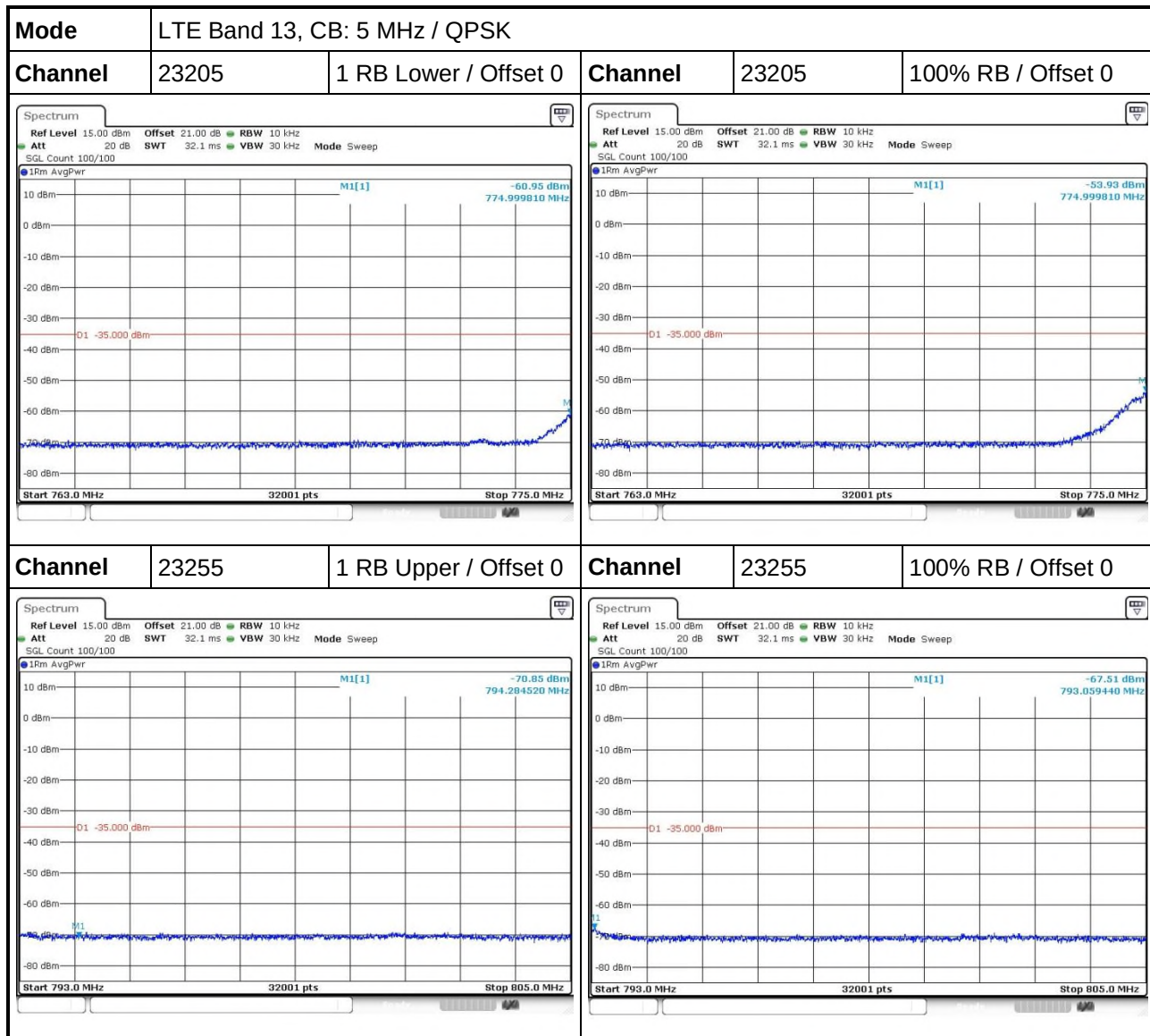
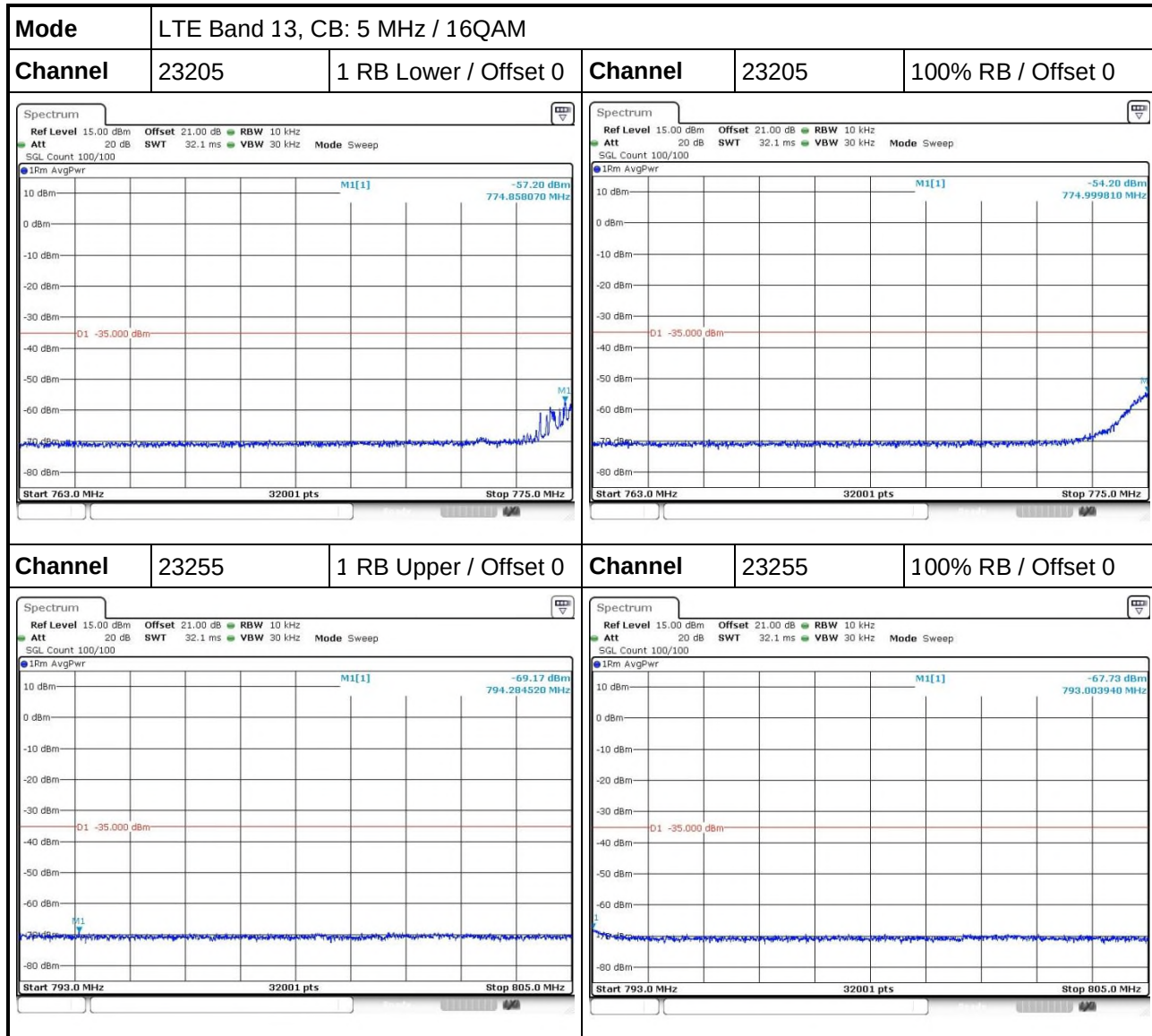
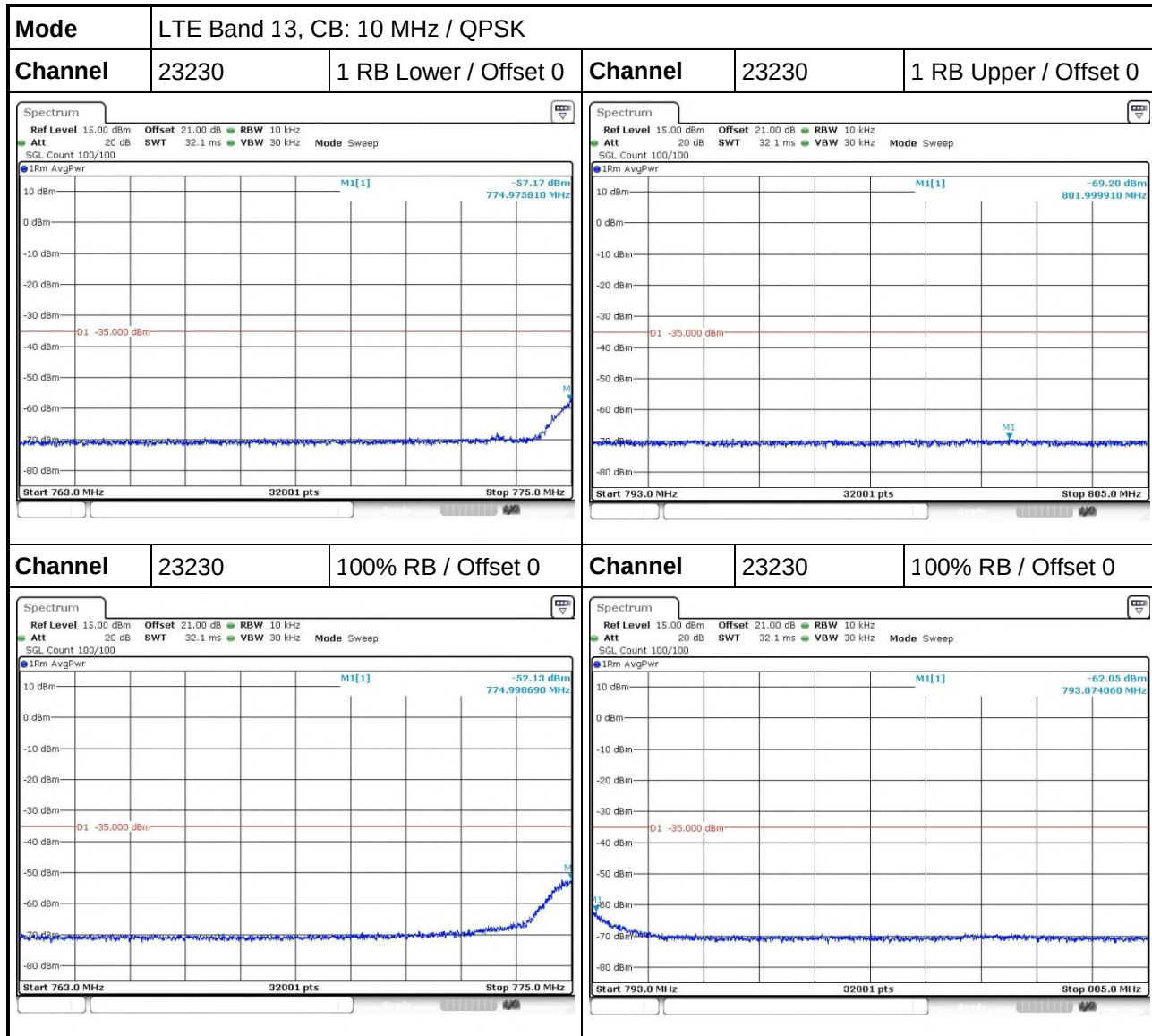
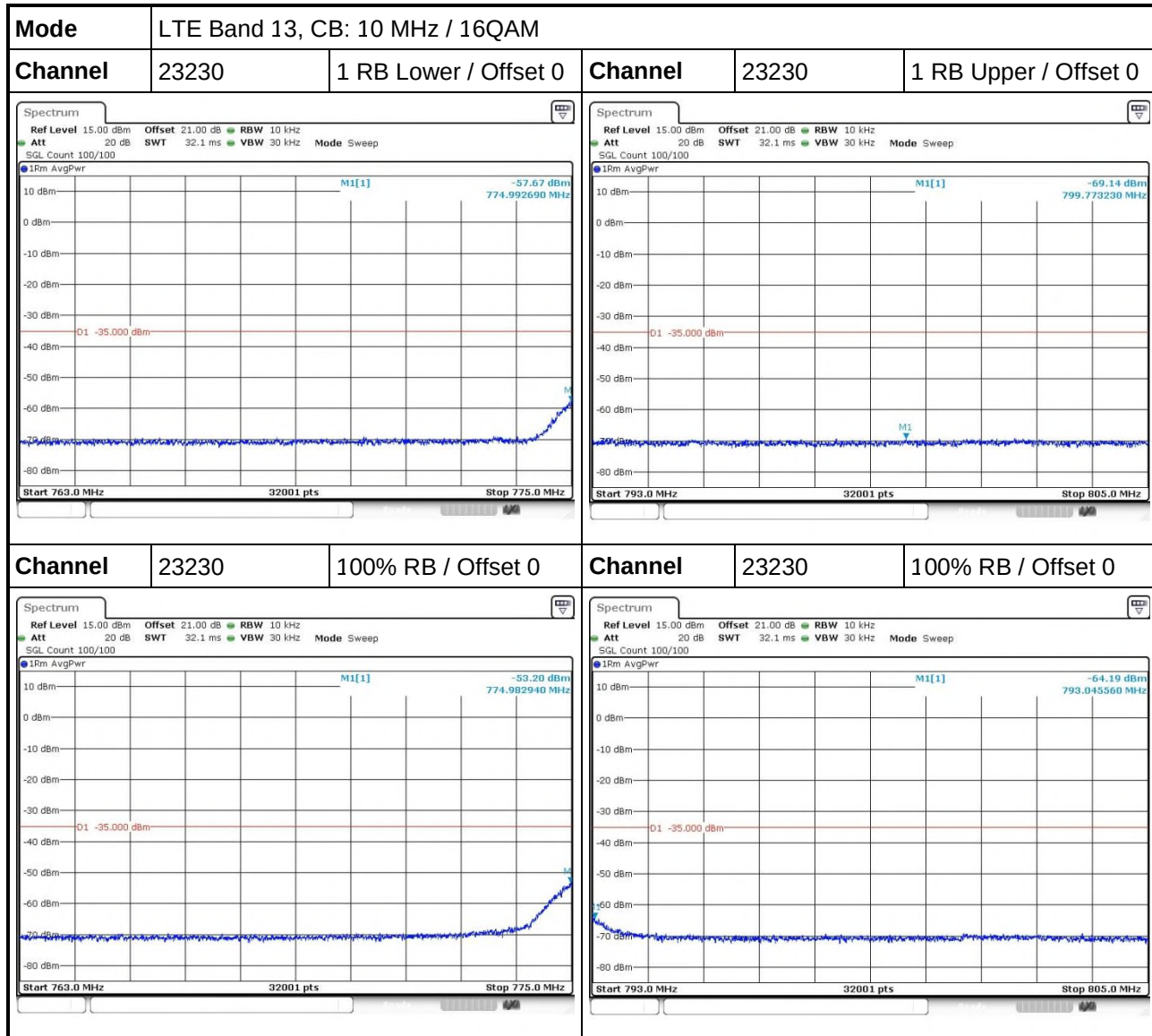


Test result of 763~775 MHz and 793~805 MHz



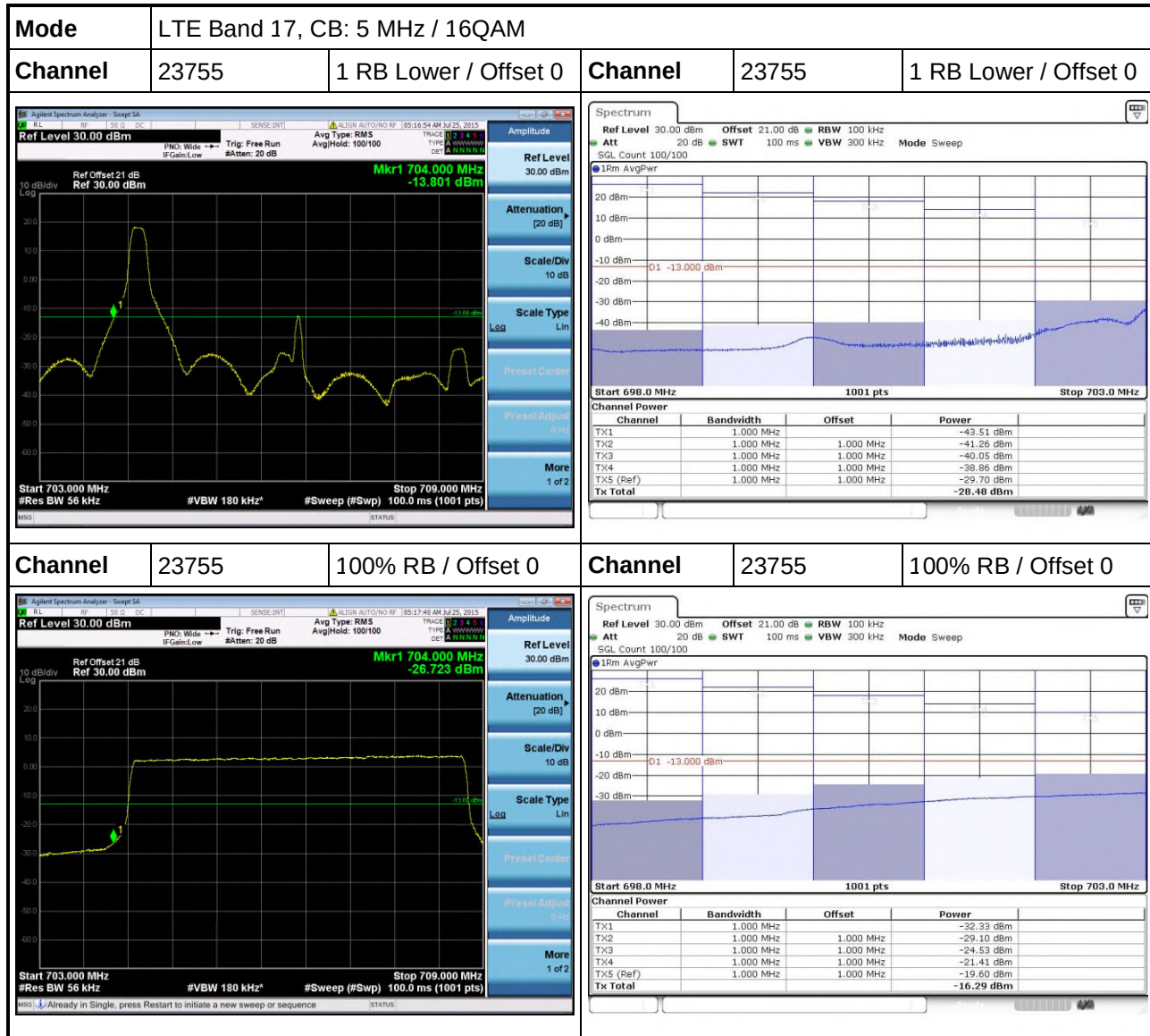




















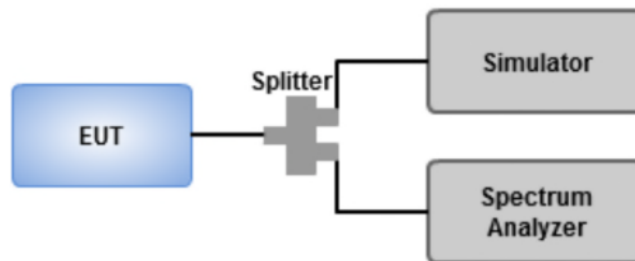


3.5 Occupied Bandwidth and 26dB Bandwidth

3.5.1 Test Procedures

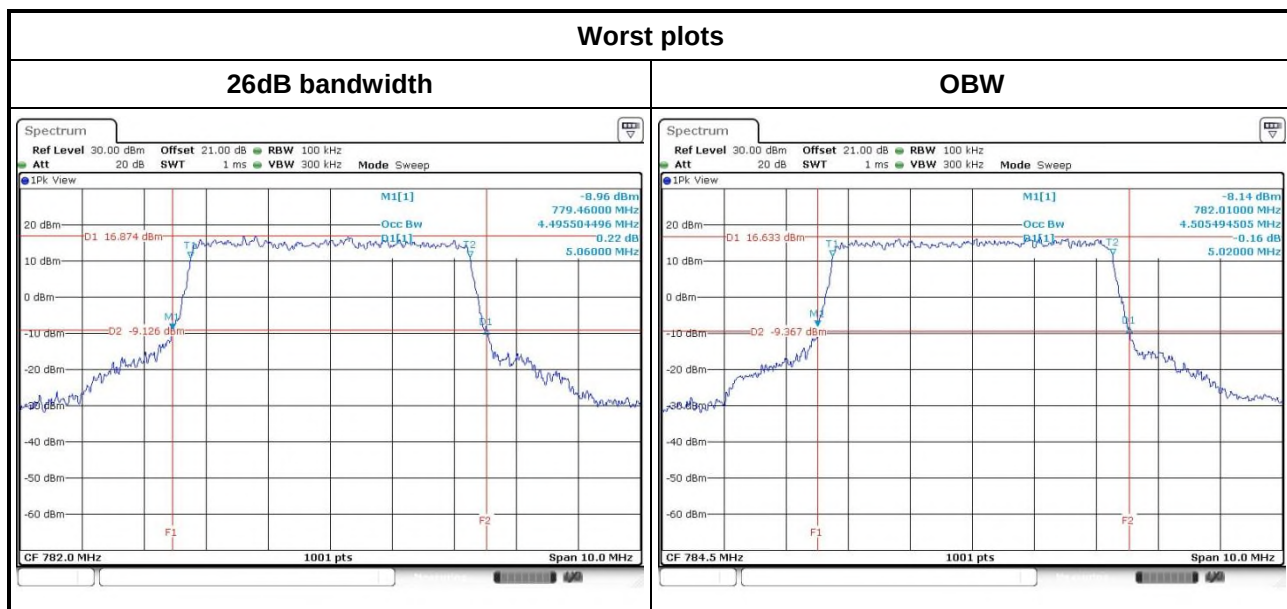
1. Set RBW = 100 kHz, VBW = 300kHz for 5 MHz channel bandwidth.
Set RBW = 200 kHz, VBW = 1MHz for 10 MHz channel bandwidth.
2. Detector = Peak, Trace mode = max hold.
3. Sweep = auto couple, Allow the trace to stabilize.
4. Using occupied bandwidth measurement function of spectrum analyzer to measure occupied bandwidth.
5. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 26dB relative to the maximum level measured in the fundamental emission.

3.5.2 Test Setup

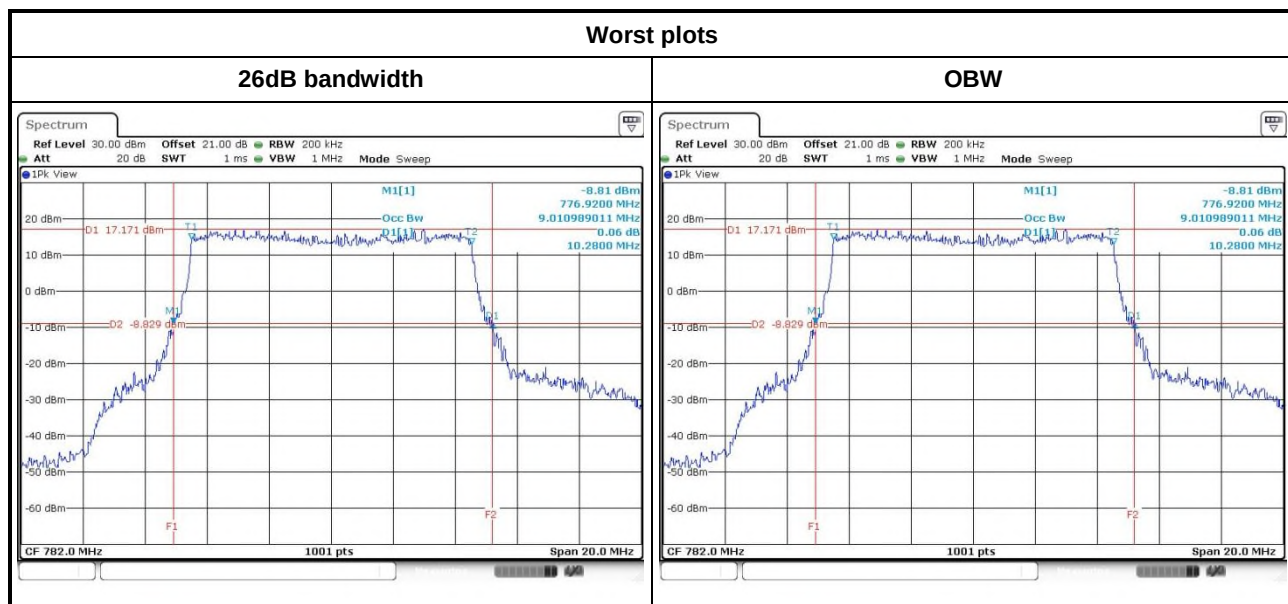


3.5.3 Test Result of Occupied Bandwidth

Mode	CB (MHz)	Modulation	Channel	Frequency (MHz)	26dB BW (MHz)	99% OBW (MHz)
LTE Band 13	5	QPSK	23205	779.5	4.9500	4.4950
LTE Band 13	5	QPSK	23230	782.0	5.0600	4.4955
LTE Band 13	5	QPSK	23255	784.5	5.0200	4.5054
LTE Band 13	5	16QAM	23205	779.5	4.9300	4.4755
LTE Band 13	5	16QAM	23230	782.0	5.0500	4.4955
LTE Band 13	5	16QAM	23255	784.5	5.0200	4.4955

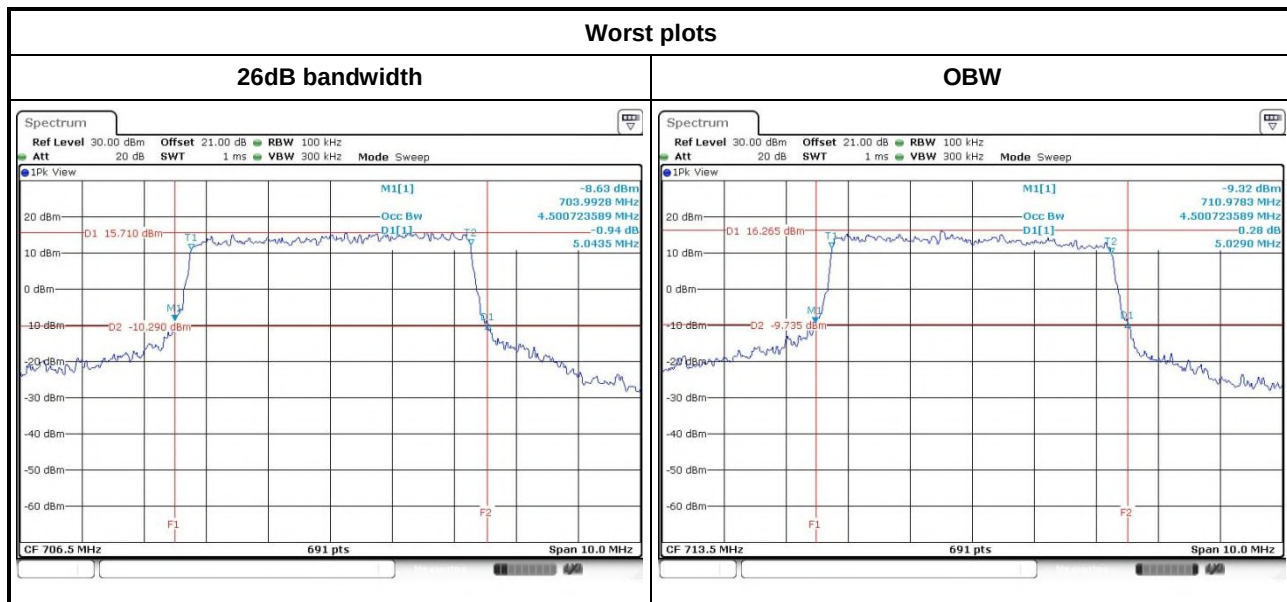


Mode	CB (MHz)	Modulation	Channel	Frequency (MHz)	26dB BW (MHz)	99% OBW (MHz)
LTE Band 13	10	QPSK	23230	782.0	10.2800	9.0109
LTE Band 13	10	16QAM	23230	782.0	9.9600	8.9710



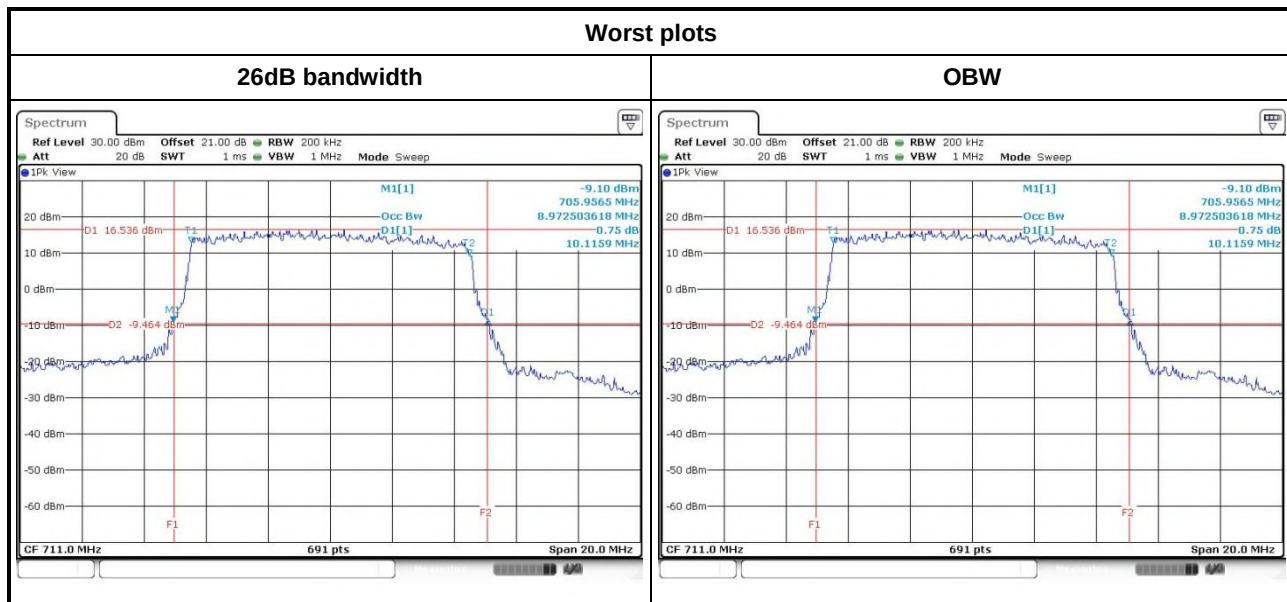
Mode	CB (MHz)	Modulation	Channel	Frequency (MHz)	26dB BW (MHz)	99% OBW (MHz)
LTE Band 17	5	QPSK	23755	706.5	5.0435	4.5000
LTE Band 17	5	QPSK	23790	710.0	5.0145	4.4862
LTE Band 17	5	QPSK	23825	713.5	5.0435	4.4862
LTE Band 17	5	16QAM	23755	706.5	5.0435	4.5000
LTE Band 17	5	16QAM	23790	710.0	4.9130	4.4862
LTE Band 17	5	16QAM	23825	713.5	5.0290	4.5000

Worst plots



Mode	CB (MHz)	Modulation	Channel	Frequency (MHz)	26dB BW (MHz)	99% OBW (MHz)
LTE Band 17	10	QPSK	23780	709.0	10.1159	8.9725
LTE Band 17	10	QPSK	23790	710.0	10.0870	8.9725
LTE Band 17	10	QPSK	23800	711.0	10.1159	8.9725
LTE Band 17	10	16QAM	23780	709.0	10.0000	8.9435
LTE Band 17	10	16QAM	23790	710.0	9.9420	8.9435
LTE Band 17	10	16QAM	23800	711.0	9.9420	8.9146

Worst plots



3.6 Peak to Average Ratio

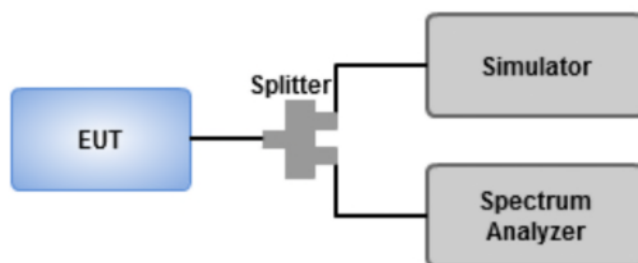
3.6.1 Limit of Peak to Average Ratio

The Peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

3.6.2 Test Procedures

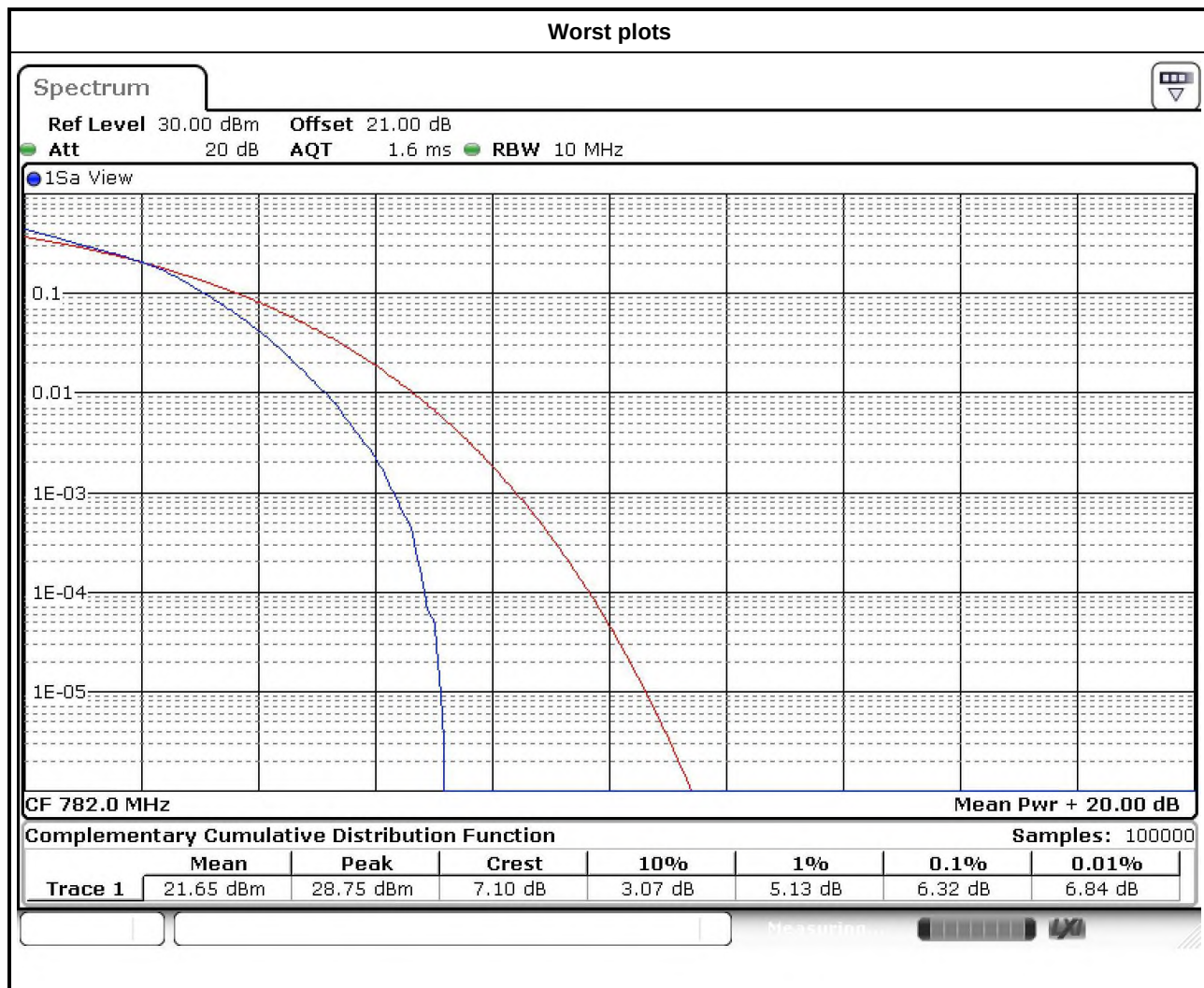
1. Set the number of counts to a value that stabilizes the measured CCDF curve.
2. Set the measurement interval to 1 ms.
3. Record the maximum PAPR level associated with a probability of 0.1%.

3.6.3 Test Setup

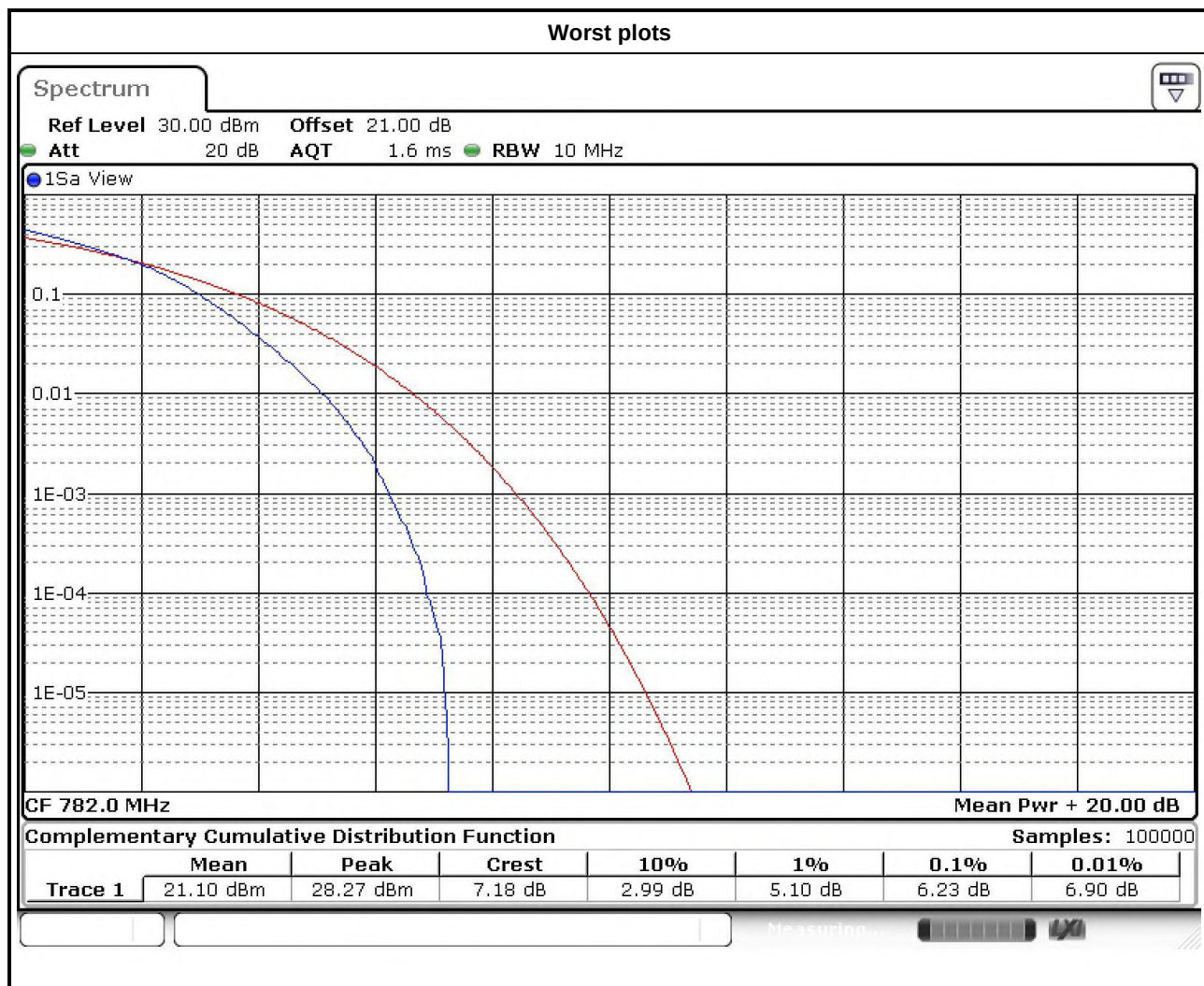


3.6.4 Test Result of Peak to Average Ratio

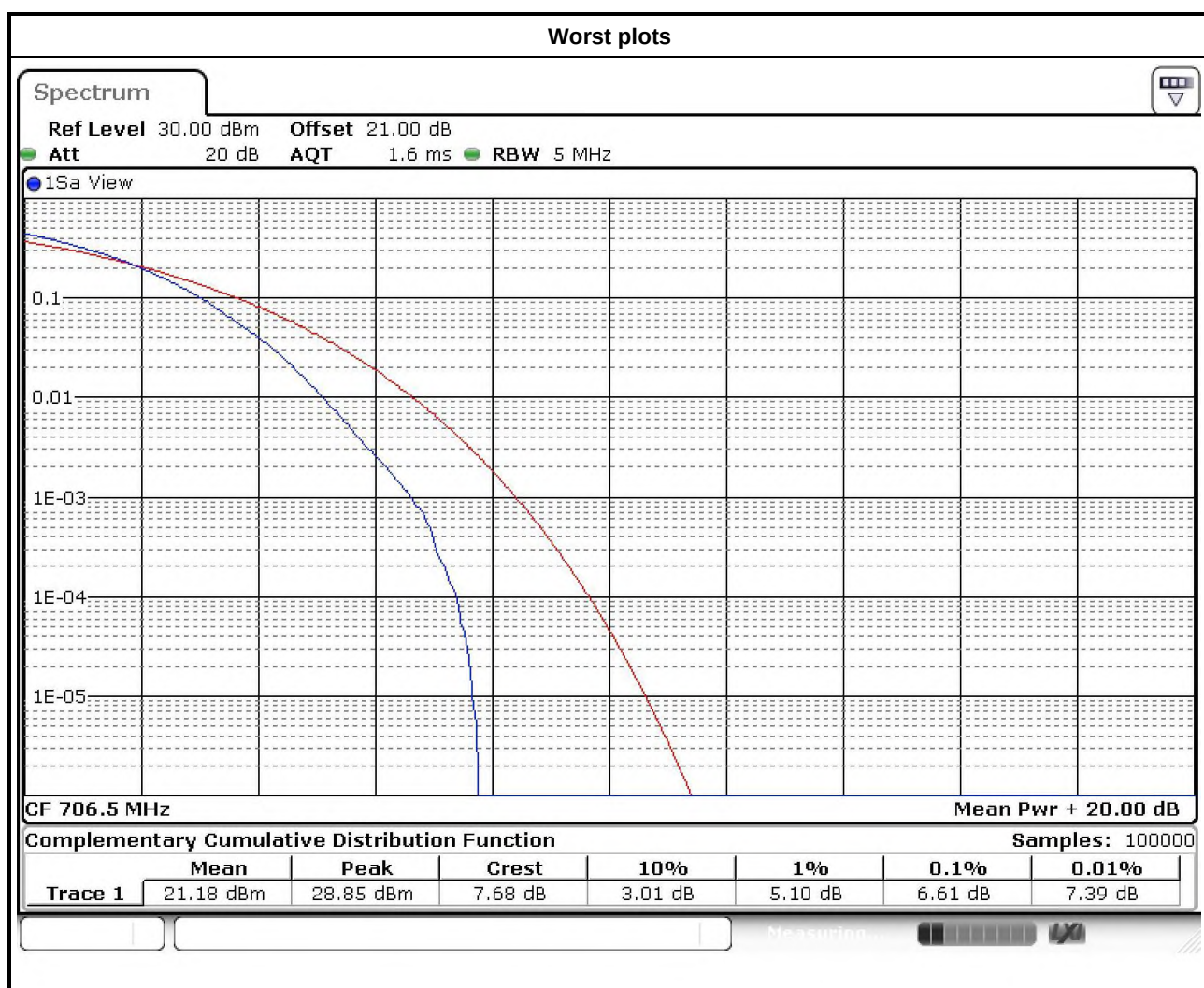
Mode	CB (MHz)	Modulation	Channel	Frequency (MHz)	Peak to Average ratio (dB)
LTE Band 13	5	QPSK	23205	779.5	5.65
LTE Band 13	5	QPSK	23230	782.0	5.68
LTE Band 13	5	QPSK	23255	784.5	5.77
LTE Band 13	5	16QAM	23205	779.5	6.17
LTE Band 13	5	16QAM	23230	782.0	6.32
LTE Band 13	5	16QAM	23255	784.5	6.26



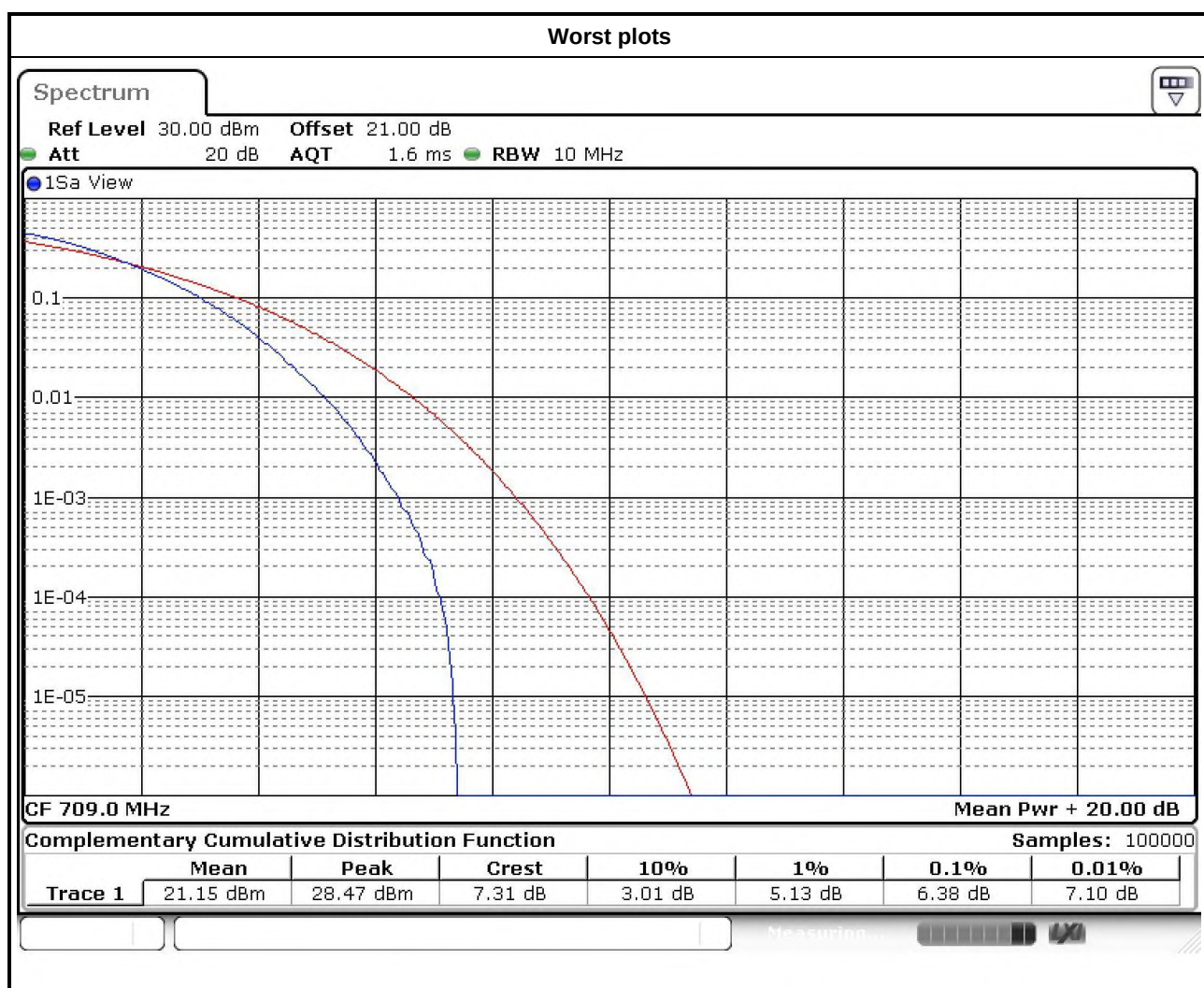
Mode	CB (MHz)	Modulation	Channel	Frequency (MHz)	Peak to Average ratio (dB)
LTE Band 13	10	QPSK	23230	782.0	5.54
LTE Band 13	10	16QAM	23230	782.0	6.23



Mode	CB (MHz)	Modulation	Channel	Frequency (MHz)	Peak to Average ratio (dB)
LTE Band 17	5	QPSK	23755	706.5	5.54
LTE Band 17	5	QPSK	23790	710.0	5.45
LTE Band 17	5	QPSK	23825	713.5	5.57
LTE Band 17	5	16QAM	23755	706.5	6.61
LTE Band 17	5	16QAM	23790	710.0	6.43
LTE Band 17	5	16QAM	23825	713.5	6.41



Mode	CB (MHz)	Modulation	Channel	Frequency (MHz)	Peak to Average ratio (dB)
LTE Band 17	10	QPSK	23780	709.0	5.57
LTE Band 17	10	QPSK	23790	710.0	5.16
LTE Band 17	10	QPSK	23800	711.0	5.48
LTE Band 17	10	16QAM	23780	709.0	6.38
LTE Band 17	10	16QAM	23790	710.0	6.26
LTE Band 17	10	16QAM	23800	711.0	6.32



3.7 Frequency Stability

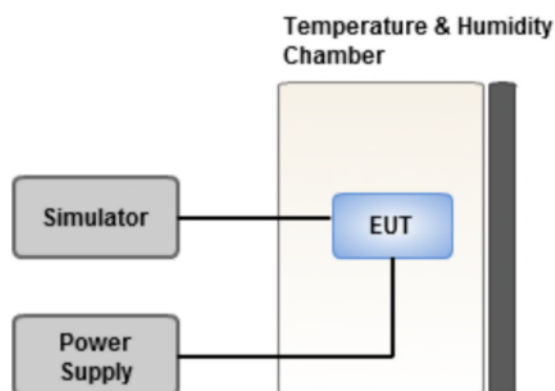
3.7.1 Limit of Frequency Stability

The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

3.7.2 Test Procedures

1. EUT was placed at temperature chamber and connected to an external power supply.
2. Temperature and voltage condition shall be tested to confirm frequency stability.
3. Temperature range is from -30~50°C and voltage range is from lowest to highest working voltage.
4. Tem Link up EUT and simulator. Confirm frequency drift value of simulator and record it.

3.7.3 Test Setup



3.7.4 Test Result of Frequency Stability

LTE Band 13, CB: 5MHz			
Temperature (°C)	Voltage (ac)	Frequency Drift (ppm)	Limit (ppm)
55	3.7	0.024	2.5
50	3.7	0.020	2.5
40	3.7	0.023	2.5
30	3.7	0.015	2.5
20	3.7	0.018	2.5
10	3.7	0.022	2.5
0	3.7	0.024	2.5
-10	3.7	0.018	2.5
-20	3.7	0.020	2.5
-30	3.7	0.014	2.5
20	4.5	0.024	2.5
20	3.2	0.020	2.5

LTE Band 13, CB: 10MHz			
Temperature (°C)	Voltage (ac)	Frequency Drift (ppm)	Limit (ppm)
55	3.7	0.024	2.5
50	3.7	0.018	2.5
40	3.7	0.015	2.5
30	3.7	0.018	2.5
20	3.7	0.020	2.5
10	3.7	0.017	2.5
0	3.7	0.024	2.5
-10	3.7	0.023	2.5
-20	3.7	0.020	2.5
-30	3.7	0.020	2.5
20	4.5	0.020	2.5
20	3.2	0.022	2.5

LTE Band 17, CB: 5MHz			
Temperature (°C)	Voltage (ac)	Frequency Drift (ppm)	Limit (ppm)
55	3.7	0.027	2.5
50	3.7	0.020	2.5
40	3.7	0.023	2.5
30	3.7	0.024	2.5
20	3.7	0.025	2.5
10	3.7	0.023	2.5
0	3.7	0.018	2.5
-10	3.7	0.020	2.5
-20	3.7	0.024	2.5
-30	3.7	0.025	2.5
20	4.5	0.025	2.5
20	3.2	0.020	2.5

LTE Band 17, CB: 10MHz			
Temperature (°C)	Voltage (ac)	Frequency Drift (ppm)	Limit (ppm)
55	3.7	0.023	2.5
50	3.7	0.021	2.5
40	3.7	0.020	2.5
30	3.7	0.017	2.5
20	3.7	0.018	2.5
10	3.7	0.014	2.5
0	3.7	0.015	2.5
-10	3.7	0.017	2.5
-20	3.7	0.021	2.5
-30	3.7	0.027	2.5
20	4.5	0.023	2.5
20	3.2	0.015	2.5

4 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corp, it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan Hsiang. Location map can be found on our website <http://www.icertifi.com.tw>.

Linkou

Tel: 886-2-2601-1640

No. 30-2, Ding Fwu Tsuen, Lin Kou
District, New Taipei City, Taiwan,
R.O.C.

Kwei Shan

Tel: 886-3-271-8666

No. 3-1, Lane 6, Wen San 3rd
St., Kwei Shan Hsiang, Tao
Yuan Hsien 333, Taiwan, R.O.C.

Kwei Shan Site II

Tel: 886-3-271-8640

No. 14-1, Lane 19, Wen San 3rd
St., Kwei Shan Hsiang, Tao
Yuan Hsien 333, Taiwan, R.O.C.

If you have any suggestion, please feel free to contact us as below information

Tel: 886-3-271-8666

Fax: 886-3-318-0155

Email: ICC_Service@icertifi.com.tw

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