





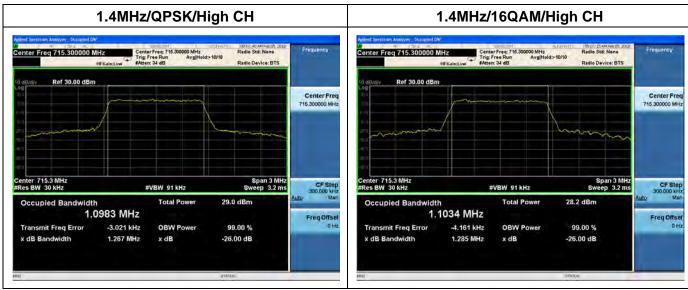
LTE Band	d 12, BW: 1.4	1MHz			
Channel	-	QPSK		16QAM	
	Frequency	99% Bandwidth	26dB Bandwidth	99% Bandwidth	26dB Bandwidth
	(MHz)	(MHz)	(MHz)	(MHz)	(MHz)
23017	699.7	1.0976	1.275	1.1051	1.286
23095	707.5	1.0994	1.280	1.0971	1.259
23173	715.3	1.0983	1.267	1.1034	1.285
LTE Band	d 12, BW: 3N	1Hz			
	Fraguenay	QP	SK	160	QAM
Channel	Frequency (MHz)	99% Bandwidth	26dB Bandwidth	99% Bandwidth	26dB Bandwidth
	(IVITIZ)	(MHz)	(MHz)	(MHz)	(MHz)
23025	700.5	2.7163	2.972	2.7054	2.990
23095	707.5	2.7079	2.987	2.7147	2.996
23165	714.5	2.7110	2.976	2.7031	2.985
LTE Band	d 12, BW: 5N	1Hz			
	Frequency (MHz)	QPSK		160	QAM
Channel		99% Bandwidth	26dB Bandwidth	99% Bandwidth	26dB Bandwidth
		(MHz)	(MHz)	(MHz)	(MHz)
23035	701.5	4.5296	5.118	4.5267	5.014
23095	707.5	4.5412	5.045	4.5350	5.080
23165	714.5	4.5184	5.037	4.5344	5.077
LTE Band	d 12, BW: 10	MHz			
	Fraguenay	QPSK		16QAM	
Channel	Frequency	99% Bandwidth	26dB Bandwidth	99% Bandwidth	26dB Bandwidth
	(MHz)	(MHz)	(MHz)	(MHz)	(MHz)
23060	704.0	8.9582	9.883	8.9737	9.955
23095	707.5	9.0414	10.06	9.0311	9.912
23130	711.0	9.0128	10.03	9.0076	10.04



LTE Band 12 99%&26dB Bandwidth 1.4MHz/QPSK/Low CH 1.4MHz/16QAM/Low CH Ref 30.00 dBm Ref 30.00 dBm Center Freq Center Freq CF Step Occupied Bandwidth Occupied Bandwidth 29.0 dBm 1.0976 MHz 1.1051 MHz Freq Offse Freq Offse Transmit Freq Error -548 Hz **OBW Power** 99.00 % Transmit Freq Error -1.110 kHz **OBW Power** 99.00 % y dB Randwidth 1.275 MHz x dB -26.00 dB y dB Bandwidth 1.286 MHz x dB -26.00 dB 1.4MHz/QPSK/Mid CH 1.4MHz/16QAM/Mid CH Radio Device: BTS Ref 30.00 dBm Ref 30.00 dBm Center Freq 707.500000 MHz Center Freq 707.500000 MHz enter 707.5 MHz Span 3 MH. weep 3.2 m enter 707.5 MHz Res BW 30 kHz Span 3 MH Sweep 3.2 m CF Step CF Step Total Power 28 6 dBm 1.0994 MHz 1.0971 MHz Transmit Freq Error 528 Hz **ORW Power** 99.00 % Transmit Freg Error 75 Hz ORW Power 99.00 % 1.259 MHz x dB Bandwidth 1.280 MHz x dB -26.00 dB x dB Bandwidth x dB -26.00 dB





















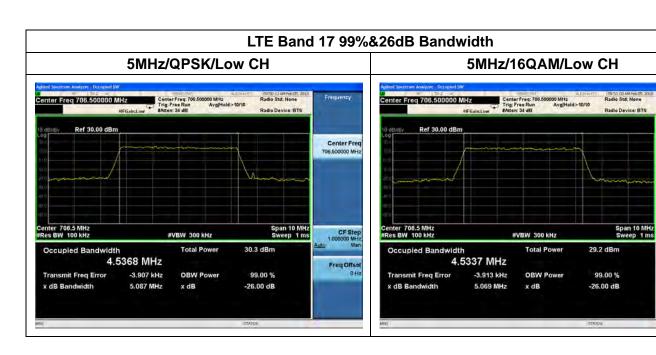








LTE Band 17, BW: 5MHz					
	QP		SK 16QAM		
Channel	Frequency	99% Bandwidth	26dB Bandwidth	99% Bandwidth	26dB Bandwidth
	(MHz)	(MHz)	(MHz)	(MHz)	(MHz)
23755	706.5	4.5368	5.087	4.5337	5.069
23790	710.0	4.5374	5.055	4.5423	5.101
23825	713.5	4.5210	5.044	4.5363	5.079
LTE Band	d 17, BW: 10	MHz			
	Fraguenay	QP	SK	160	QAM
Channel	Frequency	99% Bandwidth	26dB Bandwidth	99% Bandwidth	26dB Bandwidth
	(MHz)	(MHz)	(MHz)	(MHz)	(MHz)
23780	709.0	9.0177	10.01	9.0362	9.945
23790	710.0	9.0337	10.02	9.0298	9.985
23800	711.0	9.0136	10.00	9.0079	10.02



Center Freq 706,500000 MHz

1.000000 MHz















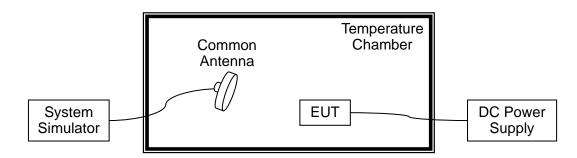
2.3. Frequency Stability

2.3.1. Requirement

According to FCC section 2.1055 & 27.54&24.235, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. According to FCC section 2.1055, the test conditions are:

- (a) The temperature is varied from -30°C to +50°C at intervals of not more than 10°C.
- (b) For hand carried battery powered equipment, the primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacture. The supply voltage shall be measured at the input to the cable normally provided with the equipment, or at the power supply terminals if cables are not normally provided.

2.3.2. Test Description



The EUT which is powered by the DC Power Supply directly, is located in the Temperature Chamber. The EUT is commanded by the System Simulator (SS) to operate at the maximum output power. A call is established between the EUT and the SS via a Common Antenna.

2.3.3. Test procedure

KDB 971168 D01v03 Section 9.0 and ANSI/TIA-603-E-2016.

2.3.4. Test Result

The nominal, highest and lowest extreme voltages are separately 3.8VDC, 4.35VDC and 3.6VDC, which are specified by the applicant; the normal temperature here used is 20°C. The frequency deviation limit is ±2.5ppm.



The testing was performed using one RB and Bandwidth setting for each band.

LTE Ba	LTE Band 2 – QPSK - Channel 18900 – Frequency 1880.0MHz – RB 6/0				
	Limit: 1880.0MHz*1ppm=1880.0Hz				
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Result	
100		-30	8.55		
100		-20	-13.67		
100		-10	5.82		
100		0	7.73		
100	3.8V	+10	6.55		
100		+20	5.47	PASS	
100		+30	-14.9		
100		+40	6.82		
100		+50	5.77		
115	4.35V	+20	-13.75		
85	3.6V	+20	8.9		

LTE Ba	LTE Band 4 – QPSK - Channel 20175 – Frequency 1732.5MHz – RB 6/0					
	Limit: 1732.5MHz*2.5ppm=4331.25Hz					
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Result		
100		-30	12.6			
100		-20	-9.62			
100		-10	9.87			
100		0	11.78			
100	3.8V	+10	10.6			
100		+20	9.52	PASS		
100		+30	-10.85			
100		+40	10.87			
100		+50	9.82			
115	4.35V	+20	-9.7			
85	3.6V	+20	12.95			





LTE Band 7 – QPSK - Channel 21100 – Frequency 2535MHz – RB 25/0				
	Limit: 2	2535MHz*2.5ppr	n=6337.5Hz	
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Result
100		-30	10.94	
100		-20	-11.28	
100		-10	8.21	
100		0	10.12	
100	3.8V	+10	8.94	
100]	+20	7.86	PASS
100		+30	-12.51	
100		+40	9.21	
100]	+50	8.16]
115	4.35V	+20	-11.36]
85	3.6V	+20	11.29]

LTE Band 12 – QPSK - Channel 23095 – Frequency 707.5MHz – RB 6/0						
	Limit: 707.5 MHz*2.5ppm=1768.75Hz					
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Result		
100		-30	11.89			
100		-20	-10.33			
100		-10	9.16			
100		0	11.07			
100	3.8V	+10	9.89			
100		+20	8.81	PASS		
100		+30	-11.56			
100		+40	10.16			
100		+50	9.11			
115	4.35V	+20	-10.41			
85	3.6V	+20	12.24			



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LTE Bar	LTE Band 17 – QPSK - Channel 23790 – Frequency 710MHz – RB 25/0				
	Limit	: 710MHz*2.5ppı	m=1775Hz		
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Result	
100		-30	10.34		
100		-20	-11.88		
100		-10	7.61		
100		0	9.52		
100	3.8V	+10	8.34		
100		+20	7.26	PASS	
100		+30	-13.11		
100		+40	8.61		
100		+50	7.56		
115	4.35V	+20	-11.96		
85	3.6V	+20	10.69		





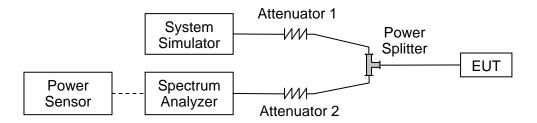
2.4. Peak to Average Radio

2.4.1. Requirement

According to FCC section 24.232(d), the peak to average ratio (PAR) of the transmission may not exceed 13dB.

2.4.2. Test Description

A. Test Set:



The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 500hm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power. A call is established between the EUT and the SS.

2.4.3. Test procedure

KDB 971168 D01v03 Section 5.7 and ANSI/TIA-603-E-2016.

2.4.4. Test Result

Record the maximum PAPR level associated with a probability of 0.1%.



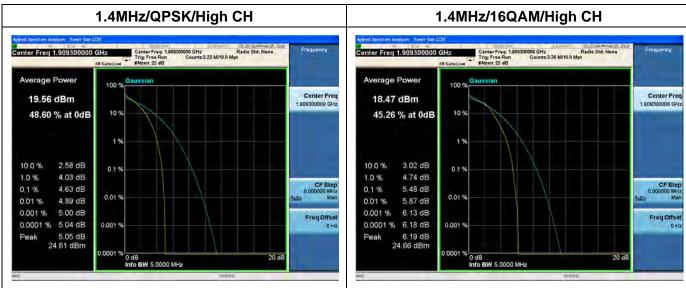
LTE Band 2, BW: 1.4MHz Channel Frequency (MHz) Peak to Average Radio(dB) 18607 1850.7 4.86 18900 1880.0 4.93 19192 1909.2 4.63	16QAM 5.66 5.67 5.48
Channel (MHz) QPSK 18607 1850.7 4.86 18900 1880.0 4.93	5.66 5.67
(MHz) QPSK 18607 1850.7 4.86 18900 1880.0 4.93	5.66 5.67
18900 1880.0 4.93	5.67
19192 1909.2 4.63	5.48
<u> </u>	0.40
LTE Band 2, BW: 3MHz	
Channel Frequency Peak to Average Radio(dB)	
(MHz) QPSK	16QAM
18615 1851.5 4.95	5.75
18900 1880.0 5.06	5.81
19184 1908.4 4.82	5.64
LTE Band 2, BW: 5MHz	
Channel Frequency Peak to Average Radio(dB)	
Channel (MHz) QPSK	16QAM
18625 1852.5 5.28	5.92
18900 1880.0 5.35	6.04
19175 1907.5 5.18	5.90
LTE Band 2, BW: 10MHz	
Channel Frequency Peak to Average Radio(dB)	
Channel (MHz) QPSK	16QAM
18650 1855.0 4.64	5.92
18900 1880.0 4.64	6.01
19150 1905.0 4.64	6.05
LTE Band 2, BW: 15MHz	
Channel Frequency Peak to Average Radio(dB)	
Channel (MHz) QPSK	16QAM
18675 1857.5 5.75	6.71
18900 1880.0 5.75	6.66
19125 1902.5 5.76	6.81
LTE Band 2, BW: 20MHz	
Channel Frequency Peak to Average Radio(dB)	
Channel (MHz) QPSK	16QAM
18700 1860.0 6.47	7.10
18900 1880.0 6.48	7.13
19100 1900.0 6.46	7.11



LTE Band 2 Peak to Average Radio 1.4MHz/QPSK/Low CH 1.4MHz/16QAM/Low CH Center Frag: 1.850700000 GHz Radio Std: None Trig: Frae Run Counts:3 29 M/10.0 Mpt #Atten: 22 dB Center Freq 1.850700000 GHz Center Freq: 1.850700000 GHz Radio Std: None Trig: Free Run Counts: 550 k/10.0 Mpt Center Freq 1.850700000 GHz Average Power Average Power Center Freq Center Freq 18.92 dBm 17.91 dBm 10 % 48.46 % at 0dB 10 % 46.20 % at 0dB 1% 1% 2.51 dB 10.0 % 10.0 % 2.90 dB 0.1 % 0.1% 4.09 dB 1.0 % 1.0 % 4.66 dB CF Step 5,000000 MHz Man CF Step 5.000000 MHz 5.66 dB 0.1 % 4.86 dB 0.1 % 0.01 % 0.01 % 0.01 % 5.30 dB 0.01 % 6.04 dB 0.001 % 5.54 dB 0.001 % 6.34 dB Freq Offse Freq Offse 0.0001 % 5.59 dB 0.001 0.0001 % - dB 0.001 % 6.42 dB 5,60 dB Peak Peak 24.52 dBm 24.33 dBm 0.0001 % 0 dB Info BW 5.0000 MHz 0.0001 % 0 dB Info BW 5.0000 MHz 1.4MHz/QPSK/Mid CH 1.4MHz/16QAM/Mid CH Center Freq: 1.88000000 GHz Radio Std: None Trig: Free Run Counts:1.41 M/10.0 Mpt Center Freq: 1.880000000 GHz Radio Std: None Trig: Free Run Counts: 8.40 M/10.0 Mpt Average Power Average Power 100 % 100 % Center Freq Center Freq 19.01 dBm 18.06 dBm 10 % 45.79 % at 0dB 10 % 48.21 % at 0dB 1% 1% 10.0 % 2.53 dB 10.0 % 2.93 dB 0.1 % 4.15 dB 4.72 dB 10% 10% CF-Step 5.000000 MH: Ma CF-Step 5.000000 MH3 May 0.1 % 4.93 dB 0.1 % 5.67 dB 0.01 % 0.01 % 0.01 % 5.35 dB 0.01 % 6.28 dB 0.001 % 5.74 dB 0.001 % 6.52 dB Freq Offse Freq Offse 0.0001 % 5.79 dB 0.001 % 0.0001 % 6.61 dB 0.001 9 5.80 dB 24.81 dBm 6.64 dB Peak 24.70 dBm 0,0001 % 0 dB Info BW 5,0000 MHz 0 dB Info BW 5.0000 MHz 0.0001 % 20 dB

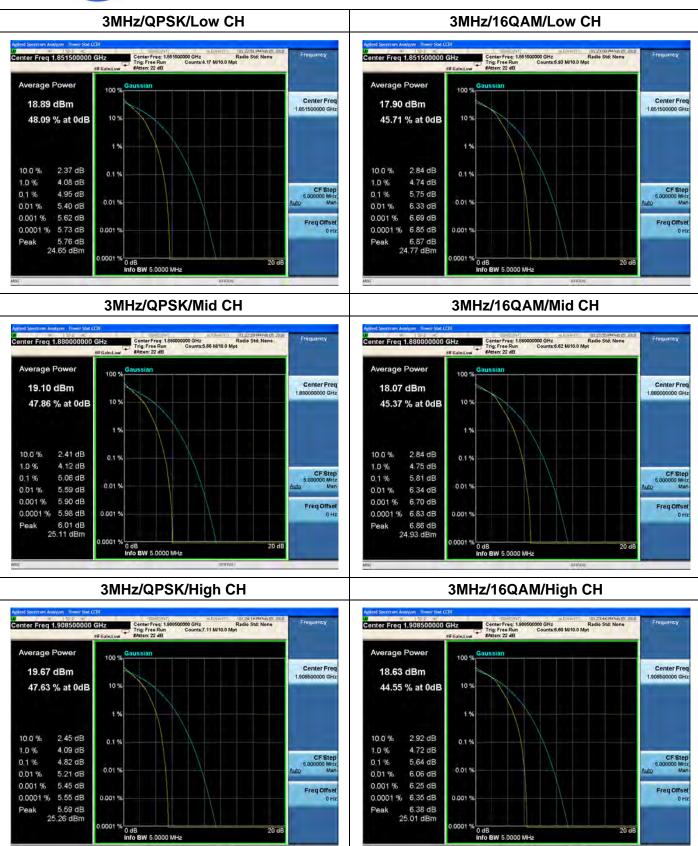






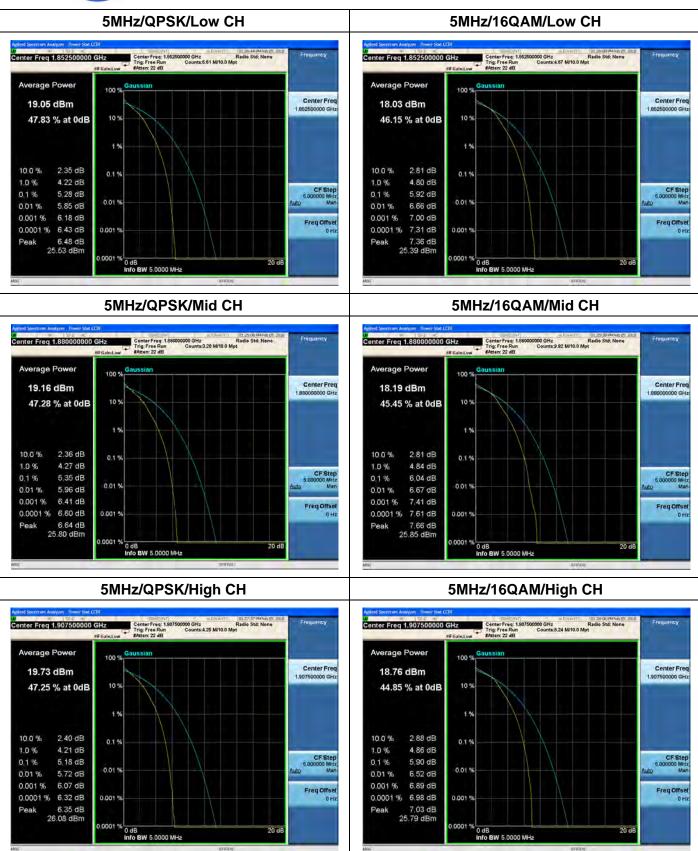










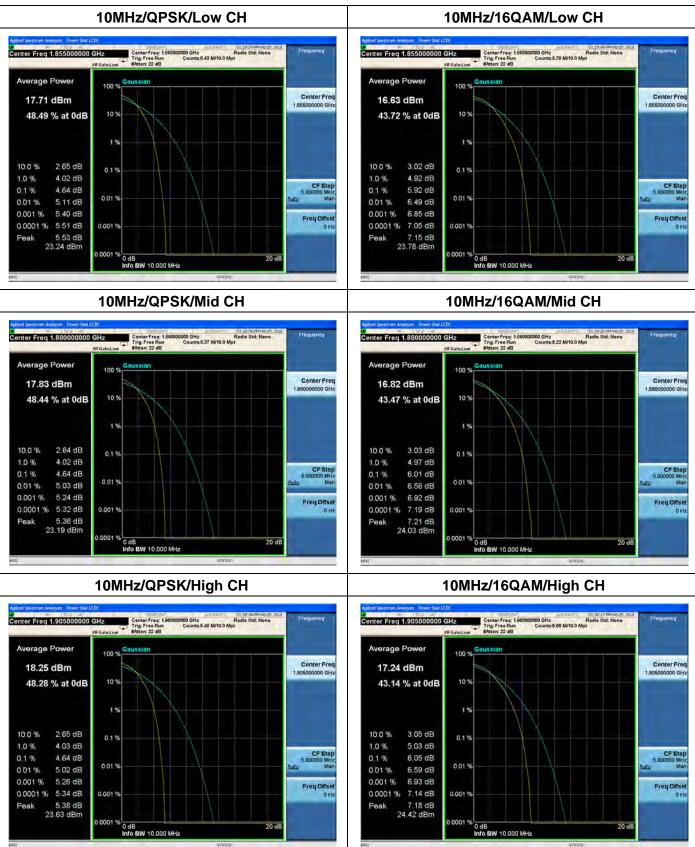




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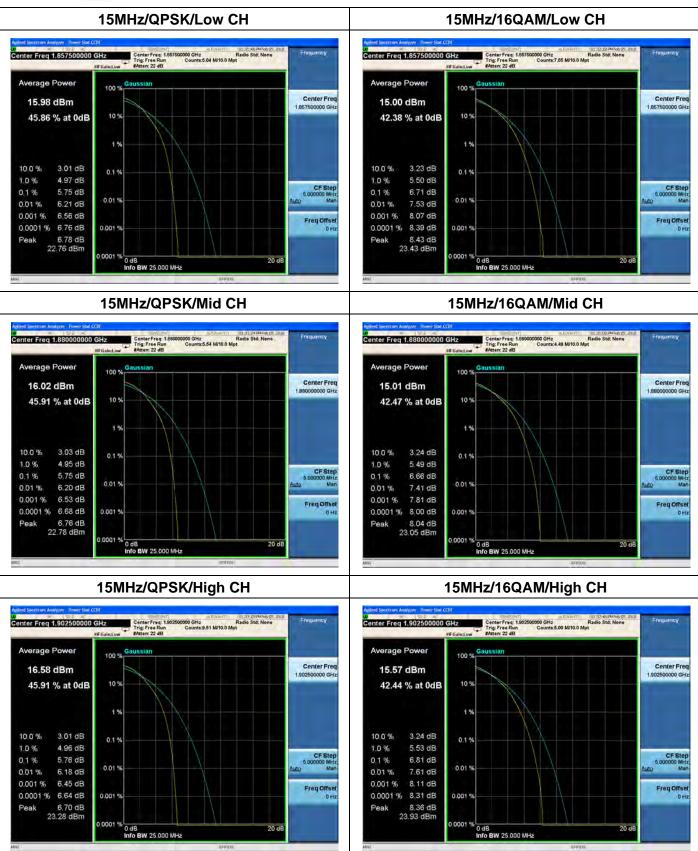
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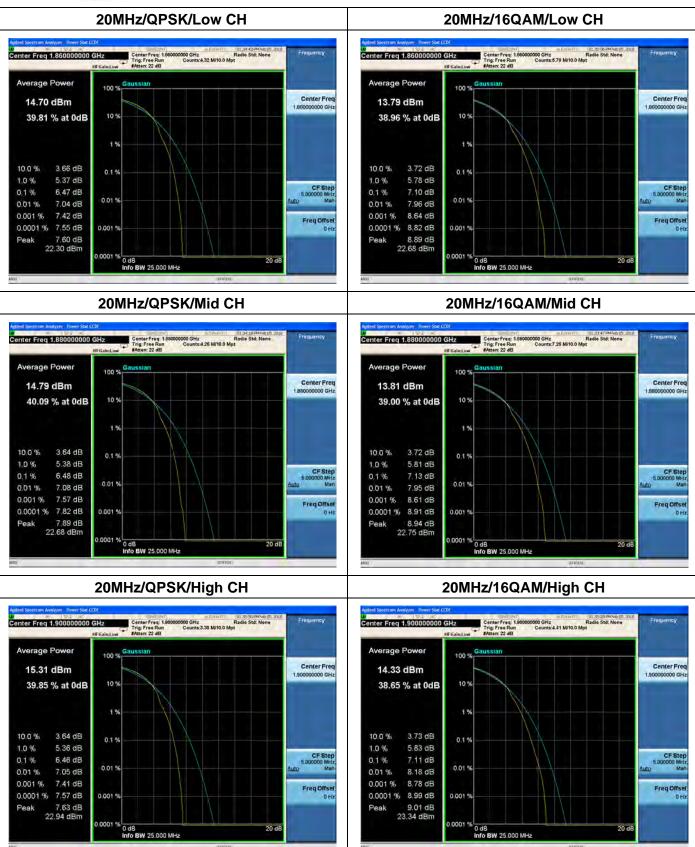
















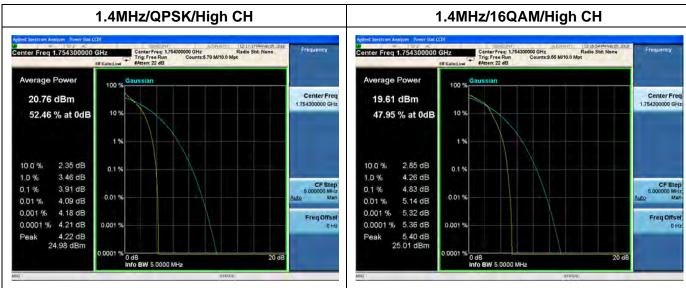
LTC D-	- A DW 4 4	MII.		
LIE Band	d 4, BW: 1.4I		D 1: (1D)	
Channel	Frequency	Peak to Avera	· · ·	
1000=	(MHz)	QPSK	16QAM	
18607	1850.7	4.78	5.59	
18900	1880.0	5.02	5.71	
19192	1909.2	3.91	4.83	
LTE Band	d 4, BW: 3MI			
Channel	Frequency	Peak to Avera	• • • •	
	(MHz)	QPSK	16QAM	
18615	1851.5	4.90	5.72	
18900	1880.0	5.20	5.90	
19184	1908.4	4.18	5.05	
LTE Band	d 4, BW: 5MI	Hz		
Channel	Frequency	Peak to Avera	ge Radio(dB)	
Chame	(MHz)	QPSK	16QAM	
18625	1852.5	5.20	5.88	
18900	1880.0	5.39	6.08	
19175	1907.5	4.74	5.48	
LTE Band	d 4, BW: 10N	1Hz		
01	Frequency	Peak to Average Radio(dB)		
Channel	(MHz)	QPSK	16QAM	
18650	1855.0	4.66	5.92	
18900	1880.0	4.64	6.02	
19150	1905.0	4.58	5.92	
LTE Band	d 4, BW: 15N	1Hz		
01 1	Frequency	Peak to Avera	ge Radio(dB)	
Channel	(MHz)	QPSK	16QAM	
18675	1857.5	5.79	6.74	
18900	1880.0	5.76	6.68	
19125	1902.5	5.94	6.73	
	d 4, BW: 20N			
	Frequency	Peak to Avera	ge Radio(dB)	
Channel	(MHz)	QPSK	16QAM	
18700	1860.0	6.47	7.13	
18900	1880.0	6.49	7.13	
19100	1900.0	6.47	7.09	
10100	1000.0	0.71	1.00	



LTE Band 4 Peak to Average Radio 1.4MHz/QPSK/Low CH 1.4MHz/16QAM/Low CH Center Freq: 1.7 10700000 GHz Trig: Free Run Counts: 3.54 M/10.0 Mpt #Atten: 22 dB Center Freq 1.710700000 GHz Center Freq: 1.710700000 GHz Radio Std: None Trig Free Run Counts:8.76 M/10.0 Mpt Center Freq 1.710700000 GHz Average Power Average Power Center Freq 1.710700000 GHz Center Freq 20.26 dBm 19.25 dBm 10 % 49.50 % at 0dB 10 % 46.29 % at 0dB 1% 1% 2.52 dB 2.91 dB 10.0 % 10.0 % 0.1 % 0.1 % 1.0 % 4.08 dB 1.0 % 4.69 dB CF Step 5,000000 MHz Man CF Step 5,000000 MH 4.78 dB 5.59 dB 0.1 % 0.1 % 0.01 % 0.01 % 0.01 % 5.17 dB 0.01 % 5.94 dB 0.001 % 5,35 dB 0.001 % 6.16 dB Freq Offse Freq Offse 0.0001 % 5.41 dB 0.001 0.0001 % 6.26 dB 0.001 % 5.42 dB 6.28 dB Peak Peak 25.68 dBm 25.53 dBm 0.0001 % 0 dB Info BW 5,0000 MH≥ 0.0001 % 0 dB Info BW 5.0000 MHz 1.4MHz/QPSK/Mid CH 1.4MHz/16QAM/Mid CH Center Freq: 1.732500000 GHz Radio Std: None Trig: Free Run Counts: 4.40 M/10.0 Mpt Center Freq: 1.732500000 GHz Radio Std: None Trig: Free Run Counts:7.47 M/10.0 Mpt Average Power Average Power 100 % 100 % Center Freq 1.732500000 GH-Center Freq 20.21 dBm 19.24 dBm 10 % 10 % 48.26 % at 0dB 46.09 % at 0dB 1% 1% 10.0 % 2.55 dB 10.0 % 2.93 dB 0.1 % 4.22 dB 4.77 dB 10% 10% CF Step 5.000000 MH3 Mar CF Step 5.000000 MH2 Mar 5.71 dB 0.1 % 5,02 dB 0.1 % 0.01 % 0.01 % 0.01 % 5.47 dB 0.01 % 6.30 dB 0.001 % 5.82 dB 0.001 % 6.54 dB Freq Offse Freq Offse 0.0001 % 5.89 dB 0.001 % 0.0001 % 6.61 dB 0.001 9 5.89 dB 6.64 dB Peak 26.10 dBm 25.88 dBm 0,0001 % 0 dB Info BW 5,0000 MHz 0 dB Info BW 5.0000 MHz 0.0001 % 20 dB

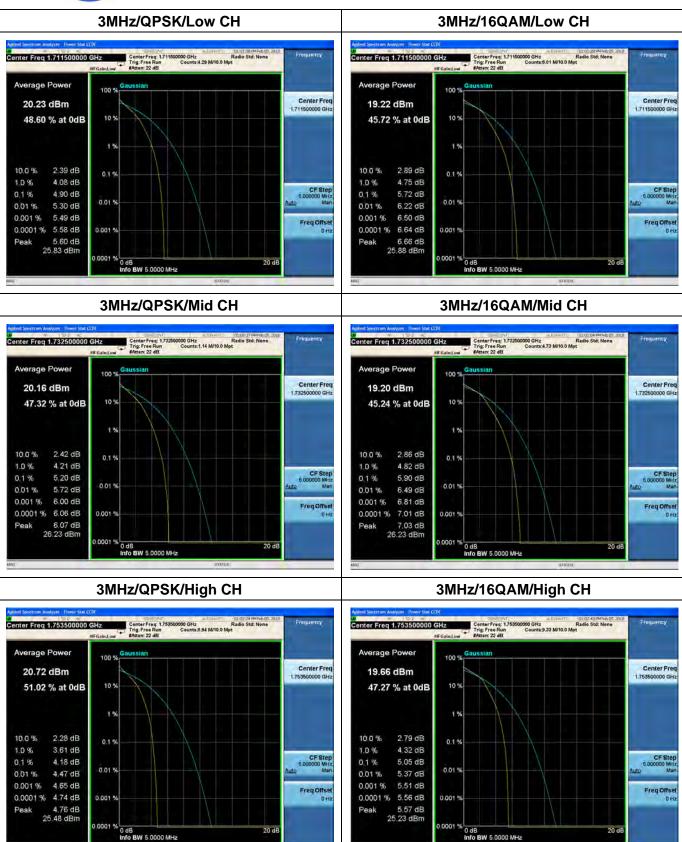






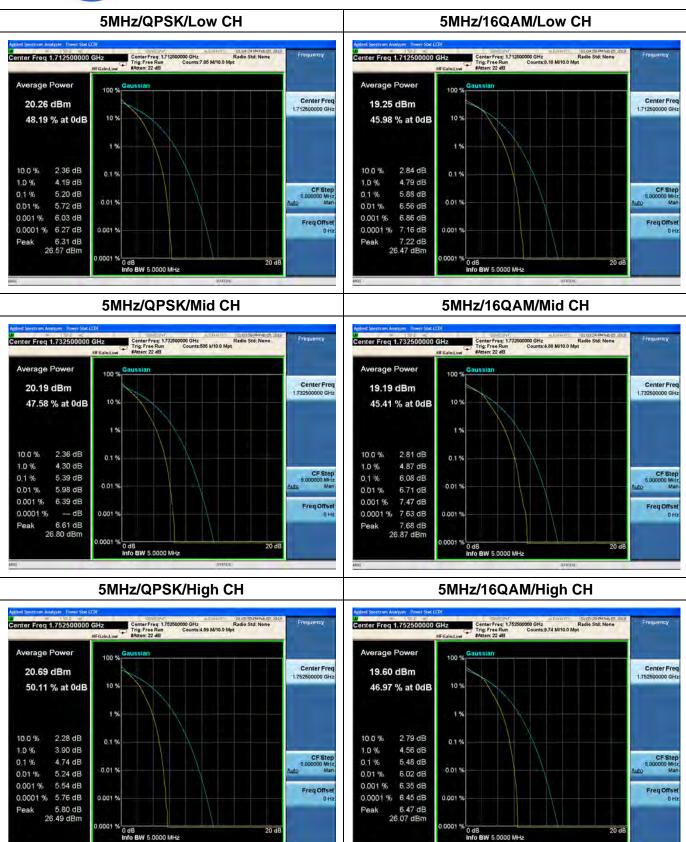












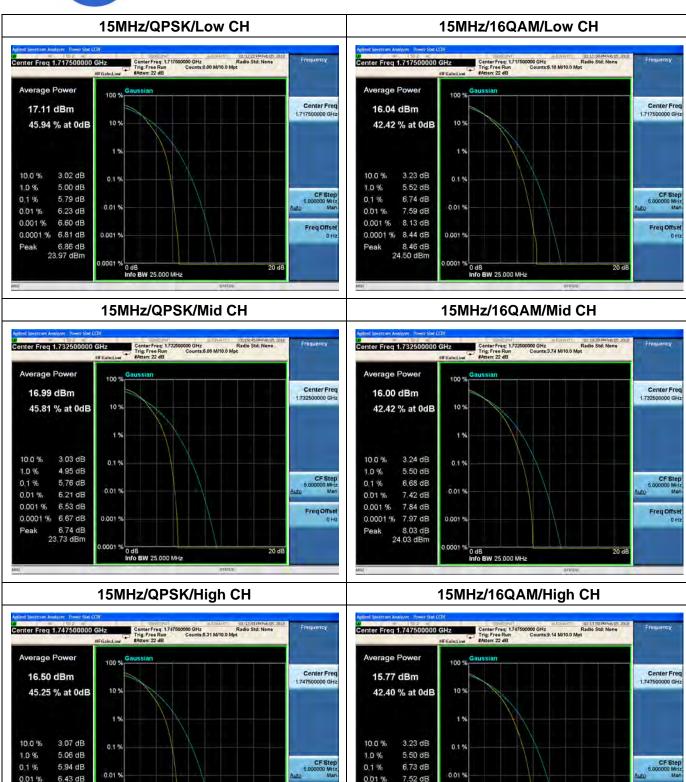




10MHz/QPSK/Low CH 10MHz/16QAM/Low CH Center Freq: 1.715000000 GHz Radio Std: None Trig: Free Run Counts: 8.96 M/10.0 Mpt #Atten: 22 dB Center Freq: 1.715000000 GHz Radio Std: None Trig: Free Run Counts: 3.17 M/10.0 Mpt Center Freq 1.715000000 GHz Average Power Average Power Center Freq 1,715000000 GHz Center Freq 1.715000000 GHz 18.79 dBm 17.77 dBm 10% 10 % 48.50 % at 0dB 43.67 % at 0dB 1% 1% 10.0 % 2.64 dB 10.0 % 3.04 dB 0.1 % 0.1 % 4.03 dB 4 93 dB 1.0 % 1.0 % CF Step 5.000000 MH CF Step 5,000000 MHz 0.1% 4.66 dB 0.1% 5.92 dB 0.01 % 0.01 % 0.01 % 5.13 dB 0.01 % 6.49 dB 0.001 % 5.43 dB 0.001 % 6.82 dB Freq Offse Freq Offse 0.0001 % 5.54 dB 0.0001 % 7.02 dB 0.001 0.001 5.55 dB 24.34 dBm 7.04 dB Peak Peak 24.81 dBm 0.0001 % 0.0001 % 0 dB Info BW 10.000 MHz 0 dB Info BW 10,000 MHz 10MHz/QPSK/Mid CH 10MHz/16QAM/Mid CH Center Freq: 1.732500000 GHz Radio Std: None Trig: Free Run Counts: 3.58 M/10.0 Mpt Average Power Average Power 100 % 100 % Center Freq Center Freq 18.72 dBm 17.70 dBm 10 % 10 % 48.55 % at 0dB 43.42 % at 0dB 1 % 1% 10.0 % 2.66 dB 10.0 % 3.03 dB 0.1 % 1.0 % 4.03 dB CF Step 5,000000 MHz Man 1.0 % 4.97 dB CF Step 5.000000 MH3 Mar 4.64 dB 6.02 dB 01% 0.1 % 0.01 % 0.01 % 0.01 % 5.02 dB 0.01 % 6.59 dB 0.001 % 5.19 dB 0.001 % 6.92 dB Freq Offse Freq Offse 0.0001 % -- dB 0.0001 % 7.17 dB 5.24 dB 23.96 dBm Peak Peak 7,20 dB 24.90 dBm 0.0001 % 0 dB Info BW 10.000 MHz 0.0001 9 20 dB 0 dB Info BW 10.000 MHz 20 dB 10MHz/QPSK/High CH 10MHz/16QAM/High CH Center Freq: 1.750000000 GHz Radio Std: None Trig: Free Run Counts:45.0 k/10.0 Mpt Average Power Average Power 100 % 100 % Center Freq Center Free 19.10 dBm 18.03 dBm 10 % 48.38 % at 0dB 43.52 % at 0dB 1% 1% 2.61 dB 3.02 dB 10.0 % 10.0 % 0.1 % 3.97 dB CF Step 5.000000 MH 4.94 dB 1.0 % 1.0 % CF Step 4.58 dB 5.92 dB 0.1% 0.1 % 0.01 % 0.01 % 5.02 dB 6.45 dB 0.01 % 0.01 % 0.001 % -- dB 0.001 % 6.81 dB Freq Offse - dB 0.0001 % 0.0001 % 6.97 dB 5.22 dB 24.32 dBm Peak 7,05 dB 25,08 dBm Peak 0.0001 % 0.0001 % 20 dB 0 dB Info BW 10.000 MHz 0 dB Info BW 10.000 MHz







0.01 %

0.001 % 8.06 dB

0.0001 % 8,26 dB Peak 8,40 dB 24,17 dBm



0.01 %

Peak

0.001 % 6.74 dB

0.0001 % 7.02 dB

7.54 dB

0.0001 %

0 dB Info BW 25,000 MHz

24.04 dBm

0 dB Info BW 25,000 MHz

0.0001 %

20 dB

Freq Offse



20MHz/QPSK/Low CH 20MHz/16QAM/Low CH Center Freq: 1.720000000 GHz Radio Std: None Trig: Freq Run Counts: 5.67 M/10.0 Mpt #Atten: 22 dB Center Freq: 1.72000000 GHz Radio Std: None Trig: Free Run Counts: 3.54 M/10.0 Mpt Center Freq 1.720000000 GHz Average Power Average Power Center Freq Center Freq 1,720000000 GHz 15.59 dBm 14.62 dBm 10 % 10 % 39.80 % at 0dB 38.91 % at 0dB 1% 1% 10.0 % 3.67 dB 10.0 % 3.72 dB 0.1 % 0.1 % 5 38 dB 5 78 dB 1.0 % 1.0 % CF Step 5,000000 MH CF Step 5,000000 MH 0.1% 6.47 dB 0.1% 7.13 dB 0.01 % 0.01 % 0.01 % 7.06 dB 0.01 % 7.95 dB 0.001 % 7.43 dB 0.001 % 8.67 dB Freq Offse Freq Offse 0.0001 % 7.57 dB 0.0001 % 8,84 dB 0.001 0.001 7.60 dB 8,89 dB 23.51 dBm Peak Peak 23.19 dBm 0.0001 % 0.0001 % 0 dB Info BW 25.000 MHz 0 dB Info BW 25,000 MHz 20MHz/QPSK/Mid CH 20MHz/16QAM/Mid CH CenterFreq: 1.732500000 GHz Radio Std: None Trig:Free Run Counts:8.73 M/10.0 Mpt Center Freq: 1.732500000 GHz Radio Std: None Trig: Free Run Counts: 980 k/10.0 Mpt Average Power Average Power 100 % 100 % Center Freq Center Freq 15.39 dBm 14 51 dBm 10 % 10 % 40.06 % at 0dB 38.97 % at 0dB 1.% 1% 10.0 % 3.64 dB 10.0 % 3.71 dB 0.1 % 1.0 % 5.39 dB CF Step 5,000000 MHz Man 1.0 % 5.81 dB CF Step 5.000000 MH3 Mar 6.49 dB 7.13 dB 01% 0.1 % 0.01 % 0.01 % 0.01 % 7.10 dB 0.01 % 8.00 dB 0.001 % 7.60 dB 0.001 % 8.64 dB Freq Offse Freq Offse 0.0001 % 7.87 dB 0.0001 % - dB Peak 8,90 d.s. 23,41 dBm 7.92 dB 23.31 dBm Peak 0.0001 % 0 dB Info BW 25,000 MHz 0.0001 9 20 dB 0 dB Info BW 25,000 MHz 20 da 20MHz/QPSK/High CH 20MHz/16QAM/High CH Average Power Average Power 100 % 100 % Center Free Center Freq 15.69 dBm 14.74 dBm 10 % 39.93 % at 0dB 38.66 % at 0dB 1% 1% 3.65 dB 3.74 dB 10.0 % 10.0 % 0.1 % 5.37 dB CF Step 5.000000 MH 5.81 dB 1.0 % 1.0 % CF Step 6.47 dB 7.09 dB 0.1% 0.1% 0.01 % 0.01 % 7.07 dB 8.14 dB 0.01 % 0.01 % 0.001 % 7.40 dB 0.001 % 8.72 dB Freq Offse 0.0001 % 7.57 dB 0.0001 % 8.94 dB Peak 8.97 dB 23.71 dBm 7.61 dB 23.30 dBm Peak



0.0001 %

0 dB Info BW 25,000 MHz 0 dB Info BW 25,000 MHz

0.0001 %

20 dB



LTE Band	7, BW: 5MHz			
Channel	Frequency	Peak to Averag	ge Radio(dB)	
Chamilei	(MHz)	QPSK	16QAM	
20775	2502.5	5.37	6.04	
21100	2535.0	5.41	6.07	
21425	2567.5	5.00	5.73	
LTE Band	7, BW: 10MHz			
Channel	Frequency	Peak to Averag	ge Radio(dB)	
Chame	(MHz)	QPSK	16QAM	
20800	2505.0	4.69	6.03	
21100	2535.0	4.68	6.06	
21400	2565.0	4.63	5.92	
LTE Band	7, BW: 15MHz	1		
Channel	Frequency	Peak to Average Radio(dB)		
Charmer	(MHz)	QPSK	16QAM	
20825	2507.5	5.78	6.79	
21100	2535.0	5.77	6.71	
21375	2562.5	5.80	6.70	
LTE Band	7, BW: 20MHz	1		
Channel	Frequency	Peak to Average Radio(dB)		
Channel	(MHz)	QPSK	16QAM	
20850	2510.0	6.47	7.13	
21100	2535.0	6.49	7.17	
21350	2560.0	6.48	7.05	

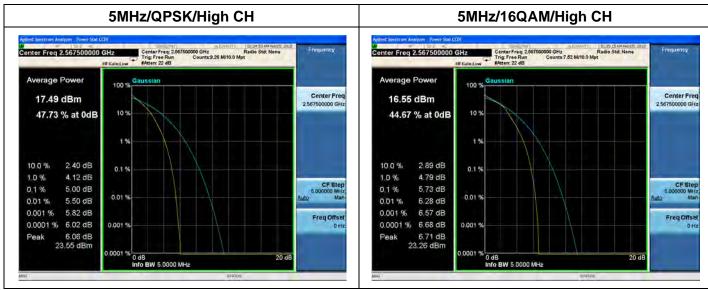




LTE Band 7 Peak to Average Radio 5MHz/QPSK/Low CH 5MHz/16QAM/Low CH Center Freq: 2.502500000 GHz Radio Std: None Trig: Free Run Counts: 4.57 M/10.0 Mpt Center Freq 2.502500000 GHz Center Freq 2.502500000 GHz Average Power Average Power Center Freq 2.502500000 GHz Center Freq 2,502500000 GHz 17.23 dBm 16.04 dBm 10 % 10 % 47.40 % at 0dB 45.40 % at 0dB 1 % 1% 10.0 % 2.36 dB 10.0 % 2.84 dB 0.1 % 0.1 % 4.86 dB 4.28 dB 1.0 % 1.0 % CF Ster CF Step 5.000000 MHz 0.1 % 5,37 dB 0.1 % 6.04 dB 0.01 % 0.01 % 0.01 % 5.93 dB 0.01 % 6.76 dB 0.001 % 6.27 dB 0.001 % 7.15 dB Freq Offse Freq Offs 0.0001 % 6.55 dB 0.001 9 0.0001 % 7.45 dB 0.001 % 6.56 dB 7.60 dB Peak Peak 23.79 dBm 23.64 dBm 0,0001 % 0 dB Info BW 5,0000 MHz 0.0001 % 0 dB Info BW 5.0000 MHz 5MHz/QPSK/Mid CH 5MHz/16QAM/Mid CH Center Freq: 2.535000000 GHz Radio Std: None Trig: Free Run Counts: 3.45 M/10.0 Mpt #Attern: 22 dB CenterFreq: 2.535000000 GHz Radio Std: None Trig: Free Run Counts: 7.28 M/10.0 Mpt Center Freq 2.535000000 GHz Average Power Average Power 100 % 2,535000000 (345) Center Freq 17.05 dBm 16.54 dBm 44.58 % at 0dB 10 % 46.87 % at 0dB 1% 10.0 % 2.39 dB 10.0 % 2.84 dB 0.1 % 4.36 dB 4.92 dB 10% 10% CF Ster CF Step 5,000000 MHz Man 0.1% 5,41 dB 0.1 % 6.07 dB 0.01 % 0.01 % 5.99 dB 0.01 % 0.01 % 6.67 dB 0.001 % 6.36 dB 0.001 % 7.32 dB Freq Offset Freq Offse 0.0001 % 6.64 dB 0.0001 % 7.52 dB 0.001 % 6.66 dB 23.71 dBm 7.57 dB 24.11 dBm Peak Peak 0,0001 % 0 dB Info BW 5,0000 MHz 0,0001 % 0 dB Info BW 5,0000 MHz 20 dB

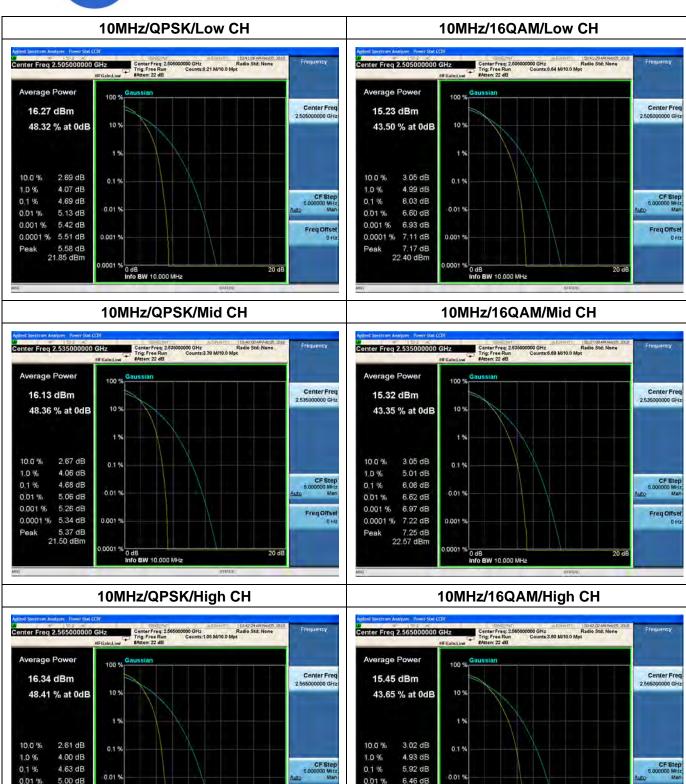














0.001 % 5.25 dB

0.0001 % 5.38 dB

Peak

5.43 dB 21.77 dBm

0.0001 %

0 dB Info BW 10.000 MHz 0 dB Info BW 10.000 MHz

0.0001 %

0.001 % 6.84 dB

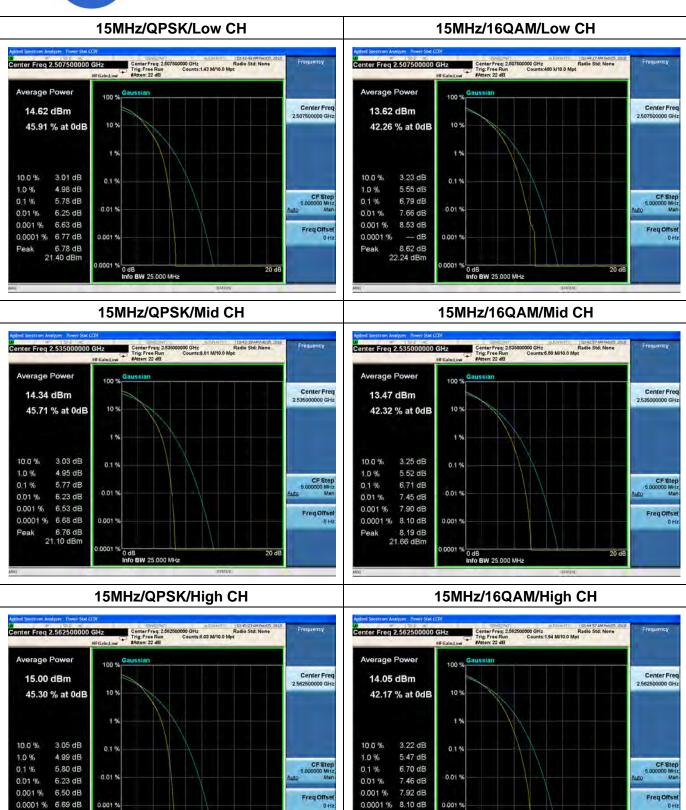
0.0001 % 6.99 dB

Peak 7,05 dB 22,50 dBm

20 dB

Freq Offse







8,09 dB

0.0001 %

0 dB Info BW 25.000 MHz

23.09 dBm

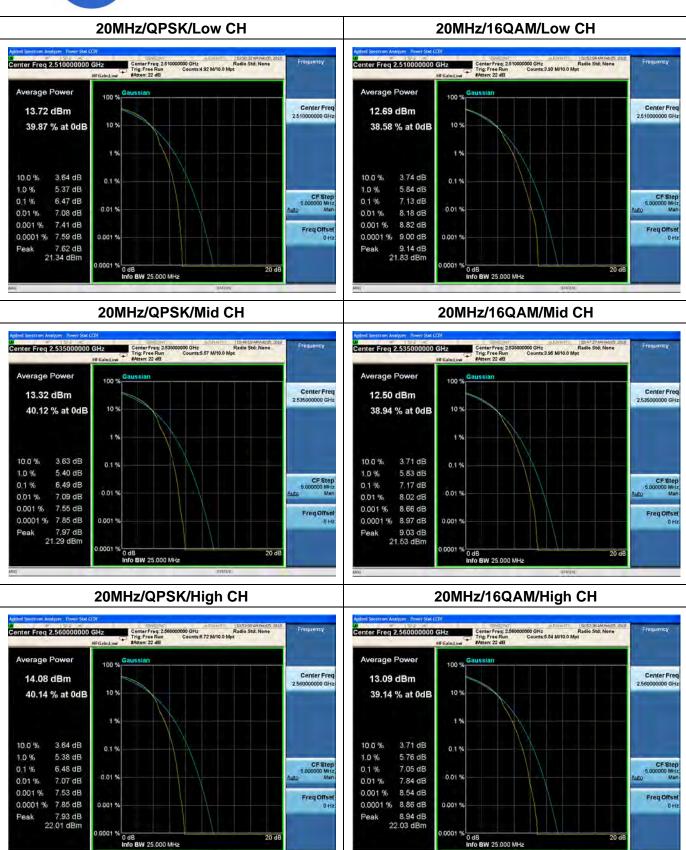
Peak

0 dB Info BW 25,000 MHz

0.0001 %

Peak 8.14 dB 22.19 dBm







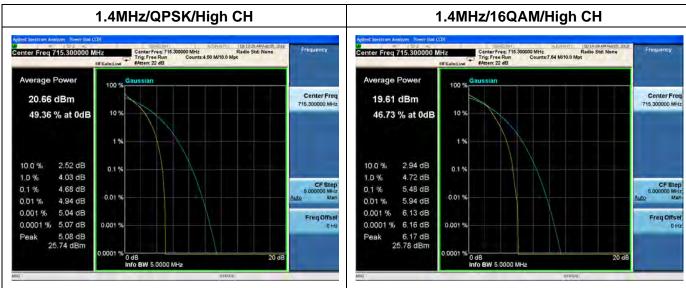


1 12, BW: 1.4N	ИНZ			
Frequency	Peak to Avera	Peak to Average Radio(dB)		
(MHz)	QPSK	16QAM		
699.7	6.40	7.21		
707.5	5.25	5.97		
715.3	4.68	5.48		
l 12, BW: 3MF	Iz			
Frequency	Peak to Average Radio(dB)			
(MHz)	QPSK	16QAM		
700.5	6.12	6.98		
707.5	5.30	6.08		
714.5	5.02	5.81		
1 12, BW: 5MF	Iz			
Frequency	Peak to Average Radio(dB)			
(MHz)	QPSK	16QAM		
701.5	5.79	6.52		
707.5	5.54	6.26		
714.5	5.55	6.30		
1 12, BW: 10M	Hz			
Frequency	Peak to Average Radio(dB)			
(MHz)	QPSK	16QAM		
704.0	4.59	5.99		
707.5	4.70	6.05		
711.0	4.74	6.29		
	Frequency (MHz) 699.7 707.5 715.3 112, BW: 3MH Frequency (MHz) 700.5 707.5 714.5 112, BW: 5MH Frequency (MHz) 701.5 707.5 714.5 112, BW: 10M Frequency (MHz) 707.5 714.5	(MHz) QPSK 699.7 6.40 707.5 5.25 715.3 4.68 112, BW: 3MHz Peak to Average of the peak to A		



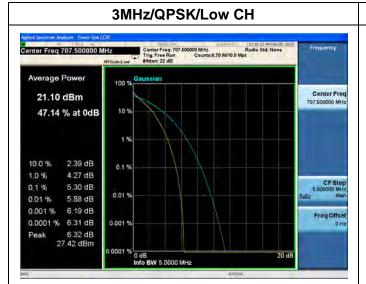
LTE Band 12 Peak to Average Radio 1.4MHz/QPSK/Low CH 1.4MHz/16QAM/Low CH Center Freq: 699.700000 MHz Radio Std: None Trig: Free Run Counts 9.89 M/10.0 Mpt #Atten: 22 dB Center Freq: 899.700000 MHz Radio Std: None Trig: Free Run Counts: 8-93 M/10.0 Mpt Center Freq 699.700000 MHz Average Power Average Power Center Freq Center Freq 699,700000 MHz 21.17 dBm 20.22 dBm 42.78 % at 0dB 10 % 43.49 % at 0dB 10 % 1% 1% 10.0 % 2.69 dB 10.0 % 2.99 dB 0.1 % 0.1 % 5.06 dB 1.0 % 1.0 % 5.57 dB CF Step 5,000000 MHz Man CF Step 5.000000 MH: 7.21 dB 0.1 % 6.40 dB 0.1% 0.01 % 0.01 % 0.01 % 7.18 dB 0.01 % 8.00 dB 0.001 % 7.54 dB 0.001 % 8.45 dB Freq Offse Freq Offse 0.0001 % 7.60 dB 0.001 0.0001 % 8.53 dB 0.001 % 8.56 dB 28.78 dBm 7.64 dB Peak Peak 28.81 dBm 0.0001 % 0 dB Info BW 5.0000 MHz 0.0001 % 0 dB Info BW 5.0000 MHz 1.4MHz/QPSK/Mid CH 1.4MHz/16QAM/Mid CH Center Freq 707.500000 MHz Average Power Average Power 100 % 100 % Center Freq Center Freq 707.500000 MHz 21.10 dBm 20.06 dBm 10 % 10 % 48.04 % at 0dB 46.08 % at 0dB 1% 1% 10.0 % 2.53 dB 10.0 % 2.89 dB 0.1 % 4.36 dB 4.90 dB 1.0 % CF Step 5.000000 MH3 Mail 10% CF Step 5.000000 MH3 Mar 0.1 % 5,25 dB 0.1 % 5.97 dB 0.01 % 0.01 % 0.01 % 5.76 dB 0.01 % 6.67 dB 0.001 % 6.14 dB 0.001 % 6.93 dB Freq Offse Freq Offse 0.0001 % 6.20 dB 0.001 % 0.0001 % 6.98 dB 0.001 9 6.23 dB 27.33 dBm 7.02 dB Peak Peak 27.08 dBm 0,0001 % 0 dB Info BW 5,0000 MHz 0.0001 % 0 dB Info BW 5 0000 MHz 20 dB









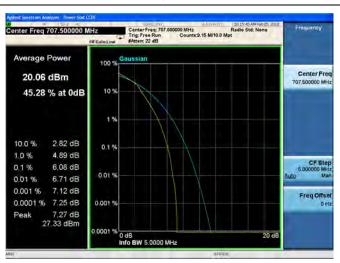


3MHz/16QAM/Low CH Average Power Center Freq 707.500000 MHz 20.06 dBm 10 % 45.28 % at 0dB 10.0 % 2.82 dB 0.1 % 4 89 dB 1.0 % CF Step 5,000000 MHz 0.1% 6.08 dB 0.01 % 0.01 % 6.71 dB 0.001 % 7.12 dB Freq Offsel 0.0001 % 7.25 dB 0.001 7.27 dB Peak 27.33 dBm 0.0001 9

3MHz/QPSK/Mid CH

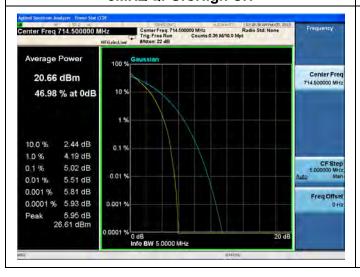
3MHz/16QAM/Mid CH

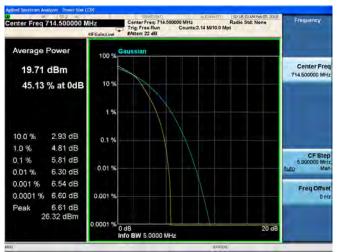




3MHz/QPSK/High CH

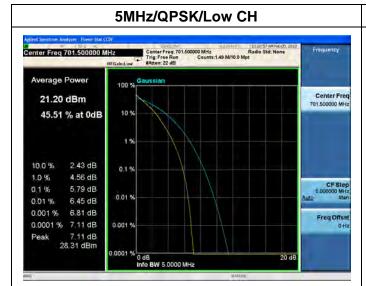
3MHz/16QAM/High CH



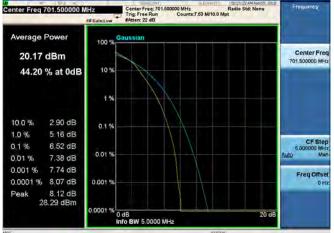








5MHz/16QAM/Low CH Center Freq: 701.500000 MHz Radio Std: None Trig: Free Run Counts: 7.53 M/10.0 Mpt



5MHz/QPSK/Mid CH

5MHz/16QAM/Mid CH

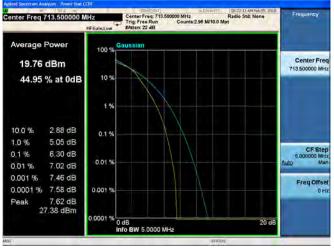




5MHz/QPSK/High CH

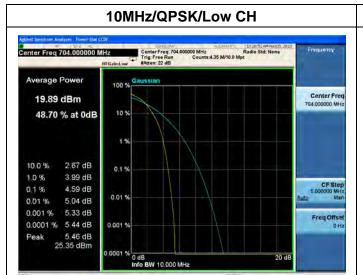
5MHz/16QAM/High CH



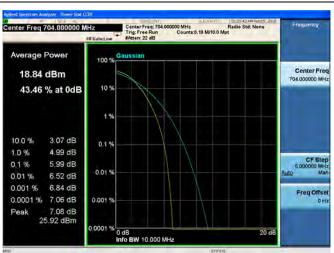






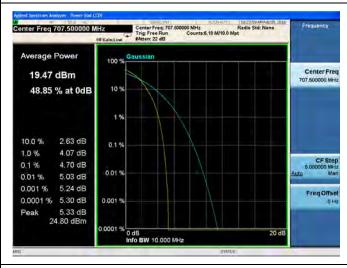


10MHz/16QAM/Low CH



10MHz/QPSK/Mid CH

10MHz/16QAM/Mid CH





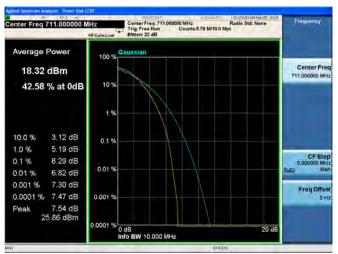
10MHz/QPSK/High CH

10MHz/16QAM/High CH



SHENZHEN MORLAB COMMUNICATIONS TECHNOLOGY Co., Ltd.

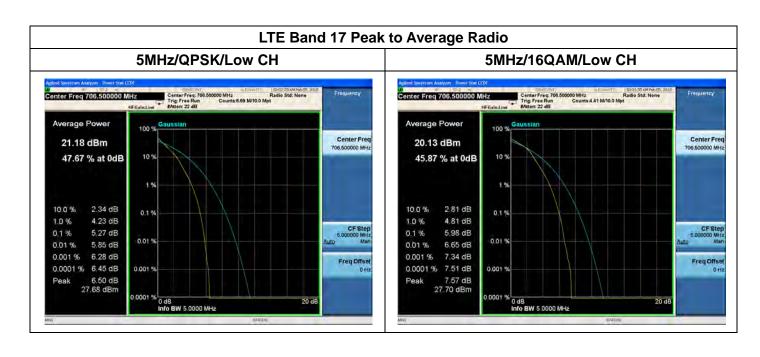
FL1-3, Building A, FeiYang Science Park, No.8 LongChang Road,







LTE Band	17, BW: 5MH	z		
Channel	Frequency	Peak to Average Radio(dB)		
	(MHz)	QPSK	16QAM	
23755	706.5	5.27	5.98	
23790	710.0	6.08	6.75	
23825	713.5	5.52	6.28	
LTE Band	1 1, BW: 10MH	Z		
Channel	Frequency	Peak to Average Radio(dB)		
	(MHz)	QPSK	16QAM	
23780	709.0	4.81	6.15	
23790	710.0	4.81	6.24	
23800	711.0	4.74	6.28	





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0.1 %

0.01 %

0.0001 %

0 dB Info BW 5,0000 MHz

1.0 %

0.1 %

0.01 %

4.40 dB

5,52 dB

6.15 dB

0.001 % 6.52 dB

0.0001 % 6.83 dB

Peak 6.84 dB 27.71 dBm

REPORT No.: SZ18010063W09



1.0 %

0.1 %

0.01 %

CF Step 5.000000 MHz Mar

Freq Offse

20 dB

5.05 dB

6.28 dB

6.98 dB

0.001 % 7.40 dB

0.0001 % 7.57 dB

Peak 7,60 dB 27,41 dBm

0.1 %

0.01 %

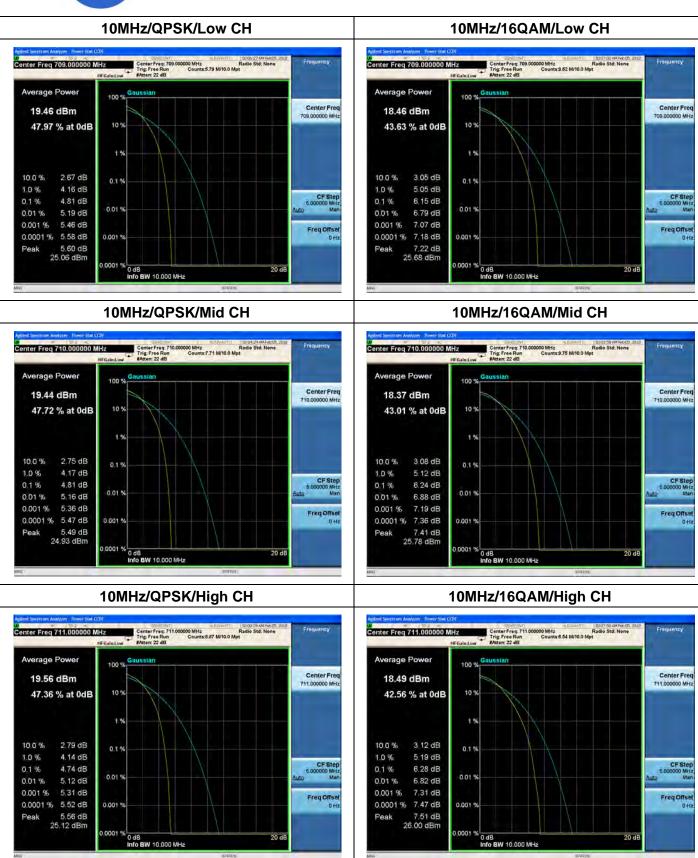
0.001

0.0001 %

CF Step 100000 MH

Freq Offse







0 dB Info BW 10,000 MHz

20 dB

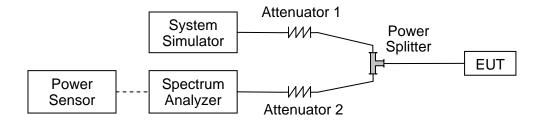


2.5. Conducted Spurious Emissions

2.5.1. Requirement

According to FCC section 2.1051, 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. This calculated to be -13dBm.

2.5.2. Test Description



The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 500hm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power. A call is established between the EUT and the SS.

2.5.3. Test procedure

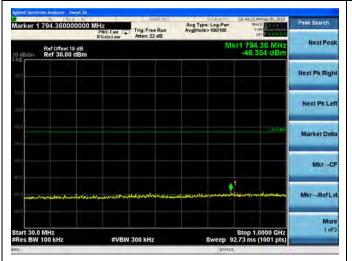
KDB 971168 D01v03 Section 6.0 and ANSI/TIA-603-E-2016.

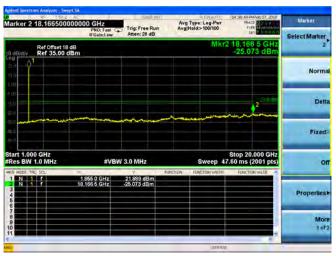
2.5.4. Test Result



LTE Band 2 1.4MHz BW Low Channel

QPSK





16QAM

