67	50.95	82.30	-31.35	Peak	Horizontal
923.86	22.24	29.85	52.09	82.30	-30.21	Peak	Horizontal
882.15	22.21	29.16	51.37	82.30	-30.93	Peak	Vertical
968.96	22.33	29.95	52.28	82.30	-30.02	Peak	Vertical
16283.00	45.64	3.38	49.02	82.30	-33.28	Peak	Horizontal
17541.00	44.10	5.09	49.19	82.30	-33.11	Peak	Horizontal
16478.50	45.22	4.43	49.65	82.30	-32.65	Peak	Vertical
17694.00	44.98	5.20	50.18	82.30	-32.12	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

Product	LTE Module	Test Site	SIP-AC2
Test Engineer	Allen Zou	Test Date	2021/11/04~2021/11/13
Test Band	LTE Band 13, 1RB, QPSK		

Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level(dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
Low Channel							
933.07	21.76	30.01	51.77	82.30	-30.53	Peak	Horizontal
997.58	21.73	30.00	51.73	82.30	-30.57	Peak	Horizontal
876.81	23.10	29.07	52.17	82.30	-30.13	Peak	Vertical
972.84	21.51	29.92	51.43	82.30	-30.87	Peak	Vertical
1595.00	49.21	-18.58	30.63	55.30	-24.67	Peak	Horizontal
17184.00	44.99	4.29	49.28	82.30	-33.02	Peak	Horizontal
1586.50	48.34	-18.61	29.73	55.30	-25.57	Peak	Vertical
16733.50	44.91	4.38	49.29	82.30	-33.01	Peak	Vertical
Middle Channel							
880.69	22.66	29.16	51.82	82.30	-30.48	Peak	Horizontal
977.21	22.47	29.88	52.35	82.30	-29.95	Peak	Horizontal
843.83	22.54	28.27	50.81	82.30	-31.49	Peak	Vertical
964.60	22.15	29.99	52.14	82.30	-30.16	Peak	Vertical
1586.50	47.84	-18.61	29.23	55.30	-26.07	Peak	Horizontal
16385.00	44.57	4.57	49.14	82.30	-33.16	Peak	Horizontal
1586.50	47.96	-18.61	29.35	55.30	-25.95	Peak	Vertical
16844.00	45.51	4.46	49.97	82.30	-32.33	Peak	Vertical
High Channel							
897.18	21.94	29.25	51.19	82.30	-31.11	Peak	Horizontal
964.11	22.38	29.99	52.37	82.30	-29.93	Peak	Horizontal
724.52	22.04	27.22	49.26	82.30	-33.04	Peak	Vertical
952.96	22.33	30.16	52.49	82.30	-29.81	Peak	Vertical
1603.50	49.10	-18.50	30.60	55.30	-24.70	Peak	Horizontal
17473.00	45.50	5.00	50.50	82.30	-31.80	Peak	Horizontal
1595.00	48.80	-18.60	30.20	55.30	-25.10	Peak	Vertical
17881.00	45.30	5.30	50.60	82.30	-31.70	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

Product	LTE Module	Test Site	SIP-AC2
Test Engineer	Allen Zou	Test Date	2021/11/04~2021/11/13
Test Band	LTE Band 17, 1RB, QPSK		

Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level(dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
Low Channel							
886.51	22.11	29.15	51.26	82.30	-31.04	Peak	Horizontal
988.85	21.98	29.82	51.80	82.30	-30.50	Peak	Horizontal
802.12	22.00	28.58	50.58	82.30	-31.72	Peak	Vertical
937.92	21.62	30.05	51.67	82.30	-30.63	Peak	Vertical
13877.50	47.44	0.48	47.92	82.30	-34.38	Peak	Horizontal
16767.50	45.14	4.75	49.89	82.30	-32.41	Peak	Horizontal
13945.50	47.76	0.62	48.38	82.30	-33.92	Peak	Vertical
16750.50	45.31	4.51	49.82	82.30	-32.48	Peak	Vertical
Middle Channel							
804.55	21.82	28.64	50.46	82.30	-31.84	Peak	Horizontal
943.26	22.17	30.09	52.26	82.30	-30.04	Peak	Horizontal
826.86	21.95	28.53	50.48	82.30	-31.82	Peak	Vertical
961.69	22.98	30.02	53.00	82.30	-29.30	Peak	Vertical
16257.50	45.57	3.42	48.99	82.30	-33.31	Peak	Horizontal
17439.00	45.21	4.96	50.17	82.30	-32.13	Peak	Horizontal
14549.00	45.53	1.92	47.45	82.30	-34.85	Peak	Vertical
17490.00	45.05	5.06	50.11	82.30	-32.19	Peak	Vertical
High Channel							
877.30	22.28	29.08	51.36	82.30	-30.94	Peak	Horizontal
961.69	22.98	30.02	53.00	82.30	-29.30	Peak	Horizontal
807.46	22.51	28.69	51.20	82.30	-31.10	Peak	Vertical
974.78	22.93	29.91	52.84	82.30	-29.46	Peak	Vertical
14404.50	45.86	1.64	47.50	82.30	-34.80	Peak	Horizontal
17464.50	45.13	4.95	50.08	82.30	-32.22	Peak	Horizontal
14515.00	45.81	1.74	47.55	82.30	-34.75	Peak	Vertical
17260.50	45.51	4.48	49.99	82.30	-32.31	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

Product	LTE Module	Test Site	SIP-AC2
Test Engineer	Allen Zou	Test Date	2021/11/04~2021/11/13
Test Band	LTE 41_HPUE, 1RB, QPSK		

Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level(dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
Low Channel							
72.20	20.46	15.12	35.58	70.30	-34.72	Peak	Horizontal
969.93	1.30	29.94	31.24	70.30	-39.06	Peak	Horizontal
30.00	22.47	16.37	38.84	70.30	-31.46	Peak	Vertical
70.74	19.85	15.40	35.25	70.30	-35.05	Peak	Vertical
16742.00	45.01	4.36	49.37	70.30	-20.93	Peak	Horizontal
17668.50	44.84	5.34	50.18	70.30	-20.12	Peak	Horizontal
16461.50	45.23	4.43	49.66	70.30	-20.64	Peak	Vertical
17668.50	44.56	5.34	49.90	70.30	-20.40	Peak	Vertical
Middle Channel							
71.23	22.52	15.31	37.83	70.30	-32.47	Peak	Horizontal
893.30	2.34	29.19	31.53	70.30	-38.77	Peak	Horizontal
30.00	23.71	16.37	40.08	70.30	-30.22	Peak	Vertical
69.29	21.06	15.70	36.76	70.30	-33.54	Peak	Vertical
15739.00	44.90	3.33	48.23	70.30	-22.07	Peak	Horizontal
17677.00	43.69	5.61	49.30	70.30	-21.00	Peak	Horizontal
16470.00	44.14	4.60	48.74	70.30	-21.56	Peak	Vertical
17677.00	44.53	5.61	50.14	70.30	-20.16	Peak	Vertical
High Channel							
30.00	16.47	16.37	32.84	70.30	-37.46	Peak	Horizontal
70.74	21.82	15.40	37.22	70.30	-33.08	Peak	Horizontal
30.49	23.68	16.45	40.13	70.30	-30.17	Peak	Vertical
71.23	21.55	15.31	36.86	70.30	-33.44	Peak	Vertical
16487.00	44.80	4.26	49.06	70.30	-21.24	Peak	Horizontal
17847.00	44.84	5.38	50.22	70.30	-20.08	Peak	Horizontal
15739.00	44.87	3.33	48.20	70.30	-22.10	Peak	Vertical
17677.00	44.04	5.61	49.65	70.30	-20.65	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

Product	LTE Module	Test Site	SIP-AC2
Test Engineer	Allen Zou	Test Date	2021/11/04~2021/11/13
Test Band	LTE Band 42, 1RB, QPSK		

Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level(dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
Low Channel							
71.23	21.58	15.31	36.89	82.30	-45.41	Peak	Horizontal
922.89	2.33	29.83	32.16	82.30	-50.14	Peak	Horizontal
31.46	21.95	16.63	38.58	82.30	-43.72	Peak	Vertical
71.23	21.86	15.31	37.17	82.30	-45.13	Peak	Vertical
16776.00	45.05	4.84	49.89	82.30	-32.41	Peak	Horizontal
17753.50	44.56	5.37	49.93	82.30	-32.37	Peak	Horizontal
16325.50	45.98	3.40	49.38	82.30	-32.92	Peak	Vertical
17252.00	48.05	4.43	52.48	82.30	-29.82	Peak	Vertical
Middle Channel							
30.00	15.17	16.37	31.54	82.30	-50.76	Peak	Horizontal
72.20	21.49	15.12	36.61	82.30	-45.69	Peak	Horizontal
30.00	22.60	16.37	38.97	82.30	-43.33	Peak	Vertical
70.74	21.78	15.40	37.18	82.30	-45.12	Peak	Vertical
16691.00	45.35	4.39	49.74	82.30	-32.56	Peak	Horizontal
17779.00	45.24	5.61	50.85	82.30	-31.45	Peak	Horizontal
10494.50	52.02	-2.97	49.05	82.30	-33.25	Peak	Vertical
17490.00	47.91	5.06	52.97	82.30	-29.33	Peak	Vertical
High Channel							
30.00	14.70	16.37	31.07	82.30	-51.23	Peak	Horizontal
71.23	20.62	15.31	35.93	82.30	-46.37	Peak	Horizontal
30.00	22.65	16.37	39.02	82.30	-43.28	Peak	Vertical
71.23	21.71	15.31	37.02	82.30	-45.28	Peak	Vertical
16453.00	45.18	4.26	49.44	82.30	-32.86	Peak	Horizontal
17719.50	45.45	4.78	50.23	82.30	-32.07	Peak	Horizontal
10639.00	53.15	-3.24	49.91	82.30	-32.39	Peak	Vertical
17728.00	48.29	4.60	52.89	82.30	-29.41	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

Product	LTE Module	Test Site	SIP-AC2
Test Engineer	Allen Zou	Test Date	2021/11/04~2021/11/13
Test Band	LTE Band 43, 1RB, QPSK		

Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level(dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
Low Channel							
71.23	16.59	15.31	31.90	82.30	-50.40	Peak	Horizontal
952.96	2.16	30.16	32.32	82.30	-49.98	Peak	Horizontal
30.00	20.23	16.37	36.60	82.30	-45.70	Peak	Vertical
950.53	2.42	30.17	32.59	82.30	-49.71	Peak	Vertical
16461.50	44.85	4.43	49.28	82.30	-33.02	Peak	Horizontal
17753.50	44.71	5.37	50.08	82.30	-32.22	Peak	Horizontal
7400.50	51.89	-6.37	45.52	82.30	-36.78	Peak	Vertical
17957.50	44.81	5.41	50.22	82.30	-32.08	Peak	Vertical
Middle Channel							
71.71	17.07	15.22	32.29	82.30	-50.01	Peak	Horizontal
936.95	2.70	30.04	32.74	82.30	-49.56	Peak	Horizontal
30.97	20.15	16.53	36.68	82.30	-45.62	Peak	Vertical
72.20	18.49	15.12	33.61	82.30	-48.69	Peak	Vertical
16589.00	45.75	4.11	49.86	82.30	-32.44	Peak	Horizontal
17779.00	44.79	5.61	50.40	82.30	-31.90	Peak	Horizontal
7494.00	54.17	-6.33	47.84	82.30	-34.46	Peak	Vertical
17762.00	44.38	5.62	50.00	82.30	-32.30	Peak	Vertical
High Channel							
71.23	17.18	15.31	32.49	82.30	-49.81	Peak	Horizontal
952.47	2.26	30.16	32.42	82.30	-49.88	Peak	Horizontal
30.00	20.32	16.37	36.69	82.30	-45.61	Peak	Vertical
931.13	2.25	30.00	32.25	82.30	-50.05	Peak	Vertical
16470.00	44.98	4.60	49.58	82.30	-32.72	Peak	Horizontal
17915.00	45.45	5.36	50.81	82.30	-31.49	Peak	Horizontal
11395.50	49.70	-3.57	46.13	82.30	-36.17	Peak	Vertical
17762.00	44.83	5.62	50.45	82.30	-31.85	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

Product	LTE Module	Test Site	SIP-AC2
Test Engineer	Allen Zou	Test Date	2021/11/04~2021/11/13
Test Band	LTE Band 71, 1RB, QPSK		

Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level(dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
Low Channel							
843.83	22.32	28.27	50.59	82.30	-31.71	Peak	Horizontal
933.56	21.86	30.02	51.88	82.30	-30.42	Peak	Horizontal
883.60	22.39	29.16	51.55	82.30	-30.75	Peak	Vertical
930.65	22.99	29.99	52.98	82.30	-29.32	Peak	Vertical
15254.50	45.81	2.70	48.51	82.30	-33.79	Peak	Horizontal
16886.50	45.01	4.60	49.61	82.30	-32.69	Peak	Horizontal
15747.50	46.02	3.34	49.36	82.30	-32.94	Peak	Vertical
17677.00	45.17	5.61	50.78	82.30	-31.52	Peak	Vertical
Middle Channel							
888.45	22.04	29.14	51.18	82.30	-31.12	Peak	Horizontal
935.98	21.71	30.04	51.75	82.30	-30.55	Peak	Horizontal
790.97	21.83	28.35	50.18	82.30	-32.12	Peak	Vertical
947.14	23.02	30.16	53.18	82.30	-29.12	Peak	Vertical
16776.00	45.28	4.84	50.12	82.30	-32.18	Peak	Horizontal
17770.50	44.89	5.61	50.50	82.30	-31.80	Peak	Horizontal
16844.00	45.88	4.46	50.34	82.30	-31.96	Peak	Vertical
17915.00	45.25	5.36	50.61	82.30	-31.69	Peak	Vertical
High Channel							
846.74	22.98	28.20	51.18	82.30	-31.12	Peak	Horizontal
914.16	23.44	29.64	53.08	82.30	-29.22	Peak	Horizontal
811.82	23.83	28.68	52.51	82.30	-29.79	Peak	Vertical
951.02	21.95	30.17	52.12	82.30	-30.18	Peak	Vertical
16827.00	46.33	4.31	50.64	82.30	-31.66	Peak	Horizontal
18000.00	44.88	5.63	50.51	82.30	-31.79	Peak	Horizontal
16801.50	45.90	4.55	50.45	82.30	-31.85	Peak	Vertical
17745.00	45.74	5.11	50.85	82.30	-31.45	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

6. CONCLUSION

The data collected relate only the item(s) tested and show that unit is compliance with FCC Rules.

_____ The End _____

Appendix A - Test Setup Photograph

Refer to “2110RSU053-UT” file.

Appendix B - EUT Photograph

Refer to “2110RSU053-UE” file.