LTE Band 5 (16-QAM, Band Width 3MHz,RB Size 1,RB Offset 0,Channel 20635)

Frequency Stability under Temperature

Temperature Interval (℃)	Test Frequency (MHz)	Deviation (Hz)	Limit(Hz)
-20	847.5	-5.51	±2118.75
-10	847.5	3.74	±2118.75
0	847.5	8.81	±2118.75
10	847.5	-14.81	±2118.75
20	847.5	14.43	±2118.75
30	847.5	13.06	±2118.75
40	847.5	3.33	±2118.75
50	847.5	5.00	±2118.75

Frequency Stability under Voltage

DC Voltage (V)	Test Frequency (MHz)	Deviation (Hz)	Limit(Hz)
3.0	847.5	4.98	±2118.75
3.8	847.5	10.36	±2118.75
4.5	847.5	-14.42	±2118.75

LTE Band 5 (QPSK, Band Width 5MHz,RB Size 1,RB Offset 0,Channel 20425)

Frequency Stability under Temperature

Temperature Interval (℃)	Test Frequency (MHz)	Deviation (Hz)	Limit(Hz)
-20	826.5	5.30	±2066.25
-10	826.5	-2.01	±2066.25
0	826.5	-5.95	±2066.25
10	826.5	0.63	±2066.25
20	826.5	-8.12	±2066.25
30	826.5	-6.71	±2066.25
40	826.5	7.59	±2066.25
50	826.5	-13.96	±2066.25

Frequency Stability under Voltage

DC Voltage (V)	Test Frequency (MHz)	Deviation (Hz)	Limit(Hz)
3.0	826.5	2.46	±2066.25
3.8	826.5	4.85	±2066.25
4.5	826.5	7.98	±2066.25

LTE Band 5 (16-QAM, Band Width 5MHz,RB Size 1,RB Offset 0,Channel 20425)

Frequency Stability under Temperature

Temperature Interval (℃)	Test Frequency (MHz)	Deviation (Hz)	Limit(Hz)
-20	826.5	7.54	±2066.25
-10	826.5	-6.35	±2066.25
0	826.5	-1.15	±2066.25
10	826.5	4.63	±2066.25
20	826.5	-14.06	±2066.25
3.0	826.5	-7.91	±2066.25
3.8	826.5	9.26	±2066.25
4.5	826.5	-5.92	±2066.25

Frequency Stability under Voltage

DC Voltage (V)	Test Frequency (MHz)	Deviation (Hz)	Limit(Hz)
3.2	826.5	2.57	±2066.25
3.8	826.5	5.19	±2066.25
4.4	826.5	11.28	±2066.25

LTE Band 5 (QPSK, Band Width 10MHz,RB Size 1,RB Offset 0,Channel 20450)

Frequency Stability under Temperature

Temperature Interval (℃)	Test Frequency (MHz)	Deviation (Hz)	Limit(Hz)
-20	829.0	-11.55	±2072.5
-10	829.0	-2.22	±2072.5
0	829.0	-14.32	±2072.5
10	829.0	1.84	±2072.5
20	829.0	-10.65	±2072.5
30	829.0	-2.04	±2072.5
40	829.0	-8.02	±2072.5
50	829.0	-8.83	±2072.5

Frequency Stability under Voltage

DC Voltage (V)	Test Frequency (MHz)	Deviation (Hz)	Limit(Hz)
3.0	829.0	7.65	±2072.5
3.8	829.0	9.08	±2072.5
4.5	829.0	-8.02	±2072.5

LTE Band 5 (16-QAM, Band Width 10MHz,RB Size 1,RB Offset 0,Channel 20450)

Frequency Stability under Temperature

Temperature Interval (℃)	Test Frequency (MHz)	Deviation (Hz)	Limit(Hz)
-20	829.0	9.37	±2072.5
-10	829.0	-12.85	±2072.5
0	829.0	1.09	±2072.5
10	829.0	-6.29	±2072.5
20	829.0	5.98	±2072.5
30	829.0	10.68	±2072.5
40	829.0	6.74	±2072.5
50	829.0	7.36	±2072.5

Frequency Stability under Voltage

DC Voltage (V)	Test Frequency (MHz)	Deviation (Hz)	Limit(Hz)
3.0	829.0	2.35	±2072.5
3.8	829.0	-12.52	±2072.5
4.5	829.0	-9.81	±2072.5

LTE Band 12 (QPSK, Band Width 1.4MHz,RB Size 1,RB Offset 0,Channel 23017)

Frequency Stability under Temperature

Temperature Interval (℃)	Test Frequency (MHz)	Deviation (Hz)	Limit(Hz)
-20	699.7	11.34	±1749.25
-10	699.7	-3.06	±1749.25
0	699.7	3.55	±1749.25
10	699.7	11.34	±1749.25
20	699.7	-3.06	±1749.25
30	699.7	3.55	±1749.25
40	699.7	11.34	±1749.25
50	699.7	-3.06	±1749.25

Frequency Stability under Voltage

DC Voltage (V)	Test Frequency (MHz)	Deviation (Hz)	Limit(Hz)
3.0	699.7	-3.17	±1749.25
3.8	699.7	4.46	±1749.25
4.5	699.7	-6.30	±1749.25

LTE Band 12 (16-QAM, Band Width 1.4MHz,RB Size 1,RB Offset 0,Channel 23017)

Frequency Stability under Temperature

Temperature Interval (℃)	Test Frequency (MHz)	Deviation (Hz)	Limit(Hz)
-20	699.7	14.84	±1749.25
-10	699.7	-4.55	±1749.25
0	699.7	-10.94	±1749.25
10	699.7	-3.92	±1749.25
20	699.7	-14.67	±1749.25
30	699.7	-13.98	±1749.25
40	699.7	-14.04	±1749.25
50	699.7	-14.66	±1749.25

Frequency Stability under Voltage

DC Voltage (V)	Test Frequency (MHz)	Deviation (Hz)	Limit(Hz)
3.0	699.7	1.08	±1749.25
3.8	699.7	-9.17	±1749.25
4.5	699.7	5.00	±1749.25

LTE Band 12 (QPSK, Band Width 3MHz,RB Size 1,RB Offset 0,Channel 23025)

Frequency Stability under Temperature

Temperature Interval (℃)	Test Frequency (MHz)	Deviation (Hz)	Limit(Hz)
-20	700.5	-12.29	±1751.25
-10	700.5	11.05	±1751.25
0	700.5	-6.15	±1751.25
10	700.5	14.52	±1751.25
20	700.5	-5.31	±1751.25
30	700.5	-1.97	±1751.25
40	700.5	6.27	±1751.25
50	700.5	9.02	±1751.25

Frequency Stability under Voltage

DC Voltage (V)	Test Frequency (MHz)	Deviation (Hz)	Limit(Hz)
3.0	700.5	7.21	±1751.25
3.8	700.5	-3.02	±1751.25
4.5	700.5	-7.84	±1751.25

LTE Band 12 (16-QAM, Band Width 3MHz,RB Size 1,RB Offset 0,Channel 23165)

Frequency Stability under Temperature

Temperature Interval (℃)	Test Frequency (MHz)	Deviation (Hz)	Limit(Hz)
-20	714.5	-4.21	±1786.25
-10	714.5	2.27	±1786.25
0	714.5	5.91	±1786.25
10	714.5	-5.66	±1786.25
20	714.5	12.67	±1786.25
30	714.5	7.69	±1786.25
40	714.5	11.73	±1786.25
50	714.5	-0.97	±1786.25

Frequency Stability under Voltage

DC Voltage (V)	Test Frequency (MHz)	Deviation (Hz)	Limit(Hz)
3.0	714.5	5.02	±1786.25
3.8	714.5	-13.81	±1786.25
4.5	714.5	6.68	±1786.25

LTE Band 12 (QPSK, Band Width 5MHz,RB Size 8,RB Offset 17,Channel 23155)

Frequency Stability under Temperature

Temperature Interval (℃)	Test Frequency (MHz)	Deviation (Hz)	Limit(Hz)
-20	713.5	9.99	±1783.75
-10	713.5	9.59	±1783.75
0	713.5	0.64	±1783.75
10	713.5	-1.64	±1783.75
20	713.5	-6.74	±1783.75
30	713.5	-2.16	±1783.75
40	713.5	-8.89	±1783.75
50	713.5	13.68	±1783.75

Frequency Stability under Voltage

DC Voltage (V)	Test Frequency (MHz)	Deviation (Hz)	Limit(Hz)
3.0	713.5	-2.93	±1783.75
3.8	713.5	-13.84	±1783.75
4.5	713.5	-9.52	±1783.75

LTE Band 12 (16-QAM, Band Width 5MHz,RB Size 1,RB Offset 0,Channel 23095)

Frequency Stability under Temperature

Temperature Interval (℃)	Test Frequency (MHz)	Deviation (Hz)	Limit(Hz)
-20	707.5	-13.28	±1768.75
-10	707.5	0.55	±1768.75
0	707.5	13.16	±1768.75
10	707.5	0.03	±1768.75
20	707.5	-7.52	±1768.75
3.0	707.5	0.27	±1768.75
3.8	707.5	12.28	±1768.75
4.5	707.5	2.87	±1768.75

Frequency Stability under Voltage

DC Voltage (V)	Test Frequency (MHz)	Deviation (Hz)	Limit(Hz)
3.2	707.5	6.51	±1768.75
3.8	707.5	-13.08	±1768.75
4.4	707.5	-6.37	±1768.75

LTE Band 12 (QPSK, Band Width 10MHz,RB Size 1,RB Offset 0,Channel 23095)

Frequency Stability under Temperature

Temperature Interval (℃)	Test Frequency (MHz)	Deviation (Hz)	Limit(Hz)
-20	707.5	-5.47	±1768.75
-10	707.5	-14.90	±1768.75
0	707.5	0.73	±1768.75
10	707.5	-14.76	±1768.75
20	707.5	-0.03	±1768.75
30	707.5	1.44	±1768.75
40	707.5	-7.71	±1768.75
50	707.5	-2.01	±1768.75

Frequency Stability under Voltage

DC Voltage (V)	Test Frequency (MHz)	Deviation (Hz)	Limit(Hz)
3.0	707.5	12.54	±1768.75
3.8	707.5	-9.38	±1768.75
4.5	707.5	-8.98	±1768.75

LTE Band 12 (16-QAM, Band Width 10MHz,RB Size 1,RB Offset 0,Channel 20450)

Frequency Stability under Temperature

Temperature Interval (℃)	Test Frequency (MHz)	Deviation (Hz)	Limit(Hz)
-20	707.5	11.77	±1768.75
-10	707.5	-8.41	±1768.75
0	707.5	9.43	±1768.75
10	707.5	-2.22	±1768.75
20	707.5	-10.56	±1768.75
30	707.5	-5.34	±1768.75
40	707.5	4.55	±1768.75
50	707.5	4.18	±1768.75

Frequency Stability under Voltage

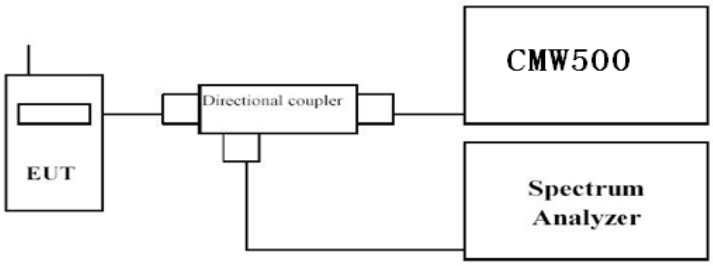
DC Voltage (V)	Test Frequency (MHz)	Deviation (Hz)	Limit(Hz)
3.0	707.5	-12.56	±1768.75
3.8	707.5	8.40	±1768.75
4.5	707.5	-5.87	±1768.75

8. Peak to Average

8.1. Test Equipment

Instrument	Manufacturer	Model	Serial No.	Cali. Due Date
Spectrum Analyzer	Agilent	N9038A	MY51210142	11/05/2016
Radio Communication Tester	R&S	CMW500	147483	11/08/2016
Signal Generator	Agilent	N5183A	MY50140938	01/04/2016
Preamplifier	CEM	EM30180	3008A0245	02/27/2016
DC Power Supply	Agilent	6612C	MY43002989	03/02/2016

8.2. Test Setup



8.3. Limit

In addition, the transmitter's peak-to-average power ratio (PAPR) shall not exceed 13 dB for more than 0.1% of the time using a signal corresponding to the highest PAPR during periods of continuous transmission.

8.4. Test Procedure

A peak to average ratio measurement is performed at the conducted port of the EUT. For LTE signals, 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 a 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.
Procedure:
1. The testing follows FCC KDB 972268 v02v02 Section 5.7.1;
2. Place the EUT on a bench and set it in transmitting mode.
3. Connect a low loss RF cable from the antenna port to a spectrum analyzer and CMW500 by a Directional Couple.
4. EUT Communicate with CMW500, then select a channel for testing.
5. Add a correction factor to the display of spectrum, and then test.
6. Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;

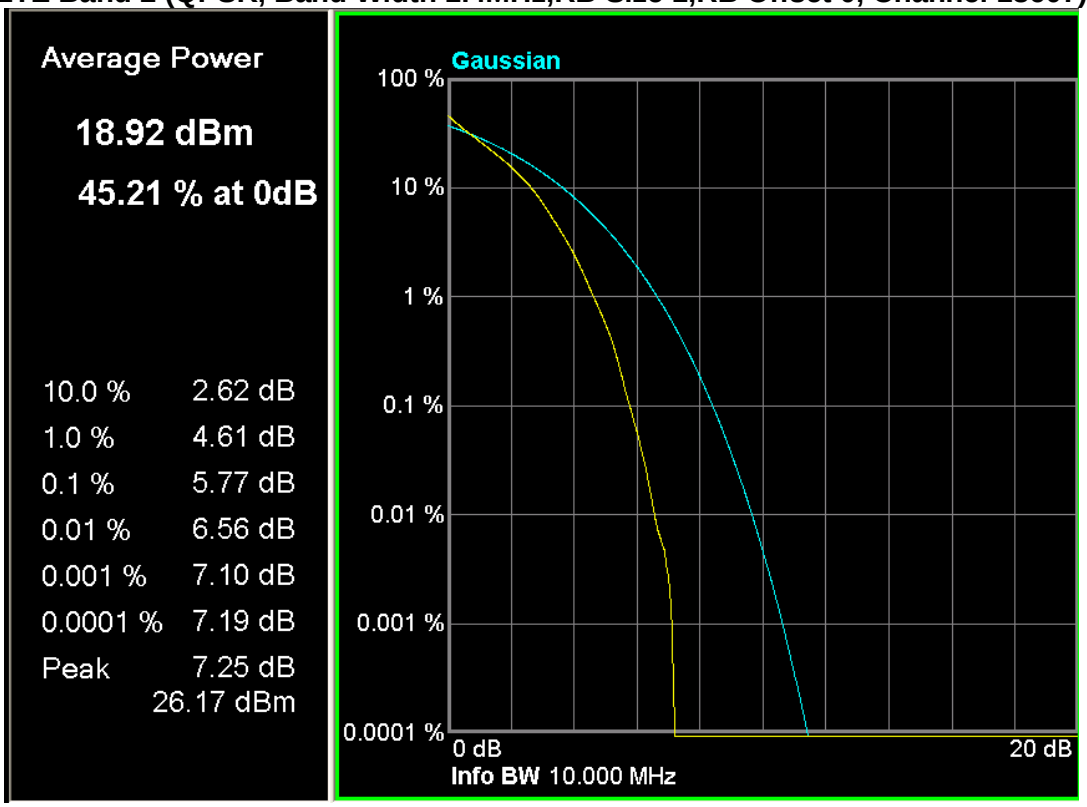
8.5. Uncertainty

The measurement uncertainty is defined as ±1.2 dB.

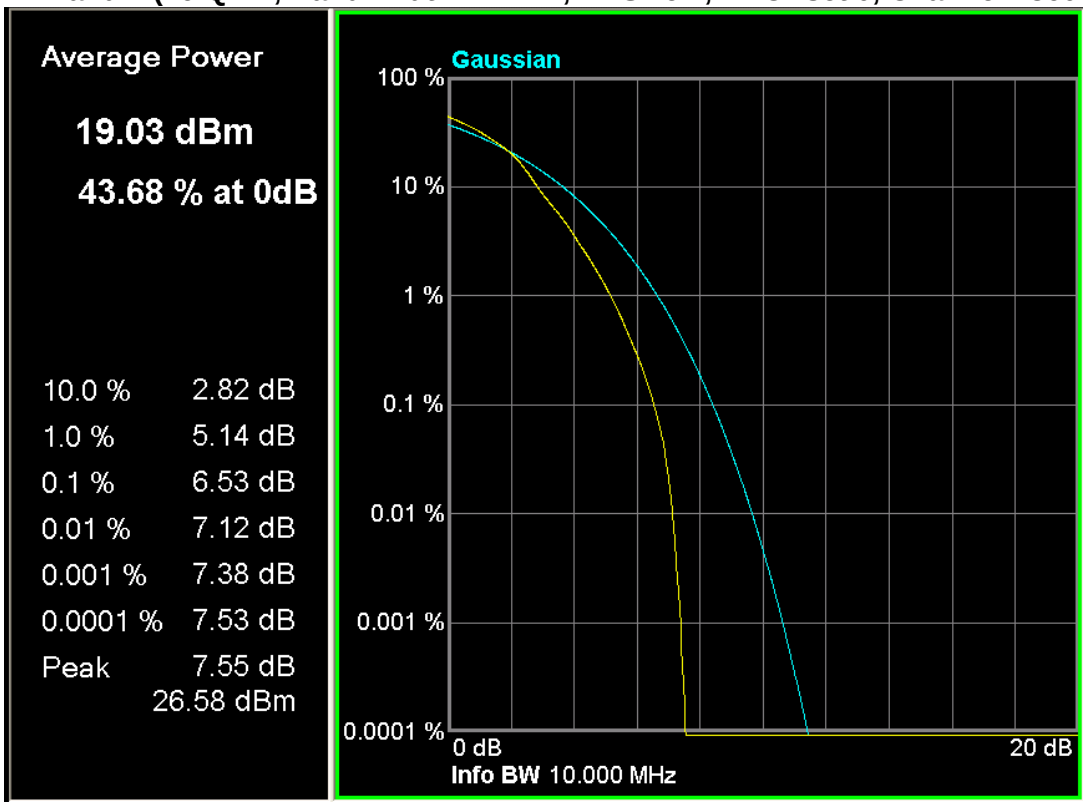
8.6. Test Result

Band	Band Width (MHz)	Channel	Frequeny (MHz)	Modulation	RB Configuration		Test Result	Limit (dB)
					RB Size	RB Offset		
LTE Band 2	1.4	18607	1850.7	QPSK	1	0	7.25	＜13
		18607	1850.7	16-QAM	1	0	7.55	
	3	18900	1880.0	QPSK	1	0	5.92	
		18185	1908.5	16-QAM	1	0	6.52	
	5	18625	1852.5	QPSK	1	0	6.44	
		18900	1880.0	16-QAM	1	0	5.70	
	10	18900	1880.0	QPSK	1	0	4.73	
		19150	1905.0	16-QAM	1	0	6.21	
	15	18675	1857.5	QPSK	1	0	6.47	
		18675	1857.5	16-QAM	1	0	7.42	
	20	18700	1860.0	QPSK	1	0	6.20	
		18900	1880.0	16-QAM	1	0	7.07	
LTE Band 4	1.4	19957	1710.7	QPSK	1	0	6.78	
		19957	1710.7	16-QAM	1	0	6.50	
	3	19965	1711.5	QPSK	1	0	6.40	
		19965	1711.5	16-QAM	1	0	7.31	
	5	19975	1712.5	QPSK	1	0	5.81	
		19975	1712.5	16-QAM	1	0	6.59	
	10	20175	1732.5	QPSK	1	0	6.39	
		20000	1715.0	16-QAM	1	0	6.65	
	15	20175	1732.5	QPSK	1	0	7.14	
		20175	1732.5	16-QAM	1	0	7.62	
	20	20175	1732.5	QPSK	1	0	6.79	
		20300	1745.0	16-QAM	1	0	6.82	
LTE Band 5	1.4	20407	824.7	QPSK	1	0	6.35	
		20407	824.7	16-QAM	1	0	7.20	
	3	20415	825.5	QPSK	1	0	7.64	
		20635	847.5	16-QAM	1	0	7.68	
	5	20425	826.5	QPSK	1	0	5.28	
		20425	826.5	16-QAM	1	0	8.04	
	10	20450	829	QPSK	1	0	6.22	
		20450	829	16-QAM	1	0	7.84	
LTE Band 12	1.4	23017	699.7	QPSK	1	0	6.16	
		23017	699.7	16-QAM	1	0	7.06	
	3	23025	700.5	QPSK	1	0	6.64	
		23165	714.5	16-QAM	1	0	6.15	
	5	23155	713.5	QPSK	8	17	6.77	
		23095	707.5	16-QAM	1	0	8.98	
	10	23095	707.5	QPSK	1	0	6.58	
		23095	707.5	16-QAM	1	0	6.85	

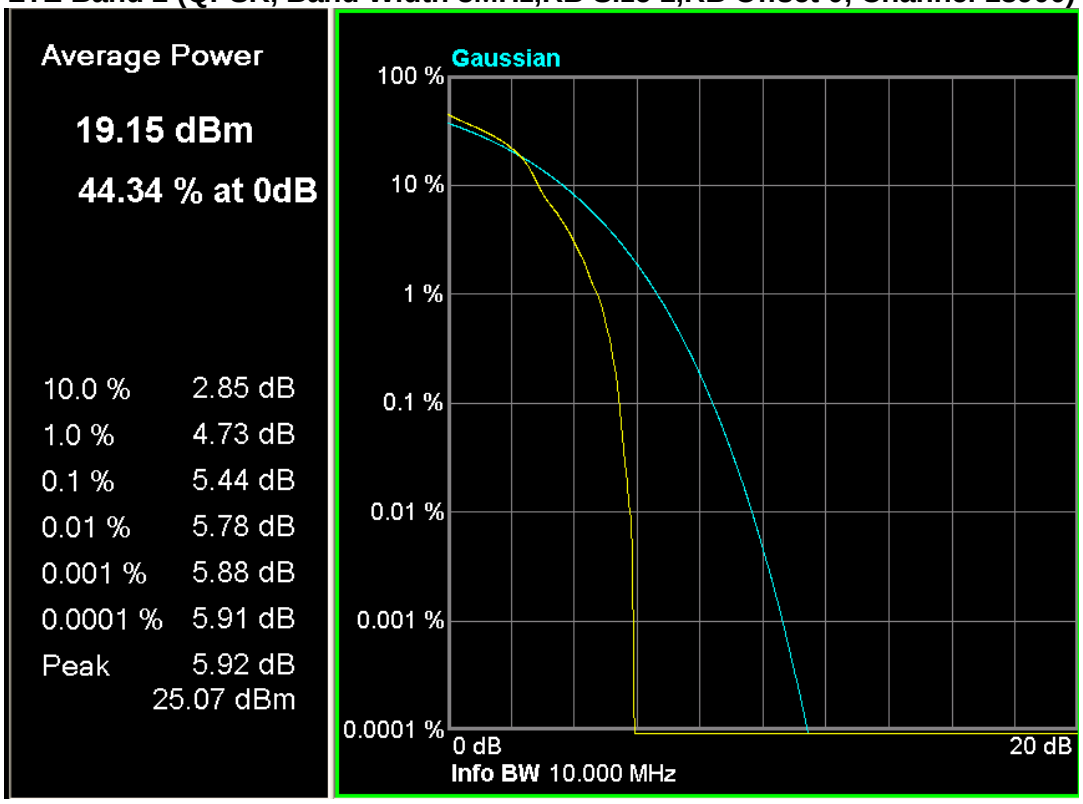
LTE Band 2 (QPSK, Band Width 1.4MHz,RB Size 1,RB Offset 0, Channel 18607)



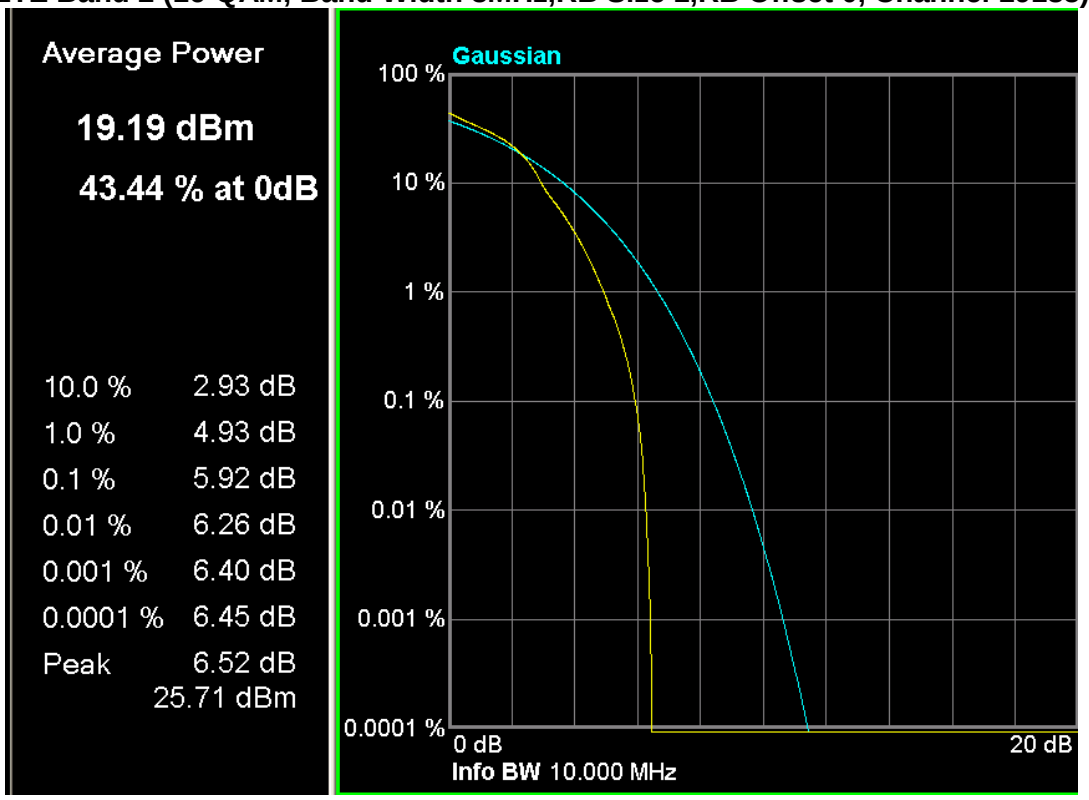
LTE Band 2 (16-QAM, Band Width 1.4MHz,RB Size 1,RB Offset 0, Channel 18607)



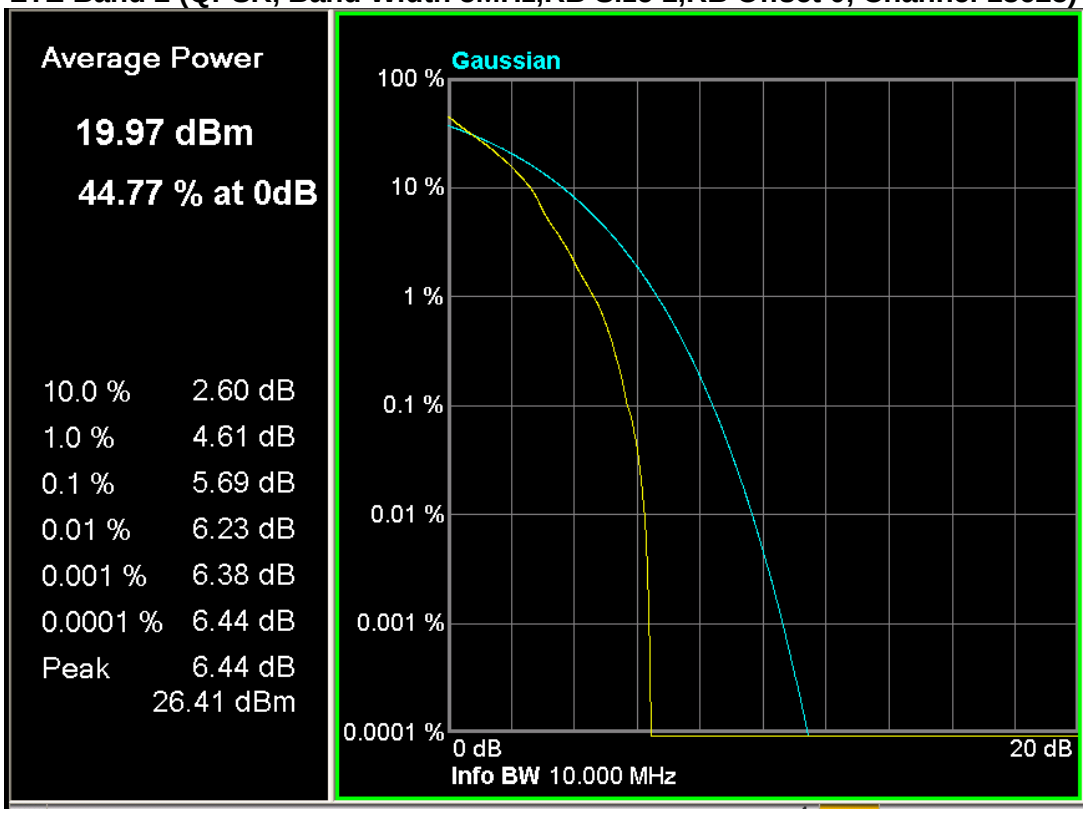
LTE Band 2 (QPSK, Band Width 3MHz,RB Size 1,RB Offset 0, Channel 18900)



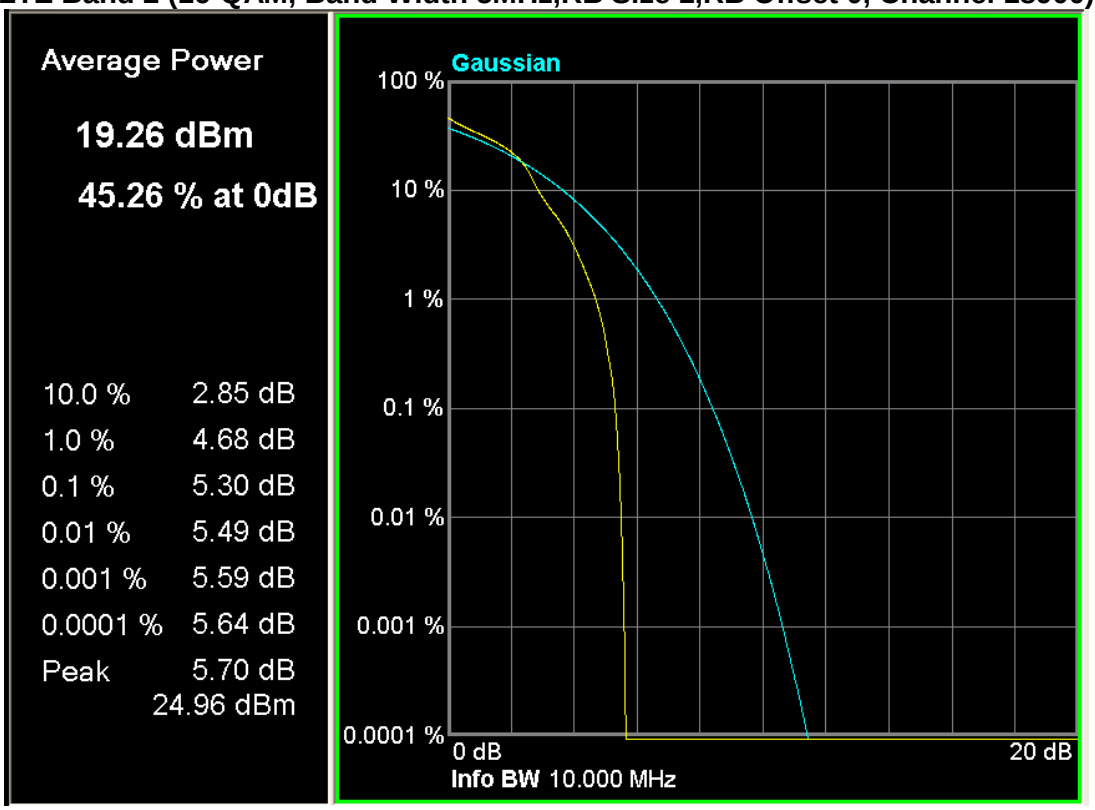
LTE Band 2 (16-QAM, Band Width 3MHz,RB Size 1,RB Offset 0, Channel 19185)



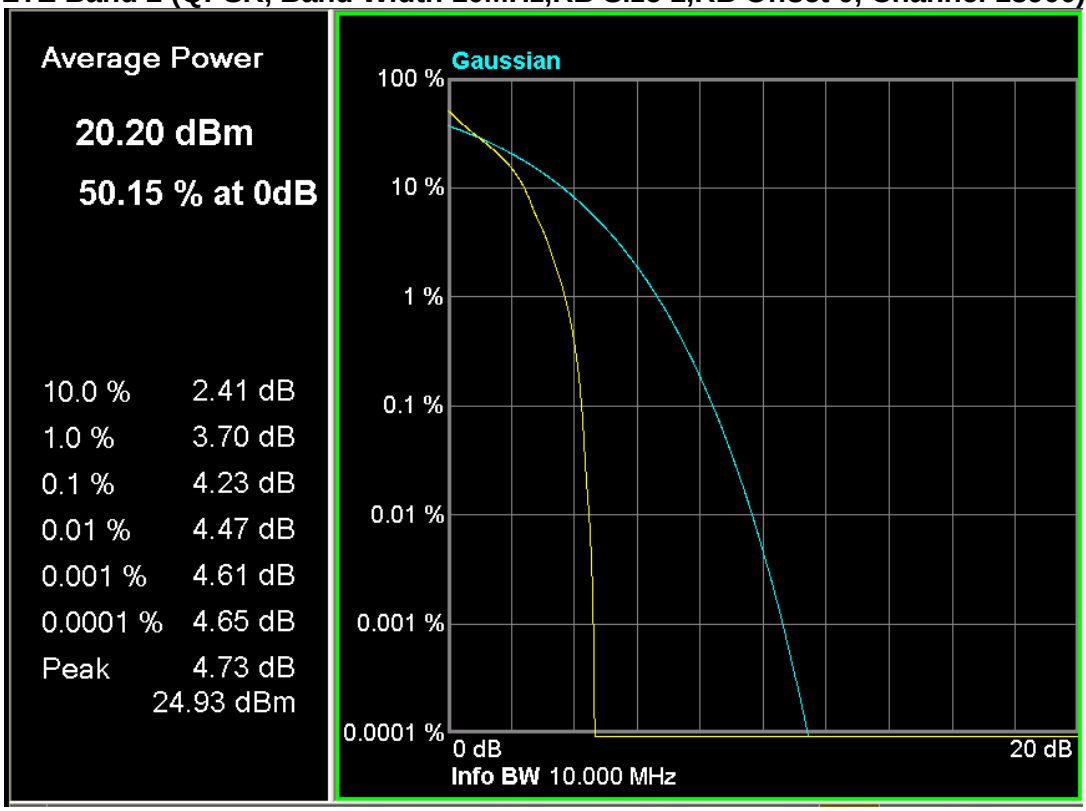
LTE Band 2 (QPSK, Band Width 5MHz,RB Size 1,RB Offset 0, Channel 18625)



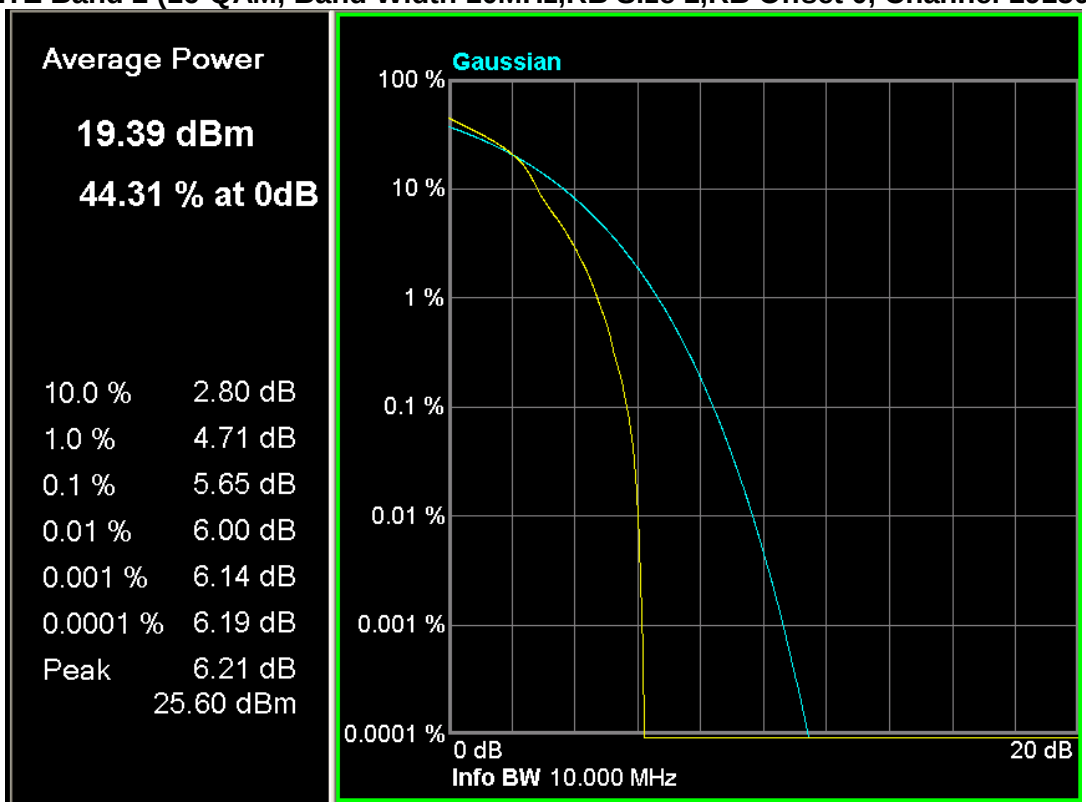
LTE Band 2 (16-QAM, Band Width 5MHz,RB Size 1,RB Offset 0, Channel 18900)



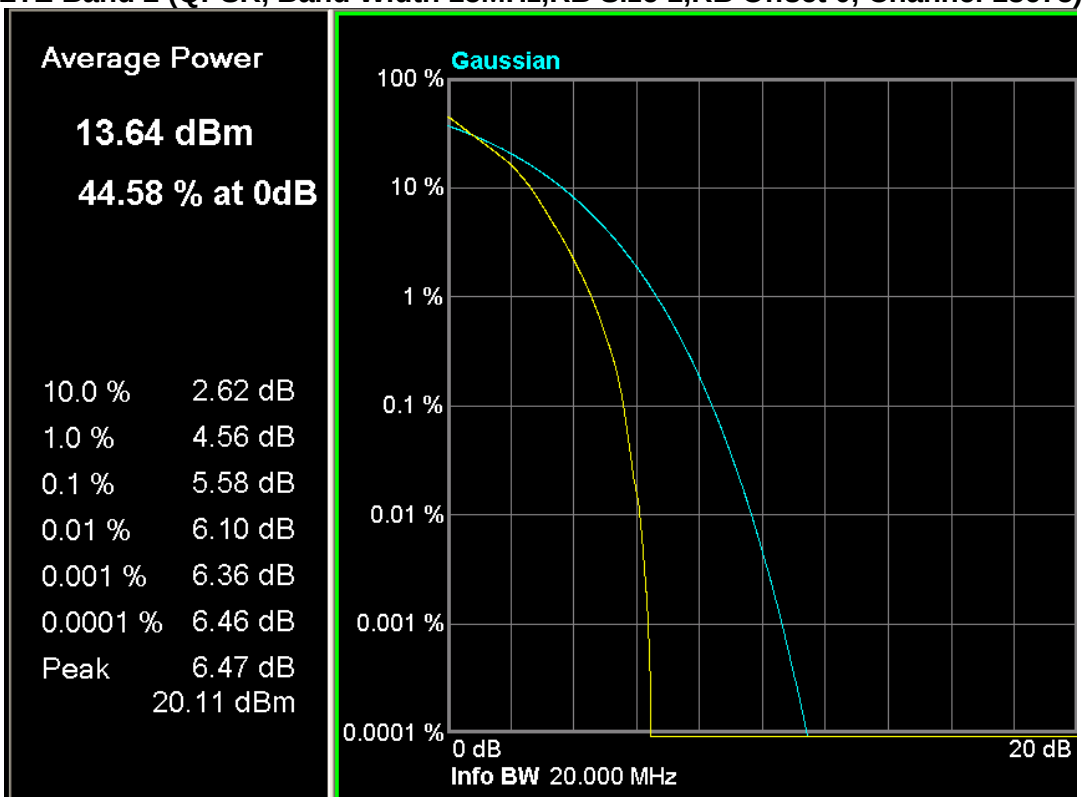
LTE Band 2 (QPSK, Band Width 10MHz,RB Size 1,RB Offset 0, Channel 18900)



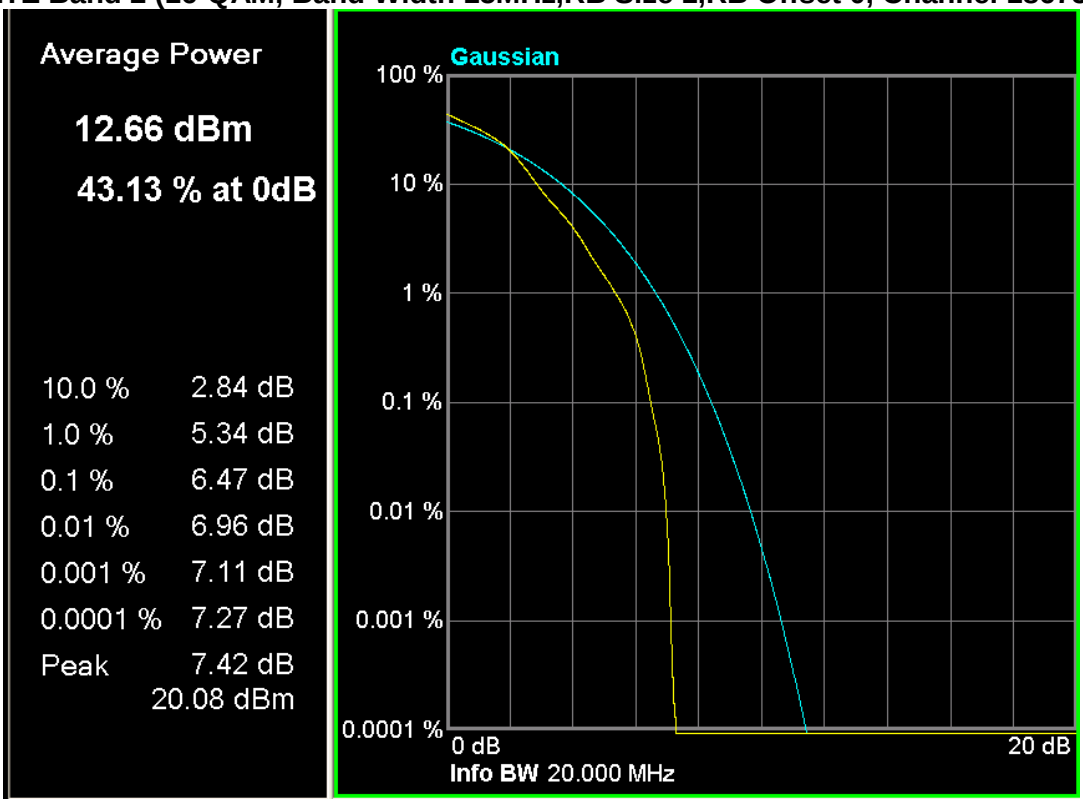
LTE Band 2 (16-QAM, Band Width 10MHz,RB Size 1,RB Offset 0, Channel 19150)



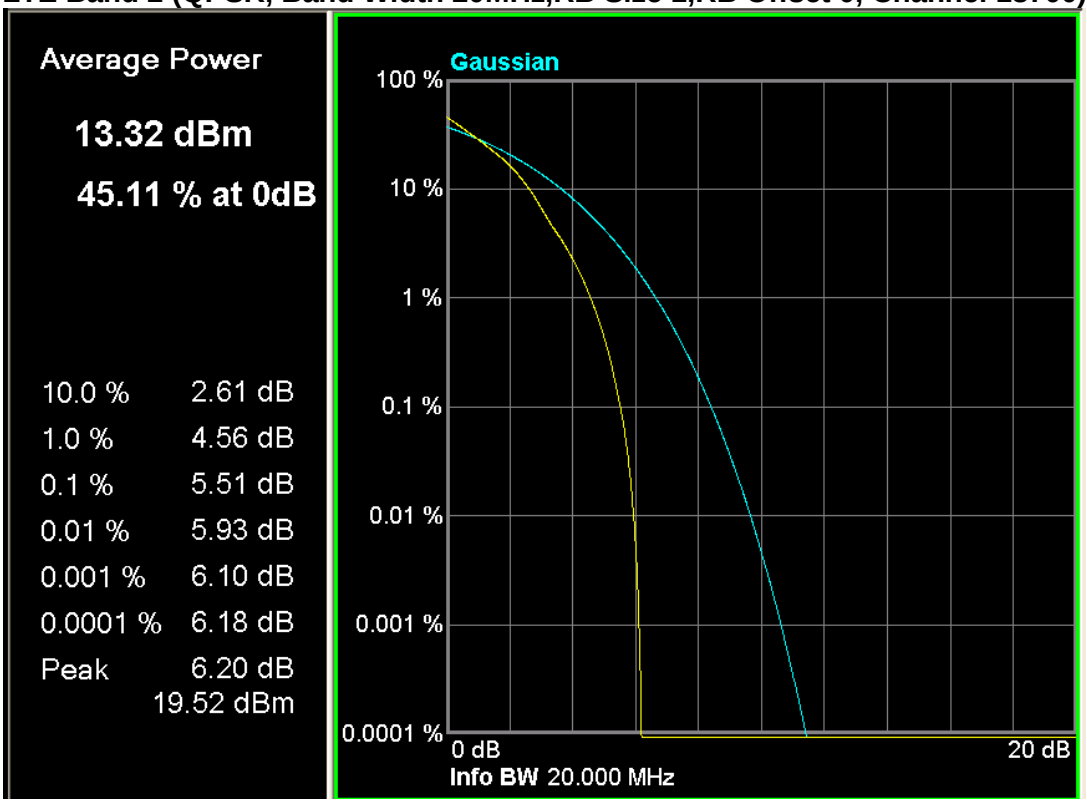
LTE Band 2 (QPSK, Band Width 15MHz,RB Size 1,RB Offset 0, Channel 18675)



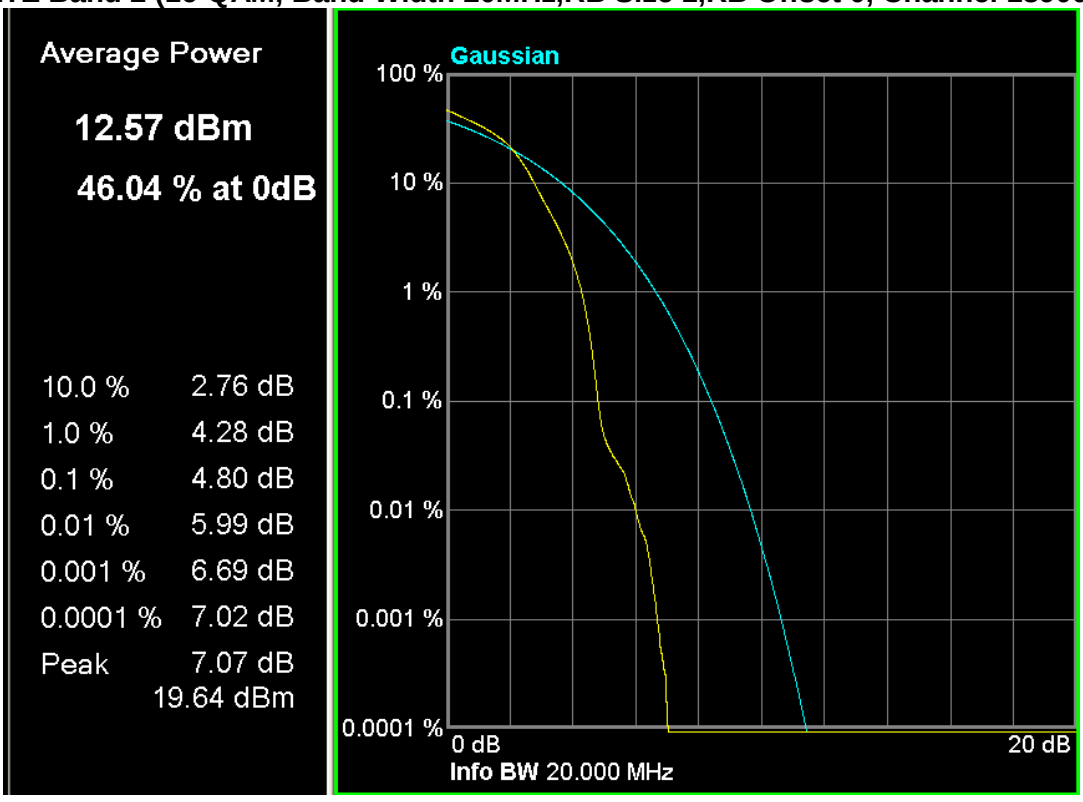
LTE Band 2 (16-QAM, Band Width 15MHz,RB Size 1,RB Offset 0, Channel 18675)



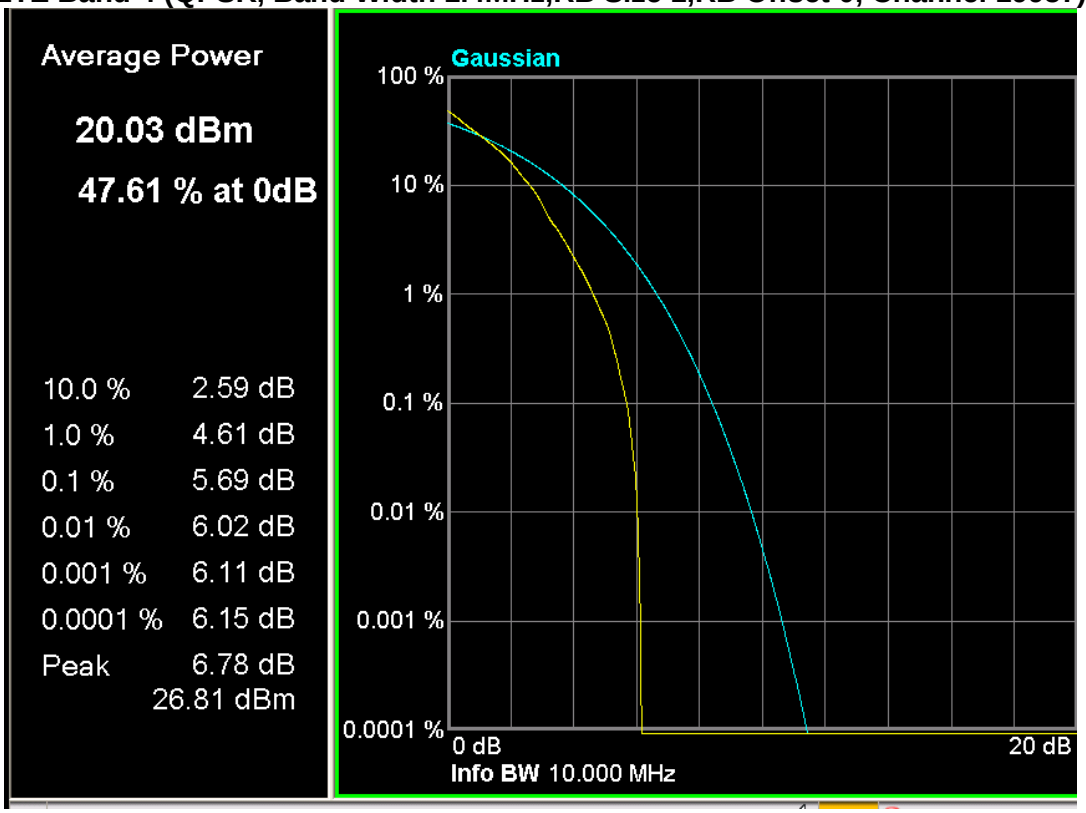
LTE Band 2 (QPSK, Band Width 20MHz,RB Size 1,RB Offset 0, Channel 18700)



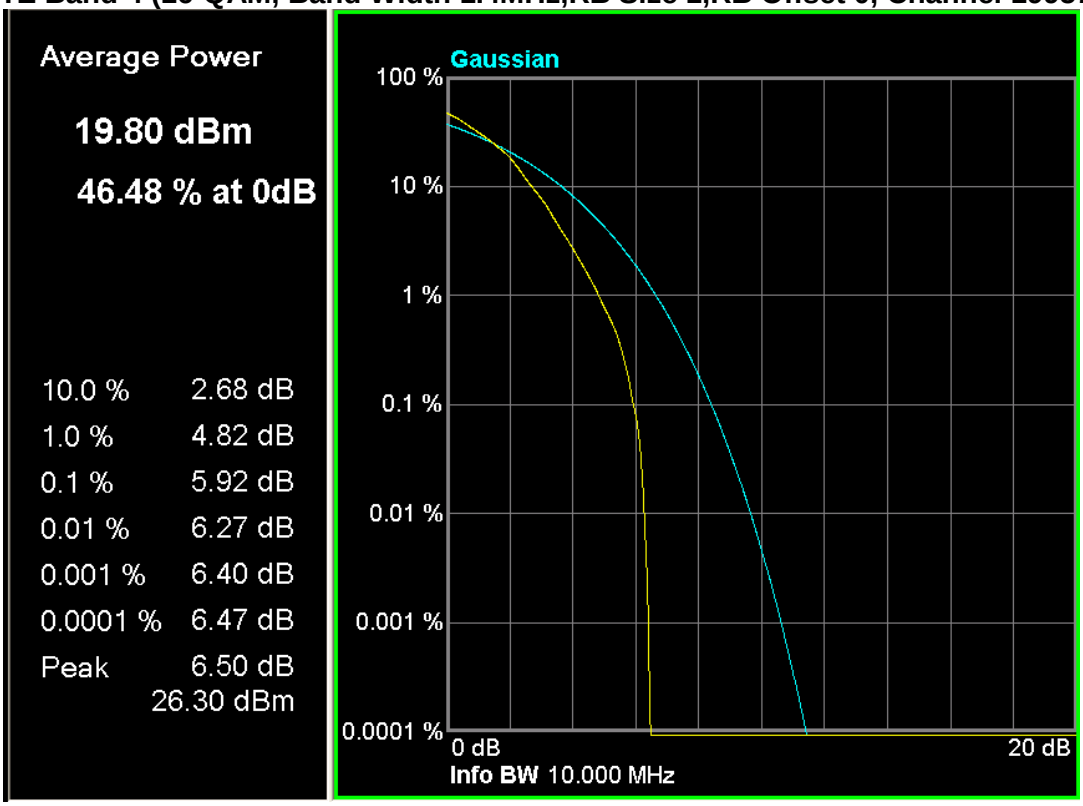
LTE Band 2 (16-QAM, Band Width 20MHz,RB Size 1,RB Offset 0, Channel 18900)



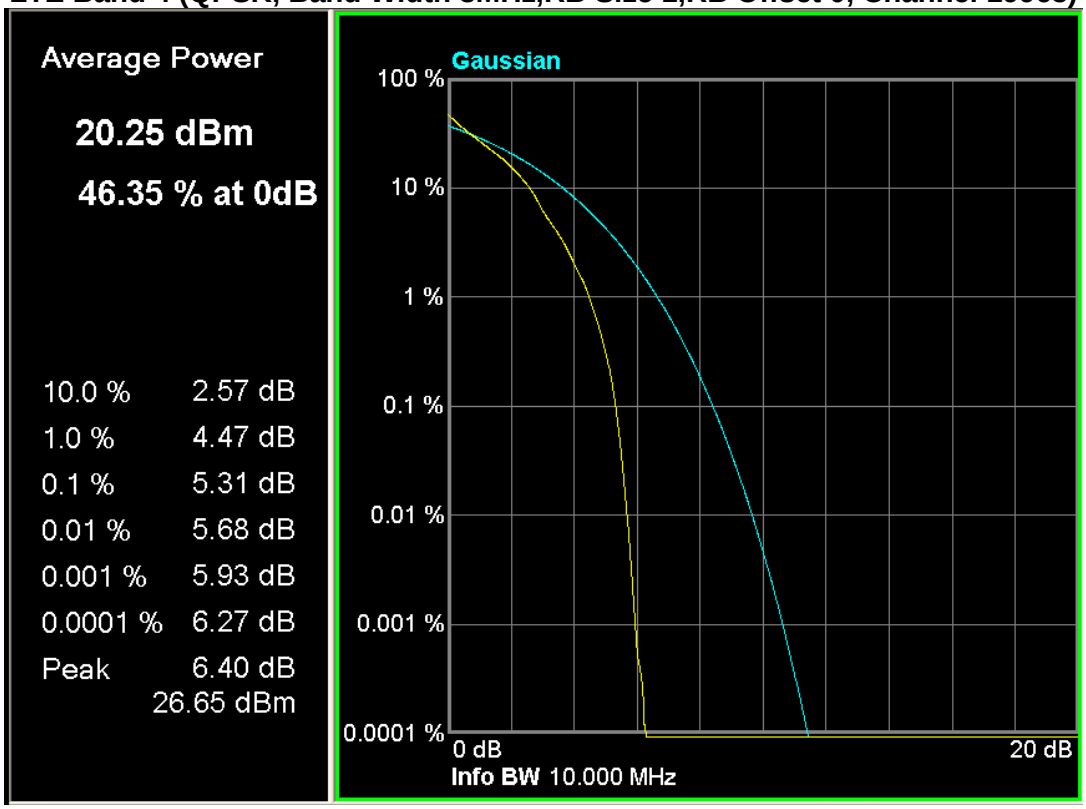
LTE Band 4 (QPSK, Band Width 1.4MHz,RB Size 1,RB Offset 0, Channel 19957)



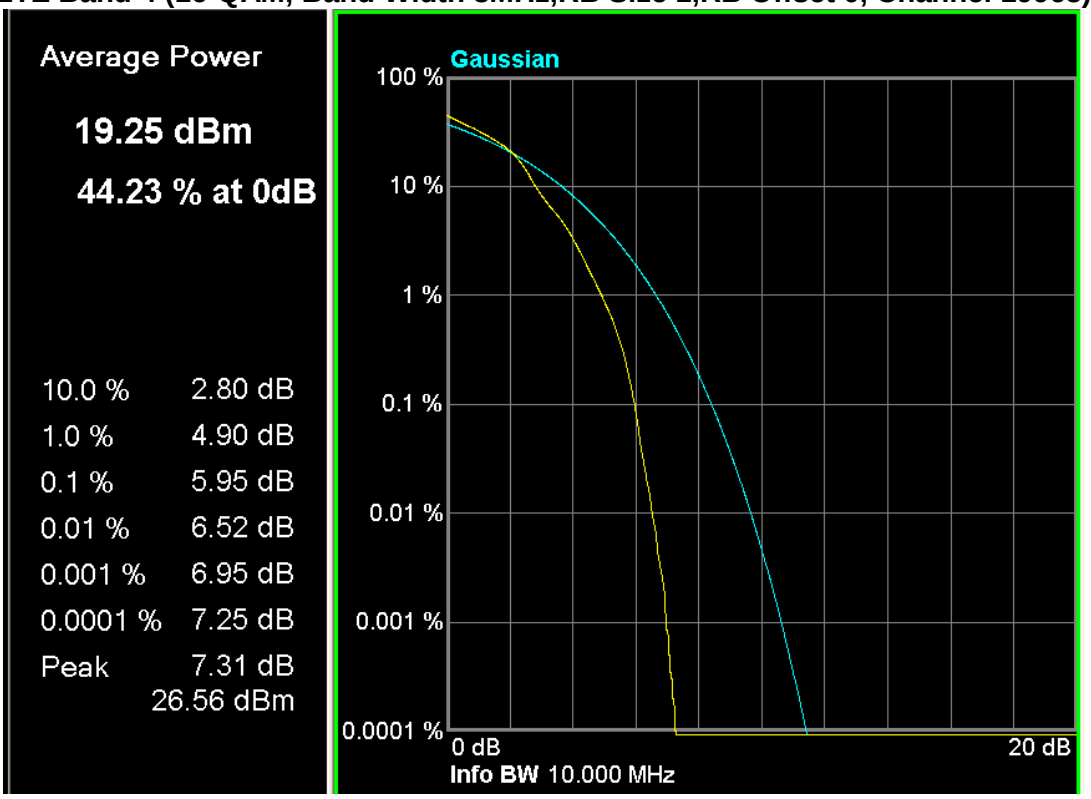
LTE Band 4 (16-QAM, Band Width 1.4MHz,RB Size 1,RB Offset 0, Channel 19957)



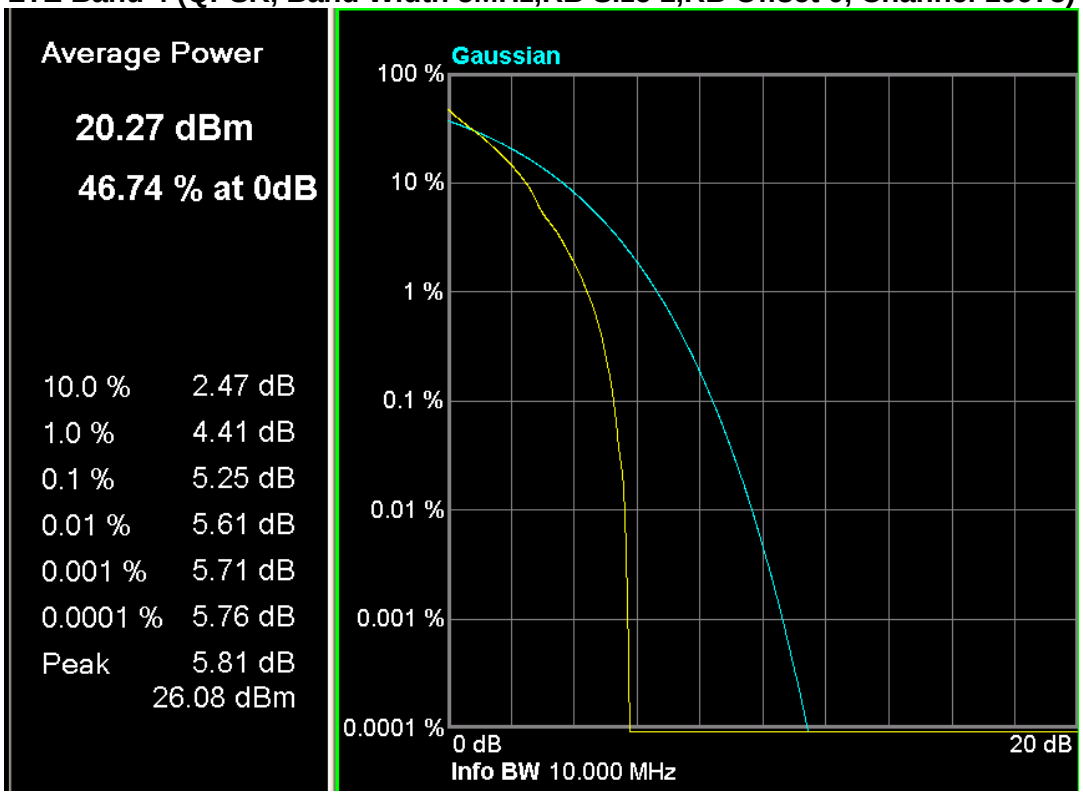
LTE Band 4 (QPSK, Band Width 3MHz,RB Size 1,RB Offset 0, Channel 19965)



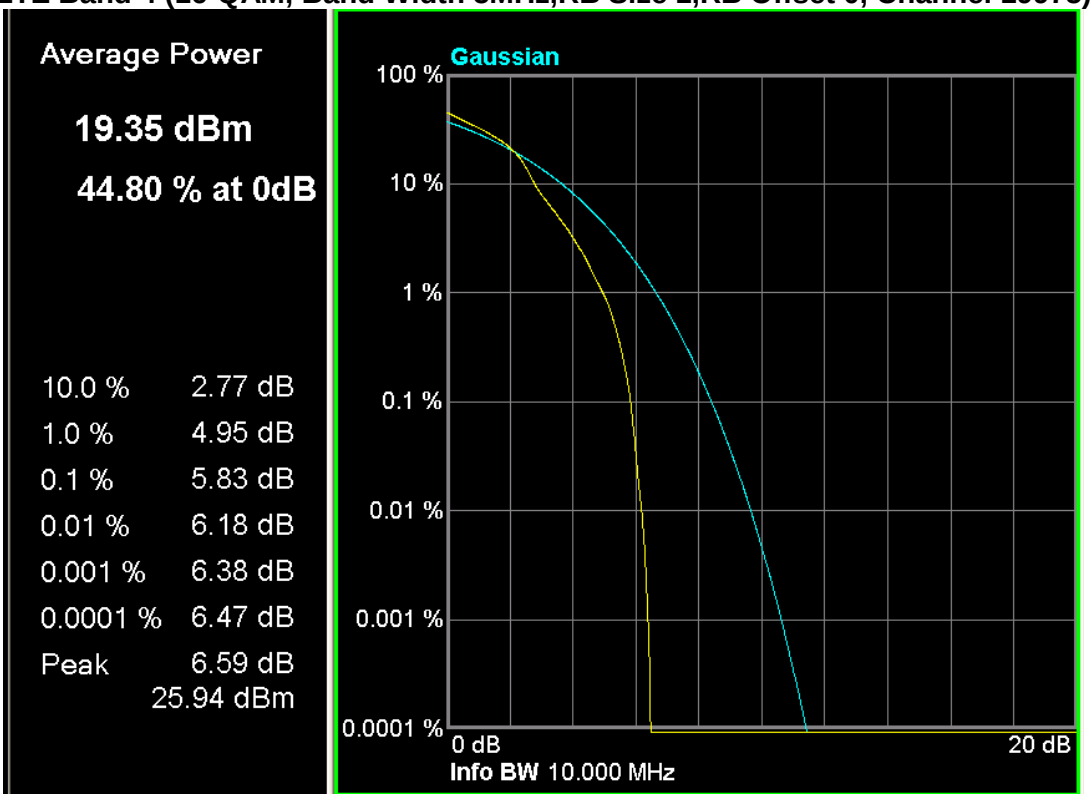
LTE Band 4 (16-QAM, Band Width 3MHz,RB Size 1,RB Offset 0, Channel 19965)



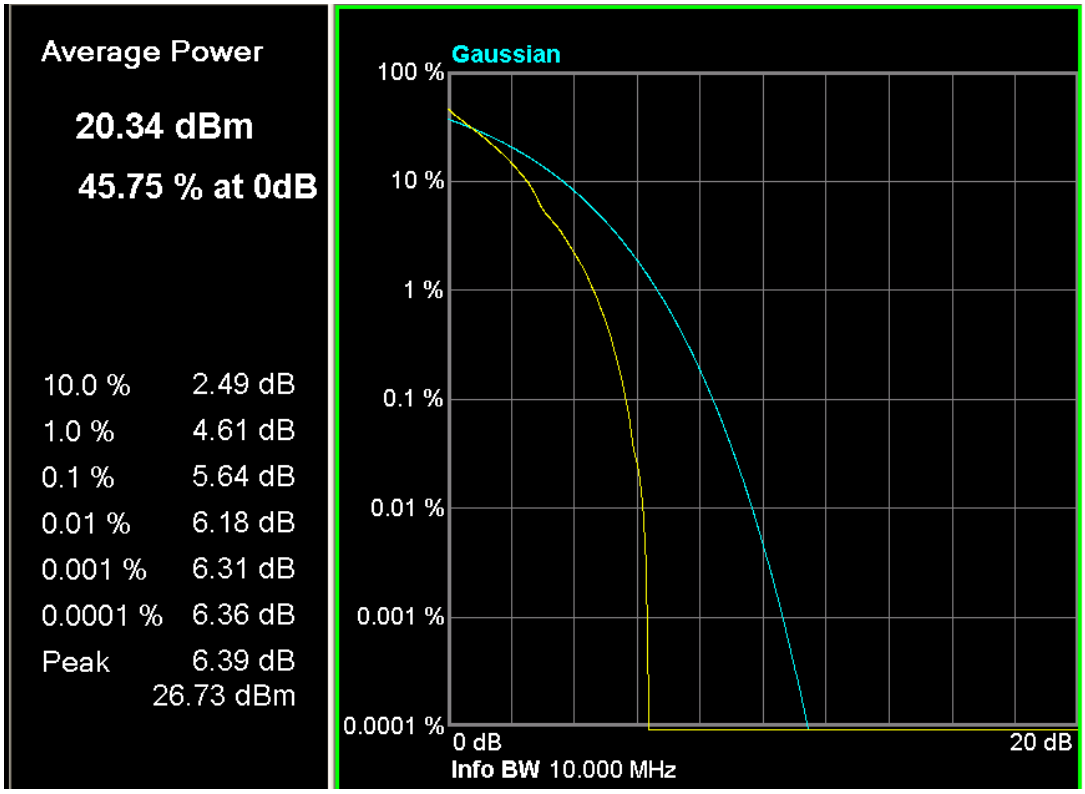
LTE Band 4 (QPSK, Band Width 5MHz,RB Size 1,RB Offset 0, Channel 19975)



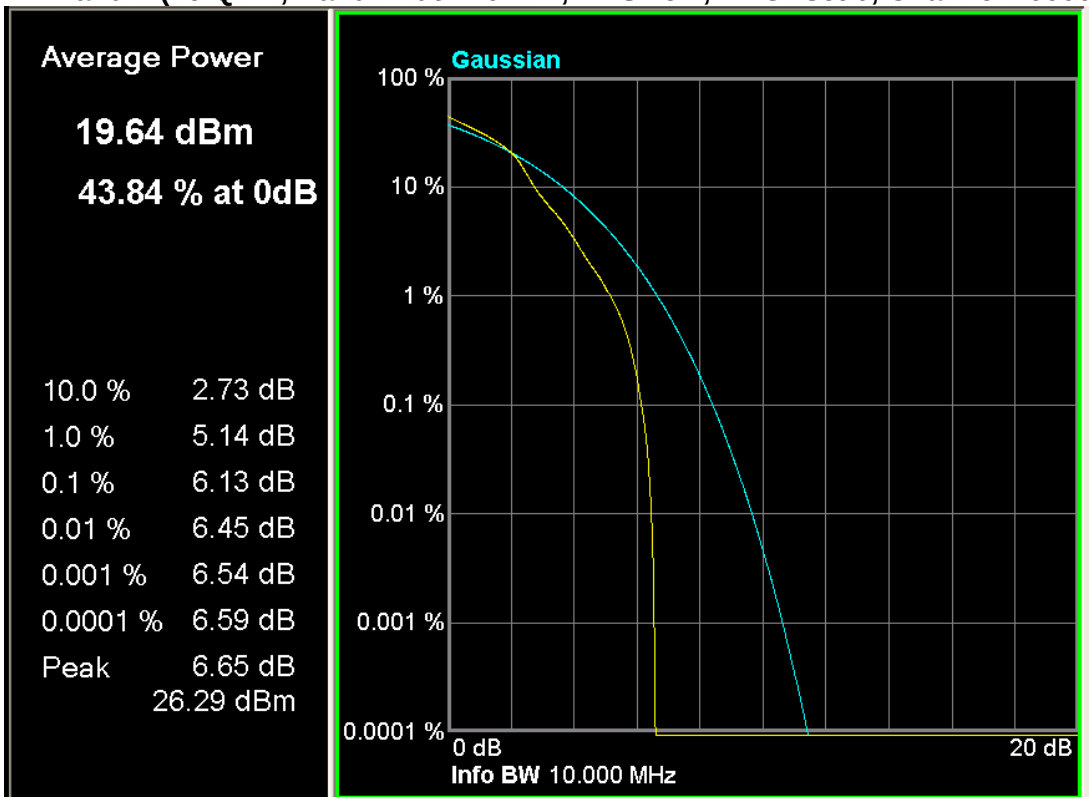
LTE Band 4 (16-QAM, Band Width 5MHz,RB Size 1,RB Offset 0, Channel 19975)



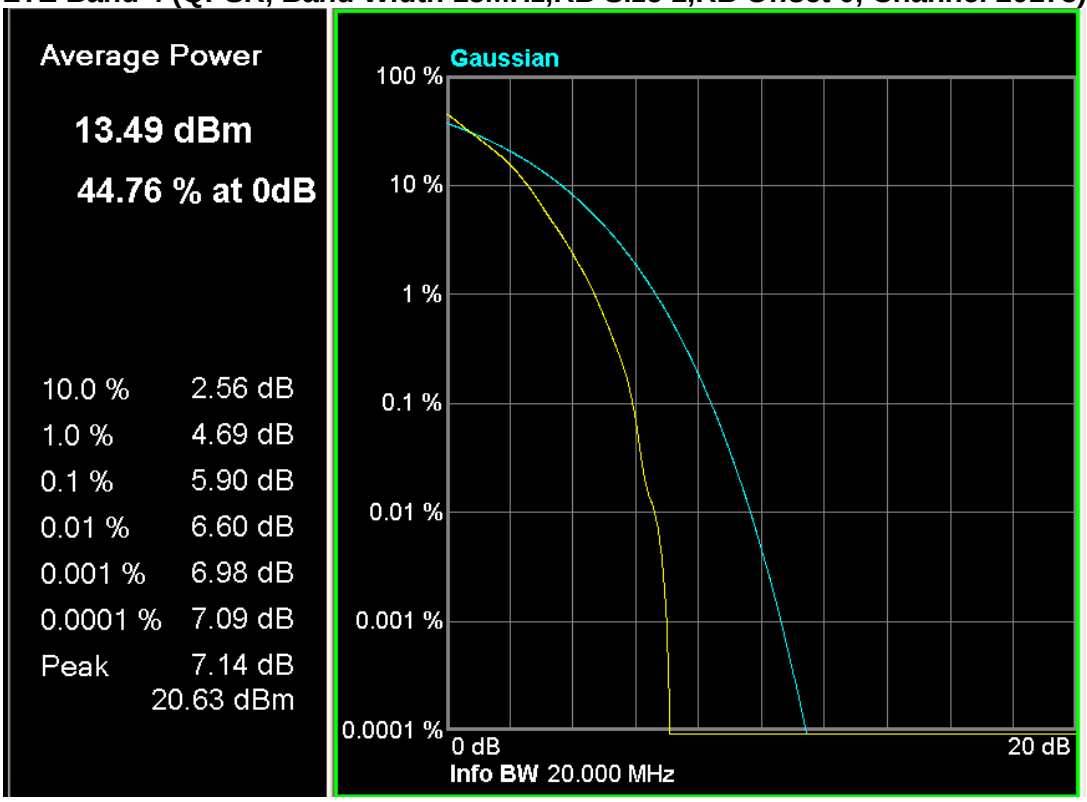
LTE Band 4 (QPSK, Band Width 10MHz,RB Size 1,RB Offset 0, Channel 20175)



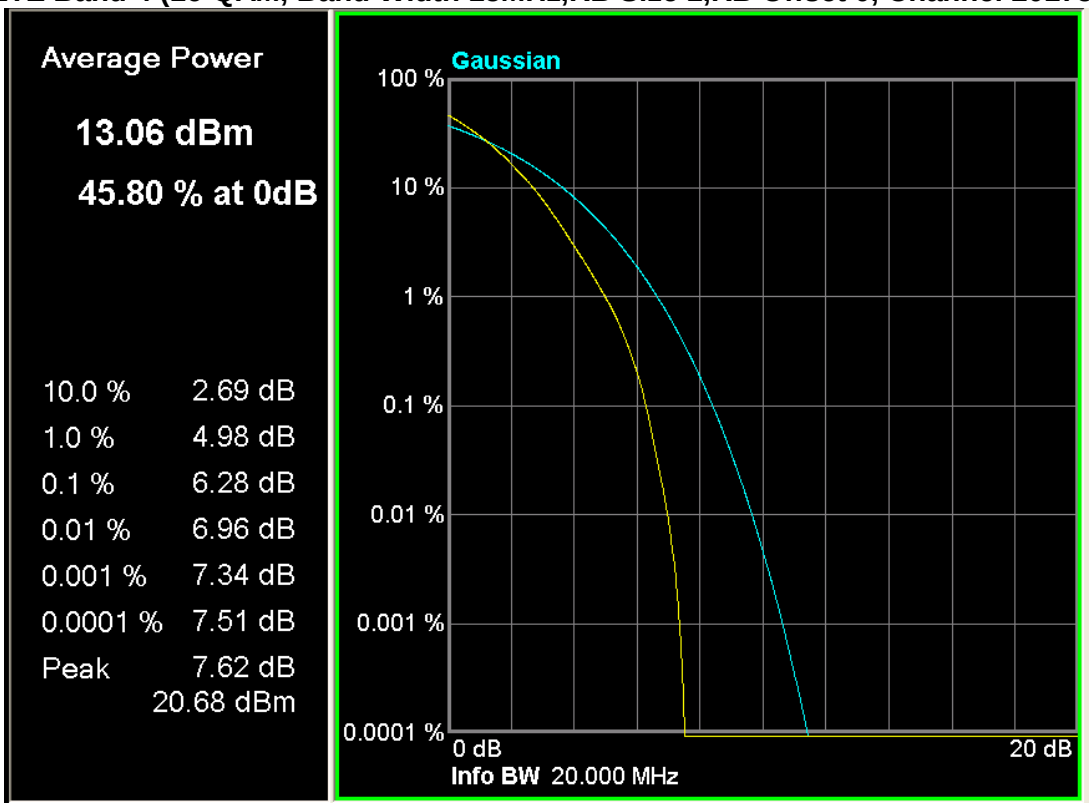
LTE Band 4 (16-QAM, Band Width 10MHz,RB Size 1,RB Offset 0, Channel 20000)



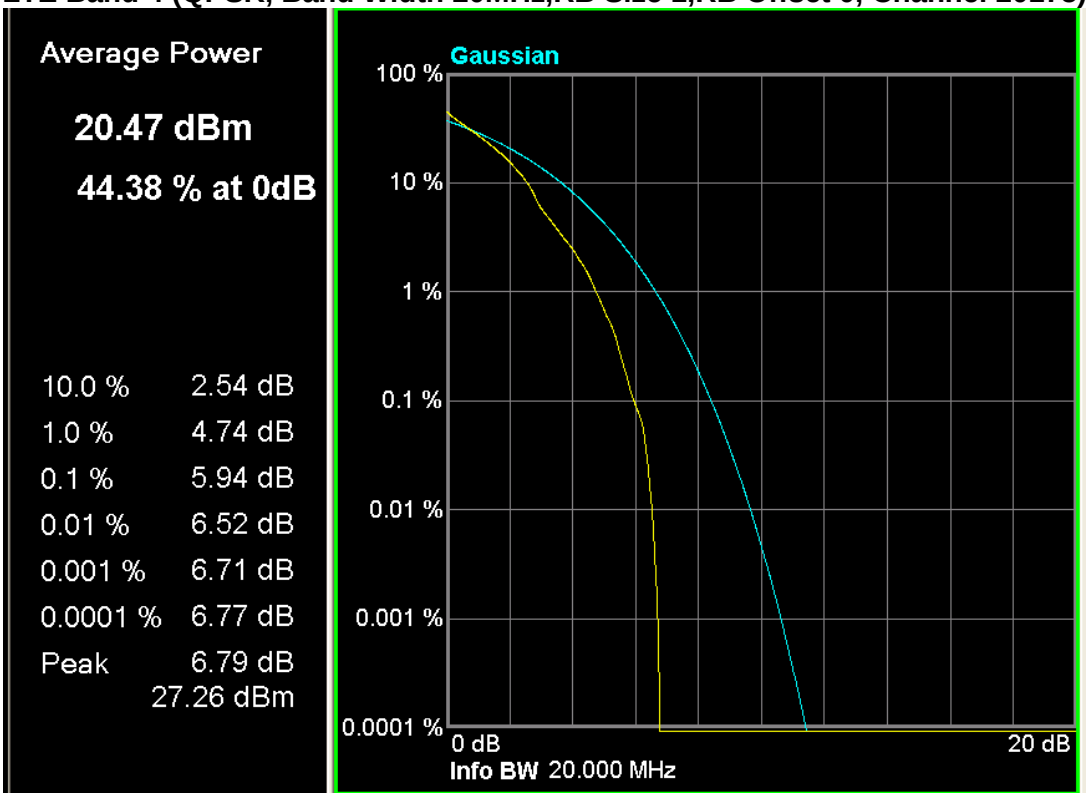
LTE Band 4 (QPSK, Band Width 15MHz,RB Size 1,RB Offset 0, Channel 20175)



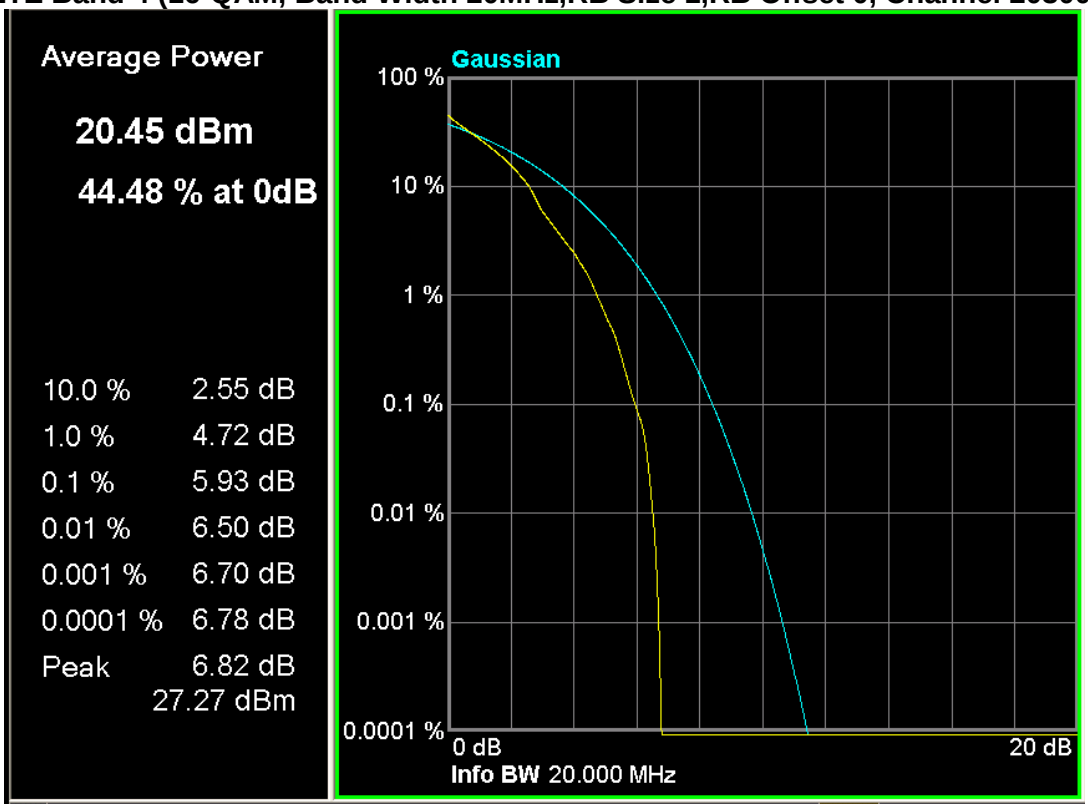
LTE Band 4 (16-QAM, Band Width 15MHz,RB Size 1,RB Offset 0, Channel 20175)



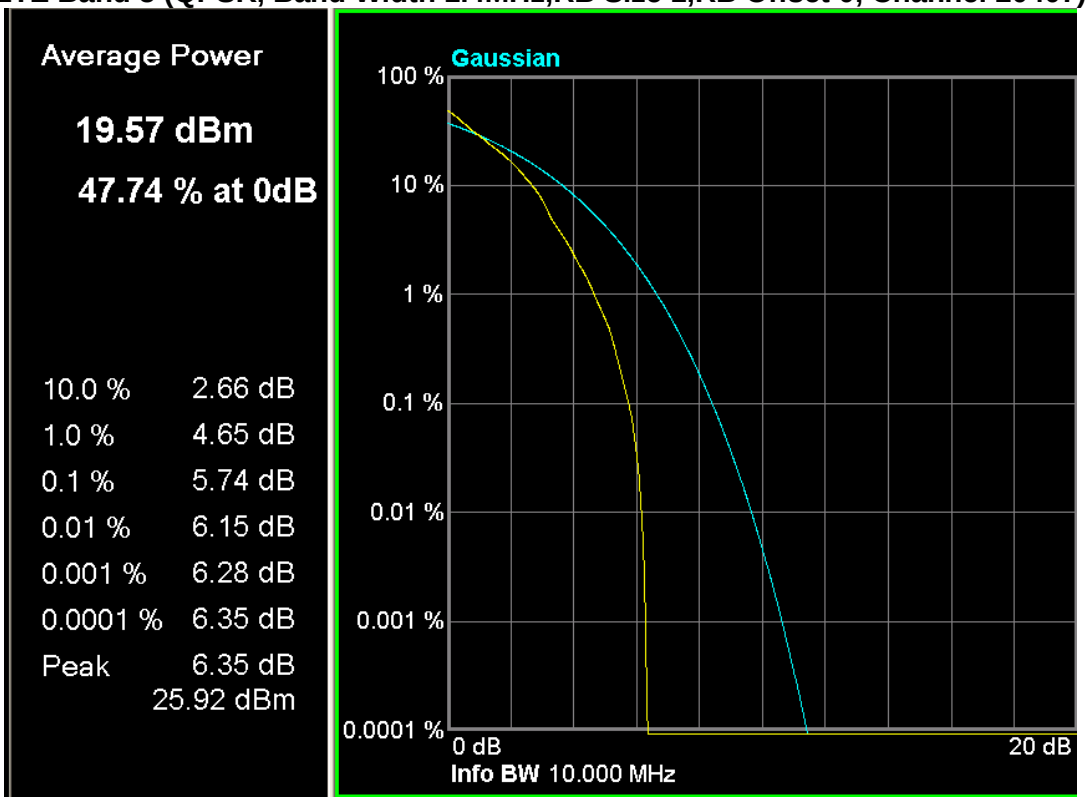
LTE Band 4 (QPSK, Band Width 20MHz,RB Size 1,RB Offset 0, Channel 20175)



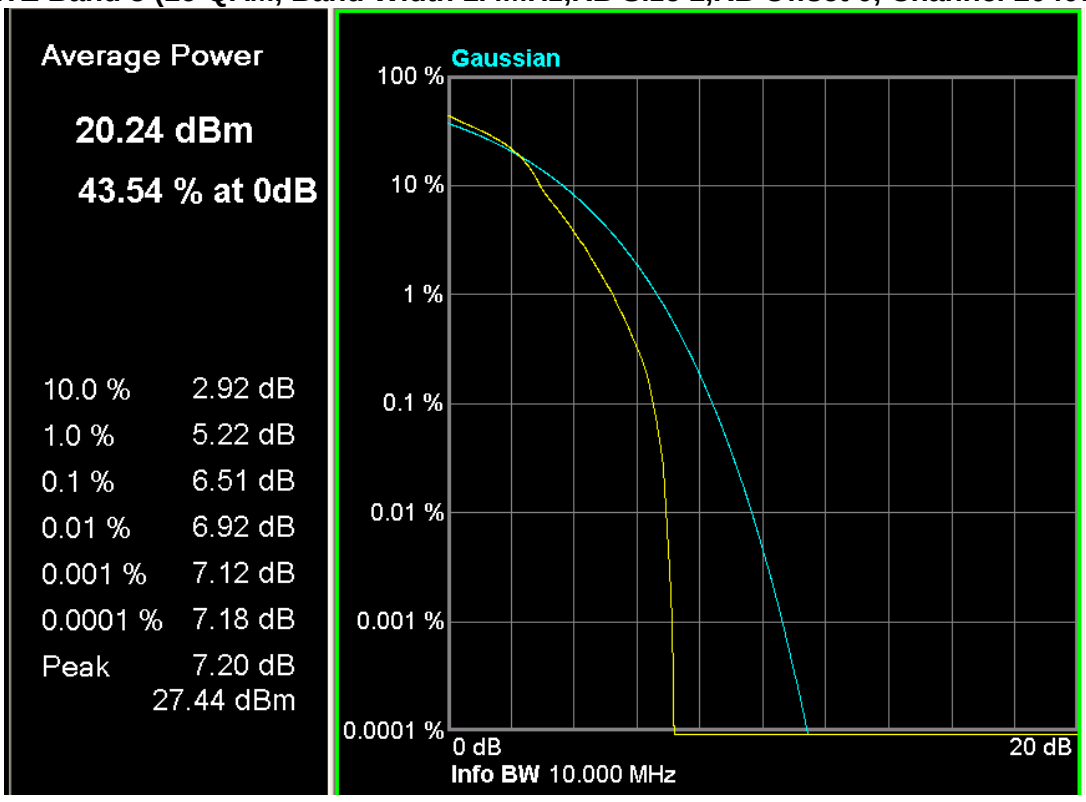
LTE Band 4 (16-QAM, Band Width 20MHz,RB Size 1,RB Offset 0, Channel 20300)



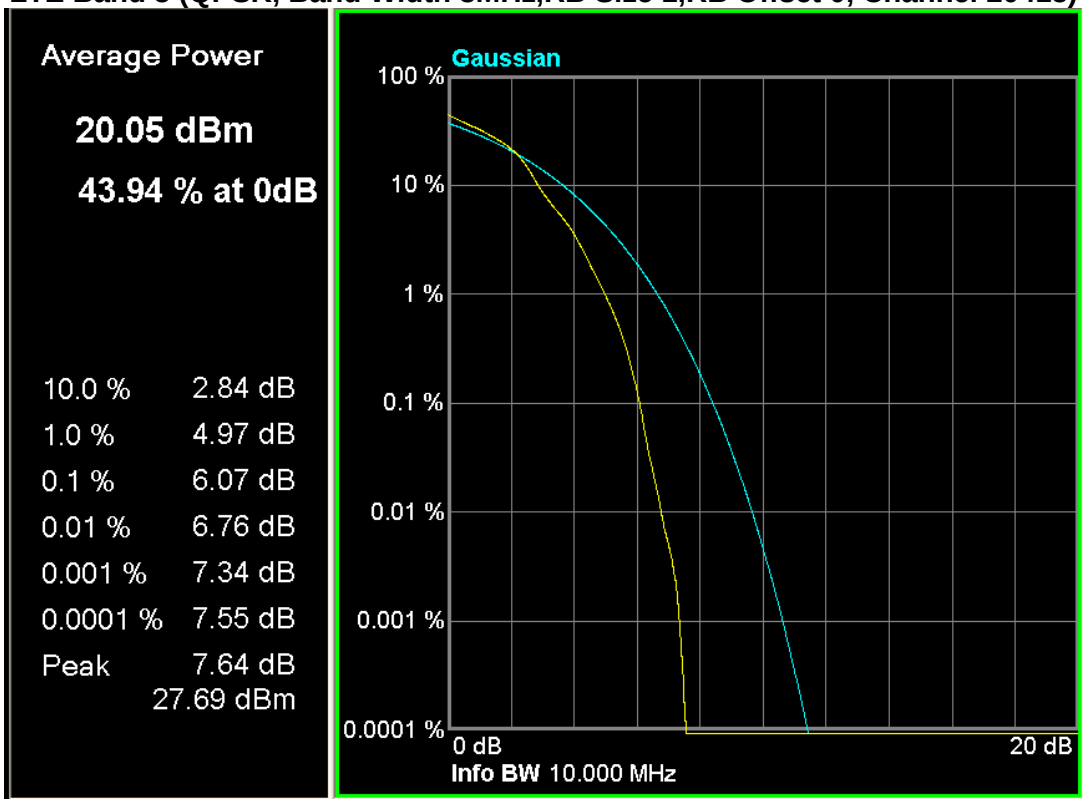
LTE Band 5 (QPSK, Band Width 1.4MHz,RB Size 1,RB Offset 0, Channel 20407)



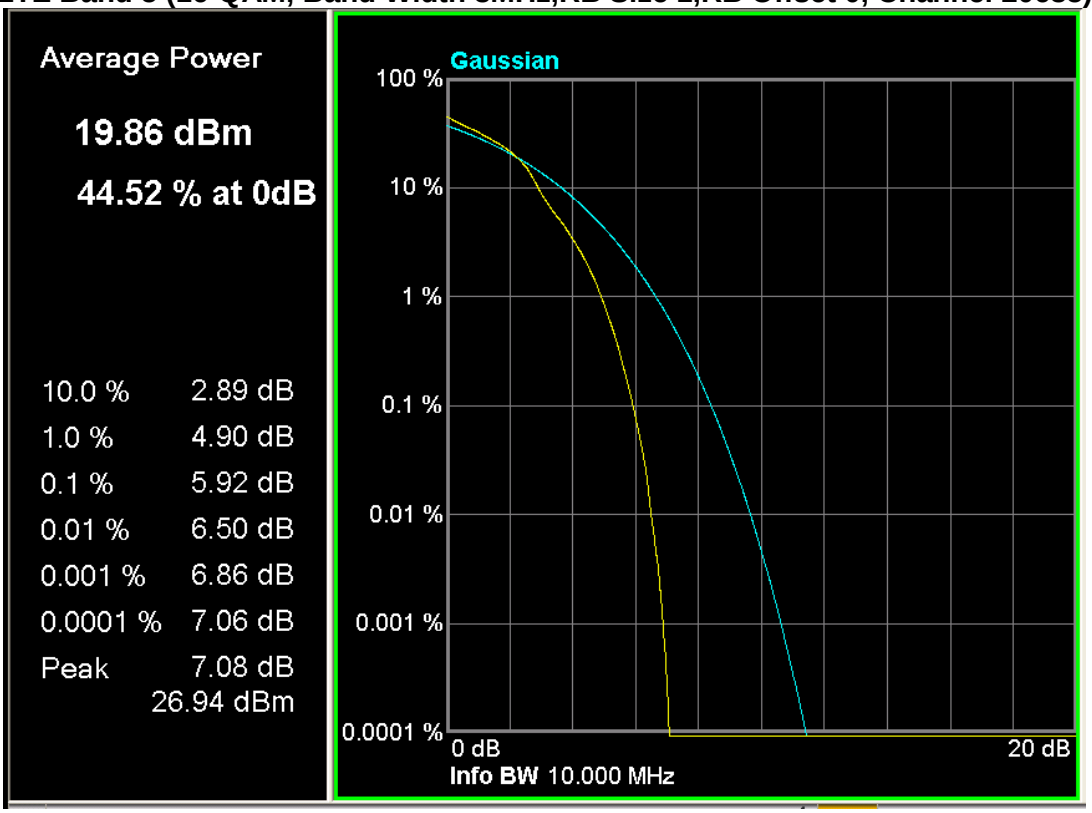
LTE Band 5 (16-QAM, Band Width 1.4MHz,RB Size 1,RB Offset 0, Channel 20407)



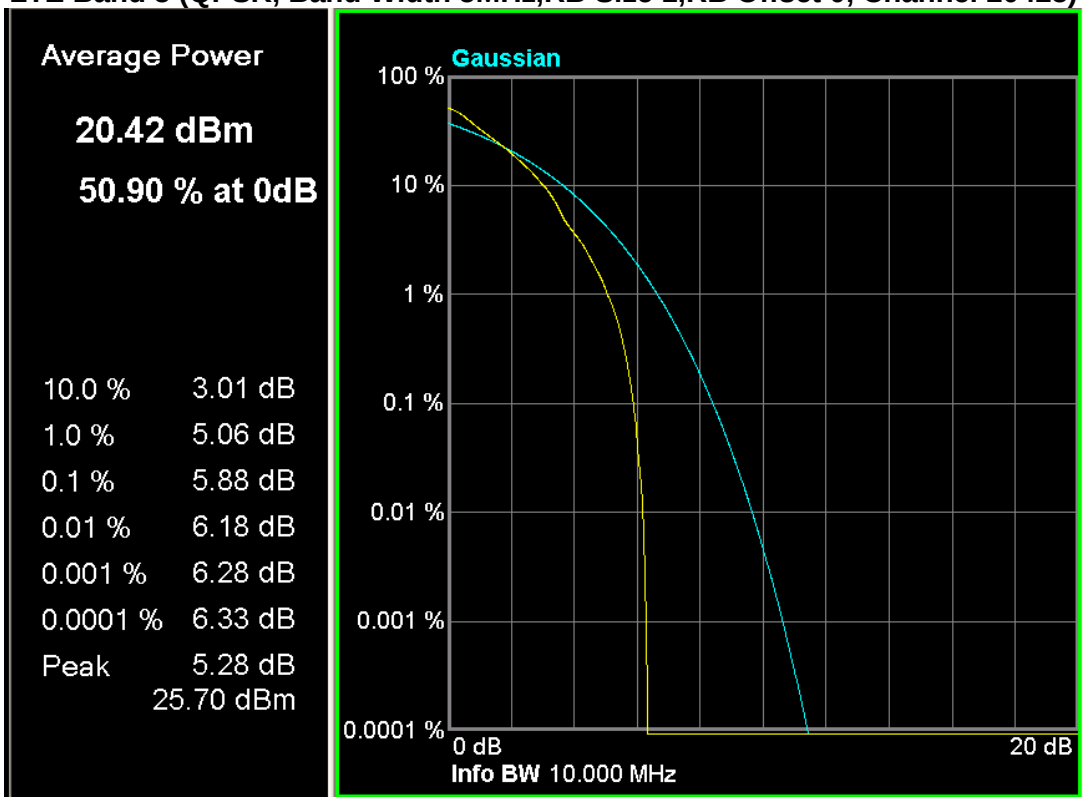
LTE Band 5 (QPSK, Band Width 3MHz,RB Size 1,RB Offset 0, Channel 20415)



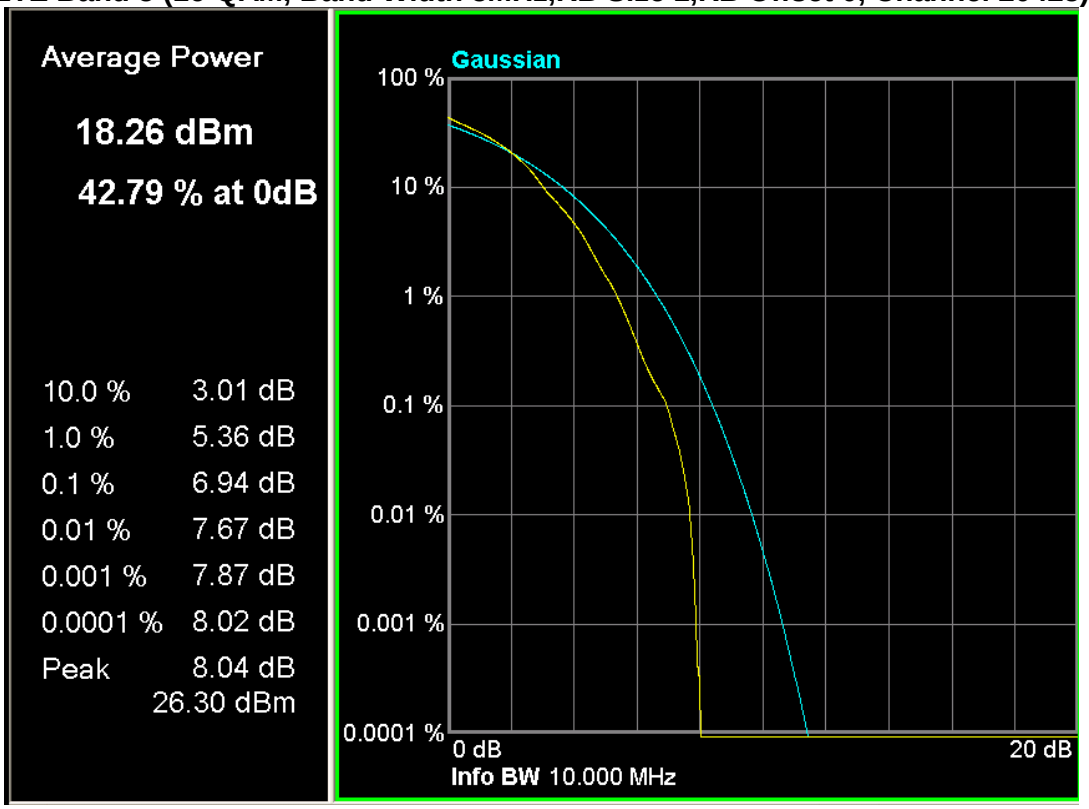
LTE Band 5 (16-QAM, Band Width 3MHz,RB Size 1,RB Offset 0, Channel 20635)



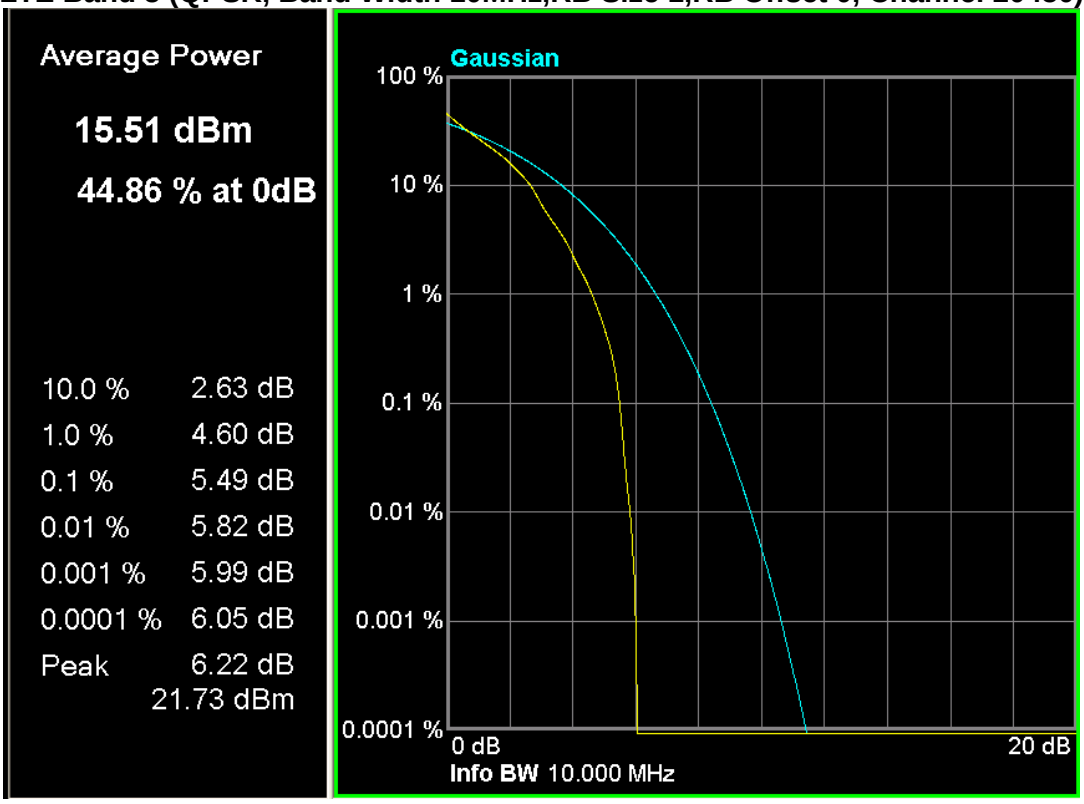
LTE Band 5 (QPSK, Band Width 5MHz,RB Size 1,RB Offset 0, Channel 20425)



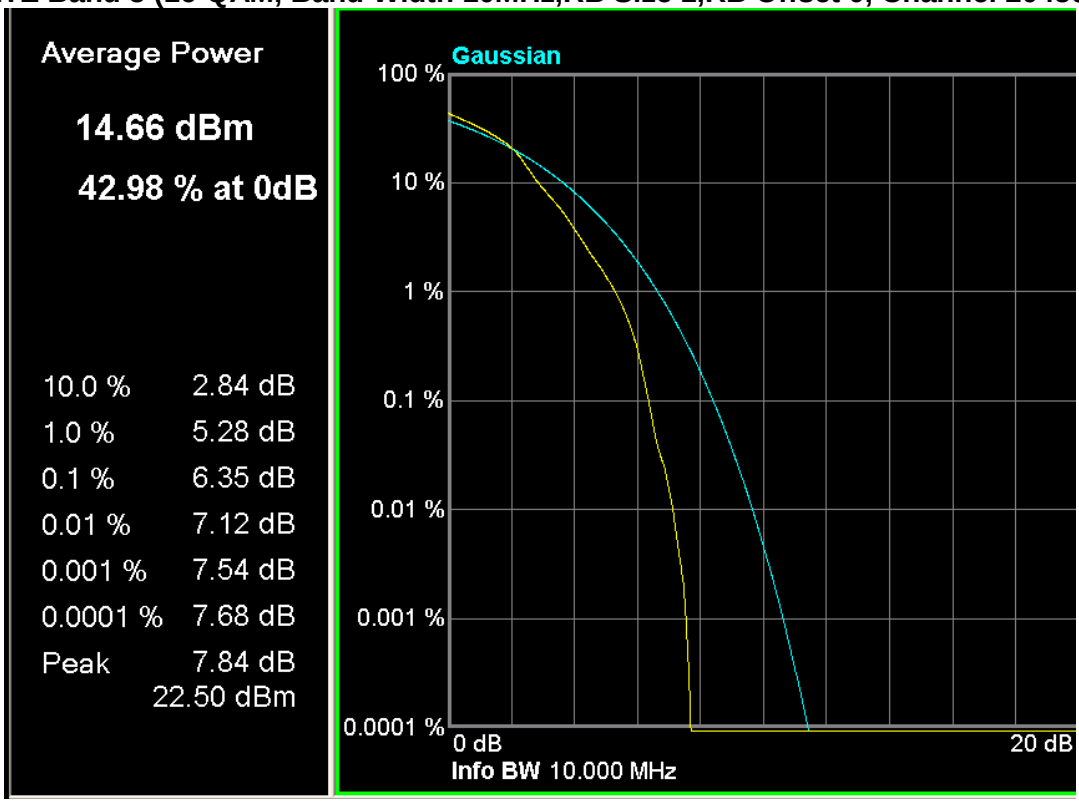
LTE Band 5 (16-QAM, Band Width 5MHz,RB Size 1,RB Offset 0, Channel 20425)



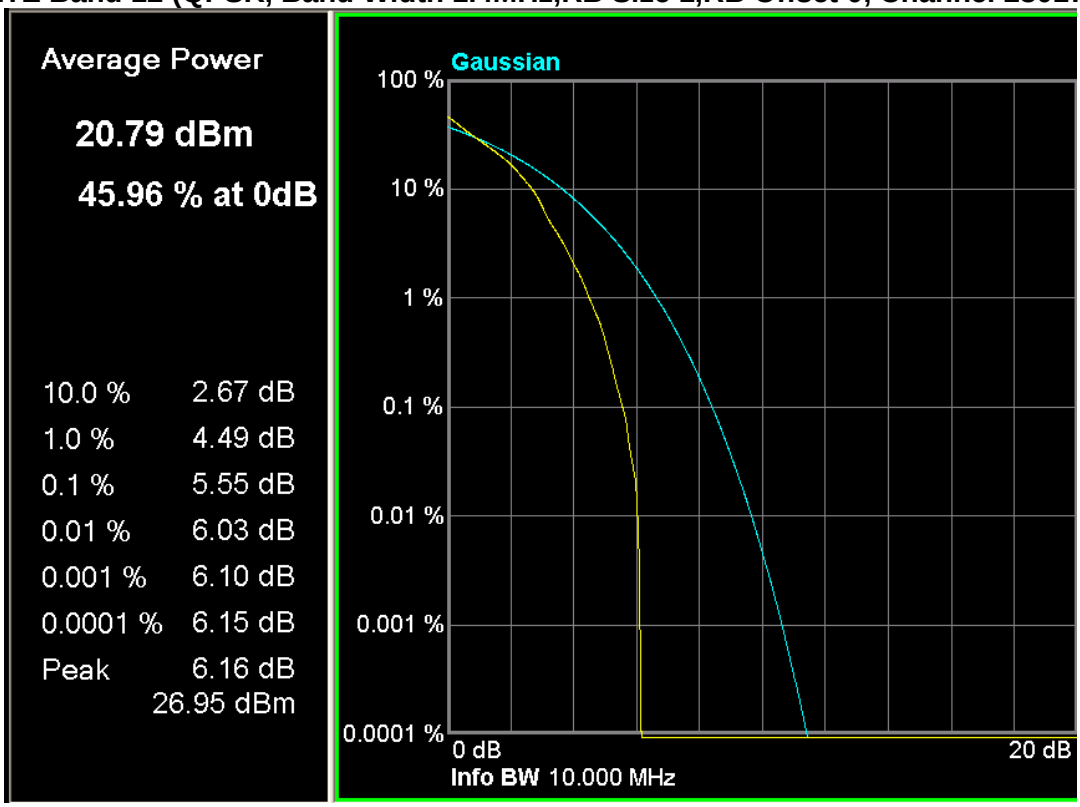
LTE Band 5 (QPSK, Band Width 10MHz,RB Size 1,RB Offset 0, Channel 20450)



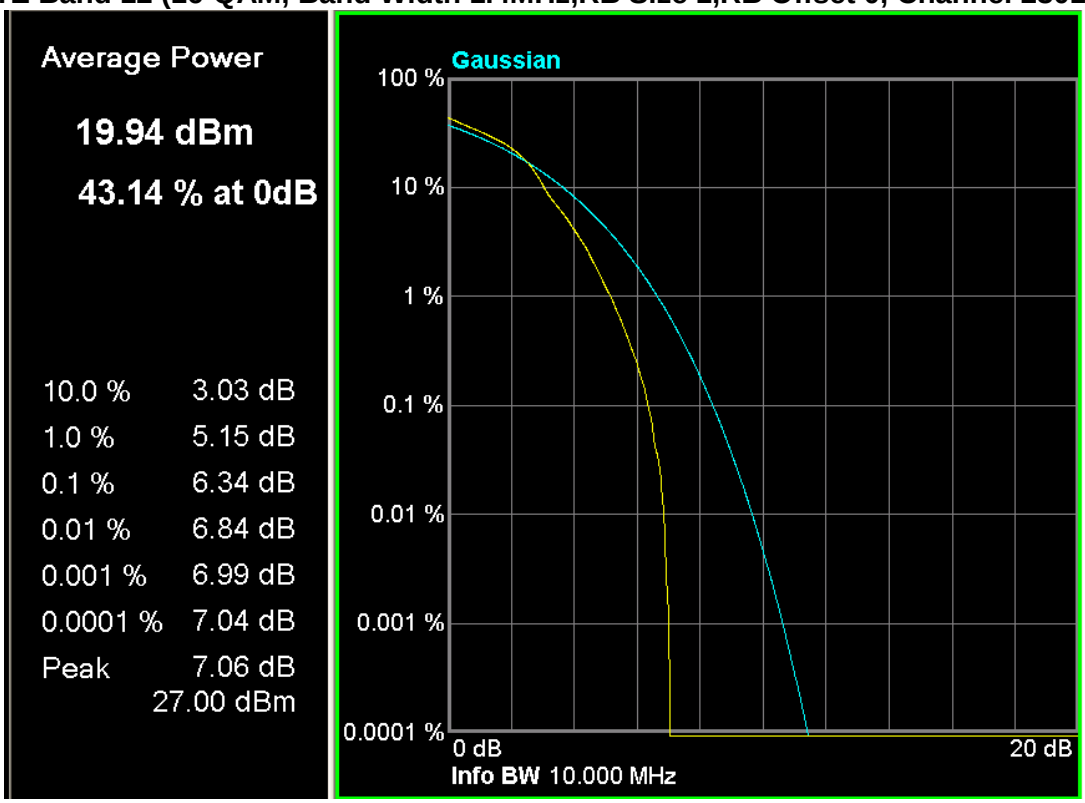
LTE Band 5 (16-QAM, Band Width 10MHz,RB Size 1,RB Offset 0, Channel 20450)



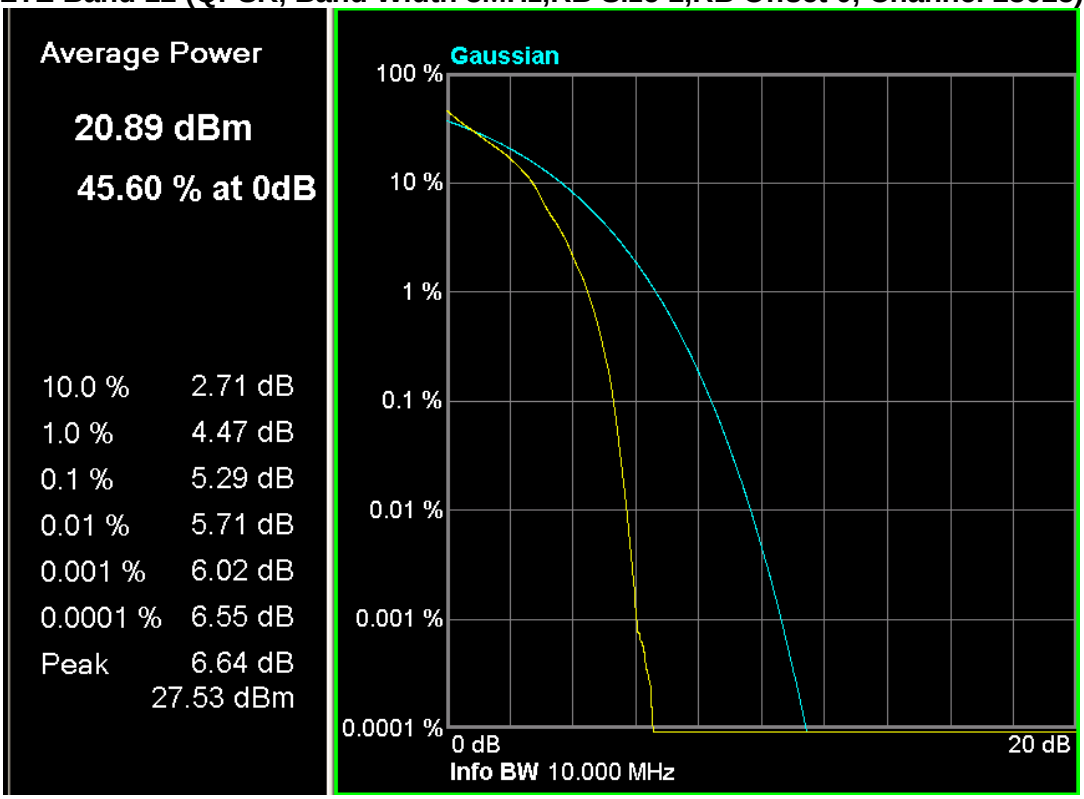
LTE Band 12 (QPSK, Band Width 1.4MHz,RB Size 1,RB Offset 0, Channel 23017)



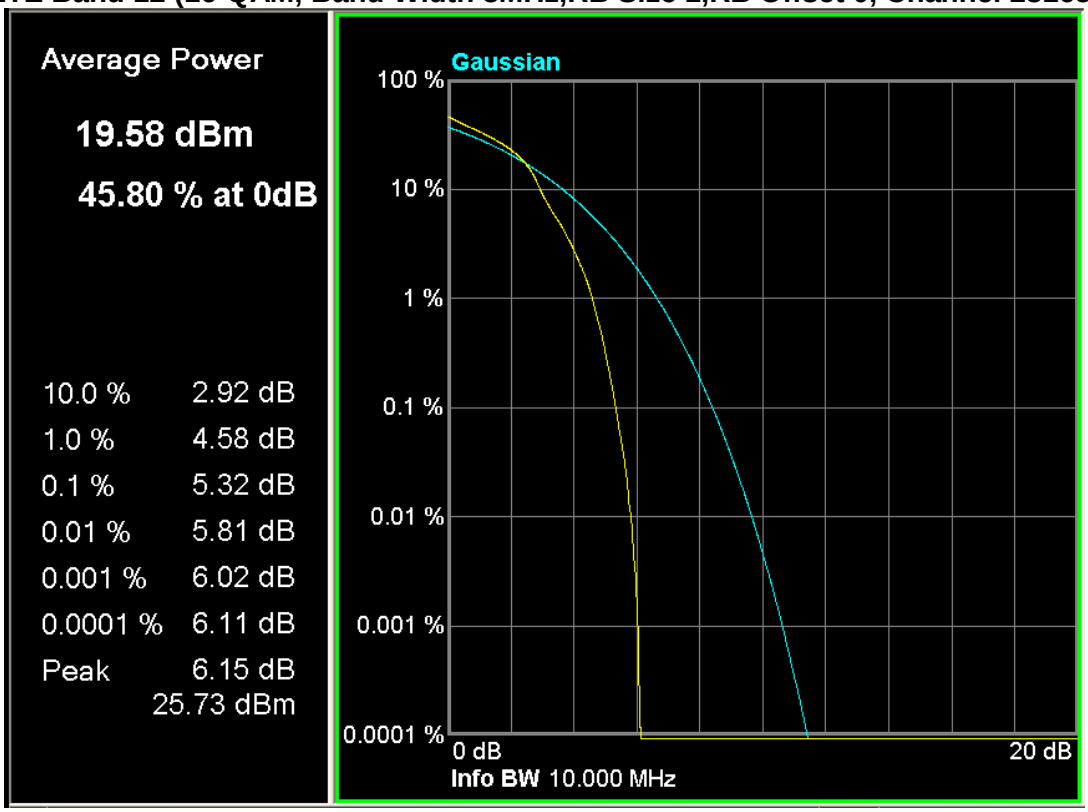
LTE Band 12 (16-QAM, Band Width 1.4MHz,RB Size 1,RB Offset 0, Channel 23017)



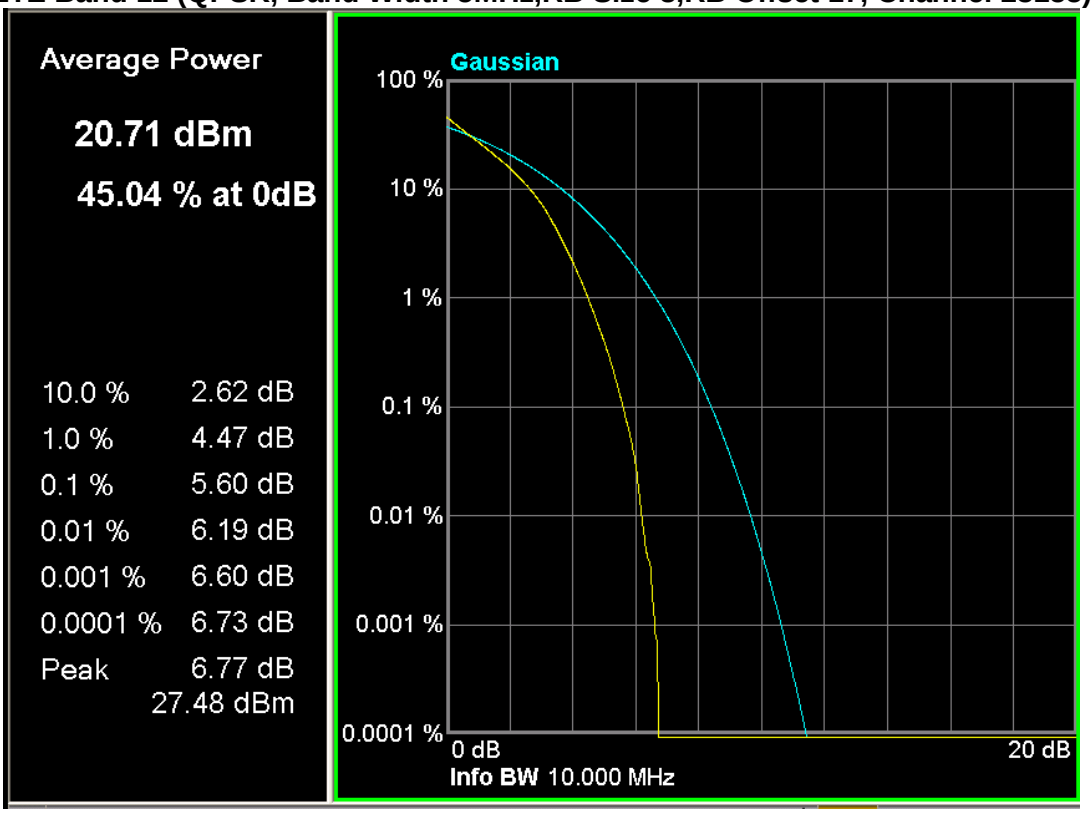
LTE Band 12 (QPSK, Band Width 3MHz,RB Size 1,RB Offset 0, Channel 23025)



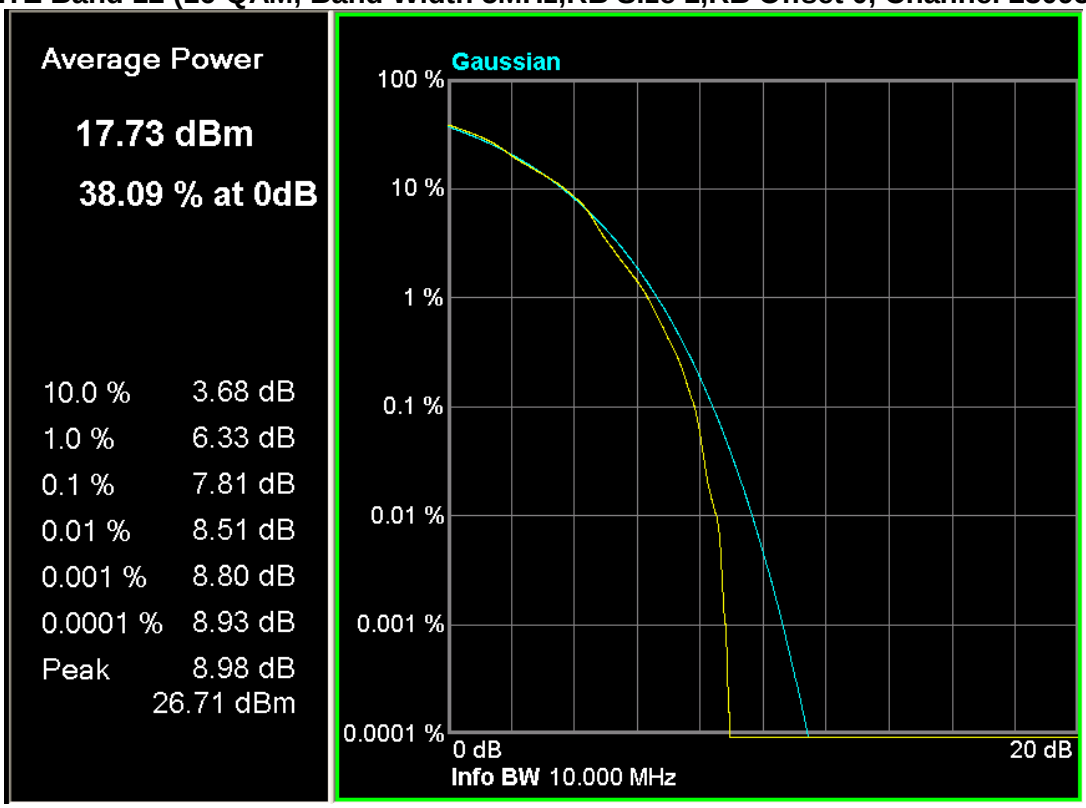
LTE Band 12 (16-QAM, Band Width 3MHz,RB Size 1,RB Offset 0, Channel 23165)



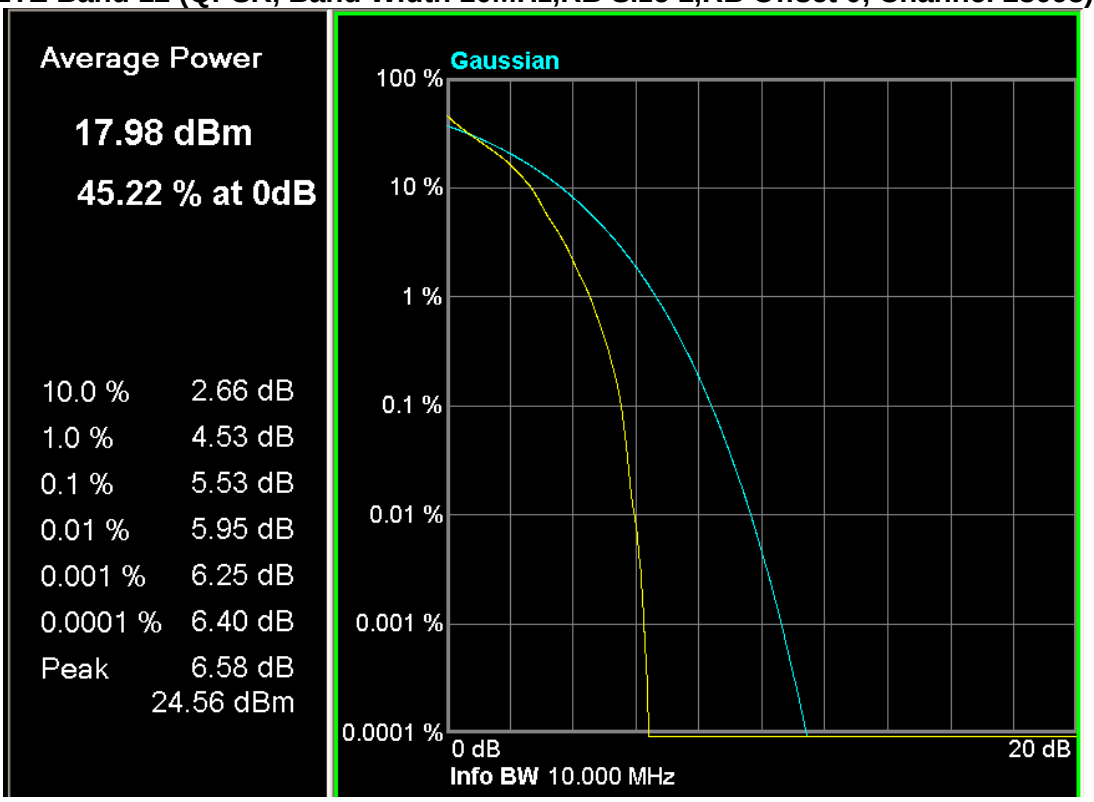
LTE Band 12 (QPSK, Band Width 5MHz,RB Size 8,RB Offset 17, Channel 23155)



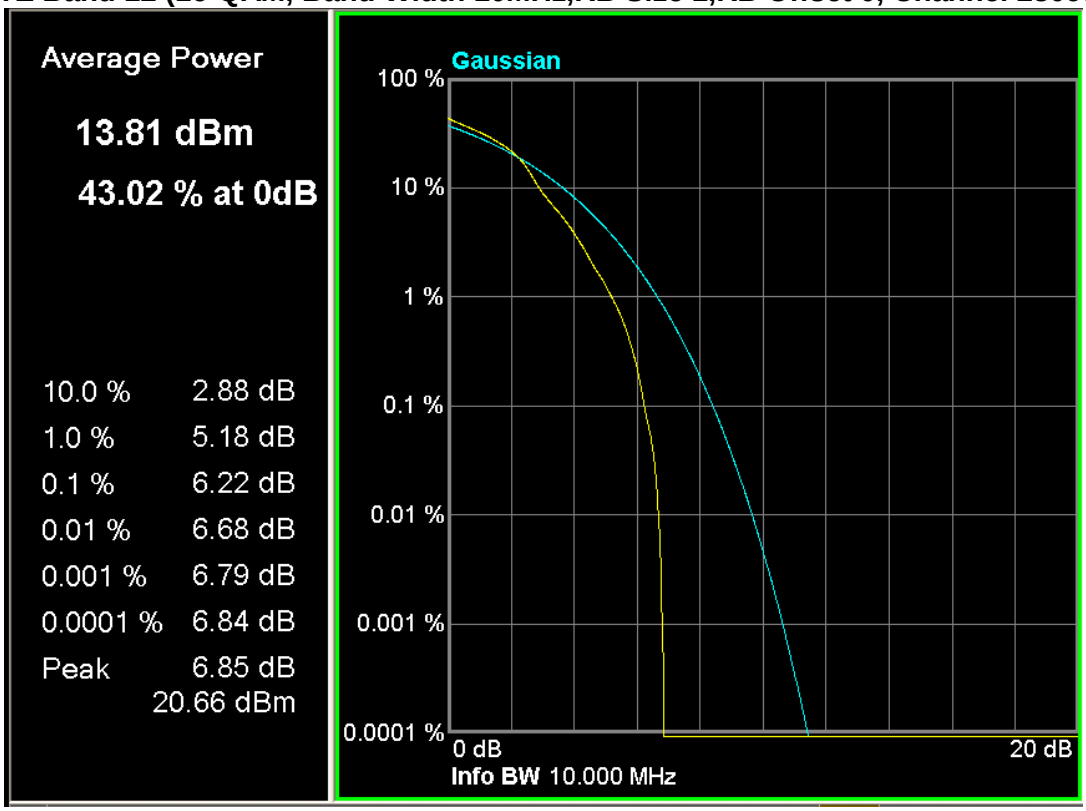
LTE Band 12 (16-QAM, Band Width 5MHz,RB Size 1,RB Offset 0, Channel 23095)



LTE Band 12 (QPSK, Band Width 10MHz,RB Size 1,RB Offset 0, Channel 23095)



LTE Band 12 (16-QAM, Band Width 10MHz,RB Size 1,RB Offset 0, Channel 23095)



9.Receiver Spurious Emission for RSS 130/132/133

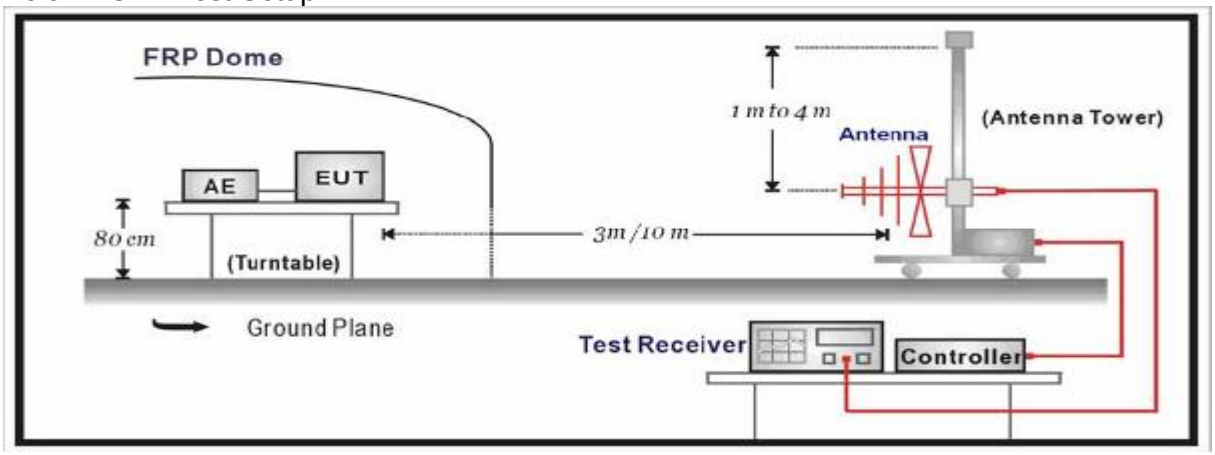
9.1. Test Equipment

Instrument	Manufacturer	Model	Serial No.	Cali. Due Date
Spectrum Analyzer	Agilent	N9038A	MY51210142	11/05/2016
Radio Communication Tester	Agilent	E5515C	GB46581718	11/08/2016
Signal Generator	Agilent	N5183A	MY50140938	01/02/2016
Preamplifier	CEM	EM30180	3008A0245	02/27/2016
Loop Antenna	Schwarzbeck	FMZB1519	1519-020	03/26/2016
Bilog Antenna	Schwarzbeck	VULB9160	9160-3316	09/19/2016
VHF-UHF-Biconical Antenna	Schwarzbeck	VUBA9117	9117-263	09/19/2016
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	9120D-942	09/19/2016
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	9120D-943	09/19/2016

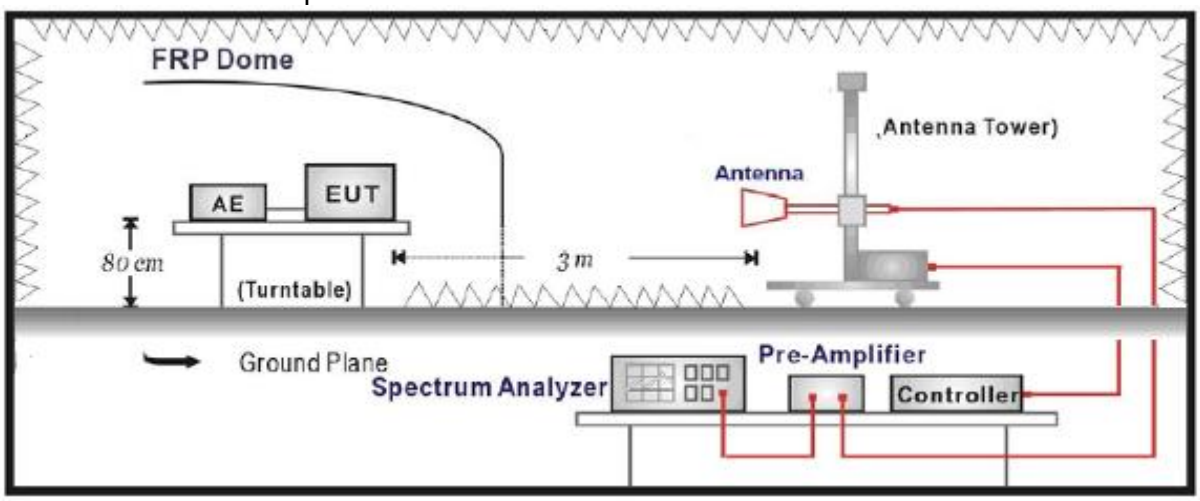
The measure equipment had been calibrated once a year.

9.2. Test Setup

Below 1GHz Test Setup



Above 1GHz Test Setup



9.3. Limit

According to Standard RSS 130/132/133 refer to RSS-Gen Issu 4.

Field Strength micro-volts/m at 3 meters		
Frequency (MHz)	Distance (m)	Level (dBμV/m)
30 - 88	3	40
88 - 216	3	43.5
216 - 960	3	46
Above 960	3	54

Note 1: The lower limit shall apply at the transition frequency.
Note 2: Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
Note 3: E field strength (dBuV/m) = 20 log E field strength (uV/m).

9.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated on radiated measurement. On any frequency or frequencies below or equal to 1000 MHz, the radiated limits shown are based on measuring equipment employing a quasi-peak detector function and above 100MHz, the radiated limits shown are based measuring equipment employing an average detector function.

When average radiated emission measurement are included emission measurement Above 1000 MHz, there also is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.

Note: When measurement above 1GHz, the horn antenna will bend down a little (as horn antenna have the narrow beamwidth) in order to find the maximum emission of EUT.

9.5. Uncertainty

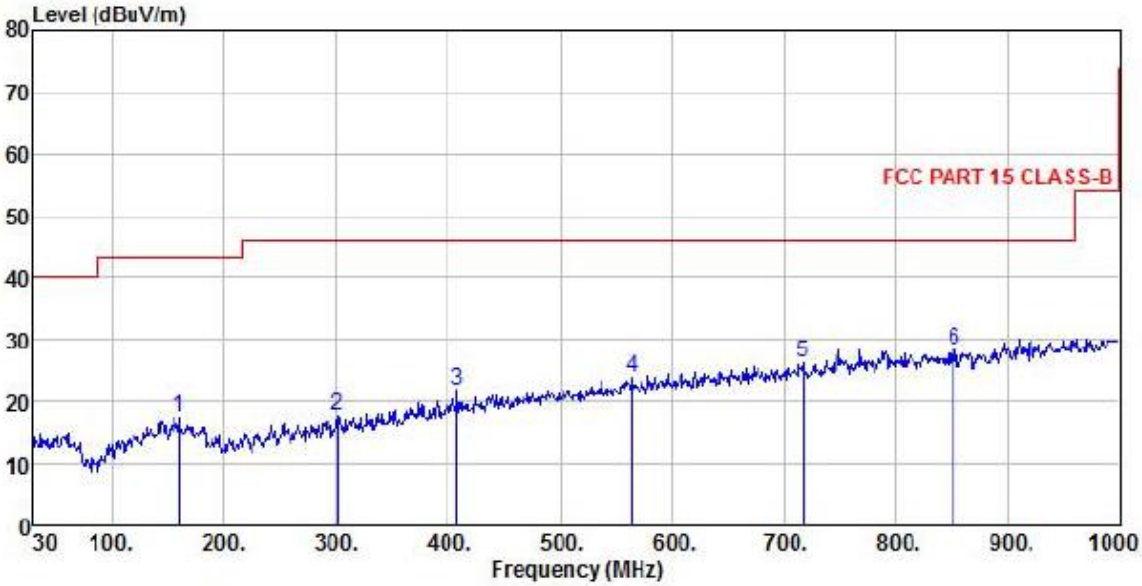
The measurement uncertainty is defined as 3.1 dB for Radiated Power Measurement.

9.6. Test Result

No significant emissions measurable. Plots reported here represent the worse case emissions.

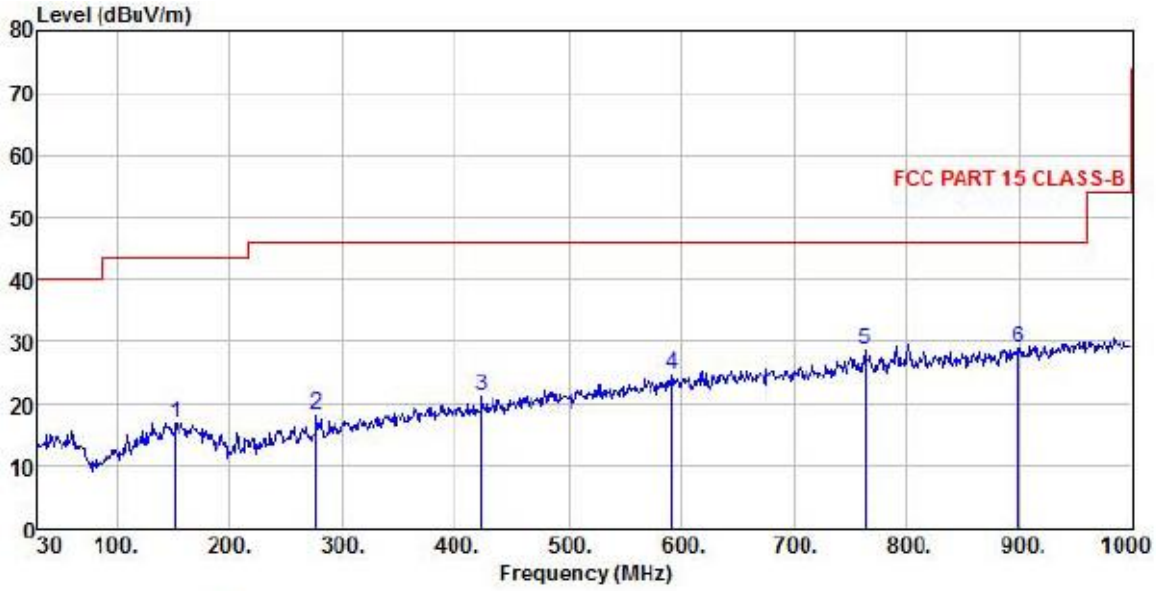
LTE BAND 2(IDLE)

LTE BAND 2 Normal Voltage Condition at Middle Channel



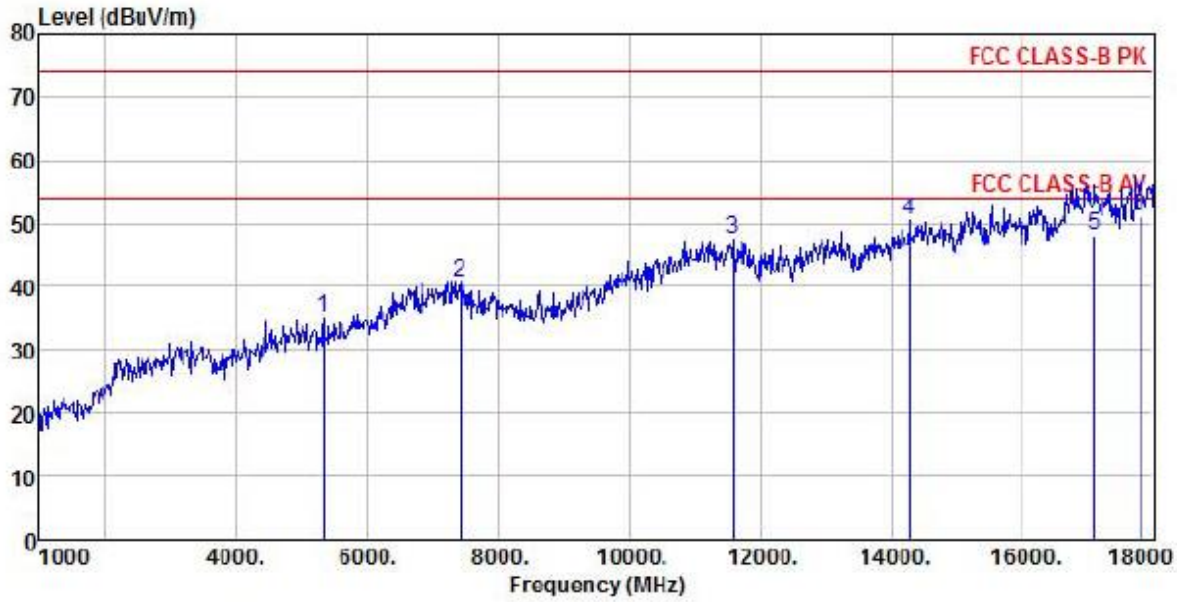
Site : chamber
Condition : FCC PART 15 CLASS-B 3m VULB9160 HORIZONTAL
EUT :
Model Name :
Temp/Humi : 20 ℃ / 50 %
Power Rating:
Mode : LTE Band 2
Memo :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	159.98	1.80	13.88	1.68	0.00	17.36	43.50	-26.14	Peak
2	301.60	1.94	13.24	2.52	0.00	17.70	46.00	-28.30	Peak
3	408.30	3.55	15.47	2.77	0.00	21.79	46.00	-24.21	Peak
4	564.47	2.34	18.26	3.24	0.00	23.84	46.00	-22.16	Peak
5	717.73	1.97	20.49	3.68	0.00	26.14	46.00	-19.86	Peak
6 pp	851.59	2.40	22.06	3.99	0.00	28.45	46.00	-17.55	Peak



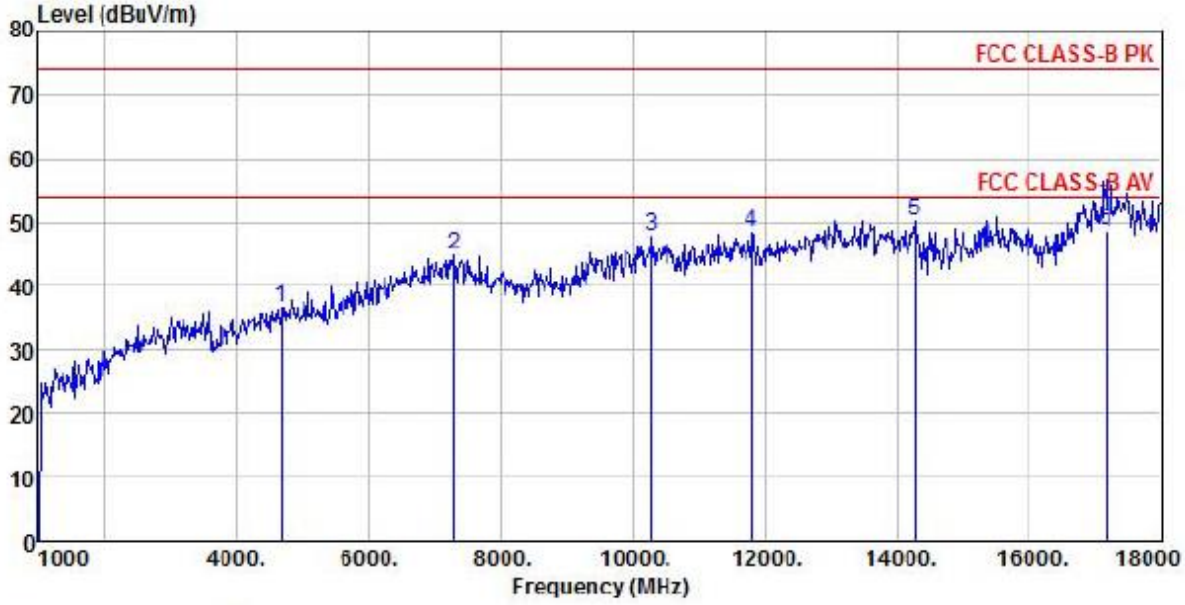
Site : chamber
Condition : FCC PART 15 CLASS-B 3m VULB9160 VERTICAL
EUT :
Model Name :
Temp/Humi : 20 ℃ / 50 %
Power Rating:
Mode : LTE Band 2
Memo :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	151.25	1.38	13.90	1.64	0.00	16.92	43.50	-26.58	Peak
2	276.38	3.30	12.67	2.21	0.00	18.18	46.00	-27.82	Peak
3	422.85	2.60	15.75	2.82	0.00	21.17	46.00	-24.83	Peak
4	591.63	2.48	18.94	3.33	0.00	24.75	46.00	-21.25	Peak
5	763.32	3.44	21.38	3.70	0.00	28.52	46.00	-17.48	Peak
6 pp	899.12	2.30	22.58	4.06	0.00	28.94	46.00	-17.06	Peak



Site : chamber
Condition : FCC CLASS-B PK 3m BBHA9120D(942) HORIZONTAL
EUT :
Model Name :
Temp/Humi : 20 ℃ / 50 %
Power Rating:
Mode : LTE Band 2
Memo :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	5335.00	29.64	31.75	10.87	37.00	35.26	54.00	-18.74	Peak
2	7409.00	29.17	36.54	12.70	37.72	40.69	54.00	-13.31	Peak
3	11574.00	30.52	40.12	16.19	39.19	47.64	54.00	-6.36	Peak
4 pk	14277.00	27.96	42.31	18.59	38.43	50.43	54.00	-3.57	Peak
5	17082.00	27.52	41.18	17.66	38.26	48.10	54.00	-5.90	Average
6 pp	17783.00	23.50	45.16	19.54	37.07	51.13	54.00	-2.87	Average

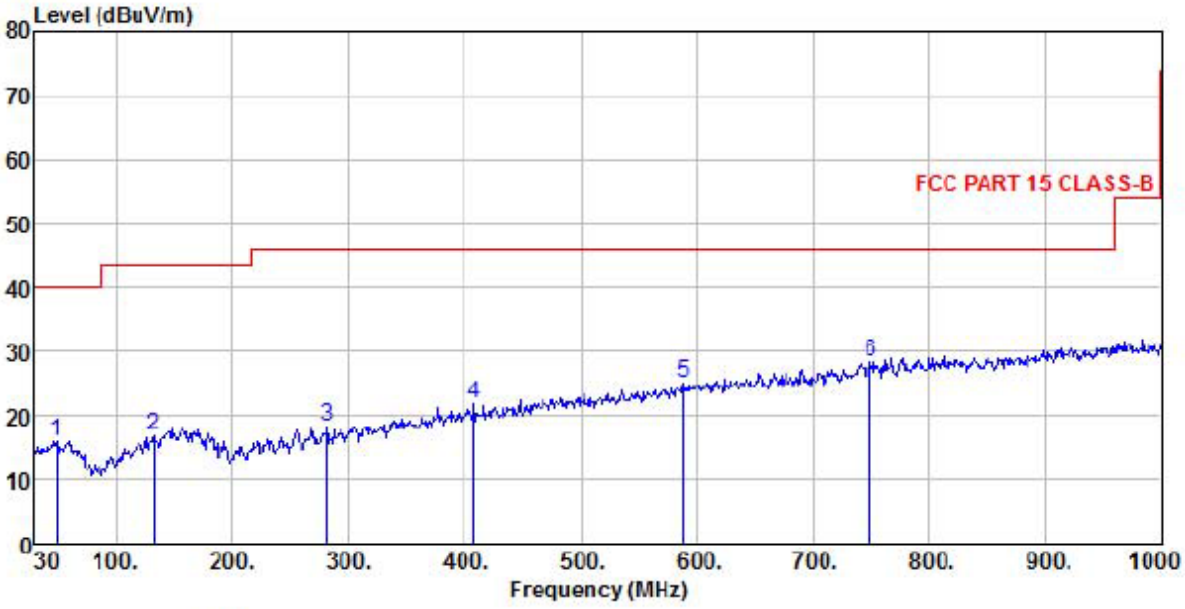


Site : chamber
Condition : FCC CLASS-B PK 3m BBHA9120D(942) VERTICAL
EUT :
Model Name :
Temp/Humi : 20 ℃ / 50 %
Power Rating:
Mode : LTE Band 2
Memo :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	4672.00	32.46	31.24	10.13	37.23	36.60	74.00	-37.40	Peak
2	7290.00	32.97	36.48	12.64	37.31	44.78	74.00	-29.22	Peak
3	10282.00	32.84	39.07	15.07	39.26	47.72	74.00	-26.28	Peak
4	11795.00	31.70	39.40	16.51	39.30	48.31	74.00	-25.69	Peak
5 pk	14277.00	27.83	42.31	18.59	38.43	50.30	74.00	-23.70	Peak
6 pp	17150.00	26.35	41.35	19.24	38.14	48.80	54.00	-5.20	Average

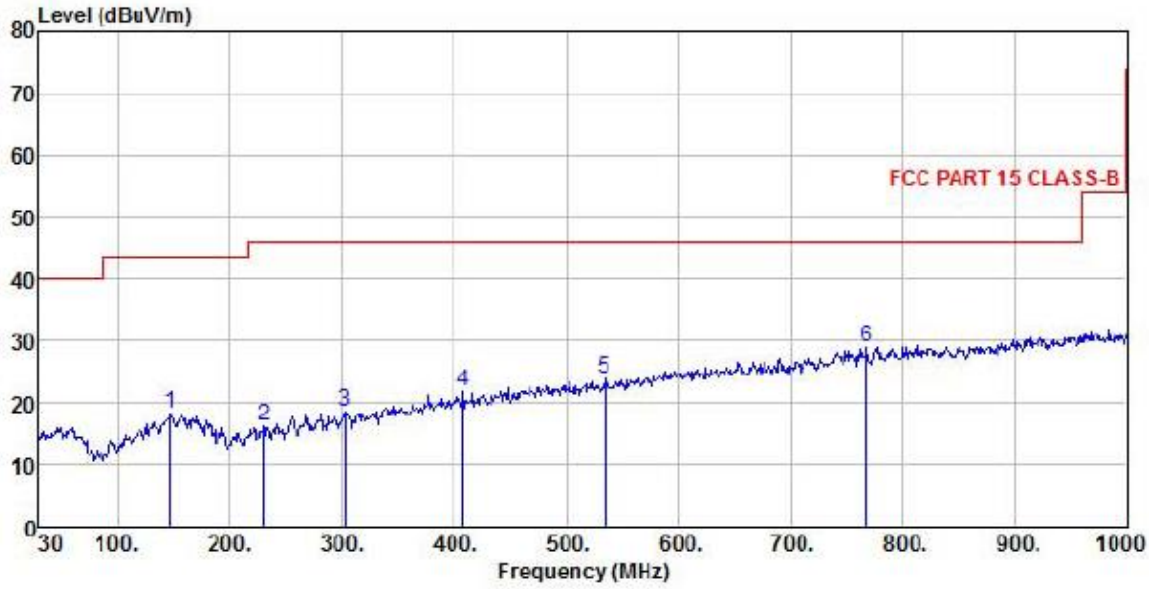
LTE BAND 4(IDLE)

LTE BAND 4 Normal Voltage Condition at Middle Channel



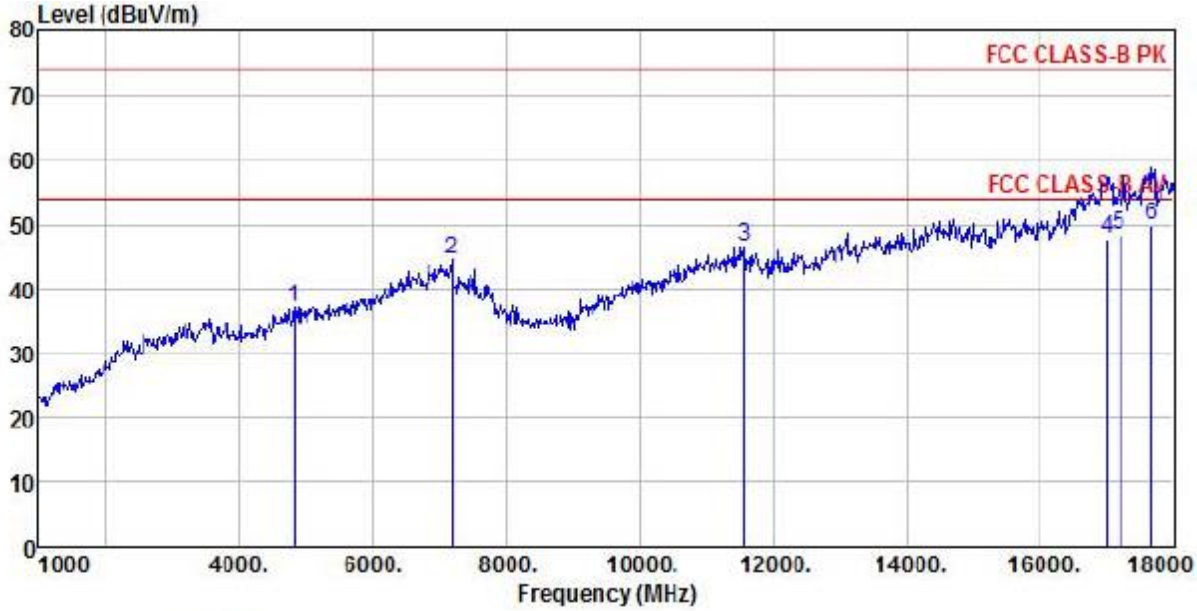
Site : chamber
Condition : FCC PART 15 CLASS-B 3m VULB9160 HORIZONTAL
EUT :
Model Name :
Temp/Humi : 20 ℃ / 50 %
Power Rating:
Mode : LTE Band 4
Memo :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	48.43	2.42	12.63	0.93	0.00	15.98	40.00	-24.02	Peak
2	132.82	2.40	12.92	1.61	0.00	16.93	43.50	-26.57	Peak
3	281.23	3.28	12.85	2.21	0.00	18.34	46.00	-27.66	Peak
4	408.30	3.55	15.47	2.77	0.00	21.79	46.00	-24.21	Peak
5	588.72	2.84	18.84	3.32	0.00	25.00	46.00	-21.00	Peak
6 pp	749.74	3.09	21.35	3.80	0.00	28.24	46.00	-17.76	Peak



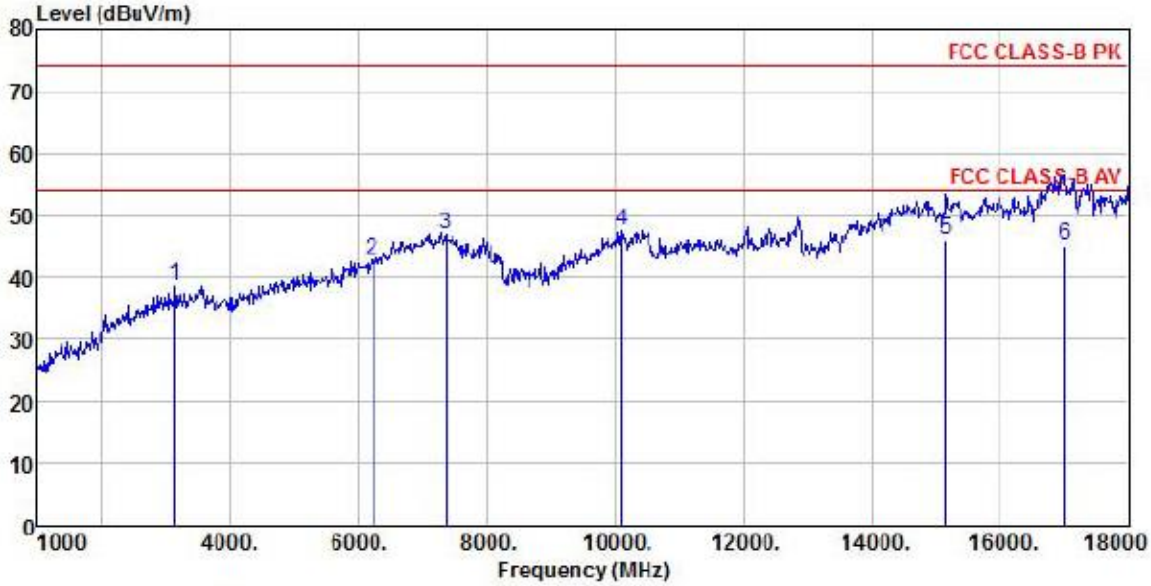
Site : chamber
Condition : FCC PART 15 CLASS-B 3m VULB9160 VERTICAL
EUT :
Model Name :
Temp/Humi : 20 ℃ / 50 %
Power Rating:
Mode : LTE Band 4
Memo :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	146.40	2.95	13.68	1.63	0.00	18.26	43.50	-25.24	Peak
2	230.79	2.99	11.24	2.05	0.00	16.28	46.00	-29.72	Peak
3	303.54	2.66	13.28	2.52	0.00	18.46	46.00	-27.54	Peak
4	408.30	3.55	15.47	2.77	0.00	21.79	46.00	-24.21	Peak
5	534.40	3.09	17.58	3.13	0.00	23.80	46.00	-22.20	Peak
6 pp	767.20	3.89	21.39	3.71	0.00	28.99	46.00	-17.01	Peak



Site : chamber
Condition : FCC CLASS-B PK 3m BBHA9120D(942) HORIZONTAL
EUT :
Model Name :
Temp/Humi : 20 ℃ / 50 %
Power Rating:
Mode : LTE Band 4
Memo :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	4825.00	32.49	31.54	10.39	37.17	37.25	54.00	-16.75	Peak
2	7188.00	32.46	36.42	12.59	36.95	44.52	54.00	-9.48	Peak
3 pk	11557.00	29.45	40.17	16.30	39.18	46.74	54.00	-7.26	Peak
4	16997.00	26.81	41.14	18.41	38.40	47.96	54.00	-6.04	Average
5	17180.00	26.65	41.38	18.60	38.08	48.55	54.00	-5.45	Average
6 pp	17650.00	24.32	44.10	18.89	37.31	50.00	54.00	-4.00	Average

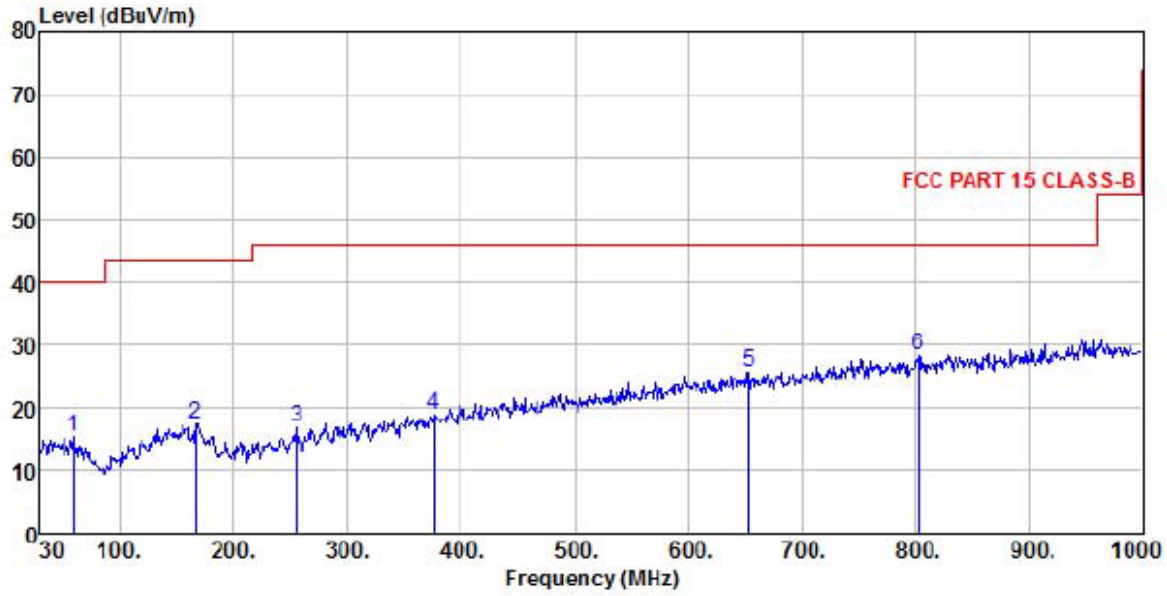


Site : chamber
Condition : FCC CLASS-B PK 3m BBHA9120D(942) VERTICAL
EUT :
Model Name :
Temp/Humi : 20 ℃ / 50 %
Power Rating:
Mode : LTE Band 4
Memo :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	3125.00	40.00	28.76	8.09	38.03	38.82	74.00	-35.18	Peak
2	6219.00	34.39	33.22	12.00	36.69	42.92	74.00	-31.08	Peak
3	7358.00	35.06	36.49	12.84	37.55	46.84	74.00	-27.16	Peak
4 pk	10112.00	33.00	38.69	15.16	39.34	47.51	74.00	-26.49	Peak
5 pp	15144.00	25.14	40.32	18.41	37.82	46.05	54.00	-7.95	Average
6	17001.00	24.15	41.14	18.41	38.40	45.30	54.00	-8.70	Average

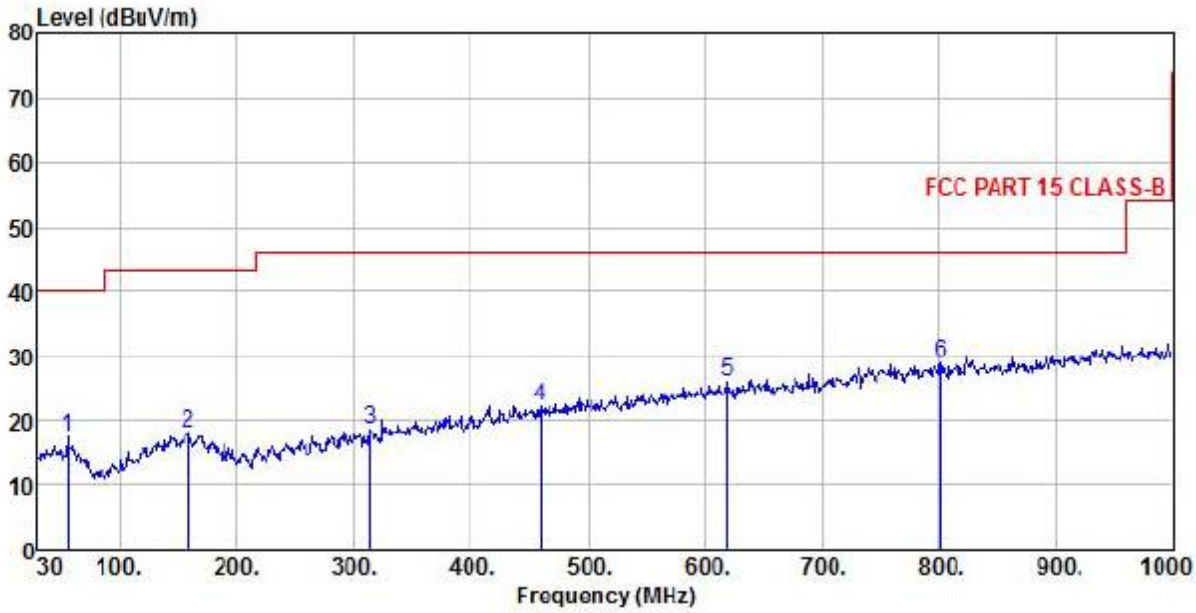
LTE BAND 5(IDLE)

LTE BAND 5 Normal Voltage Condition at Middle Channel



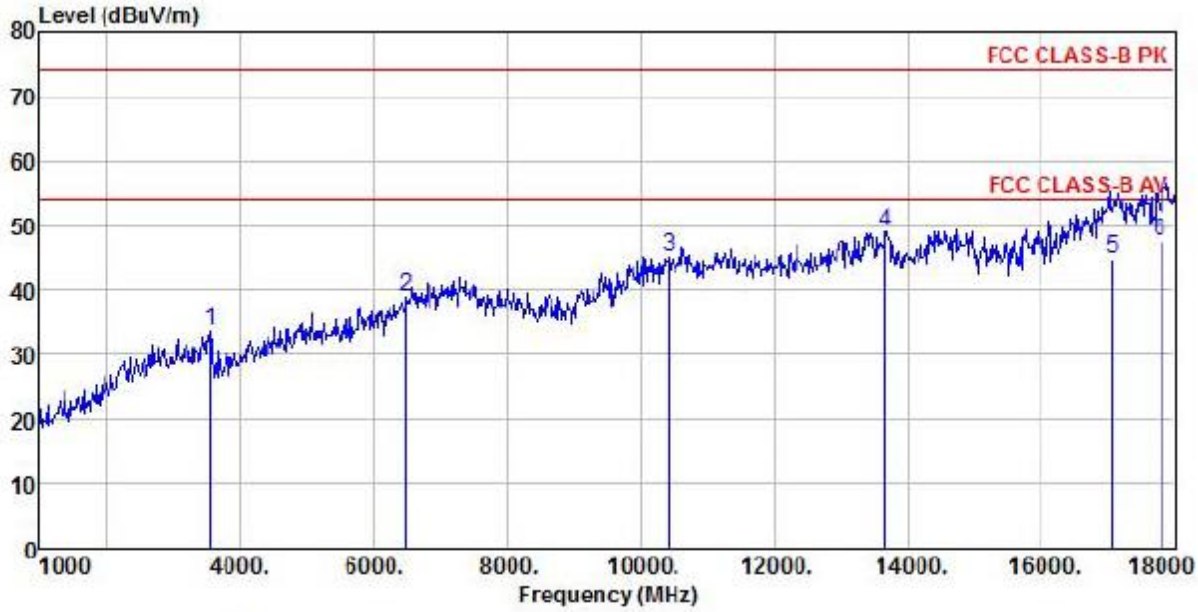
Site : chamber
Condition : FCC PART 15 CLASS-B 3m VULB9160 HORIZONTAL
EUT :
Model Name :
Temp/Humi : 20 ℃ / 50 %
Power Rating:
Mode : LTE Band 5
Memo :

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	59.10	1.62	12.58	1.04	0.00	15.24	40.00	-24.76	Peak
2	166.77	2.28	13.44	1.79	0.00	17.51	43.50	-25.99	Peak
3	255.04	2.63	12.00	2.17	0.00	16.80	46.00	-29.20	Peak
4	376.29	1.34	14.78	2.74	0.00	18.86	46.00	-27.14	Peak
5	653.71	2.69	19.63	3.50	0.00	25.82	46.00	-20.18	Peak
6 pp	802.12	2.71	21.77	3.81	0.00	28.29	46.00	-17.71	Peak



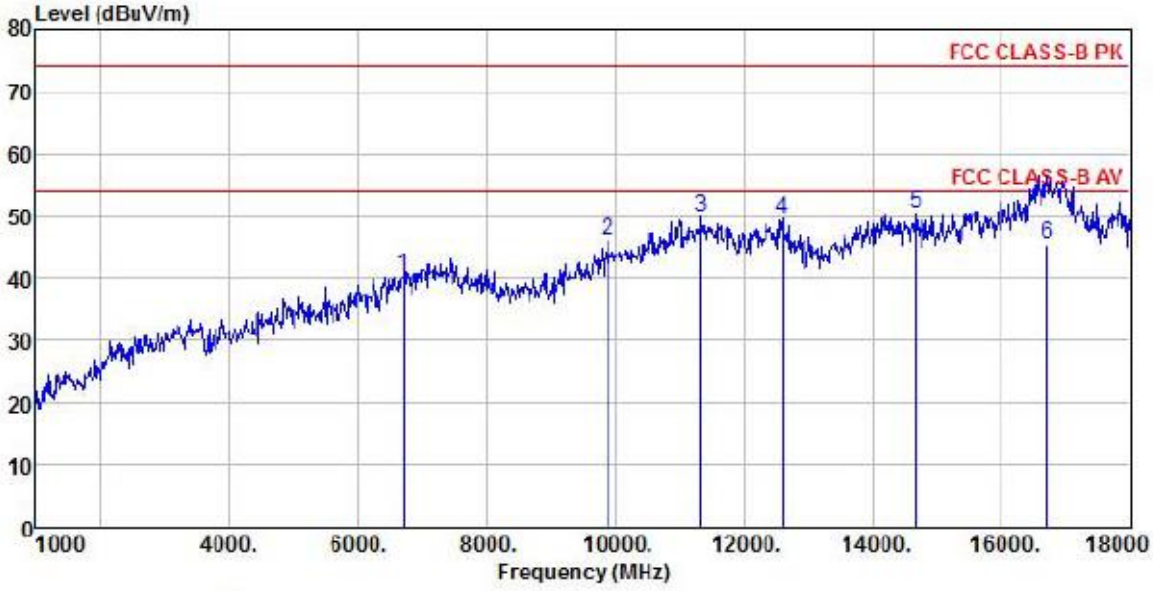
Site : chamber
Condition : FCC PART 15 CLASS-B 3m VULB9160 VERTICAL
EUT :
Model Name :
Temp/Humi : 20 ℃ / 50 %
Power Rating:
Mode : LTE Band 5
Memo :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	56.19	3.90	12.49	1.01	0.00	17.40	40.00	-22.60	Peak
2	159.01	2.44	13.88	1.68	0.00	18.00	43.50	-25.50	Peak
3	314.21	2.59	13.51	2.52	0.00	18.62	46.00	-27.38	Peak
4	459.71	2.71	16.51	2.86	0.00	22.08	46.00	-23.92	Peak
5	619.76	3.27	19.21	3.42	0.00	25.90	46.00	-20.10	Peak
6 pp	801.15	3.21	21.77	3.81	0.00	28.79	46.00	-17.21	Peak



Site : chamber
Condition : FCC CLASS-B PK 3m BBHA9120D(942) HORIZONTAL
EUT :
Model Name :
Temp/Humi : 20 ℃ / 50 %
Power Rating:
Mode : LTE Band 5
Memo :

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	3550.00	33.55	29.08	8.82	37.77	33.68	54.00	-20.32	Peak
2	6491.00	28.97	34.46	12.09	36.55	38.97	54.00	-15.03	Peak
3	10418.00	29.62	39.41	15.28	39.19	45.12	54.00	-8.88	Peak
4 pp	13665.00	29.09	40.95	17.67	38.60	49.11	54.00	-4.89	Peak
5	17053.00	25.46	41.18	16.41	38.31	44.74	54.00	-9.26	Average
6 av	17776.00	20.00	45.16	19.54	37.07	47.63	54.00	-6.37	Average

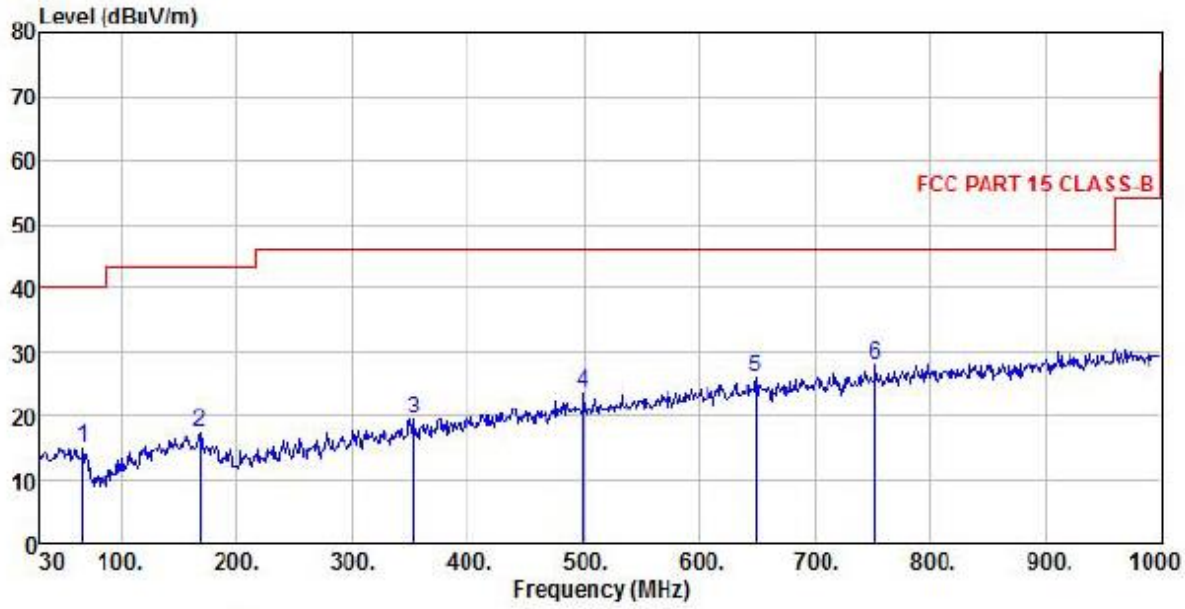


Site : chamber
Condition : FCC CLASS-B PK 3m BBHA9120D(942) VERTICAL
EUT :
Model Name :
Temp/Humi : 20 ℃ / 50 %
Power Rating:
Mode : LTE Band 5
Memo :

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	6695.00	29.79	34.42	12.63	36.45	40.39	74.00	-33.61	Peak
2	9874.00	32.29	38.69	14.63	39.62	45.99	74.00	-28.01	Peak
3	11336.00	32.83	40.04	16.14	39.07	49.94	74.00	-24.06	Peak
4	12594.00	32.24	38.76	17.41	38.81	49.60	74.00	-24.40	Peak
5 pk	14668.00	27.67	42.29	18.41	38.04	50.33	74.00	-23.67	Peak
6 pp	16708.00	26.38	40.23	17.41	38.46	45.56	54.00	-8.44	Average

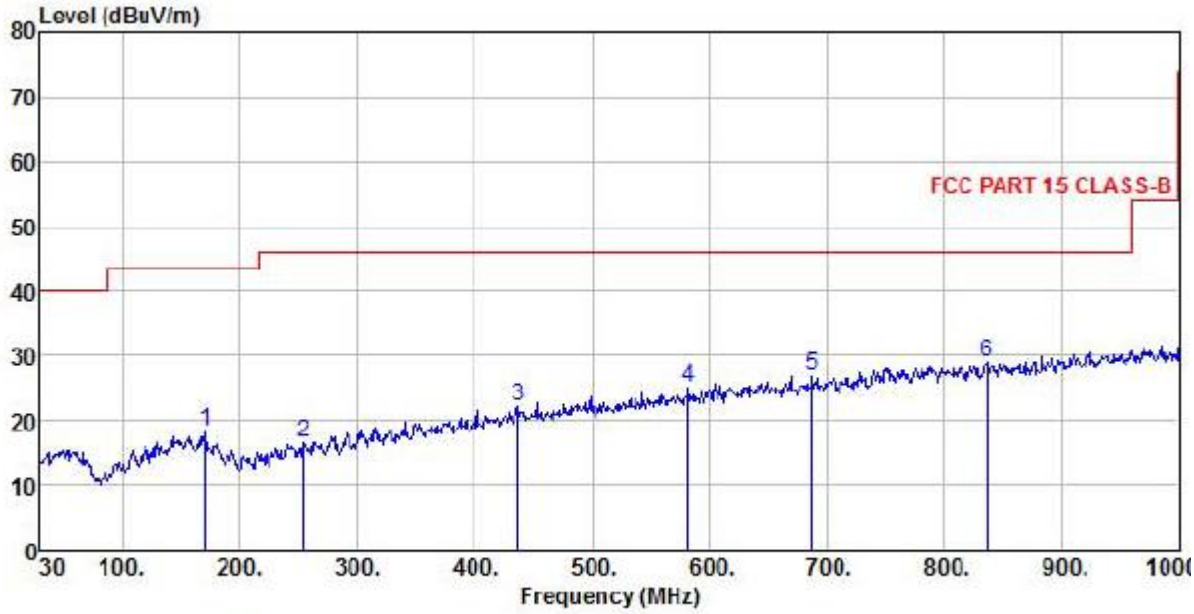
LTE BAND 12(IDLE)

LTE BAND 12 Normal Voltage Condition at Middle Channel



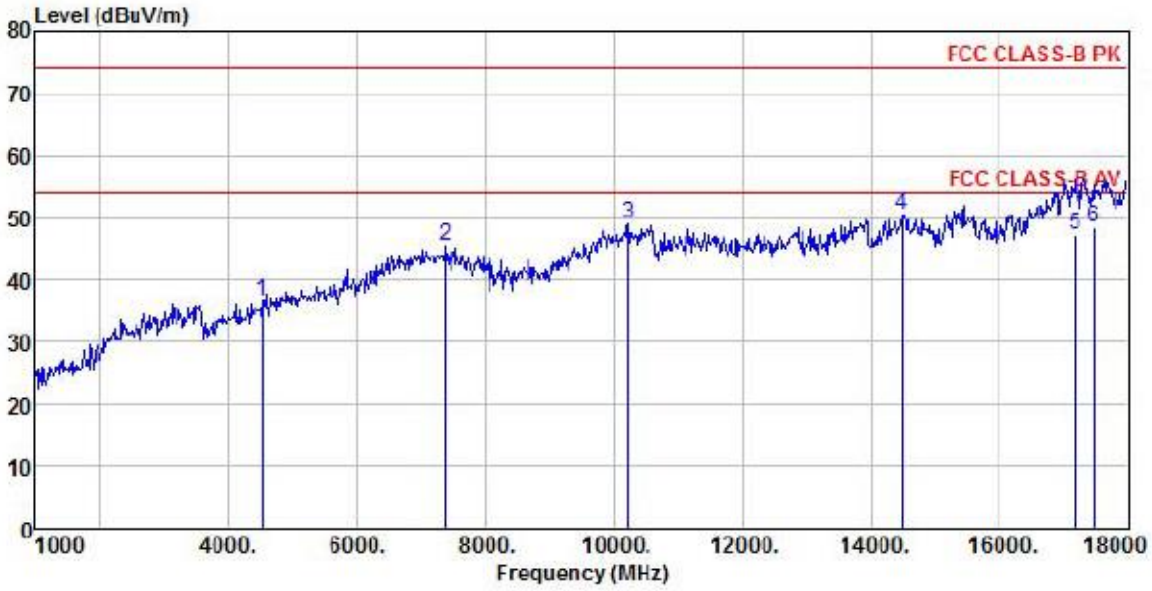
Site : chamber
Condition : FCC PART 15 CLASS-B 3m VULB9160 HORIZONTAL
EUT :
Model Name :
Temp/Humi : 20 ℃ / 50 %
Power Rating:
Mode : LTE Band 12
Memo :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	66.86	2.04	11.89	1.10	0.00	15.03	40.00	-24.97	Peak
2	168.71	2.18	13.33	1.83	0.00	17.34	43.50	-26.16	Peak
3	353.01	2.67	14.28	2.59	0.00	19.54	46.00	-26.46	Peak
4	499.48	3.42	17.04	3.03	0.00	23.49	46.00	-22.51	Peak
5	649.83	2.72	19.59	3.53	0.00	25.84	46.00	-20.16	Peak
6 pp	752.65	2.96	21.35	3.78	0.00	28.09	46.00	-17.91	Peak



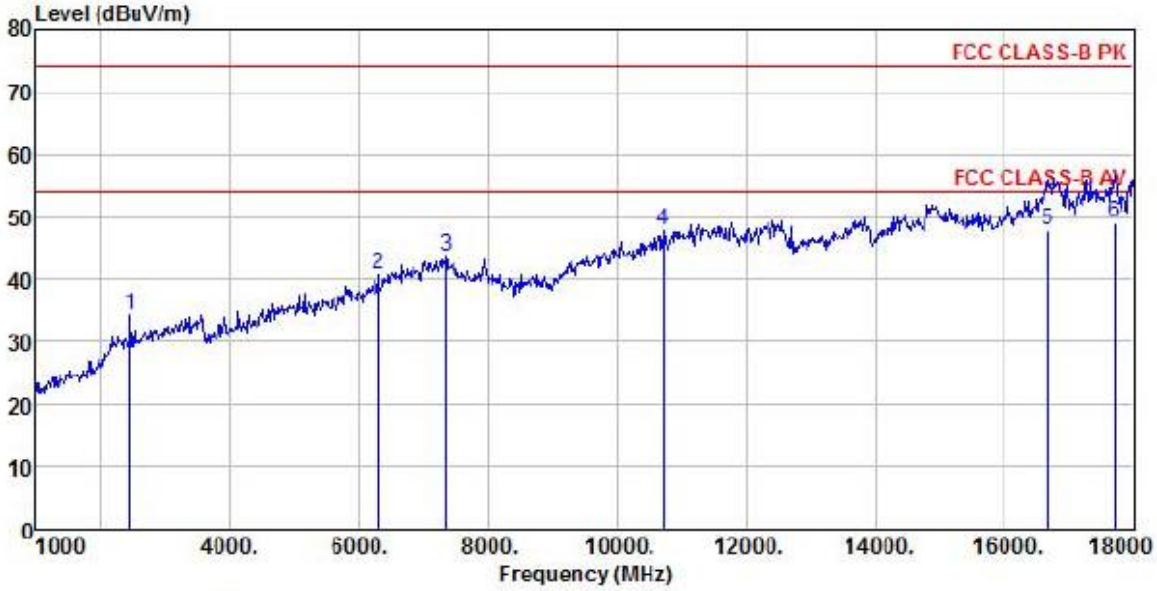
Site : chamber
Condition : FCC PART 15 CLASS-B 3m VULB9160 VERTICAL
EUT :
Model Name :
Temp/Humi : 20 ℃ / 50 %
Power Rating:
Mode : LTE Band 12
Memo :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	170.65	3.16	13.15	1.86	0.00	18.17	43.50	-25.33	Peak
2	254.07	2.45	12.00	2.17	0.00	16.62	46.00	-29.38	Peak
3	437.40	3.15	16.16	2.84	0.00	22.15	46.00	-23.85	Peak
4	581.93	3.31	18.67	3.26	0.00	25.24	46.00	-20.76	Peak
5	687.66	3.27	19.99	3.59	0.00	26.85	46.00	-19.15	Peak
6 pp	836.07	2.88	21.99	3.96	0.00	28.83	46.00	-17.17	Peak



Site : chamber
Condition : FCC CLASS-B PK 3m BBHA9120D(942) HORIZONTAL
EUT :
Model Name :
Temp/Humi : 20 ℃ / 50 %
Power Rating:
Mode : LTE Band 12
Memo :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	4536.00	33.07	30.81	9.95	37.28	36.55	54.00	-17.45	Peak
2	7375.00	33.79	36.49	12.72	37.61	45.39	54.00	-8.61	Peak
3	10214.00	34.64	38.92	14.81	39.29	49.08	54.00	-4.92	Peak
4 pp	14481.00	27.49	42.55	18.75	38.23	50.56	54.00	-3.44	Peak
5	17167.00	25.17	41.38	18.92	38.11	47.36	54.00	-6.64	Average
6 av	17472.00	24.18	42.98	18.78	37.59	48.35	54.00	-5.65	Average



Site : chamber
Condition : FCC CLASS-B PK 3m BBHA9120D(942) VERTICAL
EUT :
Model Name :
Temp/Humi : 20 ℃ / 50 %
Power Rating:
Mode : LTE Band 12
Memo :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2445.00	37.80	27.46	7.37	38.32	34.31	74.00	-39.69	Peak
2	6304.00	32.22	33.49	11.70	36.65	40.76	74.00	-33.24	Peak
3	7341.00	31.82	36.47	12.80	37.49	43.60	74.00	-30.40	Peak
4 pk	10724.00	31.20	39.78	15.83	39.04	47.77	74.00	-26.23	Peak
5	16674.00	28.32	40.09	17.74	38.46	47.69	54.00	-6.31	Average
6 pp	17702.00	22.19	44.51	19.65	37.22	49.13	54.00	-4.87	Average

10.Attachment

PHOTOGRAPHS OF TEST SETUP

Please refer to the file named “RF Setup Photos”.

PHOTOGRAPHS OF EUT

Please refer to the two files named “External Photos” and ” Internal Photos” .

----End of the report----