FCC RF Test Report

APPLICANT	:	**ZTE CORPORATION**
EQUIPMENT	:	**Ufi**
BRAND NAME	:	**ZTE**
MODEL NAME	:	**MF915**
FCC ID	:	**SRQ-MF915**
STANDARD	:	**47 CFR Part 2, 24(E), 27(L), 27(H)**
CLASSIFICATION	:	**PCS Licensed Transmitter (PCB)**

The product was received on Jun. 05, 2014 and testing was completed on Jul. 22, 2014. We, SPORTON INTERNATIONAL (KUNSHAN) INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI / TIA / EIA-603-C-2004 and the testing has shown the tested sample to be in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL (KUNSHAN) INC., the test report shall not be reproduced except in full.

Reviewed by: Joseph Lin / Supervisor

Approved by: Jones Tsai / Manager

Testing Laboratory
2627

SPORTON INTERNATIONAL (KUNSHAN) INC.
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APPENDIX A. SETUP PHOTOGRAPHS

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG460501B	Rev. 01	Initial issue of report	Jul. 25, 2014

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	§2.1046	Conducted Output Power	Reporting Only	PASS	-
3.2	§24.232(d)	Peak-to-Average Ratio	<13 dB	PASS	-
3.3	§27.50(c)(10)	Effective Radiated Power (Band 12) (Band 17)	ERP < 3 Watt	PASS	-
	§24.232(c)	Equivalent Isotropic Radiated Power (Band 2)	EIRP < 2Watt		
	§27.50(d)(4)	Equivalent Isotropic Radiated Power (Band 4)	EIRP < 1Watt		
3.4	§2.1049 §24.238(b) §27.53(g)(3)	Occupied Bandwidth & 26dB Bandwidth	Reporting Only	PASS	-
3.5	§2.1051 §24.238(a) §27.53(g) §27.53(h)	Conducted Band Edge Measurement (Band 2) (Band 4) (Band 12) (Band 17)	< 43+10log10(P[Watt])	PASS	-

Report Section	FCC Rule	Description	Limit	Result	Remark
3.6	§2.1051 §24.238(a) §27.53(g) §27.53(h)	Conducted Spurious Emission (Band 2) (Band 4) (Band 12) (Band 17)	< 43+10log$_{10}$(P[Watts])	PASS	-
3.7	§2.1053 §24.238(a) §27.53(g) §27.53(h)	Radiated Spurious Emission (Band 2) (Band 4) (Band 12) (Band 17)	< 43+10log$_{10}$(P[Watts])	PASS	Under limit 26.11 dB at 5193.000 MHz
3.8	§2.1055 §24.235 §27.54	Frequency Stability Temperature & Voltage	< 2.5 ppm	PASS	-

1 General Description

1.1 Applicant

ZTE CORPORATION
ZTE Plaza, Keji Road South, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057, P.R.China

1.2 Manufacturer

ZTE CORPORATION
ZTE Plaza, Keji Road South, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057, P.R.China

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Ufi
Brand Name	ZTE
Model Name	MF915
FCC ID	SRQ-MF915
EUT supports Radios application	GPRS/EGPRS/WCDMA/HSPA/HSPA+(Downlink Only)/ DC-HSDPA/LTE WLAN2.4GHz 802.11b/g/n HT20
HW Version	xw5A
SW Version	BD_TMOMF915V0.0.0B02
EUT Stage	Identical Prototype

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4 Product Specification subjective to this standard

Product Specification subjective to this standard	
Tx Frequency	LTE Band 2 : 1850.7 MHz ~ 1909.3 MHz LTE Band 4 : 1710.7 MHz ~ 1754.3 MHz LTE Band 12 : 699.7 MHz ~ 715.3 MHz LTE Band 17 : 706.5 MHz ~ 713.5 MHz
Rx Frequency	LTE Band 2 : 1930.7 MHz ~ 1989.3 MHz LTE Band 4 : 2110.7 MHz ~ 2154.3 MHz LTE Band 12 : 729.7 MHz ~ 745.3 MHz LTE Band 17 : 736.5 MHz ~ 743.5 MHz
Bandwidth	LTE Band 2 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 4 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 12 : 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 17 : 5MHz / 10MHz
Maximum Output Power to Antenna	LTE Band 2 : 24.05 dBm LTE Band 4 : 23.41 dBm LTE Band 12 : 23.25 dBm LTE Band 17 : 23.22 dBm
Antenna Type	Fixed Internal Antenna
Type of Modulation	QPSK / 16QAM

1.5 Modification of EUT

No modifications are made to the EUT during all test items.

1.6 Maximum ERP/EIRP Power, Frequency Tolerance, and Emission Designator

FCC Rule	System	Type of Modulation	BW	Emission Designator	Frequency Tolerance (ppm)	Maximum ERP/EIRP
Part 24	LTE Band 2	QPSK	1.4 MHz	1M10G7D	-	0.6734 W
Part 24	LTE Band 2	16QAM	1.4 MHz	1M10D7W	-	0.5627 W
Part 24	LTE Band 2	QPSK	3 MHz	2M72G7D	-	-
Part 24	LTE Band 2	16QAM	3 MHz	2M72D7W	-	-
Part 24	LTE Band 2	QPSK	5 MHz	4M49G7D	-	-
Part 24	LTE Band 2	16QAM	5 MHz	4M49D7W	-	-
Part 24	LTE Band 2	QPSK	10 MHz	9M03G7D	0.0085 ppm	-
Part 24	LTE Band 2	16QAM	10 MHz	9M01D7W	-	-
Part 24	LTE Band 2	QPSK	15 MHz	13M4G7D	-	-
Part 24	LTE Band 2	16QAM	15 MHz	13M4D7W	-	-
Part 24	LTE Band 2	QPSK	20 MHz	18M1G7D	-	0.6459 W
Part 24	LTE Band 2	16QAM	20 MHz	18M1D7W	-	0.5473 W
Part 27	LTE Band 4	QPSK	1.4 MHz	1M10G7D	-	0.3670 W
Part 27	LTE Band 4	16QAM	1.4 MHz	1M10D7W	-	0.3028 W
Part 27	LTE Band 4	QPSK	3 MHz	2M72G7D	-	-
Part 27	LTE Band 4	16QAM	3 MHz	2M73D7W	-	-
Part 27	LTE Band 4	QPSK	5MHz	4M49G7D	-	-
Part 27	LTE Band 4	16QAM	5MHz	4M49D7W	-	-
Part 27	LTE Band 4	QPSK	10MHz	9M05G7D	0.0072 ppm	0.3663 W
Part 27	LTE Band 4	16QAM	10MHz	9M01D7W	-	0.3043 W
Part 27	LTE Band 4	QPSK	15MHz	13M5G7D	-	-
Part 27	LTE Band 4	16QAM	15MHz	13M5D7W	-	-
Part 27	LTE Band 4	QPSK	20MHz	18M4G7D	-	0.3740 W
Part 27	LTE Band 4	16QAM	20MHz	18M3D7W	-	0.3002 W

FCC Rule	System	Type of Modulation	BW	Emission Designator	Frequency Tolerance (ppm)	Maximum ERP/EIRP
Part 27	LTE Band 12	QPSK	1.4 MHz	1M10G7D	-	0.1389 W
Part 27	LTE Band 12	16QAM	1.4 MHz	1M10D7W	-	0.1152 W
Part 27	LTE Band 12	QPSK	3 MHz	2M72G7D	-	-
Part 27	LTE Band 12	16QAM	3 MHz	2M72D7W	-	-
Part 27	LTE Band 12	QPSK	5 MHz	4M49G7D	-	-
Part 27	LTE Band 12	16QAM	5 MHz	4M50D7W	-	-
Part 27	LTE Band 12	QPSK	10 MHz	9M09G7D	0.0226 ppm	0.1383 W
Part 27	LTE Band 12	16QAM	10 MHz	9M05D7W	-	0.1127 W
Part 27	LTE Band 17	QPSK	5MHz	4M50G7D	-	0.1372 W
Part 27	LTE Band 17	16QAM	5MHz	4M50D7W	-	0.1156 W
Part 27	LTE Band 17	QPSK	10MHz	9M11G7D	0.0176 ppm	0.1321 W
Part 27	LTE Band 17	16QAM	10MHz	9M03D7W	-	0.1100 W

1.7 Testing Location

Test Site	SPORTON INTERNATIONAL (KUNSHAN) INC.			
Test Site Location	No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C. TEL: +86-0512-5790-0158 FAX: +86-0512-5790-0958			
Test Site No.	**Sporton Site No.**			**FCC Registration No.**
	TH01-KS	03CH01-KS	OTA01-KS	149928

1.8 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR Part 2, 24(E), 27(L), 27(H)
- ANSI / TIA / EIA-603-C-2004
- FCC KDB 971168 D01 Power Meas. License Digital Systems v02r01

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Test Configuration of Equipment Under Test

2.1 Test Mode

Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas. License Digital Systems v02r01 with maximum output power.

Test Items	Band	Bandwidth (MHz)						Modulation		RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	1	Half	Full	L	M	H
Max. Output Power	2	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	4	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	12	v	v	v	v	-	-	v	v	v	v	v	v	v	v
	17	-	-	v	v	-	-	v	v	v	v	v	v	v	v
Peak-to-Average Ratio	2						v		v	v		v	v	v	v
	4						v		v	v		v	v	v	v
	12				v	-	-		v	v		v	v	v	v
	17	-	-		v	-	-		v	v		v	v	v	v
26dB and 99% Bandwidth	2	v	v	v	v	v	v	v	v			v		v	
	4	v	v	v	v	v	v	v	v			v		v	
	12	v	v	v	v	-	-	v	v			v		v	
	17	-	-	v	v	-	-	v	v			v		v	
Conducted Band Edge	2	v	v	v	v	v	v	v	v	v		v	v		v
	4	v	v	v	v	v	v	v	v	v		v	v		v
	12	v	v	v	v	-	-	v	v	v		v	v		v
	17	-	-	v	v	-	-	v	v	v		v	v		v

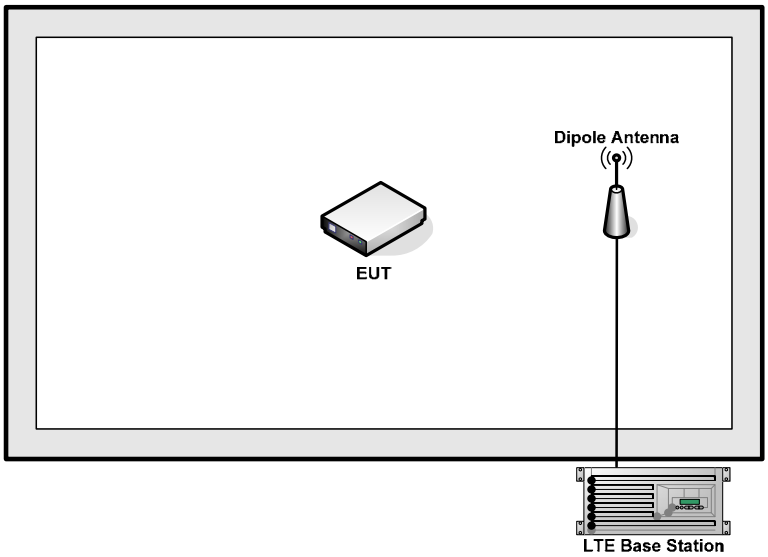
Test Items	Band	Bandwidth (MHz)						Modulation		RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	1	Half	Full	L	M	H
Conducted Spurious Emission	2	v	v	v	v	v	v	v	v	v			v	v	v
	4	v	v	v	v	v	v	v	v	v			v	v	v
	12	v	v	v	v	-	-	v	v	v			v	v	v
	17	-	-	v	v	-	-	v	v	v			v	v	v
Frequency Stability	2				v			v				v		v	
	4				v			v				v		v	
	12				v	-	-	v				v		v	
	17	-	-		v	-	-	v				v		v	
E.R.P./ E.I.R.P.	2	v					v	v	v	v			v	v	v
	4	v			v		v	v	v	v			v	v	v
	12	v			v	-	-	v	v	v			v	v	v
	17	-	-	v	v	-	-	v	v	v			v	v	v
Radiated Spurious Emission	2	v	v	v	v	v	v	v		v				v	
	4	v	v	v	v	v	v	v		v				v	
	12	v	v	v	v	-	-	v		v				v	
	17	-	-	v	v	-	-	v		v				v	

Note

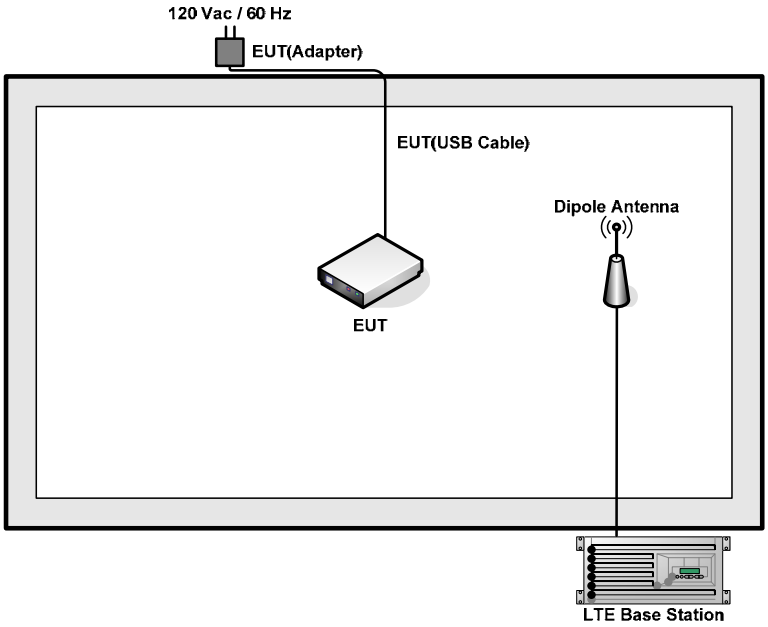
1. The mark "v " means that this configuration is chosen for testing
2. The mark "-" means that this bandwidth is not supported.
3. For E.R.P/E.I.R.P. measurement, the widest bandwidth and the bandwidth with the highest conducted power of each band is chosen for testing. Besides, the lowest bandwidth of each band is also measured for reporting only.
4. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.

2.2 Connection Diagram of Test System

For 24E



For 27L, 27H



2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	LTE Base Station	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
2.	DC Power Supply	GWINSTEK	GPS-3030D	N/A	N/A	Unshielded, 1.8 m

2.4 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

The spectrum analyzer offset is derived from RF cable loss.

Offset = RF cable loss

Following shows an offset computation example with cable loss 6.0 dB.

Example :

Offset(dB) = RF cable loss(dB)

= 6.0 (dB)

3 Test Result

3.1 Conducted Output Power Measurement

3.1.1 Description of the Conducted Output Power Measurement

A system simulator was used to establish communication with the EUT. Its parameters were set to force the EUT transmitting at maximum output power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

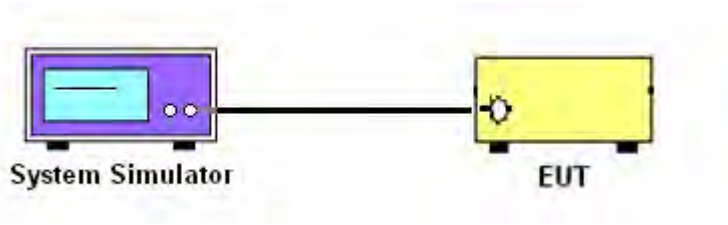
3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.1.3 Test Procedures

1. The transmitter output port was connected to the system simulator.
2. Set EUT at maximum power through the system simulator.
3. Select lowest, middle, and highest channels for each band and different modulation.
4. Measure and record the power level from the system simulator.

3.1.4 Test Setup



3.1.5 Test Result of Conducted Output Power

<LTE Band 2 Conducted Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				**18700**	**18900**	**19100**
Frequency (MHz)				**1860**	**1880**	**1900**
20	QPSK	1	0	23.35	23.51	23.79
20	QPSK	1	49	23.36	23.71	23.85
20	QPSK	1	99	23.44	23.85	**24.05**
20	QPSK	50	0	22.45	22.80	23.15
20	QPSK	50	24	22.50	22.84	23.20
20	QPSK	50	49	22.55	22.86	23.24
20	QPSK	100	0	22.45	22.85	23.17
20	16QAM	1	0	22.20	22.47	23.06
20	16QAM	1	49	22.32	22.77	23.08
20	16QAM	1	99	22.69	22.96	23.14
20	16QAM	50	0	21.37	21.75	22.06
20	16QAM	50	24	21.40	21.78	22.22
20	16QAM	50	49	21.55	21.85	22.26
20	16QAM	100	0	21.43	21.78	22.11
Channel				**18675**	**18900**	**19125**
Frequency (MHz)				**1857.5**	**1880**	**1902.5**
15	QPSK	1	0	23.37	23.72	23.90
15	QPSK	1	37	23.39	23.76	23.91
15	QPSK	1	74	23.45	23.90	24.01
15	QPSK	36	0	22.35	22.73	23.13
15	QPSK	36	18	22.38	22.75	23.14
15	QPSK	36	37	22.45	22.83	23.16
15	QPSK	75	0	22.46	22.83	23.17
15	16QAM	1	0	22.23	22.34	22.99
15	16QAM	1	37	22.27	22.44	23.04
15	16QAM	1	74	22.57	22.66	23.31
15	16QAM	36	0	21.40	21.67	22.09
15	16QAM	36	18	21.41	21.68	22.11
15	16QAM	36	37	21.45	21.85	22.12
15	16QAM	75	0	21.55	21.80	22.13

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				**18650**	**18900**	**19150**
Frequency (MHz)				**1855**	**1880**	**1905**
10	QPSK	1	0	23.34	23.55	23.96
10	QPSK	1	24	23.39	23.66	24.01
10	QPSK	1	49	23.42	23.87	24.03
10	QPSK	25	0	22.39	22.79	23.11
10	QPSK	25	12	22.45	22.80	23.14
10	QPSK	25	24	22.49	22.83	23.18
10	QPSK	50	0	22.45	22.80	23.16
10	16QAM	1	0	22.16	22.25	22.80
10	16QAM	1	24	22.27	22.26	23.05
10	16QAM	1	49	22.45	22.49	23.09
10	16QAM	25	0	21.43	21.72	22.11
10	16QAM	25	12	21.49	21.75	22.25
10	16QAM	25	24	21.54	21.82	22.34
10	16QAM	50	0	21.43	21.80	22.25
Channel				**18625**	**18900**	**19175**
Frequency (MHz)				**1852.5**	**1880**	**1907.5**
5	QPSK	1	0	23.30	23.71	23.79
5	QPSK	1	12	23.32	23.74	23.88
5	QPSK	1	24	23.39	23.77	24.03
5	QPSK	12	0	22.40	22.76	23.07
5	QPSK	12	6	22.42	22.78	23.08
5	QPSK	12	11	22.49	22.86	23.09
5	QPSK	25	0	22.40	22.82	23.06
5	16QAM	1	0	22.30	22.45	22.92
5	16QAM	1	12	22.47	22.51	23.15
5	16QAM	1	24	22.52	22.68	23.19
5	16QAM	12	0	21.37	21.71	22.05
5	16QAM	12	6	21.52	21.78	22.07
5	16QAM	12	11	21.58	21.79	22.19
5	16QAM	25	0	21.40	21.83	22.07

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				**18615**	**18900**	**19185**
Frequency (MHz)				**1851.5**	**1880**	**1908.5**
3	QPSK	1	0	23.33	23.62	23.88
3	QPSK	1	7	23.35	23.64	23.95
3	QPSK	1	14	23.38	23.82	23.98
3	QPSK	8	0	22.39	22.69	23.06
3	QPSK	8	4	22.41	22.70	23.12
3	QPSK	8	7	22.47	22.79	23.24
3	QPSK	15	0	22.42	22.73	23.06
3	16QAM	1	0	22.11	22.49	22.86
3	16QAM	1	7	22.12	22.55	22.98
3	16QAM	1	14	22.26	22.91	23.21
3	16QAM	8	0	21.39	21.66	22.10
3	16QAM	8	4	21.50	21.83	22.11
3	16QAM	8	7	21.57	21.85	22.13
3	16QAM	15	0	21.27	21.70	22.10
Channel				**18607**	**18900**	**19193**
Frequency (MHz)				**1850.7**	**1880**	**1909.3**
1.4	QPSK	1	0	23.34	23.71	23.92
1.4	QPSK	1	2	23.30	23.77	23.95
1.4	QPSK	1	5	23.49	23.79	24.03
1.4	QPSK	3	0	23.30	23.59	23.93
1.4	QPSK	3	1	23.32	23.66	23.96
1.4	QPSK	3	2	23.42	23.78	23.97
1.4	QPSK	6	0	22.48	22.88	23.11
1.4	16QAM	1	0	22.35	22.56	22.88
1.4	16QAM	1	2	22.39	22.75	23.01
1.4	16QAM	1	5	22.57	23.01	23.18
1.4	16QAM	3	0	22.26	22.85	22.94
1.4	16QAM	3	1	22.46	22.86	23.06
1.4	16QAM	3	2	22.49	22.94	23.08
1.4	16QAM	6	0	21.36	21.80	22.13

<LTE Band 4 Conducted Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				**20050**	**20175**	**20300**
Frequency (MHz)				**1720**	**1732.5**	**1745**
20	QPSK	1	0	23.39	**23.41**	23.16
20	QPSK	1	49	23.30	23.11	23.12
20	QPSK	1	99	23.28	23.10	23.10
20	QPSK	50	0	22.38	22.43	22.33
20	QPSK	50	24	22.30	22.34	22.30
20	QPSK	50	49	22.26	22.30	22.13
20	QPSK	100	0	22.29	22.42	22.26
20	16QAM	1	0	22.46	22.60	22.46
20	16QAM	1	49	22.41	22.45	22.43
20	16QAM	1	99	22.14	22.39	22.20
20	16QAM	50	0	21.38	21.39	21.30
20	16QAM	50	24	21.29	21.28	21.29
20	16QAM	50	49	21.25	21.26	21.14
20	16QAM	100	0	21.27	21.38	21.35
Channel				**20025**	**20175**	**20325**
Frequency (MHz)				**1717.5**	**1732.5**	**1747.5**
15	QPSK	1	0	23.35	23.39	23.29
15	QPSK	1	37	23.34	23.38	23.10
15	QPSK	1	74	23.32	23.25	23.01
15	QPSK	36	0	22.37	22.35	22.30
15	QPSK	36	18	22.32	22.32	22.22
15	QPSK	36	37	22.31	22.30	22.18
15	QPSK	75	0	22.44	22.37	22.19
15	16QAM	1	0	22.25	22.35	22.24
15	16QAM	1	37	22.17	22.33	22.22
15	16QAM	1	74	22.10	22.28	21.83
15	16QAM	36	0	21.35	21.29	21.24
15	16QAM	36	18	21.31	21.26	21.17
15	16QAM	36	37	21.21	21.24	21.15
15	16QAM	75	0	21.30	21.35	21.19

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				20000	20175	20350
Frequency (MHz)				1715	1732.5	1750
10	QPSK	1	0	23.38	23.41	23.22
10	QPSK	1	24	23.35	23.22	23.12
10	QPSK	1	49	23.33	23.20	23.10
10	QPSK	25	0	22.39	22.34	22.18
10	QPSK	25	12	22.33	22.30	22.15
10	QPSK	25	24	22.32	22.22	22.07
10	QPSK	50	0	22.38	22.43	22.16
10	16QAM	1	0	22.41	22.34	22.40
10	16QAM	1	24	22.36	22.30	22.32
10	16QAM	1	49	22.32	22.05	22.24
10	16QAM	25	0	21.42	21.49	21.23
10	16QAM	25	12	21.35	21.30	21.16
10	16QAM	25	24	21.33	21.25	21.15
10	16QAM	50	0	21.39	21.20	21.17
Channel				19975	20175	20375
Frequency (MHz)				1712.5	1732.5	1752.5
5	QPSK	1	0	23.38	23.24	23.17
5	QPSK	1	12	23.37	23.19	23.12
5	QPSK	1	24	23.34	23.10	23.10
5	QPSK	12	0	22.39	22.29	22.16
5	QPSK	12	6	22.34	22.27	22.11
5	QPSK	12	11	22.30	22.26	22.07
5	QPSK	25	0	22.31	22.44	22.11
5	16QAM	1	0	22.34	22.13	22.23
5	16QAM	1	12	22.31	22.09	22.19
5	16QAM	1	24	22.27	22.05	22.09
5	16QAM	12	0	21.44	21.51	21.25
5	16QAM	12	6	21.38	21.41	21.14
5	16QAM	12	11	21.35	21.33	21.09
5	16QAM	25	0	21.26	21.42	21.17

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				**19965**	**20175**	**20385**
Frequency (MHz)				**1711.5**	**1732.5**	**1753.5**
3	QPSK	1	0	23.37	23.40	23.06
3	QPSK	1	7	23.29	23.28	23.04
3	QPSK	1	14	23.25	23.24	23.01
3	QPSK	8	0	22.41	22.35	22.17
3	QPSK	8	4	22.29	22.34	22.12
3	QPSK	8	7	22.27	22.30	22.10
3	QPSK	15	0	22.33	22.33	22.20
3	16QAM	1	0	22.37	22.56	21.86
3	16QAM	1	7	22.28	22.39	21.69
3	16QAM	1	14	22.23	21.93	21.67
3	16QAM	8	0	21.41	21.37	21.22
3	16QAM	8	4	21.34	21.36	21.20
3	16QAM	8	7	21.30	21.35	21.02
3	16QAM	15	0	21.28	21.23	21.02
Channel				**19957**	**20175**	**20393**
Frequency (MHz)				**1710.7**	**1732.5**	**1754.3**
1.4	QPSK	1	0	23.39	23.28	23.17
1.4	QPSK	1	2	23.38	23.16	23.13
1.4	QPSK	1	5	23.36	23.13	23.12
1.4	QPSK	3	0	23.36	23.25	23.10
1.4	QPSK	3	1	23.34	23.16	23.09
1.4	QPSK	3	2	23.32	23.15	23.06
1.4	QPSK	6	0	22.42	22.30	22.24
1.4	16QAM	1	0	22.54	22.63	22.28
1.4	16QAM	1	2	22.50	22.42	22.13
1.4	16QAM	1	5	22.43	22.36	21.96
1.4	16QAM	3	0	22.44	22.20	22.18
1.4	16QAM	3	1	22.40	22.18	22.15
1.4	16QAM	3	2	22.30	22.11	22.10
1.4	16QAM	6	0	21.38	21.16	21.22

<LTE Band 12 Conducted Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				**23060**	**23095**	**23130**
Frequency (MHz)				**704**	**707.5**	**711**
10	QPSK	1	0	23.02	23.02	23.07
10	QPSK	1	24	23.12	23.03	23.10
10	QPSK	1	49	**23.25**	23.05	23.12
10	QPSK	25	0	22.06	22.02	22.11
10	QPSK	25	12	22.10	22.05	22.17
10	QPSK	25	24	22.15	22.14	22.21
10	QPSK	50	0	22.15	22.22	22.14
10	16QAM	1	0	21.64	22.32	22.19
10	16QAM	1	24	22.13	22.33	22.20
10	16QAM	1	49	22.21	22.43	22.23
10	16QAM	25	0	21.09	22.05	22.14
10	16QAM	25	12	21.21	22.13	22.15
10	16QAM	25	24	21.23	22.15	22.19
10	16QAM	50	0	21.15	21.22	21.11
Channel				**23035**	**23095**	**23155**
Frequency (MHz)				**701.5**	**707.5**	**713.5**
5	QPSK	1	0	22.98	22.89	23.05
5	QPSK	1	12	23.01	23.01	23.10
5	QPSK	1	24	23.06	23.07	23.14
5	QPSK	12	0	22.06	22.07	22.13
5	QPSK	12	6	22.07	22.09	22.16
5	QPSK	12	11	22.17	22.11	22.20
5	QPSK	25	0	22.02	22.21	22.12
5	16QAM	1	0	22.03	21.90	21.67
5	16QAM	1	12	22.05	21.93	21.87
5	16QAM	1	24	22.12	22.27	22.14
5	16QAM	12	0	21.09	22.04	21.99
5	16QAM	12	6	21.11	22.11	22.03
5	16QAM	12	11	21.12	22.16	22.09
5	16QAM	25	0	21.05	21.25	21.19

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				**23025**	**23095**	**23165**
Frequency (MHz)				**700.5**	**707.5**	**714.5**
3	QPSK	1	0	22.92	22.95	22.90
3	QPSK	1	7	22.99	22.99	22.94
3	QPSK	1	14	23.03	23.13	23.05
3	QPSK	8	0	22.03	22.13	22.03
3	QPSK	8	4	22.10	22.16	22.09
3	QPSK	8	7	22.14	22.22	22.13
3	QPSK	15	0	22.08	22.11	22.15
3	16QAM	1	0	21.80	22.17	21.89
3	16QAM	1	7	22.22	22.19	22.13
3	16QAM	1	14	22.28	22.28	22.20
3	16QAM	8	0	21.07	22.03	22.06
3	16QAM	8	4	21.11	22.04	22.09
3	16QAM	8	7	21.12	22.19	22.11
3	16QAM	15	0	21.07	21.24	21.09
Channel				**23017**	**23095**	**23173**
Frequency (MHz)				**699.7**	**707.5**	**715.3**
1.4	QPSK	1	0	23.05	23.06	23.05
1.4	QPSK	1	2	23.06	23.11	23.10
1.4	QPSK	1	5	23.11	23.13	23.16
1.4	QPSK	3	0	23.07	23.07	22.90
1.4	QPSK	3	1	23.09	23.09	22.92
1.4	QPSK	3	2	23.10	23.10	22.96
1.4	QPSK	6	0	22.09	22.18	22.09
1.4	16QAM	1	0	21.73	22.05	22.06
1.4	16QAM	1	2	22.21	22.12	22.10
1.4	16QAM	1	5	22.26	22.41	22.20
1.4	16QAM	3	0	22.07	21.91	21.87
1.4	16QAM	3	1	22.11	22.06	22.01
1.4	16QAM	3	2	22.14	22.12	22.06
1.4	16QAM	6	0	21.01	21.14	21.03

<LTE Band 17 Conducted Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				**23780**	**23790**	**23800**
Frequency (MHz)				**709**	**710**	**711**
10	QPSK	1	0	23.00	23.10	23.04
10	QPSK	1	24	23.01	23.20	23.12
10	QPSK	1	49	23.13	**23.22**	23.13
10	QPSK	25	0	21.98	22.08	22.03
10	QPSK	25	12	22.10	22.12	22.06
10	QPSK	25	24	22.15	22.17	22.22
10	QPSK	50	0	22.17	22.14	22.16
10	16QAM	1	0	21.85	21.79	21.80
10	16QAM	1	24	22.13	21.89	21.84
10	16QAM	1	49	22.30	22.04	22.15
10	16QAM	25	0	21.12	21.04	21.07
10	16QAM	25	12	21.15	21.09	21.19
10	16QAM	25	24	21.18	21.22	21.23
10	16QAM	50	0	21.11	21.16	21.03
Channel				**23755**	**23790**	**23825**
Frequency (MHz)				**706.5**	**710**	**713.5**
5	QPSK	1	0	23.02	23.02	22.92
5	QPSK	1	12	23.07	23.10	23.14
5	QPSK	1	24	23.09	23.19	23.18
5	QPSK	12	0	22.30	22.04	22.04
5	QPSK	12	6	22.34	22.06	22.09
5	QPSK	12	11	22.39	22.12	22.12
5	QPSK	25	0	22.22	22.03	22.17
5	16QAM	1	0	22.10	22.17	22.03
5	16QAM	1	12	22.13	22.20	22.22
5	16QAM	1	24	22.21	22.26	22.24
5	16QAM	12	0	20.92	21.10	20.98
5	16QAM	12	6	21.17	21.14	21.05
5	16QAM	12	11	21.19	21.18	21.07
5	16QAM	25	0	21.19	21.13	21.08

Note: maximum average power for LTE.

3.2 Peak-to-Average Ratio

3.2.1 Description of the PAR Measurement

Power Complementary Cumulative Distribution Function (CCDF) curves provide a means for characterizing the power peaks of a digitally modulated signal on a statistical basis. A CCDF curve depicts the probability of the peak signal amplitude exceeding the average power level. Most contemporary measurement instrumentation include the capability to produce CCDF curves for an input signal provided that the instrument's resolution bandwidth can be set wide enough to accommodate the entire input signal bandwidth. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

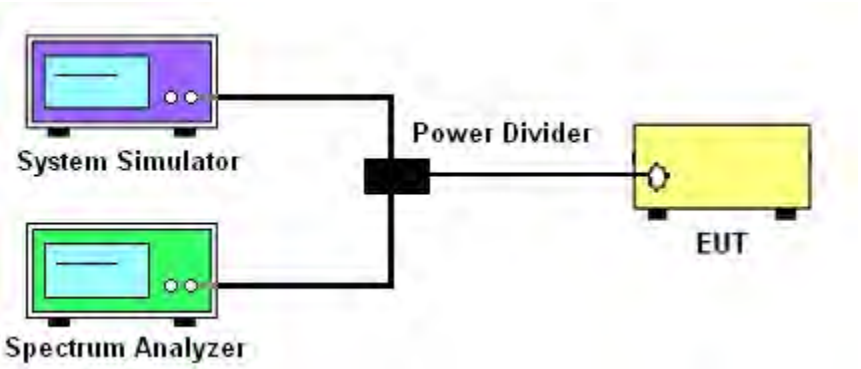
3.2.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.2.3 Test Procedures

1. The EUT was connected to spectrum and system simulator via a power divider.
2. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
3. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.
4. Record the deviation as Peak to Average Ratio.

3.2.4 Test Setup



3.2.5 Test Result of Peak-to-Average Ratio

LTE Band 2						
BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				18700	18900	19100
Frequency (MHz)				1860	1880	1900
20	16QAM	1	0	5.88	6.55	6.09
20	16QAM	100	0	6.09	6.26	6.41

LTE Band 4						
BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				20050	20175	20300
Frequency (MHz)				1720	1732.5	1745
20	16QAM	1	0	5.22	5.97	6.41
20	16QAM	100	0	5.97	6.23	6.20

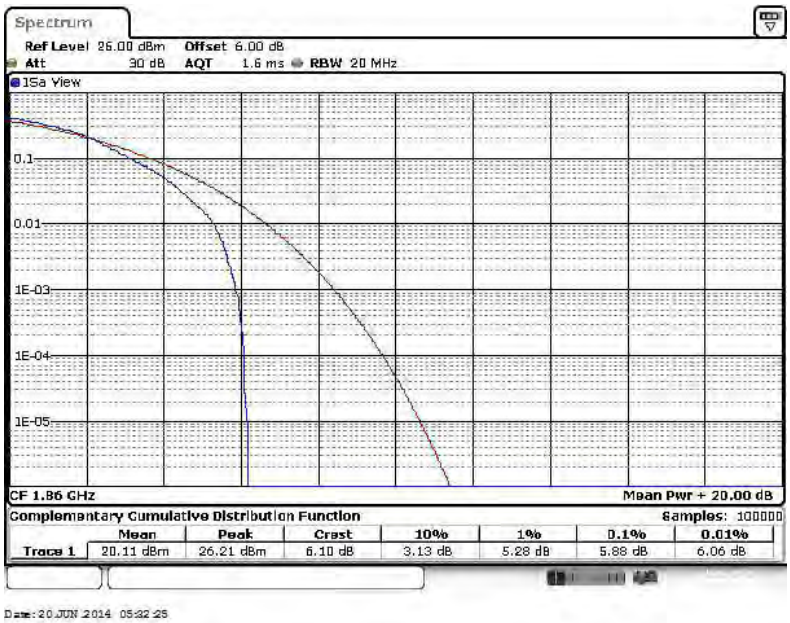
LTE Band 12						
BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				23060	23095	23130
Frequency (MHz)				704.0	707.5	711
10	16QAM	1	0	5.48	5.54	5.57
10	16QAM	50	0	5.94	5.83	5.80

LTE Band 17						
BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				23780	23790	23800
Frequency (MHz)				709	710	711
10	16QAM	1	0	5.83	6.17	6.09
10	16QAM	50	0	6.12	5.94	6.03

3.2.6 Peak to Average Power Ratio

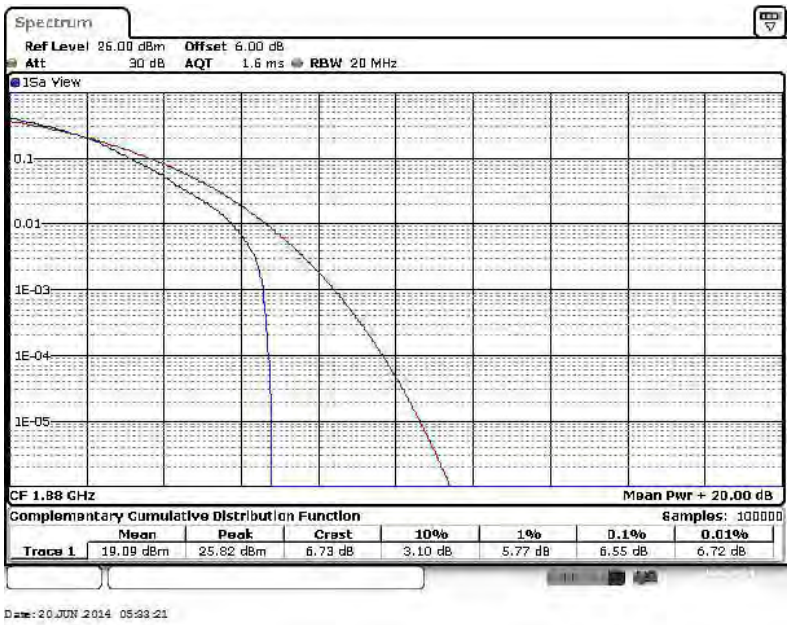
Peak-to-Average Ratio on LTE Band 2

20MHz / 16QAM in Ch. 18700 (1RB Size)



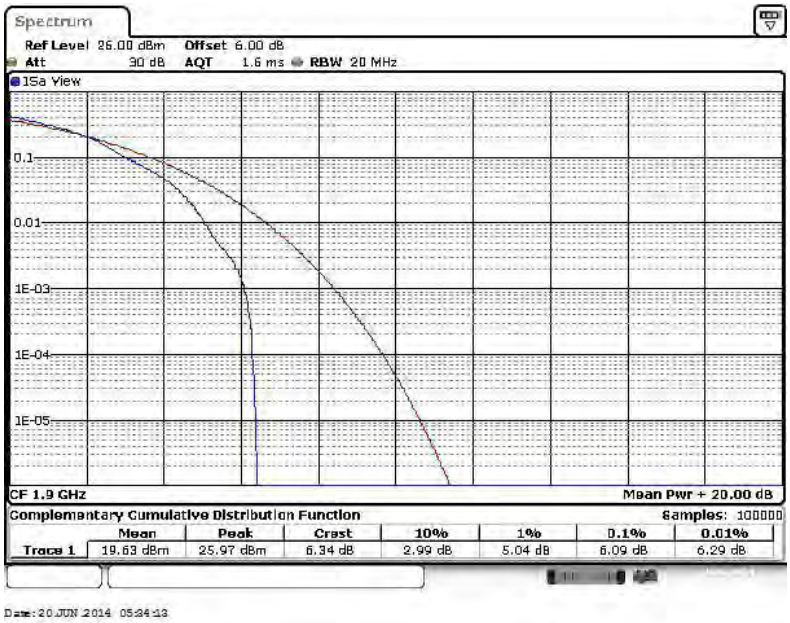
Peak-to-Average Ratio on LTE Band 2

20MHz / 16QAM in Ch. 18900 (1RB Size)



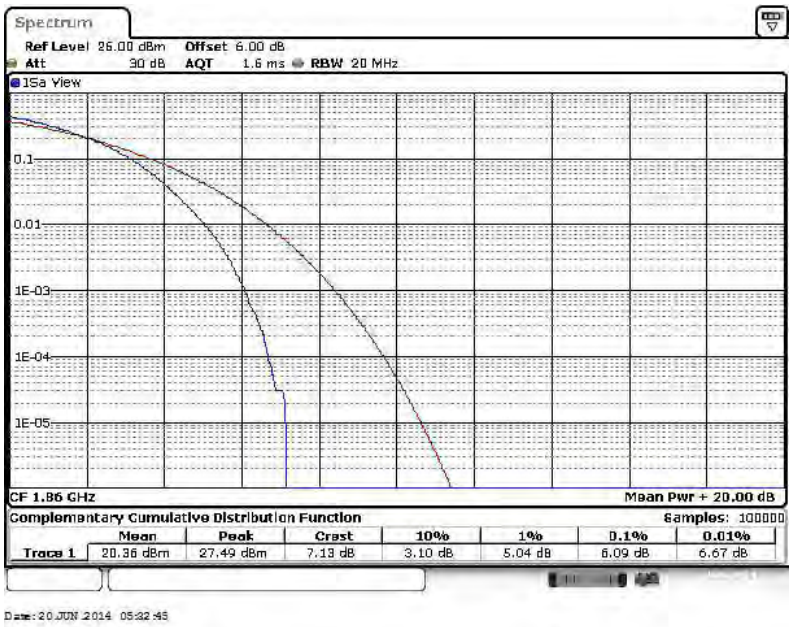
Peak-to-Average Ratio on LTE Band 2

20MHz / 16QAM in Ch. 19100 (1RB Size)



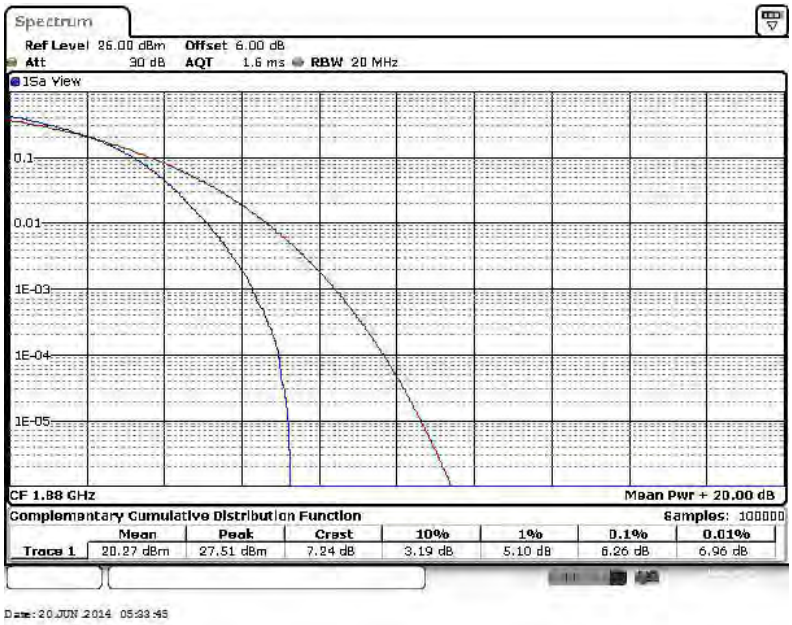
Peak-to-Average Ratio on LTE Band 2

20MHz / 16QAM in Ch. 18700 (100RB Size)



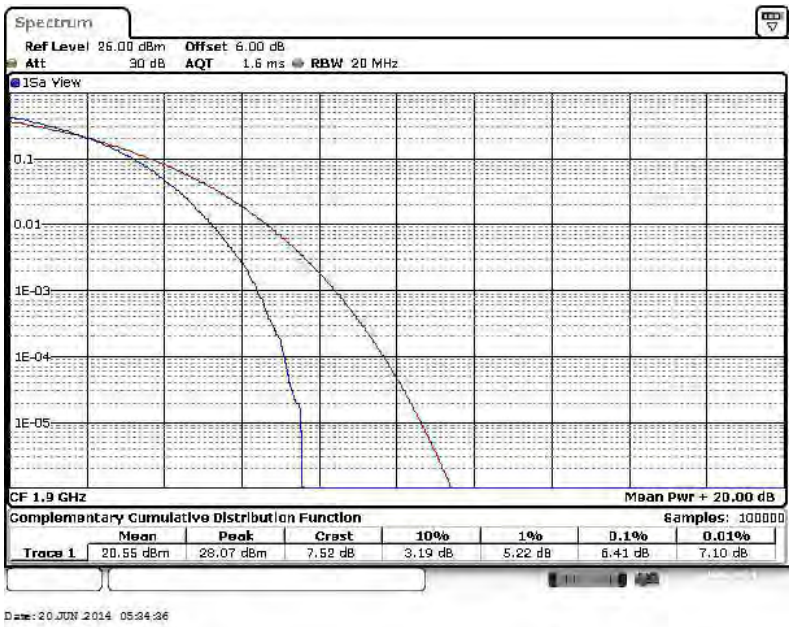
Peak-to-Average Ratio on LTE Band 2

20MHz / 16QAM in Ch. 18900 (100RB Size)



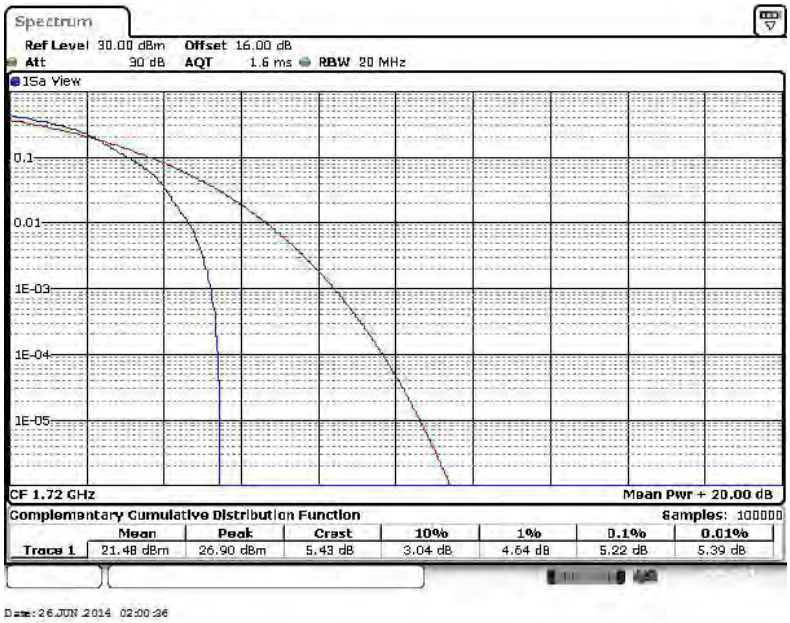
Peak-to-Average Ratio on LTE Band 2

20MHz / 16QAM in Ch. 19100 (100RB Size)



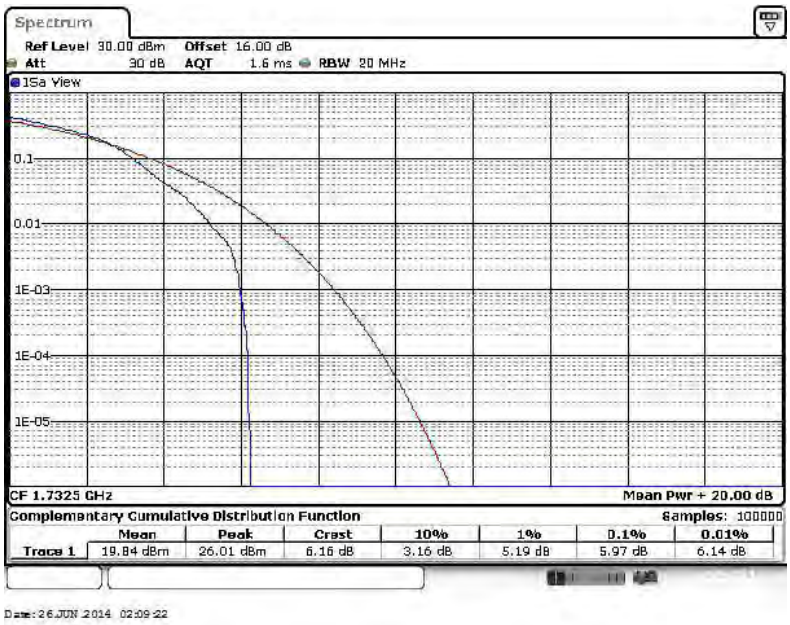
Peak-to-Average Ratio on LTE Band 4

20MHz / 16QAM in Ch. 20050 (1RB Size)



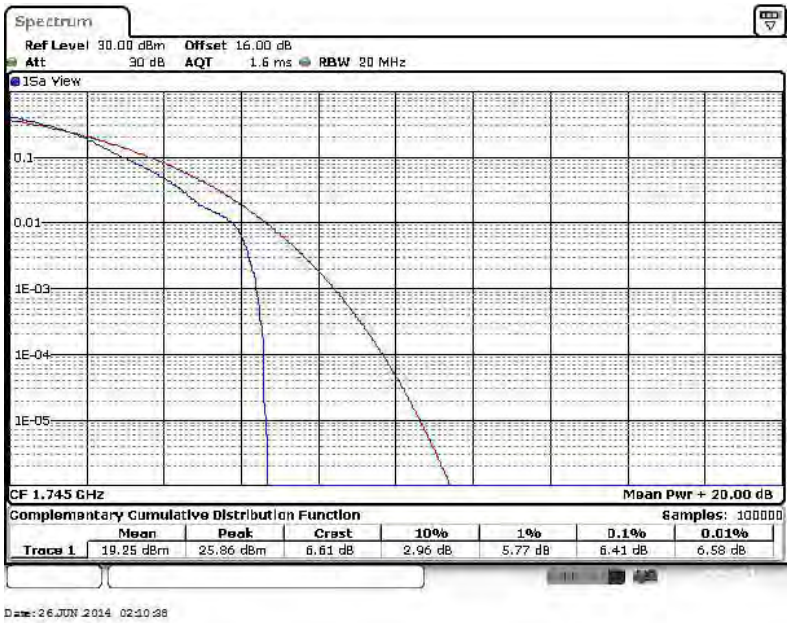
Peak-to-Average Ratio on LTE Band 4

20MHz / 16QAM in Ch. 20175 (1RB Size)



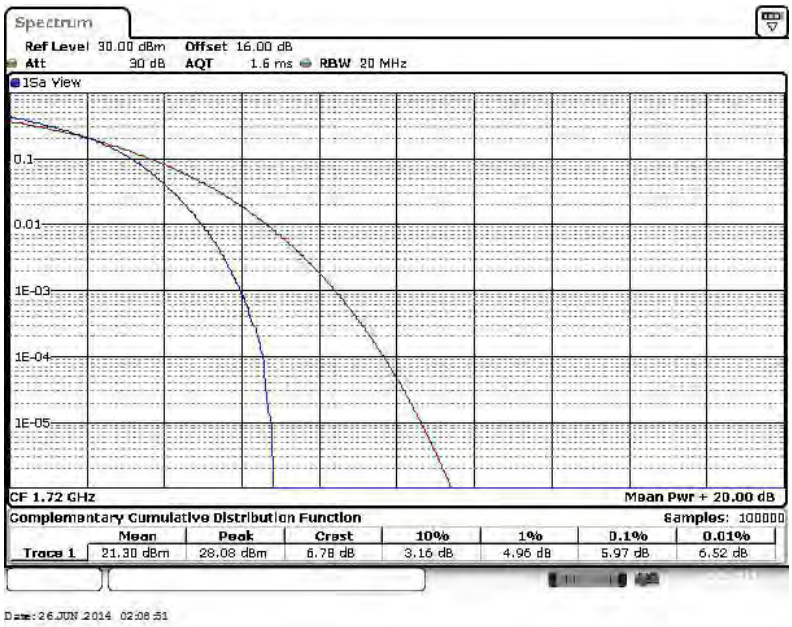
Peak-to-Average Ratio on LTE Band 4

20MHz / 16QAM in Ch. 20300 (1RB Size)



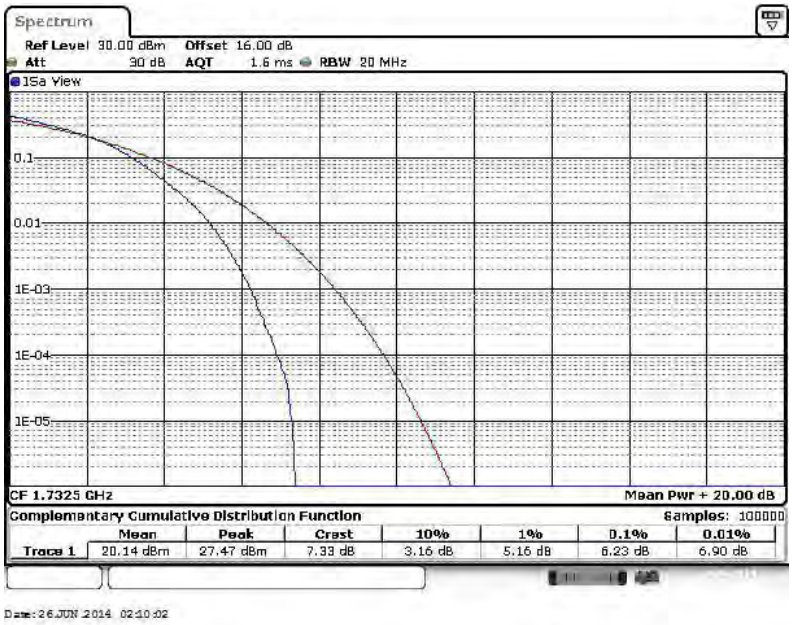
Peak-to-Average Ratio on LTE Band 4

20MHz / 16QAM in Ch. 20500 (100RB Size)



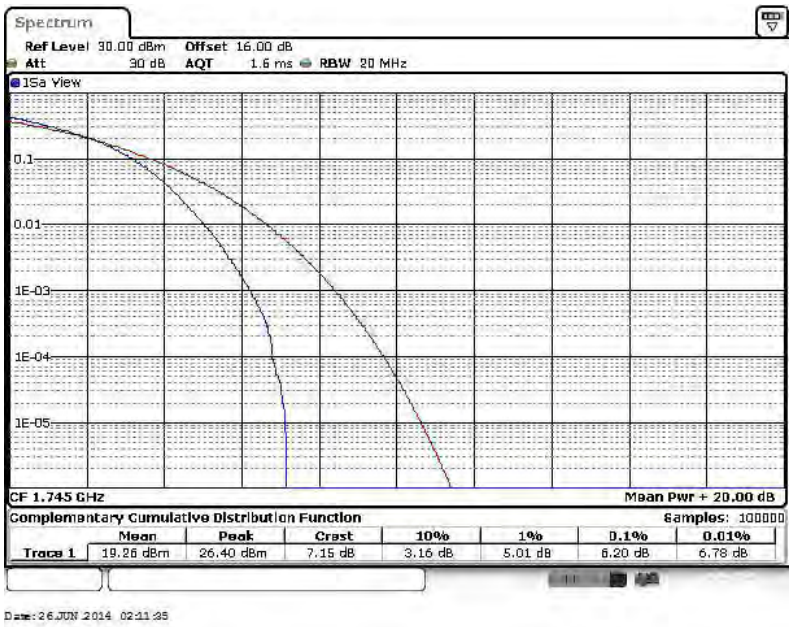
Peak-to-Average Ratio on LTE Band 4

20MHz / 16QAM in Ch. 201750 (100RB Size)



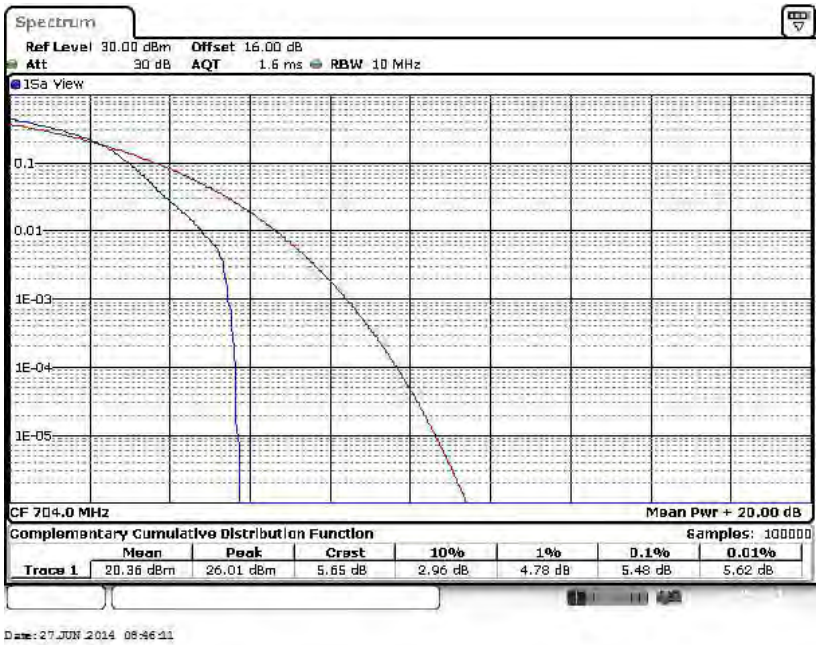
Peak-to-Average Ratio on LTE Band 4

20MHz / 16QAM in Ch. 20300 (100RB Size)



Peak-to-Average Ratio on LTE Band 12

10MHz / 16QAM in Ch. 23060 (1RB Size)



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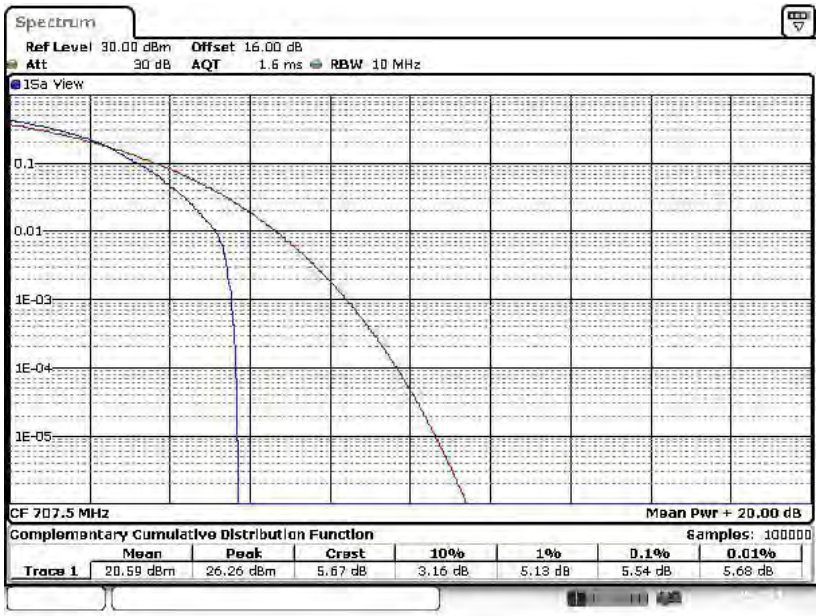
Peak-to-Average Ratio on LTE Band 12

10MHz / 16QAM in Ch. 23095 (1RB Size)



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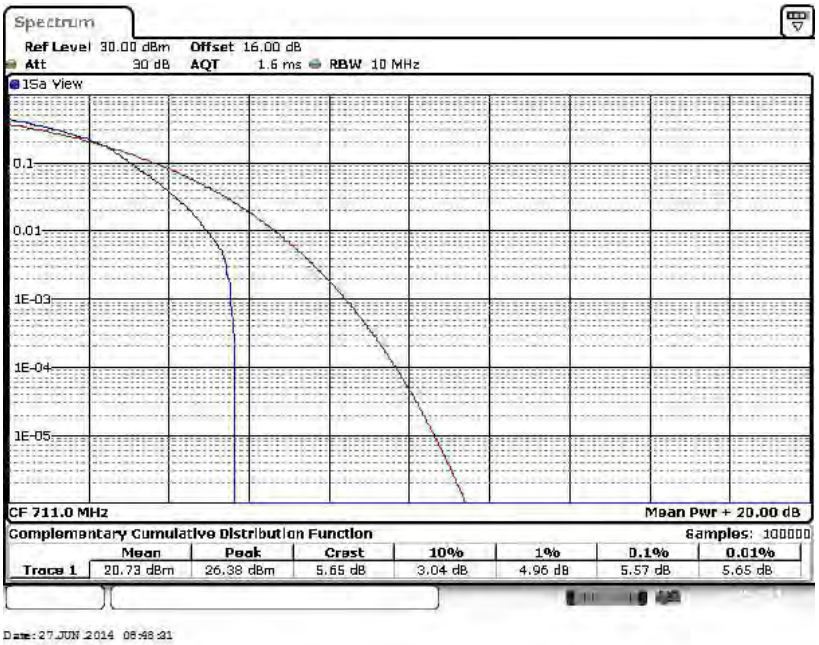
Peak-to-Average Ratio on LTE Band 12

10MHz / 16QAM in Ch. 23130 (1RB Size)



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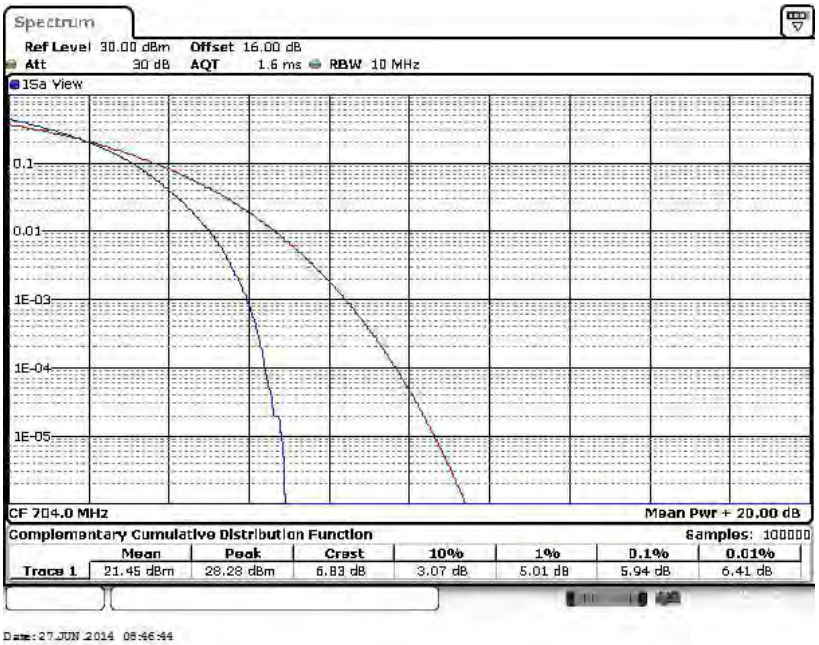
Peak-to-Average Ratio on LTE Band 12

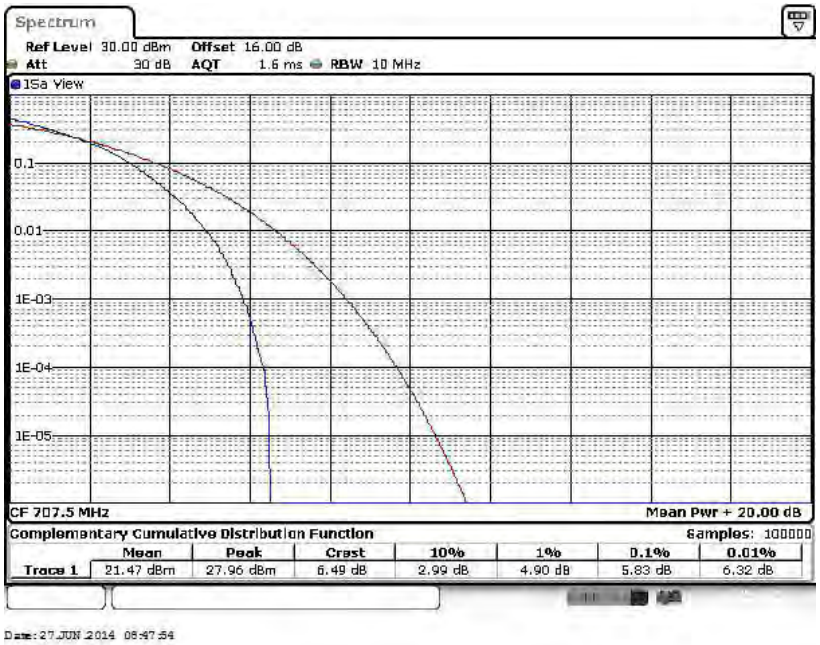
10MHz / 16QAM in Ch. 23060(50RB Size)



Date: 27.JUN.2014 08:46:44

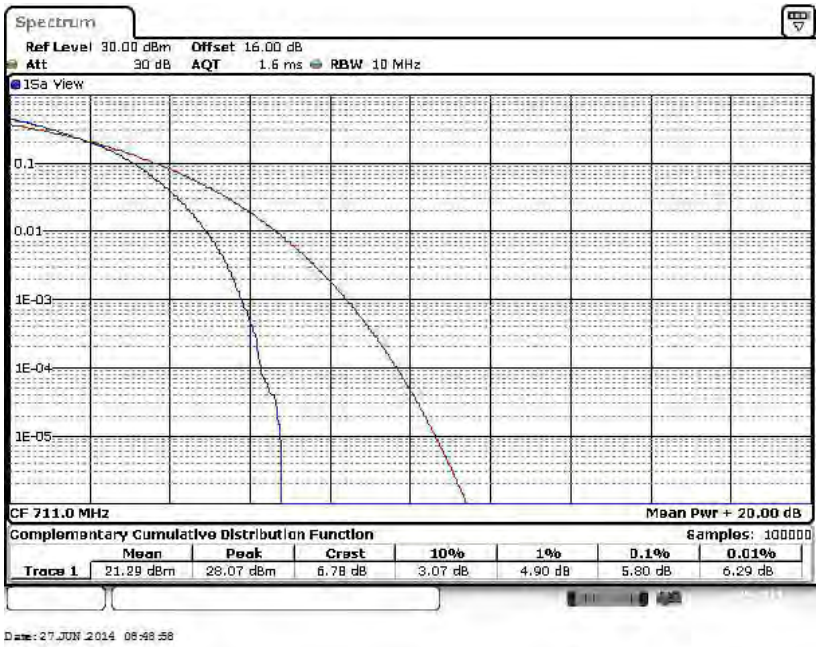
Peak-to-Average Ratio on LTE Band 12

10MHz / 16QAM in Ch. 23095 (50RB Size)



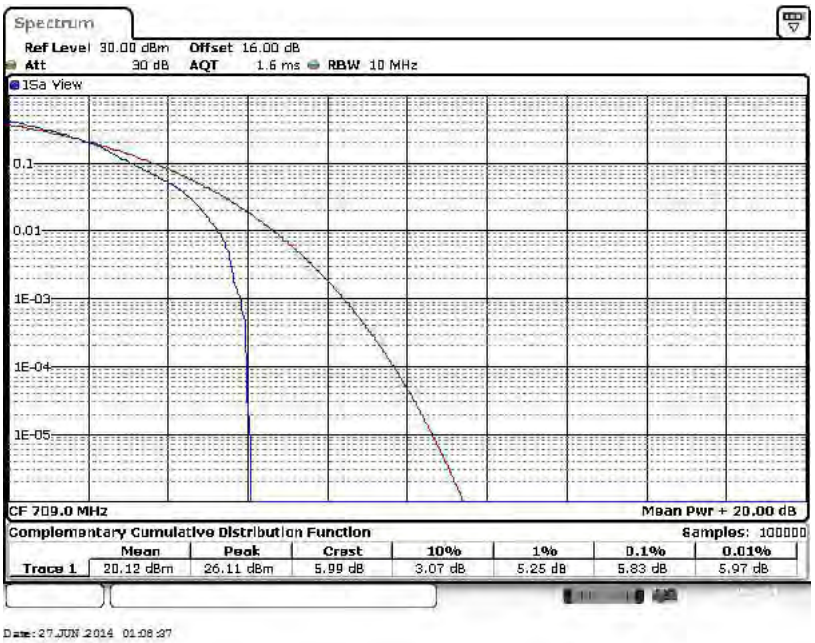
Peak-to-Average Ratio on LTE Band 12

10MHz / 16QAM in Ch. 23130(50RB Size)



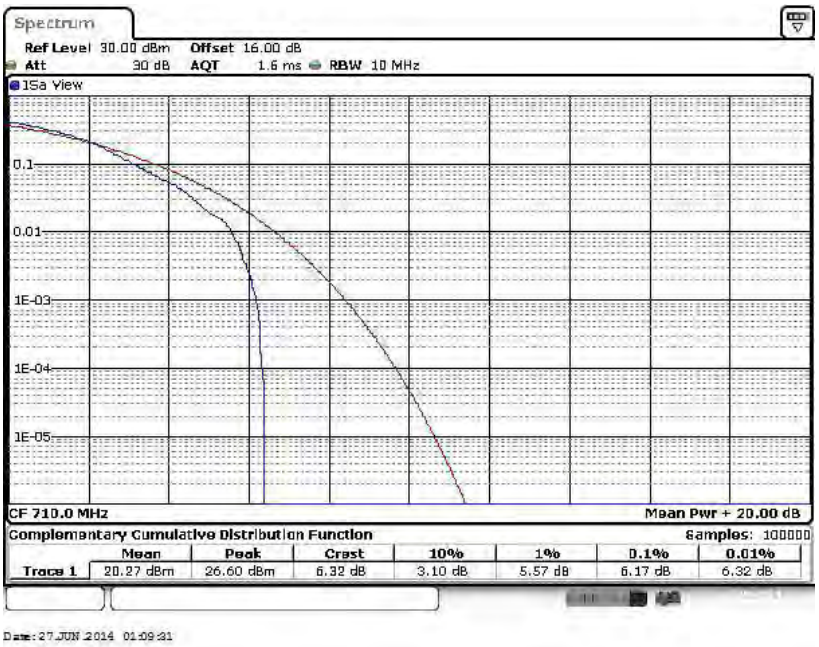
Peak-to-Average Ratio on LTE Band 17

10MHz / 16QAM in Ch. 23780 (1RB Size)



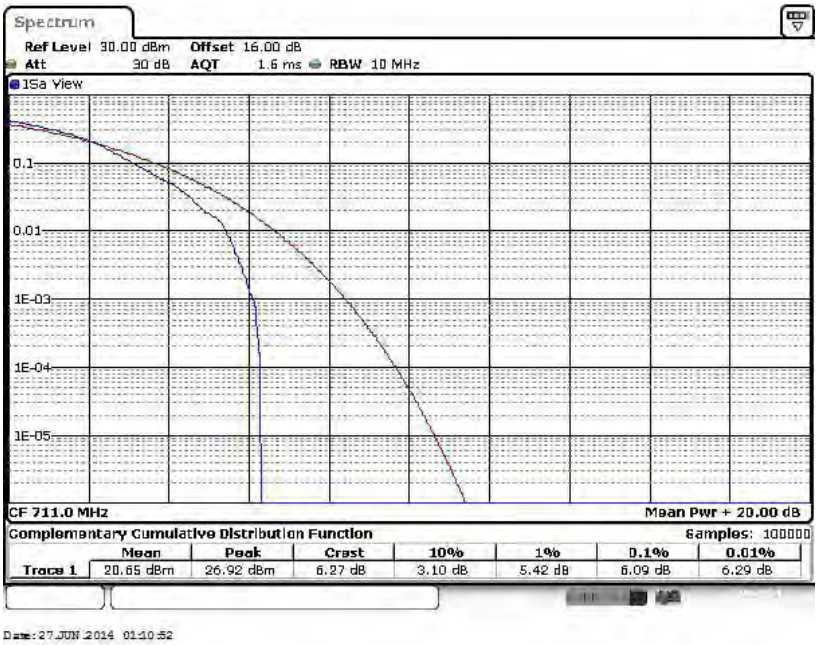
Peak-to-Average Ratio on LTE Band 17

10MHz / 16QAM in Ch. 23790 (1RB Size)



Peak-to-Average Ratio on LTE Band 17

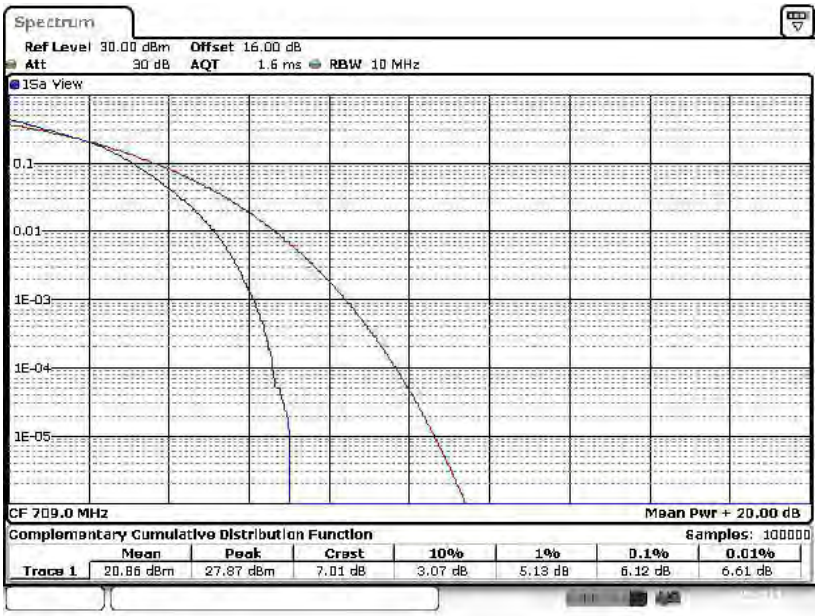
10MHz / 16QAM in Ch. 23800 (1RB Size)



Date: 27.JUN.2014 01:10:52

Peak-to-Average Ratio on LTE Band 17

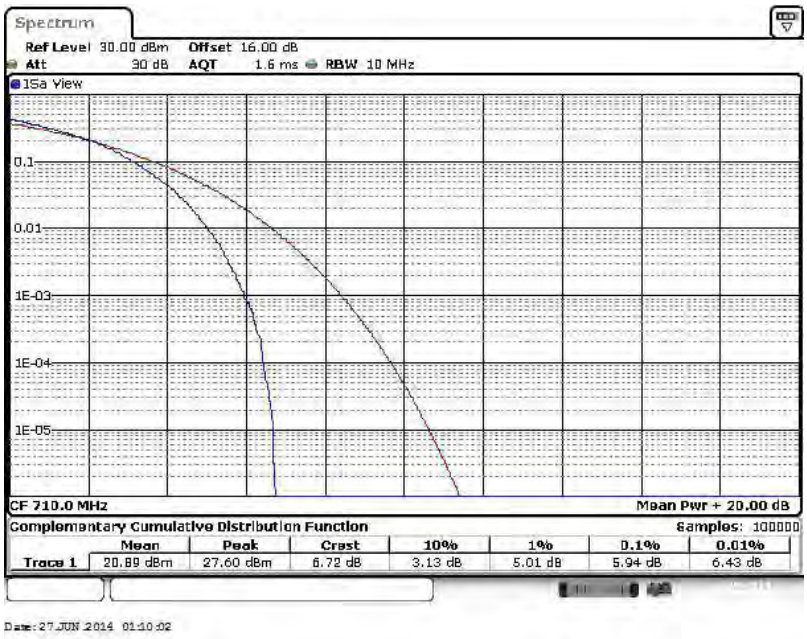
10MHz / 16QAM in Ch. 23780 (50RB Size)



Date: 27.JUN.2014 01:09:06

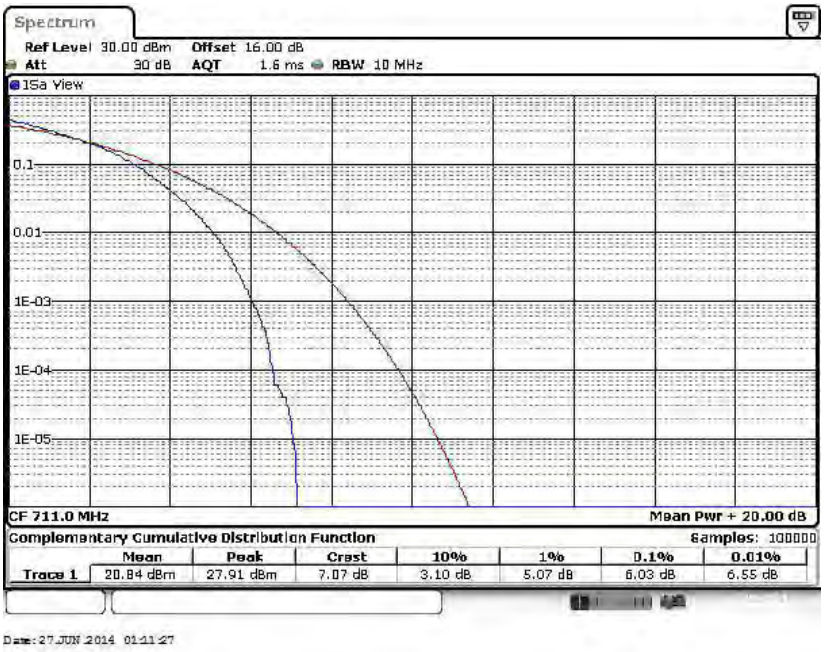
Peak-to-Average Ratio on LTE Band 17

10MHz / 16QAM in Ch. 23790 (50RB Size)



Peak-to-Average Ratio on LTE Band 17

10MHz / 16QAM in Ch. 23800 (50RB Size)



3.3 Effective Radiated Power and Equivalent Isotropic Radiated Power Measurement

3.3.1 Description of the ERP/EIRP Measurement

Effective radiated power output measurements by substitution method according to ANSI / TIA / EIA-603-C-2004, and the spectrum analyzer configuration follows KDB 971168 D01 Power Meas. License Digital Systems v02r01. Mobile and portable (hand-held) stations operating are limited to average 3 watts with LTE band 12/17.

Equivalent isotropic radiated power output measurements by substitution method according to ANSI / TIA / EIA-603-C-2004, and the spectrum analyzer configuration follows KDB 971168 D01 Power Meas. License Digital Systems v02r01. Mobile and portable (hand-held) stations operating are limited to average EIRP of 2 watts with LTE band 2 and 1 watt with LTE band 4.

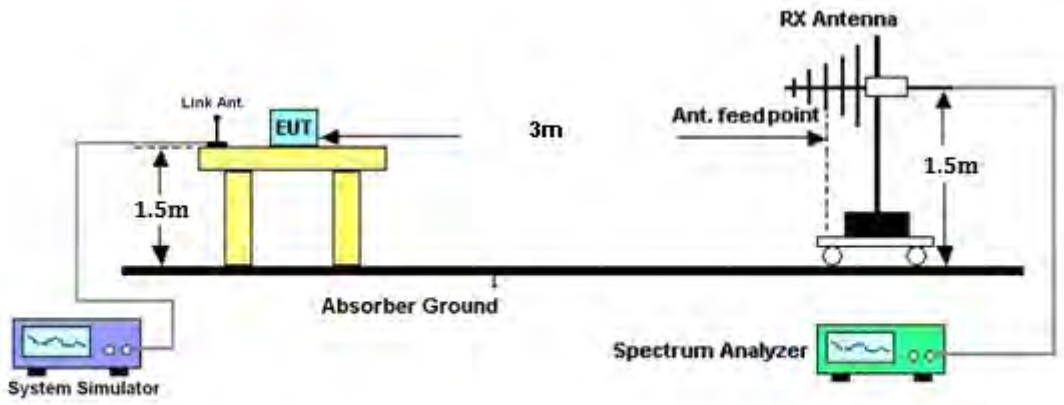
3.3.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.3.3 Test Procedures

1. The EUT was placed on a turntable 1.5 meters high in a fully anechoic chamber.
2. The EUT was placed 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. GSM operating modes: Set RBW= 1MHz, VBW= 3MHz, RMS detector over burst;
   UMTS operating modes: Set RBW= 100 kHz, VBW= 300 kHz, RMS detector over frame, and use channel power option with bandwidth=5MHz, per KDB 971168 D01.
4. The table was rotated 360 degrees to determine the position of the highest radiated power.
5. The height of the receiving antenna is adjusted to look for the maximum ERP/EIRP.
6. Taking the record of maximum ERP/EIRP.
7. A dipole antenna was substituted in place of the EUT and was driven by a signal generator.
8. The conducted power at the terminal of the dipole antenna is measured.
9. Repeat step 3 to step 5 to get the maximum ERP/EIRP of the substitution antenna.
10. ERP/EIRP = Ps + Et – Es + Gs = Ps + Rt – Rs + Gs
    Ps (dBm)：Input power to substitution antenna.
    Gs (dBi or dBd)：Substitution antenna Gain.
    Et = Rt + AF
    Es = Rs + AF
    AF (dB/m)：Receive antenna factor
    Rt：The highest received signal in spectrum analyzer for EUT.
    Rs：The highest received signal in spectrum analyzer for substitution antenna.

3.3.4 Test Setup



3.3.5 Test Result of ERP/EIRP

LTE Band 2 Radiated Power EIRP								
LTE Band	Channel BW (MHz)	Modulation	RB Configuration		Freq. (MHz)	EIRP (dBm)	EIRP (W)	H/V
			RB Size	RB Offset				
2	1.4	QPSK	1	5	1850.7	26.85	0.4838	H
2	1.4	QPSK	1	5	1880	27.30	0.5364	H
2	1.4	QPSK	1	5	1909.3	27.95	0.6231	H
2	1.4	QPSK	1	5	1850.7	27.65	0.5815	V
2	1.4	QPSK	1	5	1880	27.87	0.6119	V
2	1.4	QPSK	1	5	1909.3	28.28	0.6734	V
2	1.4	16QAM	1	5	1850.7	25.92	0.3907	H
2	1.4	16QAM	1	5	1880	26.51	0.4475	H
2	1.4	16QAM	1	5	1909.3	26.86	0.4851	H
2	1.4	16QAM	1	5	1850.7	26.76	0.4738	V
2	1.4	16QAM	1	5	1880	27.06	0.5087	V
2	1.4	16QAM	1	5	1909.3	27.50	0.5627	V
2	20	QPSK	1	99	1860	27.11	0.5146	H
2	20	QPSK	1	99	1880	27.32	0.5398	H
2	20	QPSK	1	99	1900	27.74	0.5949	H
2	20	QPSK	1	99	1860	27.52	0.5653	V
2	20	QPSK	1	99	1880	27.66	0.5839	V
2	20	QPSK	1	99	1900	28.10	0.6459	V
2	20	16QAM	1	99	1860	26.52	0.4486	H
2	20	16QAM	1	99	1880	26.63	0.4607	H
2	20	16QAM	1	99	1900	27.02	0.5030	H
2	20	16QAM	1	99	1860	26.82	0.4806	V
2	20	16QAM	1	99	1880	26.98	0.4985	V
2	20	16QAM	1	99	1900	27.38	0.5473	V

LTE Band 4 Radiated Power EIRP								
LTE Band	Channel BW (MHz)	Modulation	RB Configuration		Freq. (MHz)	EIRP (dBm)	EIRP (W)	H/V
			RB Size	RB Offset				
4	1.4	QPSK	1	0	1710.7	25.65	0.3670	H
4	1.4	QPSK	1	0	1732.5	25.51	0.3556	H
4	1.4	QPSK	1	0	1754.3	25.01	0.3168	H
4	1.4	QPSK	1	0	1710.7	24.62	0.2896	V
4	1.4	QPSK	1	0	1732.5	24.64	0.2911	V
4	1.4	QPSK	1	0	1754.3	24.73	0.2970	V
4	1.4	16QAM	1	0	1710.7	24.81	0.3028	H
4	1.4	16QAM	1	0	1732.5	24.63	0.2906	H
4	1.4	16QAM	1	0	1754.3	24.31	0.2700	H
4	1.4	16QAM	1	0	1710.7	23.79	0.2392	V
4	1.4	16QAM	1	0	1732.5	23.92	0.2467	V
4	1.4	16QAM	1	0	1754.3	23.90	0.2453	V
4	10	QPSK	1	0	1715	25.64	0.3663	H
4	10	QPSK	1	0	1732.5	25.60	0.3631	H
4	10	QPSK	1	0	1750	25.27	0.3363	H
4	10	QPSK	1	0	1715	24.45	0.2786	V
4	10	QPSK	1	0	1732.5	24.50	0.2817	V
4	10	QPSK	1	0	1750	24.75	0.2984	V
4	10	16QAM	1	0	1715	24.83	0.3043	H
4	10	16QAM	1	0	1732.5	24.72	0.2967	H
4	10	16QAM	1	0	1750	24.60	0.2885	H
4	10	16QAM	1	0	1715	23.68	0.2333	V
4	10	16QAM	1	0	1732.5	23.68	0.2331	V
4	10	16QAM	1	0	1750	23.96	0.2489	V

LTE Band	Channel BW (MHz)	Modulation	RB Configuration		Freq. (MHz)	EIRP (dBm)	EIRP (W)	H/V
			RB Size	RB Offset				
4	20	QPSK	1	0	1720	25.73	0.3740	H
4	20	QPSK	1	0	1732.5	25.58	0.3616	H
4	20	QPSK	1	0	1745	25.37	0.3442	H
4	20	QPSK	1	0	1720	24.42	0.2766	V
4	20	QPSK	1	0	1732.5	24.69	0.2945	V
4	20	QPSK	1	0	1745	24.65	0.2915	V
4	20	16QAM	1	0	1720	24.77	0.3002	H
4	20	16QAM	1	0	1732.5	24.46	0.2794	H
4	20	16QAM	1	0	1745	24.59	0.2878	H
4	20	16QAM	1	0	1720	23.59	0.2287	V
4	20	16QAM	1	0	1732.5	23.42	0.2197	V
4	20	16QAM	1	0	1745	23.80	0.2398	V

LTE Band 12 Radiated Power ERP								
LTE Band	Channel BW (MHz)	Modulation	RB Configuration		Freq. (MHz)	ERP (dBm)	ERP (W)	H/V
			RB Size	RB Offset				
12	1.4	QPSK	1	5	699.7	20.74	0.1185	H
12	1.4	QPSK	1	5	707.5	21.02	0.1266	H
12	1.4	QPSK	1	5	715.3	21.43	0.1389	H
12	1.4	QPSK	1	5	699.7	4.01	0.0025	V
12	1.4	QPSK	1	5	707.5	3.61	0.0023	V
12	1.4	QPSK	1	5	715.3	3.20	0.0021	V
12	1.4	16QAM	1	5	699.7	20.06	0.1014	H
12	1.4	16QAM	1	5	707.5	20.23	0.1055	H
12	1.4	16QAM	1	5	715.3	20.62	0.1152	H
12	1.4	16QAM	1	5	699.7	3.46	0.0022	V
12	1.4	16QAM	1	5	707.5	2.88	0.0019	V
12	1.4	16QAM	1	5	715.3	2.69	0.0019	V
12	10	QPSK	1	49	704	21.17	0.1308	H
12	10	QPSK	1	49	707.5	21.01	0.1261	H
12	10	QPSK	1	49	711	21.41	0.1383	H
12	10	QPSK	1	49	704	3.55	0.0023	V
12	10	QPSK	1	49	707.5	3.47	0.0022	V
12	10	QPSK	1	49	711	3.74	0.0024	V
12	10	16QAM	1	49	704	20.52	0.1127	H
12	10	16QAM	1	49	707.5	20.23	0.1054	H
12	10	16QAM	1	49	711	20.49	0.1121	H
12	10	16QAM	1	49	704	2.83	0.0019	V
12	10	16QAM	1	49	707.5	2.64	0.0018	V
12	10	16QAM	1	49	711	2.90	0.0019	V

LTE Band 17 Radiated Power ERP								
LTE Band	Channel BW (MHz)	Modulation	RB Configuration		Freq. (MHz)	ERP (dBm)	ERP (W)	H/V
			RB Size	RB Offset				
17	5	QPSK	1	24	706.5	20.75	0.1189	H
17	5	QPSK	1	24	710	20.71	0.1177	H
17	5	QPSK	1	24	713.5	21.37	0.1372	H
17	5	QPSK	1	24	706.5	3.22	0.0021	V
17	5	QPSK	1	24	710	2.90	0.0019	V
17	5	QPSK	1	24	713.5	3.23	0.0021	V
17	5	16QAM	1	24	706.5	20.15	0.1034	H
17	5	16QAM	1	24	710	19.95	0.0988	H
17	5	16QAM	1	24	713.5	20.63	0.1156	H
17	5	16QAM	1	24	706.5	2.41	0.0017	V
17	5	16QAM	1	24	710	2.17	0.0016	V
17	5	16QAM	1	24	713.5	2.69	0.0019	V
17	10	QPSK	1	49	709	20.93	0.1240	H
17	10	QPSK	1	49	710	21.08	0.1282	H
17	10	QPSK	1	49	711	21.21	0.1321	H
17	10	QPSK	1	49	709	3.20	0.0021	V
17	10	QPSK	1	49	710	3.32	0.0022	V
17	10	QPSK	1	49	711	3.08	0.0020	V
17	10	16QAM	1	49	709	20.16	0.1037	H
17	10	16QAM	1	49	710	20.19	0.1044	H
17	10	16QAM	1	49	711	20.42	0.1100	H
17	10	16QAM	1	49	709	2.49	0.0018	V
17	10	16QAM	1	49	710	2.39	0.0017	V
17	10	16QAM	1	49	711	2.56	0.0018	V

3.4 99% Occupied Bandwidth and 26dB Bandwidth Measurement

3.4.1 Description of 99% Occupied Bandwidth and 26dB Bandwidth Measurement

The occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean transmitted power.

The 26 dB emission bandwidth is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated 26 dB below the maximum in-band spectral density of the modulated signal. Spectral density (power per unit bandwidth) is to be measured with a detector of resolution bandwidth equal to approximately 1.0% of the emission bandwidth.

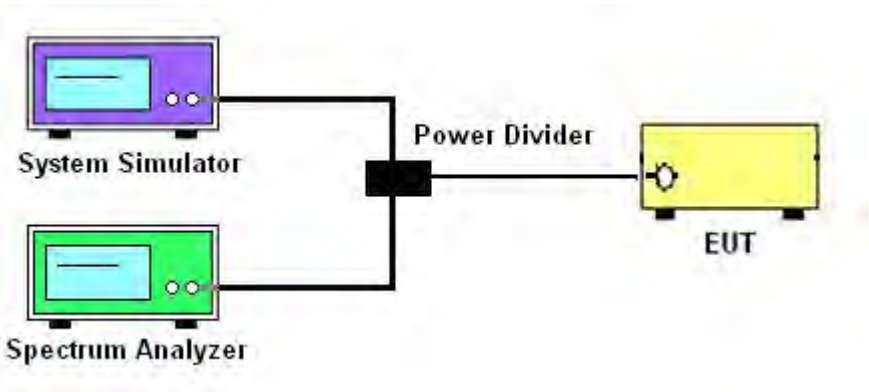
3.4.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.4.3 Test Procedures

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The 26dB and 99% occupied bandwidth (BW) of the middle channel for the highest RF power with full RB sizes were measured.

3.4.4 Test Setup



3.4.5 Test Result of 99% Occupied Bandwidth and 26dB Bandwidth

Modes	LTE Band 2			
BW / Mod.	1.4MHz / QPSK	1.4MHz / 16QAM	3MHz / QPSK	3MHz / 16QAM
99% OBW (MHz)	1.097	1.097	2.715	2.721
26dB BW (MHz)	1.295	1.287	3.039	3.045
BW / Mod.	5MHz / QPSK	5MHz / 16QAM	10MHz / QPSK	10MHz / 16QAM
99% OBW (MHz)	4.486	4.486	9.031	9.011
26dB BW (MHz)	5.025	5.015	10.010	9.950
BW / Mod.	15MHz / QPSK	15MHz / 16QAM	20MHz / QPSK	20MHz / 16QAM
99% OBW (MHz)	13.427	13.397	18.142	18.142
26dB BW (MHz)	14.595	14.805	20.420	20.180

Modes	LTE Band 4			
BW / Mod.	1.4MHz / QPSK	1.4MHz / 16QAM	3MHz / QPSK	3MHz / 16QAM
99% OBW (MHz)	1.097	1.097	2.721	2.727
26dB BW (MHz)	1.298	1.284	3.051	3.045
BW / Mod.	5MHz / QPSK	5MHz / 16QAM	10MHz / QPSK	10MHz / 16QAM
99% OBW (MHz)	4.486	4.486	9.051	9.011
26dB BW (MHz)	5.015	5.015	10.090	9.950
BW / Mod.	15MHz / QPSK	15MHz / 16QAM	20MHz / QPSK	20MHz / 16QAM
99% OBW (MHz)	13.487	13.457	18.382	18.302
26dB BW (MHz)	14.745	14.775	20.300	20.340

Modes	LTE Band 12			
BW / Mod.	1.4MHz / QPSK	1.4MHz / 16QAM	3MHz / QPSK	3MHz / 16QAM
99% OBW (MHz)	1.097	1.097	2.721	2.721
26dB BW (MHz)	1.278	1.295	3.045	3.045
BW / Mod.	5MHz / QPSK	5MHz / 16QAM	10MHz / QPSK	10MHz / 16QAM
99% OBW (MHz)	4.486	4.496	9.091	9.051
26dB BW (MHz)	5.025	5.045	10.050	10.030

Modes	LTE Band 17			
BW / Mod.	5MHz / QPSK	5MHz / 16QAM	10MHz / QPSK	10MHz / 16QAM
99% OBW (MHz)	4.496	4.496	9.111	9.031
26dB BW (MHz)	5.035	5.045	10.030	10.030

Note:

The maximum RB configurations of the 99% Occupied Bandwidth and 26dB Bandwidth summary as below:

BW1.4MHz RB setting：RB Size 6, RB offset 0

BW3.0MHz RB setting：RB Size 15, RB offset 0

BW5.0MHz RB setting：RB Size 25, RB offset 0

BW10MHz RB setting：RB Size 50, RB offset 0

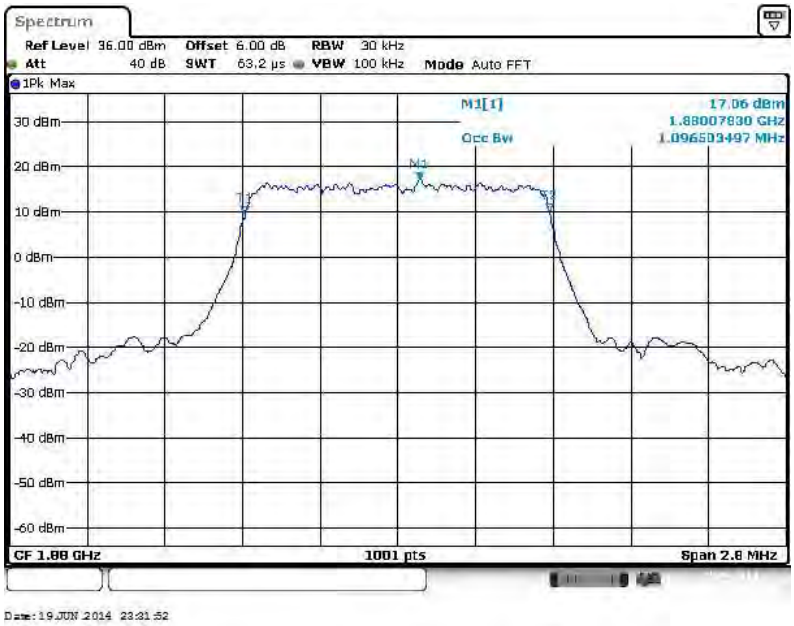
BW15MHz RB setting：RB Size 75, RB offset 0

BW20MHz RB setting：RB Size 100, RB offset 0

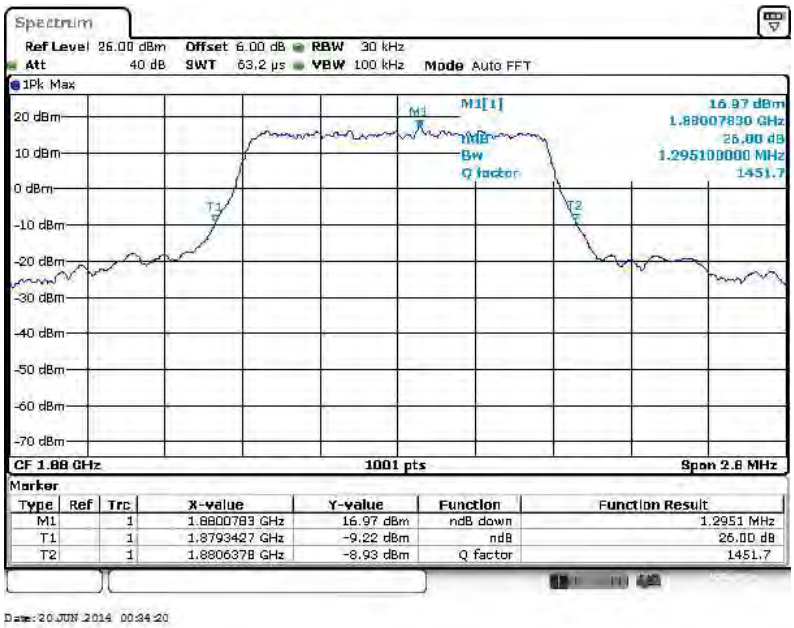
3.4.6 Test Result (Plots) of Occupied Bandwidth

Band :	LTE Band 2	BW / Mod. :	1.4MHz / QPSK

99% Occupied Bandwidth Plot on Channel 18900

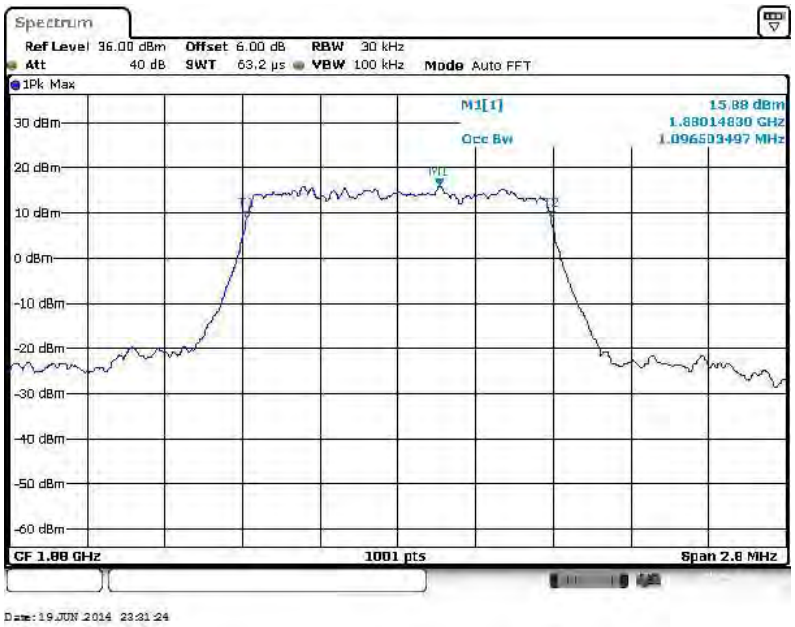


26dB Bandwidth Plot on Channel 18900

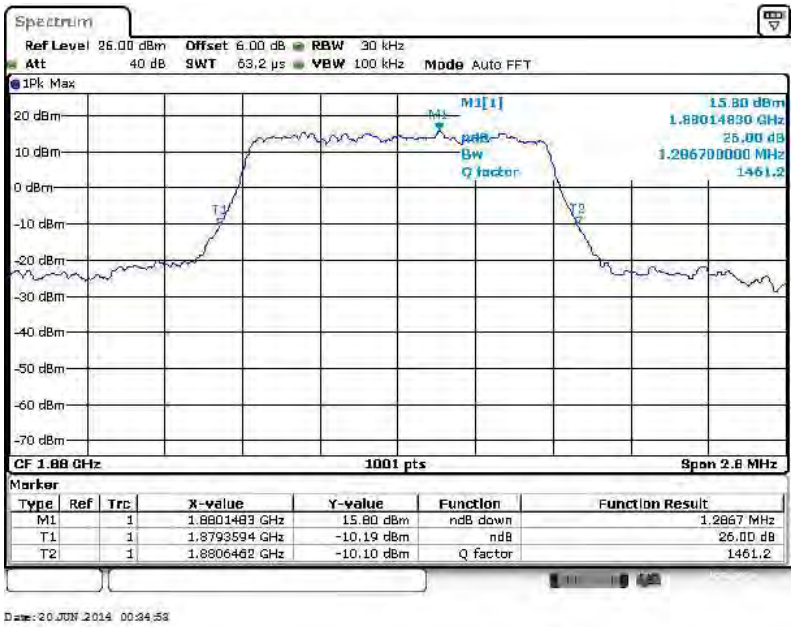


Band :	LTE Band 2	BW / Mod. :	1.4MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 18900

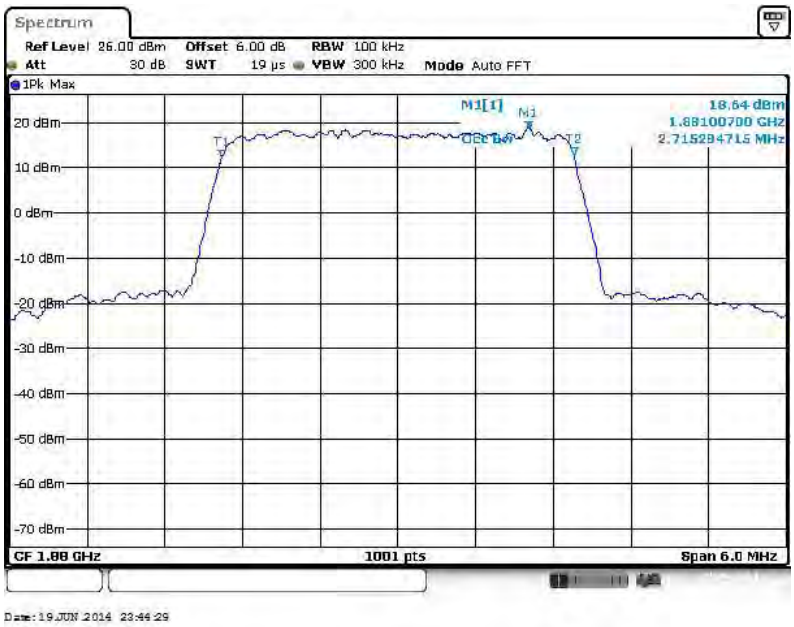


26dB Bandwidth Plot on Channel 18900

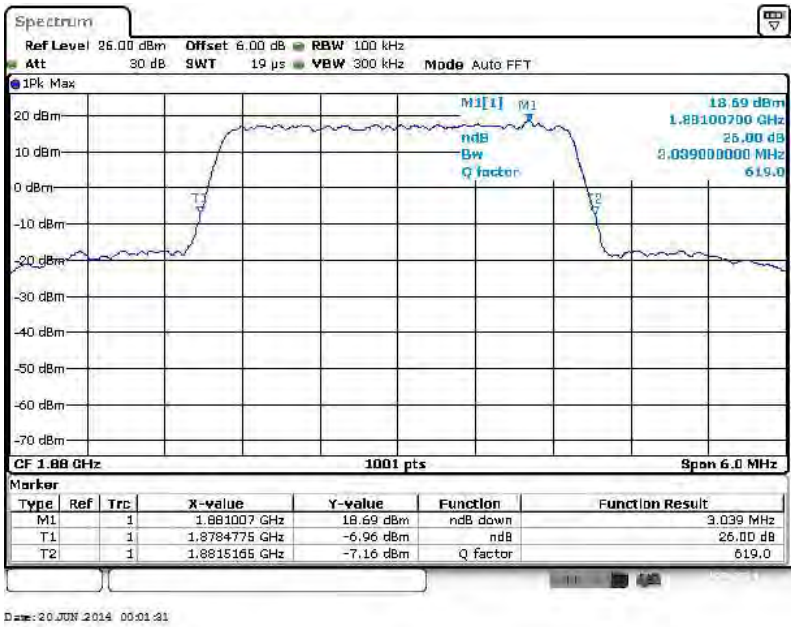


Band :	LTE Band 2	BW / Mod. :	3MHz / QPSK

99% Occupied Bandwidth Plot on Channel 18900

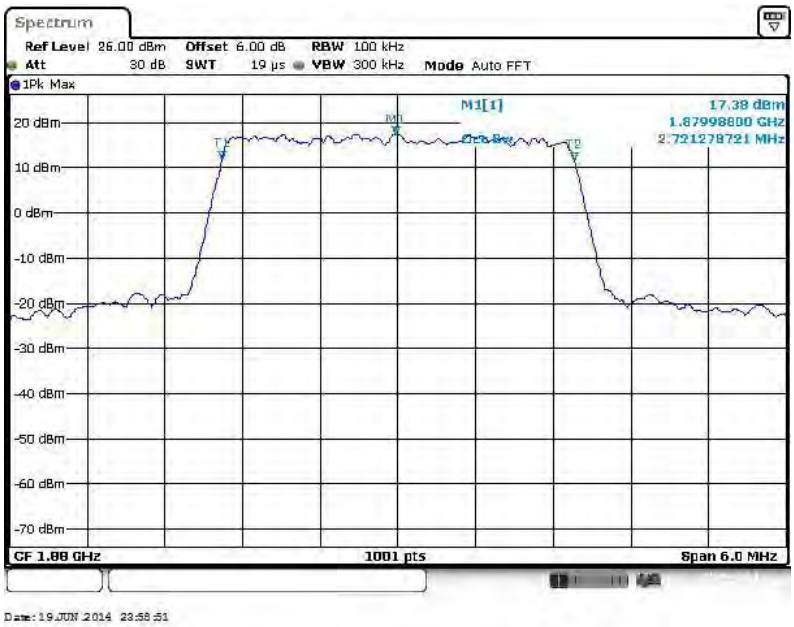


26dB Bandwidth Plot on Channel 18900

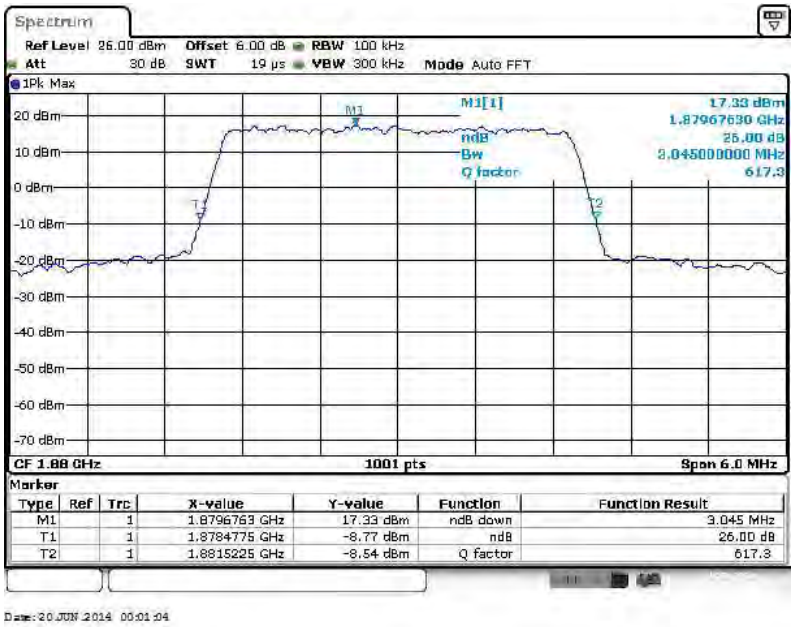


Band :	LTE Band 2	BW / Mod. :	3MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 18900

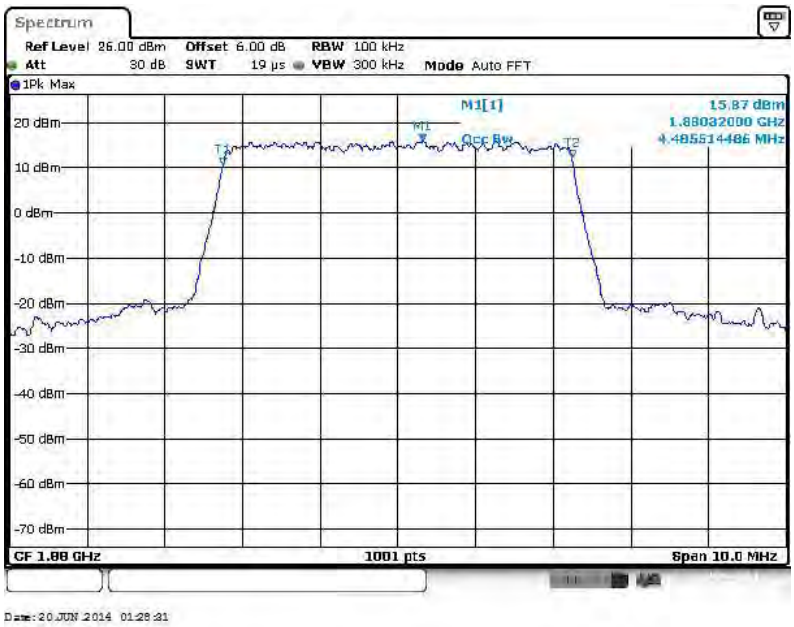


26dB Bandwidth Plot on Channel 18900

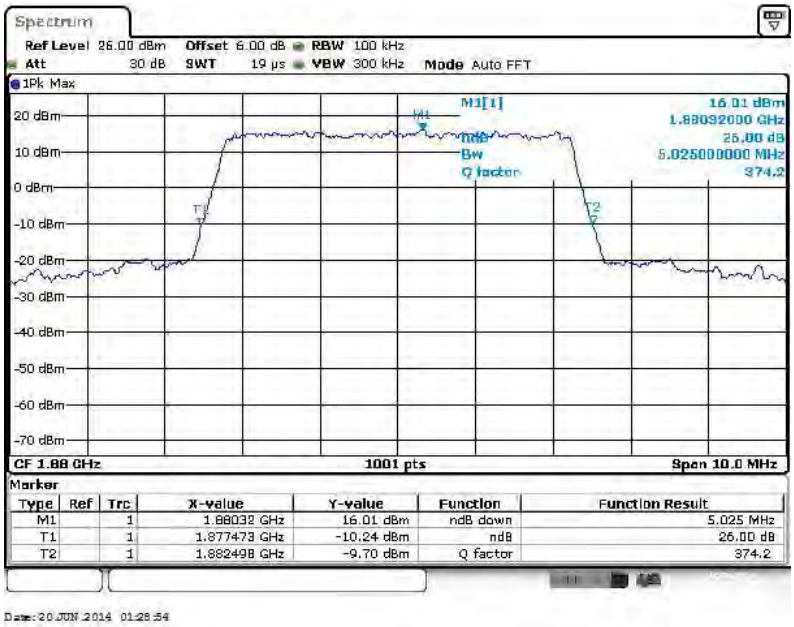


Band :	LTE Band 2	BW / Mod. :	5MHz / QPSK

99% Occupied Bandwidth Plot on Channel 18900

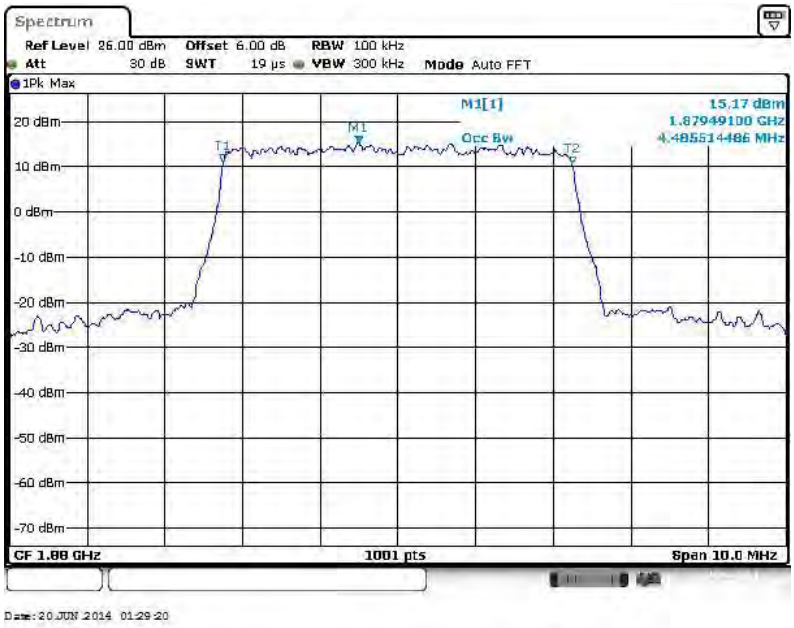


26dB Bandwidth Plot on Channel 18900

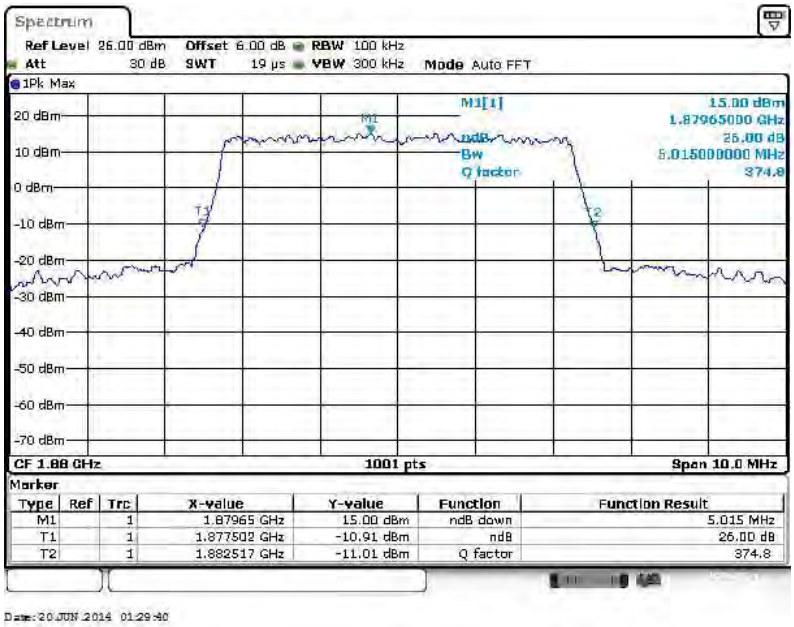


Band :	LTE Band 2	BW / Mod. :	5MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 18900

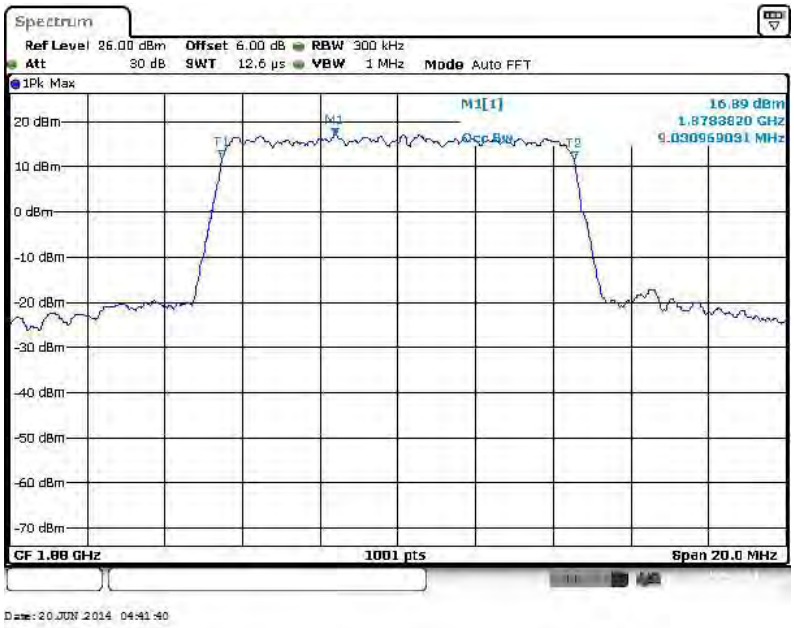


26dB Bandwidth Plot on Channel 18900

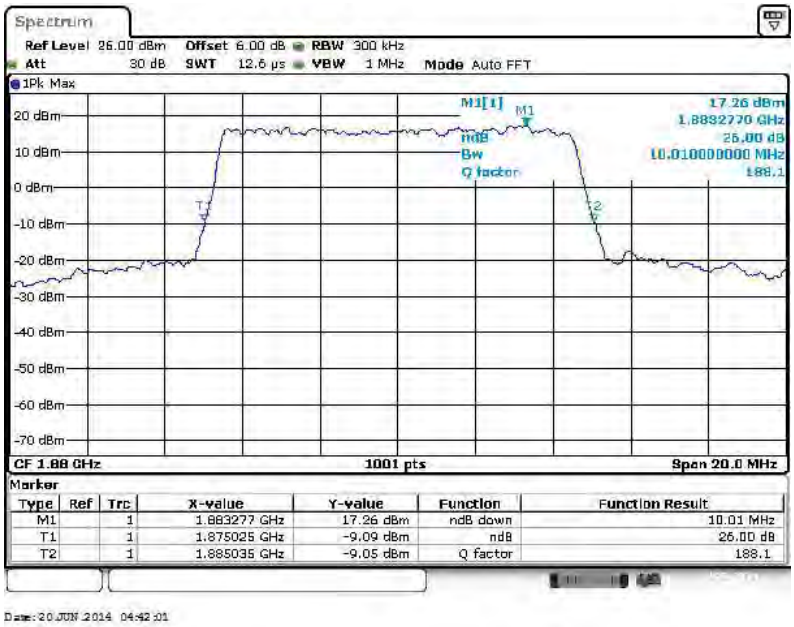


Band :	LTE Band 2	BW / Mod. :	10MHz / QPSK

99% Occupied Bandwidth Plot on Channel 18900

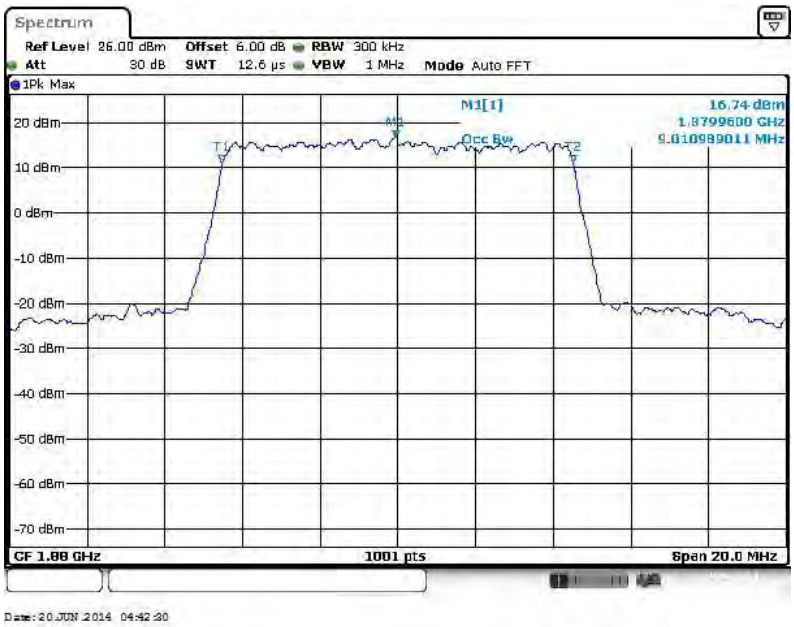


26dB Bandwidth Plot on Channel 18900

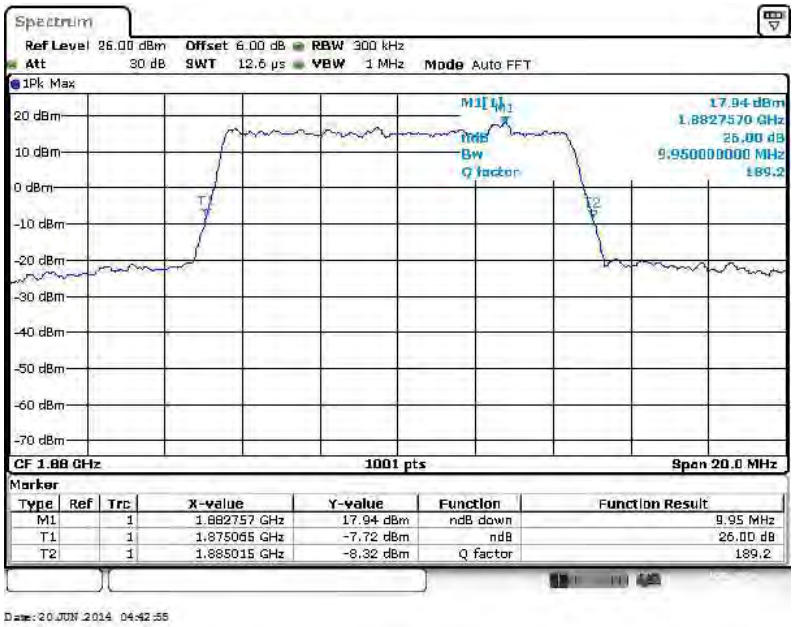


Band :	LTE Band 2	BW / Mod. :	10MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 18900

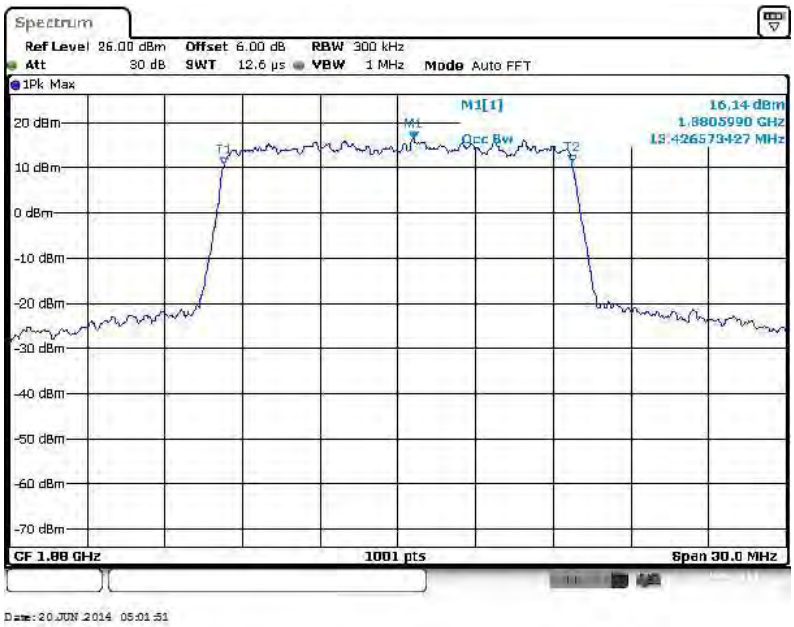


26dB Bandwidth Plot on Channel 18900

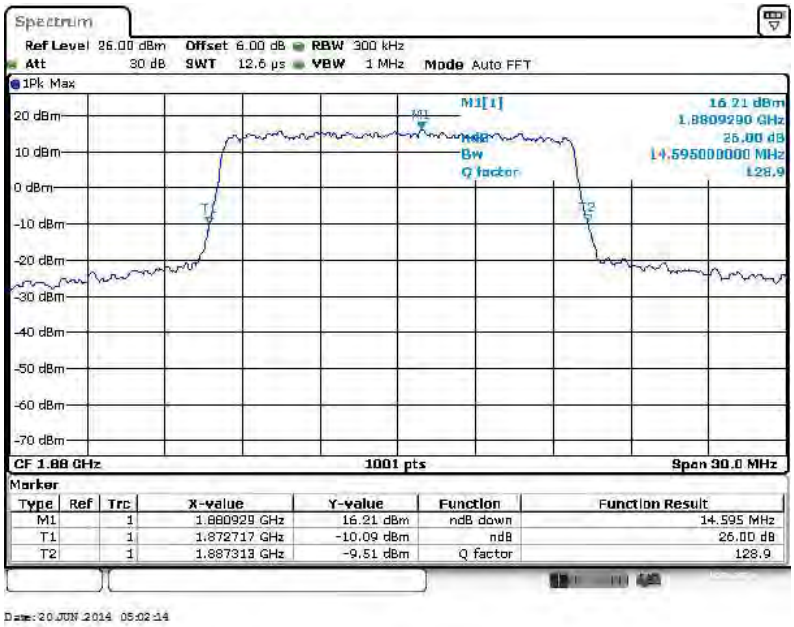


Band :	LTE Band 2	BW / Mod. :	15MHz / QPSK

99% Occupied Bandwidth Plot on Channel 18900



26dB Bandwidth Plot on Channel 18900

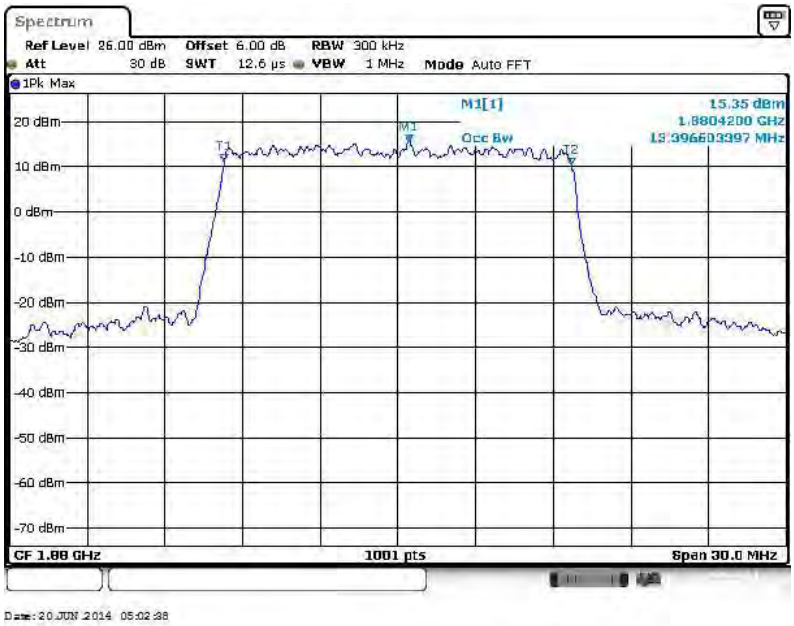


Marker

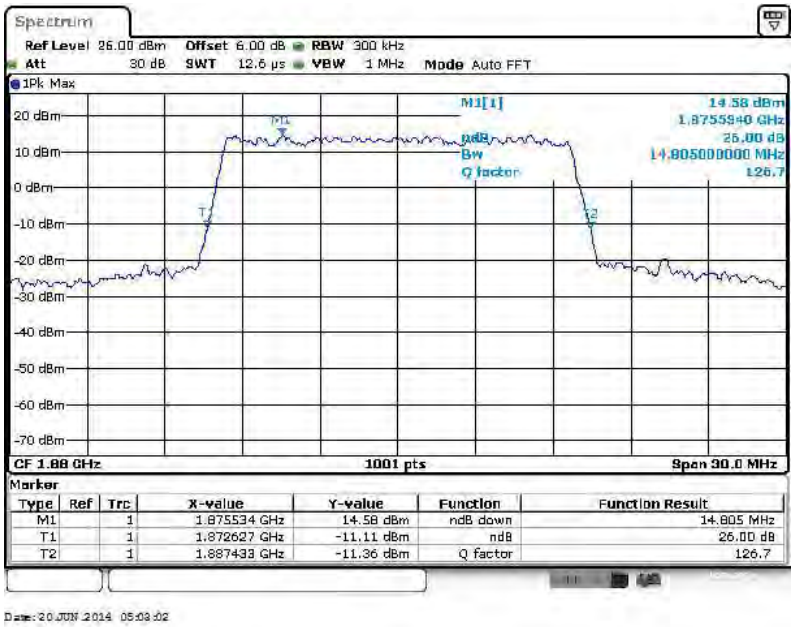
Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	1.880929 GHz	16.21 dBm	ndB down	14.595 MHz
T1		1	1.872717 GHz	-10.09 dBm	ndB	26.00 dB
T2		1	1.887313 GHz	-9.51 dBm	Q factor	128.9

Band :	LTE Band 2	BW / Mod. :	15MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 18900

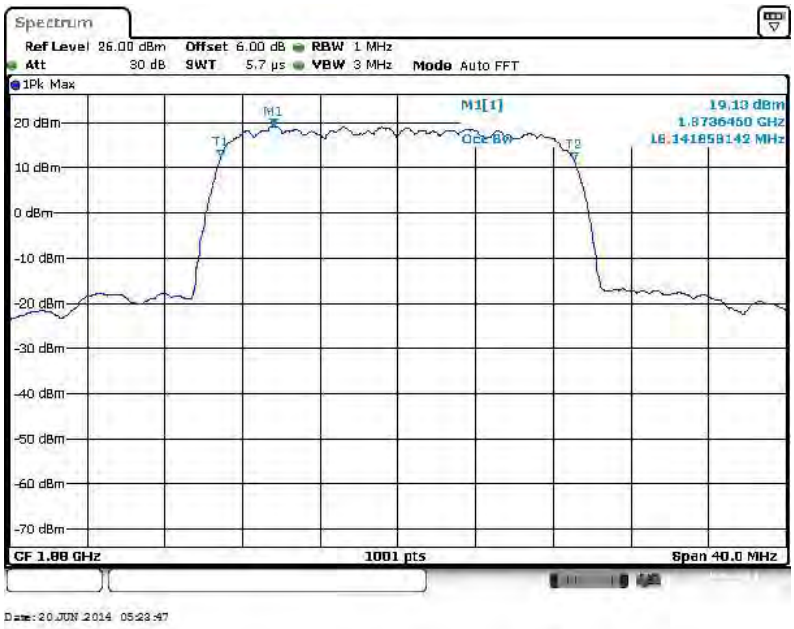


26dB Bandwidth Plot on Channel 18900

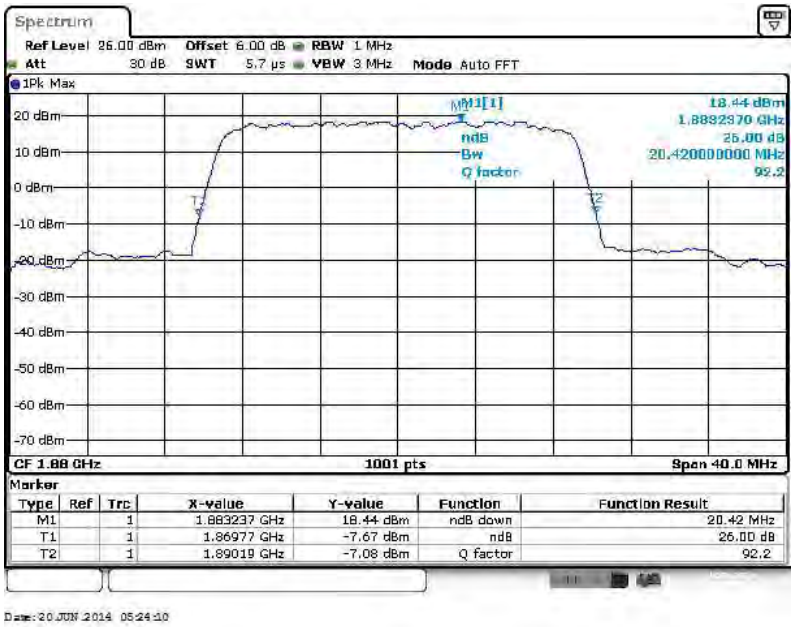


Band :	LTE Band 2	BW / Mod. :	20MHz / QPSK

99% Occupied Bandwidth Plot on Channel 18900

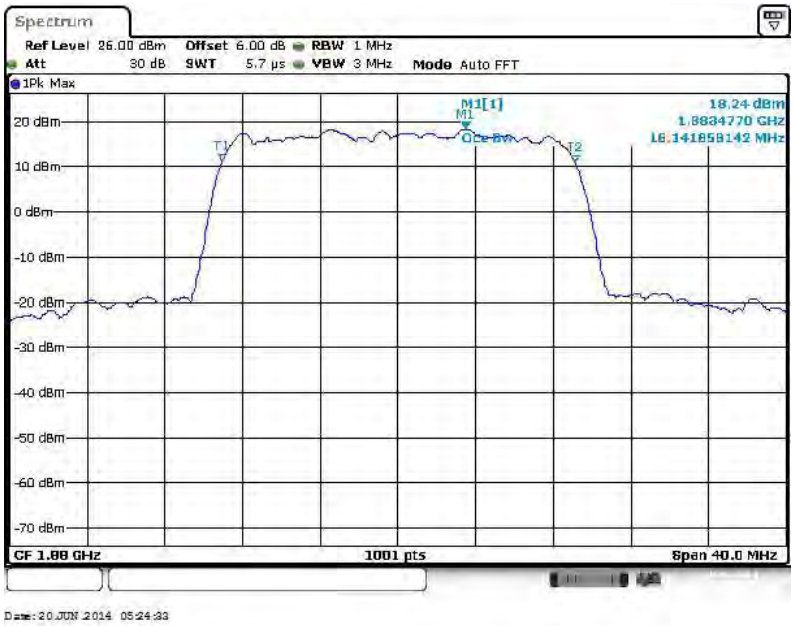


26dB Bandwidth Plot on Channel 18900

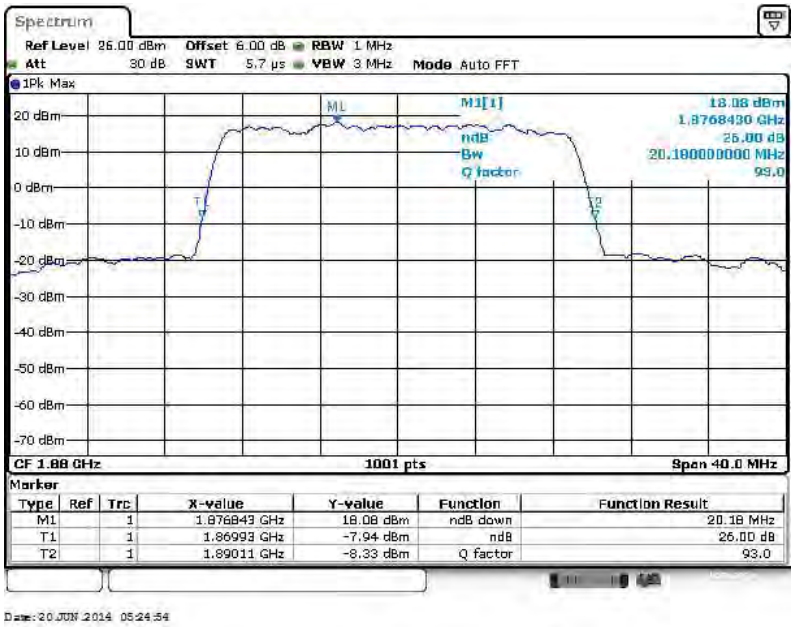


Band :	LTE Band 2	BW / Mod. :	20MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 18900

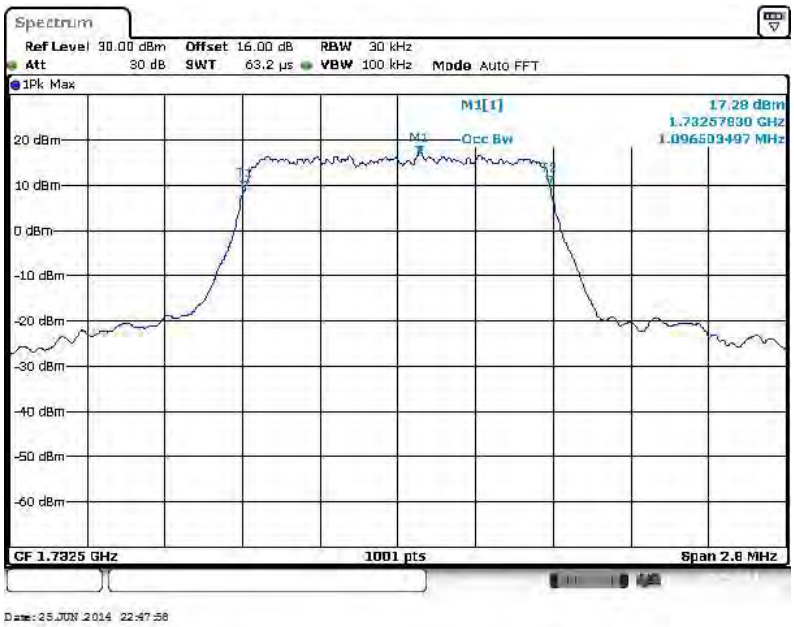


26dB Bandwidth Plot on Channel 18900

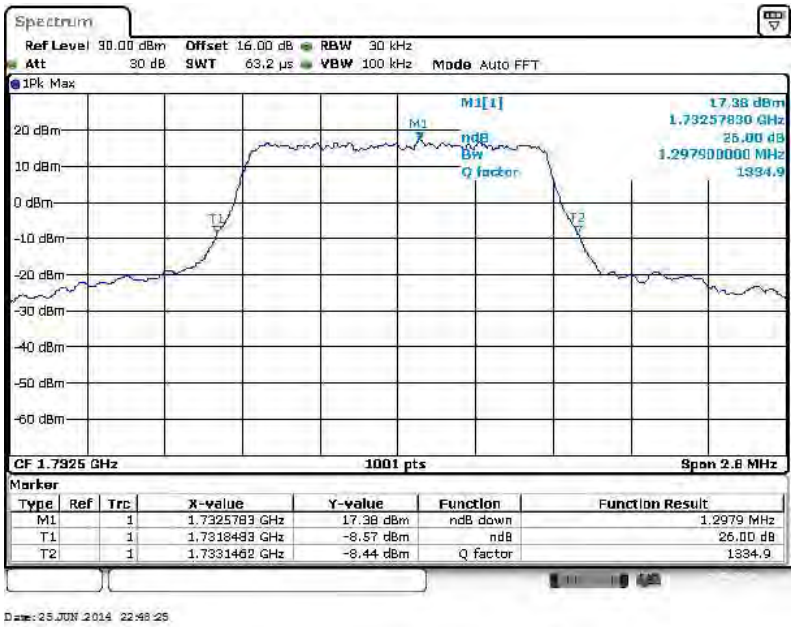


Band :	LTE Band 4	BW / Mod. :	1.4MHz / QPSK

99% Occupied Bandwidth Plot on Channel 20175

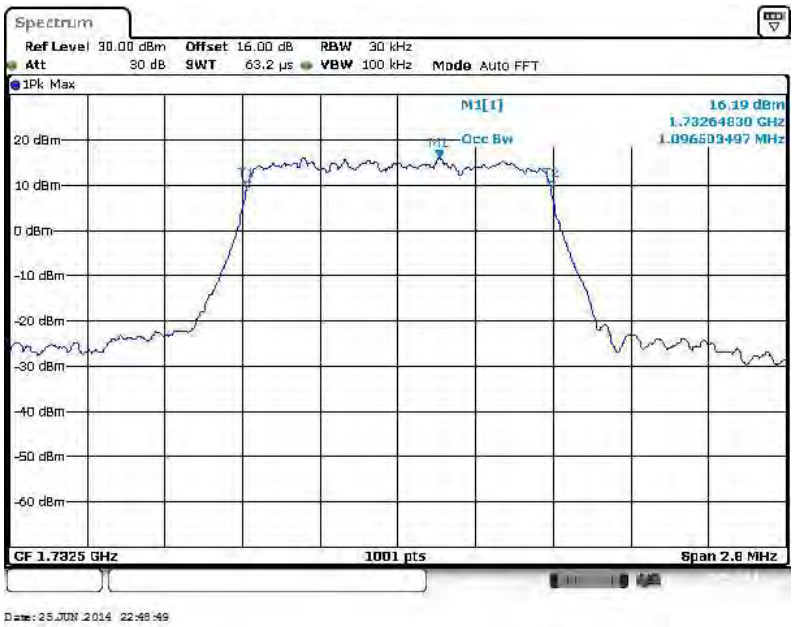


26dB Bandwidth Plot on Channel 20175

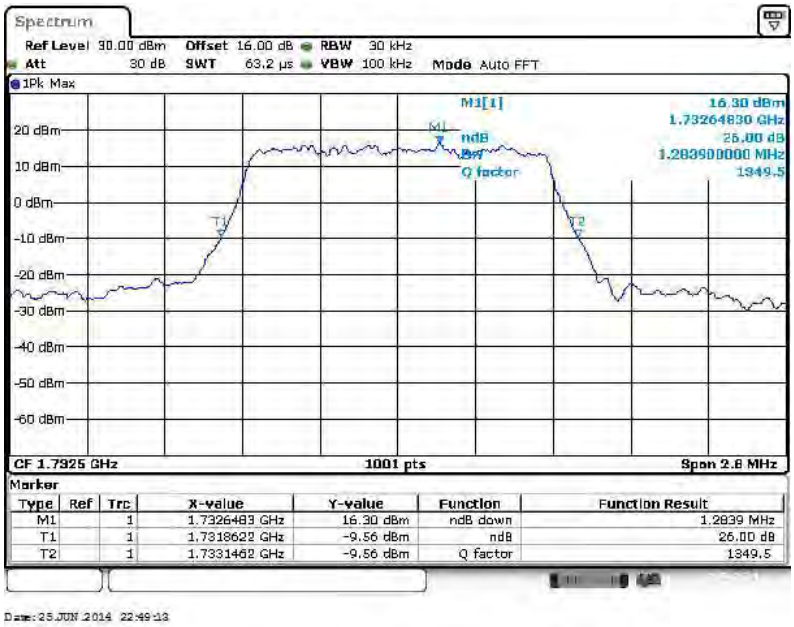


Band :	LTE Band 4	BW / Mod. :	1.4MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 20175

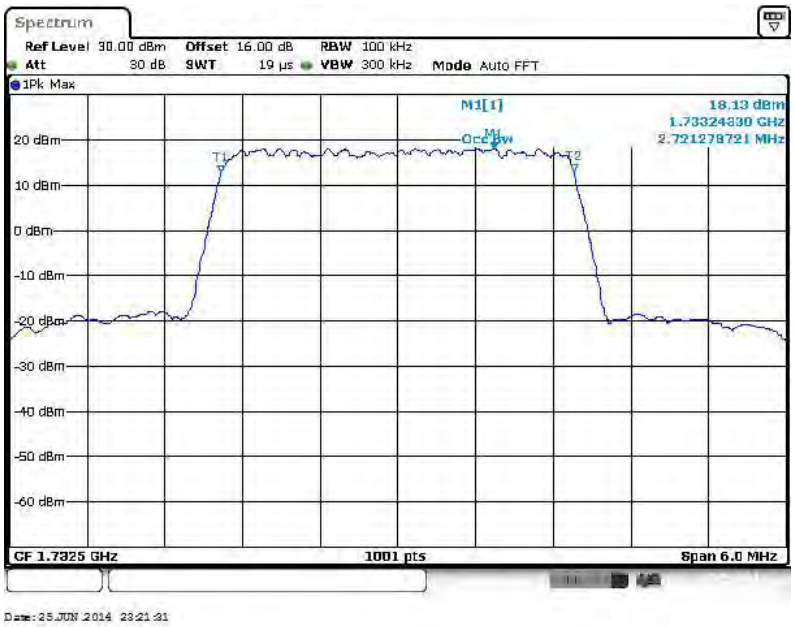


26dB Bandwidth Plot on Channel 20175

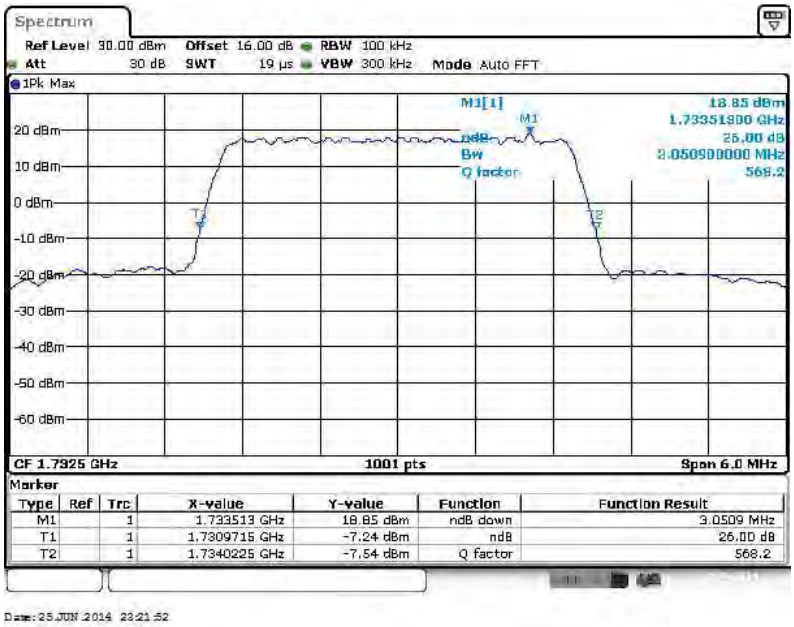


Band :	LTE Band 4	BW / Mod. :	3MHz / QPSK

99% Occupied Bandwidth Plot on Channel 20175



26dB Bandwidth Plot on Channel 20175

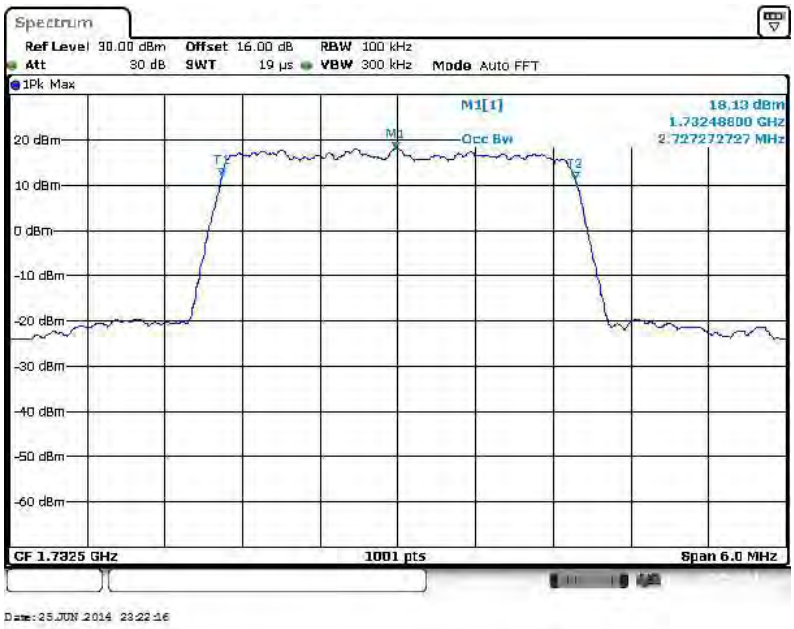


Marker

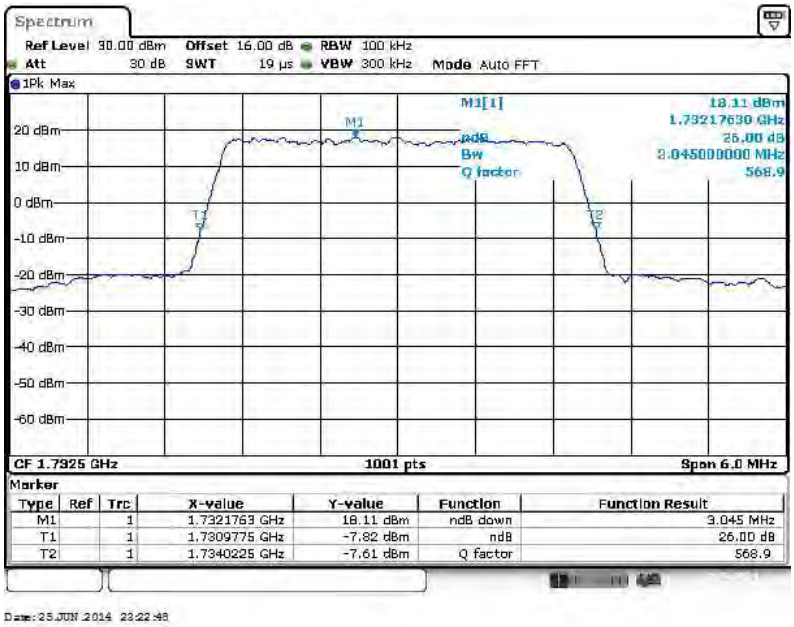
Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	1.733513 GHz	18.85 dBm	ndB down	3.0509 MHz
T1		1	1.7309715 GHz	-7.24 dBm	ndB	26.00 dB
T2		1	1.7340225 GHz	-7.54 dBm	Q factor	568.2

Band :	LTE Band 4	BW / Mod. :	3MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 20175

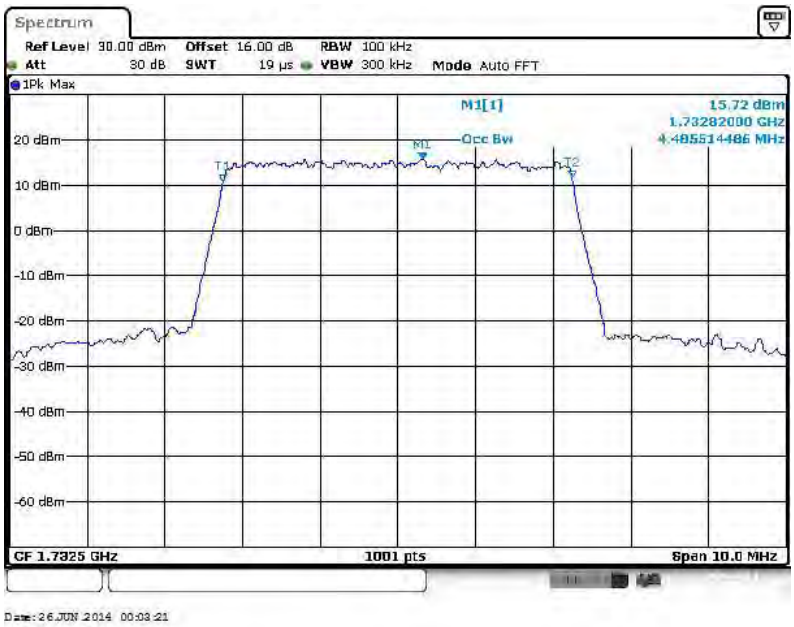


26dB Bandwidth Plot on Channel 20175

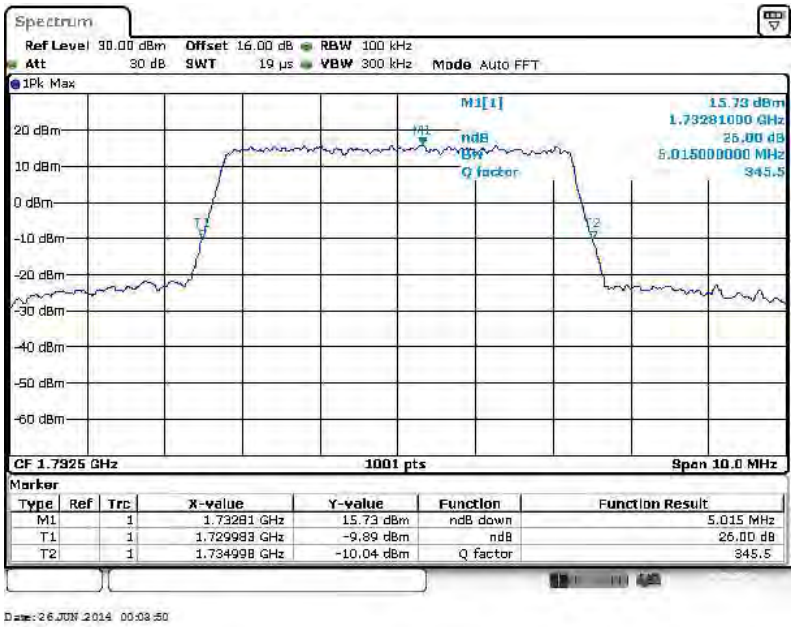


Band :	LTE Band 4	BW / Mod. :	5MHz / QPSK

99% Occupied Bandwidth Plot on Channel 20175

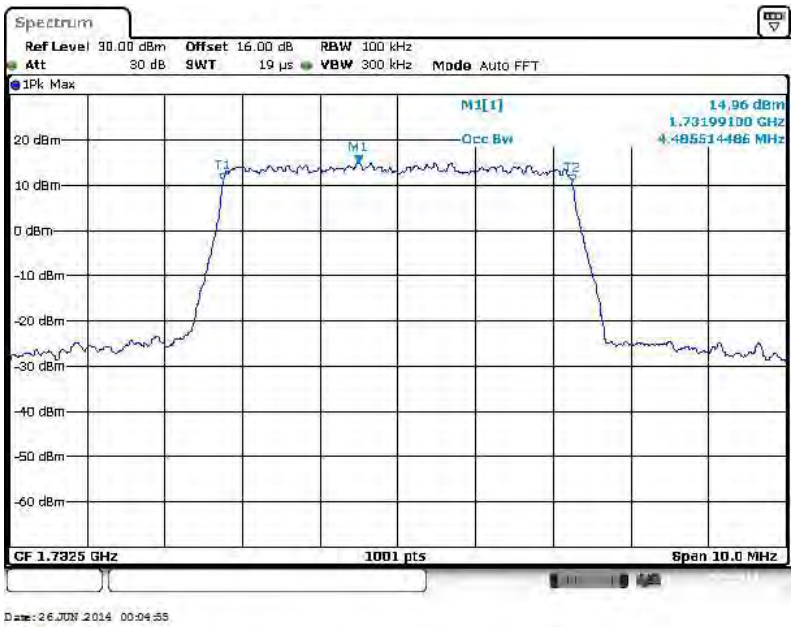


26dB Bandwidth Plot on Channel 20175

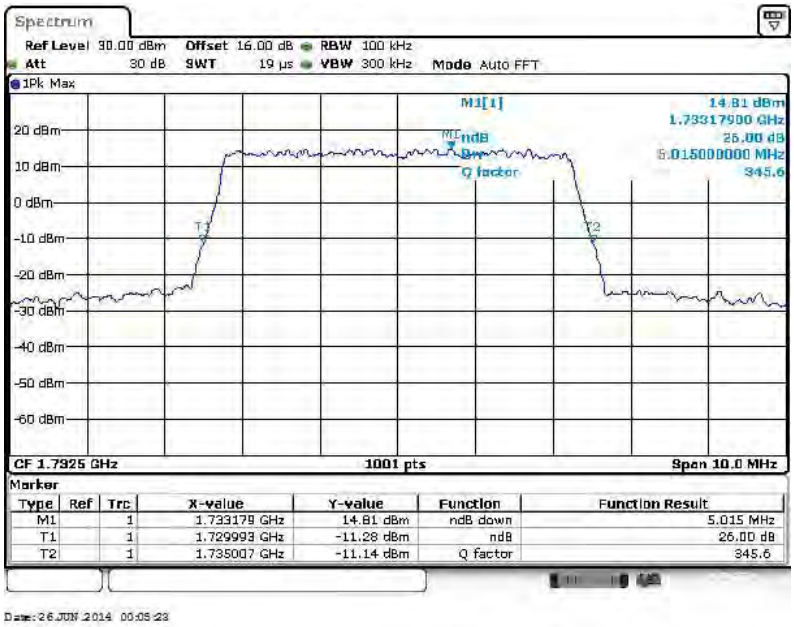


Band :	LTE Band 4	BW / Mod. :	5MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 20175



26dB Bandwidth Plot on Channel 20175

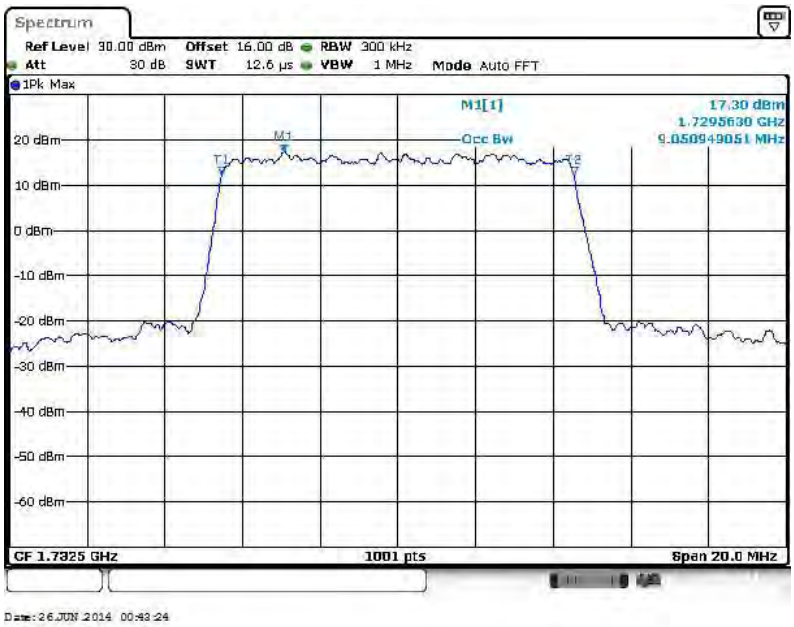


Marker

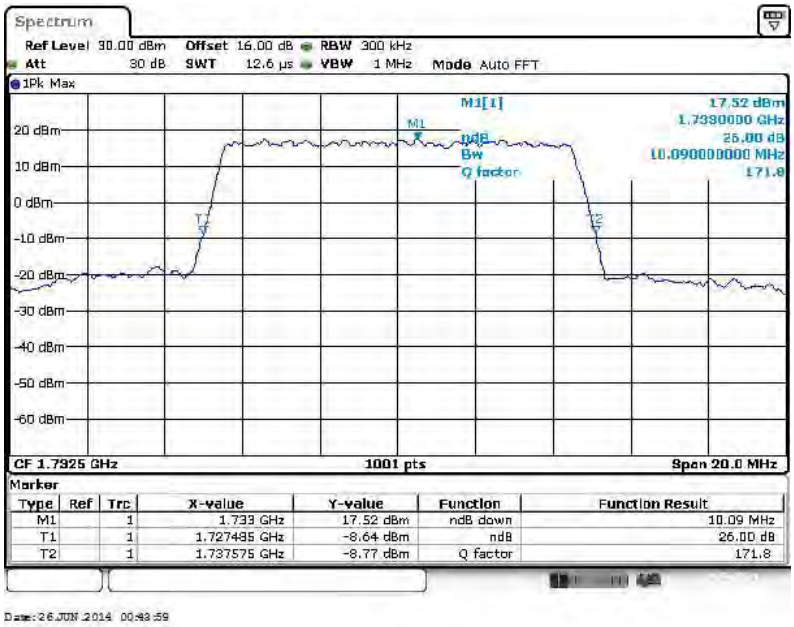
Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	1.733179 GHz	14.81 dBm	ndB down	5.015 MHz
T1		1	1.729993 GHz	-11.28 dBm	ndB	26.00 dB
T2		1	1.735007 GHz	-11.14 dBm	Q factor	345.6

Band :	LTE Band 4	BW / Mod. :	10MHz / QPSK

99% Occupied Bandwidth Plot on Channel 20175

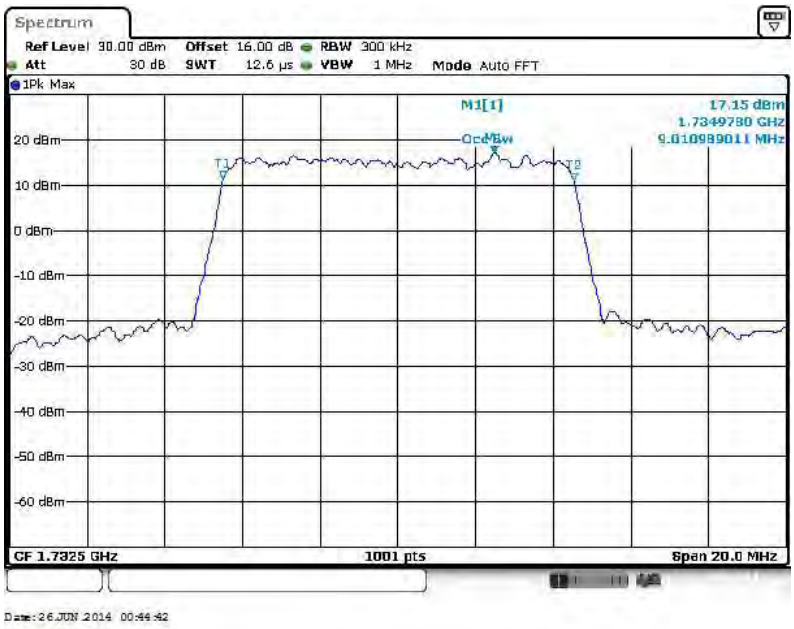


26dB Bandwidth Plot on Channel 20175

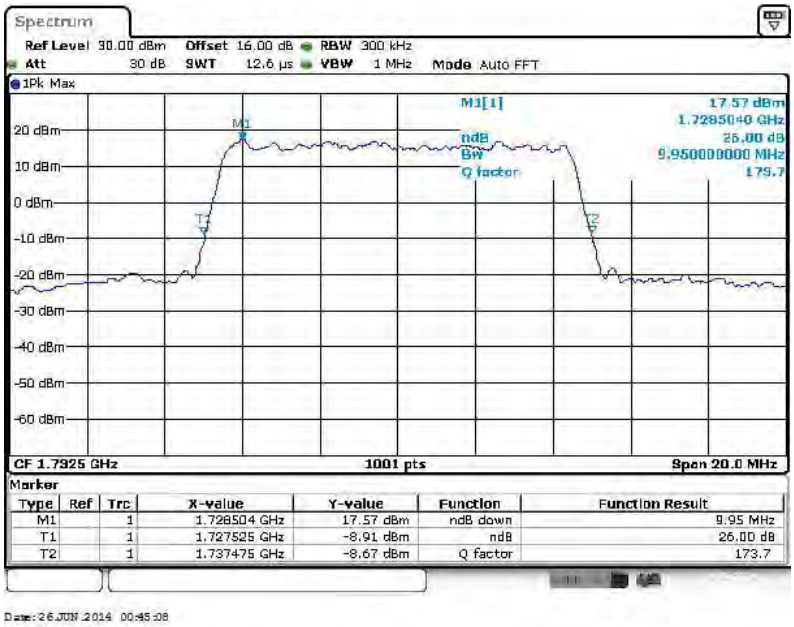


Band :	LTE Band 4	BW / Mod. :	10MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 20175



26dB Bandwidth Plot on Channel 20175

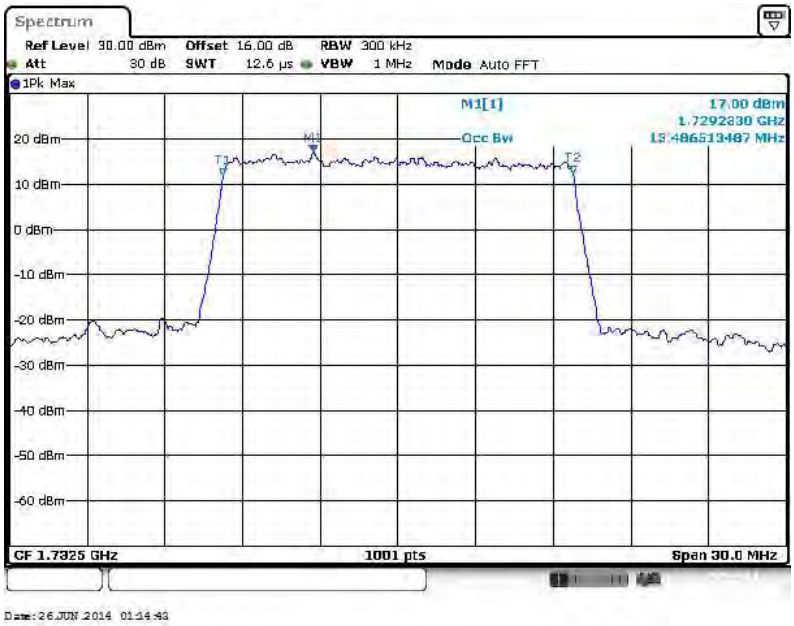


Marker

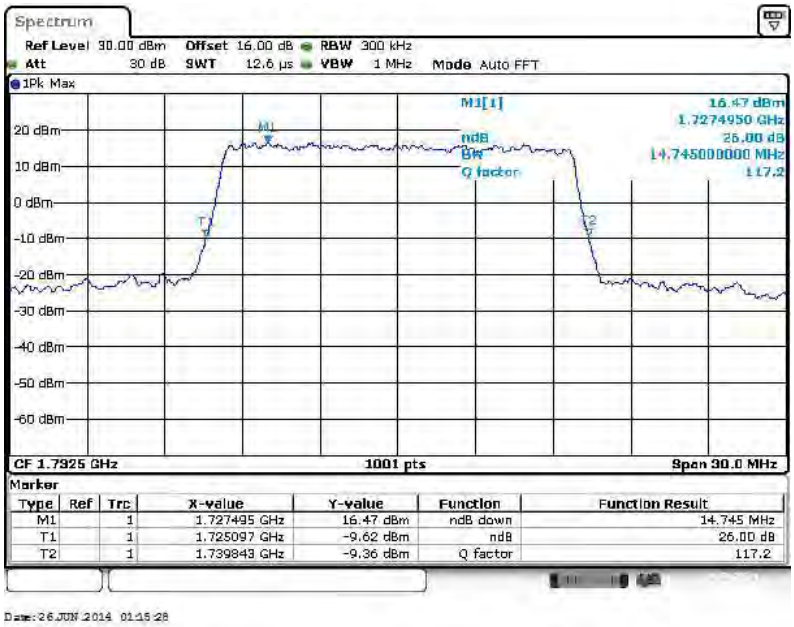
Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	1.728504 GHz	17.57 dBm	ndB down	9.95 MHz
T1		1	1.727525 GHz	-8.91 dBm	ndB	26.00 dB
T2		1	1.737475 GHz	-8.67 dBm	Q factor	173.7

Band :	LTE Band 4	BW / Mod. :	15MHz / QPSK

99% Occupied Bandwidth Plot on Channel 20175

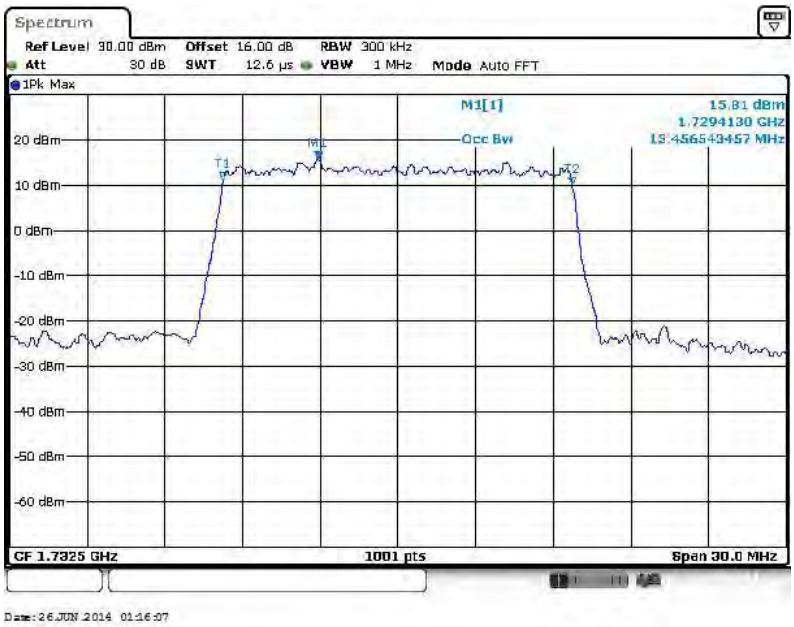


26dB Bandwidth Plot on Channel 20175

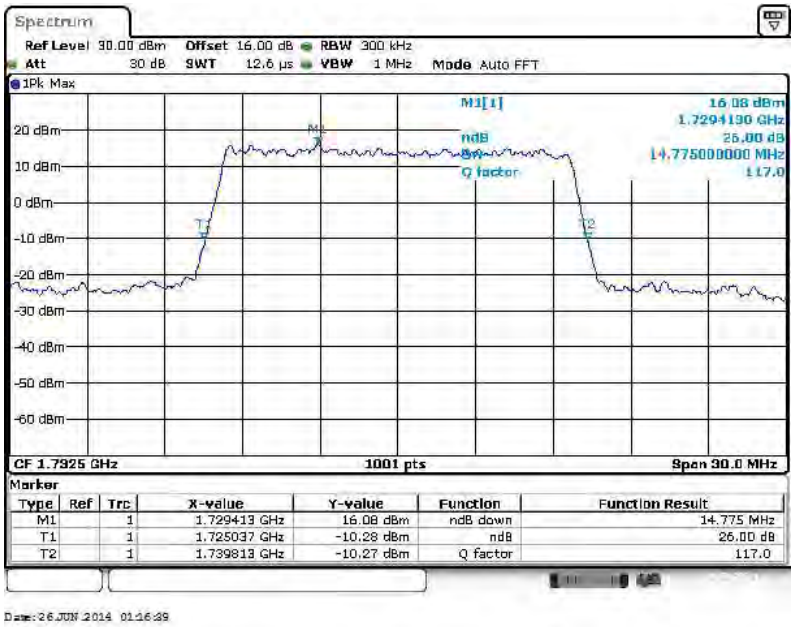


Band :	LTE Band 4	BW / Mod. :	15MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 20175

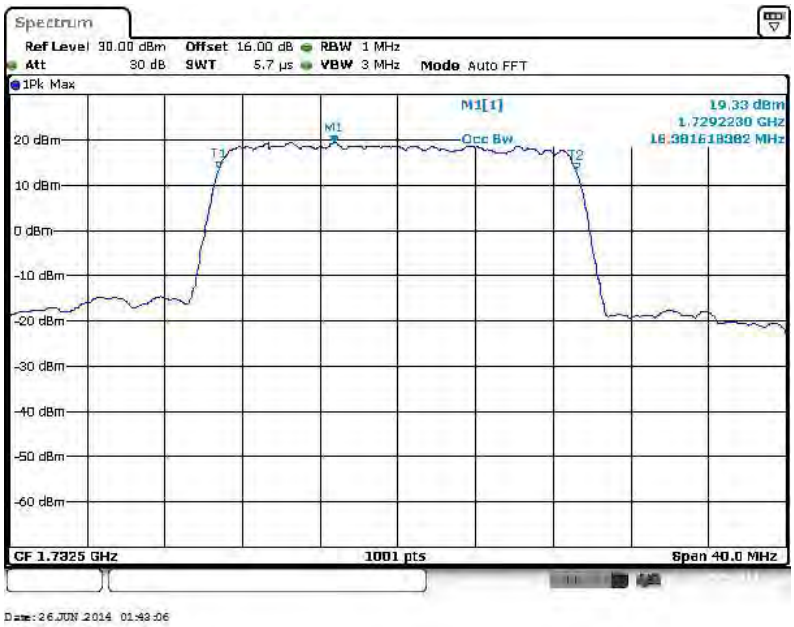


26dB Bandwidth Plot on Channel 20175

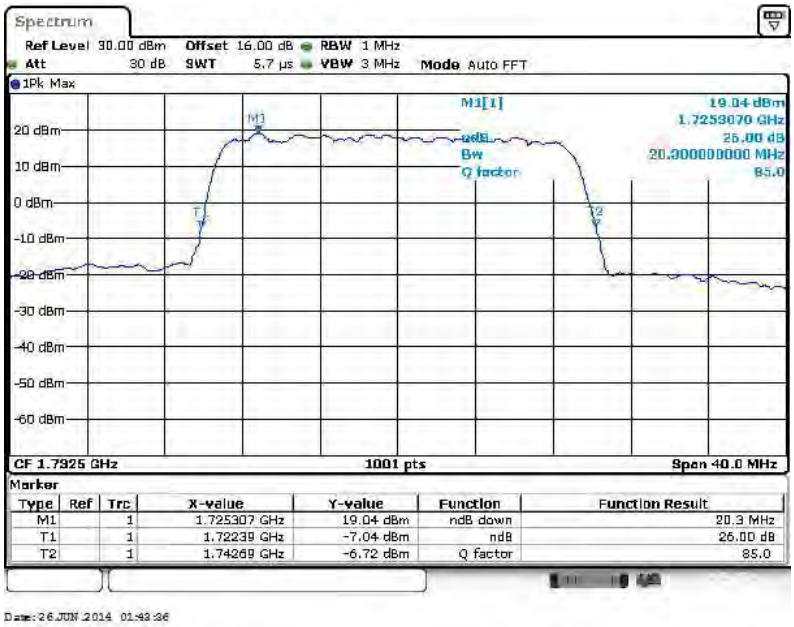


Band :	LTE Band 4	BW / Mod. :	20MHz / QPSK

99% Occupied Bandwidth Plot on Channel 20175

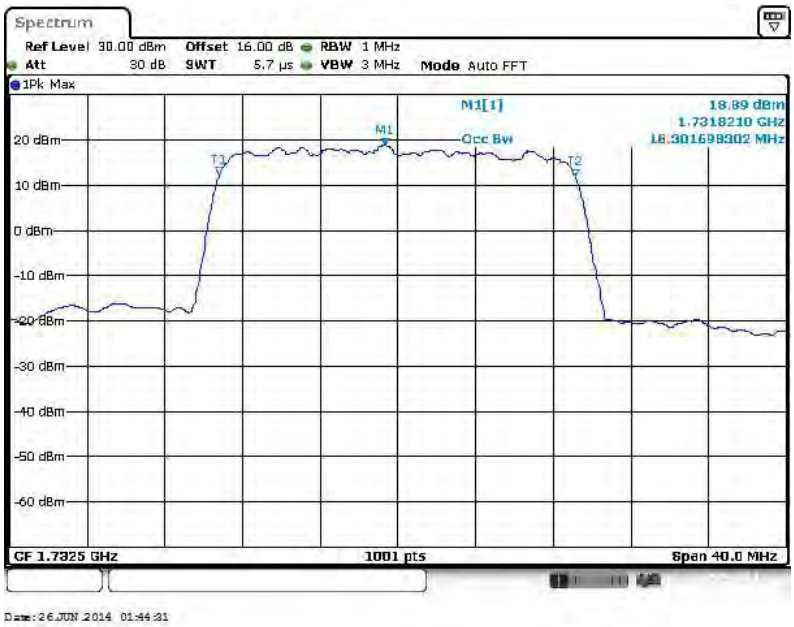


26dB Bandwidth Plot on Channel 20175

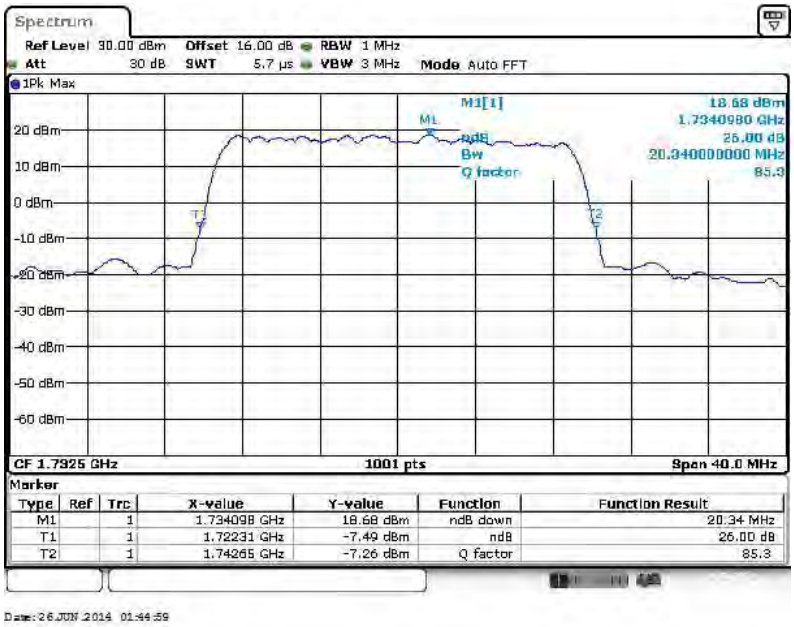


Band :	LTE Band 4	BW / Mod. :	20MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 20175



26dB Bandwidth Plot on Channel 20175

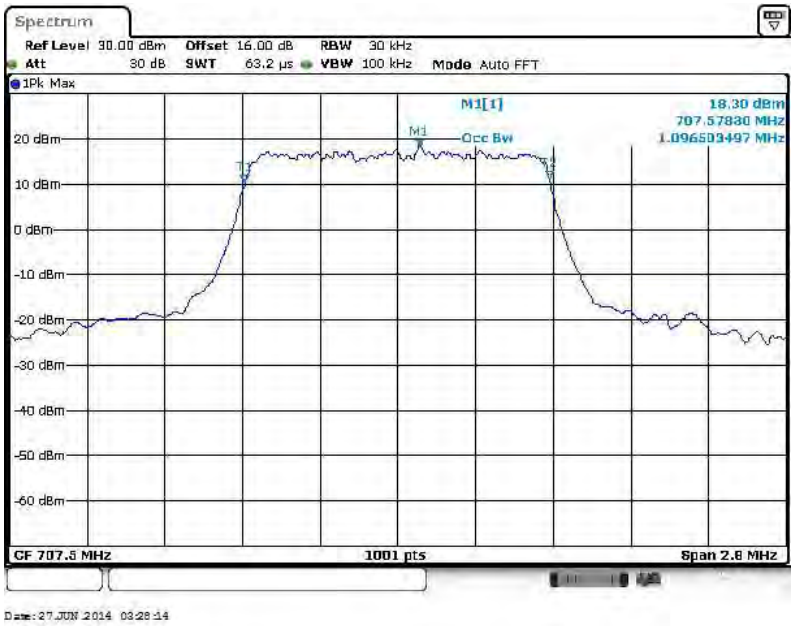


Marker

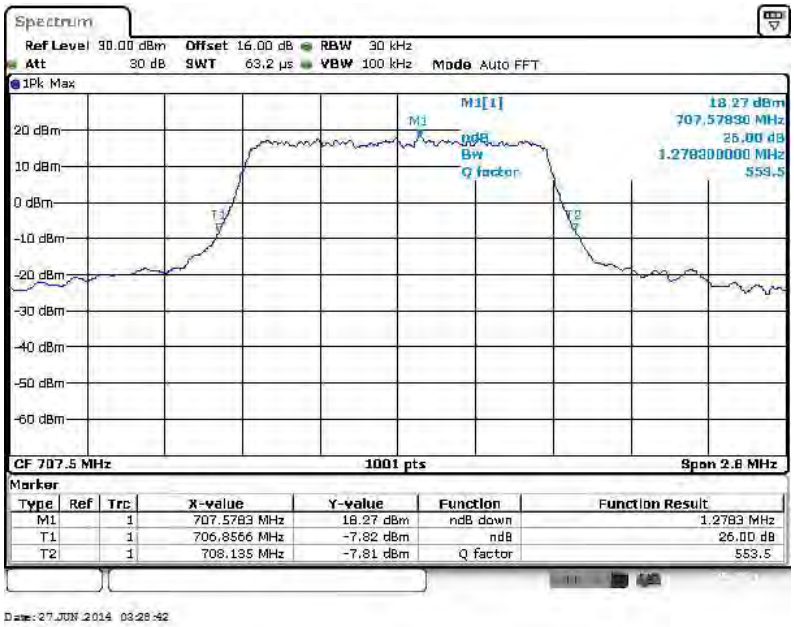
Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	1.734098 GHz	18.68 dBm	ndB down	20.34 MHz
T1		1	1.72231 GHz	-7.49 dBm	ndB	26.00 dB
T2		1	1.74265 GHz	-7.26 dBm	Q factor	85.3

Band :	LTE Band 12	BW / Mod. :	1.4MHz / QPSK

99% Occupied Bandwidth Plot on Channel 23095

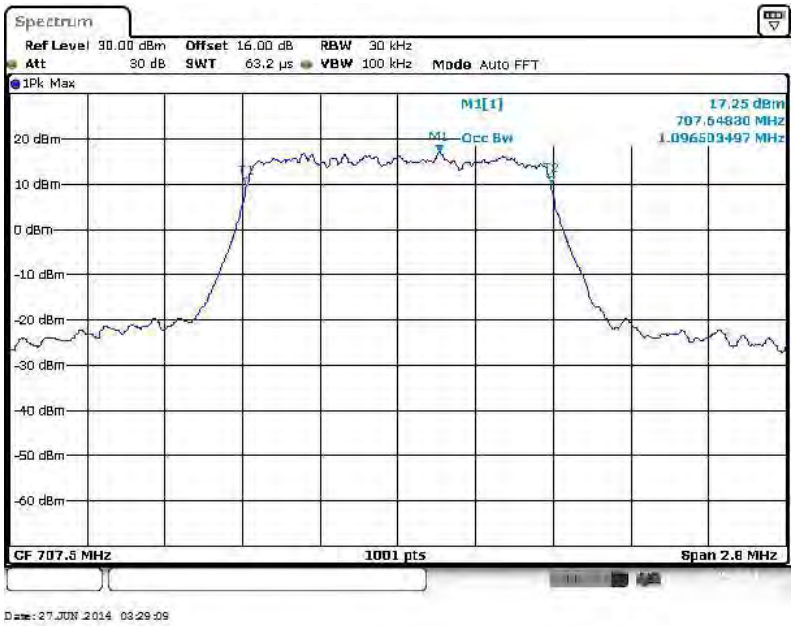


26dB Bandwidth Plot on Channel 23095

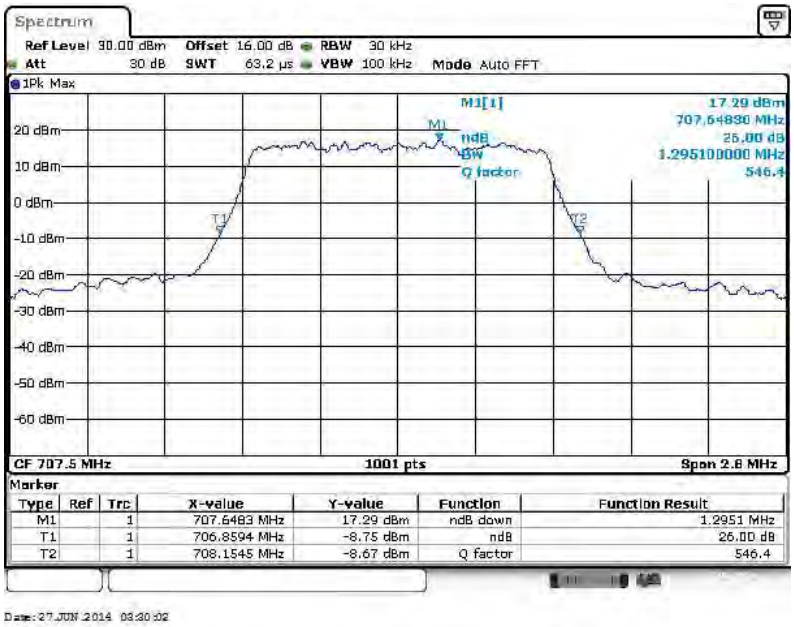


Band :	LTE Band 12	BW / Mod. :	1.4MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 23095

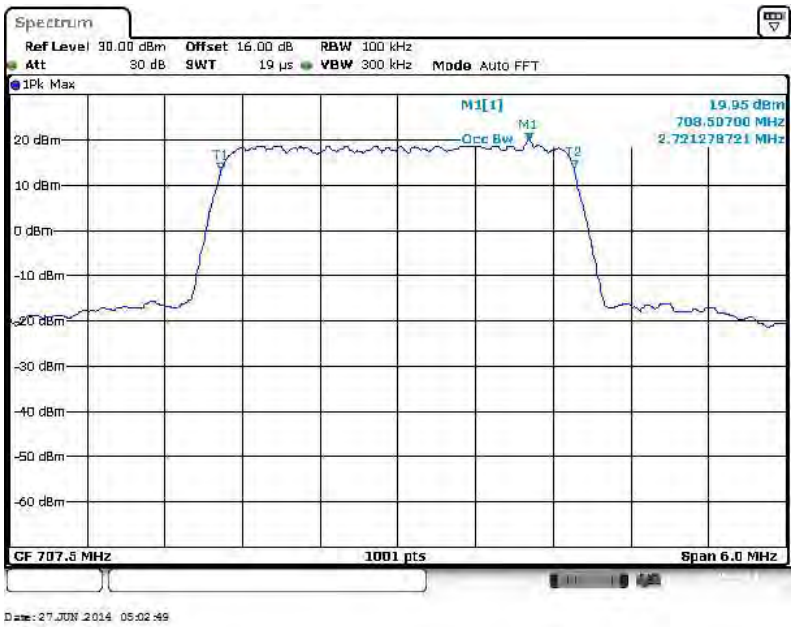


26dB Bandwidth Plot on Channel 23095

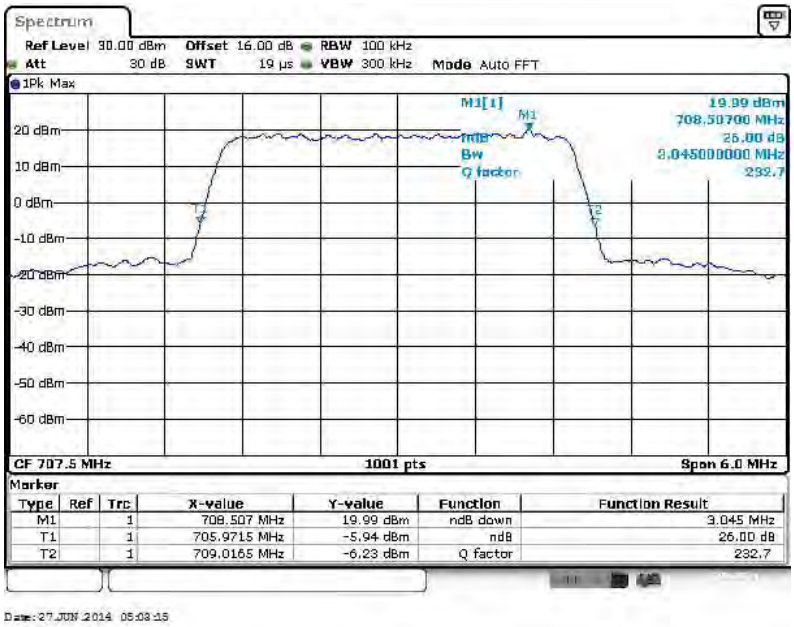


Band :	LTE Band 12	BW / Mod. :	3MHz / QPSK

99% Occupied Bandwidth Plot on Channel 23095



26dB Bandwidth Plot on Channel 23095

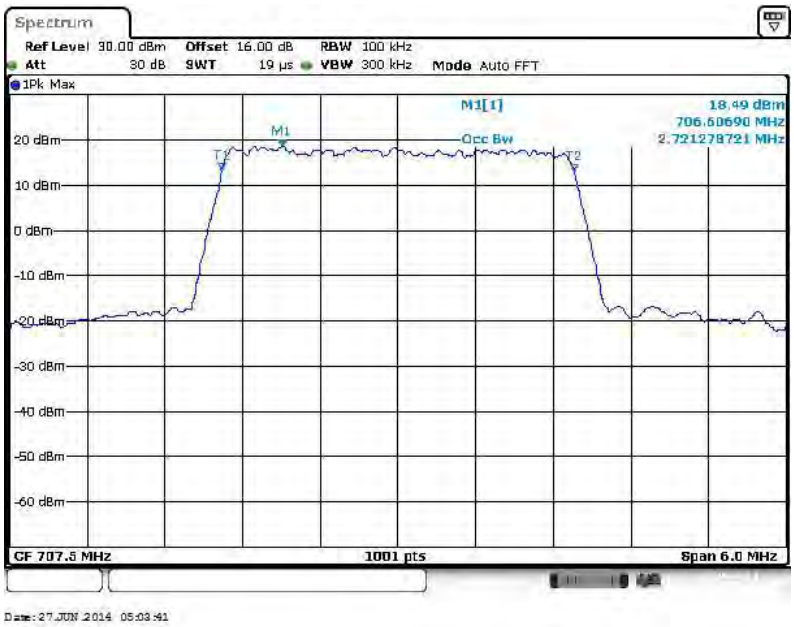


Marker

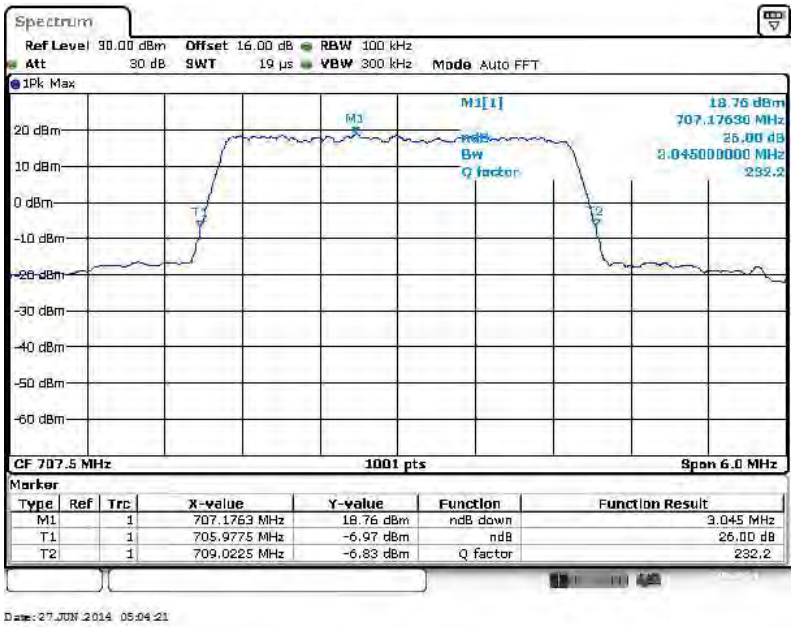
Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	708.507 MHz	19.99 dBm	ndB down	3.045 MHz
T1		1	705.9715 MHz	-5.94 dBm	ndB	26.00 dB
T2		1	709.0165 MHz	-6.23 dBm	Q factor	232.7

Band :	LTE Band 12	BW / Mod. :	3MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 23095

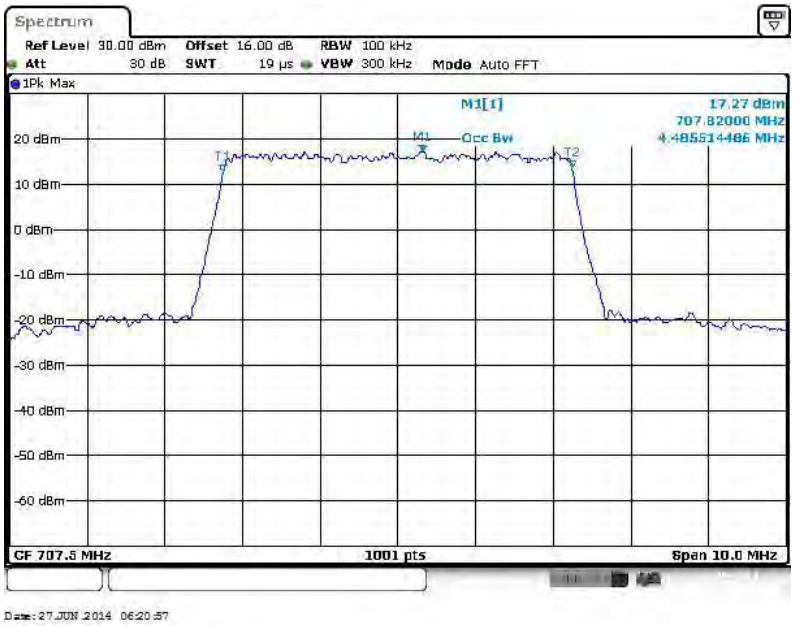


26dB Bandwidth Plot on Channel 23095

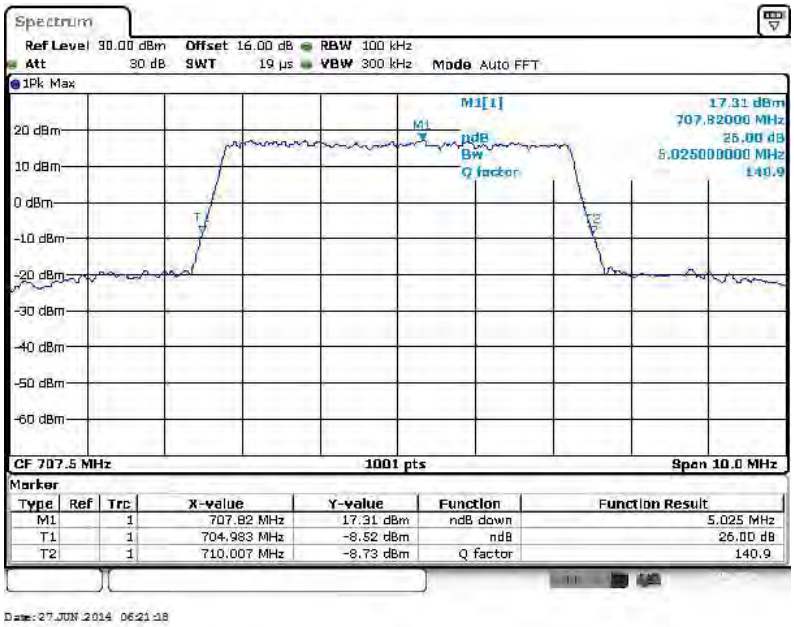


Band :	LTE Band 12	BW / Mod. :	5MHz / QPSK

99% Occupied Bandwidth Plot on Channel 23095



26dB Bandwidth Plot on Channel 23095

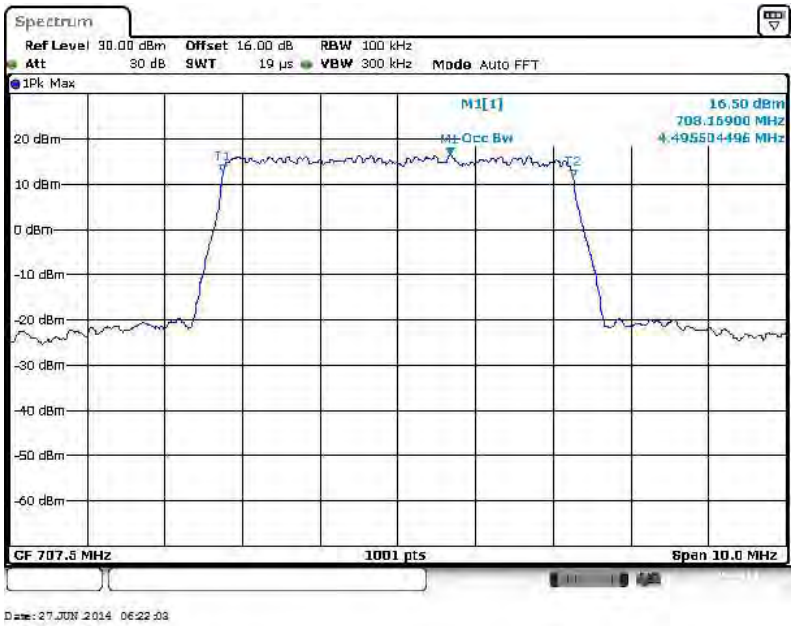


Marker

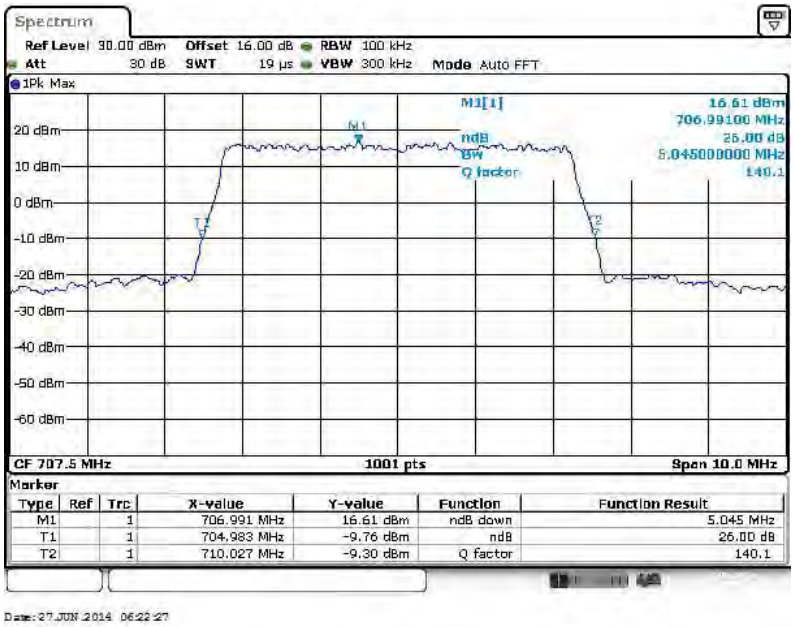
Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	707.82 MHz	17.31 dBm	ndB down	5.025 MHz
T1		1	704.983 MHz	-8.52 dBm	ndB	26.00 dB
T2		1	710.007 MHz	-8.73 dBm	Q factor	140.9

Band :	LTE Band 12	BW / Mod. :	5MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 23095

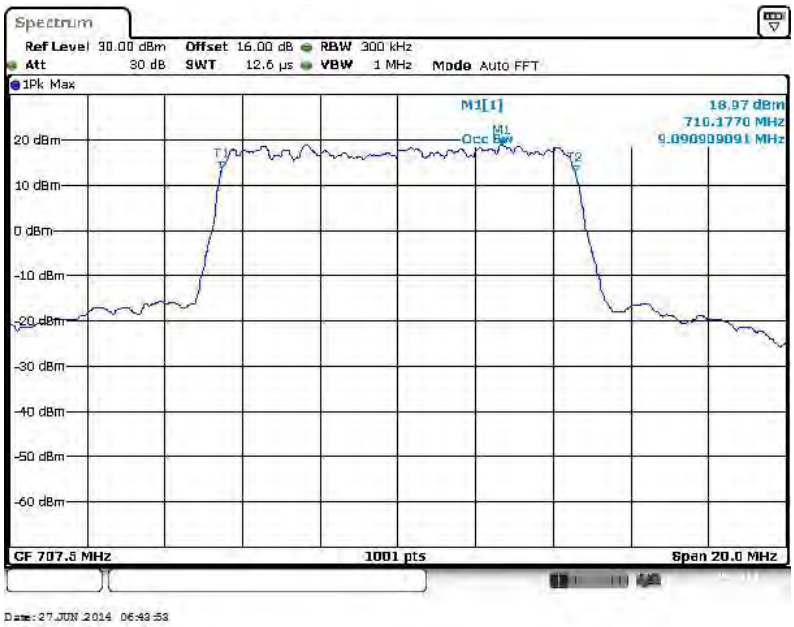


26dB Bandwidth Plot on Channel 23095

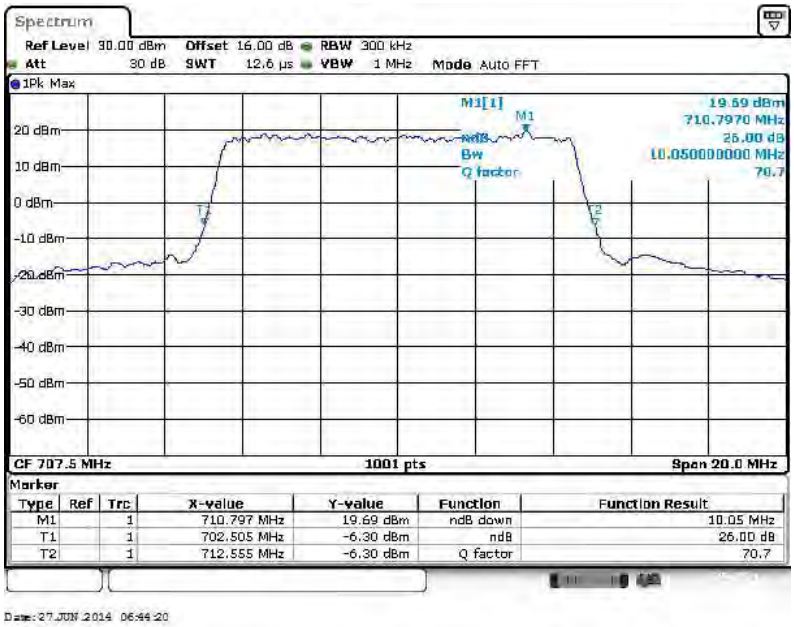


Band :	LTE Band 12	BW / Mod. :	10MHz / QPSK

99% Occupied Bandwidth Plot on Channel 23095

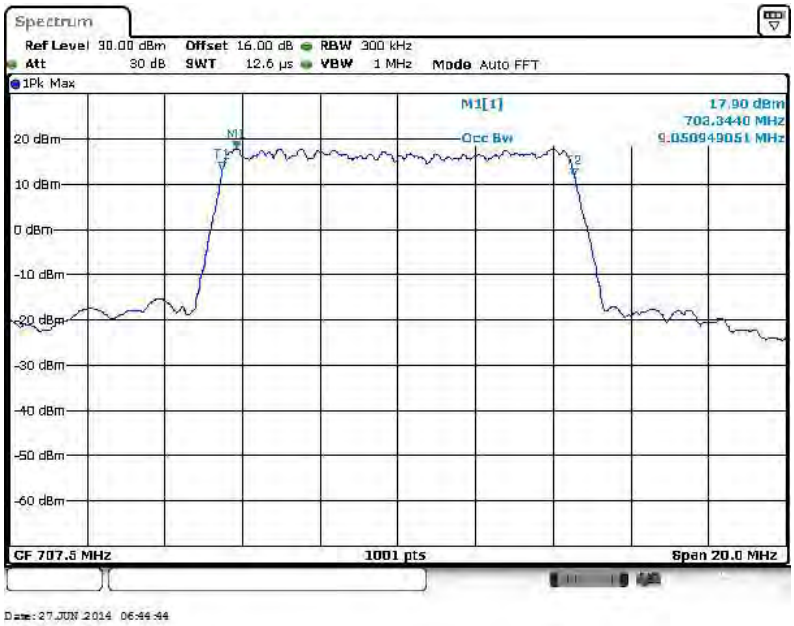


26dB Bandwidth Plot on Channel 23095

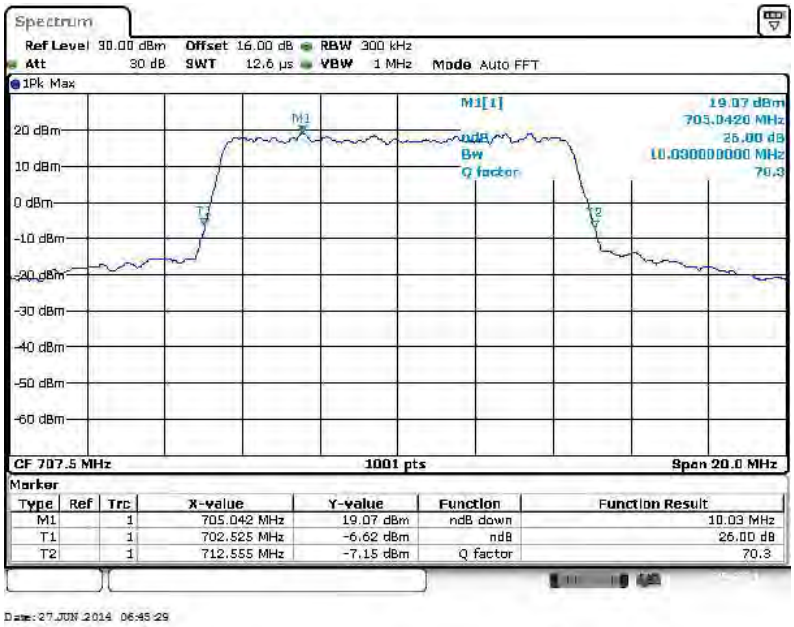


Band :	LTE Band 12	BW / Mod. :	10MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 23095



26dB Bandwidth Plot on Channel 23095

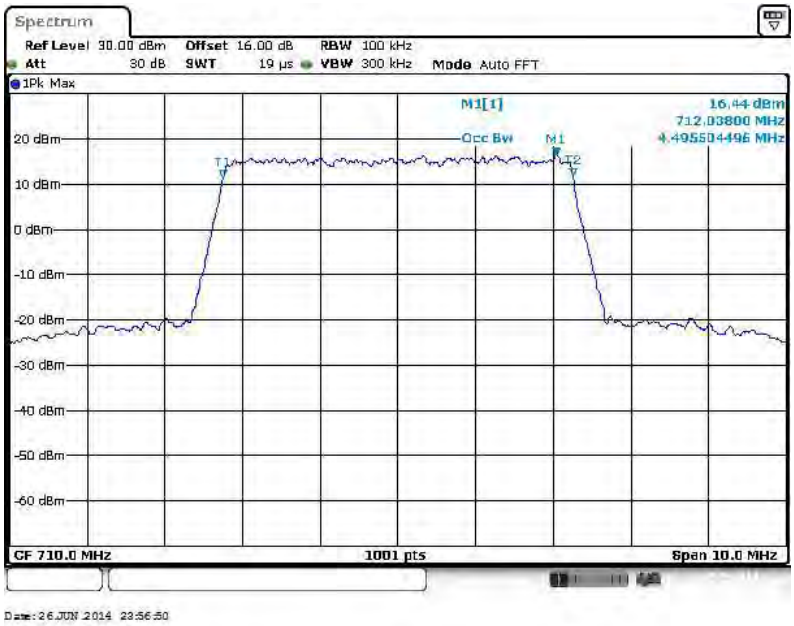


Marker

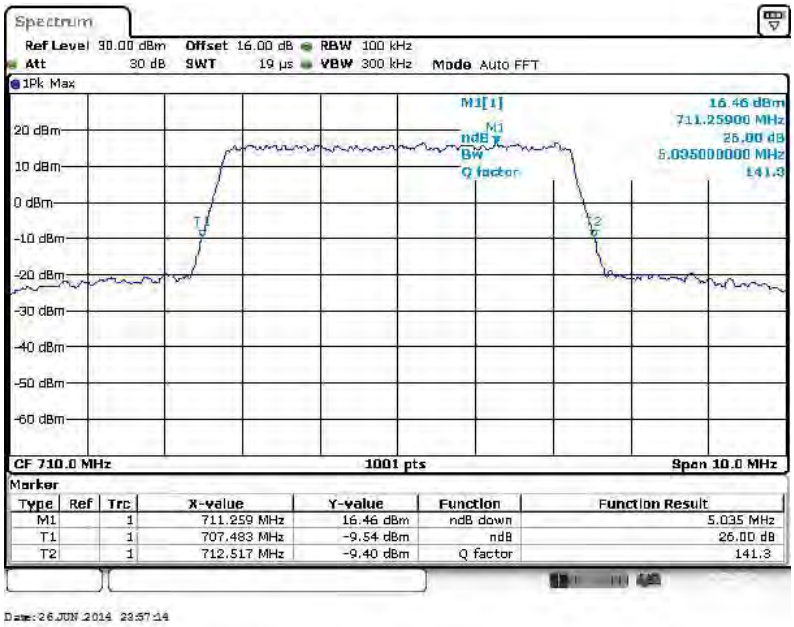
Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	705.042 MHz	19.07 dBm	ndB down	10.03 MHz
T1		1	702.525 MHz	-6.62 dBm	ndB	26.00 dB
T2		1	712.555 MHz	-7.15 dBm	Q factor	70.3

Band :	LTE Band 17	BW / Mod. :	5MHz / QPSK

99% Occupied Bandwidth Plot on Channel 23790

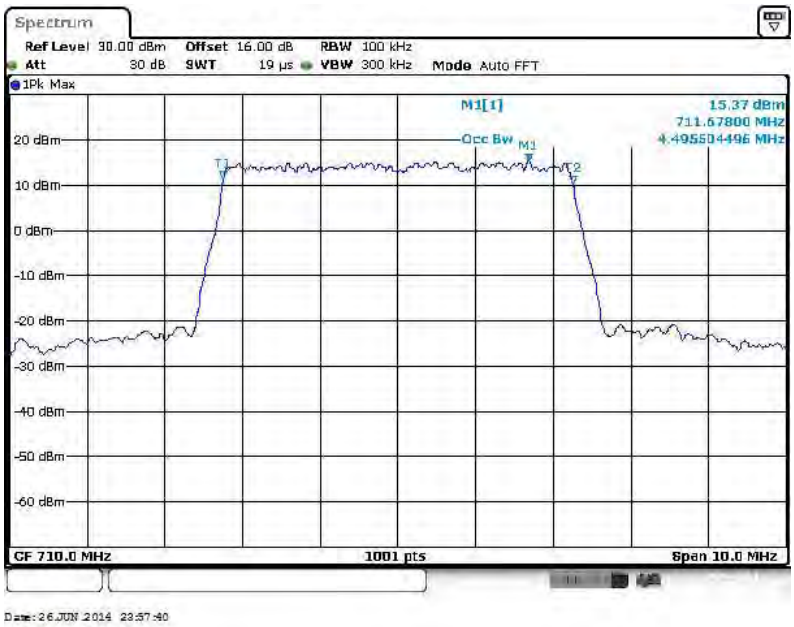


26dB Bandwidth Plot on Channel 23790

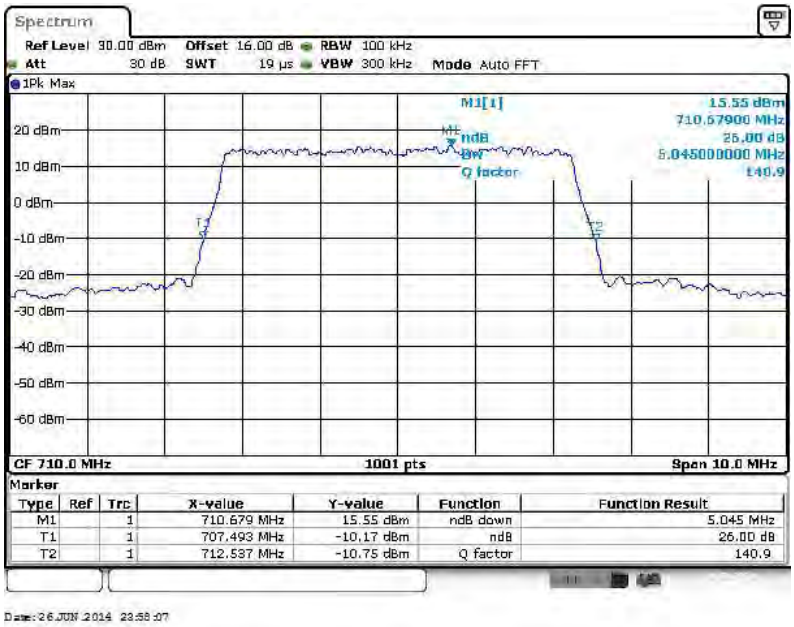


Band :	LTE Band 17	BW / Mod. :	5MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 23790



26dB Bandwidth Plot on Channel 23790

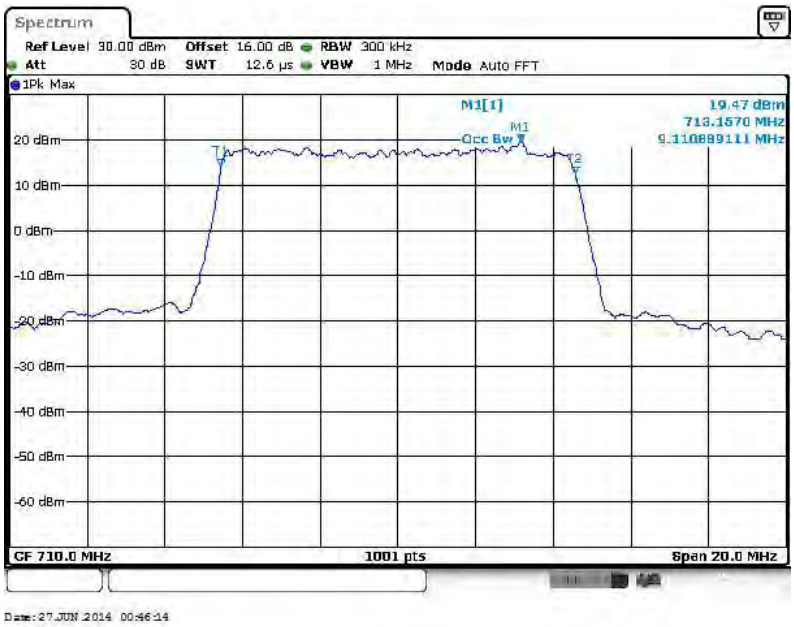


Marker

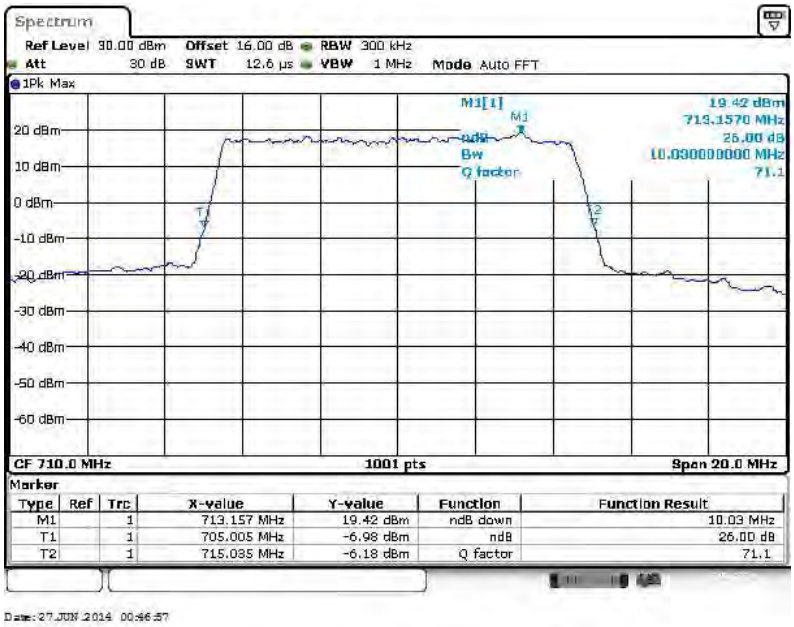
Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	710.679 MHz	15.55 dBm	ndB down	5.045 MHz
T1		1	707.493 MHz	-10.17 dBm	ndB	26.00 dB
T2		1	712.537 MHz	-10.75 dBm	Q factor	140.9

Band :	LTE Band 17	BW / Mod. :	10MHz / QPSK

99% Occupied Bandwidth Plot on Channel 23790



26dB Bandwidth Plot on Channel 23790

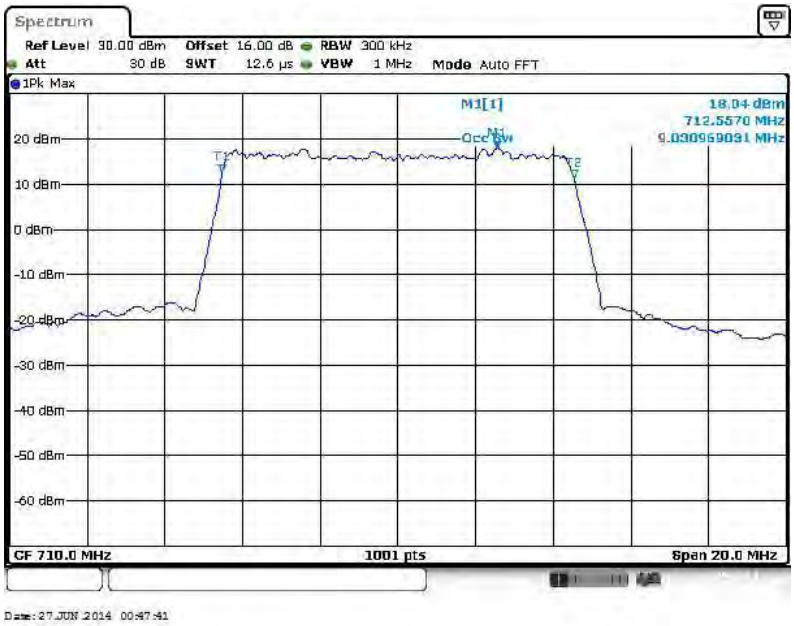


Marker

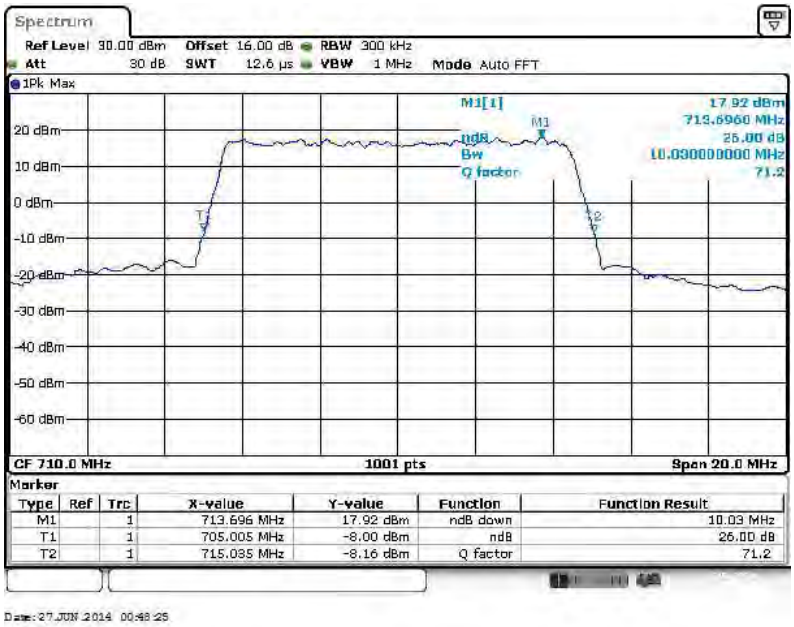
Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	713.157 MHz	19.42 dBm	ndB down	10.03 MHz
T1		1	705.005 MHz	-6.98 dBm	ndB	26.00 dB
T2		1	715.035 MHz	-6.18 dBm	Q factor	71.1

Band :	LTE Band 17	BW / Mod. :	10MHz / 16QAM

99% Occupied Bandwidth Plot on Channel 23790



26dB Bandwidth Plot on Channel 23790



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	713.696 MHz	17.92 dBm	ndB down	10.03 MHz
T1		1	705.005 MHz	-8.00 dBm	ndB	26.00 dB
T2		1	715.035 MHz	-8.16 dBm	Q factor	71.2

3.5 Conducted Band Edge Measurement

3.5.1 Description of Conducted Band Edge Measurement

24.238 (a) for Band 2

For operations in the 1850-1910 and 1930-1990 MHz band, the FCC limit is 43 + $10\log_{10}$(P[Watts]) dB below the transmitter power P(Watts) in a 1MHz bandwidth. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

27.53 (g) for Band 12,17

For operations in the 698 -746 MHz band, the FCC limit is 43 + 10log10(P[Watts]) dB below the transmitter power P(Watts) in a 100 kHz bandwidth. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

27.53 (h) for Band 4

For operations in the 1710 – 1755 MHz band, the FCC limit is 43 + $10\log_{10}$(P[Watts]) dB below the transmitter power P(Watts) in a 1 MHz bandwidth. However, in the 1MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

3.5.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.5.3 Test Procedures

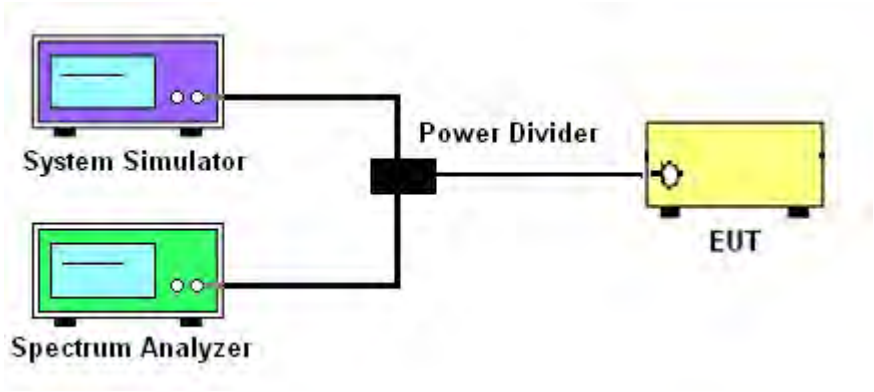
1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The band edges of low and high channels for the highest RF powers were measured. Set RBW >= 1% EBW in the 1MHz band immediately outside and adjacent to the band edge.
3. Set spectrum analyzer with RMS detector.
4. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
5. The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)

   = P(W)- [43 + 10log(P)] (dB)

   = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)

   = -13dBm.

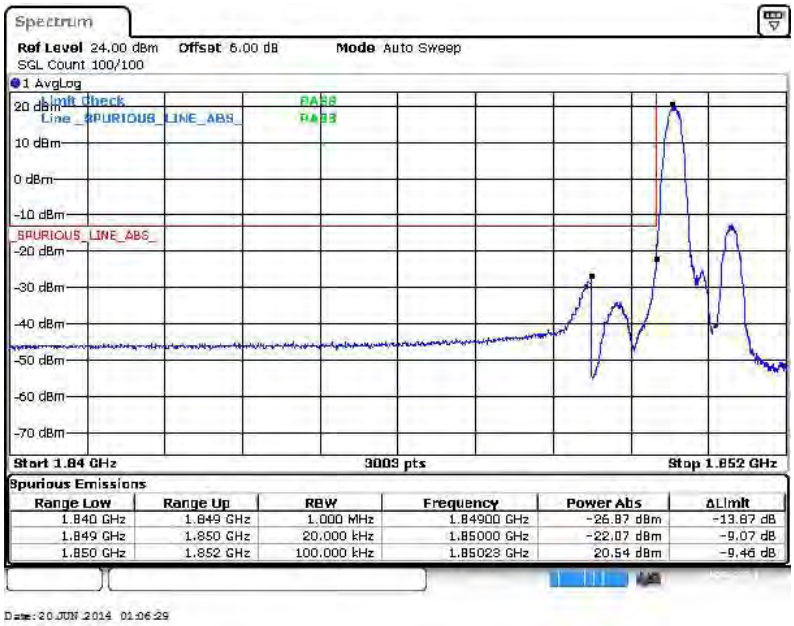
3.5.4 Test Setup



3.5.5 Test Result (Plots) of Conducted Band Edge

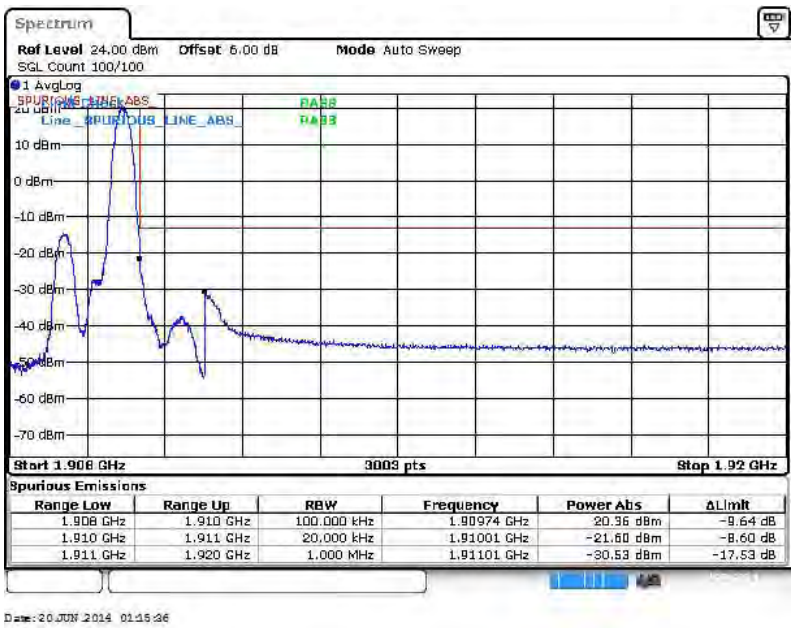
Band :	LTE Band 2	Band Width :	1.4MHz / QPSK

Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0

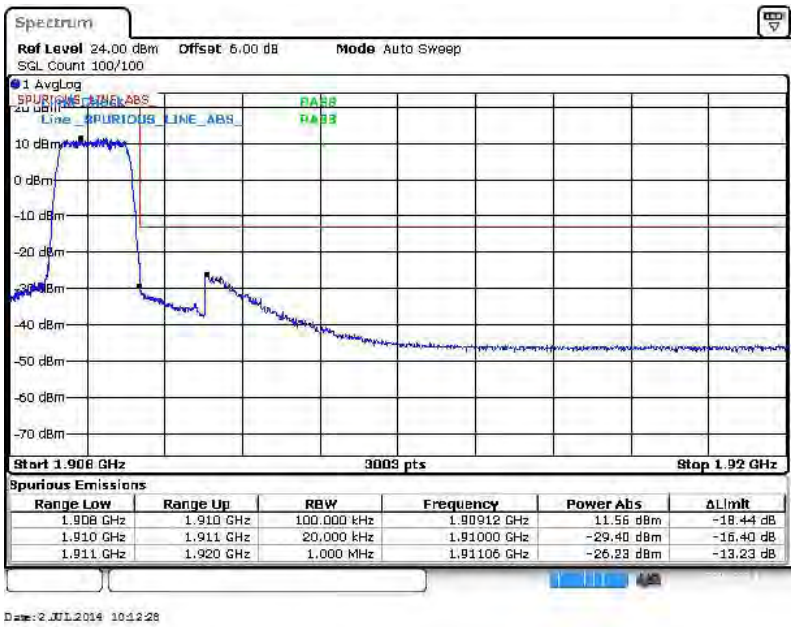


Lower Band Edge Plot for QPSK-RB Size 6, RB Offset 0

Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 5

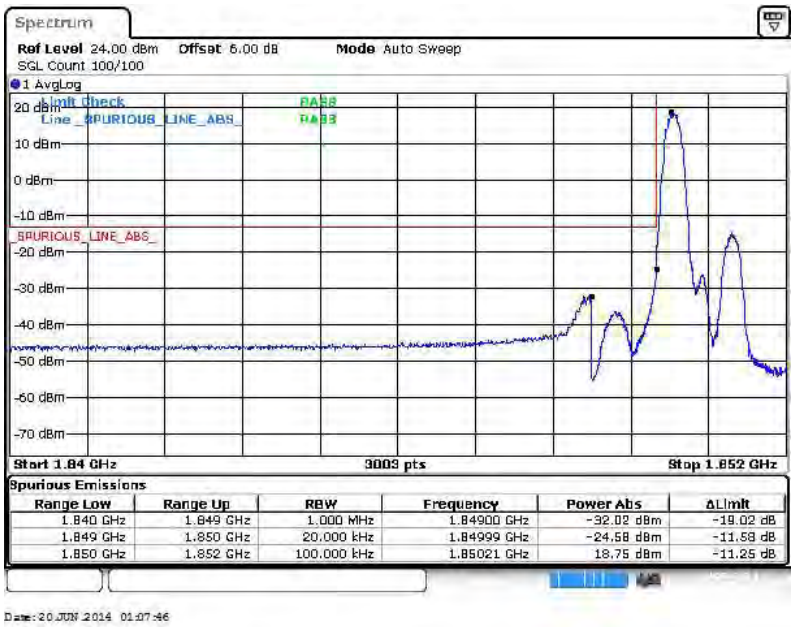


Higher Band Edge Plot for QPSK-RB Size 6, RB Offset 0

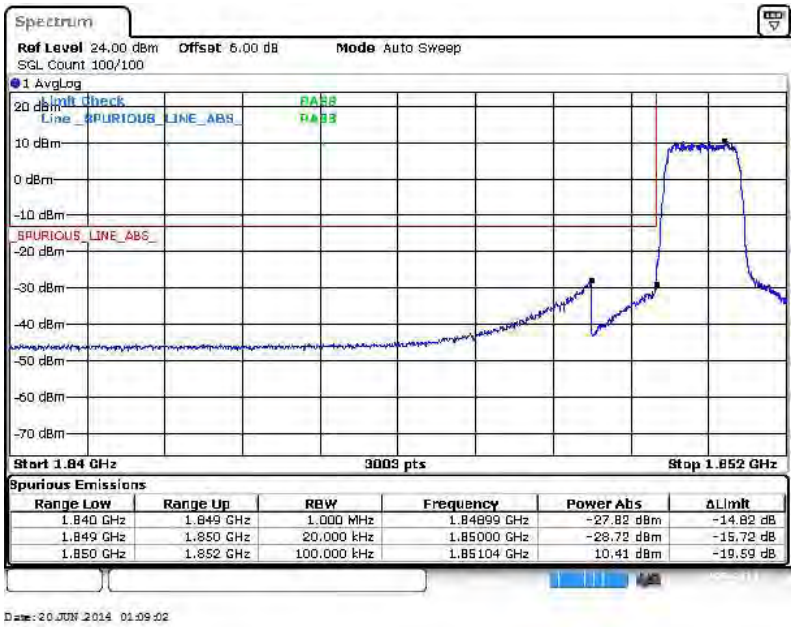


Band :	LTE Band 2	Band Width :	1.4MHz / 16QAM

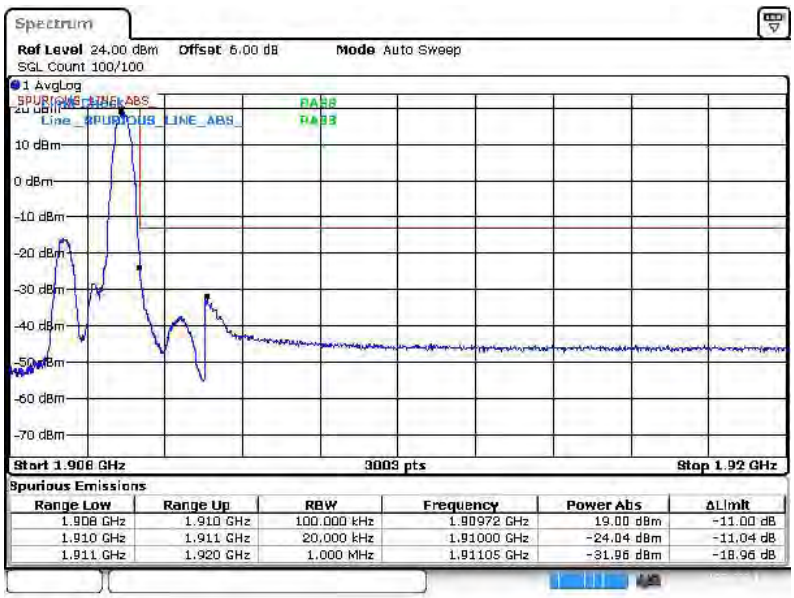
Lower Band Edge Plot for 16QAM -RB Size 1, RB Offset 0



Lower Band Edge Plot for 16QAM -RB Size 6, RB Offset 0



Higher Band Edge Plot for 16QAM -RB Size 1, RB Offset 5



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.908 GHz	1.910 GHz	100.000 kHz	1.90972 GHz	19.00 dBm	-11.00 dB
1.910 GHz	1.911 GHz	20.000 kHz	1.91000 GHz	-24.04 dBm	-11.04 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91105 GHz	-31.96 dBm	-18.96 dB

Date:20.JUN.2014 01:24:18

Higher Band Edge Plot for 16QAM -RB Size 6, RB Offset 0

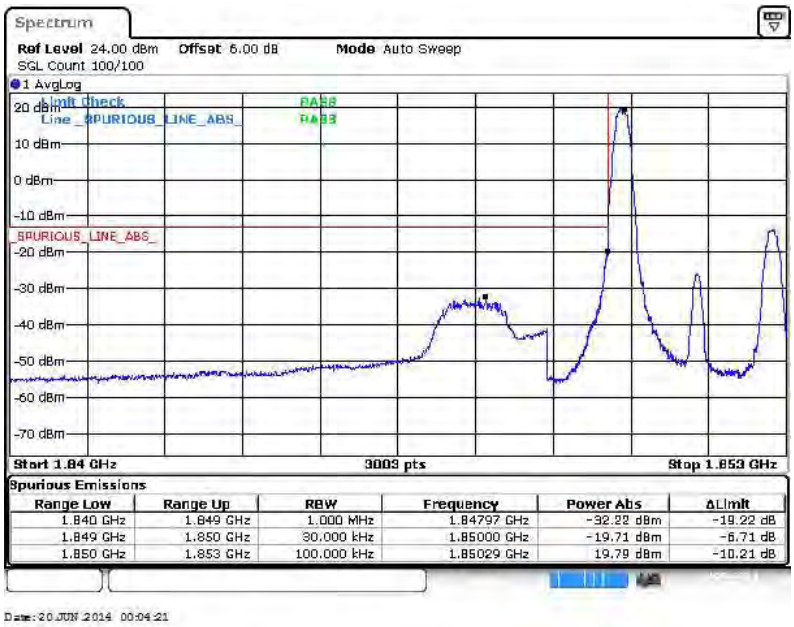
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.908 GHz	1.910 GHz	100.000 kHz	1.90944 GHz	10.66 dBm	-19.34 dB
1.910 GHz	1.911 GHz	20.000 kHz	1.91000 GHz	-30.18 dBm	-17.18 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91103 GHz	-27.97 dBm	-14.97 dB

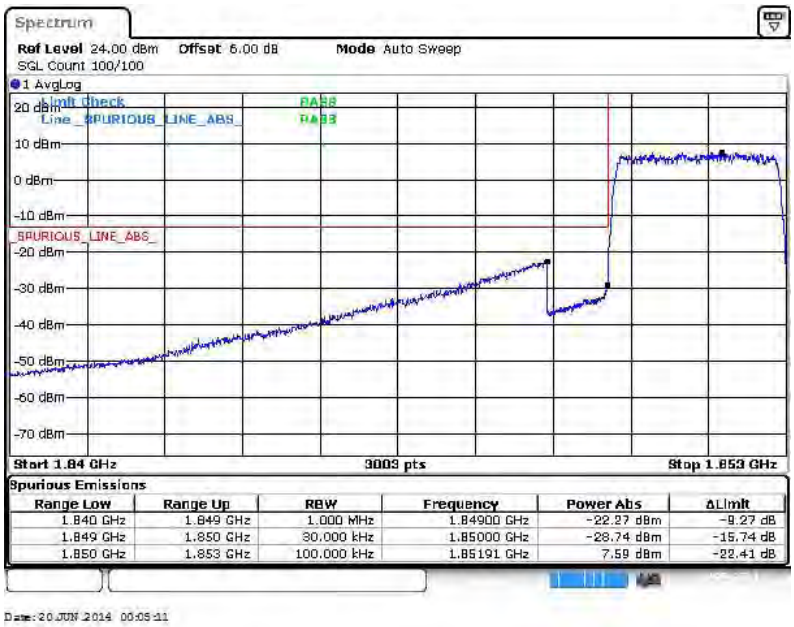
Date:2.JUL.2014 10:13:47

Band :	LTE Band 2	Band Width :	3MHz / QPSK

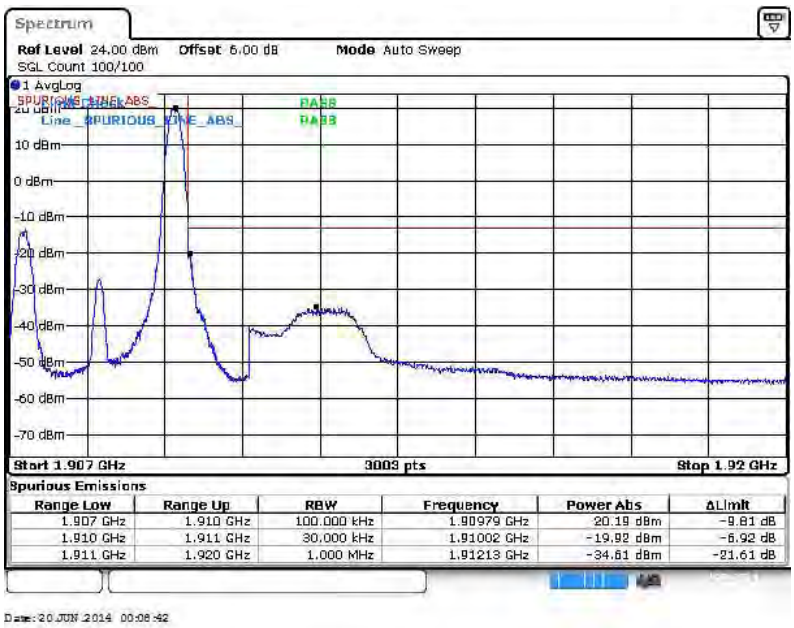
Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Lower Band Edge Plot for QPSK-RB Size 15, RB Offset 0



Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 14

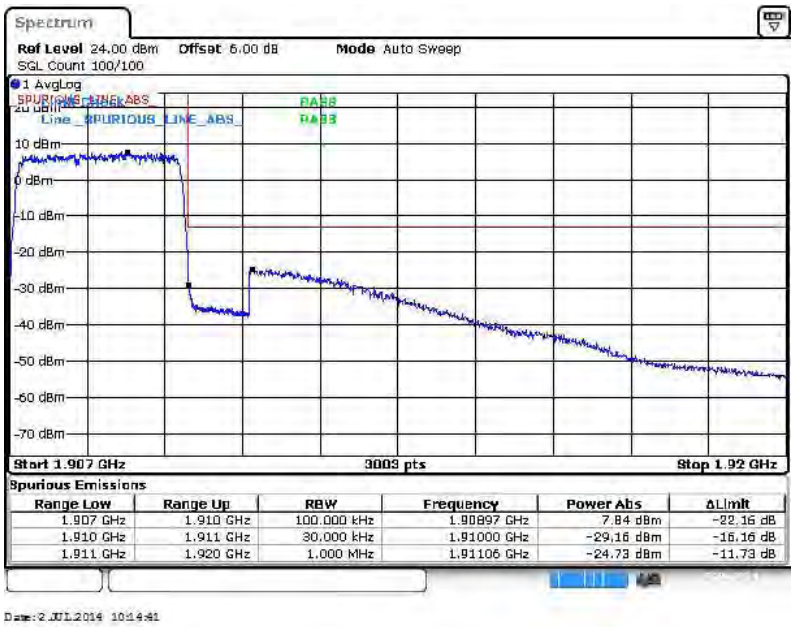


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.907 GHz	1.910 GHz	100.000 kHz	1.90979 GHz	20.19 dBm	-9.81 dB
1.910 GHz	1.911 GHz	30.000 kHz	1.91002 GHz	-19.92 dBm	-6.92 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91213 GHz	-34.61 dBm	-21.61 dB

Date:20.JUN.2014 00:08:42

Higher Band Edge Plot for QPSK-RB Size 15, RB Offset 0



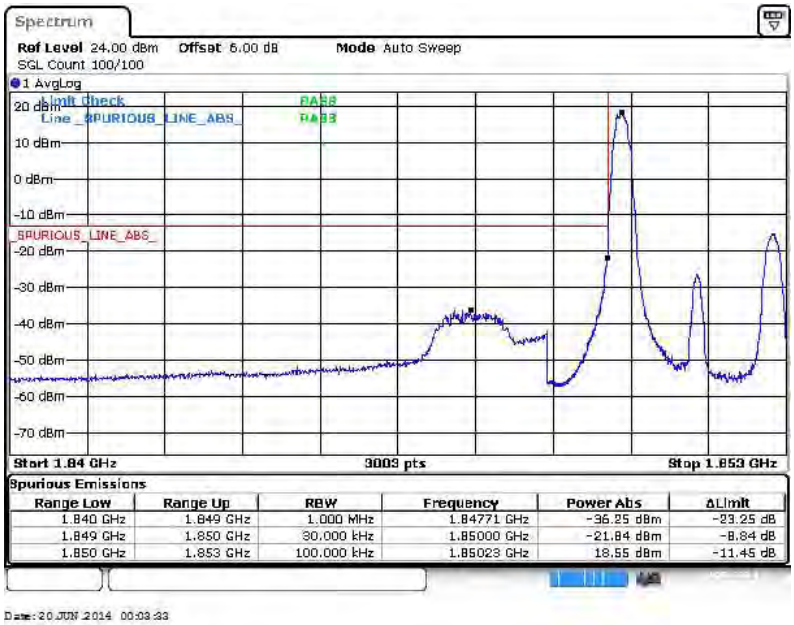
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.907 GHz	1.910 GHz	100.000 kHz	1.90897 GHz	7.84 dBm	-22.16 dB
1.910 GHz	1.911 GHz	30.000 kHz	1.91000 GHz	-29.16 dBm	-16.16 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91106 GHz	-24.73 dBm	-11.73 dB

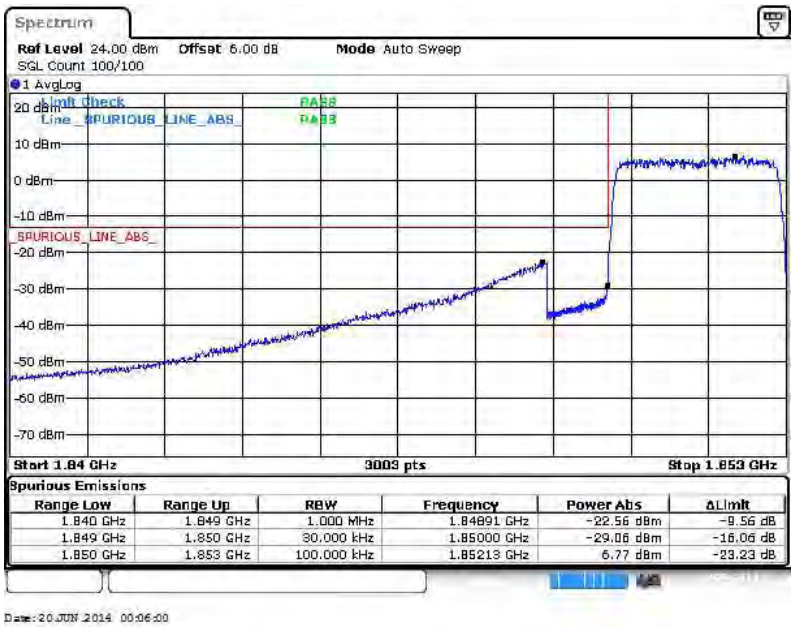
Date:2.JUL.2014 10:14:41

Band :	LTE Band 2	Band Width :	3MHz / 16QAM

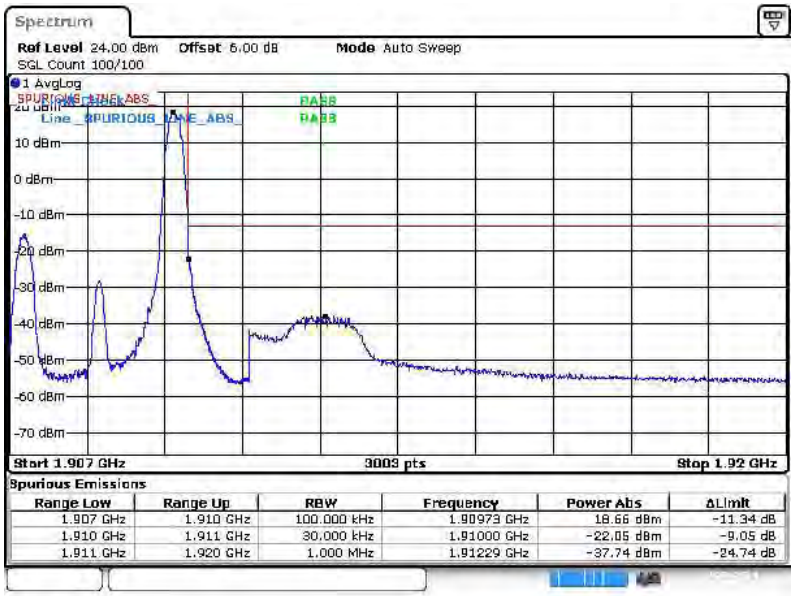
Lower Band Edge Plot for 16QAM -RB Size 1, RB Offset 0



Lower Band Edge Plot for 16QAM -RB Size 15, RB Offset 0



Higher Band Edge Plot for 16QAM -RB Size 1, RB Offset 14

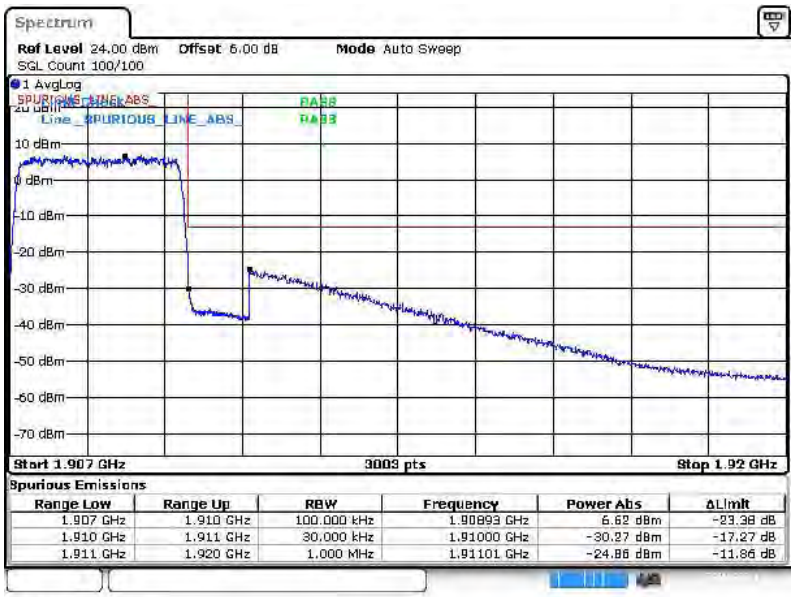


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.907 GHz	1.910 GHz	100.000 kHz	1.90973 GHz	18.66 dBm	-11.34 dB
1.910 GHz	1.911 GHz	30.000 kHz	1.91000 GHz	-22.05 dBm	-9.05 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91229 GHz	-37.74 dBm	-24.74 dB

Date:20.JUN.2014 00:09:31

Higher Band Edge Plot for 16QAM -RB Size 15, RB Offset 0



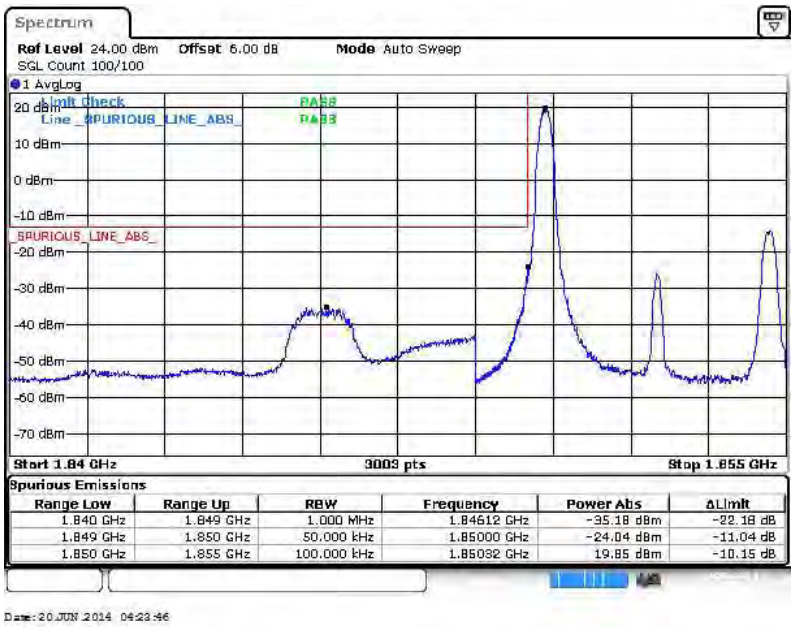
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.907 GHz	1.910 GHz	100.000 kHz	1.90893 GHz	6.62 dBm	-23.38 dB
1.910 GHz	1.911 GHz	30.000 kHz	1.91000 GHz	-30.27 dBm	-17.27 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91101 GHz	-24.86 dBm	-11.86 dB

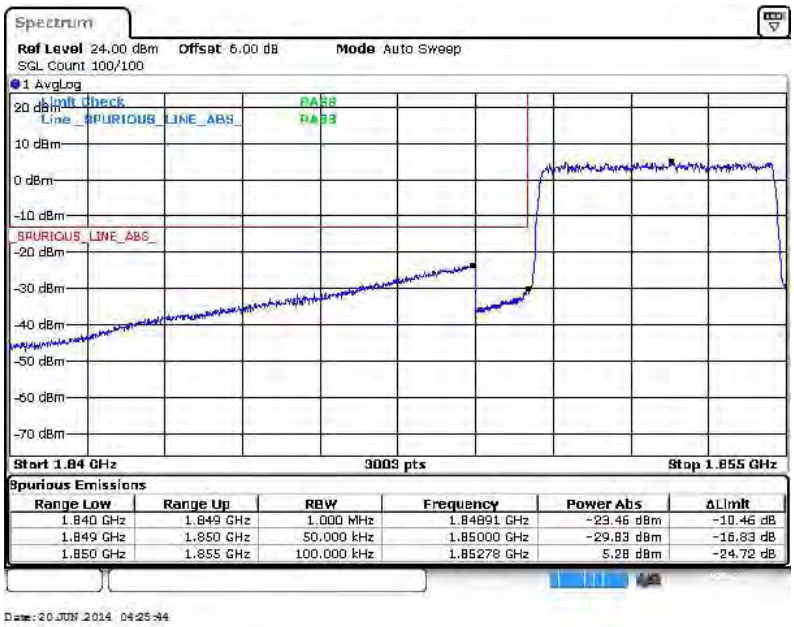
Date:2.JUL.2014 10:15:31

Band :	LTE Band 2	Band Width :	5MHz / QPSK

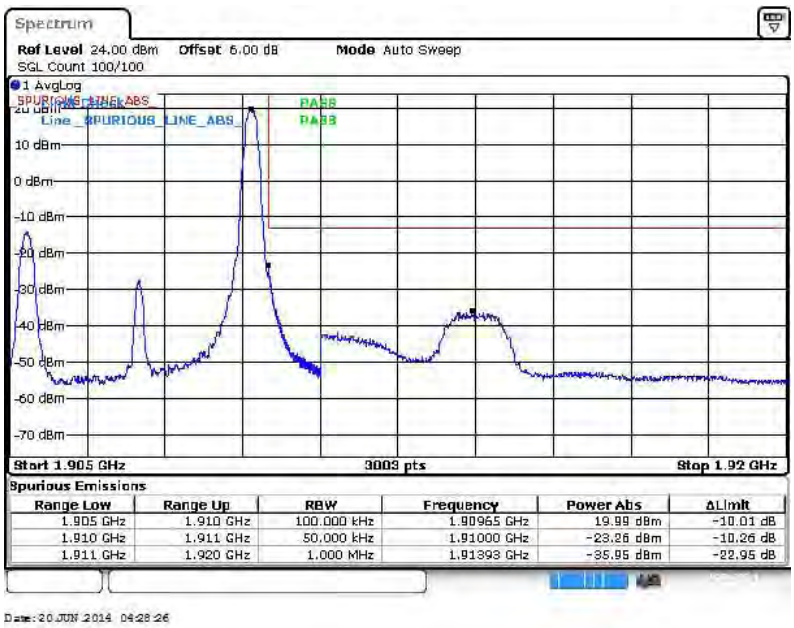
Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Lower Band Edge Plot for QPSK-RB Size 25, RB Offset 0



Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 24

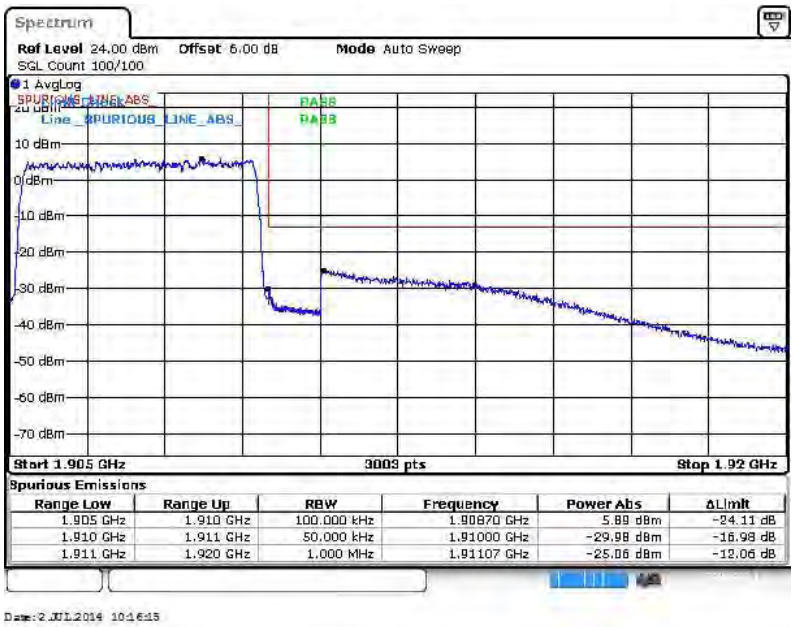


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.905 GHz	1.910 GHz	100.000 kHz	1.90965 GHz	19.99 dBm	-10.01 dB
1.910 GHz	1.911 GHz	50.000 kHz	1.91000 GHz	-23.26 dBm	-10.26 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91393 GHz	-35.95 dBm	-22.95 dB

Date:20.JUN.2014 04:28:26

Higher Band Edge Plot for QPSK-RB Size 25, RB Offset 0



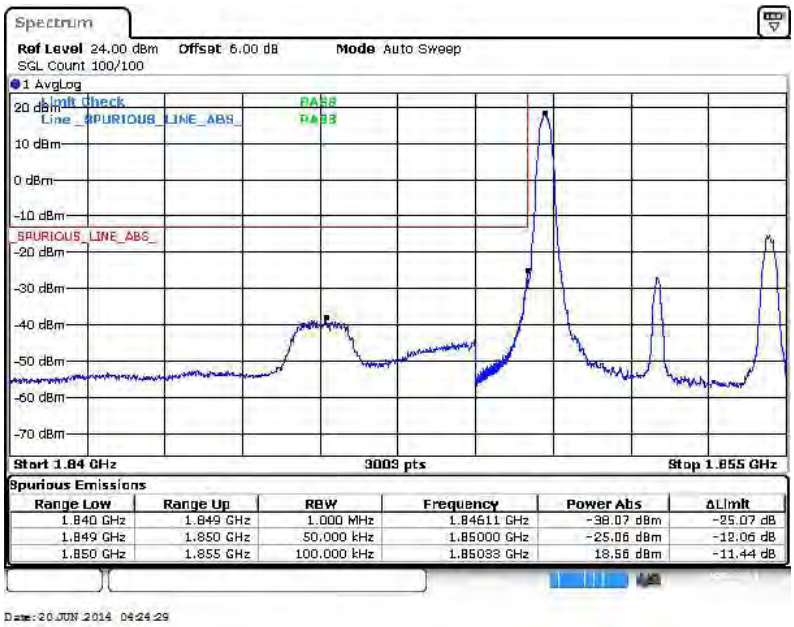
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.905 GHz	1.910 GHz	100.000 kHz	1.90870 GHz	5.89 dBm	-24.11 dB
1.910 GHz	1.911 GHz	50.000 kHz	1.91000 GHz	-29.98 dBm	-16.98 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91107 GHz	-25.06 dBm	-12.06 dB

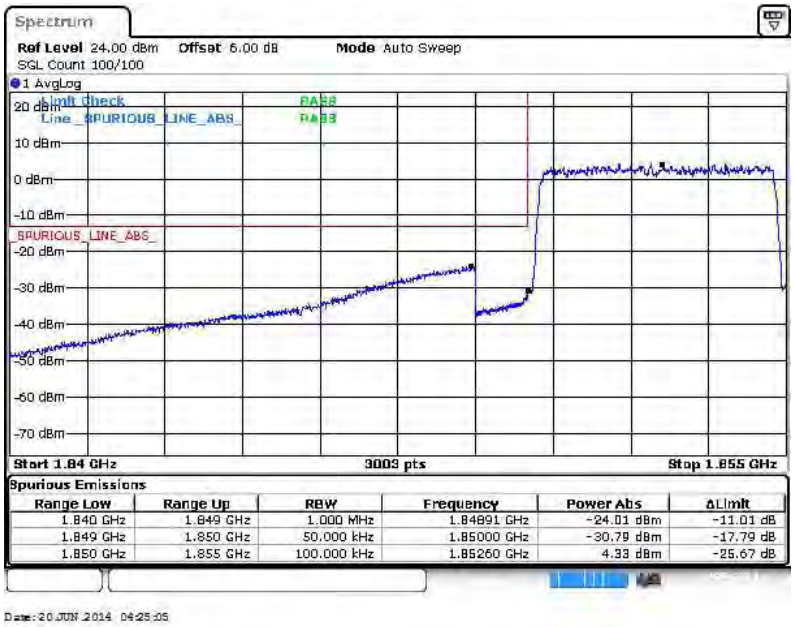
Date:2.JUL.2014 10:16:15

Band :	LTE Band 2	Band Width :	5MHz / 16QAM

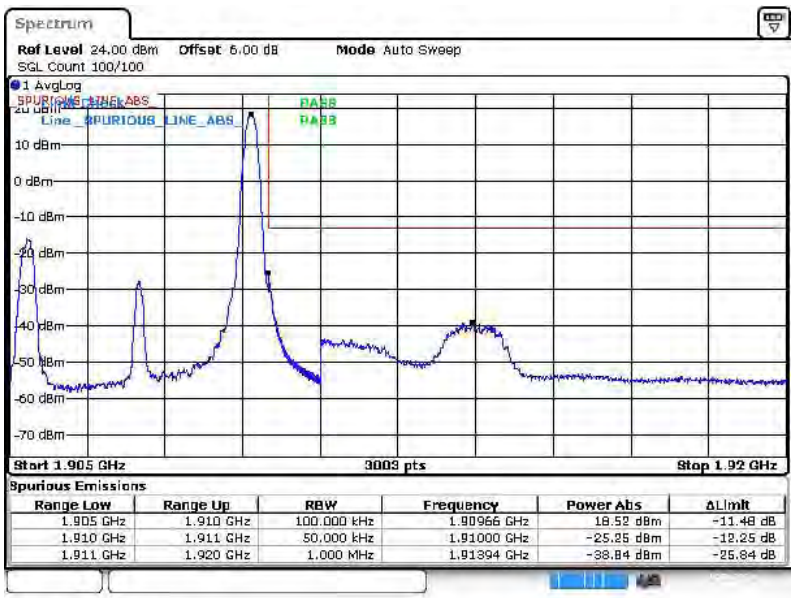
Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Lower Band Edge Plot for 16QAM-RB Size 25, RB Offset 0



Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 24

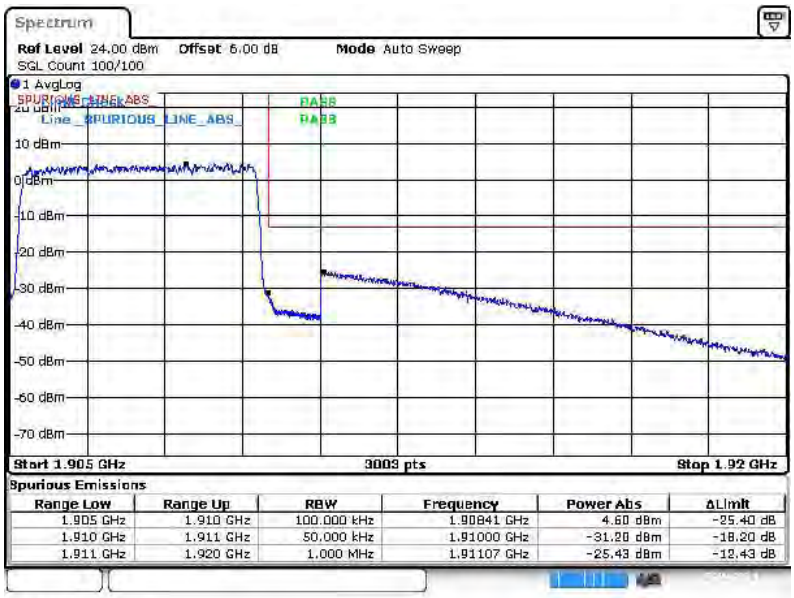


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.905 GHz	1.910 GHz	100.000 kHz	1.90966 GHz	18.52 dBm	-11.48 dB
1.910 GHz	1.911 GHz	50.000 kHz	1.91000 GHz	-25.25 dBm	-12.25 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91394 GHz	-38.84 dBm	-25.84 dB

Date:20.JUN.2014 04:27:44

Higher Band Edge Plot for 16QAM-RB Size 25, RB Offset 0



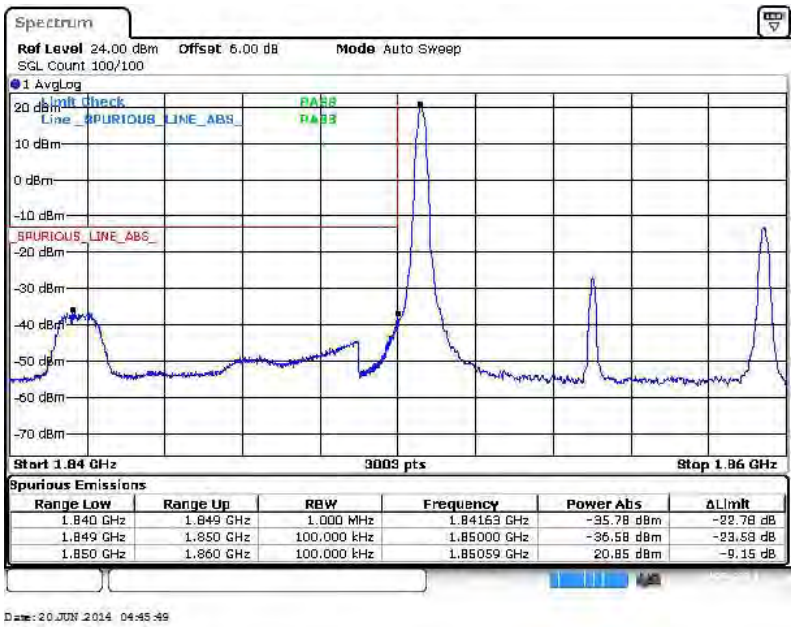
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.905 GHz	1.910 GHz	100.000 kHz	1.90841 GHz	4.60 dBm	-25.40 dB
1.910 GHz	1.911 GHz	50.000 kHz	1.91000 GHz	-31.20 dBm	-18.20 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91107 GHz	-25.43 dBm	-12.43 dB

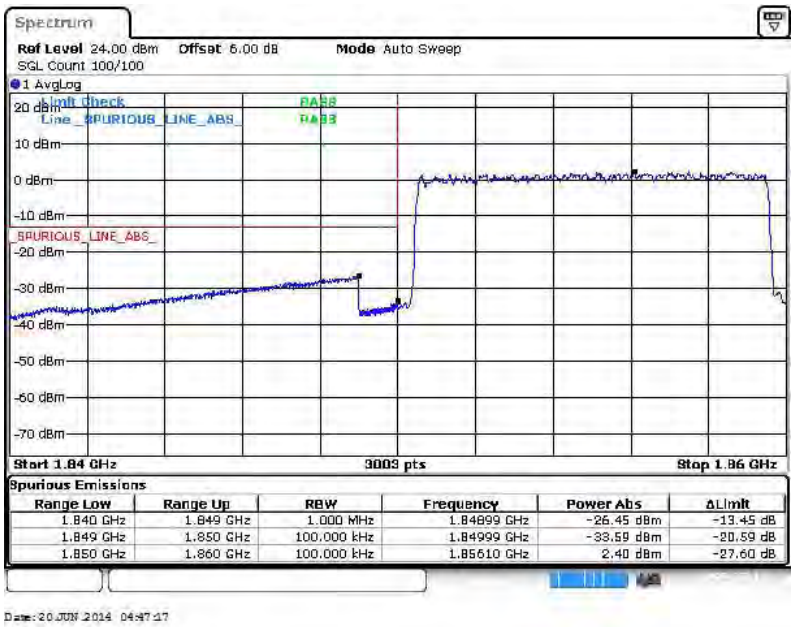
Date:2.JUL.2014 10:16:49

Band :	LTE Band 2	Band Width :	10MHz / QPSK

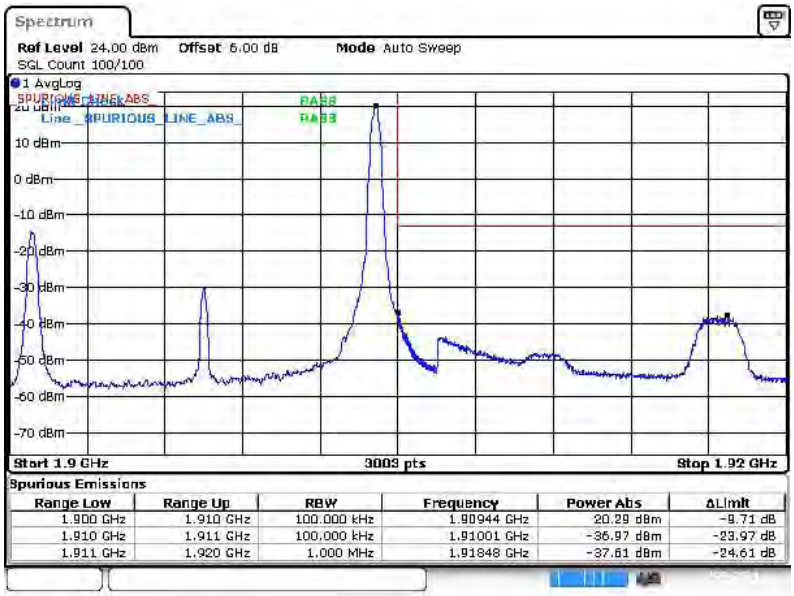
Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Lower Band Edge Plot for QPSK-RB Size 50, RB Offset 0



Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 49

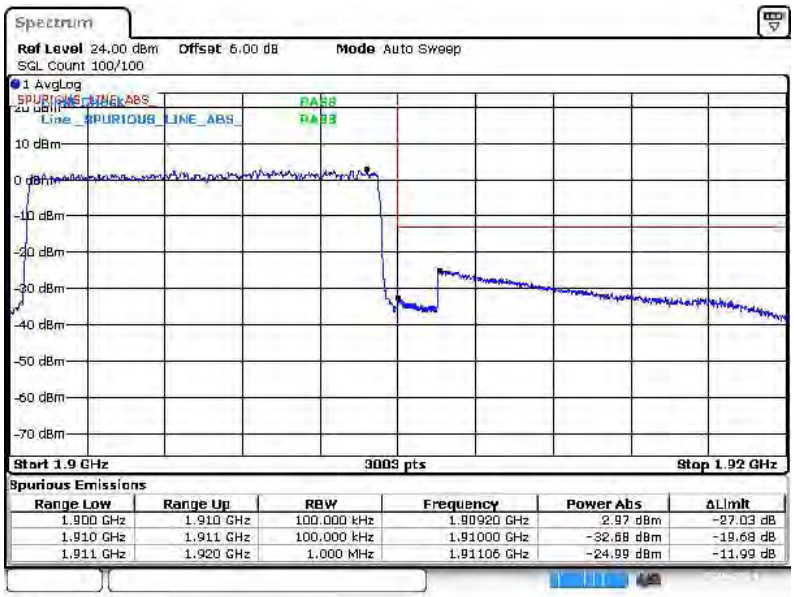


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.900 GHz	1.910 GHz	100.000 kHz	1.90944 GHz	20.29 dBm	-9.71 dB
1.910 GHz	1.911 GHz	100.000 kHz	1.91001 GHz	-36.97 dBm	-23.97 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91848 GHz	-37.61 dBm	-24.61 dB

Date:20.JUN.2014 04:49:38

Higher Band Edge Plot for QPSK-RB Size 50, RB Offset 0



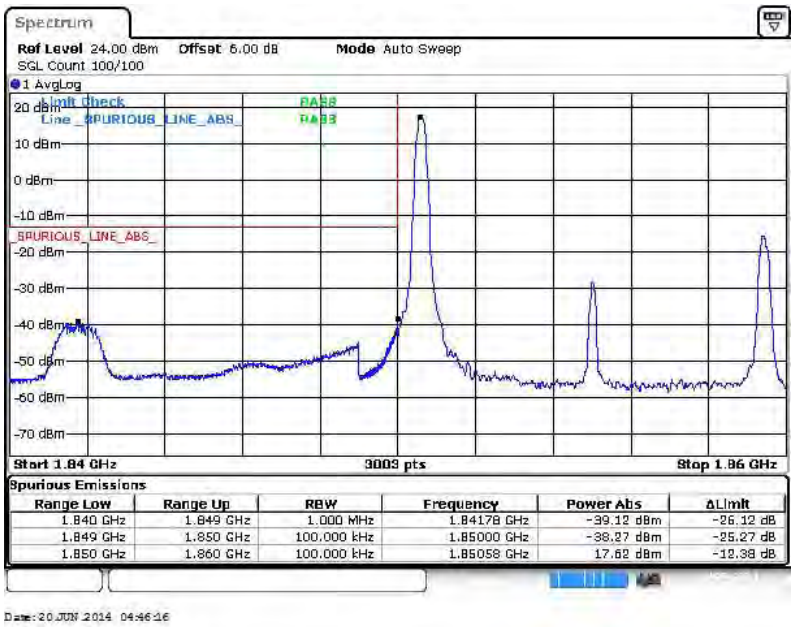
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.900 GHz	1.910 GHz	100.000 kHz	1.90920 GHz	2.97 dBm	-27.03 dB
1.910 GHz	1.911 GHz	100.000 kHz	1.91000 GHz	-32.68 dBm	-19.68 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91106 GHz	-24.99 dBm	-11.99 dB

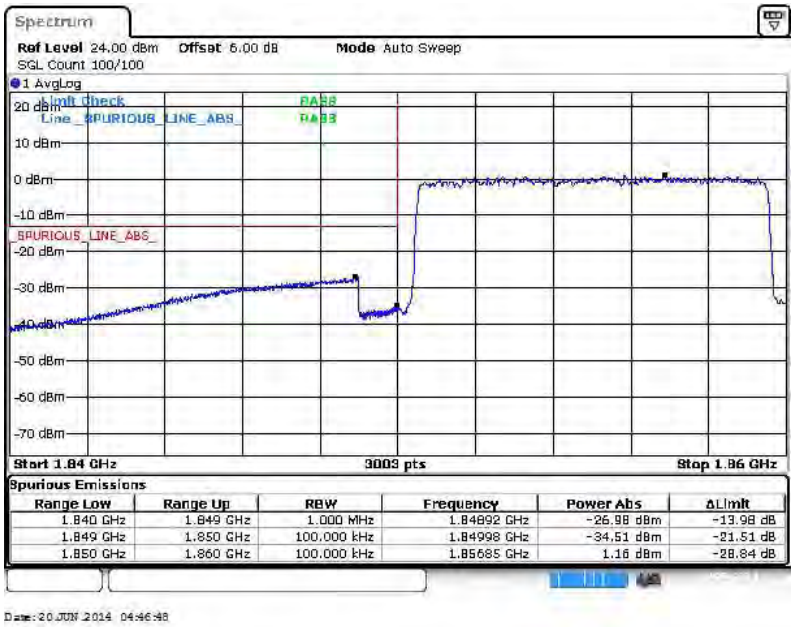
Date:2.JUL.2014 10:17:21

Band :	LTE Band 2	Band Width :	10MHz / 16QAM

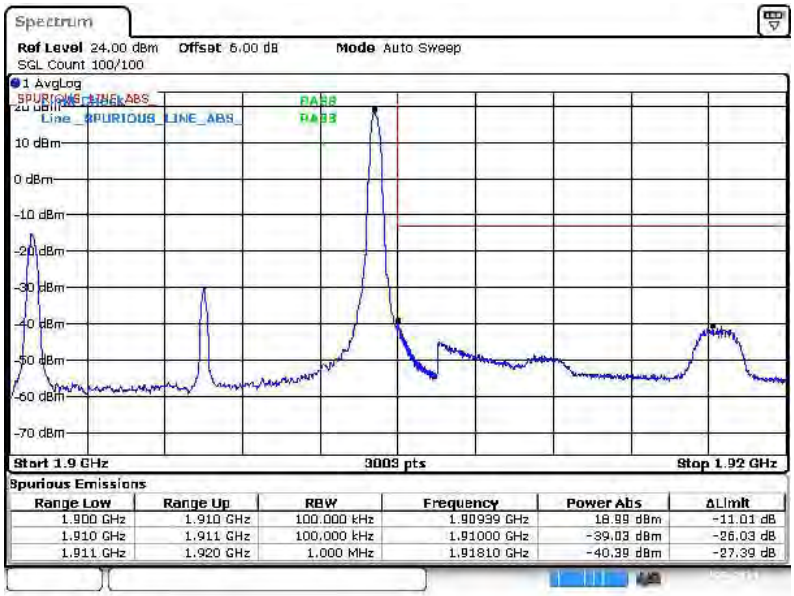
Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Lower Band Edge Plot for 16QAM-RB Size 50, RB Offset 0



Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 49

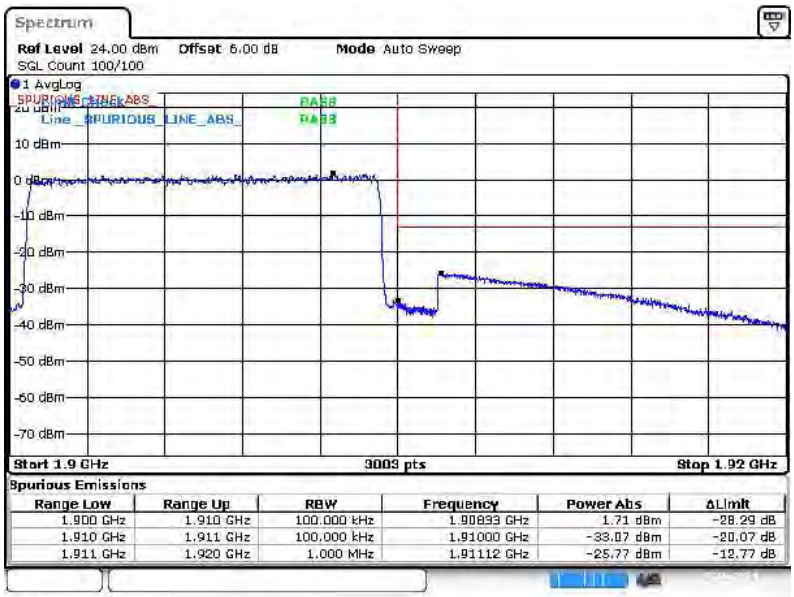


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.900 GHz	1.910 GHz	100.000 kHz	1.90939 GHz	18.99 dBm	-11.01 dB
1.910 GHz	1.911 GHz	100.000 kHz	1.91000 GHz	-39.03 dBm	-26.03 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91810 GHz	-40.39 dBm	-27.39 dB

Date:20.JUN.2014 04:49:08

Higher Band Edge Plot for 16QAM-RB Size 50, RB Offset 0



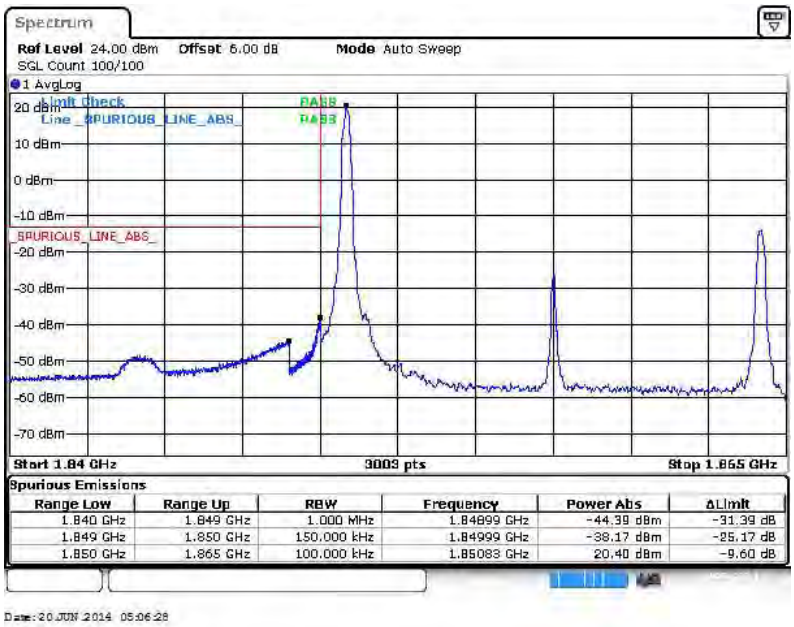
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.900 GHz	1.910 GHz	100.000 kHz	1.90833 GHz	1.71 dBm	-28.29 dB
1.910 GHz	1.911 GHz	100.000 kHz	1.91000 GHz	-33.07 dBm	-20.07 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91112 GHz	-25.77 dBm	-12.77 dB

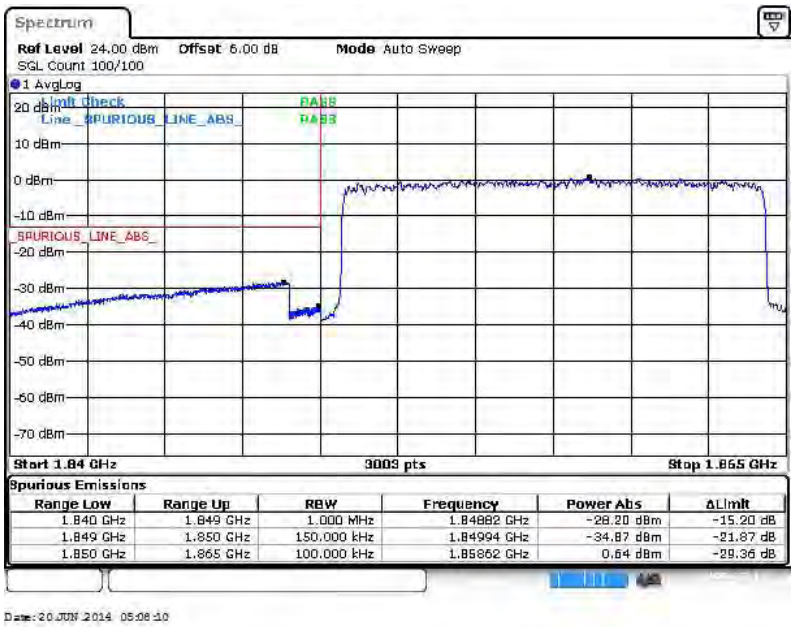
Date:2.JUL.2014 10:17:34

Band :	LTE Band 2	Band Width :	15MHz / QPSK

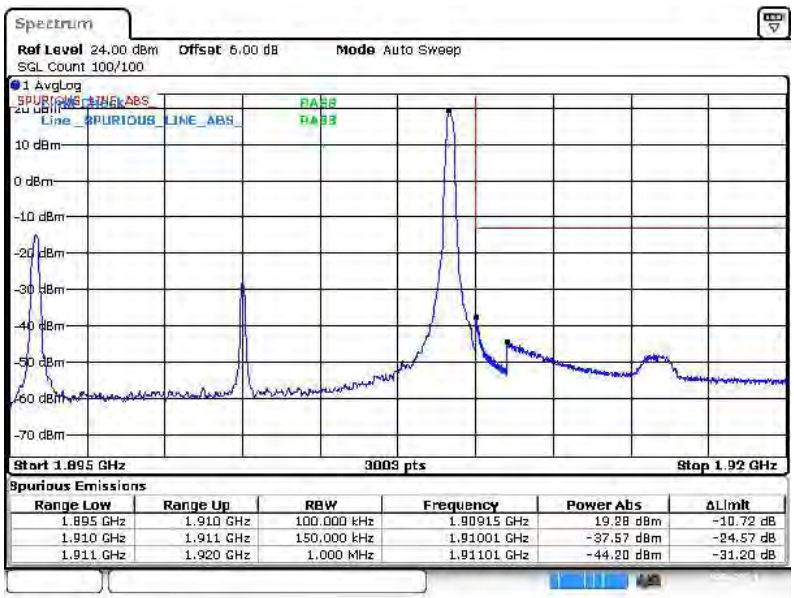
Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



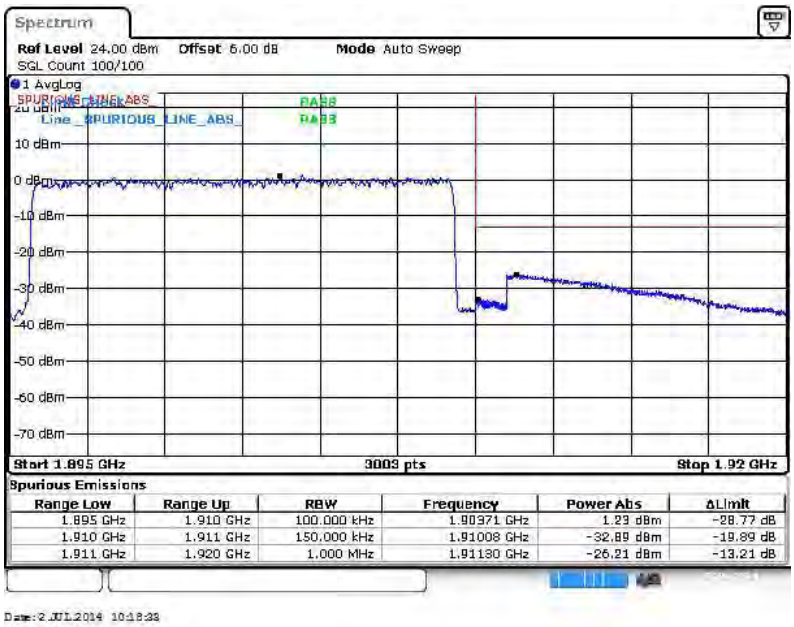
Lower Band Edge Plot for QPSK-RB Size 75, RB Offset 0



Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 74

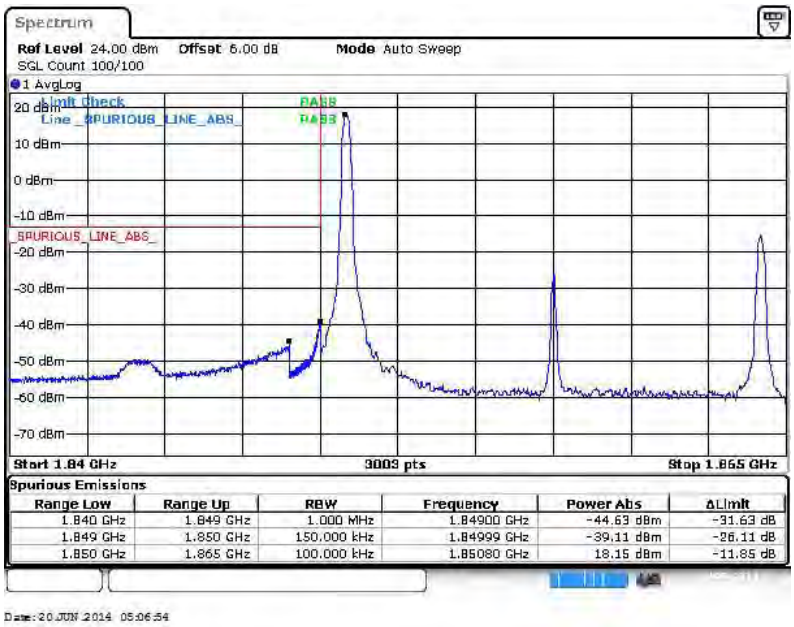


Higher Band Edge Plot for QPSK-RB Size 75, RB Offset 0

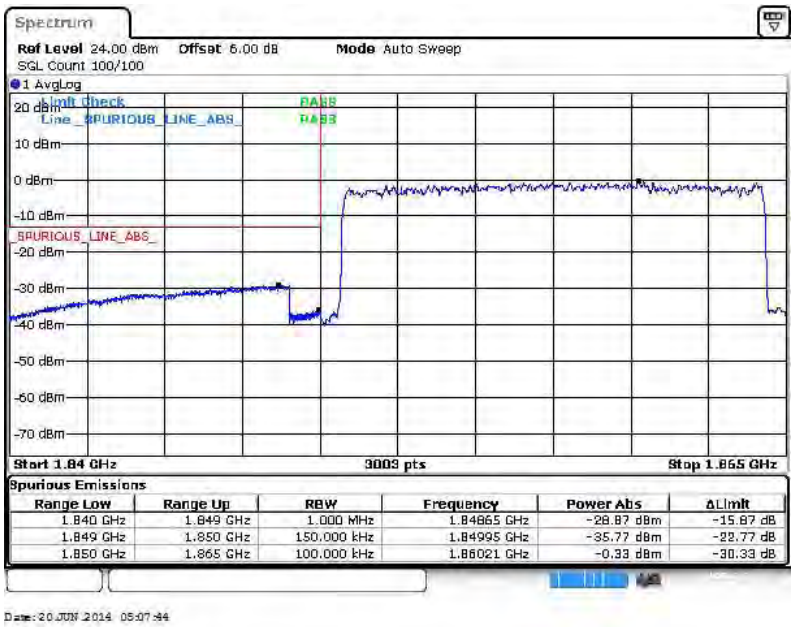


Band :	LTE Band 2	Band Width :	15MHz / 16QAM

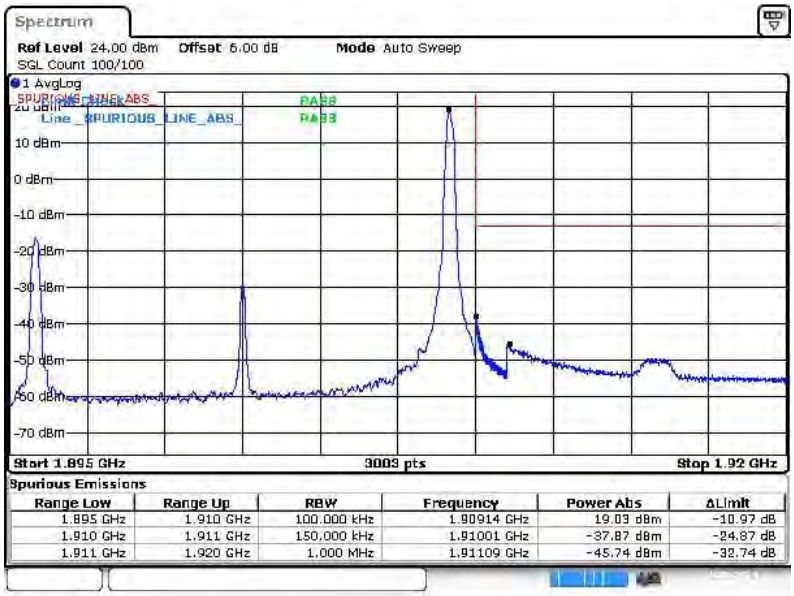
Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Lower Band Edge Plot for 16QAM-RB Size 75, RB Offset 0



Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 74

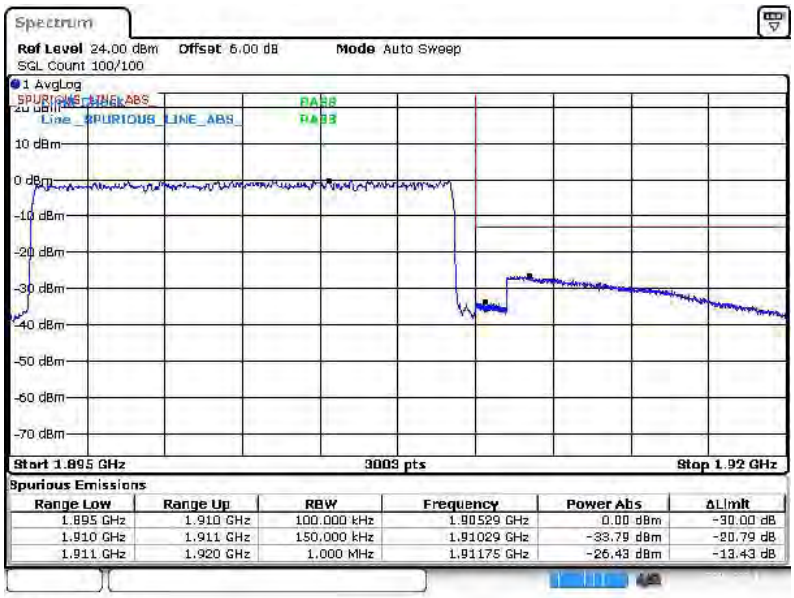


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.895 GHz	1.910 GHz	100.000 kHz	1.90914 GHz	19.03 dBm	-10.97 dB
1.910 GHz	1.911 GHz	150.000 kHz	1.91001 GHz	-37.87 dBm	-24.87 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91109 GHz	-45.74 dBm	-32.74 dB

Date:20.JUN.2014 05:09:38

Higher Band Edge Plot for 16QAM-RB Size 75, RB Offset 0



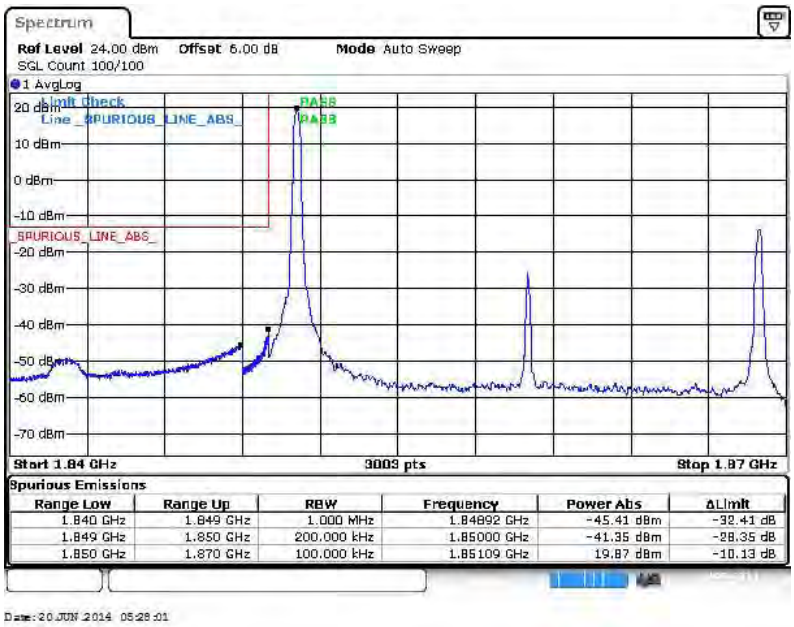
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.895 GHz	1.910 GHz	100.000 kHz	1.90529 GHz	0.00 dBm	-30.00 dB
1.910 GHz	1.911 GHz	150.000 kHz	1.91029 GHz	-33.79 dBm	-20.79 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91175 GHz	-26.43 dBm	-13.43 dB

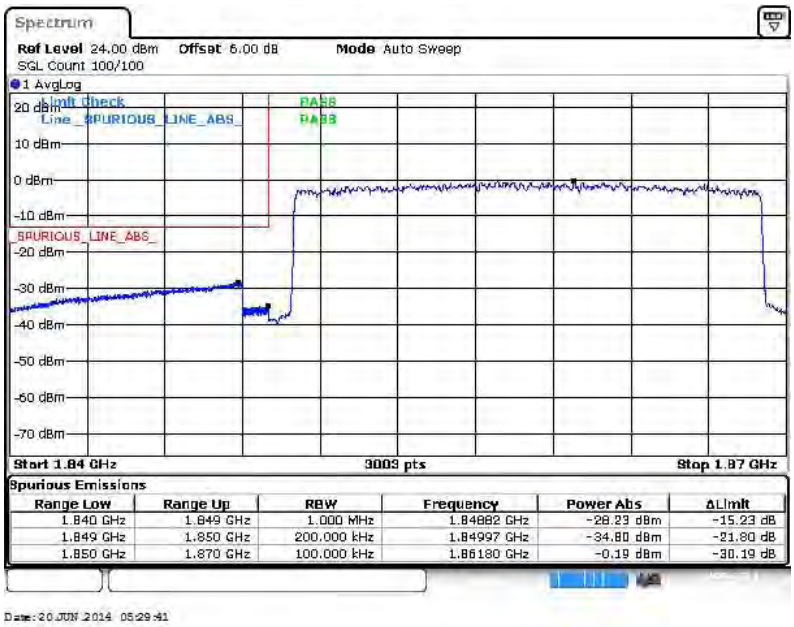
Date:2.JUL.2014 10:19:10

Band :	LTE Band 2	Band Width :	20MHz / QPSK

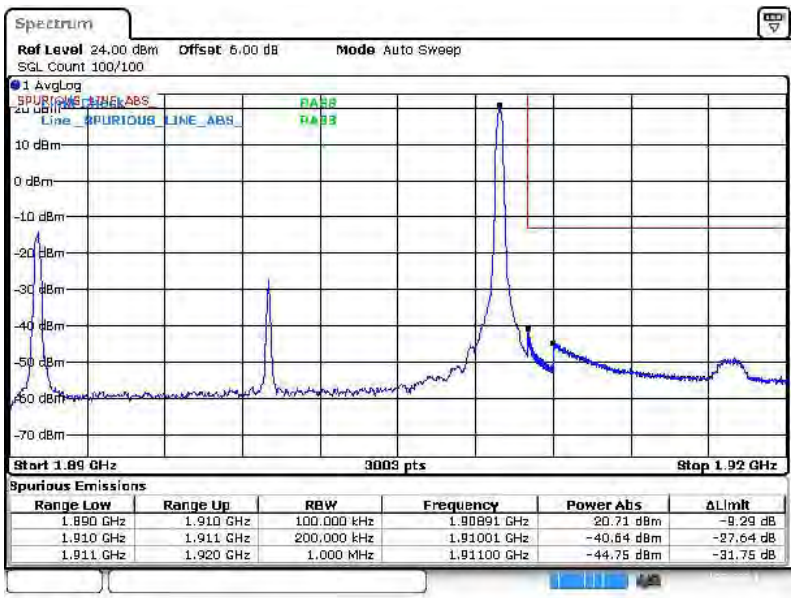
Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Lower Band Edge Plot for QPSK-RB Size 100, RB Offset 0



Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 99

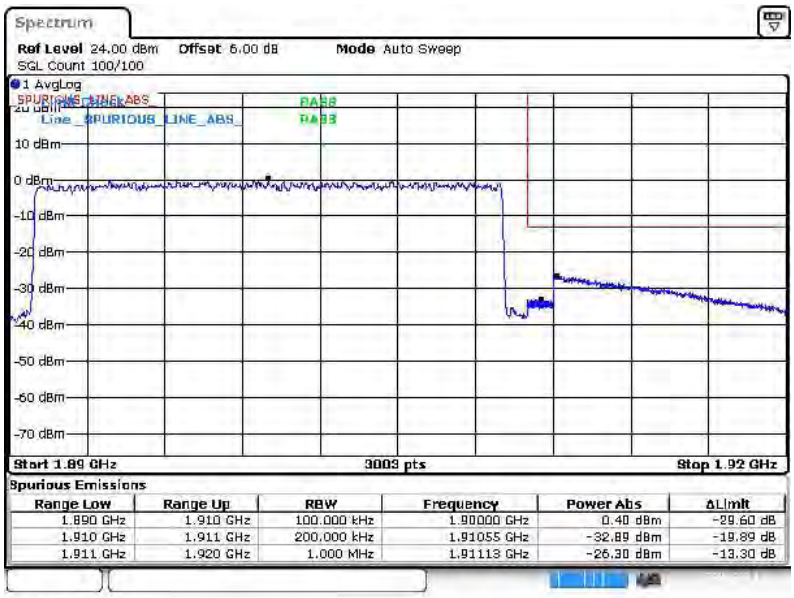


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.890 GHz	1.910 GHz	100.000 kHz	1.90891 GHz	20.71 dBm	-9.29 dB
1.910 GHz	1.911 GHz	200.000 kHz	1.91001 GHz	-40.64 dBm	-27.64 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91100 GHz	-44.75 dBm	-31.75 dB

Date:20.JUN.2014 05:21:38

Higher Band Edge Plot for QPSK-RB Size 100, RB Offset 0



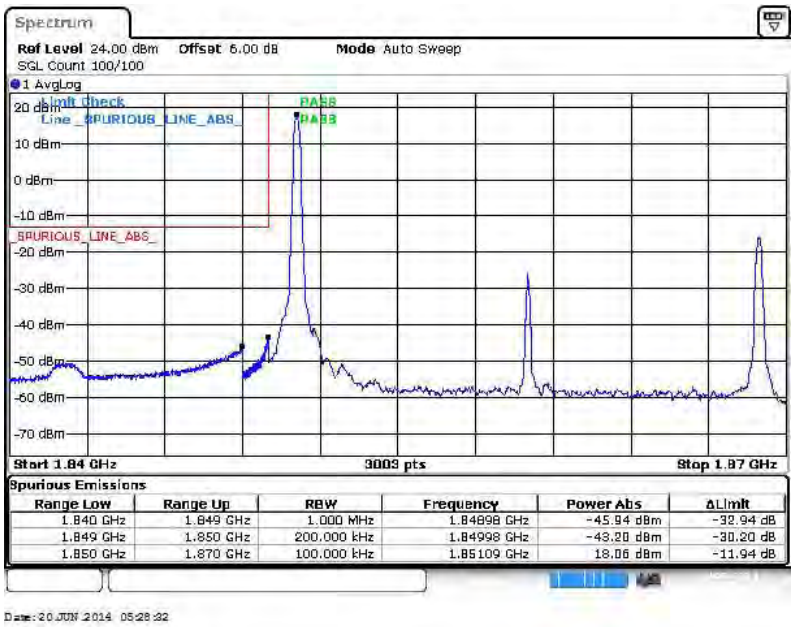
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.890 GHz	1.910 GHz	100.000 kHz	1.90000 GHz	0.40 dBm	-29.60 dB
1.910 GHz	1.911 GHz	200.000 kHz	1.91055 GHz	-32.89 dBm	-19.89 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91113 GHz	-26.30 dBm	-13.30 dB

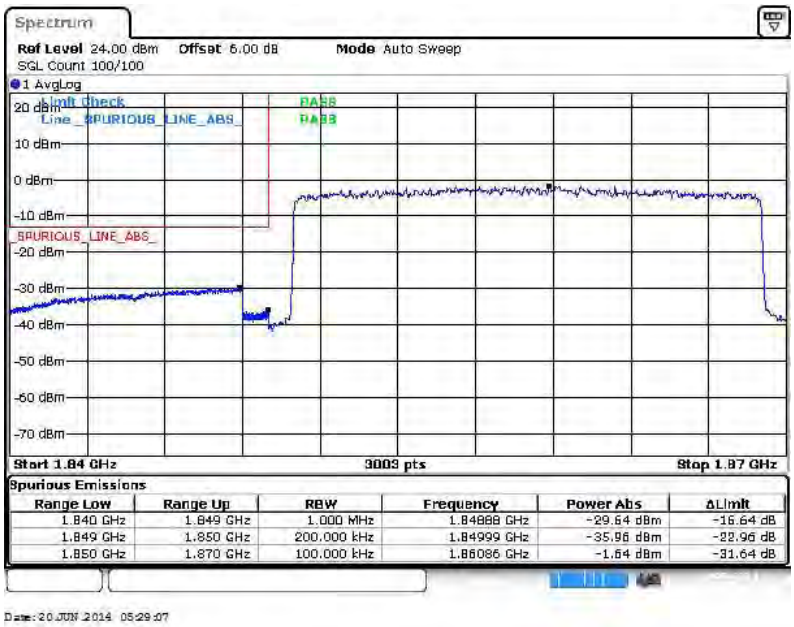
Date:2.JUL.2014 10:19:43

Band :	LTE Band 2	Band Width :	20MHz / 16QAM

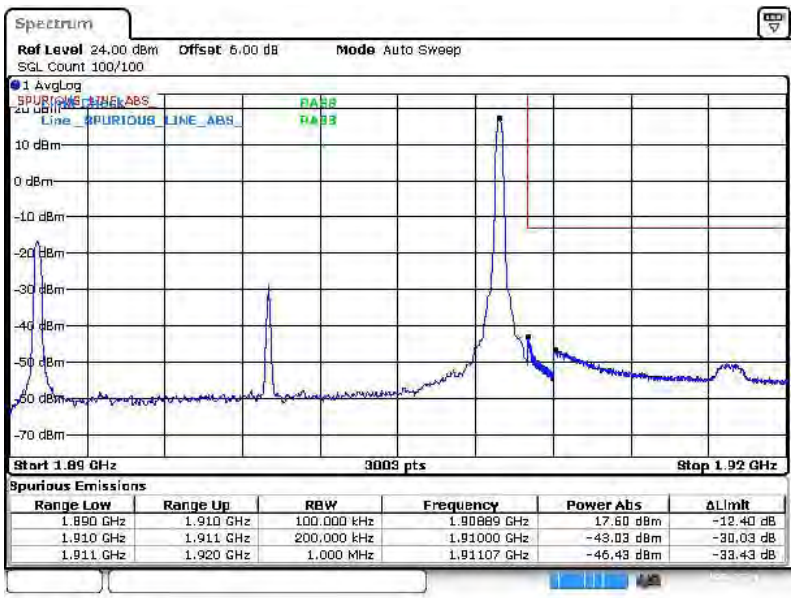
Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



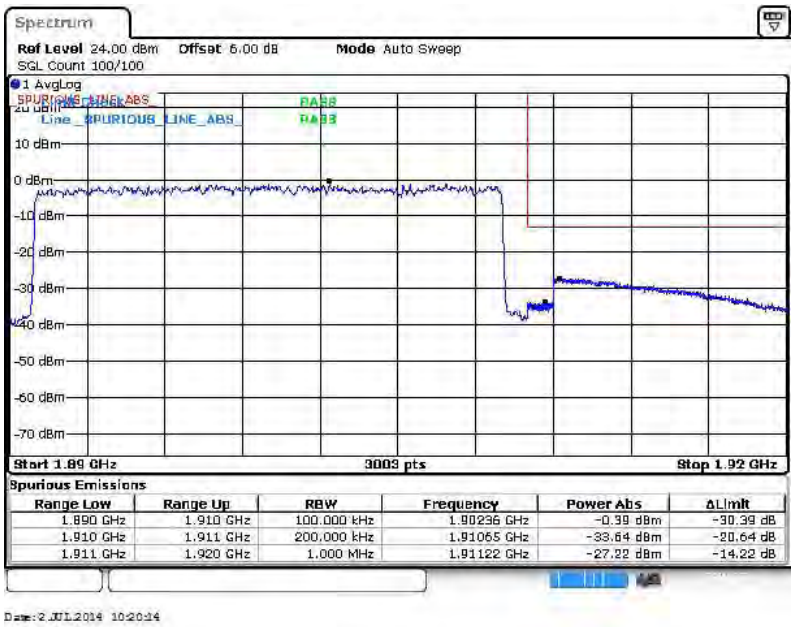
Lower Band Edge Plot for 16QAM-RB Size 100, RB Offset 0



Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 99

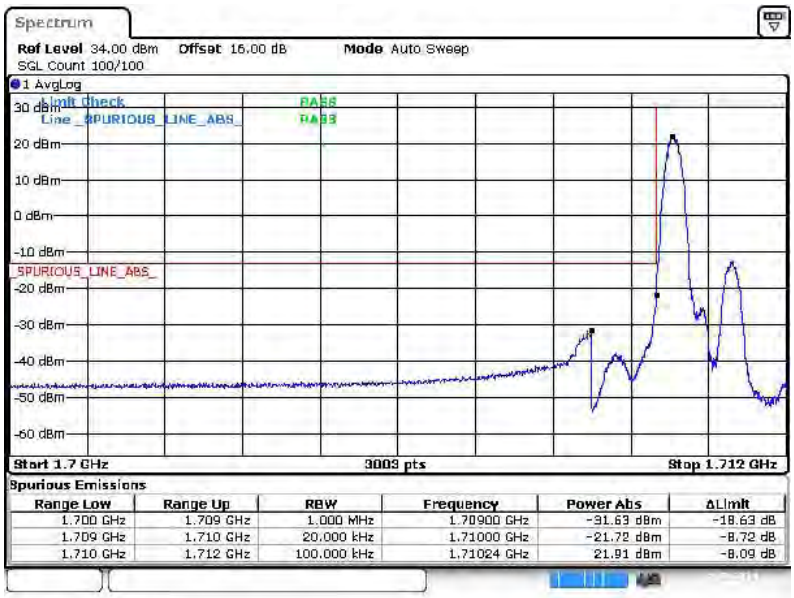


Higher Band Edge Plot for 16QAM-RB Size 100, RB Offset 0

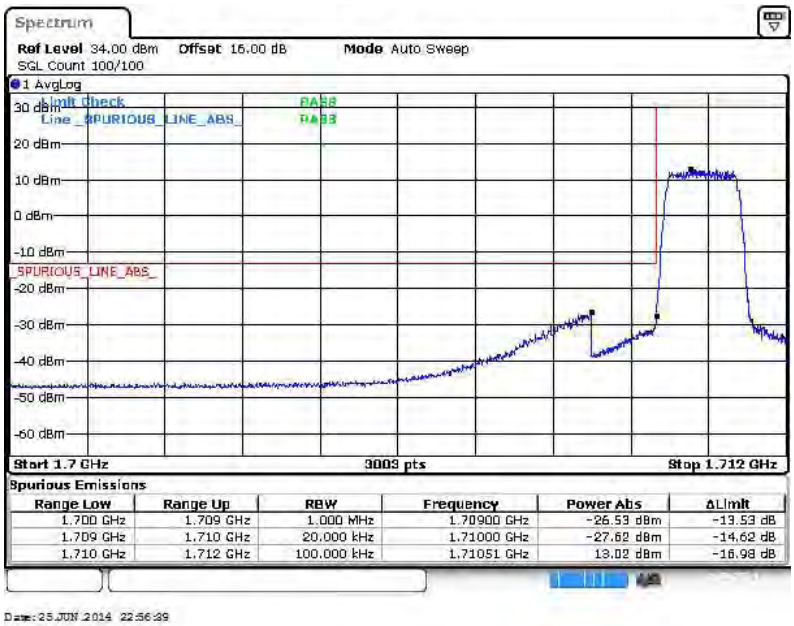


Band :	LTE Band 4	Band Width :	1.4MHz / QPSK

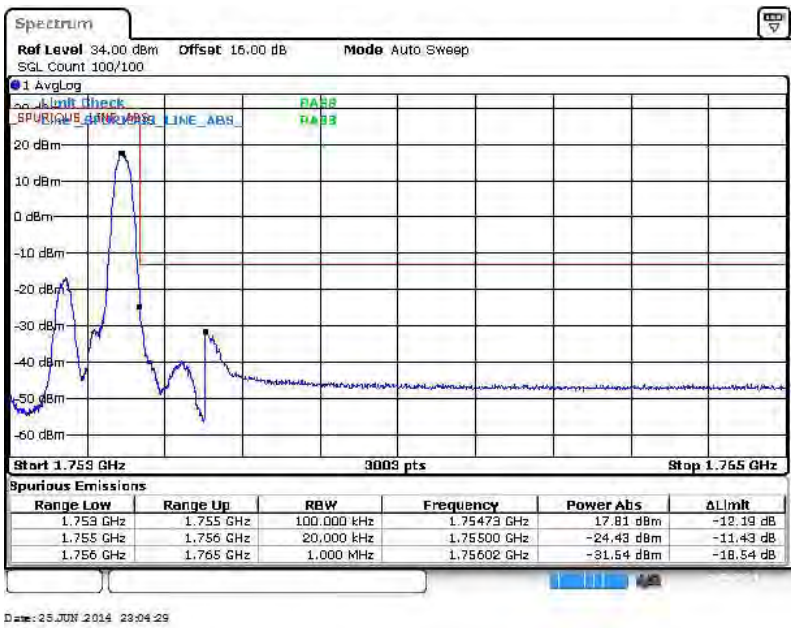
Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



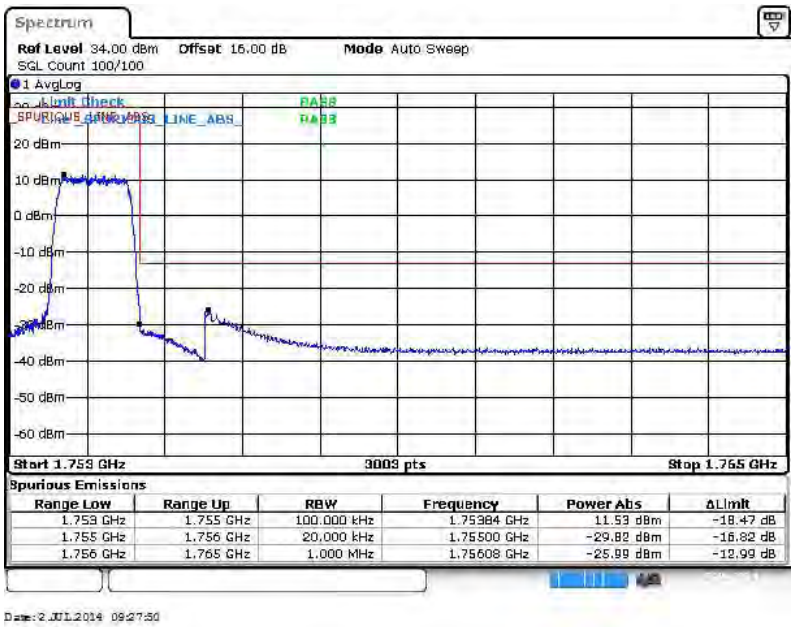
Lower Band Edge Plot for QPSK-RB Size 6, RB Offset 0



Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 5

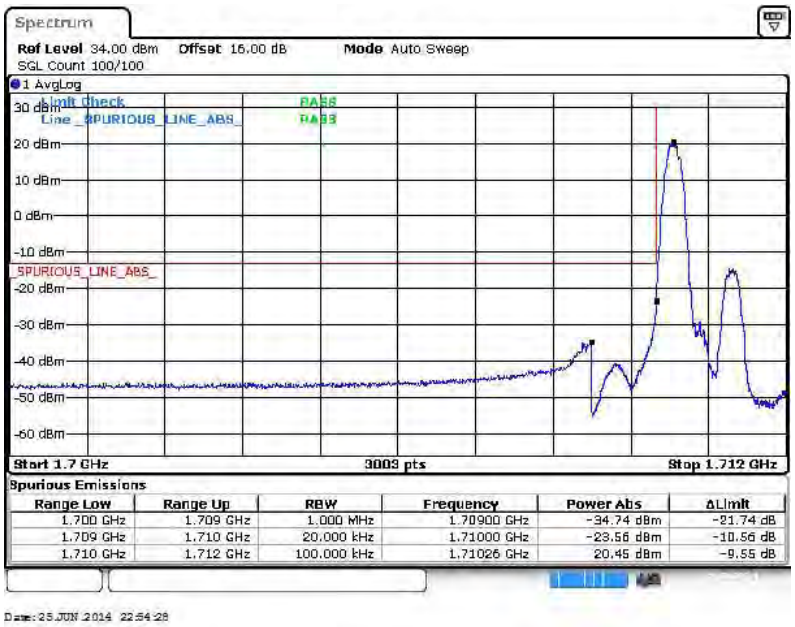


Higher Band Edge Plot for QPSK-RB Size 6, RB Offset 0

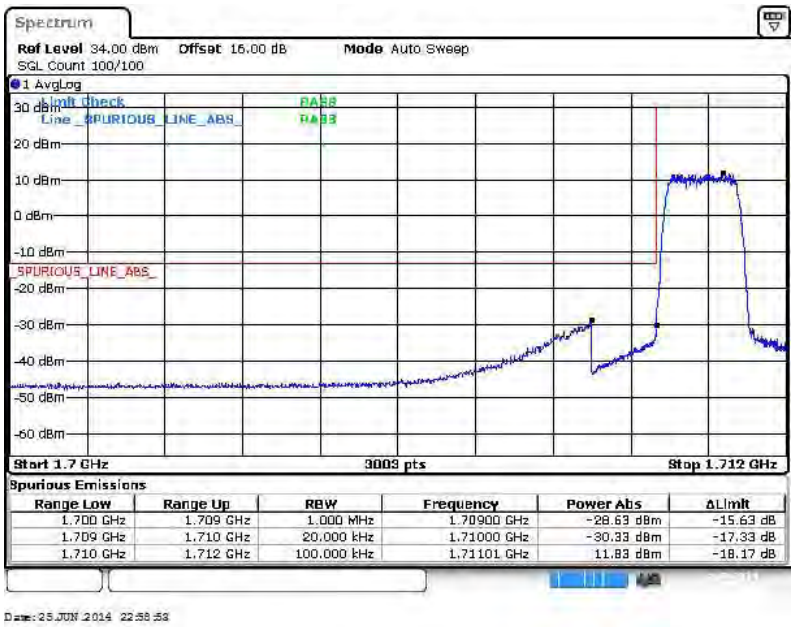


Band :	LTE Band 4	Band Width :	1.4MHz / 16QAM

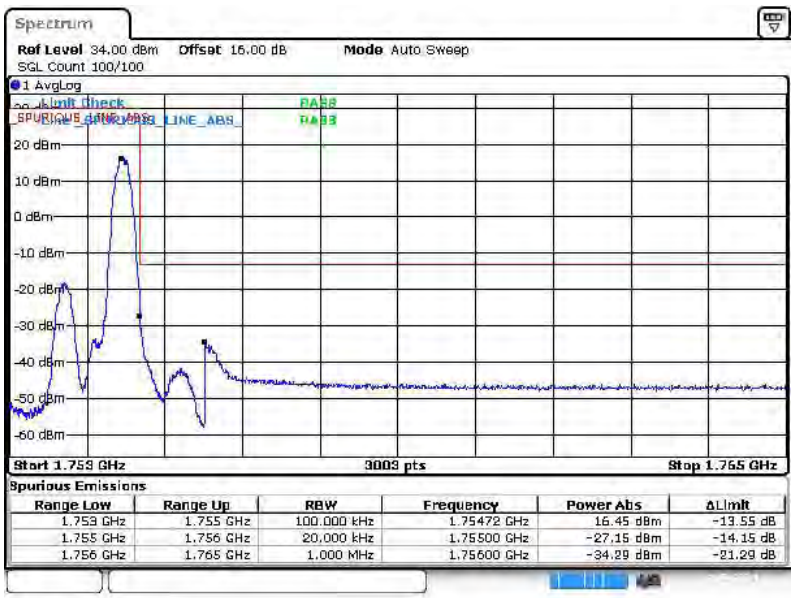
Lower Band Edge Plot for 16QAM -RB Size 1, RB Offset 0



Lower Band Edge Plot for 16QAM-RB Size 6, RB Offset 0



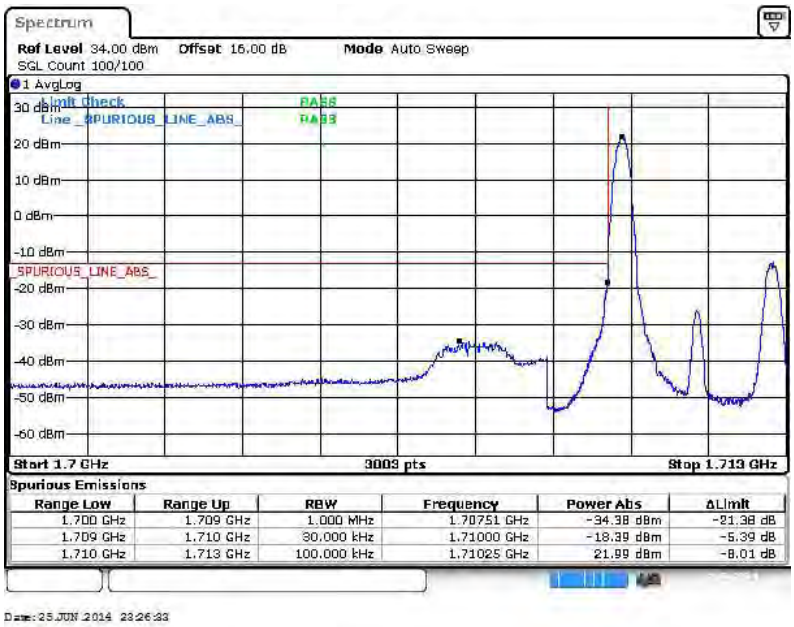
Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 5



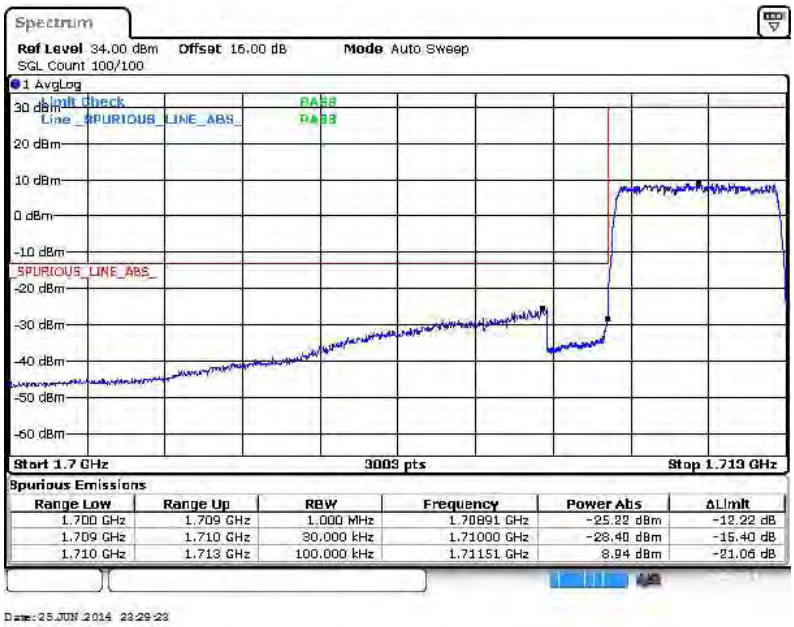
Higher Band Edge Plot for 16QAM-RB Size 6, RB Offset 0

Band :	LTE Band 4	Band Width :	3MHz / QPSK

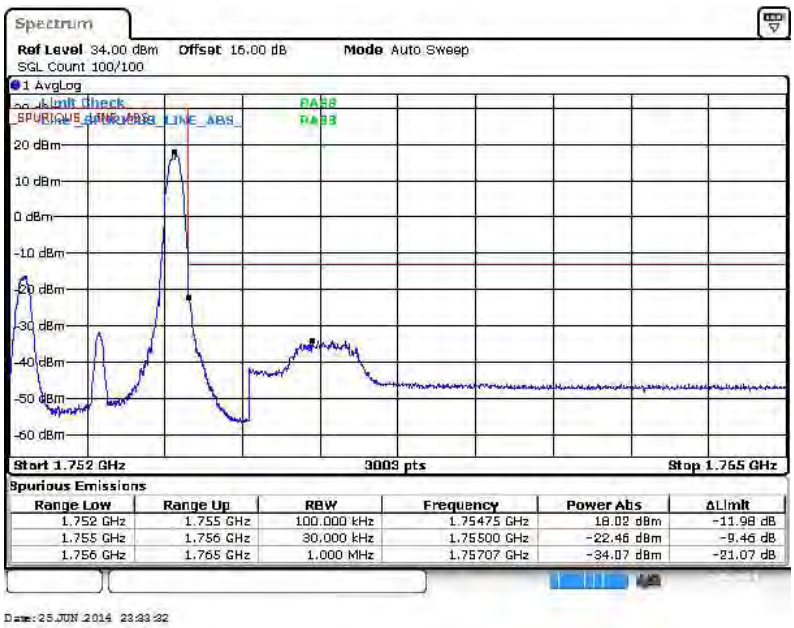
Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



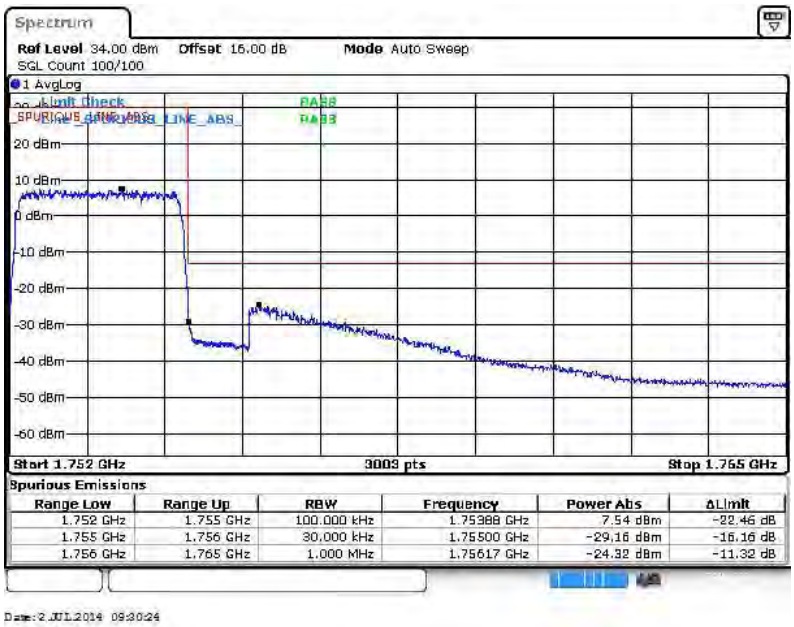
Lower Band Edge Plot for QPSK-RB Size 15, RB Offset 0



Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 14

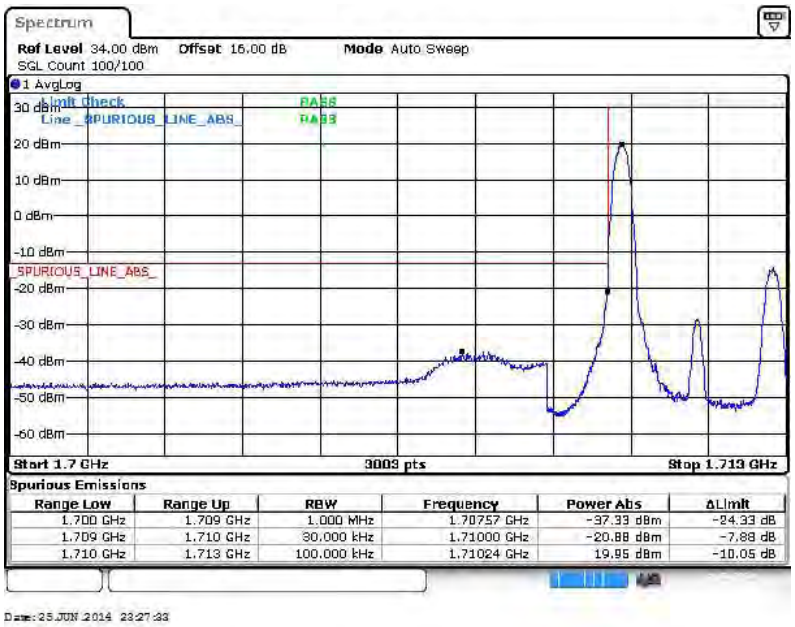


Higher Band Edge Plot for QPSK-RB Size 15, RB Offset 0

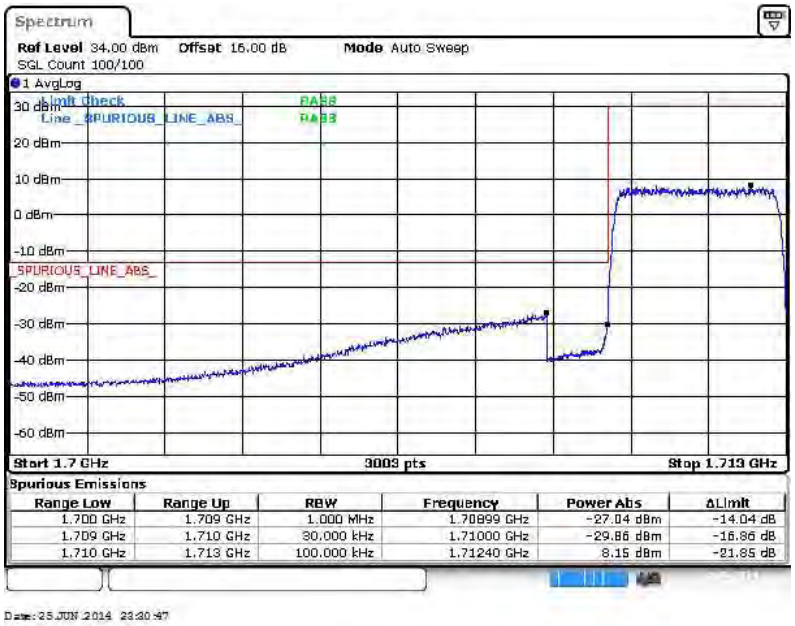


Band :	LTE Band 4	Band Width :	3MHz / 16QAM

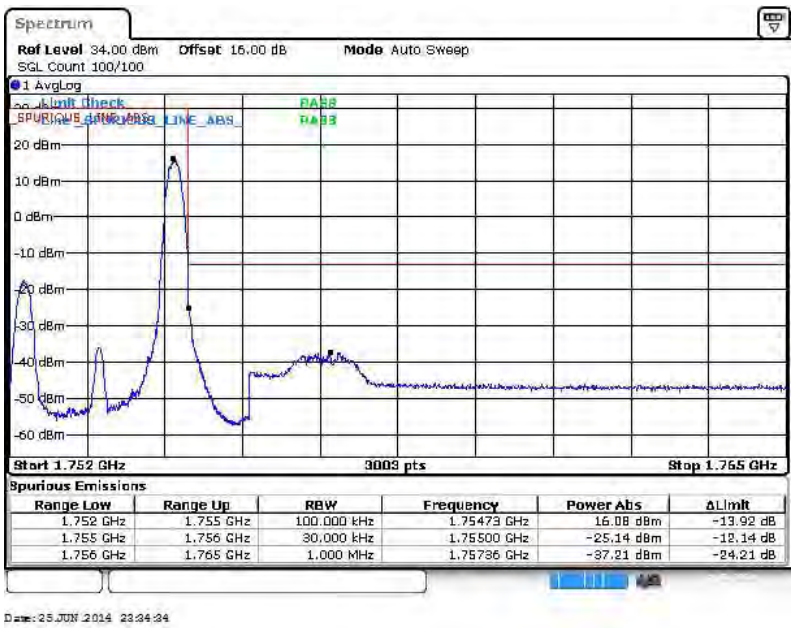
Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



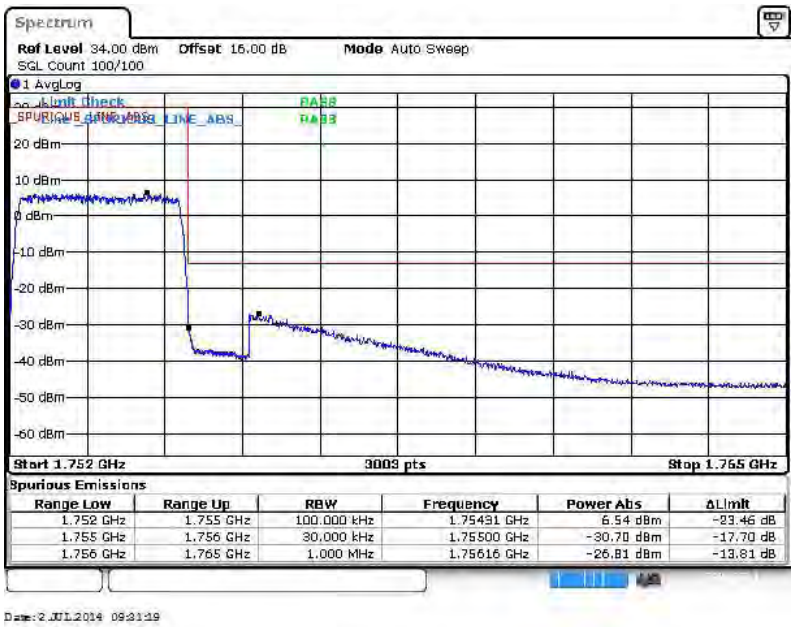
Lower Band Edge Plot for 16QAM-RB Size 15, RB Offset 0



Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 14

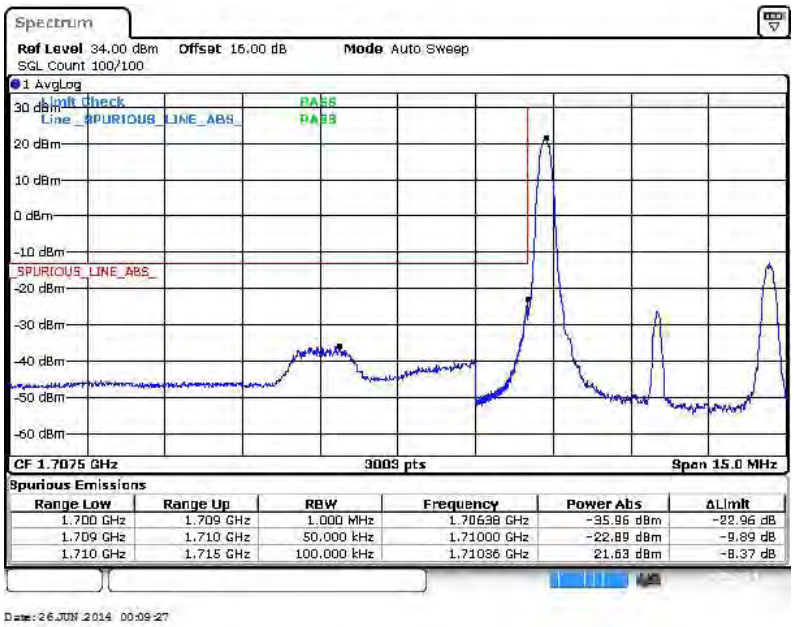


Higher Band Edge Plot for 16QAM-RB Size 15, RB Offset 0

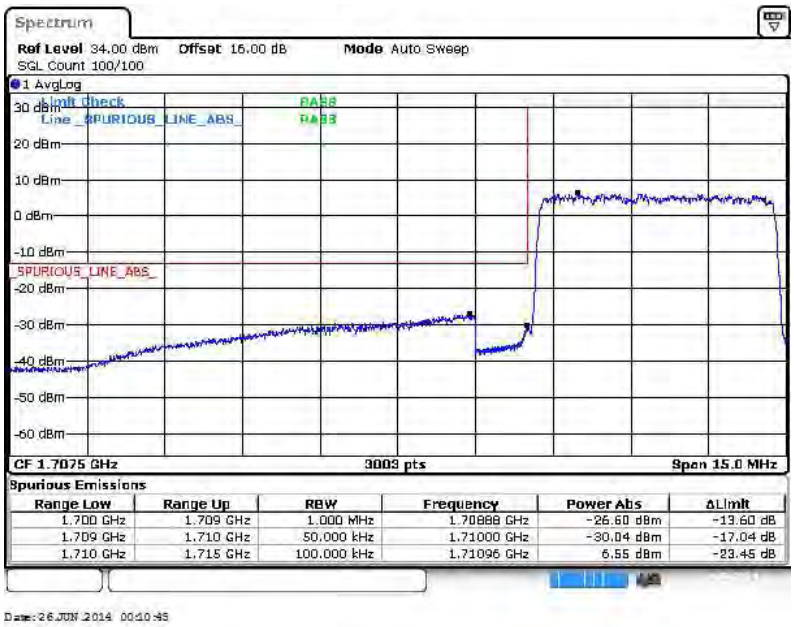


Band :	LTE Band 4	Band Width :	5MHz / QPSK

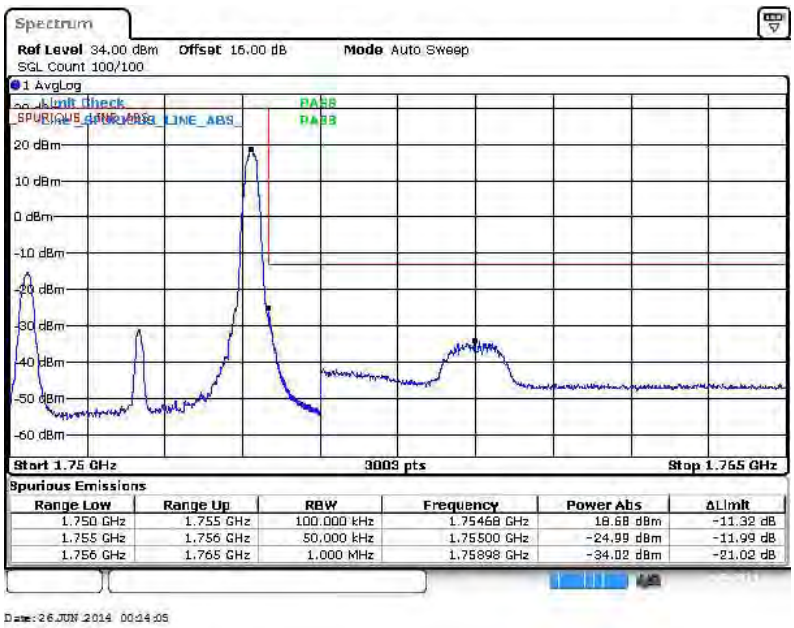
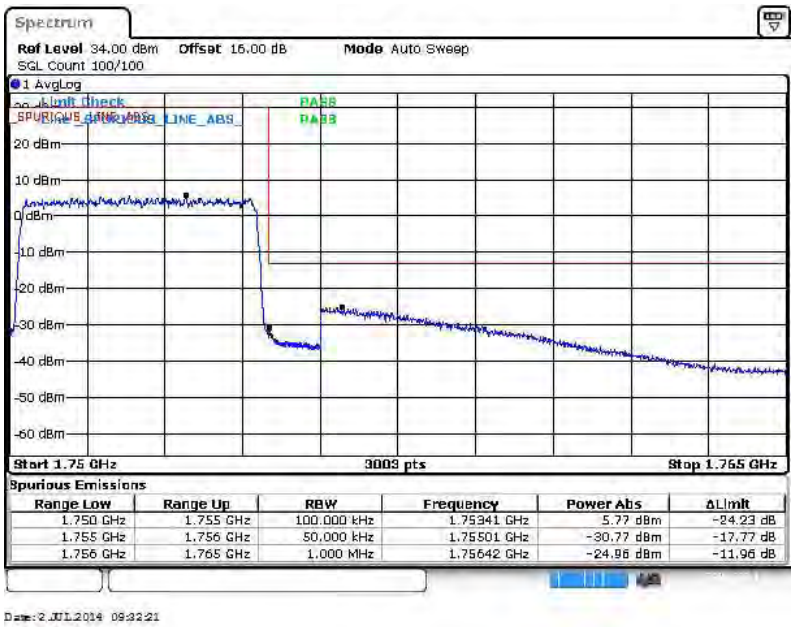
Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Lower Band Edge Plot for QPSK-RB Size 25, RB Offset 0



Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 24



Higher Band Edge Plot for QPSK-RB Size 25, RB Offset 0