



FCC PART 22H, PART 24E

FCC PART 27

MEASUREMENT AND TEST REPORT

For

Posh Mobile Limited

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FCC ID: 2ABN6L520

Report Type: Original Report	Product Type: Kick Pro LTE
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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 *Posh Mobile Limited*'s product, model number: *L520(FCC ID: 2ABN6L520)* (the "EUT") in this report was a *Kick Pro LTE*, which was measured approximately: 14.25 cm (L) x 7.15 cm (W) x 0.86cm (H), rated input voltage: DC3.8V rechargeable Li-ion battery or DC5V charging from adapter.

Adapter information:

PART NO.: C01-L520, C02-L520, C03-L520, C04-L520

MODEL: TL6D-0501000

INPUT: 100-240V ~ 50/60Hz 0.15A

OUTPUT: DC 5.0V, 1000mA

*All measurement and test data in this report was gathered from production sample serial number: 160304004
(Assigned by BACL, Dongguan). The EUT was received on 2016-03-04.*

Objective

This report is prepared on behalf of *Posh Mobile Limited* in accordance with: Part 2-Subpart J, Part 22-Subpart H, Part 24-Subpart E and part 27 of the Federal Communications 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: 2ABN6L520
FCC Part 15C DSS submissions with FCC ID: 2ABN6L520
FCC Part 15C DTS submissions with FCC ID: 2ABN6L520

Test Methodology

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

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

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

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

Test Facility

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

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

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

SYSTEM TEST CONFIGURATION

Justification

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

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

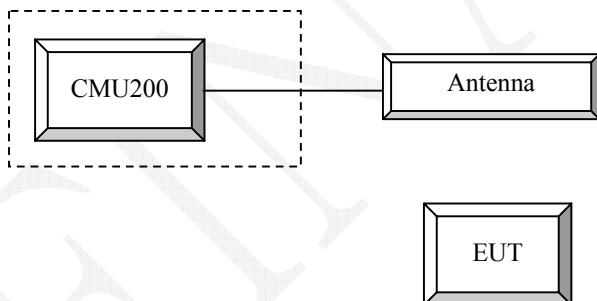
Equipment Modifications

No modification was made to the EUT.

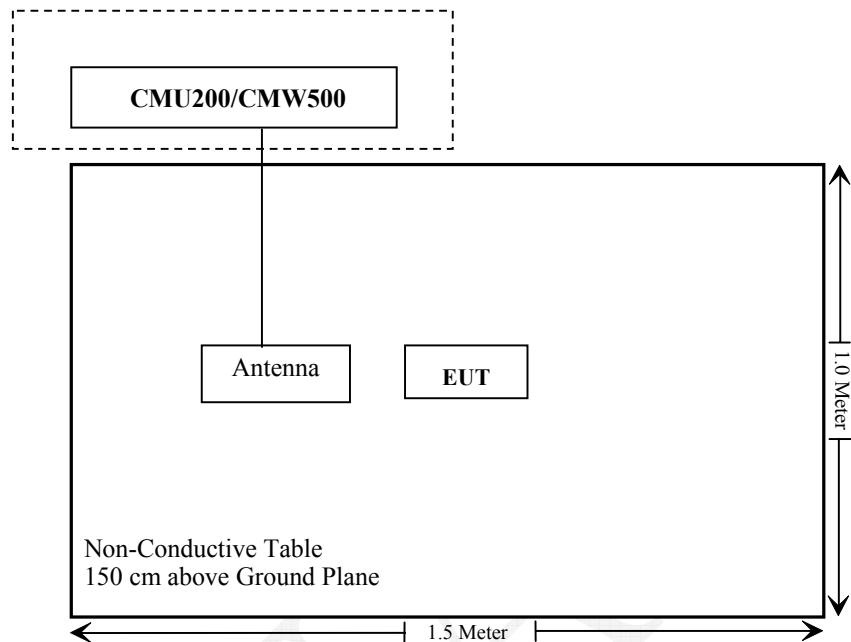
Support Equipment List and Details

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

Configuration of Test Setup



Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

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

FCC §1.1310 & §2.1093- RF EXPOSURE

Applicable Standard

FCC§1.1310 and §2.1093.

Test Result

Compliant, please refer to the SAR report: RDG160304004-20.

FCC §2.1047 - MODULATION CHARACTERISTIC

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

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

Applicable Standard

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

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

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

According to §24.232 (d) Power measurements for transmissions by stations authorized under this section may be made either in accordance with a Commission-approved average power technique or in compliance with paragraph (e) of this section. In both instances, equipment employed must be authorized in accordance with the provisions of §24.51. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

Test Procedure

GSM/GPRS

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

Press Connection control to choose the different menus

Press RESET > choose all the reset all settings

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

Network Support > GSM + GPRS or GSM + EGSM

Main Service > Packet Data

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

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

> Slot configuration > Uplink/Gamma

> 33 dBm for GPRS 850

> 30 dBm for GPRS 1900

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

Frequency Offset > + 0 Hz

Mode > BCCH and TCH

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

BCCH Channel > choose 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)

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 1	HSDPA 2	HSDPA 3	HSDPA 4
	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 outlined in section 5.2 of the 3GPP TS34.121-1 specification.

	Mode	HSUPA	HSUPA	HSUPA	HSUPA	HSUPA
	Subset	1	2	3	4	5
WCDM A General Settings	Loopback Mode	Test Mode 1				
	Rel99 RMC	12.2kbps RMC				
	HSDPA FRC	H-Set1				
	HSUPA Test	HSUPA Loopback				
	Power Control Algorithm	Algorithm2				
	β_c	11/15	6/15	15/15	2/15	15/15
	β_d	15/15	15/15	9/15	15/15	0
	β_{ec}	209/225	12/15	30/15	2/15	5/15
	β_c / β_d	11/15	6/15	15/9	2/15	-
HSDPA Specific Settings	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
	DACK	8				
	DNAK	8				
	DCQI	8				
HSUPA Specific Settings	Ack-Nack repetition factor	3				
	CQI Feedback	4ms				
	CQI Repetition Factor	2				
	$A_{hs} = \beta_{hs} / \beta_c$	30/15				
	DE-DPCCH	6	8	8	5	7
	DHARQ	0	0	0	0	0
HSUPA Specific Settings	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 PO 4 E-TFCI 67 E-TFCI PO4 E-TFCI 92 E-TFCI PO 18	E-TFCI 11 E E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO23 E-TFCI 75 E-TFCI PO26 E-TFCI 81 E-TFCI PO 27		

HSPA+

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

Sub-test	β_c (Note 3)	β_d	β_{HS} (Note 1)	β_{ec}	β_{ed} (2xSF2) (Note 4)	β_{ed} (2xSF4) (Note 4)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 4)	E-TFCI (Note 5)	E-TFCI (boost)
1	1	0	30/15	30/15	$\beta_{ed1}: 30/15$ $\beta_{ed2}: 30/15$	$\beta_{ed3}: 24/15$ $\beta_{ed4}: 24/15$	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	Proces ses	6
Information Bit Payload (N_{INF})	Bits	120
Number Code Blocks	Blocks	1
Binary Channel Bits Per TTI	Bits	960
Total Available SML's in UE	SML's	19200
Number of SML's per HARQ Proc.	SML's	3200
Coding Rate		0.15
Number of Physical Channel Codes	Codes	1
Modulation		QPSK
Note 1: The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table.		
Note 2: Maximum number of transmission is limited to 1, i.e., retransmission is not allowed. The redundancy and constellation version 0 shall be used.		

LTE:

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

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

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

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

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

The allowed A-MPR values specified below in Table 6.2.4.-1 of 3GPP TS36.101 are in addition to the allowed MPR requirements. All the measurements below were performed with A-MPR disabled, by using Network 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 6.6.3.3.2	13	10	Table 6.2.4-2	Table 6.2.4-2
NS_08	6.6.3.3.3	19	10, 15	> 44	≤ 3
NS_09	6.6.3.3.4	21	10, 15	> 40	≤ 1
NS_10		20	15, 20	Table 6.2.4-3	Table 6.2.4-3
NS_11	6.6.2.2.1	23 ¹	1.4, 3, 5, 10	Table 6.2.4-5	Table 6.2.4-5
..					
NS_32	*	*	*	*	*

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

Radiated method:

ANSI/TIA 603-D section 2.2.17

Test Equipment List and Details

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

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

Test Data

Environmental Conditions

Temperature:	24.2~28.6°C
Relative Humidity:	47 ~61 %
ATM Pressure:	100.3 ~ 101.6kPa

The testing was performed by Allen Qiao from 2016-03-08 to 2016-03-10.

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

Band	Channel No.	Peak Output Power (dBm)									
		GSM	GPRS 1 TX Slot	GPRS 2 TX Slot	GPRS 3 TX Slot	GPRS 4 TX Slot	EDGE 1 TX Slot	EDGE 2 TX Slot	EDGE 3 TX Slot	EDGE 4 TX Slot	
Cellular	128	33.41	33.35	32.95	32.15	31.75	27.41	26.47	24.57	23.49	
	190	33.24	33.17	32.86	32.02	31.51	27.28	26.35	24.44	23.37	
	251	33.18	33.11	32.78	31.90	31.40	27.22	26.22	24.35	23.25	
PCS	512	30.02	30.01	29.55	28.36	27.77	26.06	25.31	23.34	22.15	
	661	29.63	29.62	29.20	28.14	27.61	25.93	25.03	23.12	22.03	
	810	29.54	29.52	29.28	28.34	27.85	25.65	24.74	22.83	21.79	

WCDMA Band

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 (QPSK)	1	22.37	2.20	22.51	2.48	22.09	2.28
HSDPA (QPSK)	1	21.17	2.25	21.03	2.43	20.98	2.23
	2	21.26	2.13	21.07	2.54	20.94	2.36
	3	21.13	2.20	21.11	2.58	20.97	2.18
	4	21.24	2.17	20.95	2.41	20.92	2.21
HSUPA (QPSK)	1	21.24	2.17	21.05	2.44	20.94	2.24
	2	21.18	2.23	21.03	2.4	20.96	2.23
	3	21.33	2.08	21.13	2.38	20.99	2.29
	4	21.31	2.09	21.10	2.32	20.89	2.26
	5	21.24	2.01	21.09	2.47	20.84	2.31
DC-HSDPA (QPSK)	1	21.25	2.16	21.17	2.37	20.82	2.33
	2	21.24	2.17	21.05	2.49	20.85	2.34
	3	21.30	2.19	21.12	2.46	20.83	2.30
	4	21.21	2.06	21.18	2.41	20.91	2.37
HSPA+ (16QAM)	1	21.24	2.01	21.16	2.39	20.87	2.21

WCDMA Band IV

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 (QPSK)	1	22.47	2.16	22.28	2.40	22.41	2.36
HSDPA (QPSK)	1	21.43	2.08	21.23	2.39	21.40	2.41
	2	21.35	2.20	21.32	2.37	21.50	2.39
	3	21.39	2.14	21.23	2.47	21.49	2.26
	4	21.38	2.24	21.15	2.44	21.39	2.29
HSUPA (QPSK)	1	21.44	2.25	21.22	2.41	21.38	2.30
	2	21.43	2.17	21.29	2.32	21.31	2.32
	3	21.44	2.14	21.21	2.49	21.44	2.29
	4	21.38	2.18	21.30	2.40	21.38	2.31
DC-HSDPA (QPSK)	1	21.41	2.15	21.17	2.49	21.31	2.45
	2	21.5	2.1	21.24	2.48	21.23	2.32
	3	21.37	2.20	21.17	2.37	21.35	2.38
	4	21.38	2.22	21.07	2.36	21.33	2.30
	5	21.47	2.26	21.13	2.33	21.40	2.34
HSPA+ (16QAM)	1	21.36	2.27	21.05	2.36	21.32	2.36

WCDMA Band V

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 (QPSK)	1	22.72	2.56	22.42	2.40	22.34	2.52
HSDPA (QPSK)	1	21.37	2.57	21.45	2.31	21.41	2.43
	2	21.38	2.52	21.50	2.45	21.48	2.51
	3	21.44	2.58	21.47	2.50	21.34	2.55
	4	21.34	2.47	21.43	2.48	21.50	2.48
HSUPA (QPSK)	1	21.76	2.5	21.43	2.34	21.36	2.49
	2	21.83	2.51	21.42	2.41	21.27	2.44
	3	21.84	2.66	21.37	2.36	21.30	2.53
	4	21.77	2.63	21.50	2.37	21.37	2.61
DC-HSDPA (QPSK)	1	21.72	2.53	21.37	2.31	21.46	2.59
	2	21.75	2.49	21.32	2.34	21.54	2.6
	3	21.72	2.56	21.47	2.46	21.54	2.56
	4	21.65	2.47	21.33	2.35	21.55	2.51
	5	21.81	2.45	21.32	2.39	21.46	2.53
HSPA+ (16QAM)	1	21.76	2.48	21.28	2.42	21.41	2.58

LTE Band IV (PART 27)

Channel Bandwidth	Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4MHz	QPSK	1#0	23.86	23.95	23.87
		1#3	23.95	23.93	23.86
		1#5	23.95	23.94	23.79
		3#0	23.87	23.90	23.91
		3#1	23.89	23.97	23.80
		3#3	23.86	24.00	23.79
		6#0	22.87	22.89	22.92
	16QAM	1#0	22.97	22.98	22.82
		1#3	22.92	22.93	22.88
		1#5	23.07	23.00	22.78
		3#0	22.93	22.92	22.89
		3#1	22.89	23.08	22.73
		3#3	23.06	22.95	22.91
		6#0	21.88	21.84	21.88

Channel Bandwidth	Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
3 MHz	QPSK	1#0	23.79	23.84	23.87
		1#7	23.77	23.77	23.83
		1#14	23.82	23.94	23.91
		8#0	23.75	23.83	23.97
		8#4	23.75	23.90	23.82
		8#7	23.78	23.91	23.90
		15#0	22.80	22.88	22.87
	16QAM	1#0	22.91	23.36	22.85
		1#7	22.84	23.39	22.78
		1#14	22.87	23.35	22.83
		8#0	22.92	23.45	22.94
		8#4	22.82	23.45	22.84
		8#7	23.00	23.42	22.85
		15#0	21.80	21.92	21.89
5 MHz	QPSK	1#0	23.86	23.87	23.98
		1#12	23.77	23.91	24.05
		1#24	23.93	23.96	23.92
		12#0	23.95	23.88	24.02
		12#6	23.86	23.95	23.91
		12#11	23.93	23.92	24.07
		25#0	22.85	22.90	22.85
	16QAM	1#0	23.01	22.86	23.26
		1#12	23.04	22.82	23.30
		1#24	23.01	22.76	23.33
		12#0	22.93	22.83	23.31
		12#6	22.92	22.79	23.32
		12#11	23.04	22.81	23.21
		25#0	21.80	22.02	21.81
10 MHz	QPSK	1#0	23.87	23.86	23.81
		1#24	23.79	23.88	23.89
		1#49	23.81	23.89	23.75
		25#0	23.86	23.82	23.79
		25#12	23.80	23.85	23.81
		25#24	23.81	23.78	23.76
		50#0	22.93	22.92	22.70
	16QAM	1#0	22.85	23.39	22.95
		1#24	22.85	23.44	22.86
		1#49	22.88	23.35	23.04
		25#0	22.91	23.37	23.00
		25#12	22.78	23.32	23.02
		25#24	22.88	23.46	23.04
		50#0	21.91	21.92	21.82

Channel Bandwidth	Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
15 MHz	QPSK	1#0	23.73	23.89	23.90
		1#37	23.65	23.99	23.83
		1#74	23.70	23.92	23.84
		36#0	23.72	23.86	23.90
		36#17	23.65	23.80	23.95
		36#35	23.66	23.99	23.97
		75#0	22.93	22.77	22.96
	16QAM	1#0	22.99	23.52	23.25
		1#37	23.03	23.59	23.27
		1#74	23.05	23.46	23.19
		36#0	22.98	23.56	23.20
		36#17	23.02	23.55	23.21
		36#35	22.92	23.55	23.30
		75#0	22.11	21.95	21.91
20 MHz	QPSK	1#0	23.75	23.87	23.91
		1#49	23.74	23.97	23.91
		1#99	23.80	23.92	23.83
		50#0	23.80	23.78	23.87
		50#24	23.84	23.77	23.89
		50#49	23.78	23.82	23.83
		100#0	22.85	22.66	22.82
	16QAM	1#0	23.08	23.23	23.60
		1#49	23.09	23.16	23.51
		1#99	23.13	23.25	23.61
		50#0	23.13	23.32	23.56
		50#24	23.11	23.17	23.68
		50#49	23.04	23.30	23.57
		100#0	22.34	22.38	22.06

LTE Band II (PART 27)

Channel Bandwidth	Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4MHz	QPSK	1#0	23.32	22.94	22.44
		1#3	23.25	22.91	22.43
		1#5	23.31	23.00	22.51
		3#0	23.39	22.93	22.37
		3#1	23.39	22.93	22.42
		3#3	23.31	22.87	22.39
		6#0	22.29	21.92	21.41
	16QAM	1#0	22.40	21.96	21.37
		1#3	22.48	22.45	21.38
		1#5	22.47	22.45	21.40
		3#0	22.36	22.45	21.29
		3#1	22.37	22.37	21.33
		3#3	22.32	22.43	21.29
		6#0	21.22	20.94	20.37
3 MHz	QPSK	1#0	23.25	22.92	22.52
		1#7	23.27	23.01	22.51
		1#14	23.22	22.86	22.51
		8#0	23.24	23.01	22.48
		8#4	23.29	23.01	22.50
		8#7	23.18	22.93	22.44
		15#0	22.29	21.92	21.47
	16QAM	1#0	22.73	21.98	21.45
		1#7	22.79	21.98	21.40
		1#14	22.66	21.95	21.51
		8#0	22.77	22.03	21.41
		8#4	22.77	21.92	21.44
		8#7	22.67	21.90	21.53
		15#0	21.25	21.01	20.51

Channel Bandwidth	Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5 MHz	QPSK	1#0	23.40	23.05	22.60
		1#12	23.47	22.96	22.68
		1#24	23.49	23.06	22.57
		12#0	23.43	23.09	22.56
		12#6	23.42	23.14	22.54
		12#11	23.46	23.08	22.67
		25#0	22.28	21.94	21.39
	16QAM	1#0	22.76	22.16	21.57
		1#12	22.66	22.17	21.67
		1#24	22.86	22.25	21.49
		12#0	22.80	22.17	21.48
		12#6	22.79	22.18	21.60
		12#11	22.68	22.17	21.66
		25#0	21.23	20.92	20.56
10 MHz	QPSK	1#0	23.37	23.19	22.47
		1#24	23.41	23.14	22.54
		1#49	23.31	23.27	22.40
		25#0	23.29	23.12	22.57
		25#12	23.29	23.13	22.41
		25#24	23.30	23.28	22.40
		50#0	22.25	21.94	21.51
	16QAM	1#0	22.36	22.28	22.03
		1#24	22.33	22.24	21.94
		1#49	22.43	22.23	22.04
		25#0	22.42	22.18	22.11
		25#12	22.27	22.28	22.08
		25#24	22.38	22.25	21.98
		50#0	21.26	20.90	20.60

Channel Bandwidth	Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
15 MHz	QPSK	1#0	23.26	23.14	22.69
		1#37	23.18	23.18	22.71
		1#74	23.23	23.09	22.75
		36#0	23.30	23.23	22.73
		36#17	23.36	23.24	22.72
		36#35	23.28	23.14	22.69
		75#0	22.41	22.02	21.72
	16QAM	1#0	22.70	22.27	22.25
		1#37	22.62	22.28	22.23
		1#74	22.71	22.16	22.33
		36#0	22.76	22.21	22.19
		36#17	22.66	22.19	22.31
		36#35	22.62	22.18	22.21
		75#0	21.56	21.04	20.87
20 MHz	QPSK	1#0	23.44	23.11	22.78
		1#49	23.40	23.17	22.87
		1#99	23.53	23.12	22.82
		50#0	23.40	23.11	22.88
		50#24	23.38	23.02	22.88
		50#49	23.37	23.01	22.76
		100#0	22.19	22.12	21.65
	16QAM	1#0	22.65	22.42	22.27
		1#49	22.55	22.41	22.36
		1#99	22.61	22.36	22.18
		50#0	22.59	22.34	22.32
		50#24	22.68	22.39	22.34
		50#49	22.69	22.37	22.23
		100#0	21.34	21.12	20.78

LTE Band VII (PART 27)

Channel Bandwidth	Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5 MHz	QPSK	1#0	23.05	22.94	23.37
		1#12	23.10	22.86	23.41
		1#24	22.99	22.86	23.30
		12#0	23.05	22.90	23.40
		12#6	23.15	22.95	23.39
		12#11	22.98	23.04	23.41
		25#0	21.85	21.82	22.28
	16QAM	1#0	22.12	21.89	22.44
		1#12	22.04	21.84	22.51
		1#24	22.15	21.83	22.49
		12#0	22.03	21.89	22.39
		12#6	22.11	21.89	22.36
		12#11	22.05	21.85	22.36
		25#0	20.79	20.94	21.23
10 MHz	QPSK	1#0	22.96	22.85	22.84
		1#24	23.05	22.76	22.75
		1#49	22.92	22.87	22.92
		25#0	22.99	22.91	22.91
		25#12	22.90	22.93	22.90
		25#24	22.91	22.94	22.80
		50#0	21.79	21.82	22.26
	16QAM	1#0	21.96	22.37	22.05
		1#24	21.94	22.28	22.03
		1#49	21.96	22.37	22.07
		25#0	21.86	22.44	22.11
		25#12	22.03	22.31	21.96
		25#24	21.89	22.44	21.97
		50#0	20.81	20.86	21.31

Channel Bandwidth	Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
15 MHz	QPSK	1#0	23.03	22.76	23.18
		1#37	23.12	22.81	23.21
		1#74	23.10	22.76	23.26
		36#0	23.11	22.72	23.27
		36#17	23.12	22.84	23.14
		36#35	22.97	22.66	23.23
		75#0	21.59	21.95	22.37
	16QAM	1#0	22.20	22.38	22.52
		1#37	22.19	22.40	22.43
		1#74	22.15	22.34	22.46
		36#0	22.27	22.42	22.53
		36#17	22.29	22.39	22.56
		36#35	22.14	22.33	22.44
		75#0	20.94	21.04	21.51
20 MHz	QPSK	1#0	23.10	22.79	23.20
		1#49	23.11	22.86	23.27
		1#99	23.13	22.69	23.12
		50#0	23.19	22.89	23.10
		50#24	23.00	22.84	23.23
		50#49	23.13	22.76	23.18
		100#0	21.84	22.28	22.24
	16QAM	1#0	22.13	22.23	22.55
		1#49	22.07	22.28	22.59
		1#99	22.04	22.20	22.55
		50#0	22.19	22.31	22.63
		50#24	22.17	22.23	22.52
		50#49	22.18	22.18	22.48
		100#0	20.81	21.11	21.47

LTE Band 17 (PART 27)

Channel Bandwidth	Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5 MHz	QPSK	1#0	25.21	25.28	25.27
		1#12	25.15	25.19	25.30
		1#24	25.17	25.31	25.27
		12#0	25.19	25.24	25.25
		12#6	25.14	25.37	25.35
		12#11	25.14	25.22	25.21
		25#0	24.23	24.26	24.21
	16QAM	1#0	24.41	24.48	24.31
		1#12	24.38	24.49	24.24
		1#24	24.42	24.44	24.31
		12#0	24.36	24.56	24.30
		12#6	24.37	24.46	24.26
		12#11	24.44	24.49	24.35
		25#0	23.23	23.21	23.34
10 MHz	QPSK	1#0	25.19	25.24	25.26
		1#24	25.14	25.29	25.32
		1#49	25.16	25.30	25.22
		25#0	25.17	25.28	25.25
		25#12	25.27	25.20	25.20
		25#24	25.18	25.20	25.21
		50#0	24.25	24.21	24.18
	16QAM	1#0	24.57	24.22	24.37
		1#24	24.59	24.18	24.34
		1#49	24.48	24.13	24.42
		25#0	24.54	24.17	24.33
		25#12	24.50	24.25	24.44
		25#24	24.65	24.32	24.41
		50#0	23.26	23.25	23.26

Band II

Test Modulation		Channel Bandwidth	Low Channel PAR (dB)	Middle Channel PAR (dB)	High Channel PAR (dB)	Limit (dB)
QPSK	1 RB	20 MHz	3.44	4.56	3.68	13
	100 RB		6.40	6.52	6.44	13
16QAM	1 RB	20 MHz	4.24	5.36	4.32	13
	100 RB		7.08	7.16	7.12	13

Band IV

Test Modulation		Channel Bandwidth	Low Channel PAR (dB)	Middle Channel PAR (dB)	High Channel PAR (dB)	Limit (dB)
QPSK	1 RB	20 MHz	4.12	5.24	4.32	13
	100 RB		6.40	6.60	6.48	13
16QAM	1 RB	20 MHz	5.08	6.04	4.80	13
	100 RB		6.40	7.20	7.04	13

Band VII

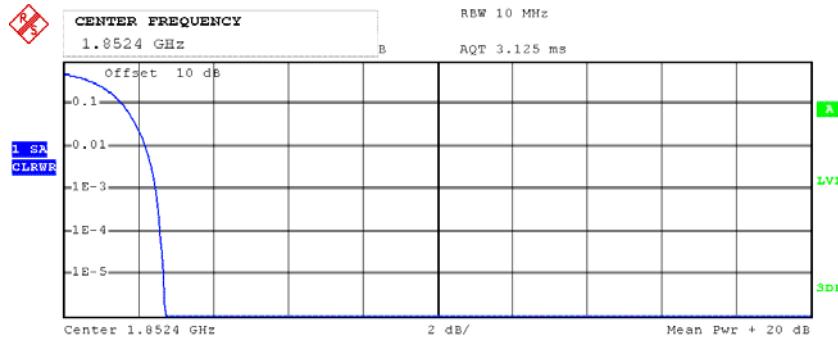
Test Modulation		Channel Bandwidth	Low Channel PAR (dB)	Middle Channel PAR (dB)	High Channel PAR (dB)	Limit (dB)
QPSK	1 RB	20 MHz	3.72	4.32	3.68	13
	100 RB		6.44	6.56	6.48	13
16QAM	1 RB	20 MHz	4.32	5.56	4.32	13
	100 RB		7.00	7.16	7.12	13

Band 17

Test Modulation		Channel Bandwidth	Low Channel PAR (dB)	Middle Channel PAR (dB)	High Channel PAR (dB)	Limit (dB)
QPSK	1 RB	10 MHz	4.96	4.72	4.84	13
	100 RB		5.68	5.52	5.48	13
16QAM	1 RB	10 MHz	6.08	5.84	5.88	13
	100 RB		6.60	6.48	6.44	13

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

Peak-to-average ratio (PAR)

WCDMA Band**Low Channel****Complementary Cumulative Distribution Function (100000 samples)**

Trace 1

Mean 19.66 dBm

Peak 22.38 dBm

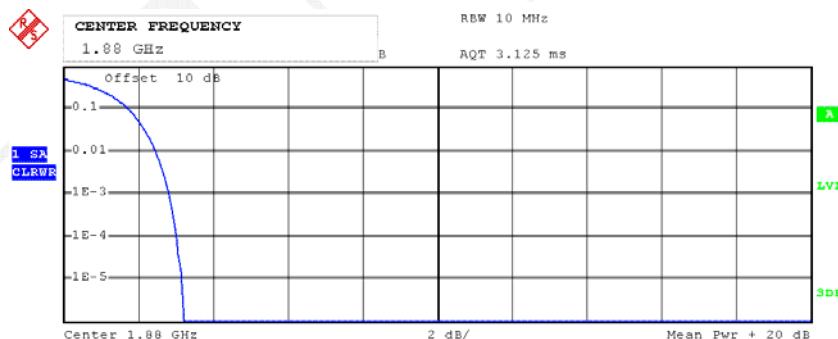
Crest 2.72 dB

10% @ 1.60 dB

1% @ 2.20 dB

.1% @ 2.48 dB

Date: 8.MAR.2016 13:33:35

Middle Channel**Complementary Cumulative Distribution Function (100000 samples)**

Trace 1

Mean 19.10 dBm

Peak 22.31 dBm

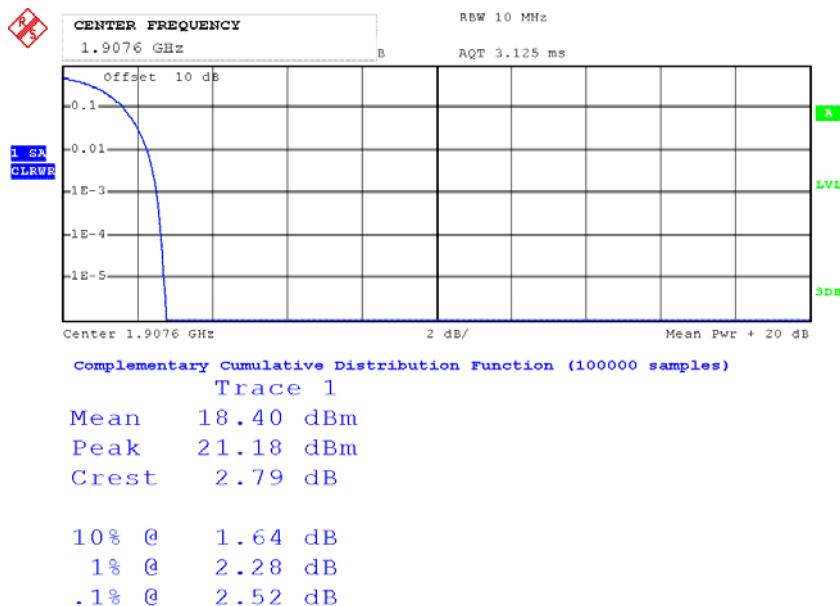
Crest 3.21 dB

10% @ 1.76 dB

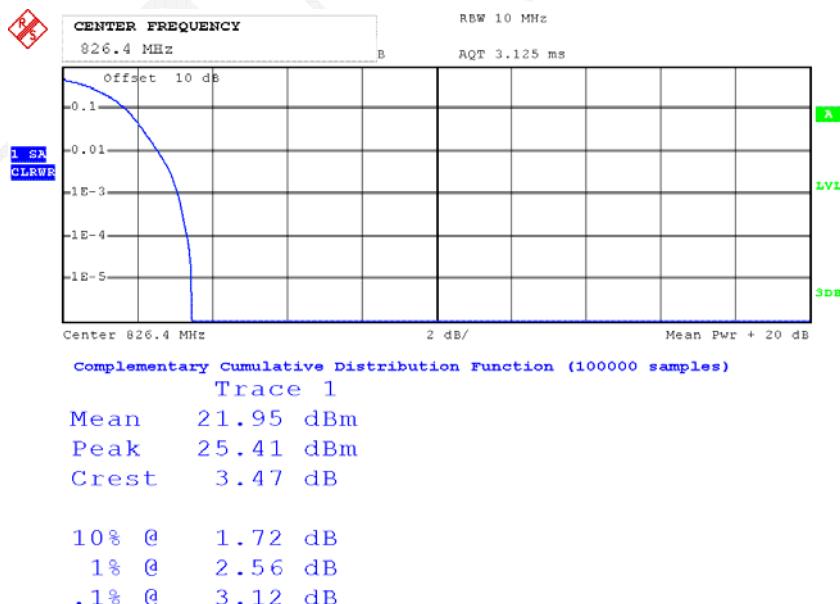
1% @ 2.48 dB

.1% @ 2.84 dB

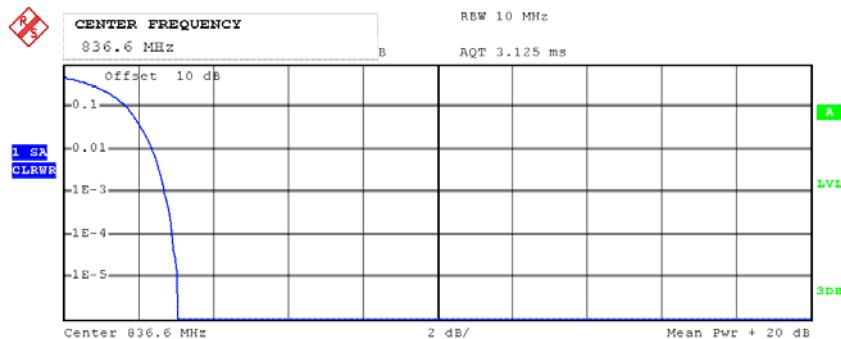
Date: 8.MAR.2016 13:34:18

High Channel

Date: 8.MAR.2016 13:35:22

WCDMA Band**Low Channel**

Date: 8.MAR.2016 13:39:14

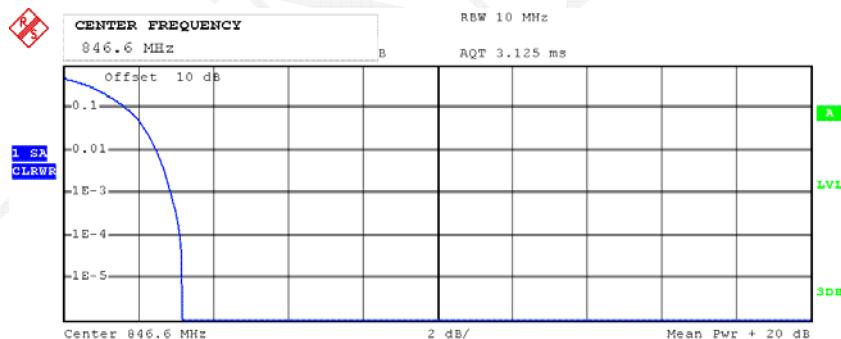
Middle Channel

Complementary Cumulative Distribution Function (100000 samples)

Trace 1
Mean 21.57 dBm
Peak 24.64 dBm
Crest 3.07 dB

10% @ 1.72 dB
1% @ 2.40 dB
.1% @ 2.72 dB

Date: 8.MAR.2016 13:39:32

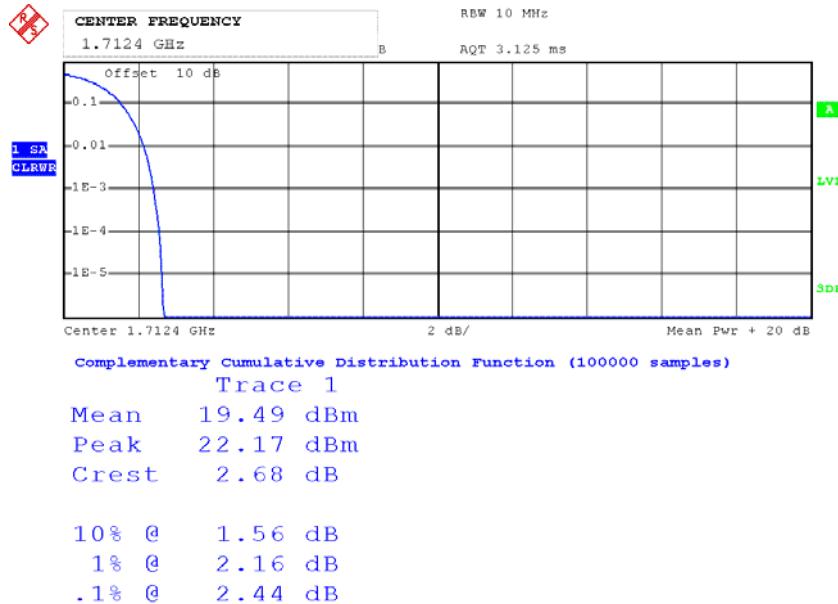
High Channel

Complementary Cumulative Distribution Function (100000 samples)

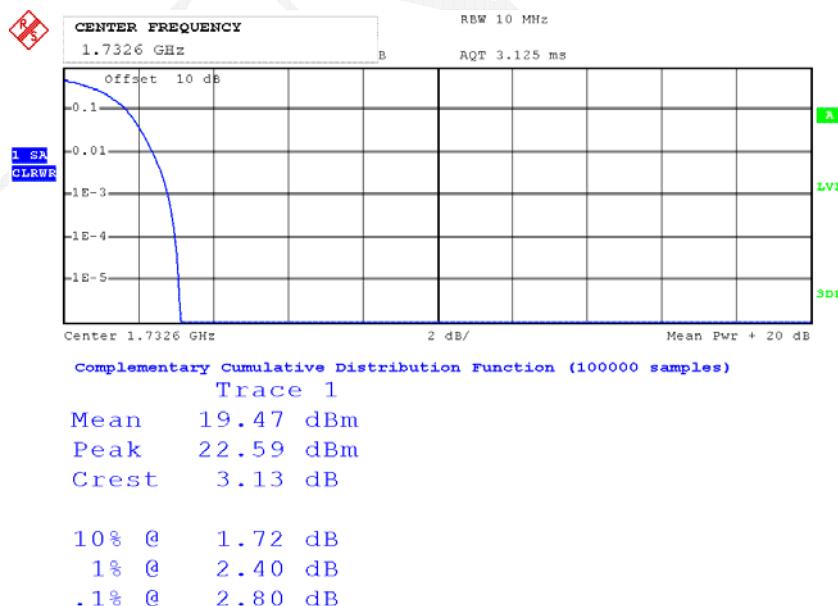
Trace 1
Mean 21.52 dBm
Peak 24.71 dBm
Crest 3.19 dB

10% @ 1.68 dB
1% @ 2.52 dB
.1% @ 2.88 dB

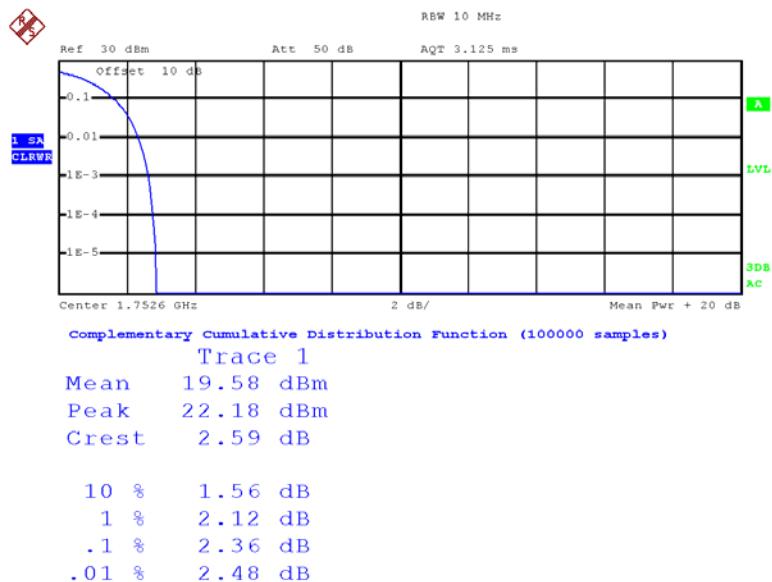
Date: 8.MAR.2016 13:38:55

WCDMA Band IV**Low Channel**

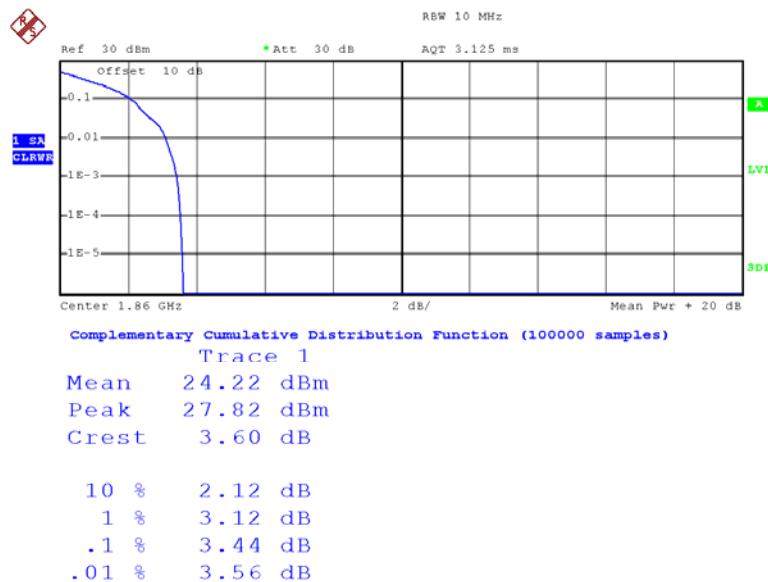
Date: 8.MAR.2016 13:37:11

Middle Channel

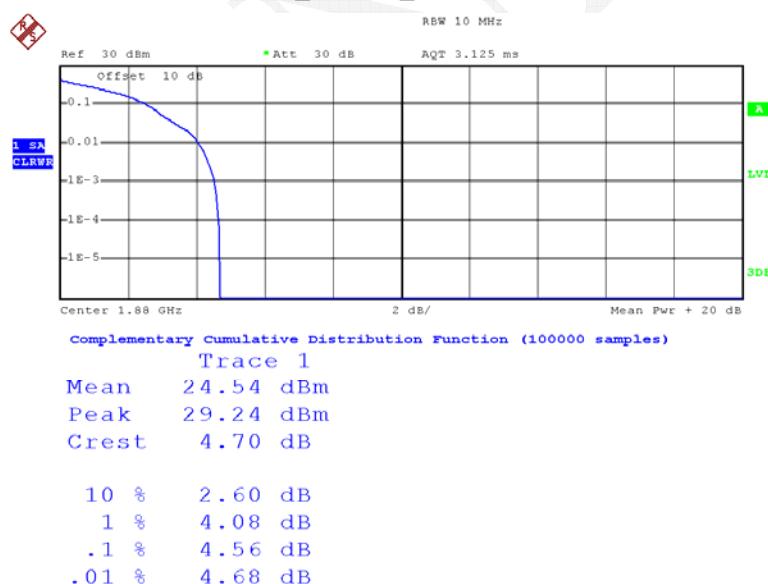
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High Channel

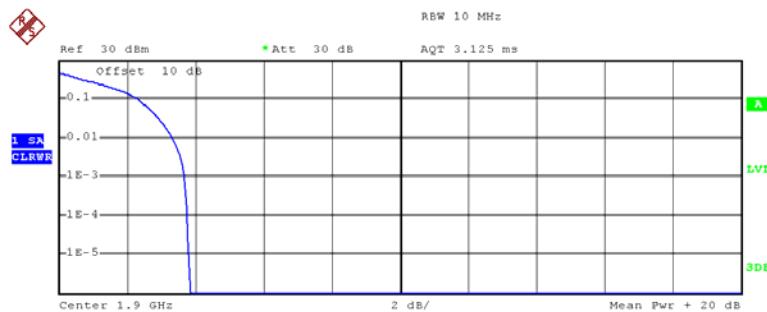
Date: 10.MAR.2016 21:27:30

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

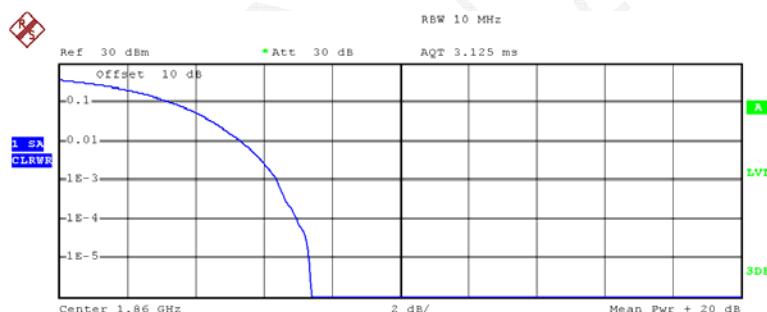
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QPSK_20MHz_1RB Middle Channel

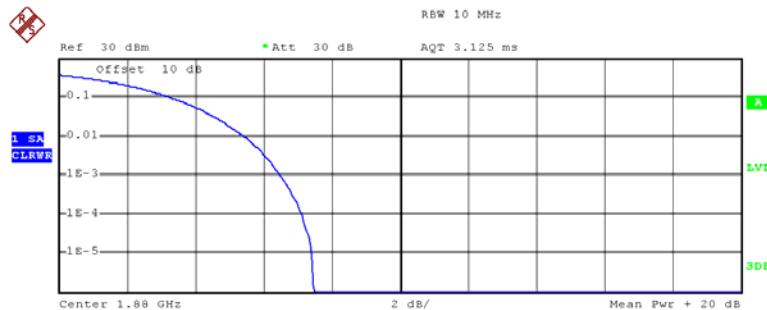
Date: 10.MAR.2016 21:31:13

QPSK_20MHz_1RB High Channel

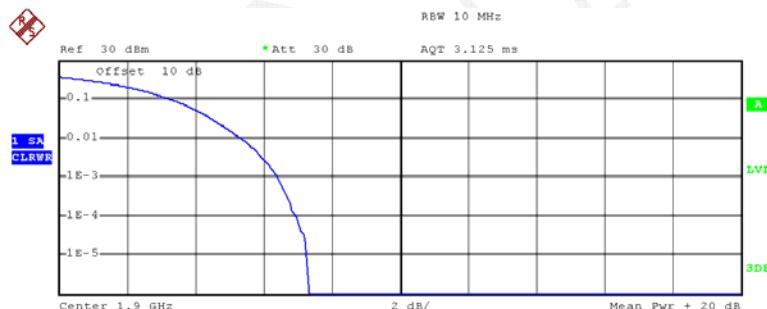
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QPSK_20MHz_FULL RB Low Channel

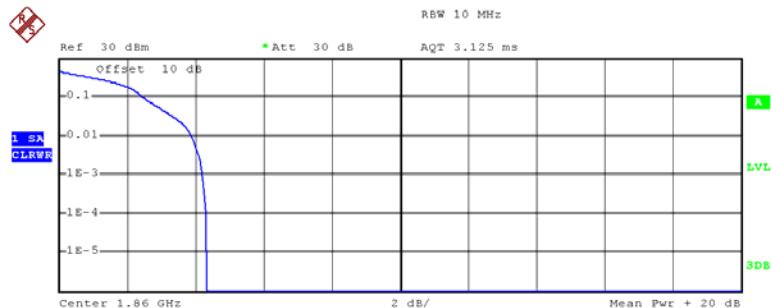
Date: 10.MAR.2016 21:26:42

QPSK_20MHz_FULL RB Middle Channel

Date: 10.MAR.2016 21:31:04

QPSK 20MHz_FULL RB High Channel

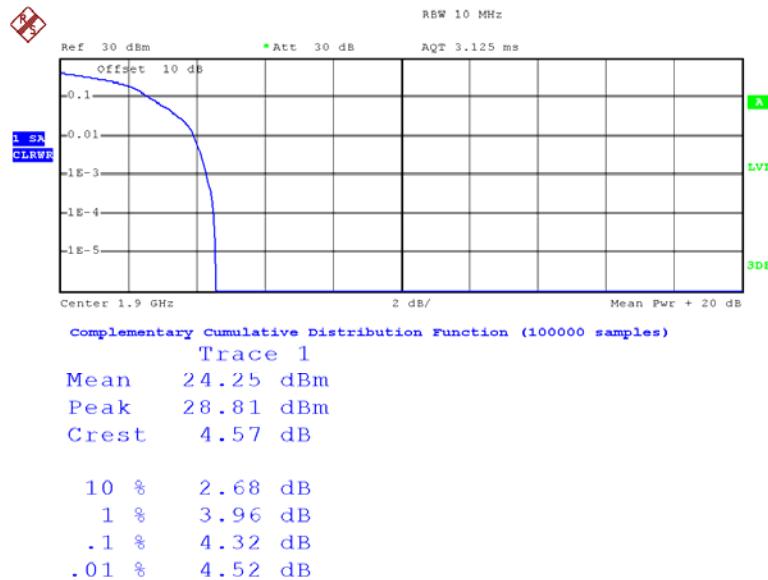
Date: 10.MAR.2016 21:34:01

16QAM_20MHz_1RB_Low Channel

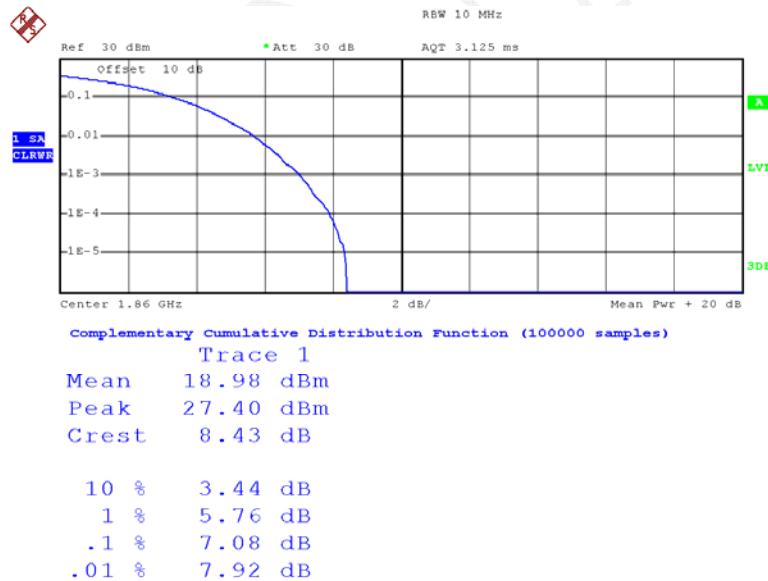
Date: 10.MAR.2016 21:27:30

16QAM 20MHz_1RB Middle Channel

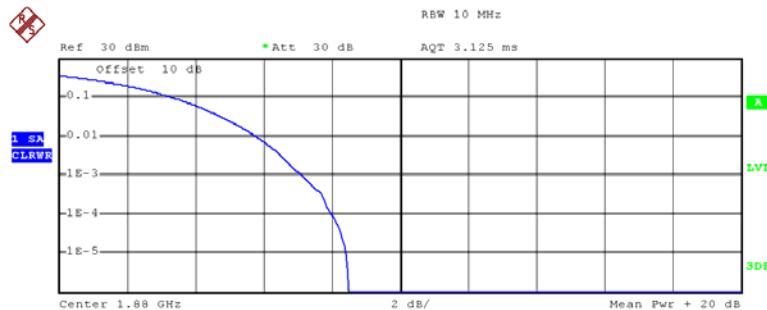
Date: 10.MAR.2016 21:31:17

16QAM 20MHz_1RB High Channel

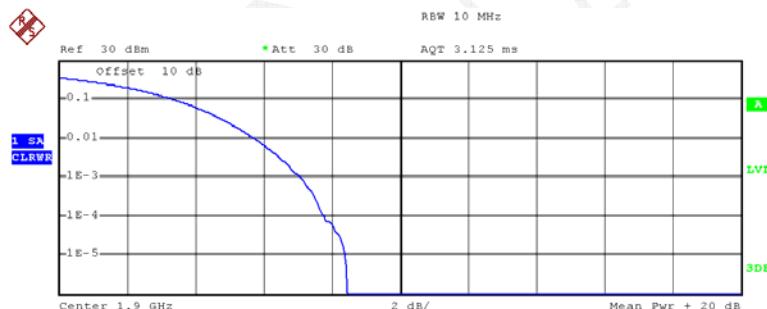
Date: 10.MAR.2016 21:33:50

16QAM 20MHz_FULL RB Low Channel

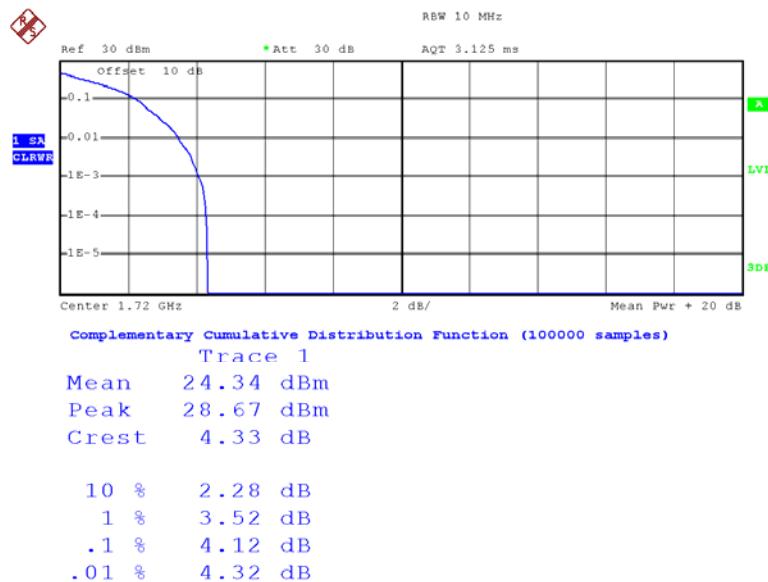
Date: 10.MAR.2016 21:26:57

16QAM 20MHz_FULL RB Middle Channel

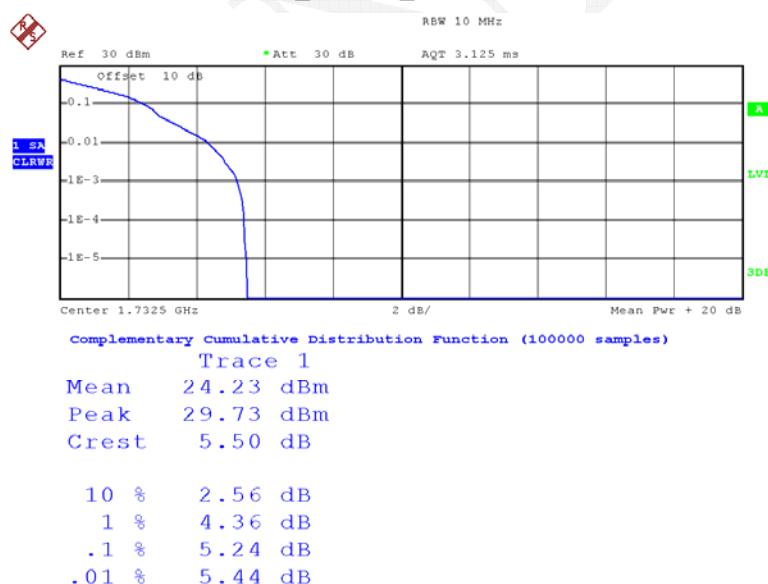
Date: 10.MAR.2016 21:30:59

16QAM 20MHz_FULL RB High Channel

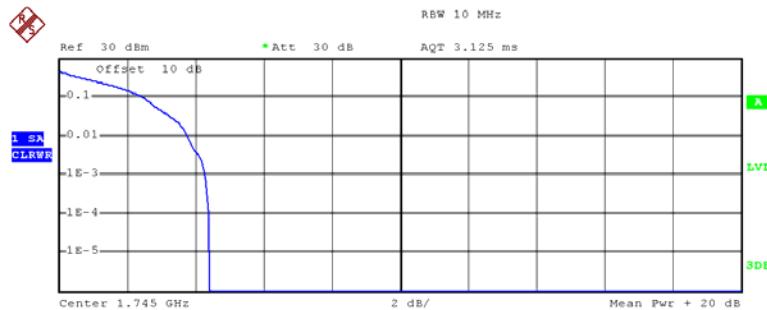
Date: 10.MAR.2016 21:34:05

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

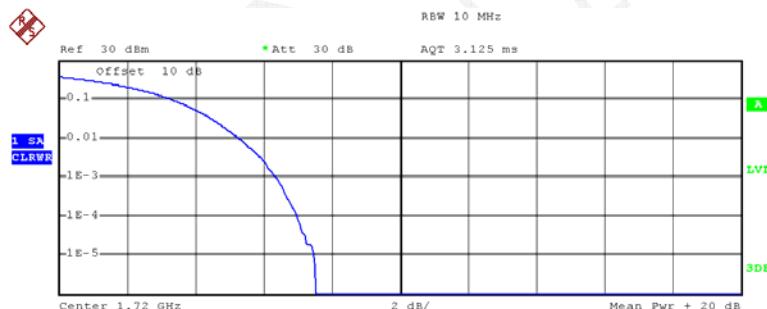
Date: 10 MAR 2016 21:34:50

QPSK_20MHz_1RB Middle Channel

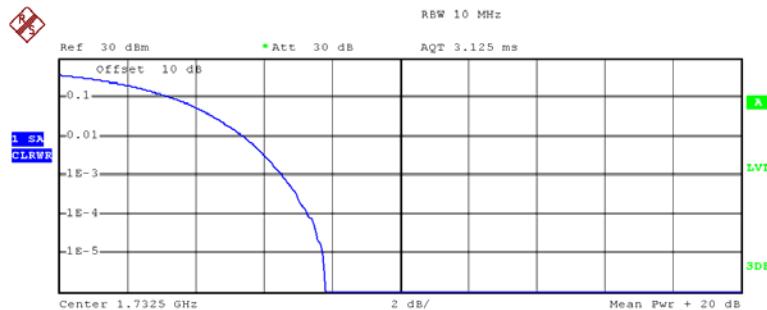
Date: 10.MAR.2016 21:36:32

QPSK_20MHz_1RB High Channel

Date: 10.MAR.2016 21:37:40

QPSK_20MHz_FULL RB Low Channel

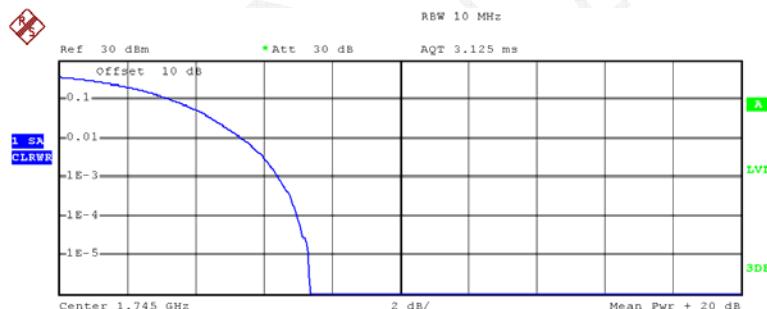
Date: 10.MAR.2016 21:34:52

QPSK_20MHz_FULL RB Middle Channel**complementary Cumulative Distribution Function (100000 samples)**

Trace 1
Mean 19.80 dBm
Peak 27.61 dBm
Crest 7.81 dB

10 % 3.40 dB
1 % 5.44 dB
.1 % 6.60 dB
.01 % 7.32 dB

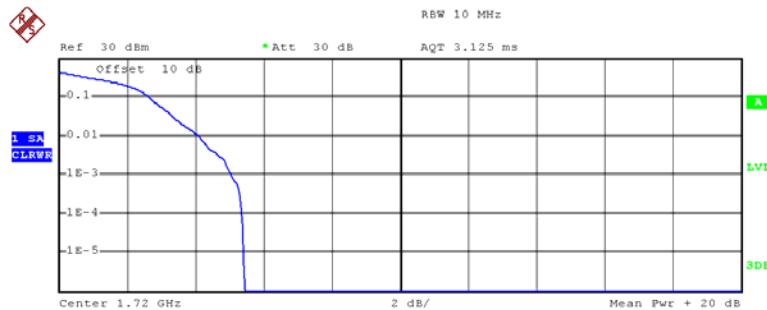
Date: 10.MAR.2016 21:36:36

QPSK 20MHz_FULL RB High Channel**complementary Cumulative Distribution Function (100000 samples)**

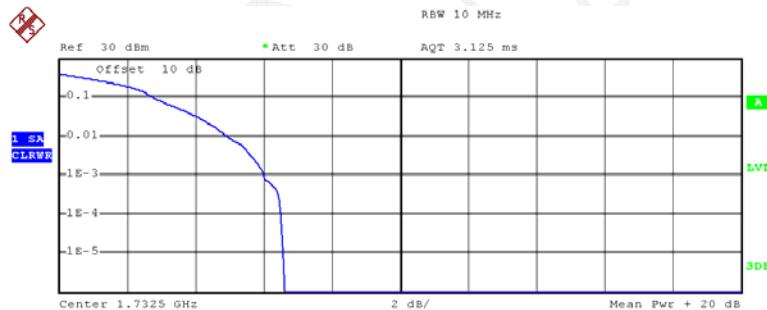
Trace 1
Mean 20.05 dBm
Peak 27.40 dBm
Crest 7.35 dB

10 % 3.36 dB
1 % 5.40 dB
.1 % 6.48 dB
.01 % 7.00 dB

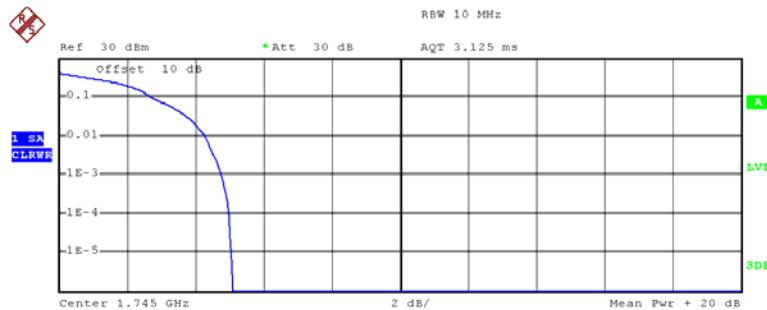
Date: 10.MAR.2016 21:37:31

16QAM_20MHz_1RB_Low Channel

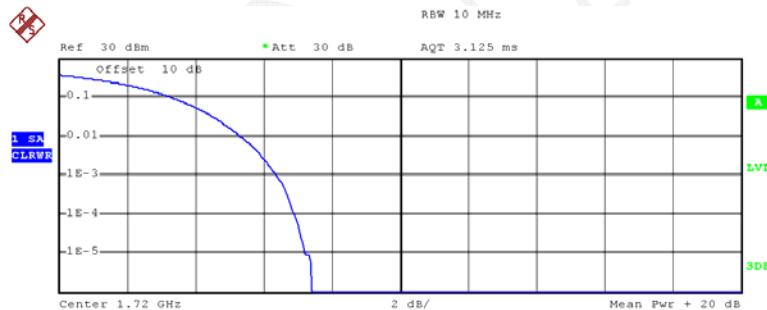
Date: 10.MAR.2016 21:35:04

16QAM 20MHz_1RB Middle Channel

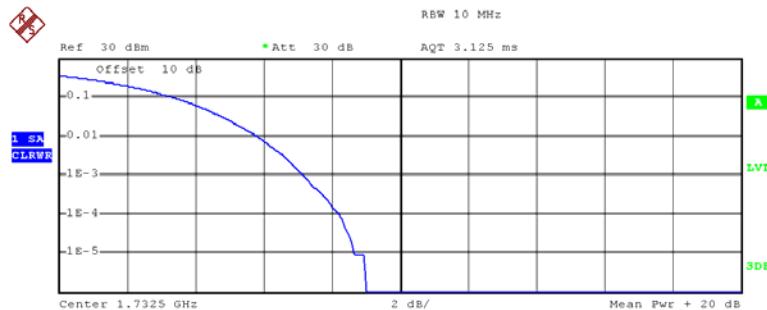
Date: 10.MAR.2016 21:36:27

16QAM 20MHz_1RB High Channel

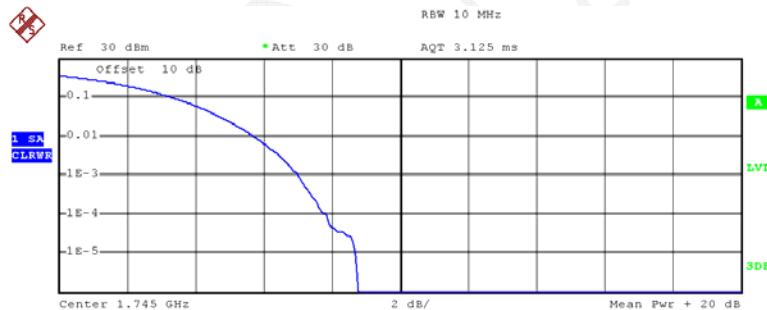
Date: 10.MAR.2016 21:38:07

16QAM 20MHz_FULL RB Low Channel

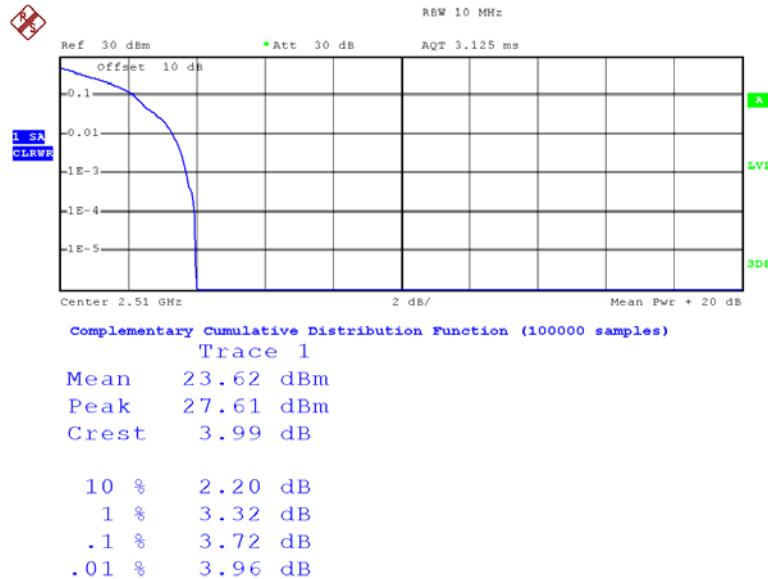
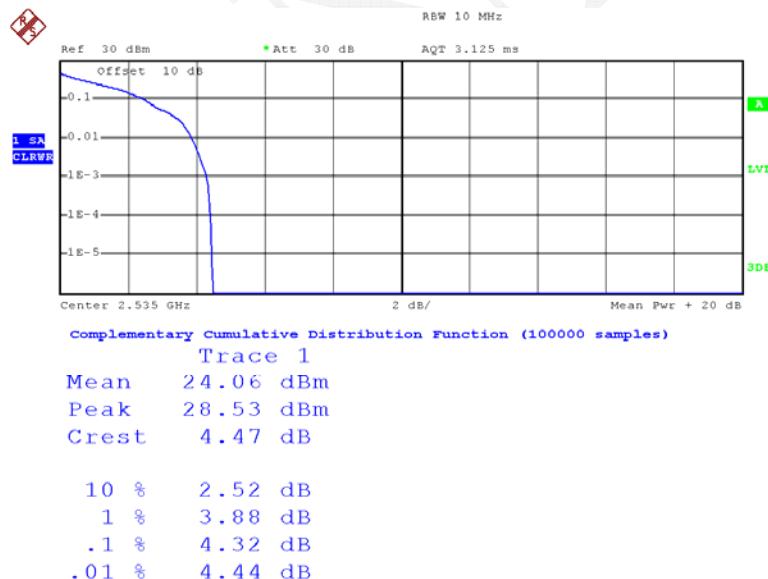
Date: 10.MAR.2016 21:34:47

16QAM 20MHz_FULL RB Middle Channel

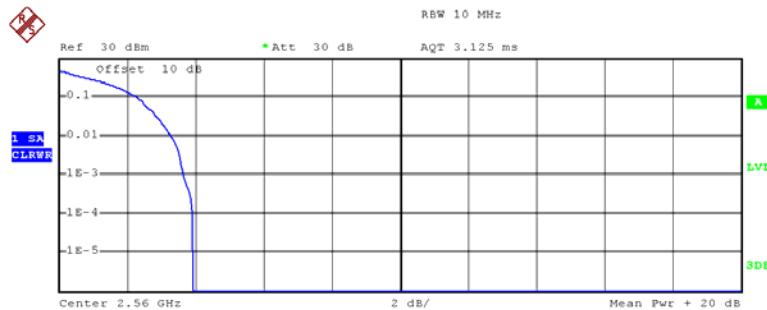
Date: 10.MAR.2016 21:36:53

16QAM 20MHz_FULL RB High Channel

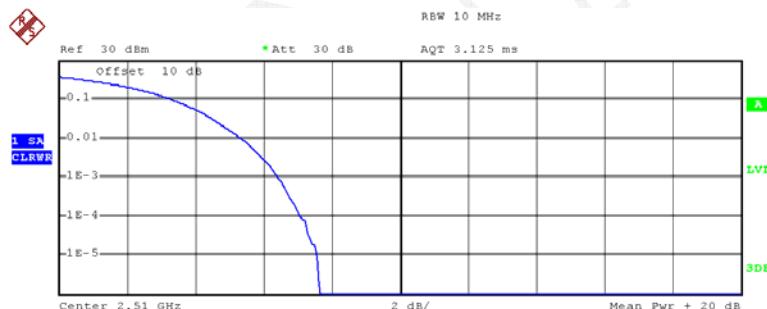
Date: 10.MAR.2016 21:37:26

LTE Band VII (PART 27)**QPSK_20MHz_1RB_Low Channel****QPSK_20MHz_1RB Middle Channel**

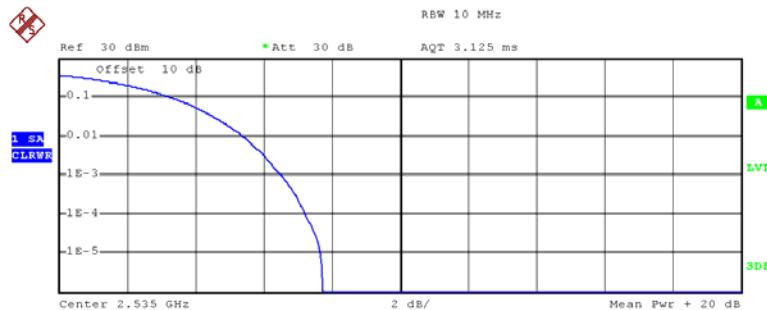
Date: 10.MAR.2016 21:41:04

QPSK_20MHz_1RB High Channel

Date: 10.MAR.2016 21:43:04

QPSK_20MHz_FULL RB Low Channel

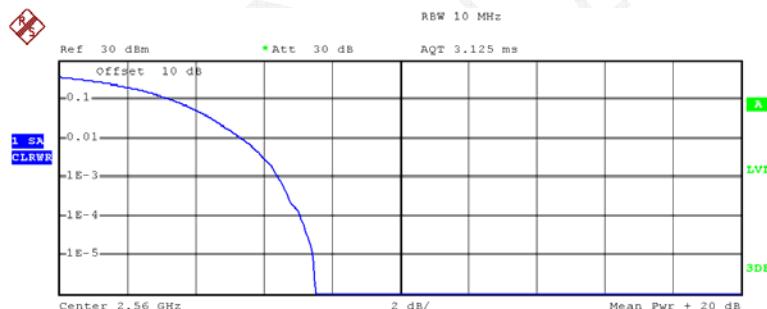
Date: 10.MAR.2016 21:40:10

QPSK_20MHz_FULL RB Middle Channel**complementary Cumulative Distribution Function (100000 samples)**

Trace 1
Mean 19.87 dBm
Peak 27.61 dBm
Crest 7.74 dB

10 % 3.40 dB
1 % 5.44 dB
.1 % 6.56 dB
.01 % 7.24 dB

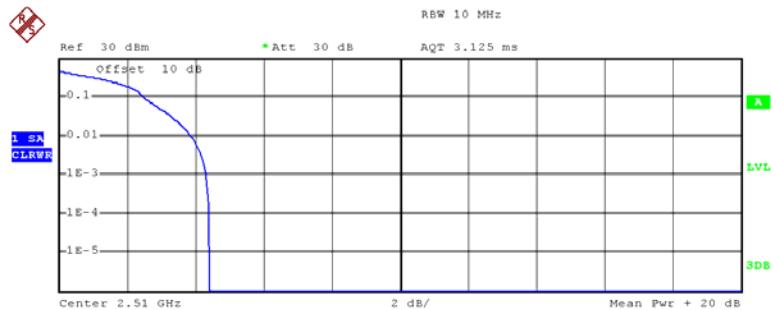
Date: 10.MAR.2016 21:40:57

QPSK 20MHz_FULL RB High Channel**complementary Cumulative Distribution Function (100000 samples)**

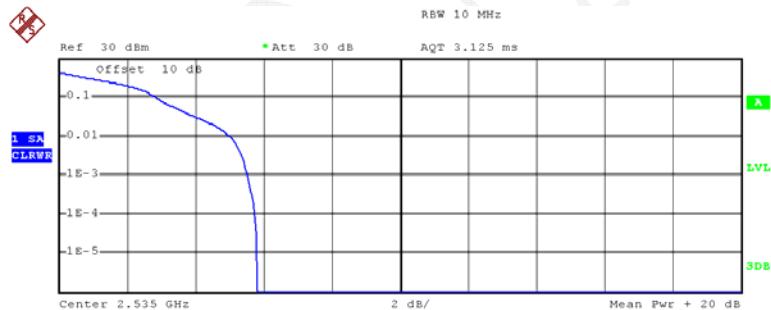
Trace 1
Mean 19.88 dBm
Peak 27.40 dBm
Crest 7.52 dB

10 % 3.40 dB
1 % 5.40 dB
.1 % 6.48 dB
.01 % 7.12 dB

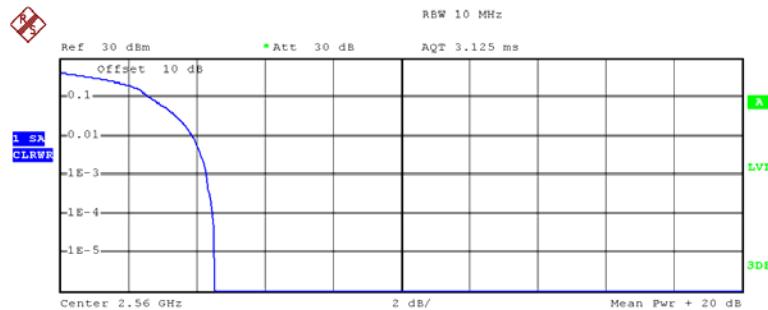
Date: 10.MAR.2016 21:43:09

16QAM_20MHz_1RB_Low Channel

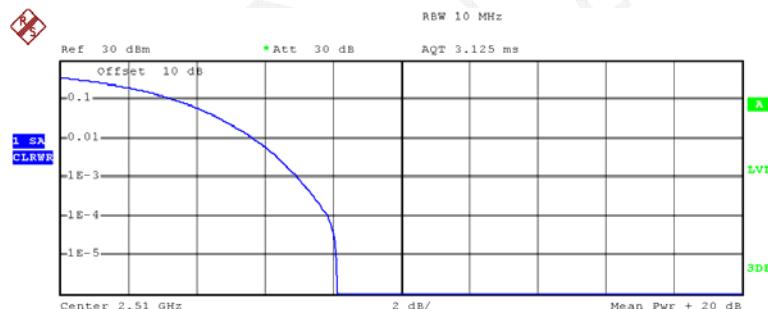
Date: 10.MAR.2016 21:40:01

16QAM 20MHz_1RB Middle Channel

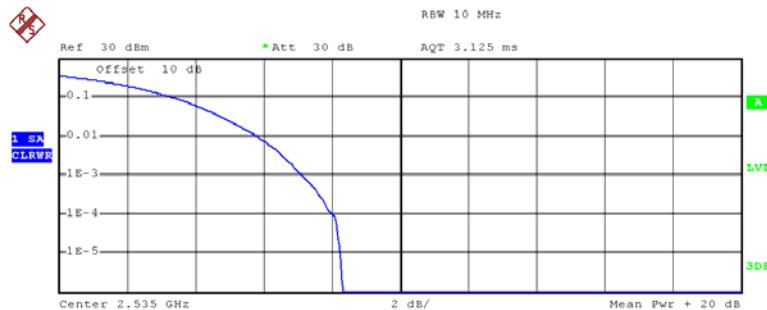
Date: 10.MAR.2016 21:41:07

16QAM 20MHz_1RB High Channel

Date: 10.MAR.2016 21:43:00

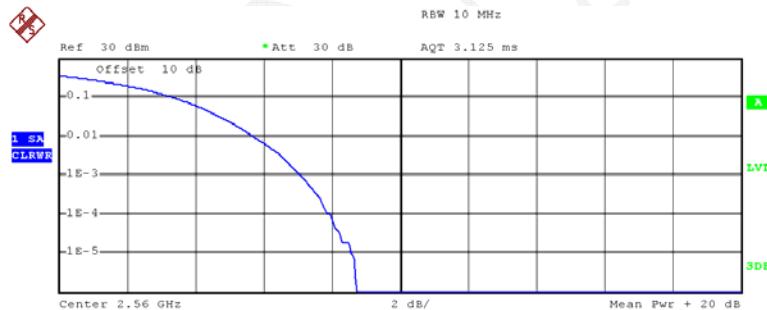
16QAM 20MHz_FULL RB Low Channel

Date: 10.MAR.2016 21:40:27

16QAM 20MHz_FULL RB Middle Channel

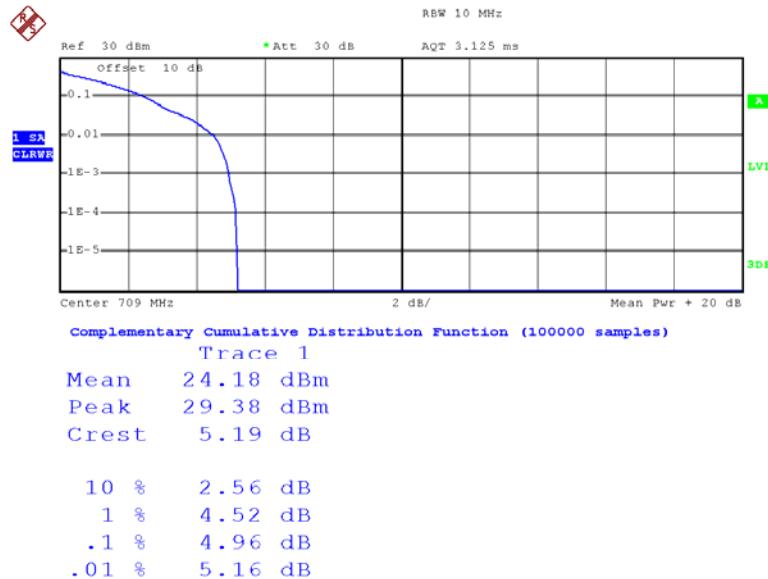
10 % 3.48 dB
1 % 5.88 dB
.1 % 7.16 dB
.01 % 8.04 dB

Date: 10.MAR.2016 21:40:52

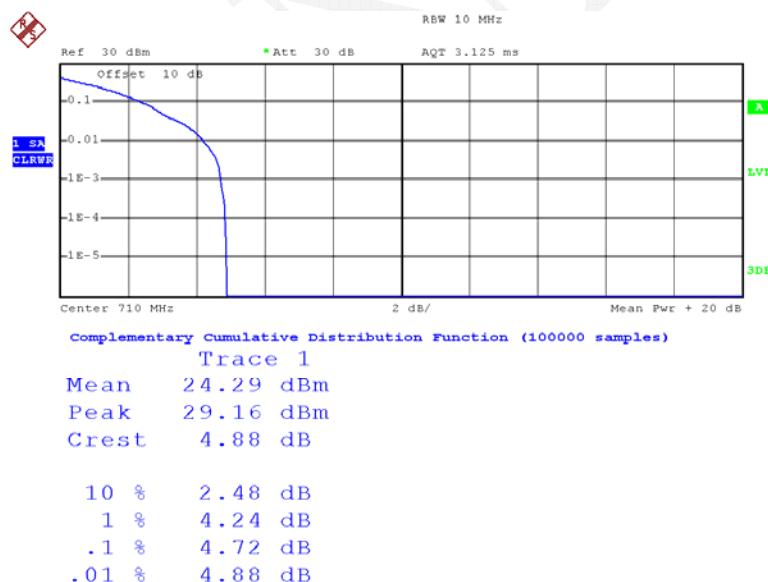
16QAM 20MHz_FULL RB High Channel

10 % 3.48 dB
1 % 5.76 dB
.1 % 7.12 dB
.01 % 8.00 dB

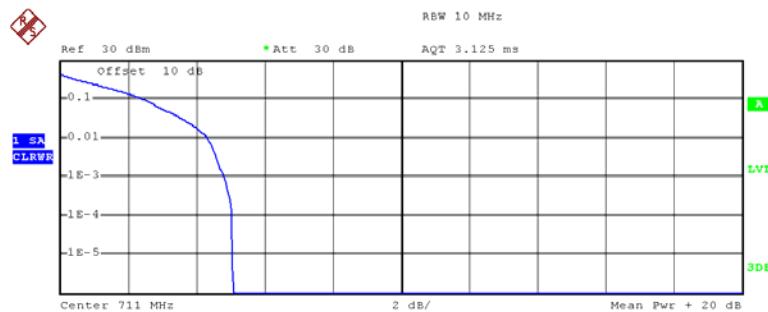
Date: 10.MAR.2016 21:43:14

LTE Band 17 (PART 27)**QPSK_10MHz_1RB_Low Channel**

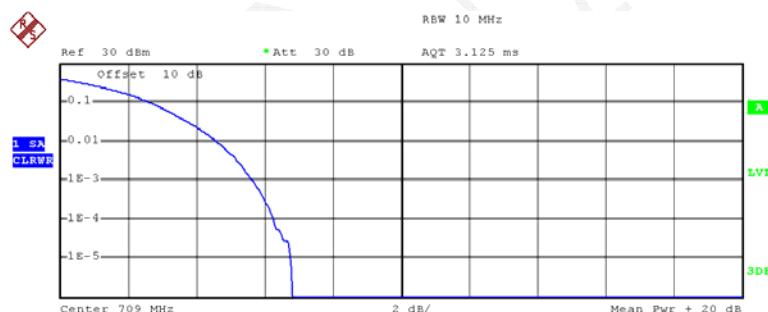
Date: 10 MAR 2016 21:45:02

QPSK_10MHz_1RB Middle Channel

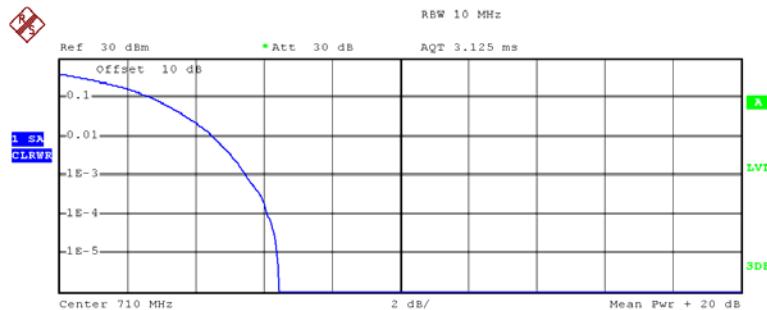
Date: 10.MAR.2016 21:47:26

QPSK_10MHz_1RB High Channel

Date: 10.MAR.2016 21:48:05

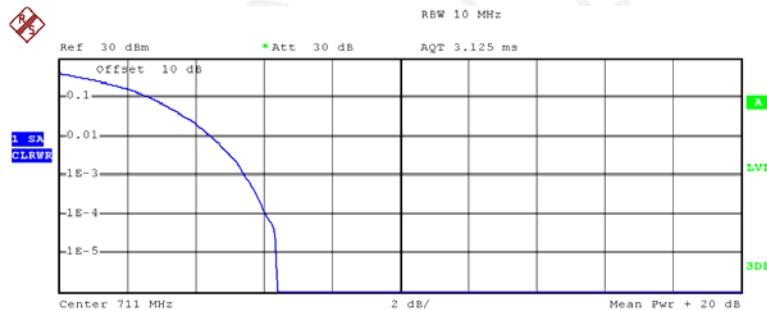
QPSK_10MHz_FULL RB Low Channel

Date: 10.MAR.2016 21:45:20

QPSK_10MHz_FULL RB Middle Channel

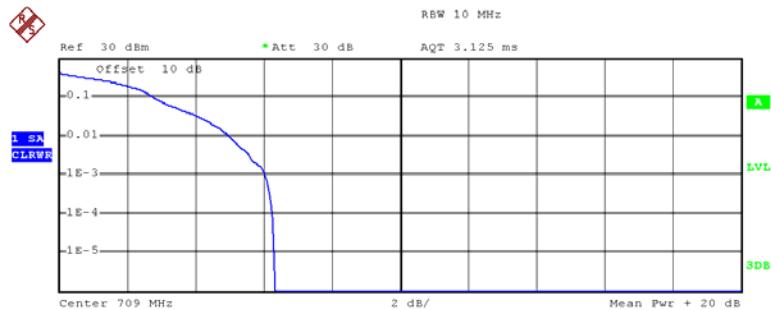
10 % 2.80 dB
1 % 4.56 dB
.1 % 5.52 dB
.01 % 6.12 dB

Date: 10.MAR.2016 21:47:10

QPSK 10MHz_FULL RB High Channel

10 % 2.76 dB
1 % 4.48 dB
.1 % 5.48 dB
.01 % 6.08 dB

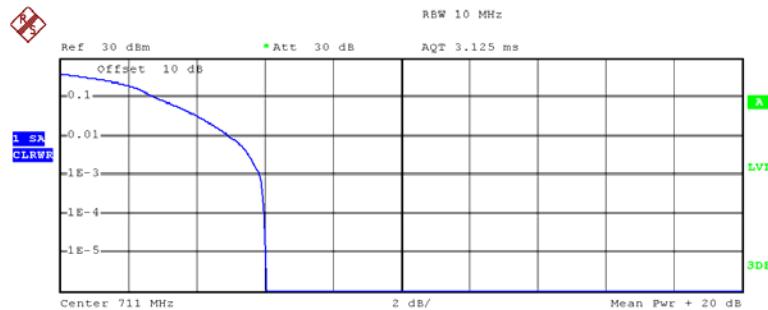
Date: 10.MAR.2016 21:48:22

16QAM_10MHz_1RB_Low Channel

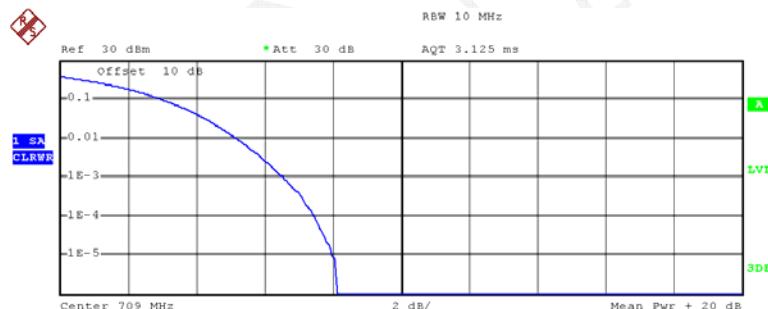
Date: 10.MAR.2016 21:45:09

16QAM 10MHz_1RB Middle Channel

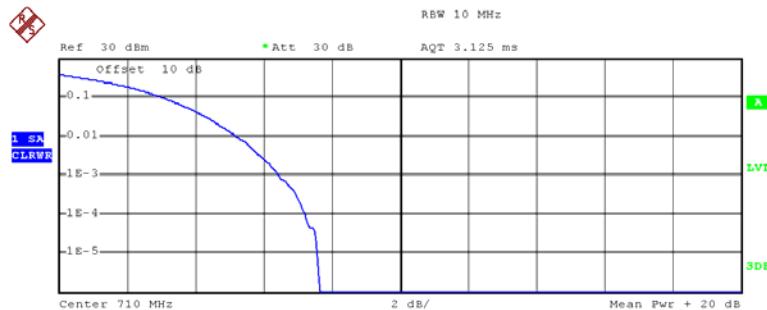
Date: 10.MAR.2016 21:47:21

16QAM 10MHz_1RB High Channel

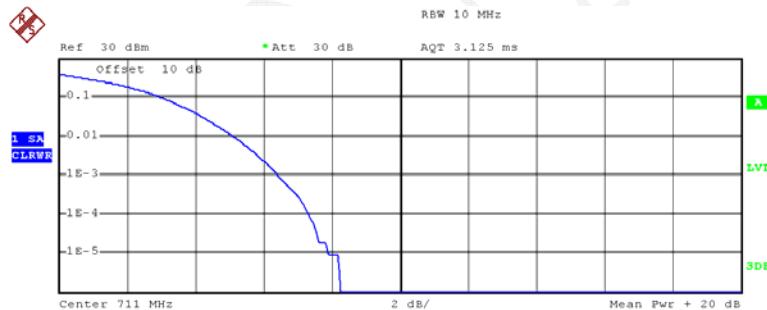
Date: 10.MAR.2016 21:48:10

16QAM 10MHz_FULL RB Low Channel

Date: 10.MAR.2016 21:45:15

16QAM 10MHz_FULL RB Middle Channel

Date: 10.MAR.2016 21:47:14

16QAM 10MHz_FULL RB High Channel

Date: 10.MAR.2016 21:48:15

ERP & EIRP

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)			
GSM 850 Middle Channel								
836.600	H	94.91	20	0.0	1	19.0	38.45	19.5
836.600	V	102.57	30.8	0.0	1	29.8	38.45	8.7
EGPRS 850 Middle Channel								
836.600	H	91.51	16.6	0.0	1	15.6	38.45	22.9
836.600	V	100.10	28.3	0.0	1	27.3	38.45	11.2
WCDMA Band V Middle Channel								
836.600	H	81.46	6.5	0.0	1	5.5	38.45	33.0
836.600	V	91.57	19.8	0.0	1	18.8	38.45	20.7
PCS 1900 Middle Channel								
1880.000	H	89.45	17.9	11.7	1.4	28.2	33.0	4.8
1880.000	V	84.24	12.8	11.7	1.4	23.1	33.0	9.9
EGPRS 1900 Middle Channel								
1880.000	H	87.31	15.7	11.7	1.4	26.0	33.0	7.0
1880.000	V	82.17	10.7	11.7	1.4	21.0	33.0	12.0
WCDMA Band II Middle Channel								
1880.000	H	83.16	11.6	11.7	1.4	21.9	33.0	11.1
1880.000	V	77.49	6	11.7	1.4	16.3	33.0	16.7
WCDMA Band IV Middle Channel								
1732.600	H	87.35	14.3	10.9	1.4	23.8	30.0	6.2
1732.600	V	84.55	11.2	10.9	1.4	20.7	30.0	9.3

LTE Band II

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 1.4 MHz Middle Channel								
1880.000	H	85.41	13.8	11.7	1.4	24.1	33.0	8.9
1880.000	V	82.75	11.3	11.7	1.4	21.6	33.0	11.4
QPSK 3 MHz Middle Channel								
1880.000	H	84.73	13.1	11.7	1.4	23.4	33.0	9.6
1880.000	V	81.96	10.5	11.7	1.4	20.8	33.0	12.2
QPSK 5 MHz Middle Channel								
1880.000	H	84.32	12.7	11.7	1.4	23.0	33.0	10.0
1880.000	V	81.08	9.6	11.7	1.4	19.9	33.0	13.1
QPSK 10 MHz Middle Channel								
1880.000	H	83.61	12	11.7	1.4	22.3	33.0	10.7
1880.000	V	80.29	8.8	11.7	1.4	19.1	33.0	13.9
QPSK 15 MHz Middle Channel								
1880.000	H	81.55	10	11.7	1.4	20.3	33.0	12.7
1880.000	V	78.41	7	11.7	1.4	17.3	33.0	15.7
QPSK 20 MHz Middle Channel								
1880.000	H	79.36	7.8	11.7	1.4	18.1	33.0	14.9
1880.000	V	77.62	6.2	11.7	1.4	16.5	33.0	16.5
16QAM 1.4 MHz Middle Channel								
1880.000	H	84.71	13.1	11.7	1.4	23.4	33.0	9.6
1880.000	V	81.06	9.6	11.7	1.4	19.9	33.0	13.1
16QAM 3 MHz Middle Channel								
1880.000	H	83.87	12.3	11.7	1.4	22.6	33.0	10.4
1880.000	V	80.07	8.6	11.7	1.4	18.9	33.0	14.1
16QAM 5 MHz Middle Channel								
1880.000	H	83.54	11.9	11.7	1.4	22.2	33.0	10.8
1880.000	V	79.23	7.8	11.7	1.4	18.1	33.0	14.9
16QAM 10 MHz Middle Channel								
1880.000	H	83.69	12.1	11.7	1.4	22.4	33.0	10.6
1880.000	V	79.89	8.4	11.7	1.4	18.7	33.0	14.3
16QAM 15 MHz Middle Channel								
1880.000	H	81.52	9.9	11.7	1.4	20.2	33.0	12.8
1880.000	V	78.36	6.9	11.7	1.4	17.2	33.0	15.8
16QAM 20 MHz Middle Channel								
1880.000	H	79.65	8.1	11.7	1.4	18.4	33.0	14.6
1880.000	V	77.74	6.3	11.7	1.4	16.6	33.0	16.4

LTE Band IV

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 1.4 MHz Middle Channel								
1732.500	H	87.59	14.6	10.9	1.4	24.1	30.00	5.9
1732.500	V	84.26	10.9	10.9	1.4	20.4	30.00	9.6
QPSK 3 MHz Middle Channel								
1732.500	H	87.69	14.7	10.9	1.4	24.2	30.0	5.8
1732.500	V	84.42	11.1	10.9	1.4	20.6	30.0	9.4
QPSK 5 MHz Middle Channel								
1732.500	H	85.64	12.6	10.9	1.4	22.1	30.0	7.9
1732.500	V	82.45	9.1	10.9	1.4	18.6	30.0	11.4
QPSK 10 MHz Middle Channel								
1732.500	H	83.53	10.5	10.9	1.4	20.0	30.0	10.0
1732.500	V	81.49	8.2	10.9	1.4	17.7	30.0	12.3
QPSK 15 MHz Middle Channel								
1732.500	H	81.66	8.7	10.9	1.4	18.2	30.0	11.8
1732.500	V	79.52	6.2	10.9	1.4	15.7	30.0	14.3
QPSK 20 MHz Middle Channel								
1732.500	H	81.85	8.8	10.9	1.4	18.3	30.0	13.7
1732.500	V	77.74	4.4	10.9	1.4	13.9	30.0	16.1
16QAM 1.4 MHz Middle Channel								
1732.500	H	87.42	14.4	10.9	1.4	23.9	30.0	6.1
1732.500	V	84.78	11.5	10.9	1.4	21.0	30.0	9.0
16QAM 3 MHz Middle Channel								
1732.500	H	87.36	14.4	10.9	1.4	23.9	30.0	6.1
1732.500	V	84.25	10.9	10.9	1.4	20.4	30.0	9.6
16QAM 5 MHz Middle Channel								
1732.500	H	85.32	12.3	10.9	1.4	21.8	30.0	8.2
1732.500	V	82.21	8.9	10.9	1.4	18.4	30.0	11.6
16QAM 10 MHz Middle Channel								
1732.500	H	83.27	10.3	10.9	1.4	19.8	30.0	10.2
1732.500	V	81.15	7.8	10.9	1.4	17.3	30.0	12.7
16QAM 15 MHz Middle Channel								
1732.500	H	81.31	8.3	10.9	1.4	17.8	30.0	12.2
1732.500	V	79.44	6.1	10.9	1.4	15.6	30.0	14.4
16QAM 20 MHz Middle Channel								
1732.500	H	82.29	9.3	10.9	1.4	18.8	30.0	13.2
1732.500	V	78.15	4.8	10.9	1.4	14.3	30.0	15.7

LTE Band VII

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 5 MHz Middle Channel								
2535.000	H	79.15	7.9	13.1	2.5	18.5	33.0	14.5
2535.000	V	76.86	7.1	13.1	2.5	17.7	33.0	15.3
QPSK 10 MHz Middle Channel								
2535.000	H	78.06	6.9	13.1	2.5	17.5	33.0	15.5
2535.000	V	75.78	6	13.1	2.5	16.6	33.0	16.4
QPSK 15 MHz Middle Channel								
2535.000	H	77.15	5.9	13.1	2.5	16.5	33.0	16.5
2535.000	V	74.96	5.2	13.1	2.5	15.8	33.0	17.2
QPSK 20 MHz Middle Channel								
2535.000	H	76.33	5.1	13.1	2.5	15.7	33.0	17.3
2535.000	V	74.35	4.6	13.1	2.5	15.2	33.0	17.8
16QAM 5 MHz Middle Channel								
2535.000	H	79.46	8.3	13.1	2.5	18.9	33.0	14.1
2535.000	V	77.19	7.4	13.1	2.5	18.0	33.0	15.0
16QAM 10 MHz Middle Channel								
2535.000	H	78.13	6.9	13.1	2.5	17.5	33.0	15.5
2535.000	V	76.04	6.3	13.1	2.5	16.9	33.0	16.1
16QAM 15 MHz Middle Channel								
2535.000	H	77.05	5.8	13.1	2.5	16.4	33.0	16.6
2535.000	V	74.81	5.1	13.1	2.5	15.7	33.0	17.3
16QAM 20 MHz Middle Channel								
2535.000	H	76.18	5	13.1	2.5	15.6	33.0	17.4
2535.000	V	74.02	4.3	13.1	2.5	14.9	33.0	18.1

LTE Band 17

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 5 MHz Middle Channel								
710.000	H	84.89	8.1	0.0	0.9	7.2	34.8	27.6
710.000	V	97.21	22.9	0.0	0.9	22.0	34.8	12.8
QPSK 10 MHz Middle Channel								
710.000	H	82.51	5.7	0.0	0.9	4.8	34.8	30.0
710.000	V	95.28	20.9	0.0	0.9	20.0	34.8	14.8
16QAM 5 MHz Middle Channel								
710.000	H	86.07	9.3	0.0	0.9	8.4	34.8	26.4
710.000	V	98.52	24.2	0.0	0.9	23.3	34.8	11.5
16QAM 10 MHz Middle Channel								
710.000	H	86.07	9.3	0.0	0.9	8.4	34.8	26.4
710.000	V	98.52	24.2	0.0	0.9	23.3	34.8	11.5

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

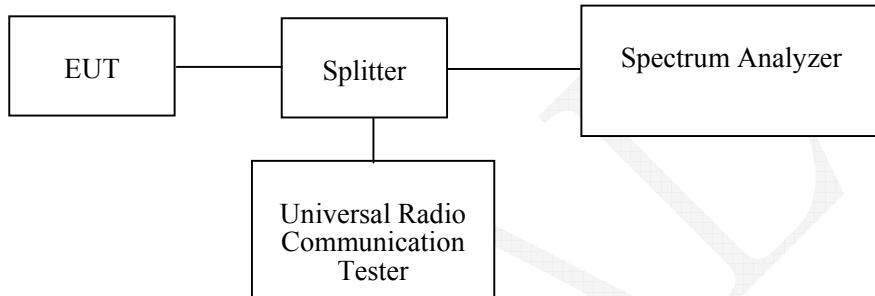
Applicable Standard

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

Test Procedure

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

The 26 dB & 99% bandwidth was recorded.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSP 38	100478	2015-05-09	2016-05-09
R&S	Spectrum Analyzer	FSEM	831259/019	2015-05-09	2016-05-09
R&S	Universal Radio Communication Tester	CMU200	109 038	2015-05-09	2016-05-09
R&S	Wideband Radio Communication Tester	CMW500	106891	2015-11-23	2016-11-23
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 Spliter	ODP-1-6-2S	OE0120142	2015-05-06	2016-05-06

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

Test Data

Environmental Conditions

Temperature:	24.2 °C
Relative Humidity:	47 %
ATM Pressure:	101.6 kPa

The testing was performed by Allen Qiao on 2016-03-10.

Test Mode: Transmitting

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

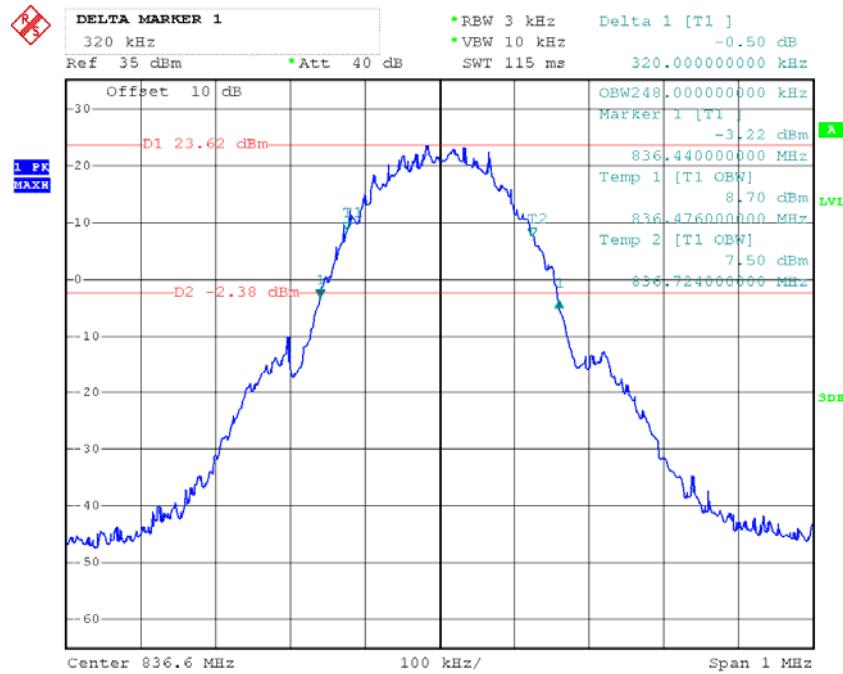
Band	Channel No.	Mode	99% Occupied Bandwidth (kHz)	26 dB Occupied Bandwidth (kHz)
Cellular	190	GSM	0.248	0.32
		EDGE	0.248	0.31
PCS	661	PCS	0.244	0.314
		EDGE	0.256	0.32
WCDMA Band	9400	Rel 99	4.22	4.86
	9400	HSDPA	4.22	4.88
	9400	HSUPA	4.24	4.86
WCDMA Band IV	1413	Rel 99	4.22	4.88
	1413	HSDPA	4.2	4.9
	1413	HSUPA	4.22	4.9
WCDMA Band V	4175	Rel 99	4.24	4.92
	4175	HSDPA	4.24	4.92
	4175	HSUPA	4.24	4.9

Band	Test Modulation	Test Bandwidth (MHz)	Test Channel	99% Occupied Bandwidth (MHz)	26 dB Occupied Bandwidth (MHz)
LTE Band II	QPSK	1.4	M	1.106	1.293
		3		2.754	3.111
		5		4.549	5.103
		10		9.138	10.364
		15		13.587	15.123
		20		18.116	20.040
	16QAM	1.4	M	1.106	1.275
		3		2.766	3.123
		5		4.549	5.103
		10		9.138	10.284
		15		13.587	15.063
		20		18.196	20.120

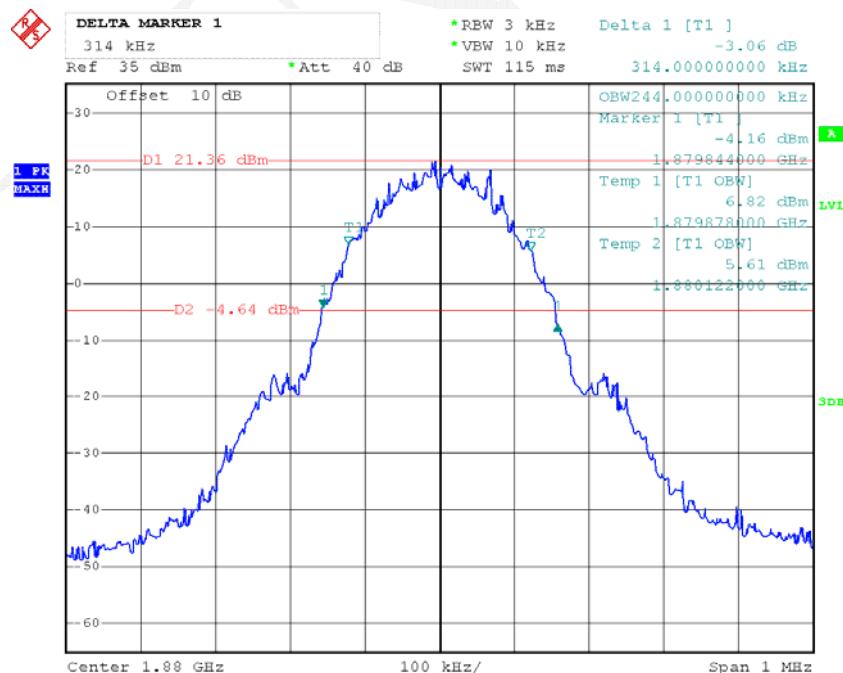
Band	Test Modulation	Test Bandwidth (MHz)	Test Channel	99% Occupied Bandwidth (MHz)	26 dB Occupied Bandwidth (MHz)
LTE Band IV	QPSK	1.4	M	1.106	1.275
		3		2.766	3.129
		5		4.549	5.077
		10		9.138	10.358
		15		13.587	15.077
		20		18.116	20.120
	16QAM	1.4	M	1.106	1.287
		3		2.766	3.093
		5		4.549	5.137
		10		9.138	10.318
		15		13.587	15.077
		20		18.196	20.120

Band	Test Modulation	Test Bandwidth (MHz)	Test Channel	99% Occupied Bandwidth (MHz)	26 dB Occupied Bandwidth (MHz)
LTE Band VII	QPSK	5	M	4.569	5.050
		10		9.138	10.390
		15		13.587	15.090
		20		18.196	20.040
	16QAM	5	M	4.549	5.130
		10		9.138	10.351
		15		13.587	15.030
		20		18.116	20.120

Band	Test Modulation	Test Bandwidth (MHz)	Test Channel	99% Occupied Bandwidth (MHz)	26 dB Occupied Bandwidth (MHz)
LTE Band XVII	QPSK	5	M	4.549	5.050
		10		8.978	9.870
	16QAM	5	M	4.549	5.050
		10		8.978	9.749

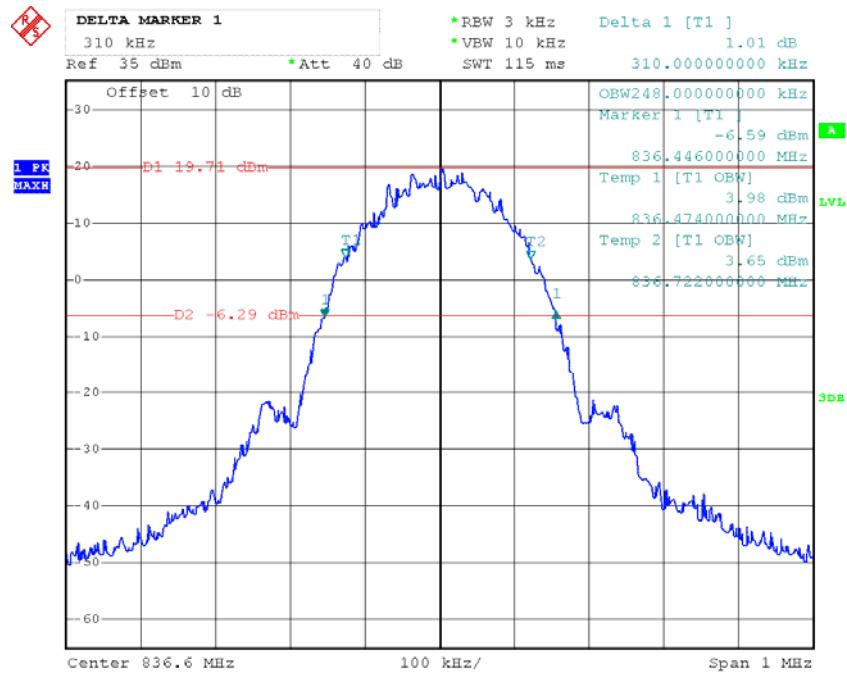
GMSK 850 Cellular Band

Date: 8.MAR.2016 10:54:03

GMSK PCS Band

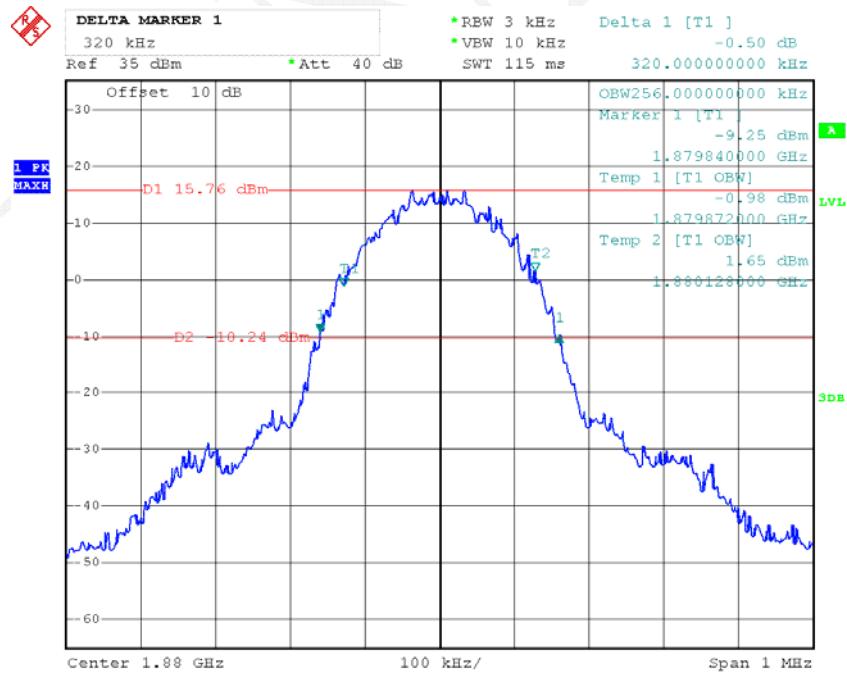
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EDGE 850 Cellular Band



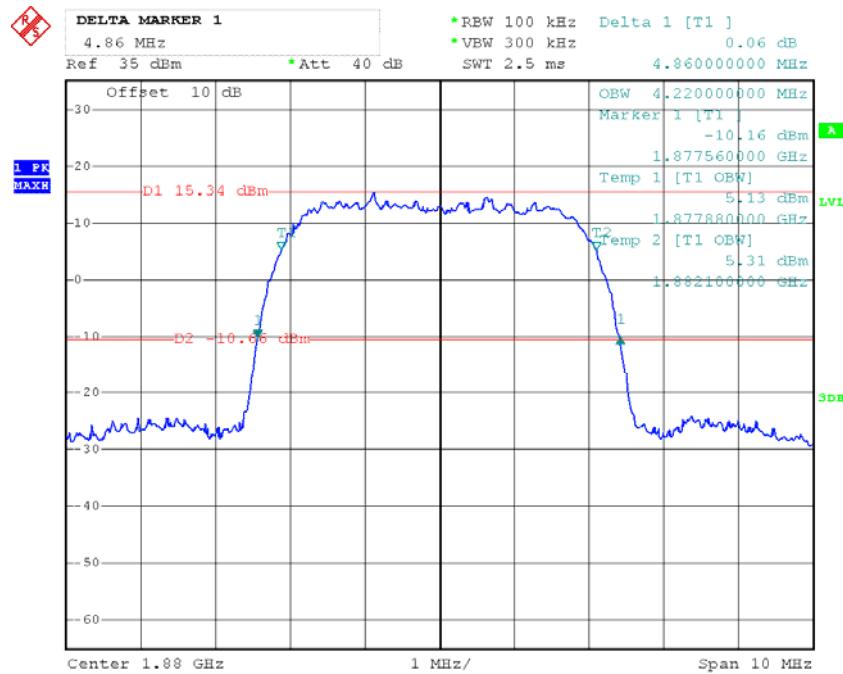
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EDGE PCS Band



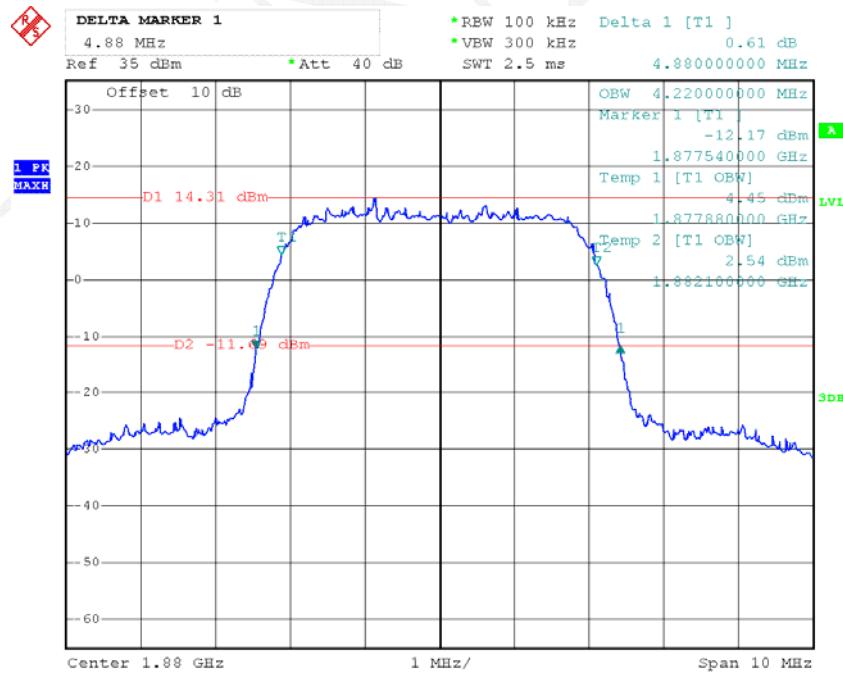
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REL99 Band II

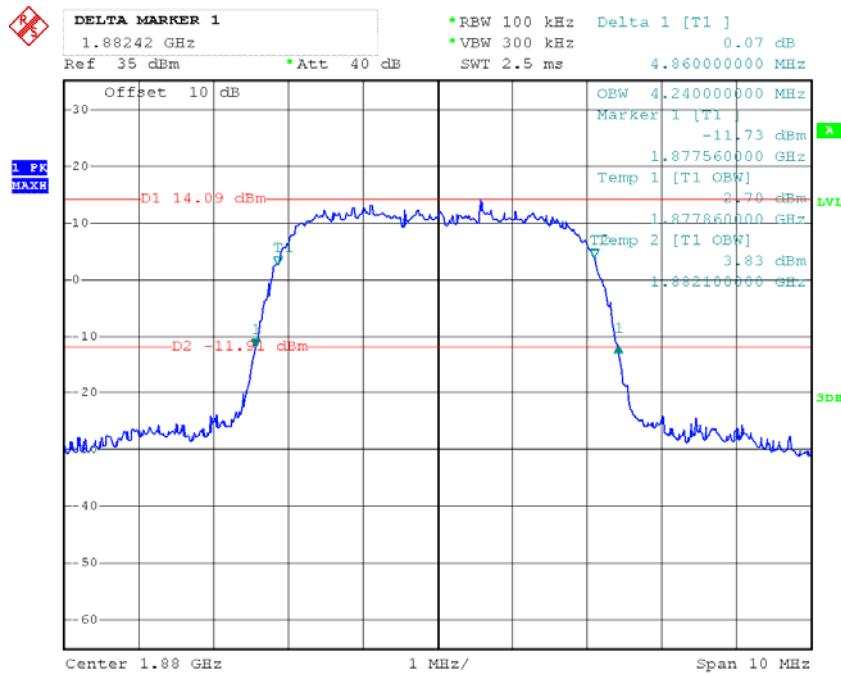


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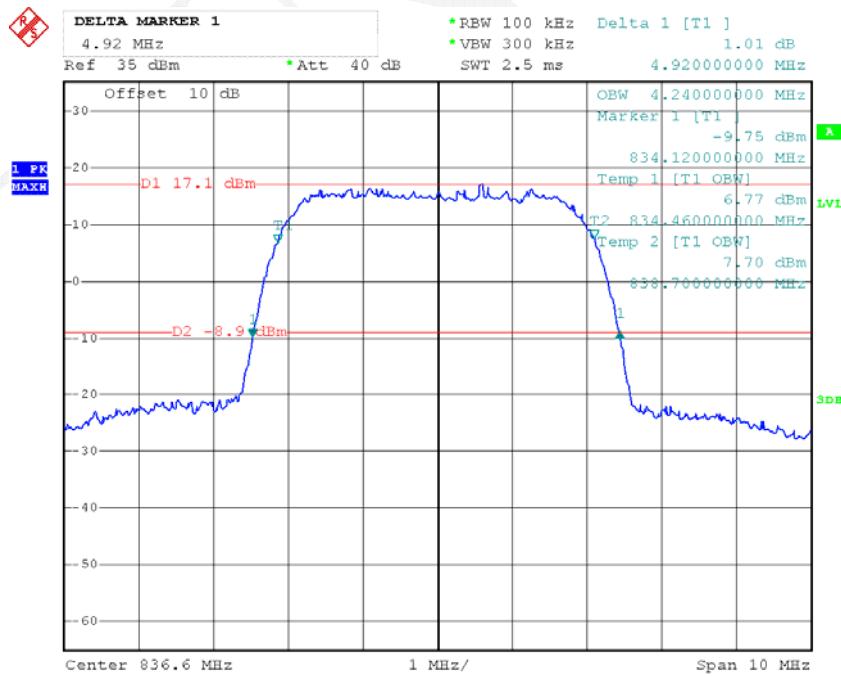
HSDPA Band II



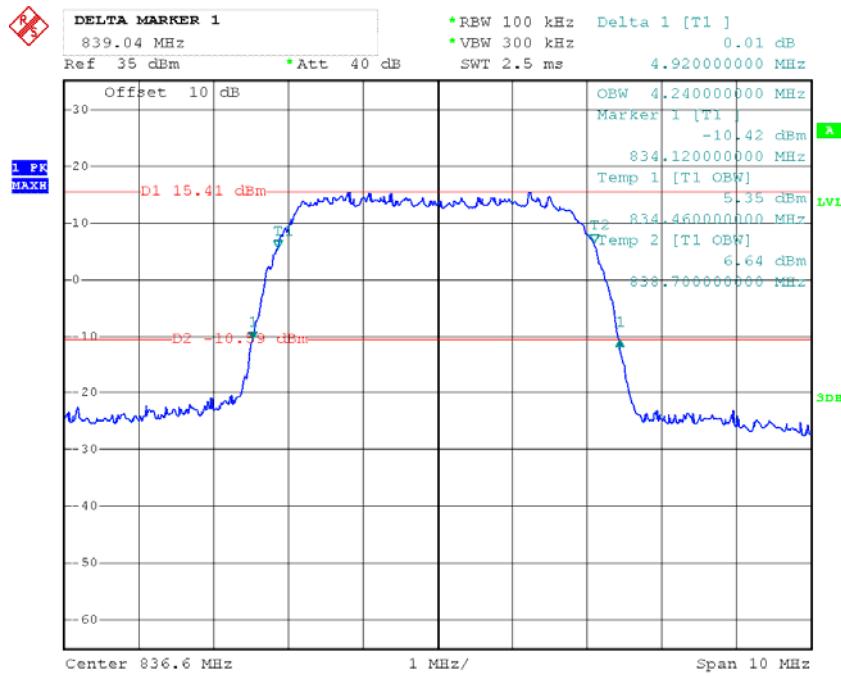
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HSUPA Band II

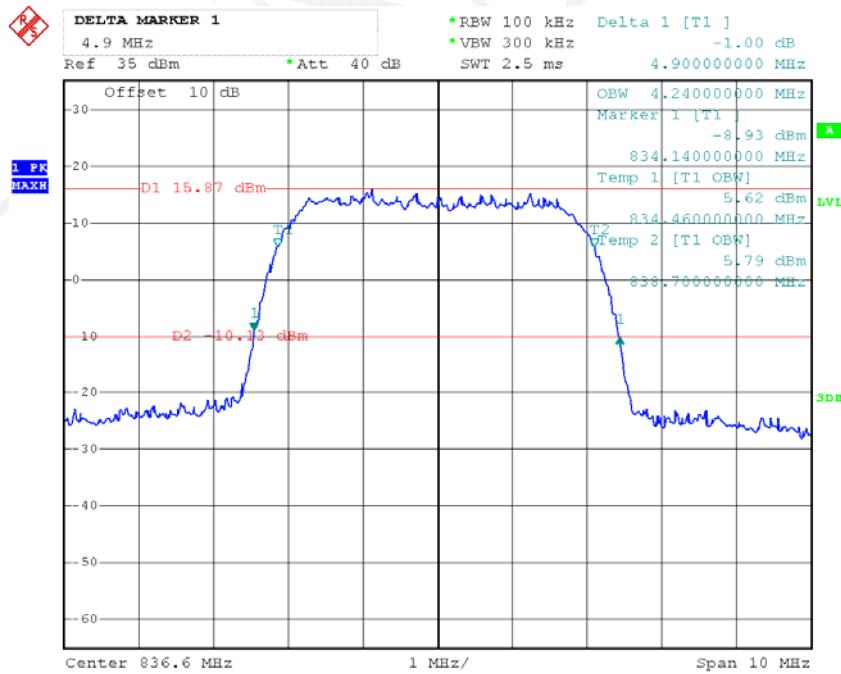
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REL99 Band V

Date: 8.MAR.2016 12:02:33

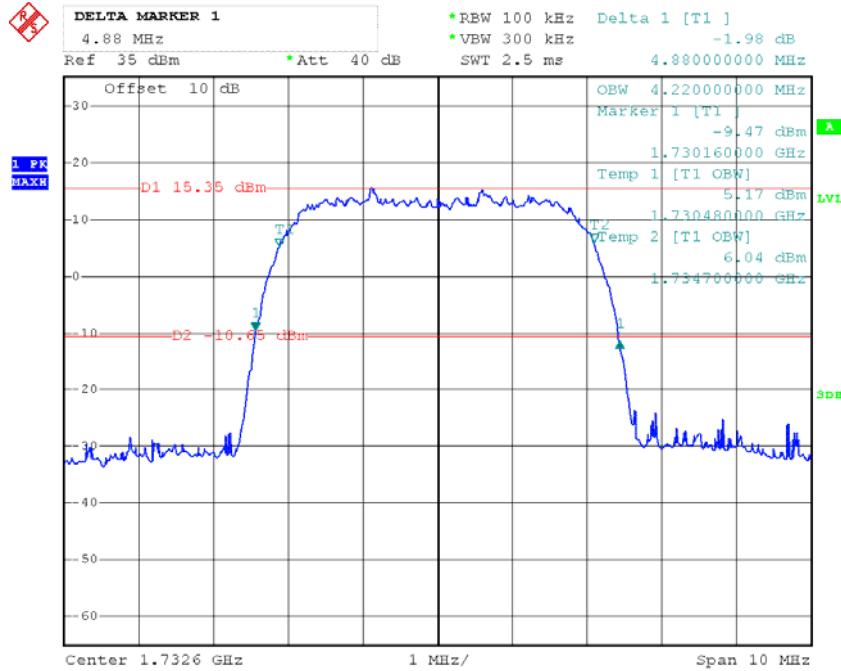
HSDPA Band V

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HSUPA Band V

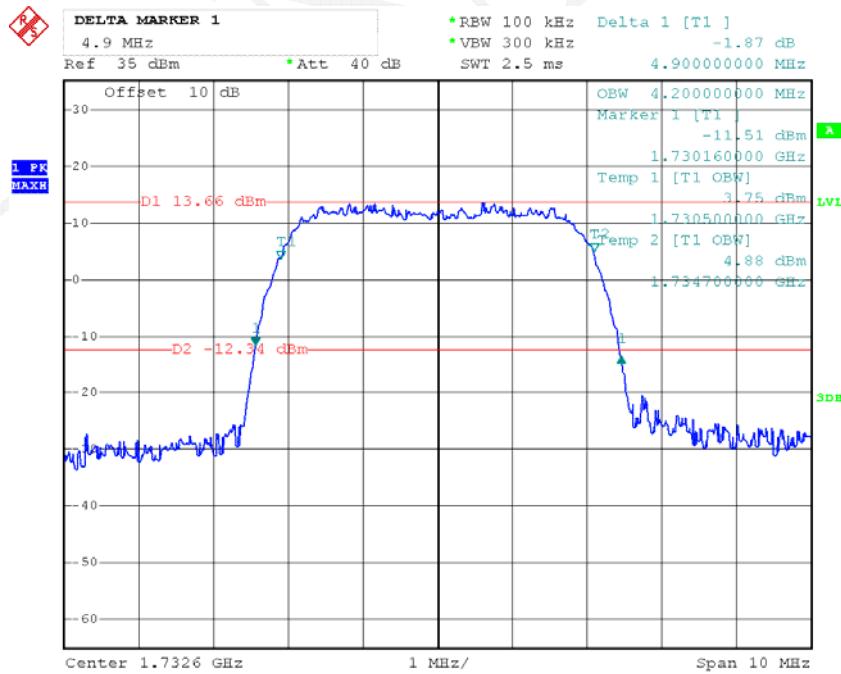
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REL99 Band IV

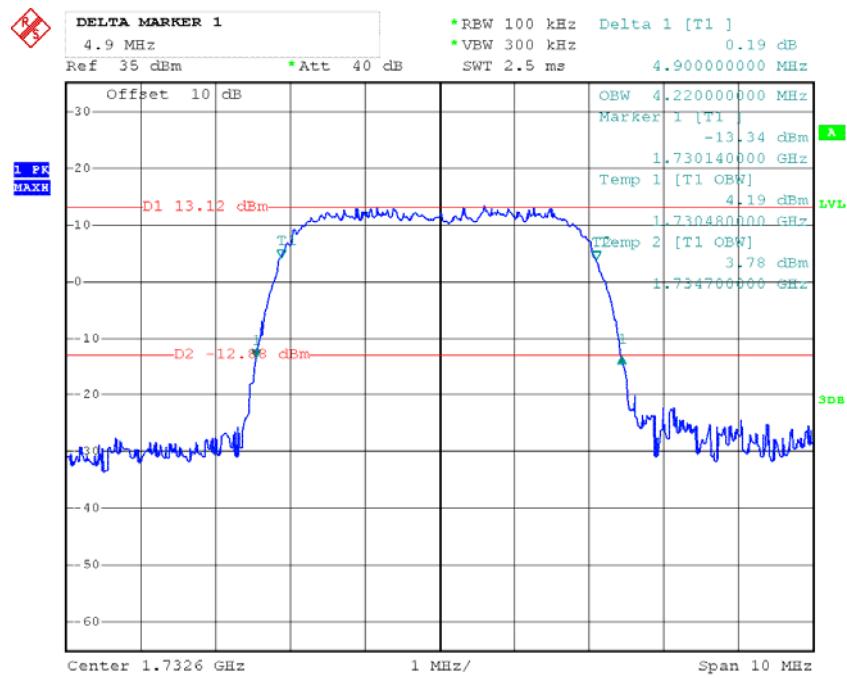


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HSDPA Band IV

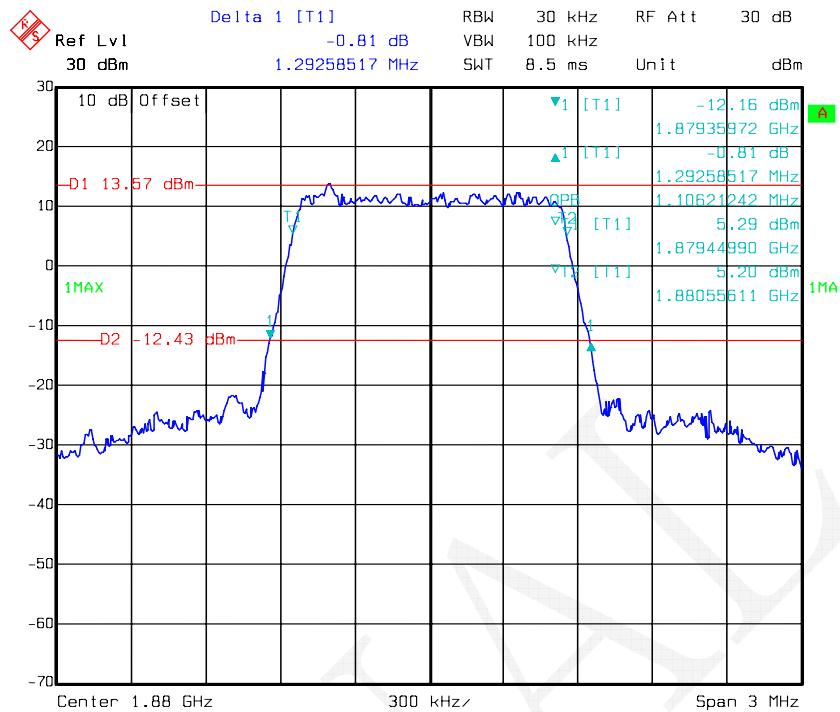
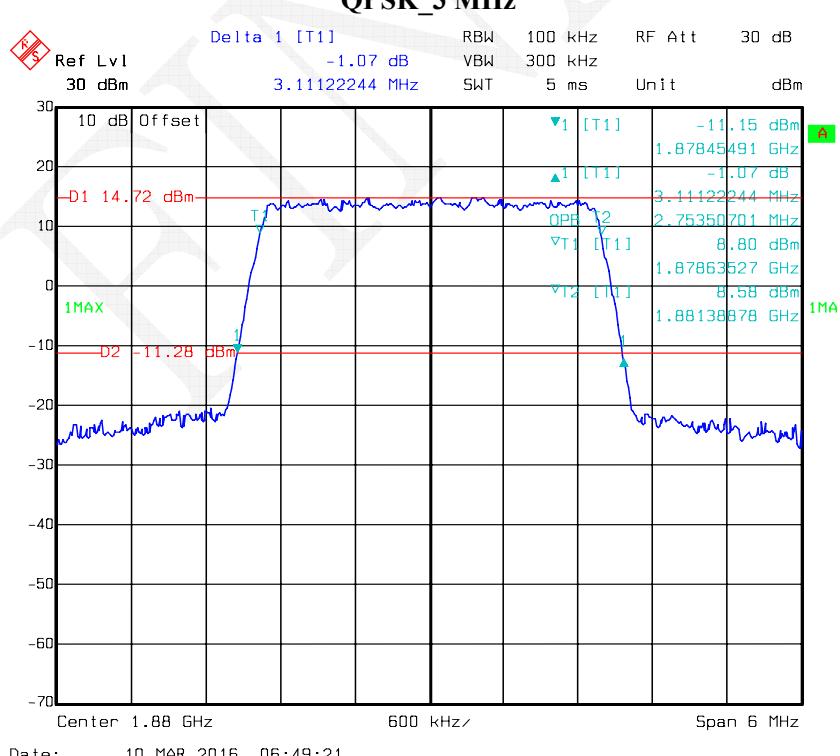


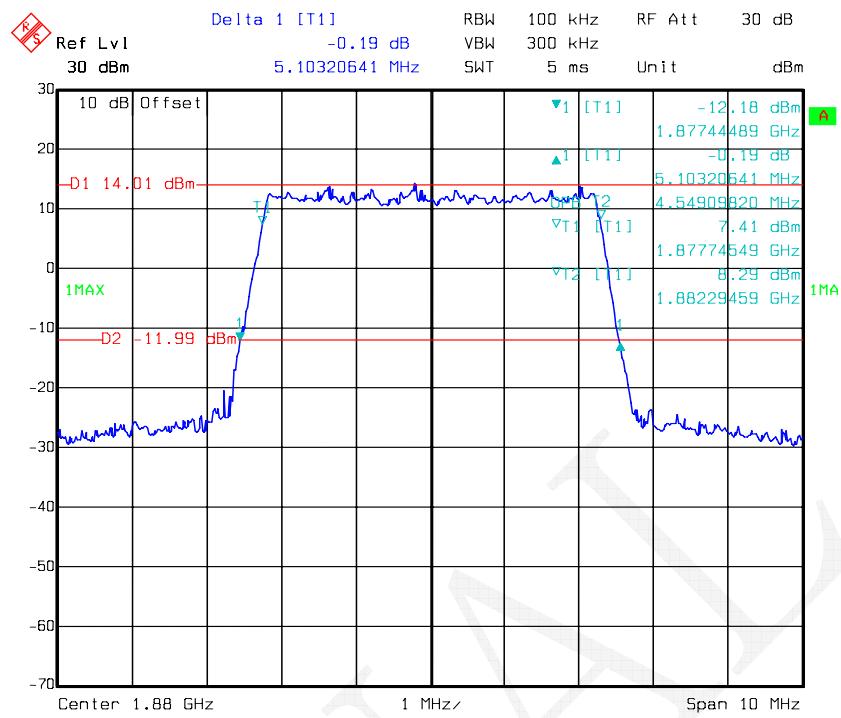
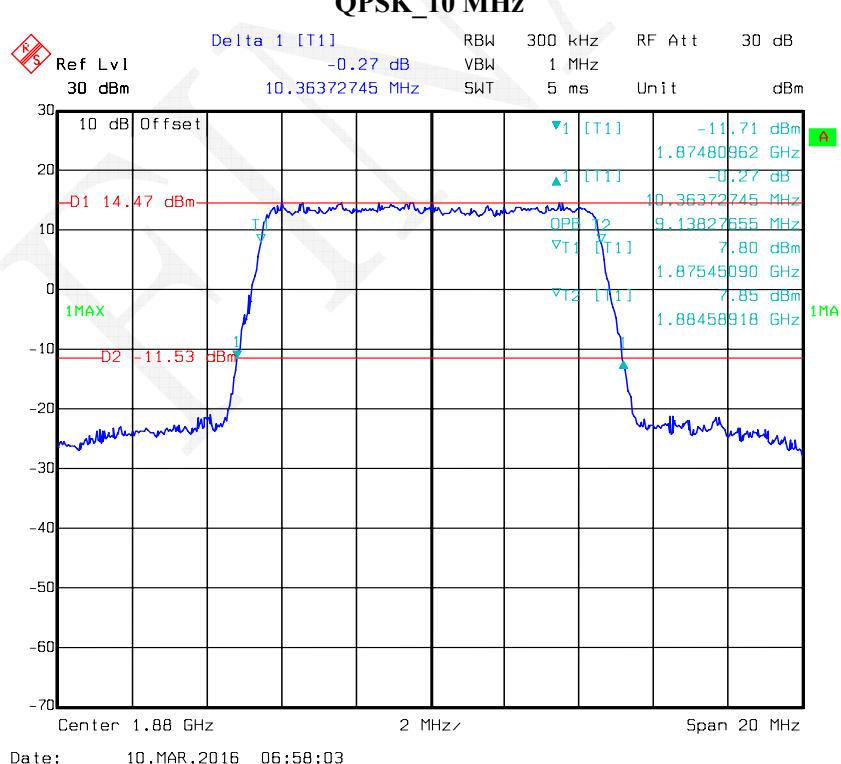
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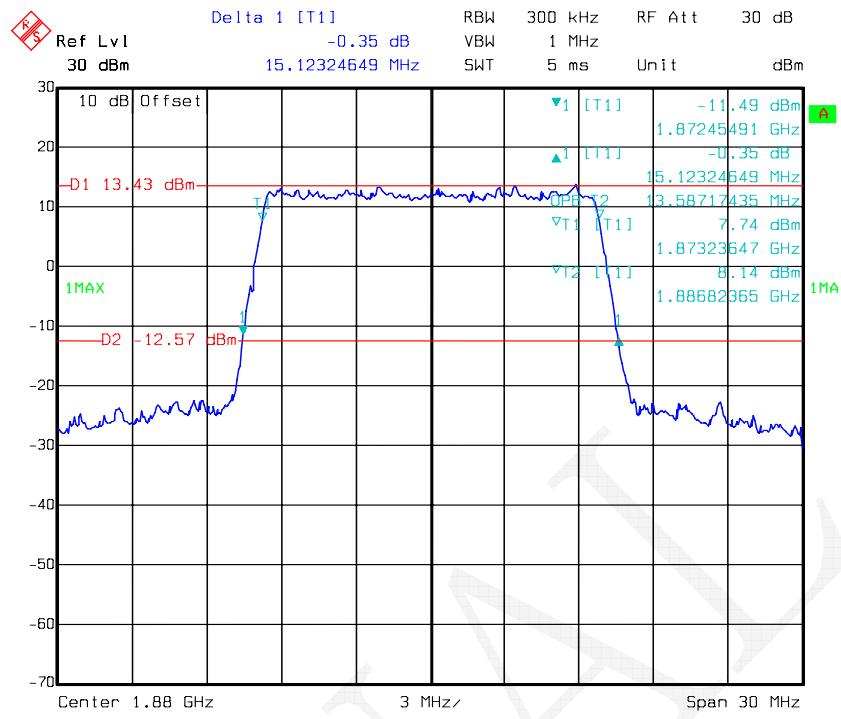
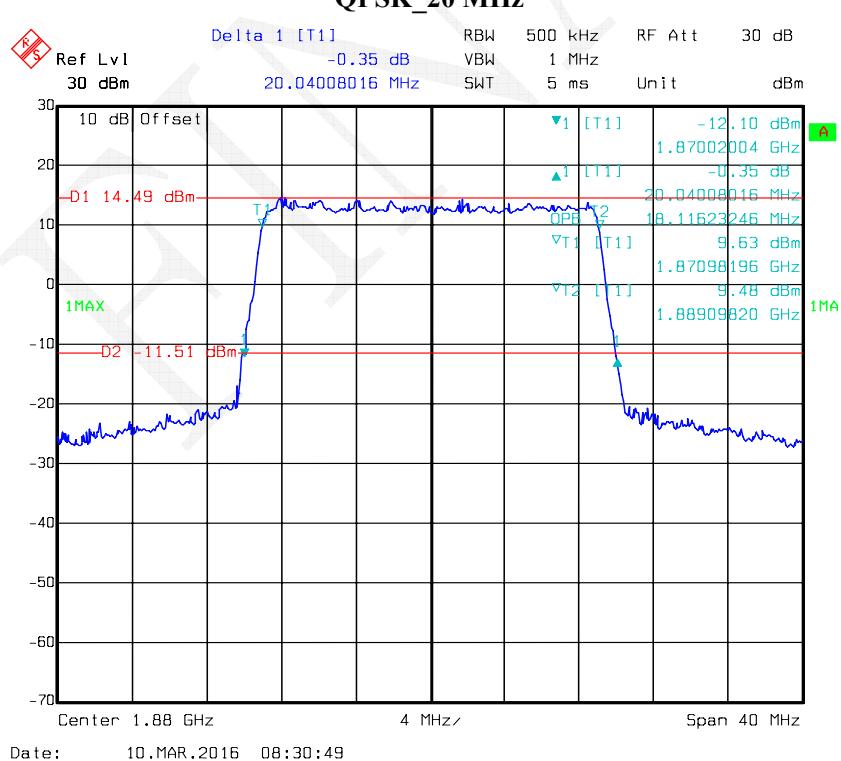
HSUPA Band IV

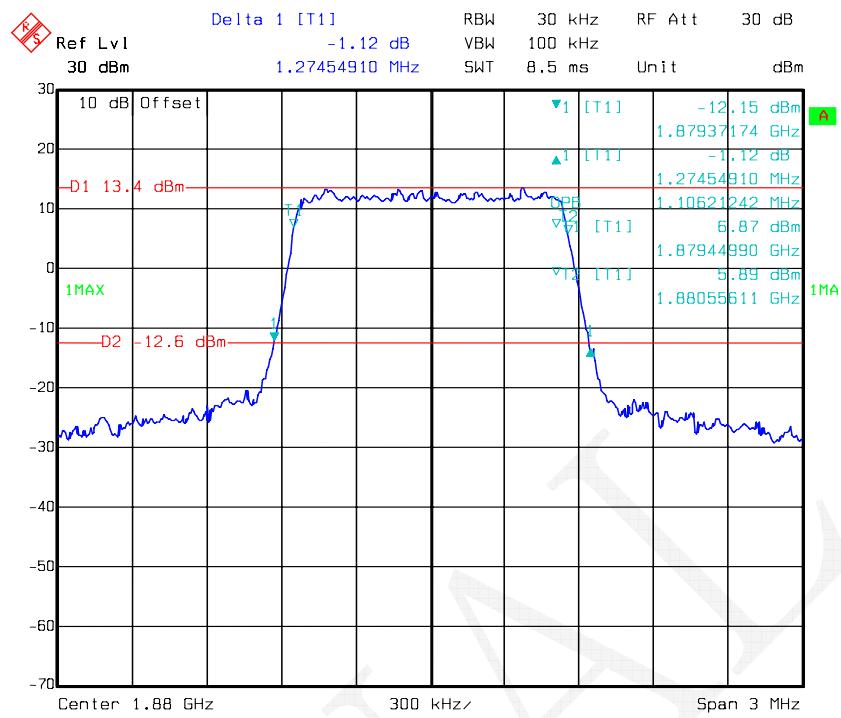
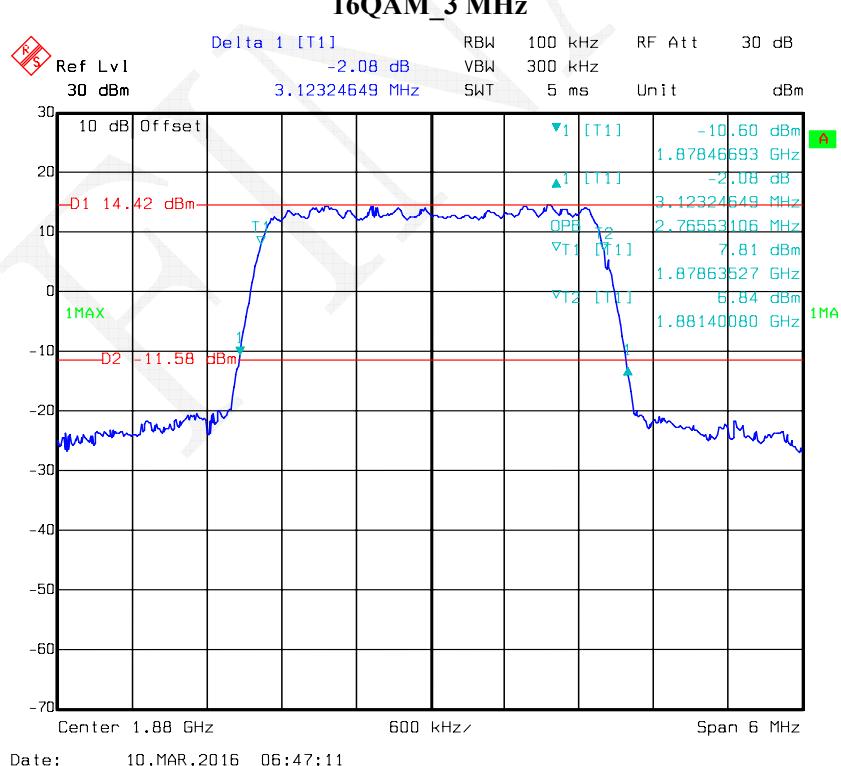
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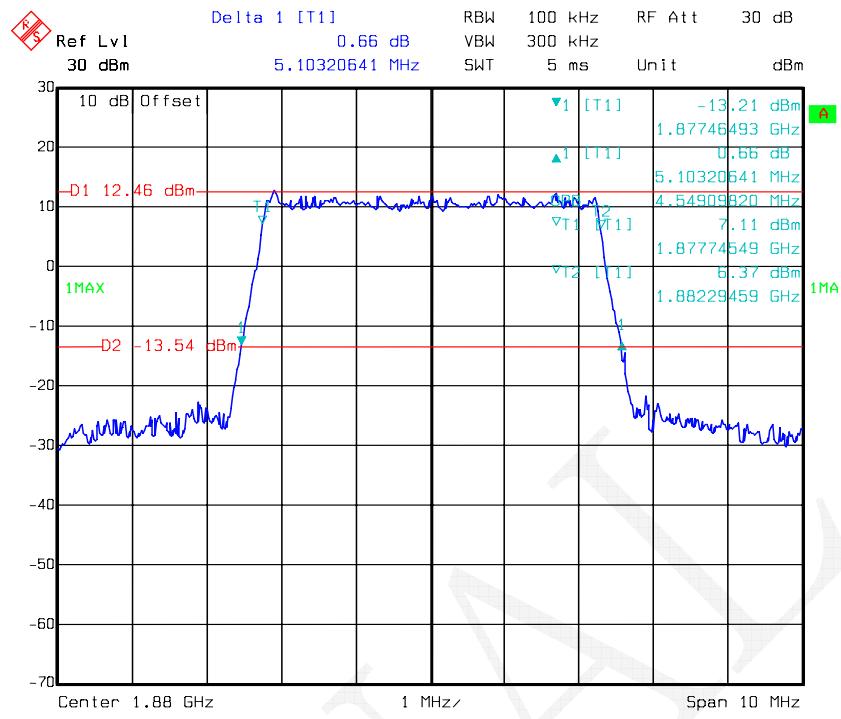
LTE Band II

QPSK_1.4 MHz**QPSK_3 MHz**

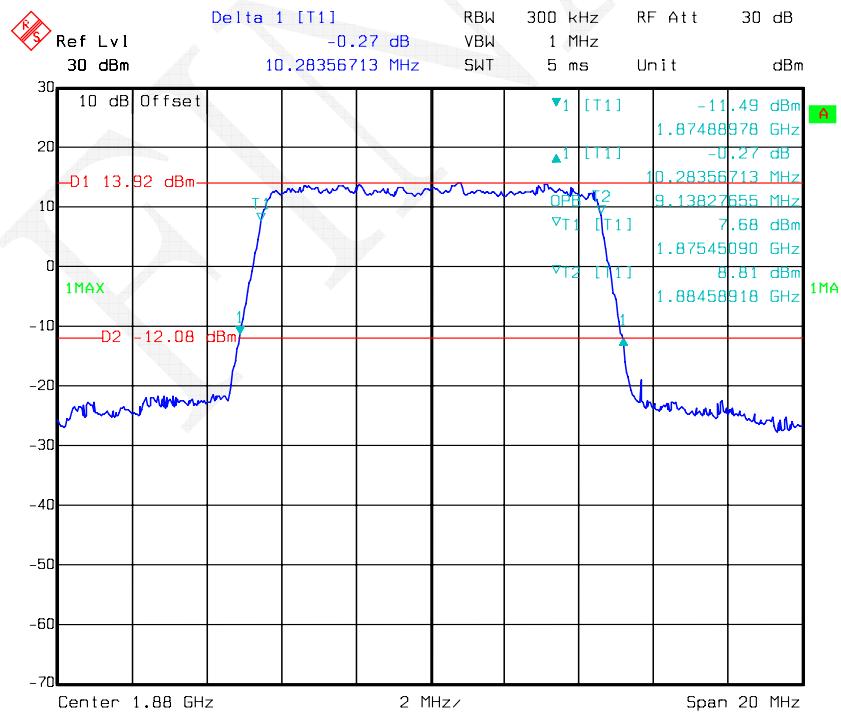
QPSK_5 MHz**QPSK_10 MHz**

QPSK_15 MHz**QPSK_20 MHz**

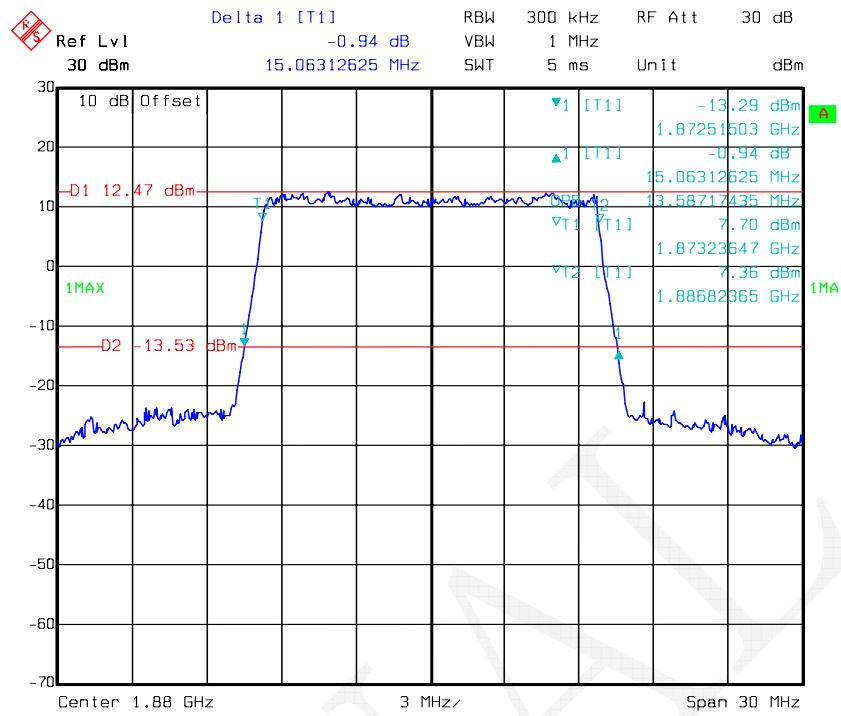
16QAM_1.4 MHz**16QAM_3 MHz**

16QAM_5 MHz

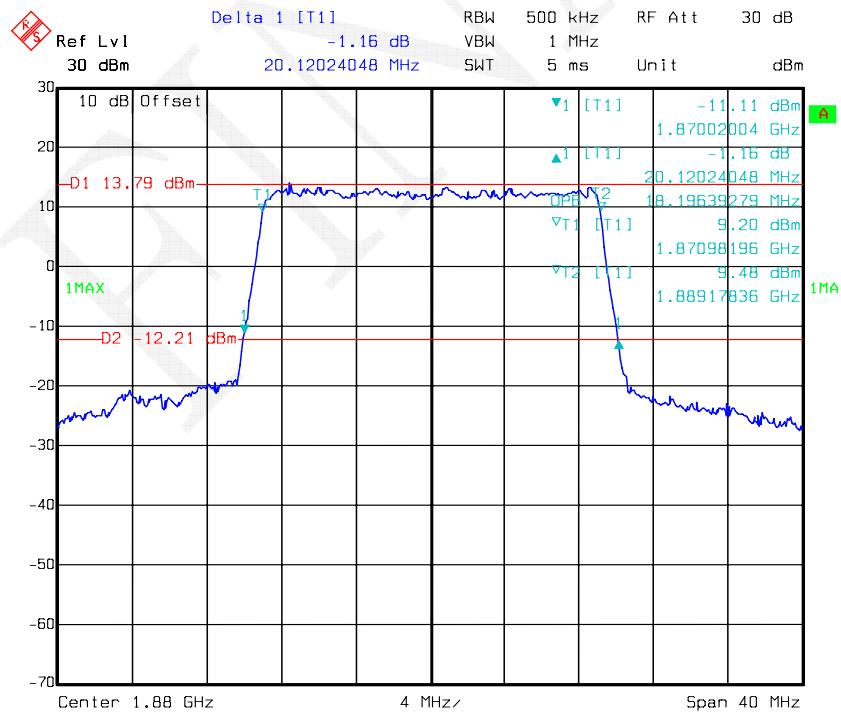
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16QAM_10 MHz

Date: 10.MAR.2016 08:20:52

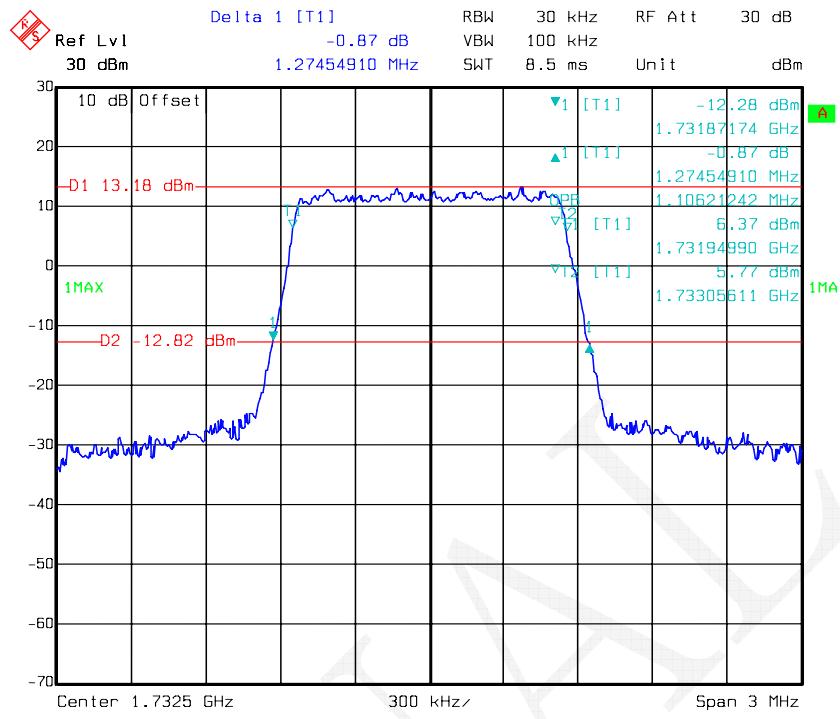
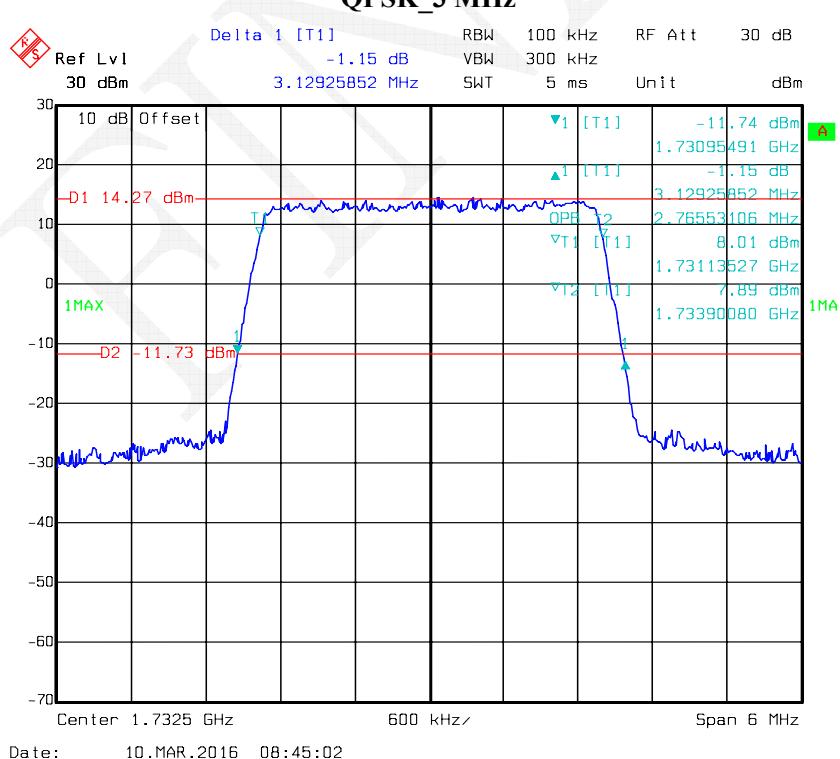
16QAM_15 MHz

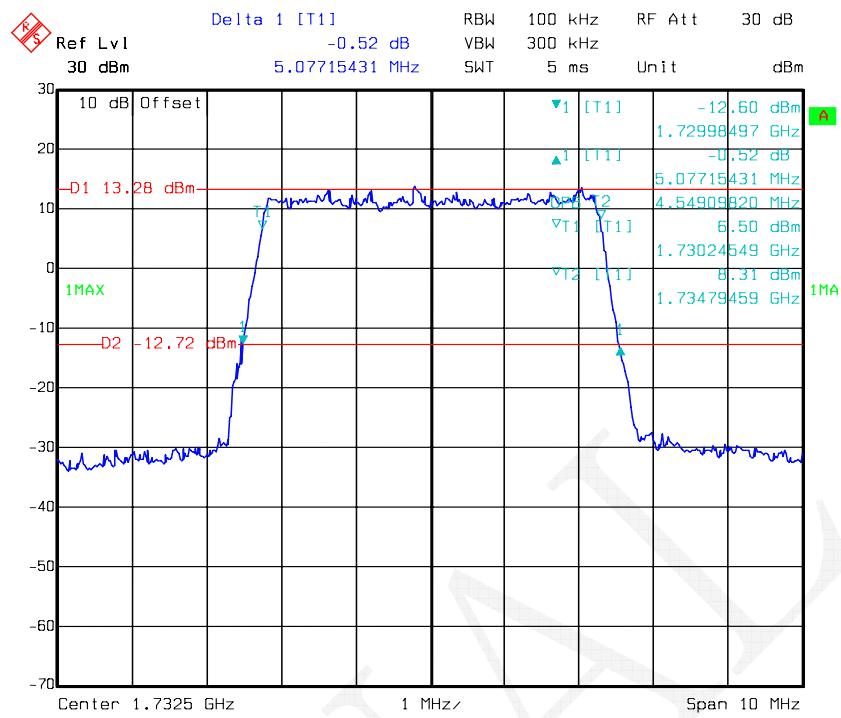
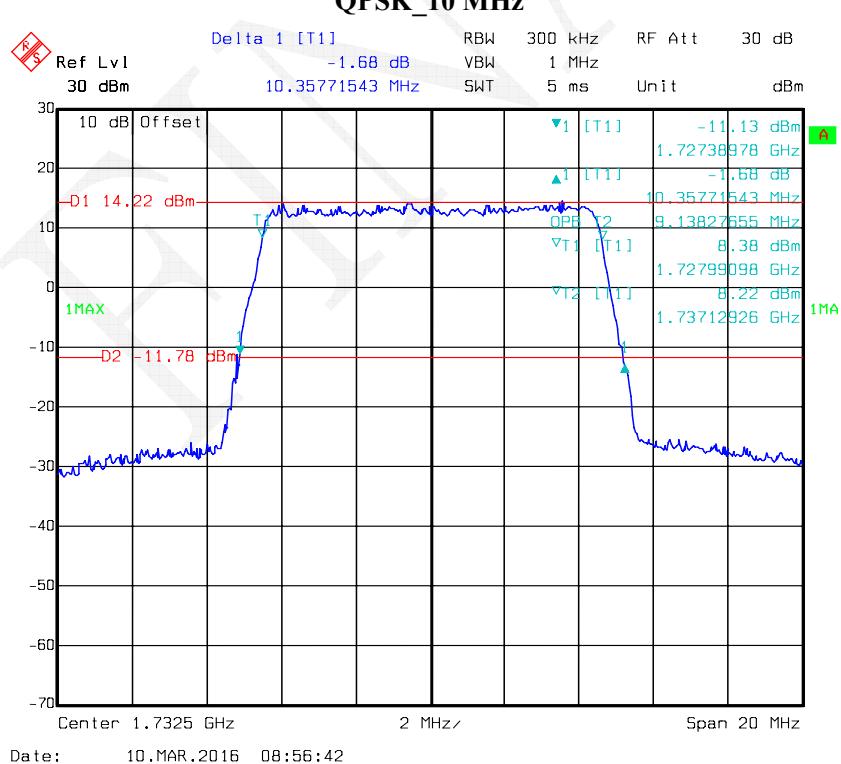
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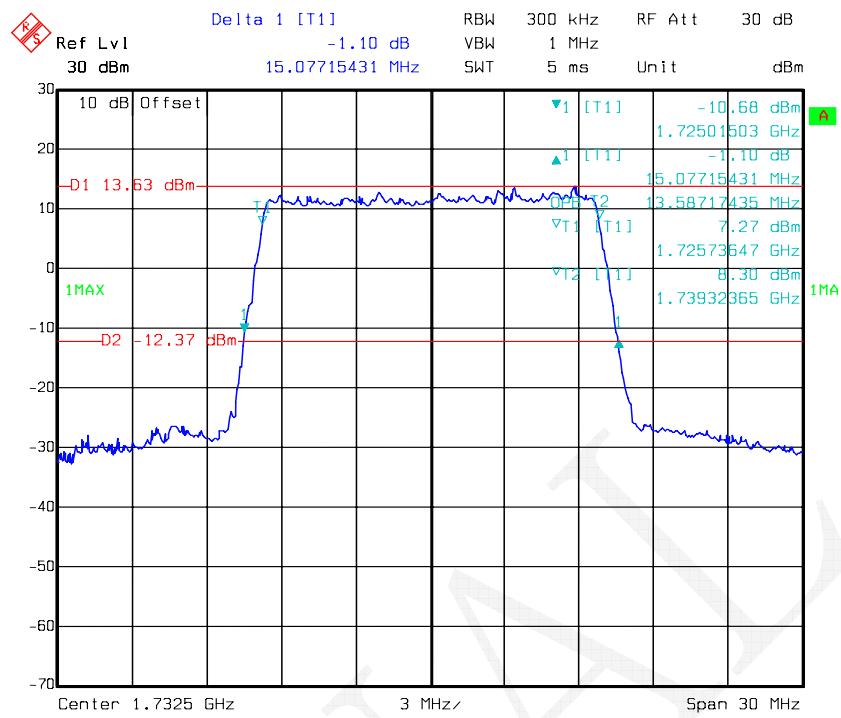
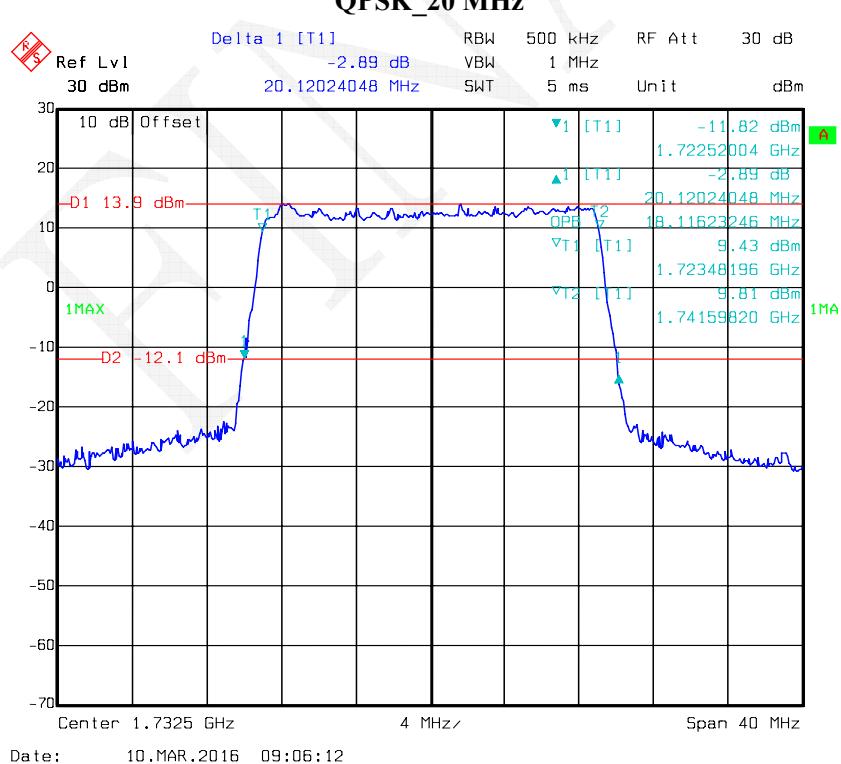
16QAM_20 MHz

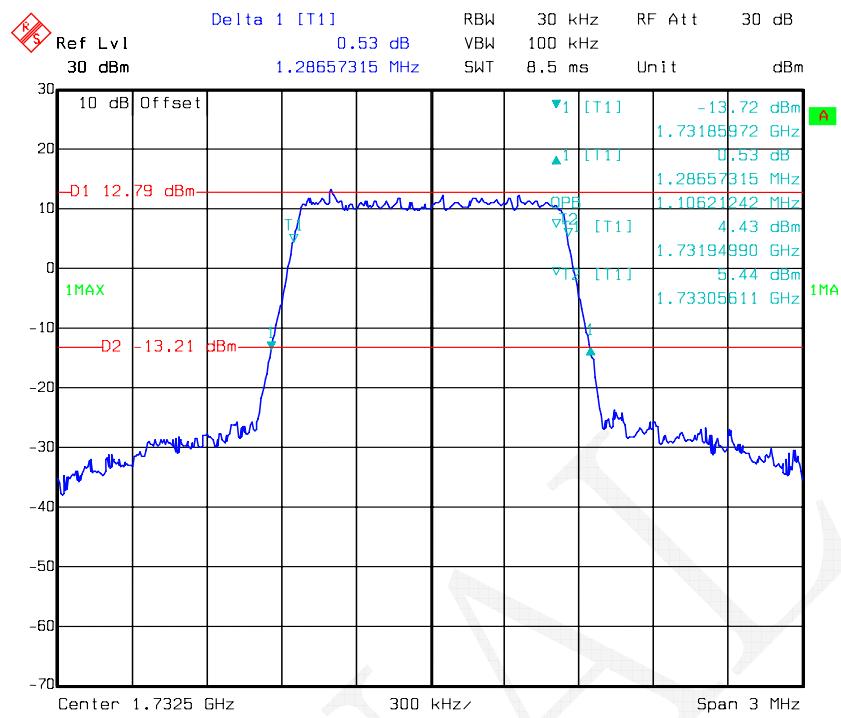
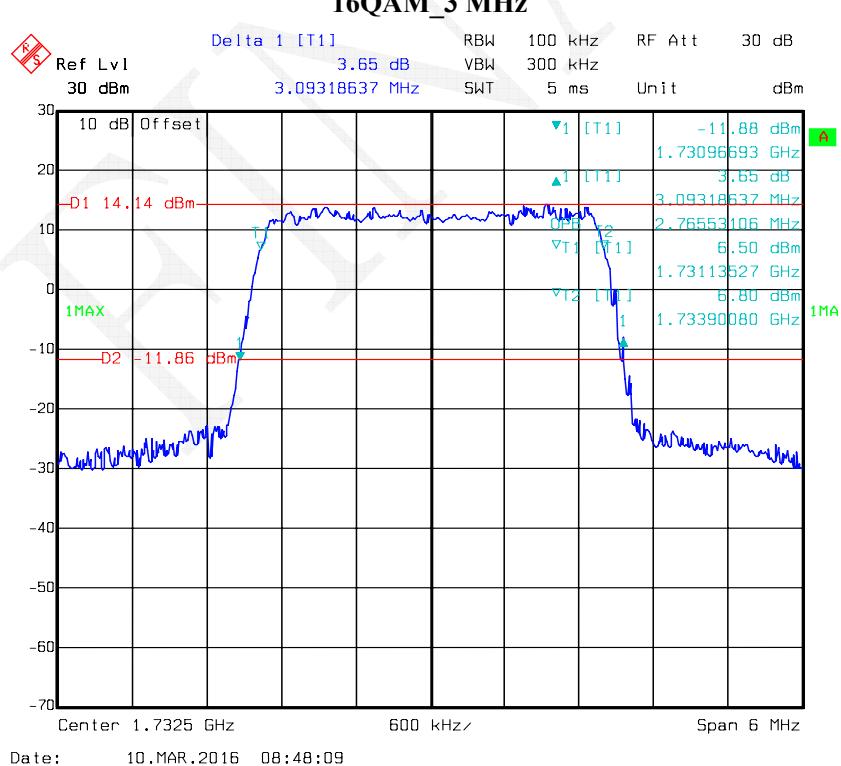
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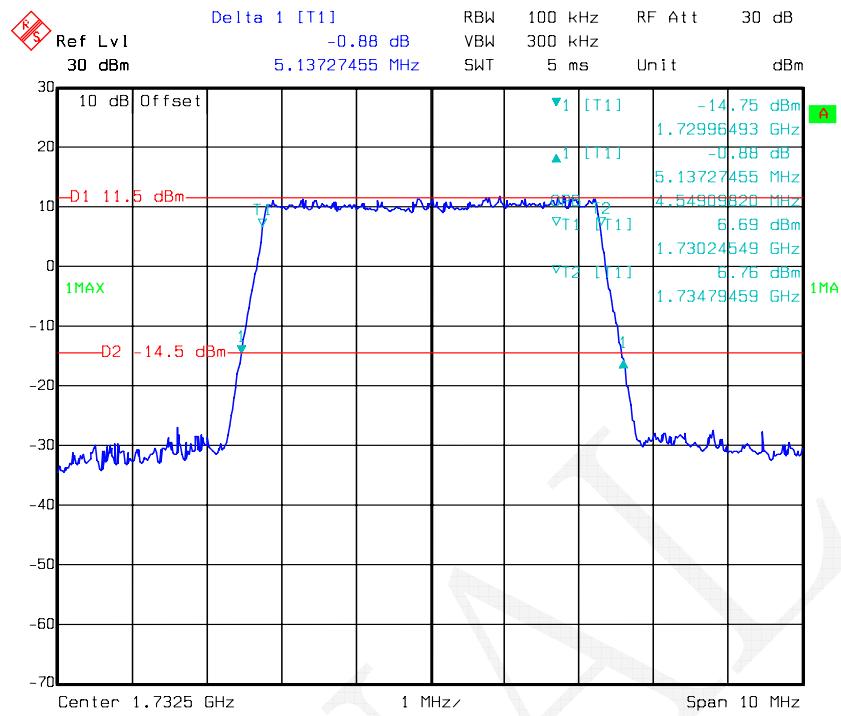
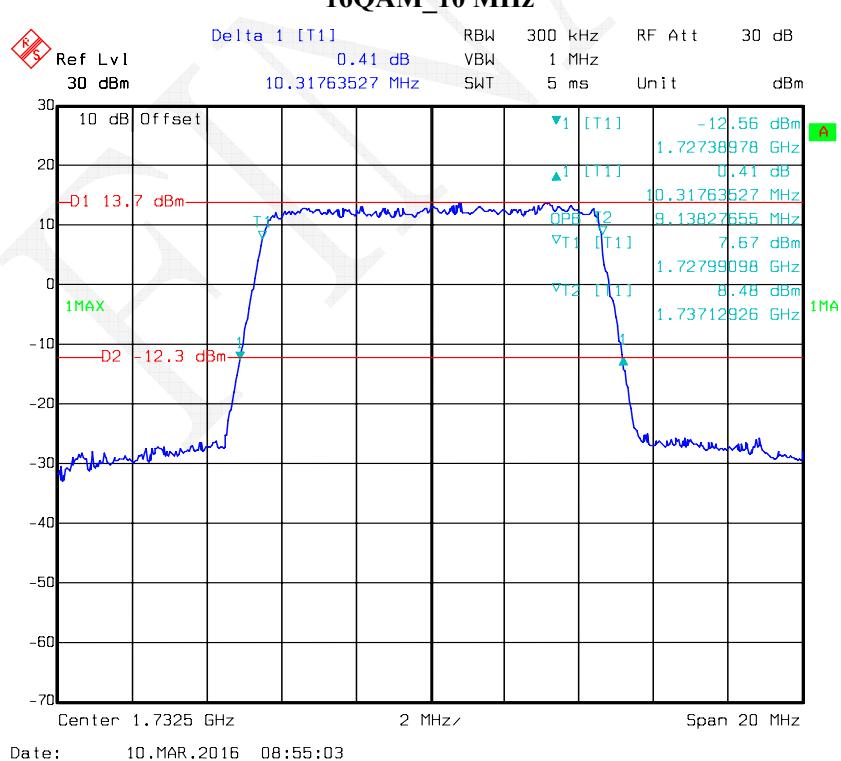
LTE Band IV

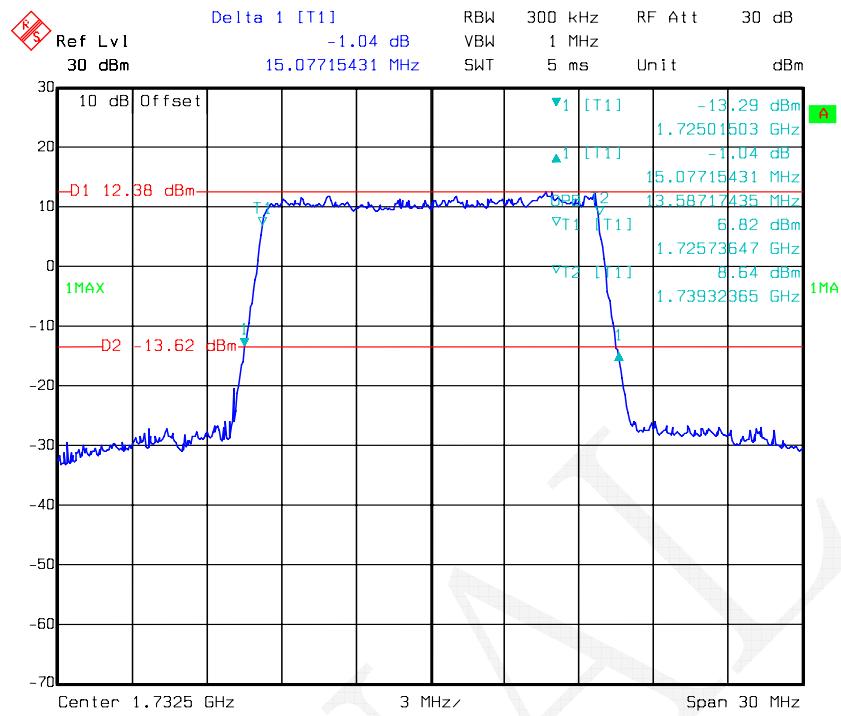
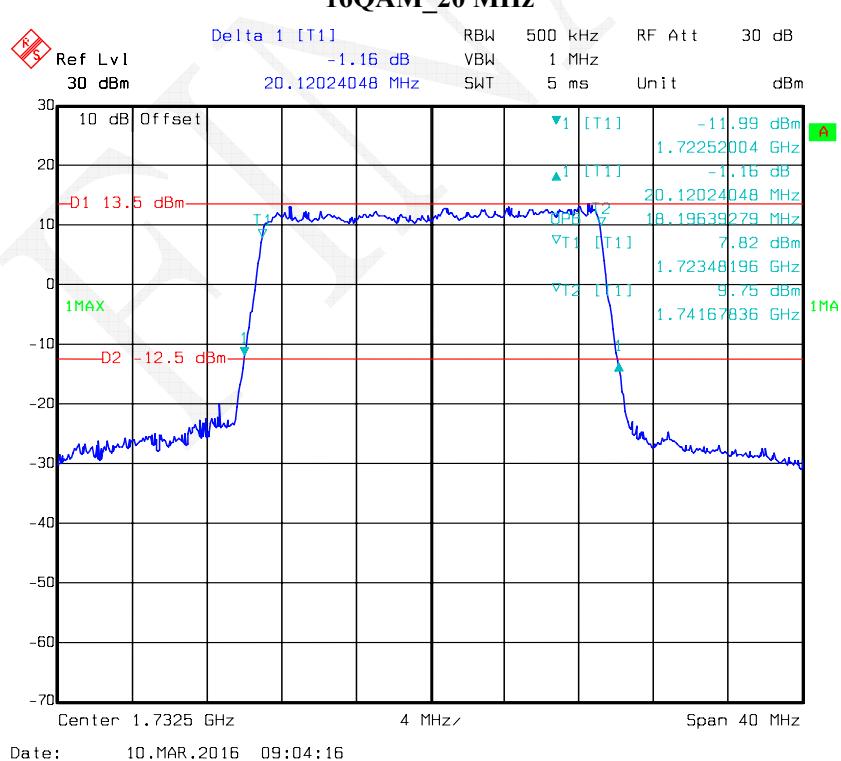
QPSK_1.4 MHz**QPSK_3 MHz**

QPSK_5 MHz**QPSK_10 MHz**

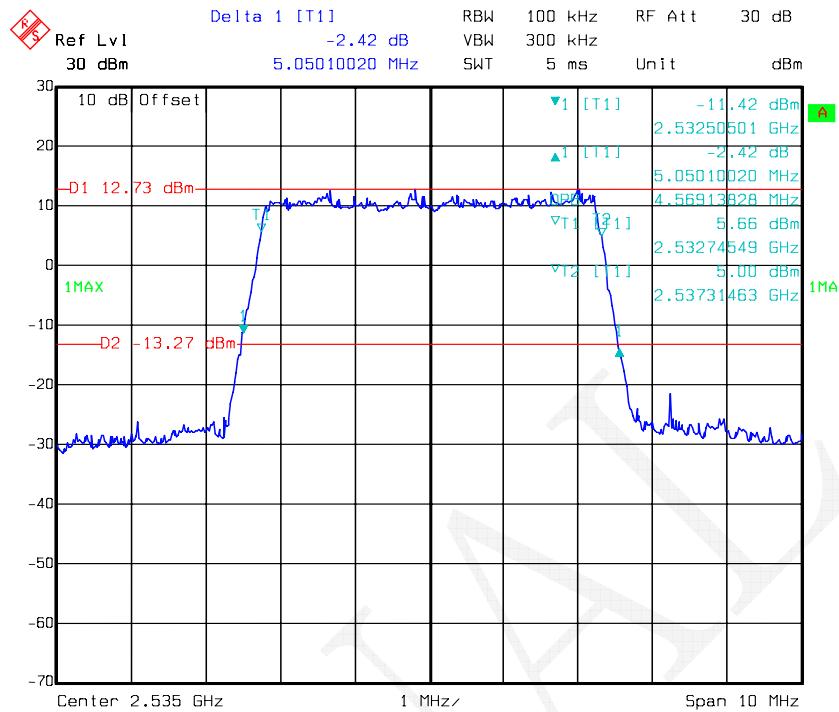
QPSK_15 MHz**QPSK_20 MHz**

16QAM_1.4 MHz**16QAM_3 MHz**

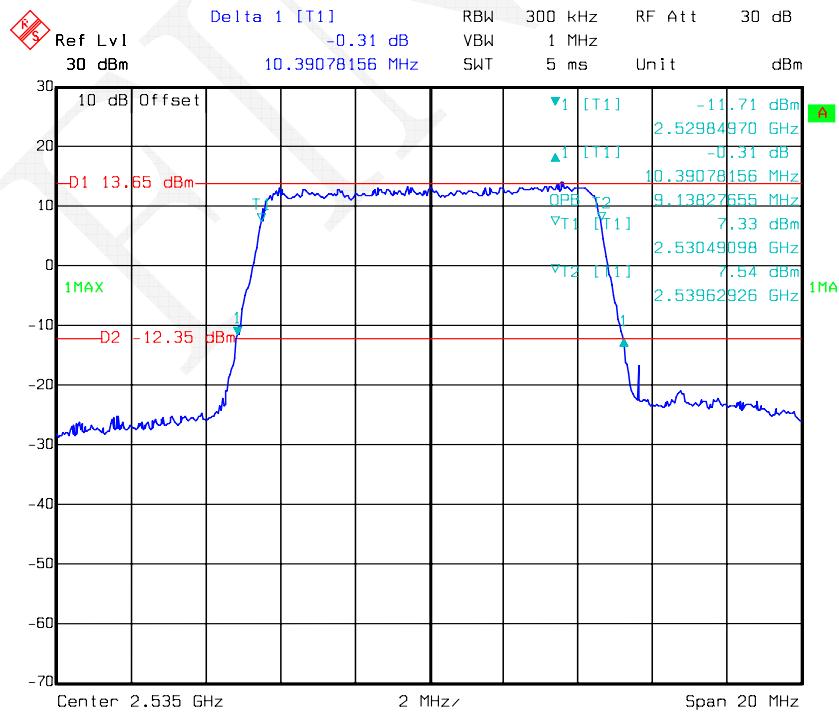
16QAM_5 MHz**16QAM_10 MHz**

16QAM_15 MHz**16QAM_20 MHz**

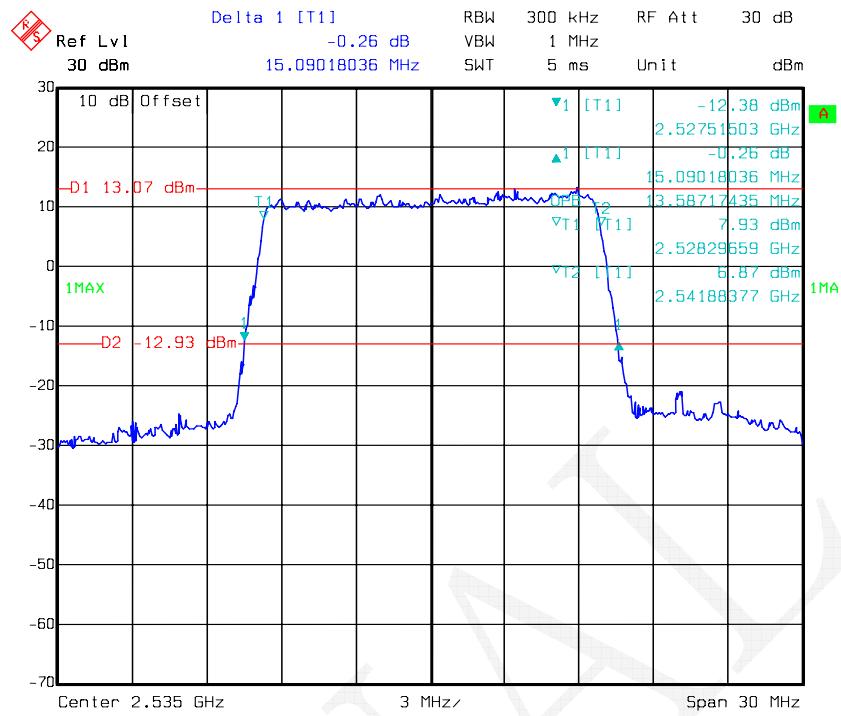
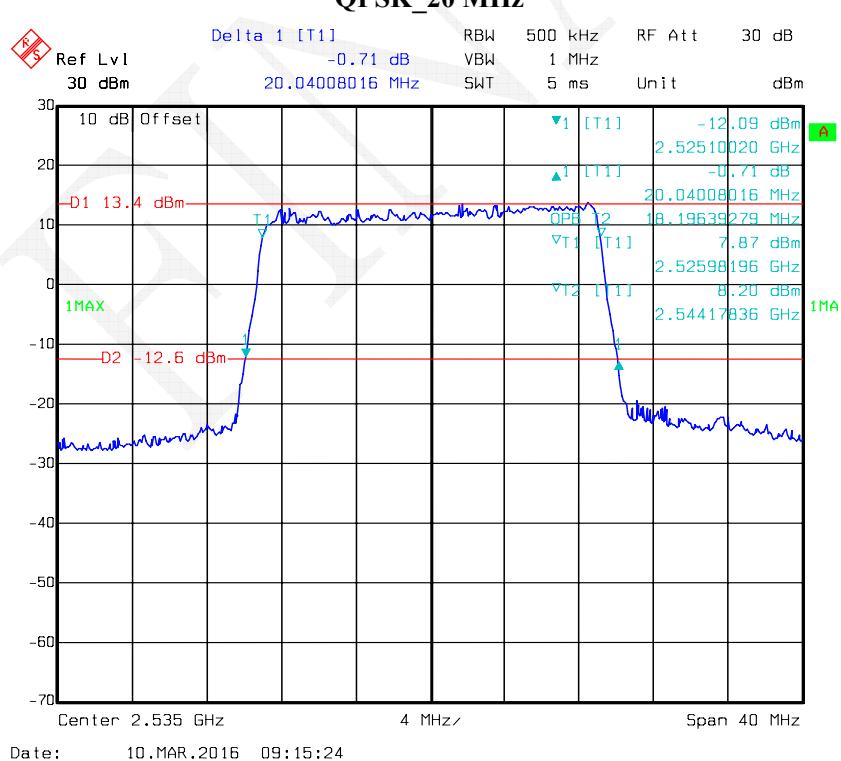
LTE Band VII

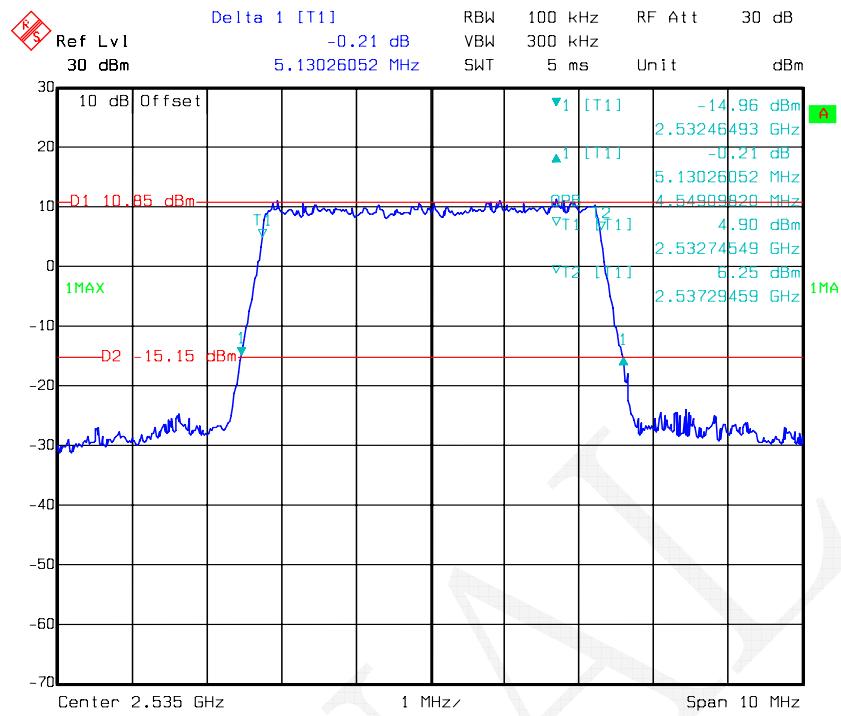
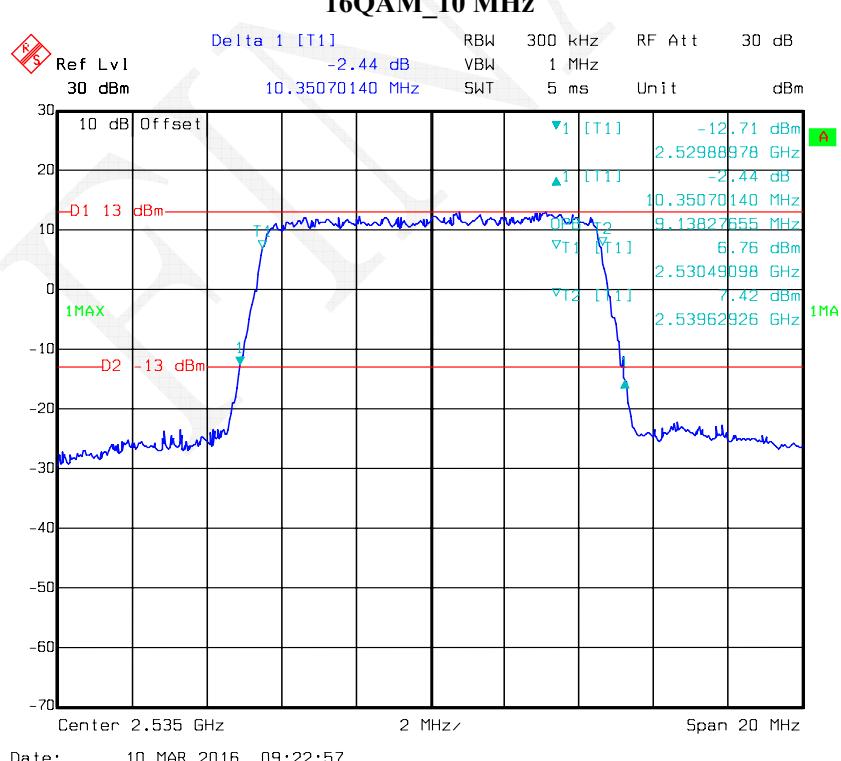
QPSK_5 MHz

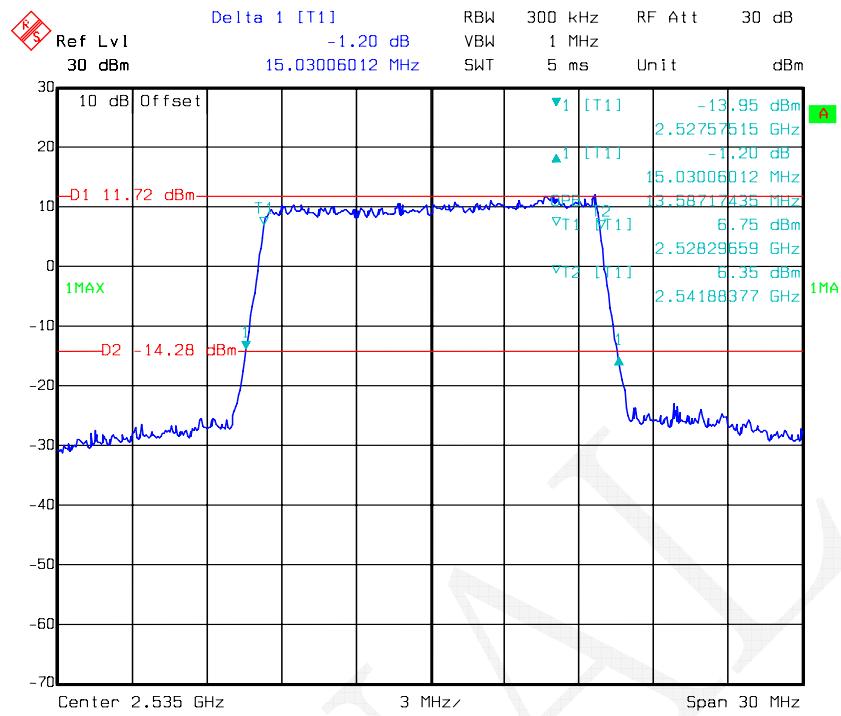
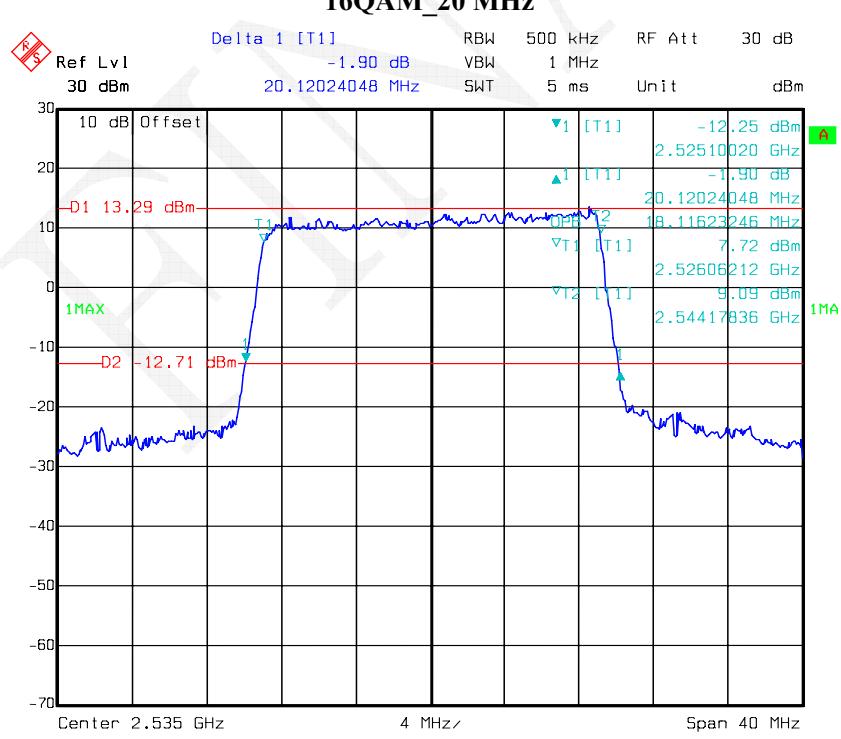
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QPSK_10 MHz

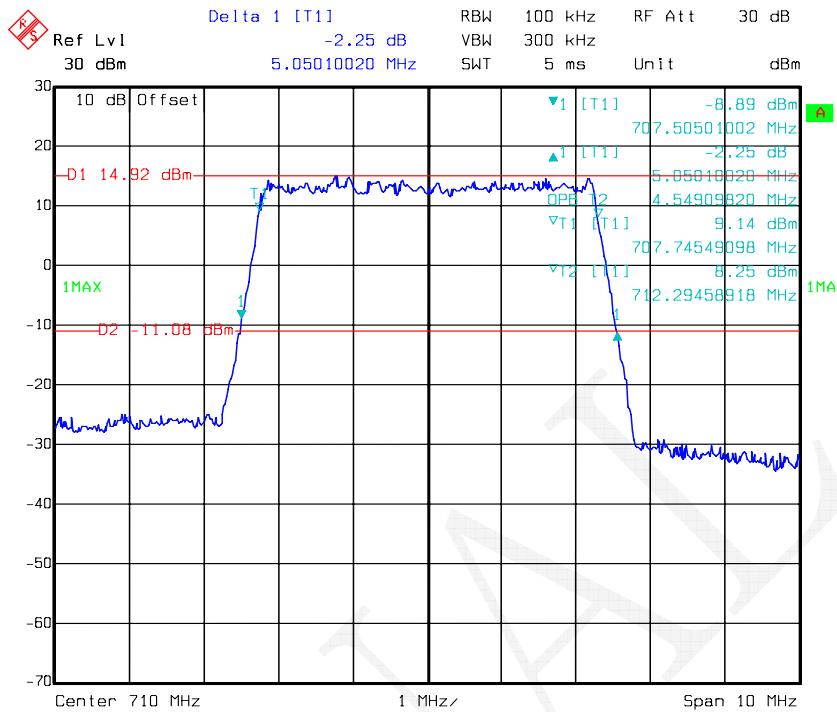
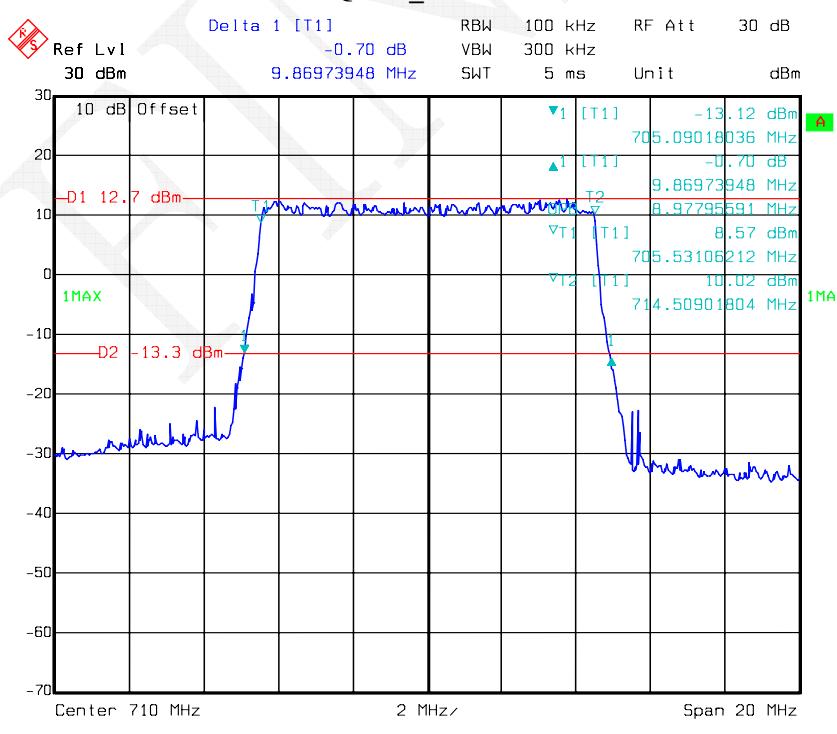
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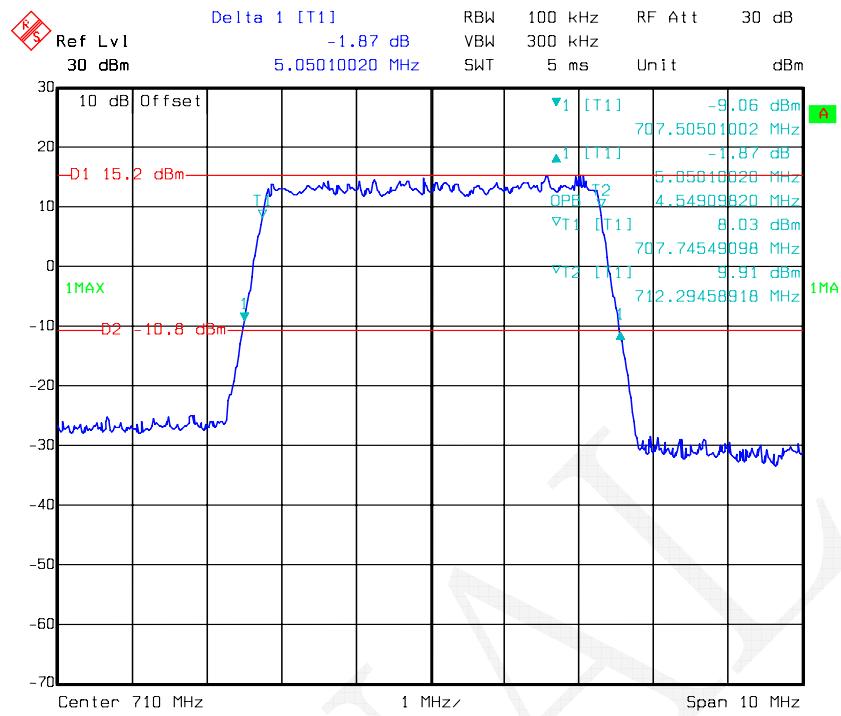
QPSK_15 MHz**QPSK_20 MHz**

16QAM_5 MHz**16QAM_10 MHz**

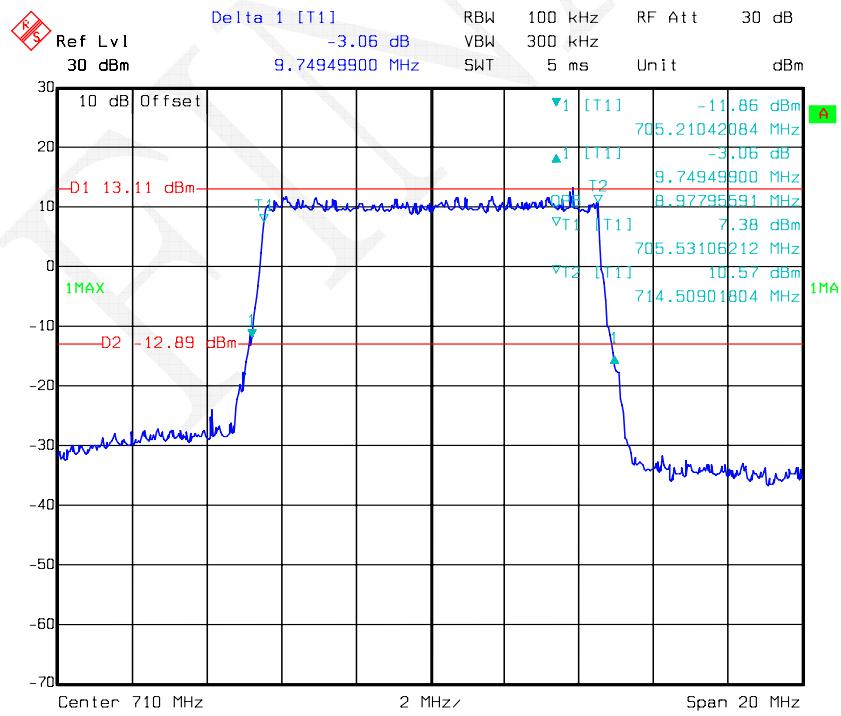
16QAM_15 MHz**16QAM_20 MHz**

LTE Band 17

QPSK_5 MHz**QPSK_10 MHz**

16QAM_5 MHz

Date: 10.MAR.2016 09:30:57

16QAM_10 MHz

Date: 10.MAR.2016 09:33:16

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

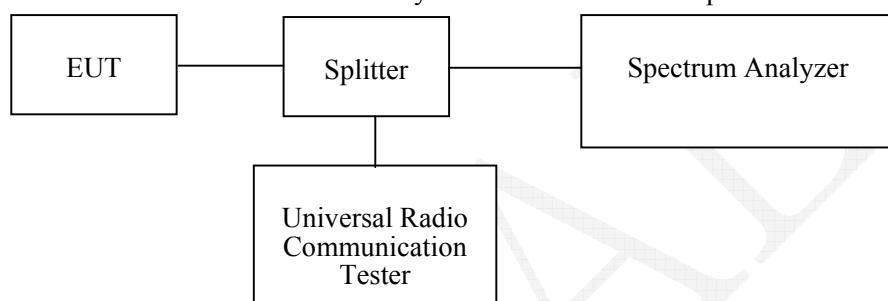
Applicable Standard

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

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

Test Procedure

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



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSP 38	100478	2015-05-09	2016-05-09
R&S	Spectrum Analyzer	FSEM	831259/019	2015-05-09	2016-05-09
R&S	Universal Radio Communication Tester	CMU200	109 038	2015-05-09	2016-05-09
R&S	Wideband Radio Communication Tester	CMW500	106891	2015-11-23	2016-11-23
N/A	Coaxial Cable	0.1m	N/A	2015-05-06	2016-05-06
E-Microwave	DC Blocking	EMDCB-00036	OE01201047	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 Spliter	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).

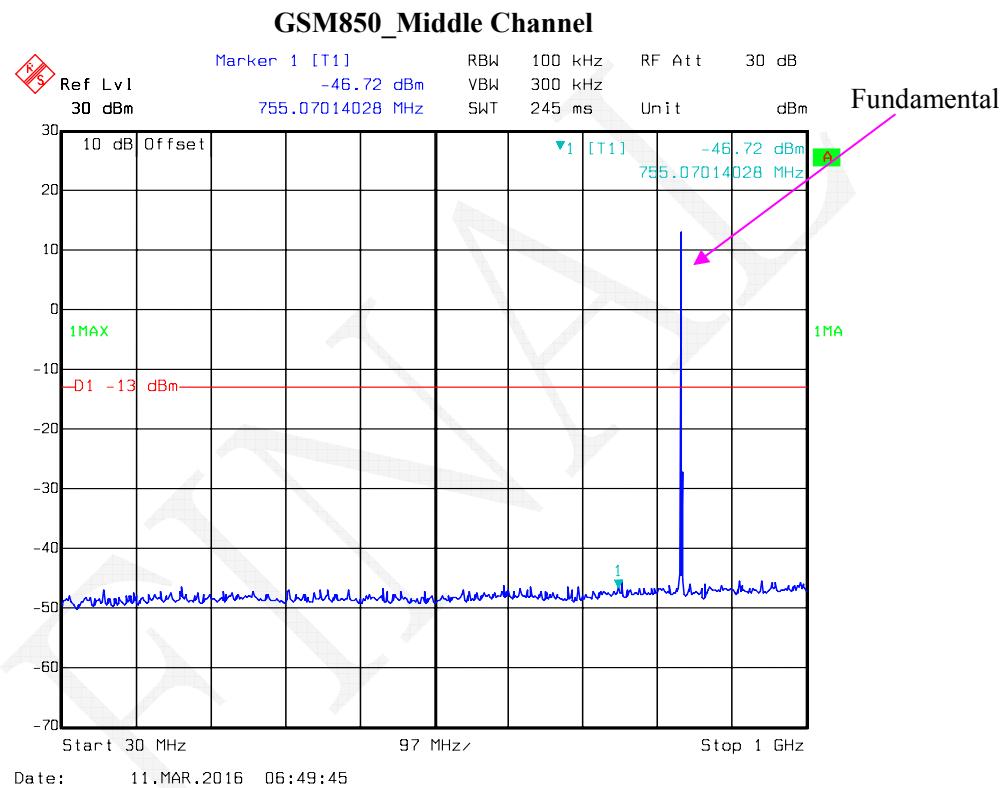
Test Data

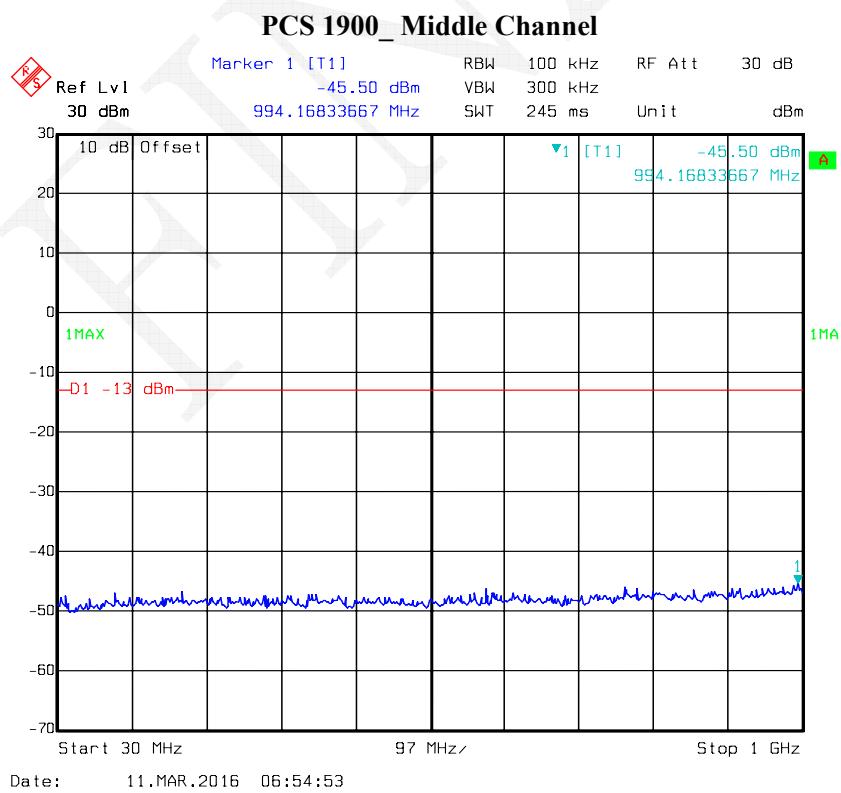
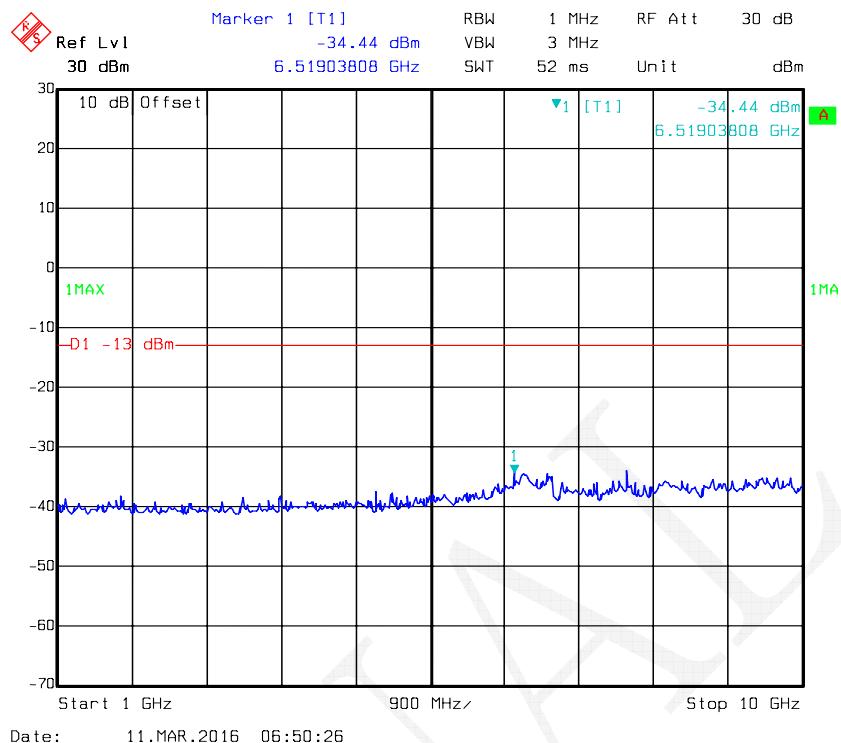
Environmental Conditions

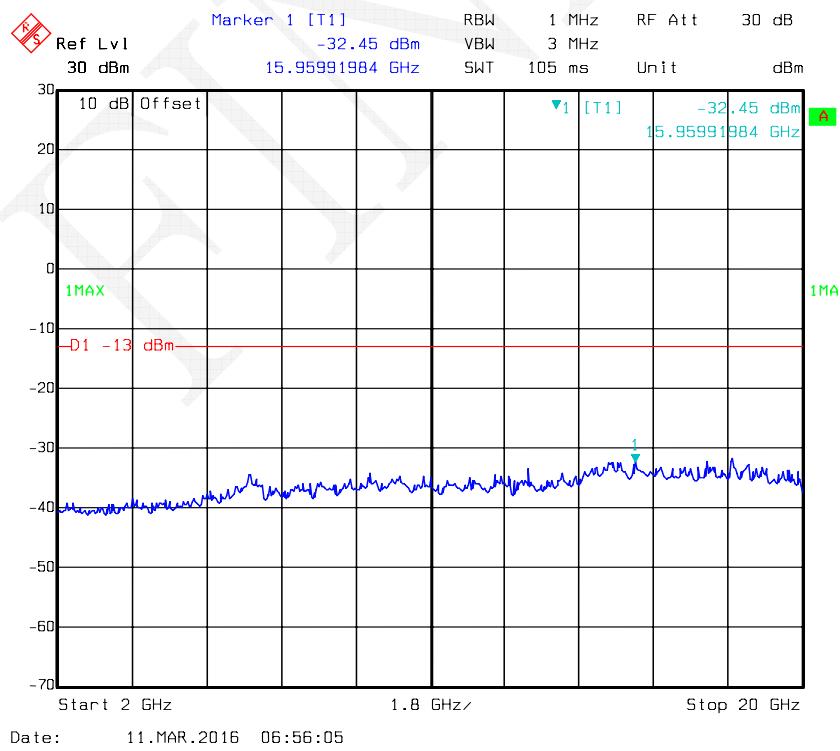
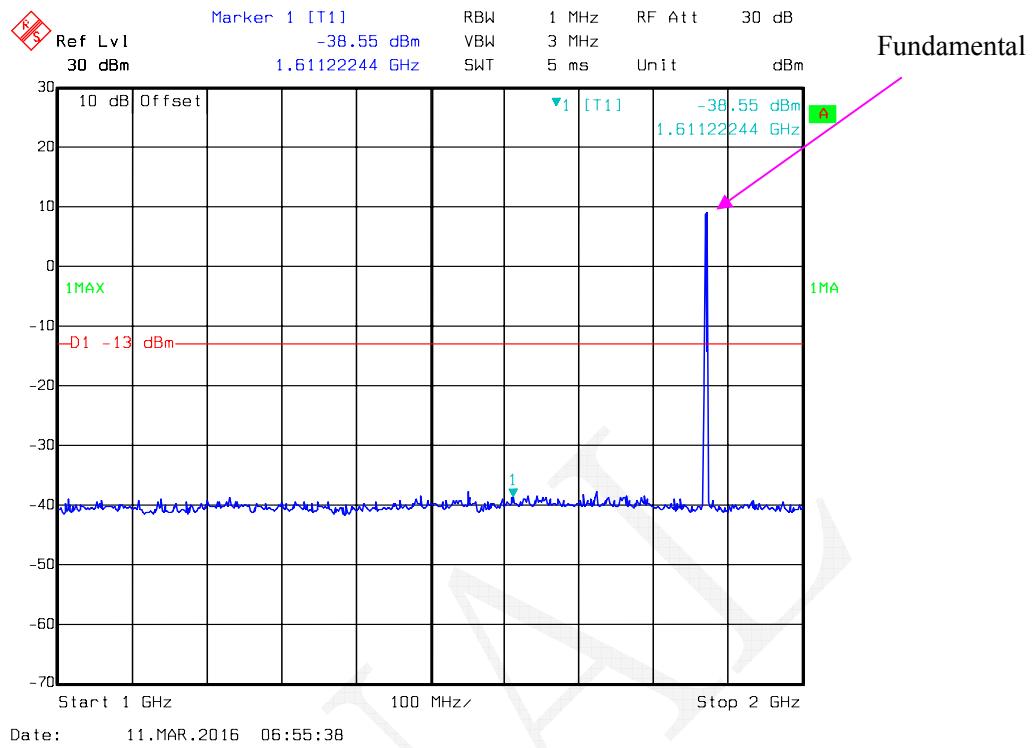
Temperature:	22.8 ~ 24.3 °C
Relative Humidity:	37 ~ 48 %
ATM Pressure:	101.2~ 101.8 kPa

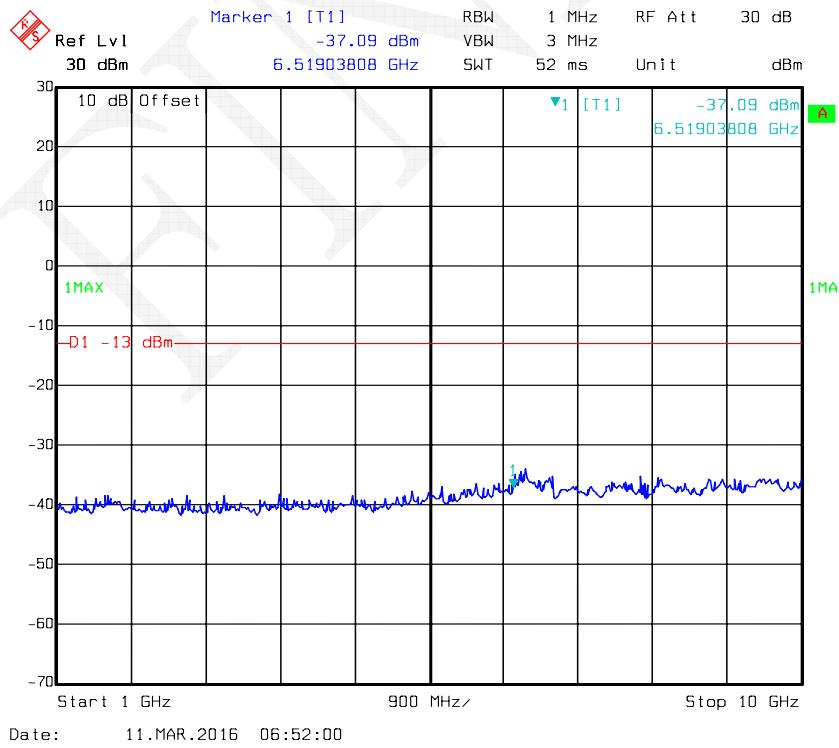
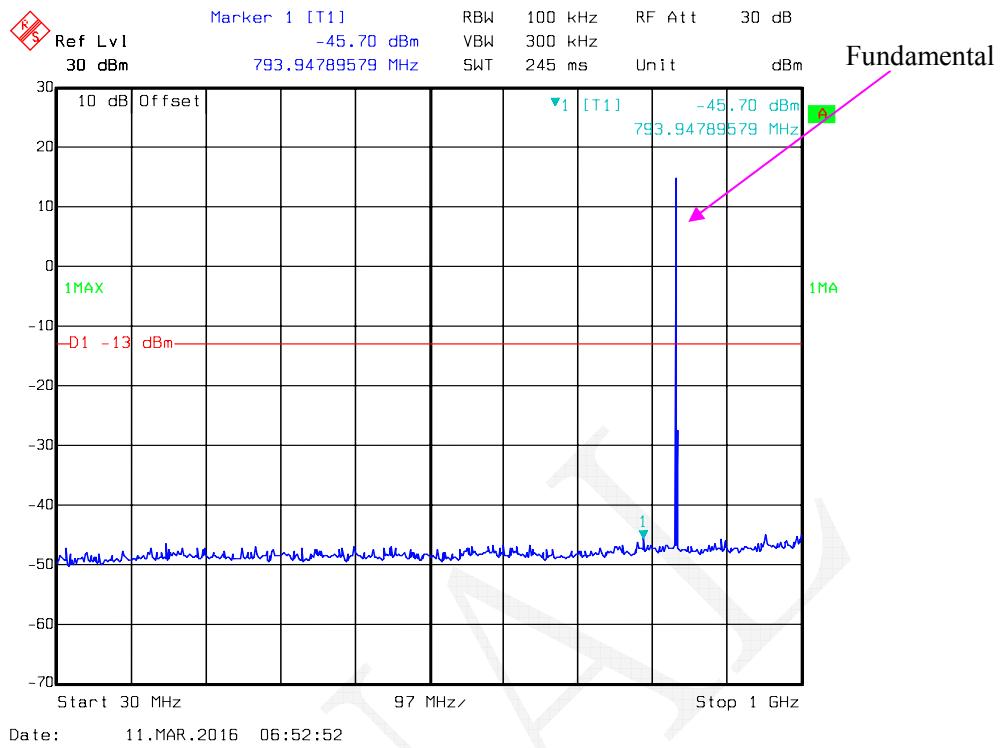
The testing was performed by Allen Qiao from 2016-03-10 to 2016-03-15.

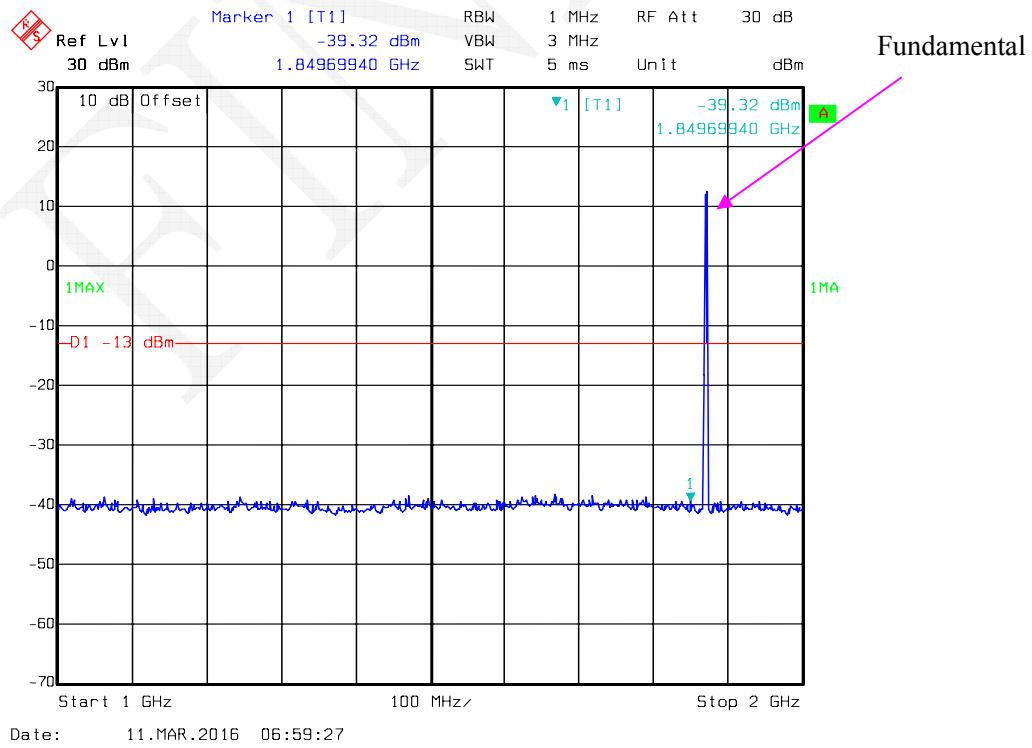
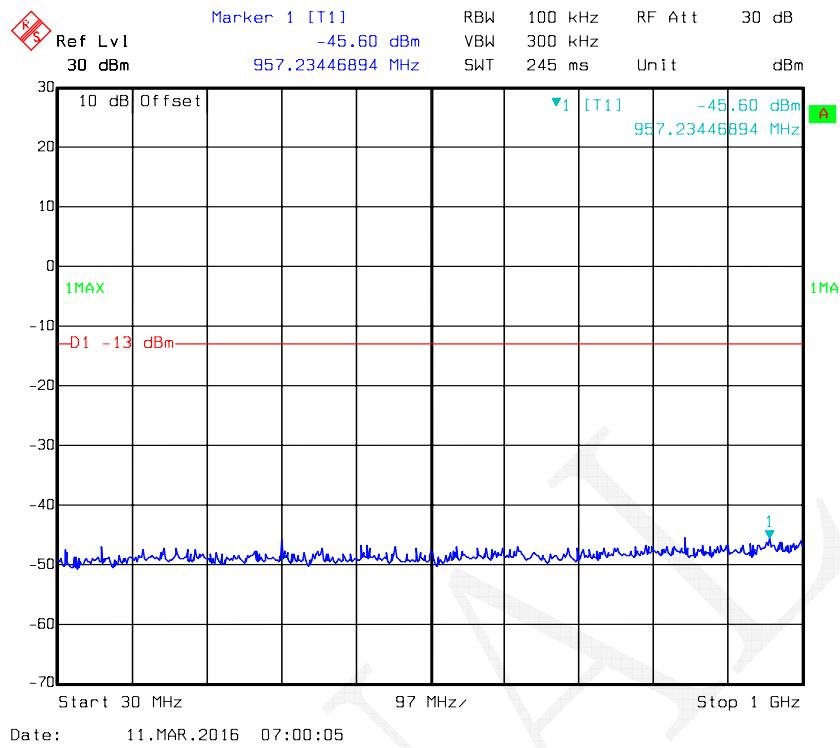
Please refer to the following plots.

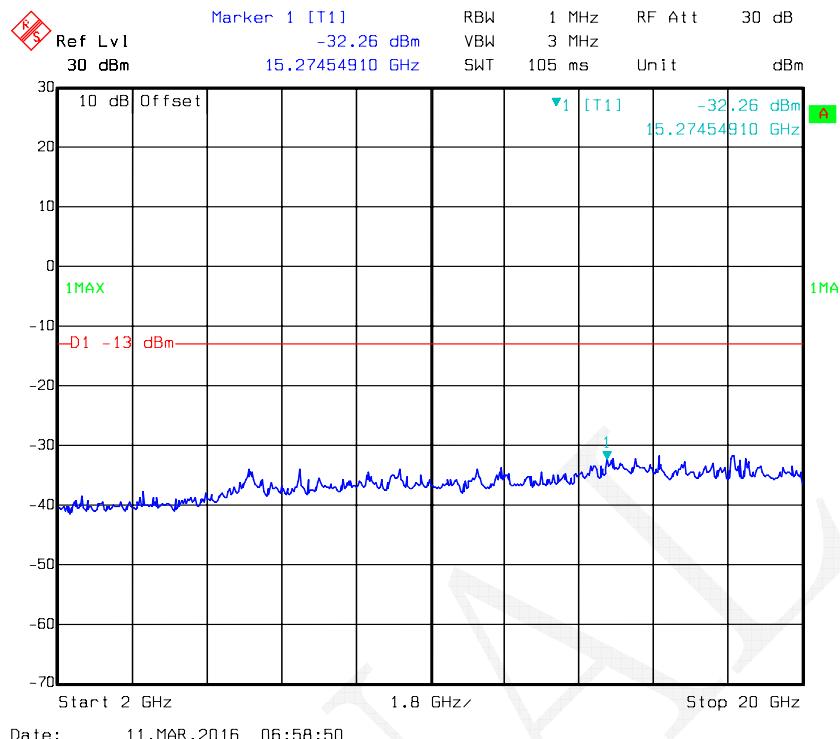
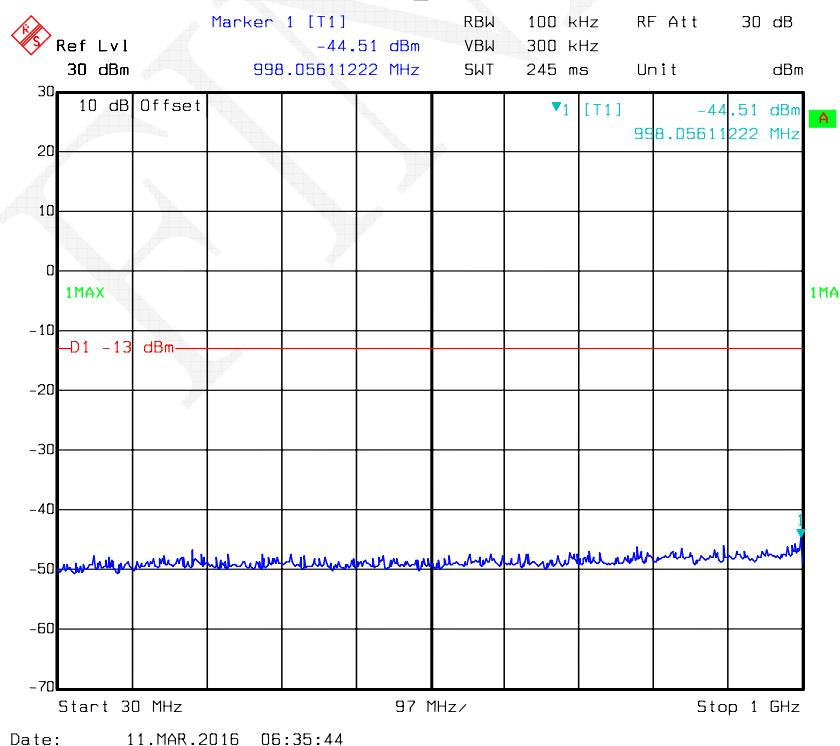


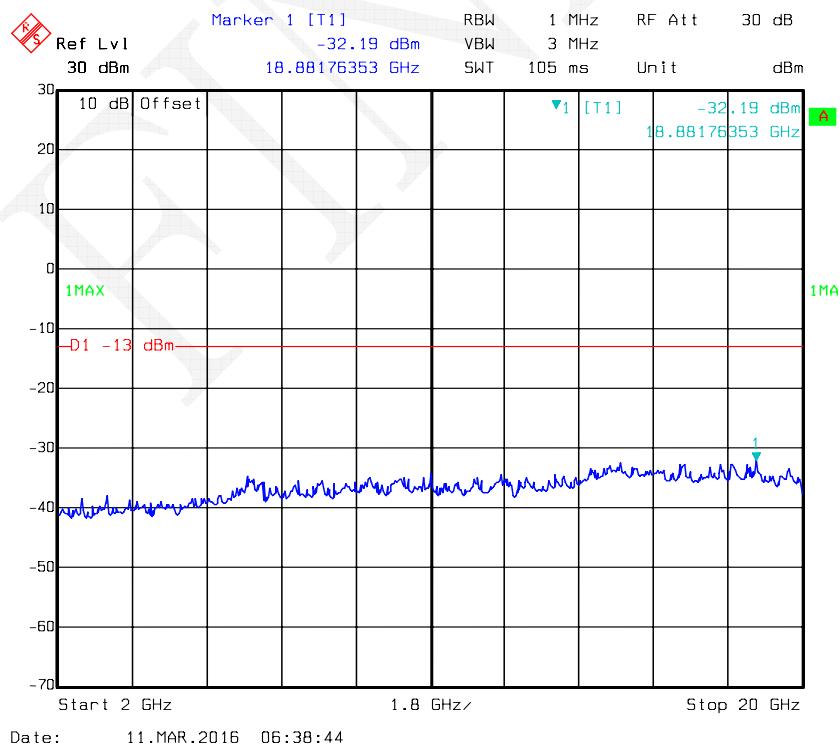
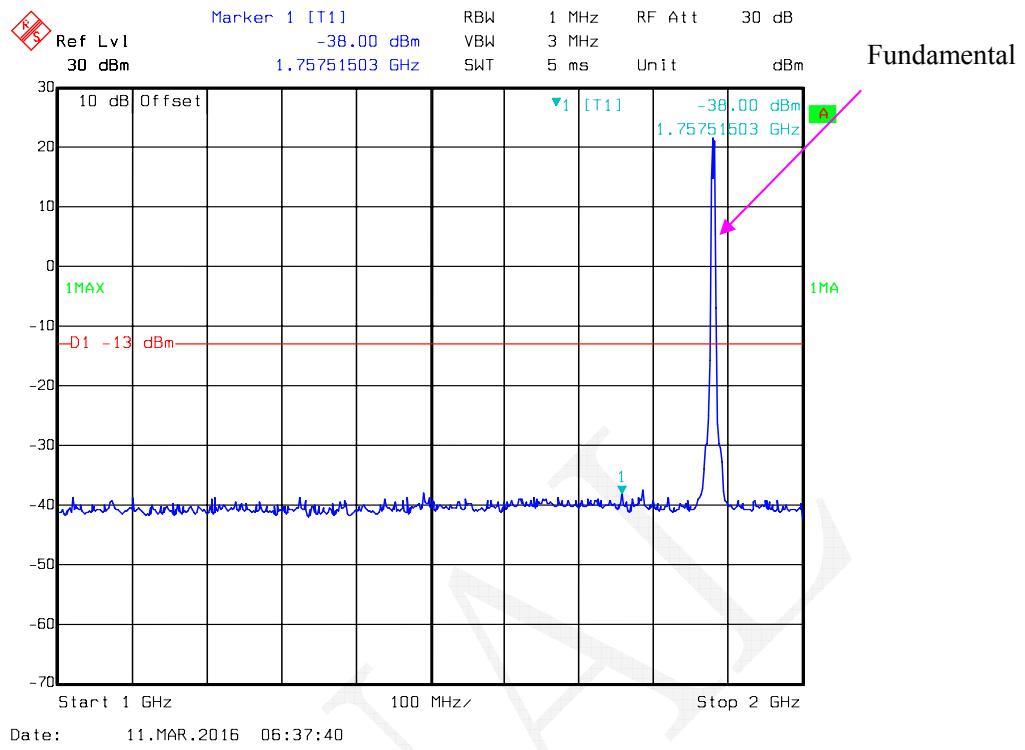


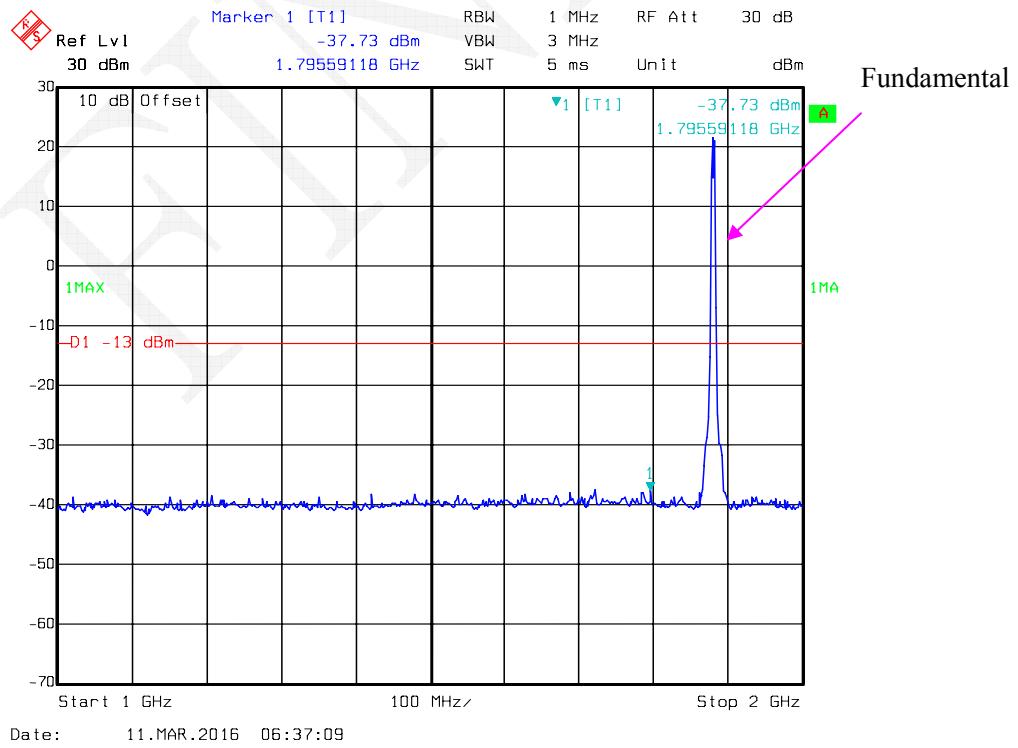
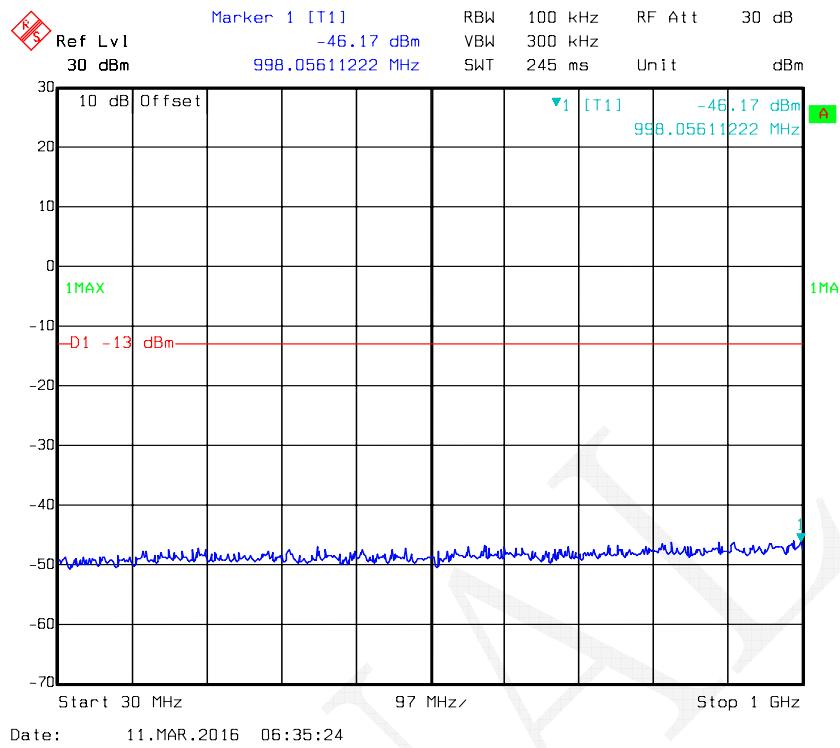


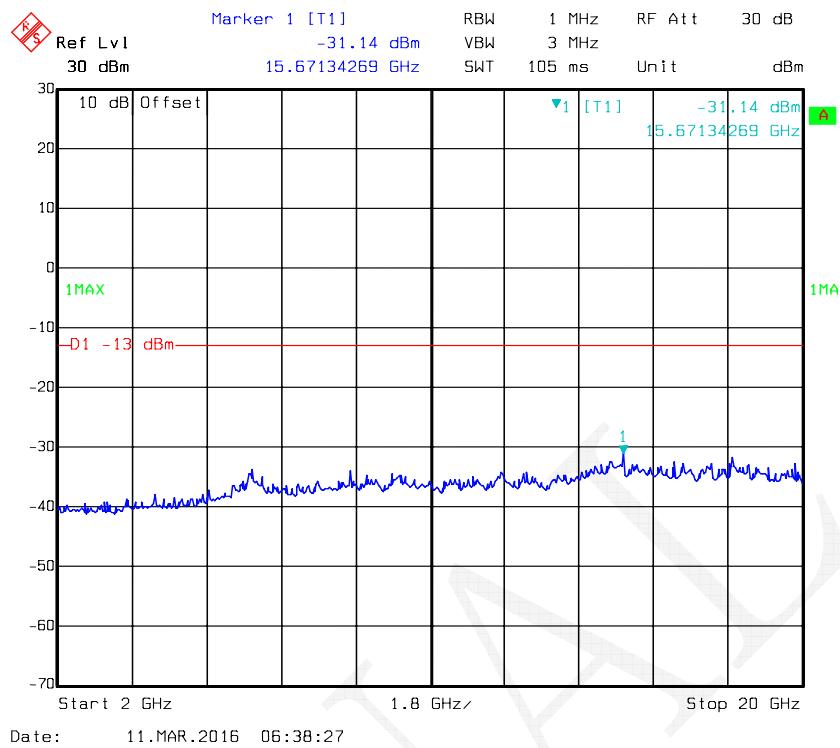
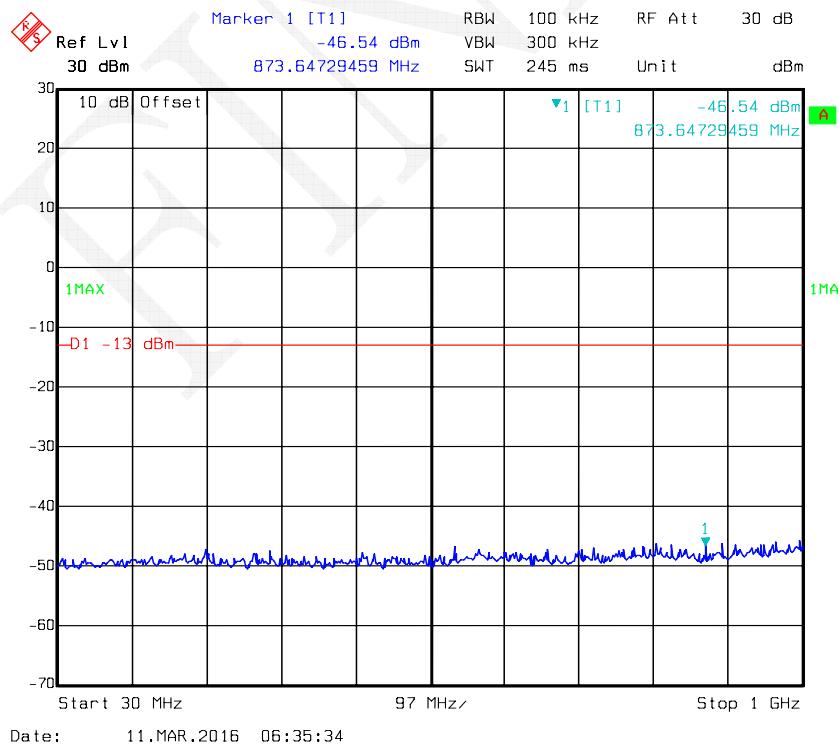
EDGE 850_Middle Channel

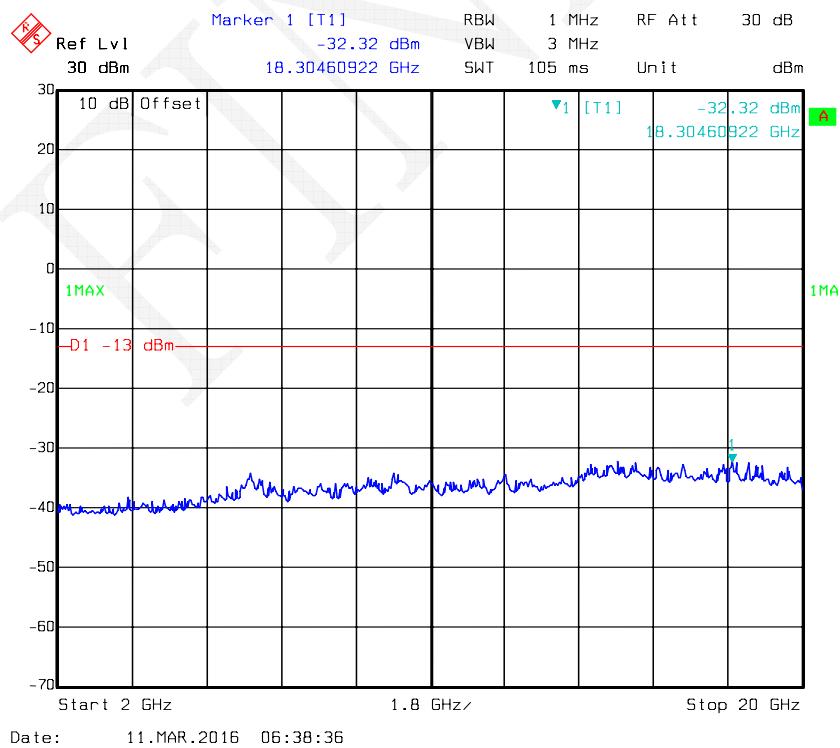
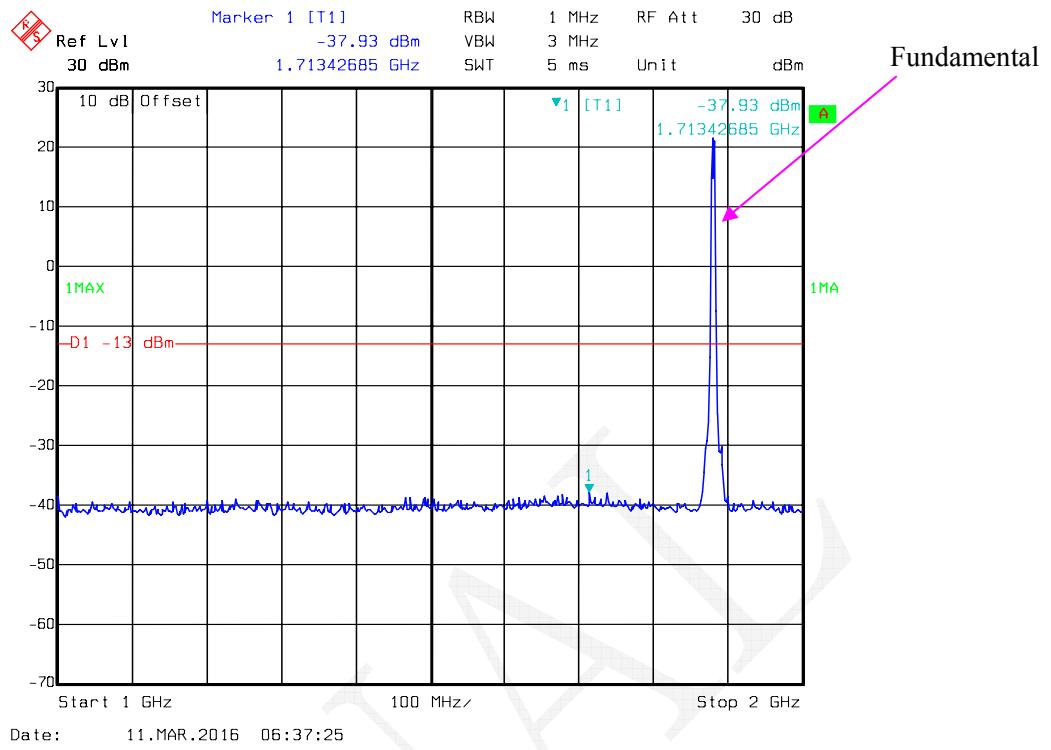
EDGE PCS 1900_Middle Channel

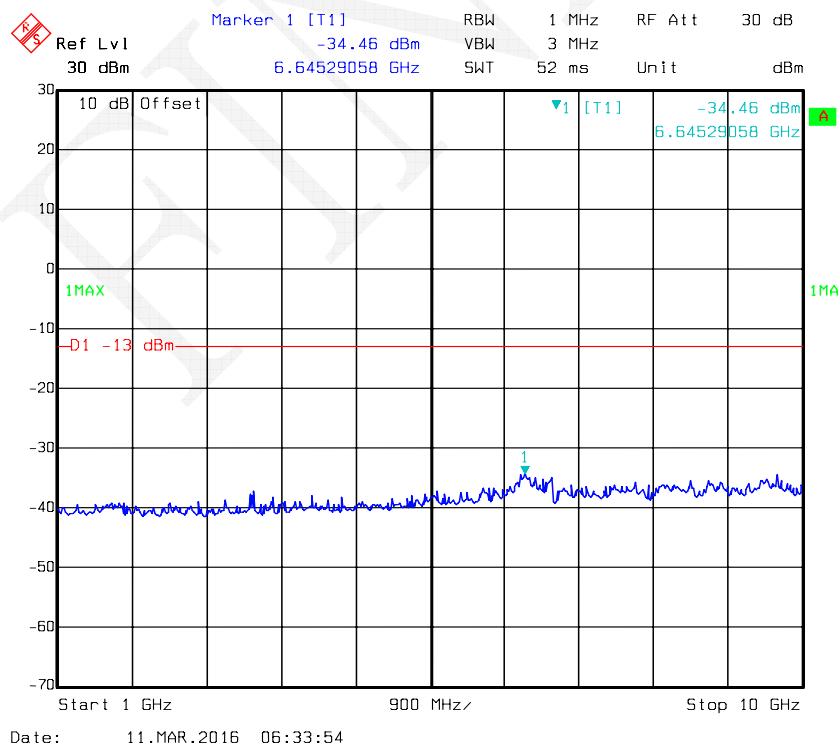
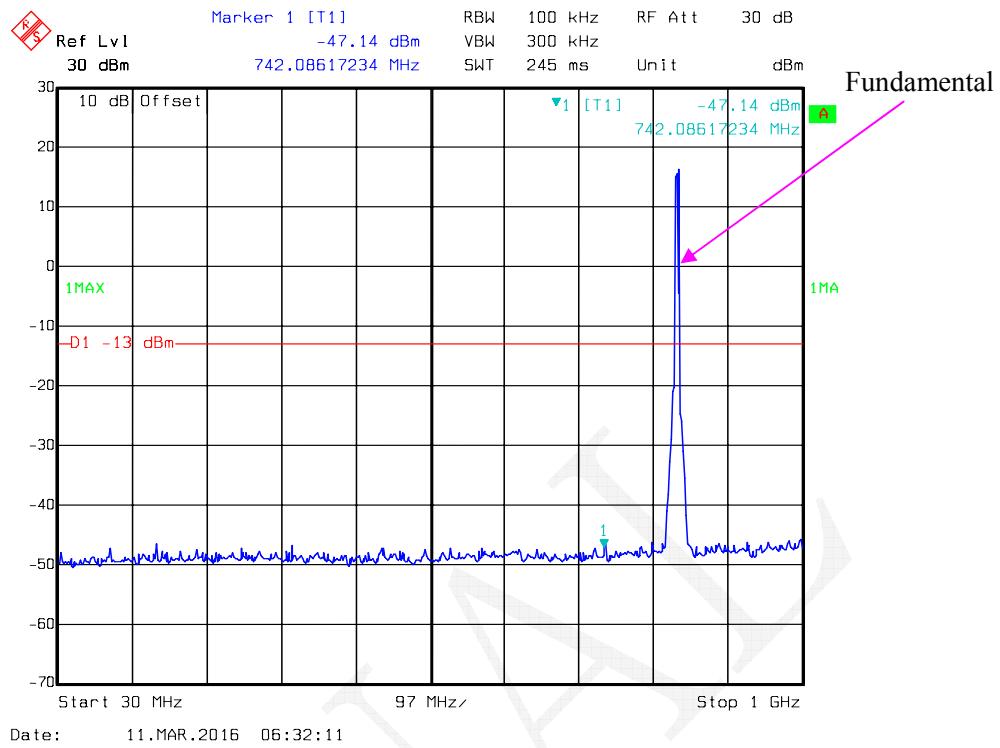
**REL99 Band II_ Middle Channel**

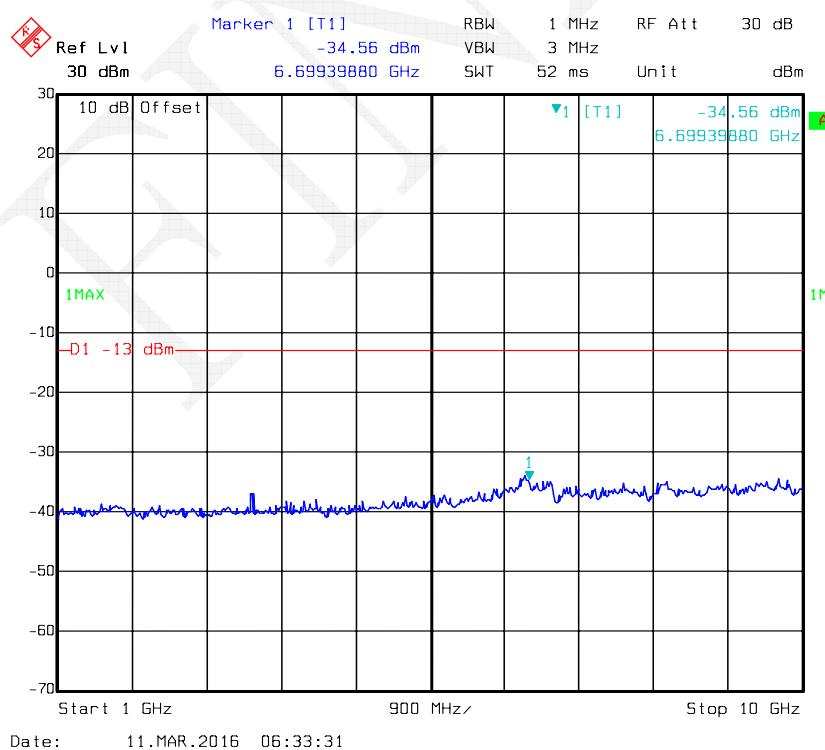
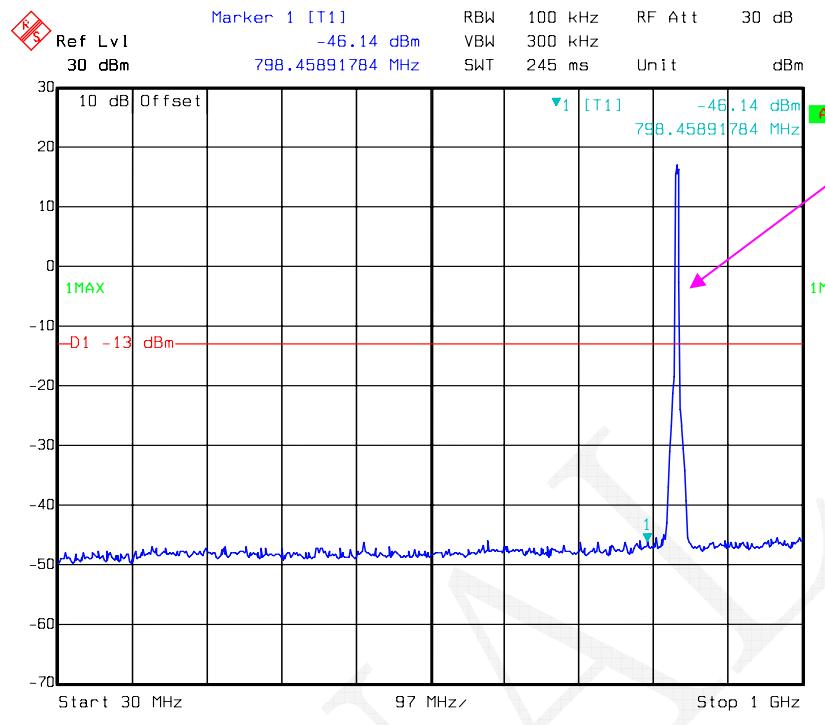


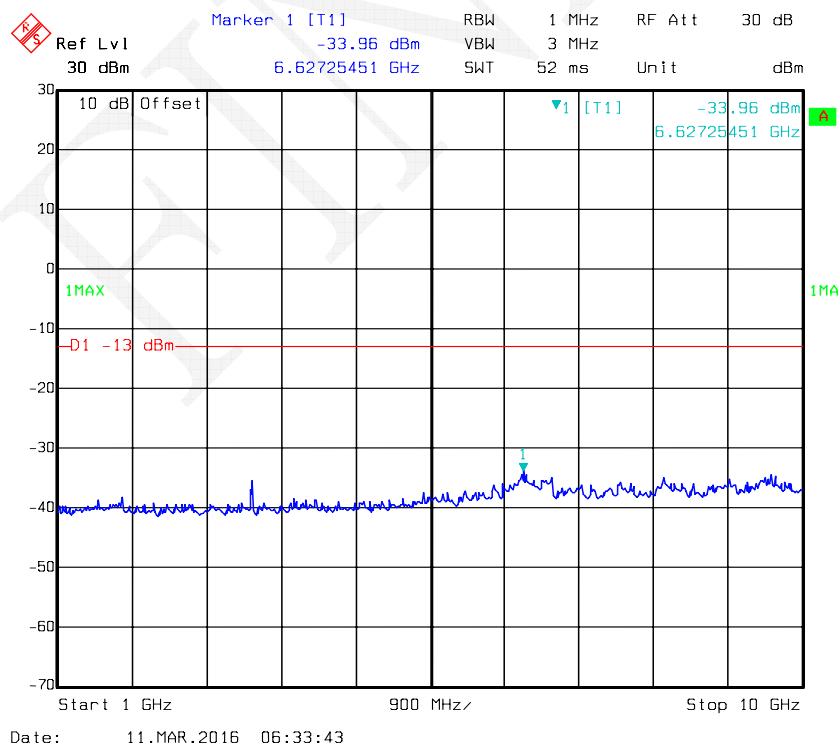
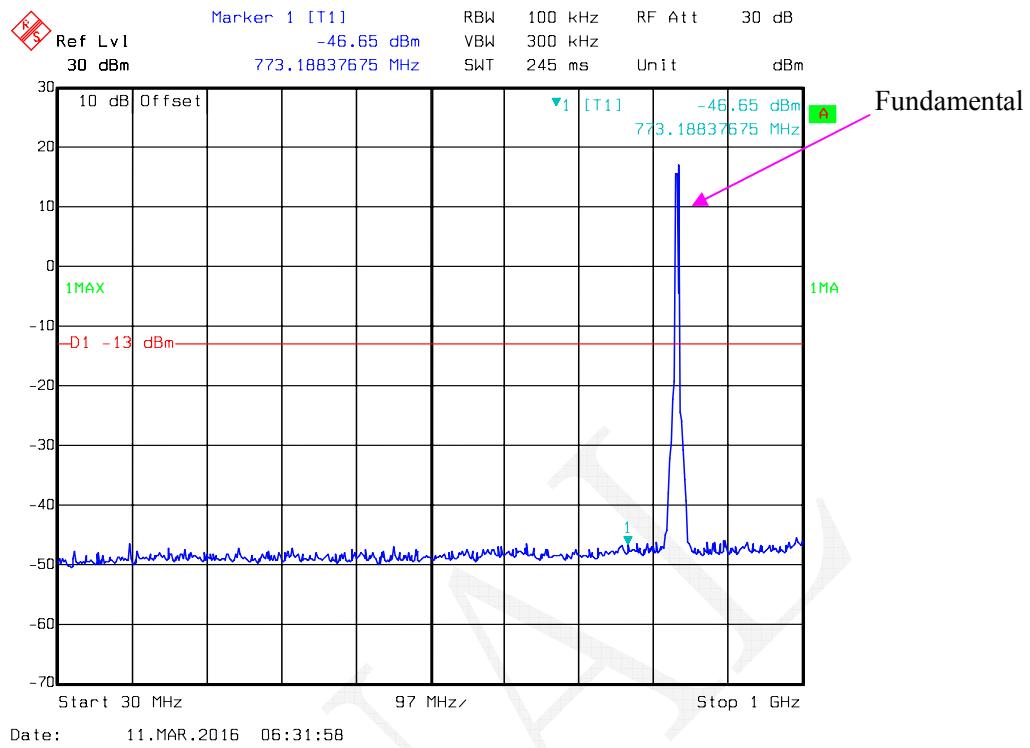
HSDPA Band II _ Middle Channel

**HSUPA Band II _ Middle Channel**

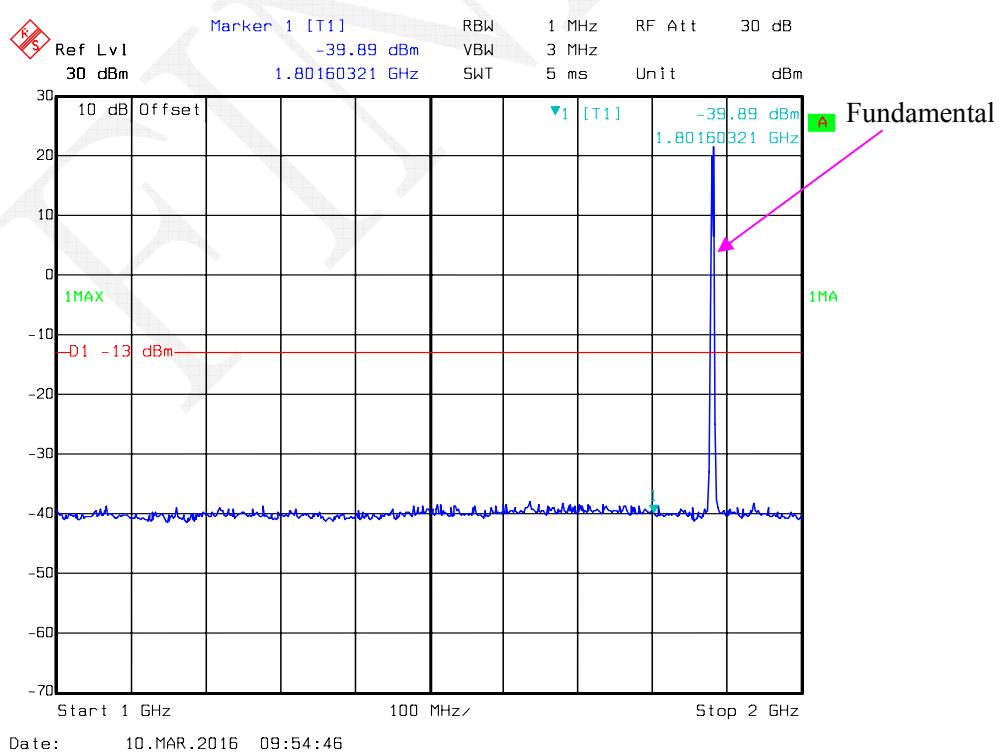
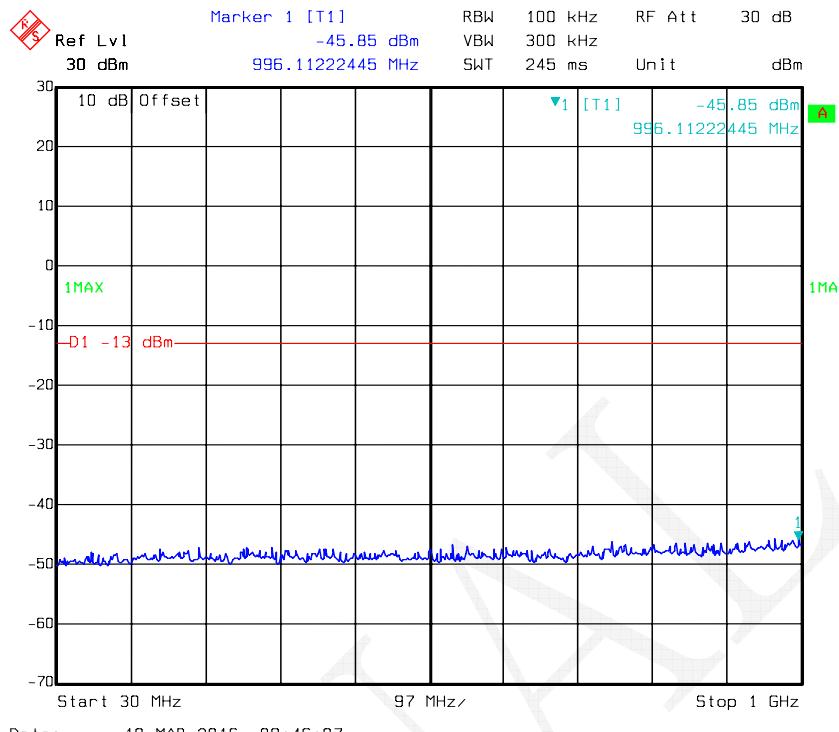


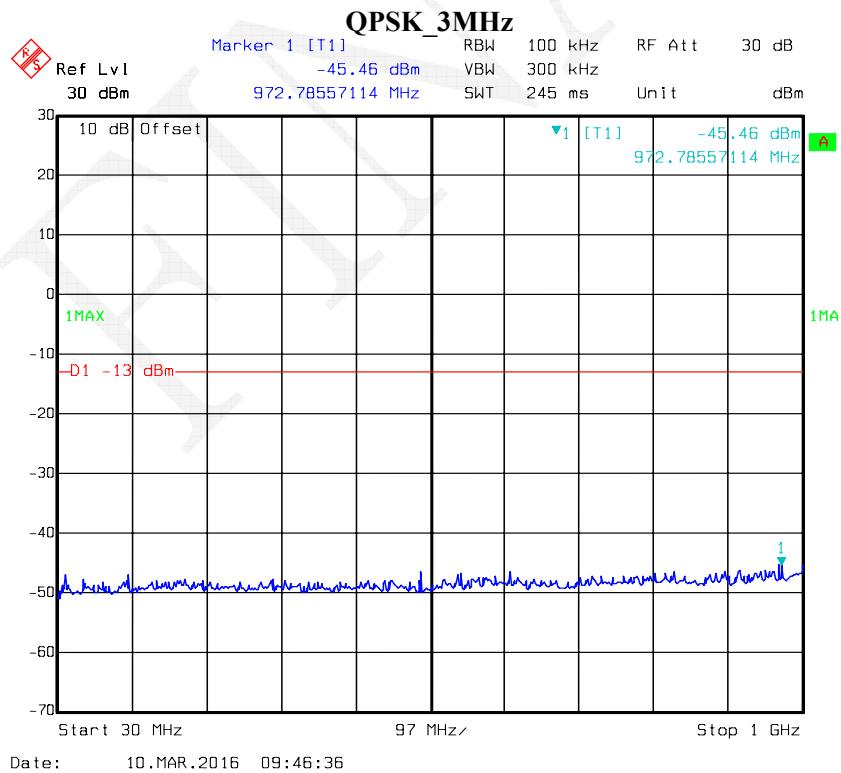
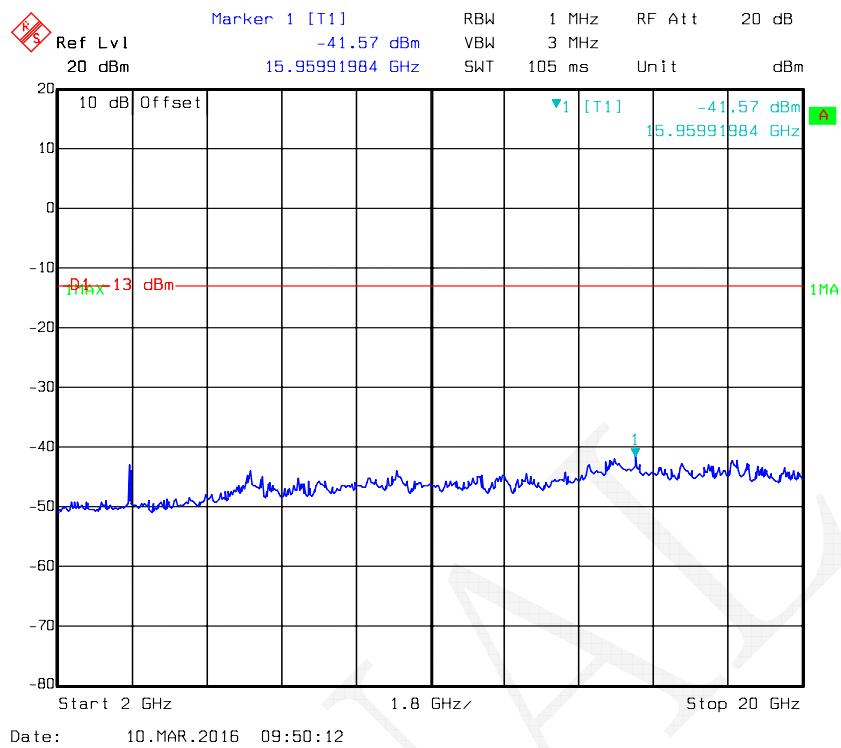
REL99 Band V_Middle Channel

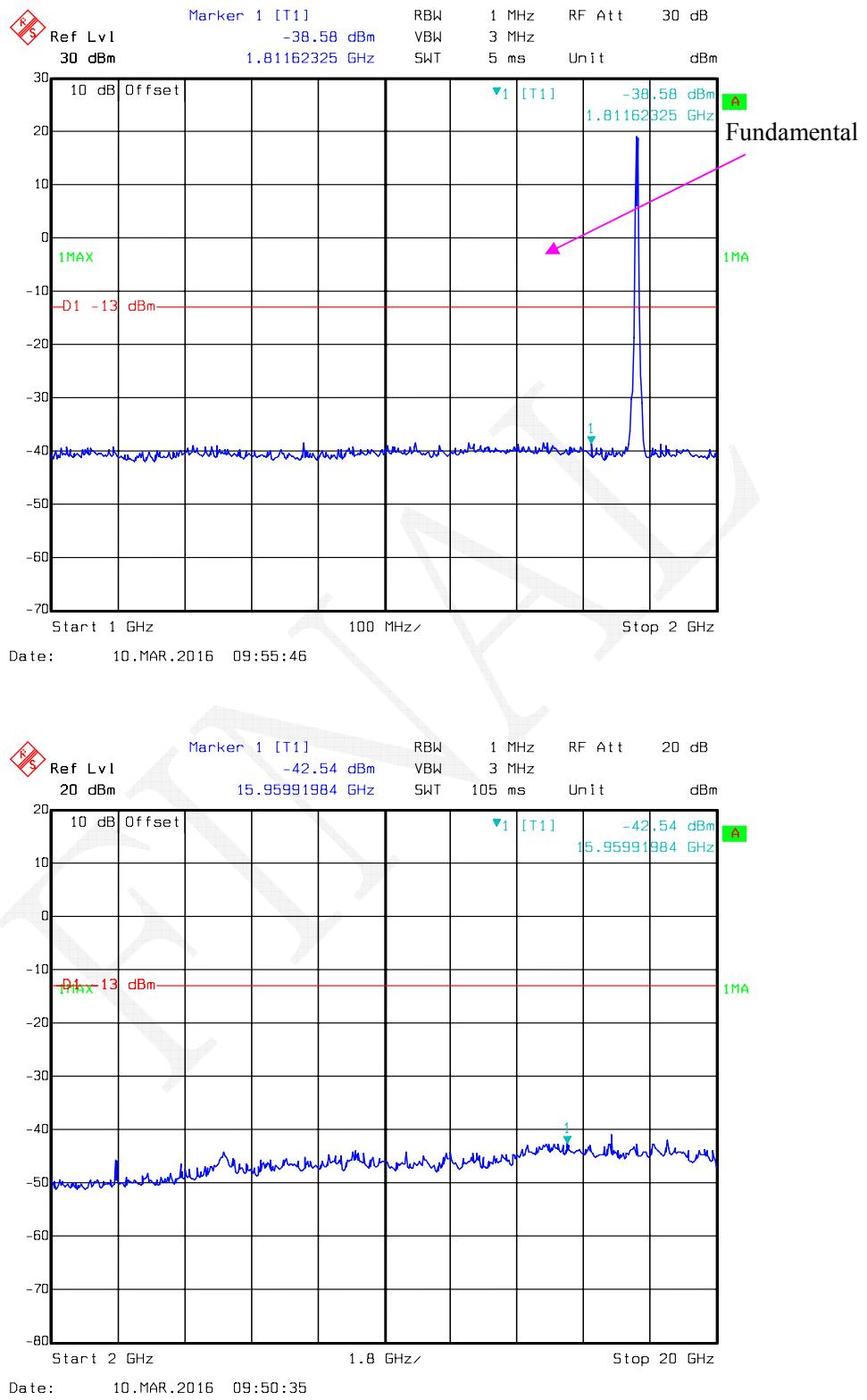
HSDPA Band V_Middle Channel

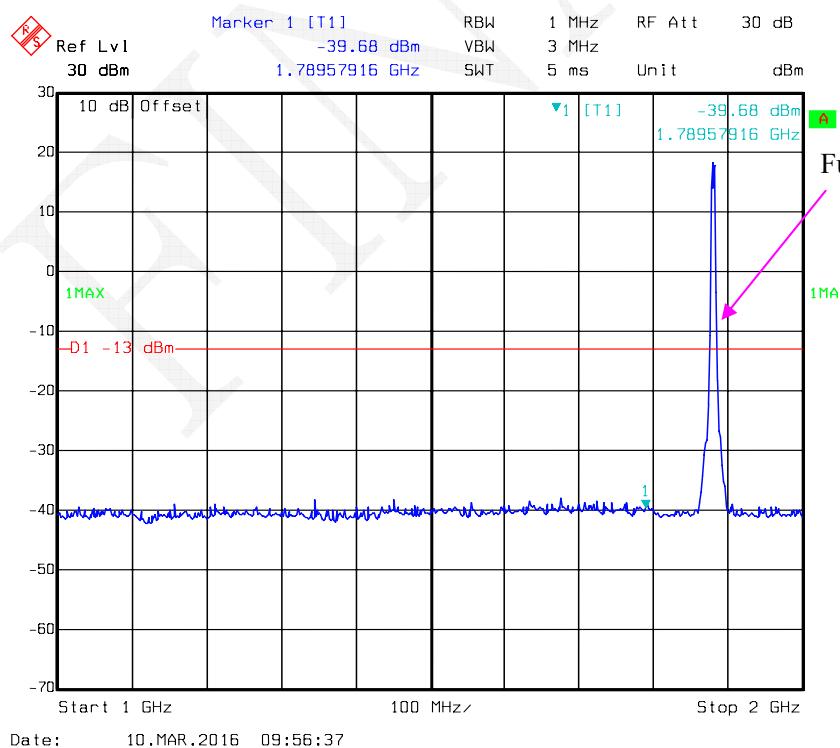
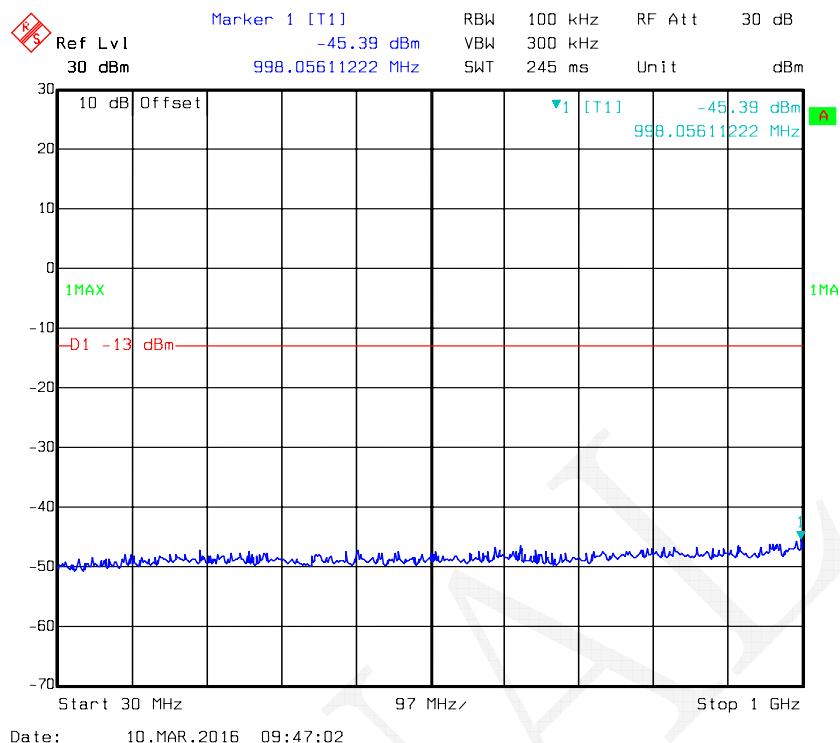
HSUPA Band V_Middle Channel

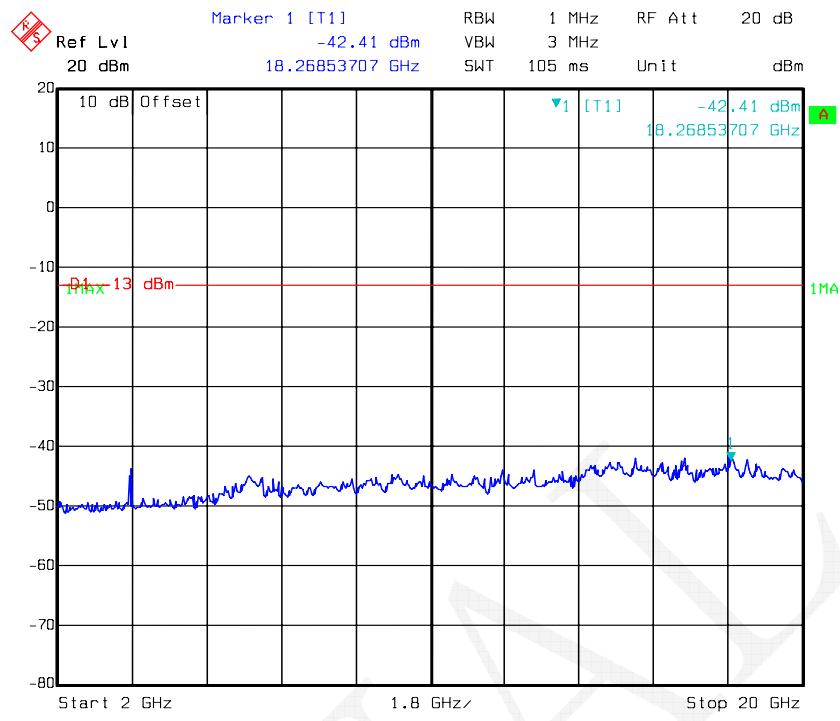
LTE Band II (Middle Channel)
QPSK-1.4 MHz



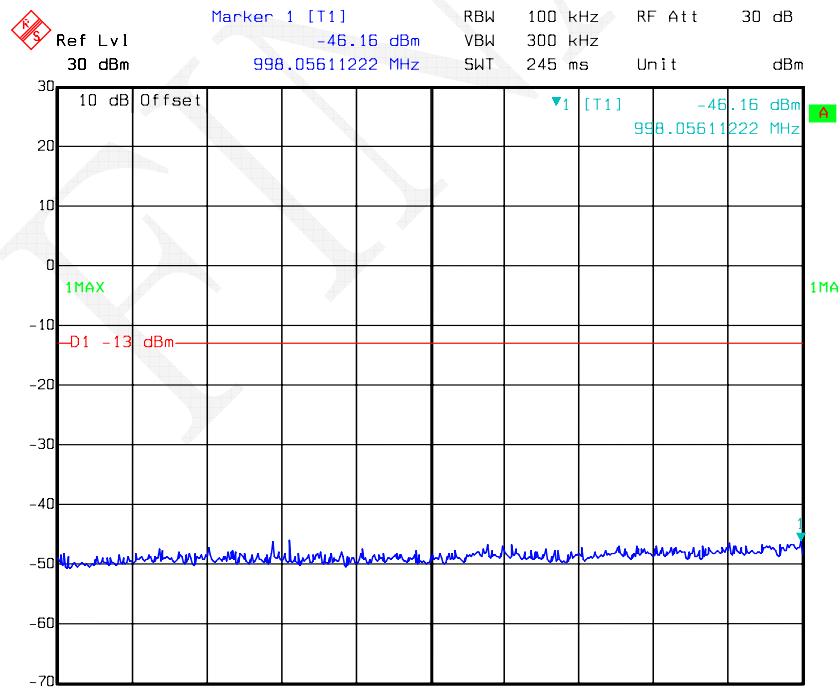




QPSK_5MHz



Date: 10.MAR.2016 09:50:59

QPSK_10MHz

Date: 10.MAR.2016 09:47:24

