

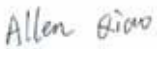
FCC PART 22H, PART 24E
FCC PART 27
MEASUREMENT AND TEST REPORT

For

Acegame S.A

Gorriti 4539 - C.A.B.A., Buenos Aires, Argentina

FCC ID: 2ADTU-ZENAIR

Report Type: Original Report	Product Type: Mobile Phone
Test Engineer: Allen Qiao 	
Report Number: RDG160217001-00C	
Report Date: 2016-02-25	
Reviewed By:	Sula Huang RF Leader 
Test Laboratory: Bay Area Compliance Laboratories Corp. (Dongguan) No.69 Pulongcun, Puxinhu Industrial Zone, Tangxia, Dongguan, Guangdong, China Tel: +86-769-86858888 Fax: +86-769-86858891 www.baclcorp.com.cn	

Note: This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (Dongguan).

TABLE OF CONTENTS

GENERAL INFORMATION.....	3
PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT)	3
OBJECTIVE	3
RELATED SUBMITTAL(S)/GRANT(S).....	3
TEST METHODOLOGY	3
TEST FACILITY	3
SYSTEM TEST CONFIGURATION.....	4
JUSTIFICATION	4
EQUIPMENT MODIFICATIONS	4
SUPPORT EQUIPMENT LIST AND DETAILS	4
CONFIGURATION OF TEST SETUP	4
BLOCK DIAGRAM OF TEST SETUP	5
SUMMARY OF TEST RESULTS	6
FCC §1.1310 & §2.1093- RF EXPOSURE	7
APPLICABLE STANDARD	7
TEST RESULT	7
FCC §2.1047 - MODULATION CHARACTERISTIC	8
FCC § 2.1046, § 22.913 (A) & § 24.232 (C) & § 27.50 - RF OUTPUT POWER.....	9
APPLICABLE STANDARD	9
TEST PROCEDURE	9
TEST EQUIPMENT LIST AND DETAILS.....	14
TEST DATA	14
FCC §2.1049, §22.917, §22.905 & §24.238 & §27.53- OCCUPIED BANDWIDTH.....	30
APPLICABLE STANDARD	30
TEST PROCEDURE	30
TEST EQUIPMENT LIST AND DETAILS.....	30
TEST DATA	31
FCC §2.1051, §22.917(A) & §24.238(A) & §27.53- SPURIOUS EMISSIONS AT ANTENNA TERMINALS ...	42
APPLICABLE STANDARD	42
TEST PROCEDURE	42
TEST EQUIPMENT LIST AND DETAILS.....	42
TEST DATA	43
FCC §2.1053, §22.917 & §24.238 & §27.53- SPURIOUS RADIATED EMISSIONS	71
APPLICABLE STANDARD	71
TEST PROCEDURE	71
TEST EQUIPMENT LIST AND DETAILS.....	71
TEST DATA	72
FCC §22.917(A) & §24.238(A) & §27.53(H)- BAND EDGES.....	75
APPLICABLE STANDARD	75
TEST PROCEDURE	75
TEST EQUIPMENT LIST AND DETAILS.....	76
TEST DATA	76
FCC §2.1055, §22.355 & §24.235 & §27.54 - FREQUENCY STABILITY.....	97
APPLICABLE STANDARD	97
TEST PROCEDURE	97
TEST EQUIPMENT LIST AND DETAILS.....	98
TEST DATA	98

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *Acegame S.A*'s product, model number: *Zen Air (FCC ID: 2ADTU-ZENAIR)* (the "EUT") in this report was a *Mobile Phone*, which was measured approximately: 14.6cm (L) x 7.2 cm (W) x 0.8 cm (H), rated input voltage: DC 3.8V rechargeable Li-ion battery or DC5V charging from adapter.

All measurement and test data in this report was gathered from production sample serial number: 160217001 (Assigned by BACL, Dongguan). The EUT was received on 2016-02-17.

Objective

This report is prepared on behalf of *Acegame S.A* in accordance with: Part 2-Subpart J, Part 22-Subpart H, and Part 24-Subpart E of the Federal Communications Commission's rules. Part 2, Part 27 of the Federal Communication Commissions rules.

The objective is to determine compliance with FCC rules for output power, modulation characteristic, occupied bandwidth, spurious emissions at antenna terminal, spurious radiated emission, frequency stability and band edge.

Related Submittal(s)/Grant(s)

FCC Part 15B JBP submissions with FCC ID: 2ADTU-ZENAIR
FCC Part 15C DSS submissions with FCC ID: 2ADTU-ZENAIR
FCC Part 15C DTS submissions with FCC ID: 2ADTU-ZENAIR

Test Methodology

All tests and measurements indicated in this document were performed in accordance with the Code of Federal Regulations Title 47 Part 2, Sub-part J as well as the following parts:

Part 22 Subpart H - Public Mobile Services
Part 24 Subpart E - Personal Communication Services
Part 27 – Miscellaneous wireless communications services

Applicable Standards: TIA/EIA 603-D-2010.

All radiated and conducted emissions measurements were performed at Bay Area Compliance Laboratories Corp.(Dongguan).

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.69 Pulongcun, Puxinhu Industrial Zone, Tangxia, Dongguan, Guangdong, China

Test site at Bay Area Compliance Laboratories Corp. (Dongguan) has been fully described in reports submitted to the Federal Communications Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on February 06, 2015.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 273710. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

SYSTEM TEST CONFIGURATION

Justification

The EUT was configured for testing according to TIA/EIA-603-D-2010.

The test items were performed with the EUT operating at testing mode.

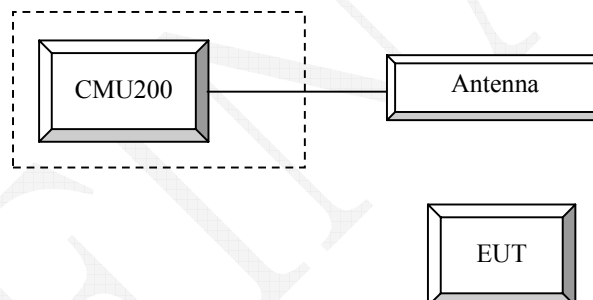
Equipment Modifications

No modification was made to the EUT.

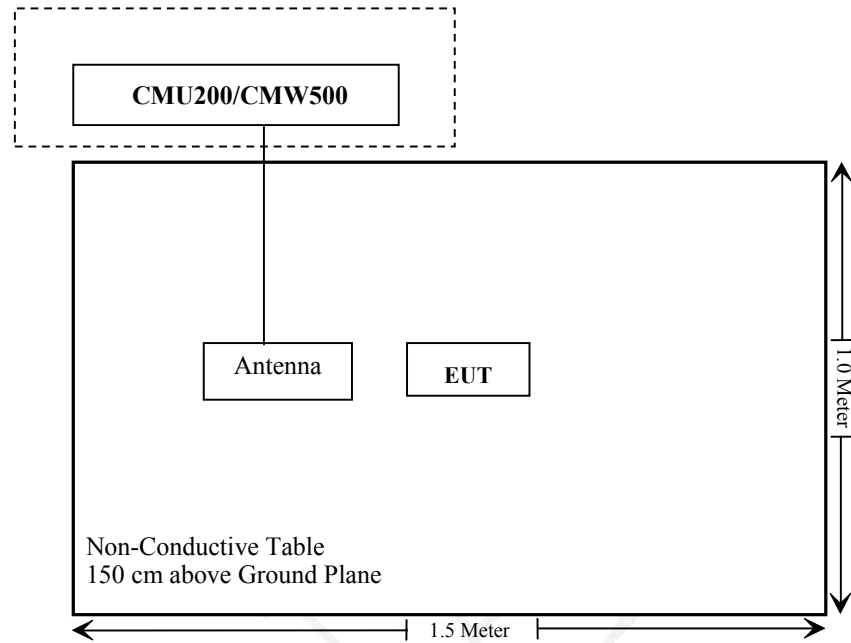
Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
R&S	Universal Radio Communication Tester	CMU200	109038
R&S	Wideband Radio Communication Tester	CMW500	106891
N/A	ANTENNA	N/A	N/A

Configuration of Test Setup



Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§1.1310, §2.1093	RF Exposure	Compliance
§2.1046; § 22.913 (a); § 24.232 (c); §27.50	RF Output Power	Compliance
§ 2.1047	Modulation Characteristics	Not Applicable
§ 2.1049; § 22.905 § 22.917; § 24.238; §27.53	Occupied Bandwidth	Compliance
§ 2.1051, § 22.917 (a); § 24.238 (a); §27.53	Spurious Emissions at Antenna Terminal	Compliance
§ 2.1053 § 22.917 (a); § 24.238 (a); §27.53	Spurious Radiation Emissions	Compliance
§ 22.917 (a); § 24.238 (a); §27.53	Out of band emission, Band Edge	Compliance
§ 2.1055 § 22.355; § 24.235; §27.54	Frequency stability vs. temperature Frequency stability vs. voltage	Compliance

FCC §1.1310 & §2.1093- RF EXPOSURE

Applicable Standard

FCC§1.1310 and §2.1093.

Test Result

Compliant, please refer to the SAR report: RDG160217001-20.

FINAL

FCC §2.1047 - MODULATION CHARACTERISTIC

According to FCC § 2.1047(d), Part 22H & 24E, Part 27 there is no specific requirement for digital modulation, therefore modulation characteristic is not presented.

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FCC § 2.1046, § 22.913 (a) & § 24.232 (c) & § 27.50 - RF OUTPUT POWER

Applicable Standard

According to FCC §2.1046 and §22.913 (a), the ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.

According to FCC §2.1046 and §24.232 (C), mobile and portable stations are limited to 2 watts EIRP and the equipment must employ a means for limiting power to the minimum necessary for successful communications..

According to FCC §2.1046 and §27.50 (d), (4) Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP. Fixed stations operating in the 1710-1755 MHz band are limited to a maximum antenna height of 10 meters above ground. Mobile and portable stations operating in these bands must employ a means for limiting power to the minimum necessary for successful communications.

According to §24.232 (d) Power measurements for transmissions by stations authorized under this section may be made either in accordance with a Commission-approved average power technique or in compliance with paragraph (e) of this section. In both instances, equipment employed must be authorized in accordance with the provisions of §24.51. 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.

Test Procedure

GSM/GPRS

Function: Menu select > GSM Mobile Station > GSM 850/1900

Press Connection control to choose the different menus

Press RESET > choose all the reset all settings

Connection Press Signal Off to turn off the signal and change settings

Network Support > GSM + GPRS or GSM + EGSM

Main Service > Packet Data

Service selection > Test Mode A – Auto Slot Config. off

MS Signal Press Slot Config Bottom on the right twice to select and change the number of time slots and power setting

> Slot configuration > Uplink/Gamma

> 33 dBm for GPRS 850

> 30 dBm for GPRS 1900

BS Signal Enter the same channel number for TCH channel (test channel) and BCCH channel

Frequency Offset > + 0 Hz

Mode > BCCH and TCH

BCCH Level > -85 dBm (May need to adjust if link is not stable)

BCCH Channel > choose desired test channel [Enter the same channel number for TCH channel (test channel) and BCCH channel]

Channel Type > Off

P0 > 4 dB

Slot Config > Unchanged (if already set under MS signal)

TCH > choose desired test channel

Hopping > Off

Main Timeslot > 3

Network Coding Scheme > CS4 (GPRS)

Bit Stream > 2E9-1 PSR Bit Stream

AF/RF Enter appropriate offsets for Ext. Att. Output and Ext. Att. Input

Connection Press Signal on to turn on the signal and change settings

WCDMA-Release 99

The following tests were conducted according to the test requirements outlines in section 5.2 of the 3GPP TS34.121-1 specification. The EUT has a nominal maximum output power of 24dBm (+1.7/-3.7).

WCDMA General Settings	Loopback Mode	Test Mode 1
	Rel99 RMC	12.2kbps RMC
	Power Control Algorithm	Algorithm2
	β_c / β_d	8/15

WCDMA HSDPA

The following tests were conducted according to the test requirements outlines in section 5.2 of the 3GPP TS34.121-1 specification.

	Mode	HSDPA	HSDPA	HSDPA	HSDPA
	Subset	1	2	3	4
WCDMA General Settings	Loopback Mode	Test Mode 1			
	Rel99 RMC	12.2kbps RMC			
	HSDPA FRC	H-Set1			
	Power Control Algorithm	Algorithm2			
	β_c	2/15	12/15	15/15	15/15
	β_d	15/15	15/15	8/15	4/15
	β_d (SF)	64			
	β_c / β_d	2/15	12/15	15/8	15/4
	β_{hs}	4/15	24/15	30/15	30/15
	MPR(dB)	0	0	0.5	0.5
HSDPA Specific Settings	DACK	8			
	DNAK	8			
	DCQI	8			
	Ack-Nack repetition factor	3			
	CQI Feedback	4ms			
	CQI Repetition Factor	2			
	$A_{hs} = \beta_{hs} / \beta_c$	30/15			

WCDMA HSUPA

The following tests were conducted according to the test requirements outlines in section 5.2 of the 3GPP TS34.121-1 specification.

	Mode	HSUPA	HSUPA	HSUPA	HSUPA	HSUPA
	Subset	1	2	3	4	5
WCDM A General Settings	Loopback Mode	Test Mode 1				
	Rel99 RMC	12.2kbps RMC				
	HSDPA FRC	H-Set1				
	HSUPA Test	HSUPA Loopback				
	Power Control Algorithm	Algorithm2				
	β_c	11/15	6/15	15/15	2/15	15/15
	β_d	15/15	15/15	9/15	15/15	0
	β_{ec}	209/225	12/15	30/15	2/15	5/15
	β_c/β_d	11/15	6/15	15/9	2/15	-
	β_{hs}	22/15	12/15	30/15	4/15	5/15
	CM(dB)	1.0	3.0	2.0	3.0	1.0
	MPR(dB)	0	2	1	2	0
HSDPA Specific Settings	DACK	8				
	DNAK	8				
	DCQI	8				
	Ack-Nack repetition factor	3				
	CQI Feedback	4ms				
	CQI Repetition Factor	2				
	$A_{hs}=\beta_{hs}/\beta_c$	30/15				
HSUPA Specific Settings	DE-DPCCH	6	8	8	5	7
	DHARQ	0	0	0	0	0
	AG Index	20	12	15	17	21
	ETFCI	75	67	92	71	81
	Associated Max UL Data Rate kbps	242.1	174.9	482.8	205.8	308.9
	Reference E_FCI's	E-TFCI 11 E E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO23 E-TFCI 75 E-TFCI PO26 E-TFCI 81 E-TFCI PO 27	E-TFCI 11 E-TFCI PO4 E-TFCI 92 E-TFCI PO 18	E-TFCI 11 E E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO23 E-TFCI 75 E-TFCI PO26 E-TFCI 81 E-TFCI PO 27		

HSPA+

The following tests were conducted according to the test requirements in Table C.11.1.4 of 3GPP TS 34.121-1

Sub-test	β_c (Note 3)	β_d	β_{HS} (Note 1)	β_{ec}	β_{ed} (2xSF2) (Note 4)	β_{ed} (2xSF4) (Note 4)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 4)	E-TFCI (Note 5)	E-TFCI (boost)
1	1	0	30/15	30/15	β_{ed1} : 30/15 β_{ed2} : 30/15	β_{ed3} : 24/15 β_{ed4} : 24/15	3.5	2.5	14	105	105

Note 1: Δ_{ACK} , Δ_{NACK} and $\Delta_{CQI} = 30/15$ with $\beta_{hs} = 30/15 * \beta_c$.

Note 2: CM = 3.5 and the MPR is based on the relative CM difference, MPR = MAX(CM-1,0).

Note 3: DPDCH is not configured, therefore the β_c is set to 1 and $\beta_d = 0$ by default.

Note 4: β_{ed} can not be set directly; it is set by Absolute Grant Value.

Note 5: All the sub-tests require the UE to transmit 2SF2+2SF4 16QAM EDCH and they apply for UE using E-DPDCH category 7. E-DCH TTI is set to 2ms TTI and E-DCH table index = 2. To support these E-DCH configurations DPDCH is not allocated. The UE is signalled to use the extrapolation algorithm.

DC-HSDPA

The following tests were conducted according to the test requirements in Table C.8.1.12 of 3GPP TS 34.121-1

Table C.8.1.12: Fixed Reference Channel H-Set 12

Parameter	Unit	Value
Nominal Avg. Inf. Bit Rate	kbps	60
Inter-TTI Distance	TTI's	1
Number of HARQ Processes	Processes	6
Information Bit Payload (N_{INF})	Bits	120
Number Code Blocks	Blocks	1
Binary Channel Bits Per TTI	Bits	960
Total Available SML's in UE	SML's	19200
Number of SML's per HARQ Proc.	SML's	3200
Coding Rate		0.15
Number of Physical Channel Codes	Codes	1
Modulation		QPSK
Note 1: The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table.		
Note 2: Maximum number of transmission is limited to 1, i.e., retransmission is not allowed. The redundancy and constellation version 0 shall be used.		

LTE:

The following tests were conducted according to the test requirements in 3GPP TS36.101

The following tests were conducted according to the test requirements outlined in section 6.2 of the 3GPP TS36.101 specification.

UE Power Class: 3 (23 +/- 2dBm). The allowed Maximum Power Reduction (MPR) for the maximum output power due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-1 of the 3GPP TS36.101.

Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3

Modulation	Channel bandwidth / Transmission bandwidth (RB)						MPR (dB)
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1
64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2

The allowed A-MPR values specified below in Table 6.2.4-1 of 3GPP TS36.101 are in addition to the allowed MPR requirements. All the measurements below were performed with A-MPR disabled, by using Network Signaling Value of "NS_01".

Table 6.2.4-1: Additional Maximum Power Reduction (A-MPR)

Network Signalling value	Requirements (sub-clause)	E-UTRA Band	Channel bandwidth (MHz)	Resources Blocks (N_{RB})	A-MPR (dB)
NS_01	6.6.2.1.1	Table 5.5-1	1.4, 3, 5, 10, 15, 20	Table 5.6-1	NA
NS_03	6.6.2.2.1	2, 4, 10, 23, 25, 35, 36	3	>5	≤ 1
			5	>6	≤ 1
			10	>6	≤ 1
			15	>8	≤ 1
			20	>10	≤ 1
NS_04	6.6.2.2.2	41	5	>6	≤ 1
			10, 15, 20	See Table 6.2.4-4	
NS_05	6.6.3.3.1	1	10, 15, 20	≥ 50	≤ 1
NS_06	6.6.2.2.3	12, 13, 14, 17	1.4, 3, 5, 10	Table 5.6-1	n/a
NS_07	6.6.2.2.3	13	10	Table 6.2.4-2	Table 6.2.4-2
	6.6.3.3.2				
NS_08	6.6.3.3.3	19	10, 15	> 44	≤ 3
NS_09	6.6.3.3.4	21	10, 15	> 40	≤ 1
				> 55	≤ 2
NS_10		20	15, 20	Table 6.2.4-3	Table 6.2.4-3
NS_11	6.6.2.2.1	23 ¹	1.4, 3, 5, 10	Table 6.2.4-5	Table 6.2.4-5
..					
NS_32	-	-	-	-	-

Note 1: Applies to the lower block of Band 23, i.e. a carrier placed in the 2000-2010 MHz region.

Radiated method:

ANSI/TIA 603-D section 2.2.17

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESCI	100224	2015-05-09	2016-05-09
Sunol Sciences	Antenna	JB3	A060611-3	2014-11-06	2017-11-05
HP	Amplifier	8447E	2434A02181	2015-09-01	2016-09-01
R&S	Spectrum Analyzer	FSEM	DE31388	2015-05-09	2016-05-09
ETS LINDGREN	Horn Antenna	3115	000 527 35	2015-09-06	2018-09-06
Mini-Circuit	Amplifier	ZVA-213-S+	054201245	2016-02-19	2017-02-19
Giga	Signal Generator	1026	320408	2015-11-23	2016-11-22
EMCO	Adjustable Dipole Antenna	3121C	9109-753	N/A	N/A
TDK RF	Horn Antenna	HRN-0118	130 084	2015-09-06	2018-09-06
N/A	Coaxial Cable	14m	N/A	2015-05-06	2016-05-06
N/A	Coaxial Cable	8m	N/A	2015-05-06	2016-05-06
N/A	Coaxial Cable	0.1m	N/A	2015-05-06	2016-05-06
E-Microwave	DC Blocking	EMDCB-00036	0E01201047	2015-05-06	2016-05-06
E-Microwave	Attenuator(10dB)	EMCA10-5RN	OE01203239	2015-05-08	2016-05-08
Pasternack	RF Coaxial Cable	RF-01	N/A	2015-05-06	2016-05-06
Pasternack	RF Coaxial Cable	RF-02	N/A	2015-05-06	2016-05-06
N/A	Two-way Splitter	ODP-1-6-2S	OE0120142	2015-05-06	2016-05-06

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data**Environmental Conditions**

Temperature:	24.6 ~ 26.3°C
Relative Humidity:	26.3 ~ 44 %
ATM Pressure:	101.4 ~ 101.7kPa

The testing was performed by Allen Qiao from 2016-02-22 to 2016-02-23.

Conducted Power**Cellular Band (Part 22H) & PCS Band (Part 24E)**

Band	Channel No.	Peak Output Power (dBm)				
		GSM	GPRS 1 TX Slot	GPRS 2 TX Slot	GPRS 3 TX Slot	GPRS 4 TX Slot
Cellular	128	33.20	33.26	32.09	29.72	28.95
	190	33.30	33.30	32.10	29.56	28.77
	251	33.40	33.39	32.15	29.55	28.70
PCS	512	29.80	29.66	28.48	26.09	25.26
	661	29.60	29.61	28.53	26.30	25.44
	810	29.60	29.58	28.62	26.48	25.65

WCDMA Band

WCDMA Band

FINAL

Channel Bandwidth	Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
3 MHz	QPSK	1#0	22.45	22.29	22.50
		1#7	22.46	22.30	22.51
		1#14	22.43	22.31	22.53
		8#0	22.42	22.41	22.54
		8#4	22.44	22.28	22.51
		8#7	22.40	22.33	22.49
		15#0	21.47	21.35	21.54
	16QAM	1#0	21.39	21.31	21.56
		1#7	21.49	21.29	21.57
		1#14	21.33	21.32	21.58
		8#0	21.26	21.40	21.63
		8#4	21.36	21.38	21.52
		8#7	21.38	21.32	21.60
		15#0	20.48	20.42	20.52
5 MHz	QPSK	1#0	22.46	22.49	22.67
		1#12	22.42	22.41	22.63
		1#24	22.58	22.50	22.67
		12#0	22.54	22.46	22.64
		12#6	22.58	22.55	22.73
		12#11	22.64	22.52	22.66
		25#0	21.48	21.40	21.54
	16QAM	1#0	21.59	21.68	21.61
		1#12	21.51	21.62	21.59
		1#24	21.49	21.67	21.56
		12#0	21.58	21.71	21.48
		12#6	21.49	21.59	21.51
		12#11	21.52	21.76	21.65
		25#0	20.50	20.41	20.70
10 MHz	QPSK	1#0	22.50	22.41	22.40
		1#24	22.42	22.45	22.50
		1#49	22.47	22.51	22.43
		25#0	21.59	21.39	21.59
		25#12	21.54	21.38	21.57
		25#24	21.51	21.33	21.54
		50#0	21.48	21.53	21.44
	16QAM	1#0	21.44	21.62	21.51
		1#24	21.50	21.56	21.51
		1#49	21.53	21.54	21.48
		25#0	21.50	21.57	21.46
		25#12	21.38	21.55	21.47
		25#24	21.32	21.52	21.43
		50#0	20.55	20.75	20.62

Channel Bandwidth	Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
15 MHz	QPSK	1#0	22.38	22.42	22.53
		1#37	22.35	22.49	22.45
		1#74	22.39	22.41	22.55
		36#0	21.73	21.41	21.47
		36#17	21.68	21.42	21.43
		36#35	21.73	21.32	21.48
		75#0	21.52	21.55	21.49
	16QAM	1#0	21.71	21.91	21.75
		1#37	21.63	21.89	21.66
		1#74	21.77	21.99	21.80
		36#0	21.63	21.46	21.52
		36#17	21.73	21.54	21.60
		36#35	21.72	21.42	21.53
		75#0	20.51	20.83	20.86
20 MHz	QPSK	1#0	22.41	22.52	22.37
		1#49	22.32	22.59	22.29
		1#99	22.51	22.44	22.41
		50#0	21.52	21.61	21.42
		50#24	22.34	21.62	21.40
		50#49	22.38	21.56	21.33
		100#0	21.50	21.45	21.44
	16QAM	1#0	21.76	21.67	21.86
		1#49	21.77	21.71	21.77
		1#99	21.71	21.70	21.82
		50#0	21.84	21.58	21.83
		50#24	21.70	21.71	21.90
		50#49	21.67	21.68	21.84
		100#0	20.69	20.49	20.56

Test Modulation		Channel Bandwidth	Low Channel PAR (dB)	Middle Channel PAR (dB)	High Channel PAR (dB)	Limit (dB)
QPSK	1 RB	20 MHz	5.20	5.12	5.32	13
	100 RB		6.32	7.04	7.12	13
16QAM	1 RB	20 MHz	5.40	4.84	5.36	13
	100 RB		7.08	6.24	6.24	13

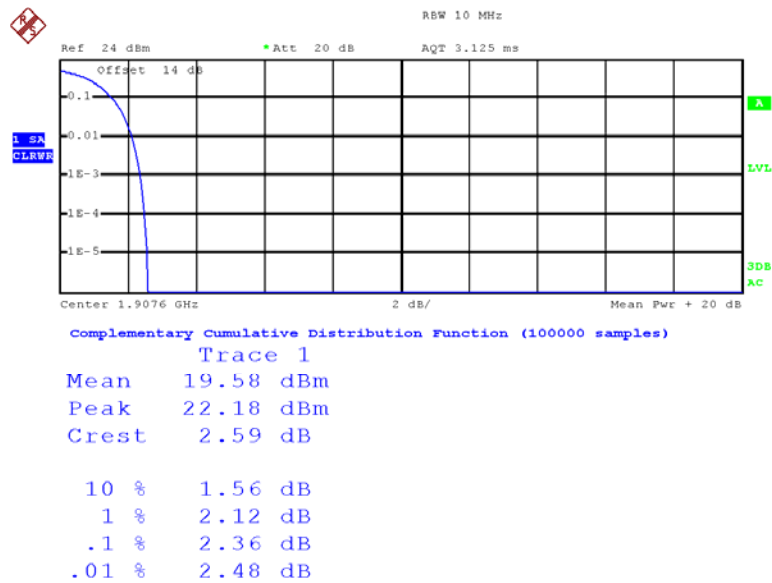
Note: peak-to-average ratio (PAR) <13 dB.

Peak-to-average ratio (PAR)

WCDMA Band

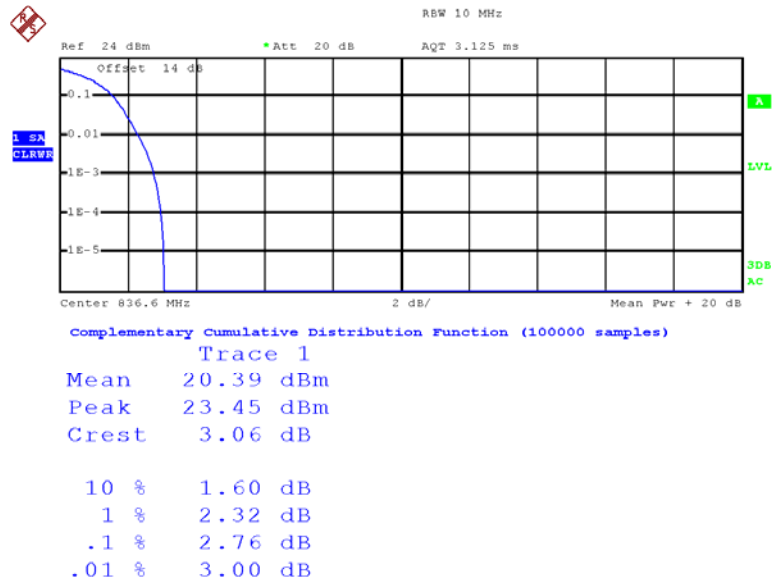
FINAL

High Channel

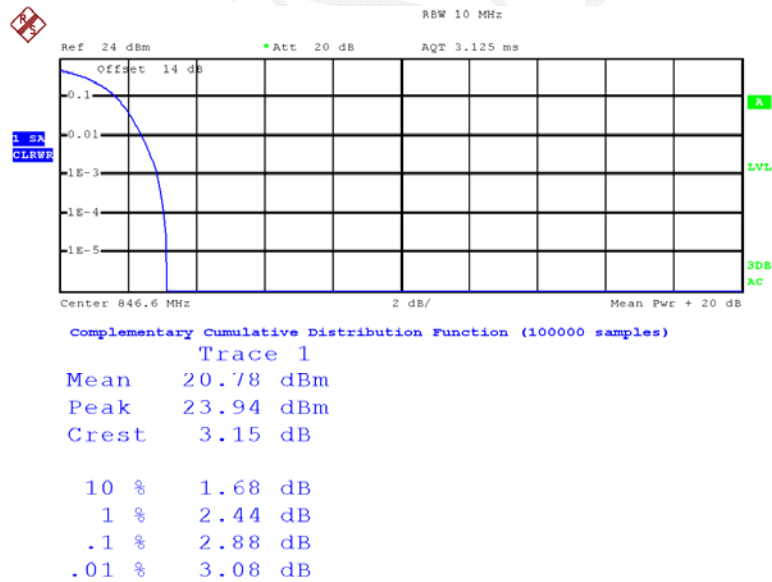


Date: 23.FEB.2016 15:56:25

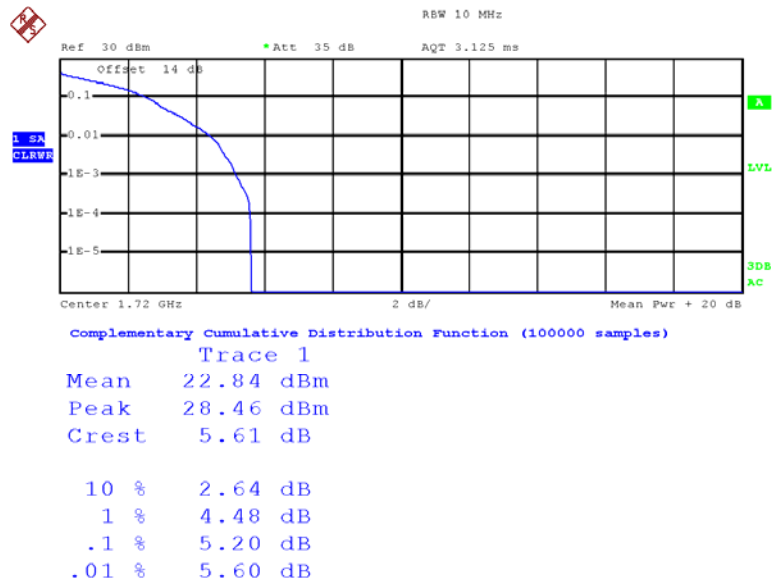
WCDMA Band

Middle Channel

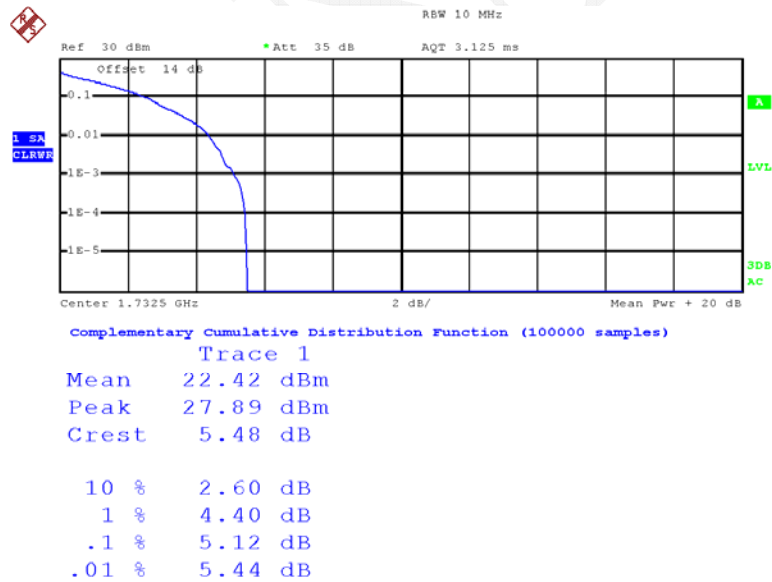
Date: 23.FEB.2016 16:01:40

High Channel

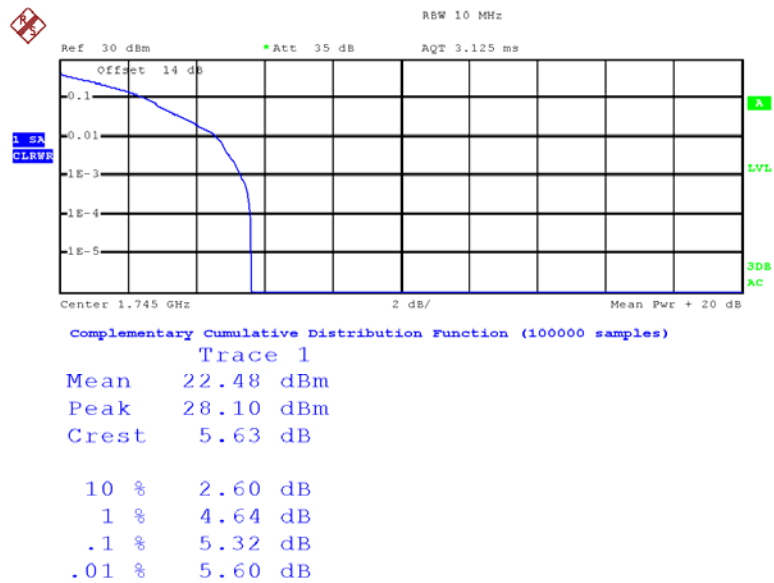
Date: 23.FEB.2016 16:02:16

LTE Band IV (PART 27)**QPSK_20MHz_1RB_Low Channel**

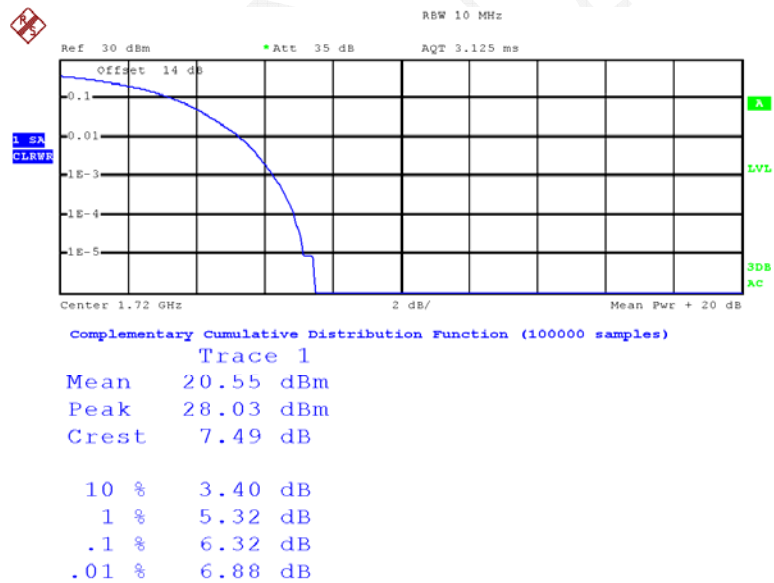
Date: 22.FEB.2016 14:11:09

QPSK_20MHz_1RB Middle Channel

Date: 22.FEB.2016 14:12:35

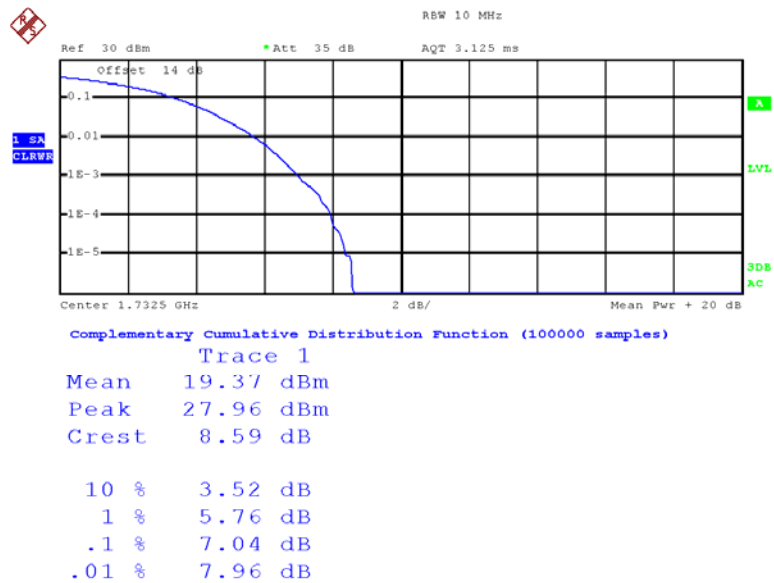
QPSK_20MHz_1RB High Channel

Date: 22.FEB.2016 14:13:26

QPSK_20MHz_FULL RB Low Channel

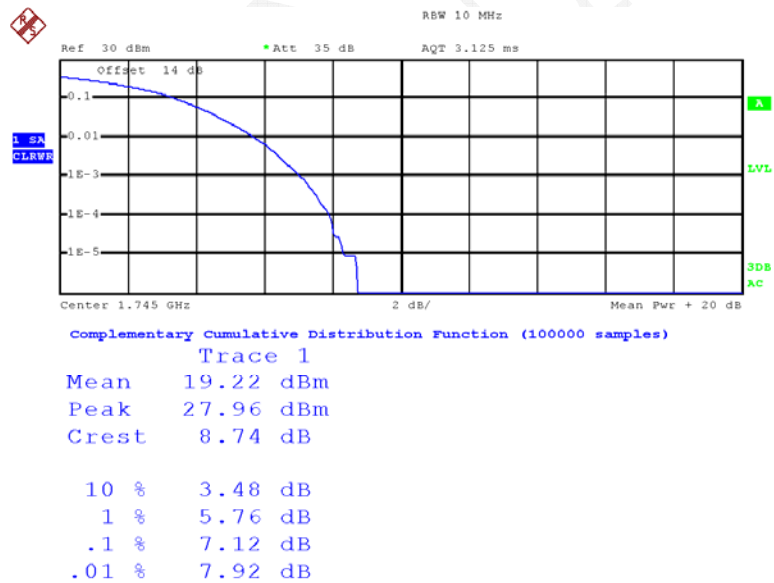
Date: 22.FEB.2016 14:17:53

QPSK_20MHz_FULL RB Middle Channel

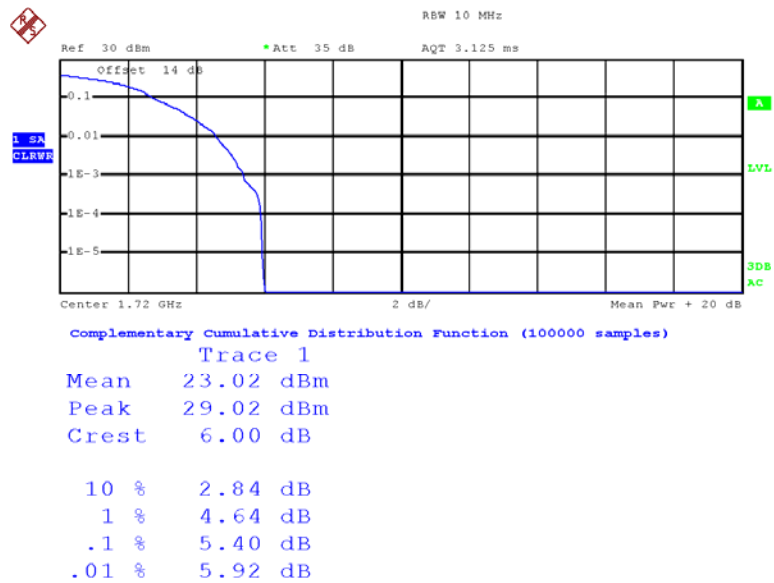


Date: 22.FEB.2016 14:16:58

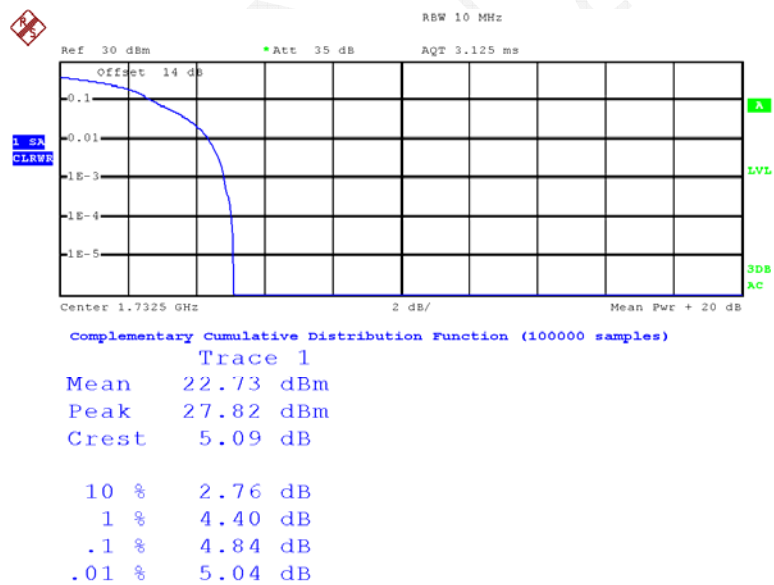
QPSK 20MHz_FULL RB High Channel



Date: 22.FEB.2016 14:14:35

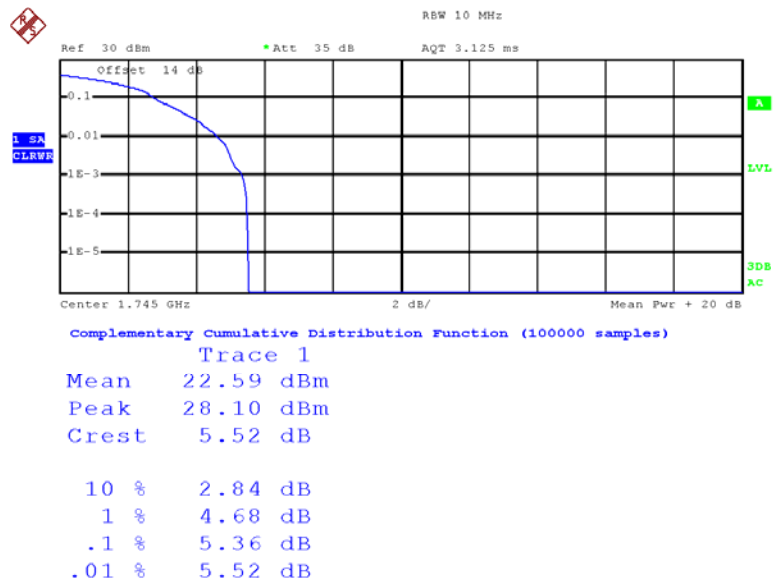
16QAM_20MHz_1RB_Low Channel

Date: 22.FEB.2016 14:11:26

16QAM 20MHz_1RB Middle Channel

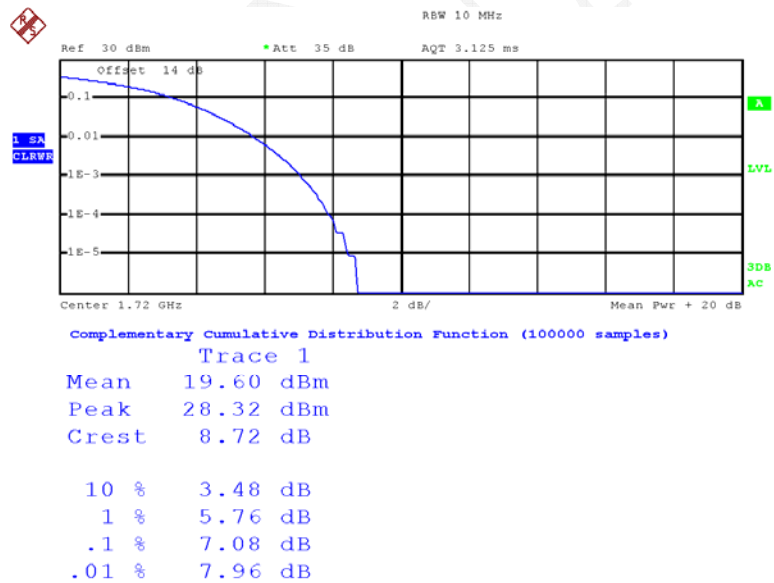
Date: 22.FEB.2016 14:12:54

16QAM 20MHz_1RB High Channel



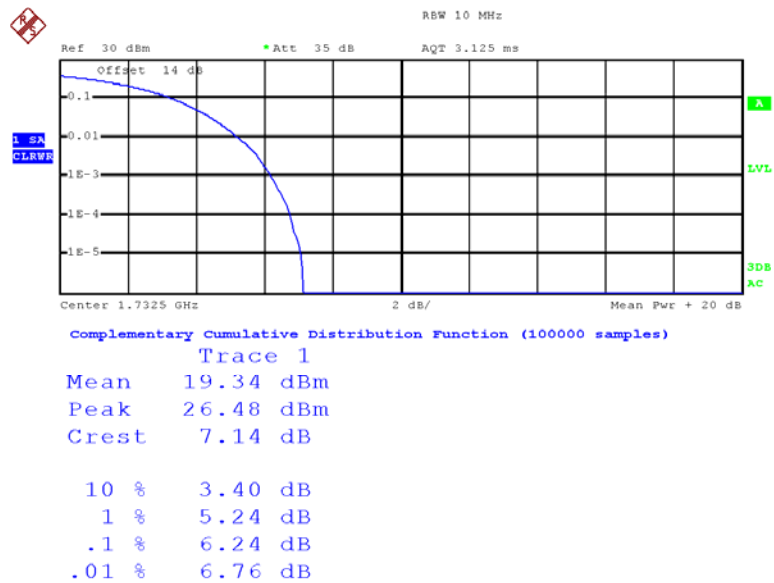
Date: 22.FEB.2016 14:13:34

16QAM 20MHz_FULL RB Low Channel



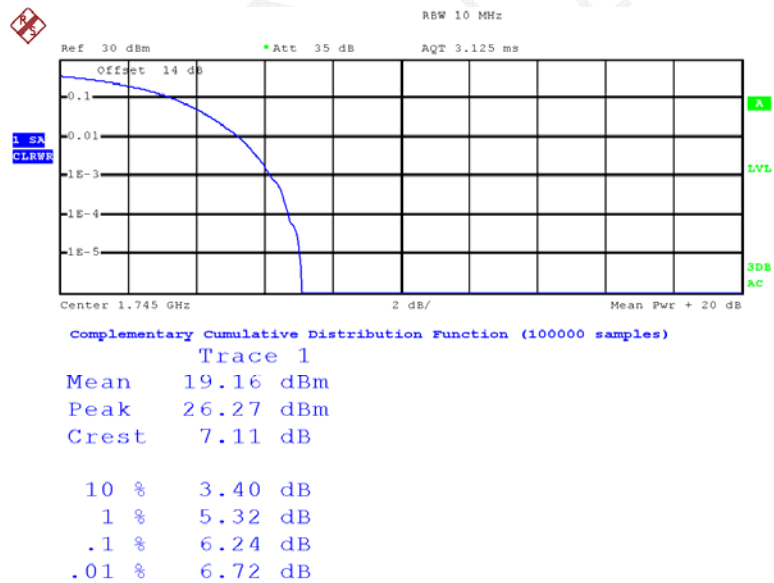
Date: 22.FEB.2016 14:18:04

16QAM 20MHz_FULL RB Middle Channel



Date: 22.FEB.2016 14:15:28

16QAM 20MHz_FULL RB High Channel



Date: 22.FEB.2016 14:14:22

ERP & EIRP

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			S.G. Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
GSM 850 Middle Channel								
836.600	H	105.39	30.5	0.0	1.0	29.5	38.50	9.0
836.600	V	104.77	33	0.0	1.0	32.0	38.50	6.5
WCDMA Band V Middle Channel								
836.600	H	96.16	21.2	0.0	1.0	20.2	38.5	18.3
836.600	V	95.24	23.4	0.0	1.0	22.4	38.5	16.1

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			S.G. Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
PCS 1900 Middle Channel								
1880.000	H	91.61	20	11.7	1.4	30.3	33.0	2.7
1880.000	V	88.87	17.4	11.7	1.4	27.7	33.0	5.3
WCDMA Band II Middle Channel								
1880.000	H	84.29	12.7	11.7	1.4	23.0	33.0	10.0
1880.000	V	81.98	10.5	11.7	1.4	20.8	33.0	12.2

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			S.G. Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
LTE Band IV								
QPSK 1.4 MHz Middle Channel								
1732.500	H	86.95	13.9	10.9	1.4	23.4	30.00	6.6
1732.500	V	82.41	9.1	10.9	1.4	18.6	30.00	11.4
QPSK 3 MHz Middle Channel								
1732.500	H	85.78	12.8	10.9	1.4	22.3	30.00	7.7
1732.500	V	81.04	7.7	10.9	1.4	17.2	30.00	12.8
QPSK 5 MHz Middle Channel								
1732.500	H	84.57	11.6	10.9	1.4	21.1	30.00	8.9
1732.500	V	79.83	6.5	10.9	1.4	16.0	30.00	14.0
QPSK 10 MHz Middle Channel								
1732.500	H	83.35	10.3	10.9	1.4	19.8	30.00	10.2
1732.500	V	78.69	5.4	10.9	1.4	14.9	30.00	15.1
QPSK 15 MHz Middle Channel								
1732.500	H	82.01	9	10.9	1.4	18.5	30.00	11.5
1732.500	V	77.37	4	10.9	1.4	13.5	30.00	16.5
QPSK 20 MHz Middle Channel								
1732.500	H	80.89	7.9	10.9	1.4	17.4	30.00	12.6
1732.500	V	76.66	3.3	10.9	1.4	12.8	30.00	17.2
16QAM 1.4 MHz Middle Channel								
1732.500	H	86.72	13.7	10.9	1.4	23.2	30.00	6.8
1732.500	V	81.09	7.8	10.9	1.4	17.3	30.00	12.7
16QAM 3 MHz Middle Channel								
1732.500	H	85.66	12.7	10.9	1.4	22.2	30.00	7.8
1732.500	V	80.84	7.5	10.9	1.4	17.0	30.00	13.0
16QAM 5 MHz Middle Channel								
1732.500	H	84.51	11.5	10.9	1.4	21.0	30.00	9.0
1732.500	V	79.77	6.4	10.9	1.4	15.9	30.00	14.1
16QAM 10 MHz Middle Channel								
1732.500	H	83.34	10.3	10.9	1.4	19.8	30.00	10.2
1732.500	V	78.58	5.3	10.9	1.4	14.8	30.00	15.2
16QAM 15 MHz Middle Channel								
1732.500	H	82.19	9.2	10.9	1.4	18.7	30.00	11.3
1732.500	V	77.76	4.4	10.9	1.4	13.9	30.00	16.1
16QAM 20 MHz Middle Channel								
1732.500	H	81.36	8.4	10.9	1.4	17.9	30.00	12.1
1732.500	V	77.05	3.7	10.9	1.4	13.2	30.00	16.8

FCC §2.1049, §22.917, §22.905 & §24.238 & §27.53- OCCUPIED BANDWIDTH**Applicable Standard**

FCC §2.1049, §22.917, §22.905, §24.238 and §27.53.

Test Procedure

The RF output of the transmitter was connected to the simulator and the spectrum analyzer through sufficient attenuation.

The 26 dB & 99% bandwidth was recorded.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSP 38	100478	2015-05-09	2016-05-09
R&S	Spectrum Analyzer	FSEM	831259/019	2015-05-09	2016-05-09
R&S	Universal Radio Communication Tester	CMU200	109 038	2015-05-09	2016-05-09

R&S

Test Data**Environmental Conditions**

Temperature:	24.6 ~ 26.3 °C
Relative Humidity:	26.3 ~ 44 %
ATM Pressure:	101.4 ~ 101.7 kPa

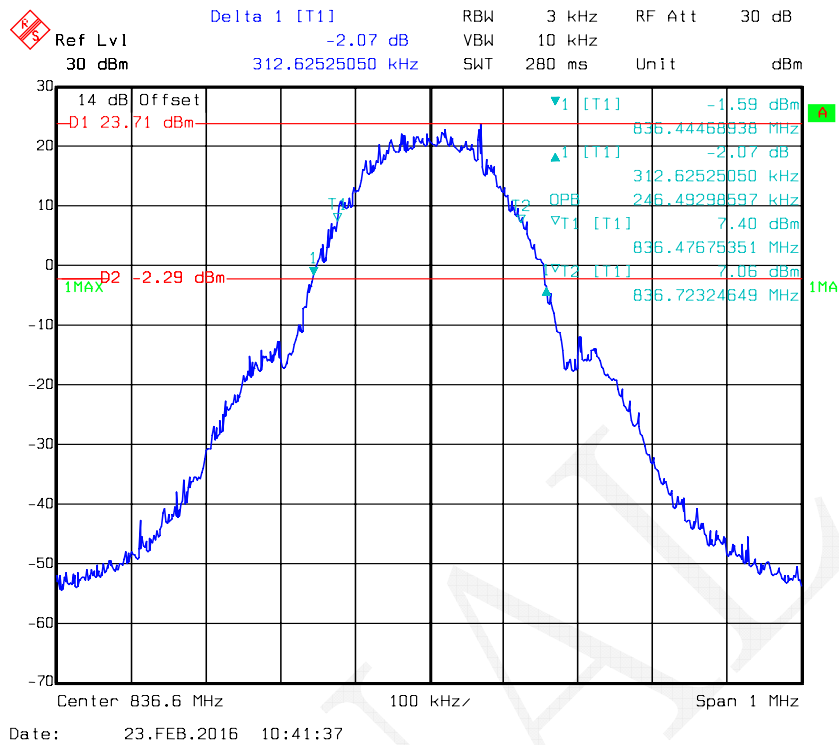
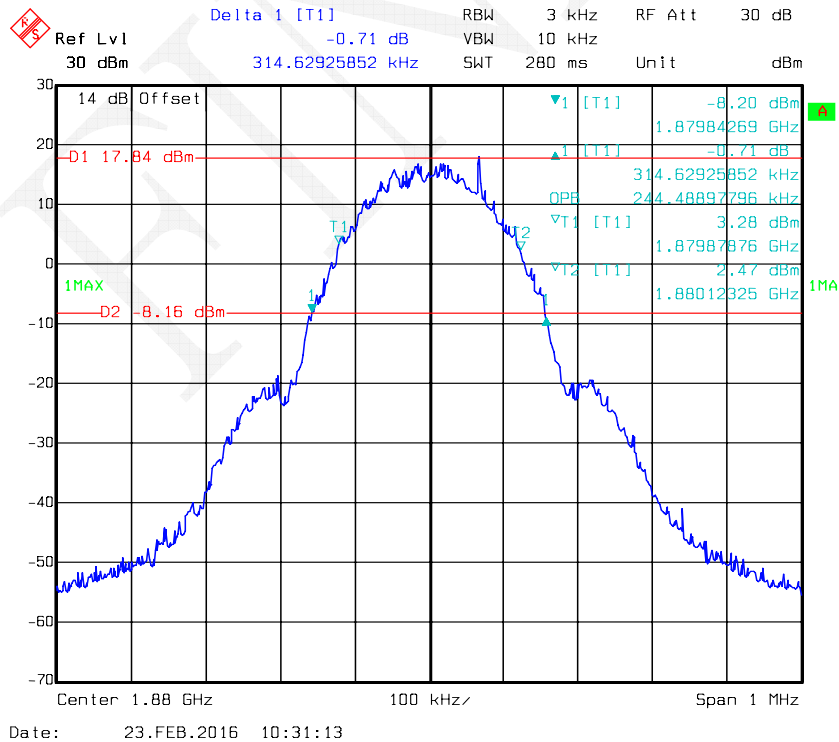
The testing was performed by Allen Qiao from 2016-02-22 to 2016-02-23.

Test Mode: Transmitting

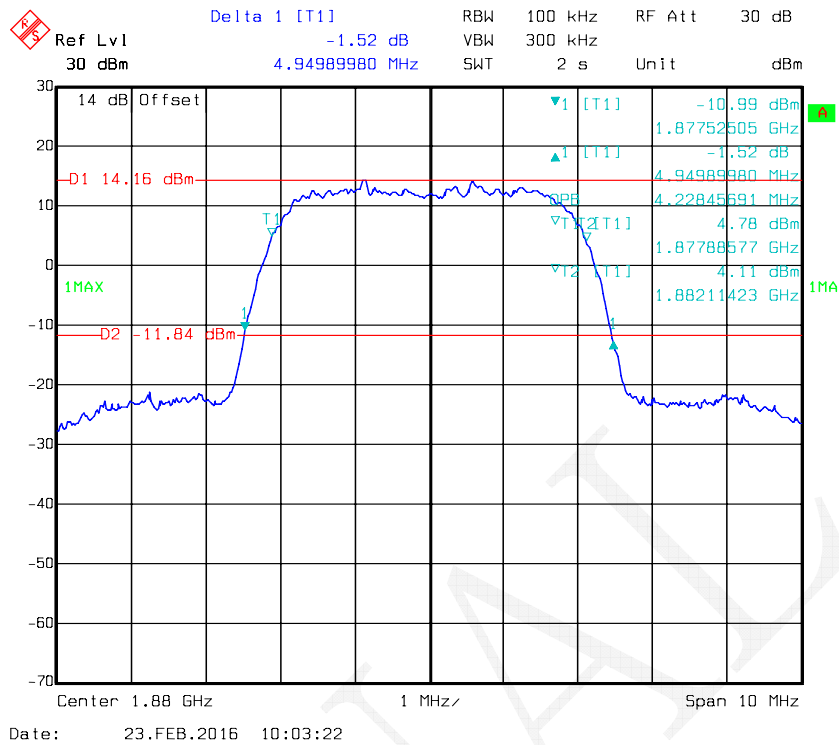
Test Result: Compliant. Please refer to the following table and plots.

Band	Channel No.	Mode	99% Occupied Bandwidth (kHz)	26 dB Occupied Bandwidth (kHz)
Cellular	190	GSM	246.49	312.63
PCS	661	PCS	244.49	314.63

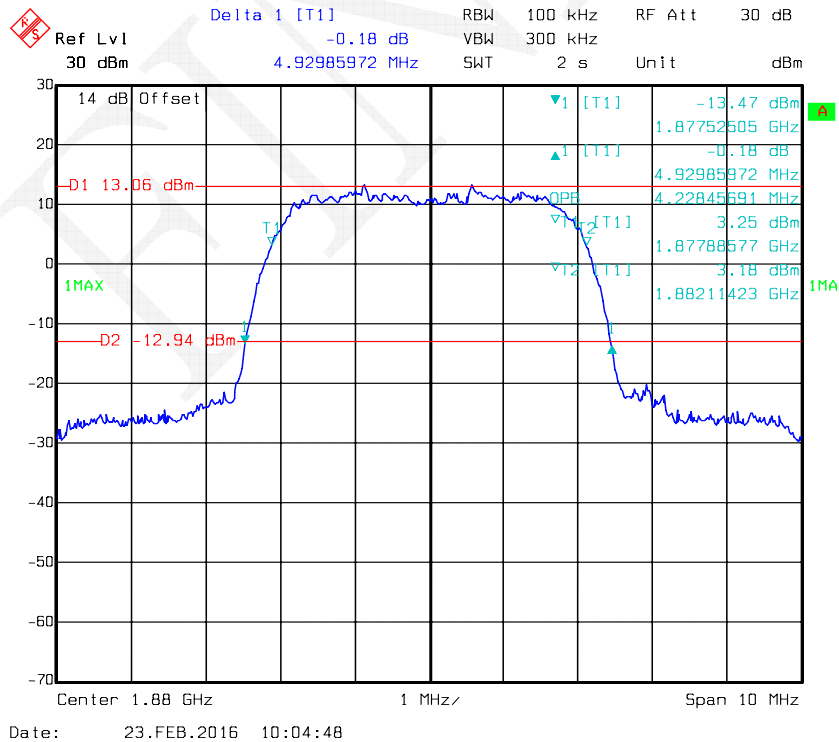
WCDMA
Band

GMSK 850 Cellular Band**GMSK PCS Band**

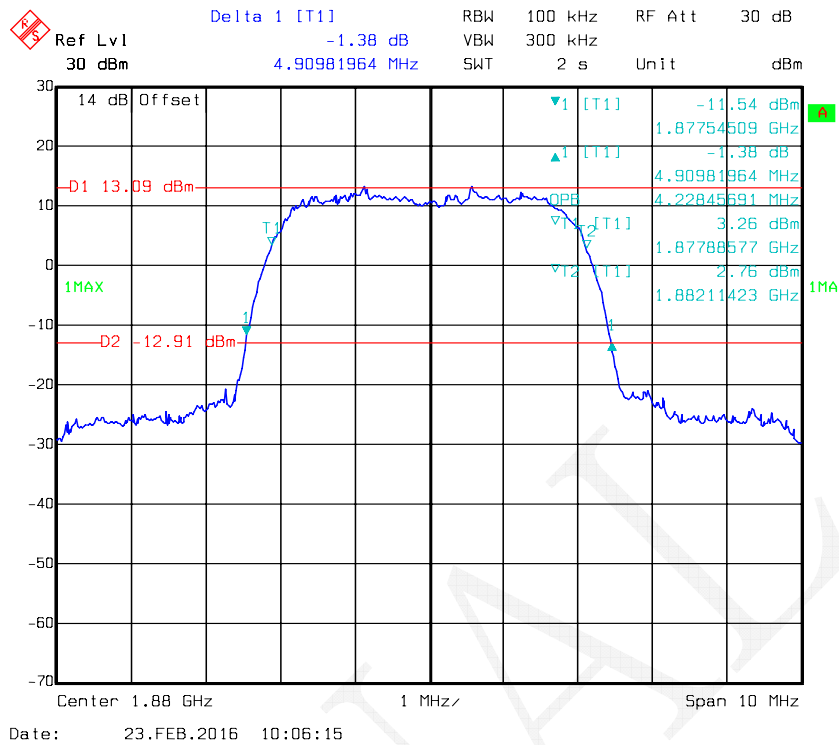
REL99 Band II



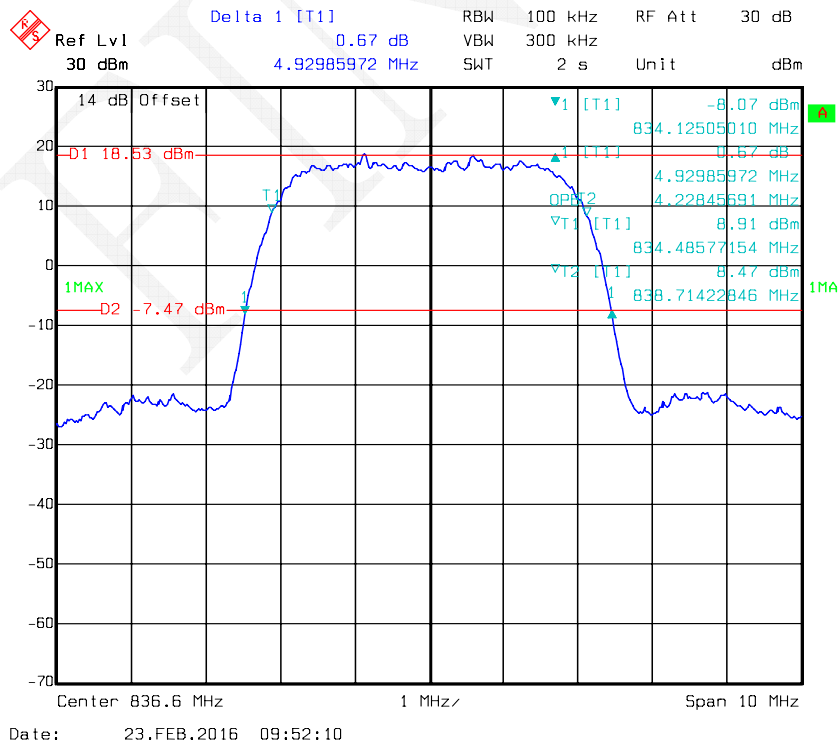
HSDPA Band II



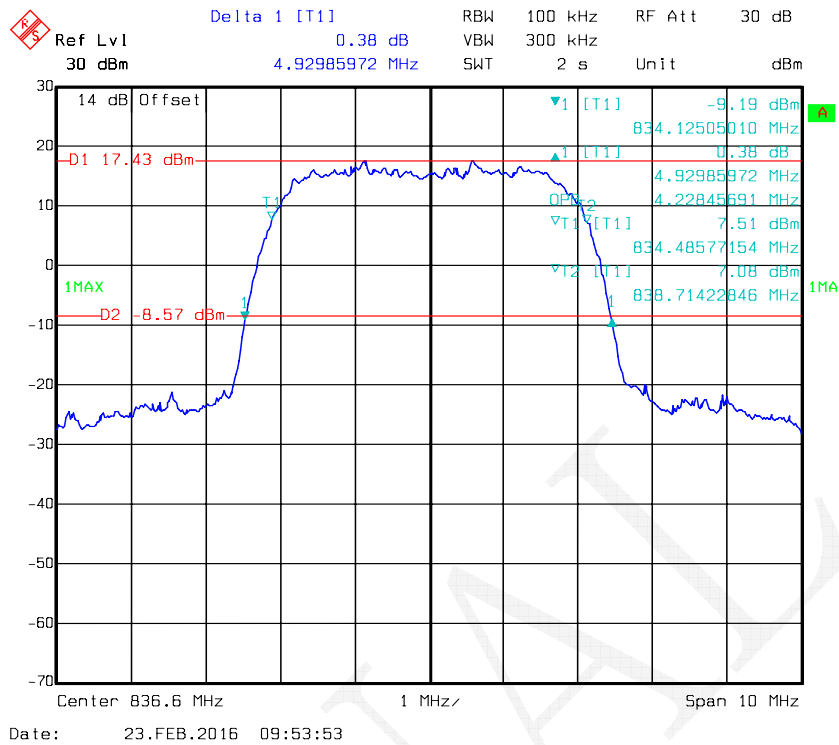
HSUPA Band II



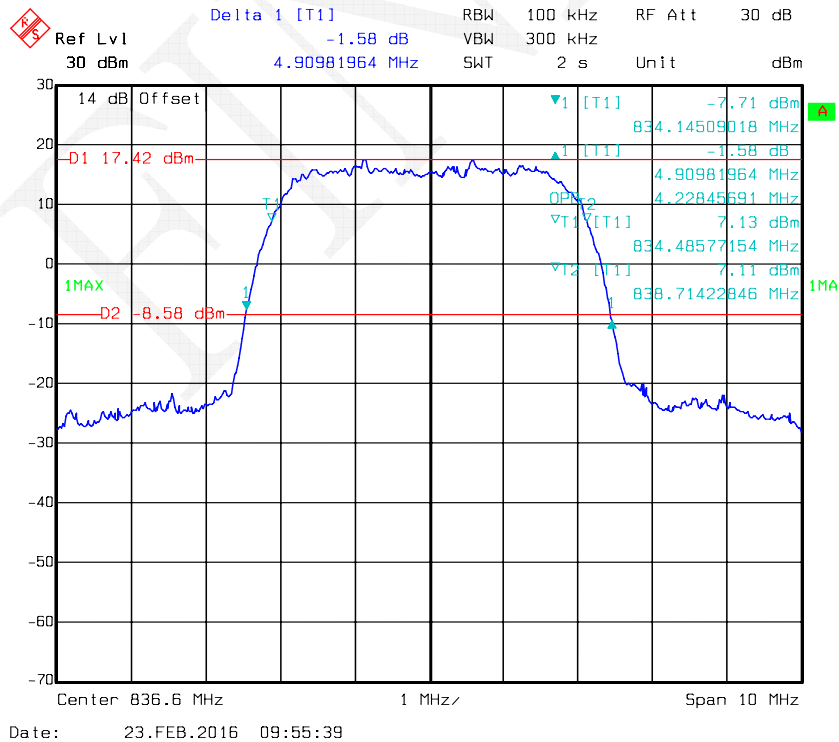
REL99 Band V



HSDPA Band V

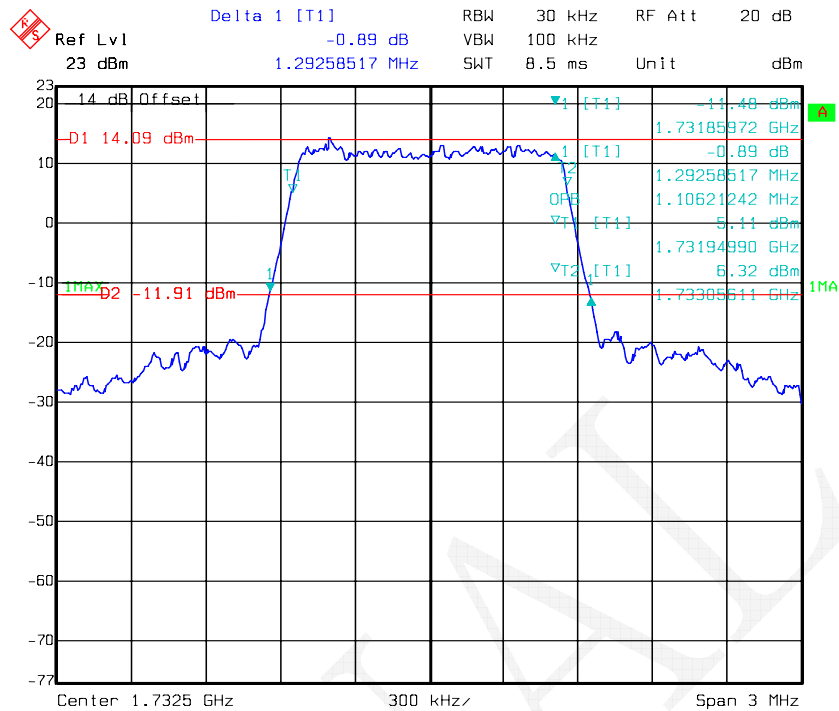


HSUPA Band V

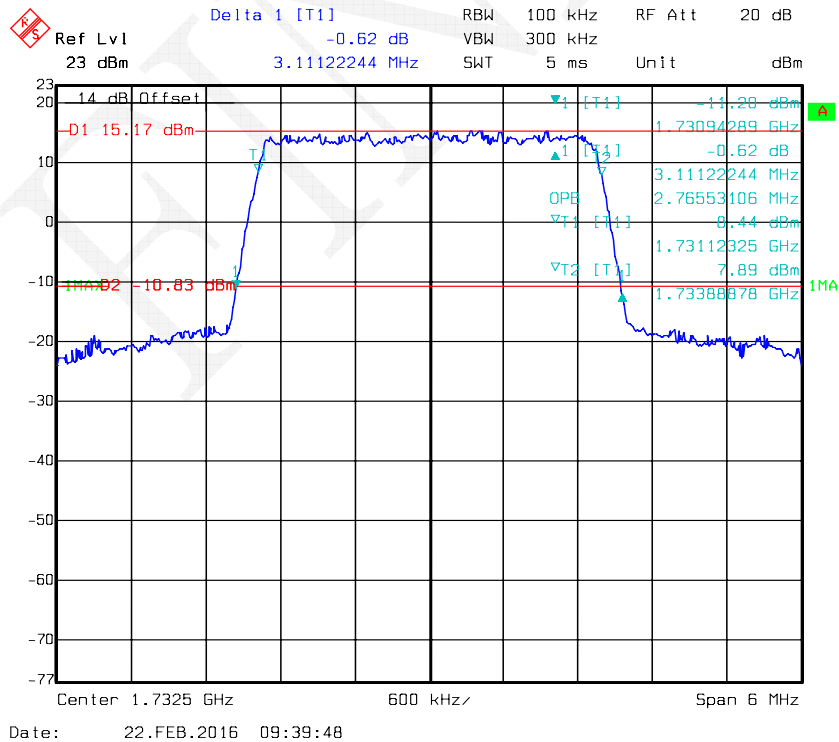


LTE Band IV

QPSK_1.4 MHz



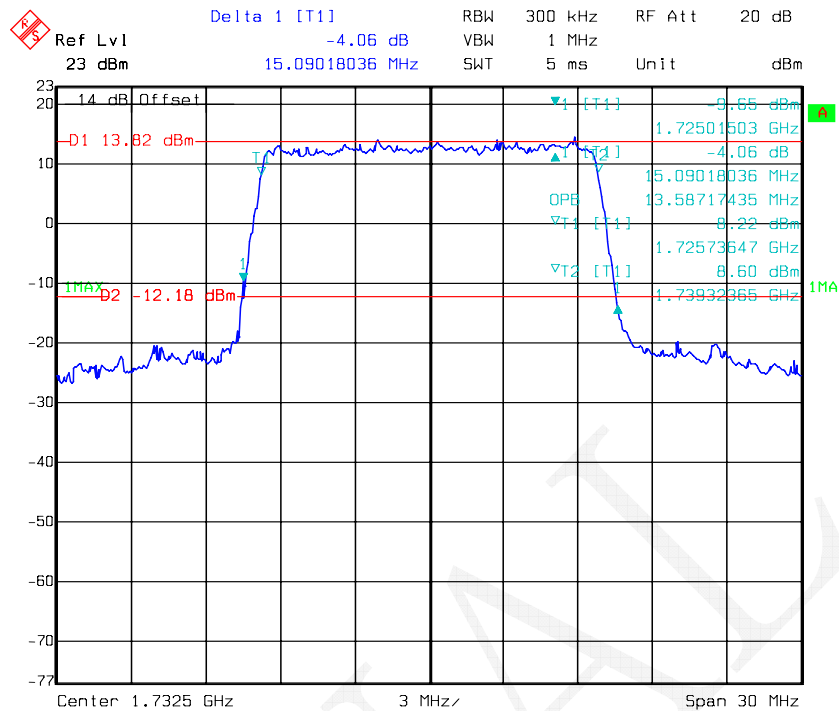
QPSK_3 MHz



Date: 22.FEB.2016 09:43:23

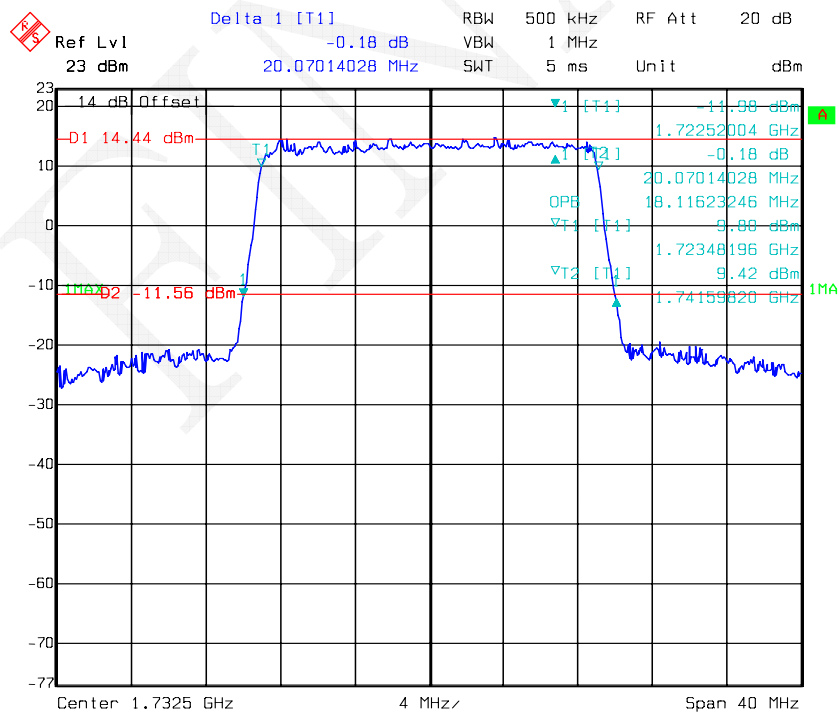
Date: 22.FEB.2016 09:48:13

QPSK_15 MHz



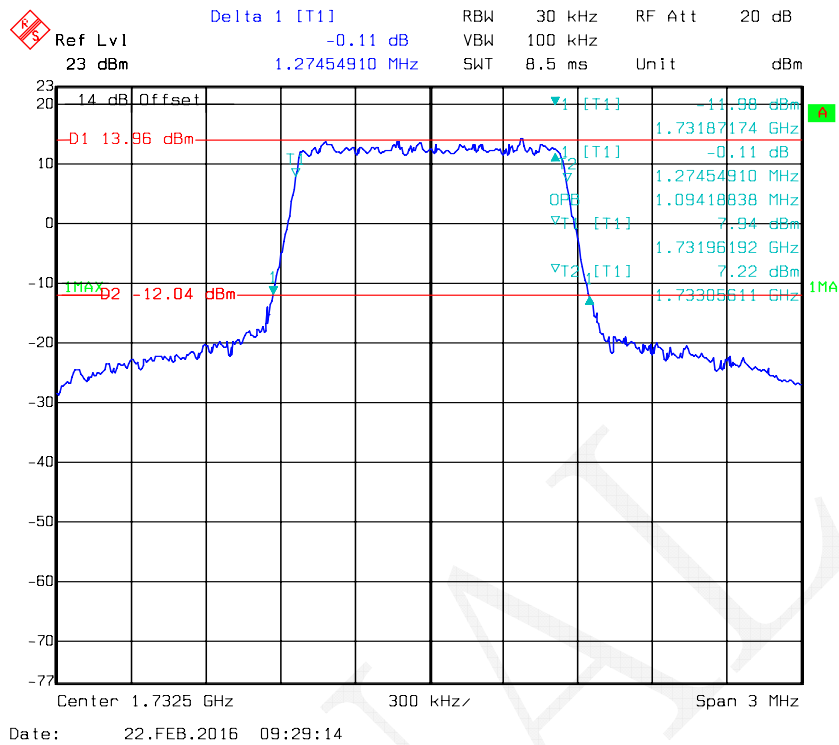
Date: 22.FEB.2016 09:52:37

QPSK_20 MHz

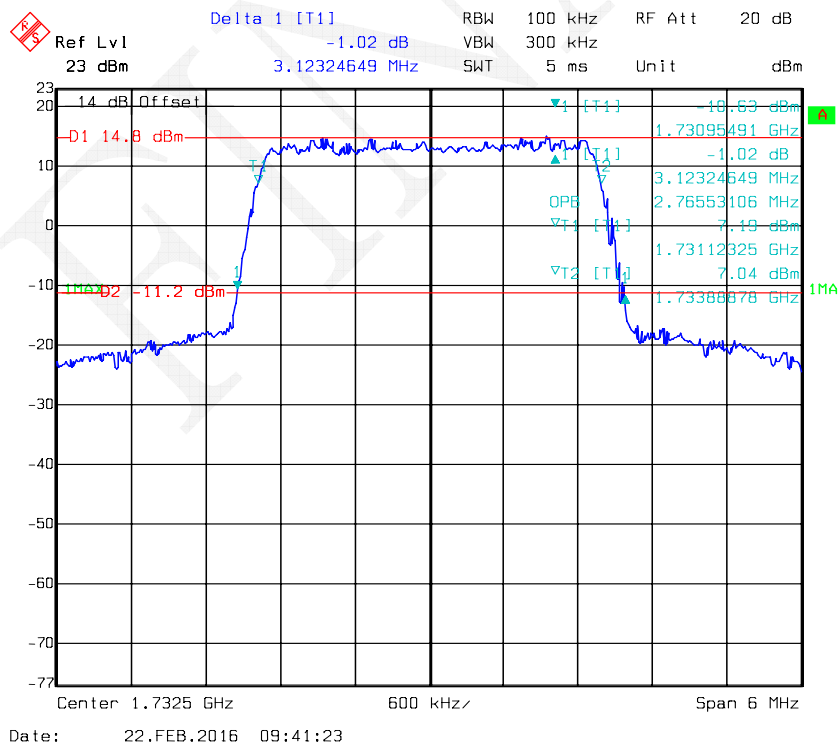


Date: 22.FEB.2016 10:02:19

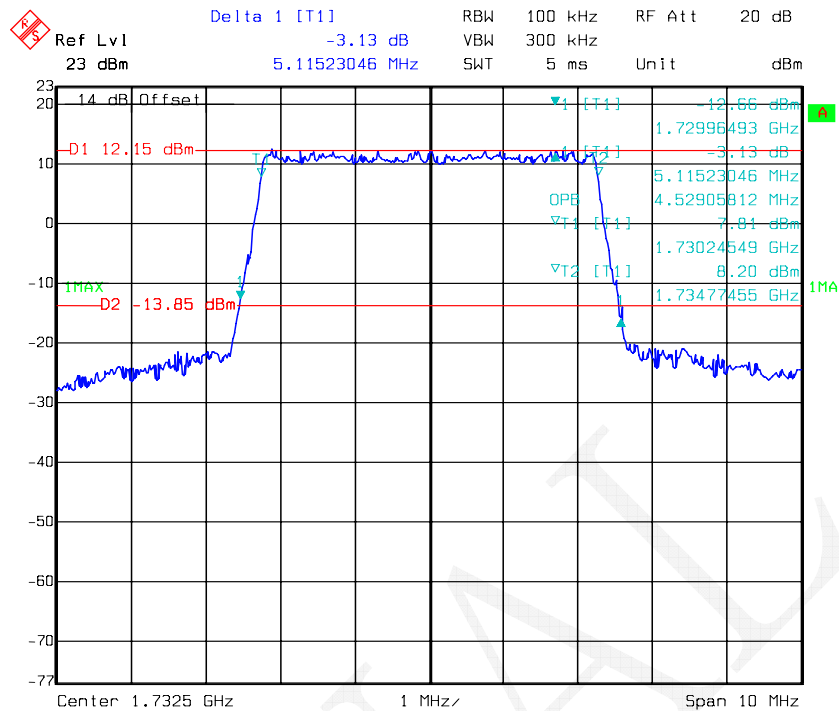
16QAM_1.4 MHz



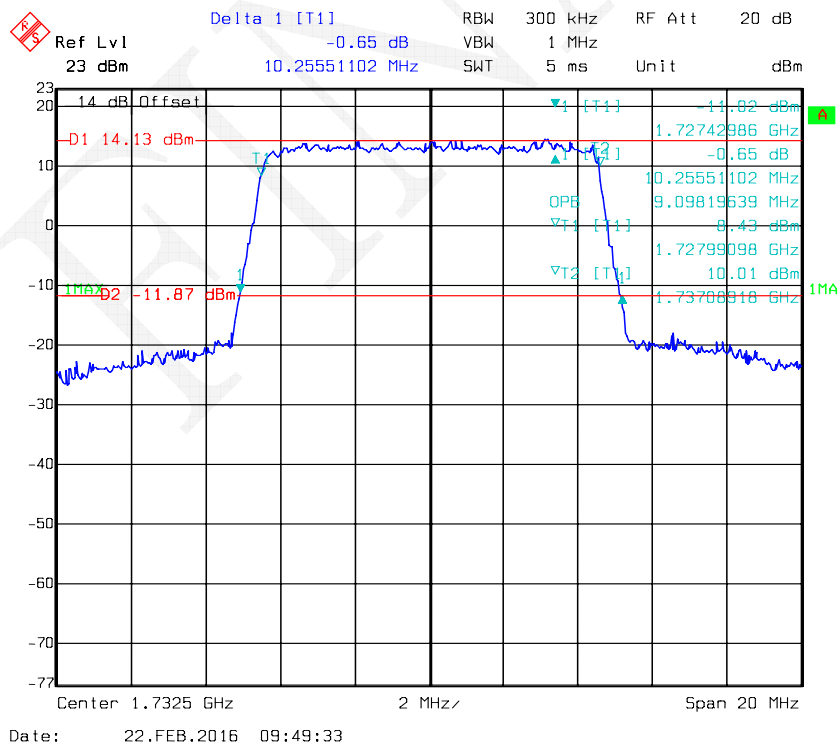
16QAM_3 MHz



16QAM_5 MHz



16QAM_10 MHz



FCC §2.1051, §22.917(a) & §24.238(a) & §27.53- SPURIOUS EMISSIONS AT ANTENNA TERMINALS**Applicable Standard**

FCC §2.1051, §22.917(a) , §24.238(a) and §27.53.

The spectrum was to be investigated to the tenth harmonics of the highest fundamental frequency as specified in § 2.1051.

Test Procedure

The RF output of the transceiver was connected to a spectrum analyzer and simulator through appropriate attenuation. Sufficient scans were taken to show any out of band emissions up to 10th harmonic.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSP 38	100478	2015-05-09	2016-05-09
R&S	Spectrum Analyzer	FSEM	831259/019	2015-05-09	2016-05-09
R&S	Universal Radio Communication Tester	CMU200	109 038	2015-05-09	2016-05-09

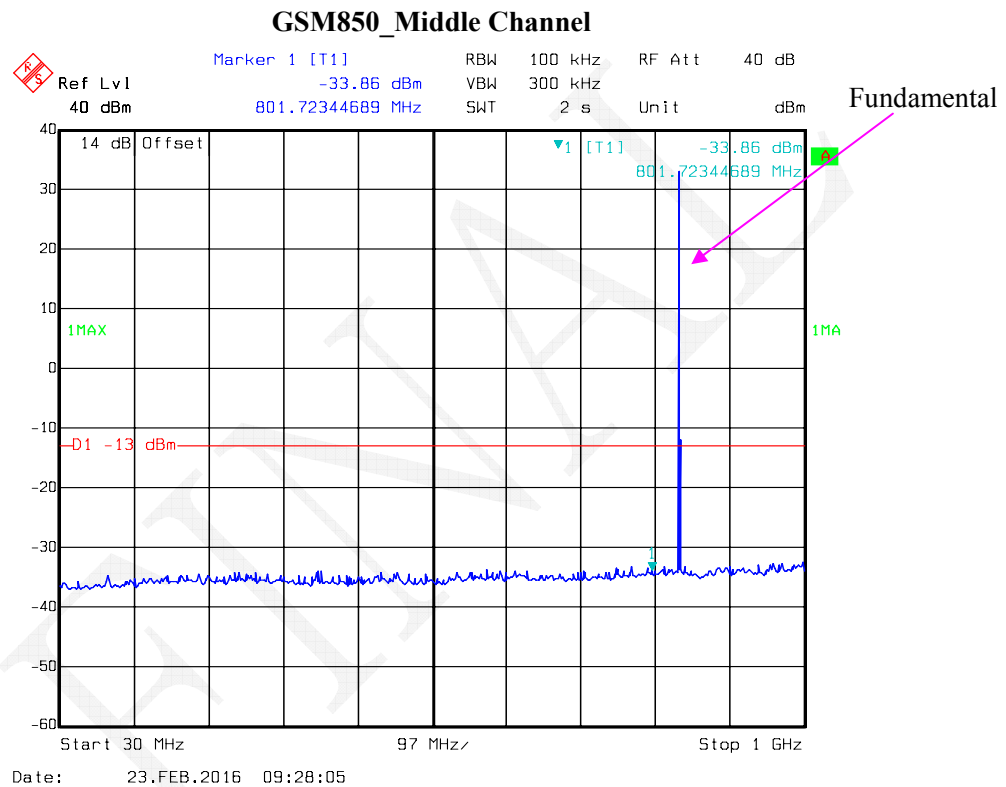
R&S

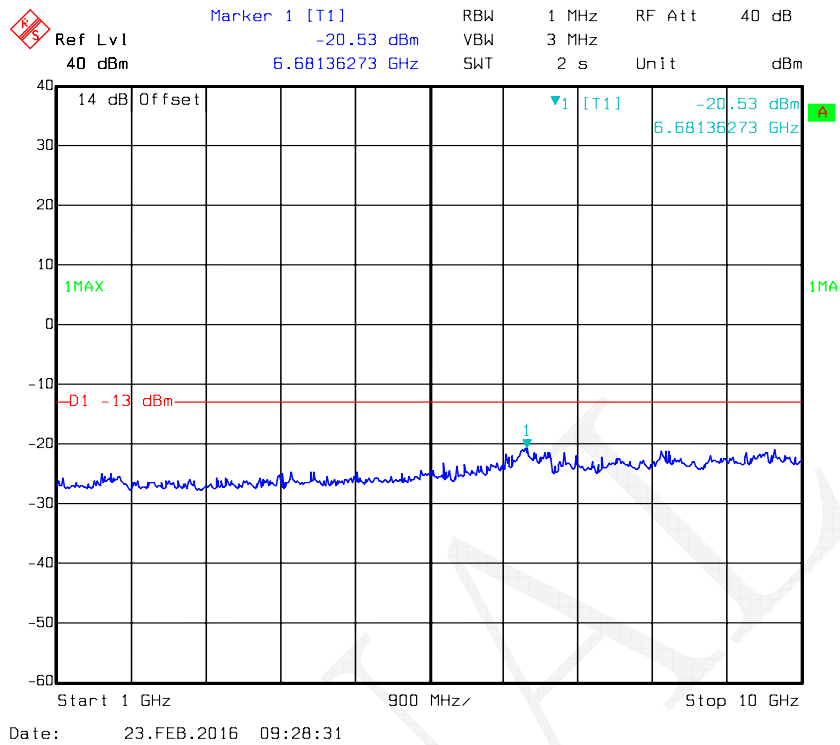
Test Data**Environmental Conditions**

Temperature:	22.9 ~ 26.3 °C
Relative Humidity:	22.9 ~ 48 %
ATM Pressure:	101.4 ~ 101.9 kPa

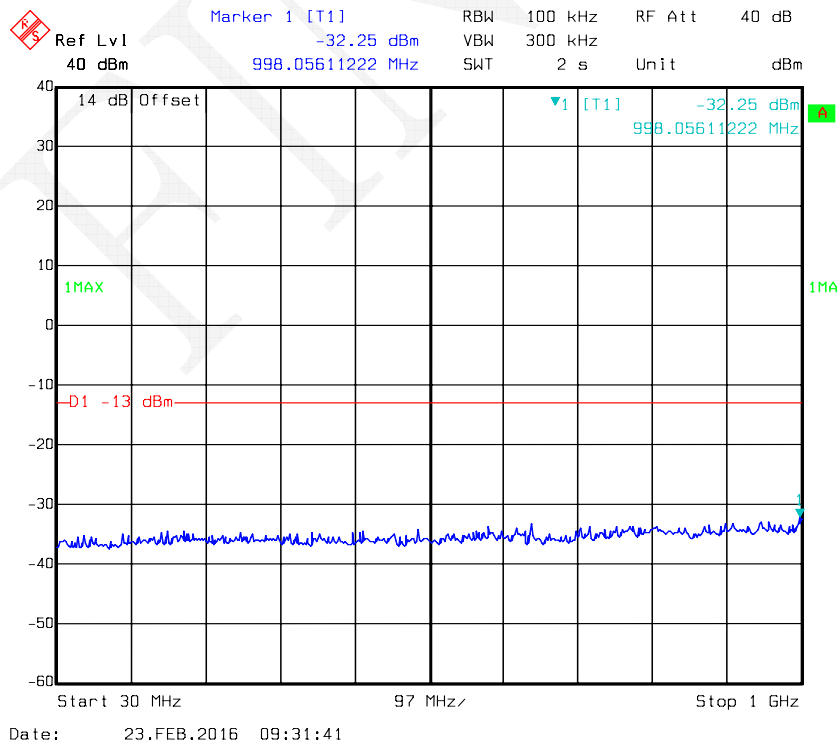
The testing was performed by Allen Qiao from 2016-02-17 to 2016-02-23.

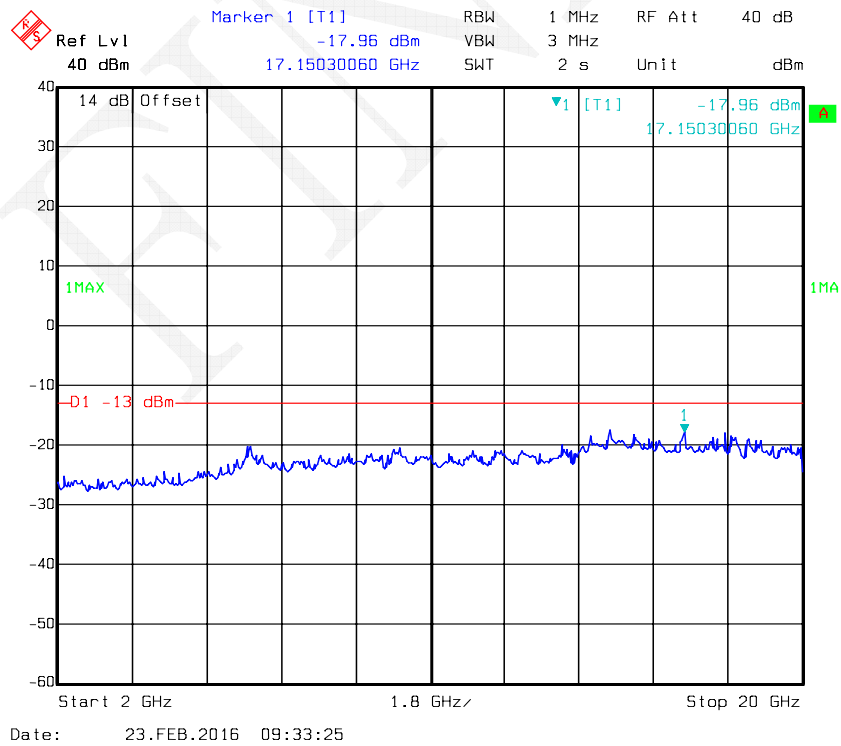
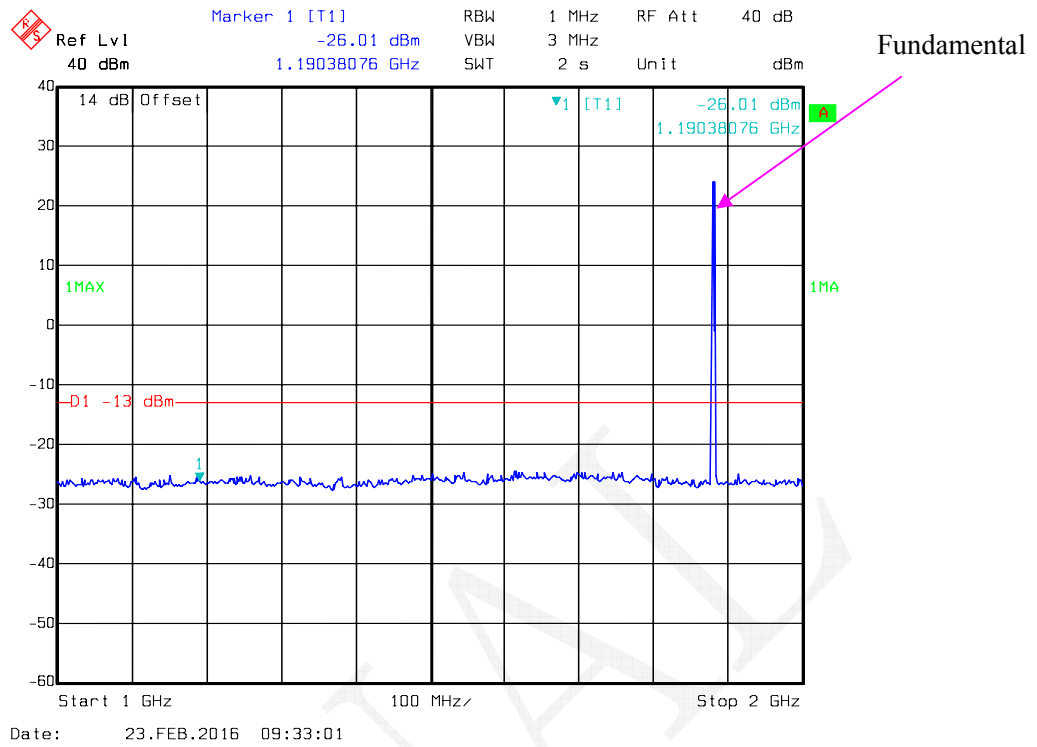
Please refer to the following plots.



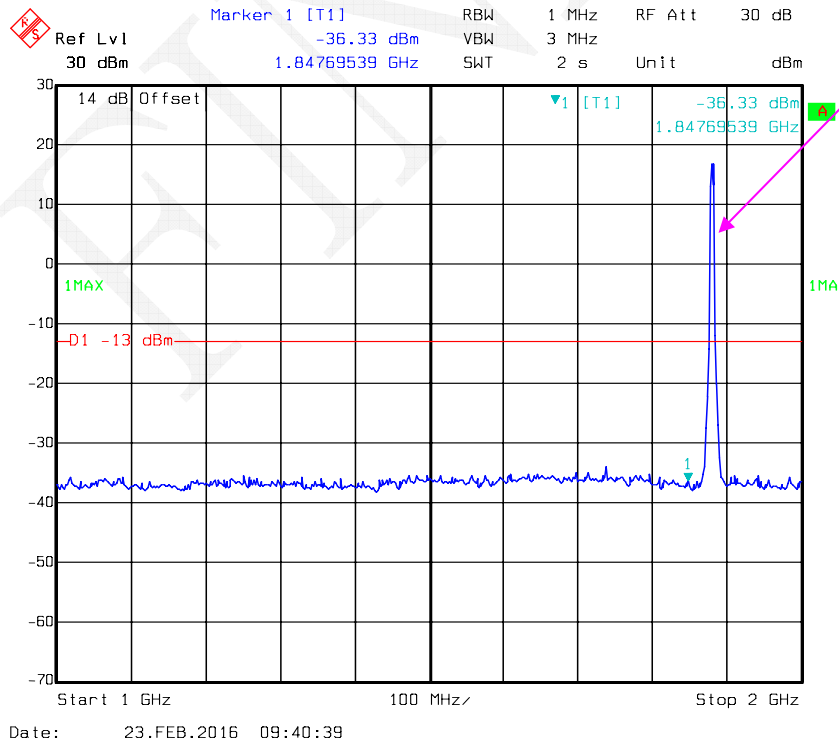
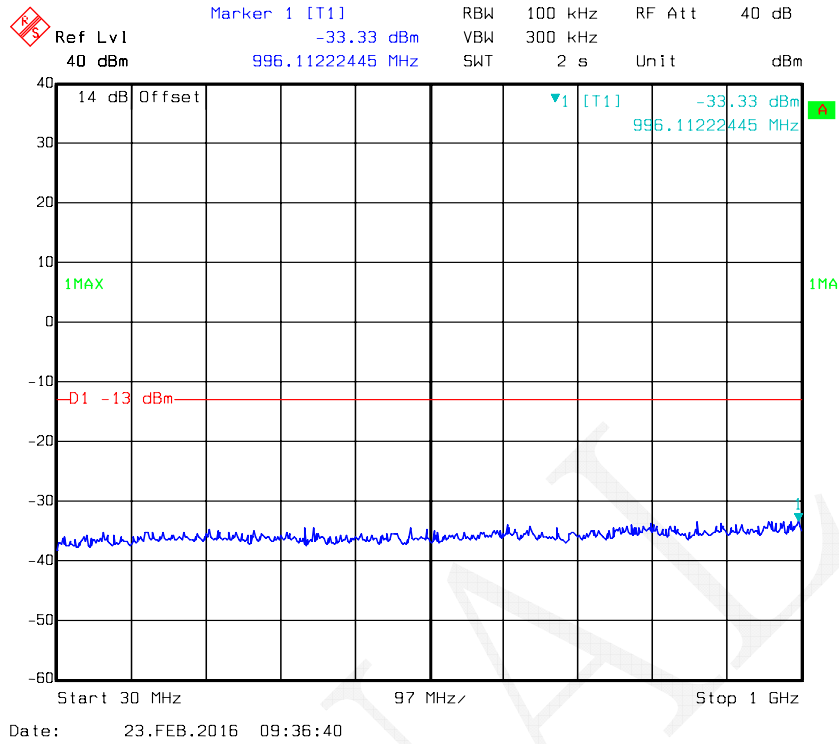


PCS 1900_Middle Channel

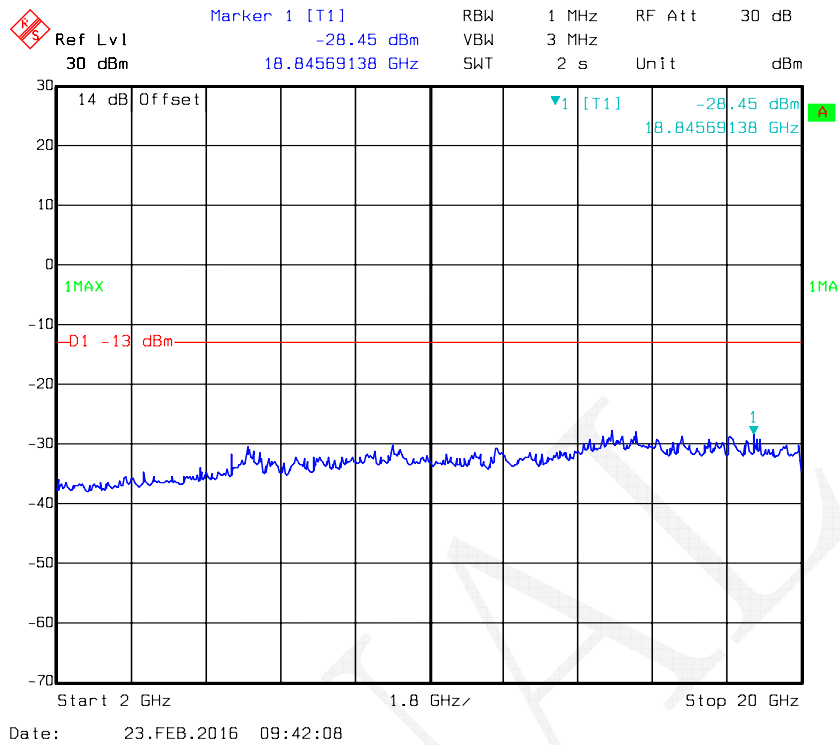




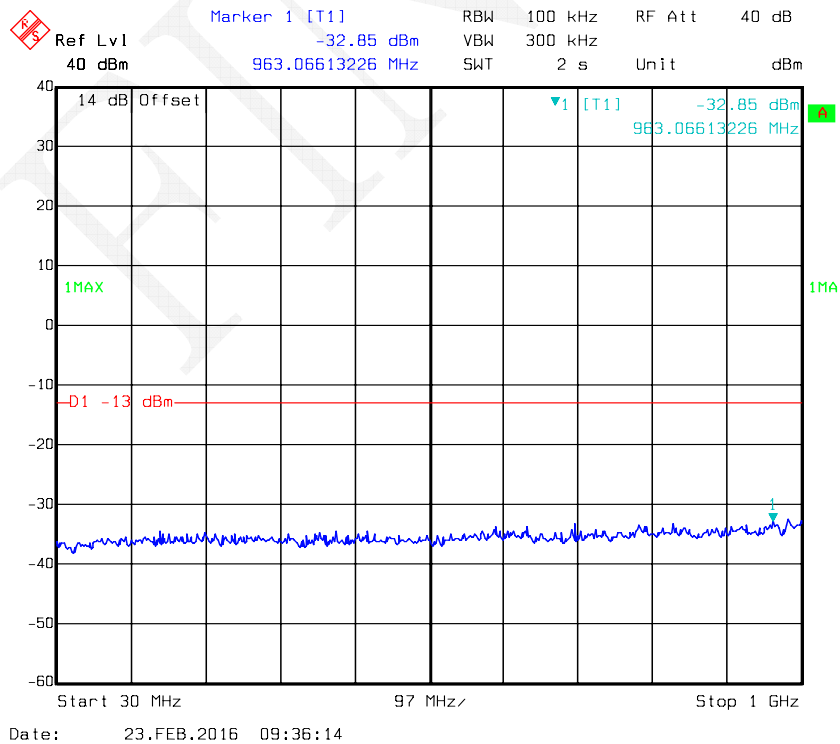
REL99 Band II_ Middle Channel

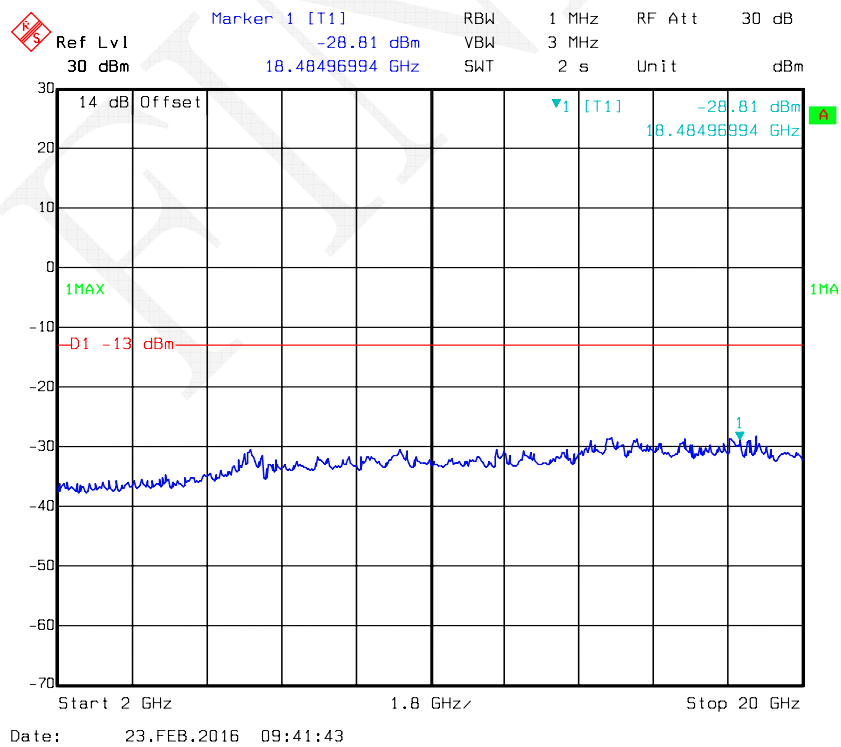
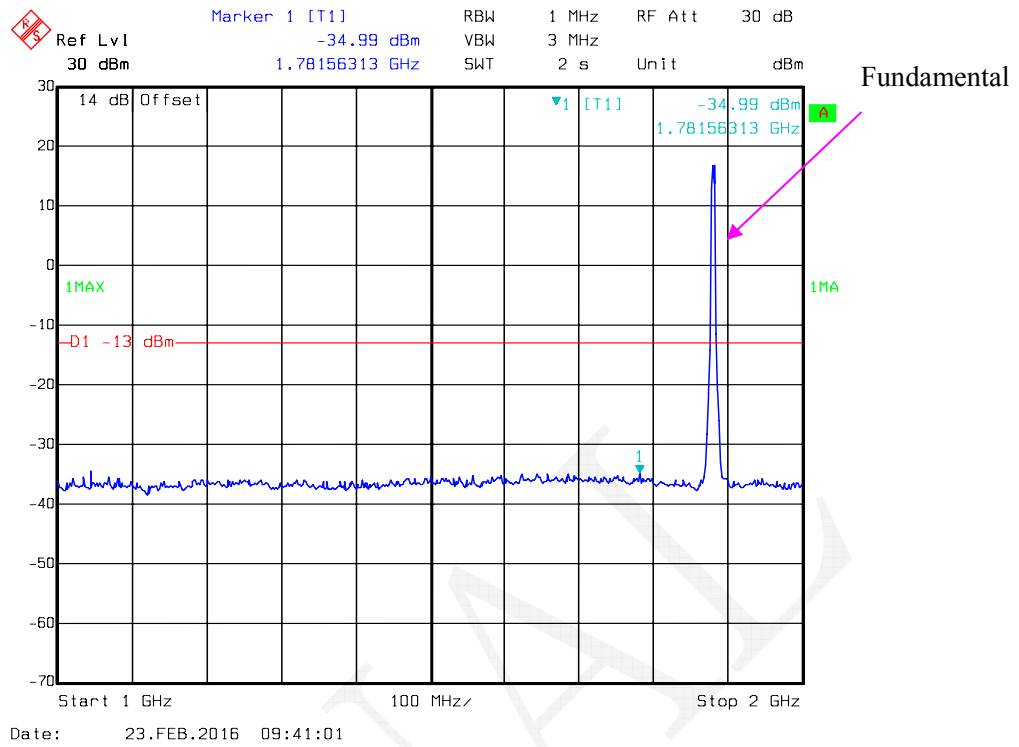


Fundamental

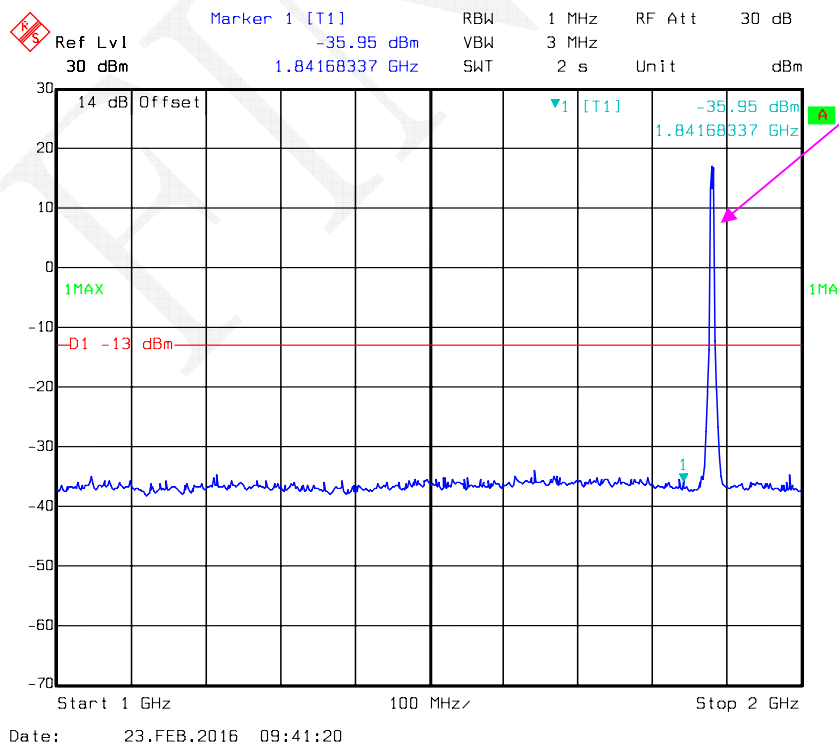
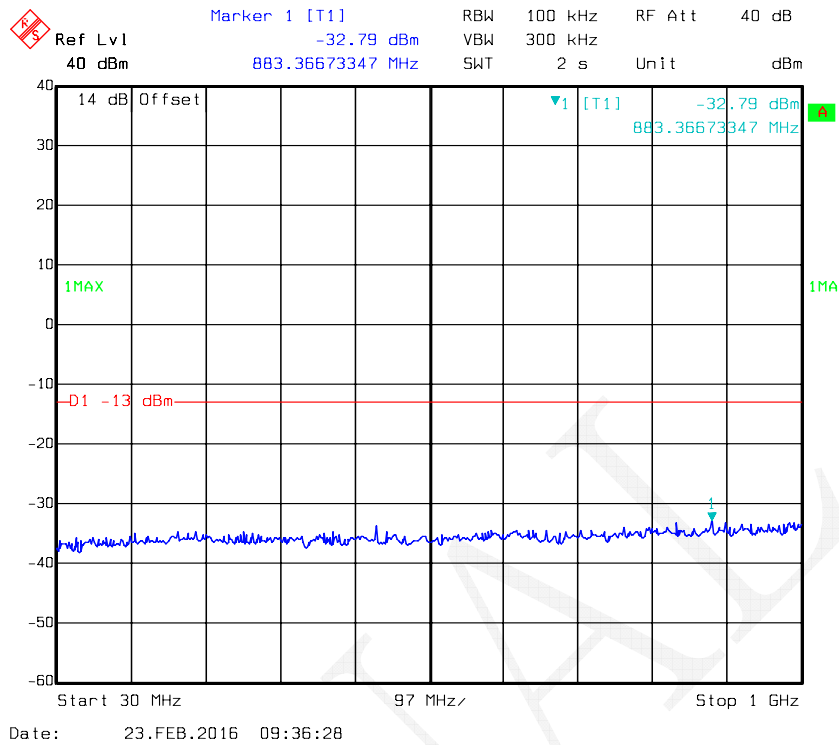


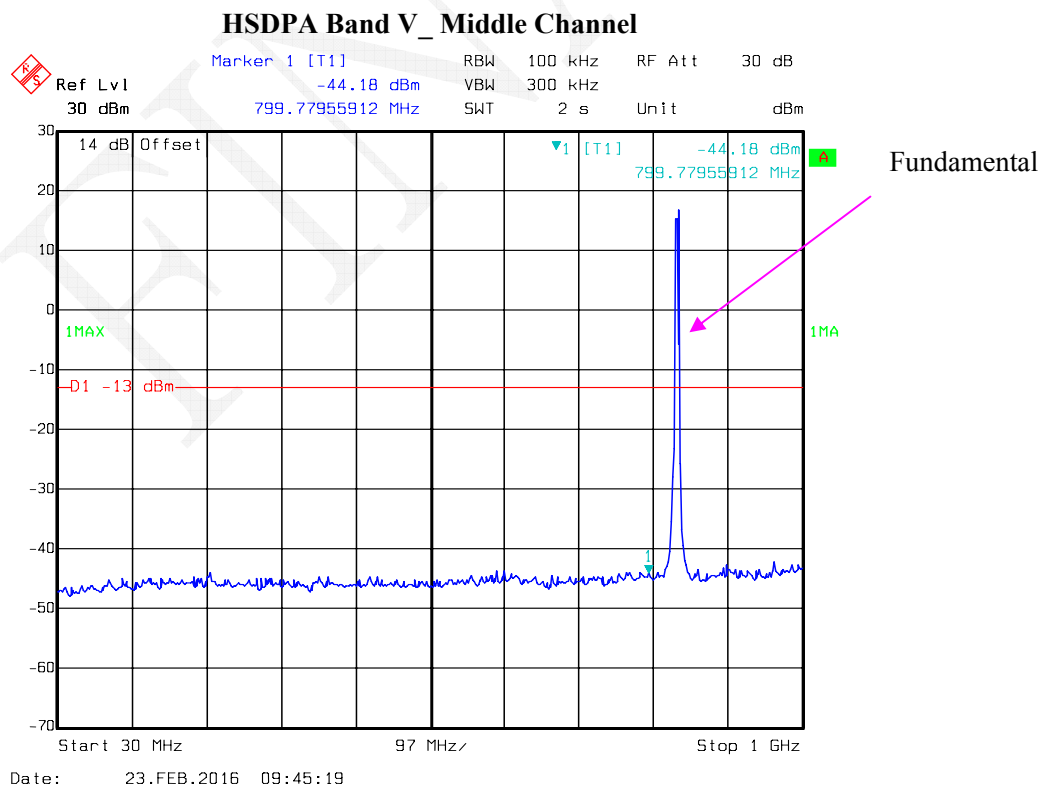
HSDPA Band II_Middle Channel

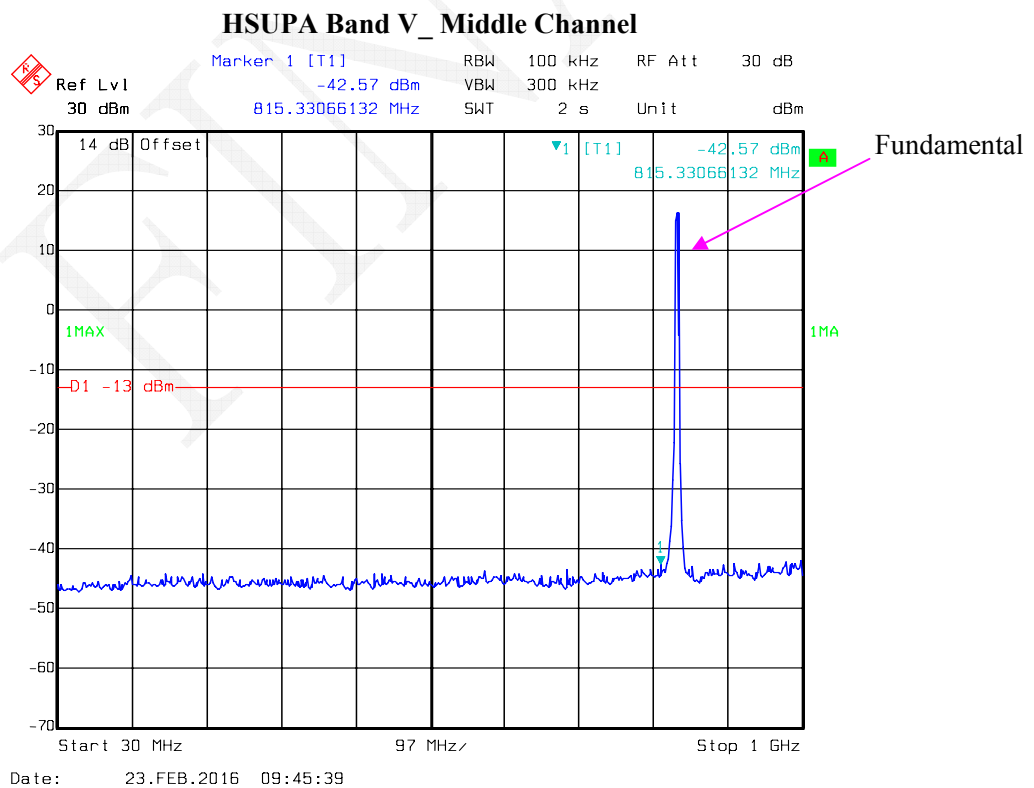


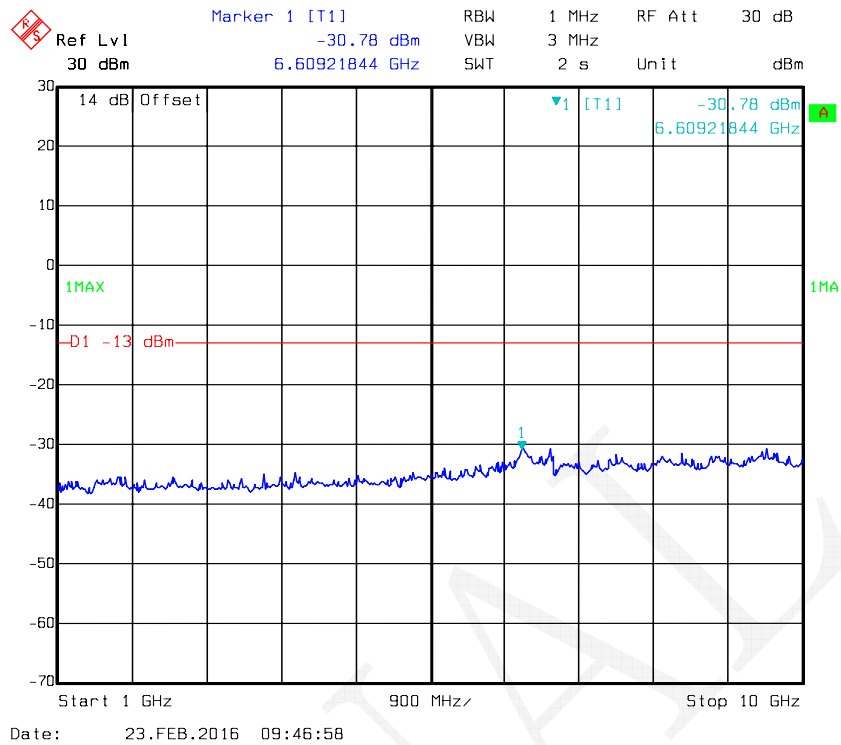


HSUPA Band II _ Middle Channel



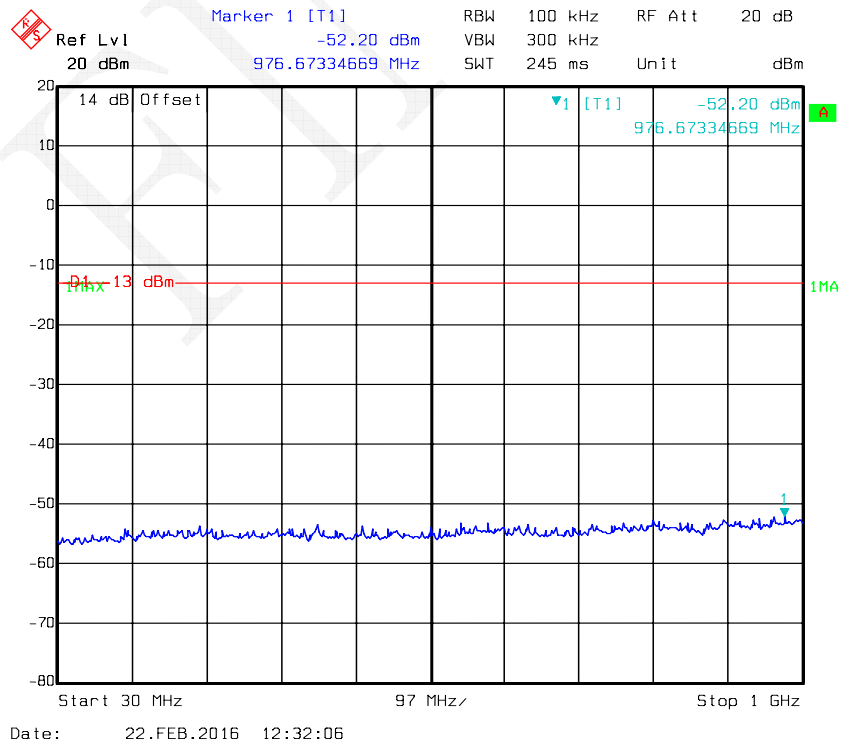


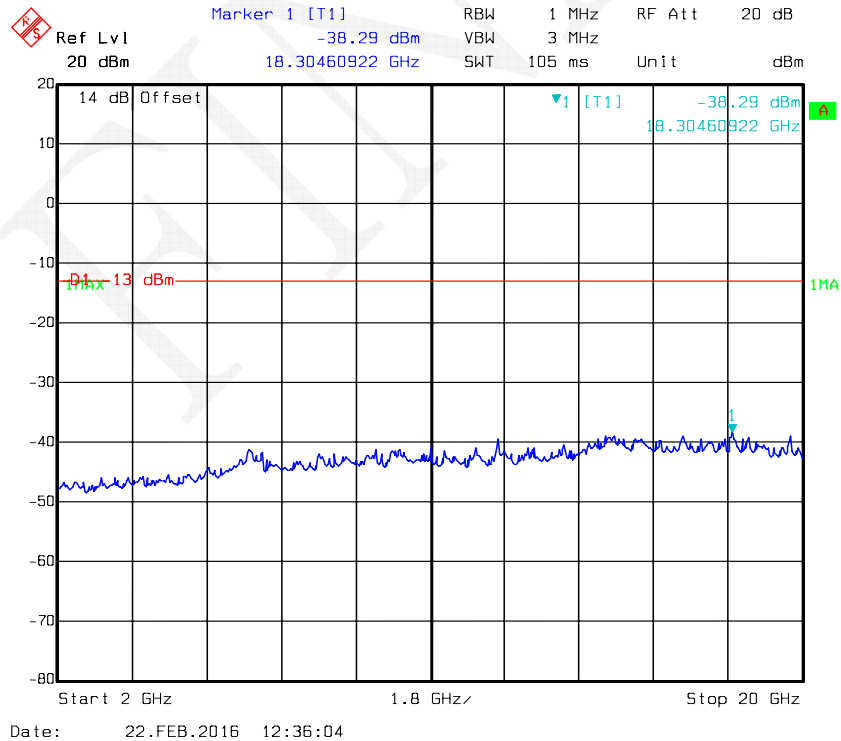
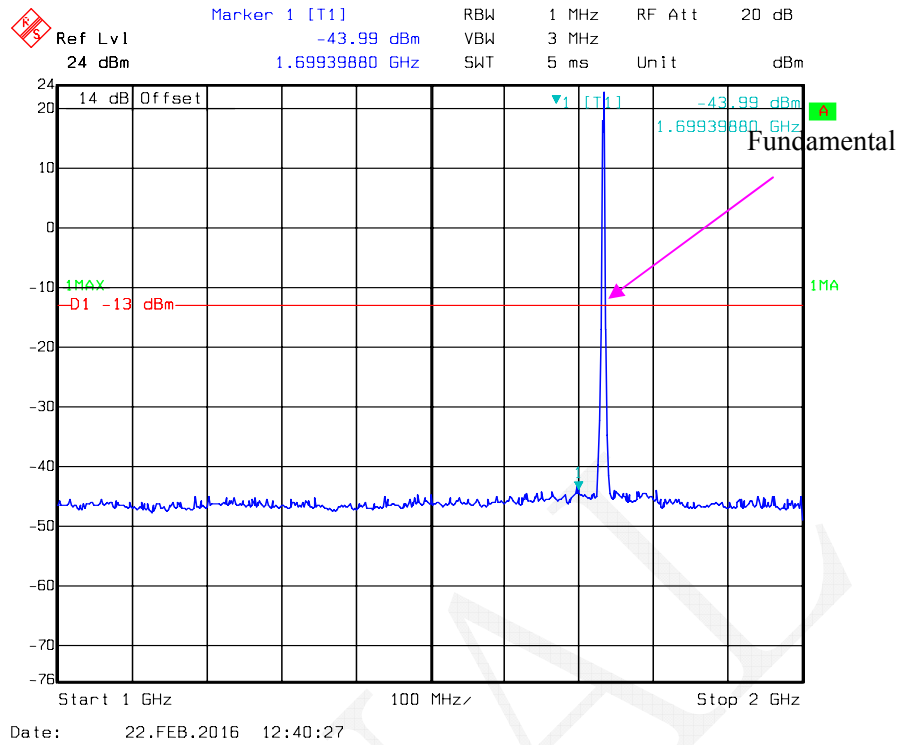




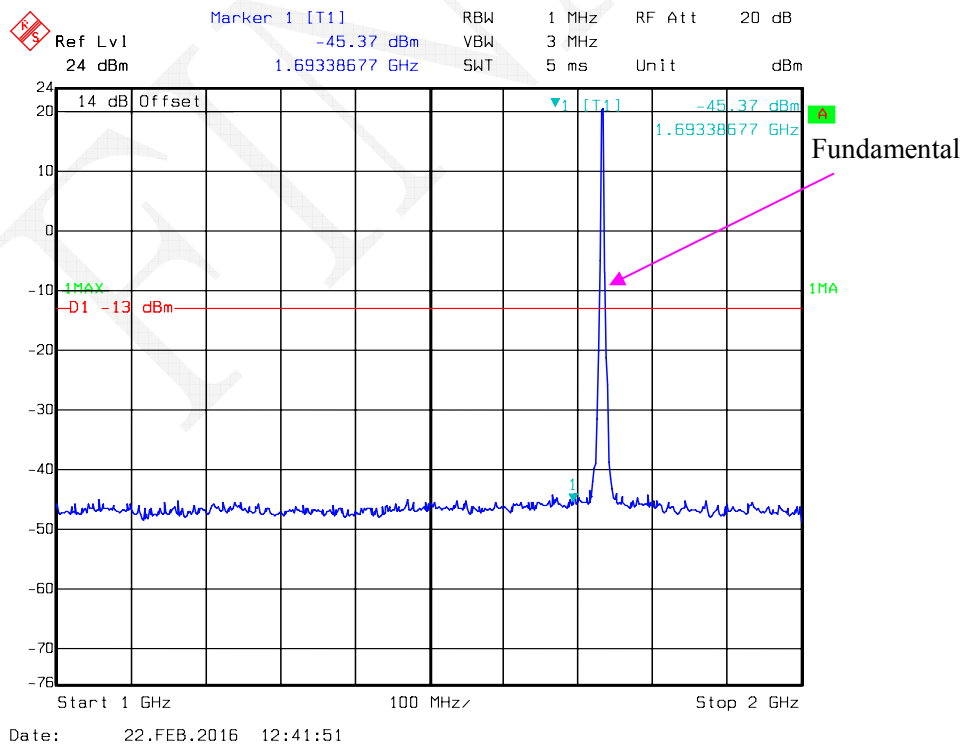
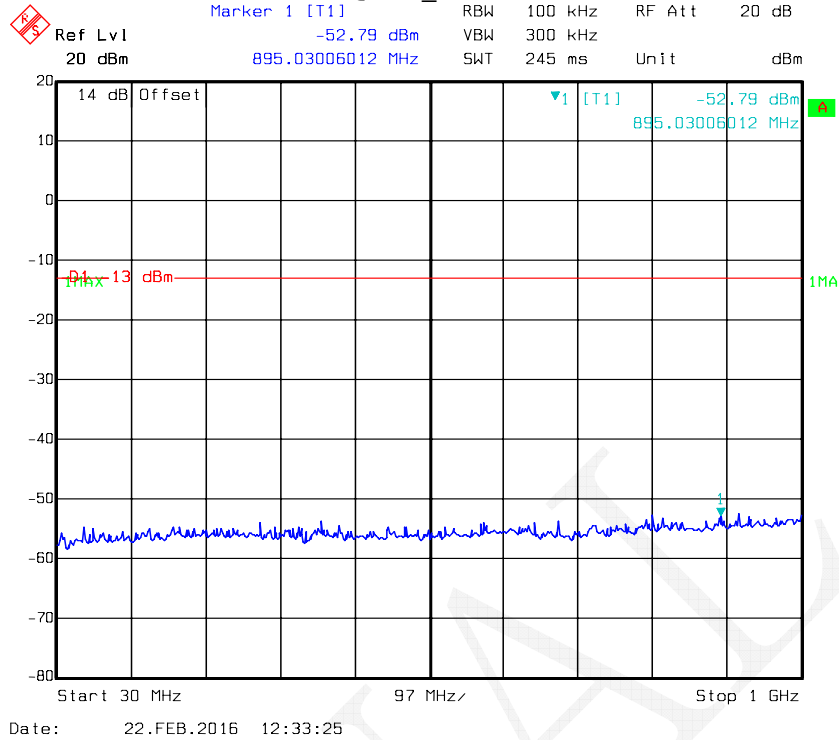
LTE Band IV (Middle Channel)

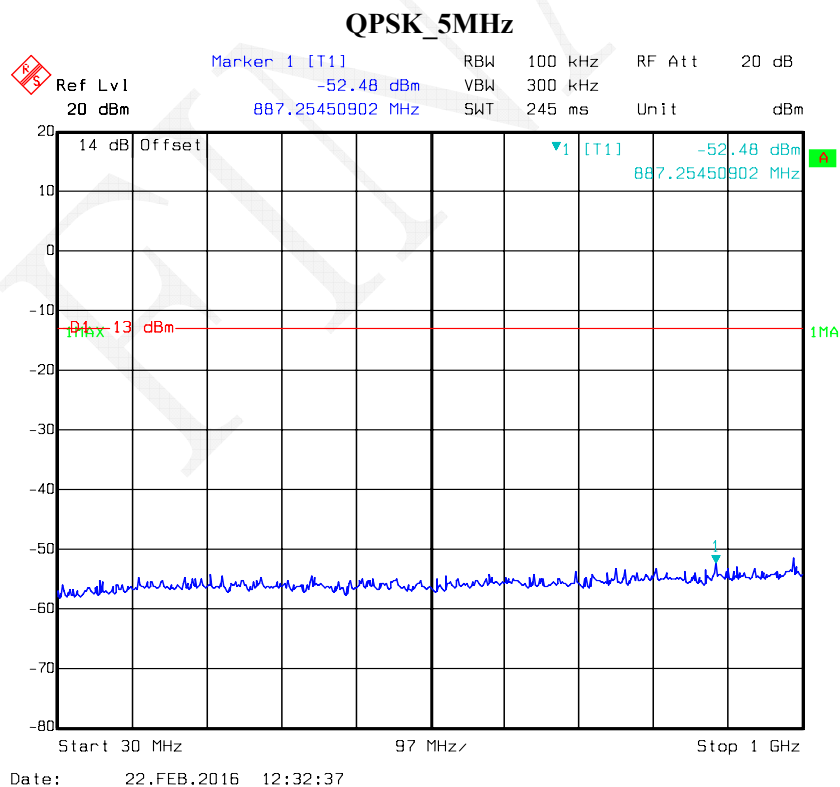
QPSK-1.4 MHz

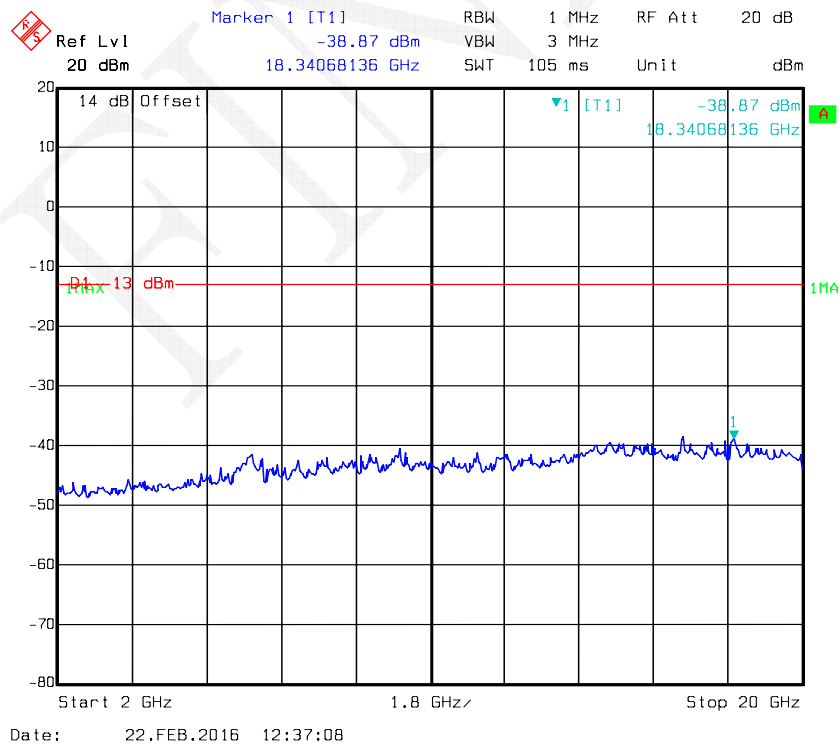
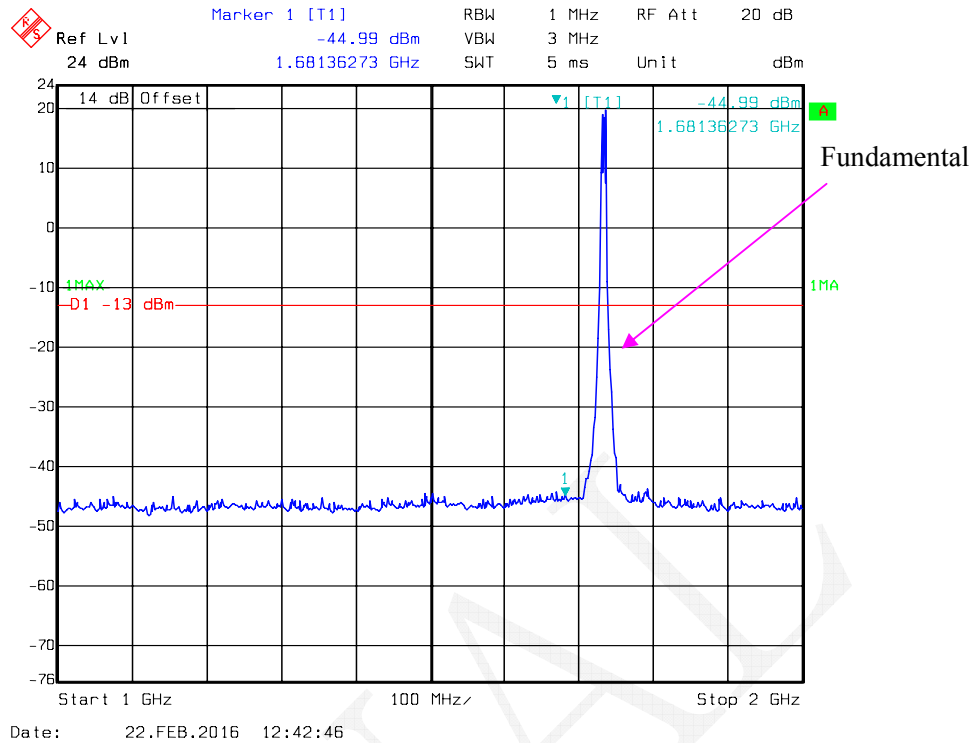




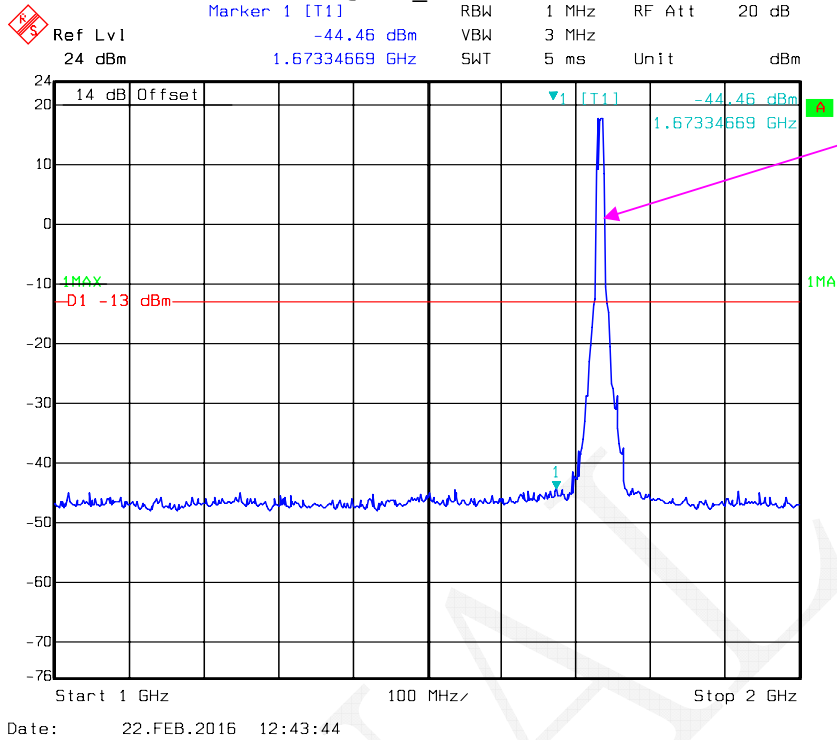
QPSK_3MHz



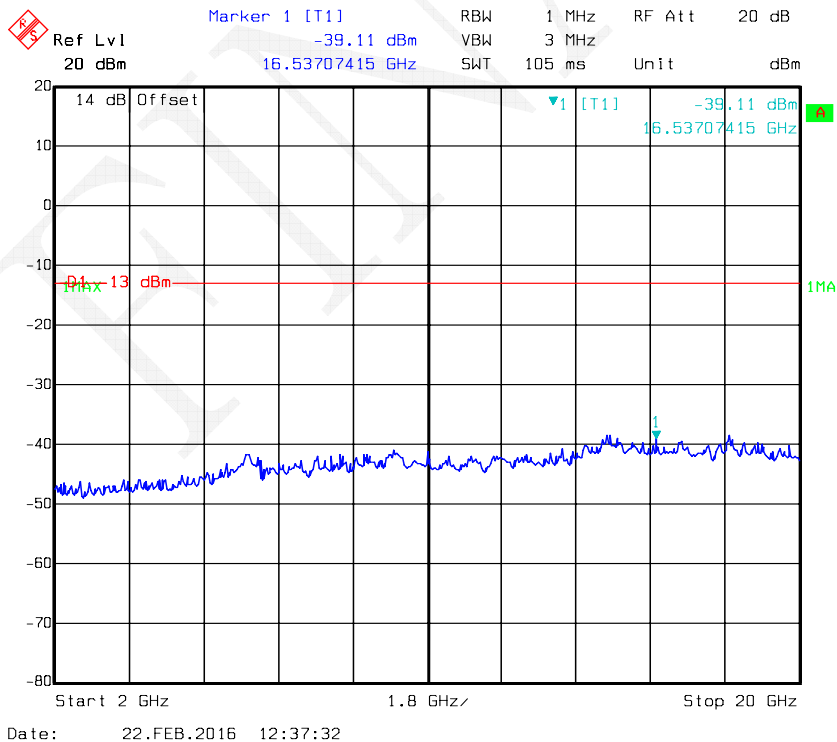




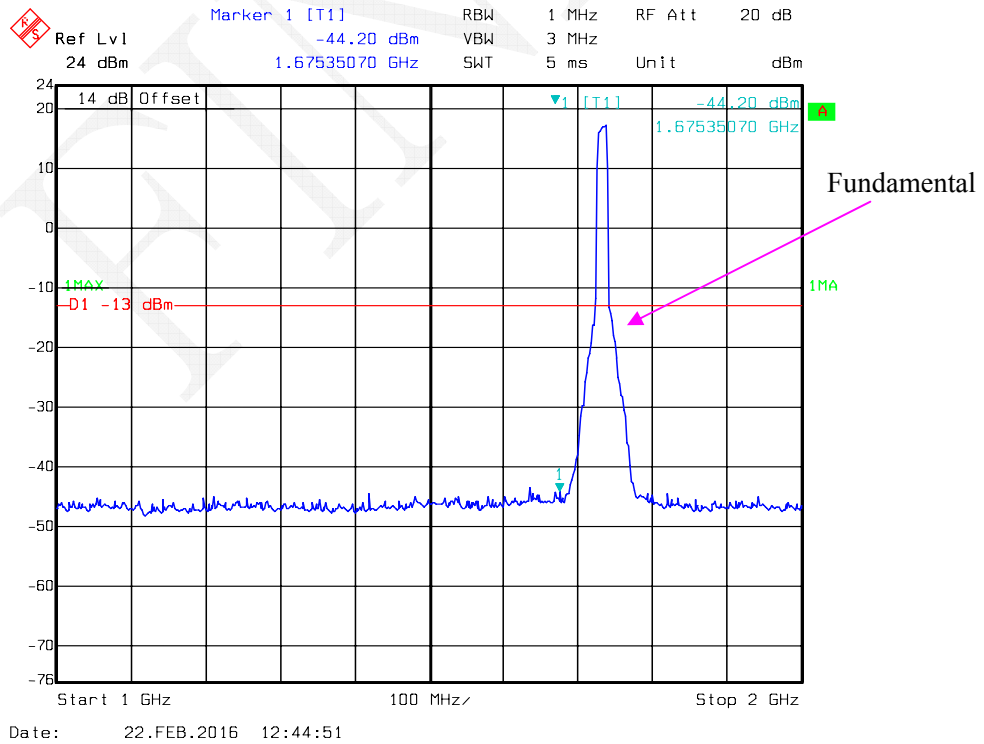
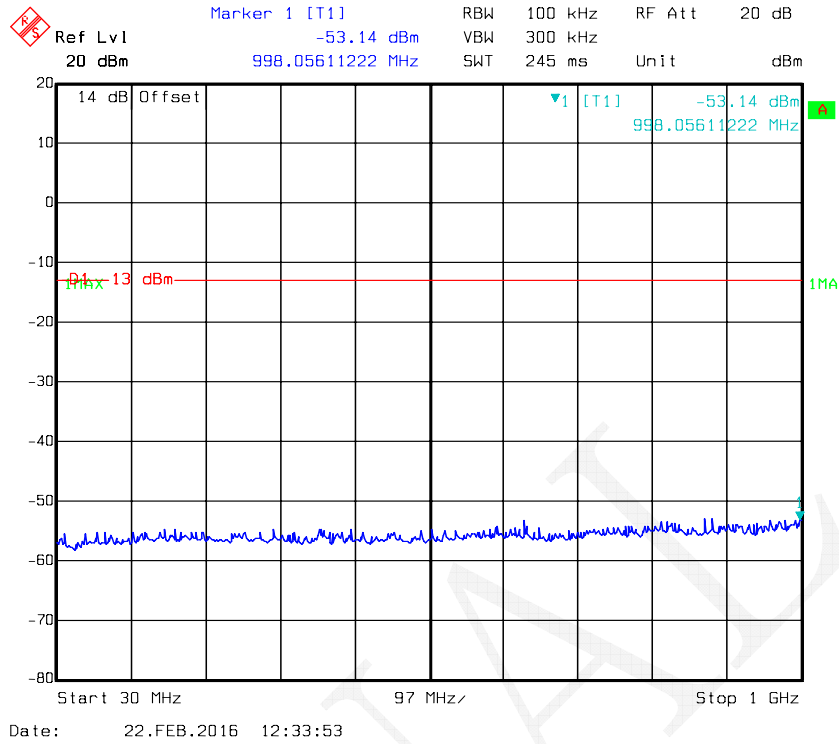
QPSK_10MHz

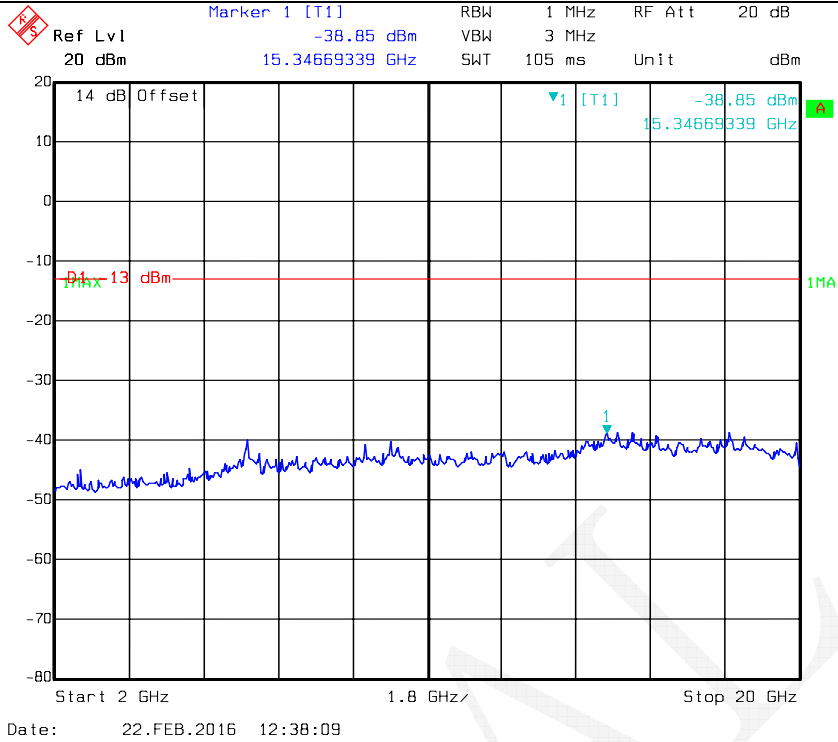


Fundamental

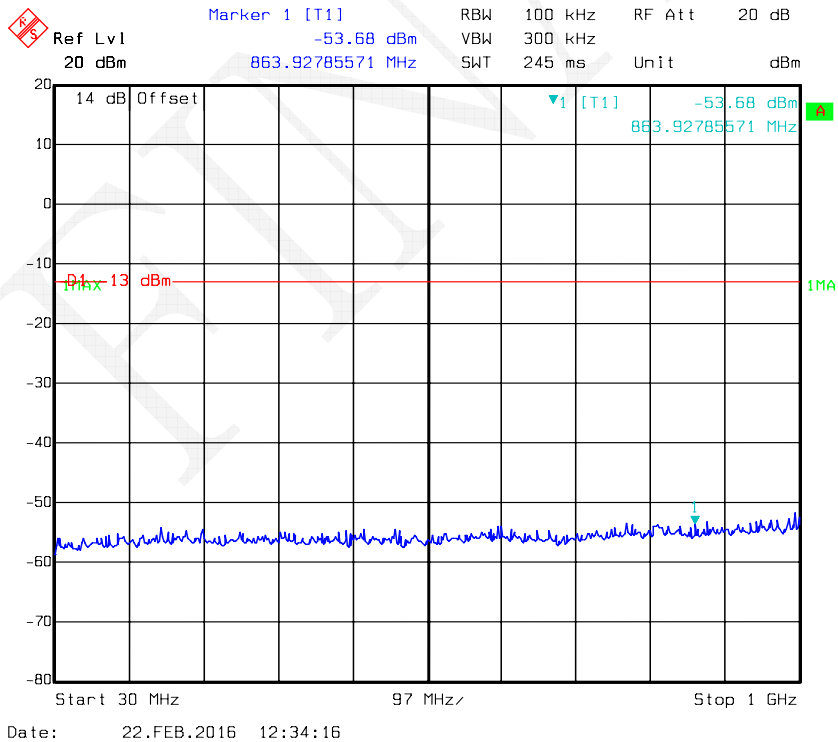


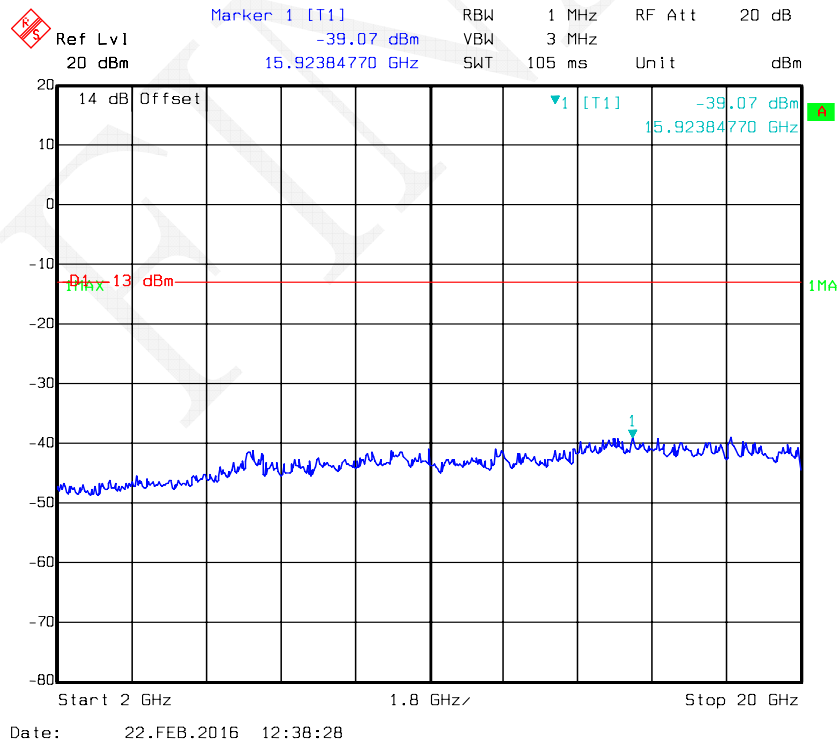
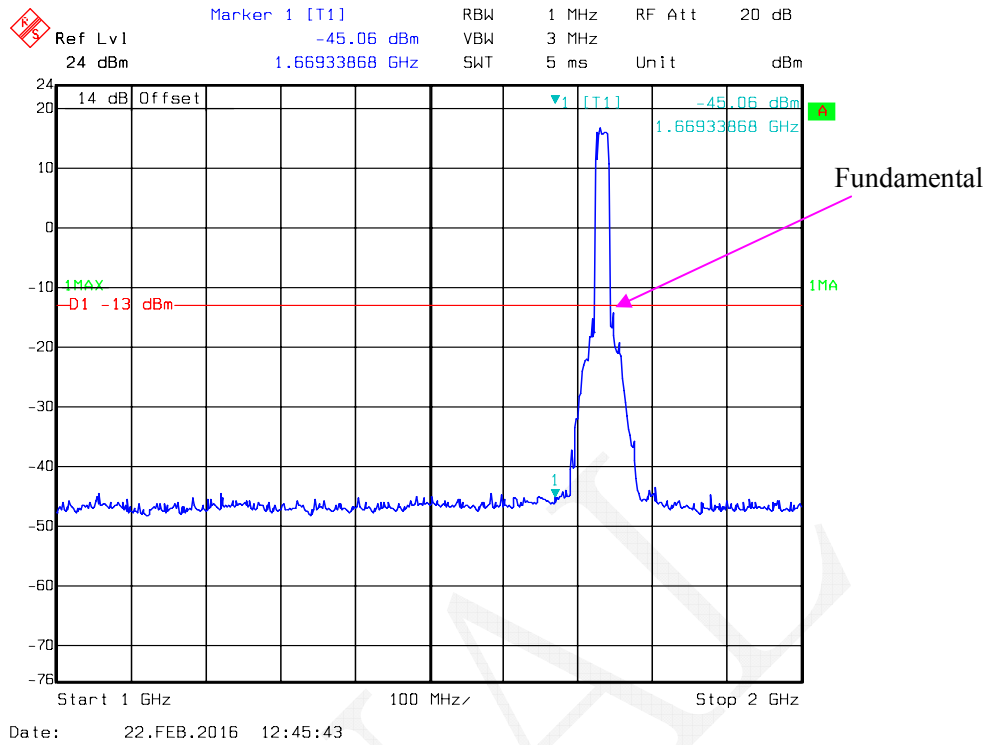
QPSK_15MHz



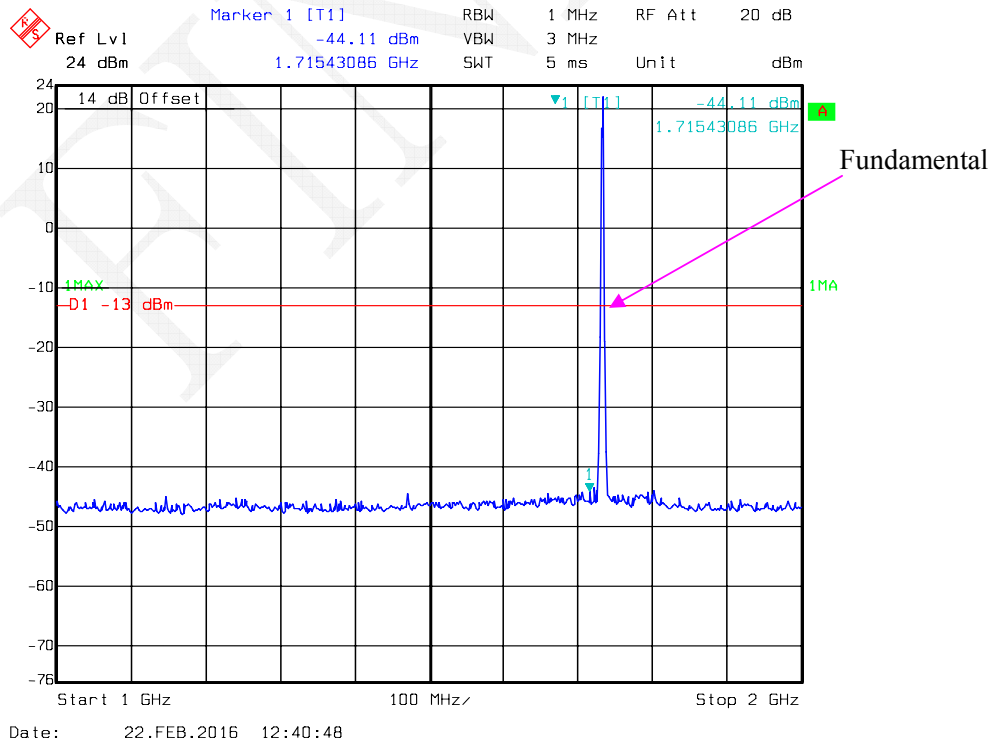
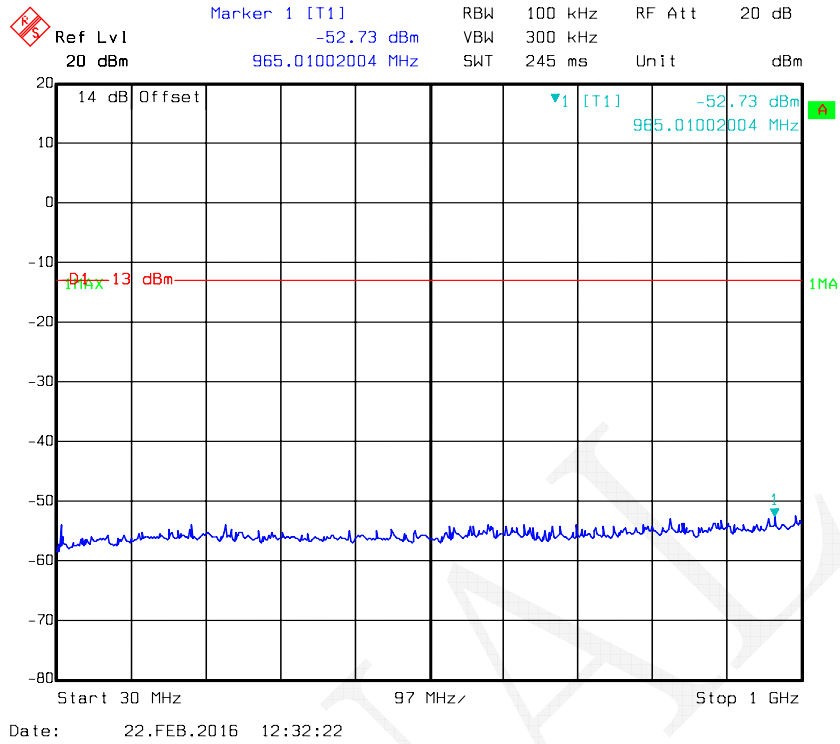


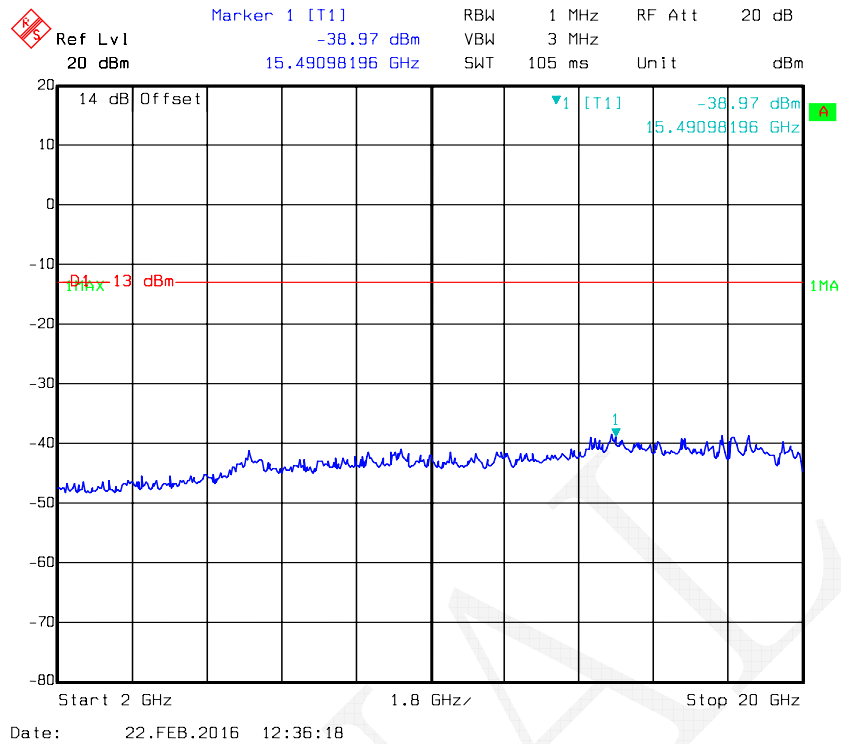
QPSK_20MHz



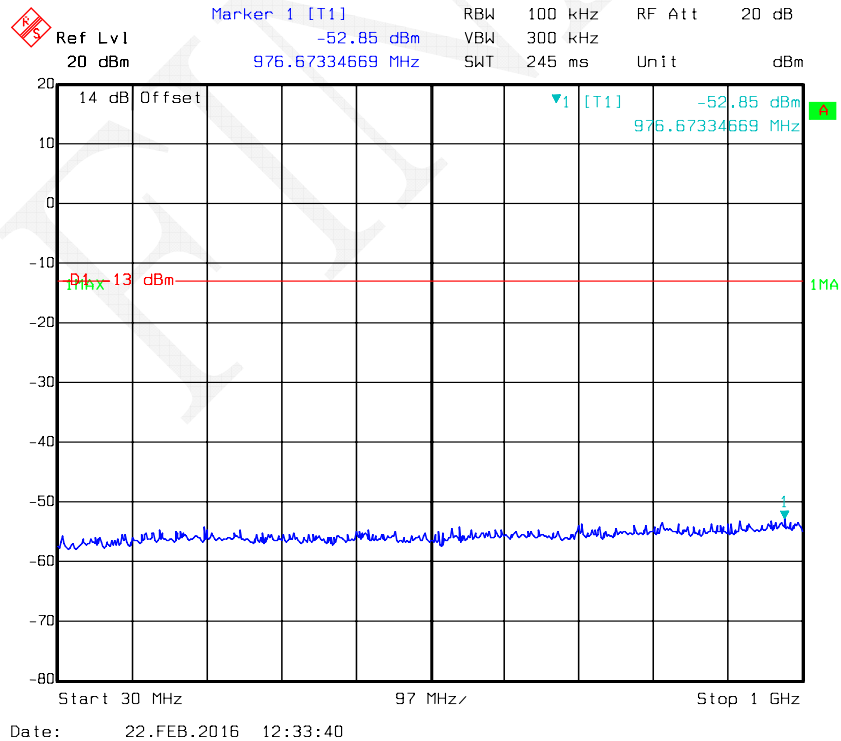


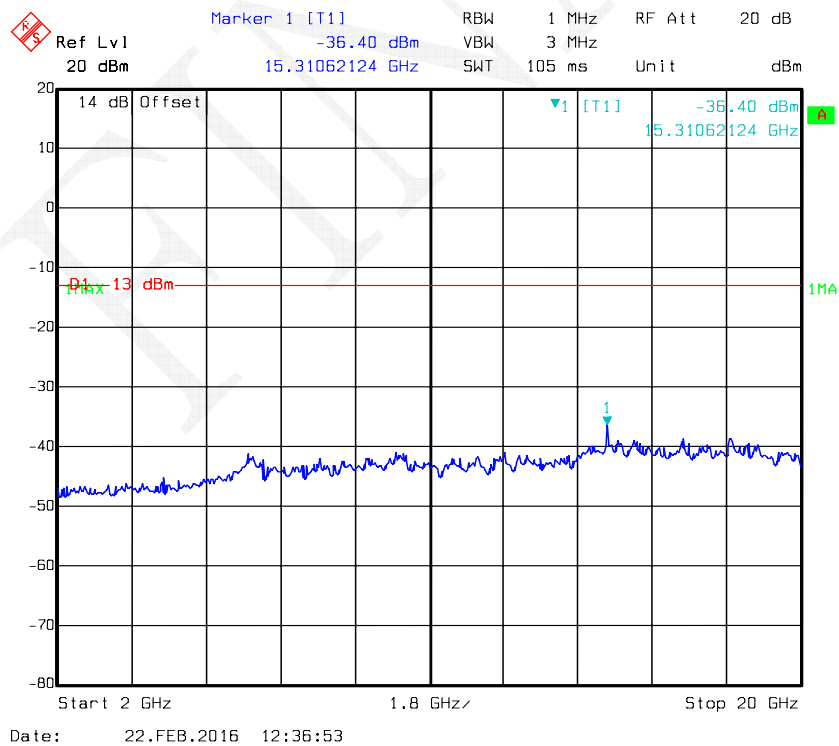
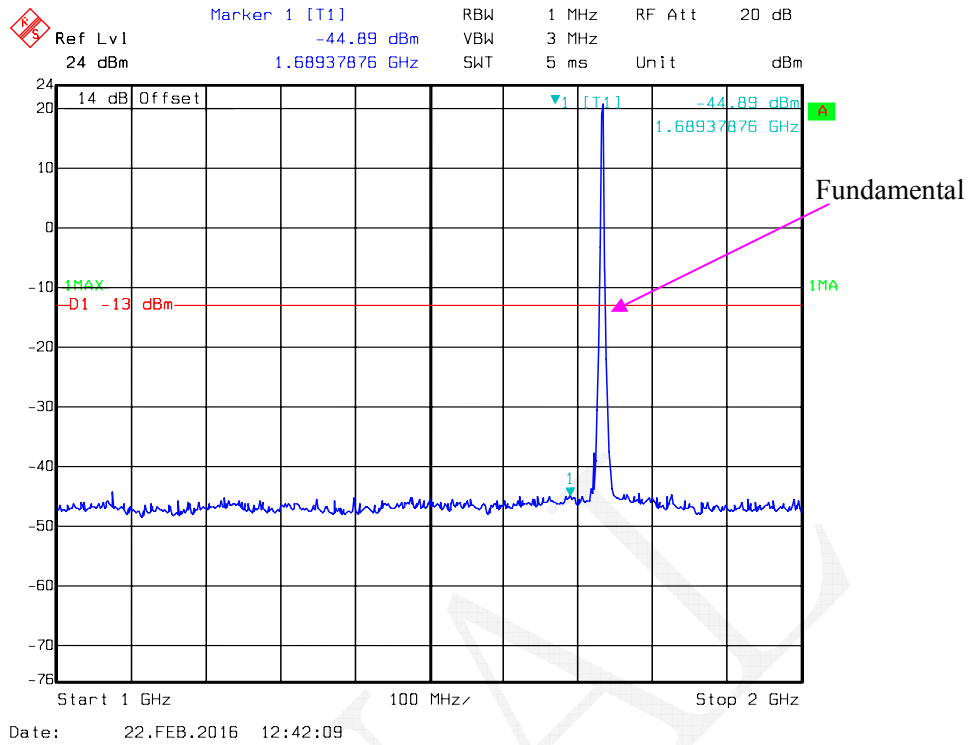
16QAM_1.4 MHz



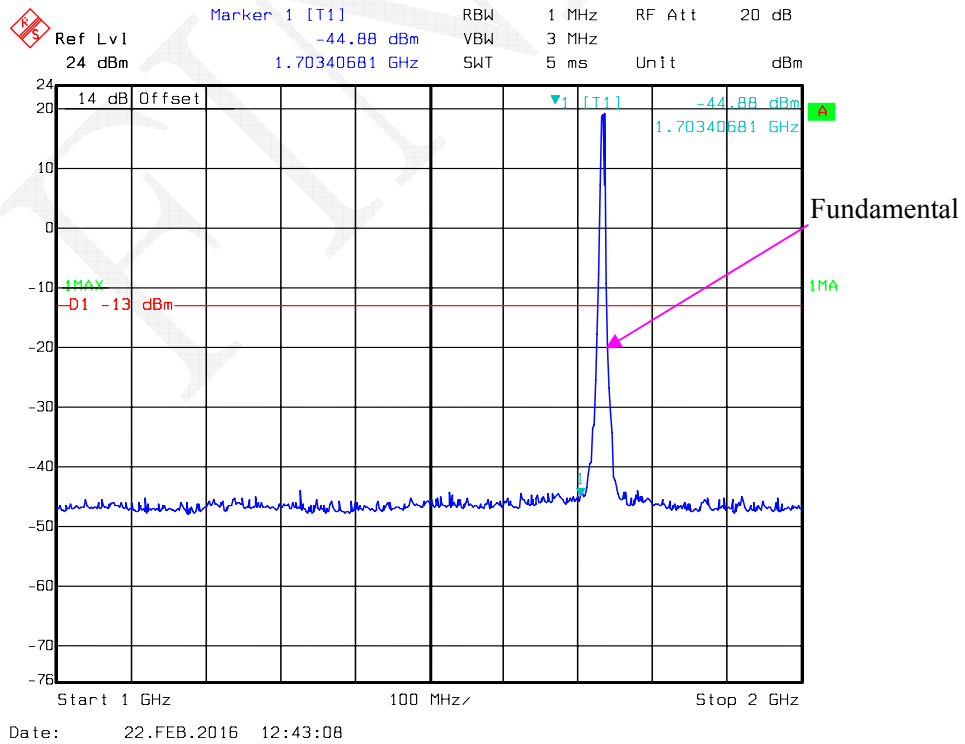
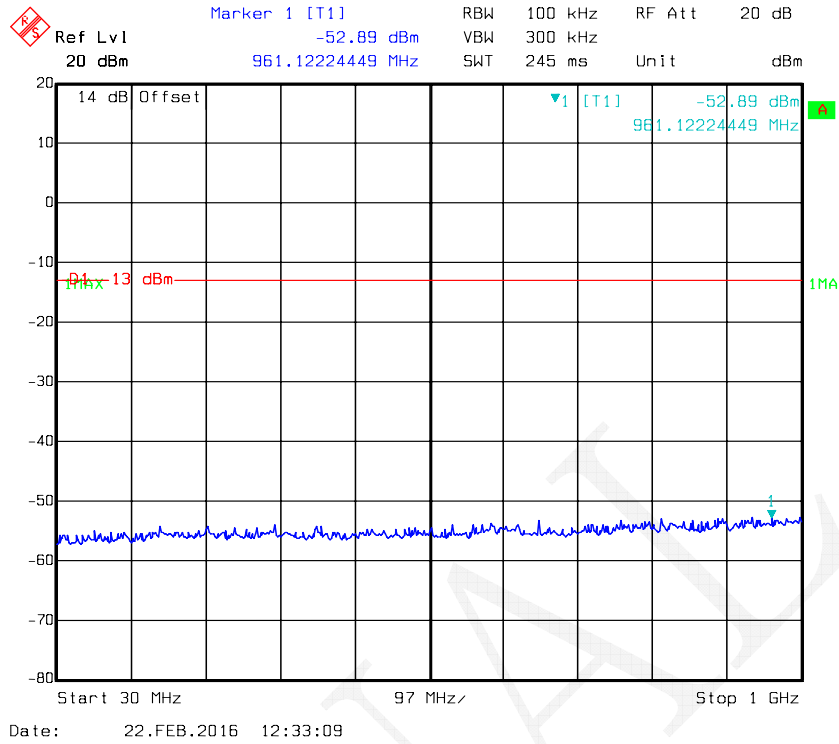


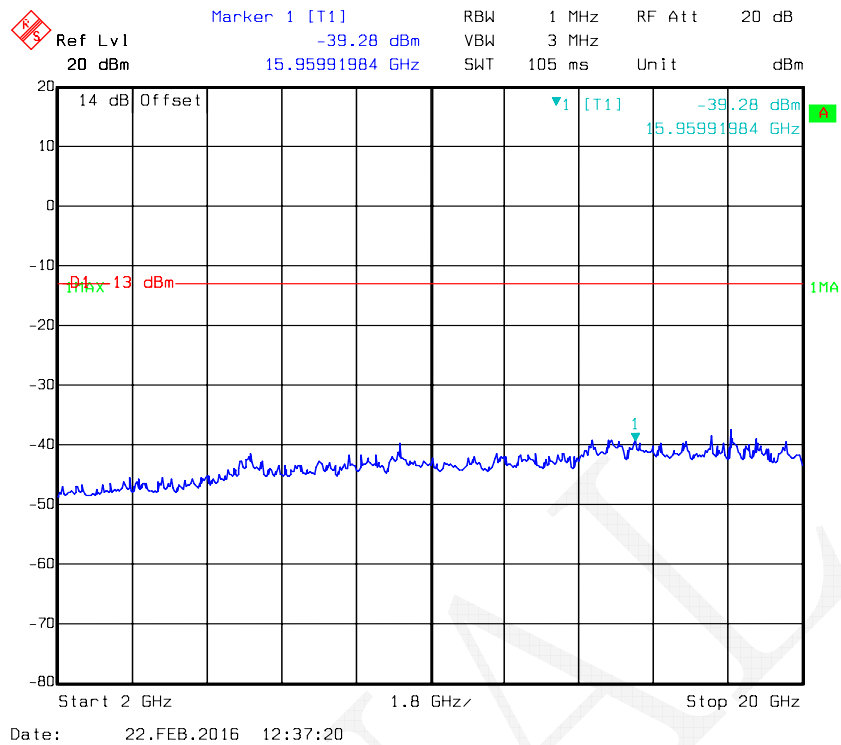
16QAM_3 MHz



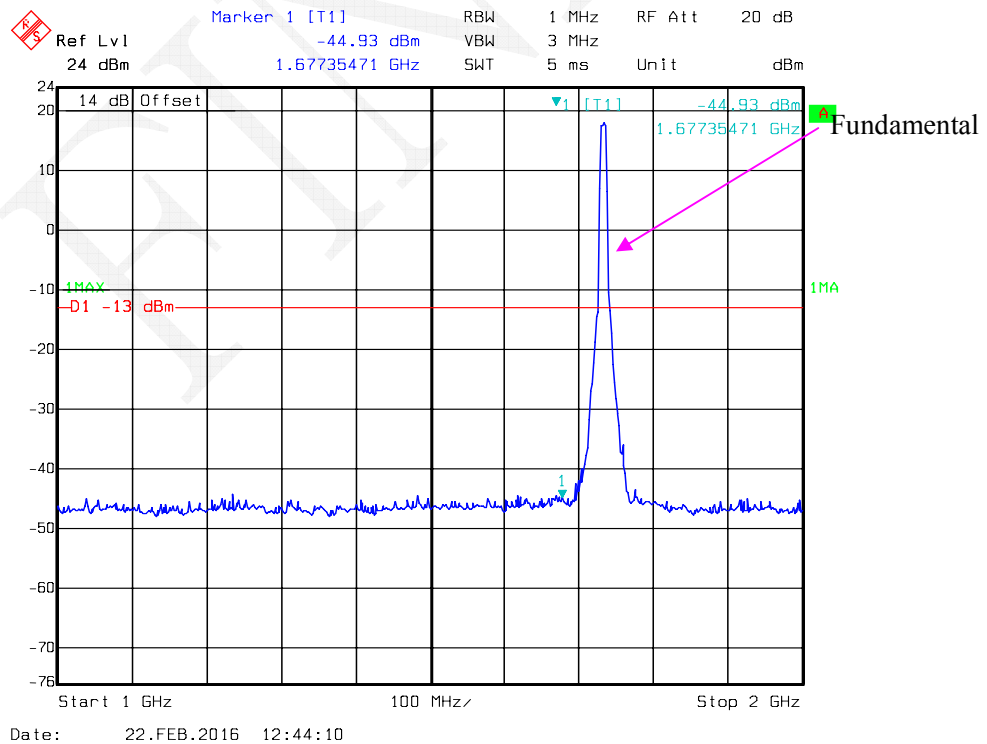


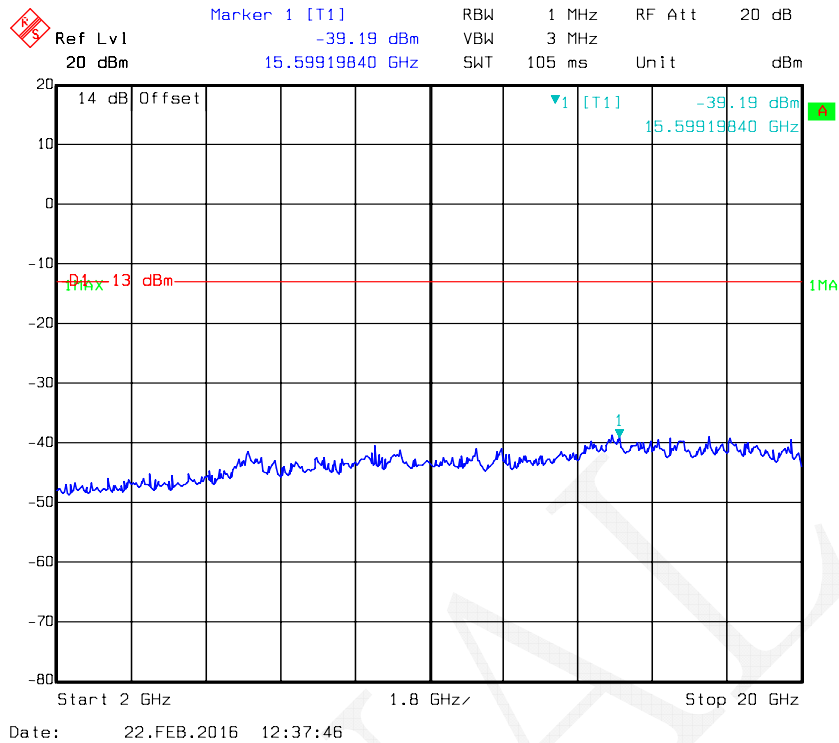
16QAM_5MHz



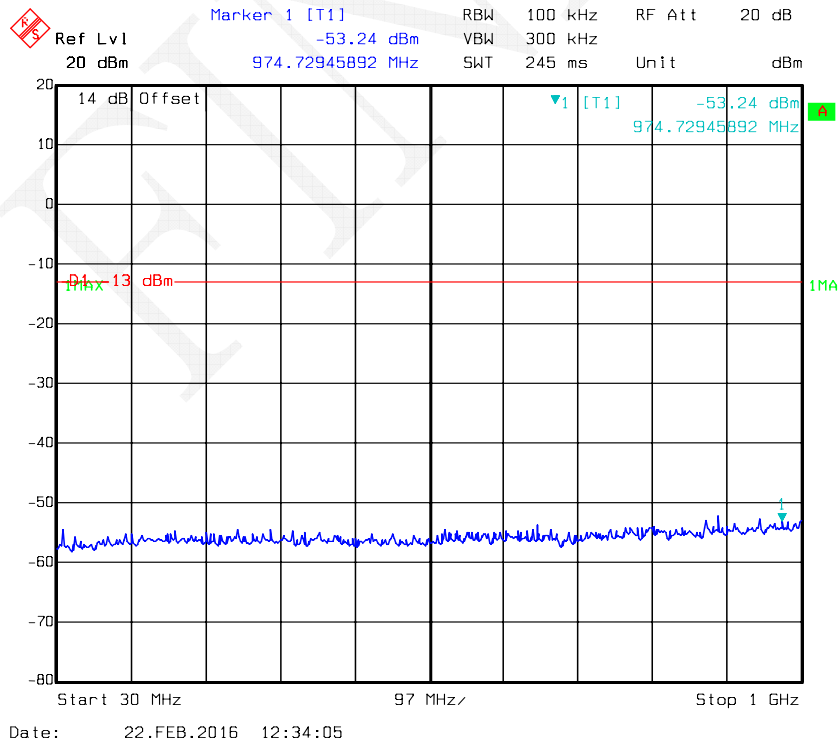


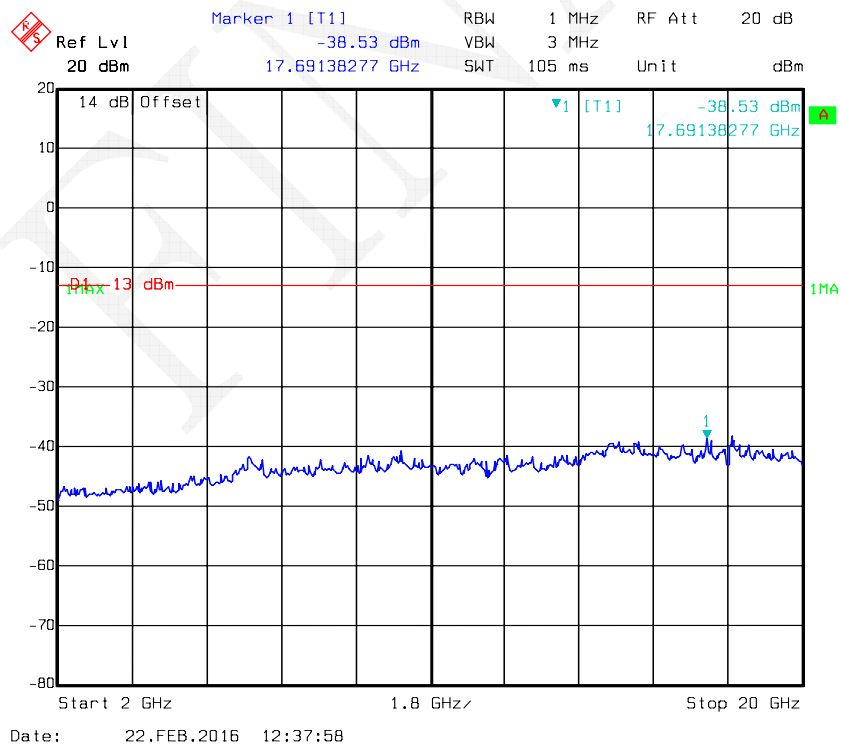
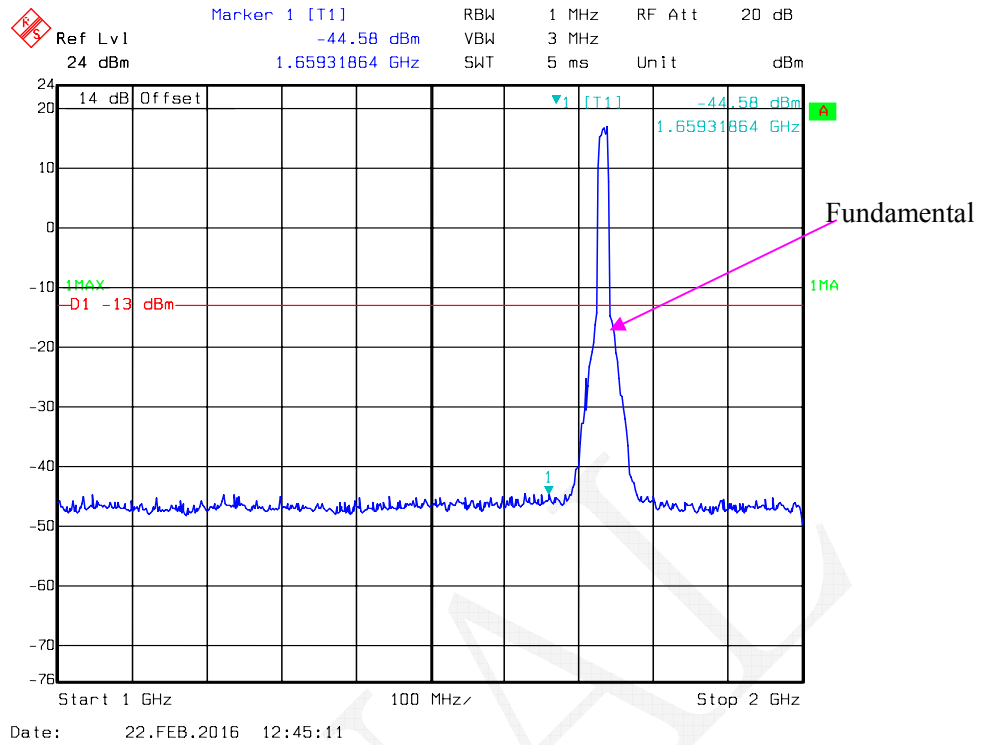
16QAM_10MHz



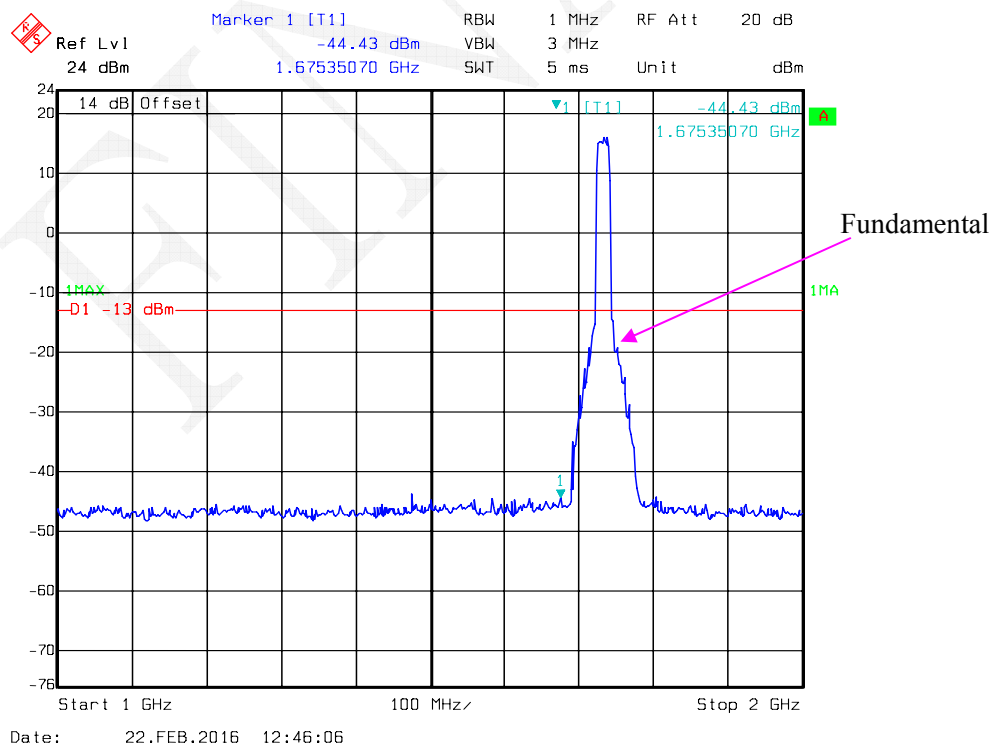
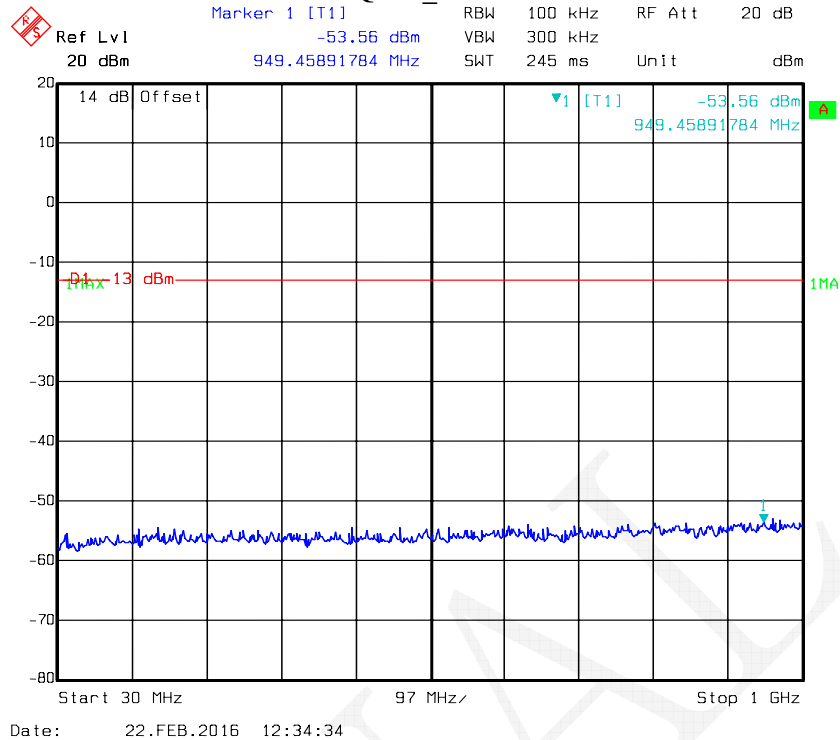


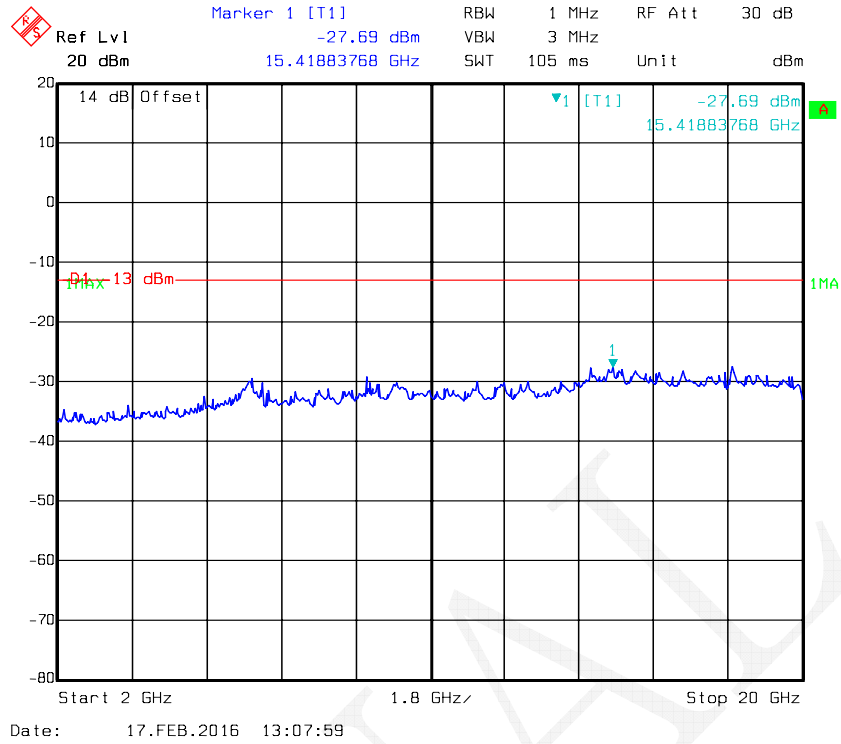
16QAM_15 MHz





16QAM_20 MHz





FCC §2.1053, §22.917 & §24.238 & §27.53- SPURIOUS RADIATED EMISSIONS

Applicable Standard

FCC § 2.1053, §22.917, § 24.238 and § 27.53.

Test Procedure

The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load which was also placed on the turntable.

The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.

The frequency range up to tenth harmonic of the fundamental frequency was investigated.

Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

Spurious emissions in dB = $10 \lg(\text{TXpwr in Watts}/0.001)$ – the absolute level

Spurious attenuation limit in dB = $43 + 10 \log_{10}(\text{power out in Watts})$

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESCI	100224	2015-05-09	2016-05-09
Sunol Sciences	Antenna	JB3	A060611-3	2014-07-28	2017-07-27
HP	Amplifier	8447E	2434A02181	2015-09-01	2016-09-01
R&S	Spectrum Analyzer	FSEM	DE31388	2015-05-09	2016-05-09
ETS LINDGREN	Horn Antenna	3115	000 527 35	2015-09-06	2018-09-06
Mini-Circuit	Amplifier	ZVA-213-S+	054201245	2015-02-19	2016-02-19
Giga	Signal Generator	1026	320408	2015-05-09	2016-05-09
EMCO	Adjustable Dipole Antenna	3121C	9109-753	N/A	N/A
TDK RF	Horn Antenna	HRN-0118	130 084	2015-09-06	2018-09-06
N/A	Coaxial Cable	14m	N/A	2015-05-06	2016-05-06
N/A	Coaxial Cable	8m	N/A	2015-05-06	2016-05-06
N/A	Coaxial Cable	2m	N/A	2015-05-06	2016-05-06
Mini Circuit	High Pass Filter	VHF-3100+	31251	2015-05-06	2016-05-06
Mini Circuit	High Pass Filte	VHF-1200+	N/A	2015-05-06	2016-05-06

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	24.6 °C
Relative Humidity:	44 %
ATM Pressure:	101.7 kPa

The testing was performed by Allen Qiao on 2016-02-23.

EUT Operation Mode: Transmitting

Cellular Band

30MHz-10 GHz

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			S.G. Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
Frequency:836.600 MHz								
1673.200	H	52.51	-48.6	10.6	1.5	-39.5	-13.0	26.5
1673.200	V	48.56	-52.8	10.6	1.5	-43.7	-13.0	30.7
2509.800	H	53.24	-44.8	13.1	2.8	-34.5	-13.0	21.5
2509.800	V	50.59	-46.5	13.1	2.8	-36.2	-13.0	23.2
197.810	H	33.81	-74	0.0	0.5	-74.5	-13.0	61.5
221.300	V	32.45	-73	0.0	0.5	-73.5	-13.0	60.5

For below 1GHz, all spurious emissions are 20dB below the limit or are on the system noise floor level.

WCDMA Band V

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			S.G. Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
Frequency:836.600 MHz								
1673.200	H	38.59	-62.5	10.6	1.5	-53.4	-13.0	40.4
1673.200	V	36.71	-64.7	10.6	1.5	-55.6	-13.0	42.6
197.810	H	33.69	-74.1	0.0	0.5	-74.6	-13.0	61.6
221.300	V	32.39	-73.1	0.0	0.5	-73.6	-13.0	60.6

For below 1GHz, all spurious emissions are 20dB below the limit or are on the system noise floor level.

PCS Band**30MHz-20GHz:**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			S.G. Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
Frequency:1880.000 MHz								
3760.000	H	39.38	-54.9	13.8	2.9	-44.0	-13.0	31.0
3760.000	V	36.75	-56.3	13.8	2.9	-45.4	-13.0	32.4
197.810	H	33.79	-74	0.0	0.5	-74.5	-13.0	61.5
221.300	V	32.41	-73.1	0.0	0.5	-73.6	-13.0	60.6

For below 1GHz, all spurious emissions are 20dB below the limit or are on the system noise floor level.

WCDMA Band II

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			S.G. Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
Frequency:1880.000 MHz								
3760.000	H	36.28	-58	13.8	2.9	-47.1	-13.0	34.1
3760.000	V	34.18	-58.9	13.8	2.9	-48.0	-13.0	35.0
197.810	H	33.74	-74	0.0	0.5	-74.5	-13.0	61.5
221.300	V	32.31	-73.2	0.0	0.5	-73.7	-13.0	60.7

For below 1GHz, all spurious emissions are 20dB below the limit or are on the system noise floor level.

LTE Band IV

LTE Band 14

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			S.G. Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
Frequency:1732.50 MHz (QPSK)_1.4MHz								
3465.000	H	38.94	-58	13.9	1.9	-46.0	-13.0	33.0
3465.000	V	37.74	-58.4	13.9	1.9	-46.4	-13.0	33.4
5197.500	H	50.02	-41	14.0	2.3	-29.3	-13.0	16.3
5197.500	V	45.33	-47.2	14.0	2.3	-35.5	-13.0	22.5
197.810	H	33.65	-74.1	0.0	0.5	-74.6	-13.0	61.6
221.300	V	32.32	-73.2	0.0	0.5	-73.7	-13.0	60.7
Frequency:1732.50 MHz (16QAM)_1.4MHz								
3465.000	H	38.62	-58.3	13.9	1.9	-46.3	-13.0	33.3
3465.000	V	37.45	-58.7	13.9	1.9	-46.7	-13.0	33.7
5197.500	H	50.49	-40.5	14.0	2.3	-28.8	-13.0	15.8
5197.500	V	45.87	-46.7	14.0	2.3	-35.0	-13.0	22.0
197.810	H	33.61	-74.2	0.0	0.5	-74.7	-13.0	61.7
221.300	V	32.29	-73.2	0.0	0.5	-73.7	-13.0	60.7

For below 1GHz, all spurious emissions are 20dB below the limit or are on the system noise floor level.

Note:

- 1) The unit of Antenna Gain is dBd for frequency below 1GHz, and the unit of Antenna Gain is dBi for frequency above 1GHz.
- 2) Absolute Level = SG Level - Cable loss + Antenna Gain
- 3) Margin = Limit-Absolute Level

FINAL

FCC §22.917(a) & §24.238(a) & §27.53(h)- BAND EDGES

Applicable Standard

According to § 22.917(a), the power of any emissions outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

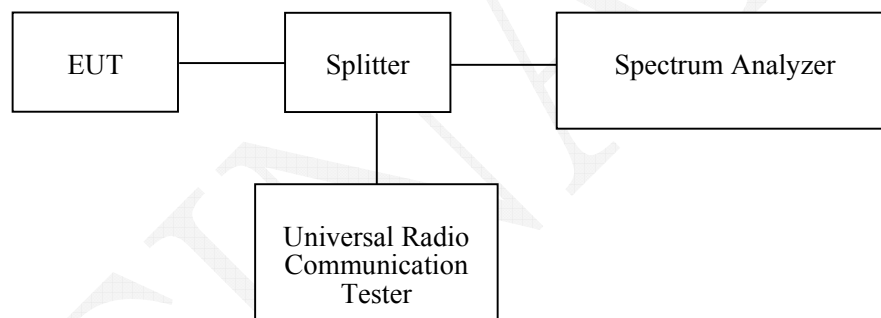
According to §24.238(a), the power of any emissions outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

According to §27.53 (h), AWS emission limits—(1) General protection levels. Except as otherwise specified below, for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ dB.

Test Procedure

The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.

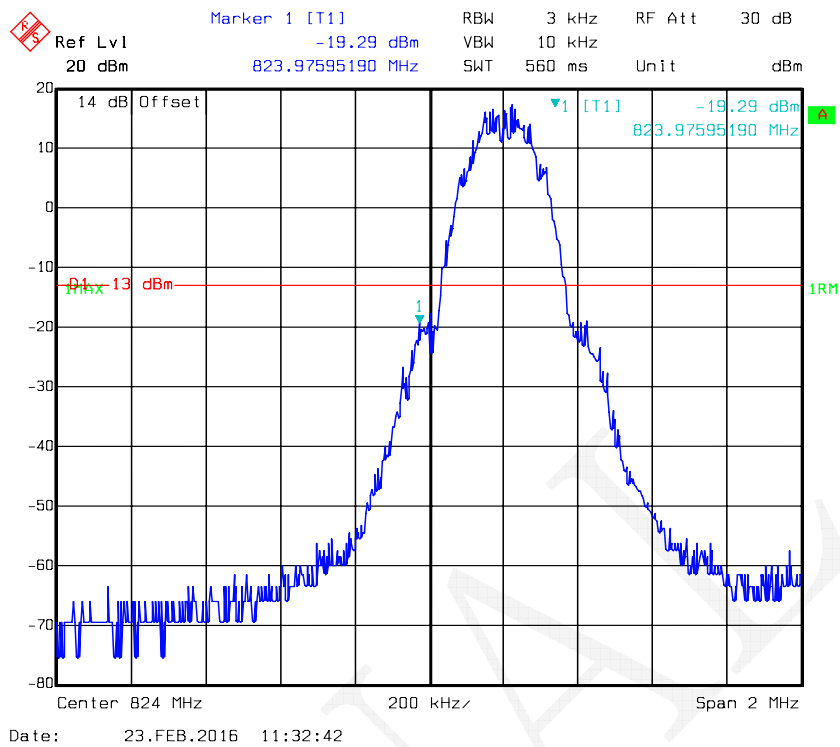
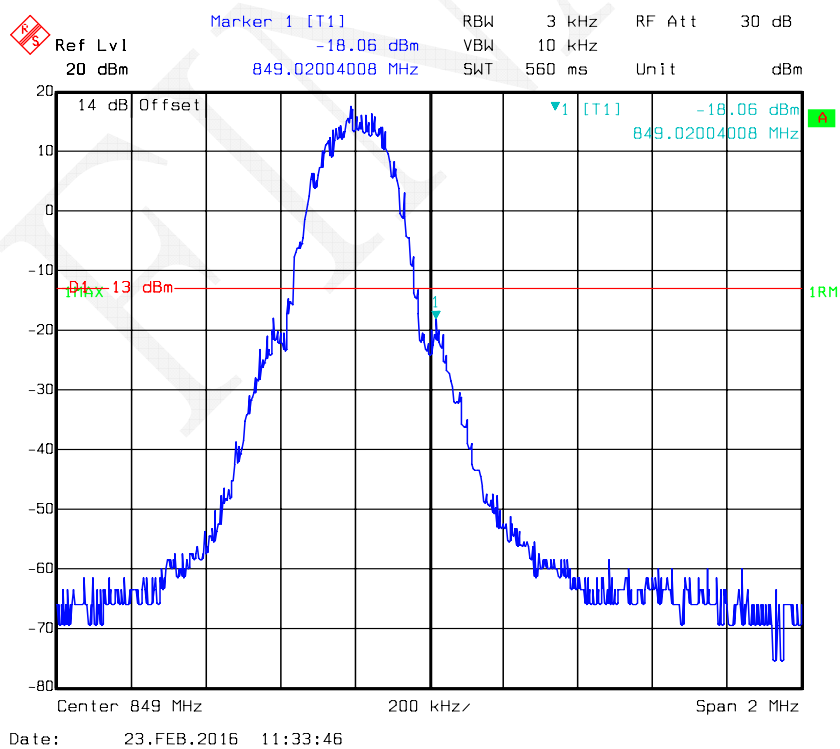
The center of the spectrum analyzer was set to block edge frequency.



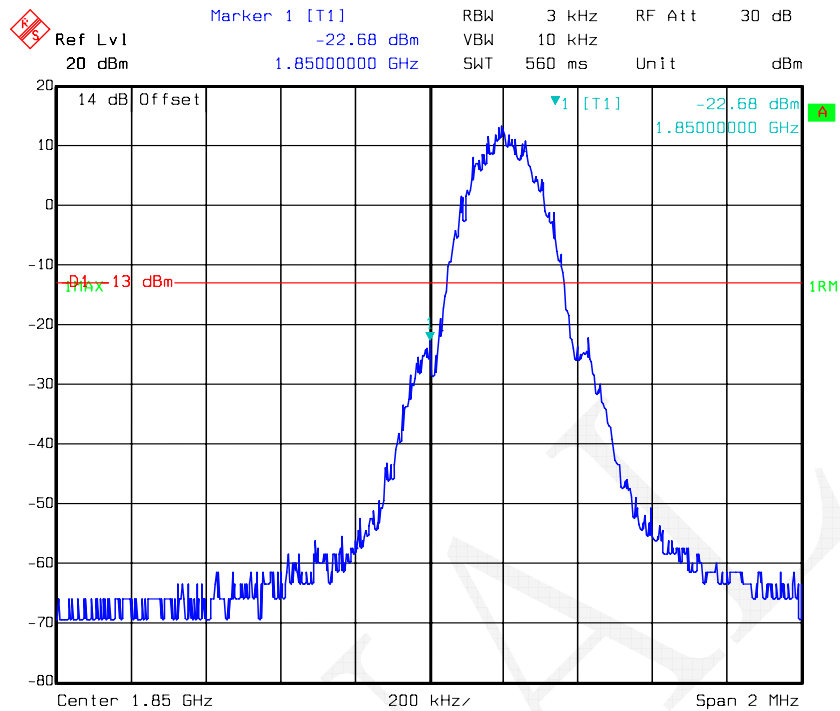
Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSP 38	100478	2015-05-09	2016-05-09
R&S	Spectrum Analyzer	FSEM	831259/019	2015-05-09	2016-05-09
R&S	Universal Radio Communication Tester	CMU200	109 038	2015-05-09	2016-05-09

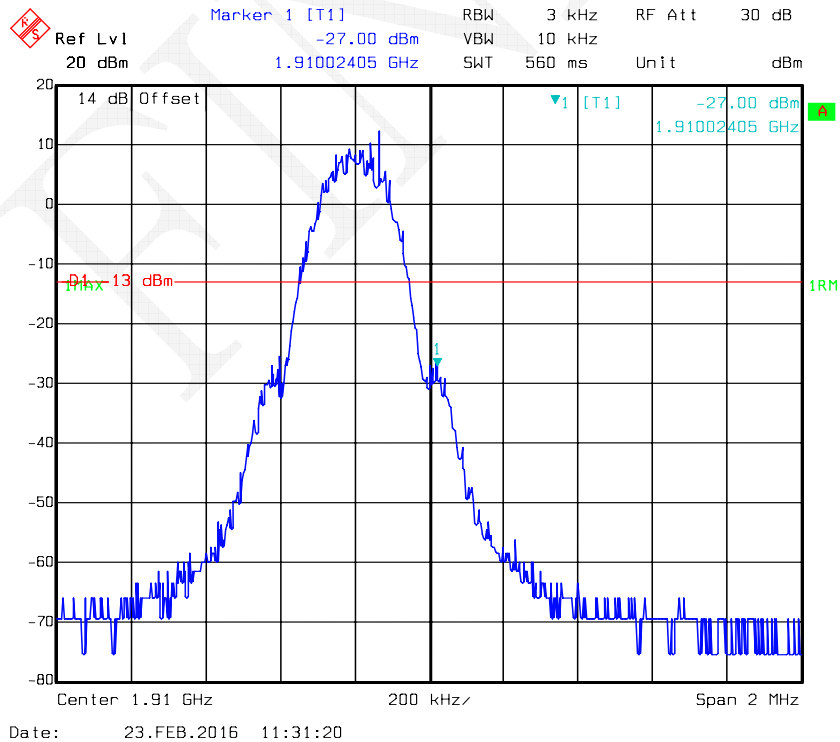
R&S

GSM 850, Left Band Edge**GSM 850, Right Band Edge**

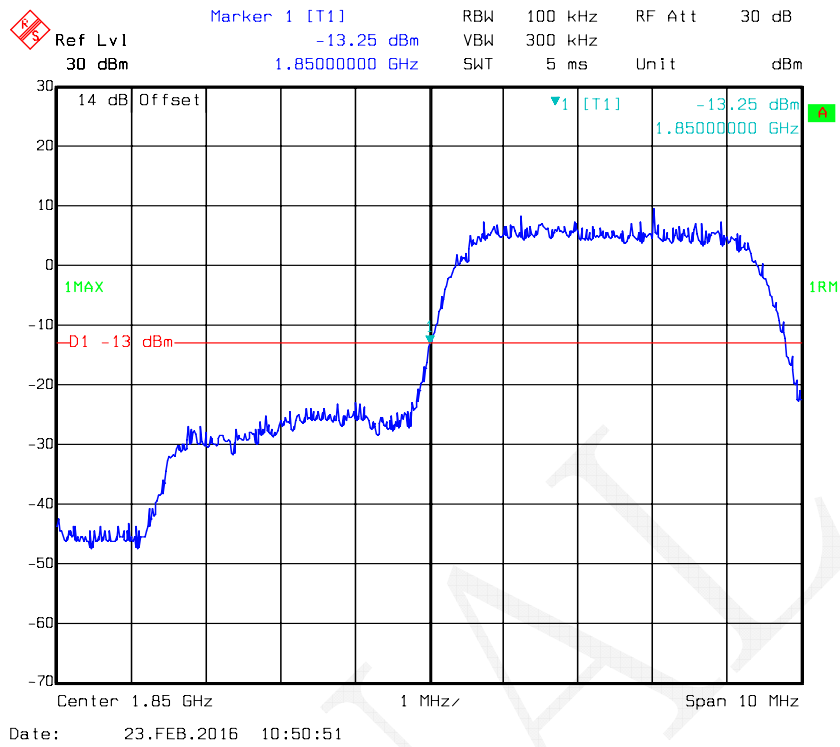
GSM 1900, Left Band Edge



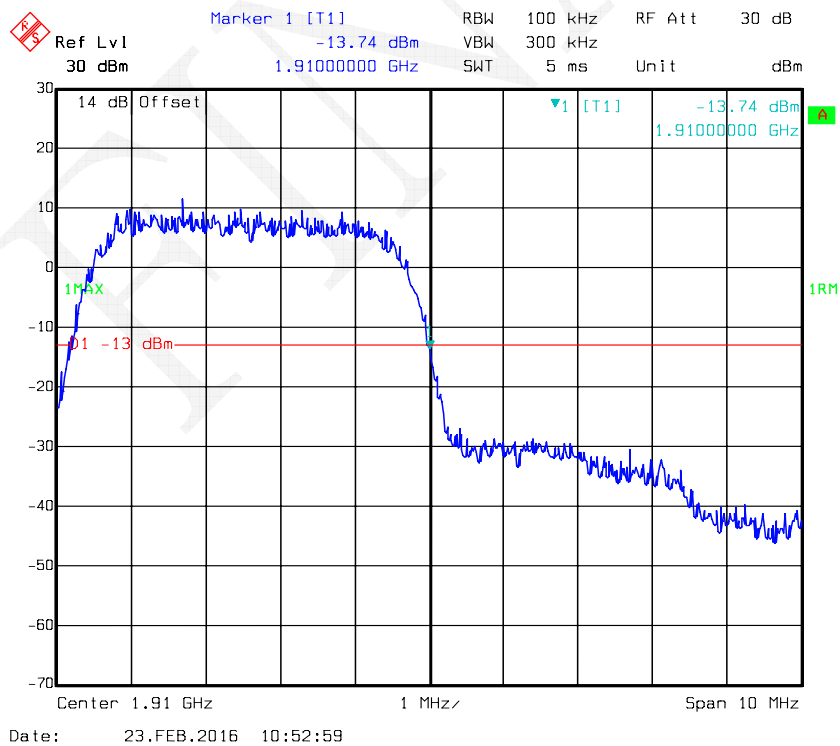
GSM 1900, Right Band Edge



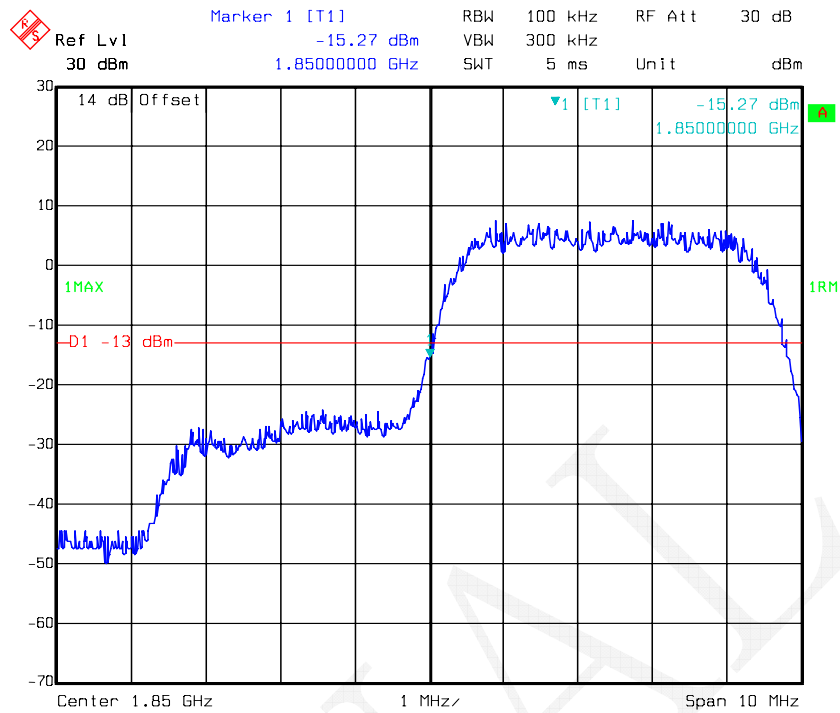
REL99 Band II, Left Band Edge



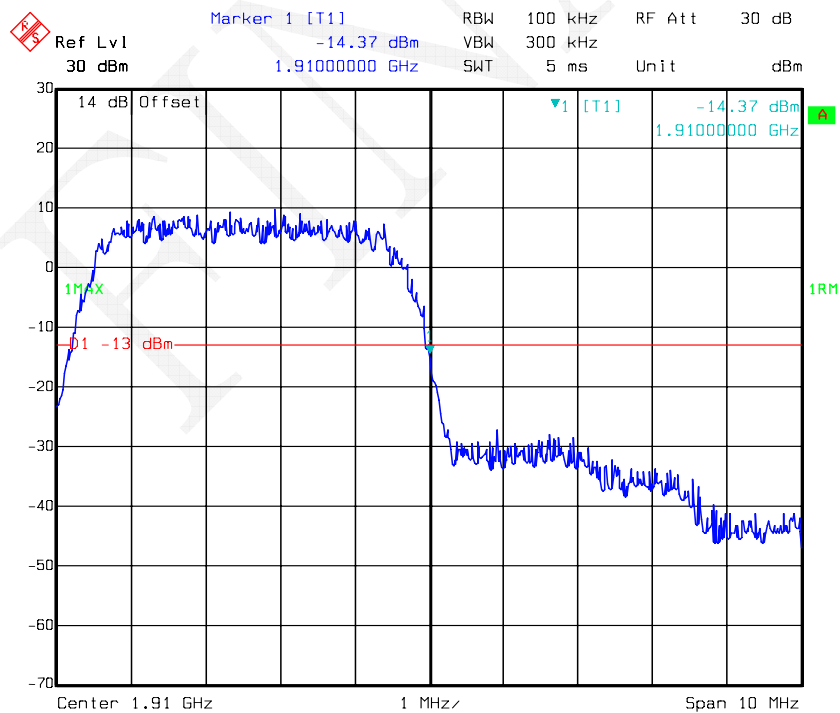
REL99 Band II, Right Band Edge



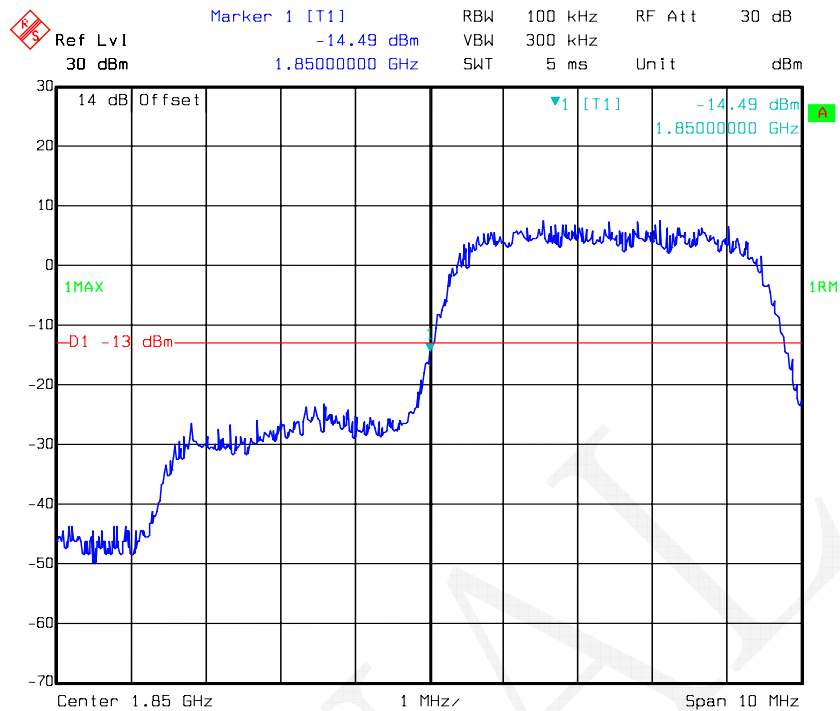
HSDPA Band II, Left Band Edge



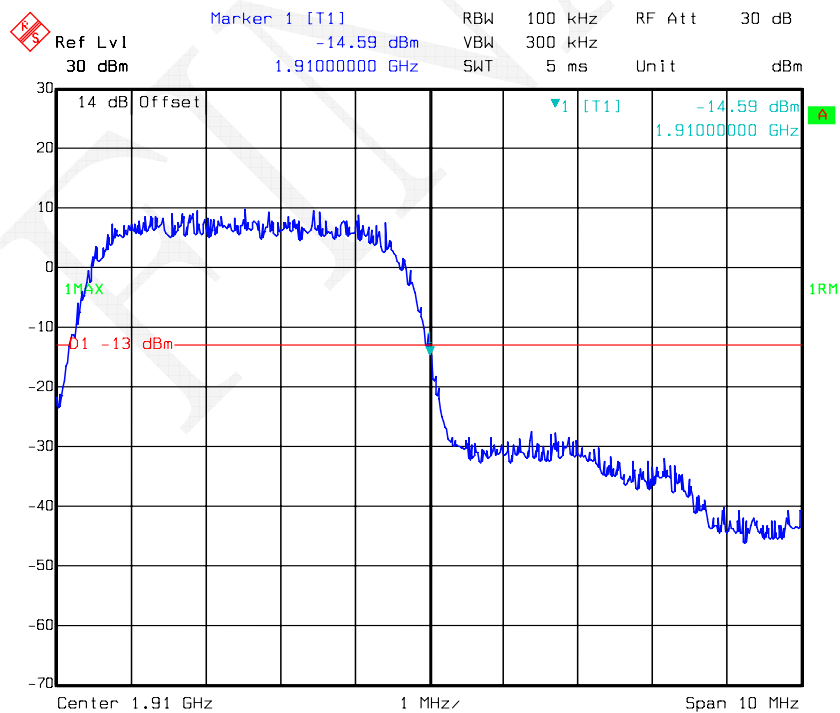
HSDPA Band II, Right Band Edge



HSUPA Band II, Left Band Edge

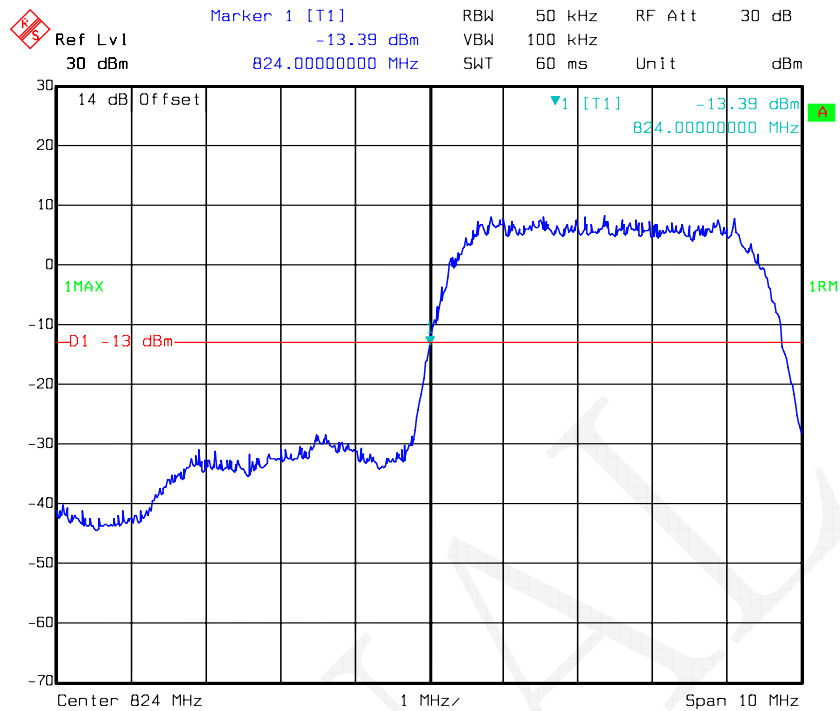


HSUPA Band II, Right Band Edge



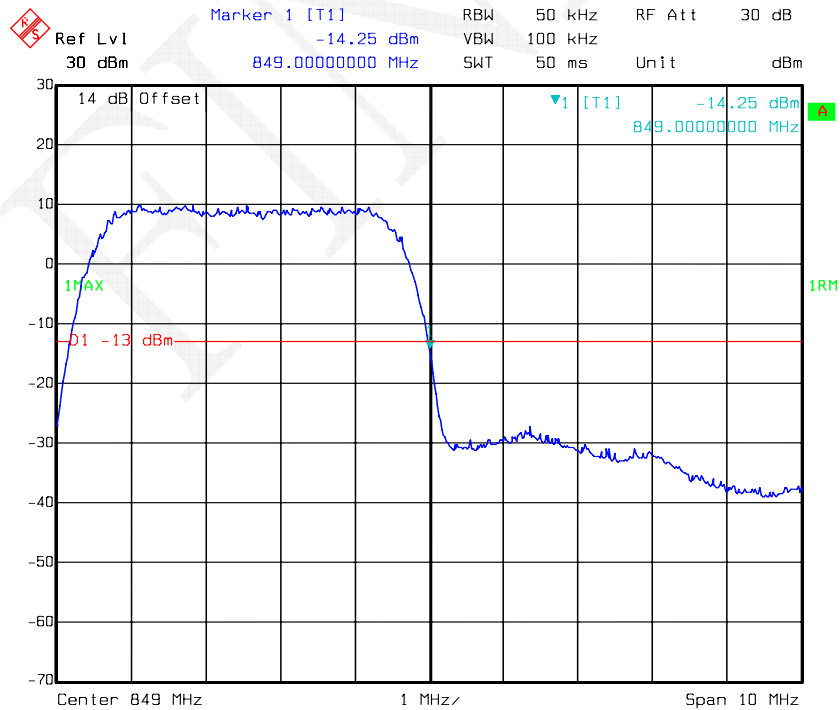
WCDMA Band V

REL99 Band V, Left Band Edge



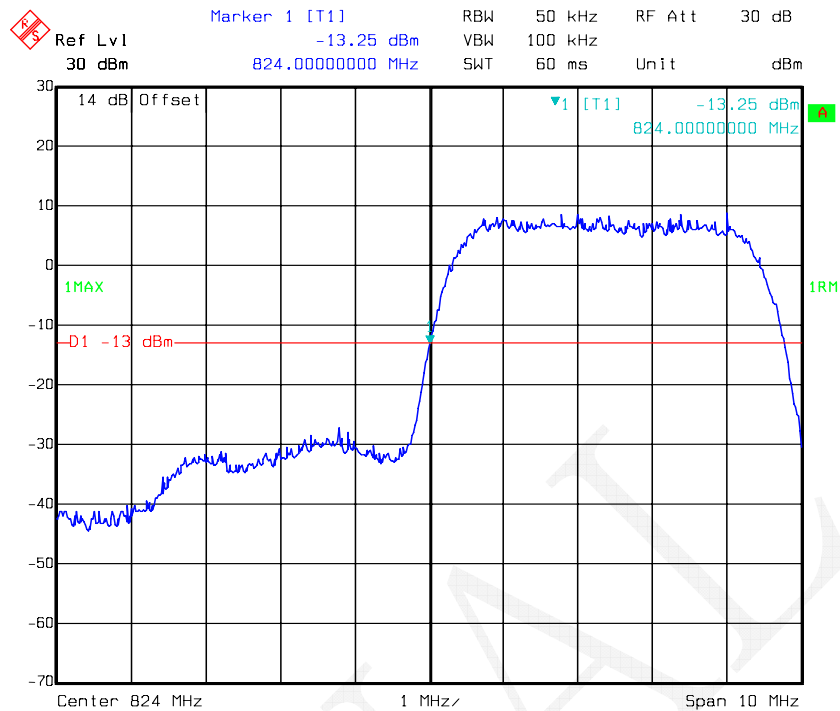
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REL99 Band V Right Band Edge

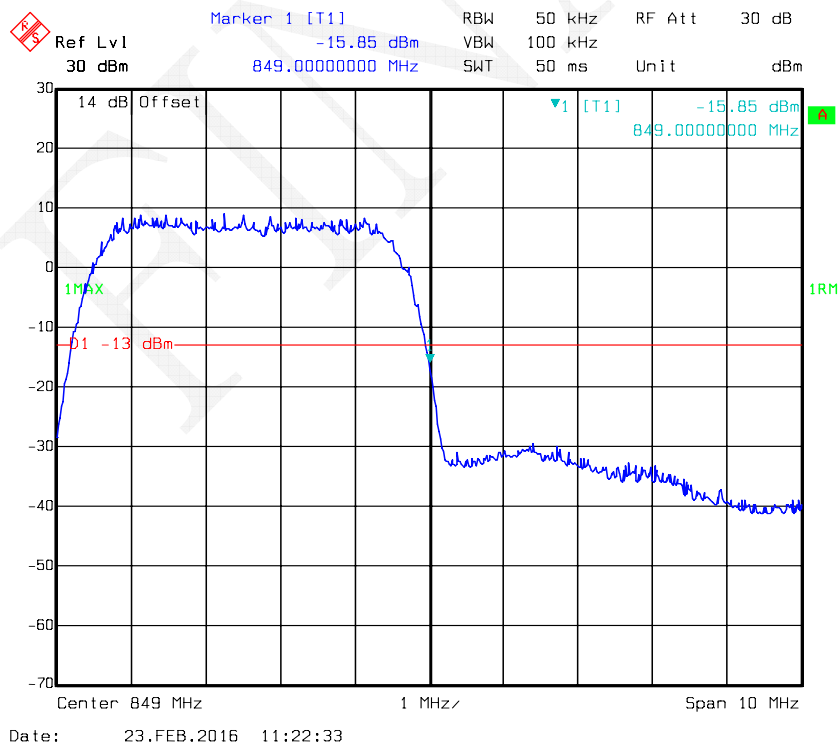


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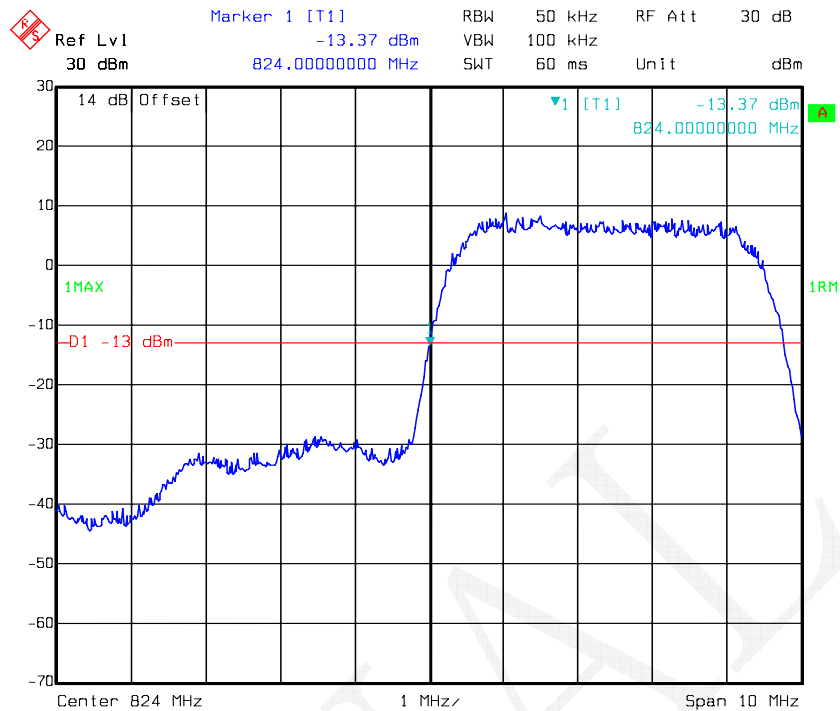
HSDPA Band V, Left Band Edge



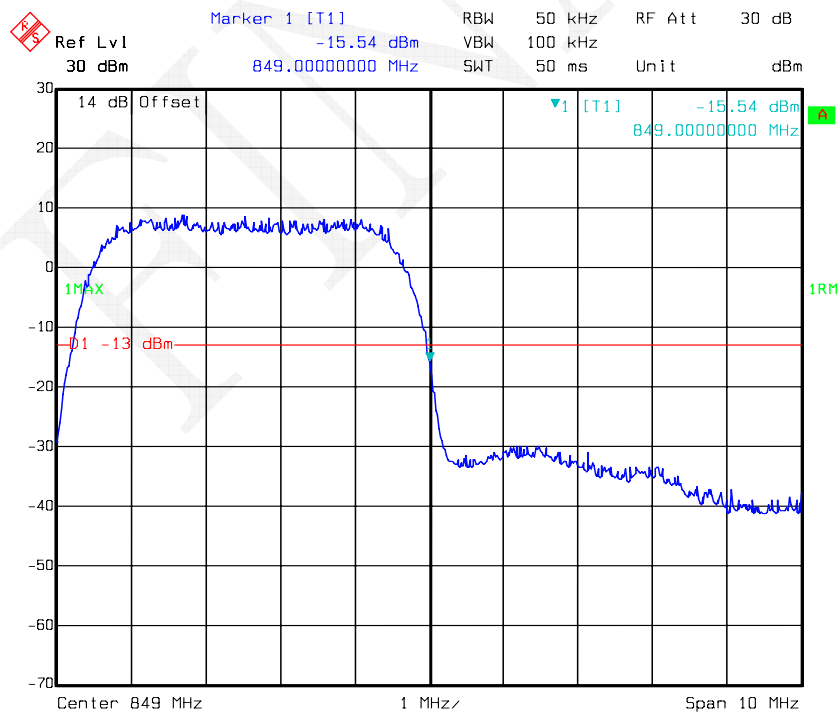
HSDPA Band V, Right Band Edge



HSUPA Band V, Left Band Edge

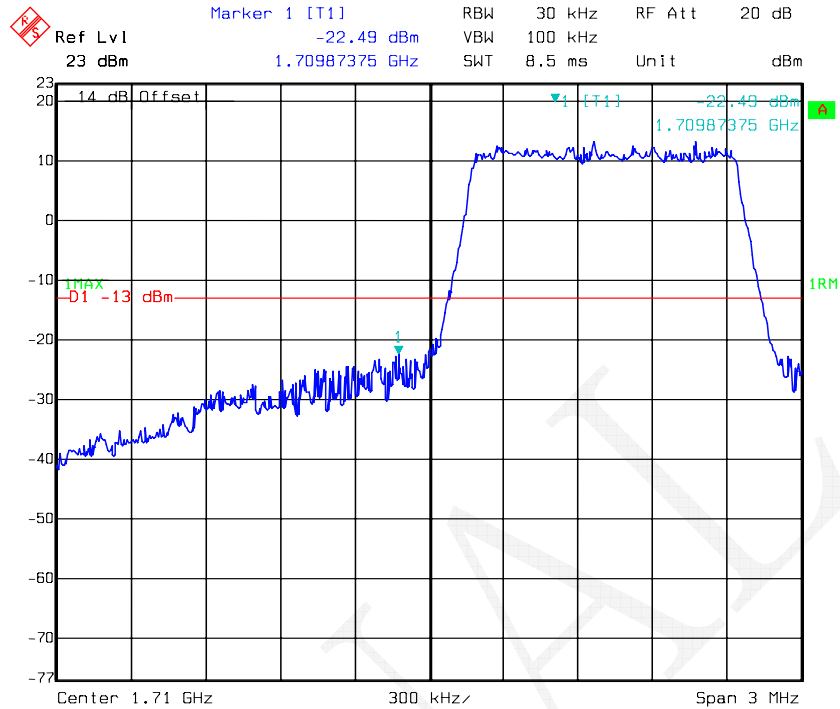


HSUPA Band V, Right Band Edge



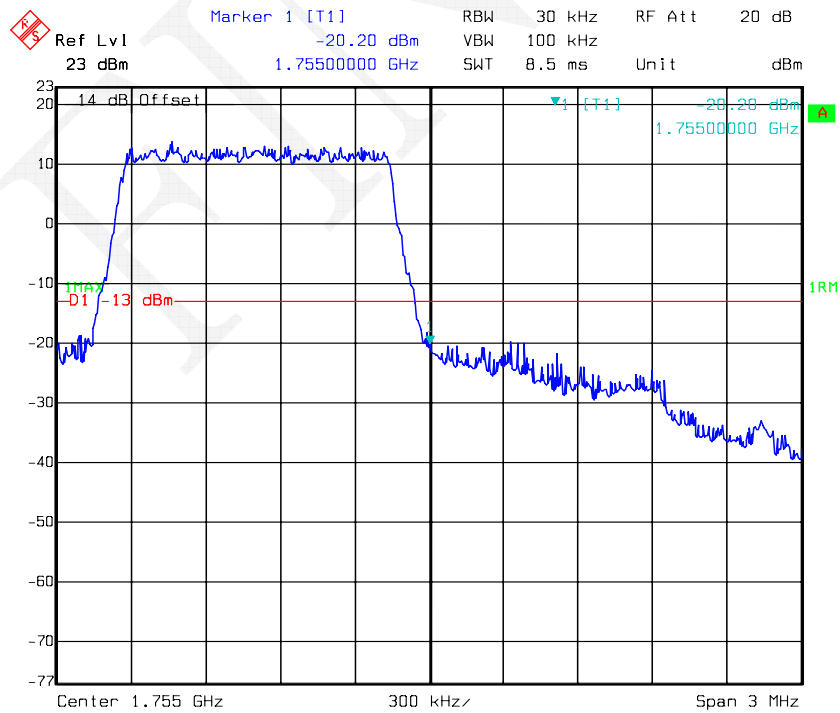
LTE Band IV

QPSK_1.4MHz_FULL RB_Left



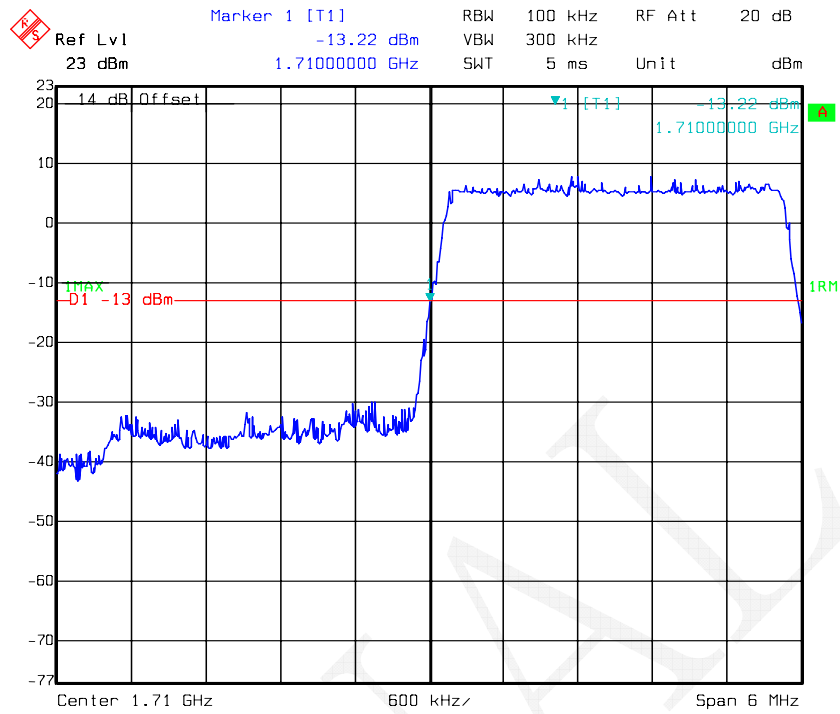
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QPSK_1.4MHz_FULL RB_Right



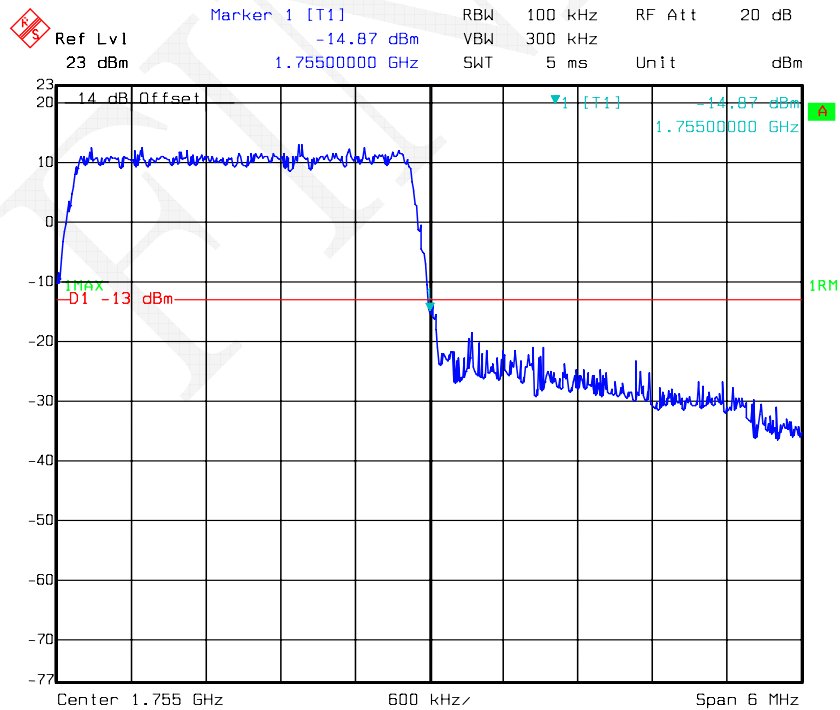
Date: 22.FEB.2016 10:26:07

QPSK_3MHz_FULL RB_ Left



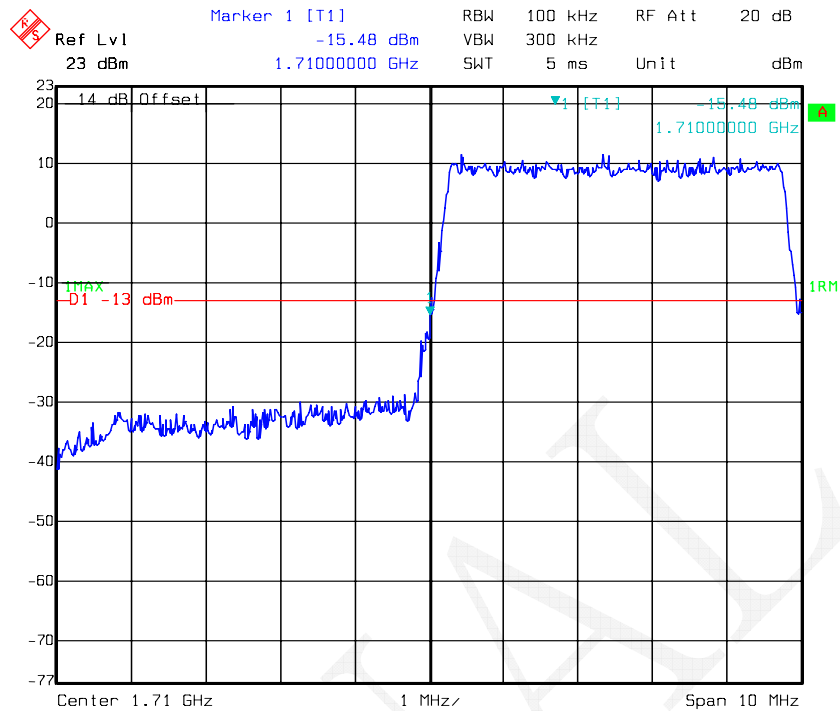
Date: 22.FEB.2016 10:44:16

QPSK_3MHz_FULL RB_ Right



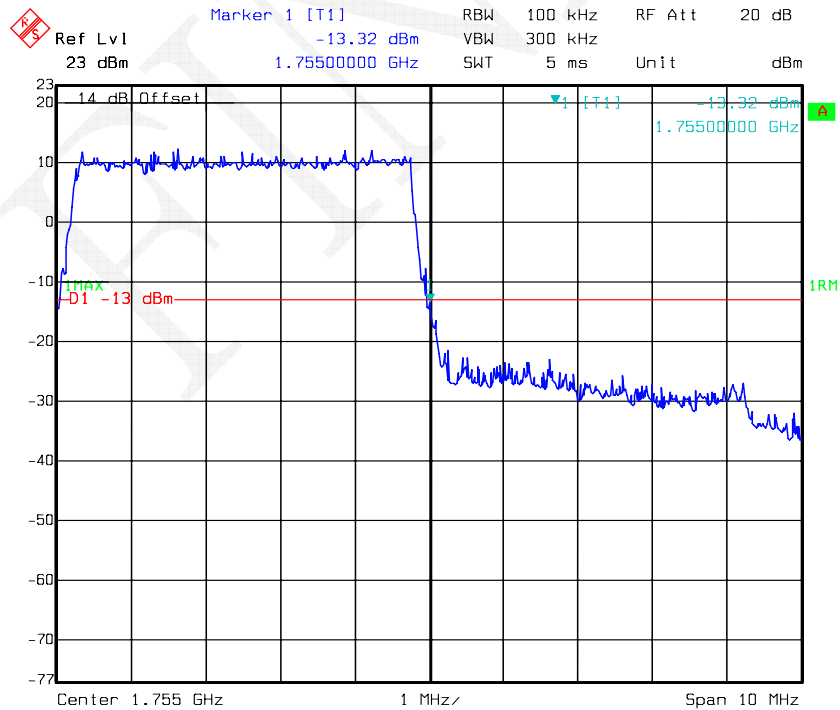
Date: 22.FEB.2016 10:38:07

QPSK_5MHz_FULL RB_Left



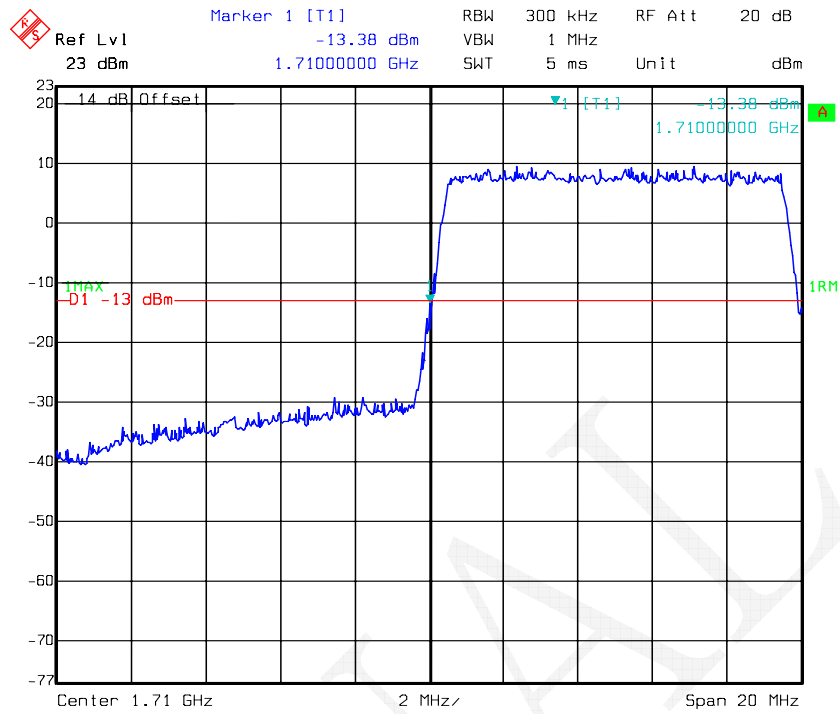
Date: 22.FEB.2016 10:56:22

QPSK_5MHz_FULL RB_Right



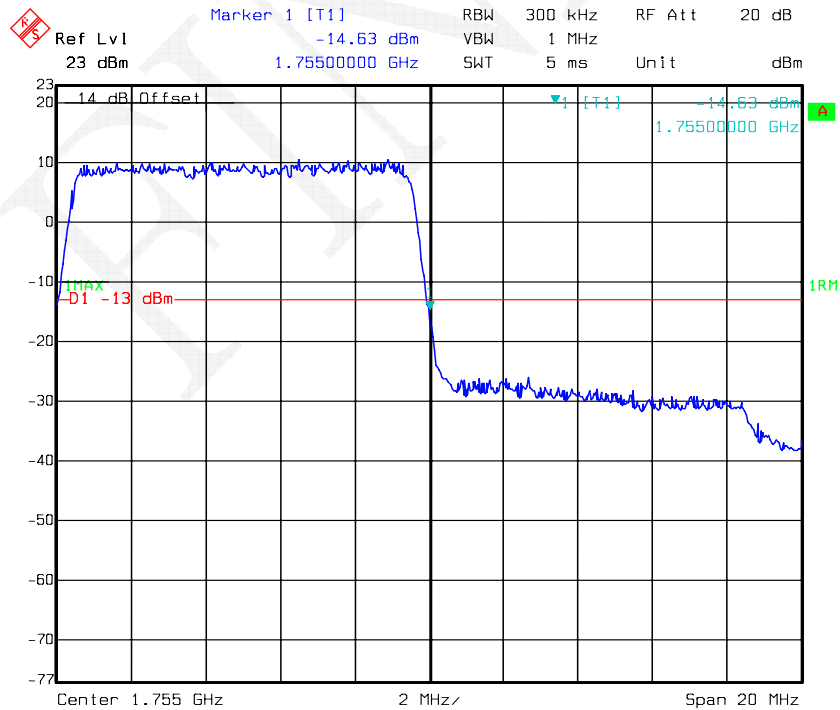
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QPSK_10MHz_FULL RB_Left



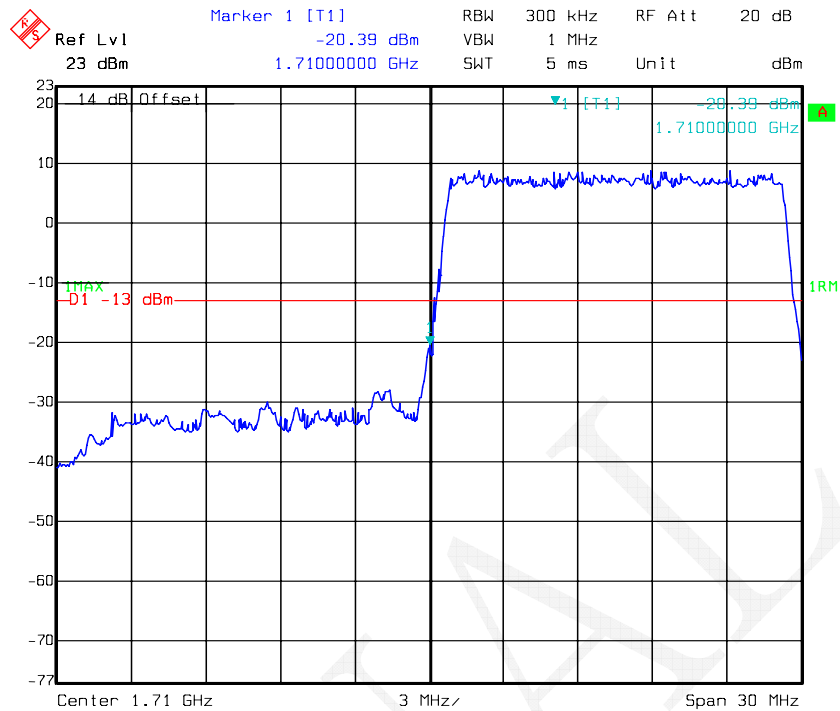
Date: 22.FEB.2016 11:10:47

QPSK_10MHz_FULL RB_Right



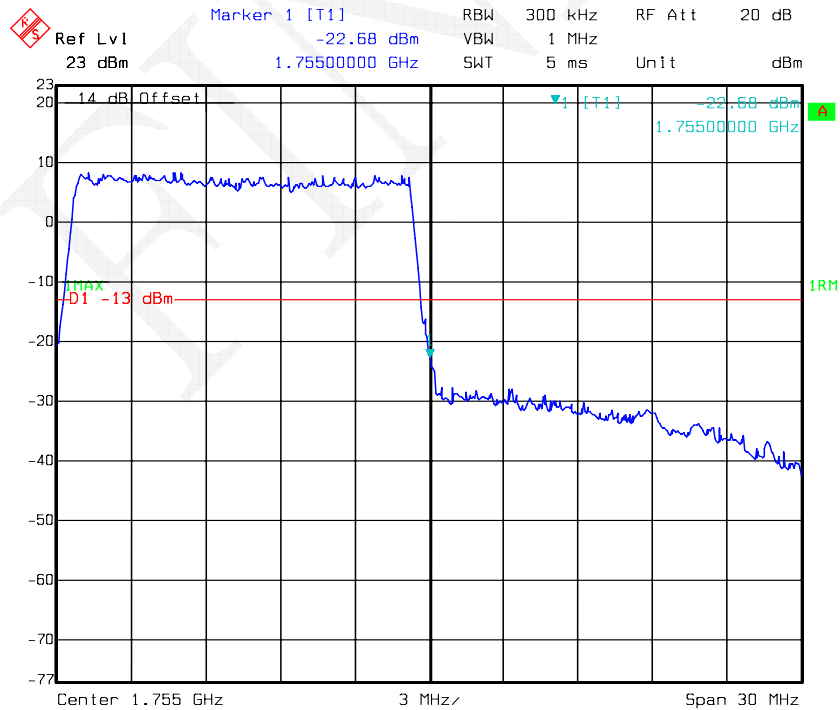
Date: 22.FEB.2016 11:06:04

QPSK_15MHz_FULL RB_Left



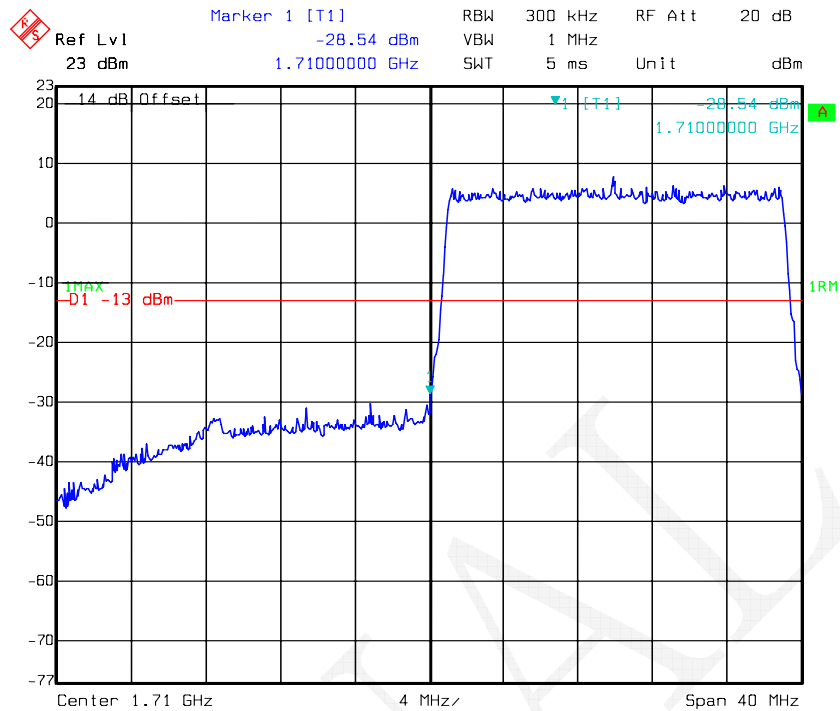
Date: 22.FEB.2016 11:23:01

QPSK_15MHz_FULL RB_Right



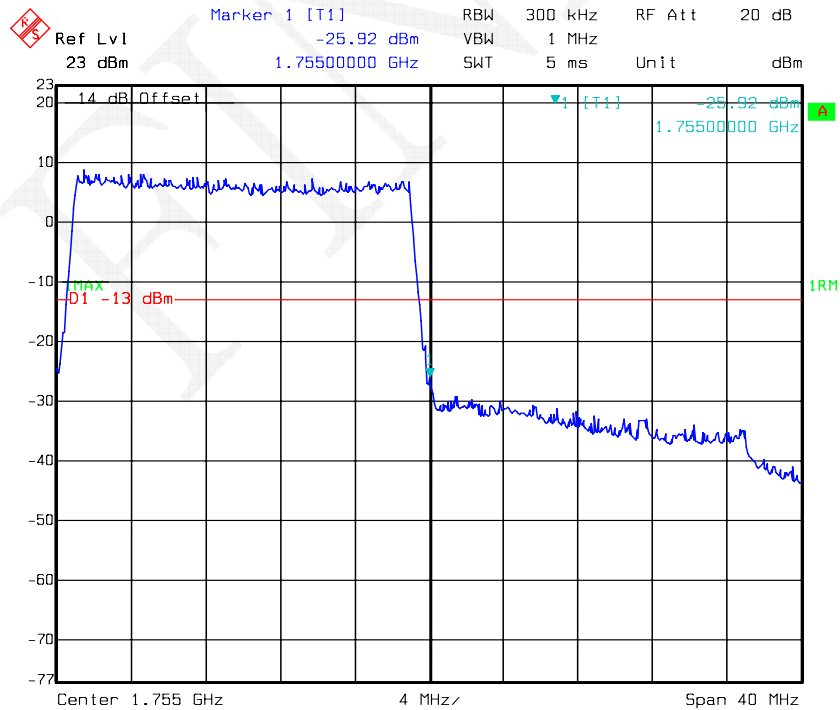
Date: 22.FEB.2016 11:21:29

QPSK_20MHz_FULL RB_Left



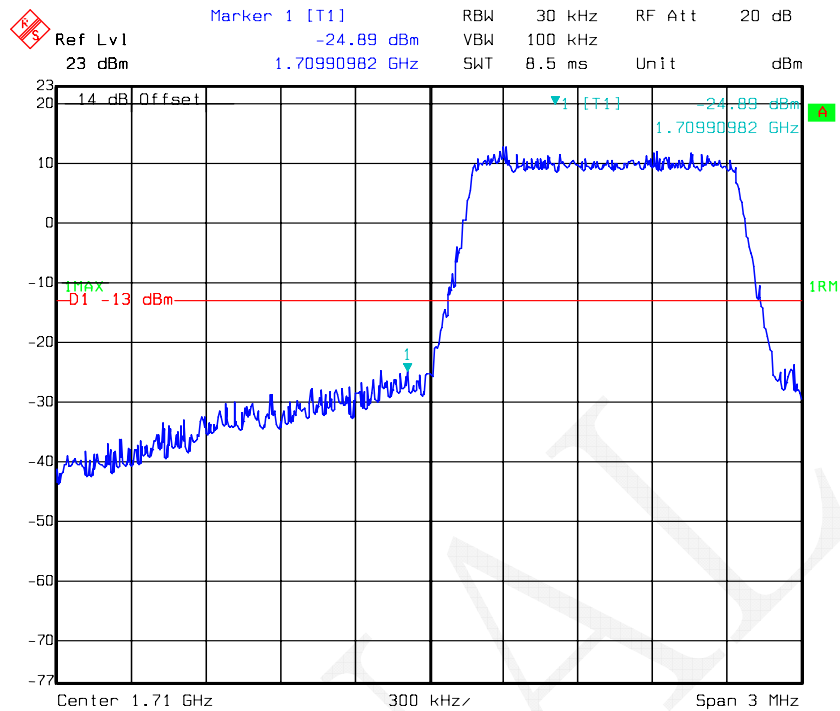
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QPSK_20MHz_FULL RB_Right



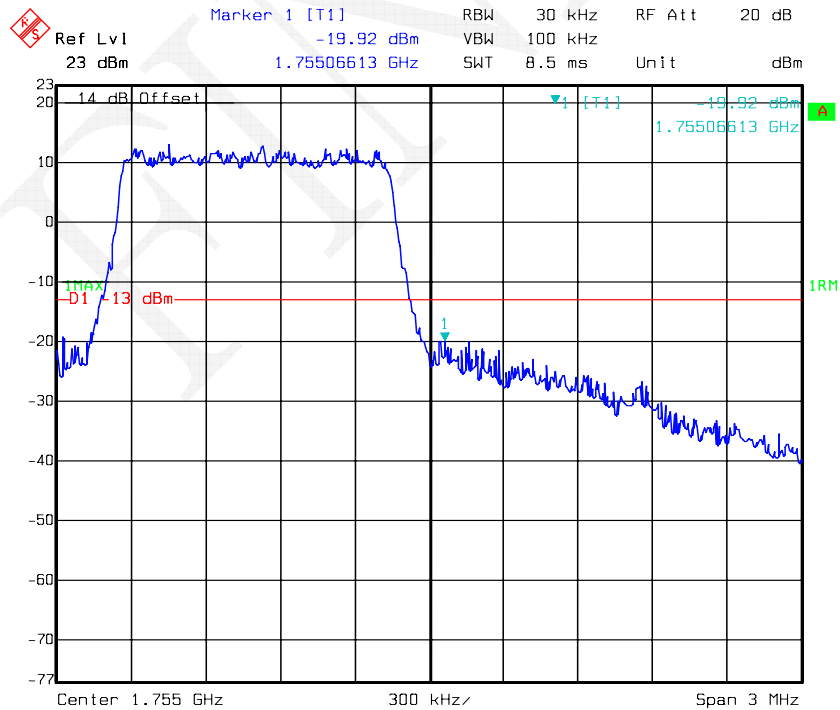
Date: 22.FEB.2016 11:37:15

16QAM_1.4MHz_ FULL RB_ Left



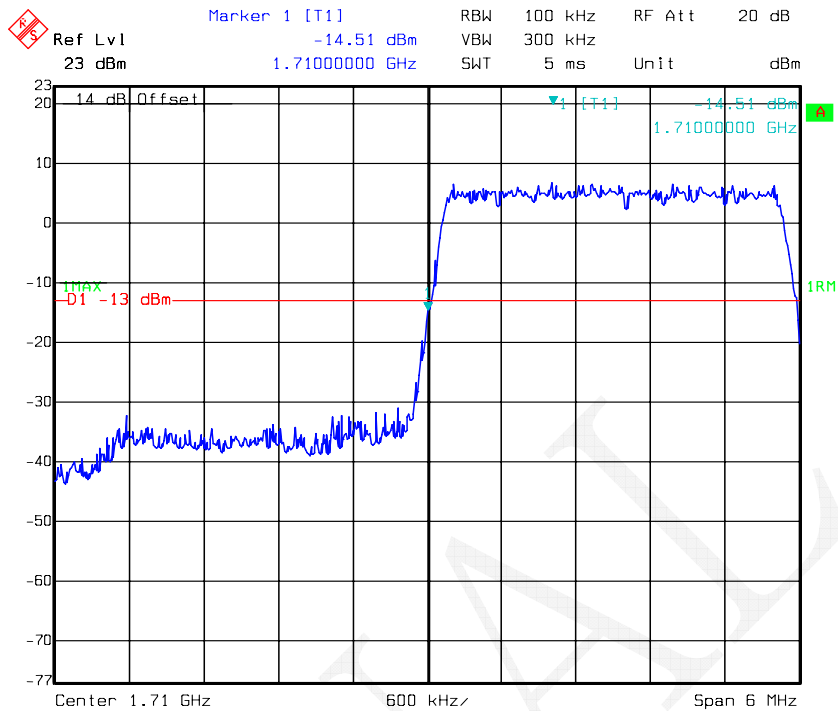
Date: 22.FEB.2016 10:25:04

16QAM_1.4MHz_ FULL RB_ Right



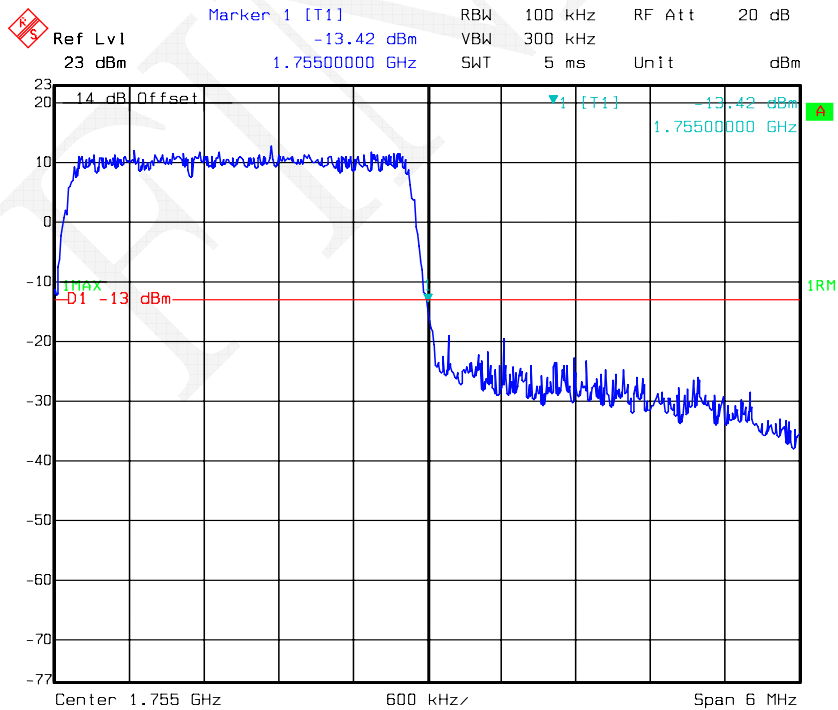
Date: 22.FEB.2016 10:26:38

16QAM_3MHz_FULL RB_Left



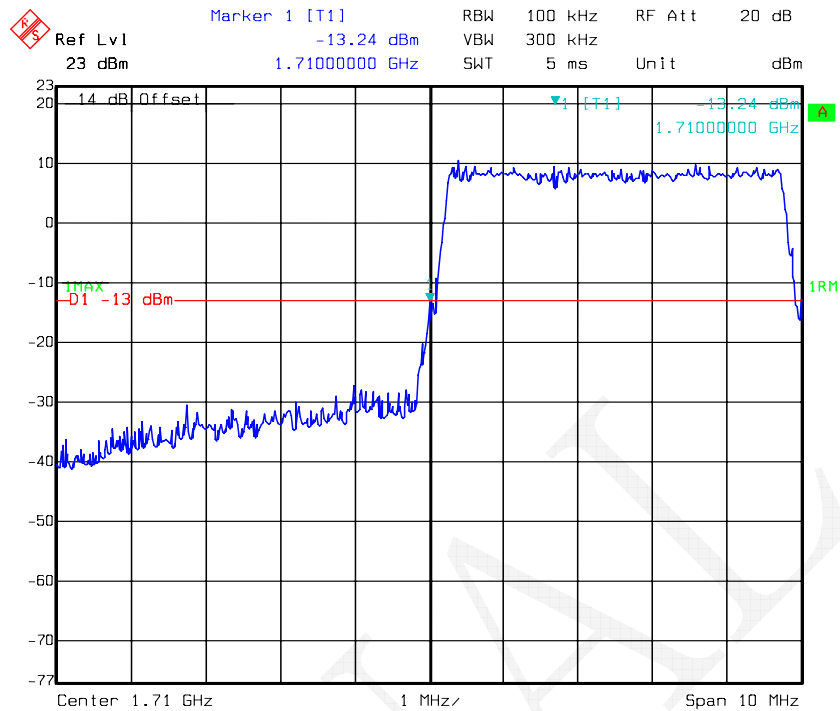
Date: 22.FEB.2016 10:44:28

16QAM_3M_FULL RB_Right



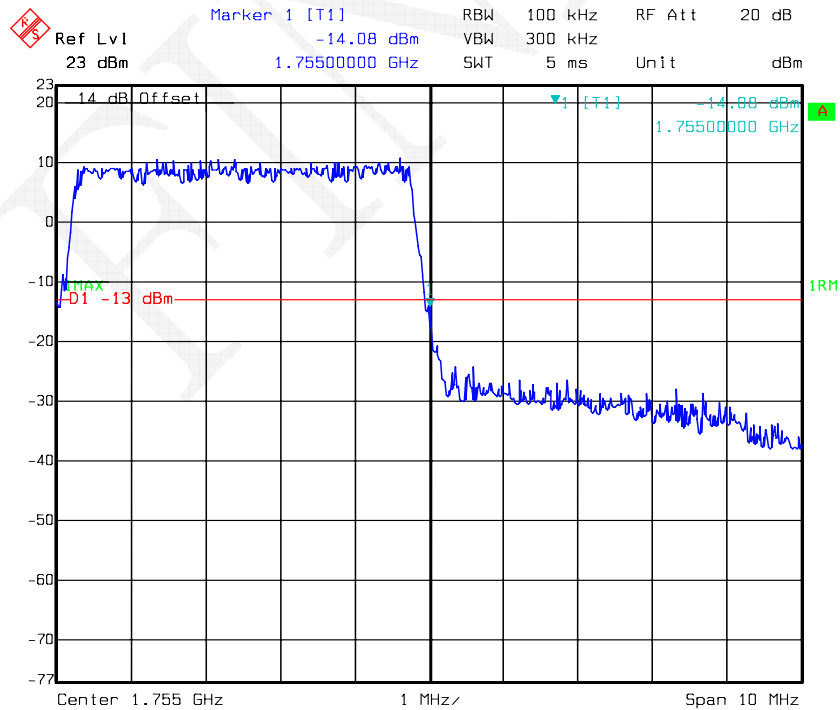
Date: 22.FEB.2016 10:38:31

16QAM_5MHz_FULL RB_ Left



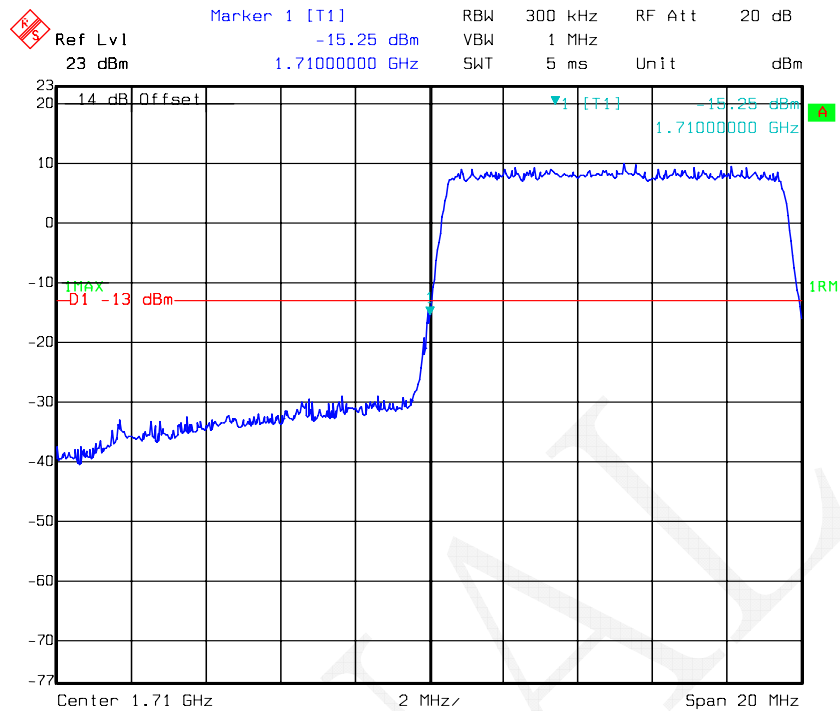
Date: 22.FEB.2016 10:56:51

16QAM_5MHz_FULL RB_ Right



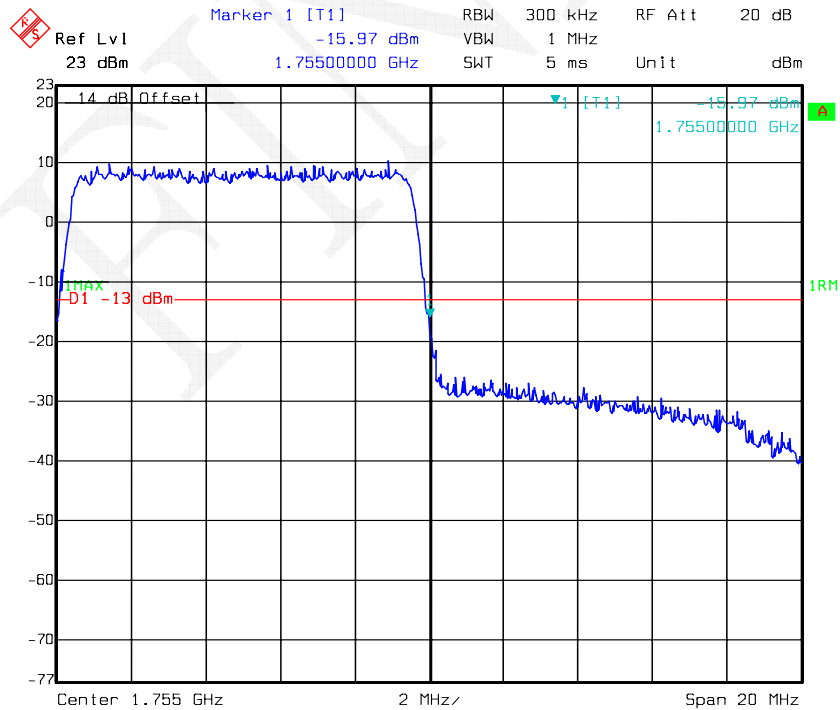
Date: 22.FEB.2016 10:54:06

16QAM_10MHz_FULL RB_ Left



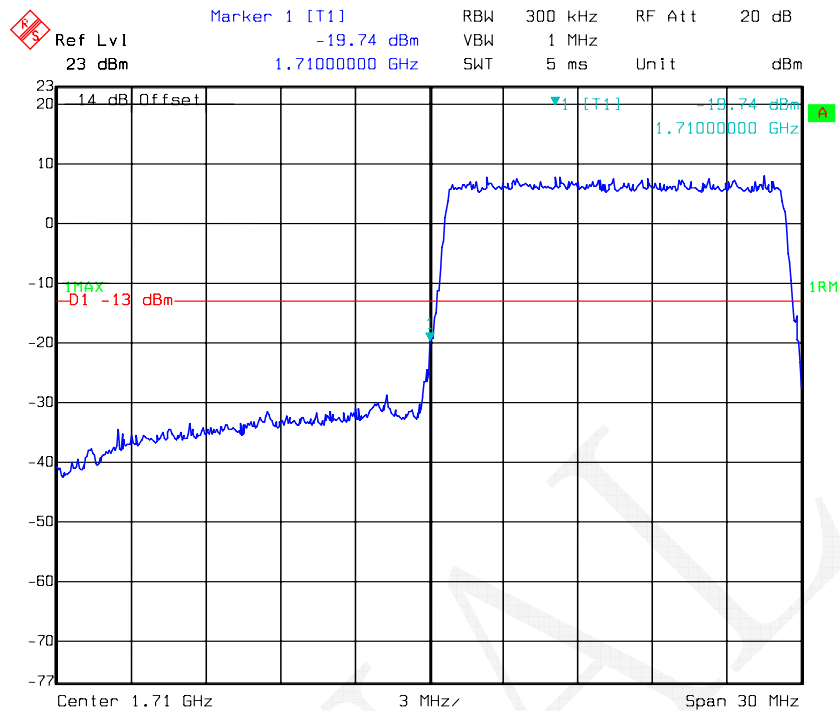
Date: 22.FEB.2016 11:11:17

16QAM_10MHz_FULL RB_ Right

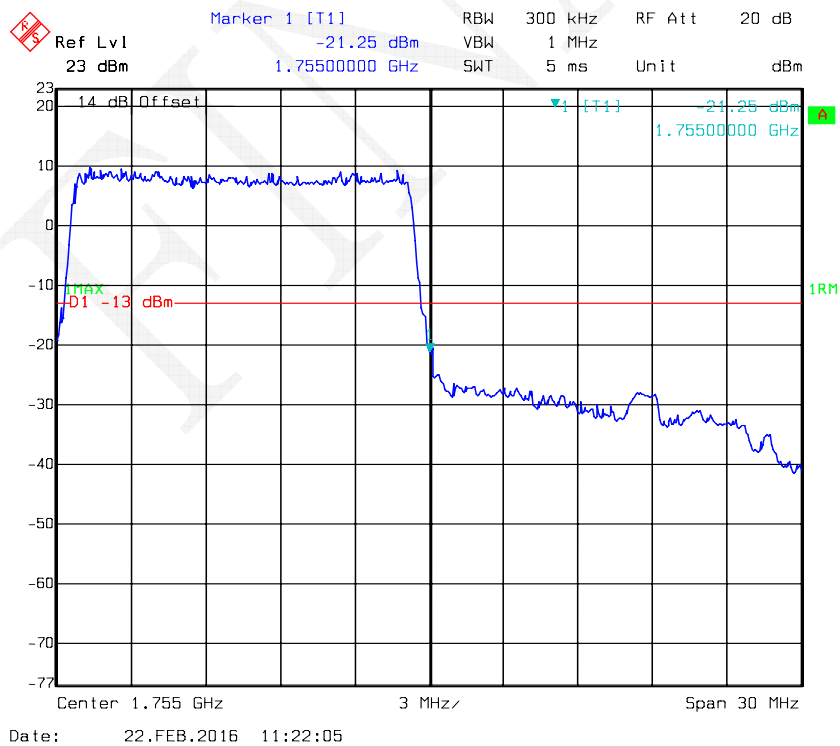


Date: 22.FEB.2016 11:06:23

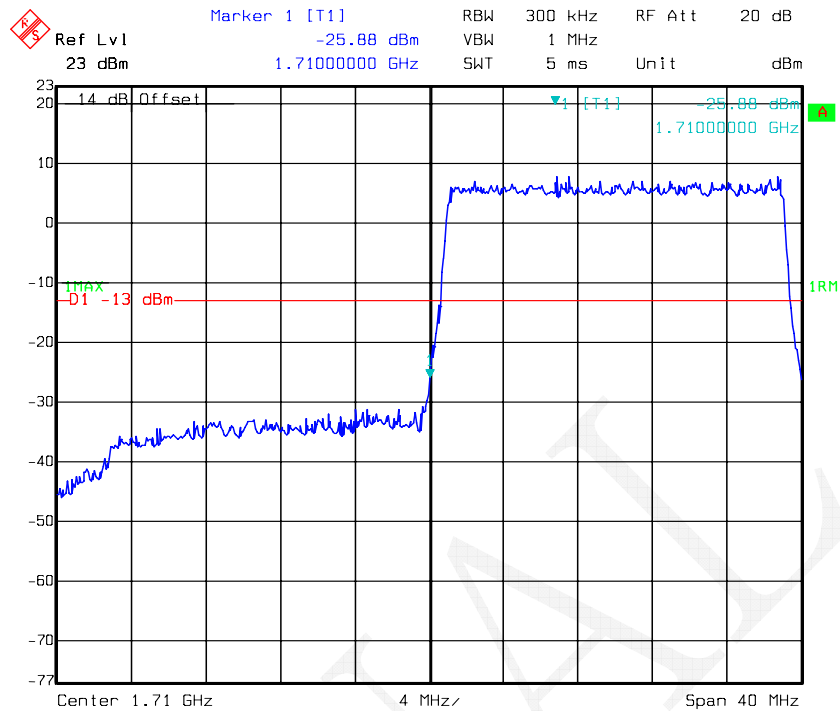
16QAM_15MHz_FULL RB_ Left



16QAM_15MHz_FULL RB_ Right

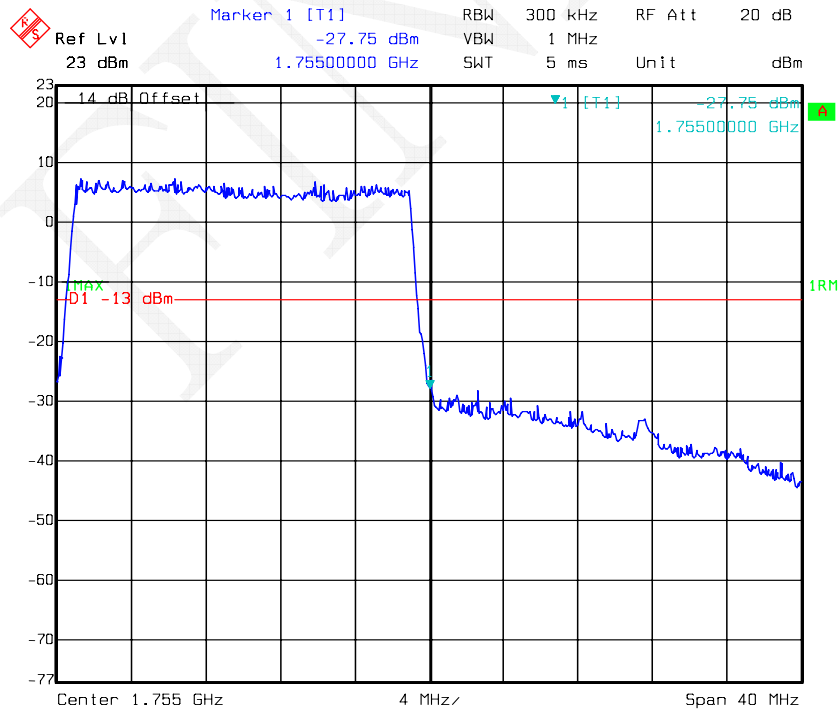


16QAM_20MHz_FULL RB_Left



Date: 22.FEB.2016 11:38:45

16QAM_20MHz_FULL RB_Right



Date: 22.FEB.2016 11:37:39

FCC §2.1055, §22.355 & §24.235 & §27.54 - FREQUENCY STABILITY

Applicable Standard

FCC § 2.1055 (a), § 2.1055 (d), §22.355, §24.235

FINAL

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Dongzhixu	High Temperature Test Chamber	DP1000	201105083-3	2015-09-10	2016-09-09
R&S	Universal Radio Communication Tester	CMU200	109 038	2015-05-09	2016-05-09

R&S

Cellular Band (Part 22H)

GMSK, Middle Channel, $f_c = 836.6$ MHz				
Temperature	Voltage	Frequency Error	Frequency Error	Limit

WCDMA Band V: HSDPA

Middle Channel, $f_c = 836.6$ MHz				
Temperature	Voltage	Frequency Error	Frequency Error	Limit

PCS Band (Part 24E)

GMSK, Middle Channel, $f_c = 1880.0$ MHz				
Temperature	Voltage	Frequency Error	Frequency Error	Result

FINAL

WCDMA Band II: HSDPA

Middle Channel, $f_c = 1880.0$ MHz				
Temperature	Voltage	Frequency Error	Frequency Error	Result

FINAL

LTE Band IV:

QPSK, Channel Bandwidth:10MHz Middle Channel, $f_c = 1732.5$ MHz				
Temperature	Voltage	Frequency Error	Frequency Error	Result