

## **TEST REPORT**

APPLICANT	: Social Bicycles LLC			
PRODUCT NAME	: Clarion Module			
MODEL NAME	: Clarion Module R6			
BRAND NAME	: JUMP Bikes			
FCC ID	: 2ADEK1808R6			
STANDARD(S)	<ul><li>47 CFR Part 22, Subpart H</li><li>47 CFR Part 24, Subpart E</li><li>47 CFR Part 27, Subpart L&amp;H</li></ul>			
TEST DATE	: 2018-09-30 to 2018-10-12			
ISSUE DATE	: 2018-10-15			
	Tested by:  Gao Mingzhou (Test Engineer)			
	Approved by: Peng Huarui ( Supervisor )			

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SHENZHEN MORLAB COMMUNICATIONS TECHNOLOGY Co., Ltd.



## **DIRECTORY**

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Change History				
Issue	Date	Reason for change		
1.0	2018-10-15	First edition		





## 1. Technical Information

Note: Provide by applicant.

## 1.1. Applicant and Manufacturer Information

Applicant:	Social Bicycles LLC			
Applicant Address:	55 Prospect ST. Suite 410 Brooklyn, New York 11201, United			
	States			
Manufacturer:	E-BUSINESS INTERNATIONAL TECHNOLOGY(SHENZHEN)			
	CO.LTD			
Manufacturer Address:	Floor 2, Tower A, New Energy Building, Nanhai Road, Nanshan,			
	Shenzhen,China			

## 1.2. Equipment Under Test (EUT) Description

Product Name:	Clarion Module			
Serial No:	(N/A, marked #	#1 by test site)		
Hardware Version:	R6			
Software Version:	1.0.3_rc1			
Modulation Type:	QPSK, 16QAM	1		
Operation Band:	Band 2 / 4 / 5 /	' 12		
	LTE Band 2	Tx: 1850MHz -1910MHz		
	LIE Ballu 2	Rx: 1930MHz -1990MHz		
	LTE Band 4	Tx: 1710MHz -1755MHz		
Fraguency Pange:		Rx: 2110MHz - 2155MHz		
Frequency Range:	LTE Band 5	Tx: 824MHz -849MHz		
		Rx: 869MHz -894MHz		
	LTE Band 12	Tx: 699MHz - 716MHz		
		Rx: 729MHz - 746MHz		
	LTE Band 2	1.4MHz, 3 MHz, 5 MHz, 10MHz, 15 MHz, 20 MHz		
Channel Bandwidth	LTE Band 4	1.4MHz, 3 MHz, 5 MHz, 10MHz, 15 MHz, 20 MHz		
Chainer Bandwidth	LTE Band 5	1.4MHz, 3 MHz, 5 MHz, 10MHz		
	LTE Band 12 1.4MHz, 3 MHz, 5 MHz, 10MHz			
	1M10G7D (LTE Band 2, QPSK, BW 1.4MHz)			
Emission Designator:	1M10W7D (LTE Band 2, 16QAM, BW 1.4MHz)			
	2M68G7D (LTE Band 2, QPSK, BW 3MHz)			



2M68 W7D (LTE Band 2, 16QAM, BW 3MHz)
4M47G7D (LTE Band 2, QPSK, BW 5MHz)
4M47W7D (LTE Band 2, 16QAM, BW 5MHz)
8M94G7D (LTE Band 2, QPSK, BW 10MHz)
8M93W7D (LTE Band 2, 16QAM, BW 10MHz)
13M47G7D (LTE Band 2, QPSK, BW 15MHz)
13M47W7D (LTE Band 2, 16QAM, BW 15MHz)
17M87G7D (LTE Band 2, QPSK, BW 20MHz)
17M86W7D (LTE Band 2, 16QAM, BW 20MHz)
1M10G7D (LTE Band 4, QPSK, BW 1.4MHz)
1M10W7D (LTE Band 4, 16QAM, BW 1.4MHz)
2M69G7D (LTE Band 4, QPSK, BW 3MHz)
2M68W7D (LTE Band 4, 16QAM, BW 3MHz)
4M47G7D (LTE Band 4, QPSK, BW 5MHz)
4M48W7D (LTE Band 4, 16QAM, BW 5MHz)
8M93G7D (LTE Band 4, QPSK, BW 10MHz)
8M93W7D (LTE Band 4, 16QAM, BW 10MHz)
13M42G7D (LTE Band 4, QPSK, BW 15MHz)
13M48W7D (LTE Band 4, 16QAM, BW 15MHz)
17M87G7D (LTE Band 4, QPSK, BW 20MHz)
17M86W7D (LTE Band 4, 16QAM, BW 20MHz)
1M10G7D (LTE Band 5, QPSK, BW 1.4MHz)
1M10W7D (LTE Band 5, 16QAM, BW 1.4MHz)
2M68G7D (LTE Band 5, QPSK, BW 3MHz)
2M68W7D (LTE Band 5, 16QAM, BW 3MHz)
4M47G7D (LTE Band 5, QPSK, BW 5MHz)
4M47W7D (LTE Band 5, 16QAM, BW 5MHz)
9M06G7D (LTE Band 5, QPSK, BW 10MHz)
9M07W7D (LTE Band 5, 16QAM, BW 10MHz)
1M10G7D (LTE Band 12, QPSK, BW 1.4MHz)
1M10W7D (LTE Band 12, 16QAM, BW 1.4MHz)
2M68G7D (LTE Band 12, QPSK, BW 3MHz)
2M68W7D (LTE Band 12, 16QAM, BW 3MHz)
4M47G7D (LTE Band 12, QPSK, BW 5MHz)
4M47W7D (LTE Band 12, 16QAM, BW 5MHz)
9M04G7D (LTE Band 12, QPSK, BW 10MHz)
9M05W7D (LTE Band 12, 16QAM, BW 10MHz)
Chip Antenna



**Antenna Type:** 



Antenna Gain:	LTE Band 2	1.0 dBi
	LTE Band 4	1.0 dBi
	LTE Band 5	1.0 dBi
	LTE Band 12	1.0 dBi
	Normal(NV)	5.0V
Operating voltage:	Lowest(LV)	4.8V
	Highest(HV)	5.2V

Note 1: For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.



### 1.3. Test Standards and Results

The objective of the report is to perform testing according to Part 2, Part 22, Part 24 and Part 27 for the EUT FCC ID Certification:

No	Identity	Document Title
1	47 CFR Part 2	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
2	47 CFR Part 22	Public Mobile Services
3	47 CFR Part 24	Personal Communications Services
4	47 CFR Part 27	Miscellaneous Wireless Communications Services

Test detailed items/section required by FCC rules and results are as below:

Section	Description	Test Date	Test Engineer	Result
2.1046	Transmitter Conducted Output Power		Gao Mingzhou	PASS
2.1049	Occupied Bandwidth	Oct 10, 2018	Gao Mingzhou	PASS
2.1055, 22.355, 24.235, 27.54	Frequency Stability	Oct 12, 2018	Gao Mingzhou	PASS
24.232(d), 27.50(d)(5)	Peak to Average Radio	Oct 11, 2018	Gao Mingzhou	PASS
2.1051, 22.917(a) 24.238, 27.53(g)(h)	Conducted Spurious Emissions	Oct 12, 2018	Gao Mingzhou	PASS
2.1051, 22.917(a) 24.238, 27.53(g)(h)	Band Edge	Oct 11, 2018	Gao Mingzhou	PASS
22.913(a)(2), 24.232(c), 27.50(c)(10) 27.50(d)(4),	Equivalent Isotropic Radiated Power	Oct 12, 2018	Peng Xuewei	PASS
2.1051, 22.917(a), 24.238, 27.53(g)(h),	Radiated Spurious Emissions	Sep 30, 2018	Peng Xuewei	PASS

**Note:** The tests were performed according to the method of measurements prescribed in KDB971168 D01 v03 (Oct 27, 2017) and ANSI/TIA-603-E-2016.

## 1.4. Environmental Conditions

During the measurement, the environmental conditions were within the listed ranges:

Temperature (°C):	15 - 35
Relative Humidity (%):	30 -60
Atmospheric Pressure (kPa):	86-106





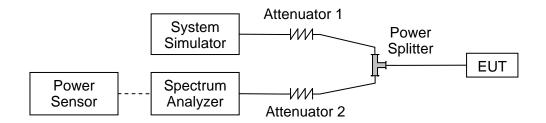
# 2. 47 CFR Part 2, Part 22H, Part 24E and 27 Requirements

## 2.1. Transmitter Conducted Output Power

#### 2.1.1. Requirement

According to FCC section 2.1046(a), for transmitters other than single sideband, independent sideband and controlled carrier radiotelephone, power output shall be measured at the RF output terminals when the transmitter is adjusted in accordance with the tune-up procedure to give the values of current and voltage on the circuit elements specified in FCC section 2.1033(c)(8).

#### 2.1.2. 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.

#### 2.1.3. Test procedure

KDB 971168 D01v03 Section 5.2 and ANSI/TIA-603-E-2016.

#### 2.1.4. Result





LTE Band2	)					
LIL Danuz	-			Average Power	Average Power	Average Power
BW [MHz]	Modulation	RB	RB	Low	Middle	High
		Size	Offset	Ch. / Freq.	Ch. / Freq.	Ch. / Freq.
	Channe	l	1	18700	18900	19100
	Frequency (I	MHz)		1860	1880	1900
20	QPSK	1	0	23.76	24.05	23.67
20	QPSK	1	49	23.55	23.56	23.65
20	QPSK	1	99	23.93	23.61	23.71
20	QPSK	50	0	23.85	23.56	23.83
20	QPSK	50	24	23.94	23.87	23.57
20	QPSK	50	50	23.97	24.11	23.84
20	QPSK	100	0	23.26	23.98	24.00
20	16QAM	1	0	23.48	23.97	23.86
20	16QAM	1	49	23.44	23.90	24.13
20	16QAM	1	99	23.71	24.06	23.84
20	16QAM	50	0	24.16	23.67	23.54
20	16QAM	50	24	23.93	23.65	23.97
20	16QAM	50	50	24.10	23.71	24.06
20	16QAM	100	0	23.79	23.83	23.83
	Channe	l	•	18675	18900	19125
	Frequency (I	MHz)		1857.5	1880	1902.5
15	QPSK	1	0	23.55	23.85	23.44
15	QPSK	1	37	23.93	23.94	23.71
15	QPSK	1	74	23.85	23.97	24.16
15	QPSK	36	0	23.94	23.26	23.93
15	QPSK	36	20	23.97	23.48	24.10
15	QPSK	36	39	23.26	23.44	23.79
15	QPSK	75	0	23.48	23.71	24.05
15	16QAM	1	0	23.44	24.16	23.56
15	16QAM	1	37	23.71	23.93	23.61
15	16QAM	1	74	24.16	24.10	23.56
15	16QAM	36	0	23.93	23.79	23.87
15	16QAM	36	20	24.10	24.05	24.11
15	16QAM	36	39	23.79	23.56	23.98
15	16QAM	75	0	24.05	23.61	23.97

Tel: 86-755-36698555



	Channe	l		18650	18900	19150
	Frequency (MHz)			1855	1880	1905
10	QPSK	1	0	23.55	24.16	23.87
10	QPSK	1	25	23.93	23.93	24.11
10	QPSK	1	49	23.85	24.10	23.98
10	QPSK	25	0	23.94	23.79	23.97
10	QPSK	25	12	23.97	24.05	24.10
10	QPSK	25	25	23.26	23.56	23.79
10	QPSK	50	0	23.48	23.61	24.05
10	16QAM	1	0	23.44	23.56	23.56
10	16QAM	1	25	23.71	23.93	23.61
10	16QAM	1	49	24.16	24.10	23.56
10	16QAM	25	0	23.93	23.79	23.87
10	16QAM	25	12	24.10	24.05	24.11
10	16QAM	25	25	23.79	23.56	23.98
10	16QAM	50	0	24.05	23.61	23.97
	Channel			18625	18900	19175
	Frequency (	MHz)		1852.5	1880	1907.5
5	QPSK	1	0	23.55	23.26	23.44
5	QPSK	1	12	23.93	23.48	23.85
5	QPSK	1	24	23.85	23.44	23.94
5	QPSK	12	0	23.94	23.71	23.97
5	QPSK	12	7	23.97	23.48	23.26
5	QPSK	12	13	23.26	23.44	23.79
5	QPSK	25	0	23.48	23.71	24.05
5	16QAM	1	0	23.44	23.56	23.56
5	16QAM	1	12	23.71	23.61	23.61
5	16QAM	1	24	24.16	23.56	23.56
5	16QAM	12	0	23.93	23.87	23.87
5	16QAM	12	7	24.10	24.11	24.11
5	16QAM	12	13	23.79	23.56	23.98
5	16QAM	25	0	24.05	23.61	23.97



	Channe	.l		18615	18900	19185
	Frequency (	MHz)		1851.5	1880	1908.5
3	QPSK	1	0	23.55	23.85	24.10
3	QPSK	1	8	23.93	23.94	23.79
3	QPSK	1	14	23.85	23.97	24.05
3	QPSK	8	0	23.94	23.26	23.56
3	QPSK	8	4	23.97	23.55	23.61
3	QPSK	8	7	23.26	23.93	23.56
3	QPSK	15	0	23.48	23.85	24.05
3	16QAM	1	0	23.44	23.94	23.56
3	16QAM	1	8	23.71	23.97	23.61
3	16QAM	1	14	24.16	23.26	23.56
3	16QAM	8	0	23.93	23.48	23.87
3	16QAM	8	4	24.10	23.44	24.11
3	16QAM	8	7	23.79	23.56	23.98
3	16QAM	15	0	24.05	23.61	23.97
	Channe	I		18607	18900	19193
	Frequency (	MHz)		1850.7	1880	1909.3
1.4	QPSK	1	0	23.55	23.48	23.44
1.4	QPSK	1	3	23.93	23.44	23.71
1.4	QPSK	1	5	23.85	23.71	24.16
1.4	QPSK	3	0	23.94	24.16	23.93
1.4	QPSK	3	1	23.79	23.93	24.10
1.4	QPSK	3	3	24.05	24.10	23.79
1.4	QPSK	6	0	23.56	23.79	24.05
1.4	16QAM	1	0	23.61	24.05	23.56
1.4	16QAM	1	3	23.56	23.93	23.61
1.4	16QAM	1	5	23.87	24.10	23.56
1.4	16QAM	3	0	24.11	23.79	23.87
1.4	16QAM	3	1	24.10	24.05	24.11
1.4	16QAM	3	3	23.79	23.56	23.98
1.4	16QAM	6	0	24.05	23.61	23.97



LTE Band	14					
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
	Channel			20050	20175	20300
	Frequency (	MHz)		1720	1732.5	1745
20	QPSK	1	0	24.11	24.27	23.99
20	QPSK	1	49	24.12	23.99	24.40
20	QPSK	1	99	24.23	24.25	24.12
20	QPSK	50	0	23.75	24.24	23.81
20	QPSK	50	24	23.74	24.25	23.99
20	QPSK	50	50	24.04	24.31	24.25
20	QPSK	100	0	23.91	24.49	24.24
20	16QAM	1	0	23.78	24.03	24.25
20	16QAM	1	49	24.12	23.74	24.31
20	16QAM	1	99	24.36	24.14	23.74
20	16QAM	50	0	24.26	23.92	24.03
20	16QAM	50	24	24.50	23.76	23.92
20	16QAM	50	50	24.01	24.13	23.76
20	16QAM	100	0	23.59	24.23	24.13
	Channe	I		20025	20175	20325
	Frequency (	MHz)		1717.5	1732.5	1747.5
15	QPSK	1	0	23.81	24.27	23.99
15	QPSK	1	37	23.99	23.99	24.40
15	QPSK	1	74	24.27	24.25	24.12
15	QPSK	36	0	23.99	24.24	23.81
15	QPSK	36	20	24.25	24.25	23.99
15	QPSK	36	39	24.24	24.31	24.25
15	QPSK	75	0	24.25	24.49	24.24
15	16QAM	1	0	24.31	24.03	24.25
15	16QAM	1	37	24.49	23.74	24.31
15	16QAM	1	74	24.36	24.14	24.49
15	16QAM	36	0	24.26	23.92	24.03
15	16QAM	36	20	24.50	23.76	23.74
15	16QAM	36	39	24.01	24.13	23.76
15	16QAM	75	0	23.59	24.23	24.13



	Channe	el		20000	20175	20350
	Frequency (	MHz)		1715	1732.5	1750
10	QPSK	1	0	24.12	24.24	24.24
10	QPSK	1	25	23.81	24.25	24.25
10	QPSK	1	49	23.99	24.31	24.31
10	QPSK	25	0	24.25	23.74	24.49
10	QPSK	25	12	23.74	24.25	23.99
10	QPSK	25	25	24.04	24.31	24.25
10	QPSK	50	0	23.91	24.49	24.24
10	16QAM	1	0	23.78	24.03	24.25
10	16QAM	1	25	24.12	23.74	24.31
10	16QAM	1	49	24.36	24.14	23.74
10	16QAM	25	0	24.26	23.92	24.03
10	16QAM	25	12	24.50	23.76	23.92
10	16QAM	25	25	24.01	24.13	23.76
10	16QAM	50	0	23.59	24.23	24.13
	Channe	el		19975	20175	20375
	Frequency (	MHz)		1712.5	1732.5	1752.5
5	QPSK	1	0	23.76	24.27	23.99
5	QPSK	1	12	24.13	23.99	24.40
5	QPSK	1	24	24.23	24.25	24.11
5	QPSK	12	0	24.24	24.24	24.12
5	QPSK	12	7	24.25	24.25	24.23
5	QPSK	12	13	24.31	24.31	23.75
5	QPSK	25	0	24.49	24.49	23.74
5	16QAM	1	0	24.03	24.03	24.04
5	16QAM	1	12	23.74	23.74	23.91
5	16QAM	1	24	24.14	24.14	23.78
5	16QAM	12	0	24.26	23.92	24.03
5	16QAM	12	7	24.50	23.76	23.92
5	16QAM	12	13	24.01	24.13	23.76
5	16QAM	25	0	23.59	24.23	24.13



	Channe	el		19965	20175	20385
	Frequency (	MHz)		1711.5	1732.5	1753.5
3	QPSK	1	0	24.25	24.40	24.31
3	QPSK	1	8	24.24	24.12	23.74
3	QPSK	1	14	24.25	23.81	24.03
3	QPSK	8	0	24.31	23.99	23.92
3	QPSK	8	4	24.49	24.25	23.76
3	QPSK	8	7	24.03	24.24	24.13
3	QPSK	15	0	23.74	24.25	24.24
3	16QAM	1	0	24.14	24.31	24.25
3	16QAM	1	8	23.92	23.74	24.31
3	16QAM	1	14	24.36	24.03	23.74
3	16QAM	8	0	24.26	23.92	24.03
3	16QAM	8	4	24.50	23.76	23.92
3	16QAM	8	7	24.01	24.13	23.76
3	16QAM	15	0	23.59	24.23	24.13
	Channe	el		19957	20175	20393
	Frequency (	MHz)		1710.7	1732.5	1754.3
1.4	QPSK	1	0	24.24	23.99	23.99
1.4	QPSK	1	3	24.25	24.40	24.40
1.4	QPSK	1	5	24.31	24.12	24.12
1.4	QPSK	3	0	24.49	23.81	23.81
1.4	QPSK	3	1	24.03	23.99	23.99
1.4	QPSK	3	3	23.74	24.25	24.25
1.4	QPSK	6	0	24.14	24.24	24.24
1.4	16QAM	1	0	23.78	24.25	24.25
1.4	16QAM	1	3	24.25	24.31	24.31
1.4	16QAM	1	5	24.31	24.14	23.74
1.4	16QAM	3	0	23.74	23.92	24.03
1.4	16QAM	3	1	24.03	23.76	23.92
1.4	16QAM	3	3	23.92	24.13	23.76
1.4	16QAM	6	0	23.76	24.23	24.13





LTE Bar	, dE					
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
	Char	nel		20450	20525	20600
	Frequency (MHz)			829	836.5	844
10	QPSK	1	0	24.97	25.18	25.26
10	QPSK	1	25	25.21	24.74	25.18
10	QPSK	1	49	25.07	24.95	24.24
10	QPSK	25	0	25.39	25.02	24.25
10	QPSK	25	12	24.82	24.97	24.31
10	QPSK	25	25	25.18	25.13	23.74
10	QPSK	50	0	24.92	25.25	25.13
10	16QAM	1	0	25.10	25.31	25.25
10	16QAM	1	25	25.35	25.10	25.31
10	16QAM	1	49	25.24	25.24	25.10
10	16QAM	25	0	25.15	24.89	25.24
10	16QAM	25	12	25.00	25.02	25.26
10	16QAM	25	25	24.94	25.23	25.18
10	16QAM	50	0	25.07	25.26	25.23
	Char	nnel		20425	20525	20625
	Frequenc	y (MHz)		826.5	836.5	846.5
5	QPSK	1	0	24.95	24.31	25.26
5	QPSK	1	12	25.02	23.74	25.18
5	QPSK	1	24	24.97	25.13	24.24
5	QPSK	12	0	25.13	25.25	24.25
5	QPSK	12	7	25.25	25.31	24.31
5	QPSK	12	13	25.31	25.10	23.74
5	QPSK	25	0	25.10	25.13	25.13
5	16QAM	1	0	25.10	25.31	25.25
5	16QAM	1	12	25.35	25.10	25.31
5	16QAM	1	24	25.24	25.24	25.10
5	16QAM	12	0	25.15	24.89	25.24
5	16QAM	12	7	25.00	25.02	25.26
5	16QAM	12	13	24.94	25.23	25.18
5	16QAM	25	0	25.07	25.26	25.23

Tel: 86-755-36698555



	Char	nel		20415	20525	20635
	Frequenc	y (MHz)		825.5	836.5	847.5
3	QPSK	1	0	24.74	25.31	25.26
3	QPSK	1	8	24.95	25.02	25.18
3	QPSK	1	14	25.02	25.23	25.23
3	QPSK	8	0	24.97	25.26	24.25
3	QPSK	8	4	25.13	24.24	24.31
3	QPSK	8	7	25.25	24.25	23.74
3	QPSK	15	0	25.31	24.31	25.13
3	16QAM	1	0	25.10	23.74	25.25
3	16QAM	1	8	25.35	25.13	25.31
3	16QAM	1	14	25.24	25.25	25.10
3	16QAM	8	0	25.15	25.31	25.24
3	16QAM	8	4	25.00	25.02	25.26
3	16QAM	8	7	24.94	25.23	25.18
3	16QAM	15	0	25.07	25.26	25.23
	Char	nel		20407	20525	20643
	Frequenc	y (MHz)		824.7	836.5	848.3
1.4	QPSK	1	0	25.24	25.24	25.02
1.4	QPSK	1	3	24.89	25.26	24.97
1.4	QPSK	1	5	25.02	25.18	25.13
1.4	QPSK	3	0	25.39	25.23	25.25
1.4	QPSK	3	1	24.24	24.97	25.31
1.4	QPSK	3	3	24.25	25.13	25.10
1.4	QPSK	6	0	24.31	25.25	25.24
1.4	16QAM	1	0	23.74	25.31	24.89
1.4	16QAM	1	3	25.13	25.10	25.31
1.4	16QAM	1	5	25.25	25.24	25.10
1.4	16QAM	3	0	25.15	24.89	25.24
1.4	16QAM	3	1	25.00	25.02	25.26
1.4	16QAM	3	3	24.94	25.23	25.18
1.4	16QAM	6	0	25.07	25.26	25.23

Tel: 86-755-36698555



I TE Pan	LTE Band 12								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.			
	Char	nel		23060	23095	23130			
	Frequenc			704	707.5	711			
10	QPSK	1	0	24.36	24.55	24.55			
10	QPSK	1	25	24.51	24.48	24.66			
10	QPSK	1	49	24.31	24.55	24.59			
10	QPSK	25	0	24.72	24.66	24.47			
10	QPSK	25	12	24.70	24.59	24.70			
10	QPSK	25	25	24.80	24.47	24.36			
10	QPSK	50	0	24.45	24.70	24.35			
10	16QAM	1	0	24.51	24.36	24.63			
10	16QAM	1	25	24.67	24.35	24.14			
10	16QAM	1	49	24.77	24.63	24.13			
10	16QAM	25	0	24.52	24.14	24.51			
10	16QAM	25	12	24.64	24.13	24.33			
10	16QAM	25	25	24.26	24.51	24.25			
10	16QAM	50	0	24.21	24.33	24.73			
	Char	nel		23035	23095	23155			
	Frequenc	y (MHz)		701.5	707.5	713.5			
5	QPSK	1	0	24.36	24.55	24.55			
5	QPSK	1	12	24.51	24.48	24.66			
5	QPSK	1	24	24.31	24.55	24.59			
5	QPSK	12	0	24.72	24.66	24.47			
5	QPSK	12	7	24.70	24.59	24.70			
5	QPSK	12	13	24.80	24.47	24.36			
5	QPSK	25	0	24.45	24.70	24.35			
5	16QAM	1	0	24.51	24.36	24.63			
5	16QAM	1	12	24.67	24.35	24.14			
5	16QAM	1	24	24.77	24.63	24.13			
5	16QAM	12	0	24.52	24.54	24.51			
5	16QAM	12	7	24.64	24.13	24.33			
5	16QAM	12	13	24.26	24.51	24.25			
5	16QAM	25	0	24.21	24.33	24.73			

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	Chan	inel		23025	23095	23165
	Frequenc	y (MHz)		700.5	707.5	714.5
3	QPSK	1	0	24.36	24.55	24.55
3	QPSK	1	8	24.51	24.48	24.66
3	QPSK	1	14	24.31	24.56	24.59
3	QPSK	8	0	24.72	24.66	24.47
3	QPSK	8	4	24.70	24.59	24.70
3	QPSK	8	7	24.80	24.47	24.36
3	QPSK	15	0	24.45	24.70	24.35
3	16QAM	1	0	24.51	24.36	24.63
3	16QAM	1	8	24.67	24.35	24.14
3	16QAM	1	14	24.77	24.68	24.13
3	16QAM	8	0	24.52	24.14	24.51
3	16QAM	8	4	24.64	24.13	24.33
3	16QAM	8	7	24.26	24.51	24.25
3	16QAM	15	0	24.21	24.33	24.73
	Chan	inel		23017	23095	23173
	Frequenc	y (MHz)		699.7	707.5	715.3
1.4	QPSK	1	0	24.21	24.55	24.55
1.4	QPSK	1	3	24.51	24.48	24.66
1.4	QPSK	1	5	24.31	24.55	24.59
1.4	QPSK	3	0	24.72	24.66	24.47
1.4	QPSK	3	1	24.70	24.59	24.79
1.4	QPSK	3	3	24.80	24.47	24.36
1.4	QPSK	6	0	24.57	24.70	24.35
1.4	16QAM	1	0	24.51	24.38	24.63
1.4	16QAM	1	3	24.67	24.35	24.14
1.4	16QAM	1	5	24.77	24.63	24.13
1.4	16QAM	3	0	24.52	24.14	24.51
1.4	16QAM	3	1	24.64	24.13	24.33
1.4	16QAM	3	3	24.26	24.51	24.25
1.4	16QAM	6	0	24.21	24.33	24.73

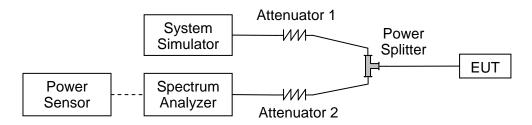


## 2.2. Occupied Bandwidth

#### 2.2.1. Requirement

According to FCC section 2.1049, the occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission. Occupied bandwidth is also known as the 99% emission bandwidth.

#### 2.2.2. 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.

#### 2.2.3. Test procedure

KDB 971168 D01v03 Section 4.1 and ANSI/TIA-603-E-2016.

#### 2.2.4. Test Result

LTE Band 2, BW: 1.4MHz							
	Eroguenov	QP	SK	16C	)AM		
Channel Frequency	(MHz)	99% Bandwidth	26dB Bandwidth	99% Bandwidth	26dB Bandwidth		
	(IVITZ)	(MHz)	(MHz)	(MHz)	(MHz)		
18607	1850.7	1.090	1.274	1.097	1.280		
18900	1880.0	1.098	1.278	1.098	1.282		
19192	1909.2	1.098	1.309	1.099	1.287		

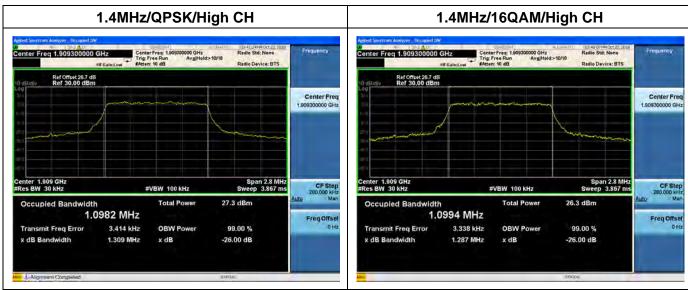


LTE Band	d 2, BW: 3MI	<del>l</del> z				
	Eroguenov	QP	SK	16C	MAQ	
Channel	Frequency (MHz)	99% Bandwidth	26dB Bandwidth	99% Bandwidth	26dB Bandwidth	
	(IVITIZ)	(MHz)	(MHz)	(MHz)	(MHz)	
18615	1851.5	2.681	2.928	2.681	2.929	
18900	1880.0	2.684	2.918	2.683	2.924	
19184	1908.4	2.683	2.912	2.679	2.927	
LTE Band	d 2, BW: 5M	-lz				
	Гиолиологи	QP	SK	160	QAM	
Channel	Frequency (MHz)	99% Bandwidth	26dB Bandwidth	99% Bandwidth	26dB Bandwidth	
	(IVITIZ)	(MHz)	(MHz)	(MHz)	(MHz)	
18625	1852.5	4.465	4.934	4.466	4.842	
18900	1880.0	4.470	4.941	4.471	4.939	
19175	1907.5	4.464	4.937	4.467	4.942	
LTE Band	d 2, BW: 10N	1Hz				
	Fraguenay	QP	SK	160	MAQ	
Channel	Frequency (MHz)	99% Bandwidth	26dB Bandwidth	99% Bandwidth	26dB Bandwidth	
	(IVIITIZ)	(MHz)	(MHz)	(MHz)	(MHz)	
18650	1855.0	8.938	9.648	8.931	9.646	
18900	1880.0	8.933	9.655	8.931	9.655	
19150	1905.0	8.930	9.697	8.934	9.636	
LTE Band	d 2, BW: 15N	lHz				
	Eroguenov	QP	SK	16QAM		
Channel	Frequency (MHz)	99% Bandwidth	26dB Bandwidth	99% Bandwidth	26dB Bandwidth	
	(1011 12)	(MHz)	(MHz)	(MHz)	(MHz)	
18675	1857.5	13.466	14.66	13.465	14.61	
18900	1880.0	13.456	14.65	13.456	14.60	
19125	1902.5	13.453	14.59	13.470	14.66	
LTE Band	d 2, BW: 20N	lHz				
		QP	SK	16C	NAM	
Channel	Frequency (MHz)	99% Bandwidth	26dB Bandwidth	99% Bandwidth	26dB Bandwidth	
	(IVIITZ)	(MHz)	(MHz)	(MHz)	(MHz)	
18700	1860.0	17.866	19.12	17.862	19.23	
18900	1880.0	17.860	19.21	17.846	19.24	
19100	1900.0	17.863	19.22	17.856	19.27	



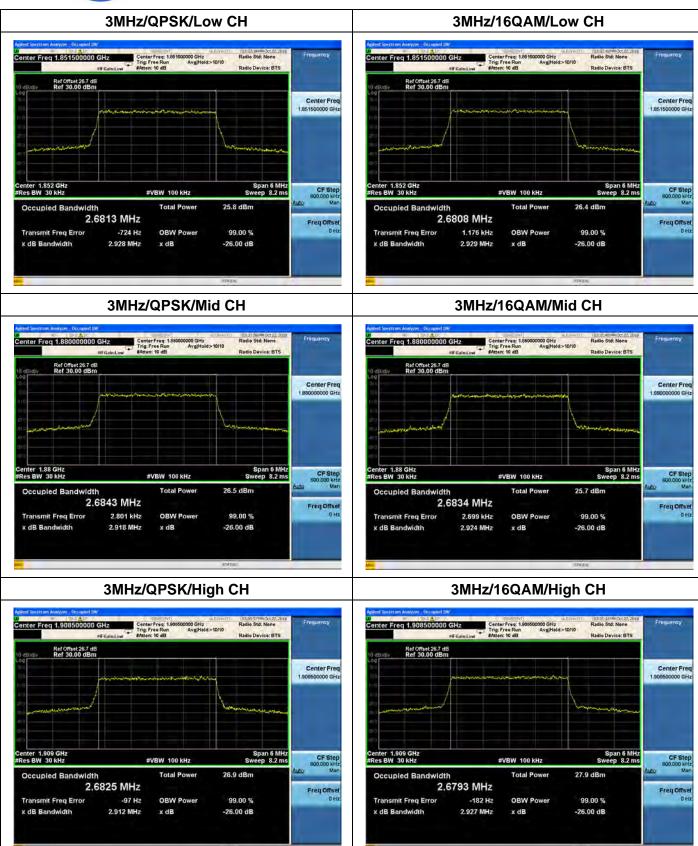
#### LTE Band 2 99%&26dB Bandwidth 1.4MHz/QPSK/Low CH 1.4MHz/16QAM/Low CH enter Freq 1.850700000 GHz Radio Std: None Frequency Center Freq: 1.850700000 GHz Trig: Free Run AvgiHold>10/10 Center Freq: 1.850700000 GHz Trig: Free Run Avg|Hold>10/10 Radio Device: BTS Ref Offset 26.7 dB Ref 30.00 dBm Ref Offset 26.7 dB Ref 30.00 dBm Center Freq 1 B50700000 GHz Center Freq Span 2.8 MHz Sweep 3.867 ms Center 1.851 GHz #Res BW 30 kHz Center 1.851 GHz #Res BW 30 kHz CF Step 80,000 kHz Man Span 2.8 MH Sweep 3.867 m CF Step #VBW 100 kHz #VBW 100 kHz Occupied Bandwidth 25.2 dBm Occupied Bandwidth 1.0895 MHz 1,0969 MHz Freq Offse Freq Offse Transmit Freq Error 965 Hz **OBW Power** 99.00 % Transmit Freq Error 2.833 kHz OBW Power 99.00 % 1.274 MHz -26.00 dB 1.280 MHz -26.00 dB 1.4MHz/QPSK/Mid CH 1.4MHz/16QAM/Mid CH Ref Offset 26.7 dB Ref 30.00 dBm Ref Offset 26.7 dB Ref 30.00 dBm Center Freq Center Freq Center 1.88 GHz #Res BW 30 kHz Span 2.8 MH: Sweep 3.867 ms Center 1.88 GHz #Res BW 30 kHz Span 2.8 MH Sweep 3.867 m CF Step 280,000 kH CF Step Occupied Bandwidth 26.4 dBm Occupied Bandwidth 26.7 dBm 1.0976 MHz 1.0980 MHz Freq Offse Freq Offse Transmit Freq Error 3.505 kHz **OBW Power** 99.00 % Transmit Freq Error 3.625 kHz OBW Power 99.00 % x dB Bandwidth 1.278 MHz -26.00 dB x dB Bandwidth 1.282 MHz x dB -26.00 dB











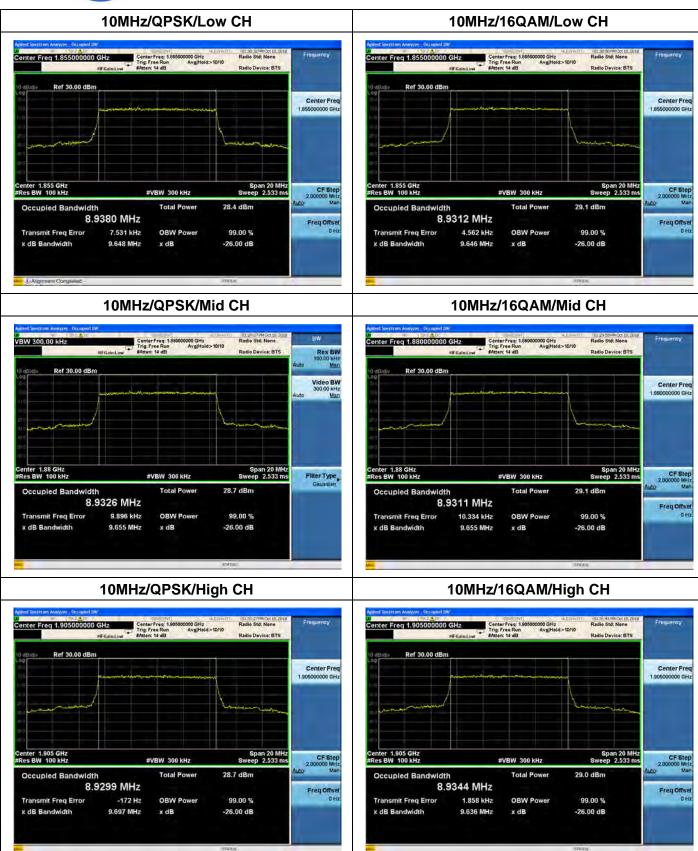




























LTE Band	d 4, BW: 1.4ľ	MHz				
	_	QP	SK	160	QAM	
Channel	Frequency (MHz)	99% Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	26dB Bandwidth (MHz)	
19957	1710.7	1.096	1.279	1.097	1.284	
20175	1732.5	1.098	1.281	1.097	1.286	
20392	1754.2	1.096	1.268	1.098	1.286	
LTE Band	d 4, BW: 3M			L		
	•	QP	SK	160	QAM	
Channel	Frequency	99% Bandwidth	26dB Bandwidth	99% Bandwidth	26dB Bandwidth	
	(MHz)	(MHz)	(MHz)	(MHz)	(MHz)	
19965	1711.5	2.680	2.927	2.684	2.929	
20175	1732.5	2.686	2.920	2.682	2.929	
20384	1753.4	2.677	2.925	2.676	2.930	
LTE Band	d 4, BW: 5MI	-lz	1		1	
		QP	SK	160	QAM	
Channel	Frequency (MHz)	99% Bandwidth	26dB Bandwidth	99% Bandwidth	26dB Bandwidth	
		(MHz)	(MHz)	(MHz)	(MHz)	
19975	1712.5	4.470	4.865	4.468	4.921	
20175	1732.5	4.474	4.905	4.471	4.929	
20375	1752.5	4.469	4.925	4.476	4.912	
LTE Band	d 4, BW: 10N	lHz				
	Frequency	QP	SK	16QAM		
Channel	(MHz)	99% Bandwidth	26dB Bandwidth	99% Bandwidth	26dB Bandwidth	
	(IVIITIZ)	(MHz)	(MHz)	(MHz)	(MHz)	
20000	1715.0	8.921	9.574	8.922	9.598	
20175	1732.5	8.929	9.636	8.928	9.680	
20350	1750.0	8.916	9.626	8.904	9.562	
LTE Band	d 4, BW: 15N	lHz				
	Frequency	QP	SK	160	MAQ	
Channel	(MHz)	99% Bandwidth	26dB Bandwidth	99% Bandwidth	26dB Bandwidth	
	(1711 12)	(MHz)	(MHz)	(MHz)	(MHz)	
20025	1717.5	13.424	14.14	13.415	14.54	
20175	1732.5	13.424	14.17	13.484	14.64	
20325	1747.5	13.385	14.51	13.417	14.61	

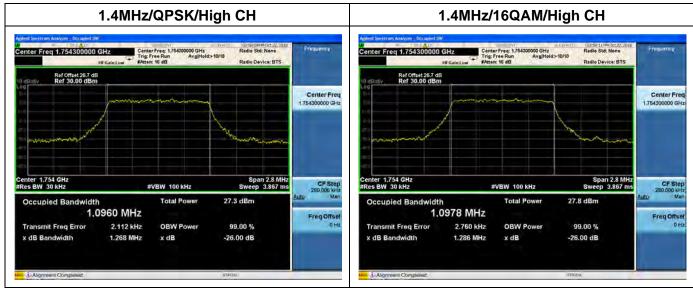


LTE Band 4, BW: 20MHz							
	Fraguanay	QP	SK	16C	QAM		
Channel Frequency	1	99% Bandwidth	26dB Bandwidth	99% Bandwidth	26dB Bandwidth		
	(MHz)	(MHz)	(MHz)	(MHz)	(MHz)		
20050	1720.0	17.824	19.13	17.831	19.13		
20175	1732.5	17.870	19.35	17.858	19.30		
20300	1745.0	17.797	19.18	17.776	19.18		

#### LTE Band 4 99%&26dB Bandwidth 1.4MHz/QPSK/Low CH 1.4MHz/16QAM/Low CH Center Freq: 1.710700000 GHz Trig: Free Run AvgiHold>10/10 #Atten: 10 dB enter Freq 1.710700000 GHz Radio Device: BTS Ref Offset 26.7 dB Ref 30,00 dBm Ref Offset 26.7 dB Ref 30.00 dBm Center Freq 1.710700000 GHz Center Freq #VBW 100 kHz #VBW 100 kHz 28.5 dBm 28.1 dBm 1.0961 MHz 1.0973 MHz Freq Offse 5.077 kHz 4.289 kHz 99.00 % **OBW Power** 99.00 % Transmit Free Error **OBW Power** Transmit Free Error 1.284 MHz 1.279 MHz x dB Bandwidth x dB -26.00 dB x dB Bandwidth x dB -26.00 dB 1.4MHz/QPSK/Mid CH 1.4MHz/16QAM/Mid CH enter Freg 1.732500000 GHz Ref Offset 26.7 dB Ref 30,00 dBm Center Freq Center Freq #VBW 100 kHz #VBW 100 kHz Total Power 27.8 dBm Total Power 28.4 dBm 1.0980 MHz 1.0972 MHz Freq Offse 2.436 kHz **OBW Power** 99.00 % 2.820 kHz OBW Power 99.00 % Transmit Freq Error Transmit Freq Error 1.281 MHz 1.286 MHz -26.00 dB x dB -26.00 dB x dB Bandwidth x dB

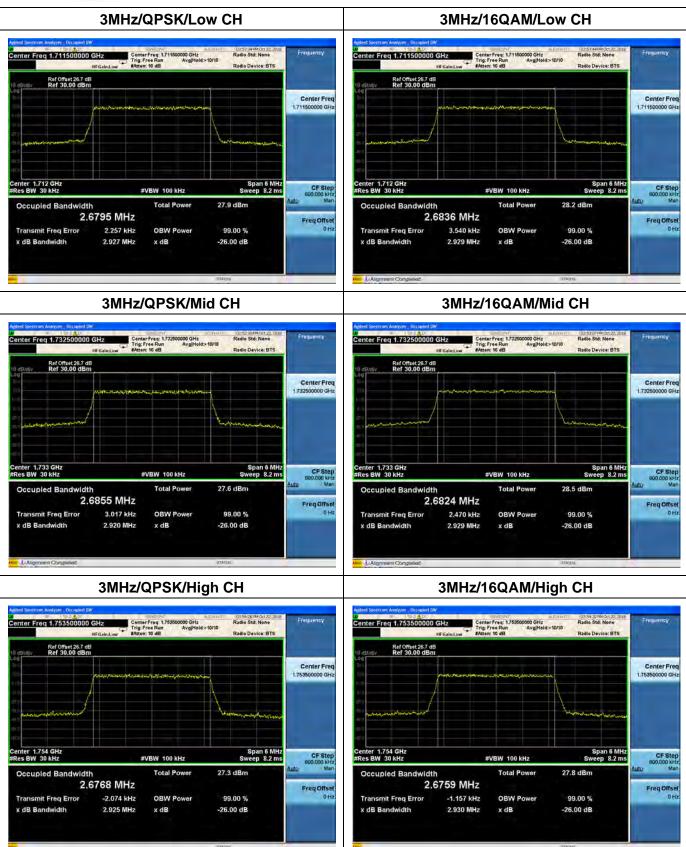












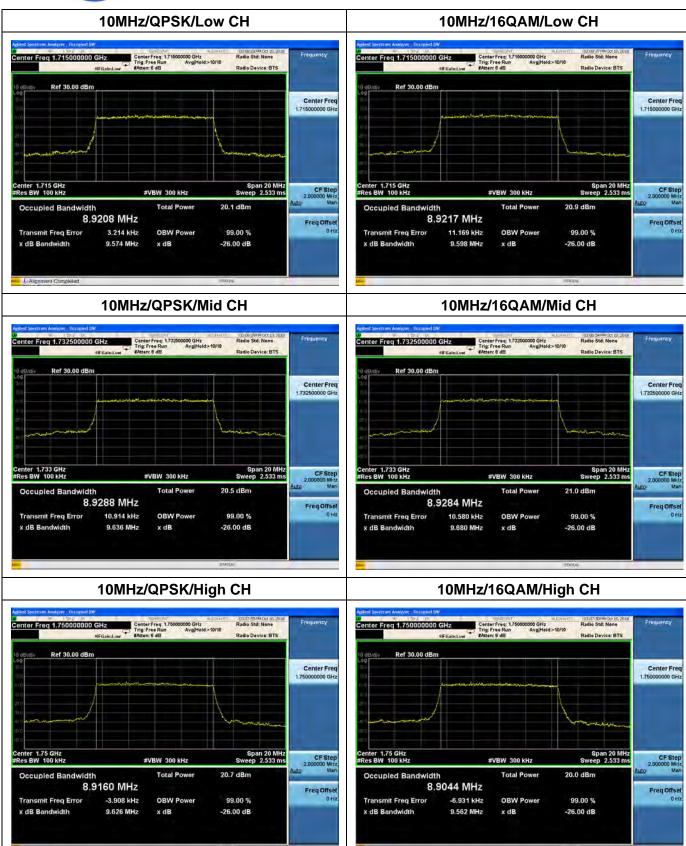




























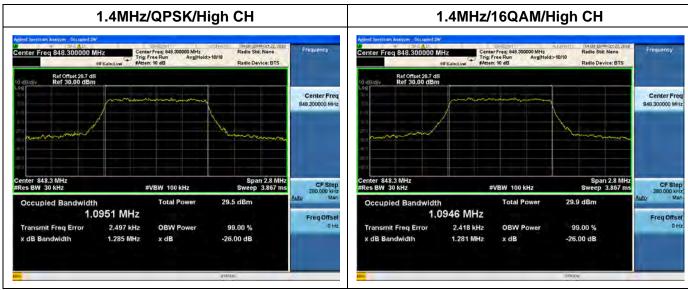
LTE Band	d 5, BW: 1.4M	MHz			
Channel	Frequency (MHz)	QPSK		16QAM	
		99% Bandwidth	26dB Bandwidth	99% Bandwidth	26dB Bandwidth
		(MHz)	(MHz)	(MHz)	(MHz)
20407	824.7	1.098	1.282	1.096	1.279
20525	836.5	1.098	1.282	1.095	1.269
20643	848.3	1.095	1.285	1.095	1.281
LTE Band	d 5, BW: 3MH	łz			
Channel	Frequency (MHz)	QPSK		16QAM	
		99% Bandwidth	26dB Bandwidth	99% Bandwidth	26dB Bandwidth
		(MHz)	(MHz)	(MHz)	(MHz)
20415	825.5	2.681	2.932	2.680	2.931
20525	836.5	2.684	2.933	2.683	2.936
20635	847.5	2.680	2.920	2.679	2.908
LTE Band	d 5, BW: 5M	Нz			
Channel	Frequency (MHz)	QPSK		16QAM	
		99% Bandwidth	26dB Bandwidth	99% Bandwidth	26dB Bandwidth
		(MHz)	(MHz)	(MHz)	(MHz)
20425	826.5	4.466	4.907	4.469	4.910
20525	836.5	4.470	4.910	4.469	4.917
20625	846.5	4.471	4.922	4.470	4.923
LTE Band	d 5, BW: 10N	1Hz			
Channel	Frequency (MHz)	QPSK		16QAM	
		99% Bandwidth	26dB Bandwidth	99% Bandwidth	26dB Bandwidth
		(MHz)	(MHz)	(MHz)	(MHz)
20450	829.0	9.054	9.938	9.072	10.06
20525	836.5	9.055	10.06	9.050	10.06
20600	844.0	9.038	9.995	9.048	9.957



#### LTE Band 5 99%&26dB Bandwidth 1.4MHz/QPSK/Low CH 1.4MHz/16QAM/Low CH Center Freq: 824.700000 MHz Trig: Free Run Avg|Hold>10/10 D4 07:42 PM Dct 22, 20 Radio Std: None Center Freq: 824.700000 MHz Trig: Free Run Avg|Hold>10/10 Radio Device: BTS Ref Offset 26.7 dB Ref 30.00 dBm Ref Offset 26.7 dB Ref 30.00 dBm Center Freq 824.700000 MHz Center Freq 824.700000 MHz Span 2.8 MHz Sweep 3.867 ms Center 824.7 MHz #Res BW 30 kHz Center 824.7 MHz #Res BW 30 kHz CF Step Span 2.8 MH Sweep 3.867 m CF Step #VBW 100 kHz #VBW 100 kHz Occupied Bandwidth 30.3 dBm Occupied Bandwidth 1.0984 MHz 1.0957 MHz Freq Offse Freq Offse Transmit Freq Error 3.007 kHz **OBW Power** 99.00 % Transmit Freq Error 2.676 kHz OBW Power 99.00 % 1.282 MHz -26.00 dB 1.279 MHz -26.00 dB 1.4MHz/QPSK/Mid CH 1.4MHz/16QAM/Mid CH Ref Offset 26.7 dB Ref 30,00 dBm Ref Offset 26.7 dB Ref 30.00 dBm Center Freq Center Freq Span 2.8 MH: Sweep 3.867 ms Span 2.8 MH Sweep 3.867 m Center 836.5 MHz #Res BW 30 kHz Center 836.5 MHz #Res BW 30 kHz CF Step 280,000 kH CF Step Occupied Bandwidth 29.9 dBm Occupied Bandwidth 29.2 dBm 1.0980 MHz 1.0954 MHz Freq Offse Freq Offse Transmit Freq Error 3.573 kHz **OBW Power** 99.00 % Transmit Freq Error 4.584 kHz OBW Power 99.00 % x dB Bandwidth 1.282 MHz -26.00 dB x dB Bandwidth 1,269 MHz x dB -26.00 dB

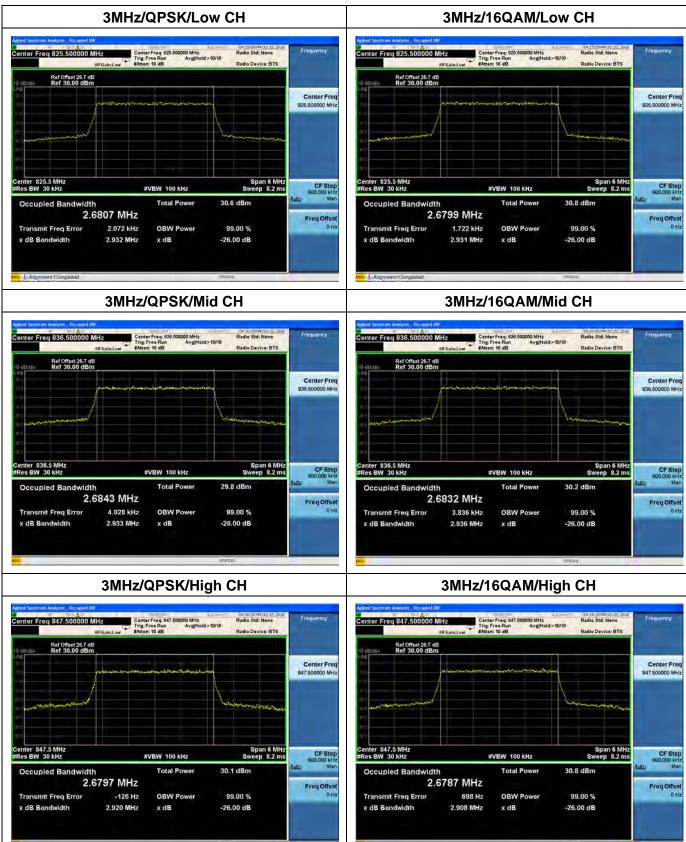






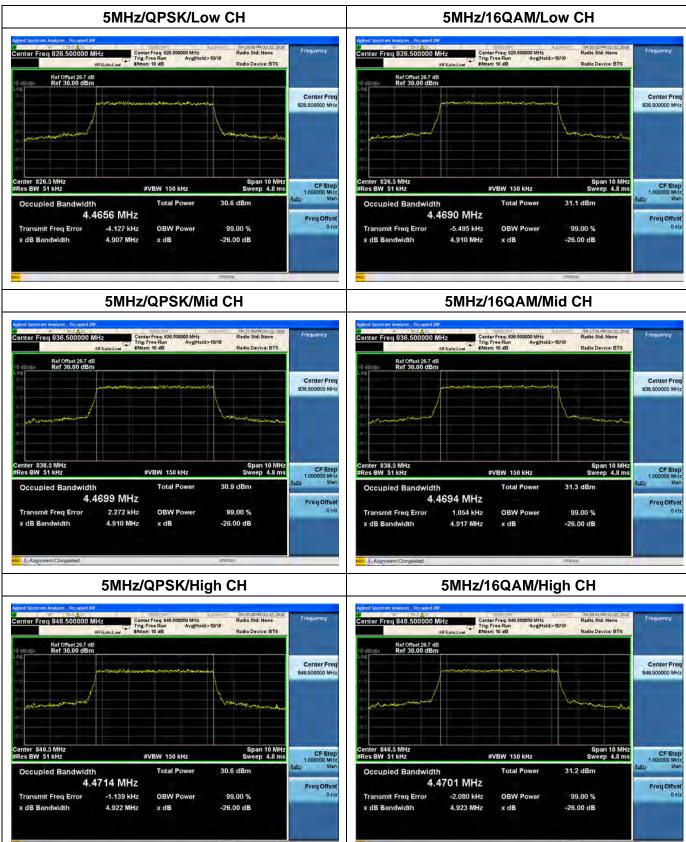






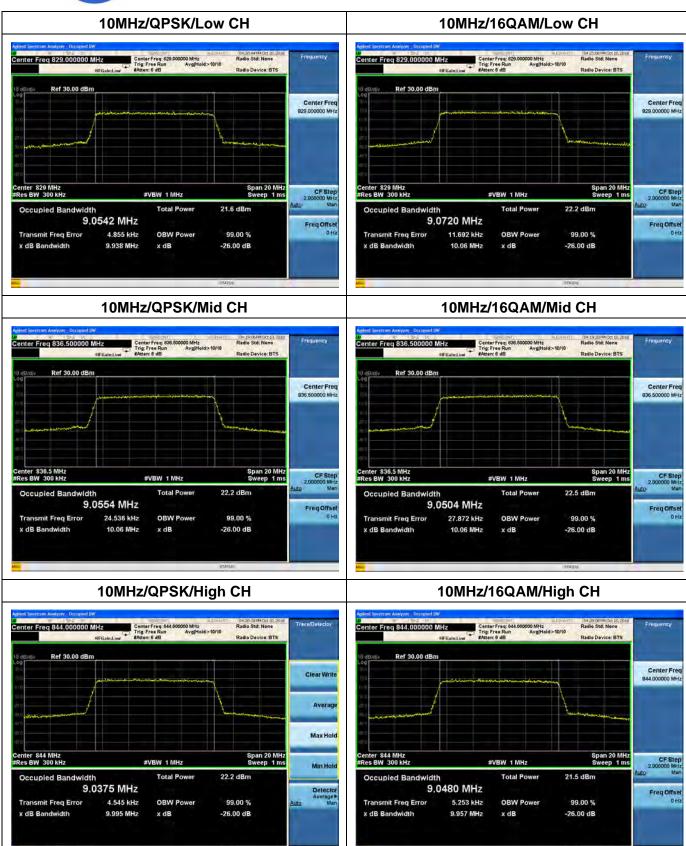










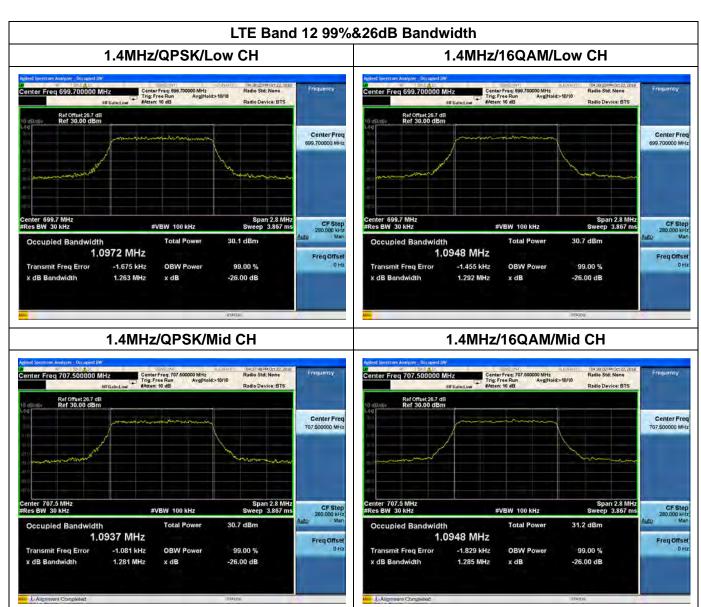






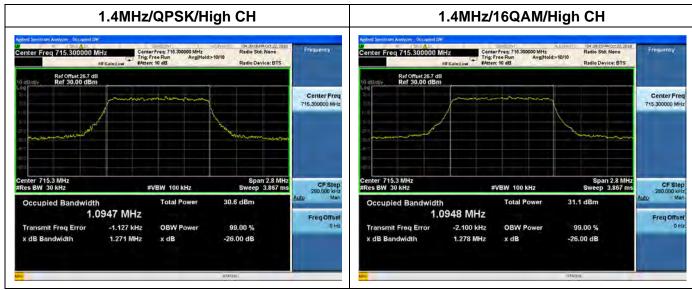
LTE Band	d 12, BW: 1.4					
	Frequency	QP	SK	16QAM		
Channel	(MHz)	99% Bandwidth	26dB Bandwidth	99% Bandwidth	26dB Bandwidth	
	(IVITIZ)	(MHz)	(MHz)	(MHz)	(MHz)	
23017	699.7	1.097	1.263	1.095	1.292	
23095	707.5	1.094	1.281	1.095	1.285	
23173	715.3	1.095	1.271	1.095	1.278	
LTE Band	d 12, BW: 3N	1Hz				
	Fraguenay	QP	SK	16C	)AM	
Channel	Frequency (MHz)	99% Bandwidth	26dB Bandwidth	99% Bandwidth	26dB Bandwidth	
	(IVIITIZ)	(MHz)	(MHz)	(MHz)	(MHz)	
23025	700.5	2.676	2.906	2.678	2.920	
23095	707.5	2.676	2.895	2.677	2.907	
23165	714.5	2.673	2.911	2.678	2.917	
LTE Band	d 12, BW: 5N	1Hz				
	Frequency (MHz)	QPSK		16C	)AM	
Channel		99% Bandwidth	26dB Bandwidth	99% Bandwidth	26dB Bandwidth	
	(IVIITIZ)	(MHz)	(MHz)	(MHz)	(MHz)	
23035	701.5	4.468	4.939	4.468	4.937	
23095	707.5	4.467	4.918	4.464	4.915	
23165	714.5	4.470	4.941	4.472	4.940	
LTE Band 12, BW: 10MHz						
Channel	Frequency (MHz)	QPSK		16QAM		
		99% Bandwidth	26dB Bandwidth	99% Bandwidth	26dB Bandwidth	
		(MHz)	(MHz)	(MHz)	(MHz)	
23060	704.0	9.021	9.955	9.045	10.06	
23095	707.5	9.041	10.10	9.043	10.08	
23130	711.0	9.036	10.03	9.021	9.938	





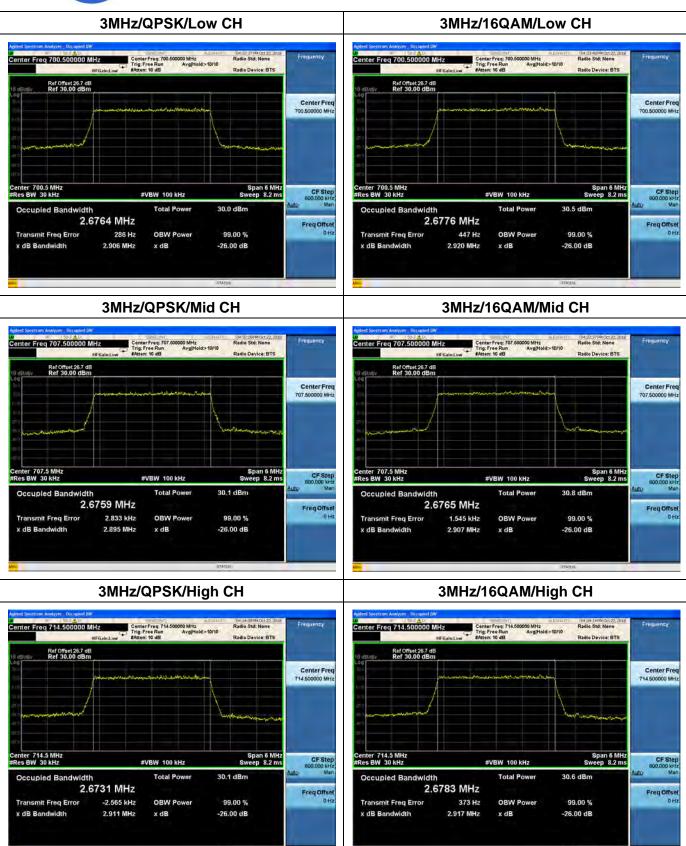












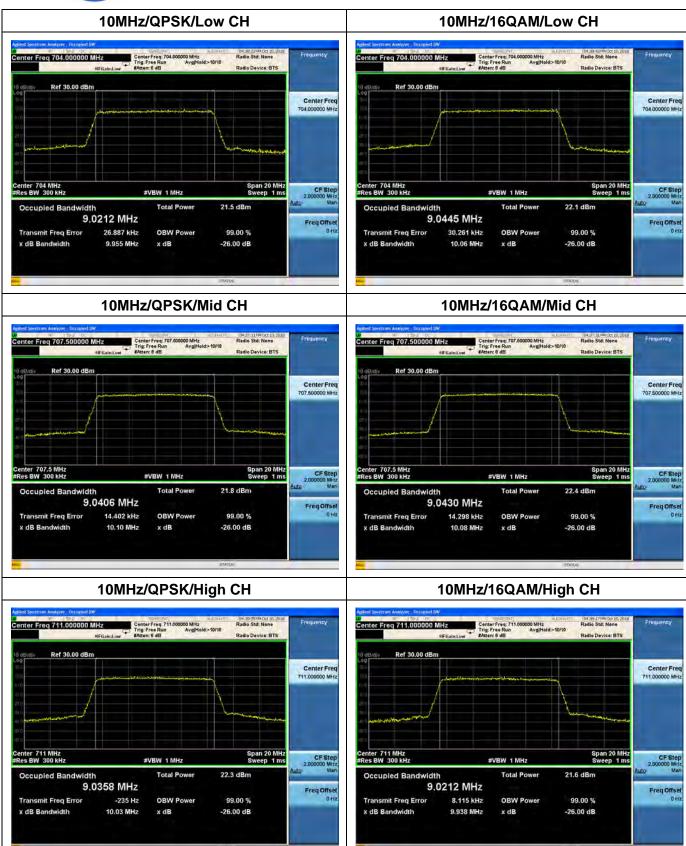
















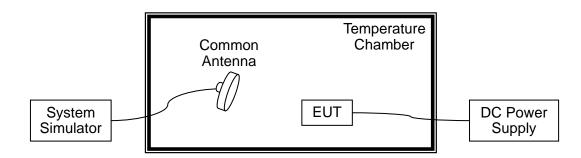
# 2.3. Frequency Stability

# 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, 4.4VDC and 3.5VDC, 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 Daniel C. ODSV. Champel 40000. Francisco 4000 OMLI. DD C/O						
LIE Ban	LTE Band 2 – QPSK - Channel 18900 – Frequency 1880.0MHz – RB 6/0					
	Li	mit =Within Auth	orized Band		1	
Voltage (%)	Power	Temp (°C)	Fre. Dev.	Deviation	Result	
voitage (76)	(VDC)	Temp ( C)	(Hz)	(ppm)	Nesuit	
100		-30	12.64	0.672		
100		-20	-13.82	-0.735		
100		-10	7.63	0.405		
100	5.0	0	12.54	0.667		
100		+10	-11.49	-0.611		
100		+20	8.21	0.436	PASS	
100		+30	-12.24	-0.651		
100		+40	13.63	0.725		
100		+50	10.65	0.566		
115	5.2	+20	10.34	0.55		
85	4.8	+20	-14.65	-0.779		

LTE Ba	LTE Band 4 – QPSK - Channel 20175 – Frequency 1732.5MHz – RB 6/0						
	Limit =Within Authorized Band						
Voltage (%)	Power	Temp (°C)	Fre. Dev.	Deviation	Result		
voltage (70)	(VDC)	remp ( o)	(Hz)	(ppm)	Rooun		
100		-30	13.29	0.767			
100		-20	-11.83	-0.682			
100		-10	8.66	0.499			
100		0	10.57	0.61			
100	5.0	+10	-12.49	-0.721			
100		+20	8.31	0.479	PASS		
100		+30	-12.06	-0.696			
100		+40	9.65	0.556			
100		+50	14.32	0.826			
115	5.2	+20	12.35	0.712			
85	4.8	+20	-13.85	-0.799			





LT	LTE Band 5 – QPSK - Channel 20525 – Frequency 836.5MHz					
	Limit=±2.5ppm					
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Deviation (ppm)	Result	
100	(120)	-30	12.32	0.589		
100		-20	-10.84	-0.518		
100	-	-10	8.65	0.413		
100	5.0	0	10.54	0.504		
100		+10	-12.47	-0.596	DACC	
100	1	+20	8.34	0.398	PASS	
100		+30	-12.05	-0.576		
100		+40	9.64	0.461		
100		+50	8.51	0.406		
115	5.2	+20	10.25	0.49		
85	4.8	+20	-14.65	-0.701		

LTE Ban	LTE Band 12 – QPSK - Channel 23095 – Frequency 707.5MHz – RB 6/0					
	Limit: Limit =Within Authorized Band					
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Deviation (ppm)	Result	
100	(123)	-30	12.42	0.702		
100	1	-20	-10.85	-0.613		
100	1	-10	8.52	0.482		
100		0	10.54	0.595		
100	5.0	+10	-12.44	-0.703		
100		+20	8.57	0.484	PASS	
100		+30	-12.52	-0.707		
100		+40	9.57	0.541		
100		+50	8.47	0.478		
115	5.2	+20	10.46	0.591		
85	4.8	+20	-14.83	-0.838		



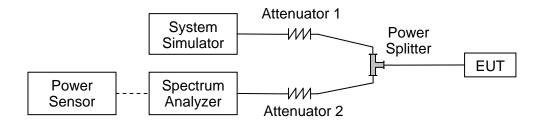
# 2.4. Peak to Average Radio

# 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%.



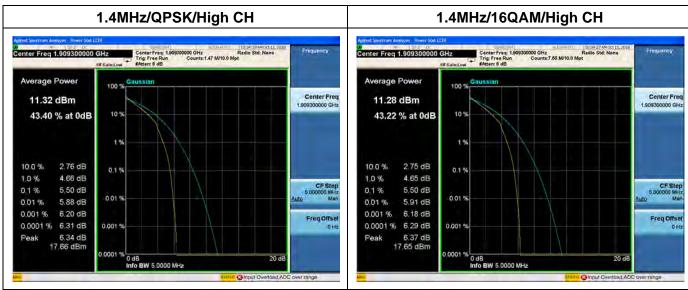
LTE Band	d 2, BW: 1.4	мнz				
	Frequency Peak to Average Radio(dB)					
Channel	(MHz)	QPSK	16QAM			
18607	1850.7	5.23	5.24			
18900	1880.0	5.45	5.65			
19192	1909.2	5.50	5.50			
LTE Band	d 2, BW: 3MI	-lz				
Channel	Frequency	Peak to Average Radio(dB)				
Chamei	(MHz)	QPSK	16QAM			
18615	1851.5	5.32	5.32			
18900	1880.0	5.46	5.46			
19184	1908.4	5.51	5.52			
LTE Band	d 2, BW: 5M	<del>l</del> z				
Channel	Frequency	Peak to Avera	ge Radio(dB)			
Citatille	(MHz)	QPSK	16QAM			
18625	1852.5	5.33	5.31			
18900	1880.0	5.31	5.32			
19175	1907.5	5.42	5.41			
LTE Band	d 2, BW: 10N	lHz				
Channel	Frequency	Peak to Average Radio(dB)				
Onamici	(MHz)	QPSK	16QAM			
18650	1855.0	4.76	4.76			
18900	1880.0	4.77	4.77			
19150	1905.0	4.80	4.80			
LTE Band	d 2, BW: 15N	lHz				
Channel	Frequency	Peak to Average Radio(dB)				
Onamor	(MHz)	QPSK	16QAM			
18675	1857.5	5.84	5.84			
18900	1880.0	5.82	5.63			
19125	1902.5	5.85	5.85			
LTE Band	d 2, BW: 20N	lHz				
Channel	Frequency	Peak to Avera				
Sildillo	(MHz)	QPSK	16QAM			
18700	1860.0	6.46	6.43			
18900	1880.0	6.44	6.45			
19100	1900.0	6.45	6.45			



#### LTE Band 2 Peak to Average Radio 1.4MHz/QPSK/Low CH 1.4MHz/16QAM/Low CH Center Freq: 1.850700000 GHz Radio Std: None Trig: Free Run Counts: 2.22 M/10.0 Mpt #Atten: 6 dB Center Freq: 1.850700000 GHz Radio Std: None Trig: Free Run Counts:9.33 M/10.0 Mpt Center Freq 1.850700000 GHz Center Freq 1.850700000 GHz Average Power Average Power Center Freq Center Freq 11.34 dBm 11.34 dBm 10 % 45.92 % at 0dB 10 % 45.89 % at 0dB 1% 1% 2.56 dB 2.57 dB 10.0 % 10.0 % 0.1 % 0.1 % 4.66 dB 1.0 % 1.0 % 4.67 dB CF Step 5,000000 MHz Man CF Step 5,000000 MH 5.23 dB 5.24 dB 0.1 % 0.1 % 0.01 % 0.01 % 0.01 % 5.56 dB 0.01 % 5.59 dB 0.001 % 5.76 dB 0.001 % 5.79 dB Freq Offse Freq Offse 0.0001 % 5.81 dB 0.001 0.0001 % 5.89 dB 0.001 % 5.81 dB 17.15 dBm 5.93 dB Peak Peak 17.27 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: 1.880000000 GHz Radio Std: None Trig: Free Run Counts:9.15 M/10.0 Mpt Center Freq: 1.880000000 GHz Radio Std; None Trig: Free Run Counts:5.30 M/10.0 Mpt Average Power Average Power 100 % 100 % Center Freq Center Freq 11.33 dBm 11.20 dBm 10 % 45.02 % at 0dB 48.00 % at 0dB 1% 1% 10.0 % 2.67 dB 10.0 % 2.80 dB 0.1 % 4.55 dB 4.70 dB 10% 1.0 % CF Step 5.000000 MHs Mar CF-Step 5.000000 MH: Ma 0.1 % 5,45 dB 0.1 % 5,65 dB 0.01 % 0.01 % 5.90 dB 0.01 % 0.01 % 6.09 dB 0.001 % 6.21 dB 0.001 % 6.41 dB Freq Offse Freq Offse 0.0001 % 6.35 dB 0.001 9 0.0001 % 6.55 dB 0.001 9 6,44 dB 17.77 dBm 19.21 dB Peak 30.41 dBm 0,0001 % 0 dB Info BW 5,0000 MHz 0 dB Info BW 5.0000 MHz 0.0001 % 20 dB

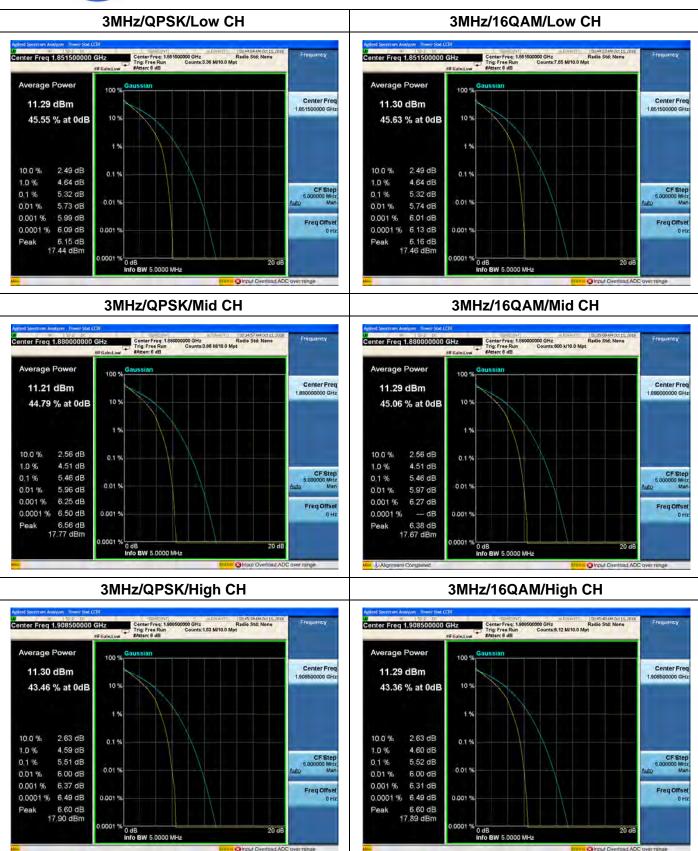






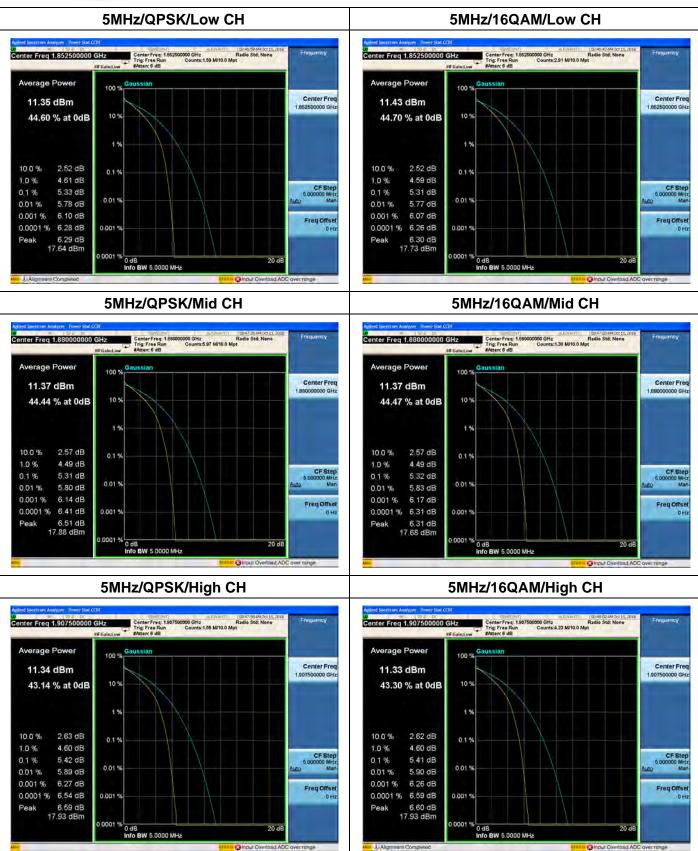






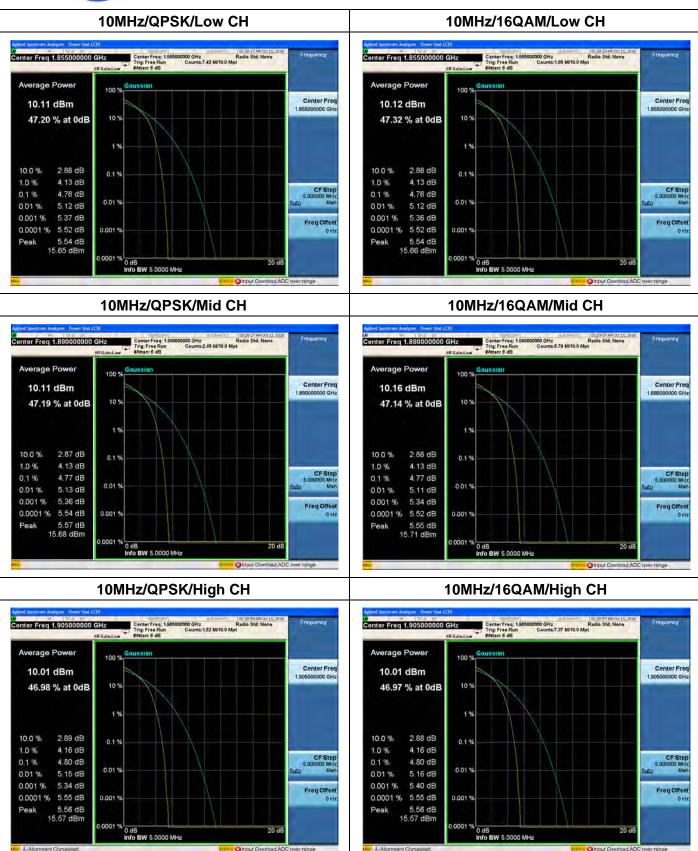






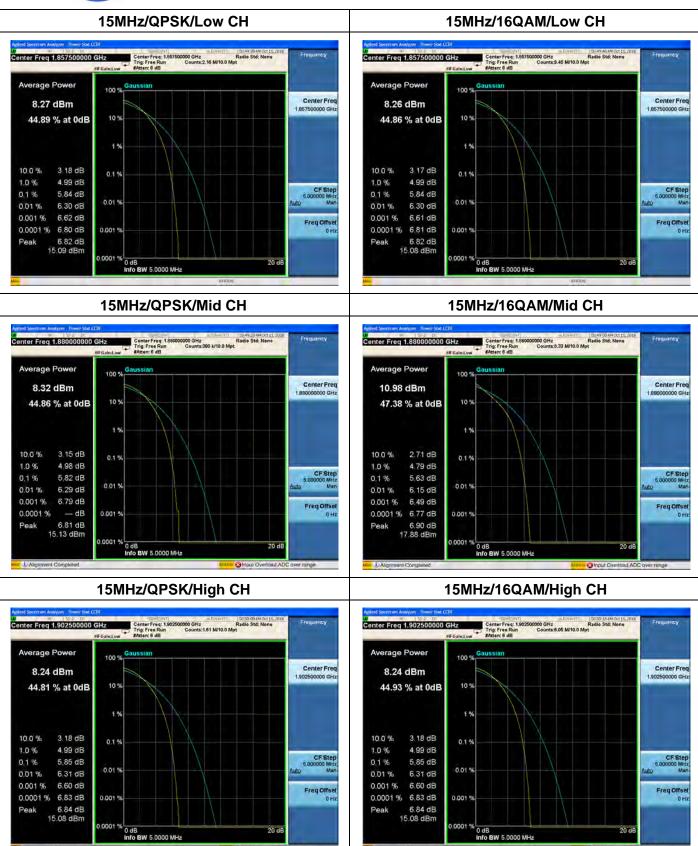






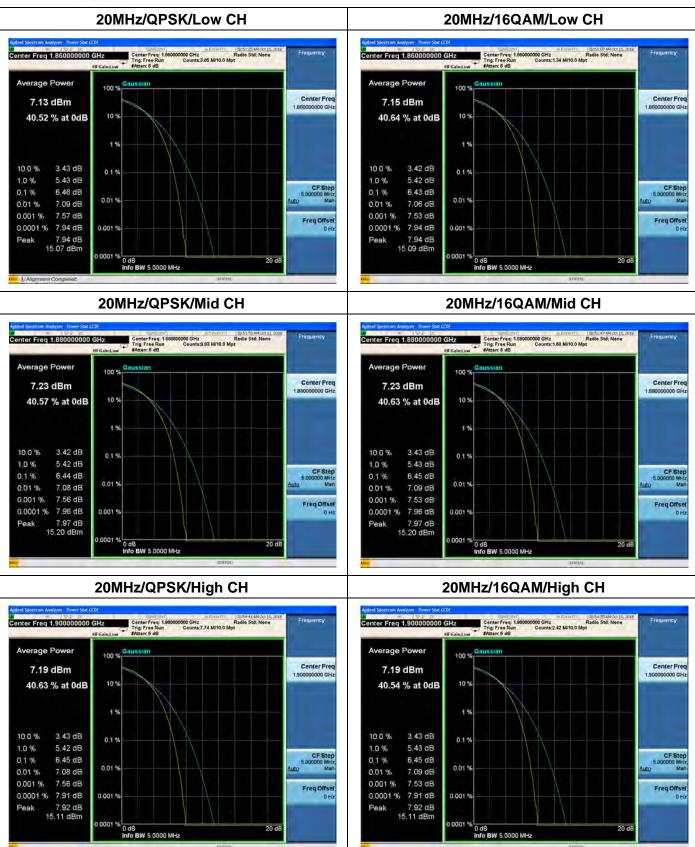














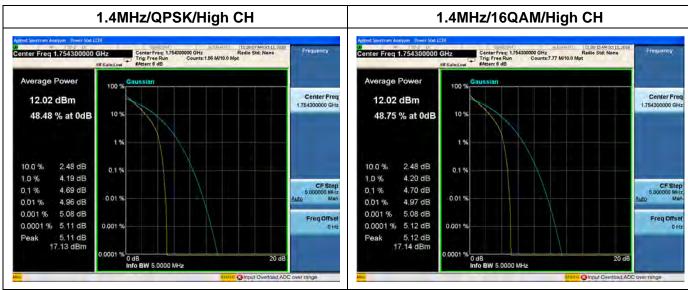


LTCC	1 4 BM 4 1	MII.				
LIE Band	d 4, BW: 1.4I		D 1: (1D)			
Channel	Frequency	Peak to Avera	• • •			
1000=	(MHz)	QPSK	16QAM			
18607	1850.7	5.13	5.12			
18900	1880.0	5.39	5.36			
19192	1909.2	4.69	4.70			
LTE Band	d 4, BW: 3MI					
Channel	Frequency	Peak to Average Radio(dB)				
	(MHz)	QPSK	16QAM			
18615	1851.5	5.15	5.15			
18900	1880.0	5.40	5.40			
19184	1908.4	4.81	4.81			
LTE Band	d 4, BW: 5MI	-lz				
Channel	Frequency	Peak to Avera	ge Radio(dB)			
Chame	(MHz)	QPSK	16QAM			
18625	1852.5	5.09	5.08			
18900	1880.0	5.33	5.31			
19175	1907.5	4.92	4.92			
LTE Band	d 4, BW: 10N	1Hz				
01	Frequency	Peak to Average Radio(dB)				
Channel	(MHz)	QPSK	16QAM			
18650	1855.0	4.73	4.72			
18900	1880.0	4.75	4.74			
19150	1905.0	4.67	4.68			
LTE Band	d 4, BW: 15N	1Hz				
01 1	Frequency	Peak to Average Radio(dB)				
Channel	(MHz)	QPSK	16QAM			
18675	1857.5	5.82	5.82			
18900	1880.0	6.46	6.45			
19125	1902.5	5.81	5.81			
	d 4, BW: 20N					
Frequency		Peak to Avera	ge Radio(dB)			
Channel	(MHz)	QPSK	16QAM			
18700	1860.0	6.45	6.46			
18900	1880.0	6.41	6.47			
19100	1900.0	6.47	6.46			
10100	1000.0	0.71	0.10			



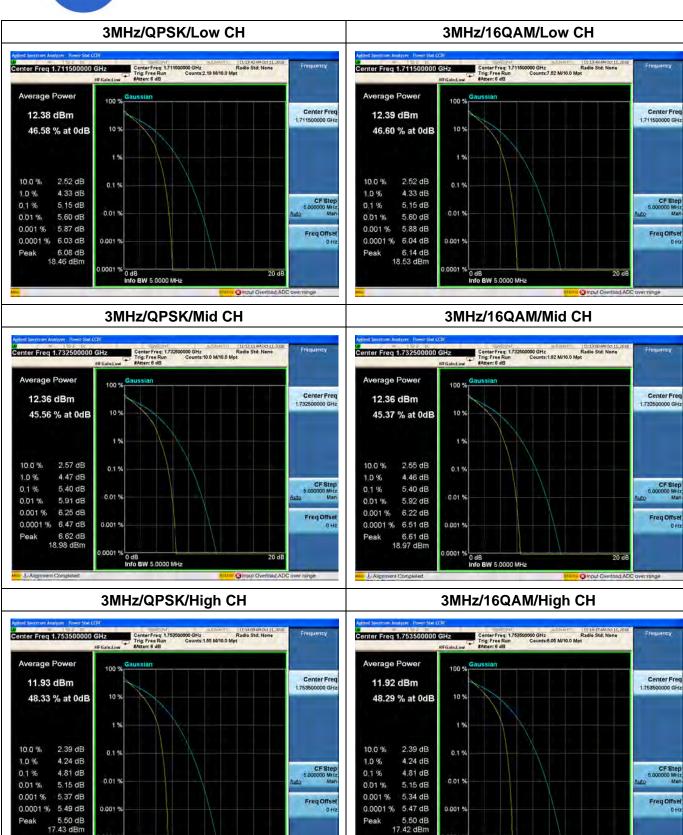
#### LTE Band 4 Peak to Average Radio 1.4MHz/QPSK/Low CH 1.4MHz/16QAM/Low CH Center Freq: 1.7 10700000 GHz Radio Std: None Trig: Free Run Counts 2.16 M/10.0 Mpt #Atten: 6 dB Center Freq: 1.710700000 GHz Radio Std: None Trig: Free Run Counts:9.45 M/10.0 Mpt Center Freq 1.710700000 GHz Center Freq 1.710700000 GHz Average Power Average Power Center Freq 1.710700000 GHz Center Freq 12.34 dBm 12.34 dBm 10 % 46.57 % at 0dB 10 % 46.79 % at 0dB 1% 1% 10.0 % 2.62 dB 10.0 % 2.62 dB 0.1 % 0.1 % 1.0 % 4.38 dB 1.0 % 4.38 dB CF Step 5,000000 MHz Man CF Step 5.000000 MH: 5.13 dB 5,12 dB 0.1 % 0.1 % 0.01 % 0.01 % 0.01 % 5.51 dB 0.01 % 5.49 dB 0.001 % 5.77 dB 0.001 % 5.76 dB Freq Offse Freq Offse 0.0001 % 5.86 dB 0.001 0.0001 % 5.87 dB 0.001 % 5,90 dB 18,24 dBm 5.90 dB 18.24 dBm Peak Peak 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: 1.732500000 GHz Radio Std: None Trig: Free Run Counts: 5.41 M/10.0 Mpt Center Freq: 1.732500000 GHz Radio Std: None Trig: Free Run Counts: 4.89 M/10.0 Mpt Average Power Average Power 100 % 100 % Center Freq 1.732500000 RH-Center Freq 12.32 dBm 12.32 dBm 10 % 10 % 45.49 % at 0dB 45.50 % at 0dB 1% 1% 10.0 % 2.66 dB 10.0 % 2.66 dB 0.1 % 4.50 dB 4.49 dB 10% 10% CF Step 5.000000 MHs Mar CF Step 5.000000 MH2 Mar 0.1 % 5,39 dB 0.1% 5,36 dB 0.01 % 0.01 % 0.01 % 5.87 dB 0.01 % 5.79 dB 0.001 % 6.19 dB 0.001 % 6.17 dB Freq Offse Freq Offse 0.0001 % 6.32 dB 0.001 9 0.0001 % 6.31 dB 0.001 9 6.40 dB 6.39 dB 18.71 dBm Peak 18.72 dBm 0,0001 % 0 dB Info BW 5,0000 MHz 0 dB Info BW 5.0000 MHz 0.0001 % 20 dB











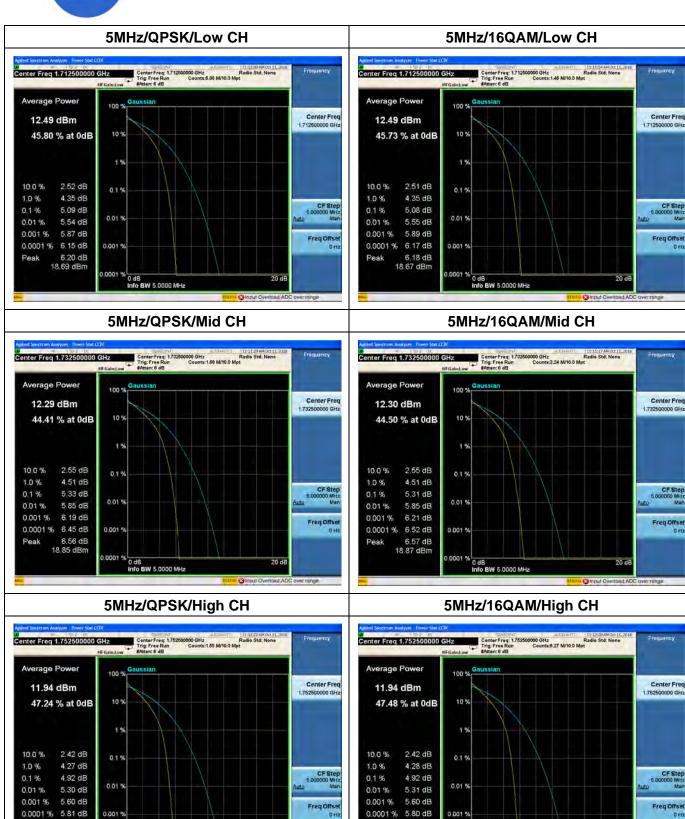


0.0001 %

0 dB Info BW 5.0000 MHz 0.0001 %

0 dB Info BW 5.0000 MHz 20 dB







Peak 5.83 dB 17.77 dBm

0.0001 %

0 dB Info BW 5.0000 MHz 0.0001 %

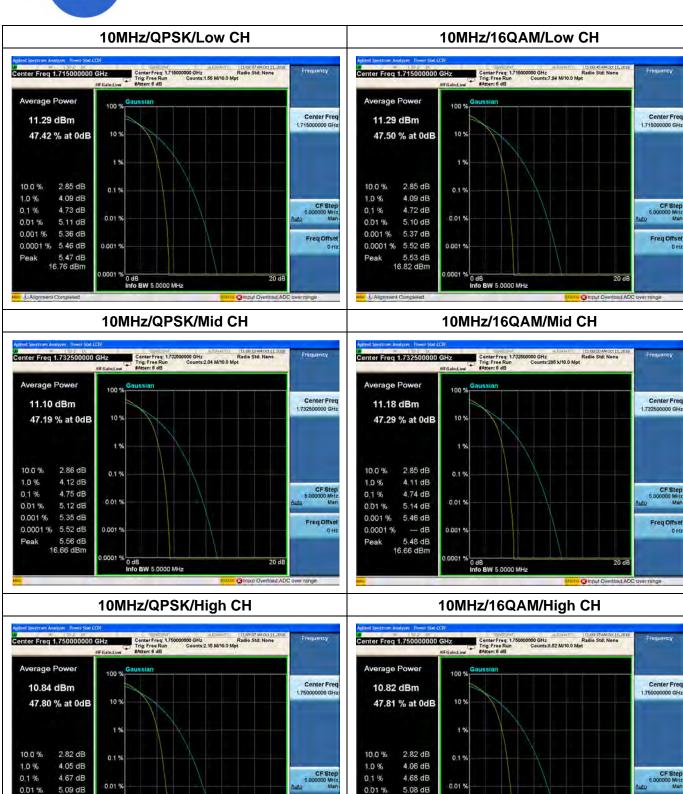
0 dB Info BW 5.0000 MHz

5.84 dB 17.78 dBm

Peak

20 dB







0.001 % 5.35 dB

0.0001 % 5.45 dB

Peak 5.47 dB 16.31 dBm

0.0001 %

0 dB Info BW 5.0000 MHz Freq Offs

0.0001 %

0 dB Info BW 5.0000 MHz

0.001 % 5,35 dB

0.0001 % 5.47 dB

Peak

5.50 dB 16.32 dBm

20 dB

Freq Offse







0.001 % 6.53 dB

0.0001 % 6.68 dB

6.71 dB 16.07 dBm

0.0001 %

Peak

0.001 % 6.54 dB

0.0001 % 6.70 dB

6.72 dB 16.08 dBm

0.0001 %

20 dB

Freq Offse







10.0 %

1.0 %

0.1%

0.01 % 0.001 % 7.50 dB

0.0001 %

Peak 7.70 dB 15.83 dBm

3.40 dB

5.42 dB

6.47 dB

7.15 dB

- dB

0.01 %

0.0001 %

10.0 %

1.0 %

0.1 %

0.01 %

CF Step 5.000000 MH

3.44 dB

5.44 dB

6.46 dB

7.09 dB

7.92 dB 16.05 dBm

0.001 % 7.62 dB

0.0001 % 7.91 dB

0.01 %

0.0001 %

0 dB Info BW 5 0000 MHz

20 dB

CF Step

Freq Offse



LTE Band	1 5, BW: 1.4MI				
Channel	Frequency	Peak to Average Radio(dB)			
Chamber	(MHz)	QPSK	16QAM		
20407	824.7	4.70	4.71		
20525	836.5	5.22	5.20		
20643	848.3	4.98	5.00		
LTE Band	1 5, BW: 3MHz	:			
Channal	Frequency	Peak to Ave	rage Radio(dB)		
Channel	(MHz)	QPSK	16QAM		
20415	825.5	4.75	4.75		
20525	836.5	4.83	4.80		
20635	847.5	5.02	5.02		
LTE Band	1 5, BW: 5MHz				
Ch a a a a l	Frequency Peak to Average Radio(dl		rage Radio(dB)		
Channel	(MHz)	QPSK	16QAM		
20425	826.5	4.92	4.91		
20525	836.5	4.92	4.91		
20625	846.5	5.03	5.03		
LTE Band	5, BW: 10MH	z			
Oh a n n s l	Frequency	Peak to Ave	rage Radio(dB)		
Channel	(MHz)	QPSK	16QAM		
20450	829.0	4.77	4.80		
20525	836.5	5.42	4.78		
20600	844.0	4.75	4.75		



#### LTE Band 5 Peak to Average Radio 1.4MHz/QPSK/Low CH 1.4MHz/16QAM/Low CH Center Freq: 824.700000 MHz Radio Std: None Trig: Free Run Counts: 8.21 M/10.0 Mpt #Atten: 6 dB Center Freq: 824.700000 MHz Radio Std: None Trig: Free Run Counts:2.16 M/10.0 Mpt Center Freq 824.700000 MHz Average Power Average Power Center Freq 824 700000 MHz Center Freq 824.700000 MHz 13.52 dBm 13.52 dBm 10 % 51.45 % at 0dB 10 % 51.49 % at 0dB 1% 1% 2.14 dB 2.14 dB 10.0 % 10.0 % 0.1 % 0.1 % 3.95 dB 3.96 dB 1.0 % 1.0 % CF Step 5,000000 MHz Man CF Step 5,000000 MH 0.1 % 4.70 dB 0.1 % 4.71 dB 0.01 % 0.01 % 0.01 % 4.78 dB 0.01 % 4.78 dB 0.001 % 4.82 dB 0.001 % 4.82 dB Freq Offse Freq Offse 0.0001 % 4.83 dB 0.001 0.0001 % 4.84 dB 0.001 % 4,85 dB 4.84 dB Peak Peak 18.37 dBm 18,36 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: 838.500000 MHz Radio Std: None Trig: Free Run Counts: 4.95 M/10.0 Mpt Average Power Average Power 100 % 100 % Center Freq Center Freq 13.46 dBm 13.49 dBm 10 % 10 % 48.15 % at 0dB 48.15 % at 0dB 1% 1% 10.0 % 2.47 dB 10.0 % 2.45 dB 0.1 % 4.21 dB 4.20 dB 10% 10% CF Step 5.000000 MHs Mar CF-Step 5.000000 MH: Mai 0.1 % 5,22 dB 0.1 % 5,20 dB 0.01 % 0.01 % 0.01 % 5.39 dB 0.01 % 5.37 dB 0.001 % 5.45 dB 0.001 % 5.42 dB Freq Offse Freq Offse 0.0001 % 5.48 dB 0.001 9 0.0001 % 5.46 dB 0.001 9 5,50 dB 5.51 dB Peak 19.00 dBm 18.96 dBm 0,0001 % 0 dB Info BW 5,0000 MHz 0 dB Info BW 5.0000 MHz 0.0001 % 20 dB



