FCC PART 22H, PART 24E

FCC PART 27

MEASUREMENT AND TEST REPORT

For

Nexpro International Limitada

Guadalupe, Barrio Tournon, Frente Al Hotel Villas, Oficinas Del Bufete Facio Y Canas, San Jose-Goicoechea, Costa Rica

FCC ID: ZYPFLARE

Report Type:	**Product Type:**
Original Report	LTE Mobile phone

Test Engineer:	Dean Liu
Report Number:	RSZ150930002-00C
Report Date:	2015-10-26
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

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *Nexpro International Limitada*'s product, model number: *Flare (FCC ID: ZYPFLARE)* (the "EUT") in this report was a *LTE Mobile phone*, which was measured approximately: 13.5 cm (L) x 6.7 cm (W) x 1.1 cm (H), rated input voltage: DC3.8V rechargeable Li-ion battery or DC5.0V charging from adapter.

Adapter information:
Model: sendtel
Input: AC100-240V, 50/60 Hz, 0.15A
Output: DC 5V, 1000mA

All measurement and test data in this report was gathered from production sample serial number: 150930002 (Assigned byBACL, Dongguan). The EUT was received on 2015-10-08.

Objective

This report is prepared on behalf of *Nexpro International Limitada.* 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: ZYPFLARE
FCC Part 15C DSS submissions with FCC ID: ZYPFLARE
FCC Part 15C DTS submissions with FCC ID: ZYPFLARE

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.

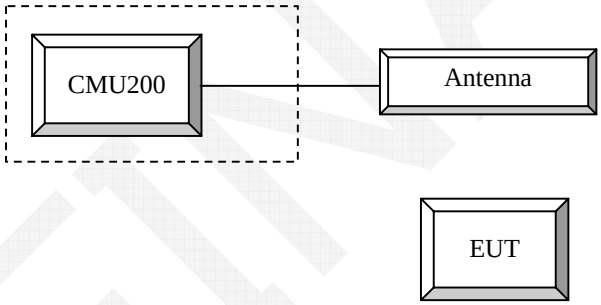
Equipment Modifications

No modification was made to the EUT.

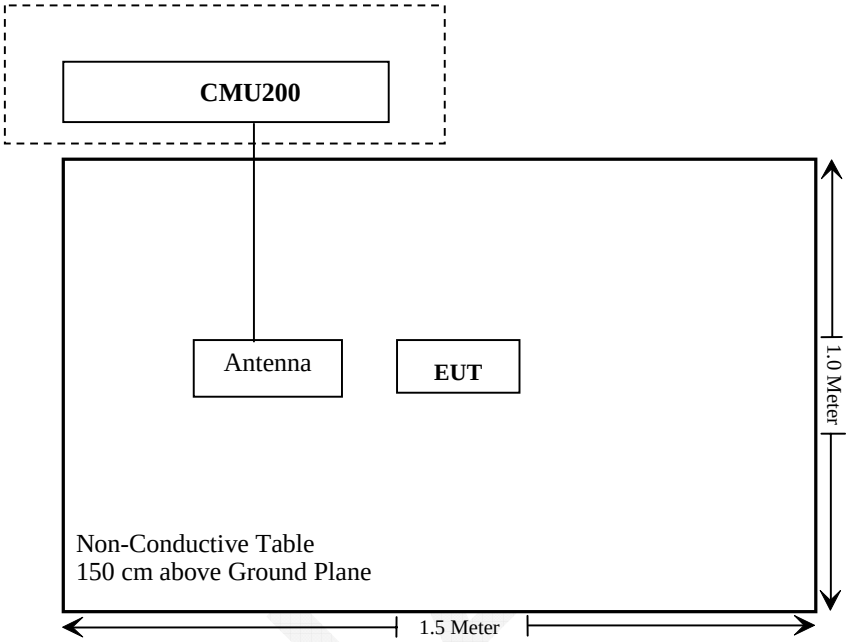
Support Equipment List and Details

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

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	Field Strength of Spurious Radiation	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

Compliance, please refer to the SAR report: RSZ150930002-20.

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.

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 §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.

According to FCC §2.1046 and §27.50 (c), (10) Portable stations (hand-held devices) in the 600 MHz uplink band and the 698-746 MHz band, and fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP.

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 FCC §2.1046 and §27.50 (h), (2) Mobile and other user stations. Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

Test Procedure

GSM/GPRS/EGPRS

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
> 27 dBm for EGPRS 850
> 26 dBm for EGPRS 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 desire 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) and MCS5 (EGPRS)

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
	βc / βd	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			
	βc	2/15	12/15	15/15	15/15
	βd	15/15	15/15	8/15	4/15
	βd (SF)	64			
	βc/ βd	2/15	12/15	15/8	15/4
	βhs	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			
	Ahs=βhs/ βc	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
WCDMA General Settings	Loopback Mode	Test Mode 1				
	Rel99 RMC	12.2kbps RMC				
	HSDPA FRC	H-Set1				
	HSUPA Test	HSUPA Loopback				
	Power Control Algorithm	Algorithm2				
	βc	11/15	6/15	15/15	2/15	15/15
	βd	15/15	15/15	9/15	15/15	0
	βec	209/225	12/15	30/15	2/15	5/15
	βc/ βd	11/15	6/15	15/9	2/15	-
	βhs	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				
	Ahs=βhs/ βc	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_FCIs	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 (Note3)	β_d	β_{HS} (Note1)	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_{ed}1: 30/15 β_{ed}2: 30/15	β_{ed}3: 24/15 β_{ed}4: 24/15	3.5	2.5	14	105	105

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_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 β_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
16 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 6.6.3.3.2	13	10	Table 6.2.4-2	Table 6.2.4-2
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	2015-08-03	2016-08-02
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	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

*** 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:	26.5~27.8 °C
Relative Humidity:	47~55%
ATM Pressure:	100.8~101.4kPa

The testing was performed by Dean Liu from 2015-10-13 to 2015-10-15.

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	EDGE 1 TX Slot	EDGE 2 TX Slot	EDGE 3 TX Slot	EDGE 4 TX Slot
Cellular	128	32.78	32.63	32.13	30.37	29.22	26.88	24.82	22.98	22.00
	190	32.73	32.52	32.05	30.37	29.33	26.99	25.13	22.89	21.75
	251	32.44	32.47	31.99	30.28	29.18	26.81	25.24	22.77	21.85
PCS	512	28.49	28.32	27.49	25.73	24.59	25.54	23.81	21.81	20.93
	661	28.33	28.27	27.53	25.76	24.64	25.43	24.14	22.34	20.70
	810	28.39	28.35	27.73	25.79	24.77	25.27	23.86	22.08	21.09

WCDMA Band Ⅱ(PART 24E)

Mode	3GPP Sub Test	Average Output Power (dBm)					
		Low Channel (Ave. Power)	Low Channel (PAR)	Middle Channel (Ave. Power)	Middle Channel (PAR)	High Channel (Ave. Power)	High Channel (PAR)
Rel 99	1	22.81	2.84	22.79	2.60	22.89	2.44
HSDPA	1	22.12	3.13	22.00	2.74	22.08	2.50
	2	21.97	2.99	22.21	2.78	22.19	2.65
	3	22.02	2.93	22.07	2.64	22.13	2.44
	4	22.00	2.87	22.16	2.64	22.27	2.47
HSUPA	1	21.94	3.09	22.13	2.71	22.17	2.43
	2	22.12	2.90	21.99	2.84	22.26	2.65
	3	21.97	2.91	21.96	2.80	22.06	2.64
	4	22.00	3.11	22.06	2.85	22.23	2.62
	5	22.01	2.97	22.13	2.82	22.30	2.54
DC-HSDPA	1	21.49	2.9	21.59	2.65	21.58	2.4
	2	21.41	3.11	21.54	2.84	21.71	2.56
	3	21.44	2.86	21.67	2.59	21.58	2.58
	4	21.54	3.03	21.52	2.64	21.68	2.62
HSPA+	1	21.50	2.85	21.57	2.71	21.75	2.38

WCDMA Band V (PART 22H)

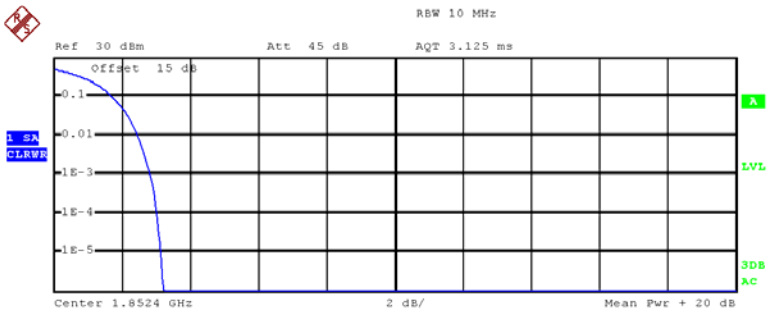
Mode	3GPP Sub Test	Average Output Power (dBm)					
		Low Channel (Ave. Power)	Low Channel (PAR)	Middle Channel (Ave. Power)	Middle Channel (PAR)	High Channel (Ave. Power)	High Channel (PAR)
Rel 99	1	22.71	2.72	22.47	2.96	22.61	2.72
HSDPA	1	21.87	2.77	21.52	3.02	21.73	2.82
	2	22.01	3.00	21.69	3.22	21.79	2.76
	3	21.71	2.87	21.33	2.98	21.81	2.96
	4	21.87	3.01	21.18	3.15	21.78	2.98
DC-HSDPA	1	21.75	2.95	21.46	3.15	21.54	2.93
	2	21.81	3.03	21.32	3.18	21.62	2.93
	3	21.74	3.03	21.32	3.09	21.87	2.77
	4	21.76	3.06	21.24	3.05	21.62	3.02
	5	21.83	2.99	21.66	3.10	21.89	2.91
HSUPA	1	21.23	2.95	21.02	3.16	21.18	3.02
	2	21.30	2.81	20.99	3.19	21.16	2.82
	3	21.25	3.00	21.15	3.09	21.39	2.83
	4	21.30	2.79	21.05	3.15	21.28	2.88
HSPA+	1	21.22	2.99	21.00	3.11	21.40	2.91

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

Peak-to-average ratio (PAR)

WCDMA Band Ⅱ(PART 24E)

Low Channel



Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	28.27 dBm
Peak	31.48 dBm
Crest	3.21 dB
10 %	1.72 dB
1 %	2.48 dB
.1 %	2.84 dB
.01 %	3.04 dB

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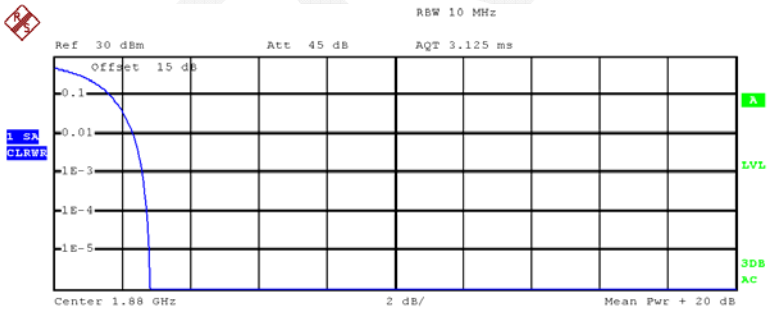
Middle Channel



Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	28.04 dBm
Peak	30.85 dBm
Crest	2.81 dB
10 %	1.68 dB
1 %	2.36 dB
.1 %	2.60 dB
.01 %	2.76 dB

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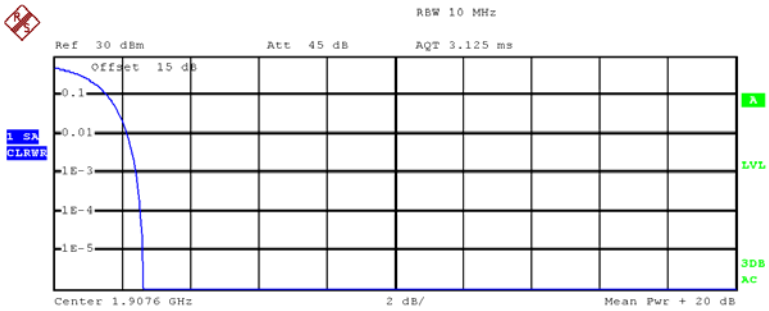
High Channel



Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	27.94 dBm
Peak	30.57 dBm
Crest	2.63 dB
10 %	1.60 dB
1 %	2.16 dB
.1 %	2.44 dB
.01 %	2.56 dB

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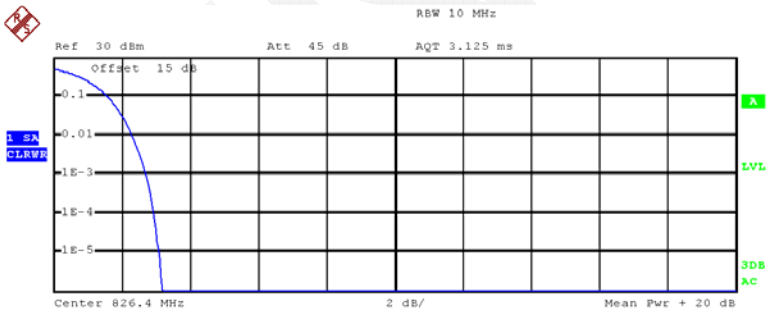
WCDMA Band V (PART 22H)

Low Channel

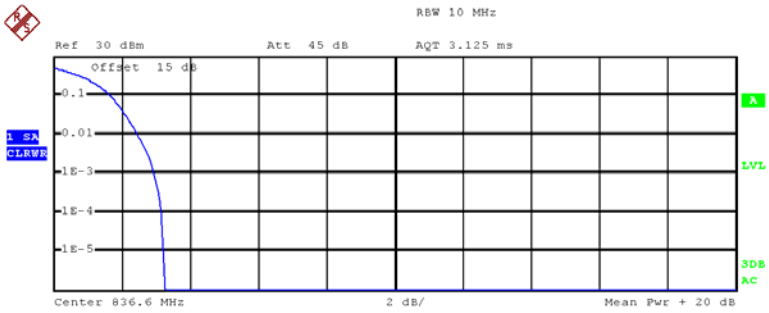


Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	29.72 dBm
Peak	32.89 dBm
Crest	3.17 dB
10 %	1.60 dB
1 %	2.32 dB
.1 %	2.72 dB
.01 %	2.96 dB

Date: 15.OCT.2015 20:40:03

Middle Channel

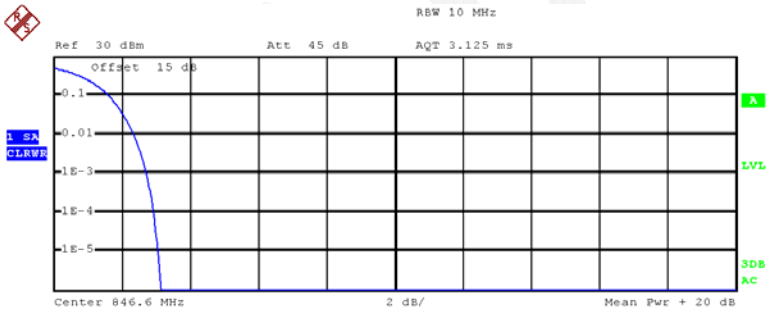


Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	29.62 dBm
Peak	32.89 dBm
Crest	3.27 dB
10 %	1.68 dB
1 %	2.48 dB
.1 %	2.96 dB
.01 %	3.16 dB

Date: 15.OCT.2015 20:41:43

High Channel



Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	29.69 dBm
Peak	32.82 dBm
Crest	3.13 dB
10 %	1.64 dB
1 %	2.36 dB
.1 %	2.72 dB
.01 %	2.96 dB

Date: 15.OCT.2015 20:42:07

LTE Band 2

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	1#0	22.90	22.98	22.78
		1#3	23.06	23.03	22.85
		1#5	23.08	23.03	22.78
		3#0	22.59	23.04	22.17
		3#1	22.42	22.89	22.20
		3#3	22.24	22.91	22.19
		6#0	21.56	21.85	21.52
	16-QAM	1#0	22.54	22.68	22.23
		1#3	22.79	22.56	22.13
		1#5	22.63	22.68	21.97
		3#0	22.04	22.73	21.65
		3#1	21.83	22.76	21.95
		3#3	22.02	22.64	21.87
		6#0	21.23	20.90	21.28
3M	QPSK	1#0	22.75	22.54	22.82
		1#7	22.67	22.71	22.44
		1#14	22.65	22.74	22.35
		8#0	22.31	22.28	22.19
		8#4	22.24	22.32	22.19
		8#7	22.15	22.13	22.07
		15#0	21.28	21.32	21.24
	16-QAM	1#0	22.66	22.22	22.17
		1#7	22.70	22.13	21.98
		1#14	22.69	22.06	22.13
		8#0	21.87	21.70	21.69
		8#4	22.21	21.52	21.72
		8#7	21.91	21.85	21.86
		15#0	21.12	21.11	20.93
5M	QPSK	1#0	23.19	22.50	22.87
		1#12	22.94	22.32	22.33
		1#24	22.75	20.36	22.49
		12#0	21.78	21.78	21.77
		12#6	22.07	21.57	22.00
		12#11	21.81	21.60	21.82
		25#0	21.19	21.18	21.11
	16-QAM	1#0	22.05	21.74	22.11
		1#12	22.08	21.56	21.98
		1#24	21.46	21.47	22.12
		12#0	21.81	21.55	21.35
		12#6	21.65	21.73	21.43
		12#11	21.70	21.27	21.42
		25#0	20.97	20.96	20.81

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
10M	QPSK	1#0	22.74	22.39	22.39
		1#24	23.06	22.29	22.39
		1#49	22.59	22.39	22.52
		25#0	22.06	21.75	21.68
		25#12	22.31	21.84	21.96
		25#24	22.14	21.76	21.96
		50#0	21.60	21.11	21.09
	16-QAM	1#0	22.54	22.22	21.99
		1#24	22.36	22.13	22.05
		1#49	21.33	21.89	21.89
		25#0	21.93	21.73	21.32
		25#12	21.74	21.80	21.42
		25#24	20.83	20.95	21.34
		50#0	20.80	20.62	20.43
15M	QPSK	1#0	22.54	22.58	22.63
		1#37	22.53	22.67	22.64
		1#74	22.39	22.57	22.45
		36#0	22.00	22.02	22.03
		36#17	21.98	22.19	22.08
		36#35	21.78	22.22	22.32
		75#0	21.78	21.06	21.12
	16-QAM	1#0	22.43	21.96	22.12
		1#37	22.37	21.64	21.81
		1#74	22.28	21.61	21.98
		36#0	21.67	20.68	21.05
		36#17	21.84	21.12	21.26
		36#35	21.72	20.94	21.15
		75#0	20.90	20.41	20.24
20M	QPSK	1#0	22.54	22.15	22.36
		1#49	22.66	22.31	22.68
		1#99	22.61	22.52	22.50
		50#0	21.92	21.52	22.13
		50#24	21.75	21.64	22.26
		50#49	21.99	21.92	21.98
		100#0	21.76	21.09	21.14
	16-QAM	1#0	22.12	21.99	22.14
		1#49	22.36	21.85	22.04
		1#99	22.23	21.89	22.27
		50#0	21.55	21.14	21.24
		50#24	21.51	21.39	21.36
		50#49	21.44	21.30	21.20
		100#0	20.51	20.70	20.68

LTE Band 4

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	1#0	22.54	22.32	22.27
		1#3	22.85	22.27	22.33
		1#5	22.47	22.25	22.38
		3#0	22.11	21.54	21.62
		3#1	22.29	21.62	21.84
		3#3	22.21	21.57	21.74
		6#0	21.56	21.24	21.19
	16-QAM	1#0	22.42	22.31	21.86
		1#3	22.31	22.15	22.13
		1#5	21.31	21.68	21.85
		3#0	21.75	21.69	21.24
		3#1	21.54	21.63	21.32
		3#3	20.66	20.81	21.23
		6#0	20.65	20.49	20.30
3M	QPSK	1#0	22.62	22.54	22.65
		1#7	22.53	22.56	22.36
		1#14	22.58	22.61	22.27
		8#0	22.42	22.33	22.16
		8#4	22.27	22.28	22.23
		8#7	22.13	22.26	22.14
		15#0	21.21	21.19	21.19
	16-QAM	1#0	22.65	22.39	22.59
		1#7	22.47	22.58	22.53
		1#14	22.52	22.64	22.42
		8#0	22.43	22.21	22.15
		8#4	22.19	22.23	22.27
		8#7	22.20	22.34	22.16
		15#0	21.17	21.28	21.34
5M	QPSK	1#0	22.53	22.42	22.57
		1#12	22.44	22.56	22.32
		1#24	22.47	22.49	22.42
		12#0	22.29	22.17	22.15
		12#6	22.18	22.25	22.24
		12#11	22.23	22.26	22.32
		25#0	21.16	21.27	21.35
	16-QAM	1#0	21.87	21.53	21.92
		1#12	21.86	21.38	21.75
		1#24	21.29	21.25	21.53
		12#0	21.53	21.48	21.22
		12#6	21.32	21.42	21.37
		12#11	21.56	21.18	21.32
		25#0	20.72	20.67	20.64

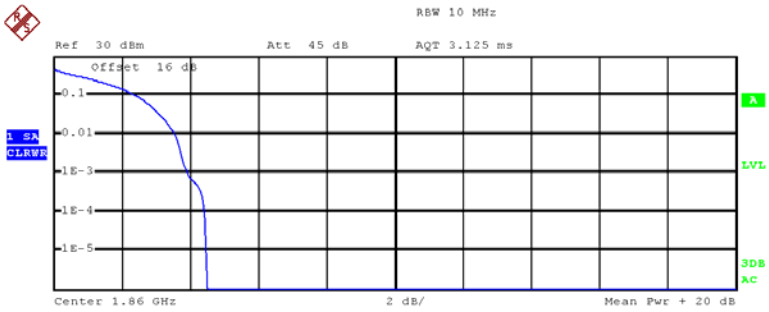
Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
10M	QPSK	1#0	22.65	22.28	22.32
		1#24	22.43	22.21	22.15
		1#49	22.32	22.26	22.31
		25#0	21.86	21.63	21.43
		25#12	22.13	21.65	21.52
		25#24	22.11	21.46	21.33
		50#0	21.52	21.24	21.17
	16-QAM	1#0	22.36	22.14	21.85
		1#24	22.21	22.06	21.98
		1#49	21.19	21.75	21.63
		25#0	21.72	21.54	21.15
		25#12	21.51	21.44	21.37
		25#24	20.72	20.63	21.16
		50#0	20.63	20.41	20.22
15M	QPSK	1#0	22.51	22.45	22.54
		1#37	22.49	22.52	22.51
		1#74	22.31	22.42	22.34
		36#0	21.95	22.05	22.12
		36#17	21.83	22.14	22.11
		36#35	21.56	22.16	22.21
		75#0	21.64	21.13	21.15
	16-QAM	1#0	22.31	21.82	22.04
		1#37	22.28	21.41	21.62
		1#74	22.16	21.42	21.76
		36#0	21.54	20.54	21.11
		36#17	21.61	21.15	21.13
		36#35	21.53	20.71	21.23
		75#0	20.71	20.25	20.18
20M	QPSK	1#0	22.43	22.12	22.24
		1#49	22.41	22.13	22.45
		1#99	22.53	22.34	22.37
		50#0	21.73	21.35	22.17
		50#24	21.52	21.42	22.13
		50#49	21.75	21.83	21.84
		100#0	21.52	21.12	21.12
	16-QAM	1#0	22.13	21.75	21.98
		1#49	22.14	21.63	21.87
		1#99	22.15	21.65	22.17
		50#0	21.37	21.21	21.18
		50#24	21.43	21.35	21.24
		50#49	21.25	21.27	21.16
		100#0	20.34	20.49	20.57

Peak-to-average ratio (PAR)

LTE Band	Test Modulation		Test Bandwidth	Low Channel (dB)	Middle Channel (dB)	High Channel (dB)	Limit (dB)
Band 2	QPSK	1 RB	20M	3.96	3.92	3.76	13
		Full RB		6.32	6.20	6.32	13
	16-QAM	1 RB		4.76	6.28	4.56	13
		Full RB		7.00	6.96	7.00	13
Band 4	QPSK	1 RB	20M	3.64	3.32	4.00	13
		Full RB		6.20	6.24	6.44	13
	16-QAM	1 RB		4.36	4.56	4.92	13
		Full RB		7.04	6.96	7.12	13

LTE Band 2

QPSK-1RB, 20M Low Channel

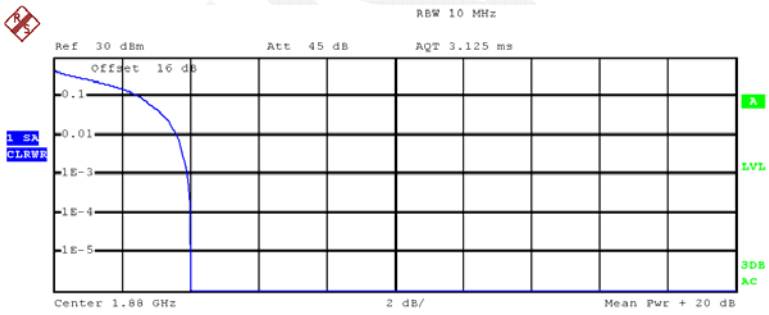


Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	20.94 dBm
Peak	25.42 dBm
Crest	4.48 dB
10 %	2.48 dB
1 %	3.56 dB
.1 %	3.96 dB
.01 %	4.44 dB

Date: 13.OCT.2015 19:21:19

QPSK-1RB, 20M Middle Channel

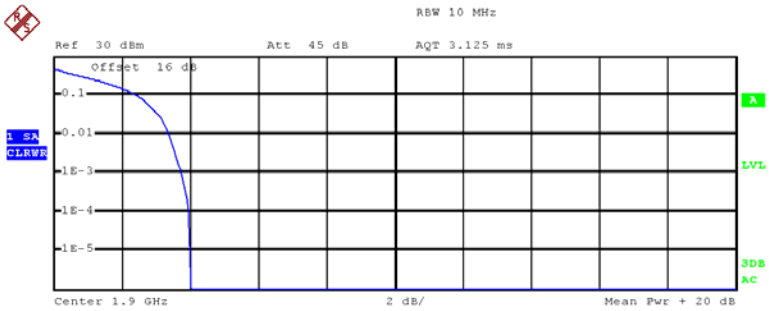


Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	20.48 dBm
Peak	24.50 dBm
Crest	4.02 dB
10 %	2.56 dB
1 %	3.64 dB
.1 %	3.92 dB
.01 %	4.04 dB

Date: 13.OCT.2015 19:09:03

QPSK-1RB, 20M High Channel

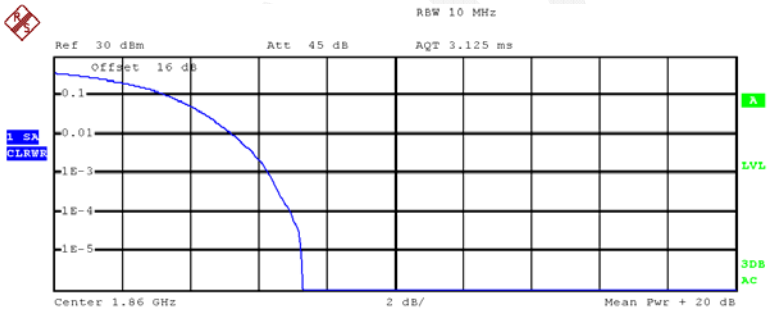


Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	20.92 dBm
Peak	24.92 dBm
Crest	4.00 dB
10 %	2.48 dB
1 %	3.40 dB
.1 %	3.76 dB
.01 %	3.96 dB

Date: 13.OCT.2015 19:23:17

QPSK- Full RB, 20M Low Channel

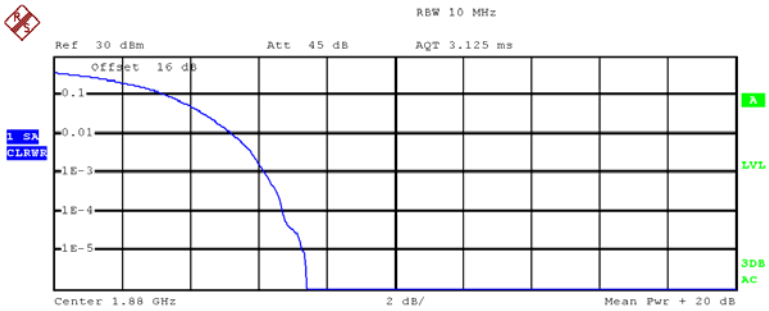


Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	16.48 dBm
Peak	23.79 dBm
Crest	7.31 dB
10 %	3.40 dB
1 %	5.28 dB
.1 %	6.32 dB
.01 %	6.96 dB

Date: 13.OCT.2015 19:11:01

QPSK- Full RB, 20M Middle Channel

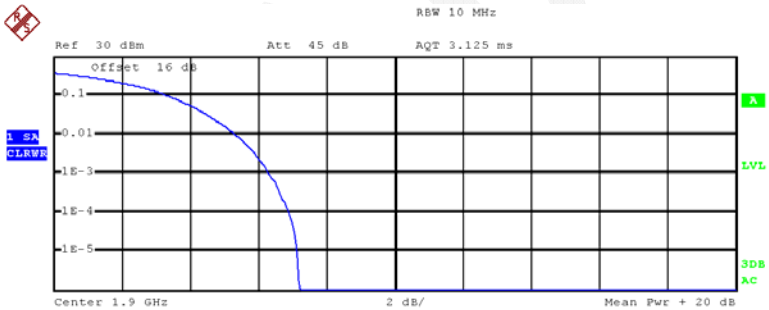


Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	16.45 dBm
Peak	23.86 dBm
Crest	7.42 dB
10 %	3.40 dB
1 %	5.28 dB
.1 %	6.20 dB
.01 %	6.72 dB

Date: 13.OCT.2015 19:09:39

QPSK- Full RB, 20M High Channel

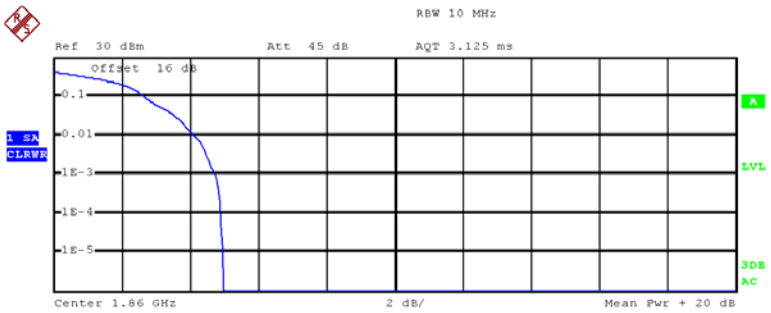


Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	16.74 dBm
Peak	23.93 dBm
Crest	7.20 dB
10 %	3.44 dB
1 %	5.36 dB
.1 %	6.32 dB
.01 %	6.92 dB

Date: 13.OCT.2015 19:23:58

16QAM- 1RB, 20M Low Channel

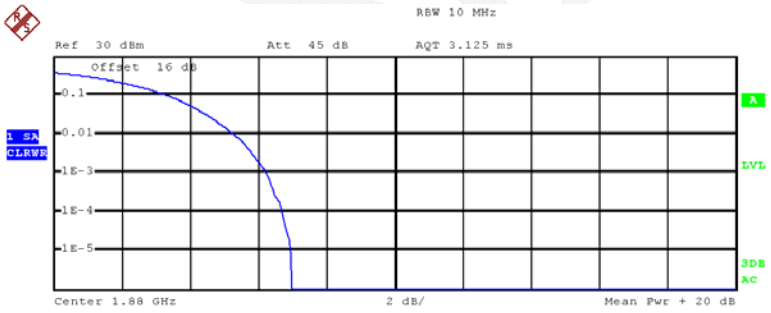


Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	20.09 dBm
Peak	25.06 dBm
Crest	4.97 dB
10 %	2.68 dB
1 %	4.16 dB
.1 %	4.76 dB
.01 %	4.92 dB

Date: 13.OCT.2015 19:21:31

16QAM- 1RB, 20M Middle Channel

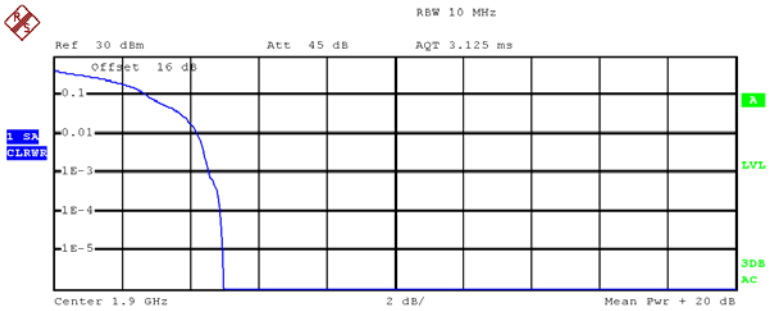


Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	16.46 dBm
Peak	23.44 dBm
Crest	6.98 dB
10 %	3.40 dB
1 %	5.32 dB
.1 %	6.28 dB
.01 %	6.72 dB

Date: 13.OCT.2015 19:07:57

16QAM- 1RB, 20M High Channel

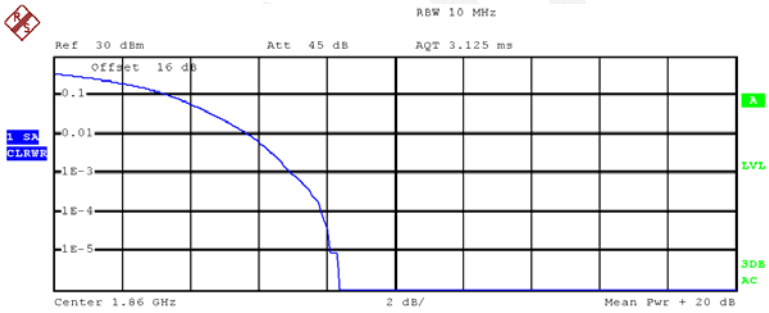


Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	20.00 dBm
Peak	24.99 dBm
Crest	4.99 dB
10 %	2.76 dB
1 %	4.24 dB
.1 %	4.56 dB
.01 %	4.88 dB

Date: 13.OCT.2015 19:23:07

16QAM- Full RB, 20M Low Channel

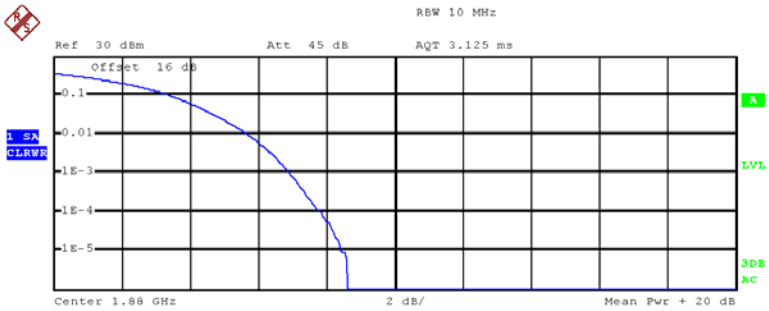


Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	15.49 dBm
Peak	23.86 dBm
Crest	8.37 dB
10 %	3.48 dB
1 %	5.76 dB
.1 %	7.00 dB
.01 %	7.88 dB

Date: 13.OCT.2015 19:10:53

16QAM- Full RB, 20M Middle Channel

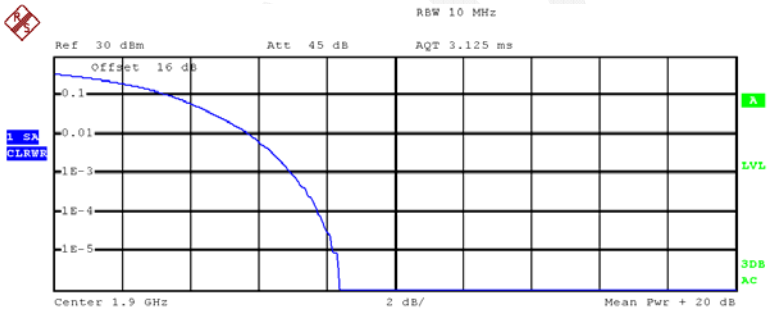


Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	15.45 dBm
Peak	24.08 dBm
Crest	8.63 dB
10 %	3.48 dB
1 %	5.72 dB
.1 %	6.96 dB
.01 %	7.88 dB

Date: 13.OCT.2015 19:09:51

16QAM- Full RB, 20M High Channel



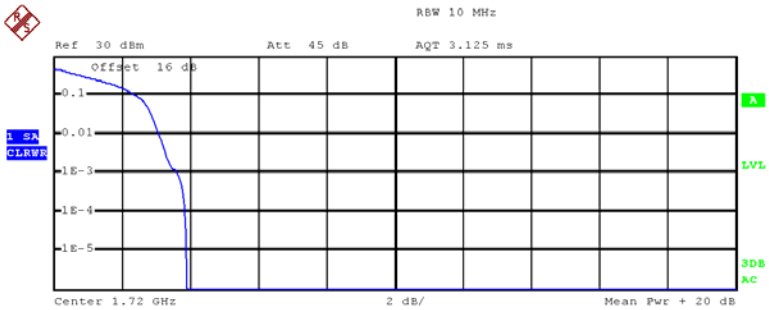
Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	15.77 dBm
Peak	24.15 dBm
Crest	8.37 dB
10 %	3.52 dB
1 %	5.80 dB
.1 %	7.00 dB
.01 %	7.76 dB

Date: 13.OCT.2015 19:24:13

LTE Band 4

QPSK-1RB, 20M Low Channel

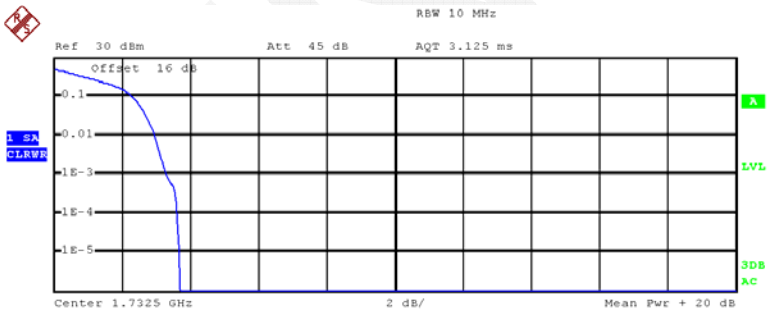


Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	20.68 dBm
Peak	24.57 dBm
Crest	3.88 dB
10 %	2.44 dB
1 %	3.08 dB
.1 %	3.64 dB
.01 %	3.88 dB

Date: 13.OCT.2015 19:06:09

QPSK-1RB, 20M Middle Channel

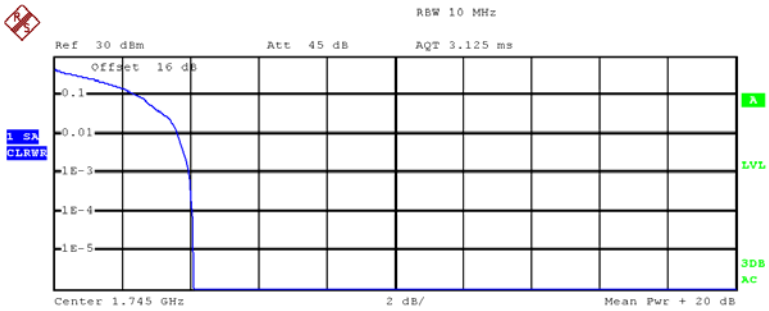


Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	20.65 dBm
Peak	24.36 dBm
Crest	3.71 dB
10 %	2.32 dB
1 %	2.96 dB
.1 %	3.32 dB
.01 %	3.64 dB

Date: 13.OCT.2015 19:05:16

QPSK-1RB, 20M High Channel

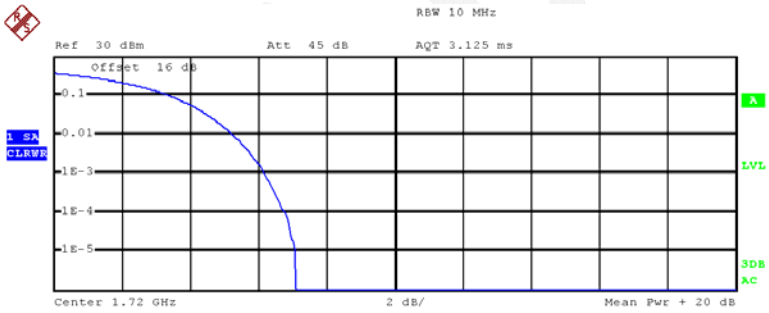


Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	20.26 dBm
Peak	24.36 dBm
Crest	4.10 dB
10 %	2.52 dB
1 %	3.64 dB
.1 %	4.00 dB
.01 %	4.08 dB

Date: 13.OCT.2015 19:03:34

QPSK- Full RB, 20M Low Channel

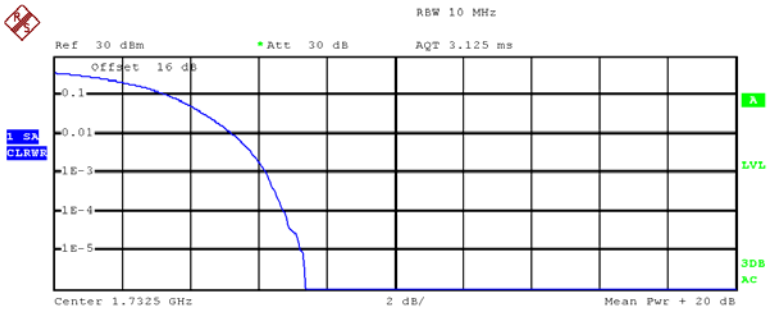


Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	16.26 dBm
Peak	23.37 dBm
Crest	7.11 dB
10 %	3.48 dB
1 %	5.28 dB
.1 %	6.20 dB
.01 %	6.80 dB

Date: 13.OCT.2015 18:59:49

QPSK- Full RB, 20M Middle Channel

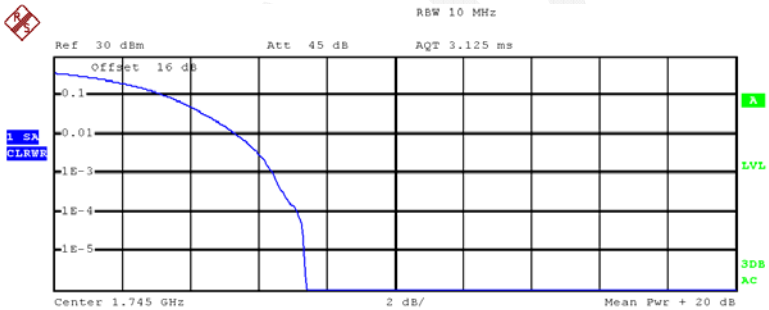


Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	16.85 dBm
Peak	24.22 dBm
Crest	7.37 dB
10 %	3.44 dB
1 %	5.28 dB
.1 %	6.24 dB
.01 %	6.80 dB

Date: 13.OCT.2015 18:55:10

QPSK- Full RB, 20M High Channel

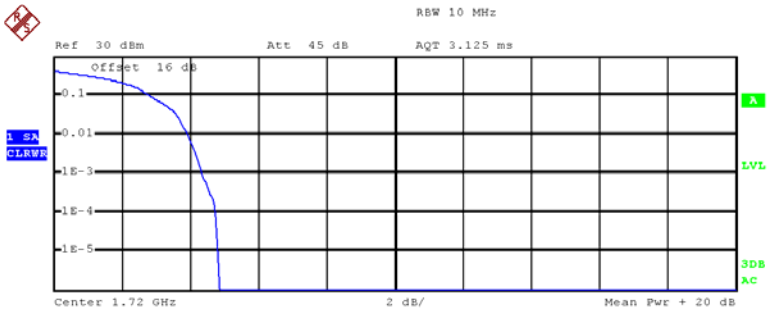


Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	15.54 dBm
Peak	22.95 dBm
Crest	7.40 dB
10 %	3.36 dB
1 %	5.40 dB
.1 %	6.44 dB
.01 %	7.16 dB

Date: 13.OCT.2015 19:02:41

16QAM- 1RB, 20M Low Channel

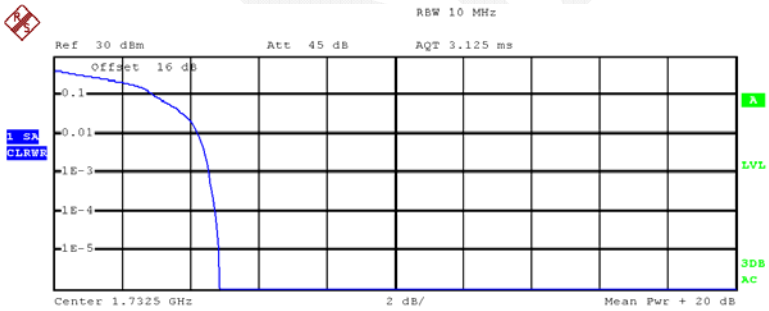


Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	19.87 dBm
Peak	24.71 dBm
Crest	4.84 dB
10 %	2.84 dB
1 %	3.96 dB
.1 %	4.36 dB
.01 %	4.76 dB

Date: 13.OCT.2015 19:06:18

16QAM- 1RB, 20M Middle Channel

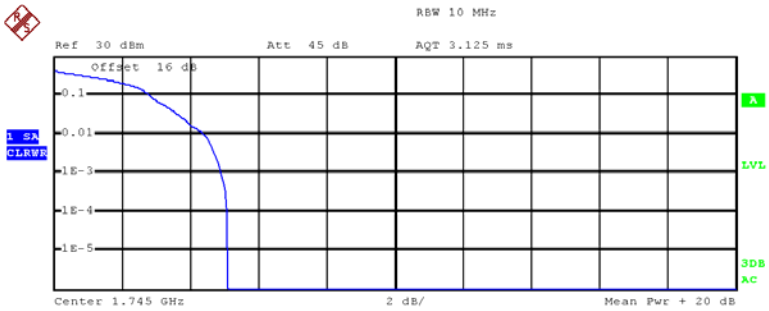


Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	19.42 dBm
Peak	24.29 dBm
Crest	4.87 dB
10 %	3.00 dB
1 %	4.24 dB
.1 %	4.56 dB
.01 %	4.76 dB

Date: 13.OCT.2015 19:05:06

16QAM- 1RB, 20M High Channel

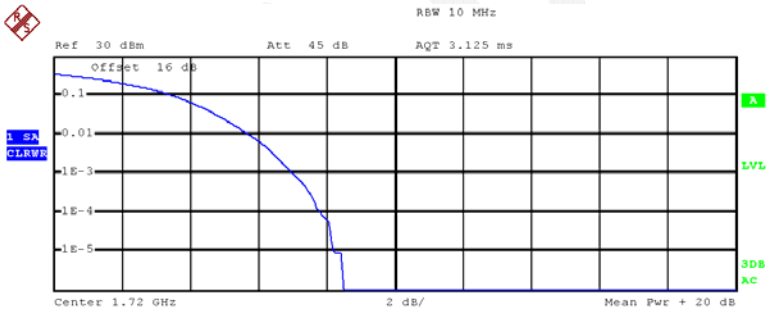


Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	19.34 dBm
Peak	24.43 dBm
Crest	5.09 dB
10 %	2.84 dB
1 %	4.44 dB
.1 %	4.92 dB
.01 %	5.08 dB

Date: 13.OCT.2015 19:03:42

16QAM- Full RB, 20M Low Channel

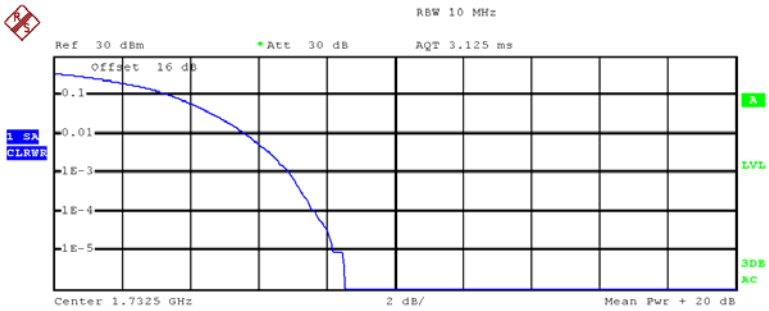


Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	15.31 dBm
Peak	23.79 dBm
Crest	8.49 dB
10 %	3.60 dB
1 %	5.76 dB
.1 %	7.04 dB
.01 %	7.84 dB

Date: 13.OCT.2015 18:59:36

16QAM- Full RB, 20M Middle Channel

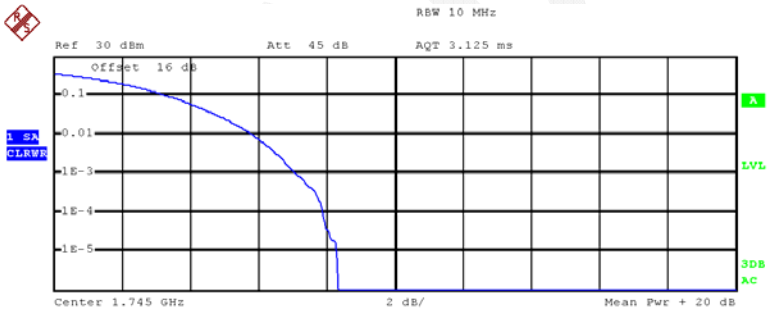


Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	15.90 dBm
Peak	24.44 dBm
Crest	8.54 dB
10 %	3.48 dB
1 %	5.68 dB
.1 %	6.96 dB
.01 %	7.68 dB

Date: 13.OCT.2015 18:54:50

16QAM- Full RB, 20M High Channel



Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	14.62 dBm
Peak	22.95 dBm
Crest	8.33 dB
10 %	3.44 dB
1 %	5.88 dB
.1 %	7.12 dB
.01 %	7.92 dB

Date: 13.OCT.2015 19:02:07

ERP & EIRP

PART 22H

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	105.9	31	0.0	1.0	30.0	38.50	8.5
836.600	V	93.35	21.6	0.0	1.0	20.6	38.50	17.9
EGPRS 850 Middle Channel								
836.600	H	100.06	25.1	0.0	1.0	24.1	38.50	14.4
836.600	V	94.62	22.8	0.0	1.0	21.8	38.50	16.7
WCDMA Band V Middle Channel								
836.600	H	96.10	21.2	0.0	1.0	20.2	38.50	18.3
836.600	V	89.59	17.8	0.0	1.0	16.8	38.50	21.7

PART 24E

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	92.52	20.9	8.4	1.4	27.9	33.0	5.1
1880.000	V	89.15	17.7	8.4	1.4	24.7	33.0	8.3
EGPRS 1900 Middle Channel								
1880.000	H	89.25	17.7	8.4	1.4	24.7	33.0	8.3
1880.000	V	82.14	10.7	8.4	1.4	17.7	33.0	15.3
WCDMA Band II Middle Channel								
1880.000	H	86.99	15.4	8.4	1.4	22.4	33.0	10.6
1880.000	V	81.18	9.7	8.4	1.4	16.7	33.0	16.3

LTE Band 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)			
QPSK 1.4M BW Middle Channel								
1880.000	H	88.23	16.6	8.4	1.4	23.6	33.00	9.4
1880.000	V	88.93	17.5	8.4	1.4	24.5	33.00	8.5
QPSK 3M BW Middle Channel								
1880.000	H	87.21	15.6	8.4	1.4	22.6	33.00	10.4
1880.000	V	87.72	16.3	8.4	1.4	23.3	33.00	9.7
QPSK 5M BW Middle Channel								
1880.000	H	86.14	14.5	8.4	1.4	21.5	33.00	11.5
1880.000	V	86.51	15.1	8.4	1.4	22.1	33.00	10.9
QPSK 10M BW Middle Channel								
1880.000	H	85.09	13.5	8.4	1.4	20.5	33.00	12.5
1880.000	V	85.44	14	8.4	1.4	21.0	33.00	12.0
QPSK 15M BW Middle Channel								
1880.000	H	83.86	12.3	8.4	1.4	19.3	33.00	13.7
1880.000	V	84.59	13.1	8.4	1.4	20.1	33.00	12.9
QPSK 20M BW Middle Channel								
1880.000	H	83.34	11.7	8.4	1.4	18.7	33.00	14.3
1880.000	V	83.83	12.4	8.4	1.4	19.4	33.00	13.6
16-QAM 1.4M BW Middle Channel								
1880.000	H	88.17	16.6	8.4	1.4	23.6	33.00	9.4
1880.000	V	88.83	17.4	8.4	1.4	24.4	33.00	8.6
16-QAM 3M BW Middle Channel								
1880.000	H	86.76	15.2	8.4	1.4	22.2	33.00	10.8
1880.000	V	87.64	16.2	8.4	1.4	23.2	33.00	9.8
16-QAM 5M BW Middle Channel								
1880.000	H	85.54	13.9	8.4	1.4	20.9	33.00	12.1
1880.000	V	86.32	14.9	8.4	1.4	21.9	33.00	11.1
16-QAM 10M BW Middle Channel								
1880.000	H	84.31	12.7	8.4	1.4	19.7	33.00	13.3
1880.000	V	85.10	13.6	8.4	1.4	20.6	33.00	12.4
16-QAM 15M BW Middle Channel								
1880.000	H	83.22	11.6	8.4	1.4	18.6	33.00	14.4
1880.000	V	83.96	12.5	8.4	1.4	19.5	33.00	13.5
16-QAM 20M BW Middle Channel								
1880.000	H	82.41	10.8	8.4	1.4	17.8	33.00	15.2
1880.000	V	83.28	11.8	8.4	1.4	18.8	33.00	14.2

LTE Band 4

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)			
QPSK 1.4M BW Middle Channel								
1732.500	H	87.05	14	10.9	1.5	23.4	33.0	9.6
1732.500	V	81.58	8.3	10.9	1.5	17.7	33.0	15.3
QPSK 3M BW Middle Channel								
1732.500	H	86.85	13.8	10.9	1.5	23.2	33.0	9.8
1732.500	V	80.51	7.2	10.9	1.5	16.6	33.0	16.4
QPSK 5M BW Middle Channel								
1732.500	H	86.63	13.6	10.9	1.5	23.0	33.0	10.0
1732.500	V	79.67	6.3	10.9	1.5	15.7	33.0	17.3
QPSK 10M BW Middle Channel								
1732.500	H	86.26	13.3	10.9	1.5	22.7	33.0	10.3
1732.500	V	78.73	5.4	10.9	1.5	14.8	33.0	18.2
QPSK 15M BW Middle Channel								
1732.500	H	85.88	12.9	10.9	1.5	22.3	33.0	10.7
1732.500	V	78.34	5	10.9	1.5	14.4	33.0	18.6
QPSK 20M BW Middle Channel								
1732.500	H	85.37	12.4	10.9	1.5	21.8	33.0	11.2
1732.500	V	78.07	4.7	10.9	1.5	14.1	33.0	18.9
16-QAM 1.4M BW Middle Channel								
1732.500	H	87.23	14.2	10.9	1.5	23.6	33.0	9.4
1732.500	V	81.78	8.5	10.9	1.5	17.9	33.0	15.1
16-QAM 3M BW Middle Channel								
1732.500	H	87.02	14	10.9	1.5	23.4	33.0	9.6
1732.500	V	80.52	7.2	10.9	1.5	16.6	33.0	16.4
16-QAM 5M BW Middle Channel								
1732.500	H	86.85	13.8	10.9	1.5	23.2	33.0	9.8
1732.500	V	79.23	5.9	10.9	1.5	15.3	33.0	17.7
16-QAM 10M BW Middle Channel								
1732.500	H	86.47	13.5	10.9	1.5	22.9	33.0	10.1
1732.500	V	78.04	4.7	10.9	1.5	14.1	33.0	18.9
16-QAM 15M BW Middle Channel								
1732.500	H	85.29	12.3	10.9	1.5	21.7	33.0	11.3
1732.500	V	77.67	4.3	10.9	1.5	13.7	33.0	19.3
16-QAM 20M BW Middle Channel								
1732.500	H	84.62	11.6	10.9	1.5	21.0	33.0	12.0
1732.500	V	77.55	4.2	10.9	1.5	13.6	33.0	19.4

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

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

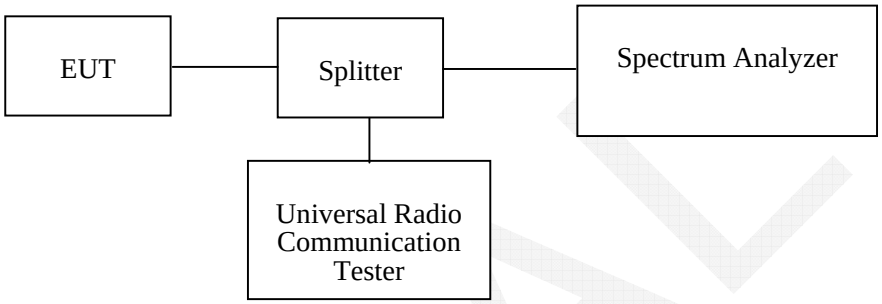
Applicable Standard

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	Universal Radio Communication Tester	CMU200	109038	2015-05-09	2016-05-09
R&S	Wideband Radio Communication Tester	CMW500	106891	2014-12-19	2015-12-19

*** 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:	26.5~27.3 °C
Relative Humidity:	49~51%
ATM Pressure:	100.8~101.4 kPa

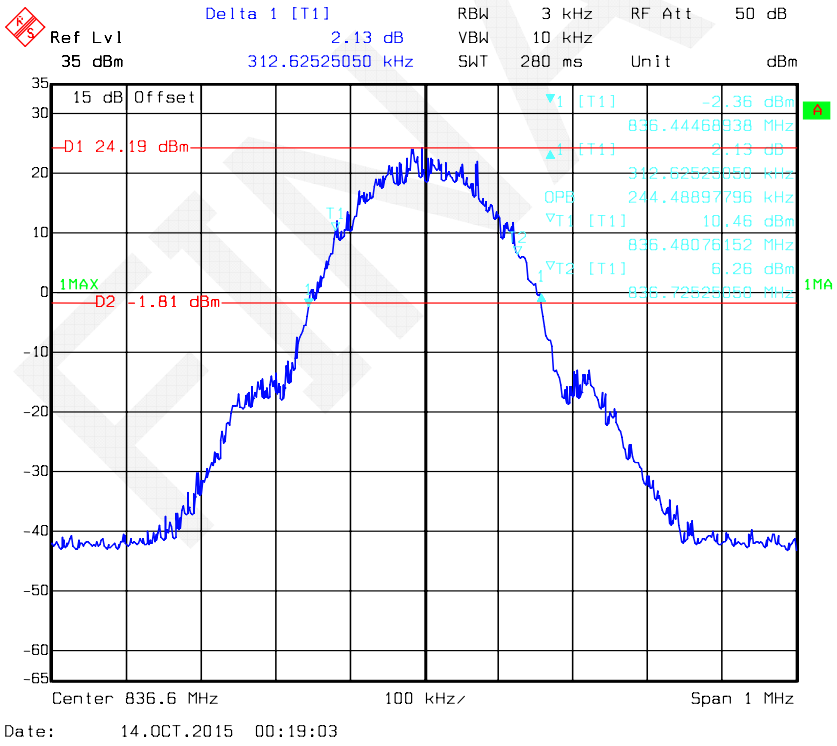
The testing was performed by Dean Liu from 2015-10-13 to 2015-10-23.

Test Mode: Transmitting

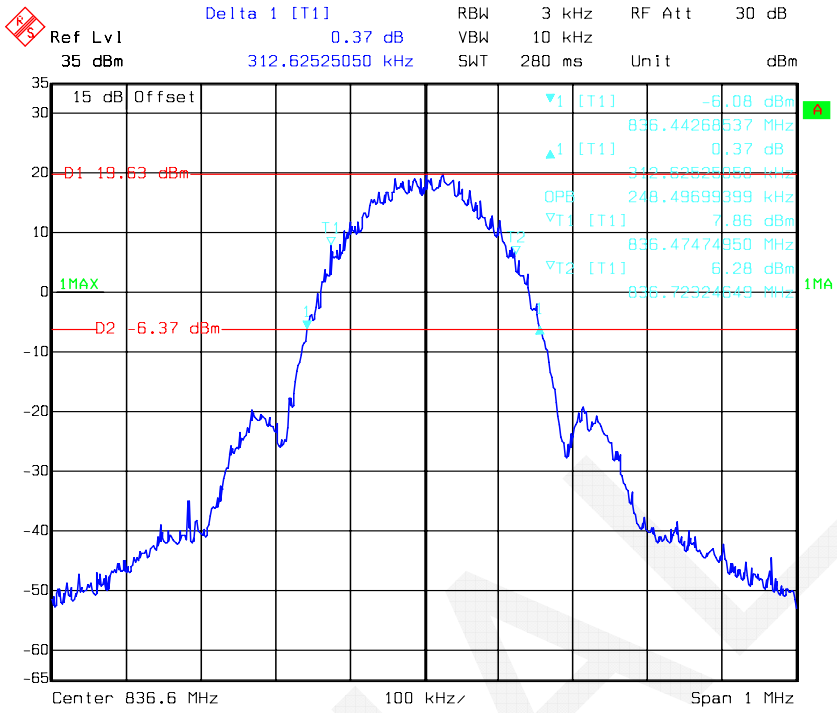
Test Result: Compliance. Please refer to the following table and plots.

Band	Channel No.	Mode	99% Occupied Bandwidth (kHz)	26 dB Occupied Bandwidth (kHz)
Cellular	190	GSM	244	313
		EDGE	248	313
PCS	661	PCS	246	319
		EDGE	253	307
WCDMA Band Ⅱ	9400	Rel 99	4188	4709
	9400	HSDPA	4188	4709
	9400	HSUPA	4188	4709
WCDMA Band V	4183	Rel 99	4168	4709
	4183	HSDPA	4188	4689
	4183	HSUPA	4188	4709

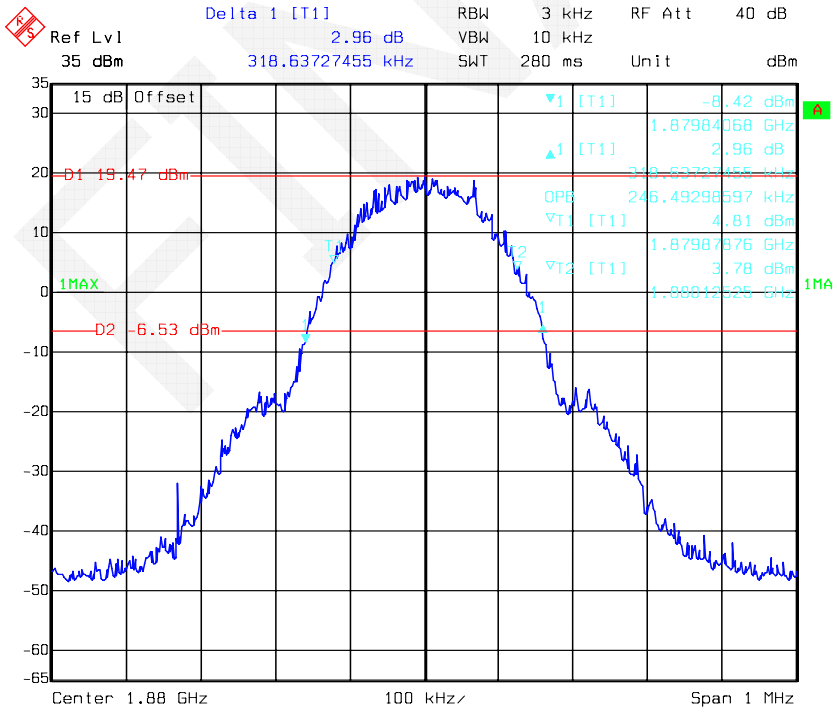
GMSK 850 Cellular Band



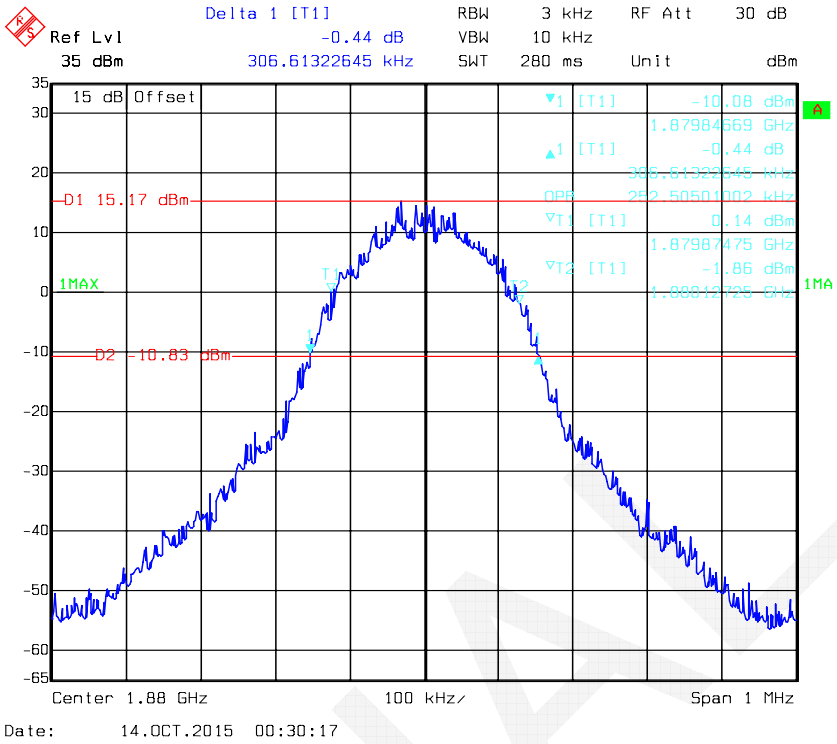
EDGE 850 Cellular Band



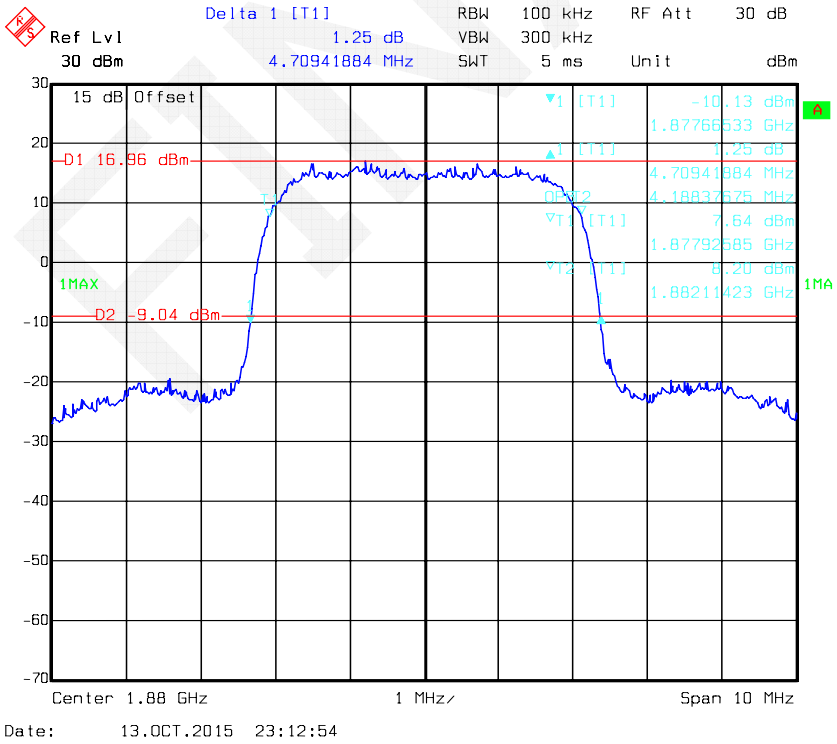
GMSK PCS Band



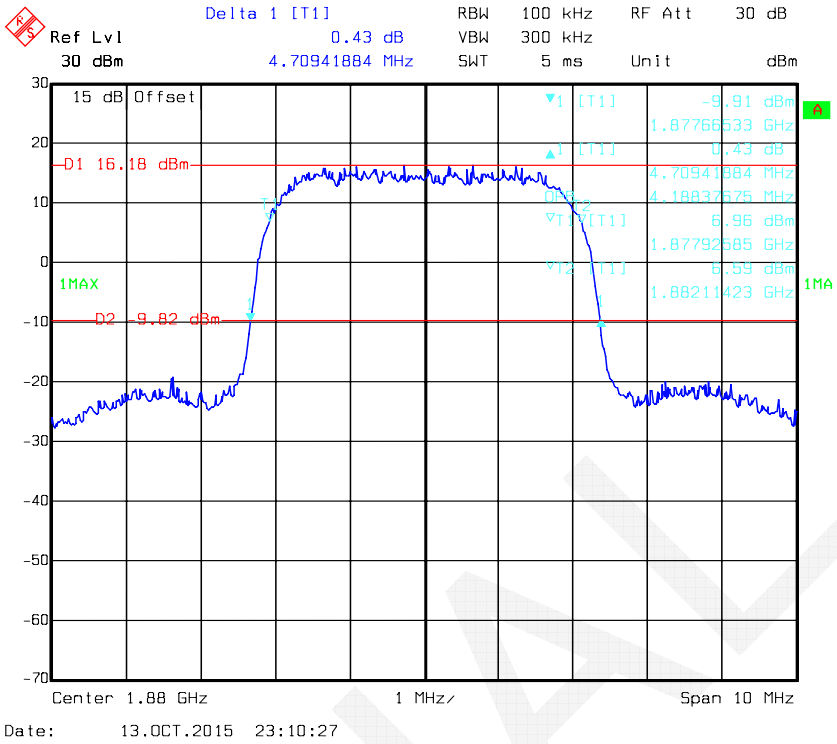
EDGE PCS Band



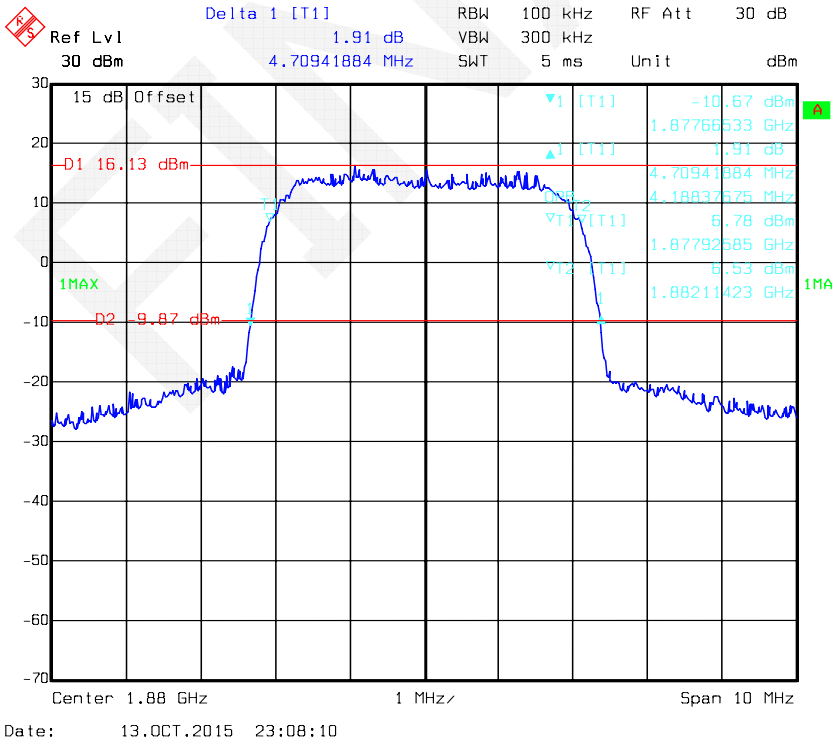
REL99 Band II



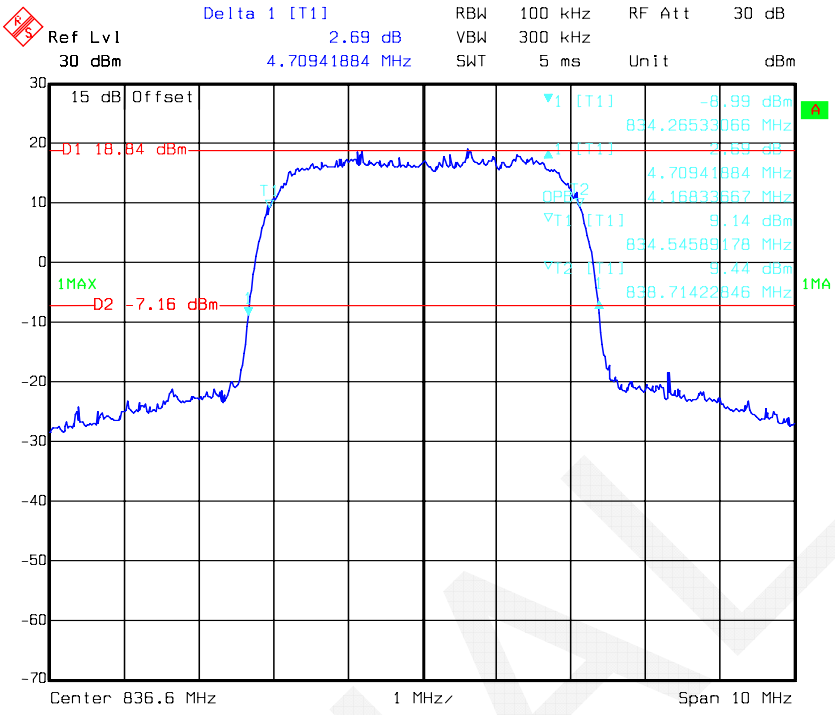
HSDPA Band II



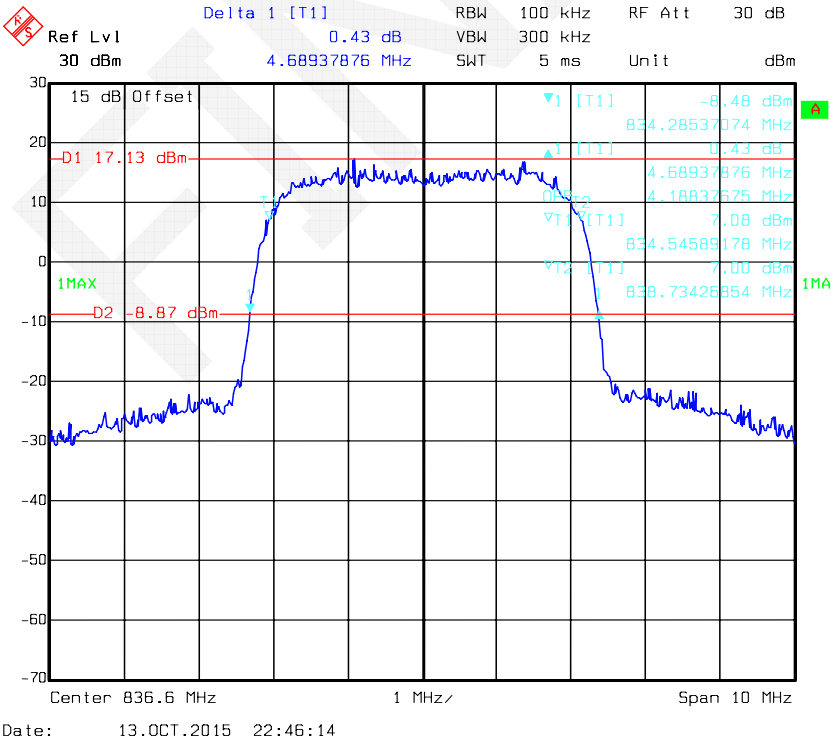
HSUPA Band II



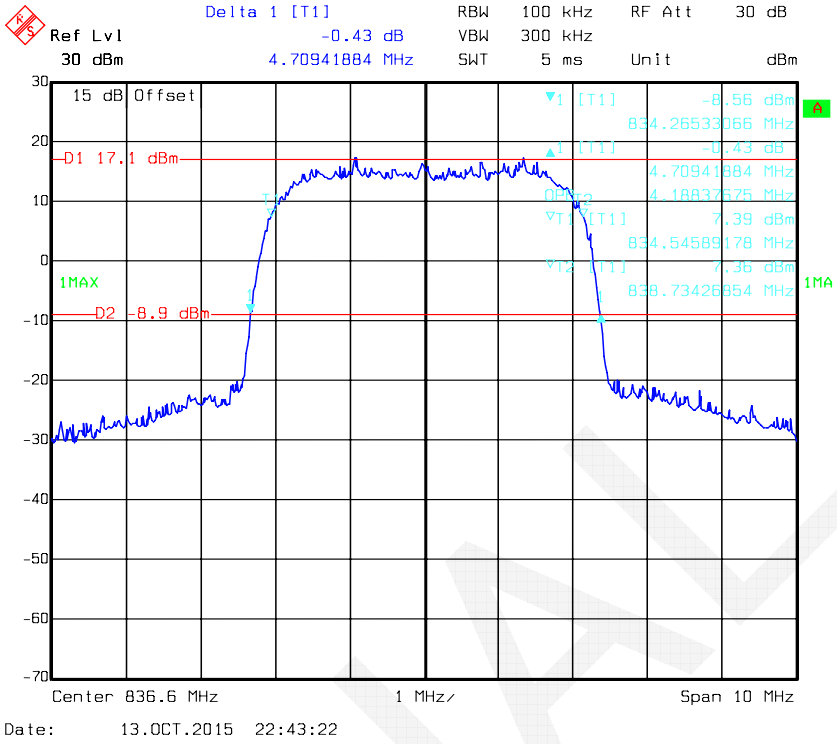
REL99 Band V



HSDPA Band V

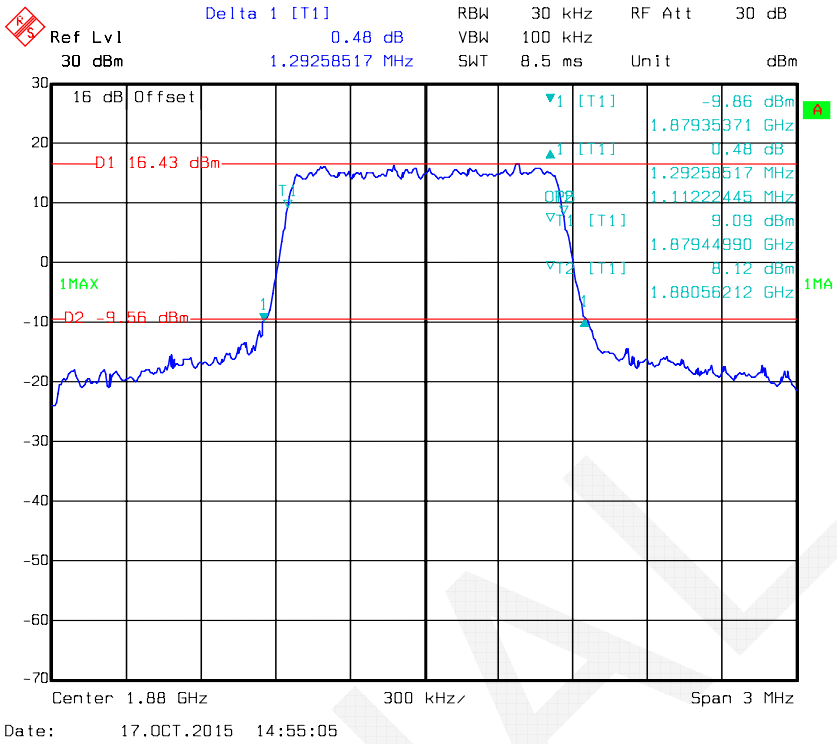


HSUPA Band V

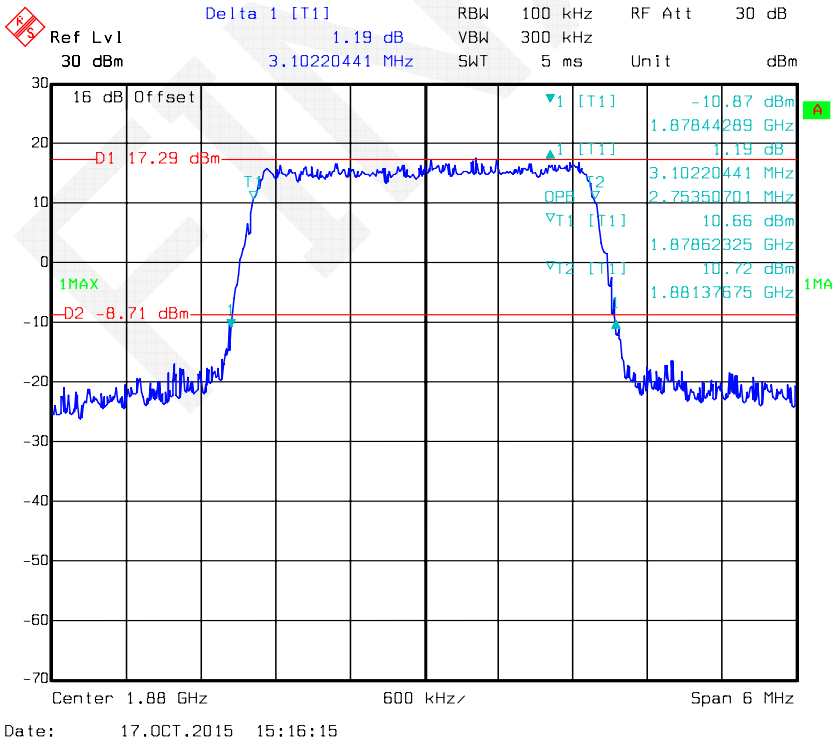

Delta 1 [T1]
-0.43 dB
4.70941884 MHz
RBW 100 kHz
VBW 300 kHz
SWT 5 ms
RF Att 30 dB
Unit dBm
Ref Lvl
30 dBm
15 dB Offset
D1 17.1 dBm
D2 -8.9 dBm
1MAX
1MA
-8.56 dBm
834.26533066 MHz
-0.43 dB
4.70941884 MHz
4.18837675 MHz
7.39 dBm
834.54589178 MHz
7.36 dBm
838.73426854 MHz
Center 836.6 MHz
1 MHz/
Span 10 MHz
Date: 13.OCT.2015 22:43:22

LTE Band	Test Modulation	Test Bandwidth	Test Channel	99% Occupied Bandwidth	26 dB Bandwidth
				MHz	MHz
Band 2	QPSK	1.4M	Middle	1.112	1.293
		3M		2.754	3.102
		5M		4.529	5.130
		10M		9.098	10.220
		15M		13.587	15.030
		20M		17.956	19.479
	16-QAM	1.4M	Middle	1.299	1.118
		3M		2.766	3.318
		5M		4.549	5.110
		10M		9.098	10.100
		15M		13.587	15.150
		20M		17.956	19.318
Band 4	QPSK	1.4M	Middle	1.106	1.281
		3M		2.766	3.114
		5M		4.549	5.090
		10M		9.138	10.381
		15M		13.587	15.150
		20M		17.956	19.639
	16-QAM	1.4M	Middle	1.112	1.317
		3M		2.754	3.114
		5M		4.569	5.130
		10M		9.098	10.261
		15M		13.587	15.090
		20M		18.036	19.719

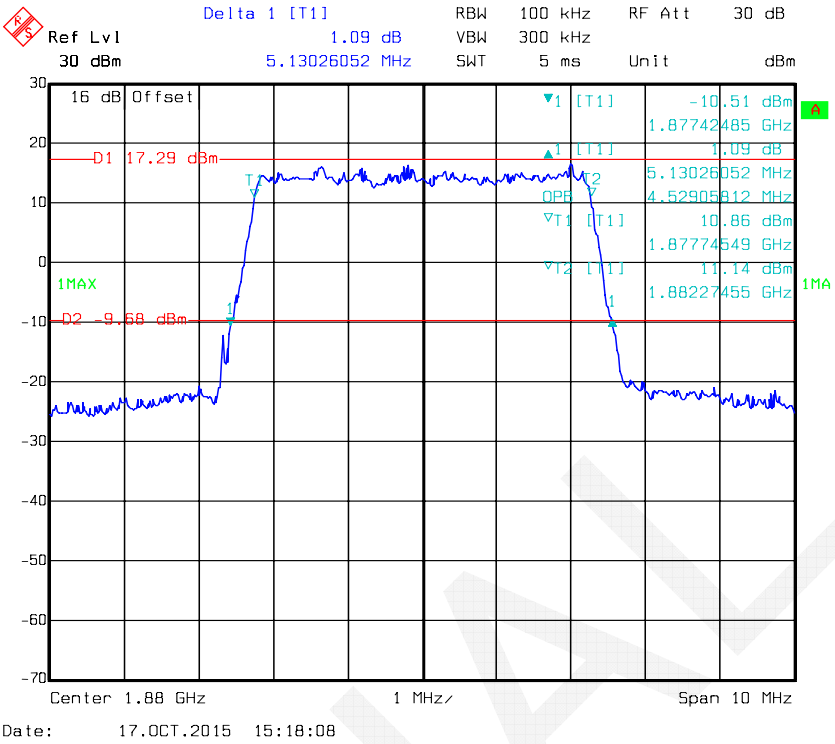
QPSK, Band 2-1.4M



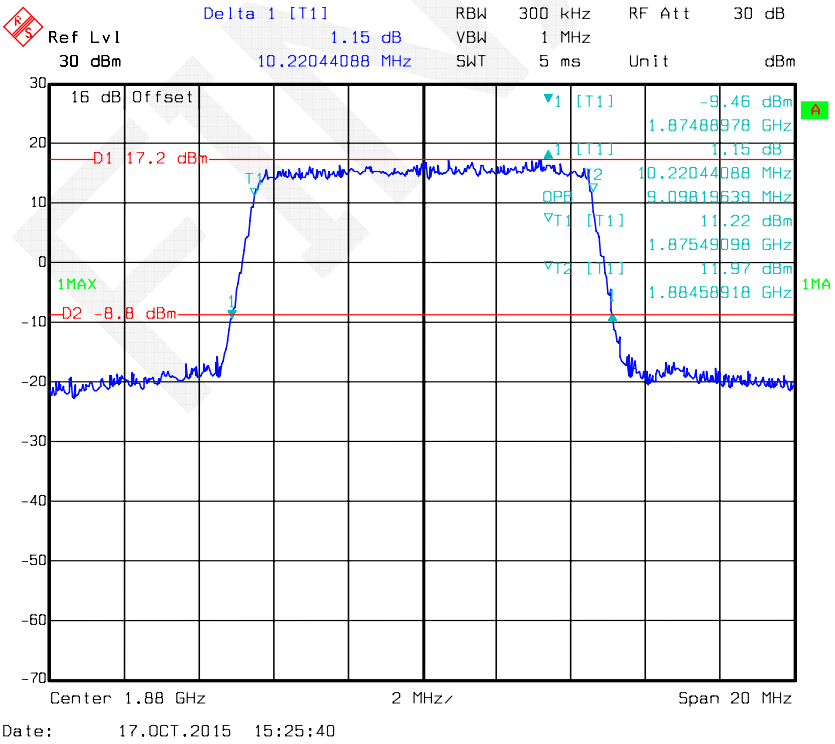
QPSK, Band 2-3M



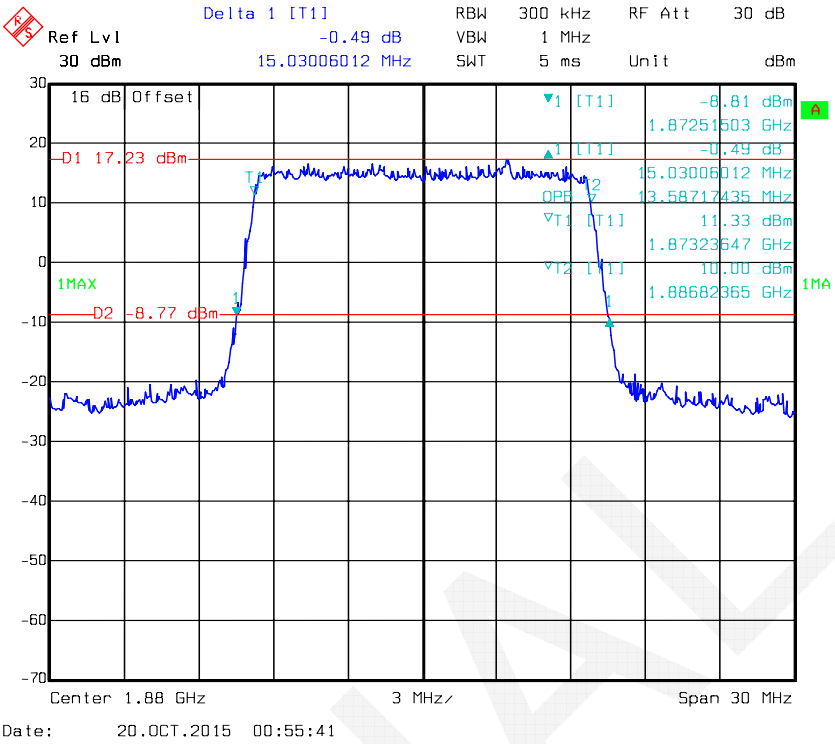
QPSK, Band 2-5M



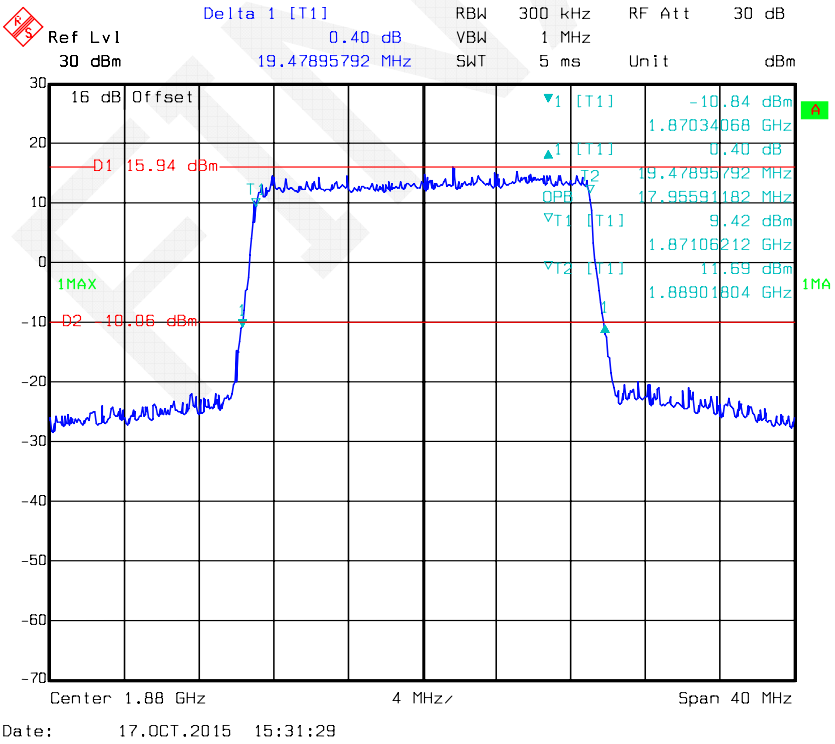
QPSK, Band 2-10M



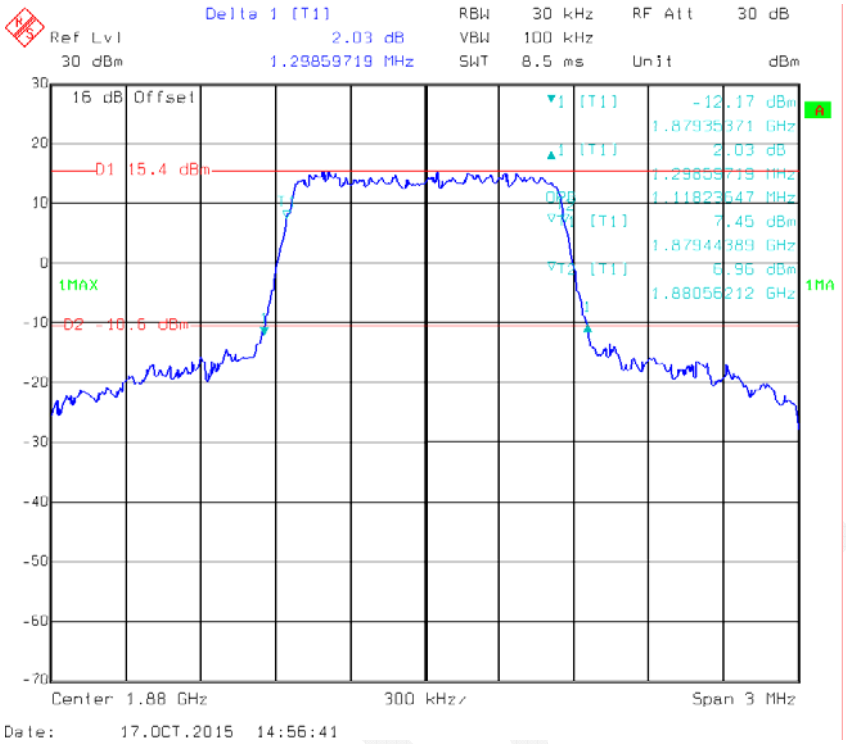
QPSK, Band 2-15M



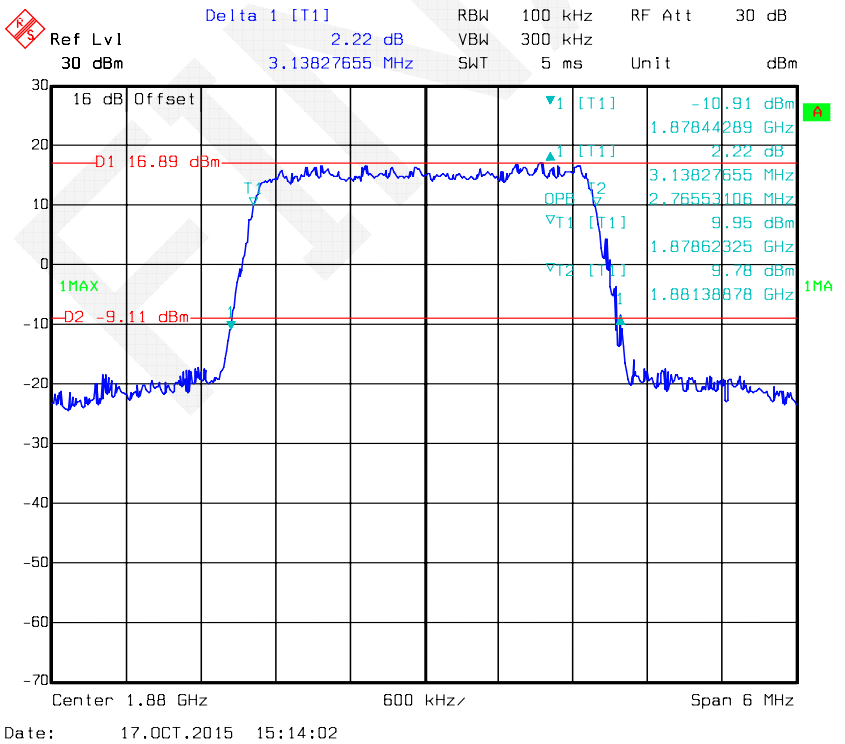
QPSK, Band 2-20M



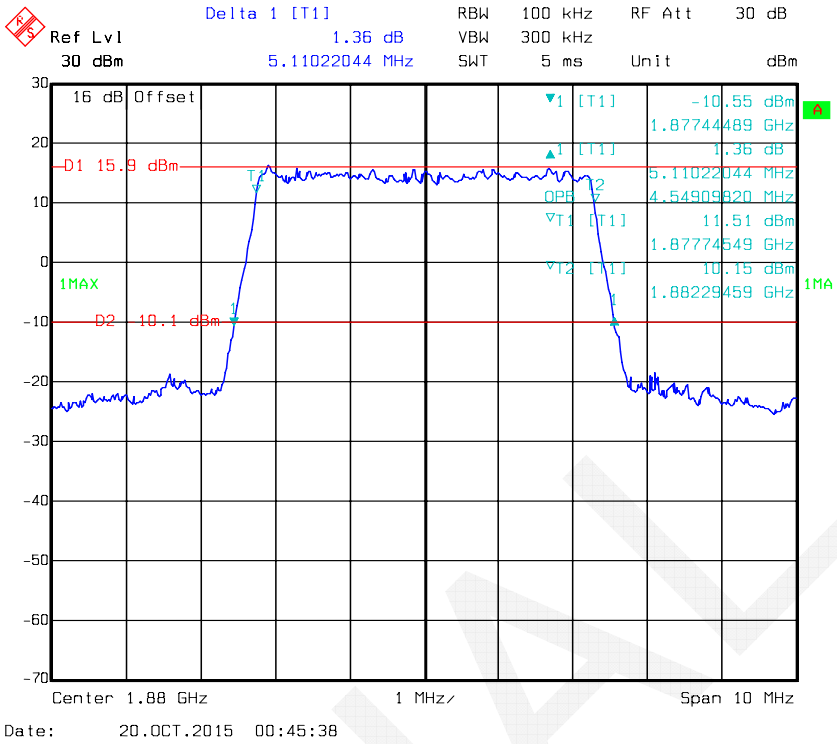
16-QAM, Band 2-1.4M



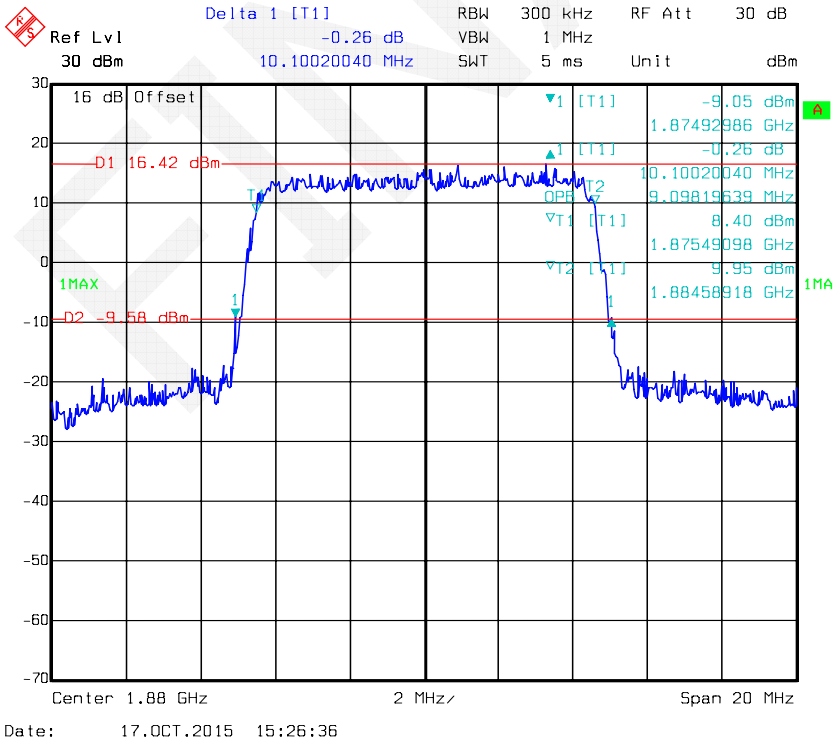
16-QAM, Band 2-3M



16-QAM, Band 2-5M



16-QAM, Band 2-10M



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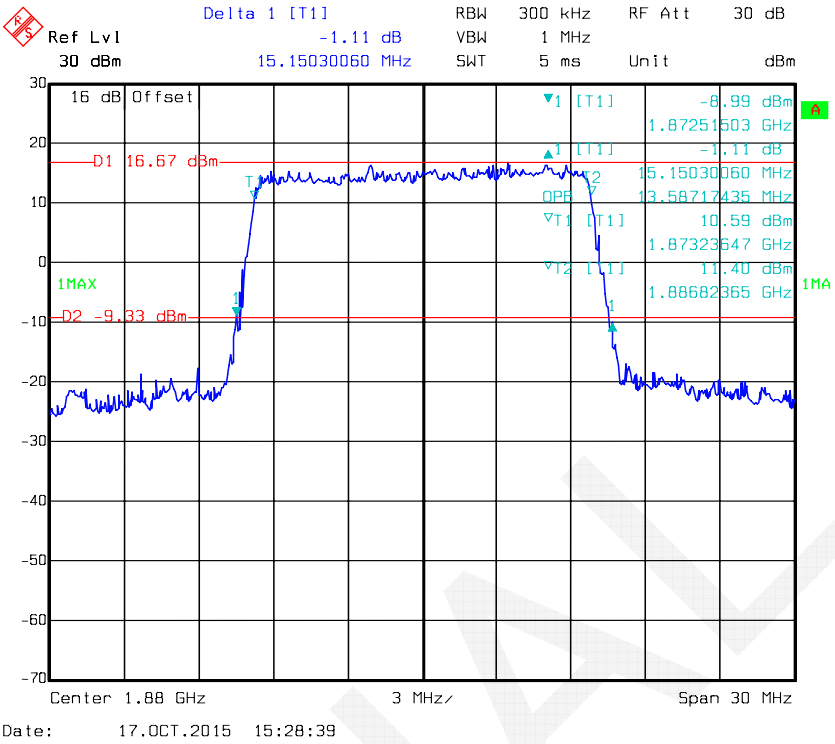

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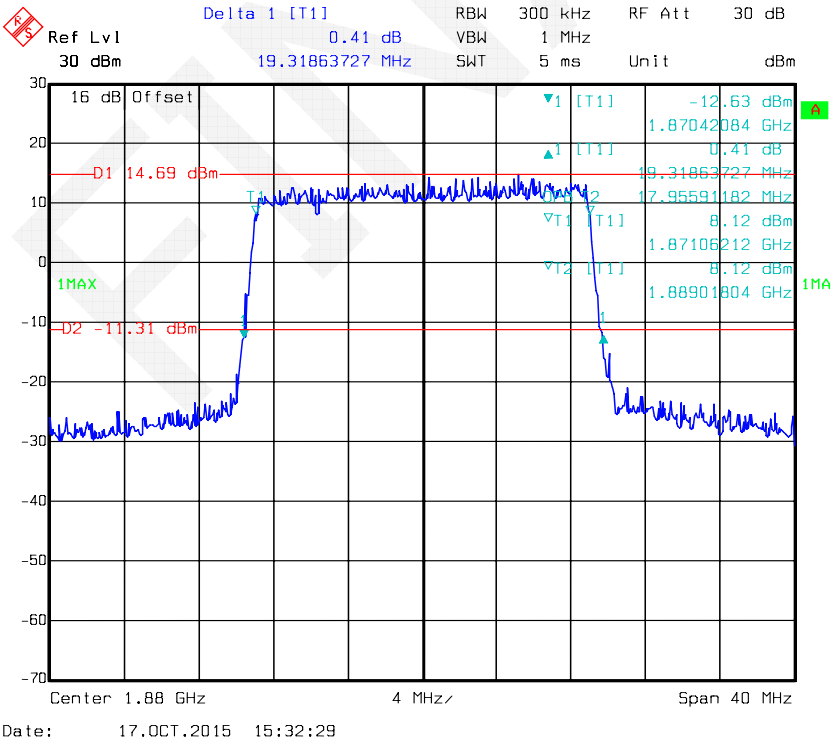
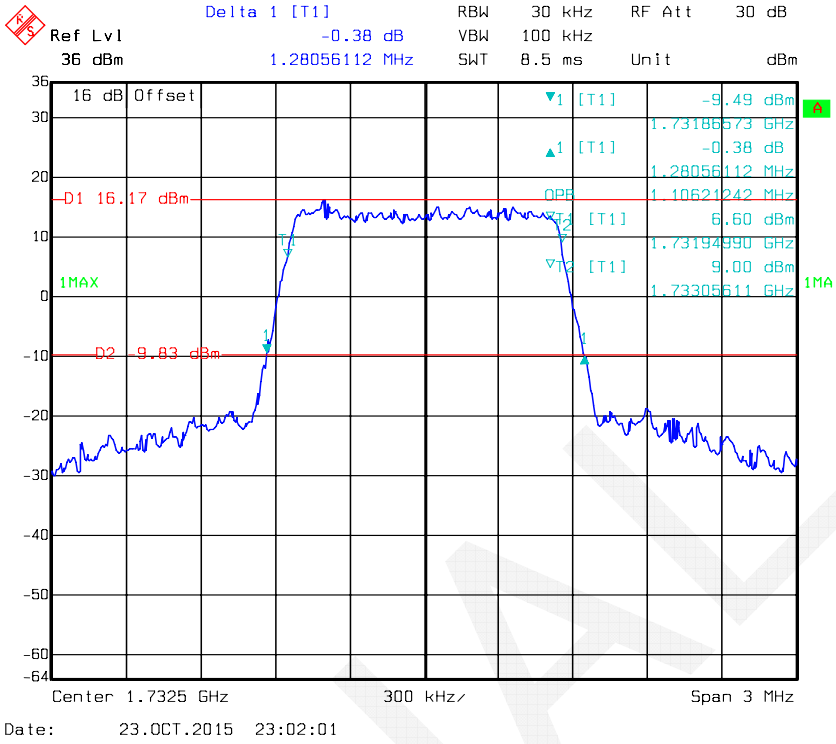
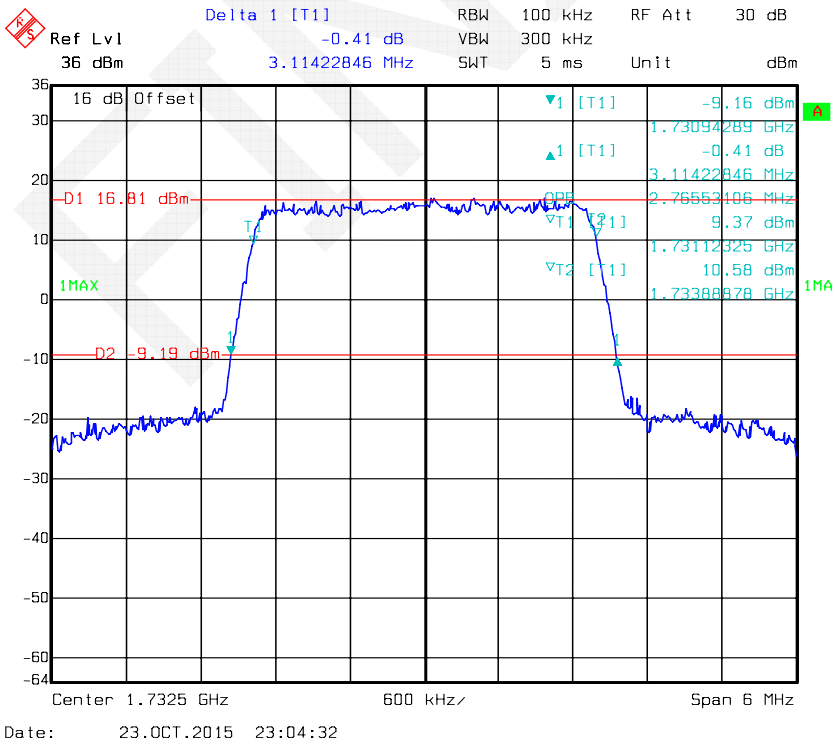


LTE band 4

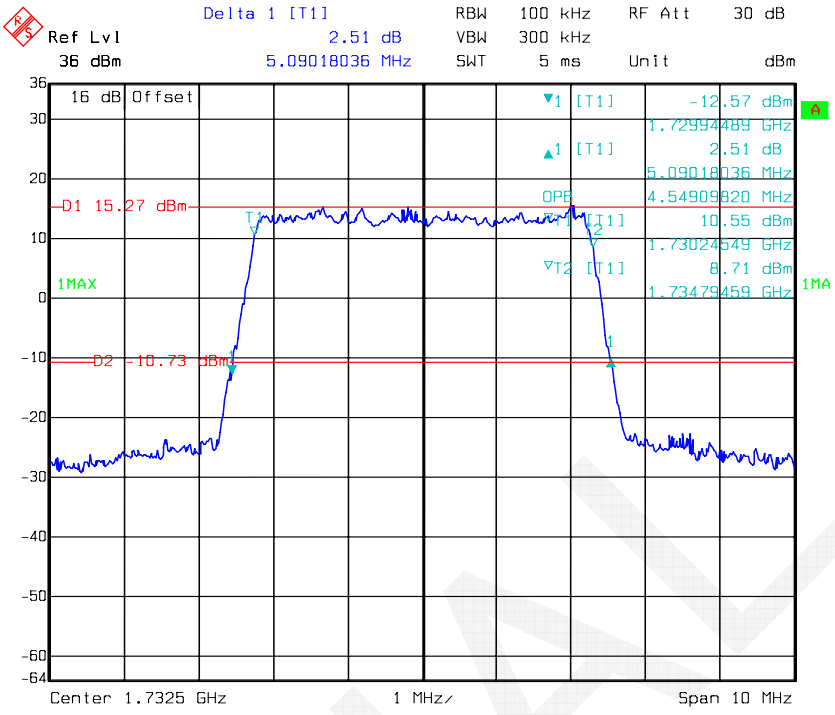
QPSK, Band 4-1.4M



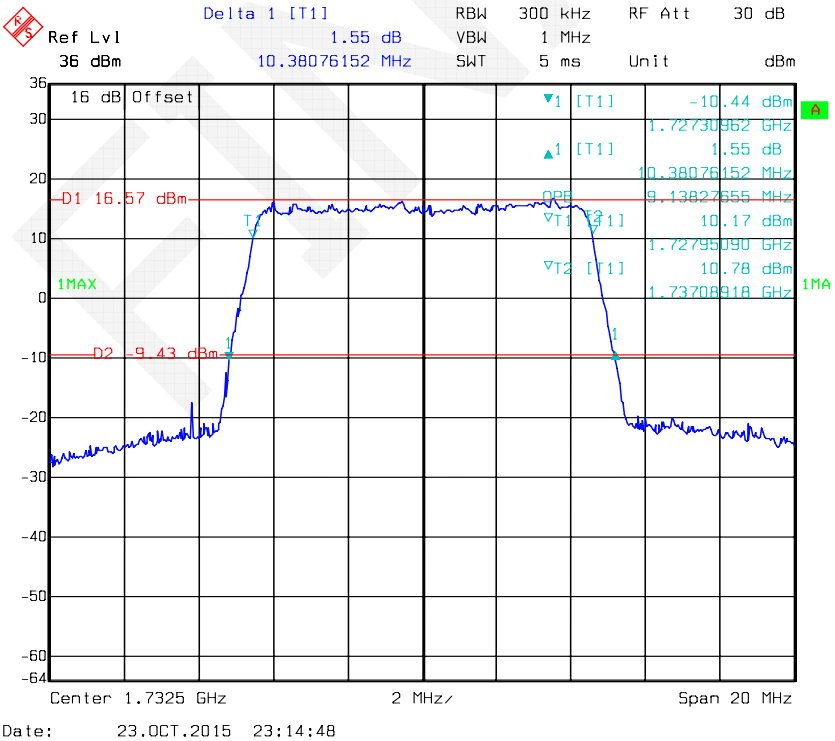
QPSK, Band 4-3M



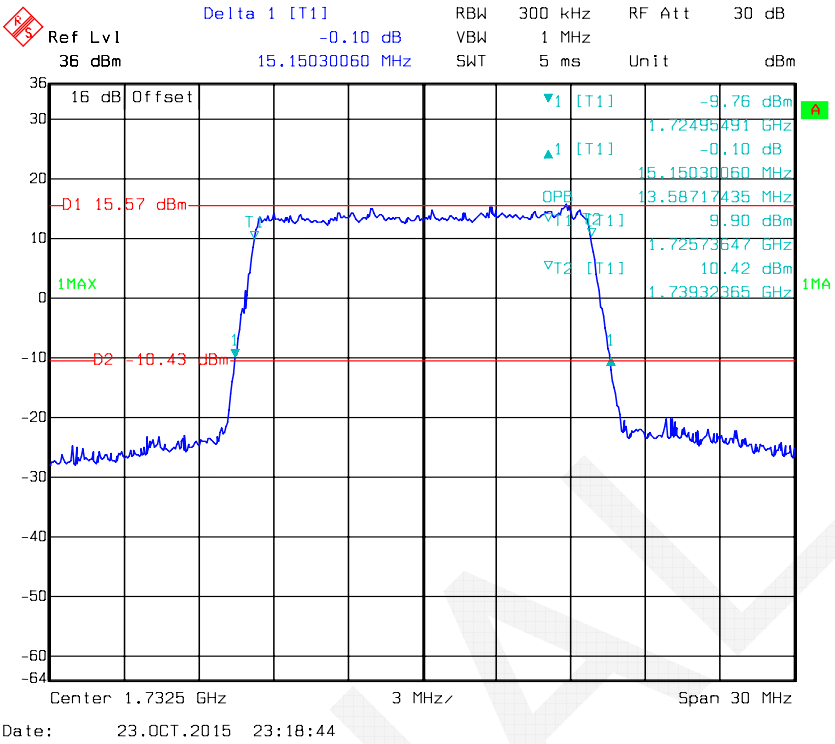
QPSK, Band 4-5M



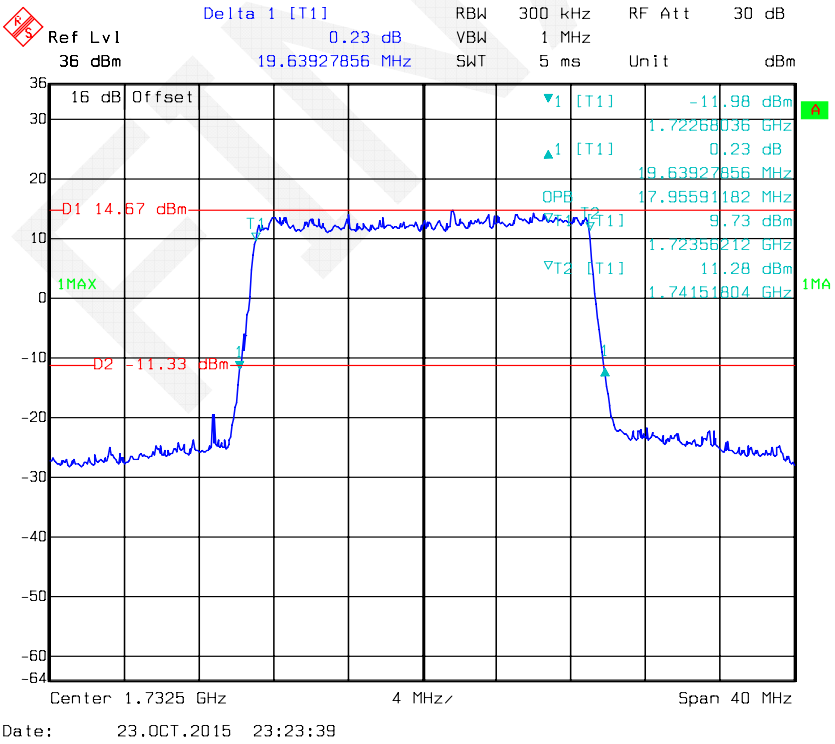
QPSK, Band 4-10M



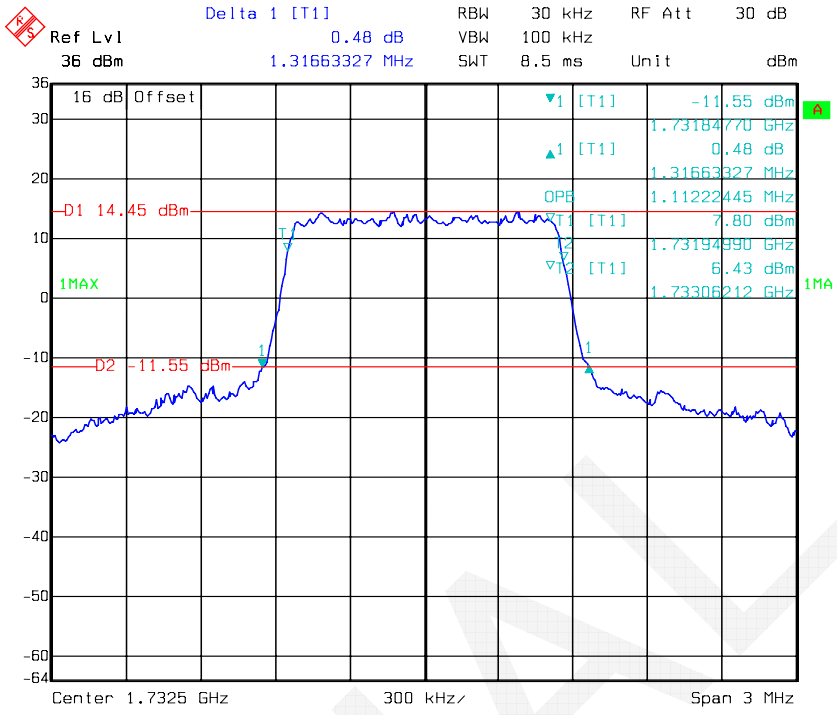
QPSK, Band 4-15M



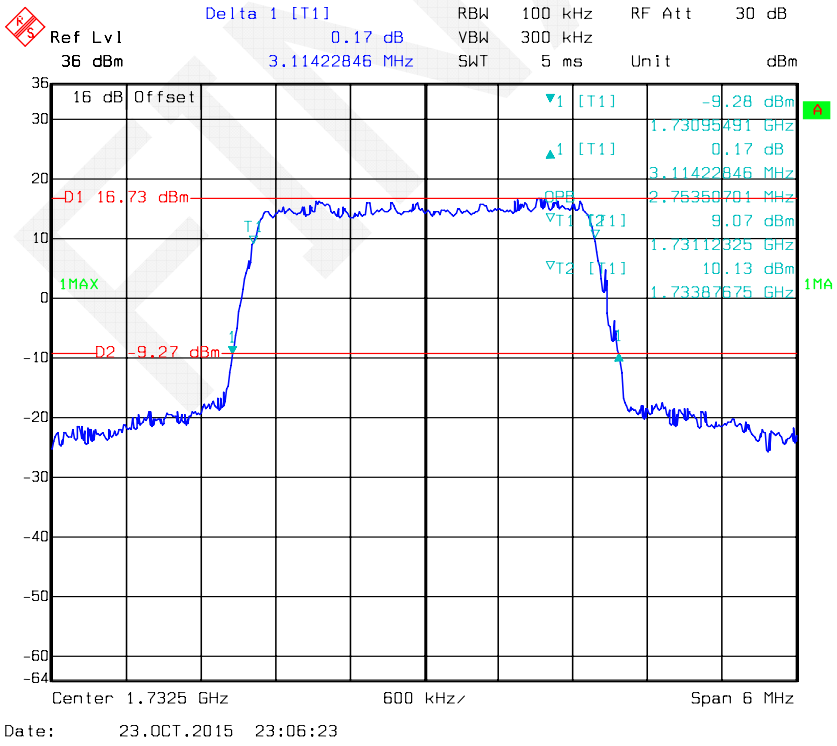
QPSK, Band 4-20M



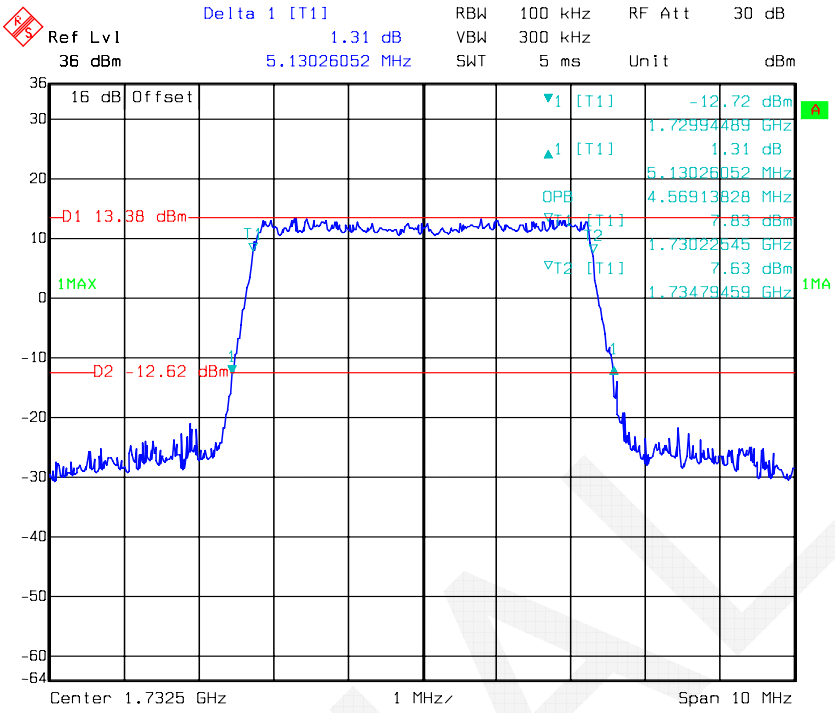
16-QAM, Band 4-1.4M



16-QAM, Band 4-3M



16-QAM, Band 4-5M



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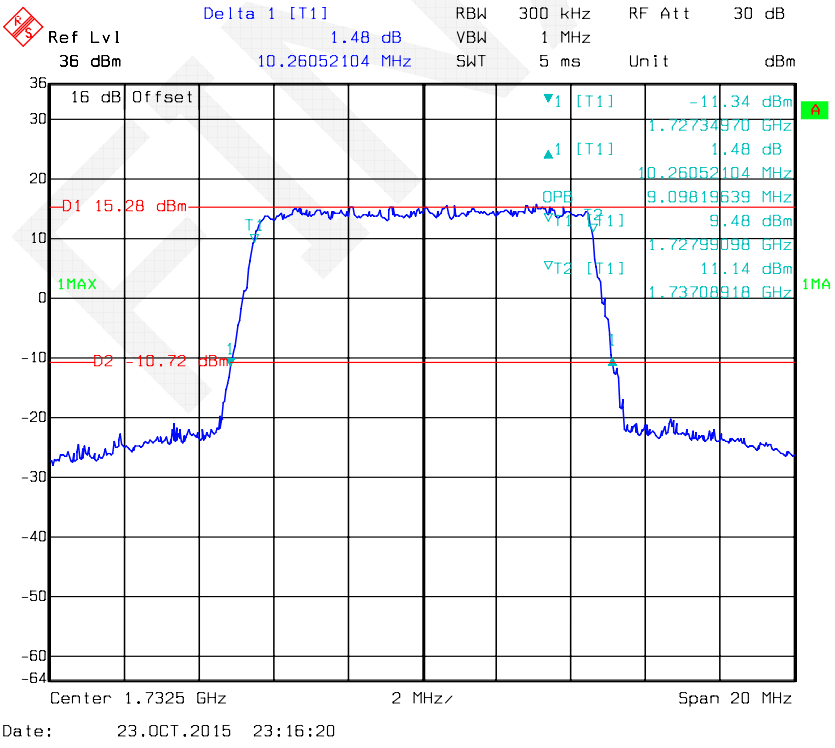

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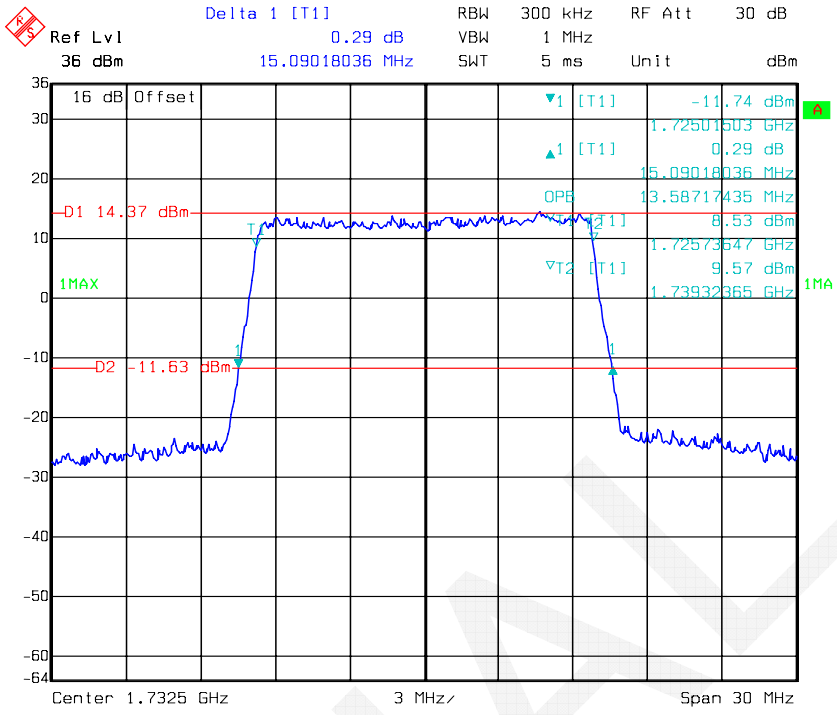
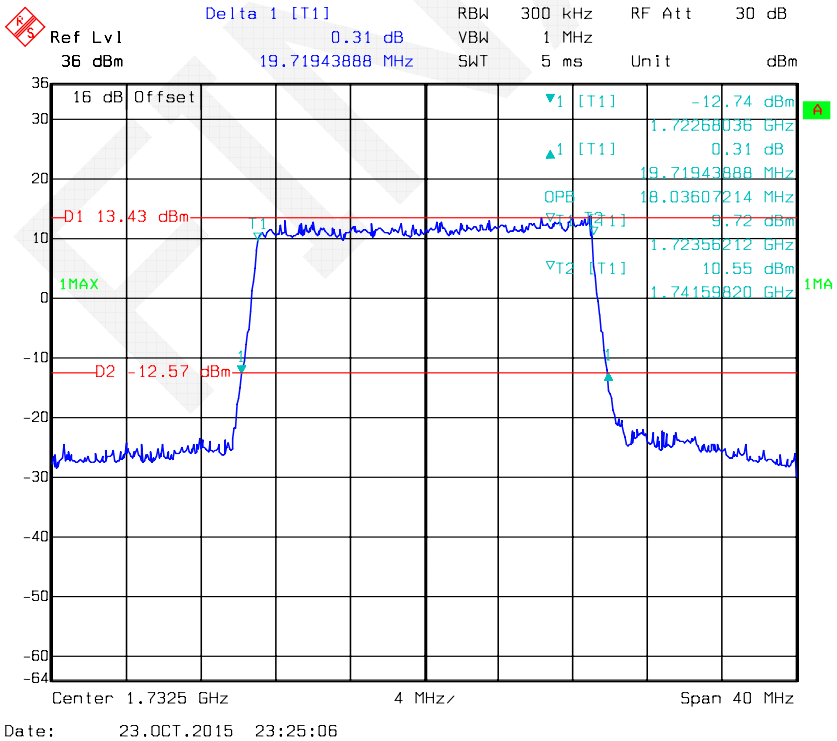


16-QAM, Band 4-20M



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

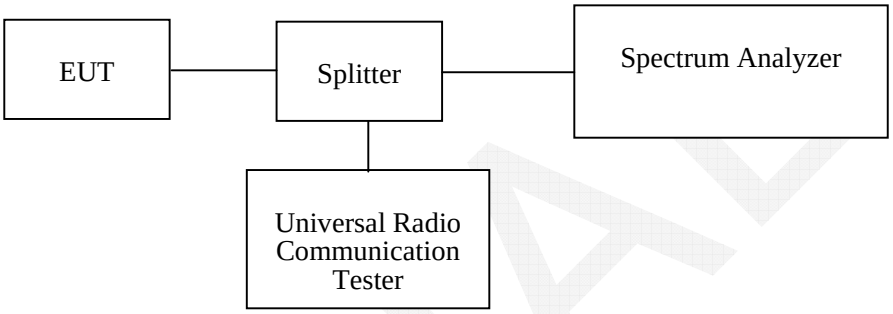
Applicable Standard

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	Universal Radio Communication Tester	CMU200	109038	2015-05-09	2016-05-09
R&S	Wideband Radio Communication Tester	CMW500	106891	2014-12-19	2015-12-19

*** 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

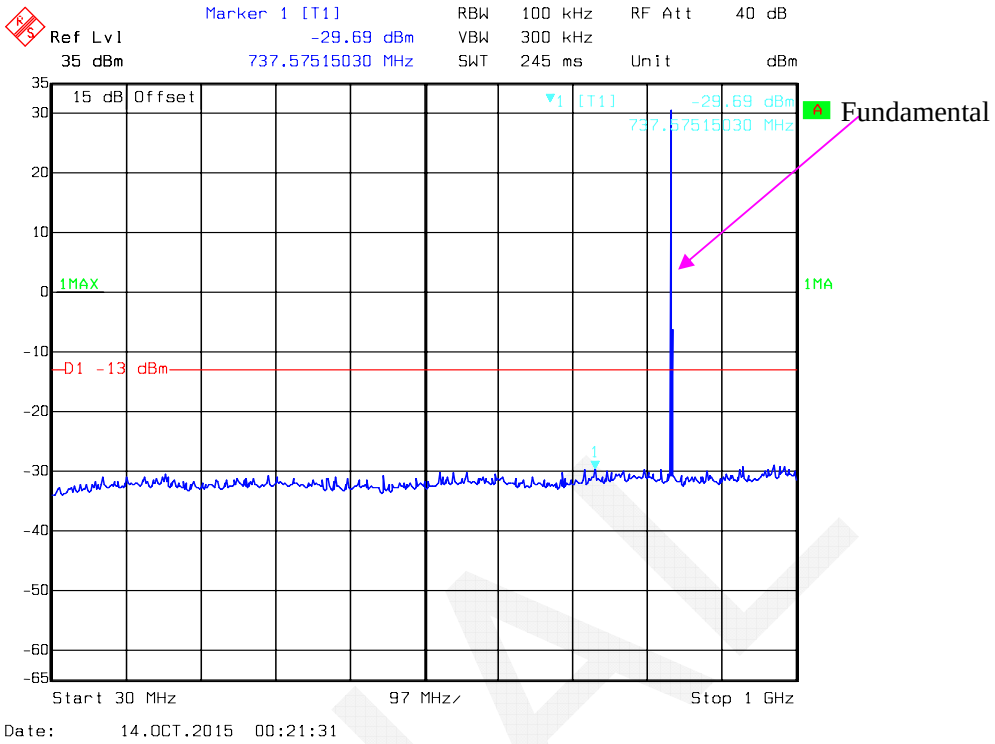
Environmental Conditions

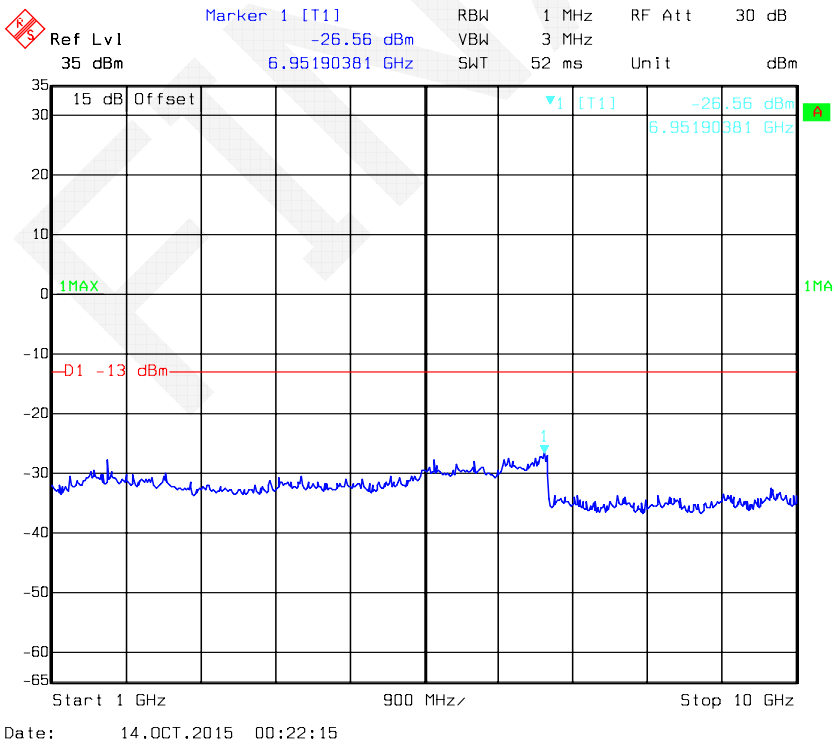
Temperature:	26.8~27.5 °C
Relative Humidity:	51~56 %
ATM Pressure:	100.8~101.4 kPa

The testing was performed by Dean Liu from 201510-13 to 2015-10-24.

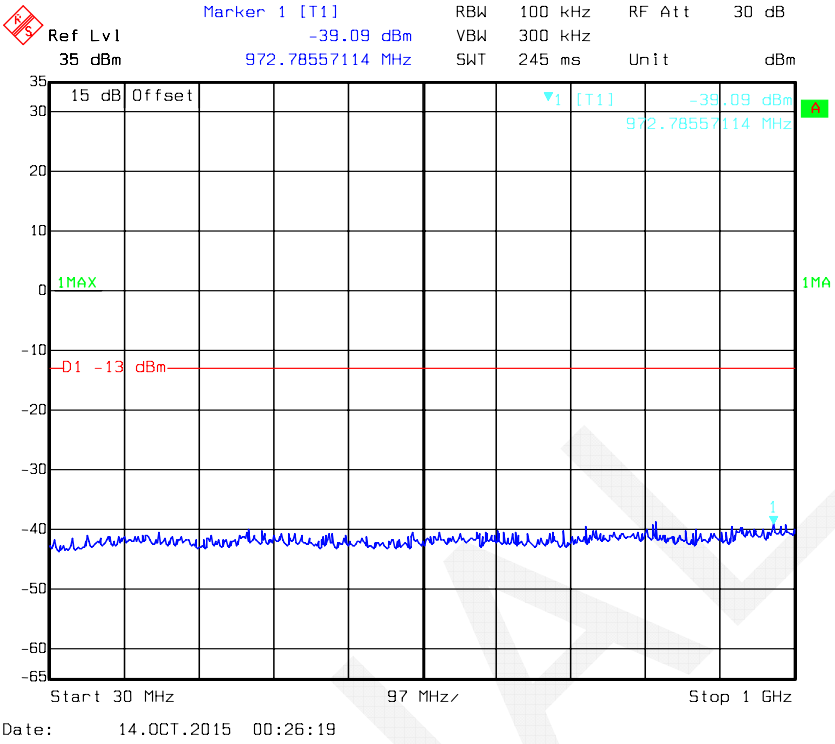
Please refer to the following plots.

GSM850_Middle Channel

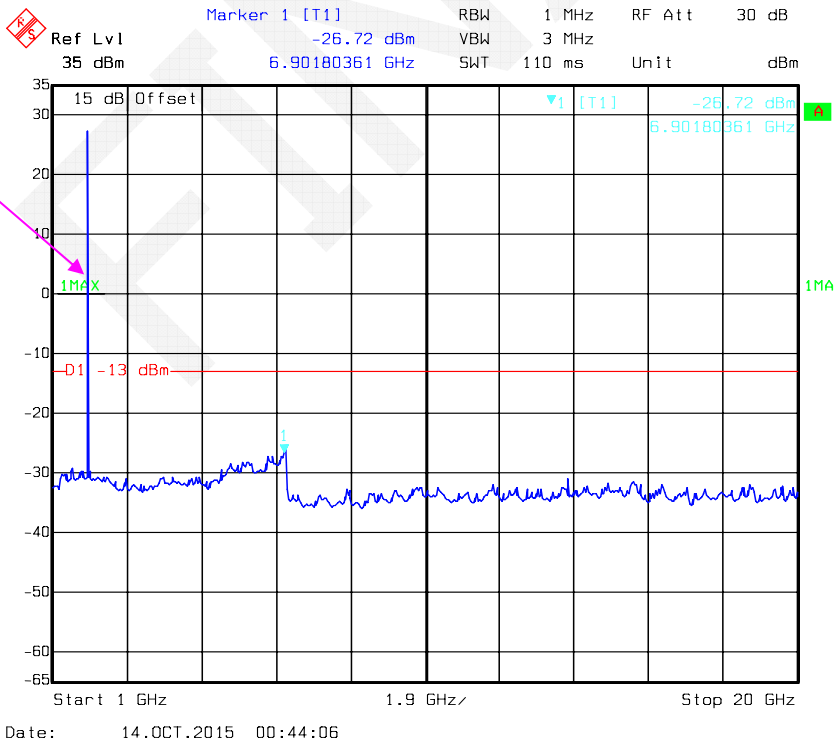




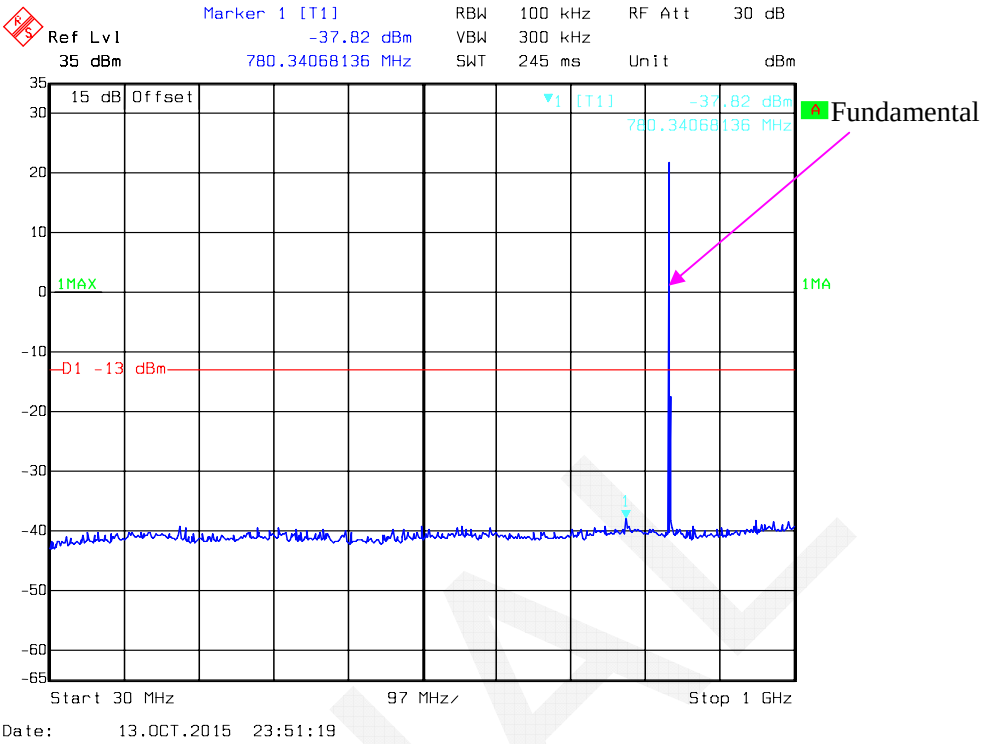
PCS 1900_ Middle Channel

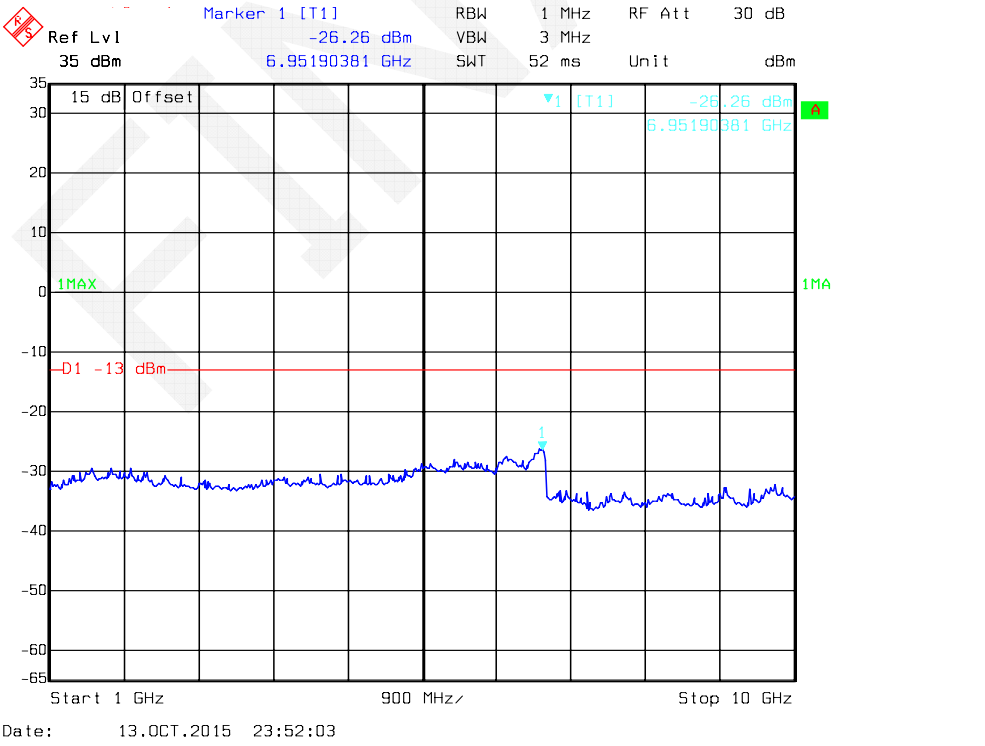


Fundamental

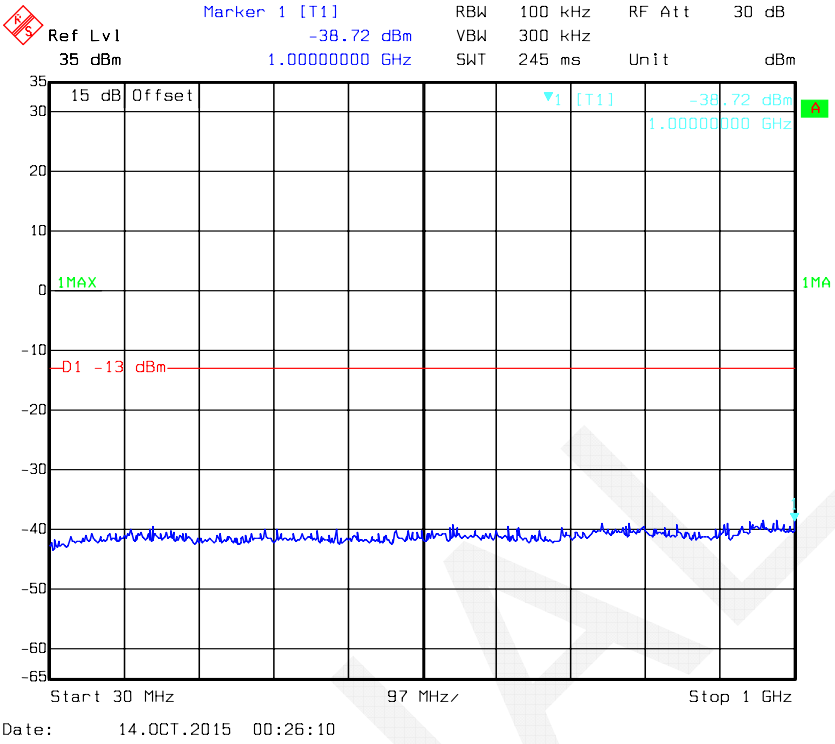


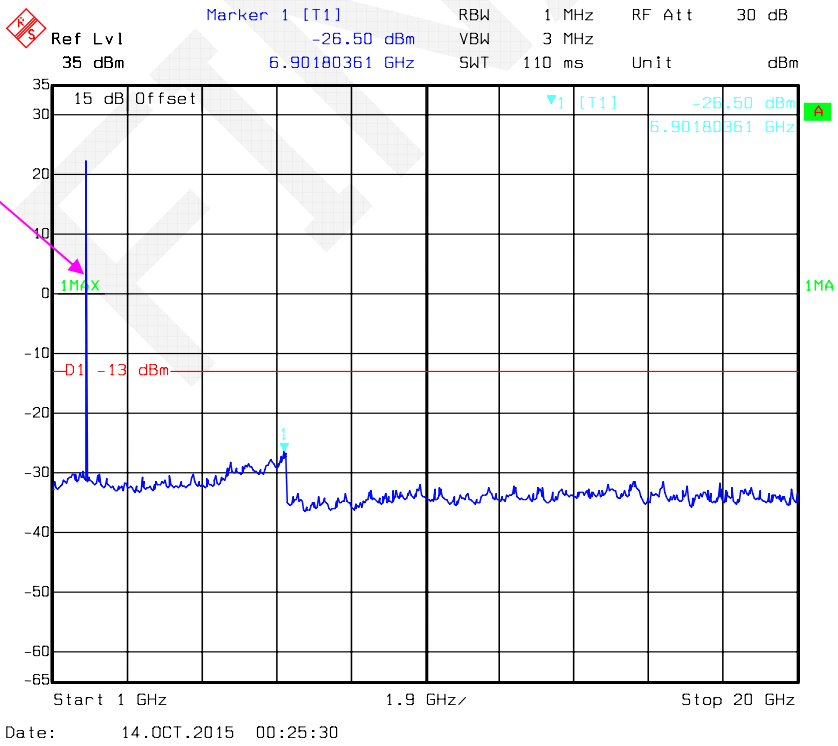
EDGE850_Middle Channel





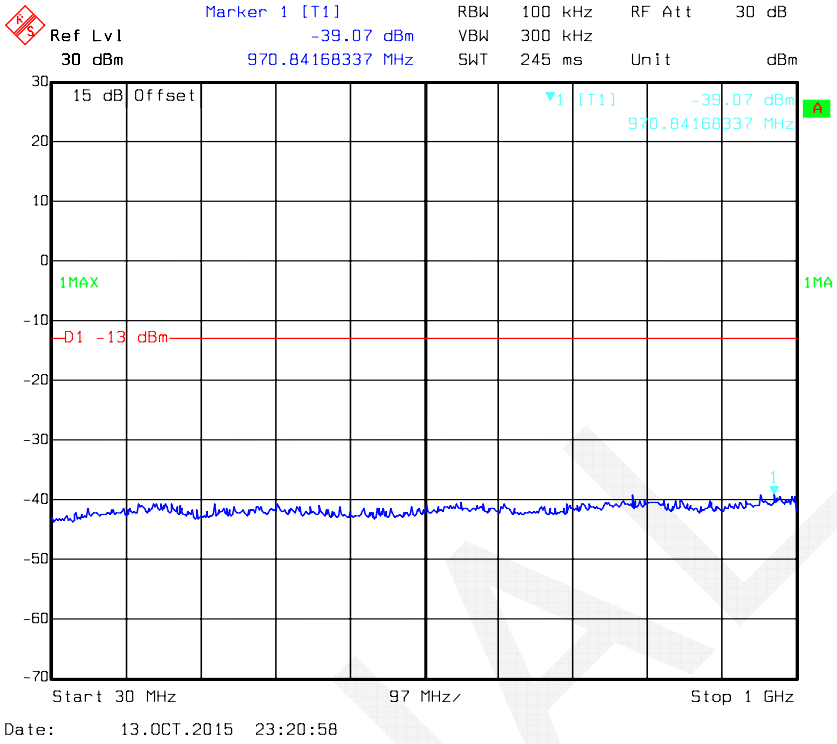
EDGE1900_ Middle Channel



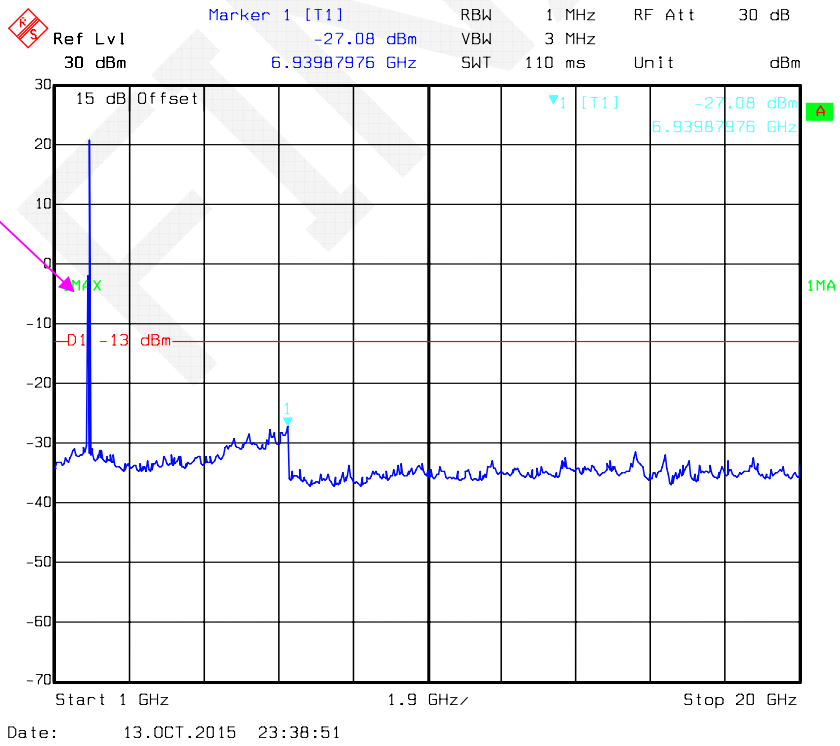


Fundamental

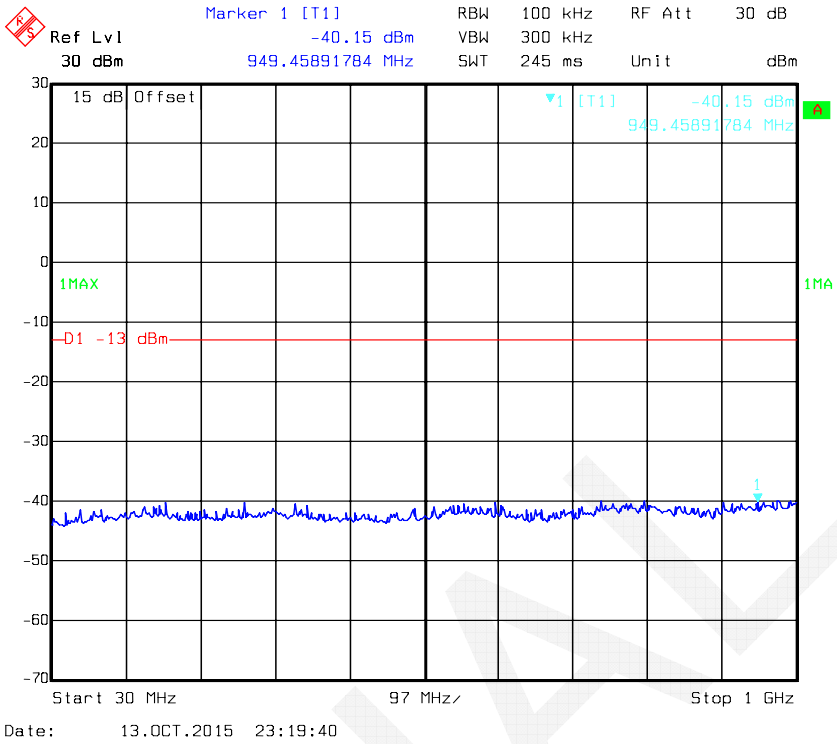
REL99 Band II_ Middle Channel

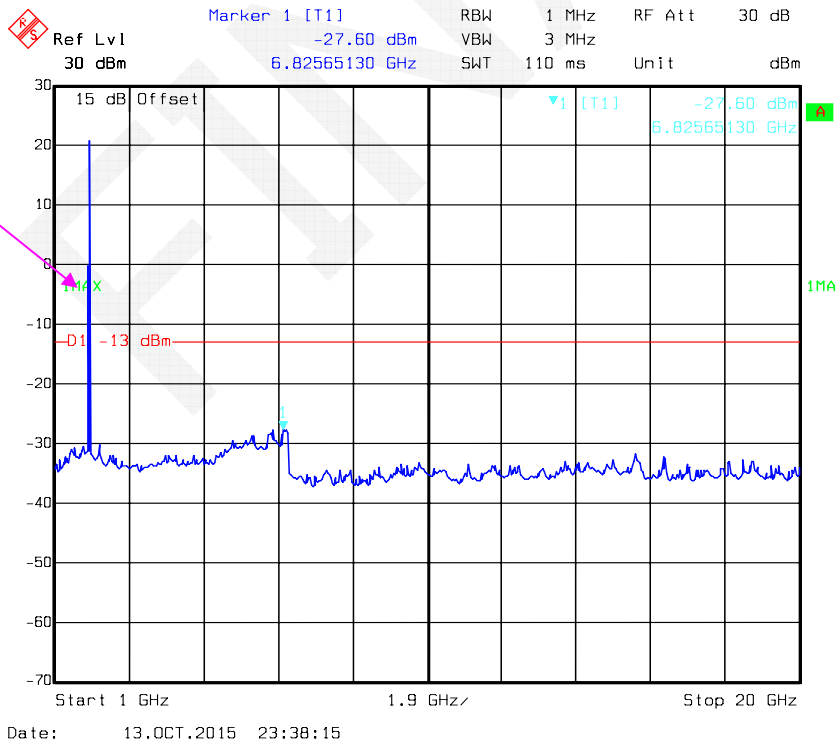


Fundamental



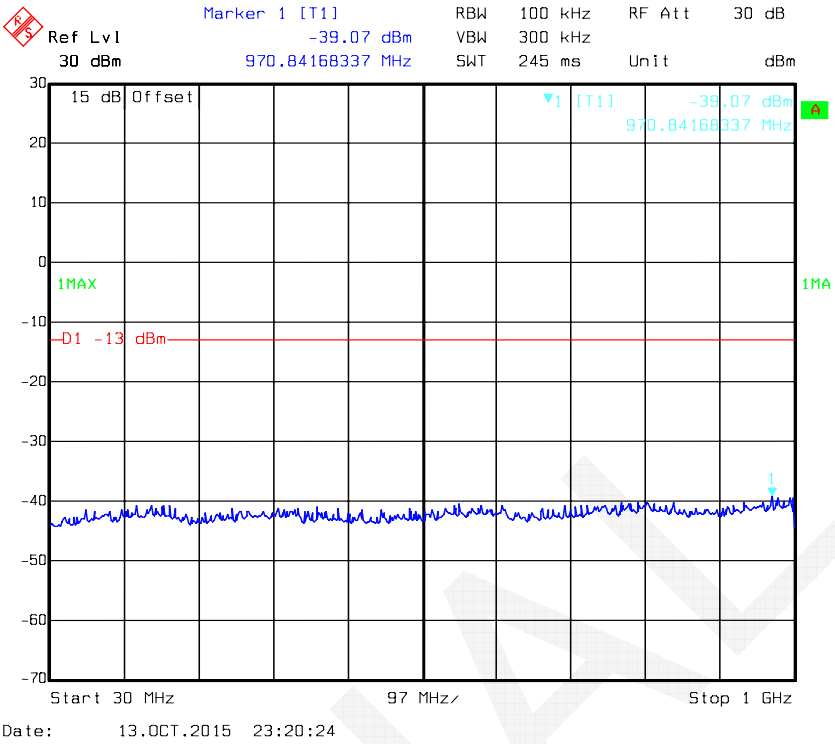
HSDPA Band II _Middle Channel

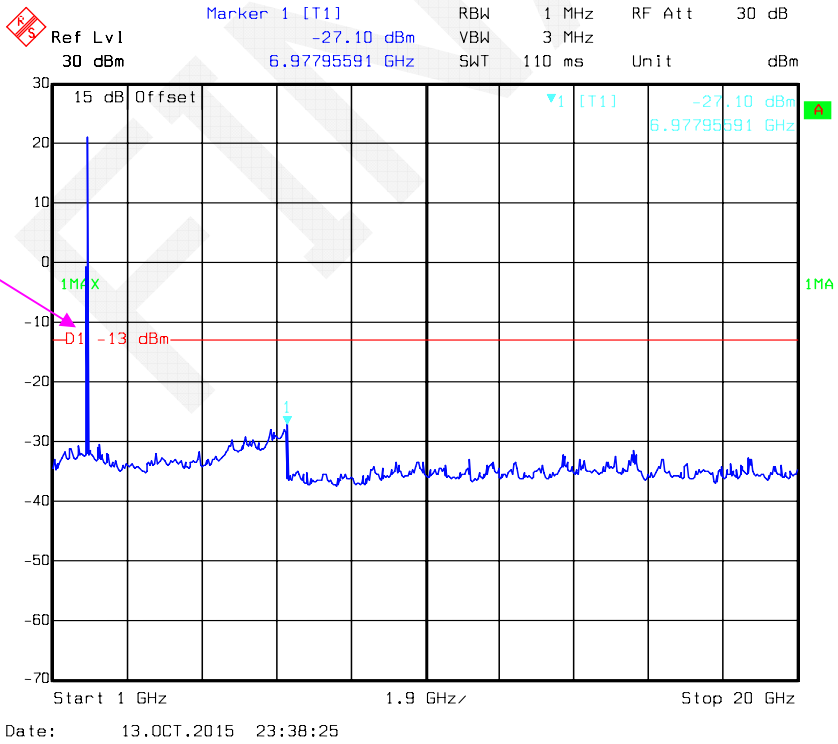




Fundamental

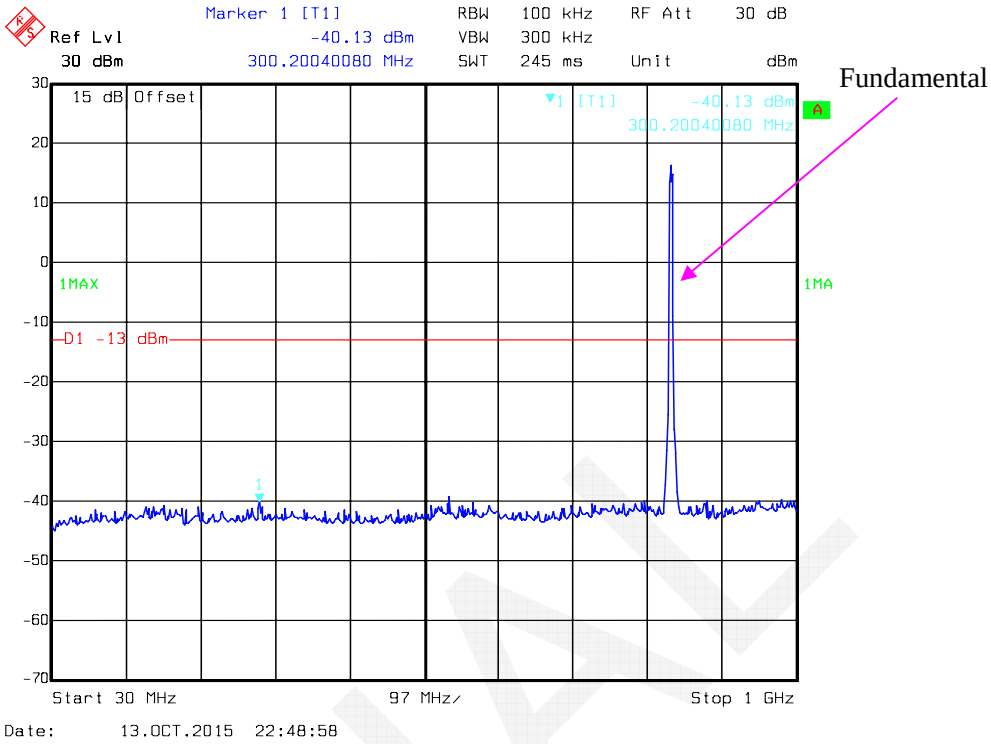
HSUPA Band II _ Middle Channel

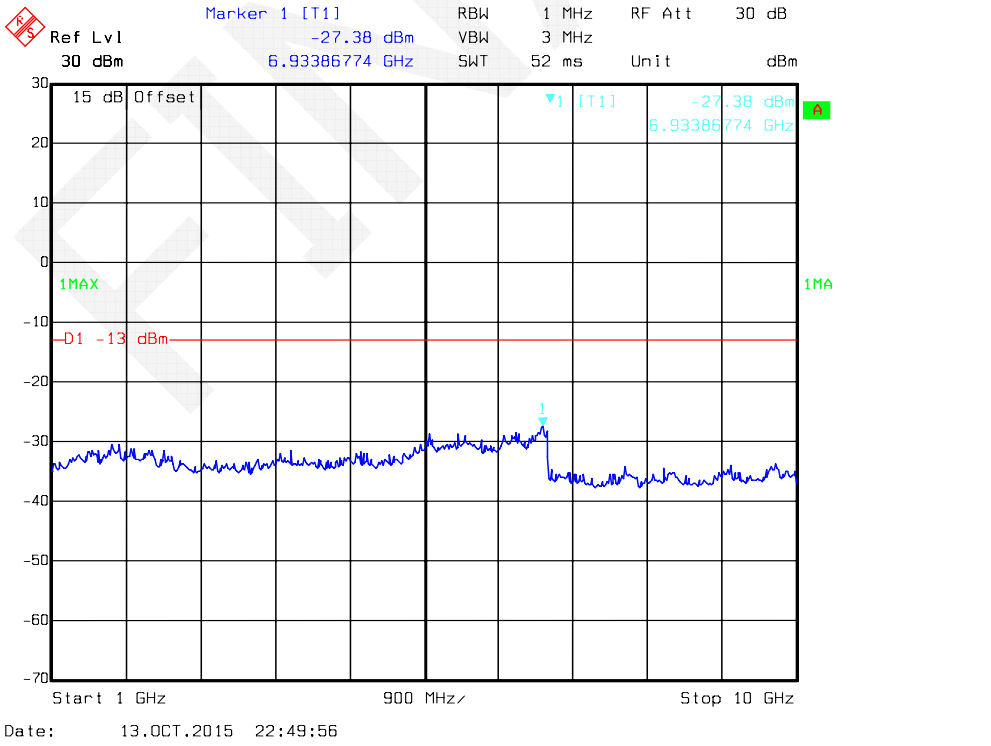




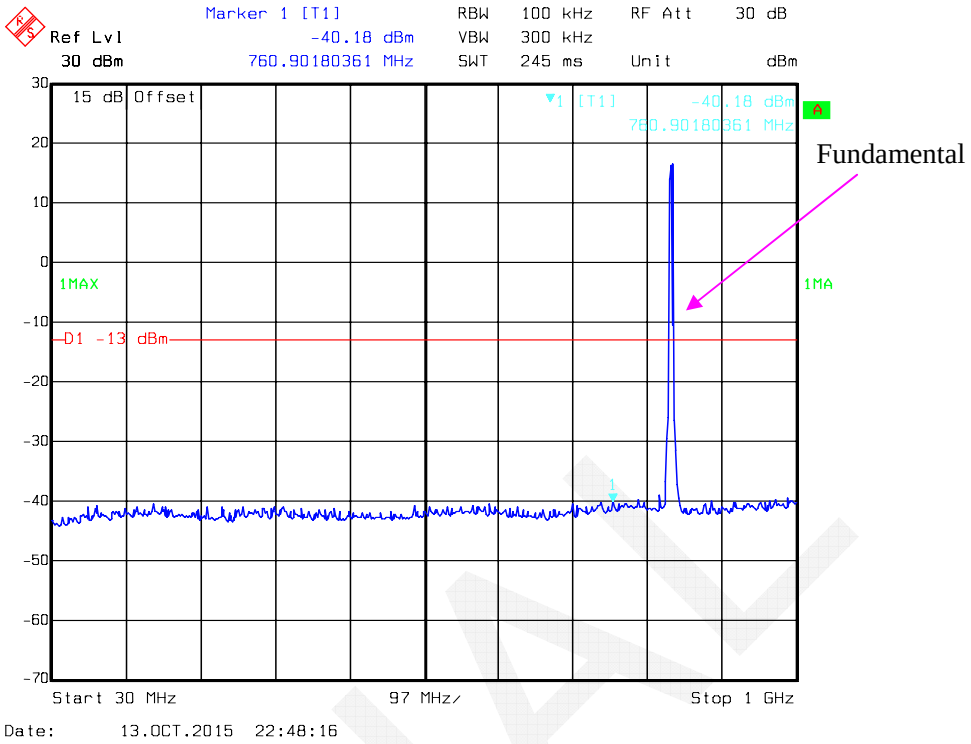
Fundamental

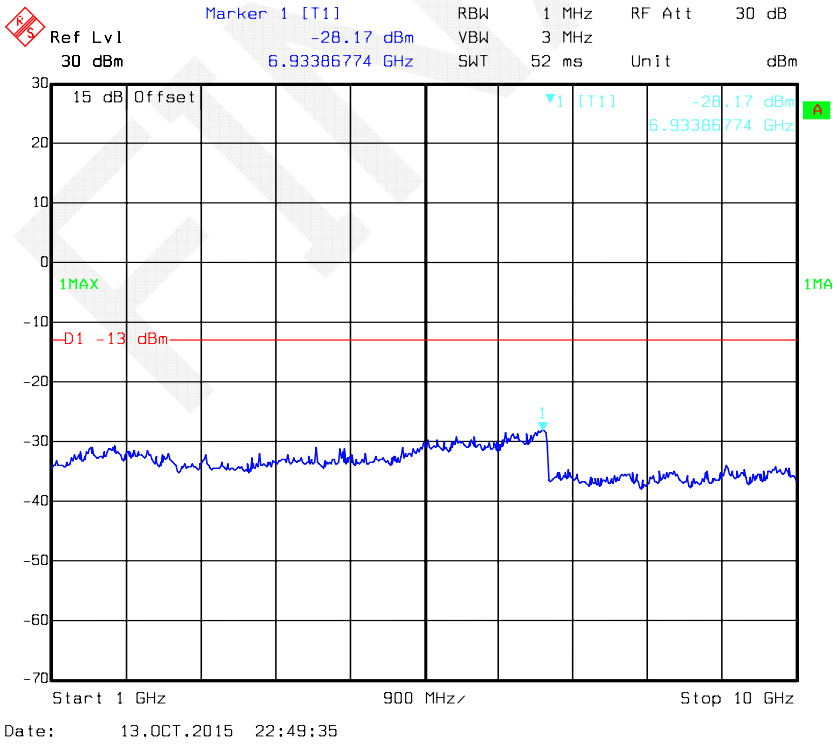
REL99 Band V_ Middle Channel



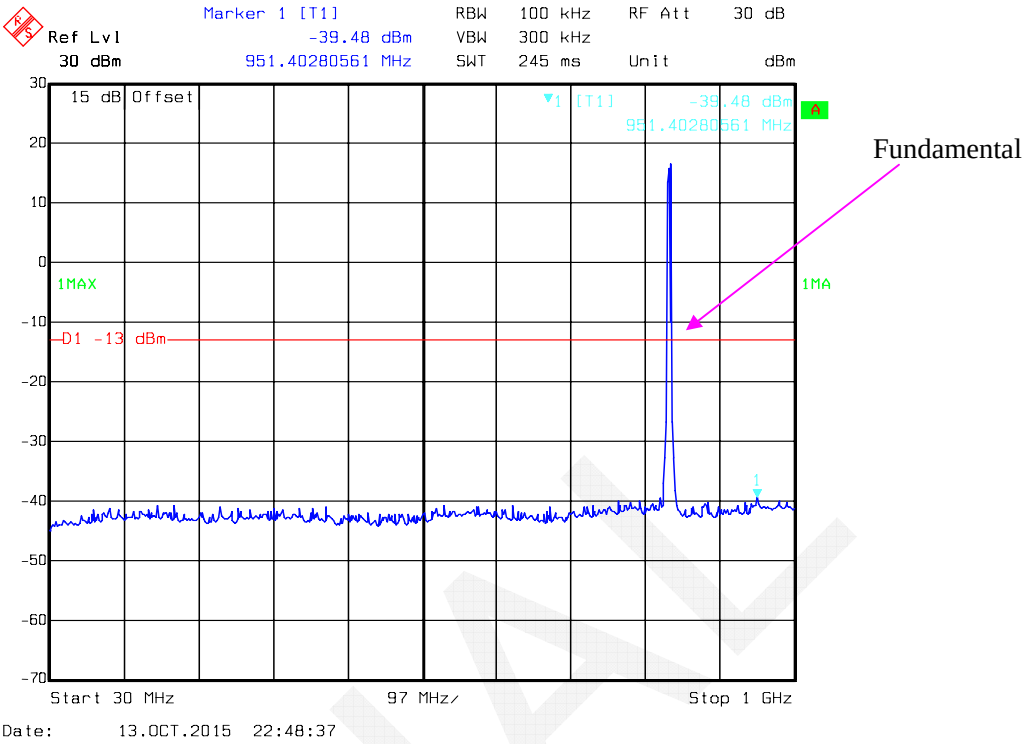


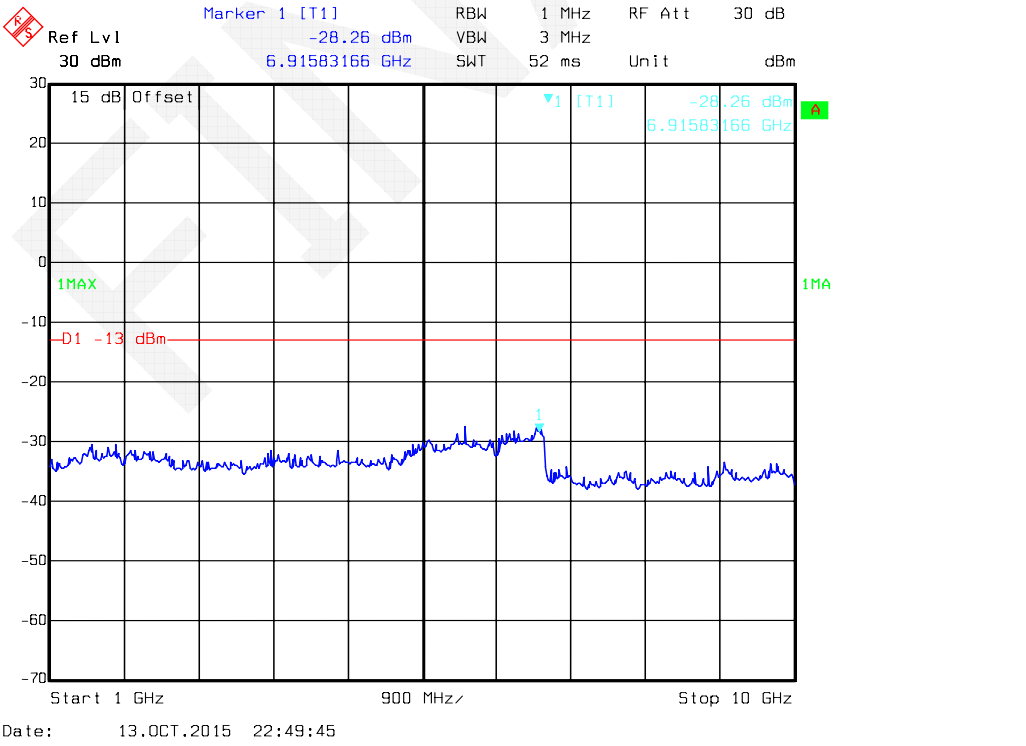
HSDPA Band V_ Middle Channel





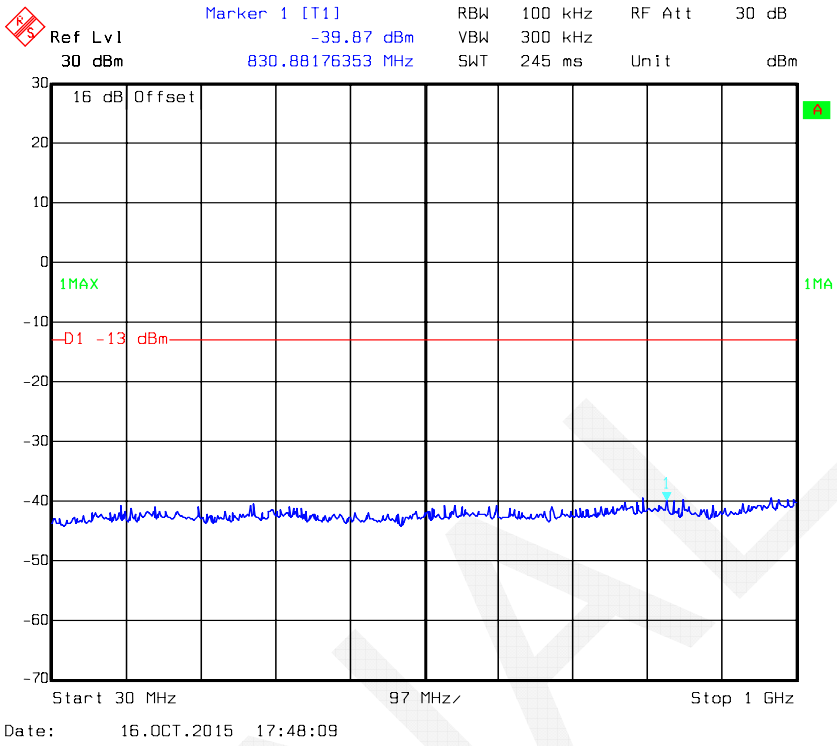
HSUPA Band V_ Middle Channel



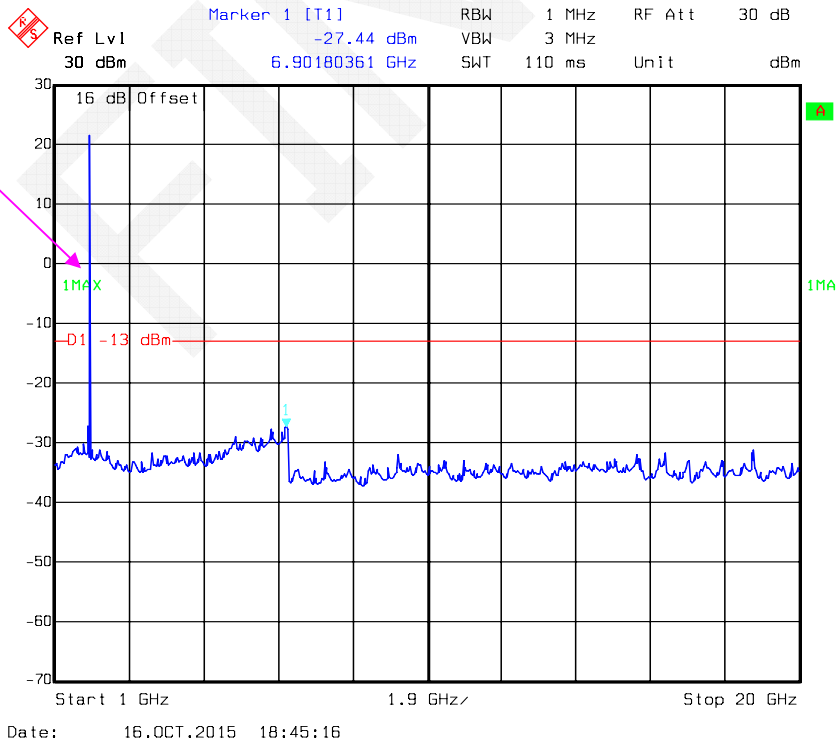


LTE Band:

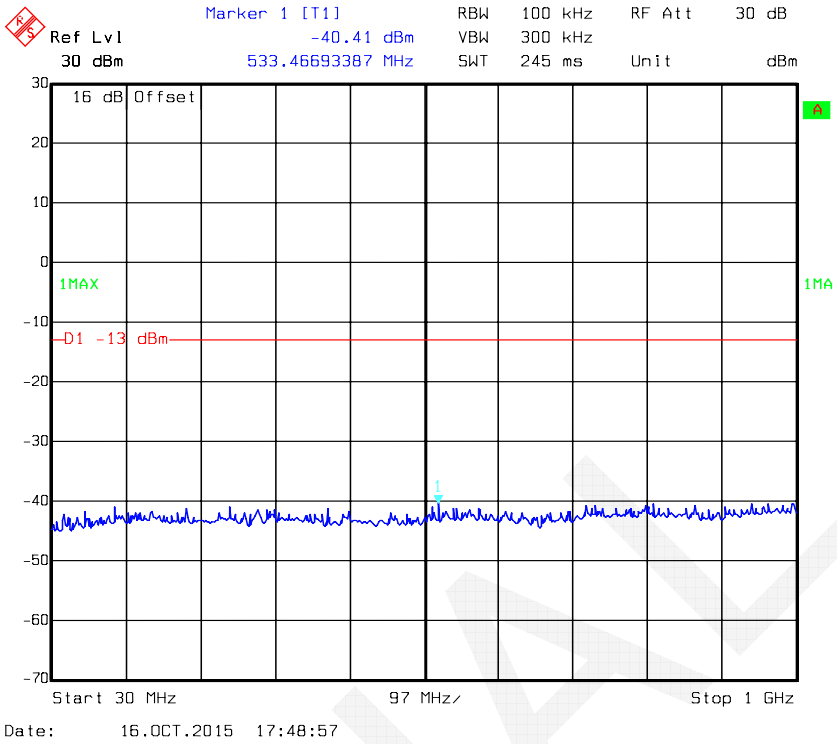
QPSK, Band 2-1.4M _ Middle Channel

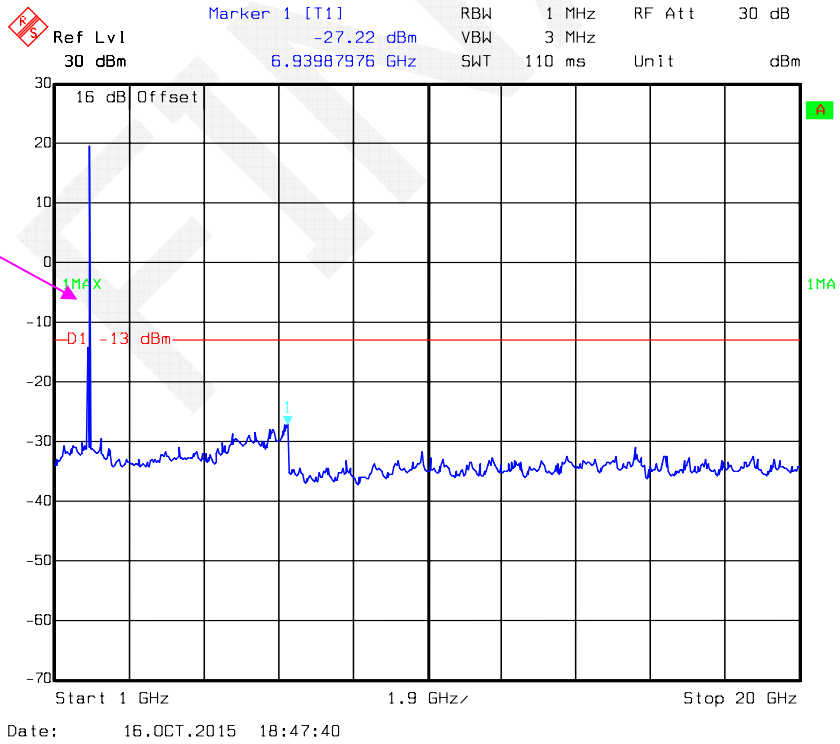


Fundamental



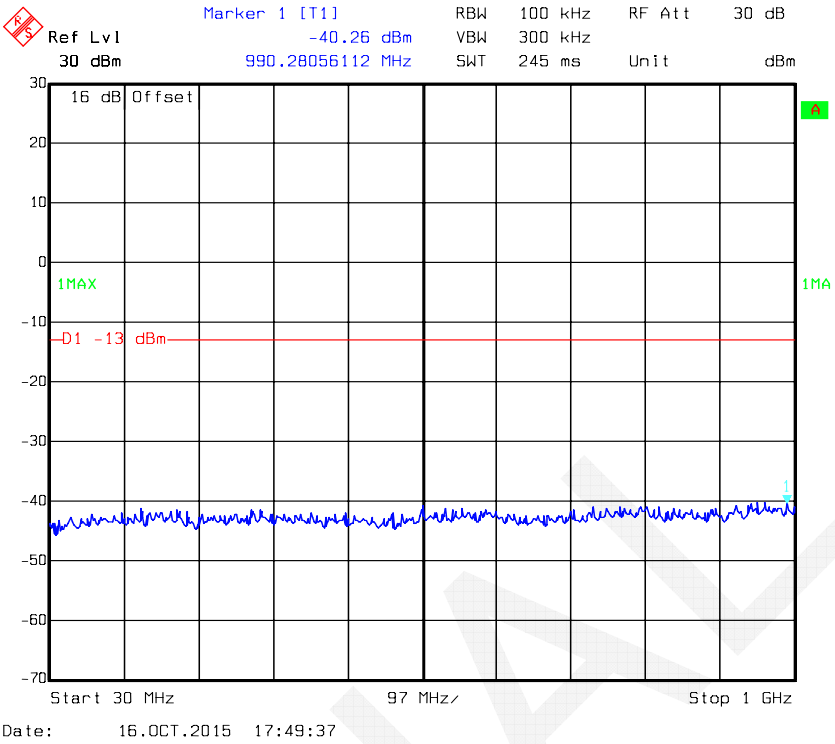
QPSK, Band 2-3M _ Middle Channel

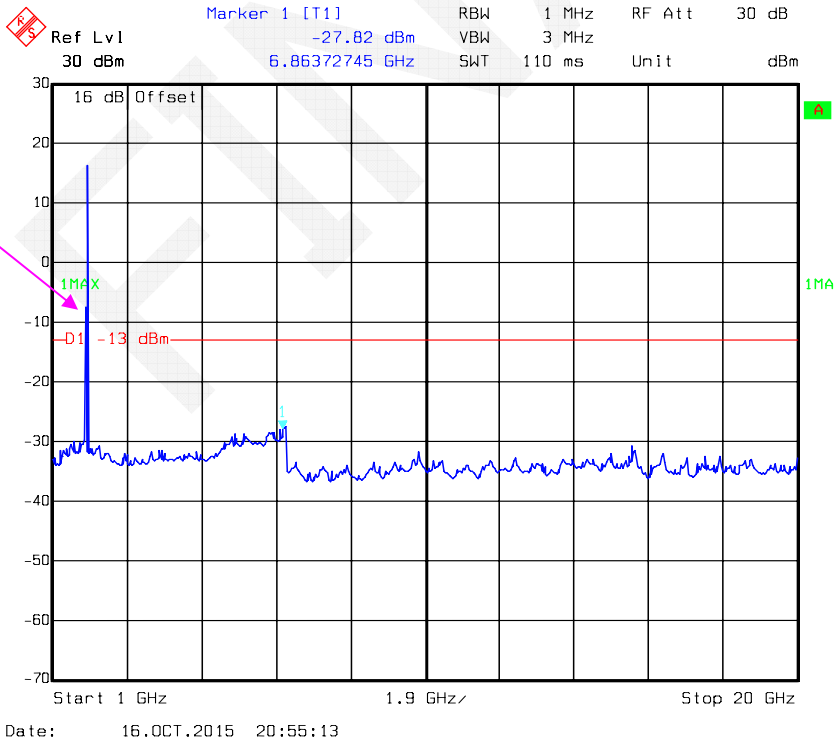




Fundamental

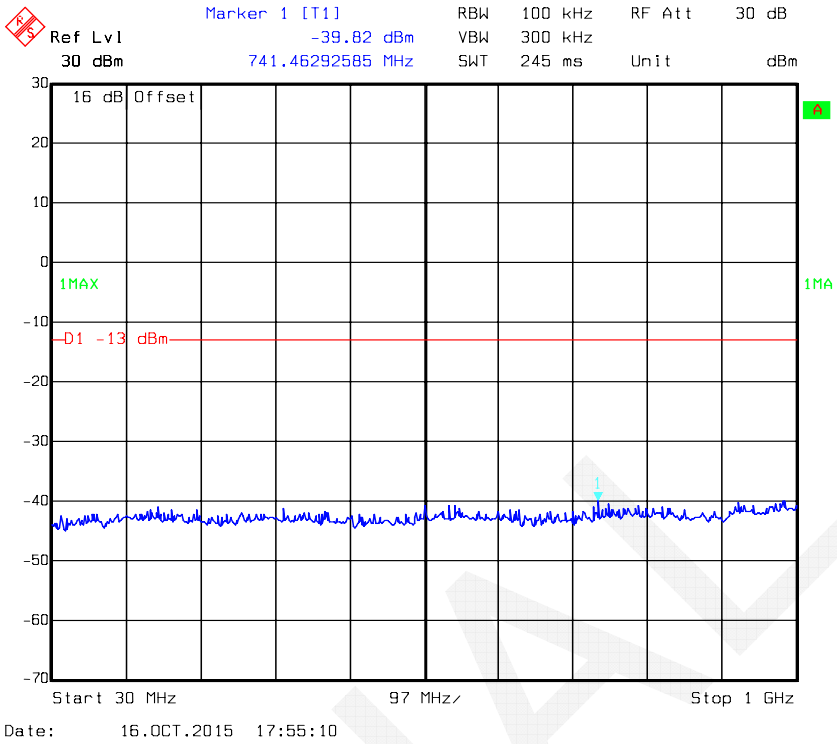
QPSK, Band 2-5M _ Middle Channel

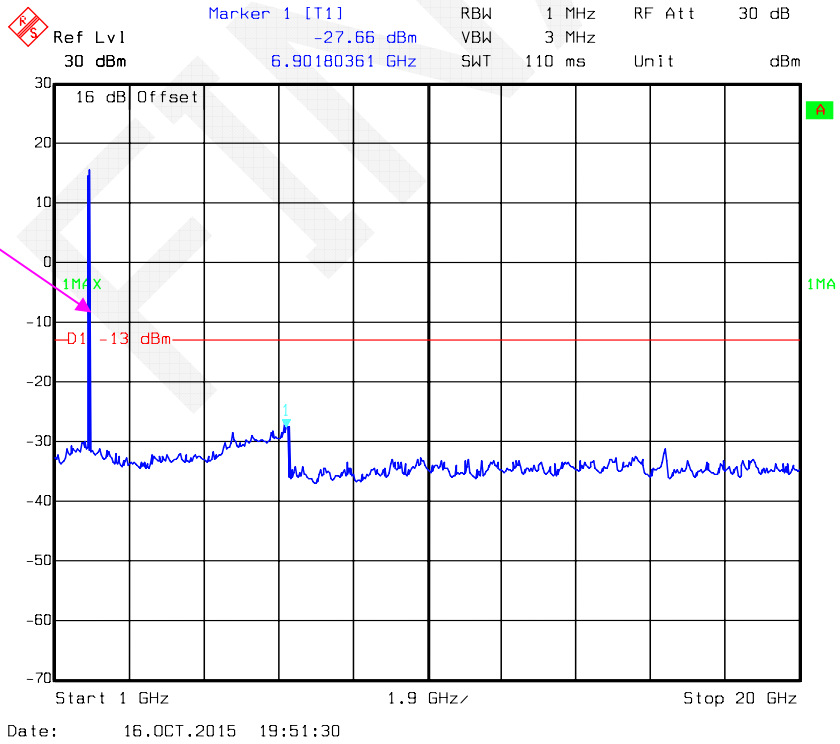




Fundamental

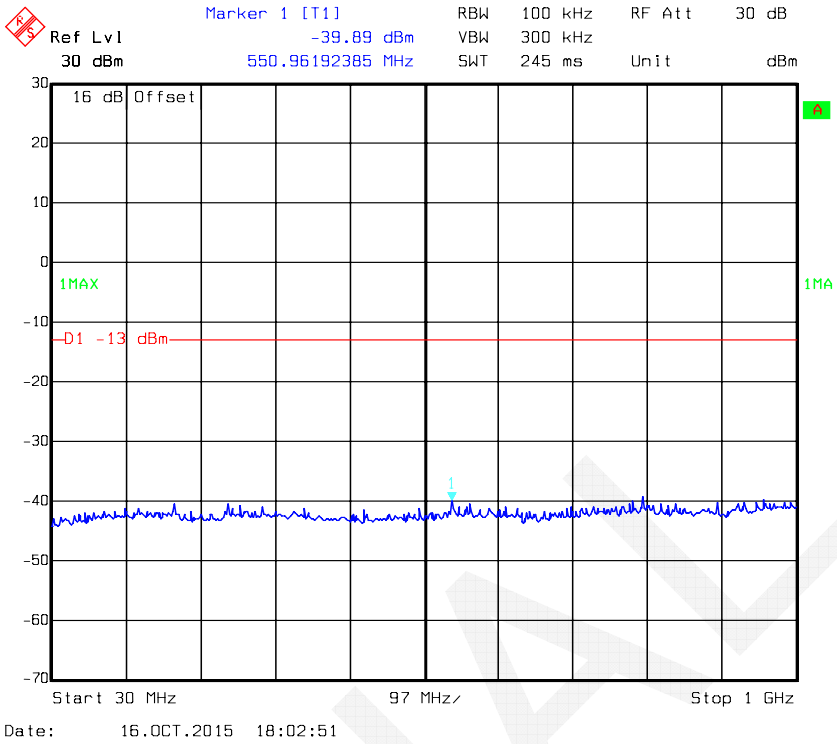
QPSK, Band 2-10M _ Middle Channel

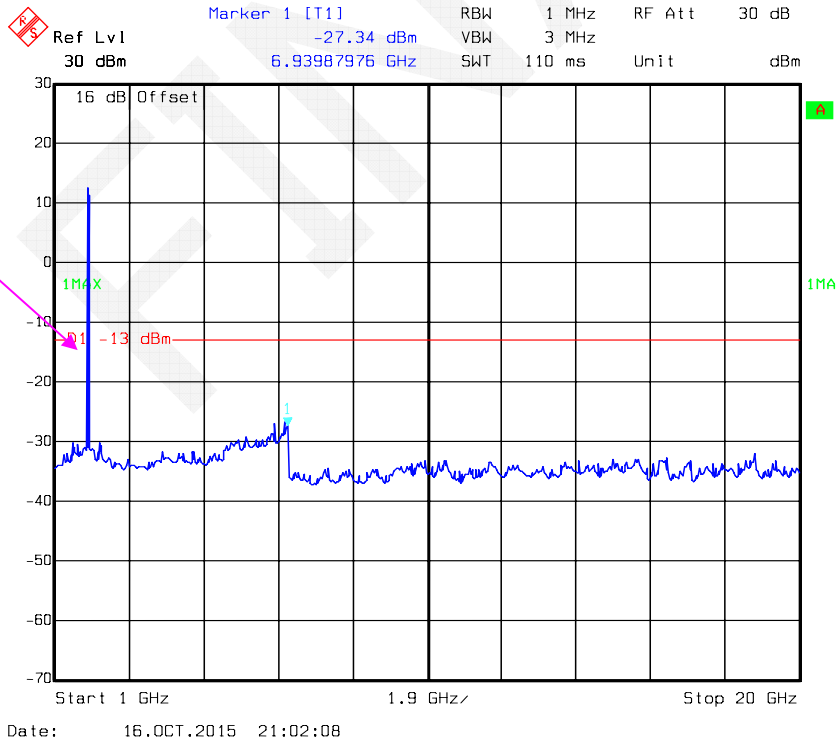




Fundamental

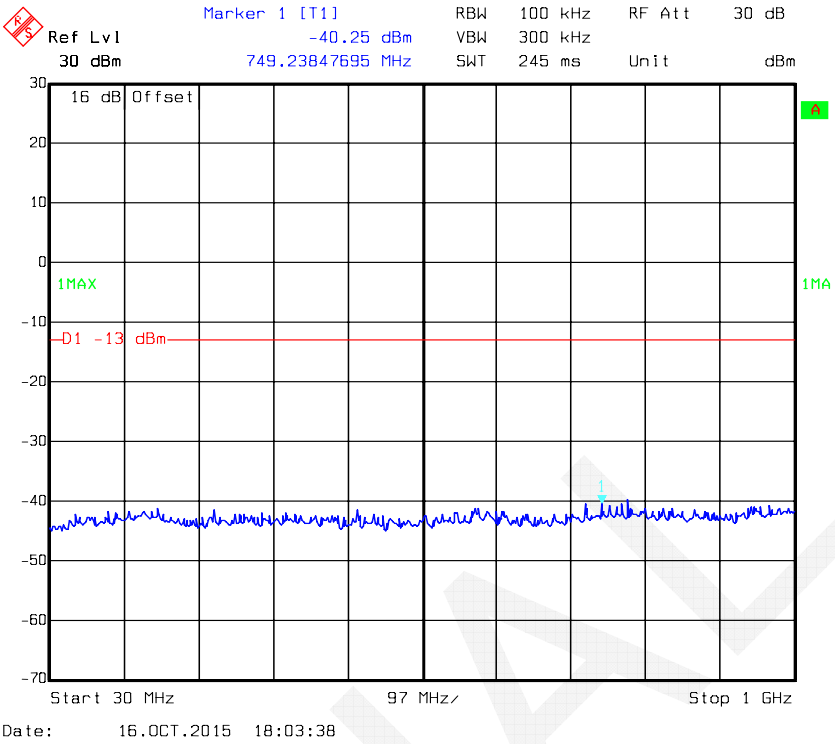
QPSK, Band 2-15M _ Middle Channel

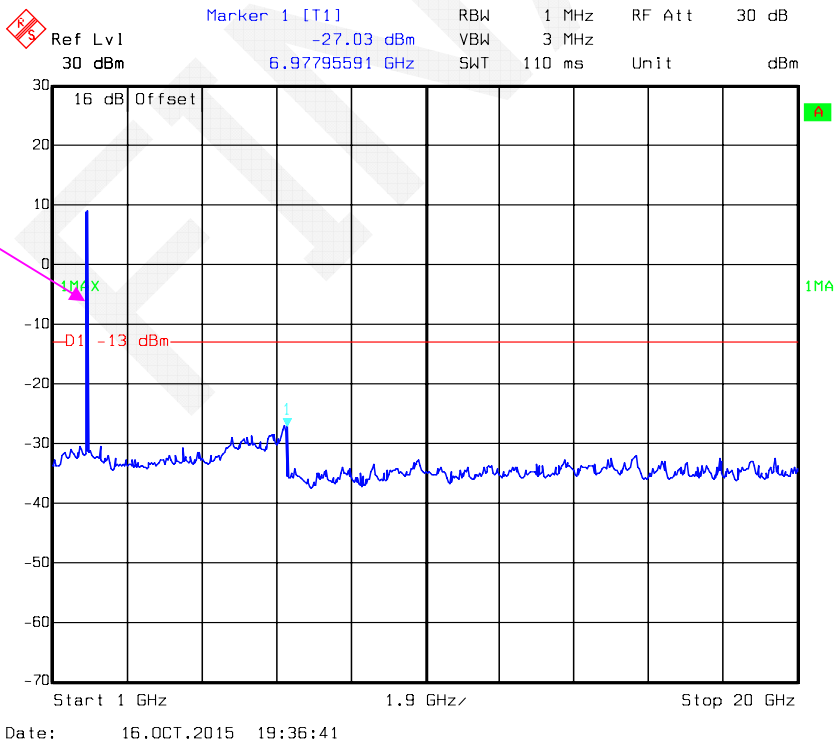




Fundamental

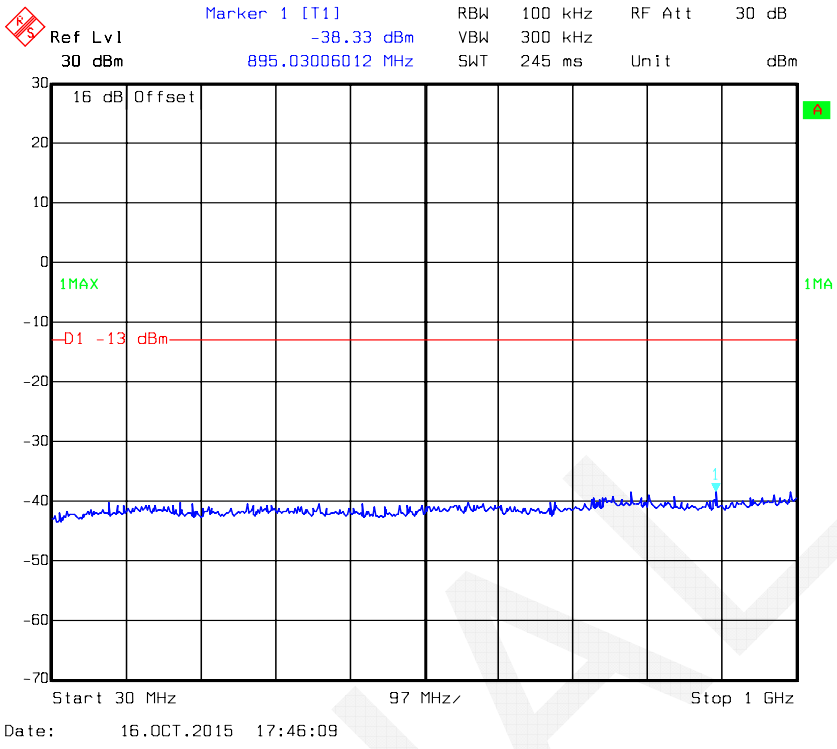
QPSK, Band 2-20M _ Middle Channel

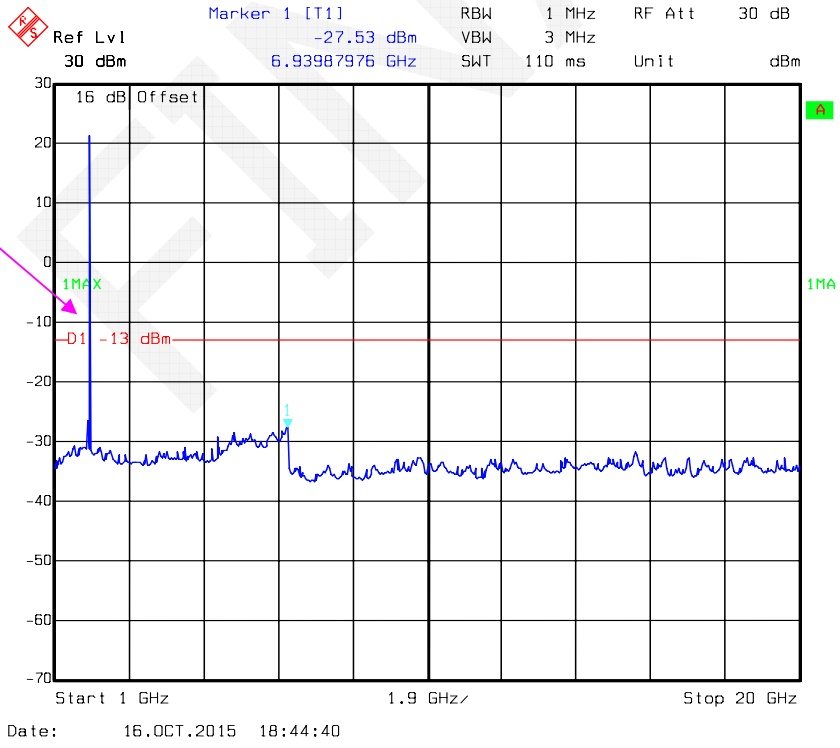




Fundamental

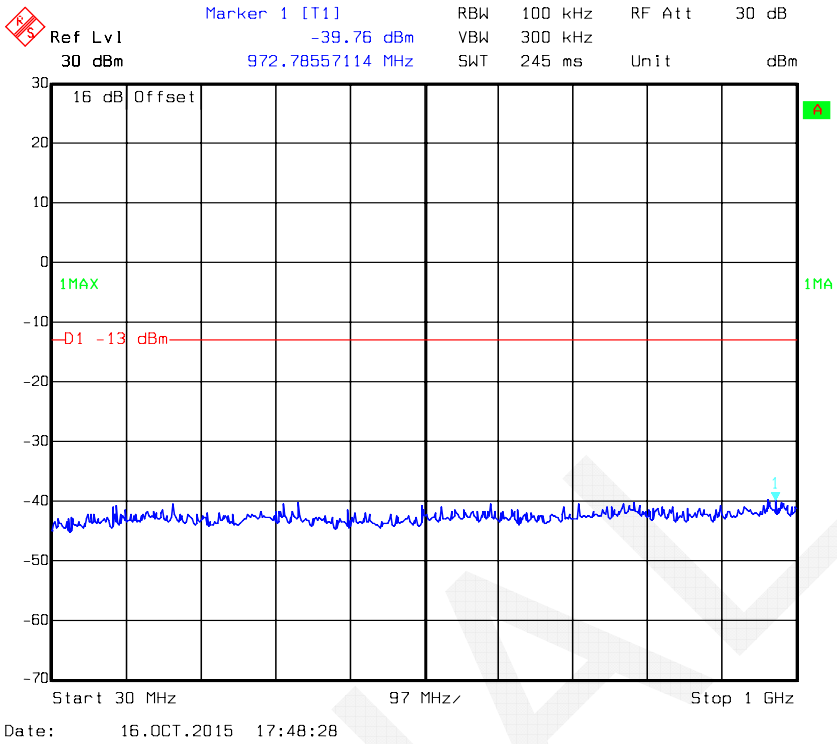
16-QAM, Band 2-1.4M _ Middle Channel

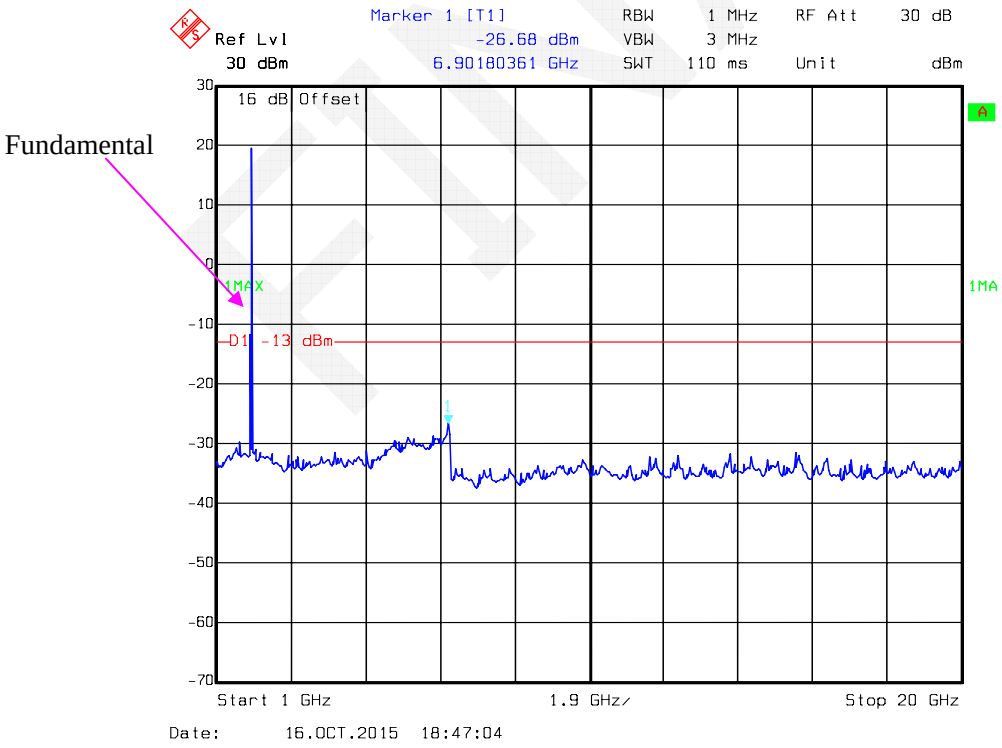




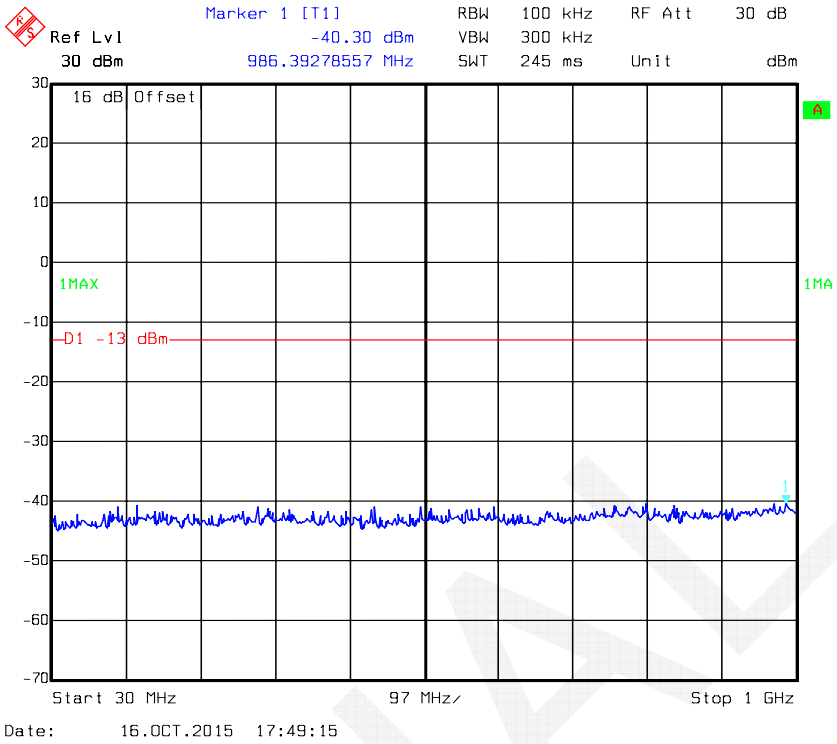
Fundamental

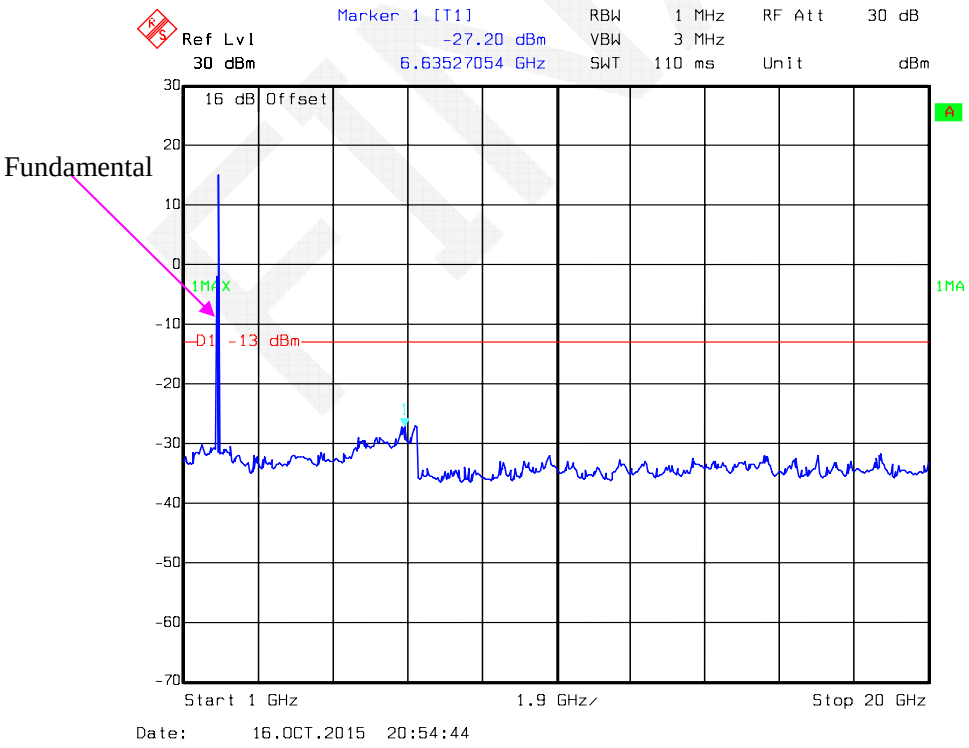
16-QAM, Band 2-3M _ Middle Channel



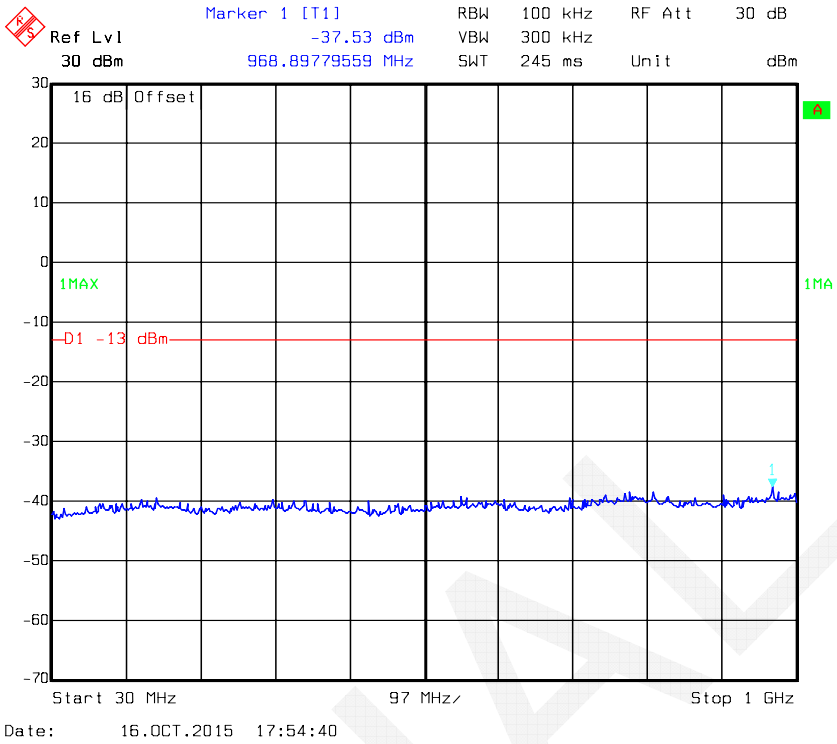


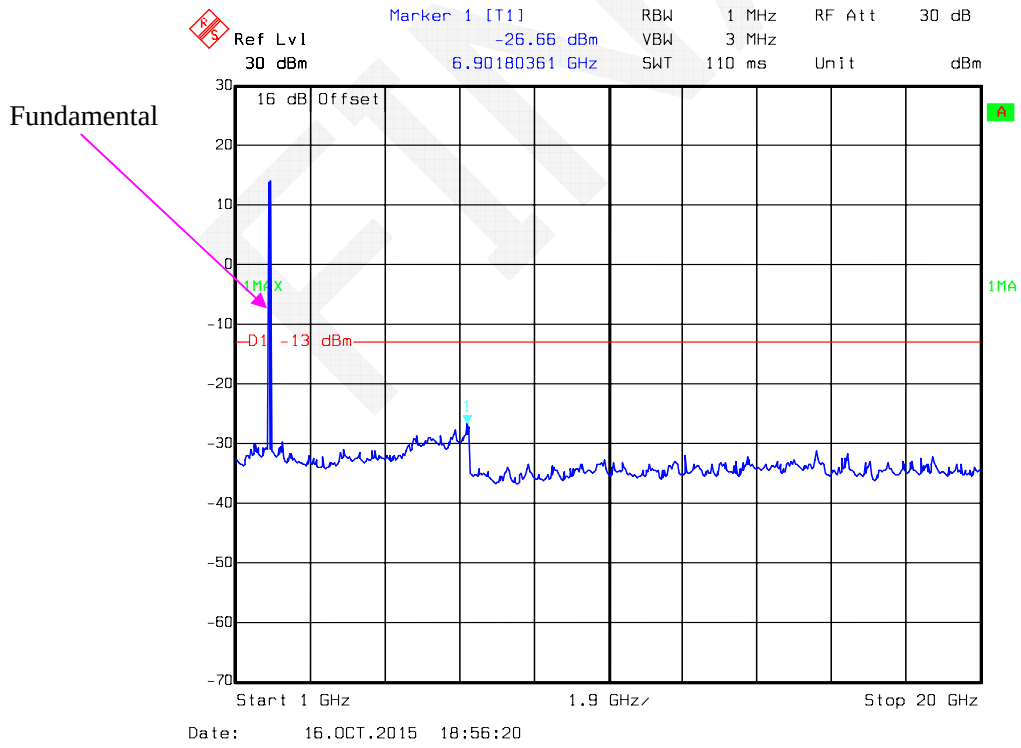
16-QAM, Band 2-5M _ Middle Channel



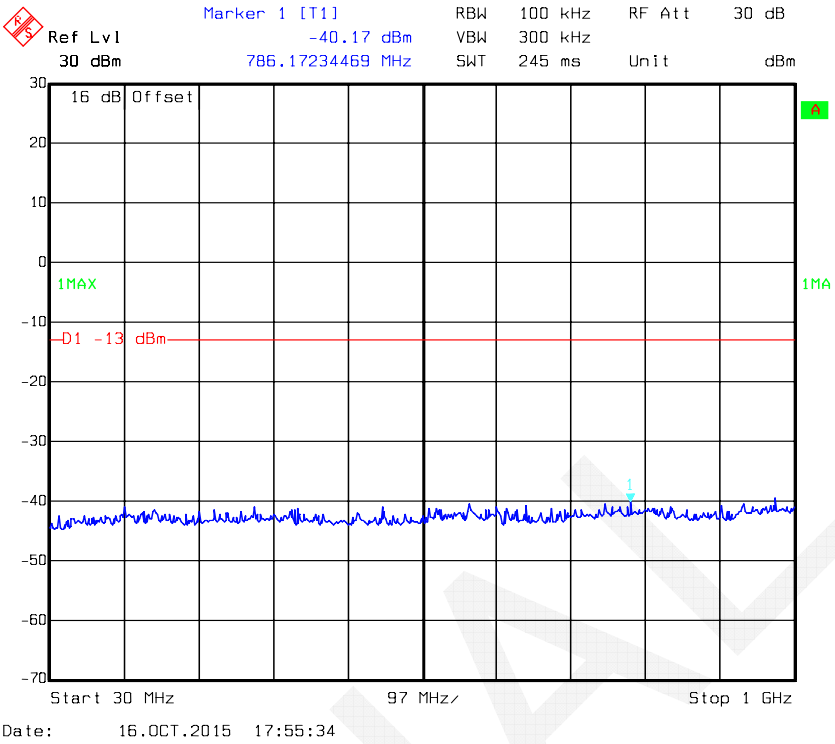


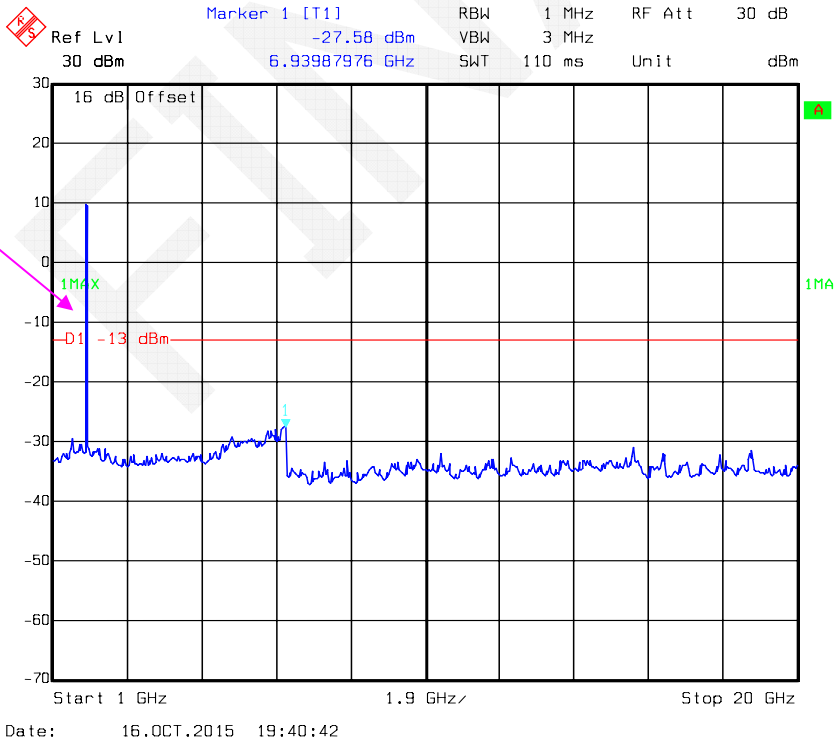
16-QAM, Band 2-10M _ Middle Channel





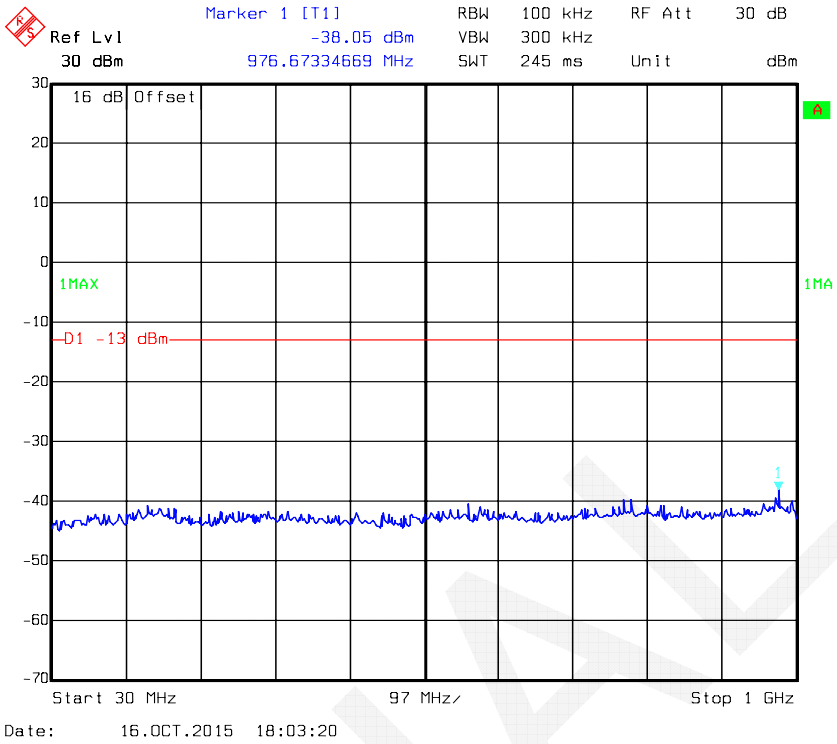
16-QAM, Band 2-15M _ Middle Channel

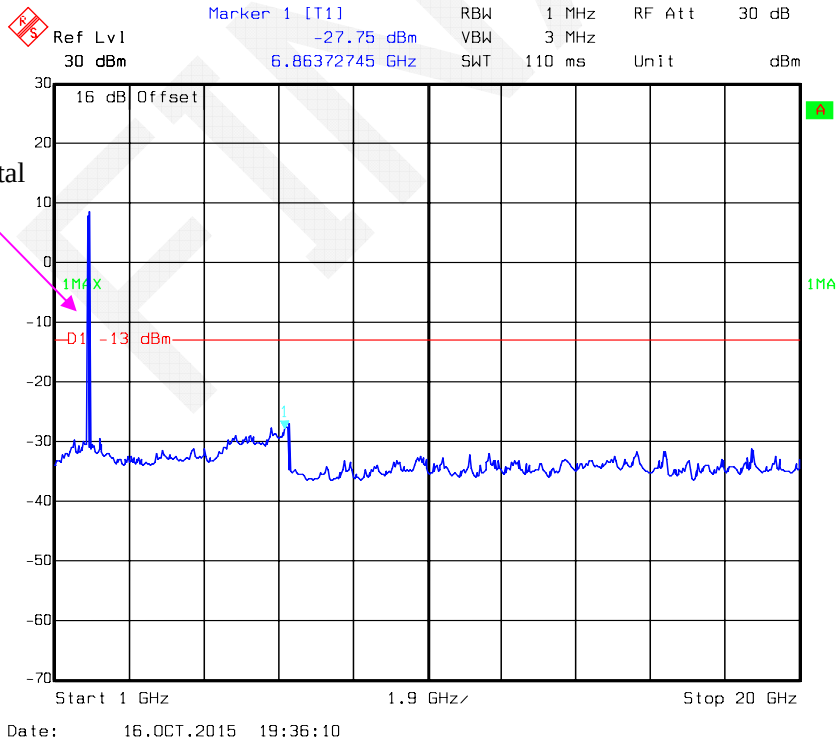




Fundamental

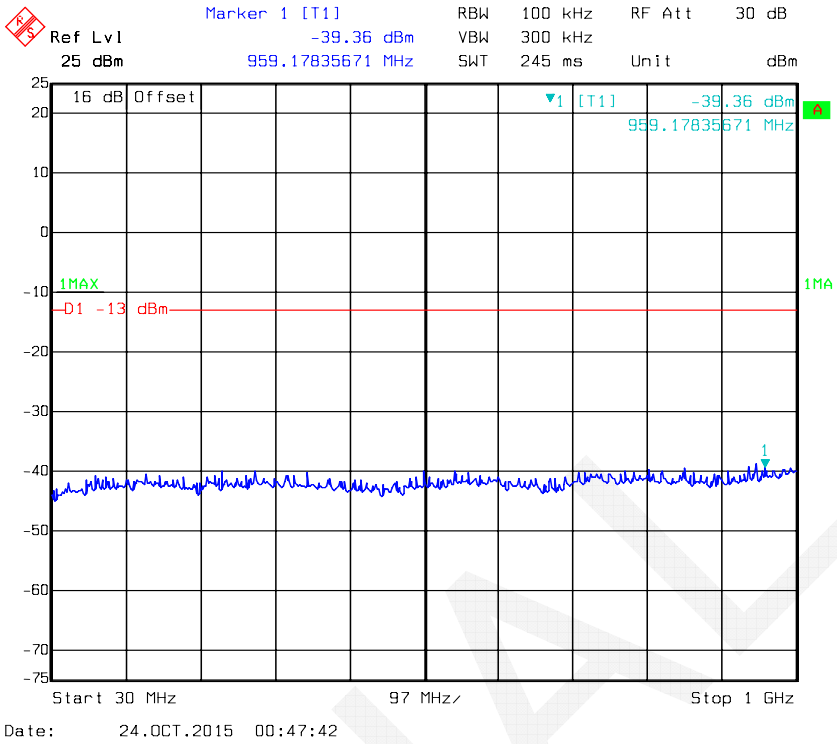
16-QAM, Band 2-20M _ Middle Channel

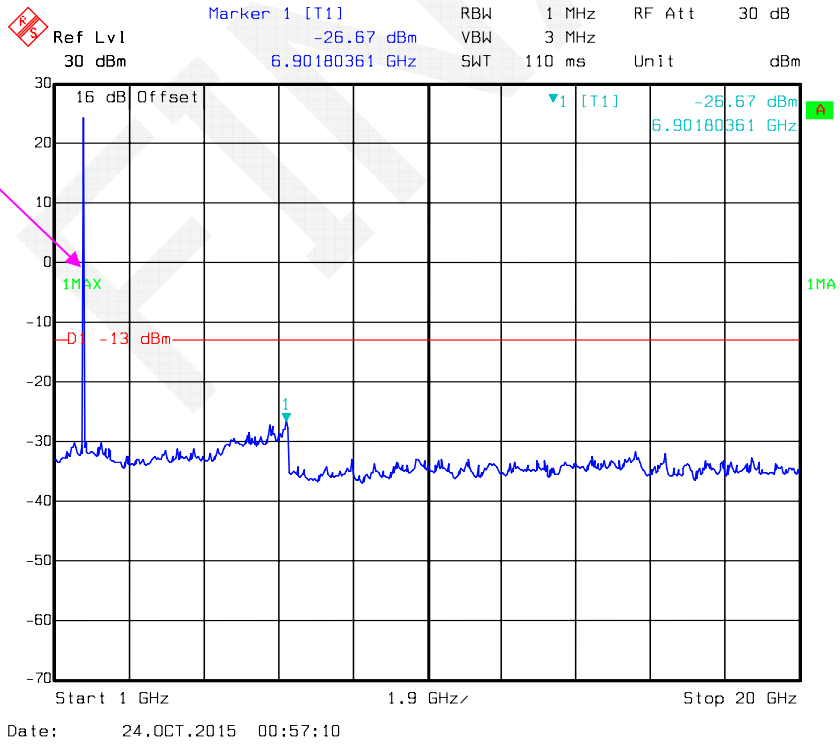




Fundamental

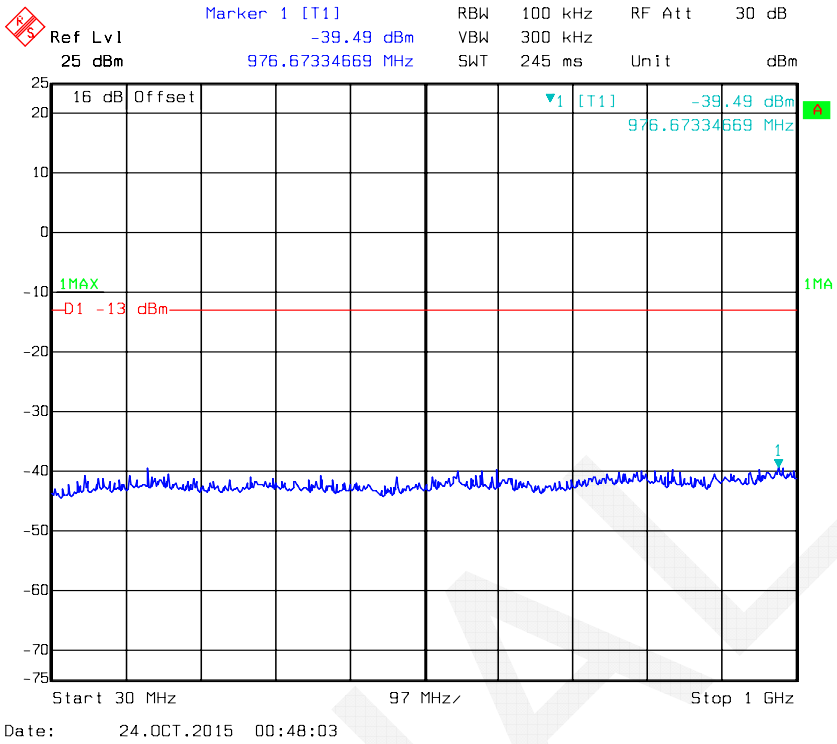
QPSK, Band 4-1.4M _ Middle Channel

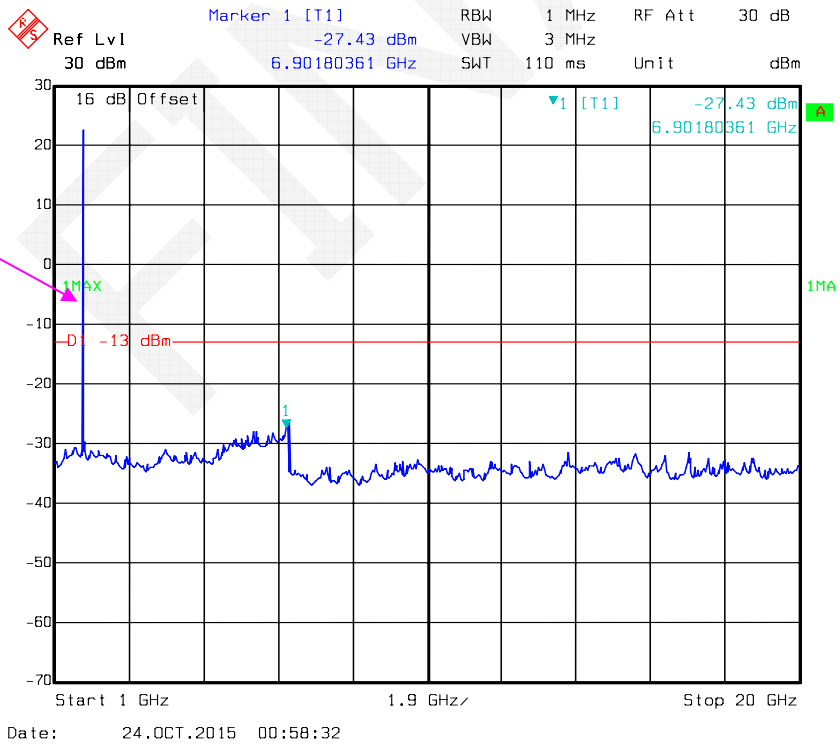




Fundamental

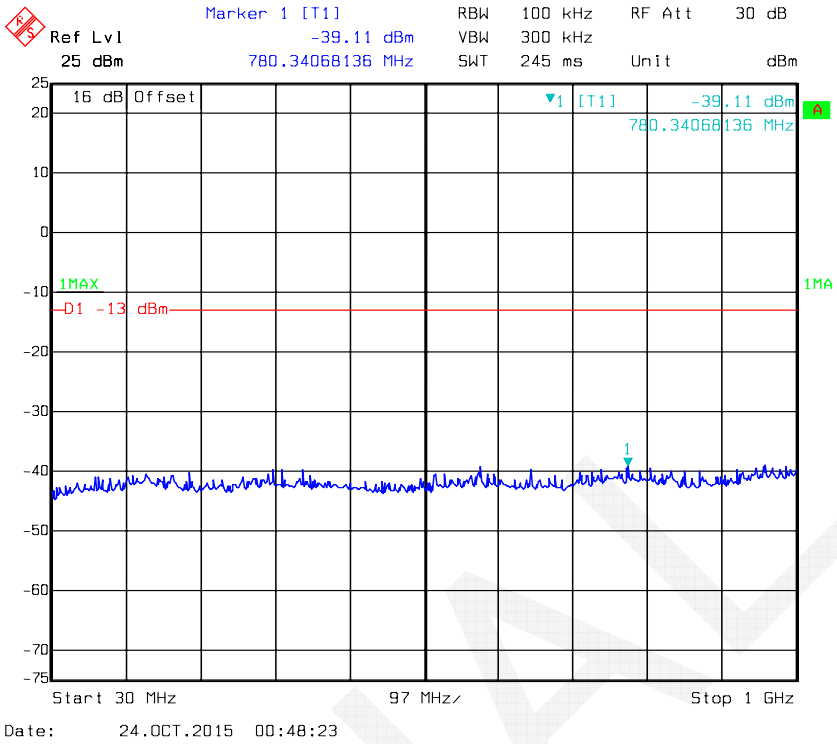
QPSK, Band 4-3M _ Middle Channel

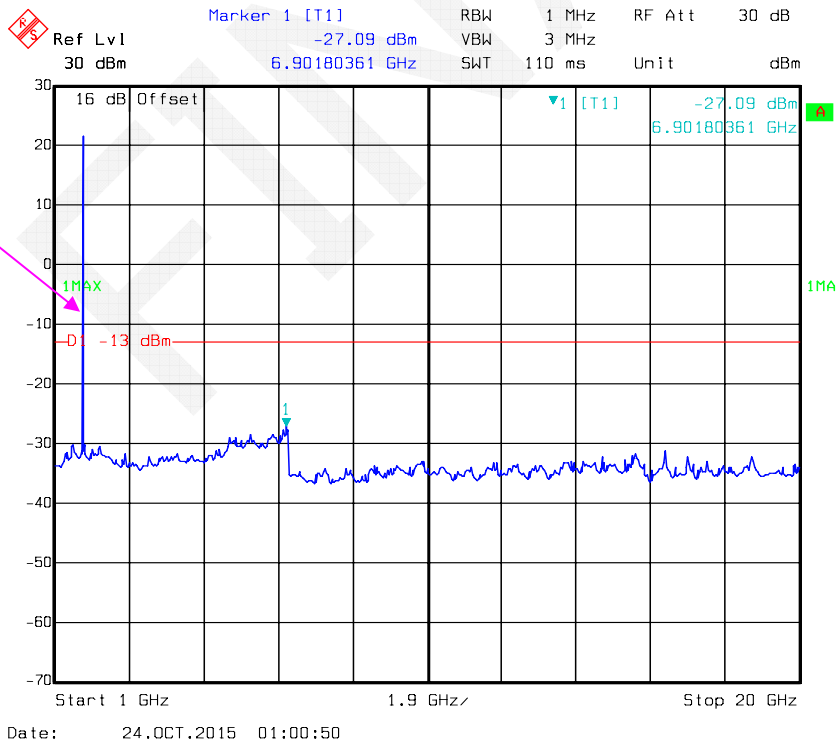




Fundamental

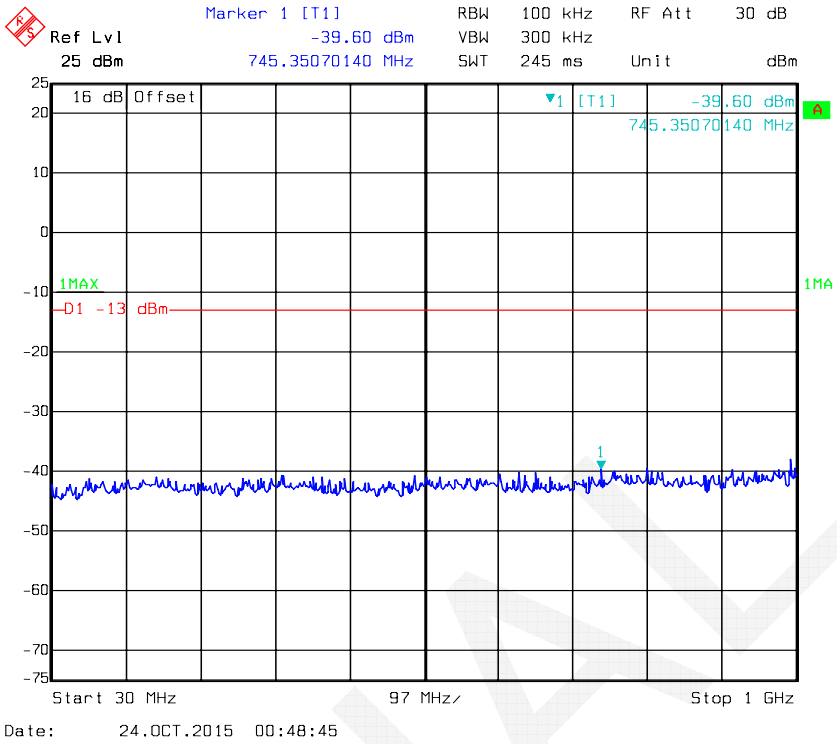
QPSK, Band 4-5M _ Middle Channel

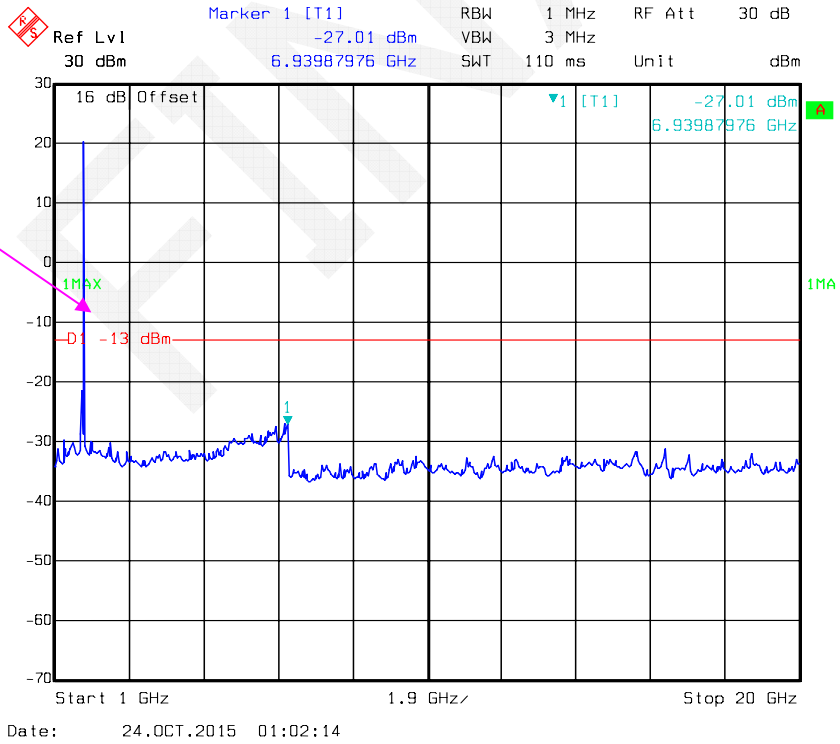




Fundamental

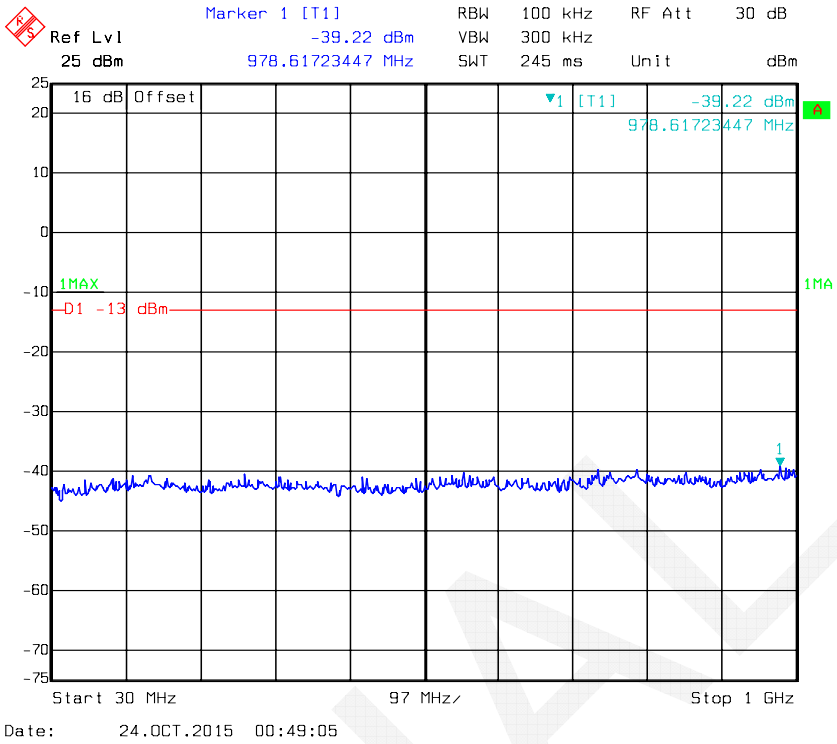
QPSK, Band 4-10M _ Middle Channel

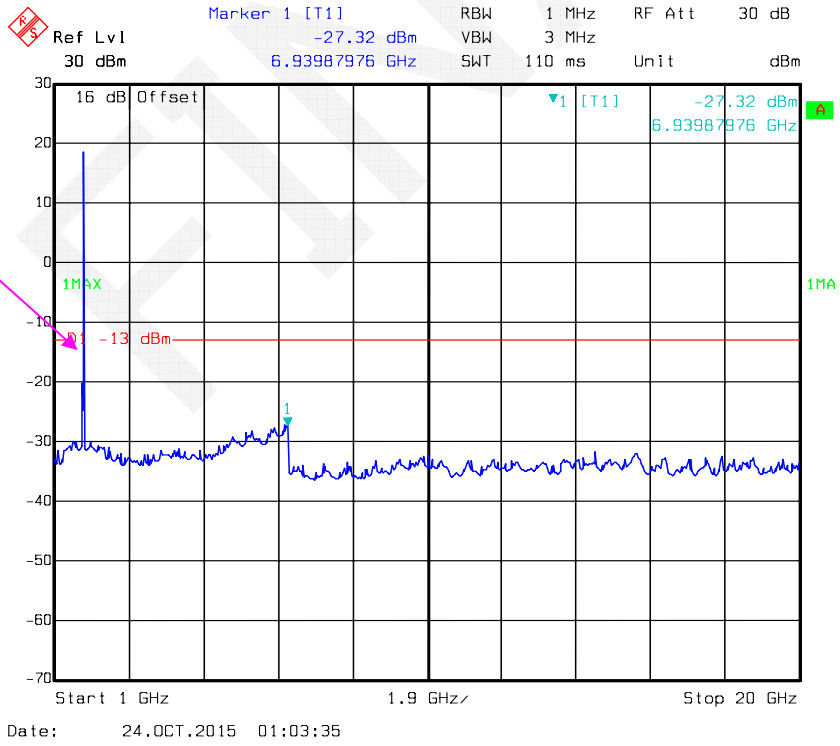




Fundamental

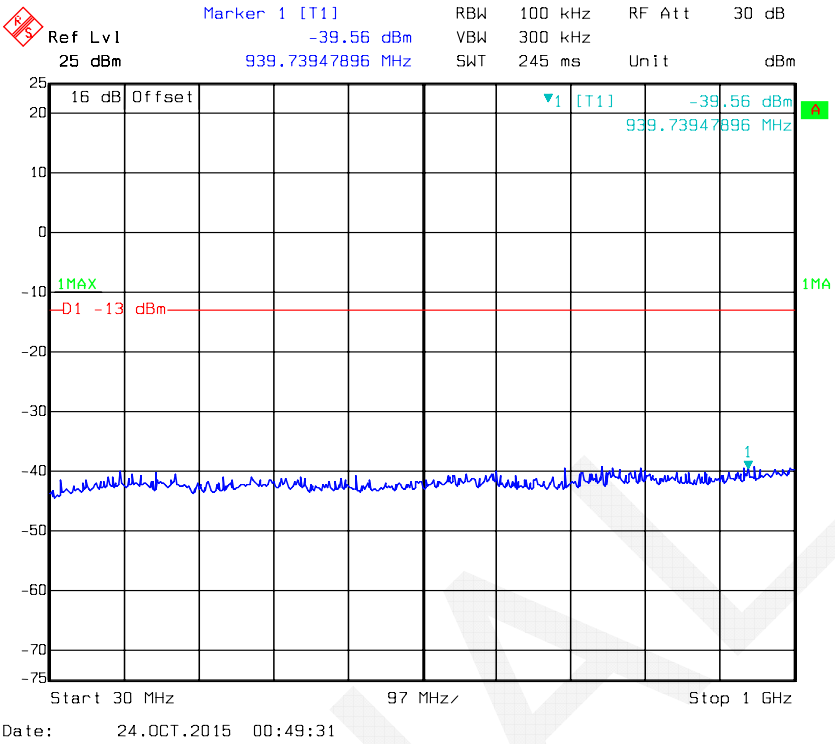
QPSK, Band 4-15M _ Middle Channel

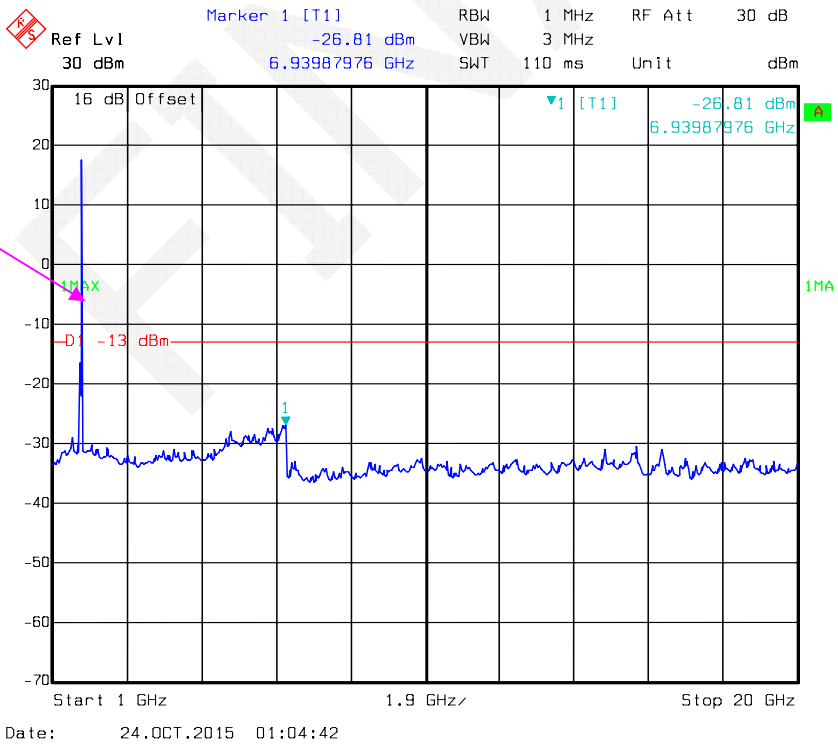




Fundamental

QPSK, Band 4-20M _ Middle Channel





Fundamental