

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

For

Smartisan Technology Co., Ltd.

Floor 7, Motorola Building, No. 1 WangJing East Road, Chaoyang District

FCC ID: 2AEUYSM801

Report Type: Original Report	Product Type: TD-LTE Digital Mobile Phone
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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).

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *Smartisan Technology Co., Ltd.*'s product, model number: *SM801 (FCC ID: 2AEUYSM801)* (the "EUT") in this report was a *TD-LTE Digital Mobile Phone*, which was measured approximately: 144.55mm (L) x 70.84mm (W) x 7.525mm (H), rated input voltage: DC3.8V rechargeable Li-ion battery or DC5V charging from adapter.

Adapter information:

Model: D601

Input: 100-240V~ 50/60Hz 0.3A

Output: 5V, 1.5A

All measurement and test data in this report was gathered from production sample serial number: 151019050 (Assigned by BACL, Dongguan). The EUT was received on 2015-10-08.

Objective

This report is prepared on behalf of *Smartisan Technology Co., Ltd.* 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 Commission's 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: 2AEUYSM801

FCC Part 15C DSS submissions with FCC ID: 2AEUYSM801

FCC Part 15C DTS submissions with FCC ID: 2AEUYSM801

FCC Part 15C DXX submissions with FCC ID: 2AEUYSM801.

FCC Part 15E NII submissions with FCC ID: 2AEUYSM801.

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.

The operating frequency of Band 41 is 2555-2655MHz, which is declared by the manufacturer.

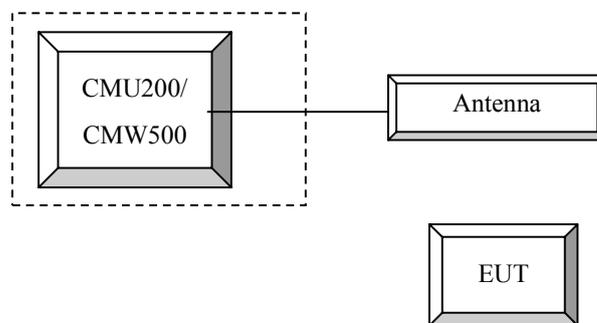
Equipment Modifications

No modification was made to the EUT.

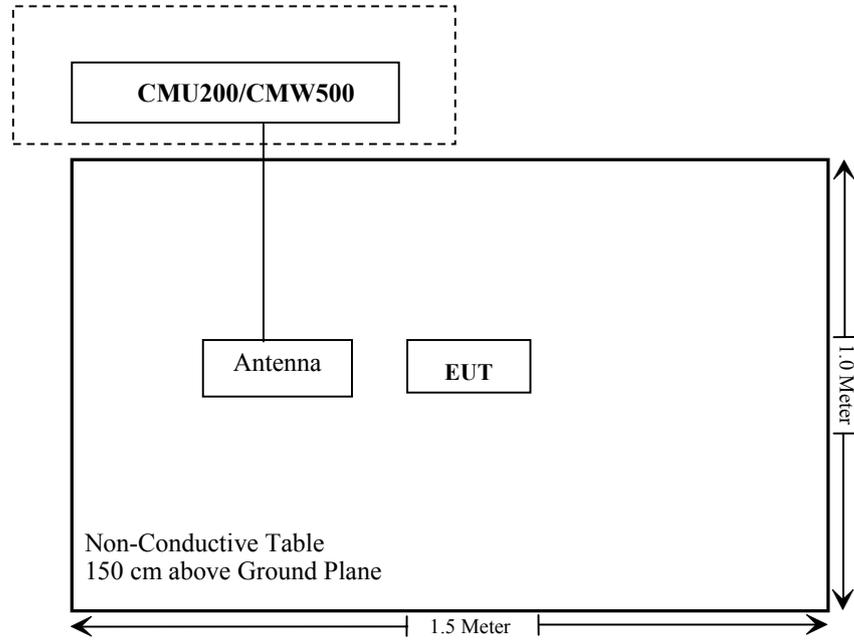
Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
R&S	Universal Radio Communication Tester	CMU200	109038
R&S	Universal Radio Communication Tester	CMW500	T-03-EM342
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	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: RBJ151019050-20A, RBJ151019050-20B.

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

CDMA 1x RTT

Maximum output power is verified on the high, middle and low channels according to procedures in section 4.4.5.2 of 3GPP2 C.S0011/TIA-98-E. Steps 3 and 4 are measured using Loopback Service Option SO55 with power control bits in “All Up” condition. Step 10 is measured using TDSO/SO32 with power control bits in the “Bits Hold” condition (i.e. alternative Up/Down Bits).

Table 4.4.5.2-1. Test Parameters for Maximum RF Output Power with a Single Traffic Code Channel, Spreading Rate 1

Parameter	Units	Value
I_{or}	dBm/1.23 MHz	-104
$\frac{\text{Pilot } E_c}{I_{or}}$	dB	-7

Table 4.4.5.2-2. Test Parameters for Maximum RF Output Power with Multiple Traffic Code Channels, Spreading Rate 1

Parameter	Units	Value
$\frac{\text{Pilot } E_c}{I_{or}}$	dB	-7
$\frac{\text{Traffic } E_c}{I_{or}}$	dB	-7.4

EVDO

Maximum output power is verified on the high, middle and low channels according to procedures in section 3.1.2.3.4 of 3GPP2 C.S0033-0/TIA-866 for Rev. 0, section 4.3.4 of 3GPP2 C.S0033-A for Rev. A.

Maximum output power is measured for Rev. 0 and Rev. A in Subtype 0/1 and Subtype 2 Physical Layer configurations, respectively.

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
	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
WCDMA 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	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_{ed1} : 30/15 β_{ed2} : 30/15	β_{ed3} : 24/15 β_{ed4} : 24/15	3.5	2.5	14	105	105

- Note 1: $\Delta_{ACK}, \Delta_{NACK}$ 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
<p>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.</p> <p>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.</p>		

LTE(FDD):

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 Signalling 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	1.4, 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.

LTE(TDD):

LTE TDD Band 41 supports 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations and Table 4.2-1 for Special subframe configurations.

Table 4.2-1: Configuration of special subframe (lengths of DwPTS/GP/UpPTS).

Special subframe configuration	Normal cyclic prefix in downlink				Extended cyclic prefix in downlink	
	DwPTS	UpPTS		DwPTS	UpPTS	
		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
0	$6592 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$	$7680 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$
1	$19760 \cdot T_s$			$20480 \cdot T_s$		
2	$21952 \cdot T_s$			$23040 \cdot T_s$		
3	$24144 \cdot T_s$			$25600 \cdot T_s$		
4	$26336 \cdot T_s$			$7680 \cdot T_s$		
5	$6592 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$	$20480 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$
6	$19760 \cdot T_s$			$23040 \cdot T_s$		
7	$21952 \cdot T_s$			$12800 \cdot T_s$		
8	$24144 \cdot T_s$			-		
9	$13168 \cdot T_s$			-		

Table 4.2-2: Uplink-downlink configurations.

Uplink-downlink configuration	Downlink-to-Uplink Switch-point periodicity	Subframe number									
		0	1	2	3	4	5	6	7	8	9
0	5 ms	D	S	U	U	U	D	S	U	U	U
1	5 ms	D	S	U	U	D	D	S	U	U	D
2	5 ms	D	S	U	D	D	D	S	U	D	D
3	10 ms	D	S	U	U	U	D	D	D	D	D
4	10 ms	D	S	U	U	D	D	D	D	D	D
5	10 ms	D	S	U	D	D	D	D	D	D	D
6	5 ms	D	S	U	U	U	D	S	U	U	D

Calculated Duty Cycle

Uplink-Downlink Configuration	Downlink-to-Uplink Switch-point Periodicity	Subframe Number										Calculated Duty Cycle (%)
		0	1	2	3	4	5	6	7	8	9	
0	5 ms	D	S	U	U	U	D	S	U	U	U	63.33
1	5 ms	D	S	U	U	D	D	S	U	U	D	43.33
2	5 ms	D	S	U	D	D	D	S	U	D	D	23.33
3	10 ms	D	S	U	U	U	D	D	D	D	D	31.67
4	10 ms	D	S	U	U	D	D	D	D	D	D	21.67
5	10 ms	D	S	U	D	D	D	D	D	D	D	11.67
6	5 ms	D	S	U	U	U	D	S	U	U	D	53.33

Calculated Duty Cycle = Extended cyclic prefix in uplink x (T_s) x # of S + # of U

Example for Calculated Duty Cycle for Uplink-Downlink Configuration 0:
 Calculated Duty Cycle = 5120 x [1/(15000 x 2048)] x 2 + 6 ms = 63.33%
 where
 T_s = 1/(15000 x 2048) seconds

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	9808-5557	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	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:	25.1~26.9 °C
Relative Humidity:	51~55%
ATM Pressure:	100.7kPa

The testing was performed by Dean Liu on 2015-10-08&2015-11-03.

Conducted Power

BC0 Band (Part 22H) & BC1 Band (Part 24E)

Band	Channel No.	CDMA 1x RTT					EVDO	
		Frequency (MHz)	RC1+SO55	RC3+SO55	RC3+SO32 (FCH)	RC3+SO32 (SCH)	RTAP 153.6kbps Subtype 0	RETAP 4096pbs Subtype 2
BC0	1013	824.7	23.83	23.74	23.27	23.60	23.71	23.61
	384	836.52	23.76	23.77	23.66	23.63	23.64	23.63
	777	848.31	23.94	23.71	23.74	23.37	23.83	23.57
BC1	25	1851.25	22.87	22.92	22.95	23.20	22.73	22.80
	600	1880	22.98	22.89	22.82	22.88	22.84	22.76
	1175	1908.75	22.85	22.82	22.83	22.62	22.74	22.68

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	32.77	32.66	31.66	30.23	29.17	26.24	24.86	22.41	20.94
	190	32.94	32.19	31.20	29.67	28.67	25.74	25.20	22.83	21.17
	251	32.69	32.49	31.47	29.80	28.86	26.21	24.83	22.54	21.10
PCS	512	29.41	28.85	27.49	26.09	24.37	25.23	23.73	22.18	20.88
	661	29.49	28.82	27.59	26.02	24.40	24.67	23.24	21.84	20.50
	810	29.80	29.30	27.94	26.40	24.97	25.34	23.79	22.34	20.97

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	22.65	2.64	22.87	2.64	22.69	2.60
HSDPA	1	21.41	2.77	21.70	2.61	21.53	2.58
	2	21.38	2.66	21.66	2.64	21.60	2.55
	3	21.41	2.68	21.62	2.70	21.56	2.66
	4	21.47	2.68	21.71	2.58	21.65	2.66
HSUPA	1	21.56	2.77	21.83	2.59	21.7	2.74
	2	21.49	2.71	21.74	2.68	21.61	2.64
	3	21.49	2.69	21.73	2.60	21.63	2.57
	4	21.46	2.76	21.78	2.57	21.51	2.69
	5	21.46	2.69	21.71	2.58	21.59	2.64
DC-HSDPA	1	21.42	2.68	21.6	2.57	21.48	2.73
	2	21.33	2.75	21.57	2.77	21.51	2.78
	3	21.39	2.79	21.58	2.64	21.45	2.69
	4	21.37	2.63	21.54	2.61	21.47	2.64
HSPA+	1	21.32	2.61	21.45	2.57	21.40	2.77

WCDMA Band V (PART 22H)

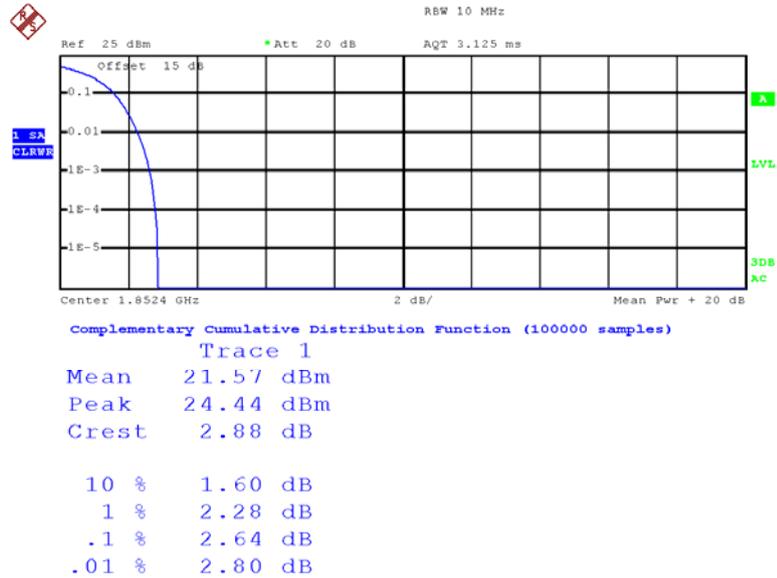
Mode	3GPP Sub Test	Average Output Power (dBm)					
		Low Channel (Ave. Power)	Low Channel (PAR)	Middle Channel (Ave. Power)	Middle Channel (PAR)	High Channel (Ave. Power)	High Channel (PAR)
Rel 99	1	22.41	2.80	22.55	2.88	22.68	2.92
HSDPA	1	21.37	2.78	21.62	2.92	21.46	3
	2	21.31	2.78	21.62	2.95	21.41	2.87
	3	21.43	2.85	21.57	3.01	21.49	3.07
	4	21.40	2.86	21.57	2.89	21.54	2.95
DC-HSDPA	1	21.5	2.73	21.64	2.9	21.6	3.1
	2	21.43	2.77	21.64	2.97	21.58	2.98
	3	21.41	2.77	21.55	3.02	21.54	3.04
	4	21.37	2.77	21.62	3.07	21.45	2.94
	5	21.32	2.73	21.56	3.02	21.50	2.97
HSUPA	1	21.35	2.81	21.6	2.78	21.38	2.95
	2	21.27	2.85	21.51	2.87	21.35	2.97
	3	21.23	2.84	21.47	2.96	21.39	3.05
	4	21.28	2.71	21.48	2.87	21.33	2.85
HSPA+	1	21.19	2.86	21.39	3.04	21.27	3.00

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

Peak-to-average ratio (PAR)

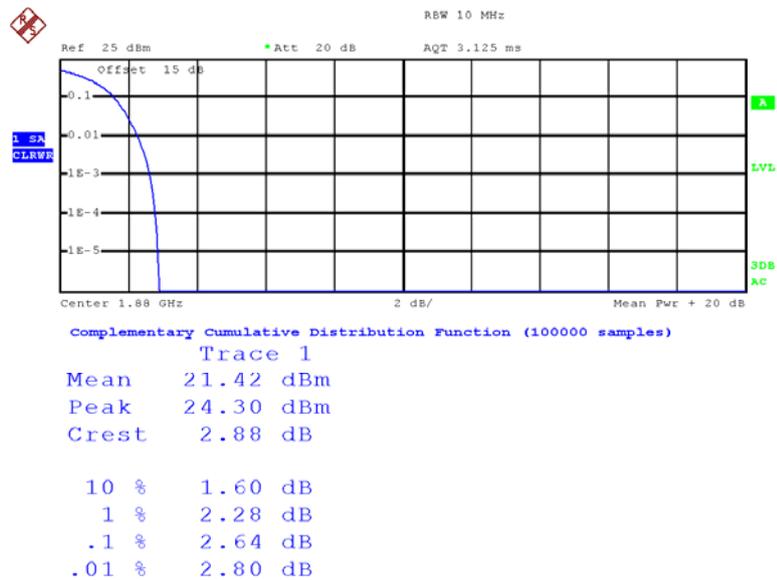
WCDMA Band II (PART 24E)

Low Channel



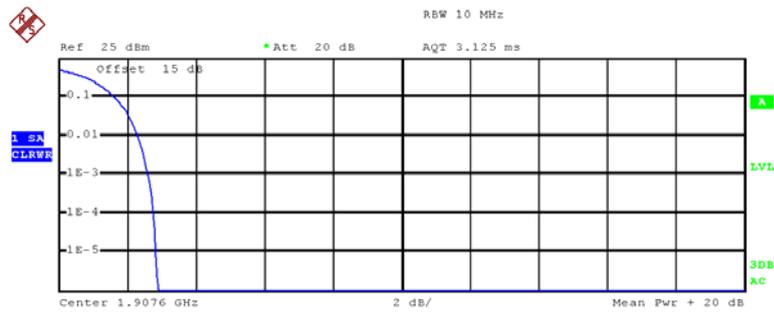
Date: 27.OCT.2015 17:58:49

Middle Channel



Date: 27.OCT.2015 17:58:10

High Channel



Complementary Cumulative Distribution Function (100000 samples)

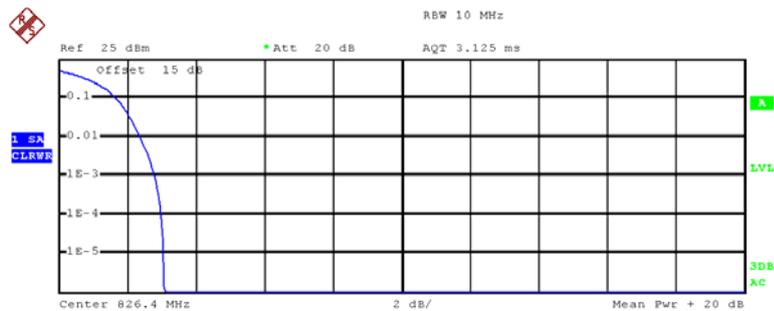
Trace 1

Mean	21.06 dBm
Peak	23.95 dBm
Crest	2.89 dB
10 %	1.64 dB
1 %	2.32 dB
.1 %	2.60 dB
.01 %	2.76 dB

Date: 27.OCT.2015 17:59:24

WCDMA Band V (PART 22H)

Low Channel



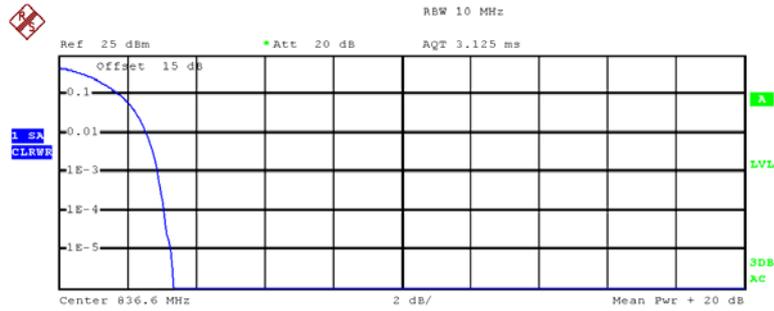
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	21.65 dBm
Peak	24.73 dBm
Crest	3.08 dB
10 %	1.68 dB
1 %	2.40 dB
.1 %	2.80 dB
.01 %	3.00 dB

Date: 27.OCT.2015 17:54:05

Middle Channel



Complementary Cumulative Distribution Function (100000 samples)

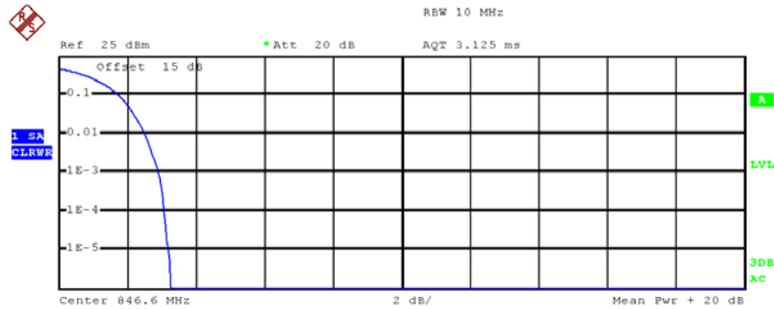
Trace 1

Mean 21.88 dBm
 Peak 25.22 dBm
 Crest 3.34 dB

10 %	1.80 dB
1 %	2.56 dB
.1 %	2.88 dB
.01 %	3.08 dB

Date: 27.OCT.2015 17:51:15

High Channel



Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean 22.01 dBm
 Peak 25.29 dBm
 Crest 3.28 dB

10 %	1.76 dB
1 %	2.52 dB
.1 %	2.92 dB
.01 %	3.08 dB

Date: 27.OCT.2015 17:53:31

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	22.53	22.61	22.41
		1#3	22.62	22.59	22.41
		1#5	22.63	22.58	22.33
		3#0	22.14	22.59	21.72
		3#1	22.03	22.50	21.81
		3#3	21.87	22.54	21.82
		6#0	21.17	21.46	21.13
	16-QAM	1#0	22.22	22.36	21.91
		1#3	22.41	22.18	21.75
		1#5	22.31	22.36	21.65
		3#0	21.71	22.40	21.32
		3#1	21.46	22.39	21.58
		3#3	21.68	22.30	21.53
		6#0	20.90	20.57	20.95
3M	QPSK	1#0	22.36	22.15	22.43
		1#7	22.31	22.35	22.08
		1#14	22.22	22.31	21.92
		8#0	21.92	21.89	21.80
		8#4	21.85	21.93	21.80
		8#7	21.73	21.71	21.65
		15#0	20.89	20.93	20.85
	16-QAM	1#0	22.26	21.82	21.77
		1#7	22.30	21.73	21.58
		1#14	22.30	21.67	21.74
		8#0	21.53	21.36	21.35
		8#4	21.80	21.11	21.31
		8#7	21.52	21.46	21.47
		15#0	20.78	20.77	20.59
5M	QPSK	1#0	22.77	22.08	22.45
		1#12	22.56	21.94	21.95
		1#24	22.37	19.98	22.11
		12#0	21.45	21.45	21.44
		12#6	21.74	21.24	21.67
		12#11	21.43	21.22	21.44
		25#0	20.78	20.77	20.70
	16-QAM	1#0	21.67	21.36	21.73
		1#12	21.71	21.19	21.61
		1#24	21.05	21.06	21.71
		12#0	21.46	21.20	21.00
		12#6	21.26	21.34	21.04
		12#11	21.27	20.84	20.99
		25#0	20.55	20.54	20.39

10M	QPSK	1#0	22.38	22.03	22.03
		1#24	22.65	21.88	21.98
		1#49	22.22	22.02	22.15
		25#0	21.74	21.43	21.36
		25#12	21.88	21.41	21.53
		25#24	21.75	21.37	21.57
		50#0	21.25	20.76	20.74
	16-QAM	1#0	22.20	21.88	21.65
		1#24	22.01	21.78	21.70
		1#49	20.97	21.53	21.53
		25#0	21.54	21.34	20.93
		25#12	21.39	21.45	21.07
		25#24	20.48	20.60	20.99
		50#0	20.42	20.34	20.45
15M	QPSK	1#0	22.15	22.19	22.24
		1#37	22.15	22.29	22.26
		1#74	21.98	22.16	22.44
		36#0	21.69	21.71	21.72
		36#17	21.61	21.82	21.71
		36#35	21.36	21.80	21.90
		75#0	21.40	20.68	20.74
	16-QAM	1#0	22.03	21.56	21.72
		1#37	22.01	21.28	21.45
		1#74	21.90	21.23	21.60
		36#0	21.31	20.32	20.69
		36#17	21.44	20.72	20.86
		36#35	21.35	20.57	20.78
		75#0	20.57	20.48	20.51
20M	QPSK	1#0	22.11	21.72	21.93
		1#49	22.25	21.90	22.27
		1#99	22.20	22.11	23.09
		50#0	21.52	21.12	21.73
		50#24	21.35	21.24	21.86
		50#49	21.56	21.49	21.55
		100#0	21.36	20.69	20.74
	16-QAM	1#0	21.79	21.66	21.81
		1#49	22.00	21.49	21.68
		1#99	21.83	21.49	21.87
		50#0	21.21	20.80	20.90
		50#24	21.14	21.02	20.99
		50#49	21.38	20.94	20.84
		100#0	20.54	20.33	20.31

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	22.34	22.42	22.22
		1#3	22.43	22.40	22.22
		1#5	22.46	22.41	22.16
		3#0	21.97	22.42	21.55
		3#1	21.86	22.33	21.64
		3#3	21.64	22.31	21.59
		6#0	21.00	21.29	20.96
	16-QAM	1#0	21.99	22.13	21.68
		1#3	22.21	21.98	21.55
		1#5	22.11	22.16	21.45
		3#0	21.49	22.18	21.10
		3#1	21.25	22.18	21.37
		3#3	21.49	22.11	21.34
		6#0	20.69	20.56	20.74
3M	QPSK	1#0	22.15	21.94	22.22
		1#7	22.11	22.15	21.88
		1#14	22.05	22.14	21.75
		8#0	21.71	21.68	21.59
		8#4	21.65	21.73	21.60
		8#7	21.51	21.49	21.43
		15#0	20.72	20.76	20.68
	16-QAM	1#0	22.05	21.61	21.56
		1#7	22.12	21.55	21.40
		1#14	22.10	21.47	21.54
		8#0	21.33	21.16	21.15
		8#4	21.60	20.91	21.11
		8#7	21.33	21.27	21.28
		15#0	20.58	20.57	20.49
5M	QPSK	1#0	22.57	21.88	22.25
		1#12	22.38	21.76	21.77
		1#24	22.16	19.77	21.90
		12#0	21.24	21.24	21.23
		12#6	21.56	21.06	21.49
		12#11	21.23	21.02	21.24
		25#0	20.59	20.58	20.51
	16-QAM	1#0	21.44	21.13	21.50
		1#12	21.55	21.03	21.45
		1#24	20.87	20.88	21.53
		12#0	21.24	20.98	20.78
		12#6	21.07	21.15	20.85
		12#11	21.05	20.62	20.77
		25#0	20.38	20.37	20.22

10M	QPSK	1#0	22.15	21.80	21.80
		1#24	22.47	21.70	21.80
		1#49	21.99	21.79	21.92
		25#0	21.53	21.22	21.15
		25#12	21.72	21.25	21.37
		25#24	21.54	21.16	21.36
		50#0	21.06	20.57	20.55
	16-QAM	1#0	22.00	21.68	21.45
		1#24	21.83	21.60	21.52
		1#49	20.81	21.37	21.37
		25#0	21.35	21.15	20.74
		25#12	21.14	21.20	20.82
		25#24	20.44	20.36	20.75
		50#0	20.43	20.35	20.47
15M	QPSK	1#0	21.97	22.01	22.06
		1#37	21.93	22.07	22.04
		1#74	21.82	22.00	22.28
		36#0	21.47	21.49	21.50
		36#17	21.42	21.63	21.52
		36#35	21.19	21.63	21.73
		75#0	21.20	20.48	20.54
	16-QAM	1#0	21.81	21.34	21.50
		1#37	21.81	21.08	21.25
		1#74	21.70	21.03	21.40
		36#0	21.11	20.12	20.49
		36#17	21.26	20.54	20.68
		36#35	21.17	20.39	20.60
		75#0	20.39	20.90	20.78
20M	QPSK	1#0	21.92	21.53	21.74
		1#49	22.05	21.70	22.07
		1#99	22.01	21.92	22.90
		50#0	21.35	20.95	21.56
		50#24	21.16	21.05	21.86
		50#49	22.35	21.28	21.34
		100#0	21.15	20.48	20.53
	16-QAM	1#0	21.57	21.44	21.59
		1#49	21.78	21.27	21.46
		1#99	21.63	21.29	21.67
		50#0	21.01	20.60	20.70
		50#24	20.93	20.81	20.78
		50#49	20.85	20.71	20.61
		100#0	20.96	20.45	20.53

LTE Band 12

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	1#0	23.16	22.96	22.93
		1#3	23.11	23.02	22.89
		1#5	22.88	23.05	22.79
		3#0	22.35	22.10	22.37
		3#1	22.42	22.42	21.88
		3#3	22.24	22.35	22.16
	16-QAM	6#0	21.80	21.84	21.63
		1#0	22.39	22.43	22.35
		1#3	22.44	22.33	22.02
		1#5	22.26	22.62	22.08
		3#0	21.67	21.39	21.43
		3#1	21.23	21.29	21.18
		3#3	21.36	21.54	21.15
		6#0	21.79	20.71	20.68
3M	QPSK	1#0	22.92	23.05	22.66
		1#7	22.82	22.81	22.62
		1#14	22.76	22.98	22.81
		8#0	22.77	22.44	21.82
		8#4	22.57	22.35	22.17
		8#7	22.44	22.34	22.00
		15#0	21.83	22.00	21.43
	16-QAM	1#0	22.42	22.23	22.26
		1#7	22.08	22.43	22.38
		1#14	22.27	22.44	22.18
		8#0	21.41	21.60	21.07
		8#4	21.47	21.26	21.00
		8#7	21.50	21.36	21.01
		15#0	20.60	20.83	20.51
5M	QPSK	1#0	23.00	22.86	22.71
		1#12	23.04	22.70	22.52
		1#24	22.93	22.71	22.85
		12#0	22.28	22.41	21.99
		12#6	22.53	22.15	22.14
		12#11	22.27	22.23	21.95
		25#0	21.76	21.70	21.40
	16-QAM	1#0	22.33	22.32	22.07
		1#12	22.52	22.24	22.16
		1#24	22.51	22.70	21.99
		12#0	21.50	21.43	21.01
		12#6	21.18	21.60	21.15
		12#11	21.29	21.66	20.92
		25#0	20.75	20.94	20.69

10M	QPSK	1#0	22.90	22.65	22.10
		1#24	22.92	23.01	22.31
		1#49	22.93	22.75	22.01
		25#0	22.12	22.40	21.68
		25#12	22.41	22.53	21.84
		25#24	22.19	22.52	21.80
		50#0	21.72	21.69	21.21
	16-QAM	1#0	22.53	22.16	22.05
		1#24	22.37	22.04	21.88
		1#49	22.31	22.22	22.06
		25#0	21.53	21.77	21.30
		25#12	21.75	21.74	21.41
		25#24	21.72	21.92	21.52
		50#0	20.38	20.83	20.63

LTE Band 17

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	22.77	22.65	22.46
		1#12	22.76	22.45	22.29
		1#24	22.69	22.45	22.59
		12#0	22.03	22.14	21.72
		12#6	22.30	21.89	21.90
		12#11	22.03	22.00	21.69
		25#0	21.50	21.43	21.15
	16-QAM	1#0	22.08	22.04	21.83
		1#12	22.29	22.01	21.89
		1#24	22.23	22.46	21.76
		12#0	21.25	21.18	20.78
		12#6	20.91	21.35	20.88
		12#11	21.07	21.41	20.70
		25#0	20.51	20.68	20.44
10M	QPSK	1#0	22.64	22.37	21.84
		1#24	22.68	22.77	22.06
		1#49	22.66	22.47	21.78
		25#0	21.89	22.12	21.42
		25#12	22.14	22.25	21.59
		25#24	21.92	22.27	21.55
		50#0	21.50	21.41	20.97
	16-QAM	1#0	22.29	21.95	21.80
		1#24	22.10	21.82	21.61
		1#49	22.06	21.96	21.79
		25#0	21.27	21.56	21.06
		25#12	21.49	21.49	21.13
		25#24	21.48	21.67	21.30
		50#0	20.54	20.59	20.39

LTE Band 41

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	22.70	22.57	22.39
		1#12	22.76	22.41	22.24
		1#24	22.64	22.41	22.52
		12#0	21.99	22.13	21.69
		12#6	22.23	21.86	21.86
		12#11	21.97	21.94	21.66
		25#0	21.48	21.40	21.12
	16-QAM	1#0	22.01	22.01	21.76
		1#12	22.22	21.97	21.85
		1#24	22.22	22.41	21.73
		12#0	21.20	21.13	20.73
		12#6	20.87	21.27	20.84
		12#11	21.00	21.37	20.61
		25#0	20.48	20.65	20.38
10M	QPSK	1#0	22.60	22.33	21.82
		1#24	22.64	22.74	22.02
		1#49	22.62	22.44	21.71
		25#0	21.86	22.08	21.40
		25#12	22.12	22.24	21.54
		25#24	21.88	22.18	21.50
		50#0	21.45	21.40	20.93
	16-QAM	1#0	22.28	21.87	21.78
		1#24	22.05	21.76	21.60
		1#49	22.01	21.91	21.76
		25#0	21.21	21.47	21.00
		25#12	21.44	21.44	21.08
		25#24	21.40	21.60	21.25
		50#0	20.58	20.51	20.33
15M	QPSK	1#0	22.89	22.95	22.02
		1#37	22.89	22.95	22.15
		1#74	22.93	22.85	22.36
		36#0	22.00	22.12	21.12
		36#17	22.23	21.93	21.02
		36#35	22.31	22.02	21.26
		75#0	21.55	21.42	20.71
	16-QAM	1#0	22.04	21.71	21.88
		1#37	22.17	22.01	21.68
		1#74	22.01	21.66	21.43
		36#0	21.11	21.26	21.17
		36#17	21.03	21.29	20.95
		36#35	20.95	21.36	20.94
		75#0	20.55	20.70	20.35

20M	QPSK	1#0	22.48	22.75	22.05
		1#49	22.63	22.80	22.00
		1#99	22.77	22.80	22.16
		50#0	22.36	22.13	21.30
		50#24	22.02	21.68	21.46
		50#49	22.04	21.32	21.53
		100#0	21.46	20.56	20.63
	16-QAM	1#0	22.12	21.66	21.54
		1#49	22.08	21.93	21.65
		1#99	21.85	21.77	21.87
		50#0	21.23	21.04	20.69
		50#24	21.04	20.93	20.60
		50#49	21.15	20.93	21.01
		100#0	20.42	20.74	20.76

Peak-to-average ratio (PAR)

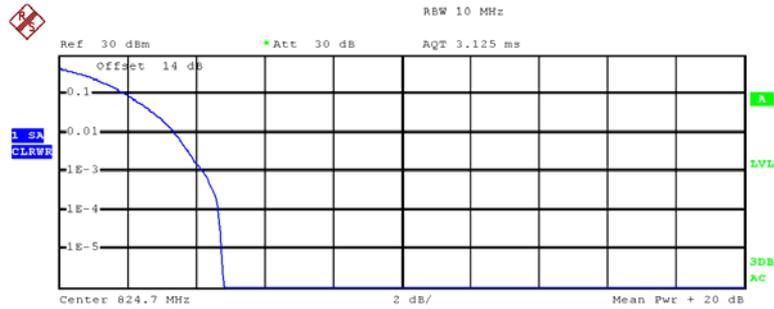
CDMA2000:

Frequency Band	Test Mode	Test Status	Low Channel (dB)	Middle Channel (dB)	High Channel (dB)	Limits (dB)
BC0	1x RTT	RC1+SO55	4.24	4.28	4.04	13
	1xEVDO Rev. 0	RTAP 153.6kbps	4.24	4.32	3.80	13
BC1	1x RTT	RC1+SO55	3.92	3.92	3.80	13
	1xEVDO Rev. 0	RTAP 153.6kbps	3.80	3.80	3.88	13

LTE:

LTE Band	Test Modulation		Test Bandwidth	Low Channel (dB)	Middle Channel (dB)	High Channel (dB)	Limit (dB)
Band 2	QPSK	1 RB	20M	4.20	4.04	3.96	13
		Full RB		6.88	6.76	6.92	13
	16-QAM	1 RB		5.16	5.20	4.64	13
		Full RB		7.04	7.08	7.12	13
Band 4	QPSK	1 RB	20M	4.52	4.36	3.24	13
		Full RB		6.20	6.28	6.28	13
	16-QAM	1 RB		5.32	5.36	4.24	13
		Full RB		7.08	7.12	7.04	13
Band 12	QPSK	1 RB	10M	4.36	3.60	3.56	13
		Full RB		5.16	5.08	4.96	13
	16-QAM	1 RB		3.60	4.44	4.44	13
		Full RB		6.00	5.84	5.84	13
Band 17	QPSK	1 RB	10M	3.60	5.72	3.48	13
		Full RB		4.92	4.88	5.00	13
	16-QAM	1 RB		4.40	4.20	4.20	13
		Full RB		5.84	3.48	5.80	13
Band 41	QPSK	1 RB	20M	4.72	5.00	5.28	13
		Full RB		8.16	8.60	8.04	13
	16-QAM	1 RB		5.76	5.28	5.84	13
		Full RB		8.64	8.64	8.72	13

BC0 Low Channel: 1x RTT



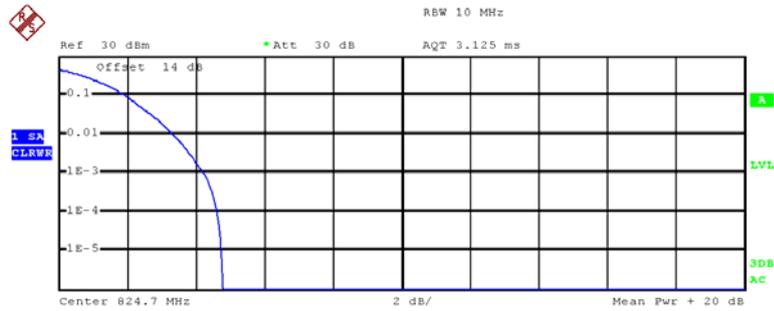
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	22.03 dBm
Peak	26.83 dBm
Crest	4.81 dB
10 %	2.00 dB
1 %	3.40 dB
.1 %	4.24 dB
.01 %	4.68 dB

Date: 3.NOV.2015 19:55:36

BC0 Low Channel: 1xEVDO Rev. 0



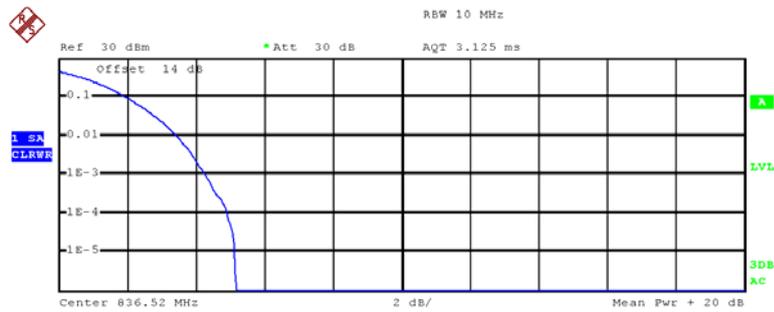
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	22.35 dBm
Peak	27.12 dBm
Crest	4.77 dB
10 %	1.96 dB
1 %	3.36 dB
.1 %	4.24 dB
.01 %	4.64 dB

Date: 3.NOV.2015 19:55:46

BC0 Middle Channel: 1x RTT



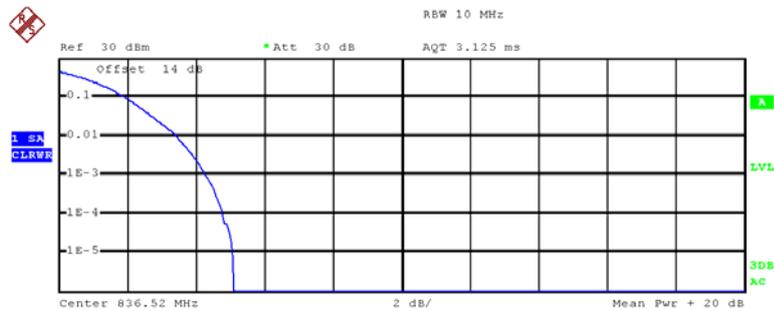
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	21.75 dBm
Peak	26.91 dBm
Crest	5.16 dB
10 %	2.00 dB
1 %	3.48 dB
.1 %	4.28 dB
.01 %	4.92 dB

Date: 3.NOV.2015 19:54:02

BC0 Middle Channel: 1xEVDO Rev. 0



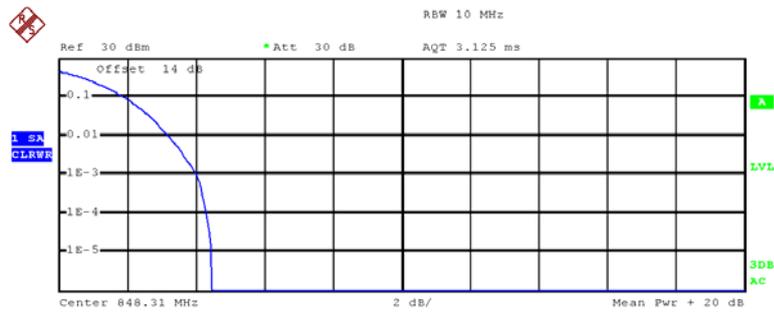
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	21.80 dBm
Peak	26.91 dBm
Crest	5.10 dB
10 %	2.00 dB
1 %	3.44 dB
.1 %	4.32 dB
.01 %	4.80 dB

Date: 3.NOV.2015 19:54:13

BC0 High Channel: 1x RTT



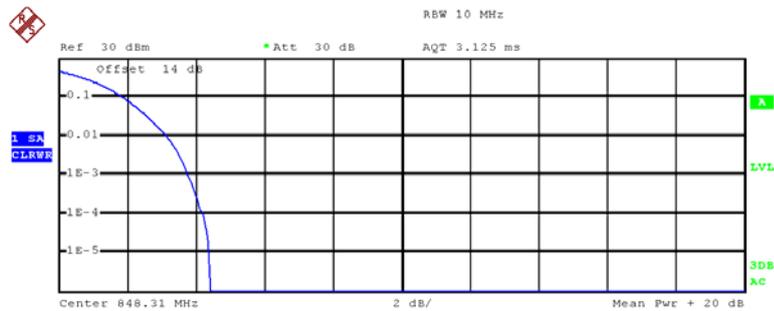
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	21.73 dBm
Peak	26.20 dBm
Crest	4.47 dB
10 %	1.96 dB
1 %	3.20 dB
.1 %	4.04 dB
.01 %	4.32 dB

Date: 3.NOV.2015 19:52:17

BC0 High Channel: 1xEVDO Rev. 0



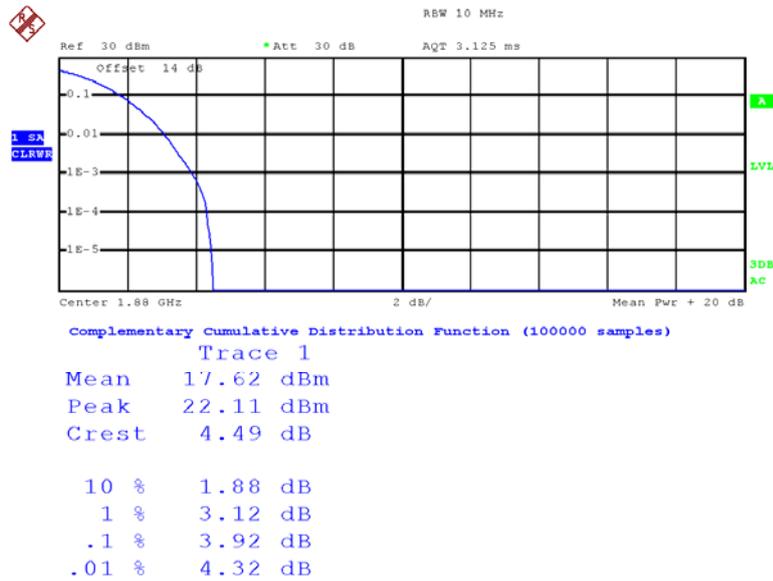
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	22.01 dBm
Peak	26.41 dBm
Crest	4.40 dB
10 %	1.92 dB
1 %	3.16 dB
.1 %	3.80 dB
.01 %	4.24 dB

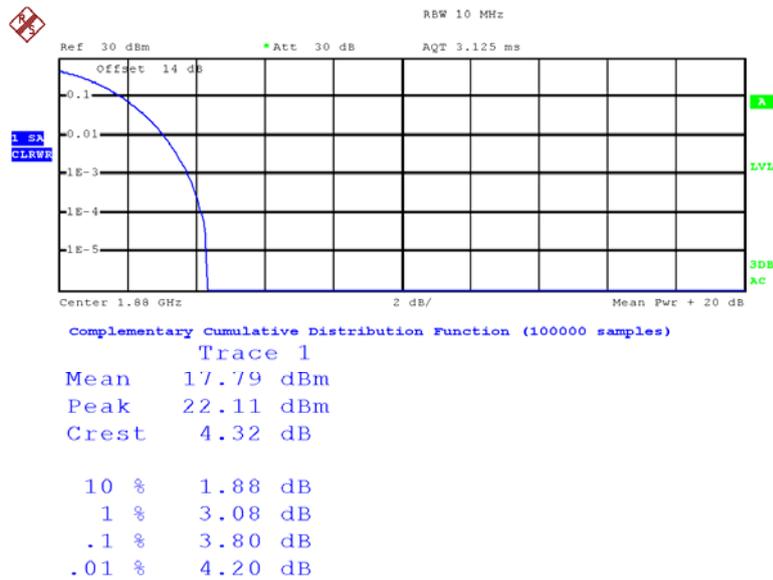
Date: 3.NOV.2015 19:52:09

BC1 Middle Channel: 1x RTT



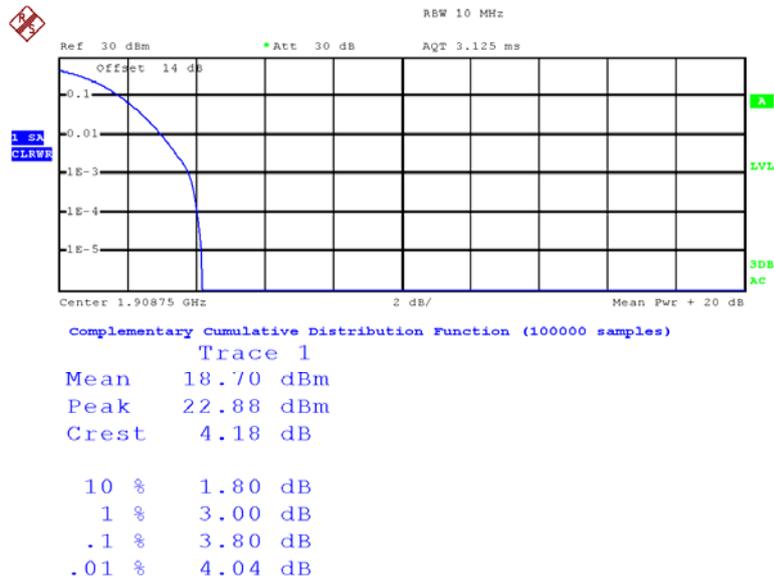
Date: 3.NOV.2015 19:47:53

BC1 Middle Channel: 1xEVDO Rev. 0



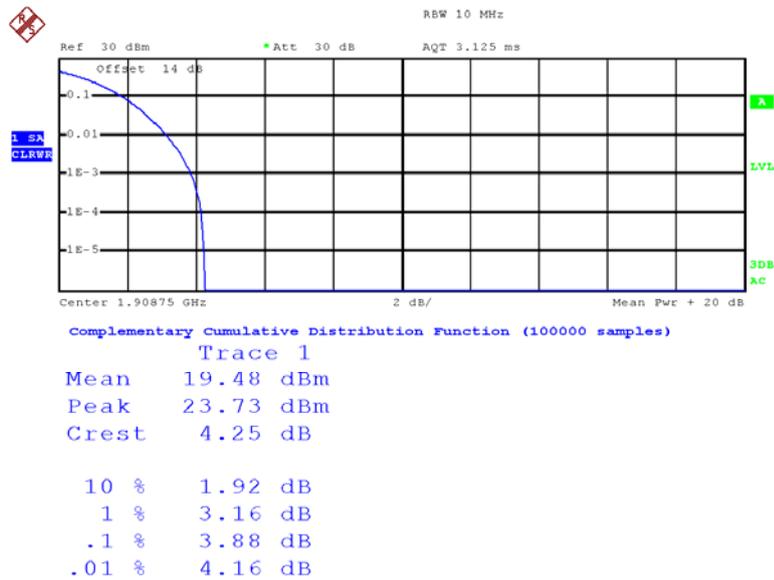
Date: 3.NOV.2015 19:47:55

BC1 High Channel: 1x RTT



Date: 3.NOV.2015 19:47:04

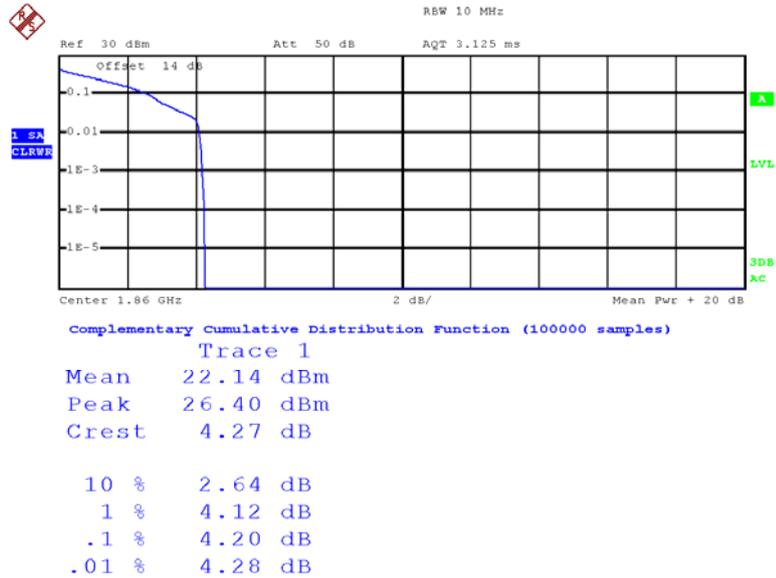
BC1 High Channel: 1xEVDO Rev. 0



Date: 3.NOV.2015 19:47:07

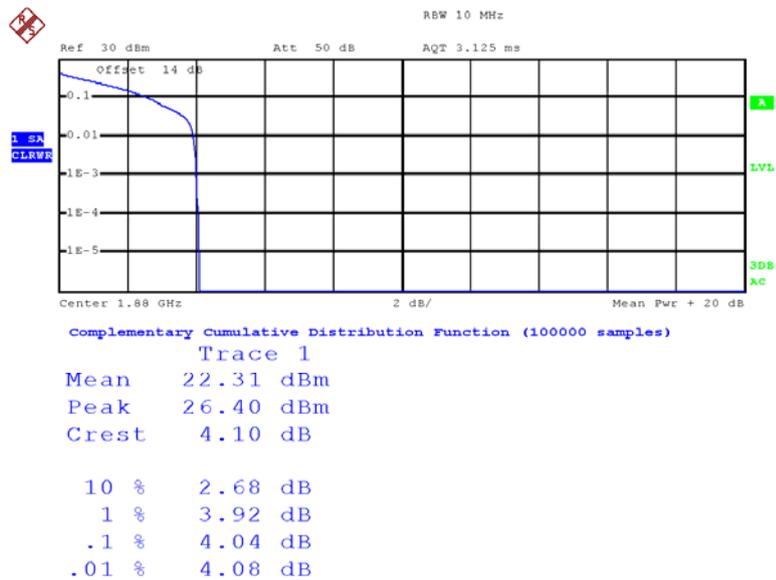
LTE Band 2

QPSK-1RB, 20M Low Channel



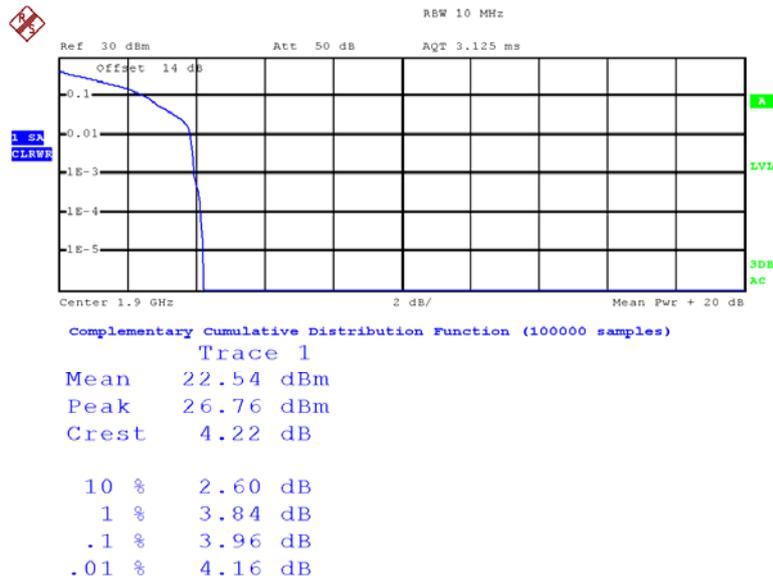
Date: 8.OCT.2015 22:27:23

QPSK-1RB, 20M Middle Channel



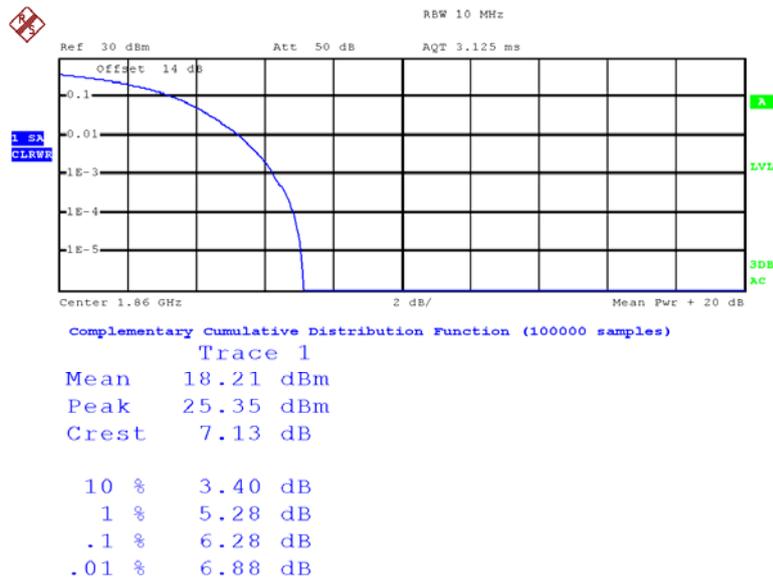
Date: 8.OCT.2015 22:28:45

QPSK-1RB, 20M High Channel



Date: 8.OCT.2015 22:30:11

QPSK- Full RB, 20M Low Channel



Date: 8.OCT.2015 22:23:30

QPSK- Full RB, 20M Middle Channel



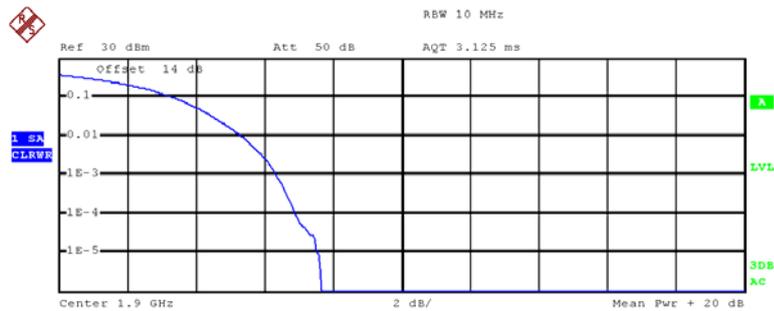
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	18.42 dBm
Peak	25.56 dBm
Crest	7.14 dB
10 %	3.40 dB
1 %	5.28 dB
.1 %	6.24 dB
.01 %	6.76 dB

Date: 8.OCT.2015 22:18:37

QPSK- Full RB, 20M High Channel



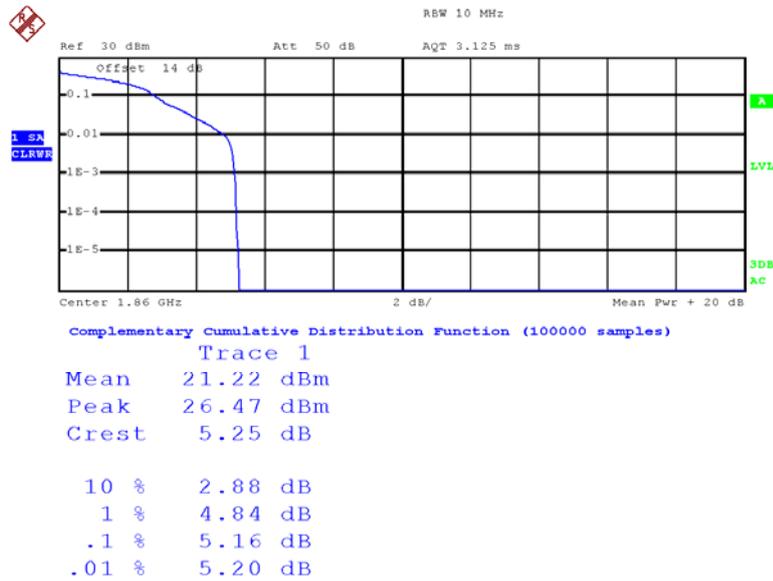
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	18.68 dBm
Peak	26.33 dBm
Crest	7.65 dB
10 %	3.44 dB
1 %	5.36 dB
.1 %	6.36 dB
.01 %	6.92 dB

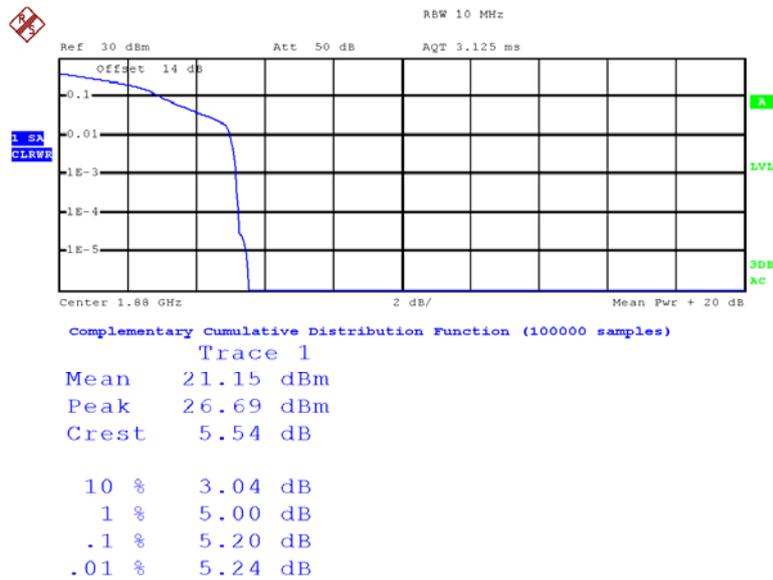
Date: 8.OCT.2015 22:22:33

16QAM- 1RB, 20M Low Channel



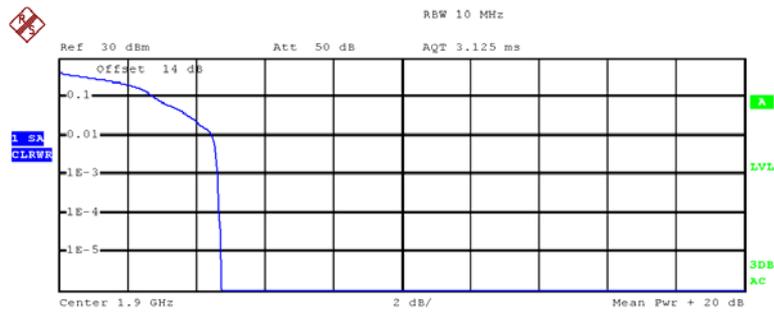
Date: 8.OCT.2015 22:27:04

16QAM- 1RB, 20M Middle Channel



Date: 8.OCT.2015 22:29:01

16QAM- 1RB, 20M High Channel



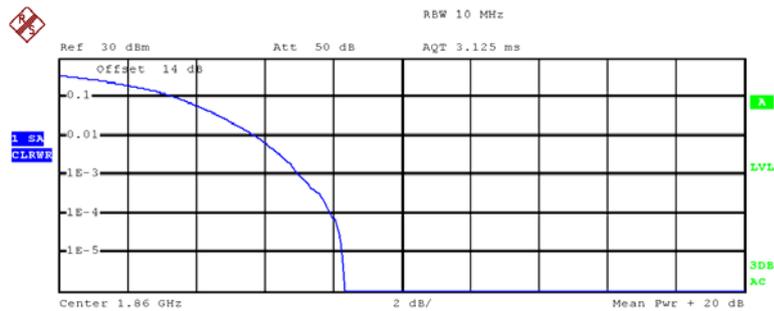
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	22.16 dBm
Peak	26.90 dBm
Crest	4.74 dB
10 %	2.84 dB
1 %	4.48 dB
.1 %	4.64 dB
.01 %	4.68 dB

Date: 8.OCT.2015 22:29:58

16QAM- Full RB, 20M Low Channel



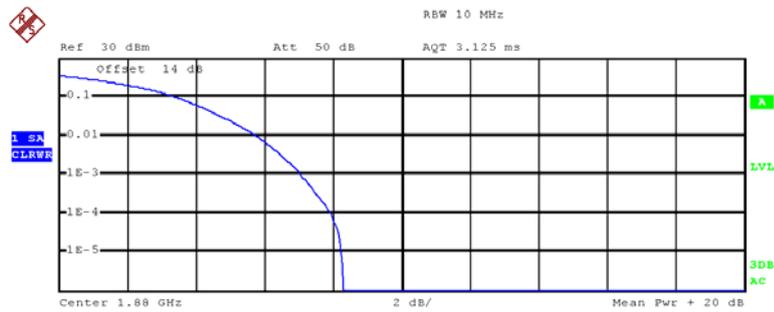
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	17.16 dBm
Peak	25.49 dBm
Crest	8.33 dB
10 %	3.48 dB
1 %	5.80 dB
.1 %	7.04 dB
.01 %	7.96 dB

Date: 8.OCT.2015 22:24:05

16QAM- Full RB, 20M Middle Channel



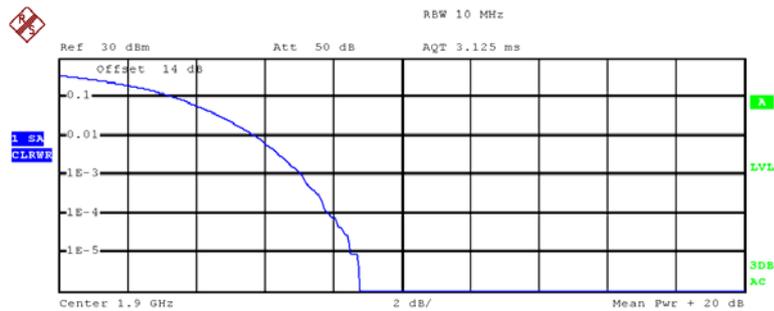
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	17.54 dBm
Peak	25.84 dBm
Crest	8.30 dB
10 %	3.52 dB
1 %	5.80 dB
.1 %	7.08 dB
.01 %	7.96 dB

Date: 8.OCT.2015 22:18:56

16QAM- Full RB, 20M High Channel



Complementary Cumulative Distribution Function (100000 samples)

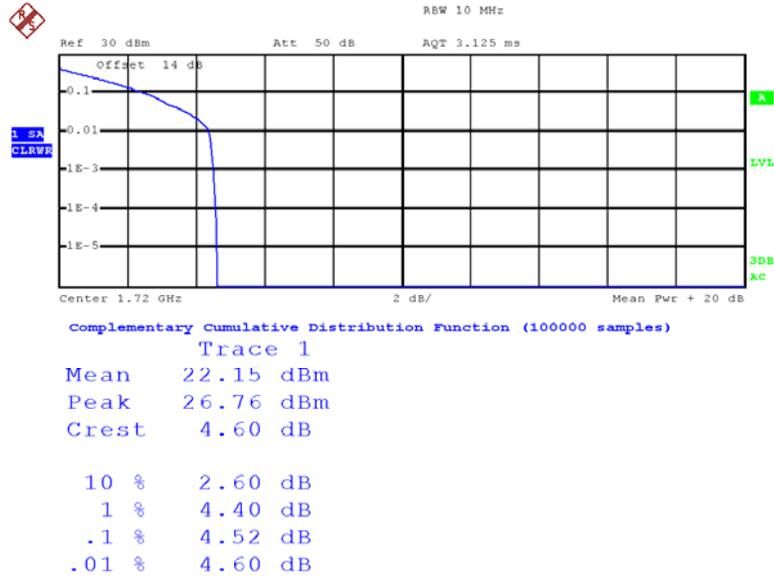
Trace 1

Mean	17.63 dBm
Peak	26.40 dBm
Crest	8.78 dB
10 %	3.48 dB
1 %	5.80 dB
.1 %	7.12 dB
.01 %	7.92 dB

Date: 8.OCT.2015 22:22:16

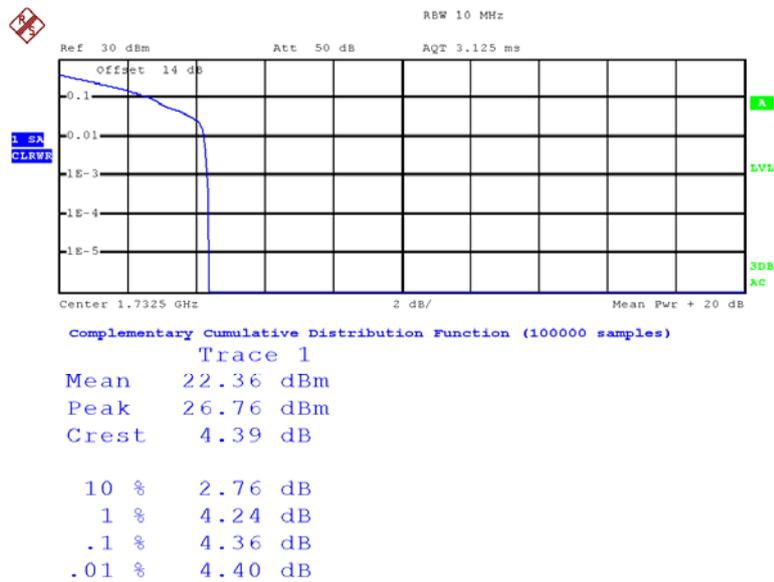
LTE Band 4

QPSK-1RB, 20M Low Channel



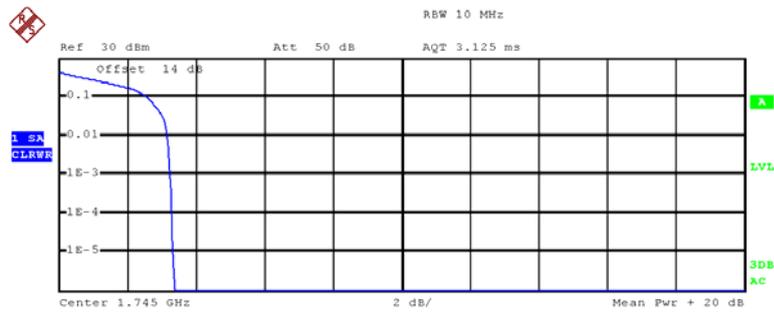
Date: 8.OCT.2015 22:40:48

QPSK-1RB, 20M Middle Channel



Date: 8.OCT.2015 22:37:29

QPSK-1RB, 20M High Channel



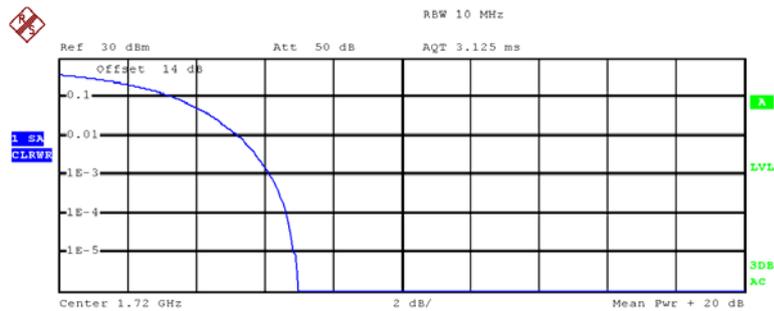
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	22.12 dBm
Peak	25.49 dBm
Crest	3.36 dB
10 %	2.60 dB
1 %	3.16 dB
.1 %	3.24 dB
.01 %	3.32 dB

Date: 8.OCT.2015 22:36:36

QPSK- Full RB, 20M Low Channel



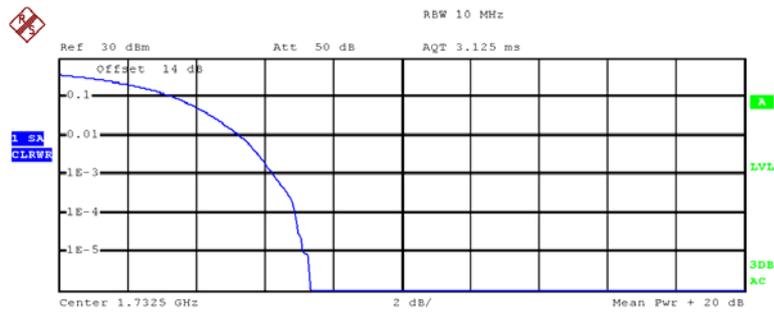
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	18.37 dBm
Peak	25.35 dBm
Crest	6.97 dB
10 %	3.44 dB
1 %	5.28 dB
.1 %	6.20 dB
.01 %	6.64 dB

Date: 8.OCT.2015 22:39:14

QPSK- Full RB, 20M Middle Channel



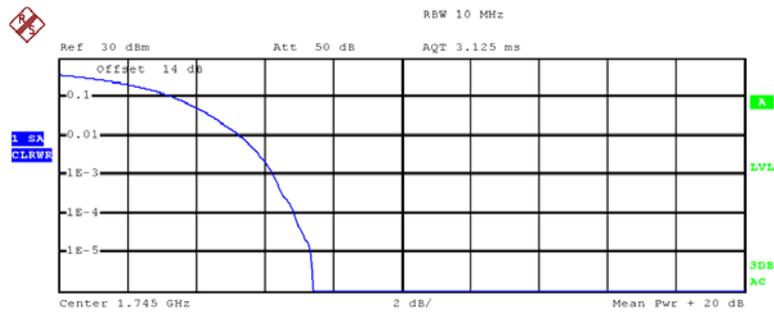
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	18.09 dBm
Peak	25.42 dBm
Crest	7.33 dB
10 %	3.44 dB
1 %	5.32 dB
.1 %	6.28 dB
.01 %	6.92 dB

Date: 8.OCT.2015 22:38:25

QPSK- Full RB, 20M High Channel



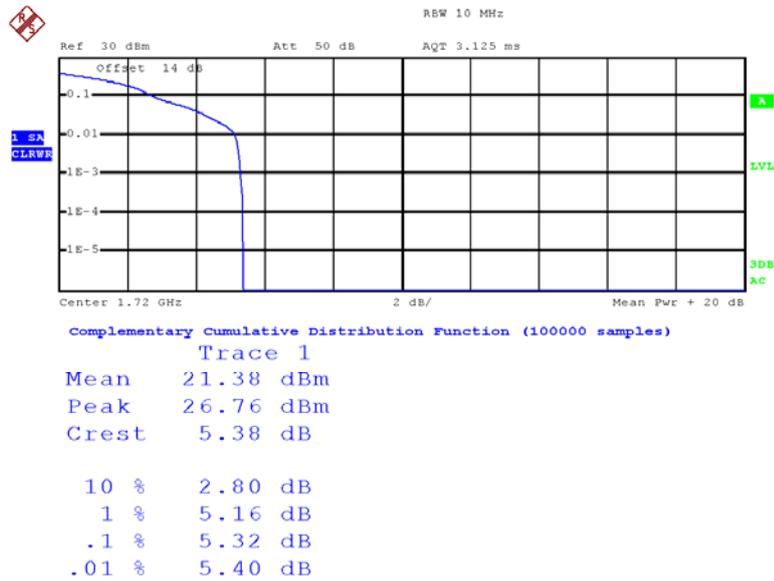
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	18.50 dBm
Peak	25.91 dBm
Crest	7.41 dB
10 %	3.44 dB
1 %	5.32 dB
.1 %	6.28 dB
.01 %	6.88 dB

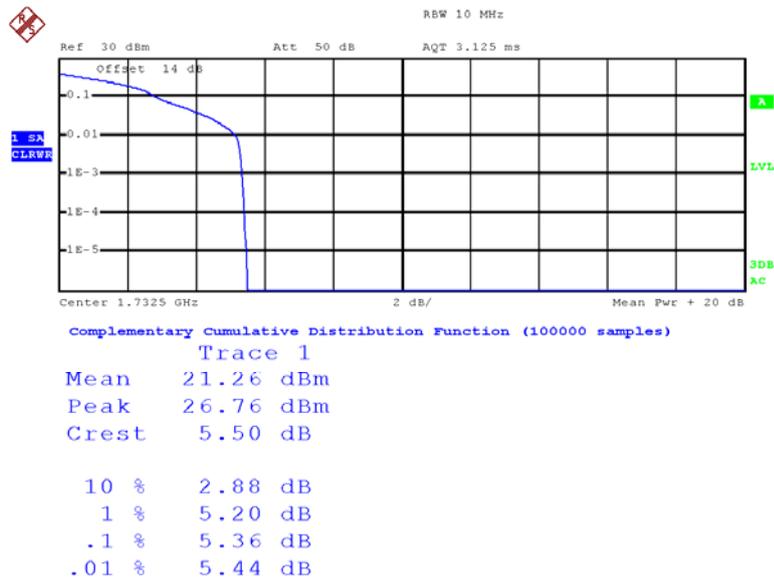
Date: 8.OCT.2015 22:34:50

16QAM- 1RB, 20M Low Channel



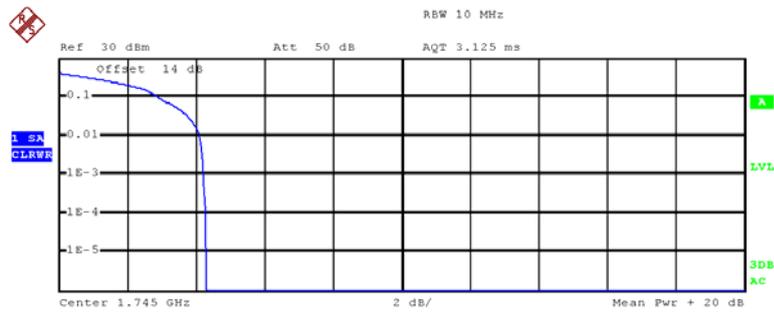
Date: 8.OCT.2015 22:40:30

16QAM- 1RB, 20M Middle Channel



Date: 8.OCT.2015 22:37:43

16QAM- 1RB, 20M High Channel



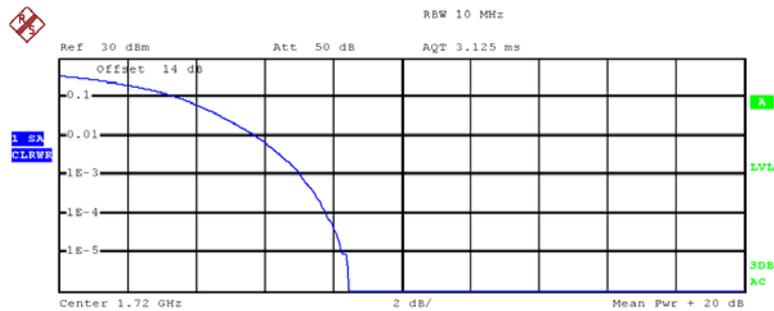
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	21.13 dBm
Peak	25.42 dBm
Crest	4.29 dB
10 %	2.96 dB
1 %	4.12 dB
.1 %	4.24 dB
.01 %	4.28 dB

Date: 8.OCT.2015 22:36:23

16QAM- Full RB, 20M Low Channel



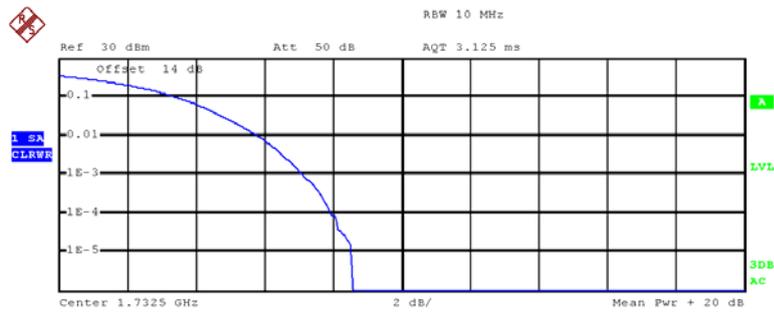
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	17.38 dBm
Peak	25.84 dBm
Crest	8.46 dB
10 %	3.56 dB
1 %	5.80 dB
.1 %	7.08 dB
.01 %	7.84 dB

Date: 8.OCT.2015 22:39:25

16QAM- Full RB, 20M Middle Channel



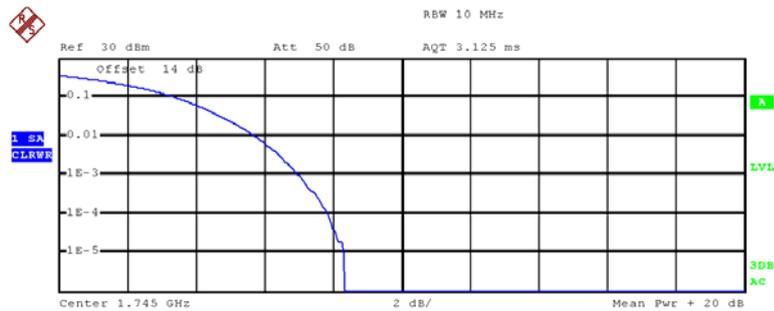
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	17.21 dBm
Peak	25.77 dBm
Crest	8.56 dB
10 %	3.52 dB
1 %	5.84 dB
.1 %	7.12 dB
.01 %	8.00 dB

Date: 8.OCT.2015 22:38:18

16QAM- Full RB, 20M High Channel



Complementary Cumulative Distribution Function (100000 samples)

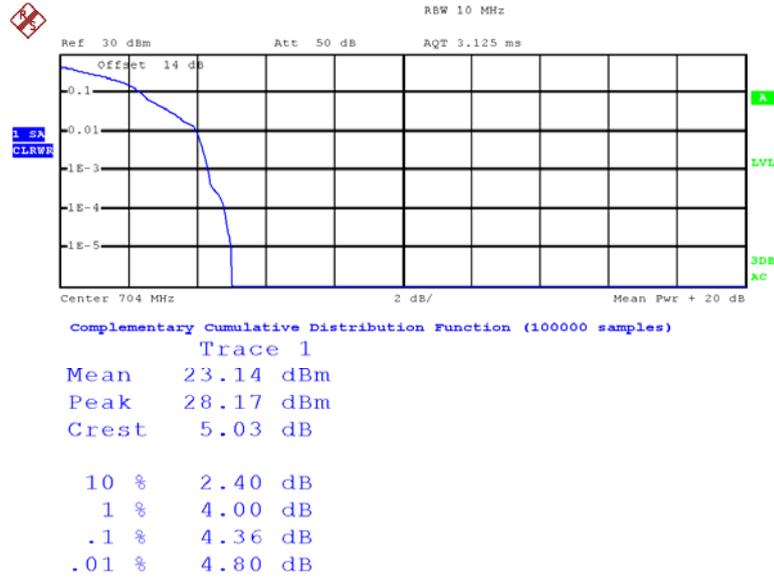
Trace 1

Mean	17.43 dBm
Peak	25.77 dBm
Crest	8.34 dB
10 %	3.48 dB
1 %	5.76 dB
.1 %	7.04 dB
.01 %	7.88 dB

Date: 8.OCT.2015 22:35:07

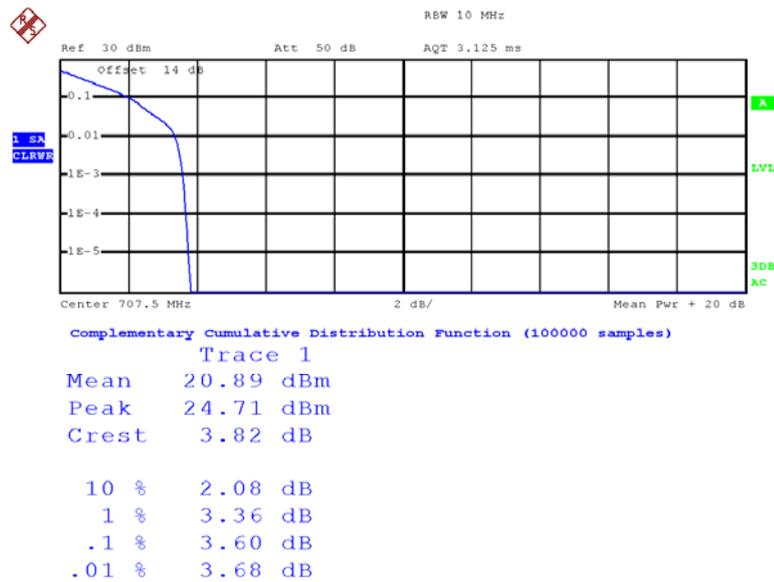
LTE Band 12

QPSK-1RB, 10M Low Channel



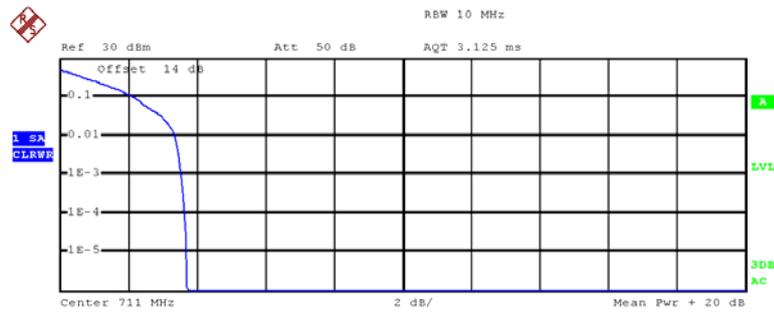
Date: 8.OCT.2015 23:20:29

QPSK-1RB, 10M Middle Channel



Date: 8.OCT.2015 22:49:17

QPSK-1RB, 10M High Channel



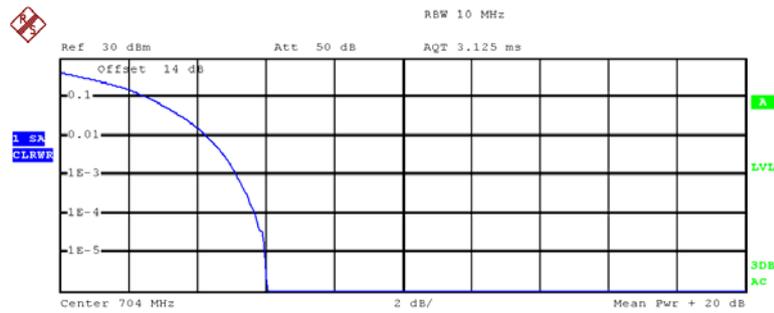
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	23.75 dBm
Peak	27.46 dBm
Crest	3.71 dB
10 %	2.20 dB
1 %	3.36 dB
.1 %	3.56 dB
.01 %	3.64 dB

Date: 8.OCT.2015 23:23:44

QPSK- Full RB, 10M Low Channel



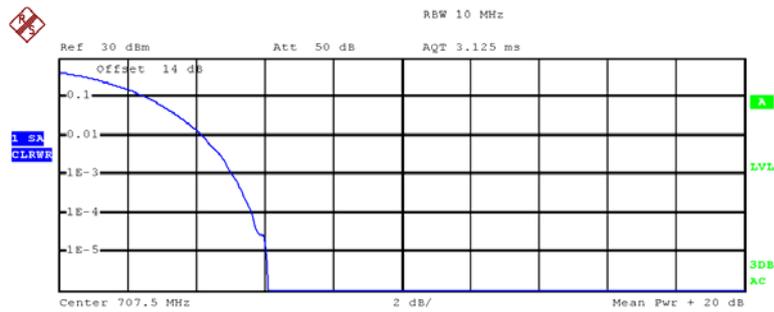
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	22.12 dBm
Peak	28.17 dBm
Crest	6.04 dB
10 %	2.60 dB
1 %	4.28 dB
.1 %	5.16 dB
.01 %	5.72 dB

Date: 8.OCT.2015 23:21:31

QPSK- Full RB, 10M Middle Channel



Complementary Cumulative Distribution Function (100000 samples)

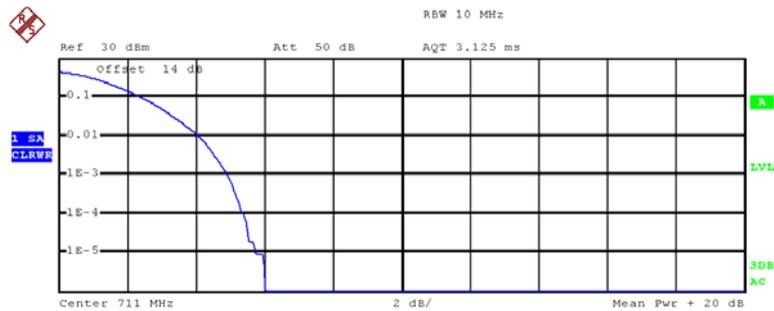
Trace 1

Mean 22.19 dBm
 Peak 28.31 dBm
 Crest 6.11 dB

10 % 2.60 dB
 1 % 4.20 dB
 .1 % 5.08 dB
 .01 % 5.64 dB

Date: 8.OCT.2015 22:47:35

QPSK- Full RB, 10M High Channel



Complementary Cumulative Distribution Function (100000 samples)

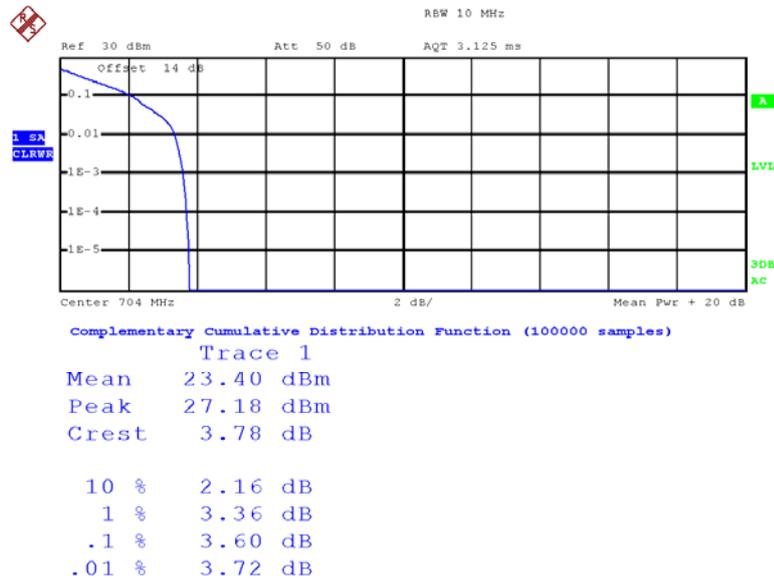
Trace 1

Mean 22.14 dBm
 Peak 28.17 dBm
 Crest 6.03 dB

10 % 2.48 dB
 1 % 4.12 dB
 .1 % 4.96 dB
 .01 % 5.40 dB

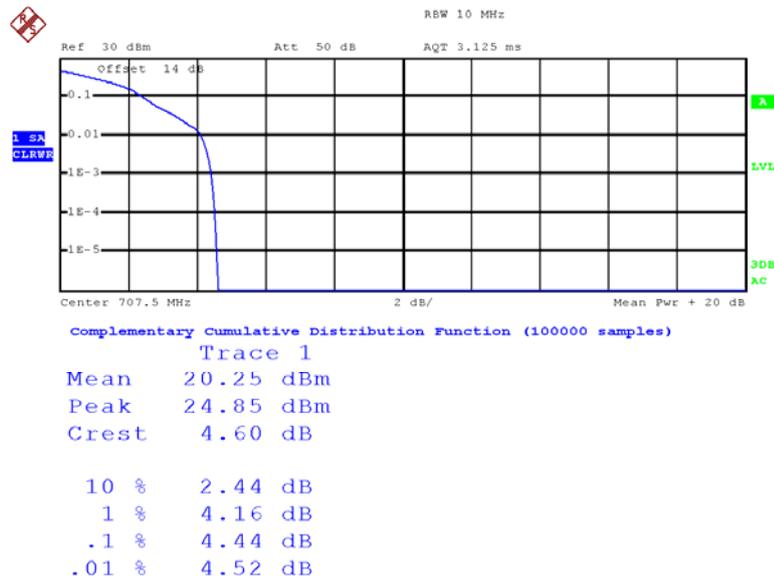
Date: 8.OCT.2015 23:22:55

16QAM- 1RB, 10M Low Channel



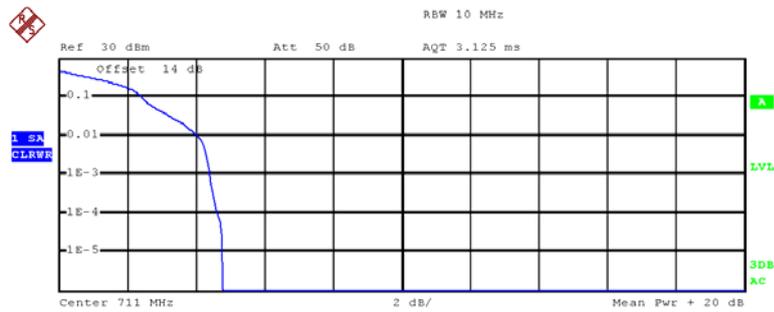
Date: 8.OCT.2015 23:20:37

16QAM- 1RB, 10M Middle Channel



Date: 8.OCT.2015 22:49:00

16QAM- 1RB, 10M High Channel



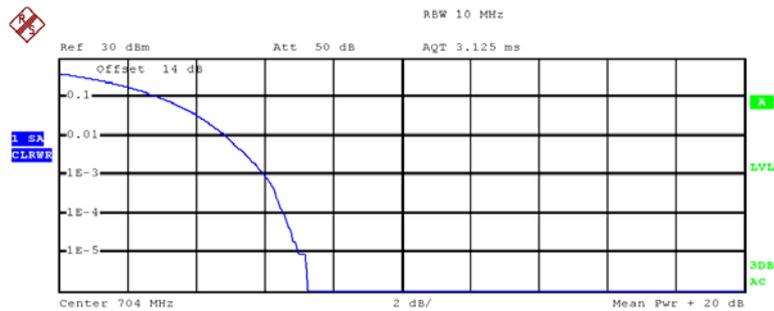
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	22.39 dBm
Peak	27.18 dBm
Crest	4.79 dB
10 %	2.44 dB
1 %	4.08 dB
.1 %	4.44 dB
.01 %	4.64 dB

Date: 8.OCT.2015 23:23:54

16QAM- Full RB, 10M Low Channel



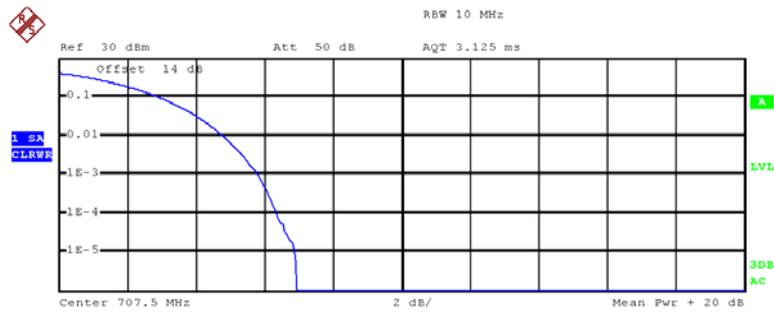
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	20.98 dBm
Peak	28.24 dBm
Crest	7.25 dB
10 %	3.00 dB
1 %	4.92 dB
.1 %	6.00 dB
.01 %	6.60 dB

Date: 8.OCT.2015 23:21:40

16QAM- Full RB, 10M Middle Channel



Complementary Cumulative Distribution Function (100000 samples)

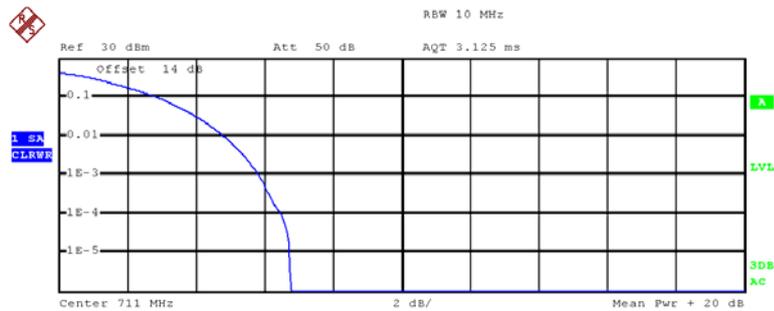
Trace 1

Mean 21.14 dBm
 Peak 28.10 dBm
 Crest 6.95 dB

10 % 3.00 dB
 1 % 4.84 dB
 .1 % 5.84 dB
 .01 % 6.36 dB

Date: 8.OCT.2015 22:47:55

16QAM- Full RB, 10M High Channel



Complementary Cumulative Distribution Function (100000 samples)

Trace 1

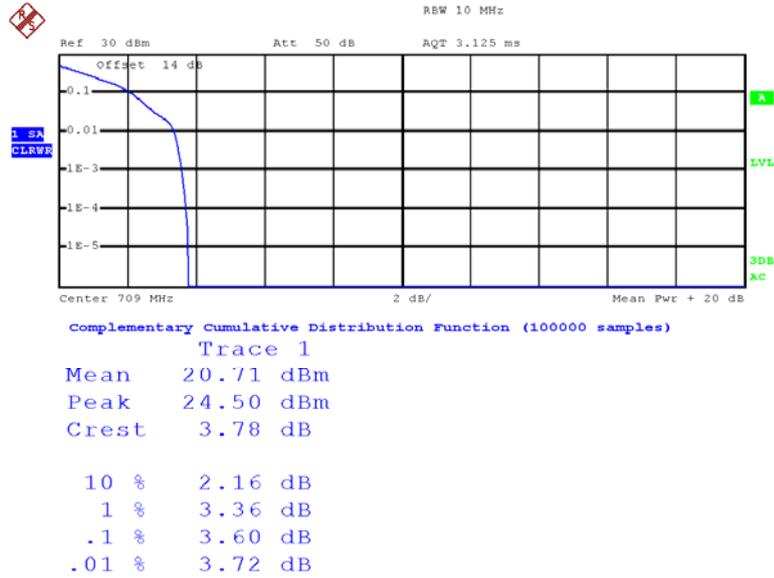
Mean 21.20 dBm
 Peak 27.96 dBm
 Crest 6.75 dB

10 % 2.96 dB
 1 % 4.84 dB
 .1 % 5.84 dB
 .01 % 6.52 dB

Date: 8.OCT.2015 23:22:47

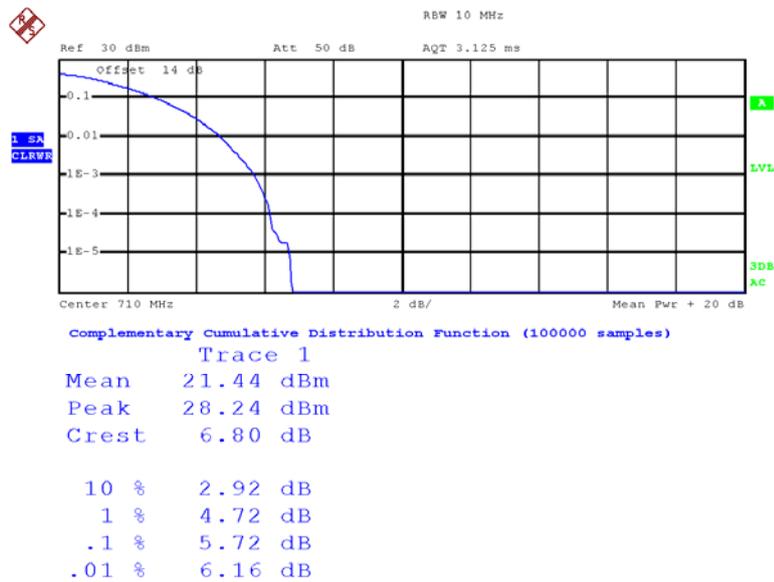
LTE Band 17

QPSK-1RB, 10M Low Channel



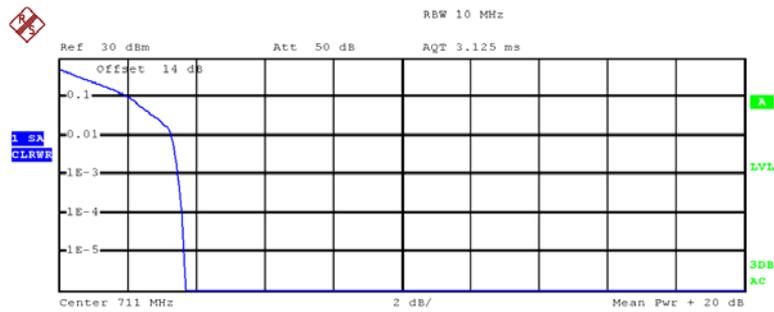
Date: 8.OCT.2015 23:15:31

QPSK-1RB, 10M Middle Channel



Date: 8.OCT.2015 23:00:58

QPSK-1RB, 10M High Channel



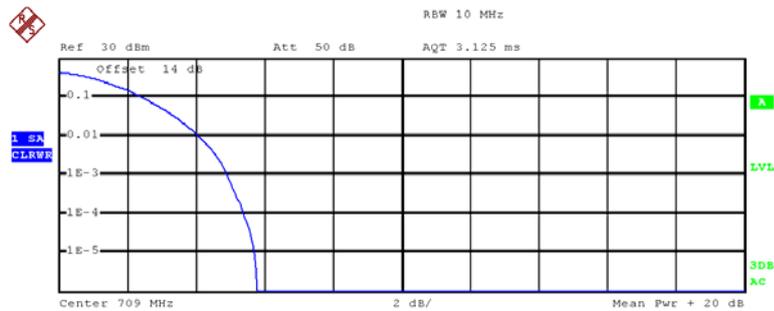
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	23.92 dBm
Peak	27.60 dBm
Crest	3.68 dB
10 %	2.08 dB
1 %	3.28 dB
.1 %	3.48 dB
.01 %	3.60 dB

Date: 8.OCT.2015 23:09:45

QPSK- Full RB, 10M Low Channel



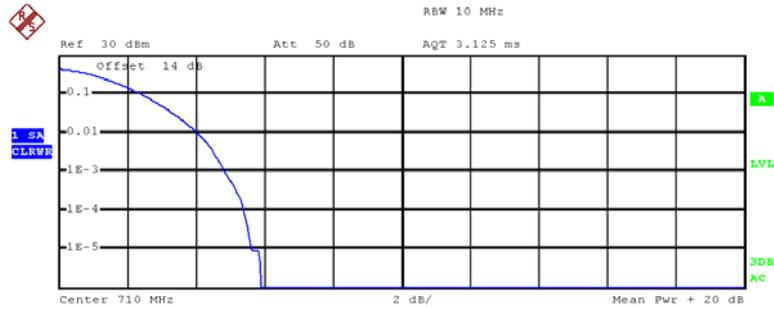
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	22.32 dBm
Peak	28.10 dBm
Crest	5.78 dB
10 %	2.52 dB
1 %	4.12 dB
.1 %	4.92 dB
.01 %	5.40 dB

Date: 8.OCT.2015 23:13:44

QPSK- Full RB, 10M Middle Channel



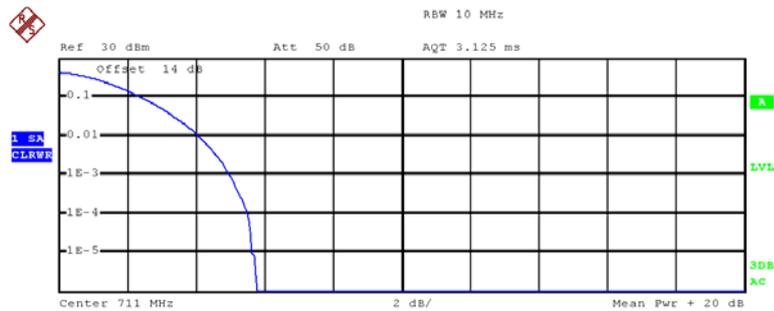
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	22.54 dBm
Peak	28.45 dBm
Crest	5.91 dB
10 %	2.48 dB
1 %	4.04 dB
.1 %	4.88 dB
.01 %	5.40 dB

Date: 8.OCT.2015 23:00:50

QPSK- Full RB, 10M High Channel



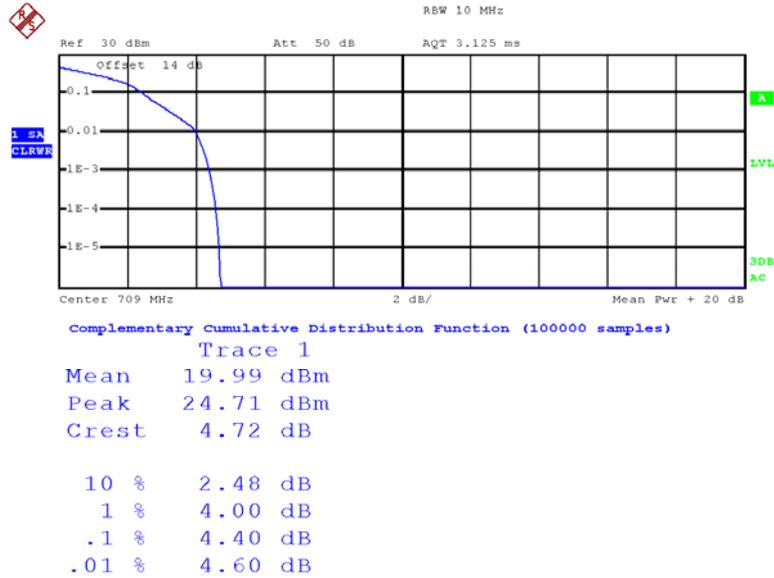
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	22.40 dBm
Peak	28.17 dBm
Crest	5.77 dB
10 %	2.48 dB
1 %	4.12 dB
.1 %	5.00 dB
.01 %	5.52 dB

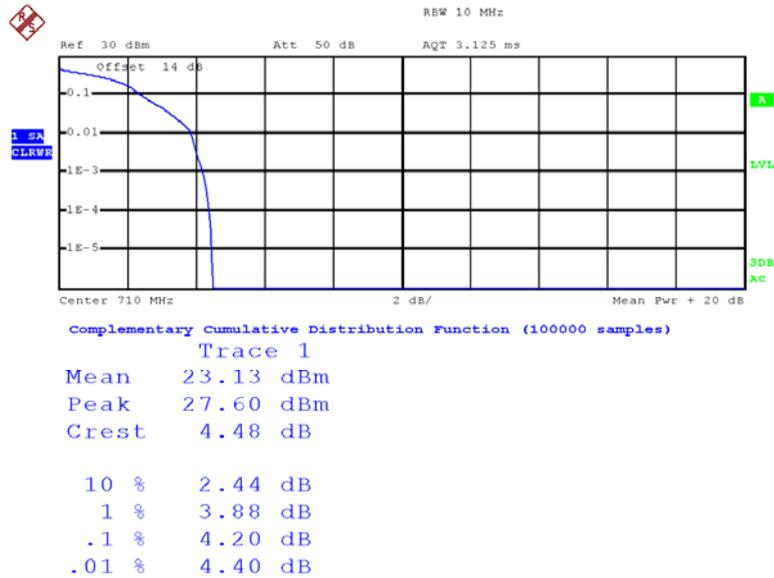
Date: 8.OCT.2015 23:12:26

16QAM- 1RB, 10M Low Channel



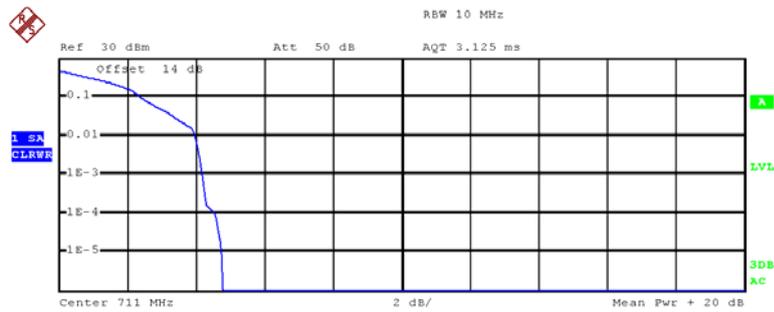
Date: 8.OCT.2015 23:14:59

16QAM- 1RB, 10M Middle Channel



Date: 8.OCT.2015 23:02:22

16QAM- 1RB, 10M High Channel



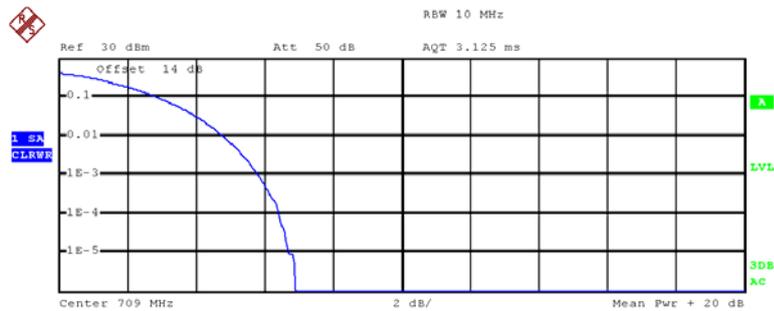
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	23.31 dBm
Peak	28.10 dBm
Crest	4.78 dB
10 %	2.40 dB
1 %	4.00 dB
.1 %	4.20 dB
.01 %	4.56 dB

Date: 8.OCT.2015 23:10:00

16QAM- Full RB, 10M Low Channel



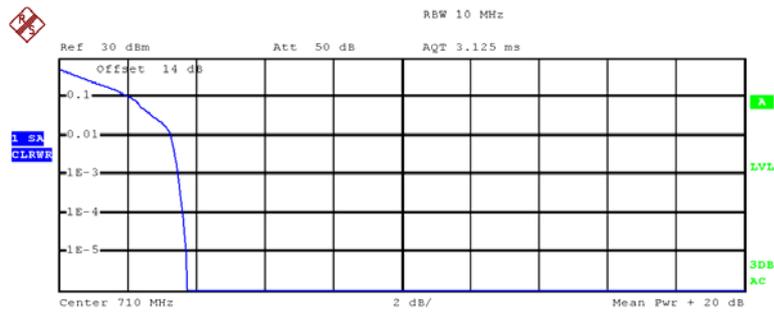
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	21.47 dBm
Peak	28.38 dBm
Crest	6.91 dB
10 %	2.96 dB
1 %	4.84 dB
.1 %	5.84 dB
.01 %	6.44 dB

Date: 8.OCT.2015 23:13:56

16QAM- Full RB, 10M Middle Channel



Complementary Cumulative Distribution Function (100000 samples)

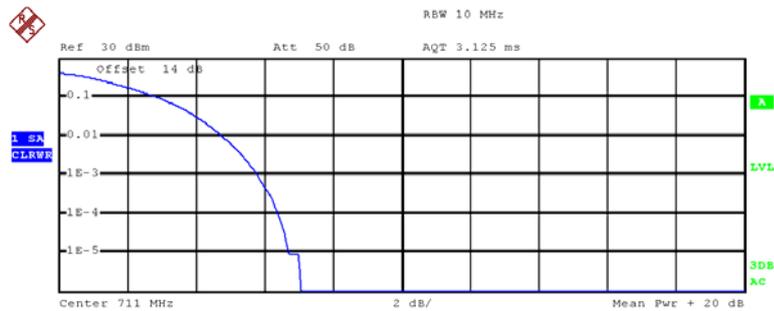
Trace 1

Mean 23.79 dBm
 Peak 27.53 dBm
 Crest 3.74 dB

10 % 2.12 dB
 1 % 3.28 dB
 .1 % 3.48 dB
 .01 % 3.64 dB

Date: 8.OCT.2015 23:02:31

16QAM- Full RB, 10M High Channel



Complementary Cumulative Distribution Function (100000 samples)

Trace 1

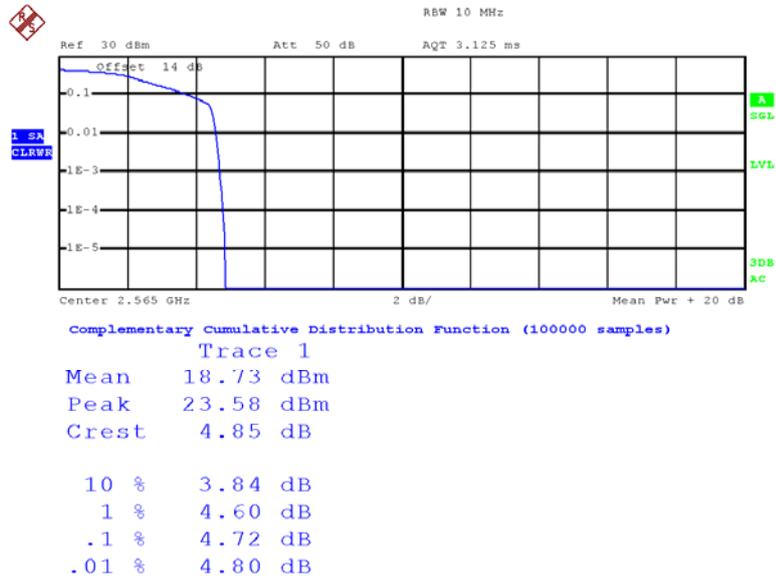
Mean 21.25 dBm
 Peak 28.31 dBm
 Crest 7.05 dB

10 % 2.96 dB
 1 % 4.80 dB
 .1 % 5.80 dB
 .01 % 6.40 dB

Date: 8.OCT.2015 23:12:15

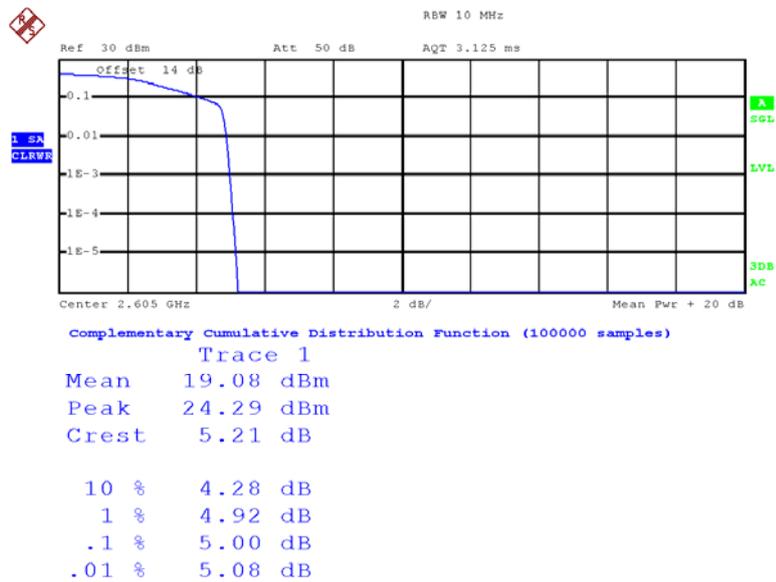
LTE Band 41

QPSK-1RB, 20M Low Channel



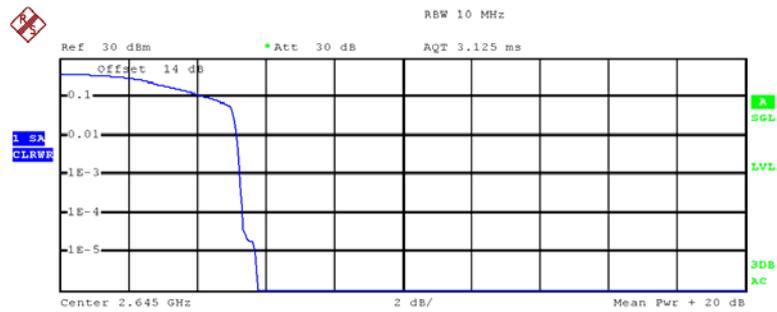
Date: 9.OCT.2015 00:04:11

QPSK-1RB, 20M Middle Channel



Date: 9.OCT.2015 00:02:37

QPSK-1RB, 20M High Channel



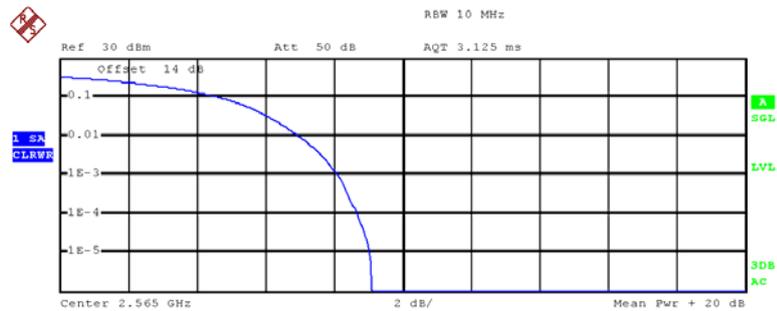
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	18.10 dBm
Peak	23.87 dBm
Crest	5.77 dB
10 %	4.40 dB
1 %	5.16 dB
.1 %	5.28 dB
.01 %	5.36 dB

Date: 9.OCT.2015 00:10:52

QPSK- Full RB, 20M Low Channel



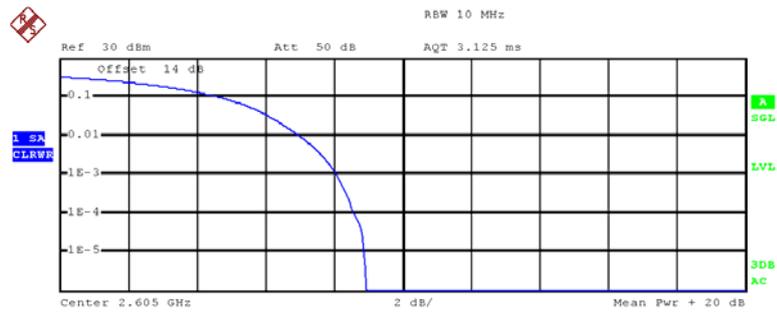
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	15.04 dBm
Peak	24.15 dBm
Crest	9.11 dB
10 %	4.80 dB
1 %	7.00 dB
.1 %	8.16 dB
.01 %	8.72 dB

Date: 9.OCT.2015 00:06:44

QPSK- Full RB, 20M Middle Channel



Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean 15.91 dBm
 Peak 24.85 dBm
 Crest 8.94 dB

10 % 4.80 dB
 1 % 7.04 dB
 .1 % 8.08 dB
 .01 % 8.60 dB

Date: 9.OCT.2015 00:00:02

QPSK- Full RB, 20M High Channel



Complementary Cumulative Distribution Function (100000 samples)

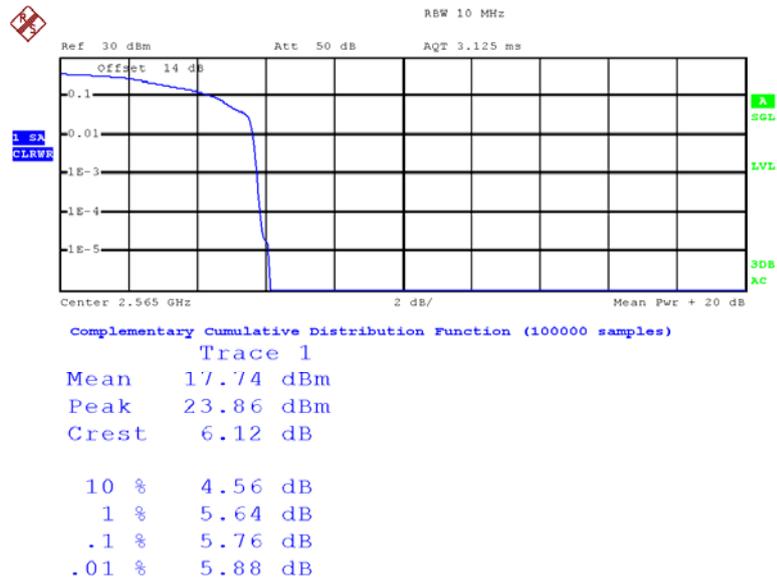
Trace 1

Mean 14.79 dBm
 Peak 24.08 dBm
 Crest 9.28 dB

10 % 4.76 dB
 1 % 7.00 dB
 .1 % 8.04 dB
 .01 % 8.76 dB

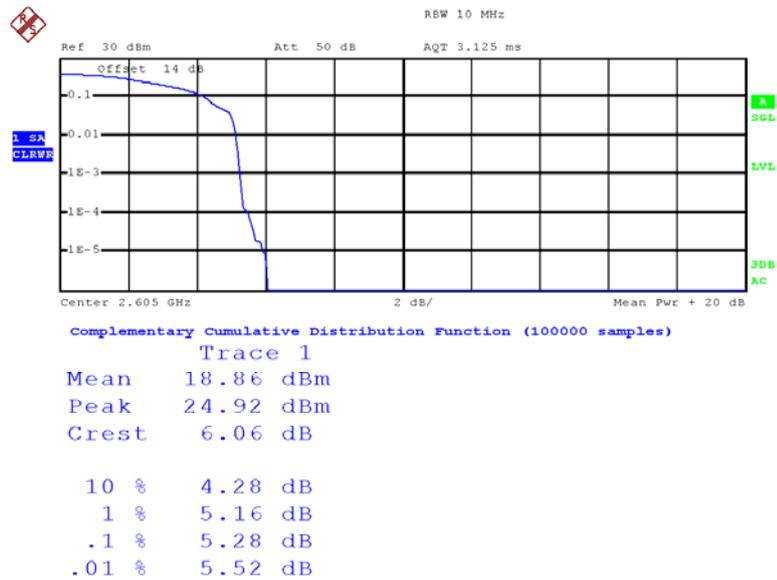
Date: 9.OCT.2015 00:08:29

16QAM- 1RB, 20M Low Channel



Date: 9.OCT.2015 00:04:59

16QAM- 1RB, 20M Middle Channel



Date: 9.OCT.2015 00:02:21

16QAM- 1RB, 20M High Channel



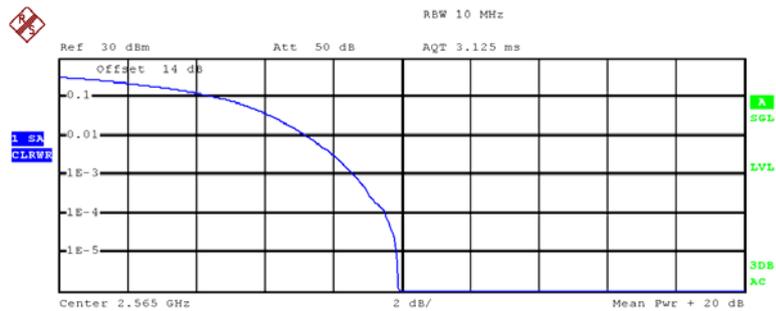
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	17.75 dBm
Peak	23.72 dBm
Crest	5.97 dB
10 %	4.56 dB
1 %	5.68 dB
.1 %	5.84 dB
.01 %	5.92 dB

Date: 9.OCT.2015 00:10:04

16QAM- Full RB, 20M Low Channel



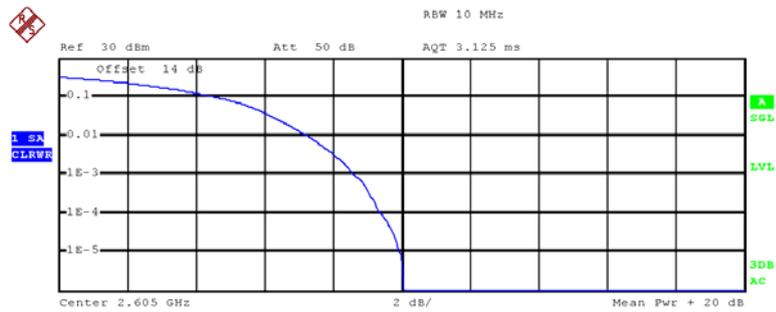
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	14.24 dBm
Peak	24.15 dBm
Crest	9.91 dB
10 %	4.76 dB
1 %	7.28 dB
.1 %	8.64 dB
.01 %	9.56 dB

Date: 9.OCT.2015 00:06:19

16QAM- Full RB, 20M Middle Channel



Complementary Cumulative Distribution Function (100000 samples)

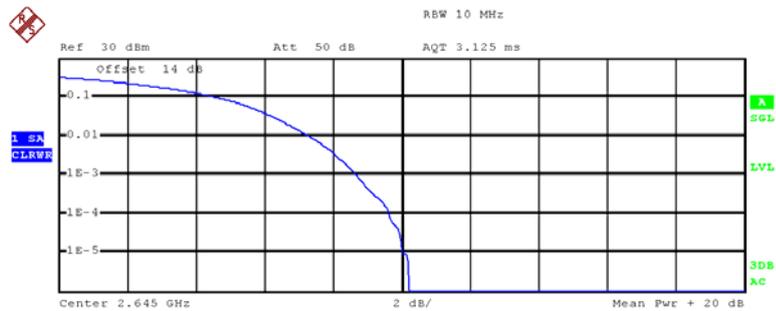
Trace 1

Mean 15.01 dBm
 Peak 25.06 dBm
 Crest 10.05 dB

10 % 4.76 dB
 1 % 7.28 dB
 .1 % 8.64 dB
 .01 % 9.44 dB

Date: 9.OCT.2015 00:00:47

16QAM- Full RB, 20M High Channel



Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean 13.99 dBm
 Peak 24.22 dBm
 Crest 10.23 dB

10 % 4.76 dB
 1 % 7.36 dB
 .1 % 8.72 dB
 .01 % 9.64 dB

Date: 9.OCT.2015 00:09:02

ERP & EIRP

CDMA 2000:

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)			
BC0 1xRTT RC1+SO55 Middle Channel (836.52MHz)								
836.520	H	81.60	6.7	0.0	1	5.7	38.5	32.8
836.520	V	92.92	21.1	0.0	1	20.1	38.5	19.4
BC0 1xEvDO RTAP 153.6kbps Middle Channel (836.52MHz)								
836.520	H	80.31	5.4	0.0	1	4.4	38.5	34.1
836.520	V	92.12	20.3	0.0	1	19.3	38.5	21.2
BC1 1xRTT RC1+SO55 Middle Channel(1880MHz)								
1880.000	H	85.70	14.1	11.7	1.4	24.4	33.0	8.6
1880.000	V	81.44	10	11.7	1.4	20.3	33.0	12.7
BC1 1xEvDO RTAP 153.6kbps Middle Channel (1880MHz)								
1880.000	H	84.23	12.6	11.7	1.4	22.9	33.0	10.1
1880.000	V	80.27	8.8	11.7	1.4	19.1	33.0	13.9

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	93.56	18.6	0.0	1	17.6	38.5	20.9
836.600	V	102.5	30.7	0.0	1	29.7	38.5	8.8
EGPRS 850 Middle Channel								
836.600	H	88.37	13.4	0.0	1	12.4	38.5	26.1
836.600	V	97.96	26.2	0.0	1	25.2	38.5	13.3
WCDMA Band V Middle Channel								
836.600	H	83.31	8.4	0.0	1	7.4	38.5	31.1
836.600	V	92.85	21.1	0.0	1	20.1	38.5	18.4

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	89.37	17.8	11.7	1.4	28.1	33.0	4.9
1880.000	V	84.16	12.7	11.7	1.4	23.0	33.0	10.0
EGPRS 1900 Middle Channel								
1880.000	H	86.37	14.8	11.7	1.4	25.1	33.0	7.9
1880.000	V	81.16	9.7	11.7	1.4	20.0	33.0	13.0
WCDMA Band II Middle Channel								
1880.000	H	83.15	11.6	11.7	1.4	21.9	33.0	11.1
1880.000	V	78.34	6.9	11.7	1.4	17.2	33.0	15.8

PART 27

Below 1G

LTE Band 12

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								
707.500	H	82.94	6.1	0.0	0.9	5.2	34.77	29.6
707.500	V	95.72	21.3	0.0	0.9	20.4	34.77	14.4
QPSK 3M BW Middle Channel								
707.500	H	82.76	5.9	0.0	0.9	5.0	34.77	29.8
707.500	V	95.41	21	0.0	0.9	20.1	34.77	14.7
QPSK 5M BW Middle Channel								
707.500	H	82.60	5.7	0.0	0.9	4.8	34.77	30.0
707.500	V	95.15	20.7	0.0	0.9	19.8	34.77	15.0
QPSK 10M BW Middle Channel								
707.500	H	82.42	5.6	0.0	0.9	4.7	34.77	30.1
707.500	V	94.87	20.5	0.0	0.9	19.6	34.77	15.2
16-QAM 1.4M BW Middle Channel								
707.500	H	83.03	6.2	0.0	0.9	5.3	34.77	29.5
707.500	V	95.69	21.3	0.0	0.9	20.4	34.77	14.4
16-QAM 3M BW Middle Channel								
707.500	H	82.95	6.1	0.0	0.9	5.2	34.77	29.6
707.500	V	94.91	20.5	0.0	0.9	19.6	34.77	15.2
16-QAM 5M BW Middle Channel								
707.500	H	82.87	6	0.0	0.9	5.1	34.77	29.7
707.500	V	95.15	20.7	0.0	0.9	19.8	34.77	15.0
16-QAM 10M BW Middle Channel								
707.500	H	82.76	5.9	0.0	0.9	5.0	34.77	29.8
707.500	V	95.48	21.1	0.0	0.9	20.2	34.77	14.6

LTE Band 17

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 5M BW Middle Channel								
710.000	H	86.79	10	0.0	0.9	9.1	34.77	25.7
710.000	V	95.82	21.5	0.0	0.9	20.6	34.77	14.2
QPSK 10M BW Middle Channel								
710.000	H	86.70	9.9	0.0	0.9	9.0	34.77	25.8
710.000	V	94.91	20.6	0.0	0.9	19.7	34.77	15.1
16-QAM 5M BW Middle Channel								
710.000	H	87.28	10.5	0.0	0.9	9.6	34.77	25.2
710.000	V	96.03	21.7	0.0	0.9	20.8	34.77	14.0
16-QAM 10M BW Middle Channel								
710.000	H	87.15	10.3	0.0	0.9	9.4	34.77	25.4
710.000	V	96.12	21.8	0.0	0.9	20.9	34.77	13.9

Above 1G

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	82.49	10.9	11.7	1.4	21.2	33.00	11.8
1880.000	V	79.76	8.3	11.7	1.4	18.6	33.00	14.4
QPSK 3M BW Middle Channel								
1880.000	H	80.85	9.3	11.7	1.4	19.6	33.00	13.4
1880.000	V	78.63	7.2	11.7	1.4	17.5	33.00	15.5
QPSK 5M BW Middle Channel								
1880.000	H	81.42	9.8	11.7	1.4	20.1	33.00	12.9
1880.000	V	77.56	6.1	11.7	1.4	16.4	33.00	16.6
QPSK 10M BW Middle Channel								
1880.000	H	80.94	9.3	11.7	1.4	19.6	33.00	13.4
1880.000	V	76.42	5	11.7	1.4	15.3	33.00	17.7
QPSK 15M BW Middle Channel								
1880.000	H	80.41	8.8	11.7	1.4	19.1	33.00	13.9
1880.000	V	75.39	3.9	11.7	1.4	14.2	33.00	18.8
QPSK 20M BW Middle Channel								
1880.000	H	80.93	9.3	11.7	1.4	19.6	33.00	13.4
1880.000	V	74.54	3.1	11.7	1.4	13.4	33.00	19.6
16-QAM 1.4M BW Middle Channel								
1880.000	H	82.60	11	11.7	1.4	21.3	33.00	11.7
1880.000	V	79.87	8.4	11.7	1.4	18.7	33.00	14.3
16-QAM 3M BW Middle Channel								
1880.000	H	81.11	9.5	11.7	1.4	19.8	33.00	13.2
1880.000	V	78.24	6.8	11.7	1.4	17.1	33.00	15.9
16-QAM 5M BW Middle Channel								
1880.000	H	80.58	9	11.7	1.4	19.3	33.00	13.7
1880.000	V	77.79	6.3	11.7	1.4	16.6	33.00	16.4
16-QAM 10M BW Middle Channel								
1880.000	H	80.06	8.5	11.7	1.4	18.8	33.00	14.2
1880.000	V	76.25	4.8	11.7	1.4	15.1	33.00	17.9
16-QAM 15M BW Middle Channel								
1880.000	H	80.65	9.1	11.7	1.4	19.4	33.00	13.6
1880.000	V	74.51	3.1	11.7	1.4	13.4	33.00	19.6
16-QAM 20M BW Middle Channel								
1880.000	H	79.83	8.2	11.7	1.4	18.5	33.00	14.5
1880.000	V	73.42	2	11.7	1.4	12.3	33.00	20.7

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	83.53	10.5	10.9	1.4	20.0	30.00	10.0
1732.500	V	82.44	9.1	10.9	1.4	18.6	30.00	11.4
QPSK 3M BW Middle Channel								
1732.500	H	83.36	10.4	10.9	1.4	19.9	30.00	10.1
1732.500	V	82.25	8.9	10.9	1.4	18.4	30.00	11.6
QPSK 5M BW Middle Channel								
1732.500	H	83.78	10.8	10.9	1.4	20.3	30.00	9.7
1732.500	V	82.66	9.3	10.9	1.4	18.8	30.00	11.2
QPSK 10M BW Middle Channel								
1732.500	H	83.34	10.3	10.9	1.4	19.8	30.00	10.2
1732.500	V	81.21	7.9	10.9	1.4	17.4	30.00	12.6
QPSK 15M BW Middle Channel								
1732.500	H	82.75	9.7	10.9	1.4	19.2	30.00	10.8
1732.500	V	81.64	8.3	10.9	1.4	17.8	30.00	12.2
QPSK 20M BW Middle Channel								
1732.500	H	83.25	10.2	10.9	1.4	19.7	30.00	10.3
1732.500	V	81.35	8	10.9	1.4	17.5	30.00	12.5
16-QAM 1.4M BW Middle Channel								
1732.500	H	83.50	10.5	10.9	1.4	20.0	30.00	10.0
1732.500	V	82.51	9.2	10.9	1.4	18.7	30.00	11.3
16-QAM 3M BW Middle Channel								
1732.500	H	83.91	10.9	10.9	1.4	20.4	30.00	9.6
1732.500	V	82.83	9.5	10.9	1.4	19.0	30.00	11.0
16-QAM 5M BW Middle Channel								
1732.500	H	83.57	10.6	10.9	1.4	20.1	30.00	9.9
1732.500	V	82.42	9.1	10.9	1.4	18.6	30.00	11.4
16-QAM 10M BW Middle Channel								
1732.500	H	83.85	10.8	10.9	1.4	20.3	30.00	9.7
1732.500	V	82.73	9.4	10.9	1.4	18.9	30.00	11.1
16-QAM 15M BW Middle Channel								
1732.500	H	83.62	10.6	10.9	1.4	20.1	30.00	9.9
1732.500	V	82.58	9.3	10.9	1.4	18.8	30.00	11.2
16-QAM 20M BW Middle Channel								
1732.500	H	83.08	10.1	10.9	1.4	19.6	30.00	10.4
1732.500	V	82.06	8.7	10.9	1.4	18.2	30.00	11.8

LTE Band 41

Frequency (MHz)	Polar (H/V)	Receiver Reading (dB μ V)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			S.G. Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK 5M BW Middle Channel								
2605.000	H	80.26	9.5	13.2	2.5	20.2	33.00	12.8
2605.000	V	71.45	2.6	13.2	2.5	13.3	33.00	19.7
QPSK 10M BW Middle Channel								
2605.000	H	78.94	8.2	13.2	2.5	18.9	33.00	14.1
2605.000	V	69.07	0.2	13.2	2.5	10.9	33.00	22.1
QPSK 15M BW Middle Channel								
2605.000	H	77.62	6.9	13.2	2.5	17.6	33.00	15.4
2605.000	V	68.81	-0.1	13.2	2.5	10.6	33.00	22.4
QPSK 20M BW Middle Channel								
2605.000	H	78.47	7.8	13.2	2.5	18.5	33.00	14.5
2605.000	V	67.65	-1.2	13.2	2.5	9.5	33.00	23.5
16-QAM 5M BW Middle Channel								
2605.000	H	80.47	9.8	13.2	2.5	20.5	33.00	12.5
2605.000	V	71.58	2.7	13.2	2.5	13.4	33.00	19.6
16-QAM 10M BW Middle Channel								
2605.000	H	78.65	7.9	13.2	2.5	18.6	33.00	14.4
2605.000	V	69.04	0.2	13.2	2.5	10.9	33.00	22.1
16-QAM 15M BW Middle Channel								
2605.000	H	77.12	6.4	13.2	2.5	17.1	33.00	15.9
2605.000	V	67.29	-1.6	13.2	2.5	9.1	33.00	23.9
16-QAM 20M BW Middle Channel								
2605.000	H	78.41	7.7	13.2	2.5	18.4	33.00	14.6
2605.000	V	66.39	-2.5	13.2	2.5	8.2	33.00	24.8

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

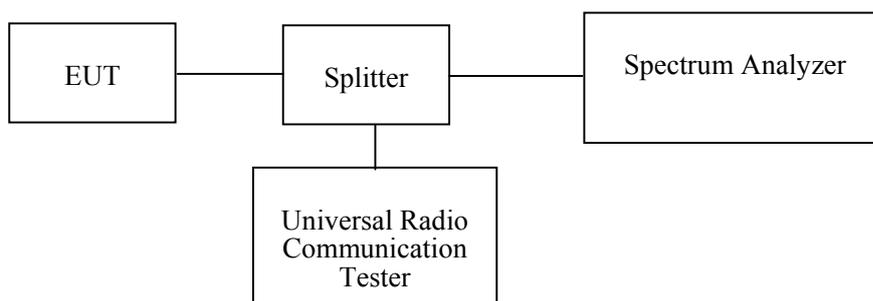
Applicable Standard

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	2014-11-23	2015-11-23
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:	26~26.2 °C
Relative Humidity:	45~58%
ATM Pressure:	99.6~100.5 kPa

The testing was performed by Dean Liu from 2015-10-09 to 2015-11-03.

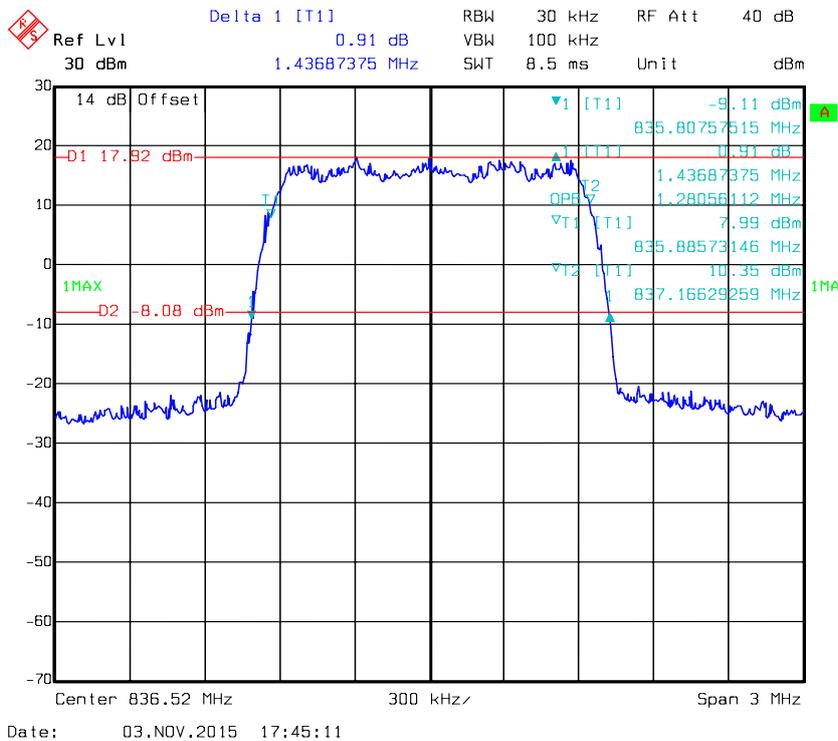
Test Mode: Transmitting

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

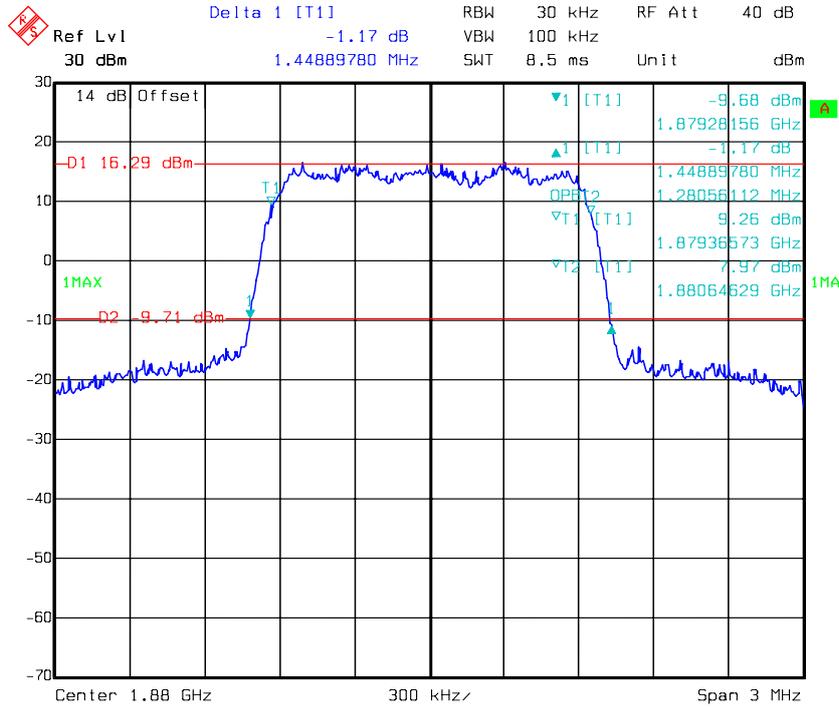
CDMA 2000:

Band	Channel	Configuration		99% Occupied Bandwidth	26 dB Bandwidth
				MHz	MHz
BC0	384	1xRTT	RC1+SO55	1.28	1.44
			RC3+SO55	1.28	1.44
		1xEvDO	RTAP 153.6kbps	1.29	1.44
BC1	600	1xRTT	RC1+SO55	1.28	1.45
			RC3+SO55	1.29	1.44
		1xEvDO	RTAP 153.6kbps	1.29	1.44

BC0- RC1+SO55

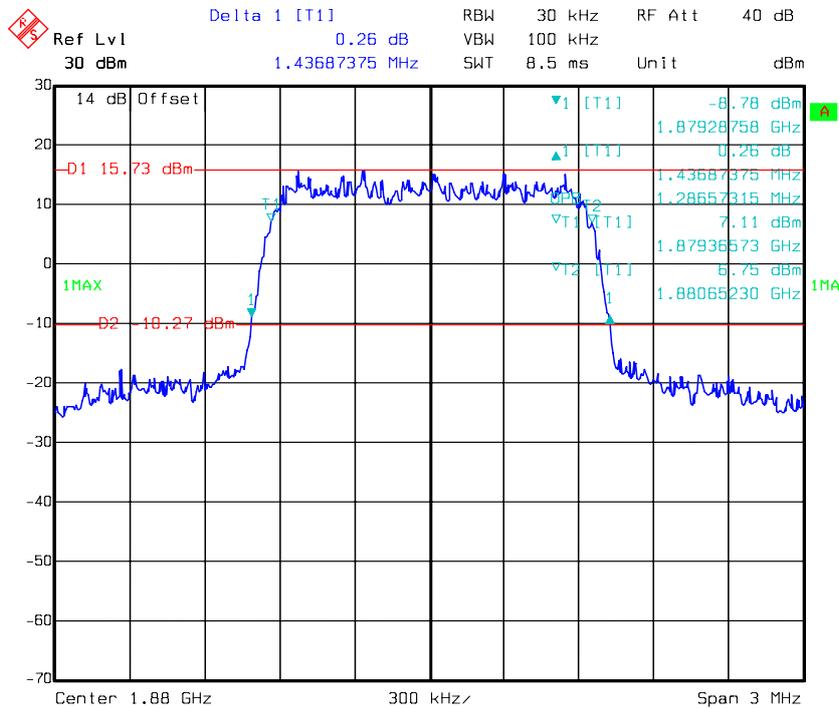


BC1- RC1+SO55



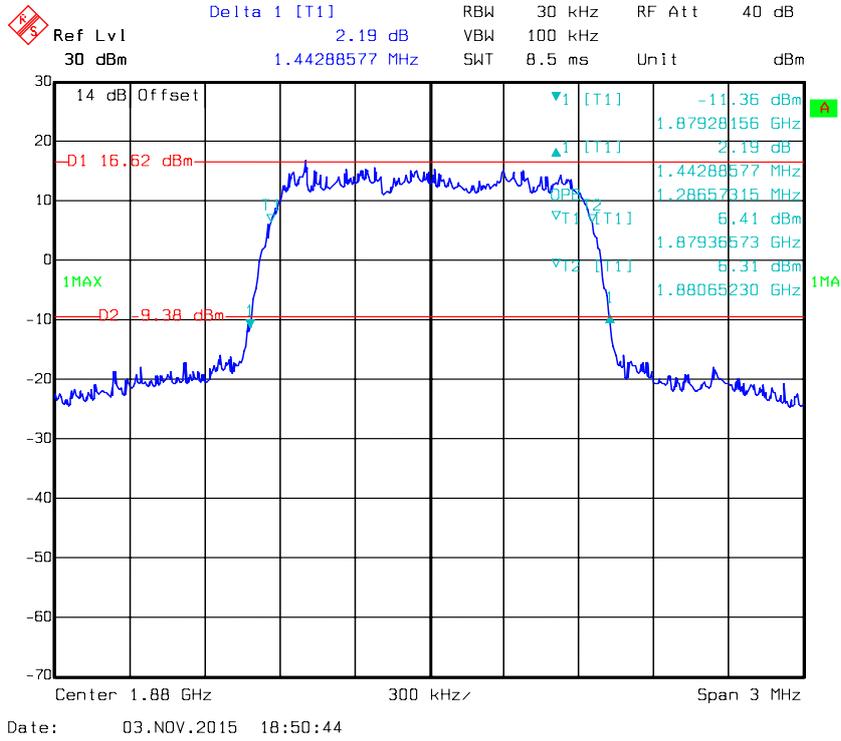
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BC1- RC3+SO55



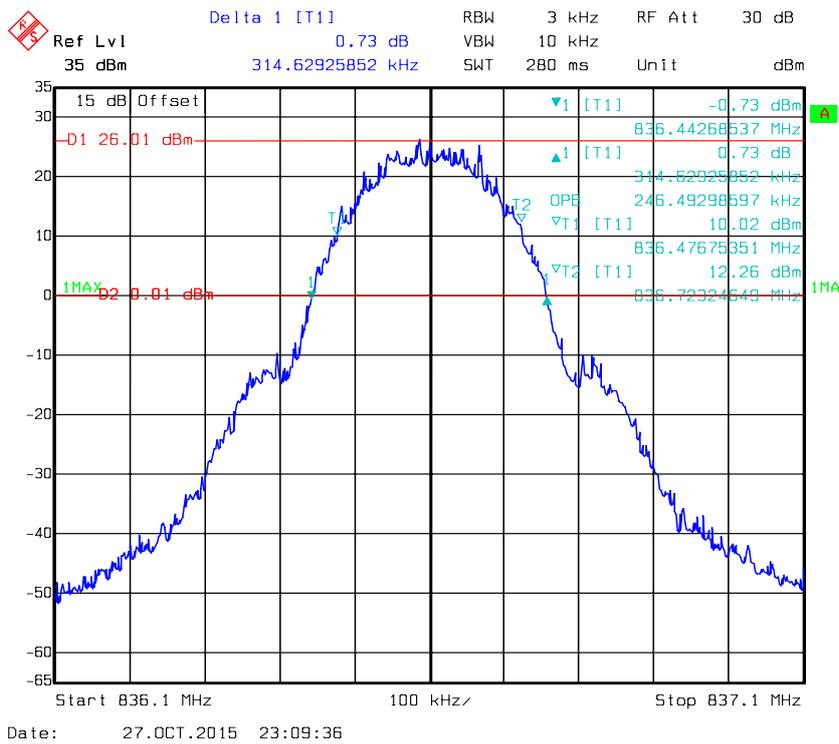
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BC1- RTAP 153.6kbps

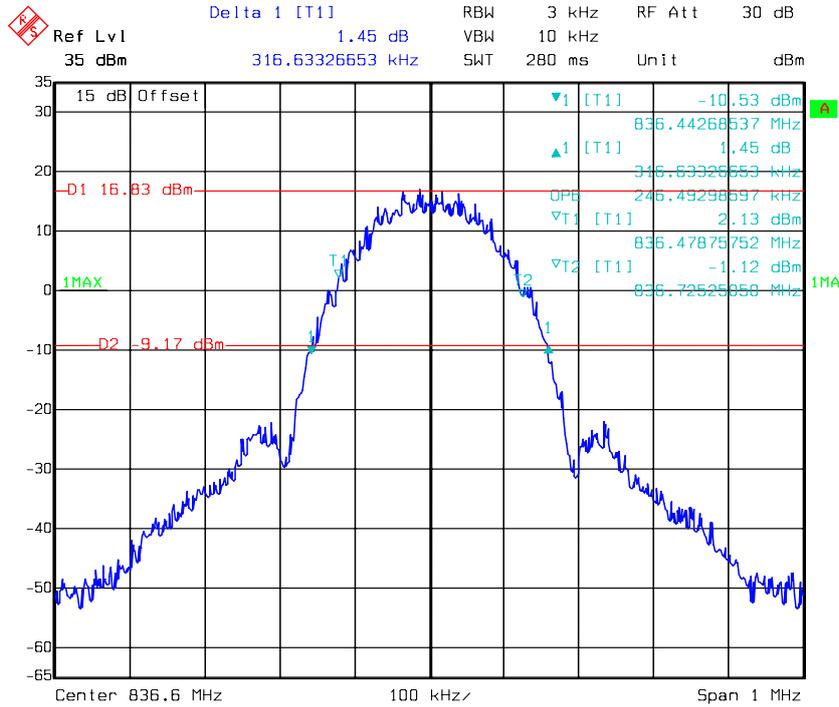


Band	Channel No.	Mode	99% Occupied Bandwidth (kHz)	26 dB Occupied Bandwidth (kHz)
Cellular	190	GSM	246	315
		EDGE	246	317
PCS	661	PCS	244	315
		EDGE	246	315
WCDMA Band II	9400	Rel 99	4168	4770
	9400	HSDPA	4188	4770
	9400	HSUPA	4208	4790
WCDMA Band V	4175	Rel 99	4148	4749
	4175	HSDPA	4148	4749
	4175	HSUPA	4128	4749

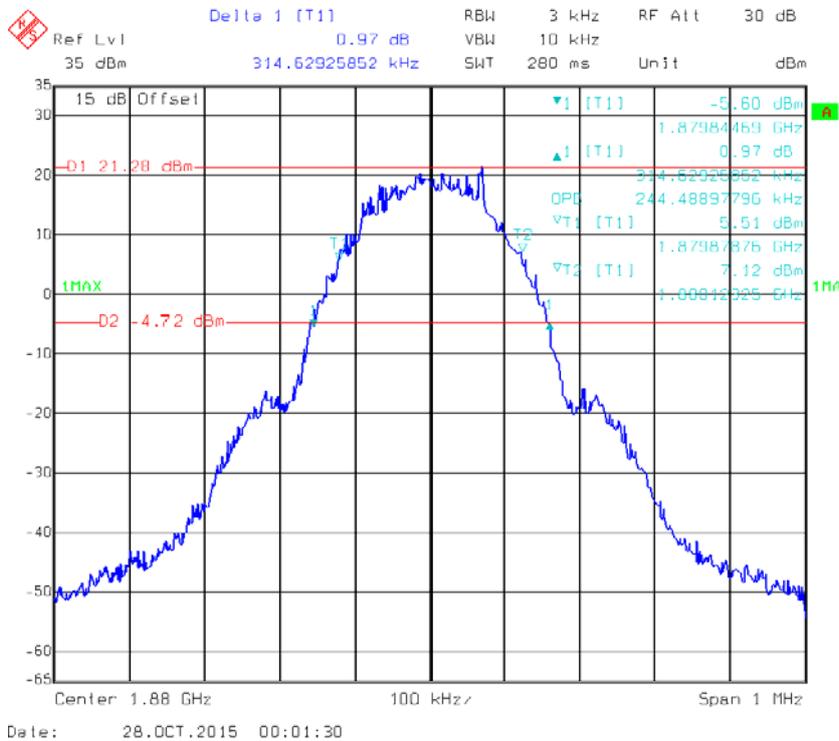
GMSK 850 Cellular Band



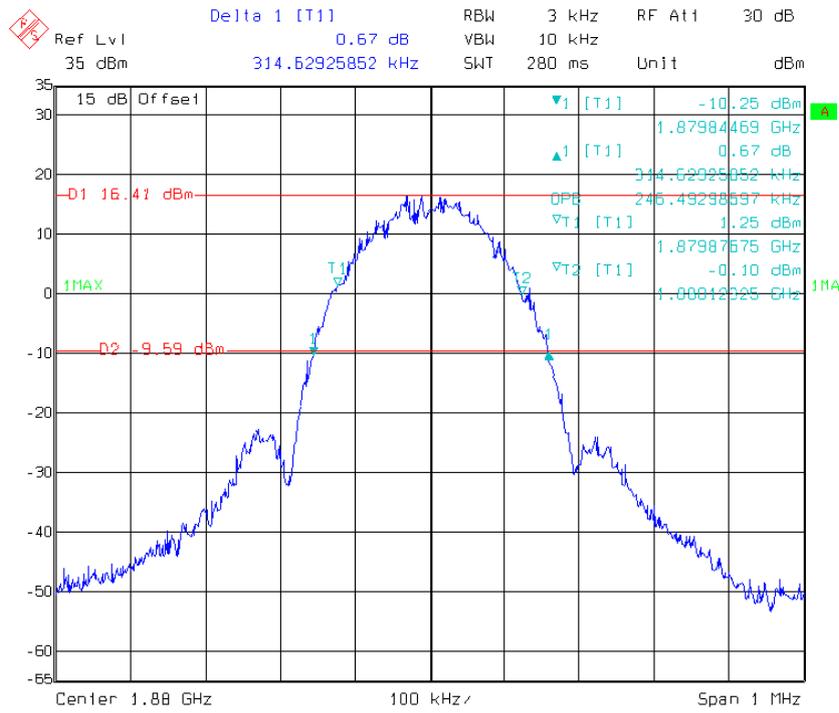
EDGE 850 Cellular Band



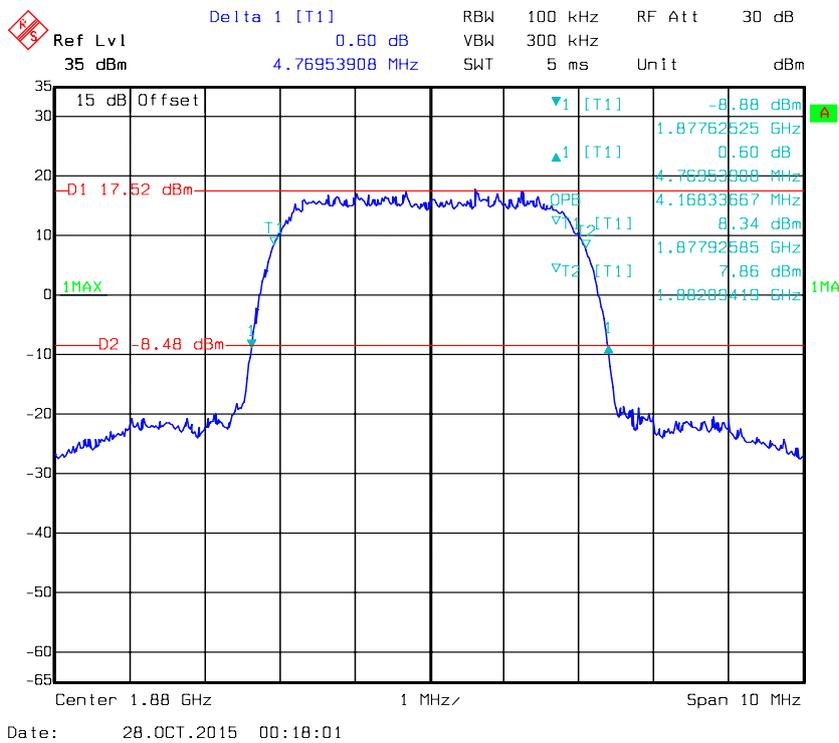
GMSK PCS Band



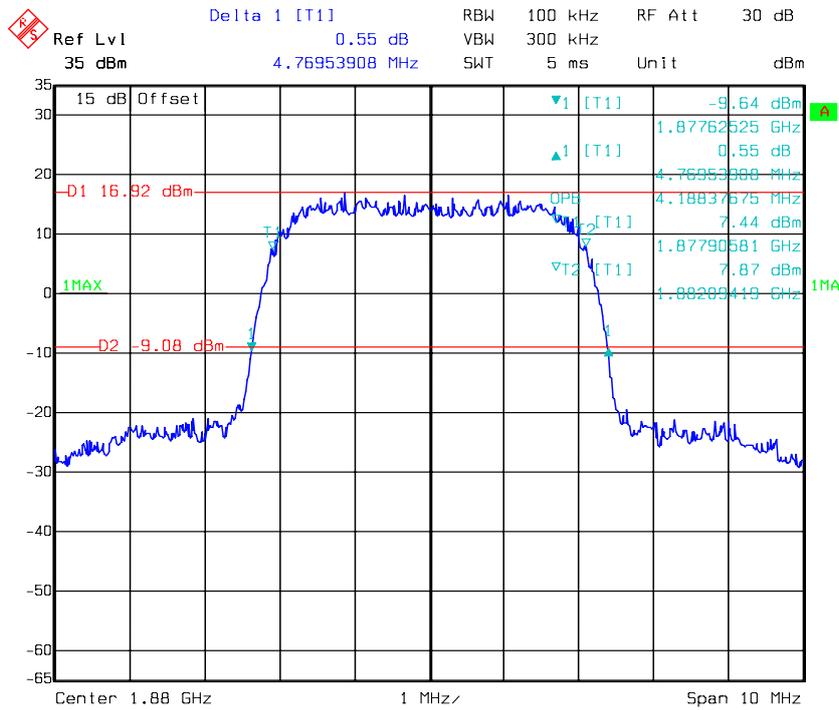
EDGE PCS Band



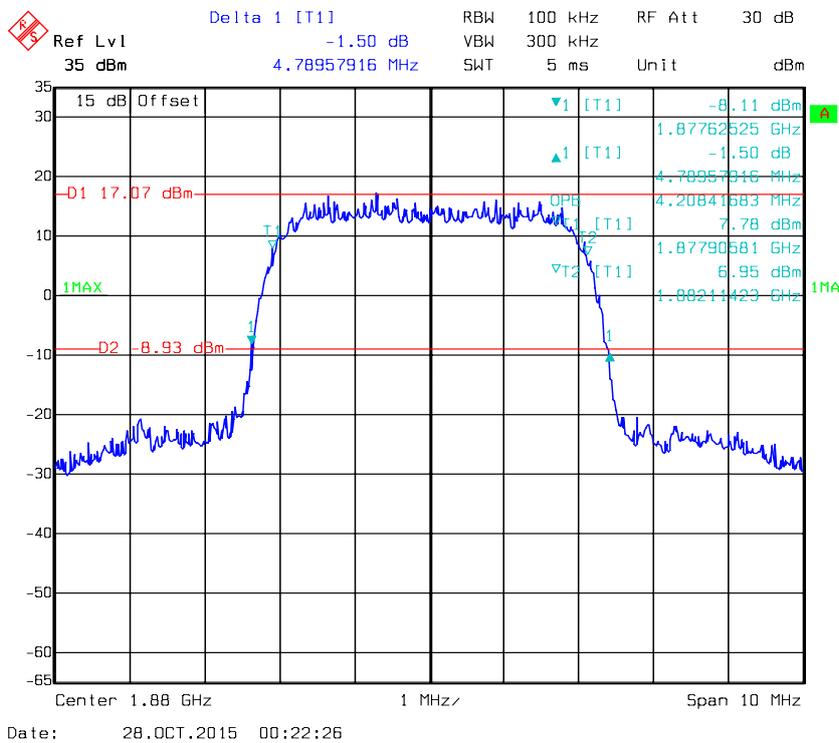
REL99 Band II



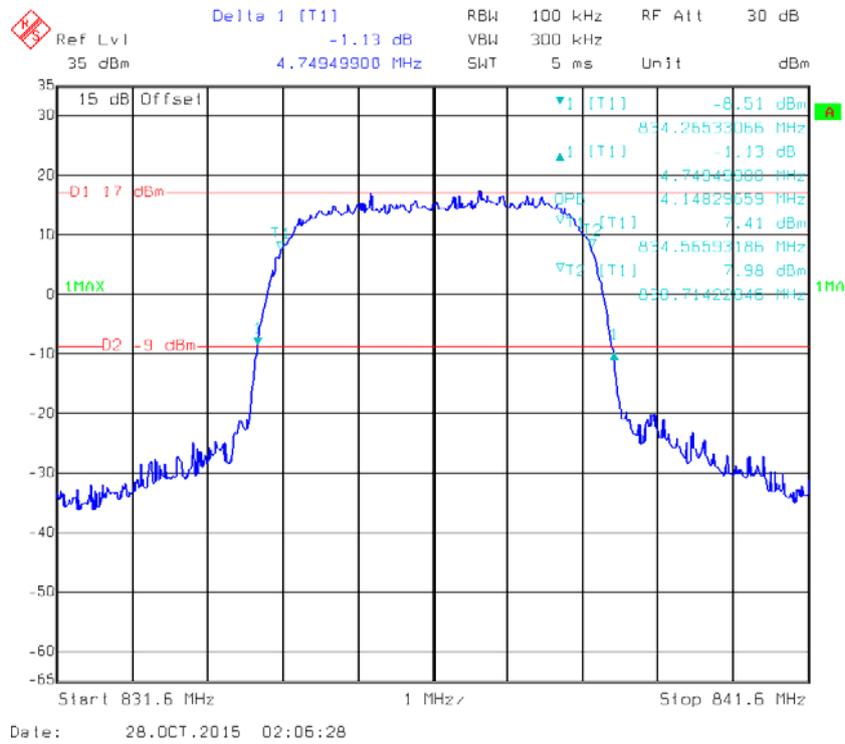
HSDPA Band II



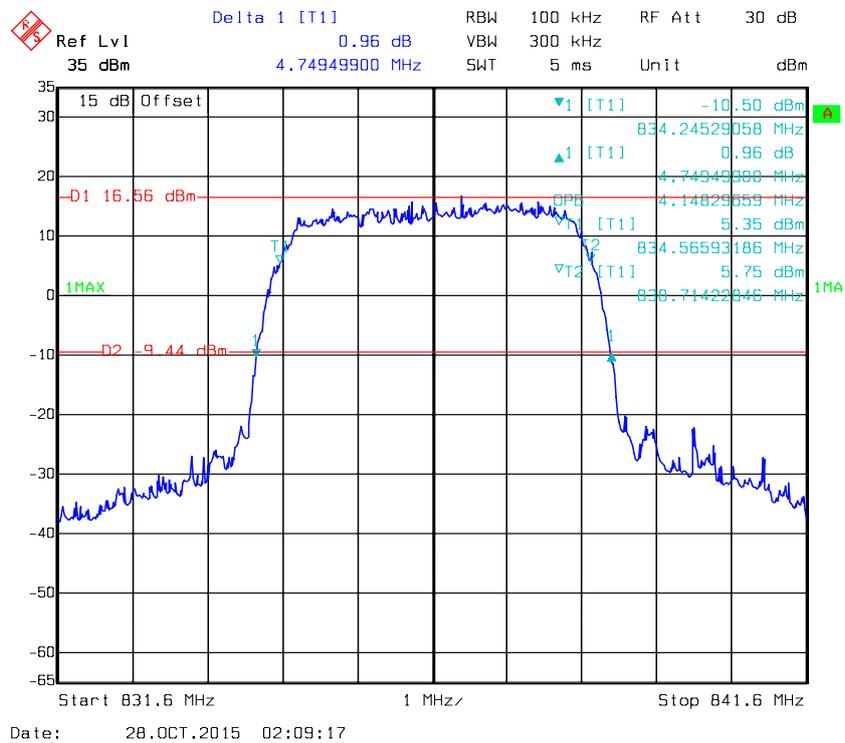
HSUPA Band II



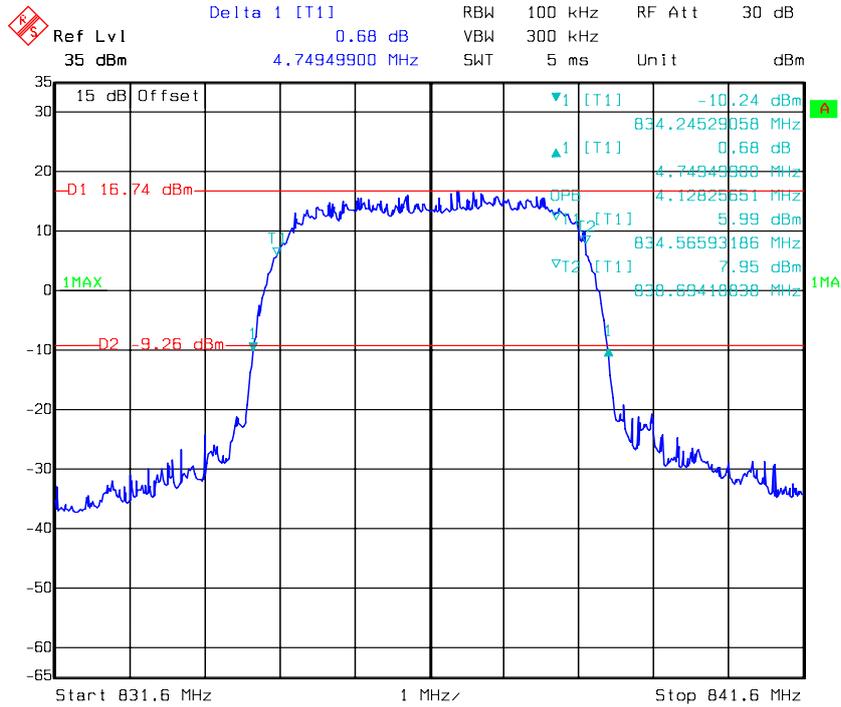
REL99 Band V



HSDPA Band V



HSUPA Band V

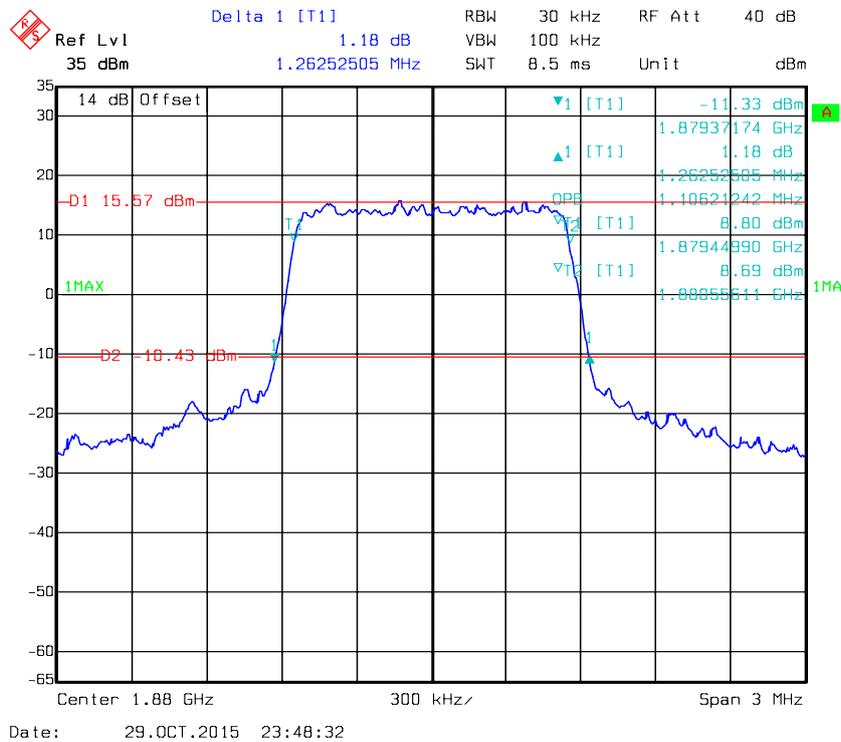


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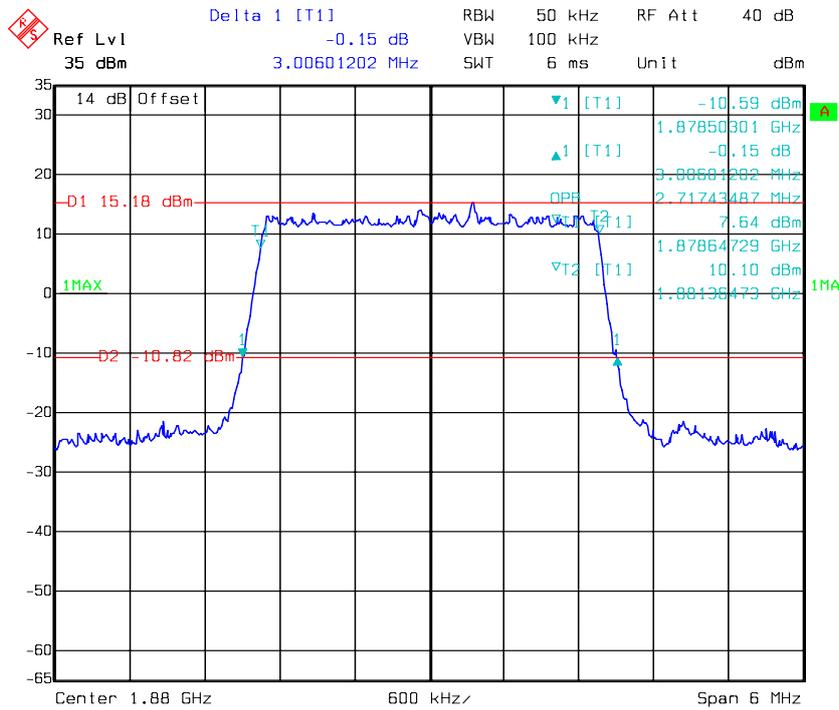
LTE Band	Test Modulation	Test Bandwidth	Test Channel	99% Occupied Bandwidth	26 dB Bandwidth
				MHz	MHz
Band 2	QPSK	1.4M	Middle	1.106	1.263
		3M		2.717	3.006
		5M		4.549	4.990
		10M		9.098	10.261
		15M		13.527	14.970
		20M		17.956	19.559
	16-QAM	1.4M	Middle	1.106	1.263
		3M		2.729	3.006
		5M		4.529	5.030
		10M		9.138	10.140
		15M		13.527	14.910
		20M		17.956	19.399
Band 4	QPSK	1.4M	Middle	1.106	1.263
		3M		2.754	3.150
		5M		4.549	5.010
		10M		9.098	10.261
		15M		13.647	15.090
		20M		17.956	19.560
	16-QAM	1.4M	Middle	1.094	1.257
		3M		2.778	3.162
		5M		4.529	5.070
		10M		9.138	10.180
		15M		13.527	14.970
		20M		18.036	19.639
Band 12	QPSK	1.4M	Middle	1.106	1.263
		3M		2.766	3.162
		5M		4.529	5.010
		10M		9.098	10.180
	16-QAM	1.4M	Middle	1.100	1.257
		3M		2.766	3.162
		5M		4.529	5.030
		10M		9.098	10.180
Band 17	QPSK	5M	Middle	4.529	5.010
		10M		9.098	10.261
	16-QAM	5M	Middle	4.529	5.030
		10M		9.058	10.140

LTE Band	Test Modulation	Test Bandwidth	Test Channel	99% Occupied Bandwidth	26 dB Bandwidth
				MHz	MHz
Band 41	QPSK	5M	Middle	4.540	5.020
		10M		9.120	10.340
		15M		13.560	16.100
		20M		17.920	19.600
	16-QAM	5M	Middle	4.540	5.340
		10M		9.120	10.420
		15M		13.560	15.980
		20M		18.000	20.080

QPSK, Band 2-1.4M

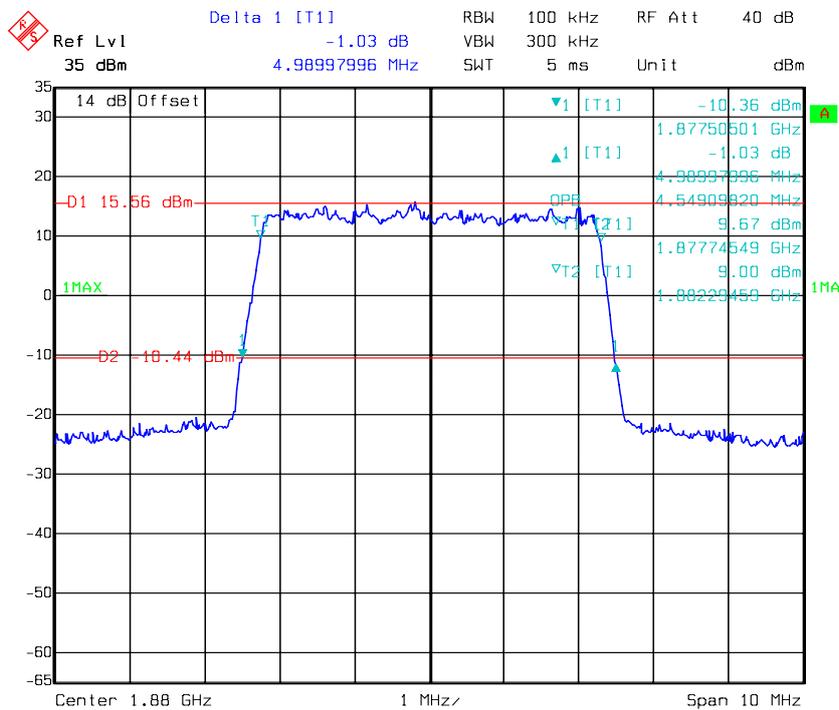


QPSK, Band 2-3M



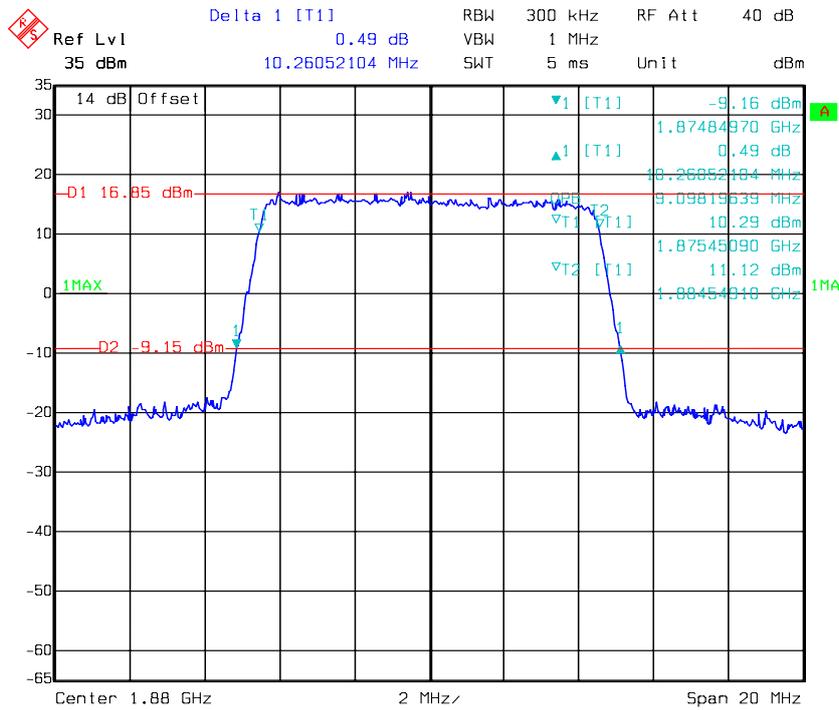
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QPSK, Band 2-5M

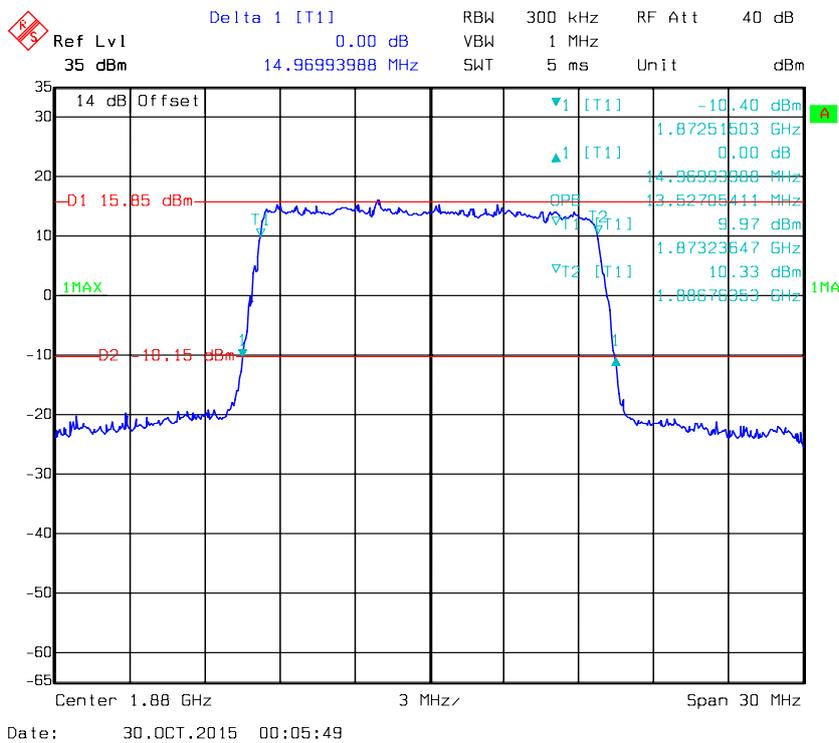


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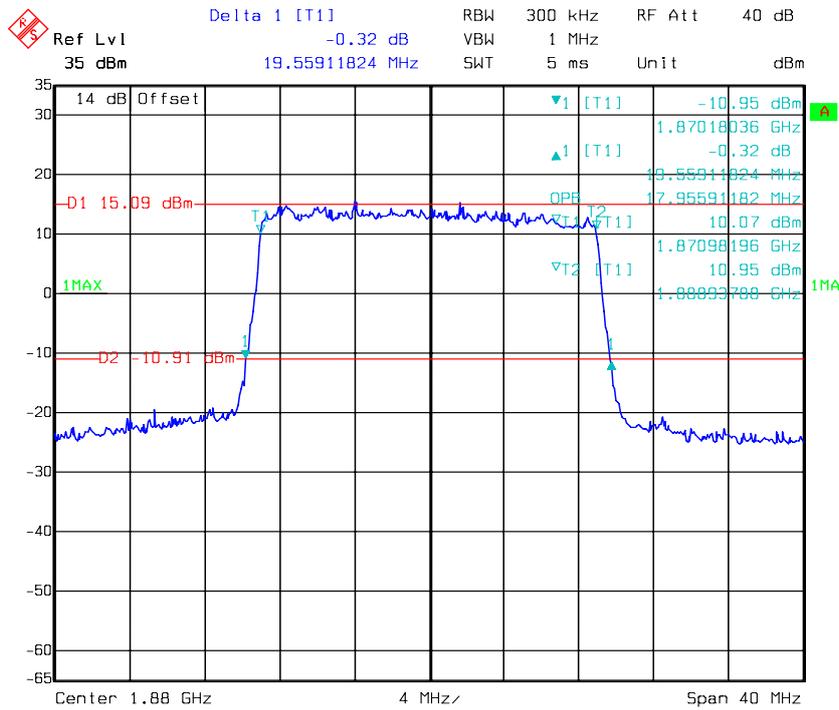
QPSK, Band 2-10M



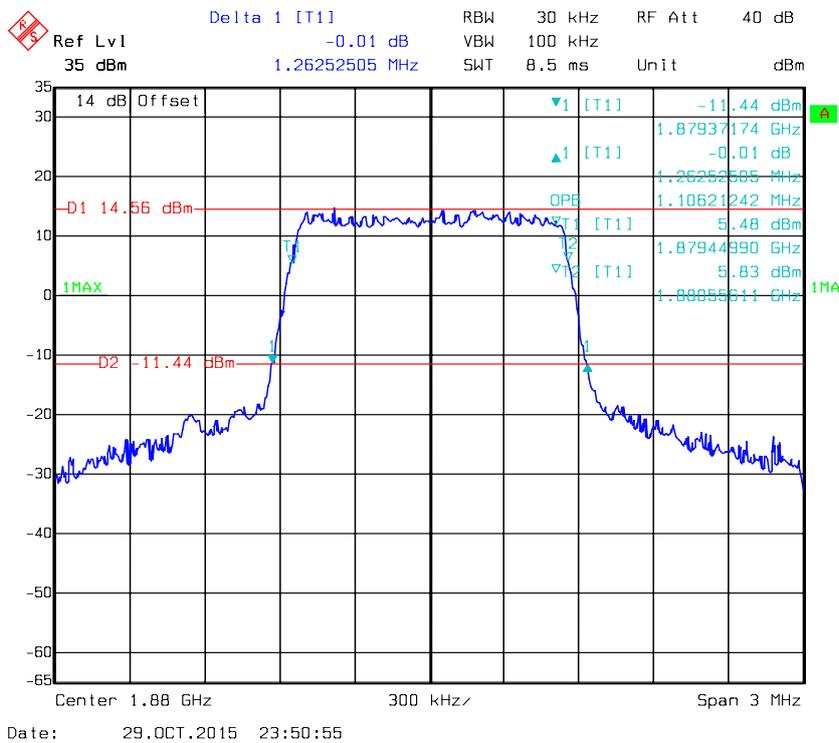
QPSK, Band 2-15M



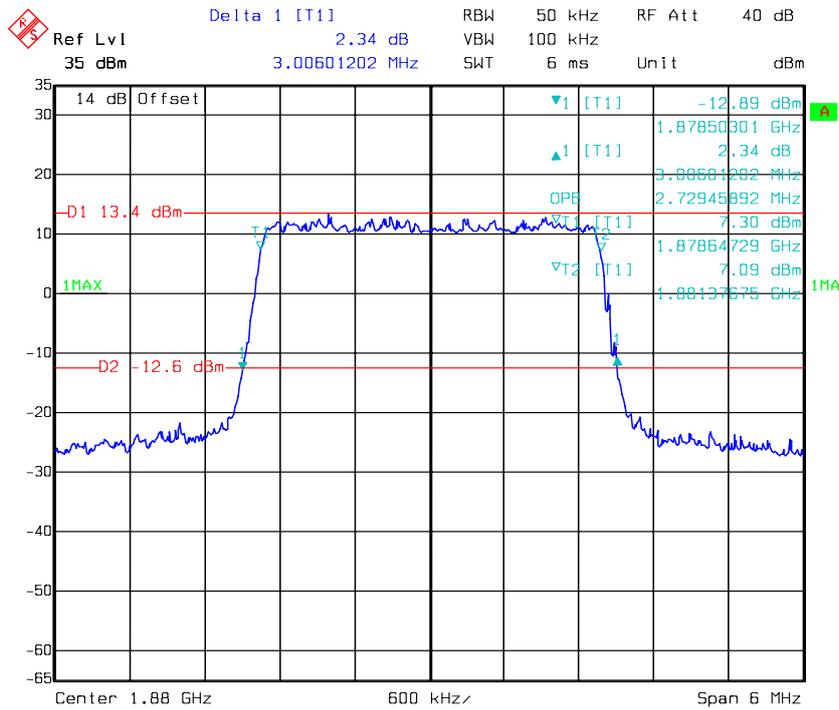
QPSK, Band 2-20M



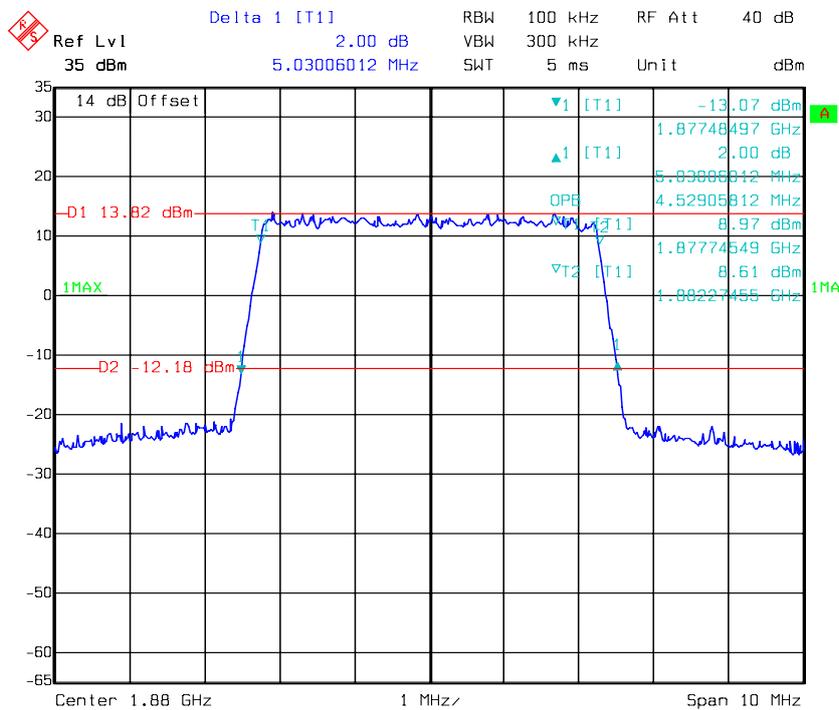
16-QAM, Band 2-1.4M



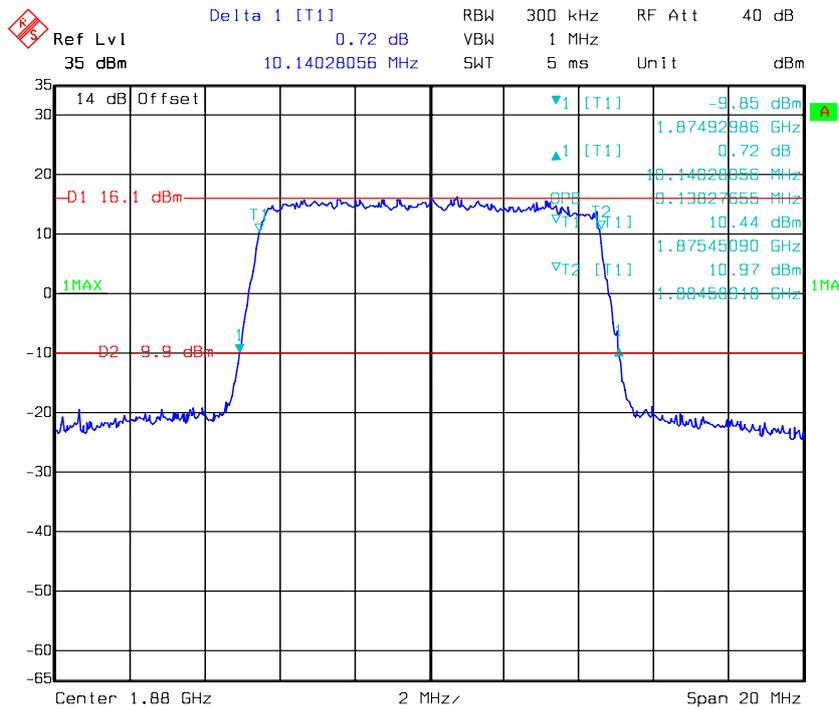
16-QAM, Band 2-3M



16-QAM, Band 2-5M

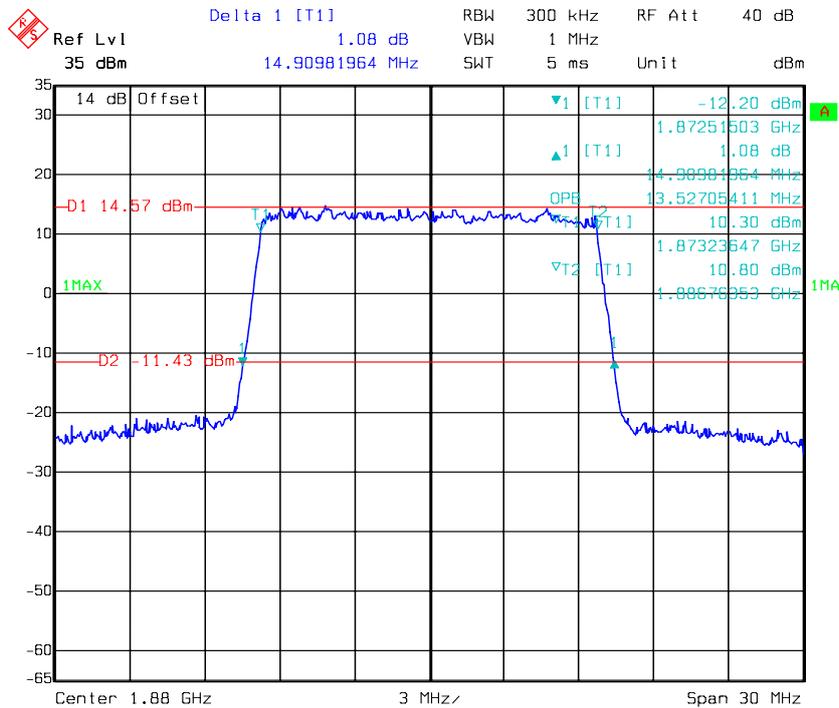


16-QAM, Band 2-10M



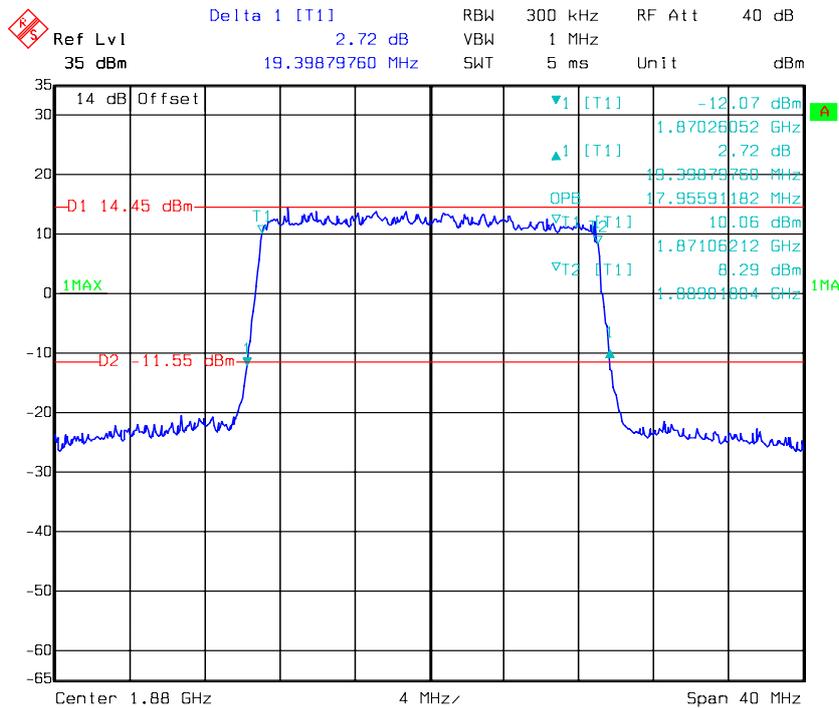
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16-QAM, Band 2-15M

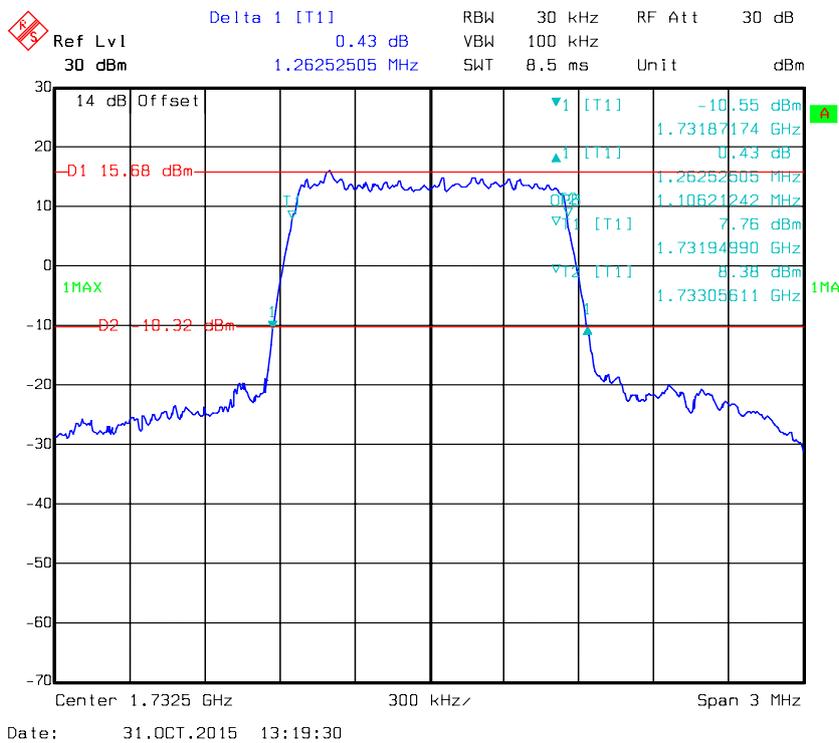


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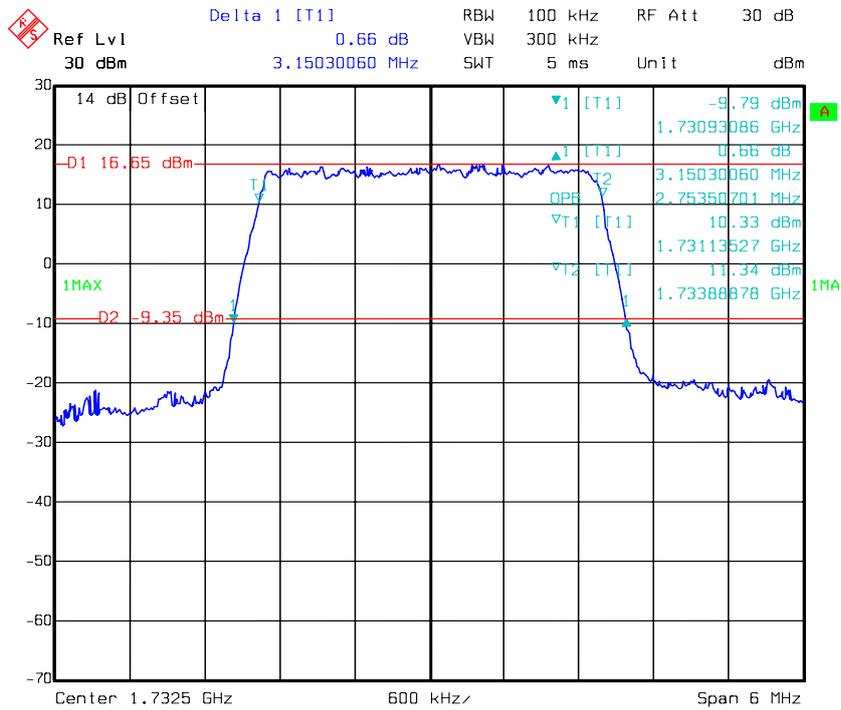
16-QAM, Band 2-20M



QPSK, Band 4-1.4M

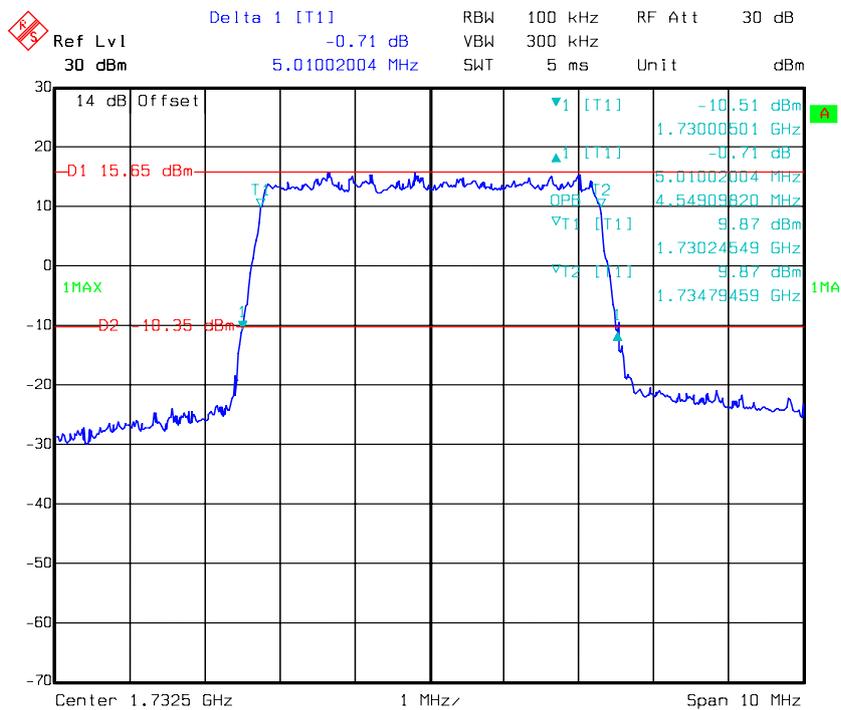


QPSK, Band 4-3M



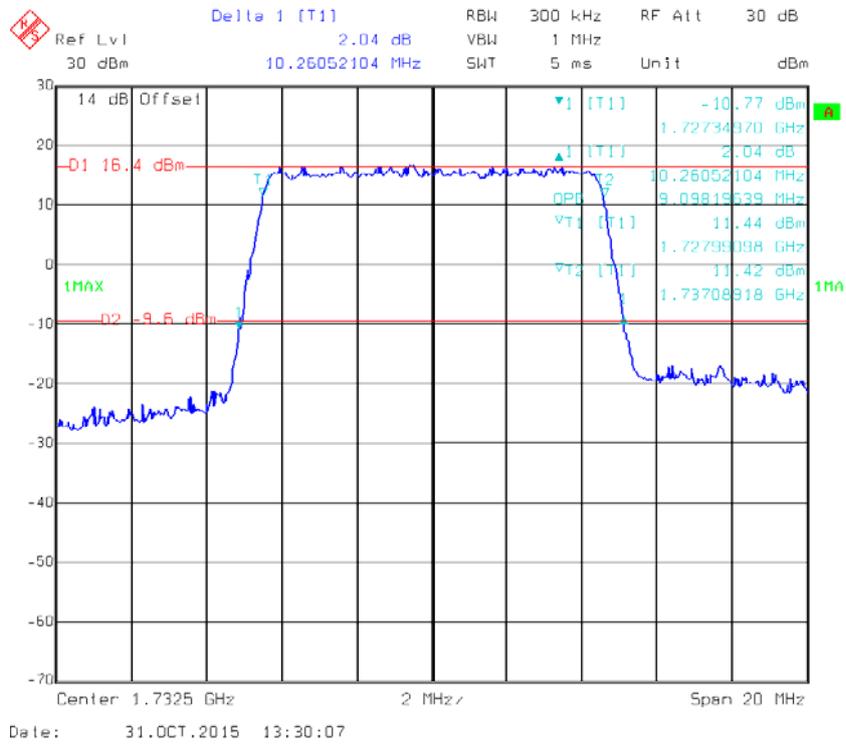
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QPSK, Band 4-5M

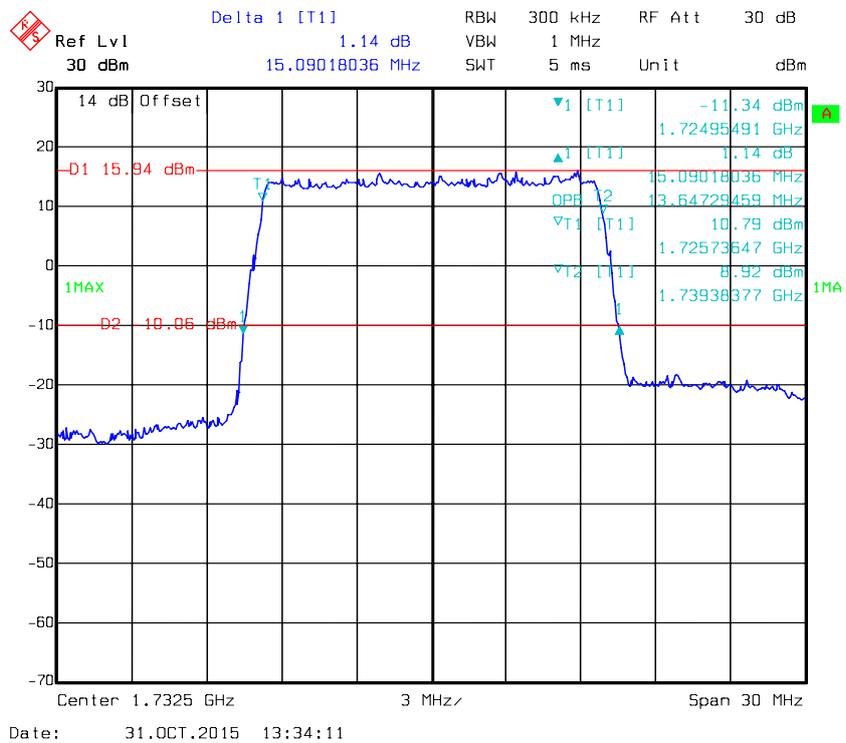


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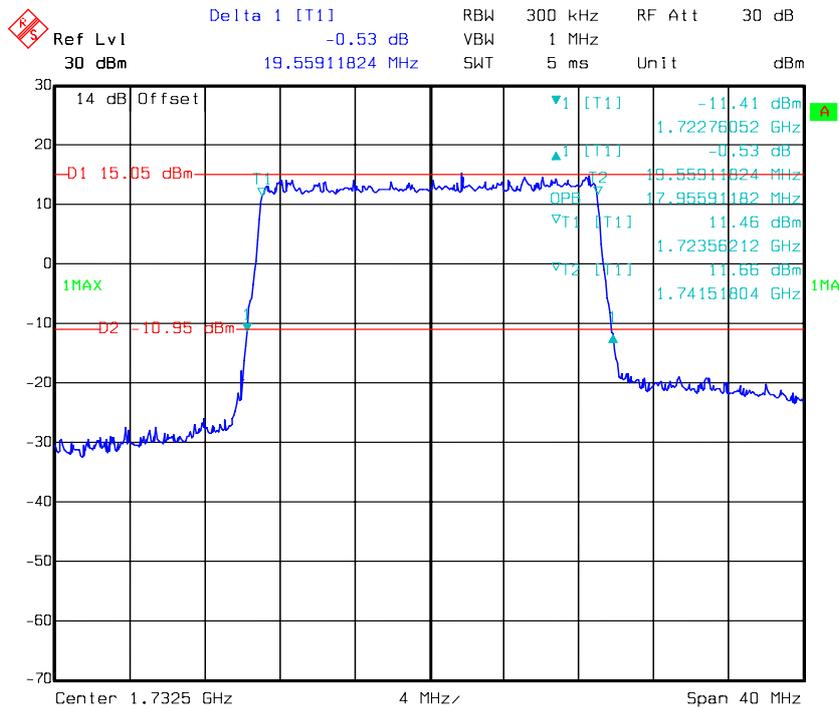
QPSK, Band 4-10M



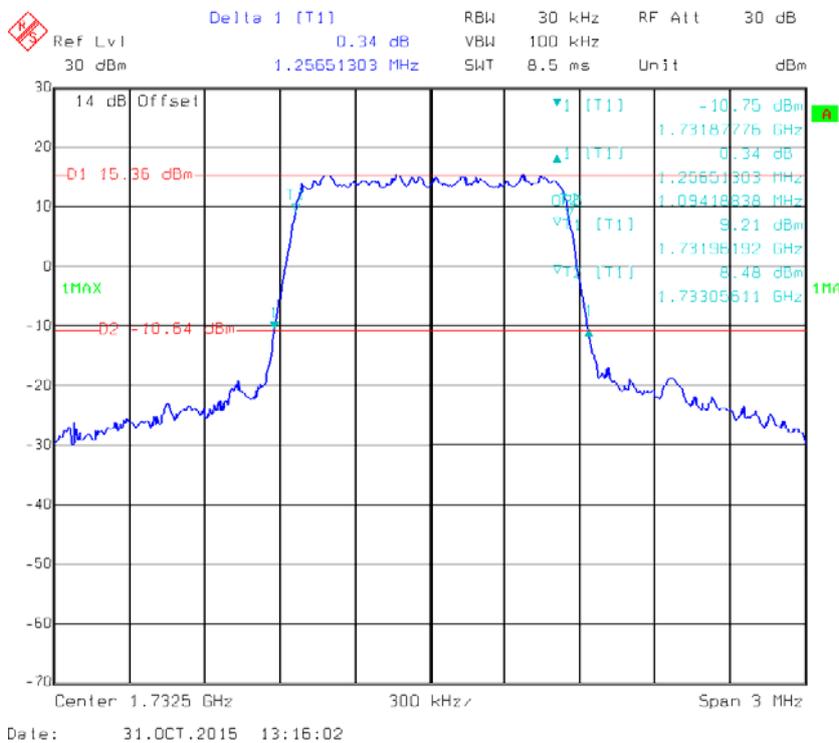
QPSK, Band 4-15M



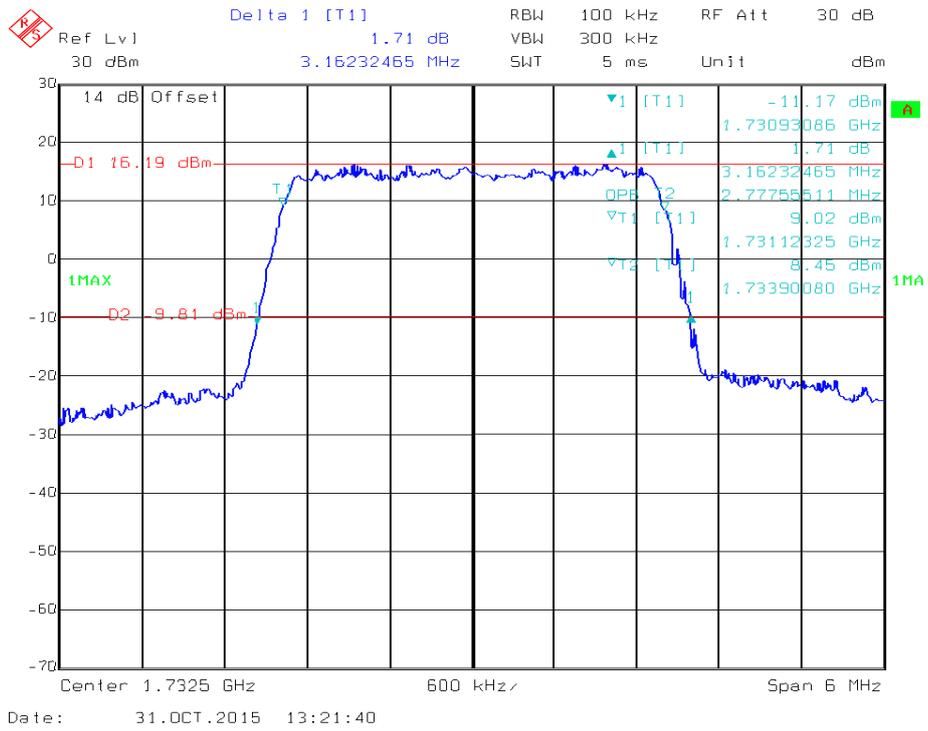
QPSK, Band 4-20M



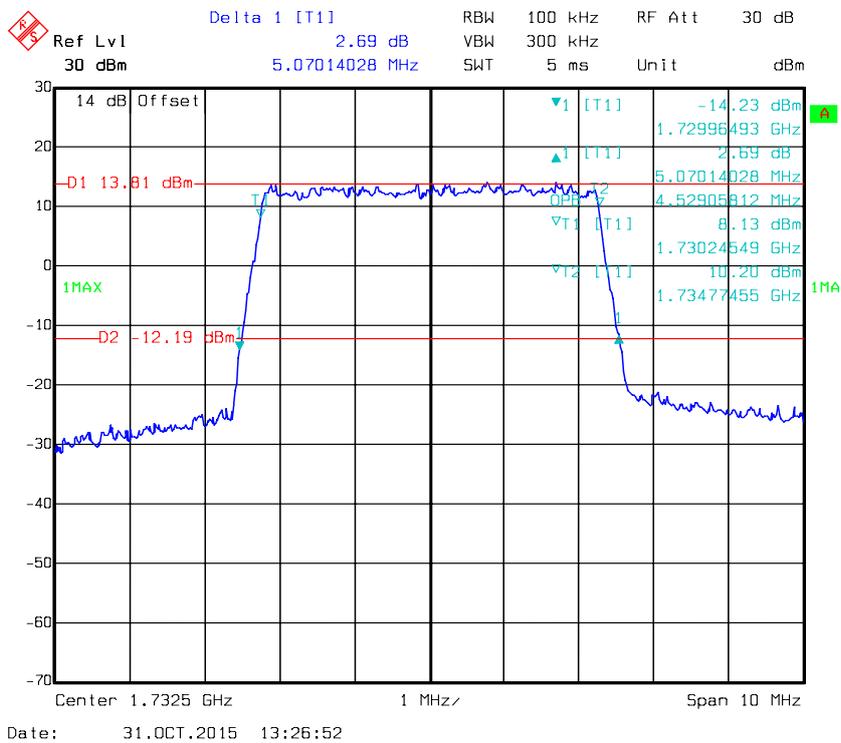
16-QAM, Band 4-1.4M



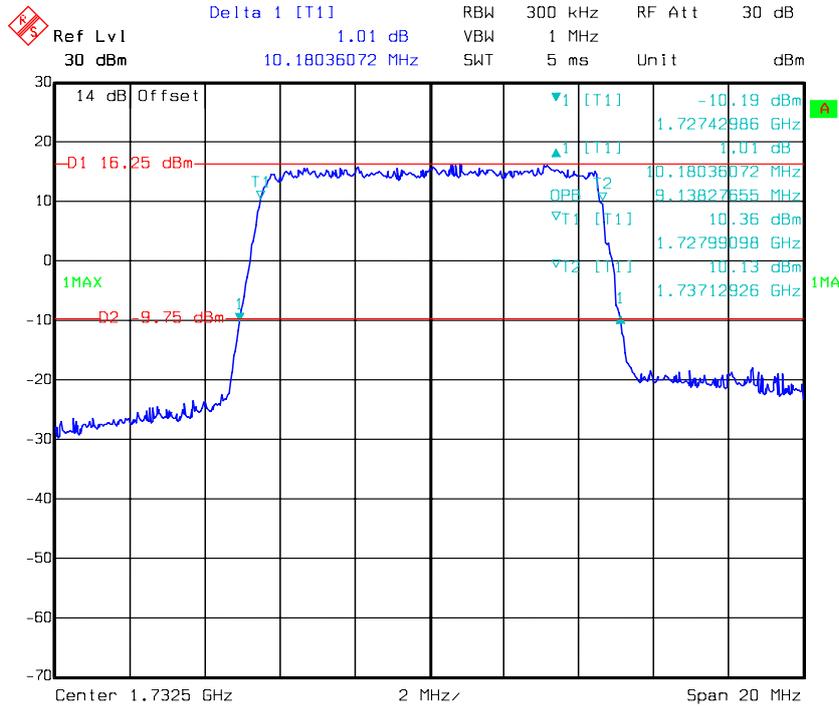
16-QAM, Band 4-3M



16-QAM, Band 4-5M

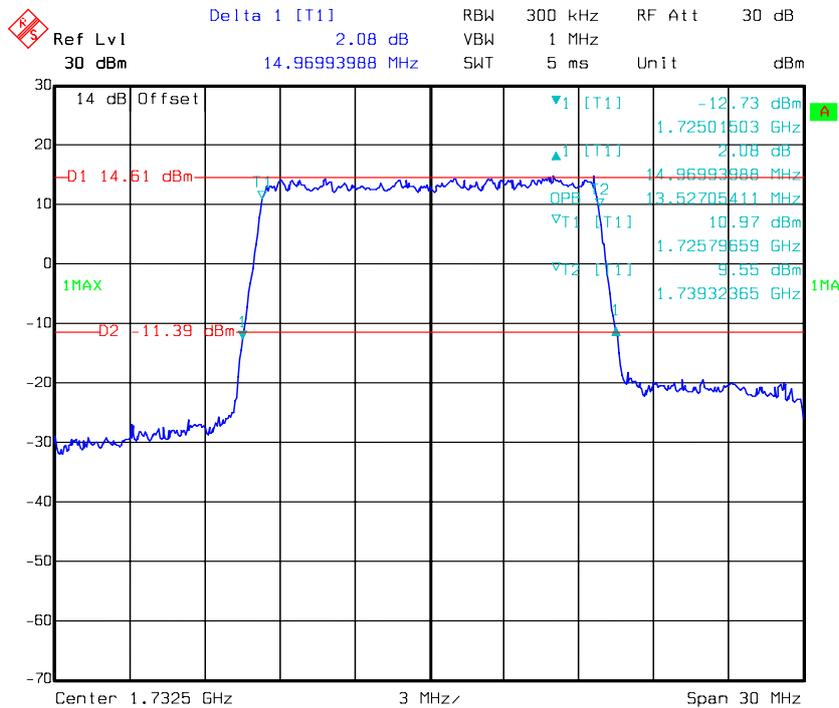


16-QAM, Band 4-10M



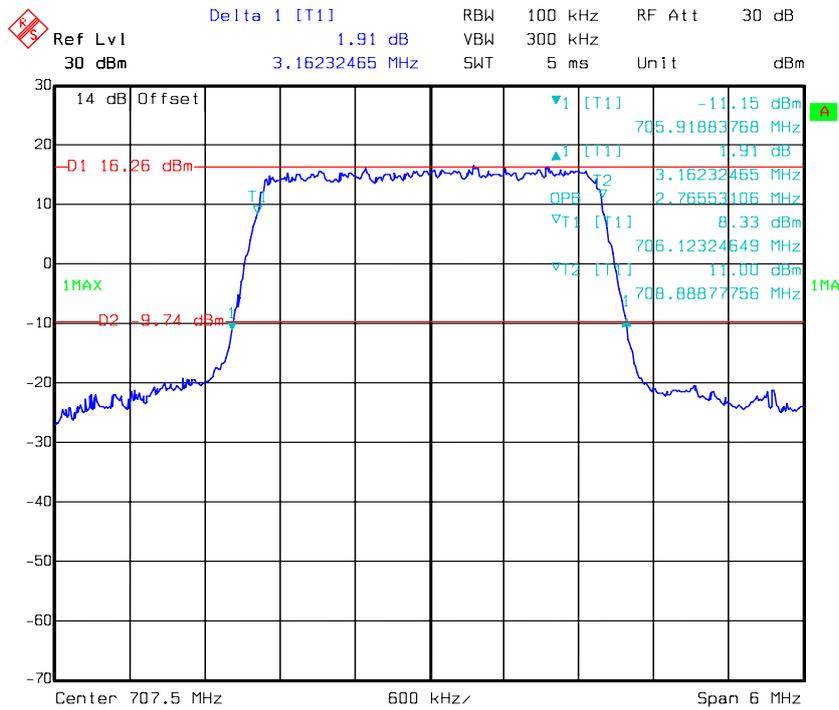
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16-QAM, Band 4-15M

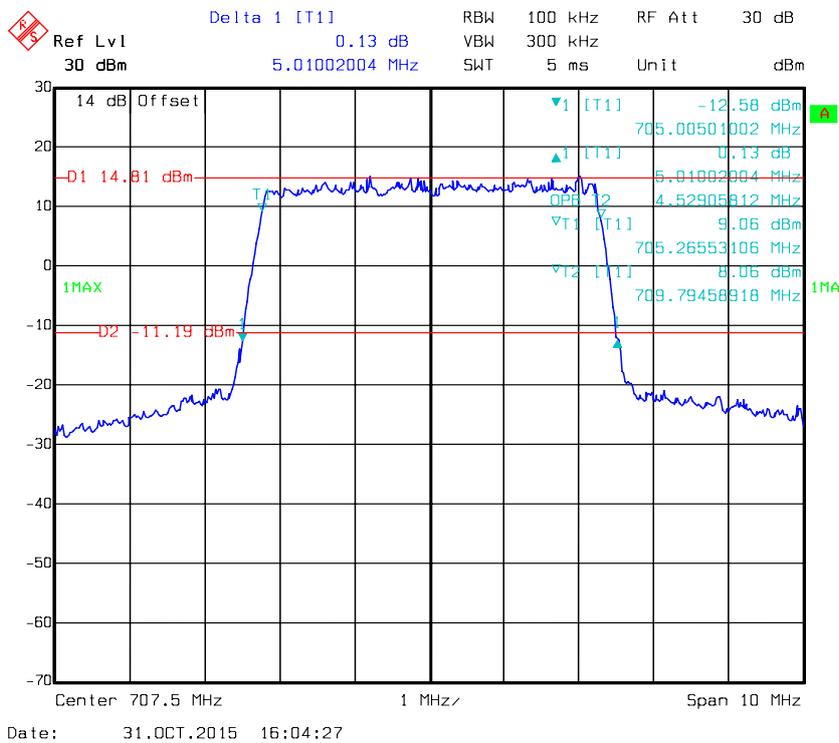


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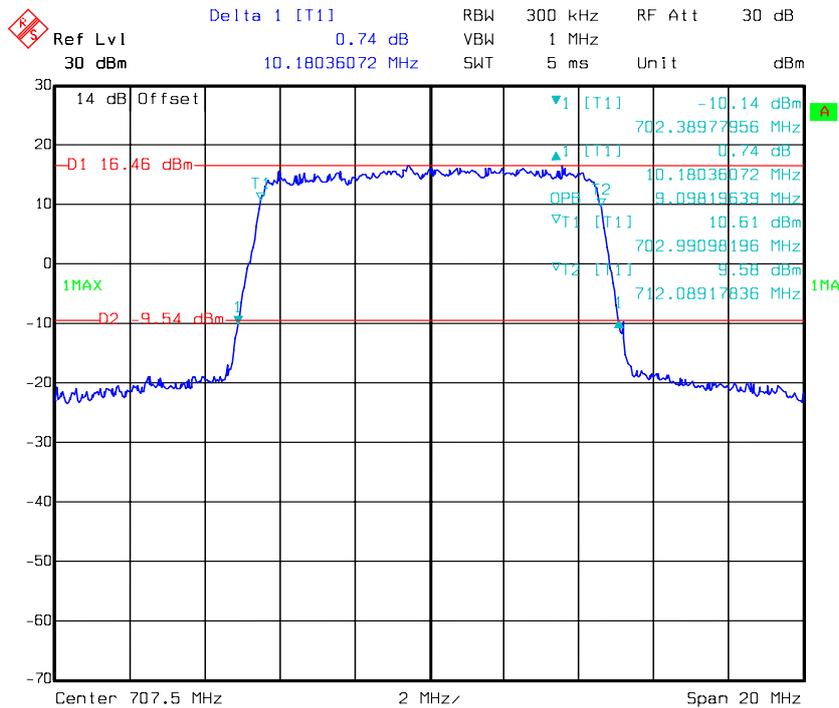
QPSK, Band 12-3M



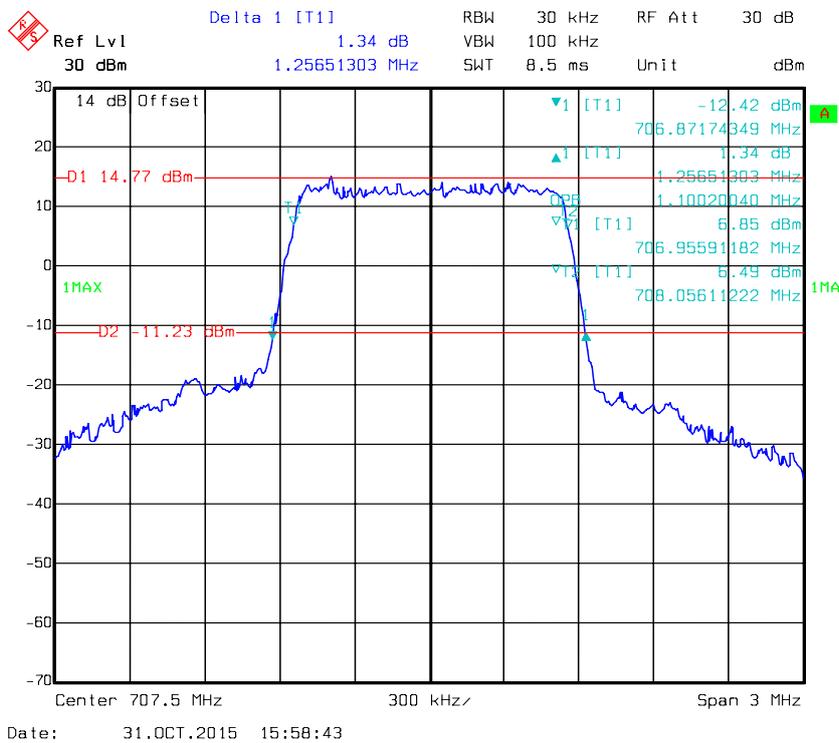
QPSK, Band 12-5M



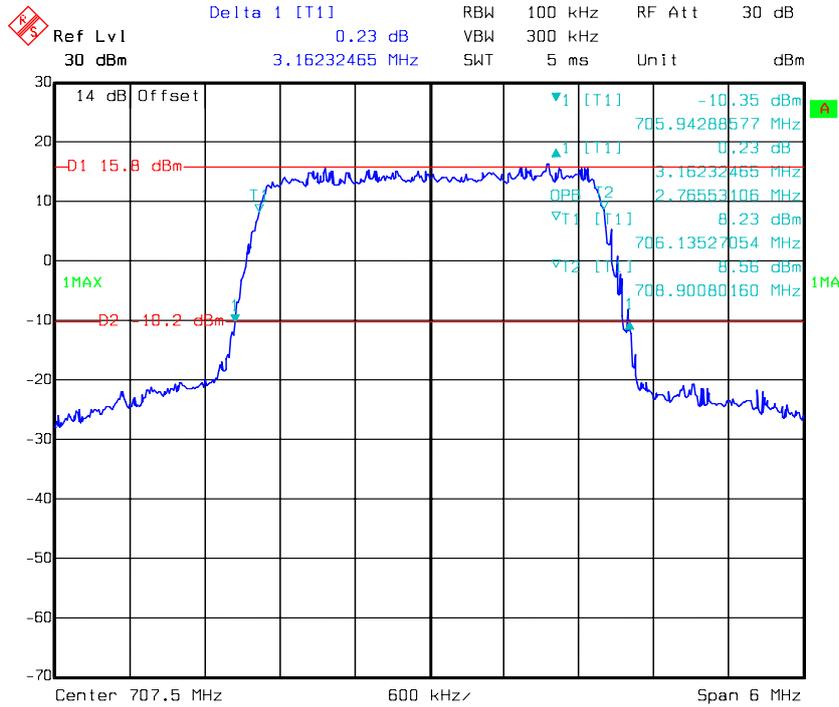
QPSK, Band 12-10M



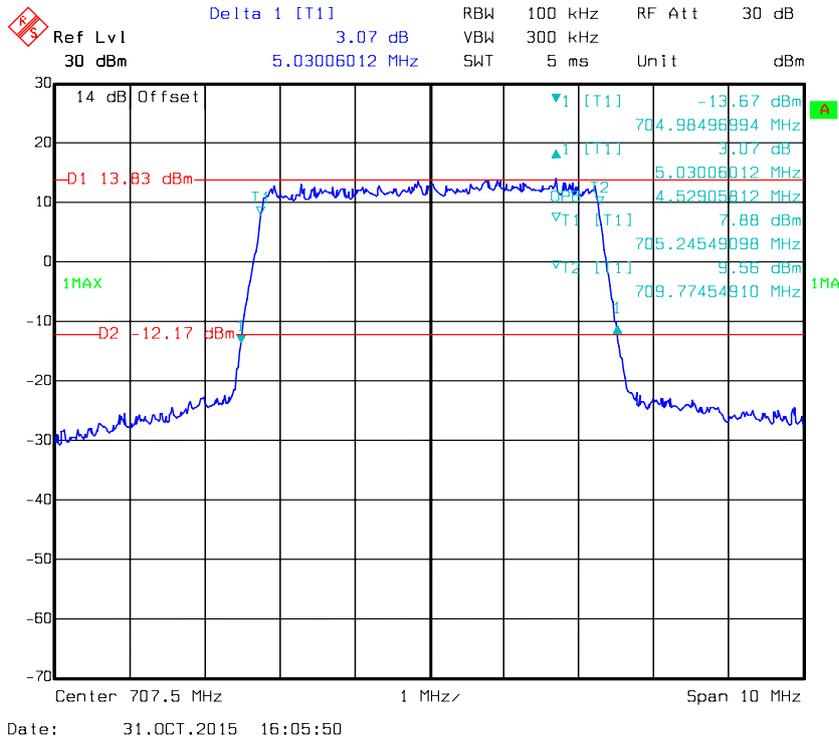
16-QAM, Band 12-1.4M



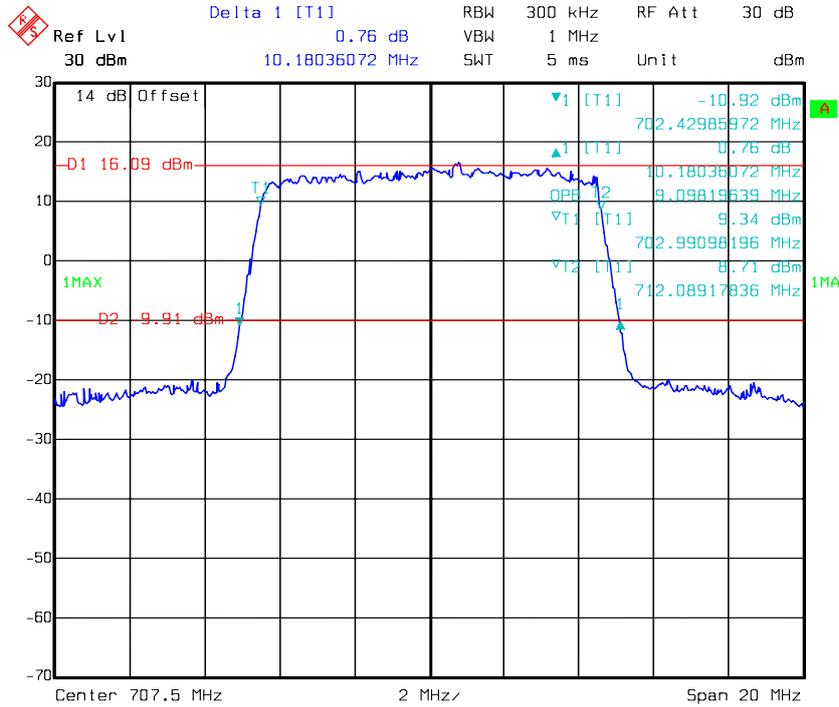
16-QAM, Band 12-3M



16-QAM, Band 12-5M

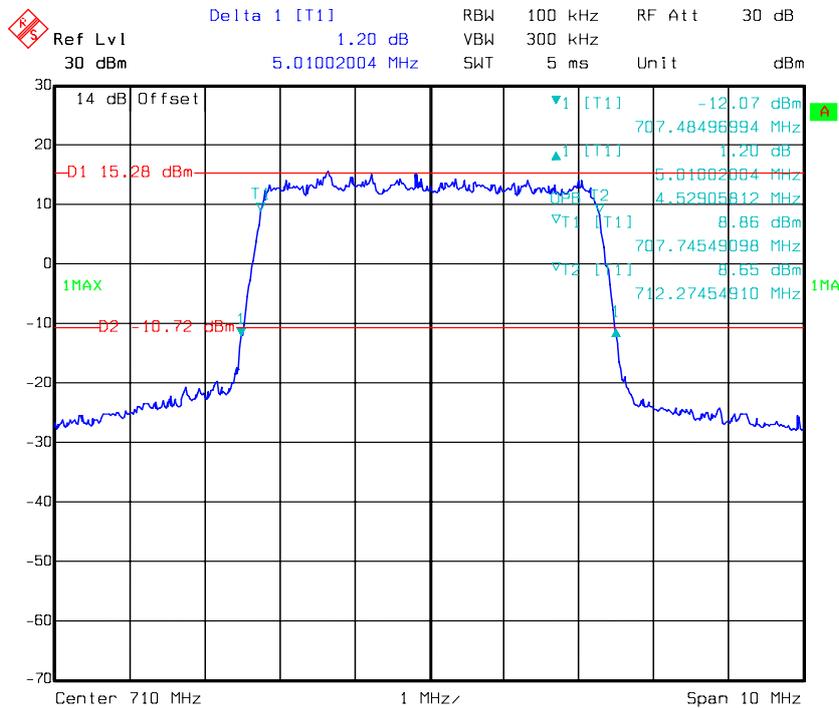


16-QAM, Band 12-10M



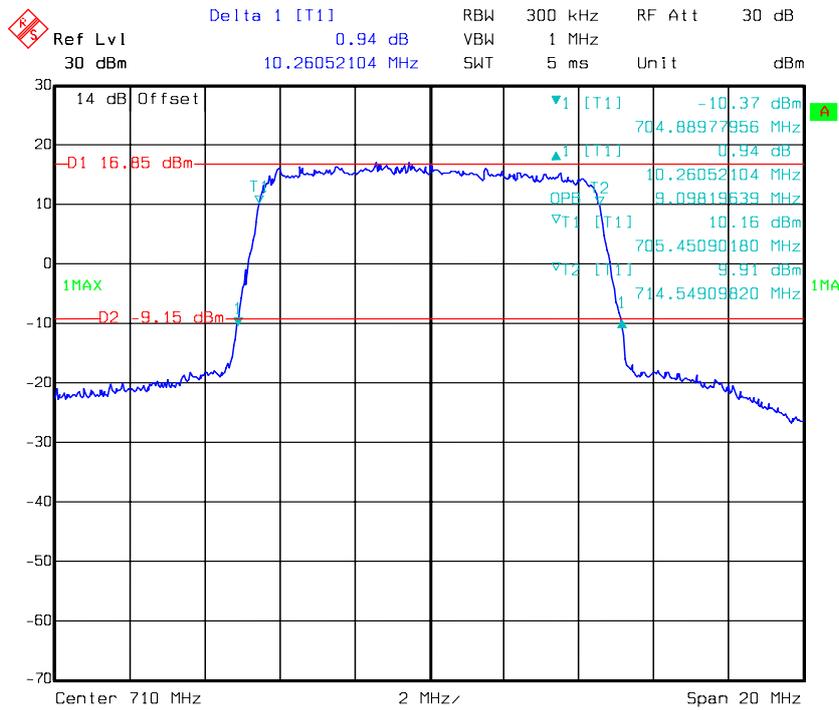
Date: 31.OCT.2015 16:09:52

QPSK, Band 17-5M



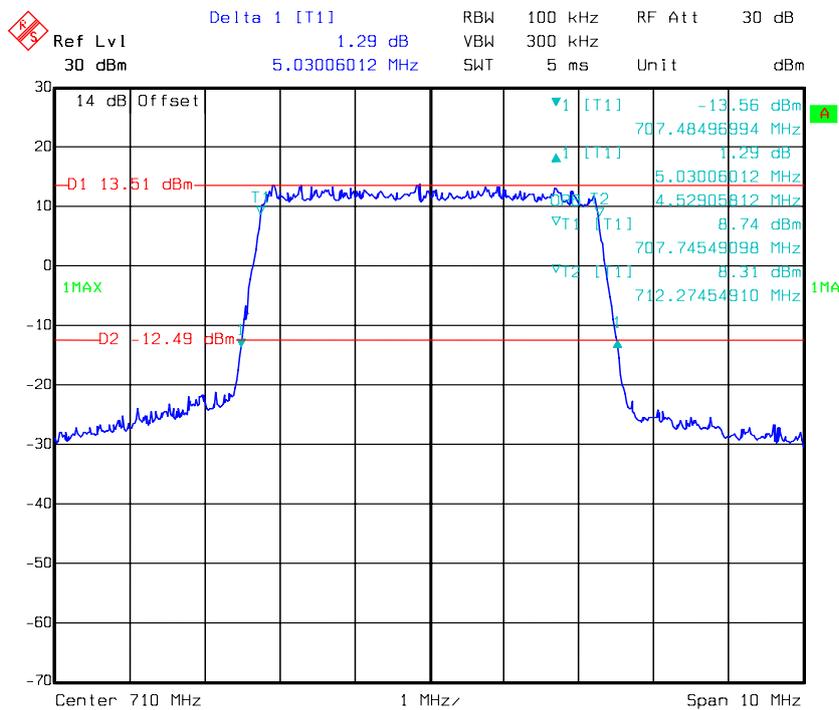
Date: 01.NOV.2015 10:59:38

QPSK, Band 17-10M



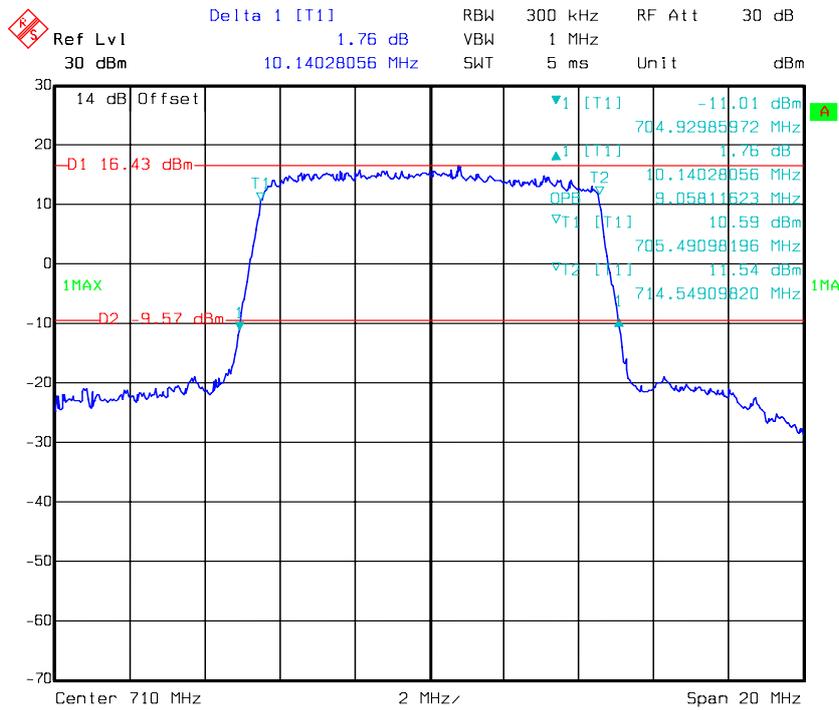
Date: 01.NOV.2015 10:56:23

16-QAM, Band 17-5M



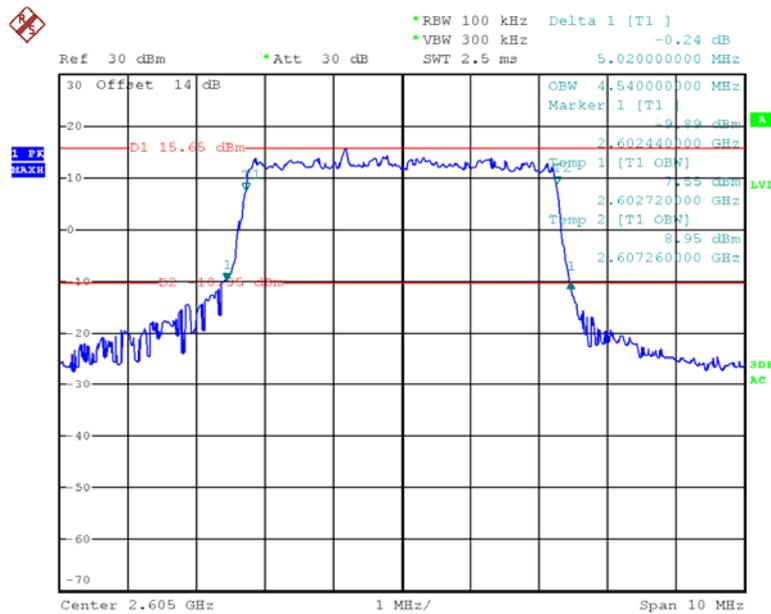
Date: 01.NOV.2015 11:00:43

16-QAM, Band 17-10M



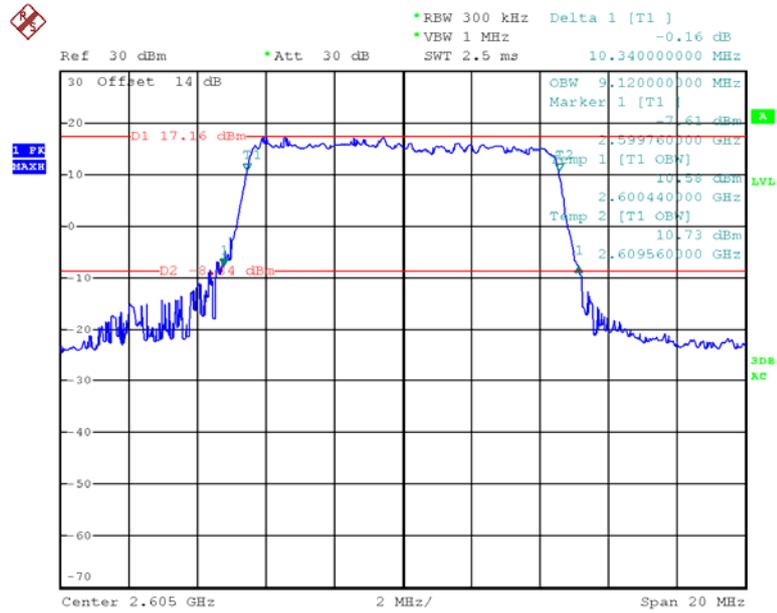
Date: 01.NOV.2015 10:57:48

QPSK, Band 41-5M



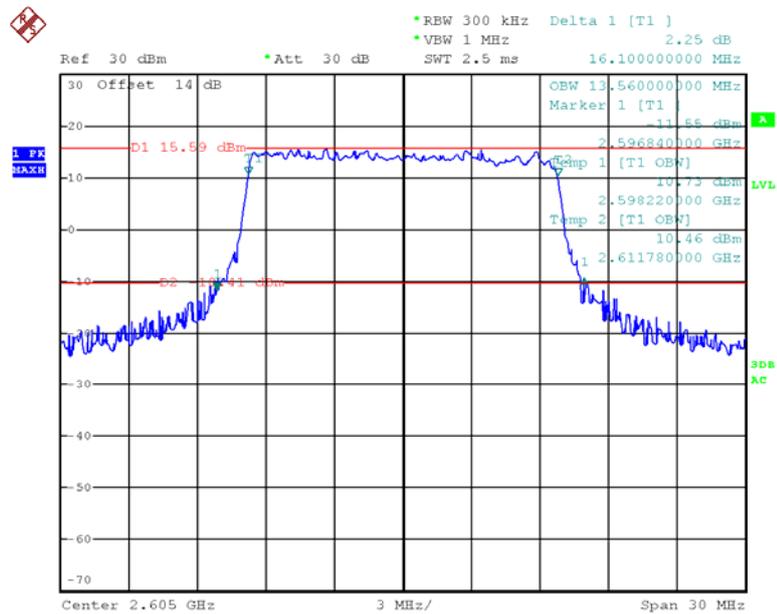
Date: 9.OCT.2015 00:34:01

QPSK, Band 41-10M



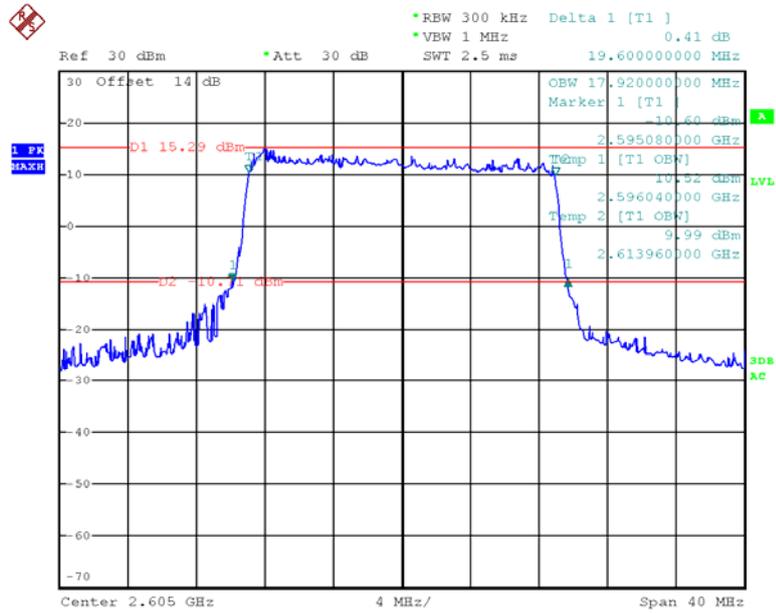
Date: 9.OCT.2015 00:32:04

QPSK, Band 41-15M



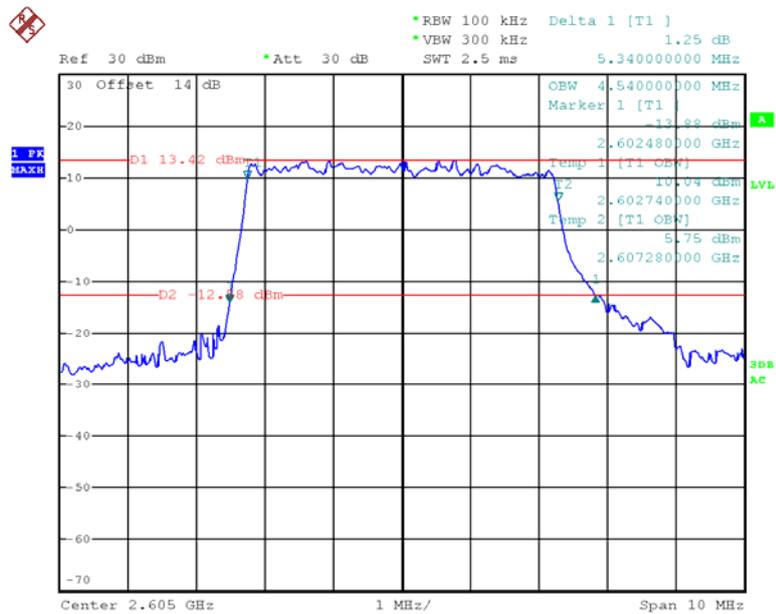
Date: 9.OCT.2015 00:28:01

QPSK, Band 41-20M



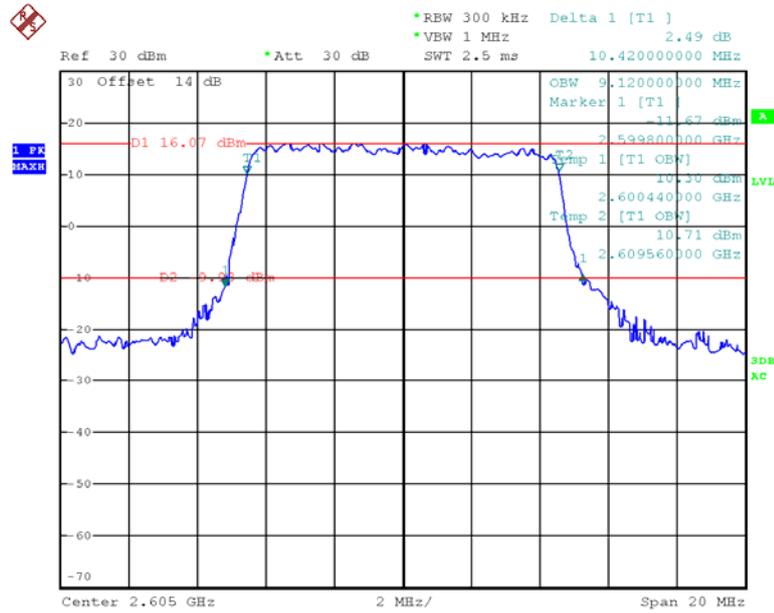
Date: 9.OCT.2015 00:21:04

16-QAM, Band 41-5M



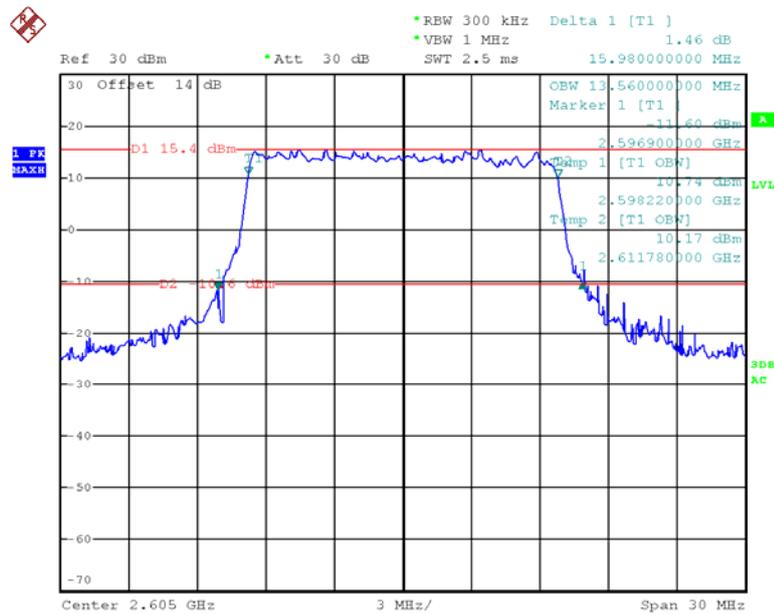
Date: 9.OCT.2015 00:36:12

16-QAM, Band 41-10M



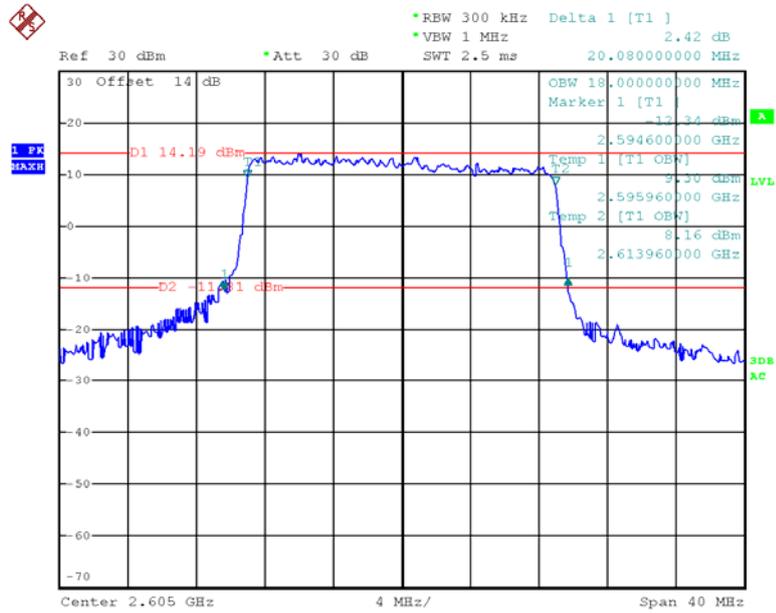
Date: 9.OCT.2015 00:30:59

16-QAM, Band 41-15M



Date: 9.OCT.2015 00:24:58

16-QAM, Band 41-20M



Date: 9.OCT.2015 00:22:50

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

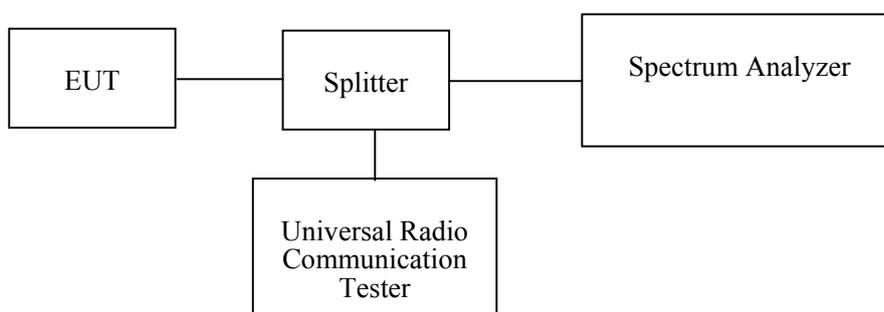
Applicable Standard

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	2014-11-23	2015-11-23
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	0E01203239	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	0E0120142	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

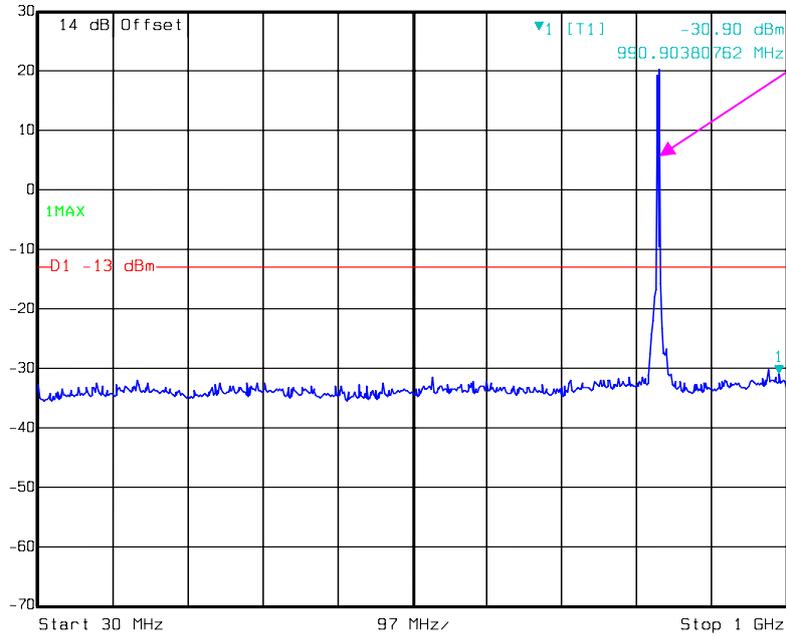
Temperature:	26.3~26.5 °C
Relative Humidity:	50~52 %
ATM Pressure:	100.1~100.3 kPa

The testing was performed by Dean Liu from 2015-10-27 to 2015-11-03.

Please refer to the following plots.

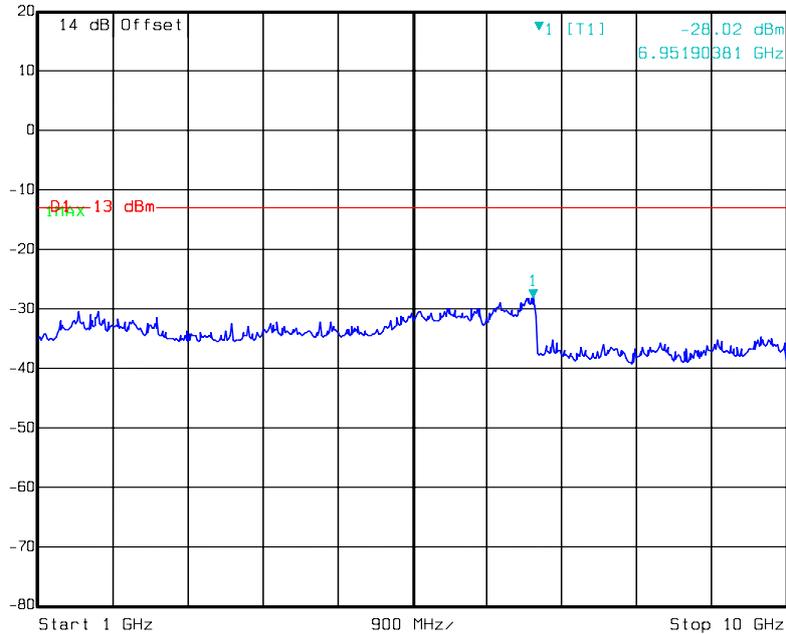
BC0-RC1_Middle Channel

	Ref Lvl	Marker 1 [T1]	RBW	100 kHz	RF Att	40 dB
	30 dBm	-30.90 dBm	VBW	300 kHz		
		990.90380762 MHz	SWT	245 ms	Unit	dBm



Date: 03.NOV.2015 19:59:11

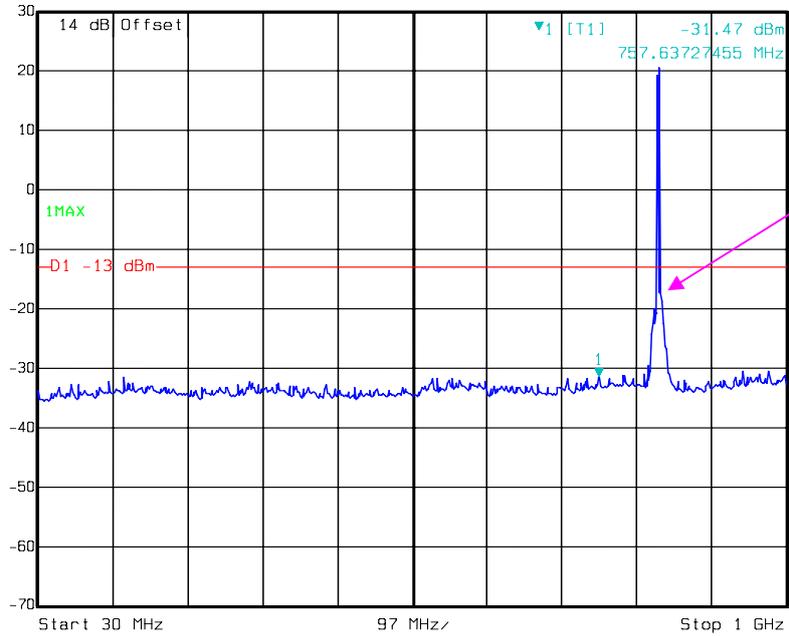
	Ref Lvl	Marker 1 [T1]	RBW	1 MHz	RF Att	30 dB
	20 dBm	-28.02 dBm	VBW	3 MHz		
		6.95190381 GHz	SWT	52 ms	Unit	dBm



Date: 03.NOV.2015 20:02:39

BC0-RC3_Middle Channel

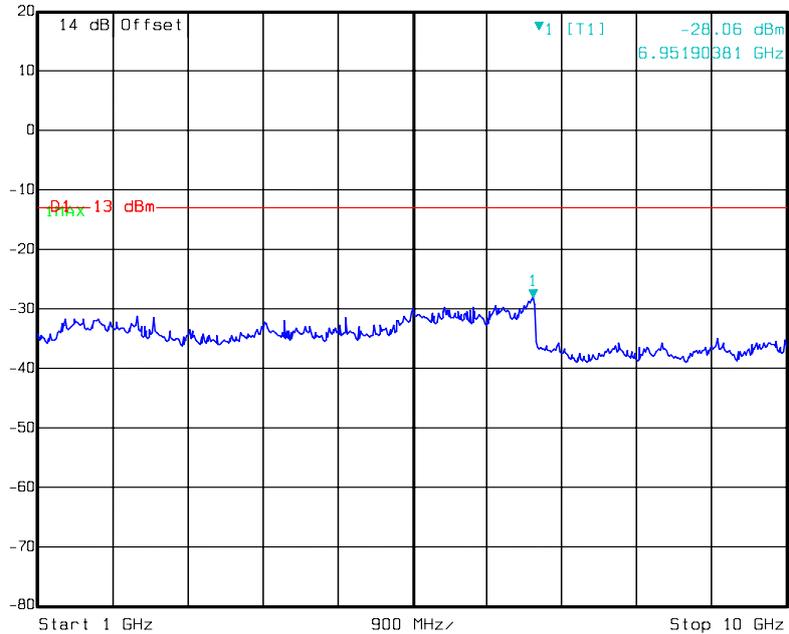
◆ S Marker 1 [T1] RBW 100 kHz RF Att 40 dB
 Ref Lvl -31.47 dBm VBN 300 kHz
 30 dBm 757.63727455 MHz SWT 245 ms Unit dBm



Date: 03.NOV.2015 19:59:50

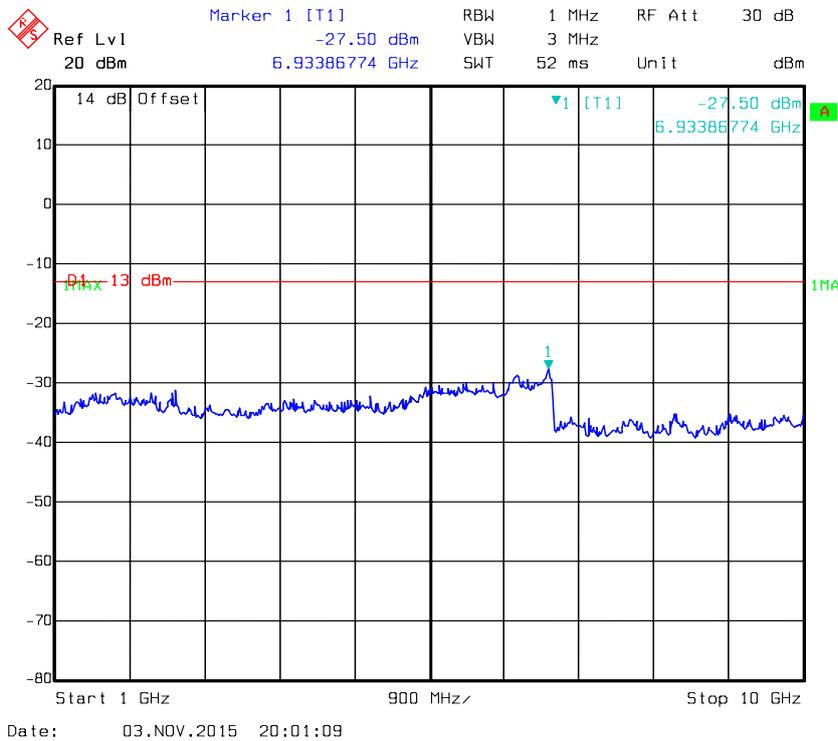
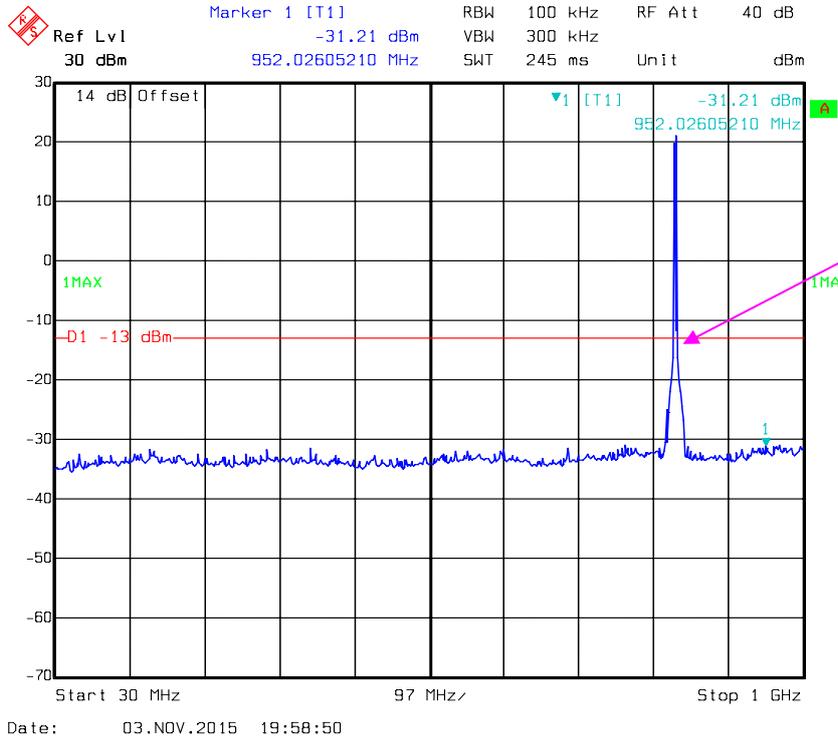
Fundamental

◆ S Marker 1 [T1] RBW 1 MHz RF Att 30 dB
 Ref Lvl -28.06 dBm VBN 3 MHz
 20 dBm 6.95190381 GHz SWT 52 ms Unit dBm

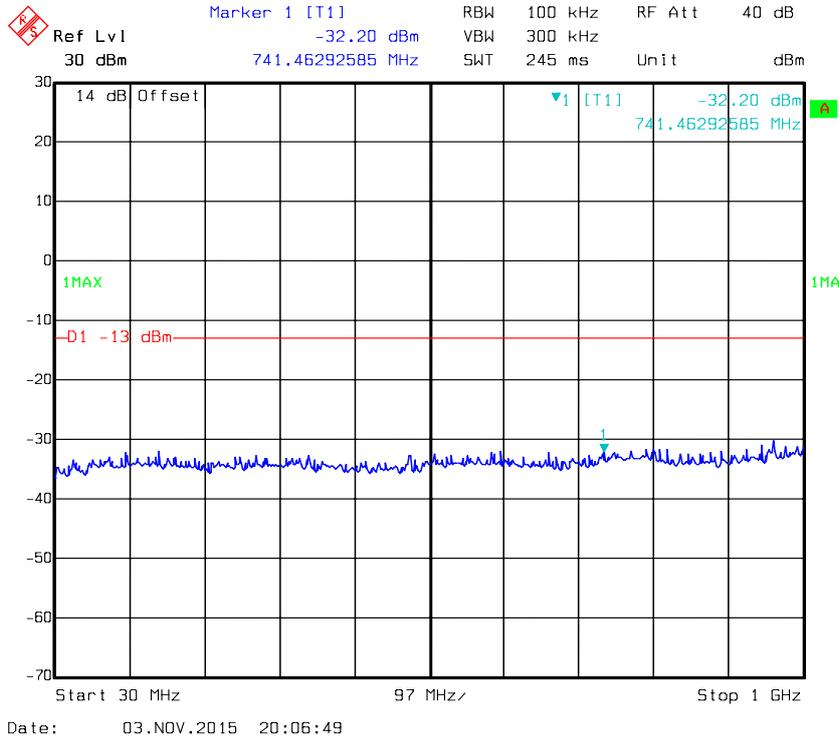


Date: 03.NOV.2015 20:03:10

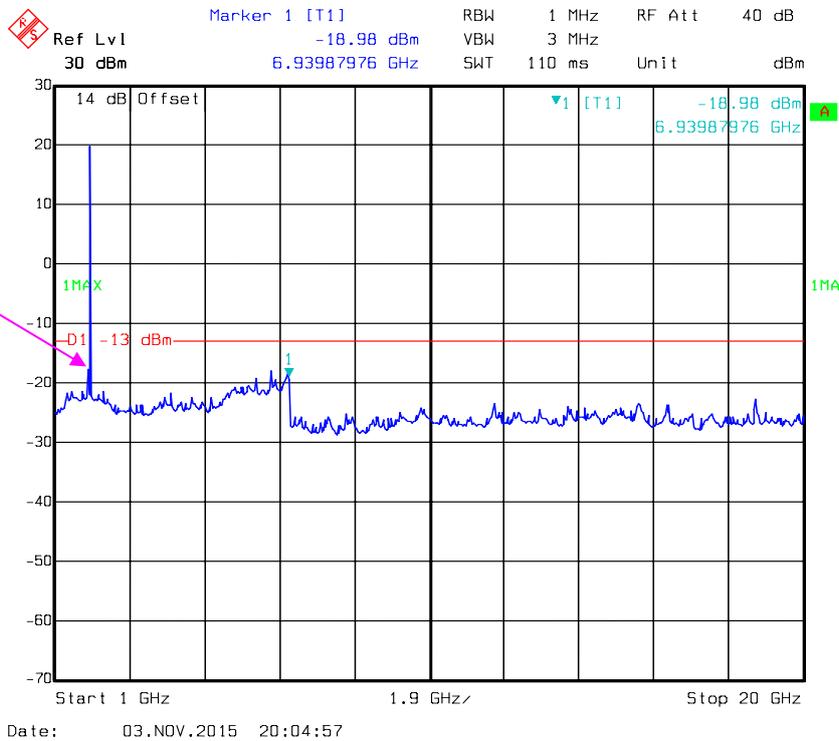
BC0- RTAP _Middle Channel



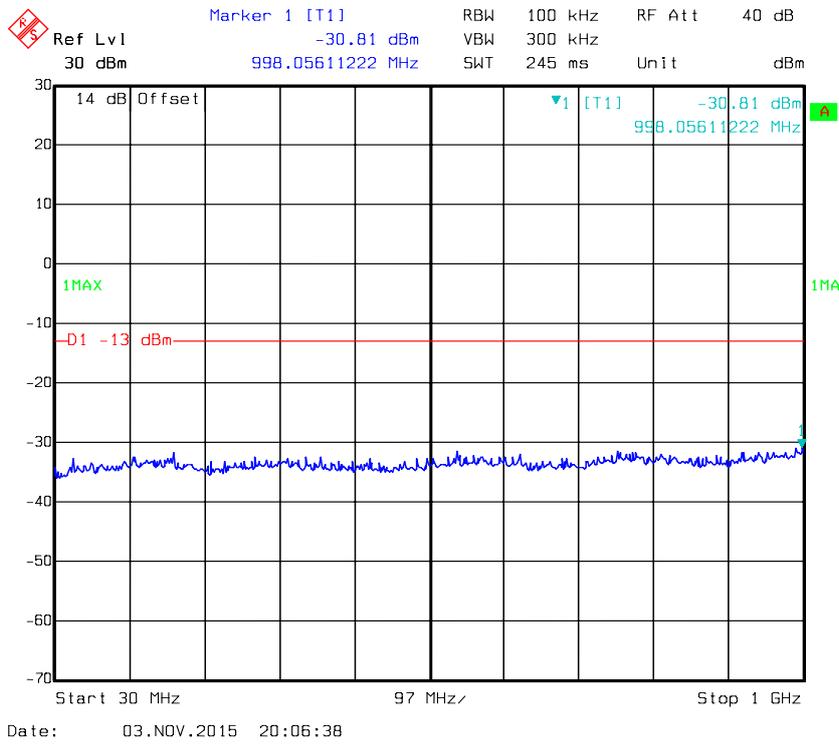
BC1-RC1_Middle Channel



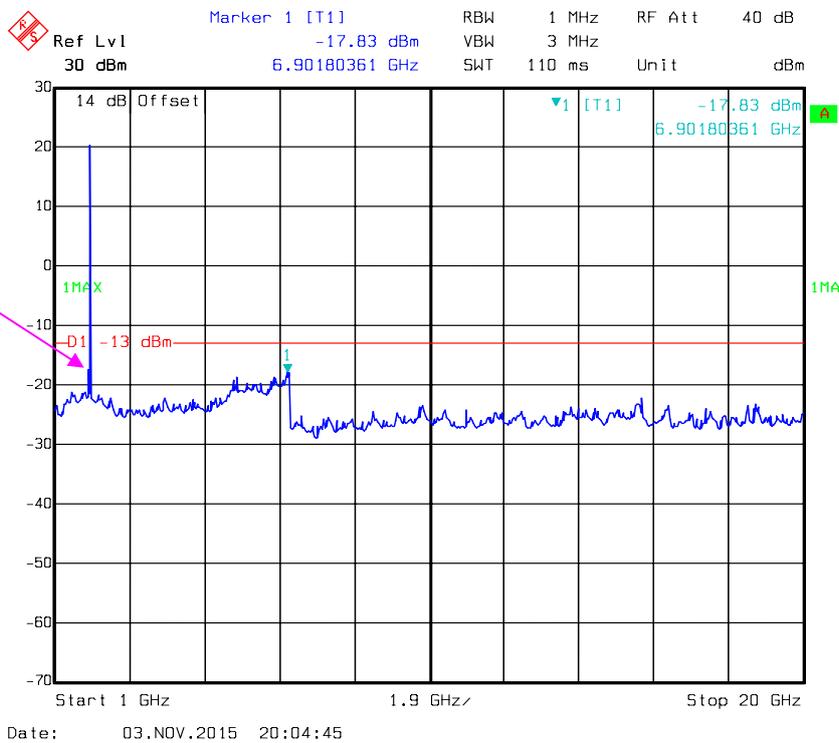
Fundamental



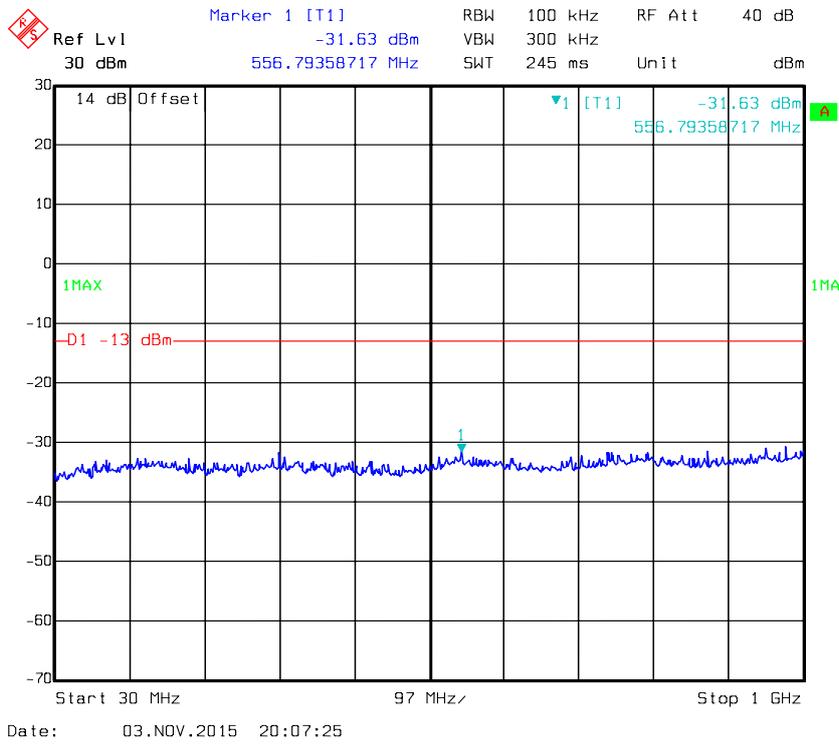
BC1-RC3_Middle Channel



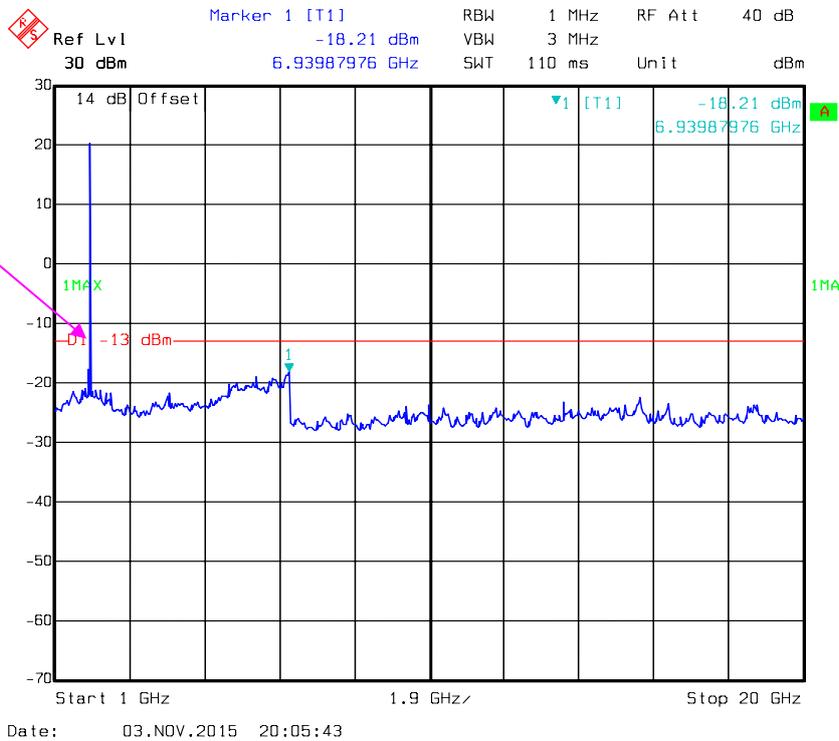
Fundamental



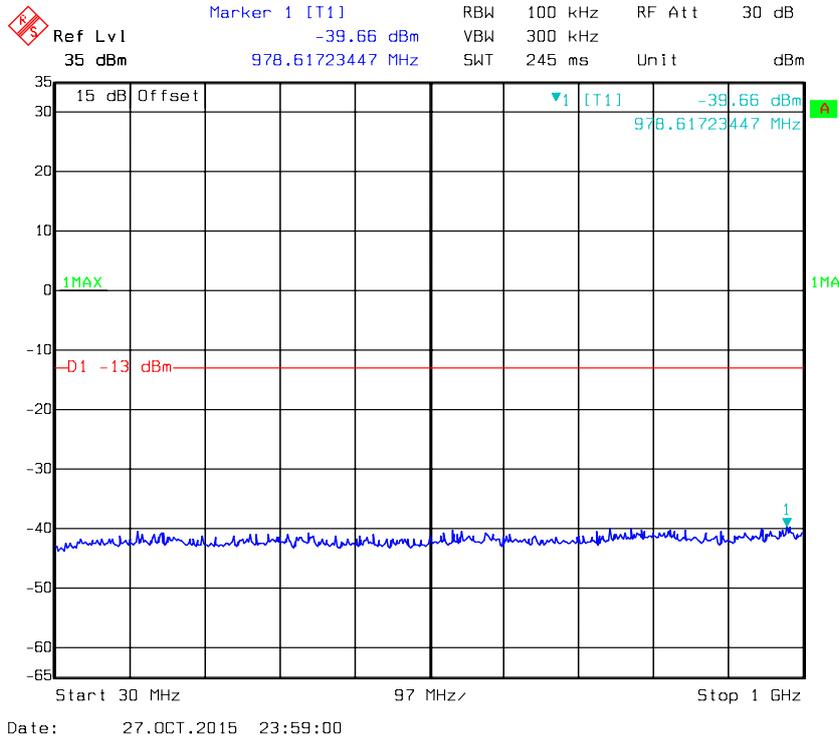
BC1- RTAP_Middle Channel



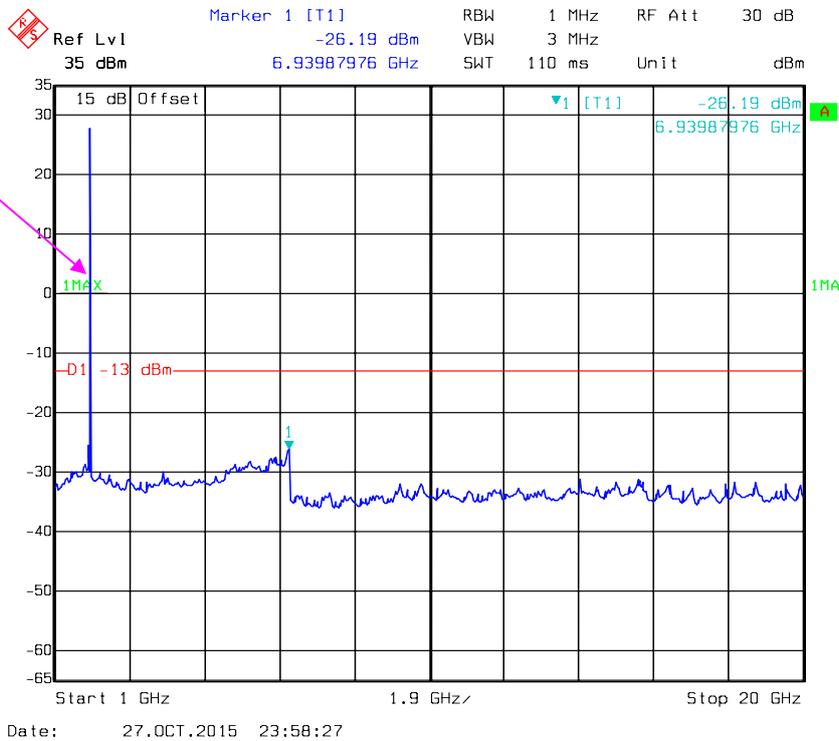
Fundamental



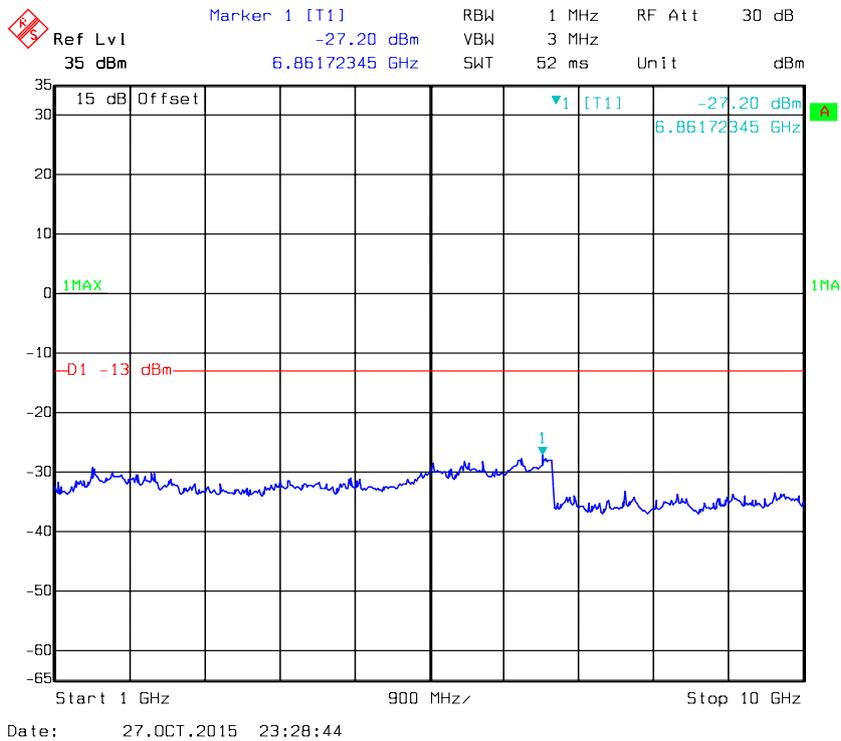
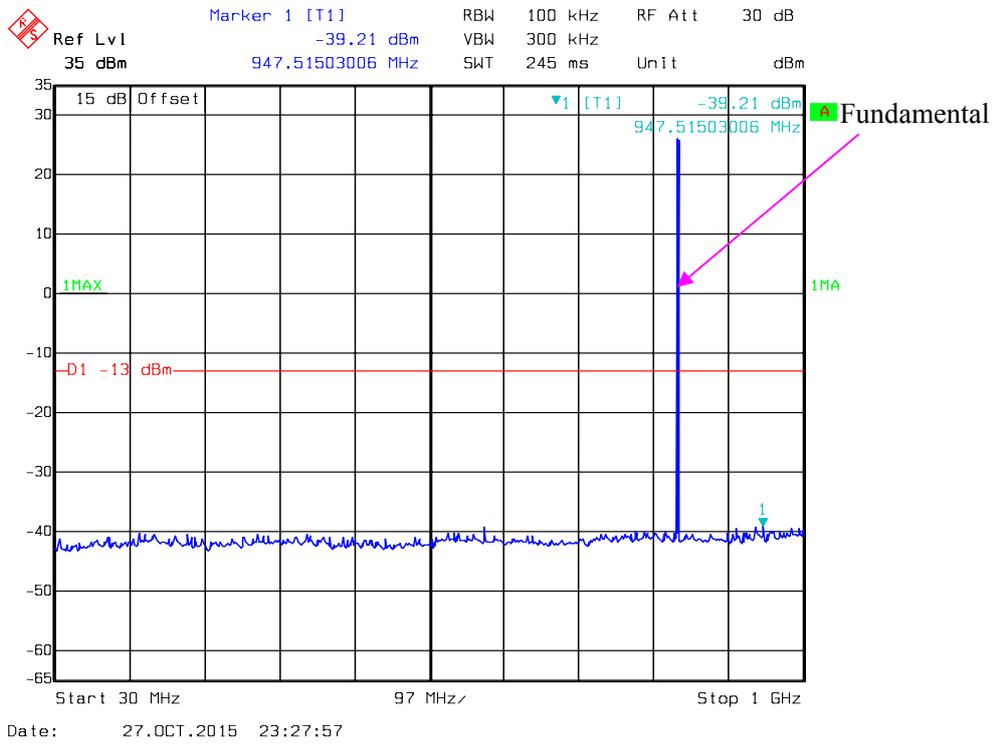
PCS 1900_ Middle Channel



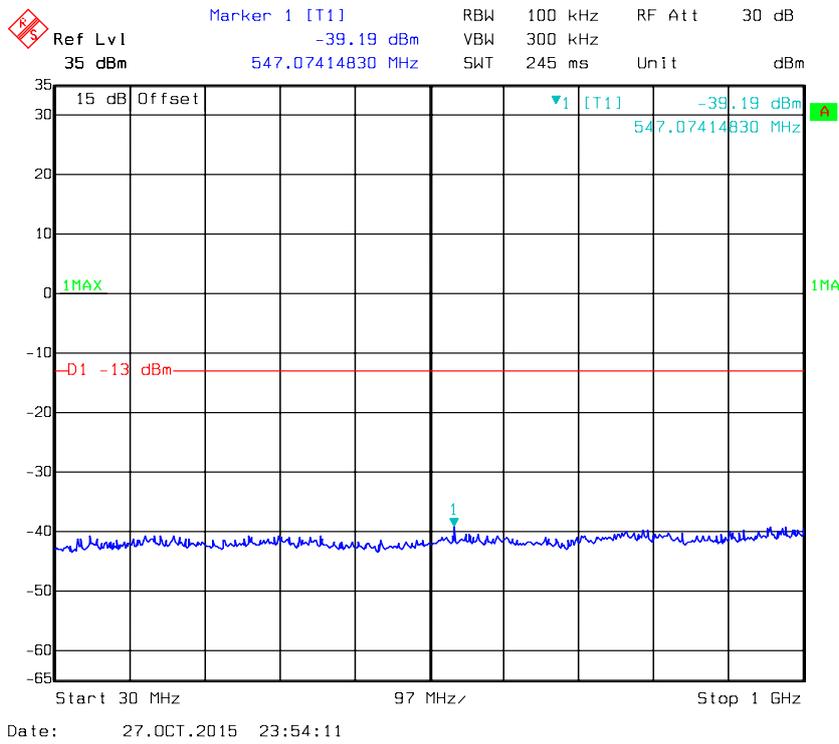
Fundamental



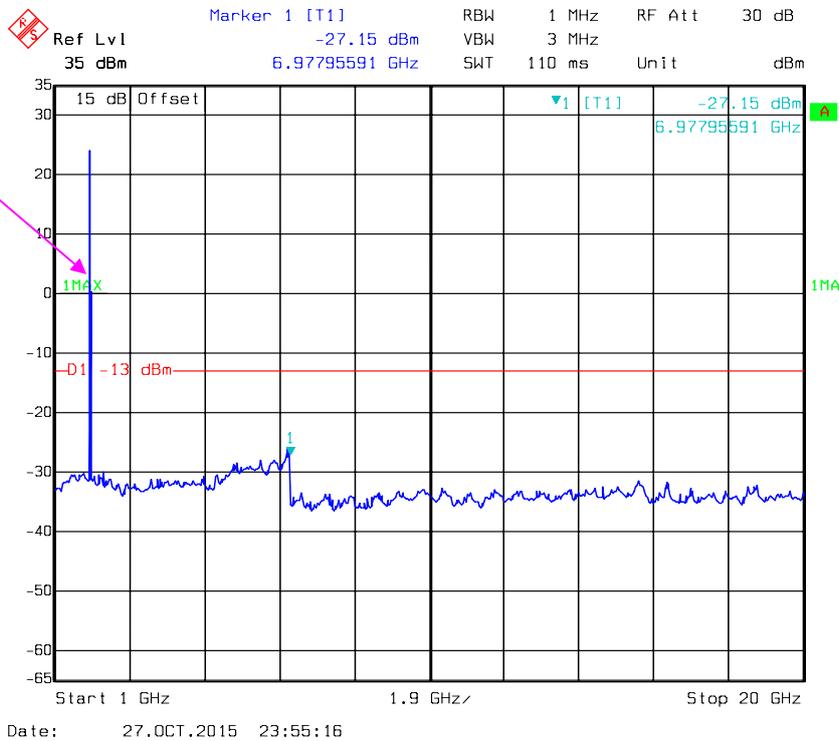
EDGE850_Middle Channel



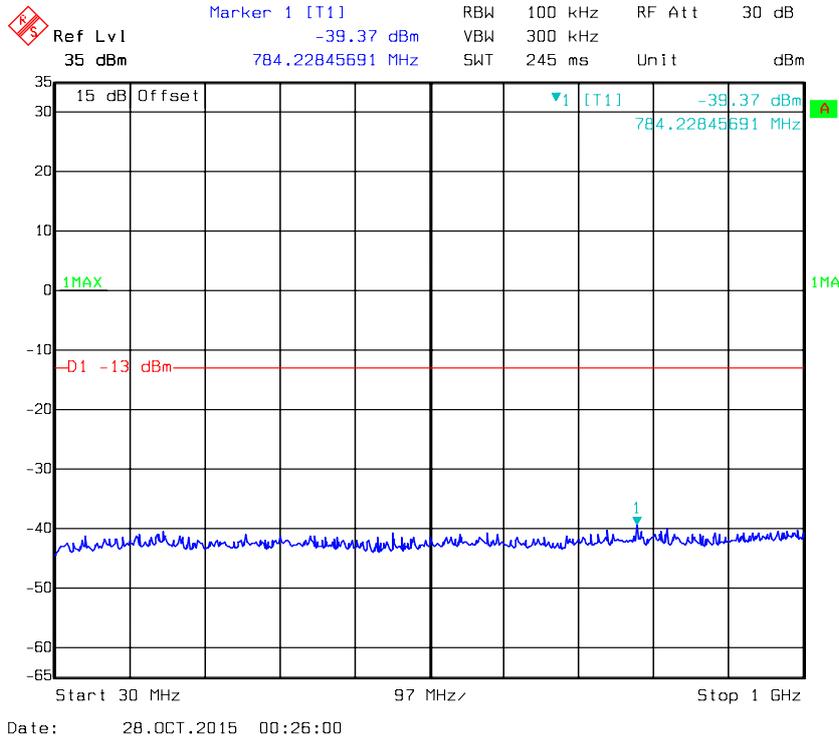
EDGE1900_ Middle Channel



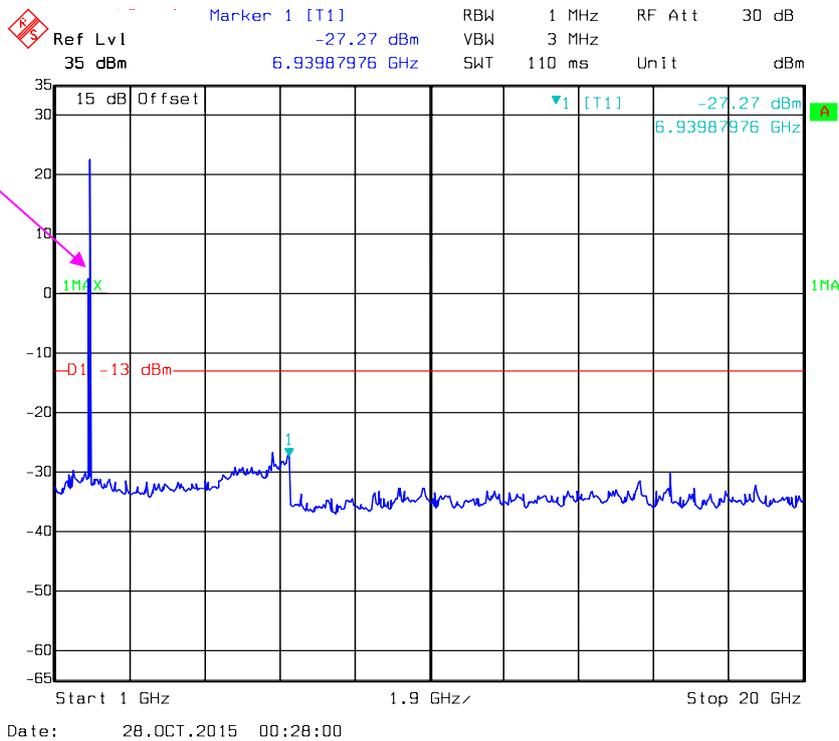
Fundamental



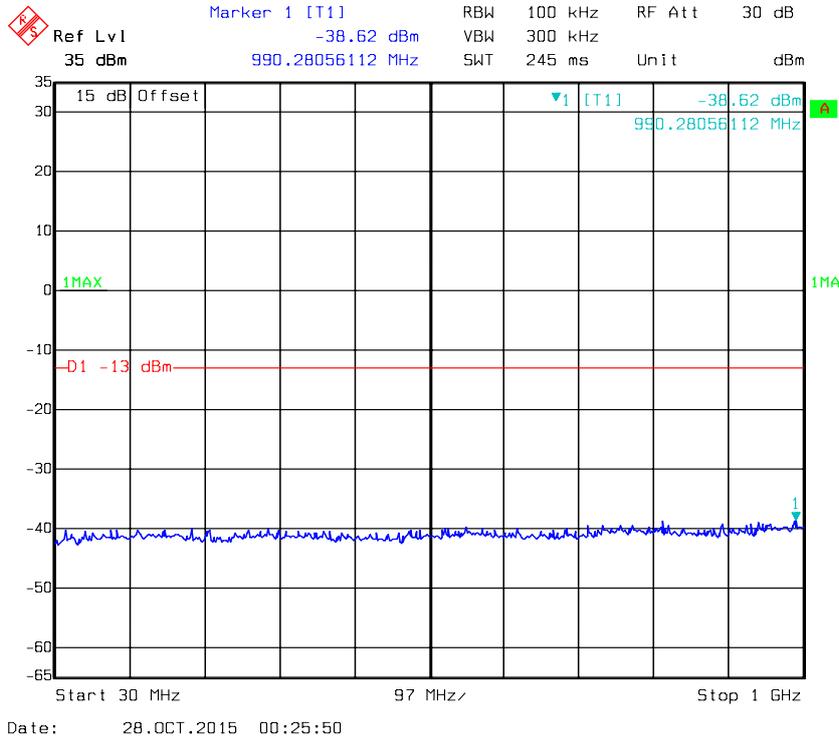
REL99 Band II_ Middle Channel



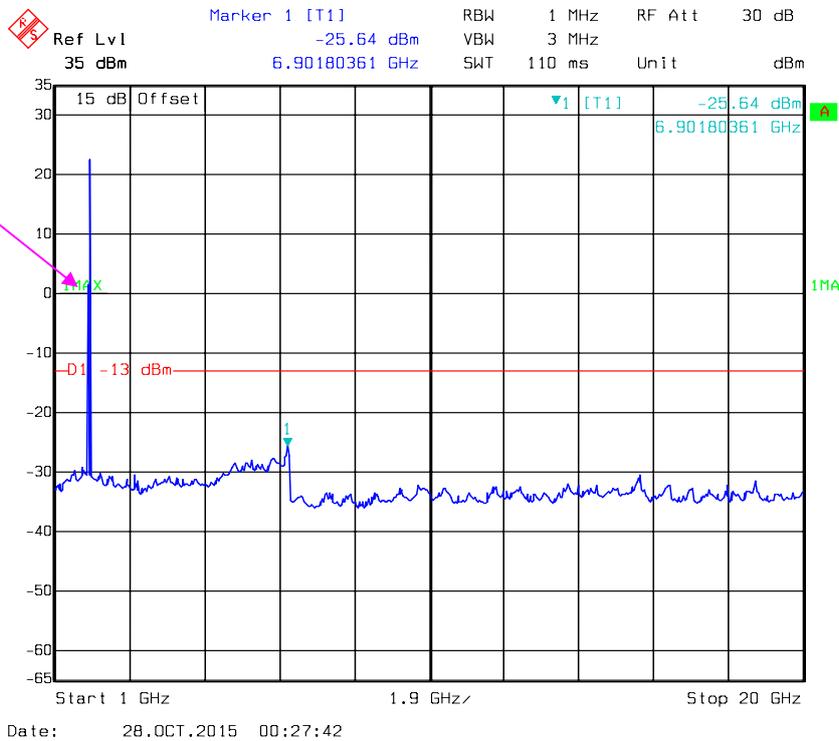
Fundamental



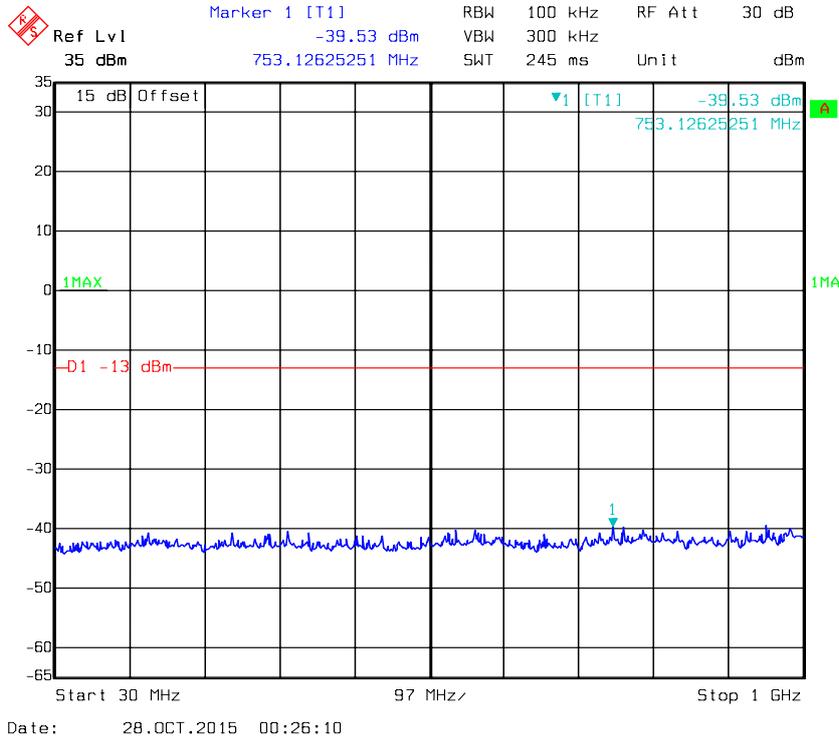
HSDPA Band II _Middle Channel



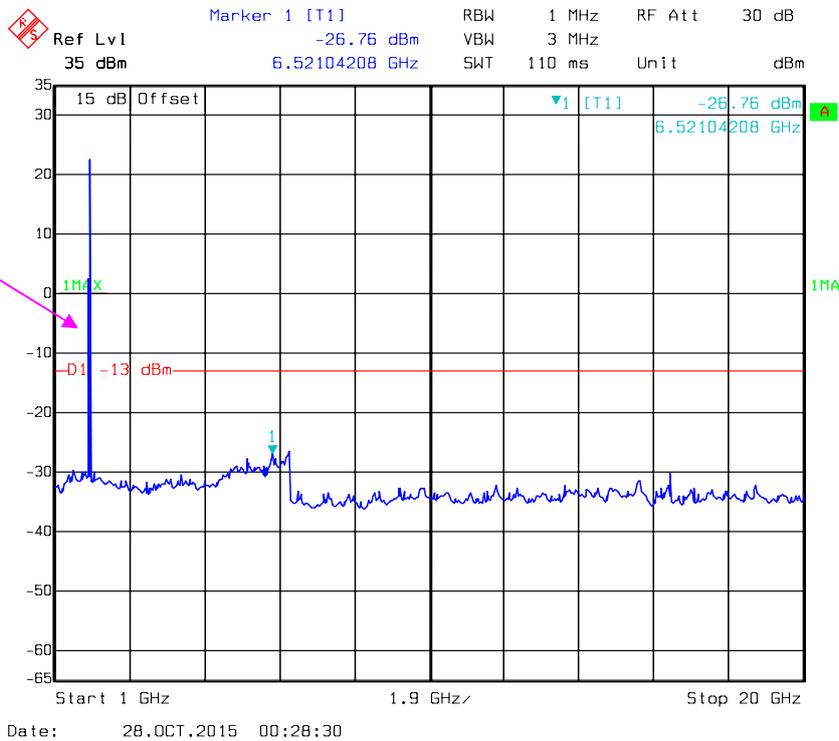
Fundamental



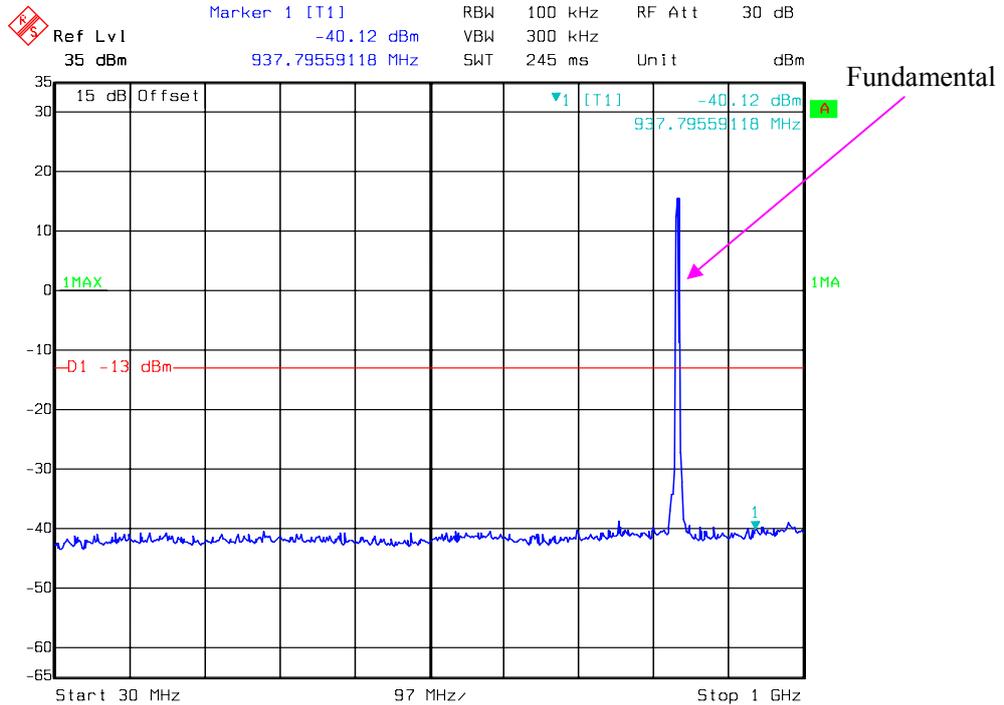
HSUPA Band II _ Middle Channel



Fundamental



REL99 Band V_ Middle Channel

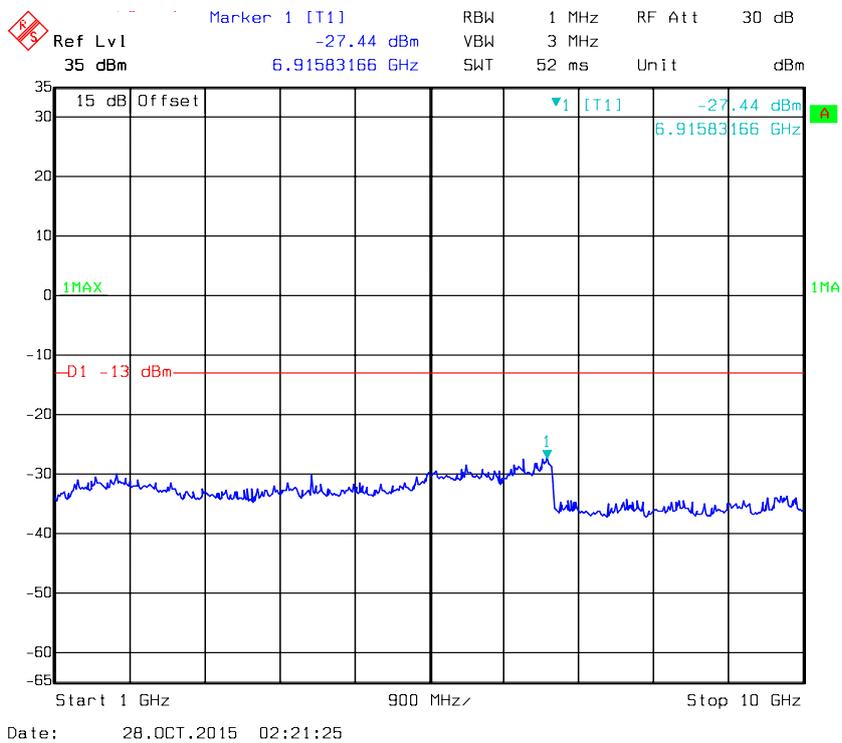
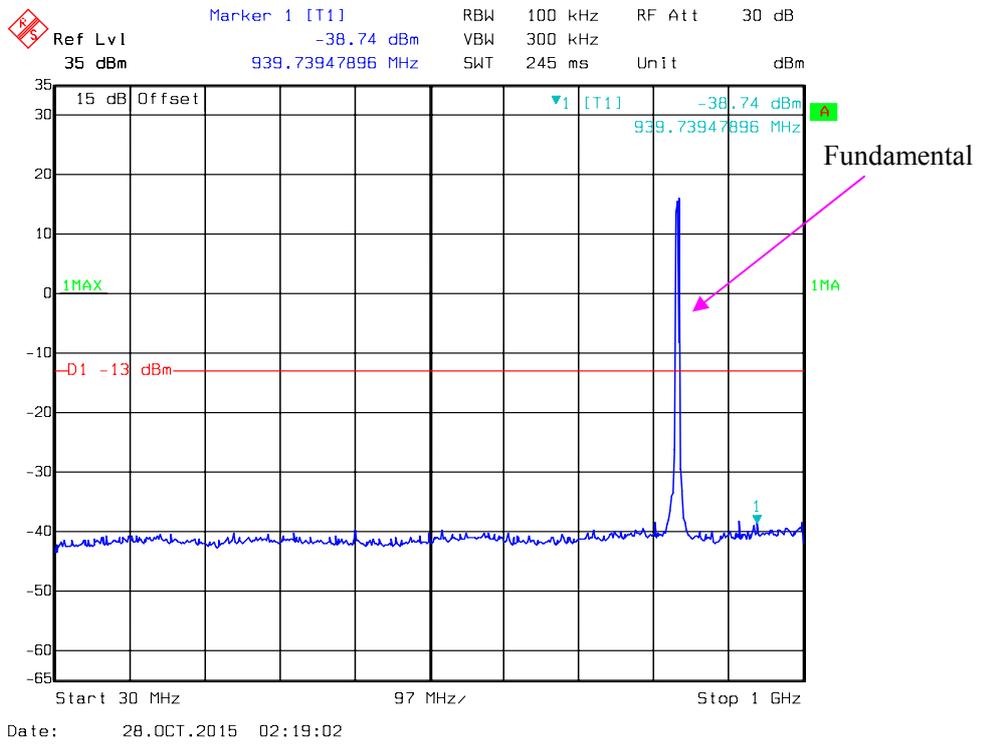


Date: 28.OCT.2015 02:19:30



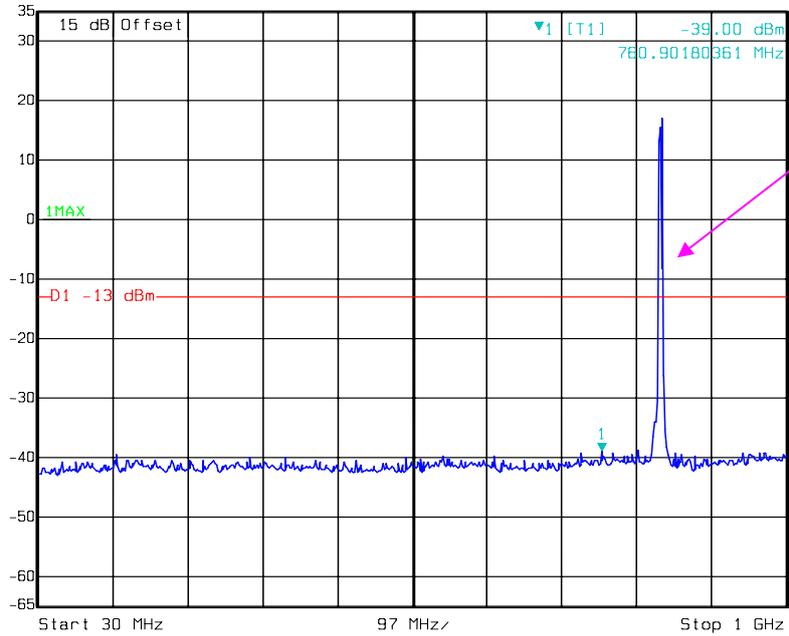
Date: 28.OCT.2015 02:21:42

HSDPA Band V_ Middle Channel



HSUPA Band V_ Middle Channel

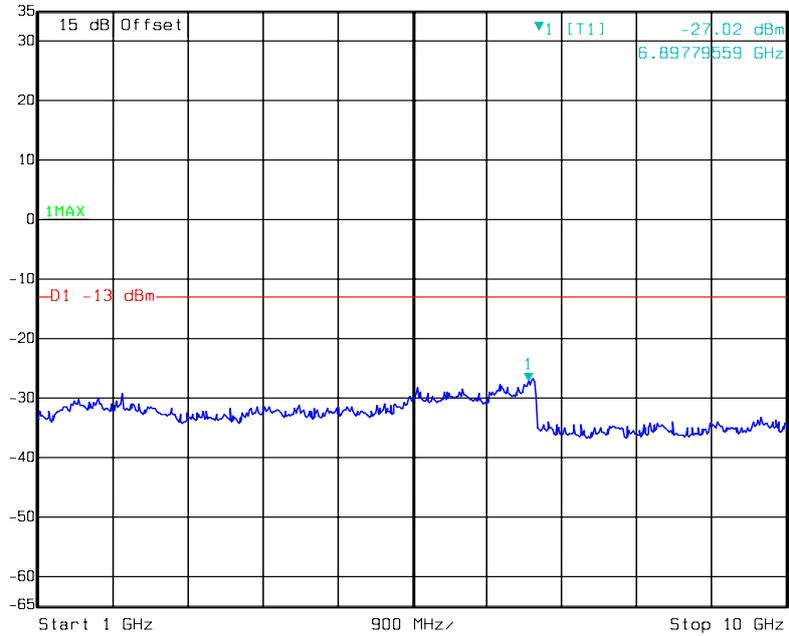
✖ Marker 1 [T1] RBW 100 kHz RF Att 30 dB
 Ref Lvl -39.00 dBm VBW 300 kHz
 35 dBm 760.90180361 MHz SWT 245 ms Unit dBm



Fundamental

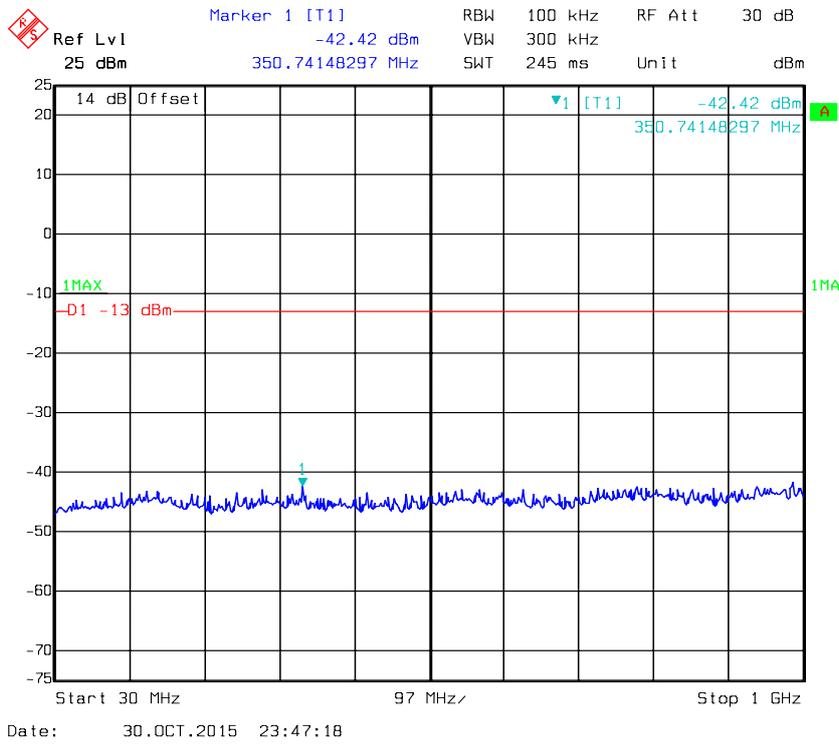
Date: 28.OCT.2015 02:18:07

✖ Marker 1 [T1] RBW 1 MHz RF Att 30 dB
 Ref Lvl -27.02 dBm VBW 3 MHz
 35 dBm 6.89779559 GHz SWT 52 ms Unit dBm

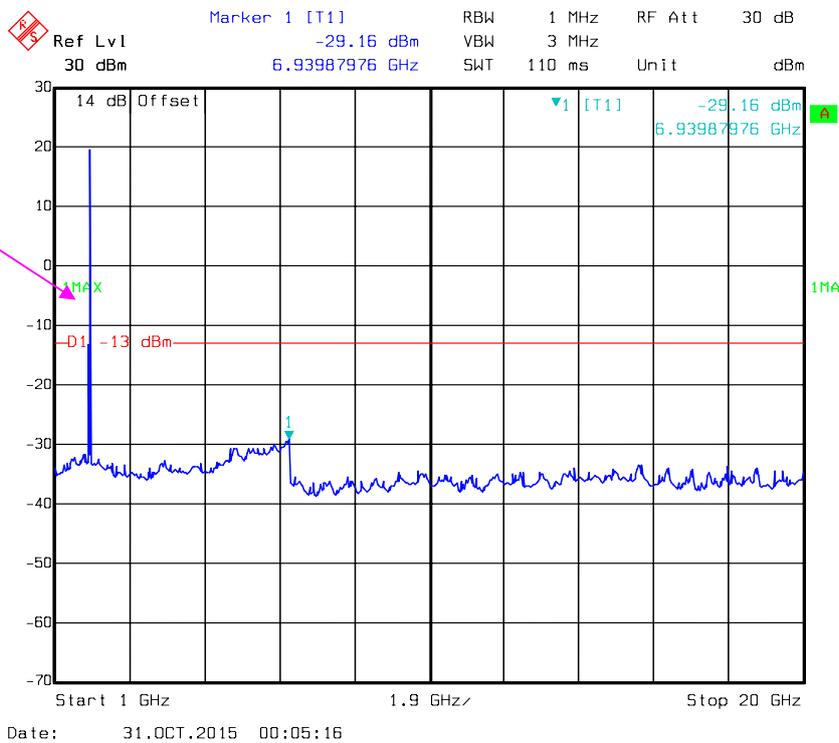


Date: 28.OCT.2015 02:21:14

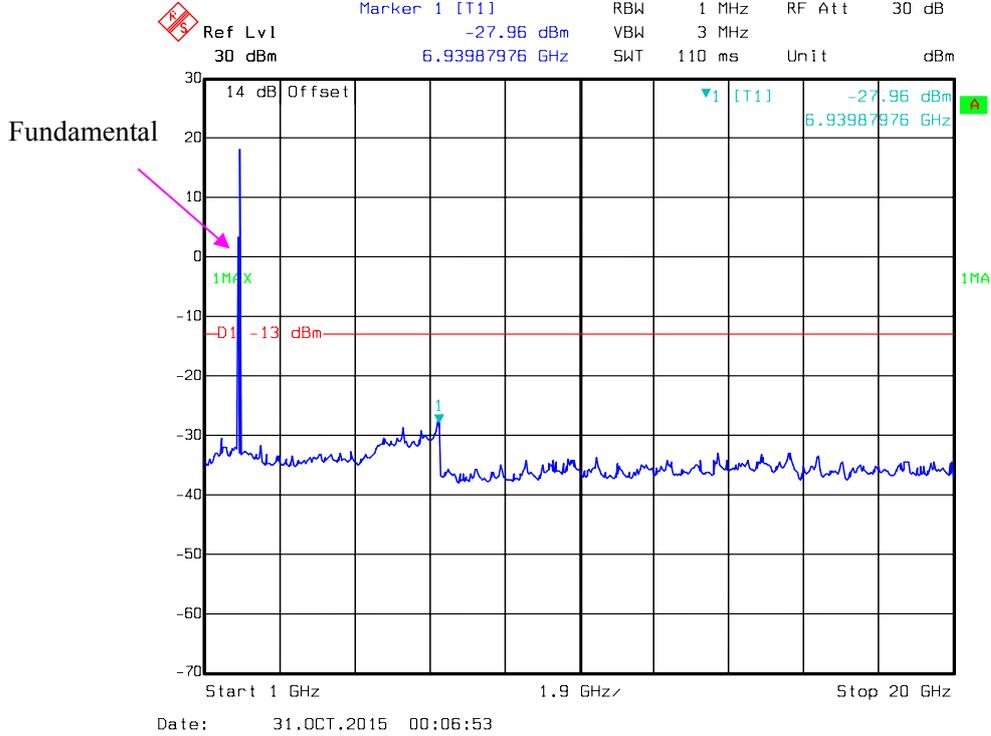
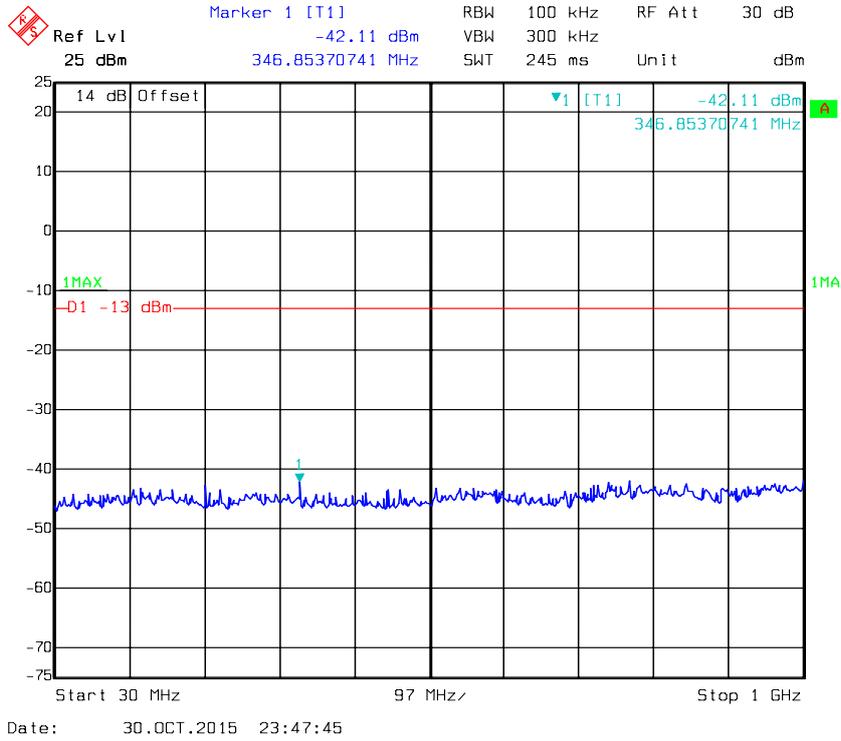
QPSK, Band 2-3M _ Middle Channel



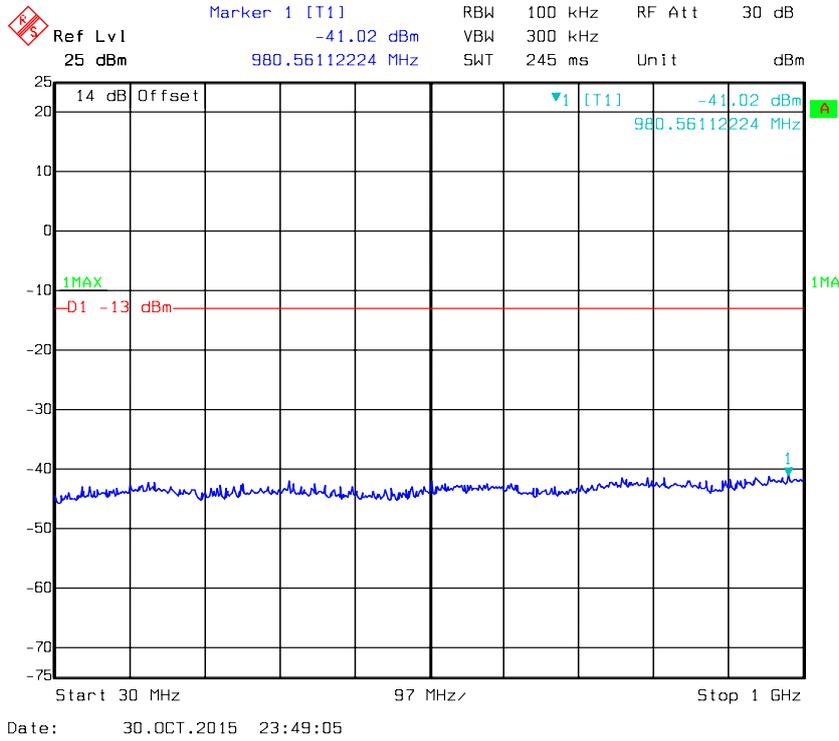
Fundamental



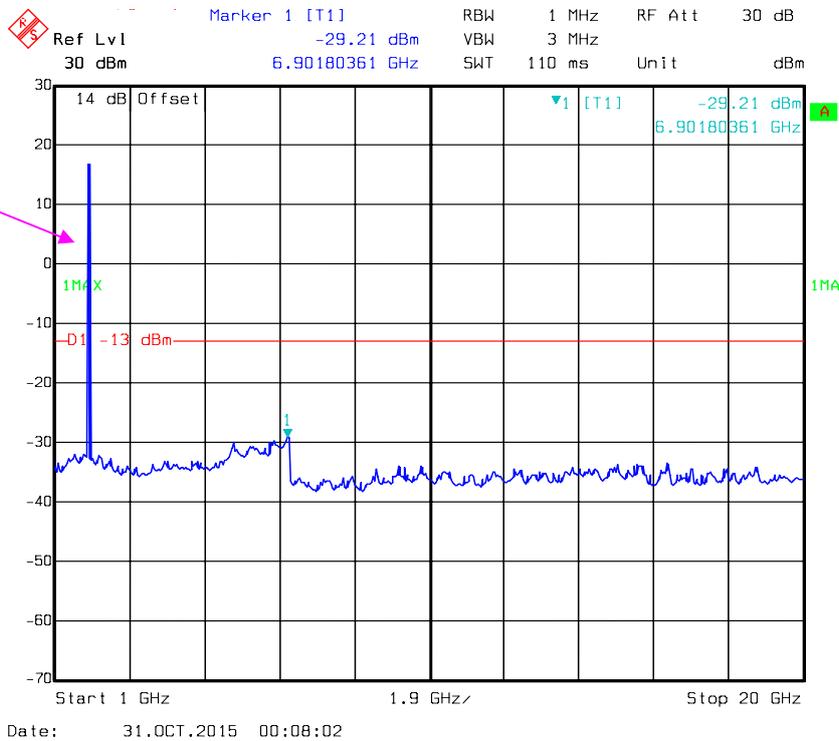
QPSK, Band 2-5M _ Middle Channel



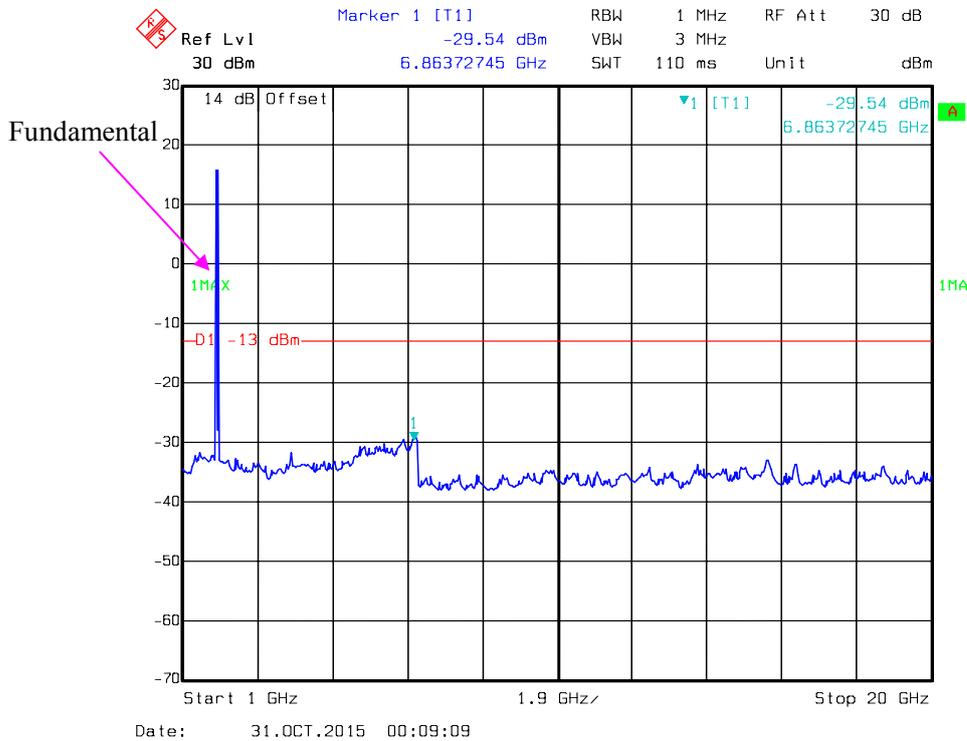
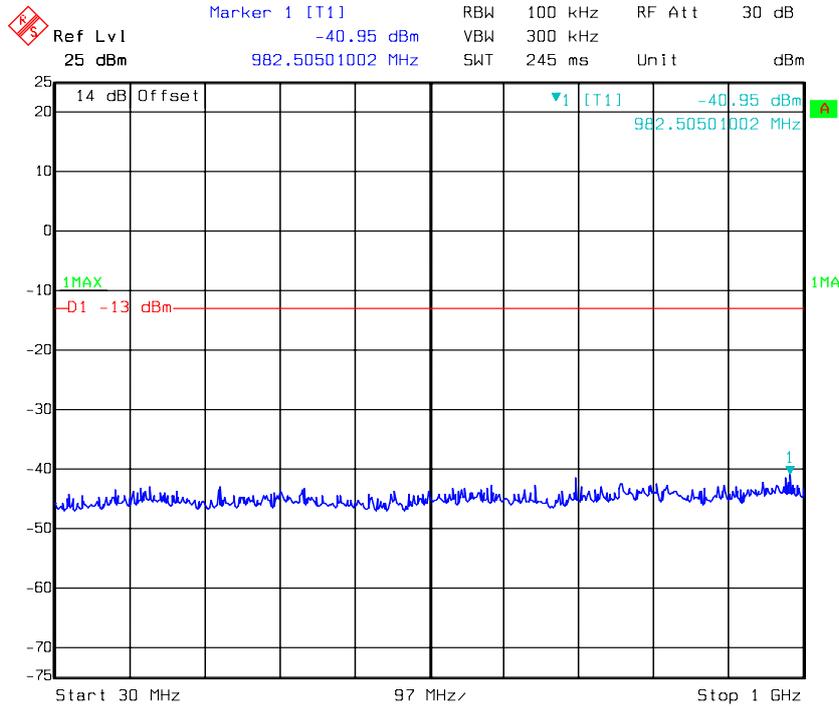
QPSK, Band 2-10M _ Middle Channel



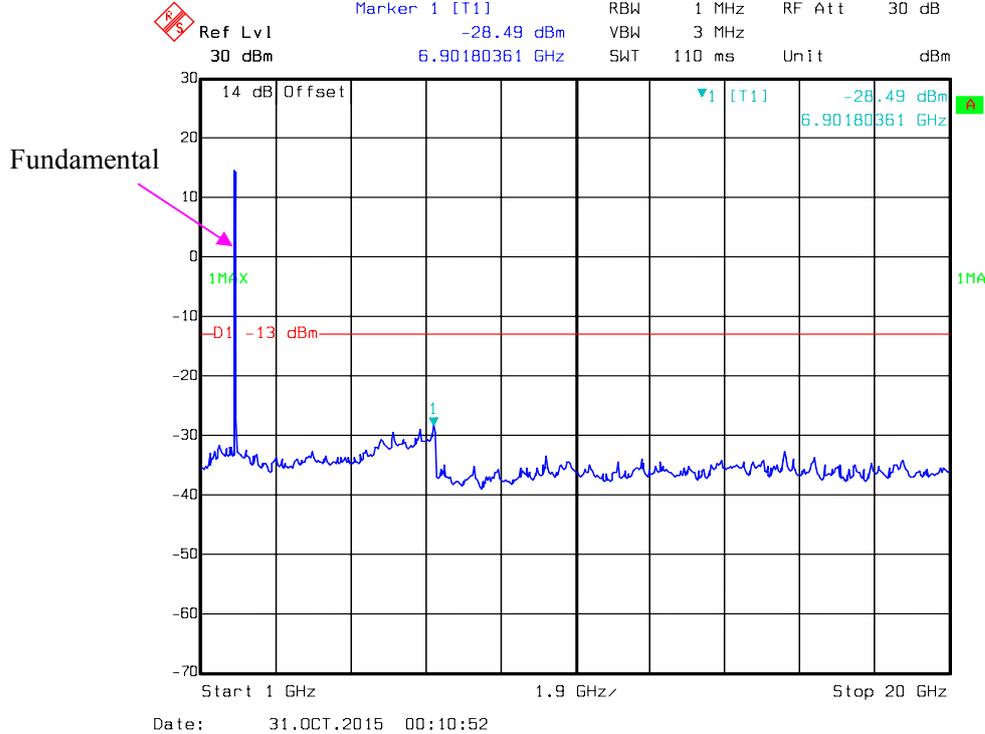
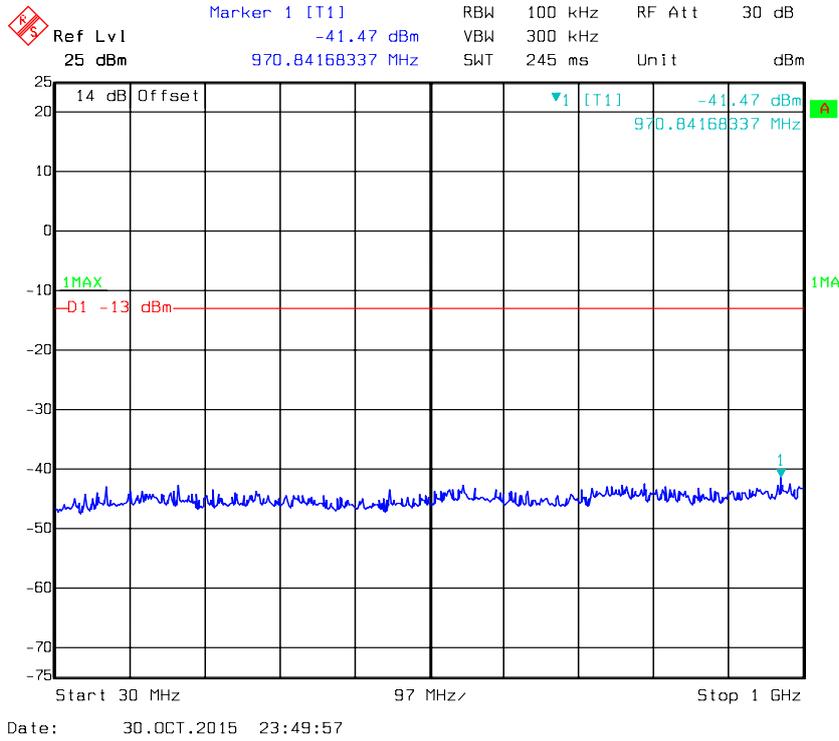
Fundamental



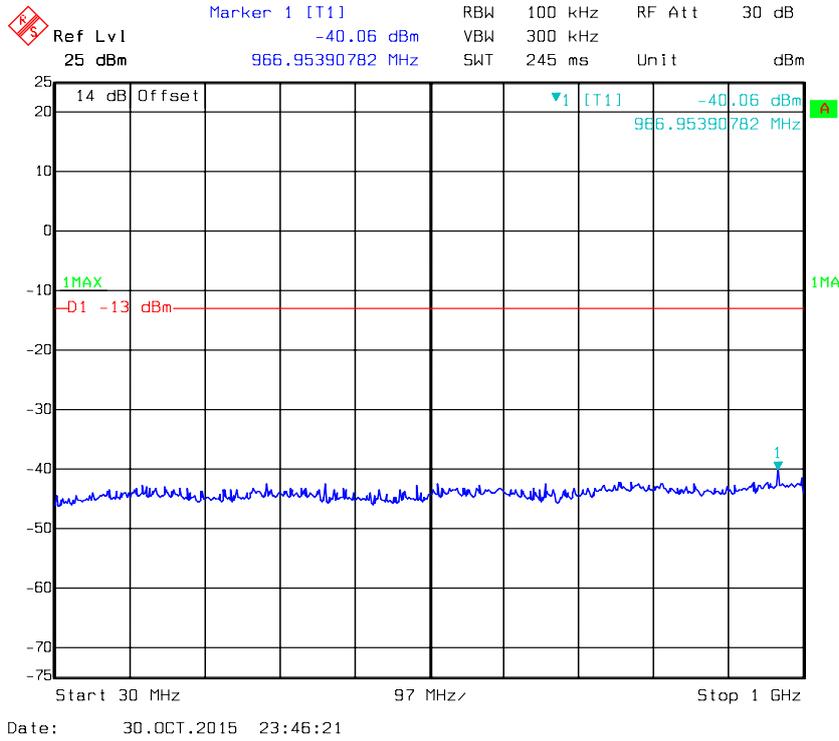
QPSK, Band 2-15M _ Middle Channel



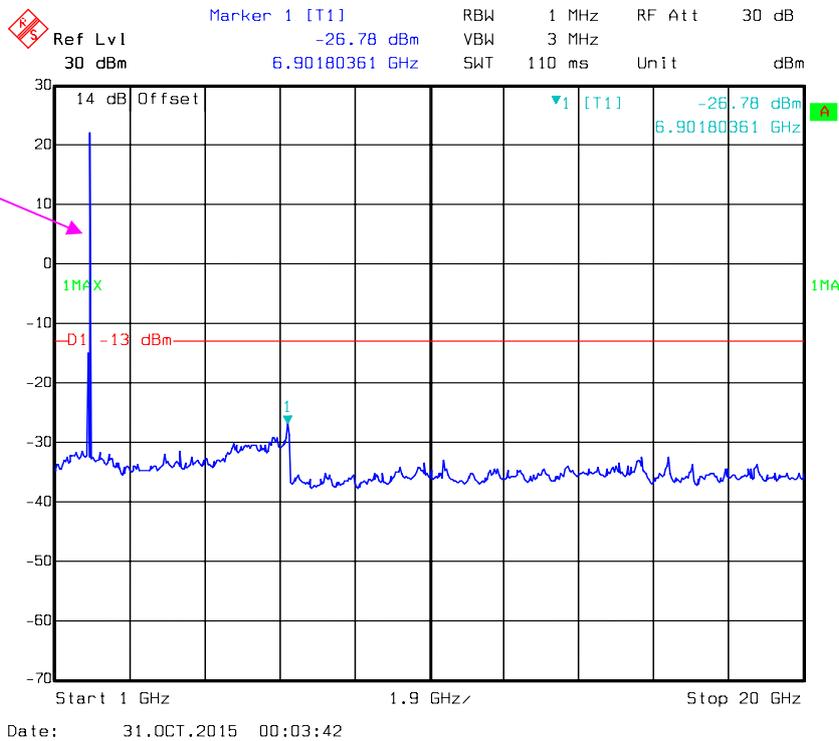
QPSK, Band 2-20M _ Middle Channel



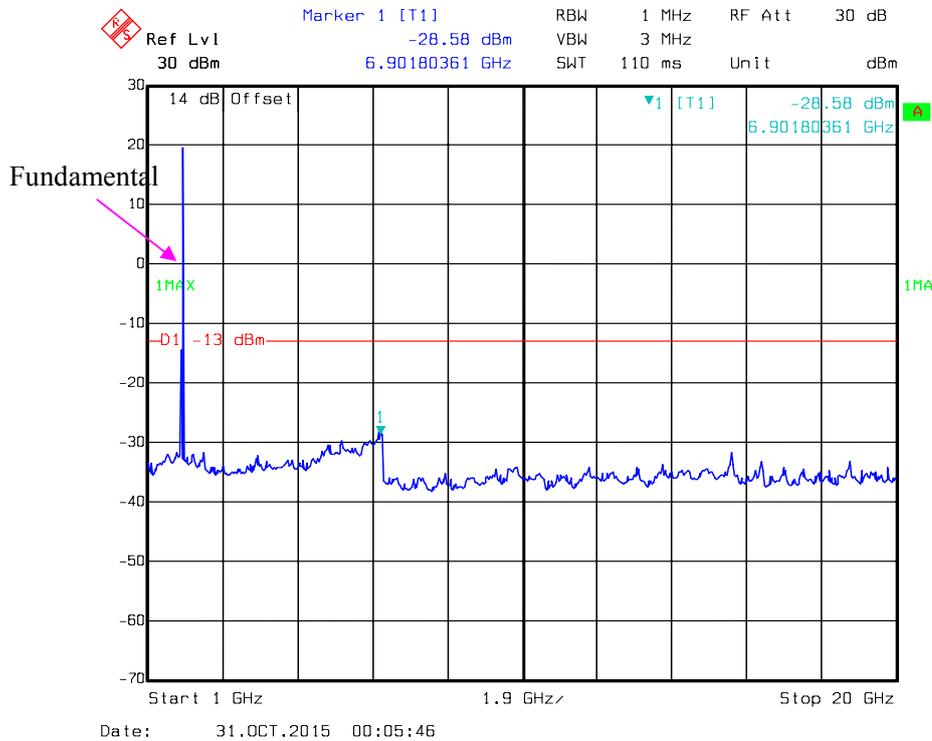
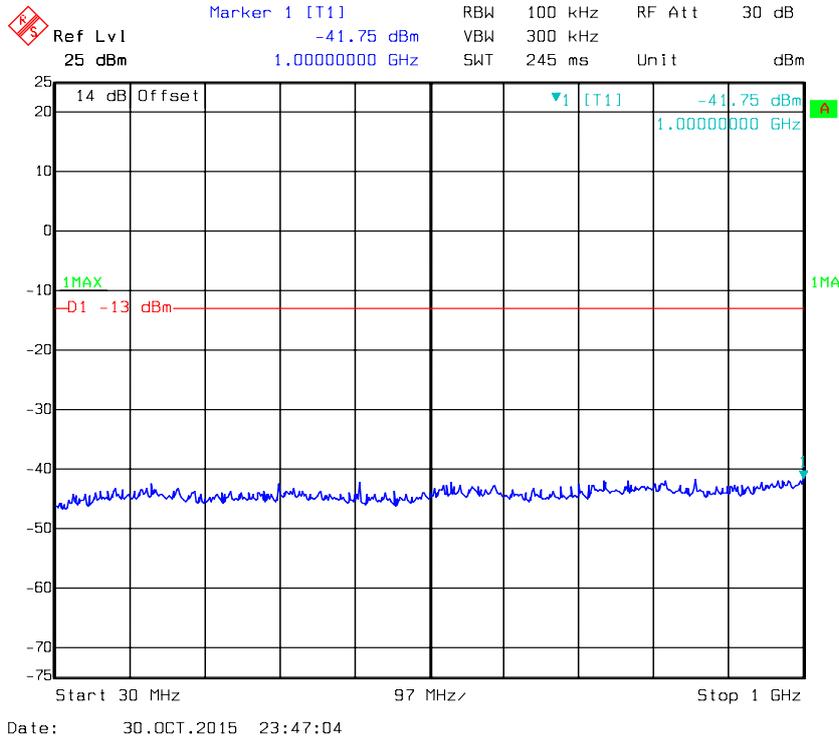
16-QAM, Band 2-1.4M _ Middle Channel



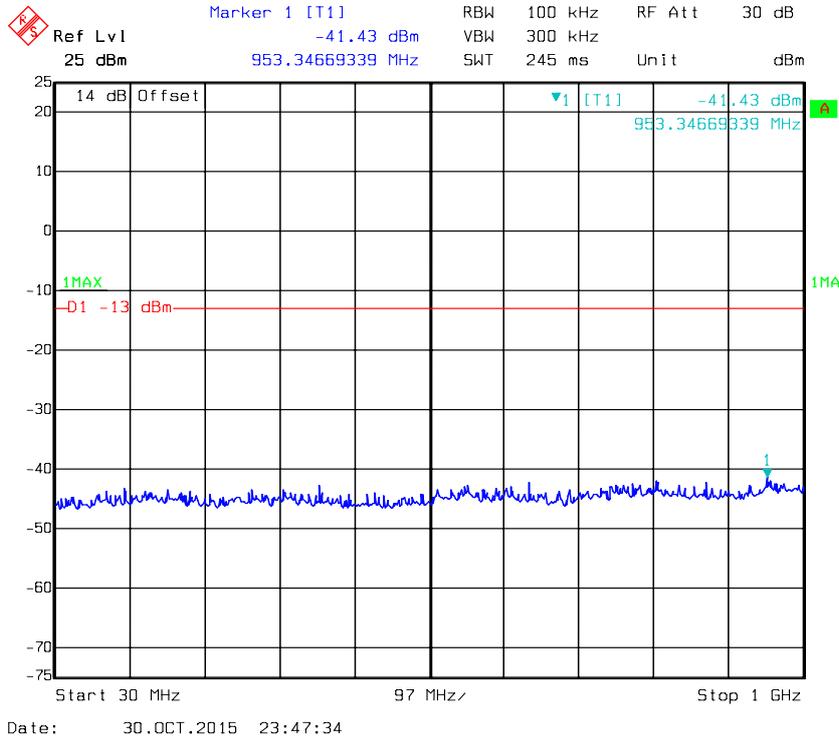
Fundamental



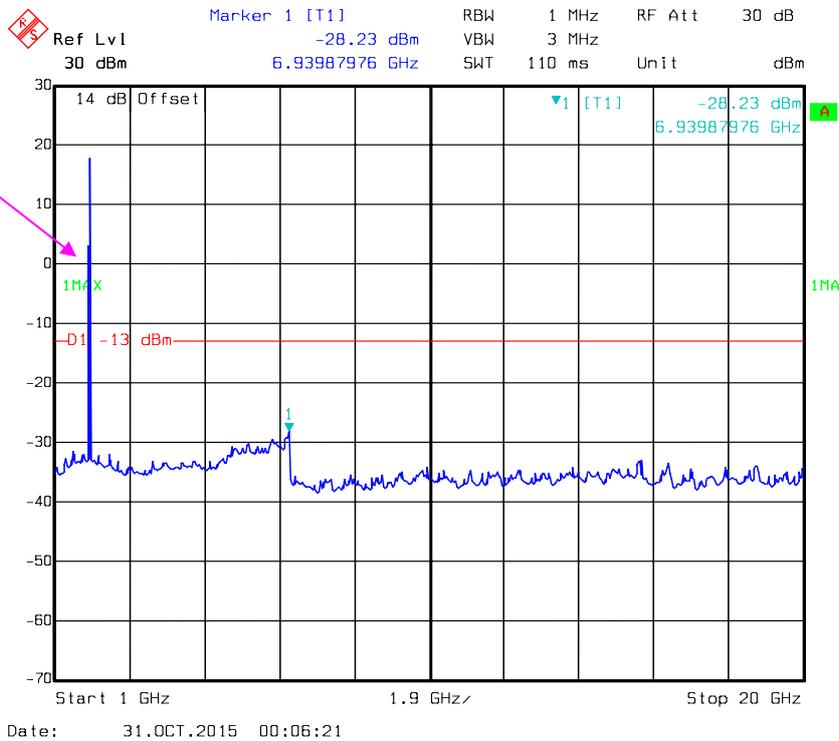
16-QAM, Band 2-3M_ Middle Channel



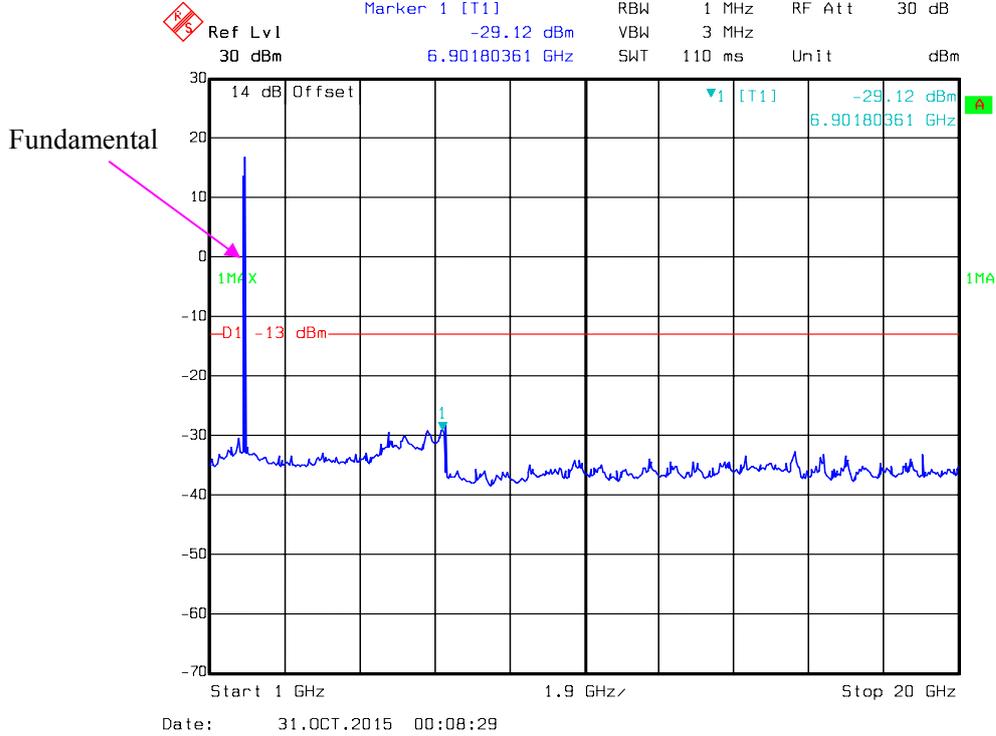
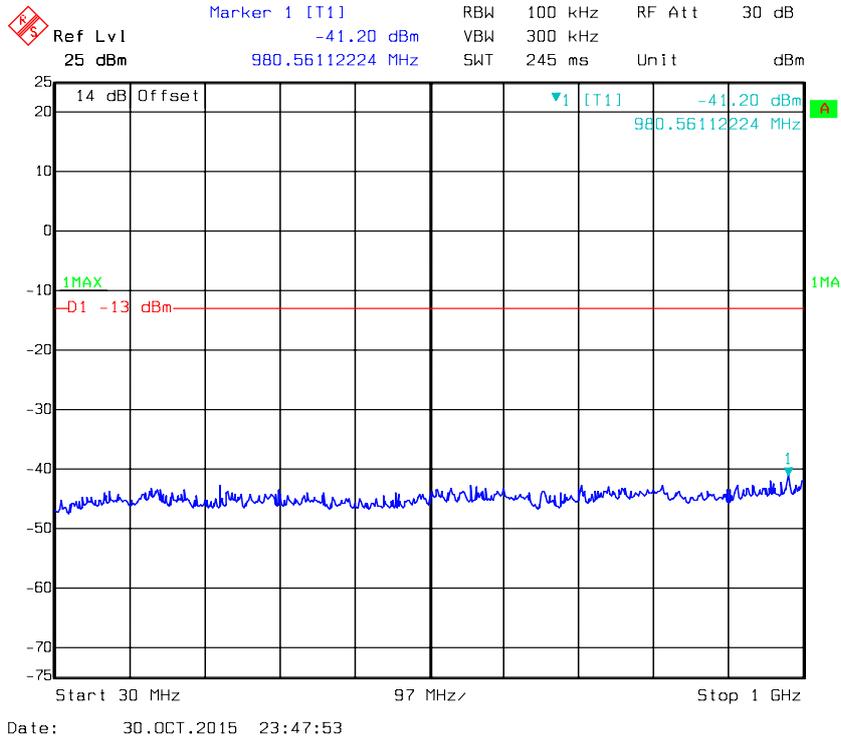
16-QAM, Band 2-5M_ Middle Channel



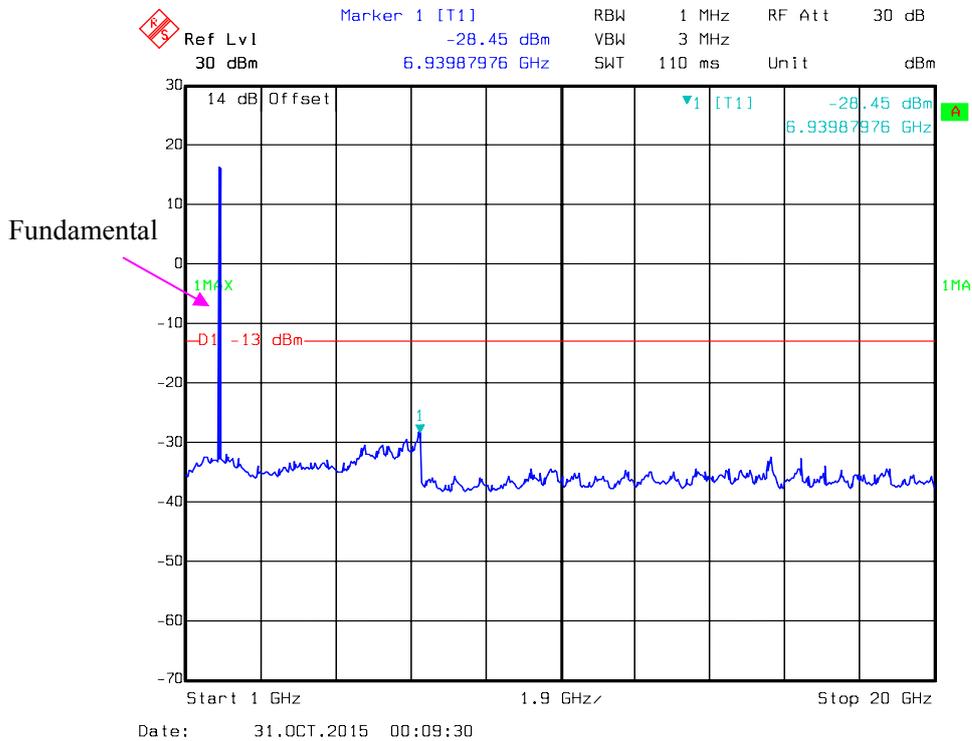
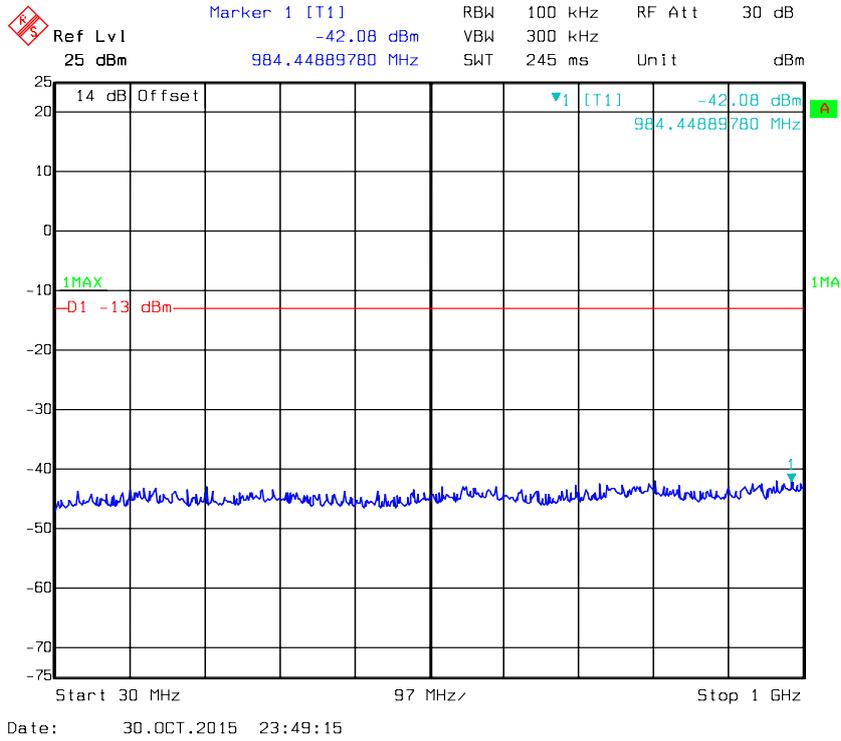
Fundamental



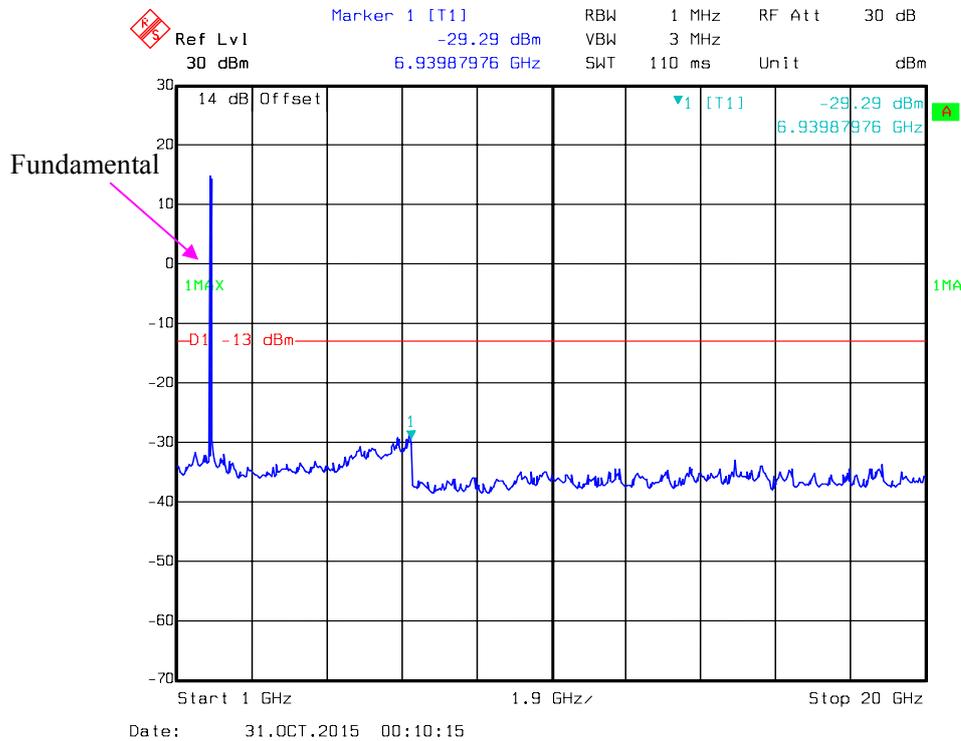
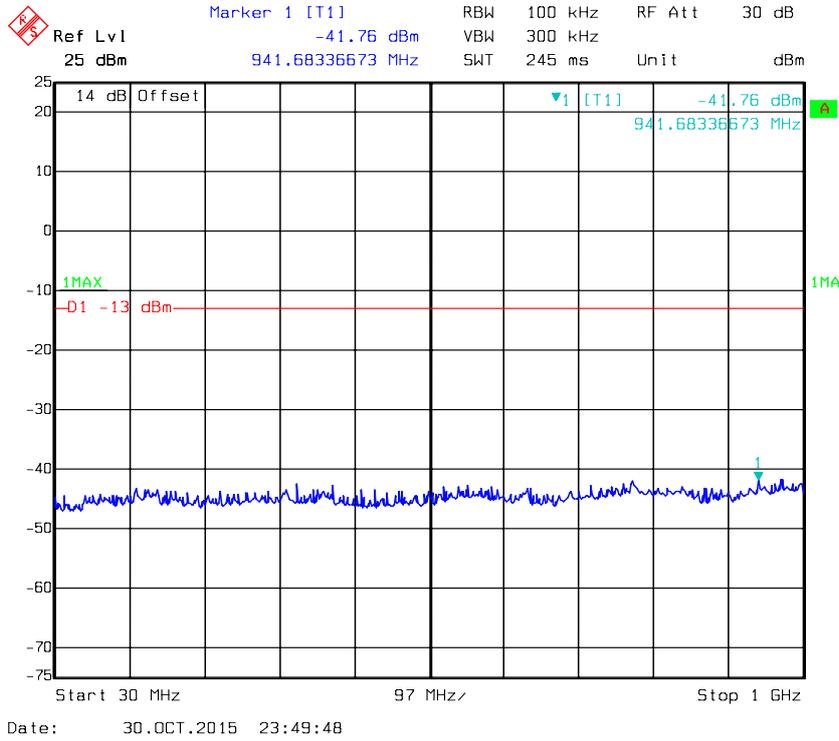
16-QAM, Band 2-10M _ Middle Channel



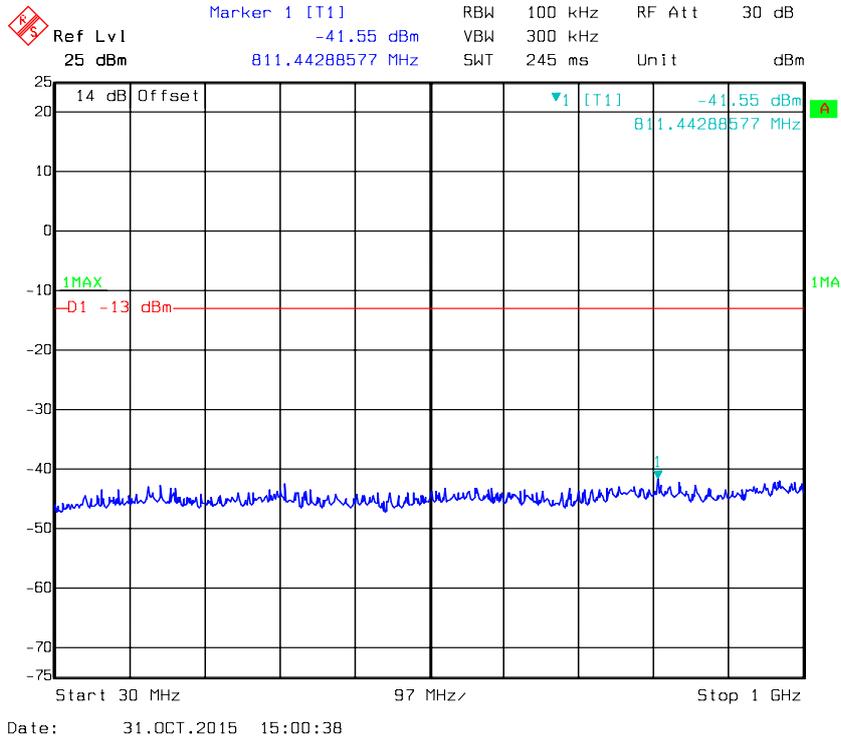
16-QAM, Band 2-15M _ Middle Channel



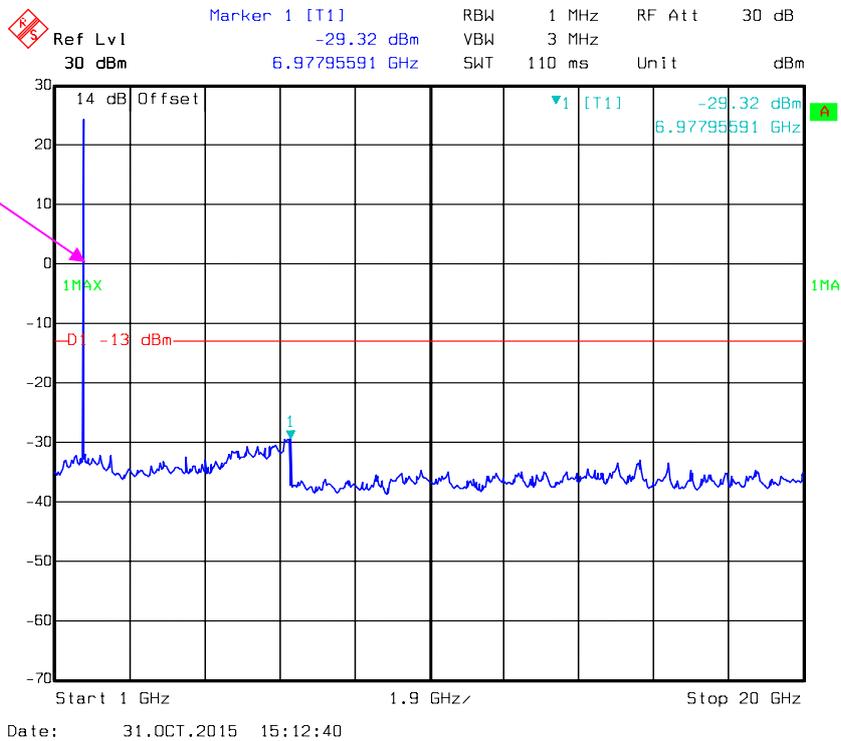
16-QAM, Band 2-20M _ Middle Channel



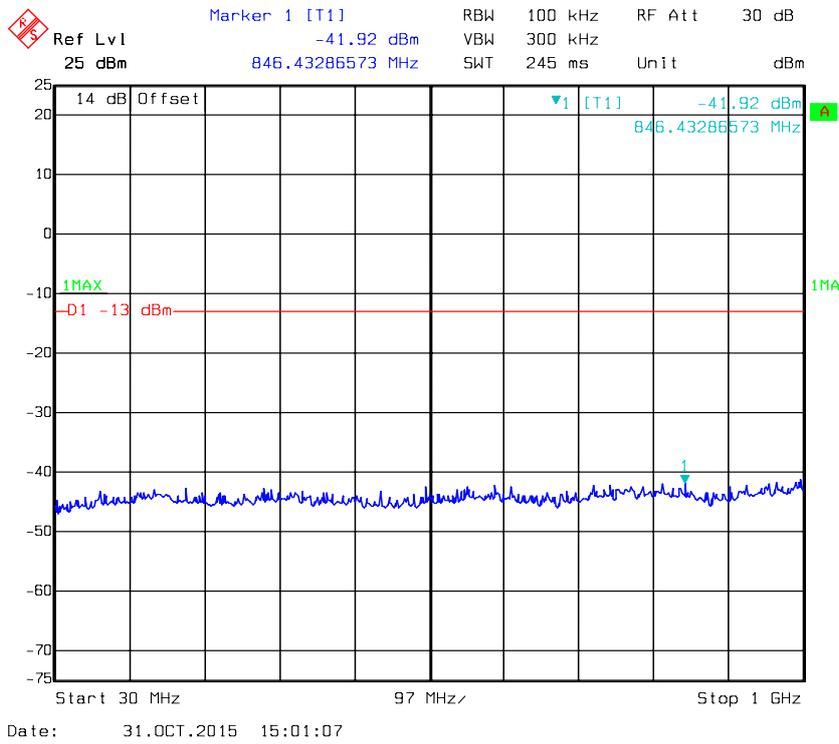
QPSK, Band 4-1.4M _ Middle Channel



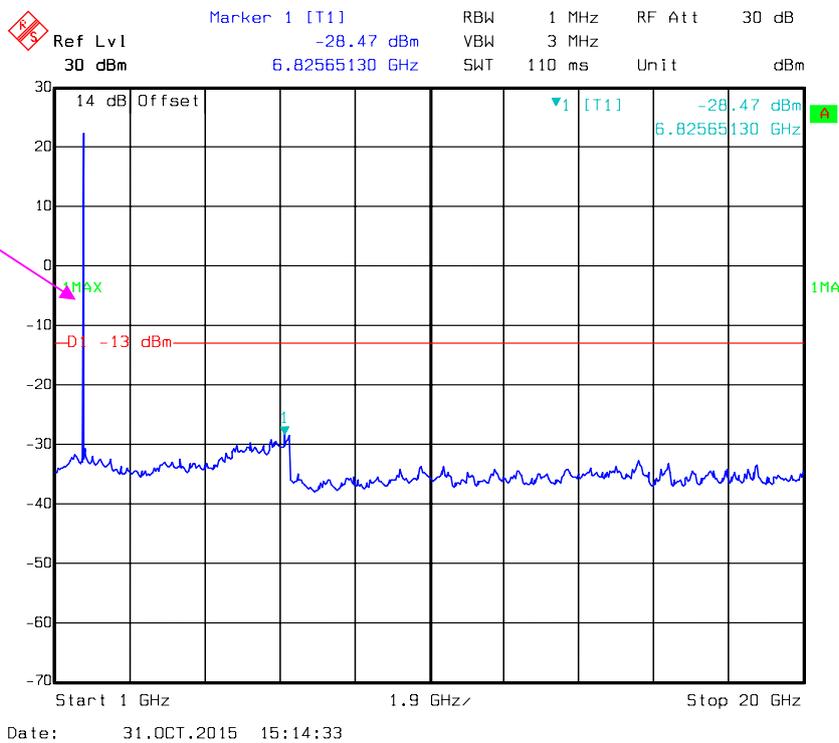
Fundamental



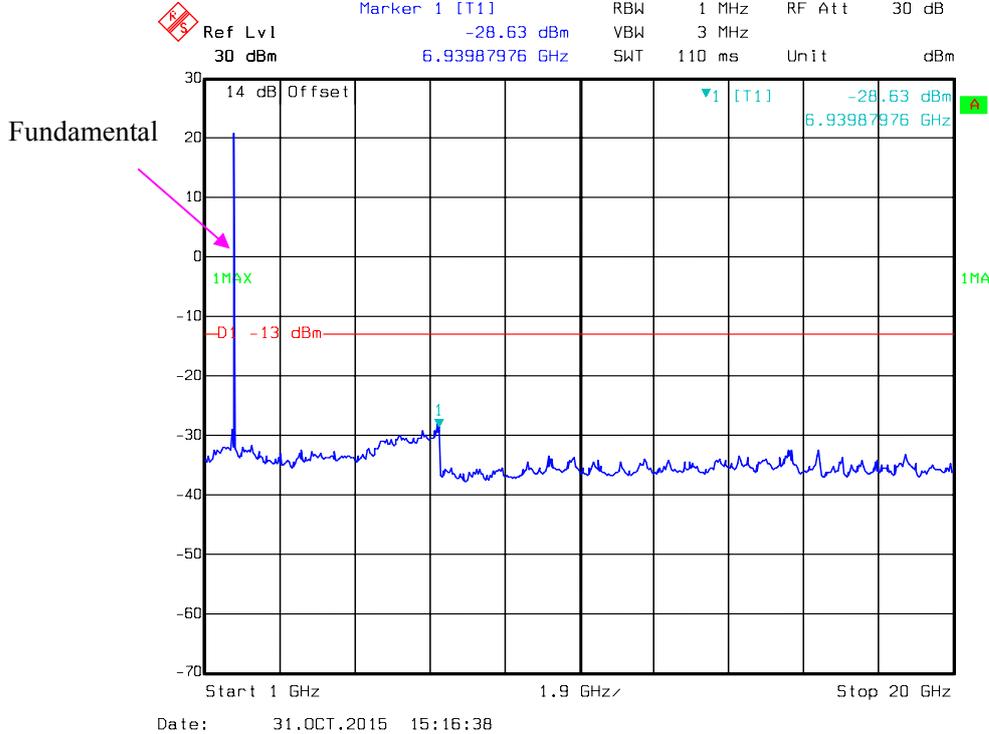
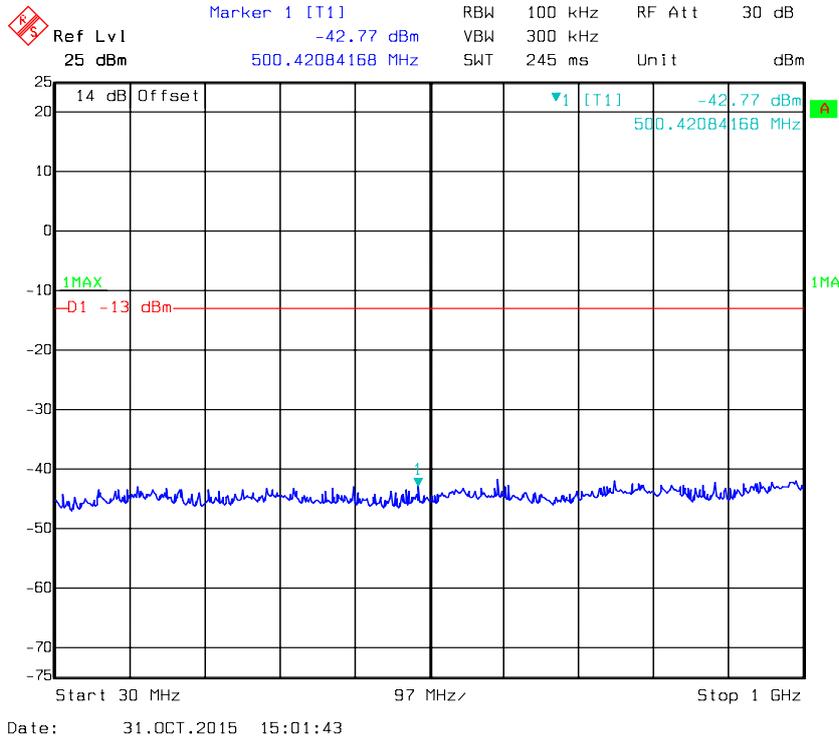
QPSK, Band 4-3M _ Middle Channel



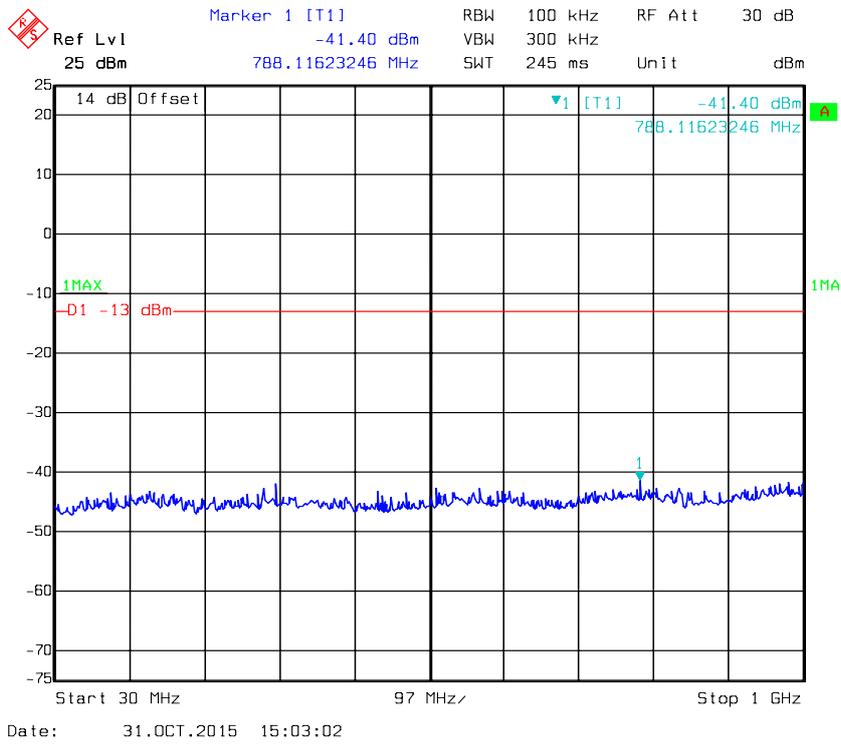
Fundamental



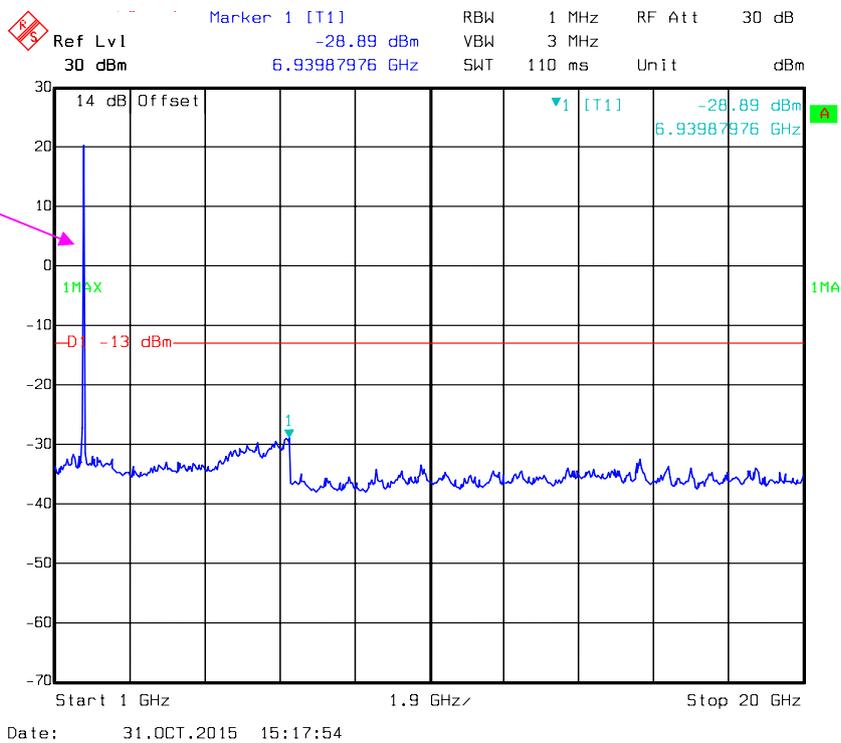
QPSK, Band 4-5M _ Middle Channel



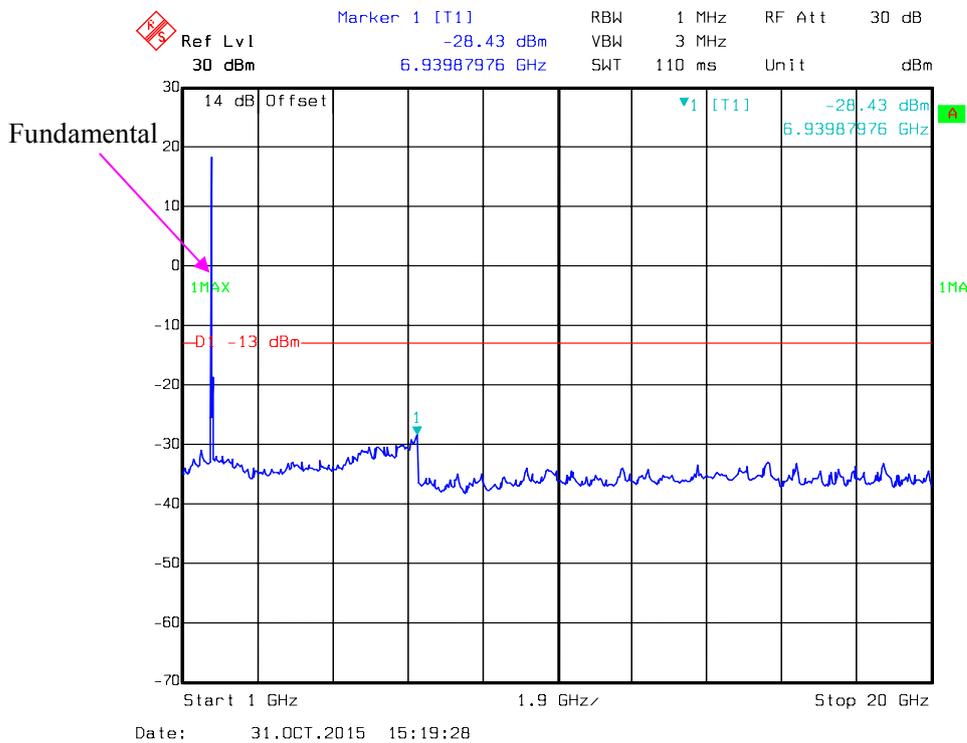
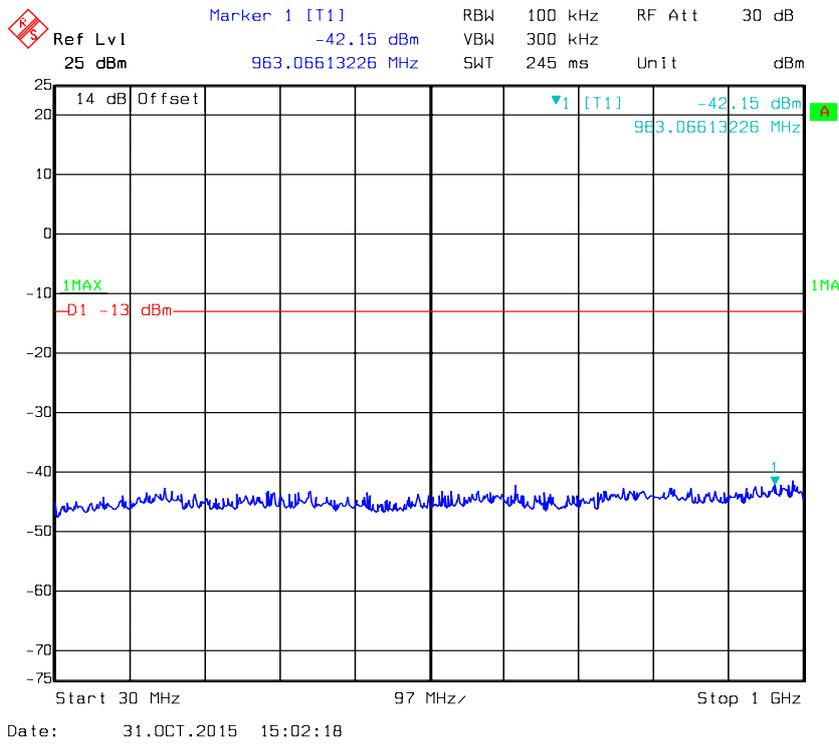
QPSK, Band 4-10M _ Middle Channel



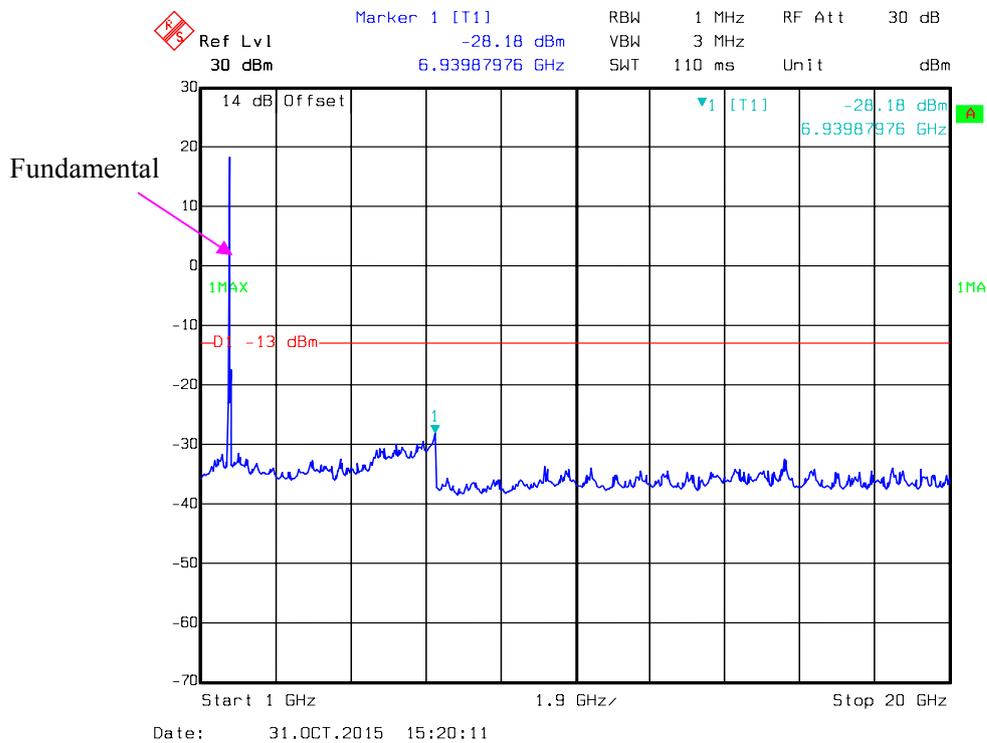
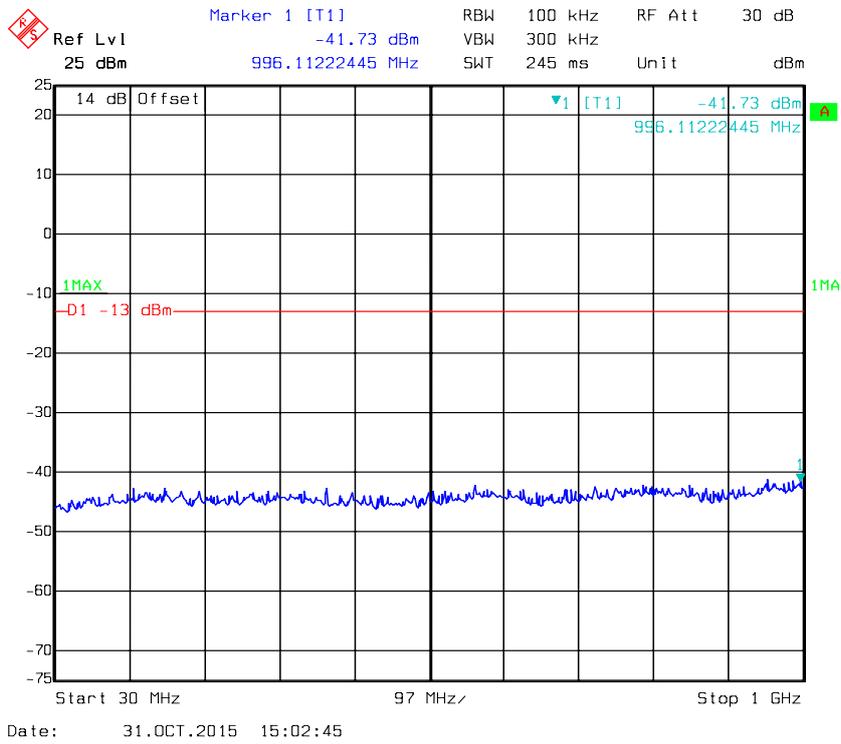
Fundamental



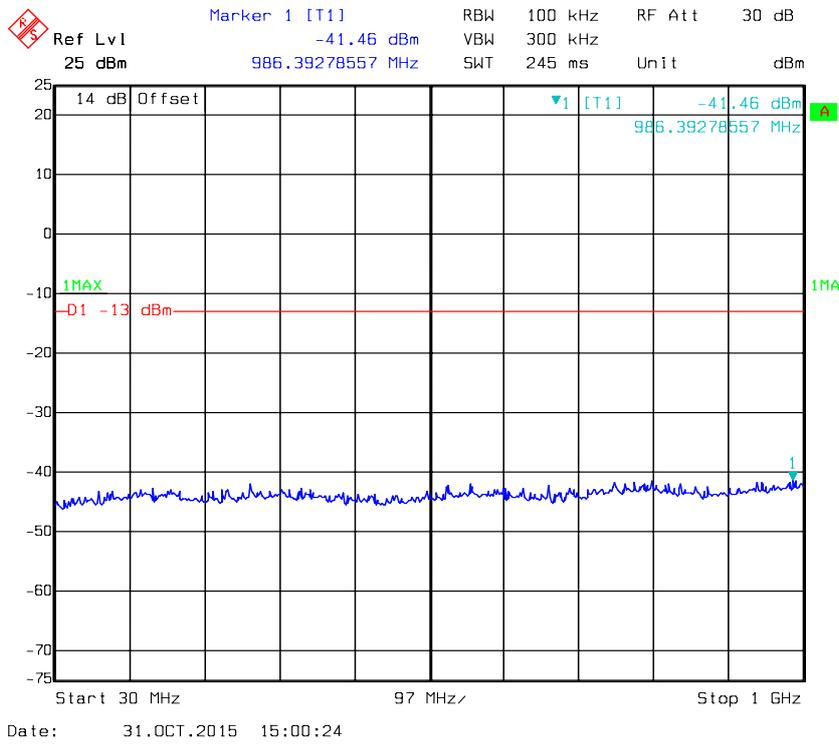
QPSK, Band 4-15M _ Middle Channel



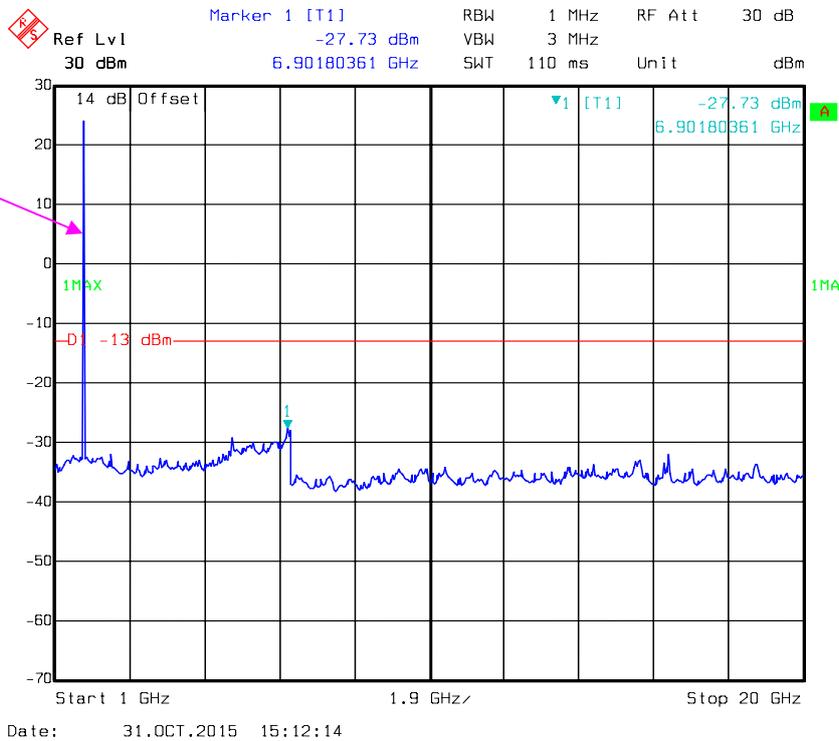
QPSK, Band 4-20M _ Middle Channel



16-QAM, Band 4-1.4M _ Middle Channel



Fundamental



16-QAM, Band 4-3M _ Middle Channel

