Report No.SH15030055W41

FCC RF TESTREPORT

Issued to

TRIMBLE EUROPE B.V.

For

Rugged Smart Phone

Model Name	:	TDC100_4G
Trade Name	:	Trimble
Brand Name	:	Trimble
Standard	:	47 CFR Part 2 47 CFR Part 27 RSS-139 issue 3
FCC ID	:	NZI-10900320
IC ID	:	9288A-10900320
Test date	:	May3.5,2016 to May.20,2016
Issue date	:	Jul.12,2016

by

Shanghai Skylabs Co., Ltd.

Quality Certification Testing Service Product Calibration SKYLABS Certification GLOBAL SERVICE

Tested by Wu Hongfei ***Approved by*** Gu Yeqiang ***Review by*** Leonard Bao

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Shanghai Skylabs Co.,Ltd.
Building 1, NO.1399 JiangYue Rd. Minhang District Shanghai, China
Email: service@skylabs.cn
Web site: http://www.skylabs.cn

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Change History

Issue	Date	Reason for change
1.0	May.9,2016	First edition
2.0	Jul.12,2016	Second edition

1. General Information

1.1 Applicant

TRIMBLE EUROPE B.V.
European Regional Fulfilment Centre
Meerheide, 45
5521DZ Eersel
THE NETHERLANDS

1.2 Manufacturer

TRIMBLE EUROPE B.V.
European Regional Fulfilment Centre
Meerheide, 45
5521DZ Eersel
THE NETHERLANDS

1.3 Description of EUT

EUT Type ..... :	Rugged Smart Phone
Brand Name..... :	TDC100_4G
Trade Name ..... :	Trimble
Model Name ..... :	Trimble
Hardware Version ..... :	TDC100.4G_V1.0
Software Version ..... :	TDC100.4G.16.22.08
Antenna type…… :	ABS Frame and FPC antenna
Antenna gain…… :	LTE Band IV: 0.42 dBi
Frequency Range.....	LTE Band IV Tx: 1710.7 - 1754.3MHz Rx: 2110.7 - 2154.3MHz
Modulation Type ..... :	QPSK,16QAM
Bandwidth ..... :	Band IV: 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz
Battery ..... :	3.8V

NOTE：
(1) For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.

2. Facilities and Accreditations

2.1 Test Facility

Shanghai Skylabs Co., Ltd. Skylabs Laboratory is a third party testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L6644. A 9*6*6(m) fully anechoic chamber was used for the radiated spurious emissions test.

2.2 Environmental Conditions

Ambient temperature: 20~25°C
Relative humidity: 40~60%
Atmosphere pressure: 86-102kPa

2.3 List of Equipments Used

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
System Simulator	R&S	CMW500	100830	2015.9.22	1year
Spectrum Analyzer	Rohde&Schwarz	FSU26	200880	2016.2.25	1year
Spectrum Analyzer	Agilent	N9020A	MY55320135	2016.2.25	1year
Power Splitter	Weinschel	1506A	NW521	(n.a.)	(n.a.)
Power Splitter	Mini-Circuits	ZFRSC-183-S+	765001016	(n.a.)	(n.a.)
Attenuator 1	Mini-Circuits	10dB	(n.a.)	(n.a.)	(n.a.)
Attenuator 2	Resnet	10dB	(n.a.)	(n.a.)	(n.a.)
Attenuator 3	Resnet	3dB	(n.a.)	(n.a.)	(n.a.)
DC Power Supply	Good Will	GPS-3030DD	EF920938	2015.10.12	2year
Temperature Chamber	YinHe Experimental Equip.	HL4003T	(n.a.)	2015.9.20	1year
Full/Half-Anechoic Chamber	CHENGYU	9.2×6.25×6.15m	SAR	2015.9.14	3year
Singal Generator	Rohde&Schwarz	SMF100A	101935	2015.9.22	1year
Broadband Trilog Antenna	Schwarzbeck	VULB 9163	9163-561	2015.9.25	1year
Substitution Broadband Trilog Antenna	Schwarzbeck	VULB 9163	9163-572	2015.9.25	1year
Broadband Horn Antenna	Schwarzbeck	BBHA 9120D	9120D-1033	2015.7.25	1year
Substitution Broadband Horn Antenna	Schwarzbeck	BBHA 9120D	9120D-1034	2015.7.25	1year
Broadband Horn Antenna	Schwarzbeck	BBHA 9170	BBHA91970171	2015.9.22	1year
Substitution Broadband Horn Antenna	Schwarzbeck	BBHA 9170	BBHA91970208	2015.9.22	1year
Test Antenna-Loop	Rohde&Schwarz	HFH2-Z2	860004/001	2015.9.22	1year
Temporary Antenna Connector	Farpu	SMA-K	(n.a.)	(n.a.)	(n.a.)
RF Cable	(n.a.)	(n.a.)	(n.a.)	(n.a.)	(n.a.)

NOTE:
Equipments listed above have been calibrated and are in the period of validation.

3. Test Standards and Results

The objective of the report is to perform testing according to 47 CFR Part 2, Part 27 for the EUT FCC ID Certification:

No.	Identity	Document Title
1	47 CFR Part 2	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
2	47 CFR Part 27	Miscellaneous Wireless Communications Services
3	RSS-139 issue 3	Advanced Wireless Services Equipment Operating in the Bands 1710-1780 MHz and 2110-2180 MHz

Test detailed items/section required by FCC rules& IC rules and results are as below:

No.	FCC Rules	IC Rules	Description	Result
1	2.1046	RSS-139 (6.5)	Conducted Output Power	PASS
2	2.1049 27.53(h)	RSS-GEN (6.6)	Occupied Bandwidth	PASS
3	2.1055 27.54	RSS-139 (6.4)	Frequency Stability	PASS
4	27.50(d)(5)	RSS-139 (6.5)	Peak-to-Average Ratio	PASS
5	2.1051 27.53(h)	RSS-139 (6.6)	Conducted Out of Band Emissions	PASS
6	2.1049 27.53(h)	RSS-GEN (6.6)	Band Edge	PASS
7	2.1046 27.50(d)(4)	RSS-139 (6.5)	Transmitter Radiated Power (EIPR/ERP)	PASS
8	2.1053 27.53(h)	RSS-139 (6.6)	Radiated Out of Band Emissions	PASS

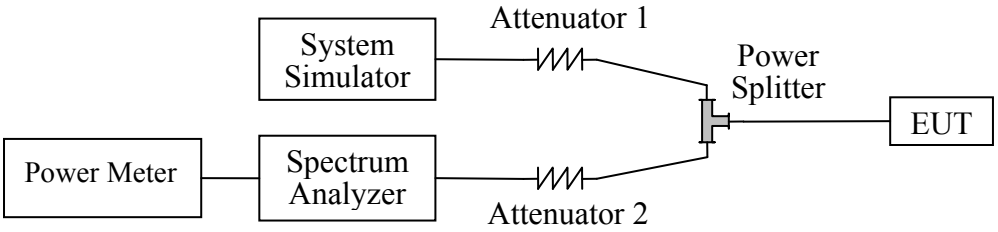
4. Test Result

4.1 Conducted Output Power

4.1.1 Requirement

According to FCC section 2.1046(a), for transmitters other than single sideband, independent sideband and controlled carrier radiotelephone, power output shall be measured at the RF output terminals when the transmitter is adjusted in accordance with the tune-up procedure to give the values of current and voltage on the circuit elements specified in FCC section 2.1033(c)(8).

4.1.2 Test Description



The EUT, which is powered by battery, is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factories calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power. A call is established between the EUT and the SS.

4.1.3 Test Result

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	22.51	22.59	22.60
	1	2		22.50	22.58	22.59
	1	5		22.40	22.47	22.50
	3	0		22.40	22.58	22.48
	3	1		22.46	22.53	22.55
	3	2		22.46	22.52	22.56
	6	0		21.49	21.58	21.58
1.4	1	0	16-QAM	21.78	21.82	21.88
	1	2		21.77	21.81	21.86
	1	5		21.67	21.69	21.73
	3	0		21.52	21.57	21.60
	3	1		21.48	21.53	21.55
	3	2		21.48	21.50	21.54
	6	0		20.55	20.63	20.65
3	1	0	QPSK	22.51	22.55	22.55
	1	7		22.50	22.54	22.54
	1	14		22.42	22.45	22.50
	8	0		21.58	21.62	21.64
	8	4		21.56	21.62	21.63
	8	7		21.53	21.60	21.62
	15	0		21.56	21.61	21.63
3	1	0	16-QAM	21.77	21.74	21.79
	1	7		21.76	21.73	21.78
	1	14		21.67	21.68	21.73
	8	0		20.61	20.66	20.68
	8	4		20.58	20.64	20.66
	8	7		20.58	20.63	20.65
	15	0		20.56	20.58	20.64

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.52	22.56	22.58
	1	12		22.51	22.55	22.57
	1	24		22.41	22.47	22.48
	12	0		21.61	21.65	21.66
	12	6		21.57	21.64	21.63
	12	11		21.57	21.63	21.64
	25	0		21.54	21.61	21.61
5	1	0	16-QAM	21.77	21.78	21.85
	1	12		21.76	21.75	21.84
	1	24		21.66	21.69	21.75
	12	0		20.60	20.63	20.66
	12	6		20.55	20.62	20.62
	12	11		20.55	20.62	20.64
	25	0		20.53	20.58	20.59
10	1	0	QPSK	22.63	22.64	22.62
	1	24		22.59	22.61	22.58
	1	49		22.50	22.54	22.53
	25	0		21.61	21.68	21.62
	25	12		21.59	21.66	21.61
	25	24		21.60	21.64	21.61
	50	0		21.62	21.70	21.65
10	1	0	16-QAM	21.91	21.85	21.88
	1	24		21.87	21.84	21.85
	1	49		21.77	21.79	21.80
	25	0		20.61	20.66	20.61
	25	12		20.57	20.64	20.60
	25	24		20.58	20.61	20.60
	50	0		20.60	20.68	20.63

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	22.68	22.70	22.68
	1	37		22.62	22.66	22.62
	1	74		22.60	22.60	22.58
	36	0		21.70	21.76	21.72
	36	18		21.69	21.74	21.70
	36	37		21.67	21.70	21.67
	75	0		21.67	21.73	21.67
15	1	0	16-QAM	21.95	21.92	21.92
	1	37		21.87	21.91	21.90
	1	74		21.83	21.85	21.83
	36	0		20.68	20.74	20.70
	36	18		20.66	20.71	20.66
	36	37		20.64	20.67	20.66
	75	0		20.63	20.70	20.66
20	1	0	QPSK	22.87	22.85	22.85
	1	49		22.75	22.77	22.75
	1	99		22.77	22.75	22.72
	50	0		21.85	21.90	21.88
	50	24		21.81	21.85	21.81
	50	49		21.83	21.82	21.78
	100	0		21.81	21.86	21.82
20	1	0	16-QAM	22.12	22.10	22.11
	1	49		22.01	22.00	22.02
	1	99		21.99	22.00	21.99
	50	0		20.83	20.87	20.85
	50	24		20.79	20.82	20.80
	50	49		20.80	20.79	20.75
	100	0		20.76	20.82	20.79

4.2 Occupied Bandwidth

4.2.1 Definition

According to FCC section 2.1049 and 27.53(g), the occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission.
Occupied bandwidth is also known as the 99% emission bandwidth, or 26dB bandwidth taking the total RF output power as reference.

4.2.2 Test Description

See section 4.2.1 of this report.

4.2.3 Test Results

Here the lowest, middle and highest channels are tested to record the 99% and -26dB occupied bandwidth

26dB BW

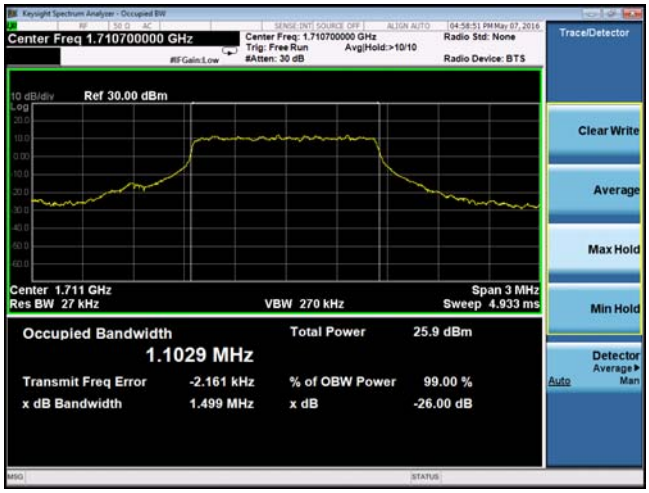
	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest	1.499	1.530	3.369	3.266	5.399	5.305	10.25	10.25	15.25	15.07	21.07	21.63
Middle	1.467	1.500	3.125	3.421	5.118	5.480	10.43	10.80	15.47	14.75	22.05	20.78
Highest	1.155	1.526	3.368	3.358	5.291	5.262	10.45	10.31	15.16	15.12	22.02	21.81

99% OBW

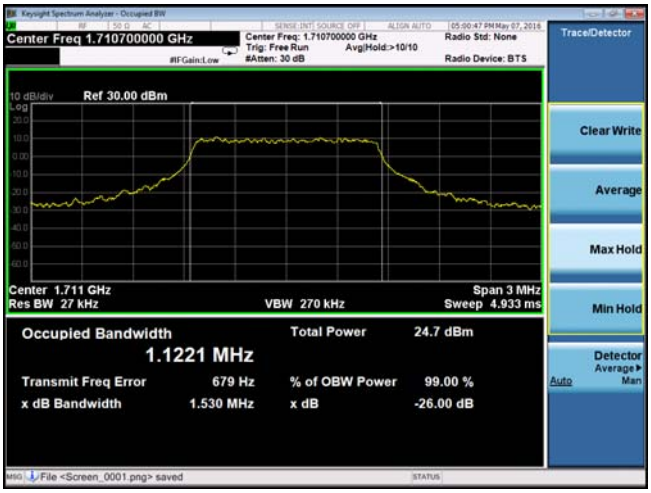
	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest	1.1029	1.1221	2.7536	2.7531	4.5321	4.5317	9.0693	9.0852	13.450	13.479	18.599	18.617
Middle	1.1076	1.1050	2.7463	2.7439	4.5290	4.5227	9.0872	9.1171	13.492	13.520	18.630	18.627
Highest	1.1068	1.1105	2.7453	2.7463	4.5252	4.5288	9.0899	9.0948	13.508	13.501	18.642	18.661

Test Plots:

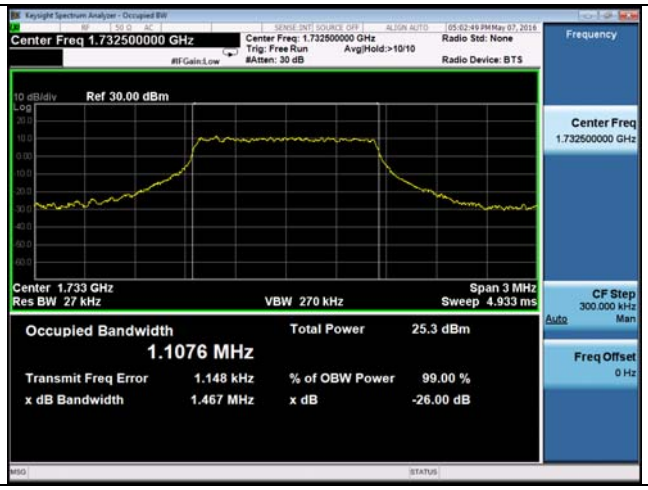
Lowest Channel / 1.4MHz / QPSK



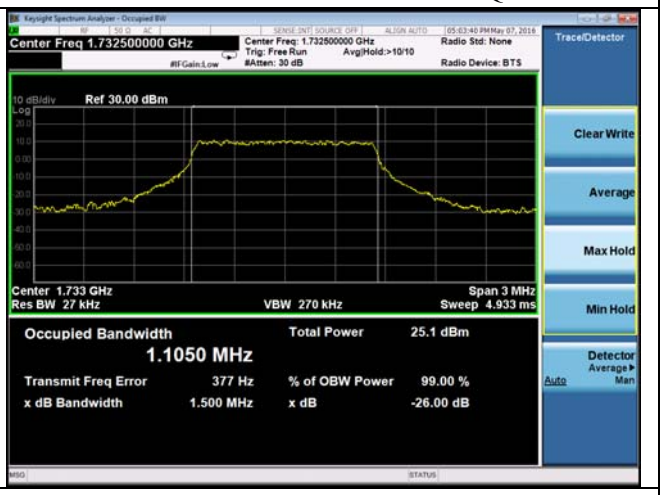
Lowest Channel / 1.4MHz / 16QAM



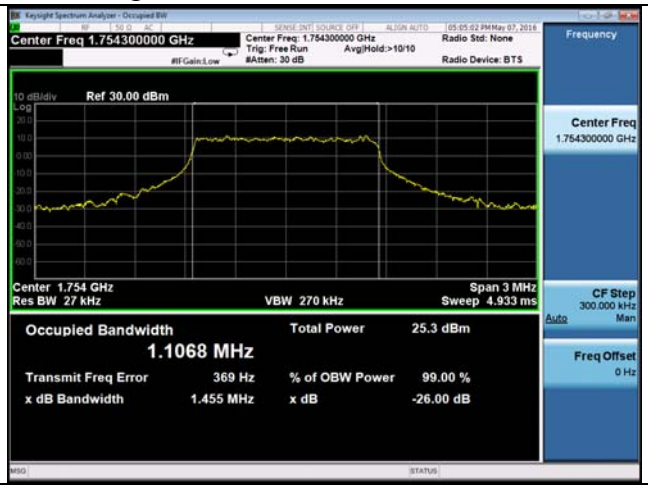
Middle Channel / 1.4MHz / QPSK



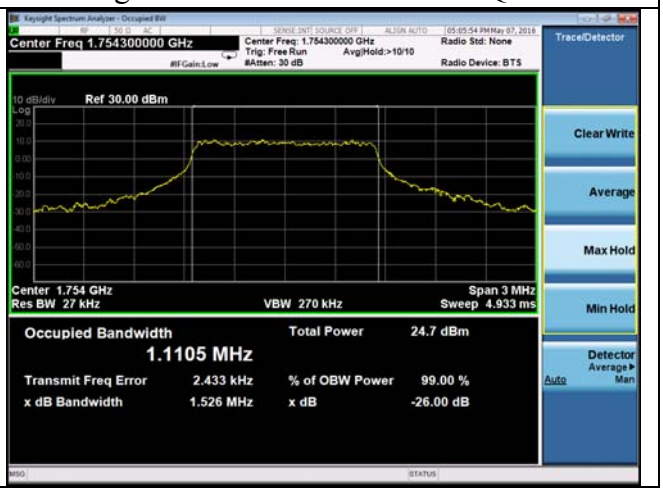
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK

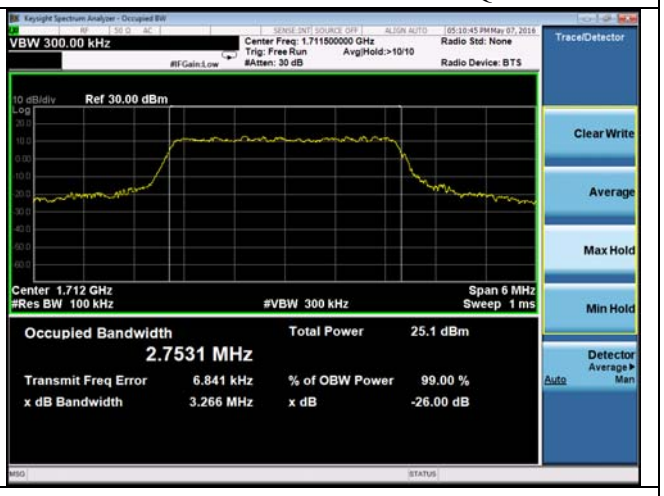


Highest Channel / 1.4MHz / 16QAM

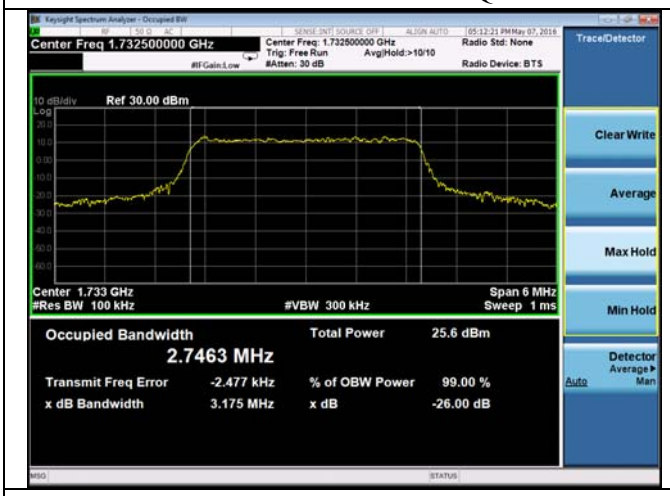


Lowest Channel / 3MHz / QPSK

Lowest Channel / 3MHz / 16QAM



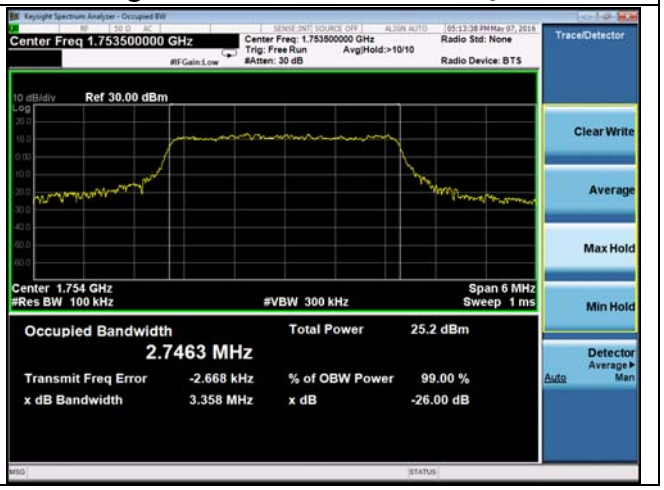
Middle Channel / 3MHz / QPSK



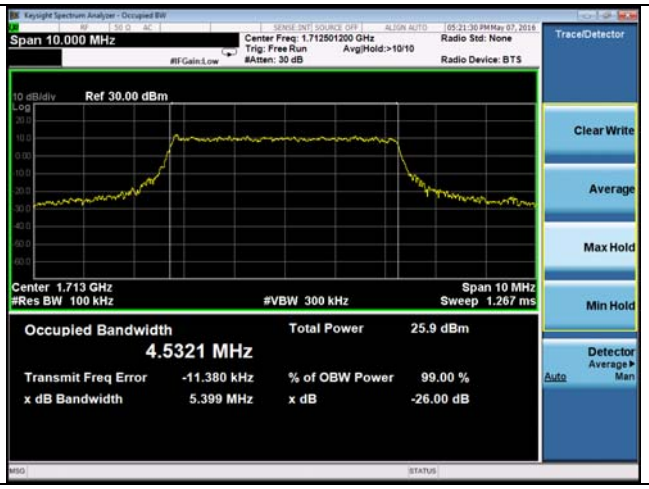
Middle Channel / 3MHz / 16QAM

Highest Channel / 3MHz / QPSK

Highest Channel / 3MHz / 16QAM



Lowest Channel / 5MHz / QPSK

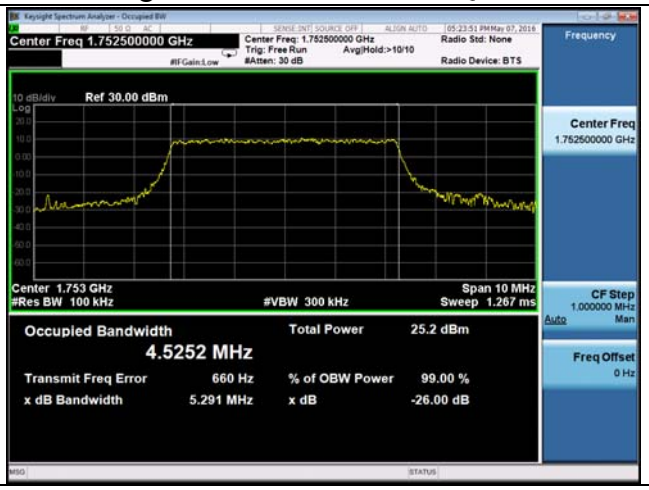


Lowest Channel / 5MHz / 16QAM

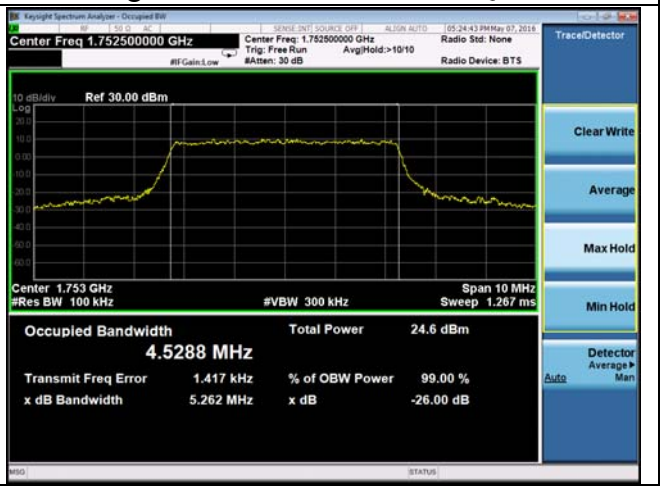
Middle Channel / 5MHz / QPSK

Middle Channel / 5MHz / 16QAM

Highest Channel / 5MHz / QPSK

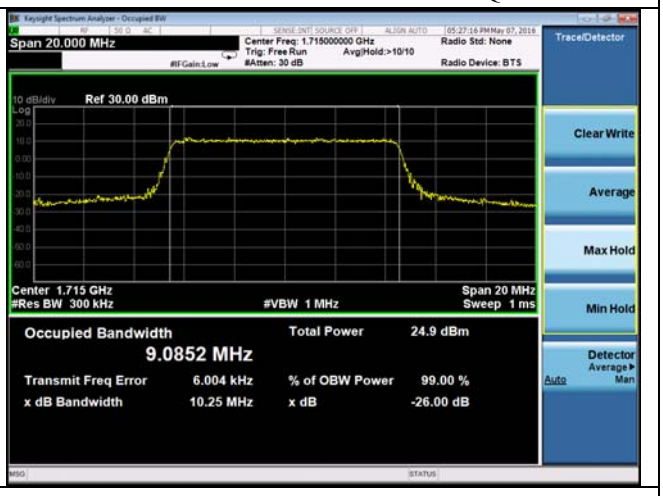


Highest Channel / 5MHz / 16QAM

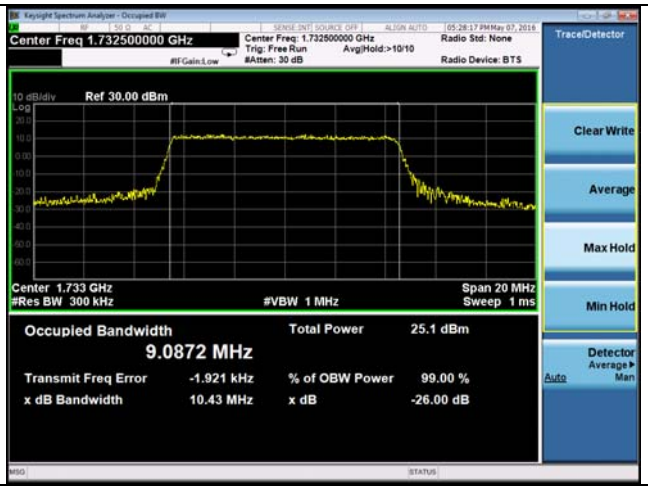


Lowest Channel / 10MHz / QPSK

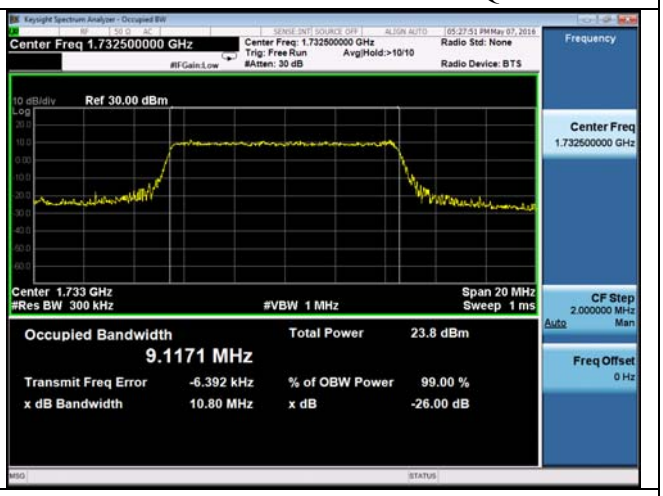
Lowest Channel / 10MHz / 16QAM



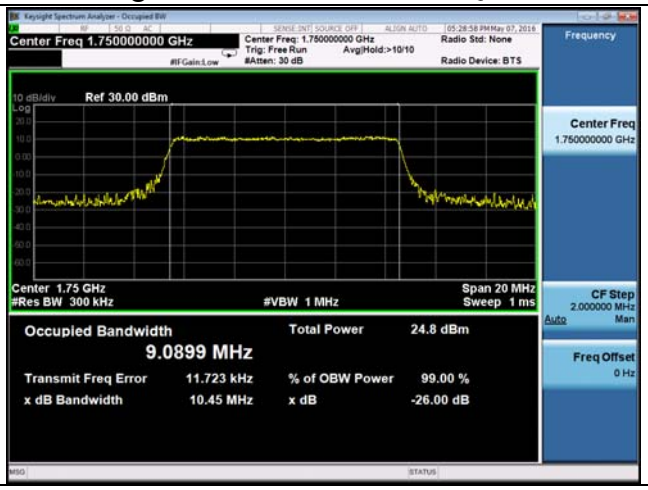
Middle Channel / 10MHz / QPSK



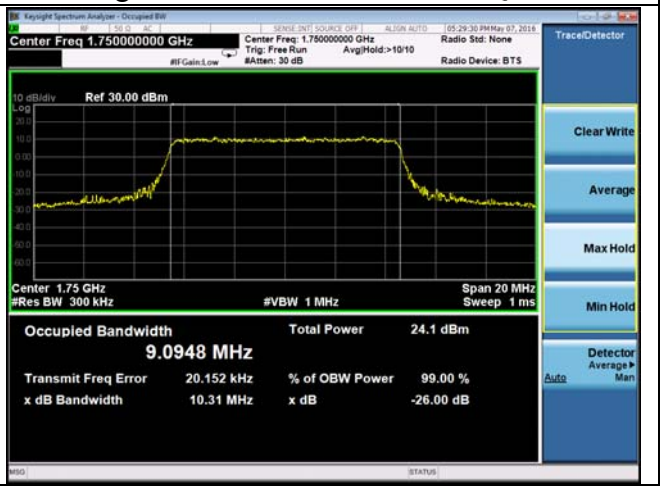
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK

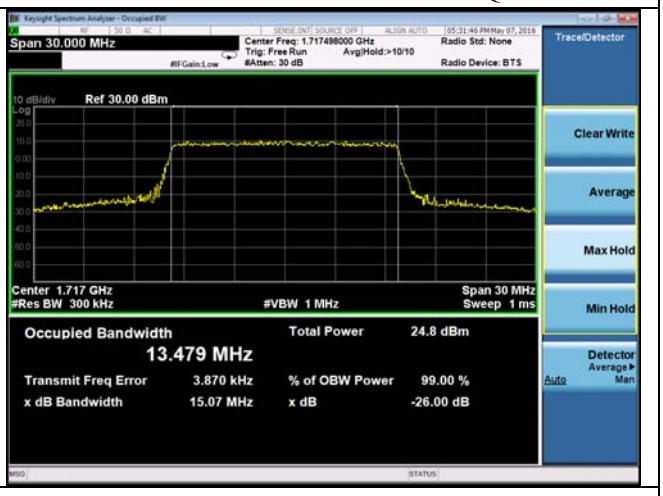


Highest Channel / 10 MHz / 16QAM

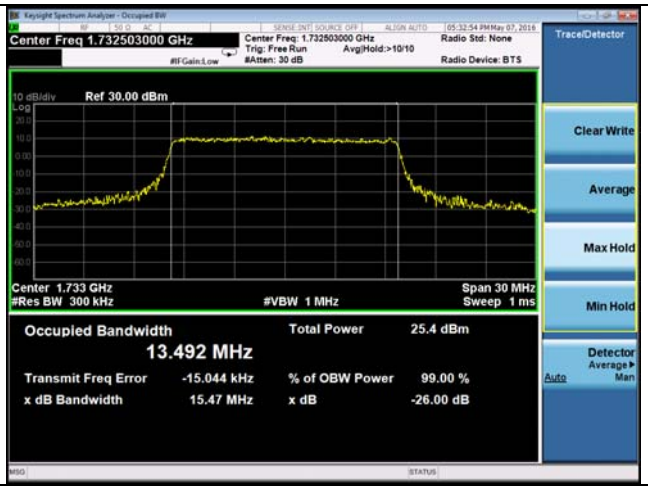


Lowest Channel / 15MHz / QPSK

Lowest Channel / 15MHz / 16QAM



Middle Channel / 15MHz / QPSK



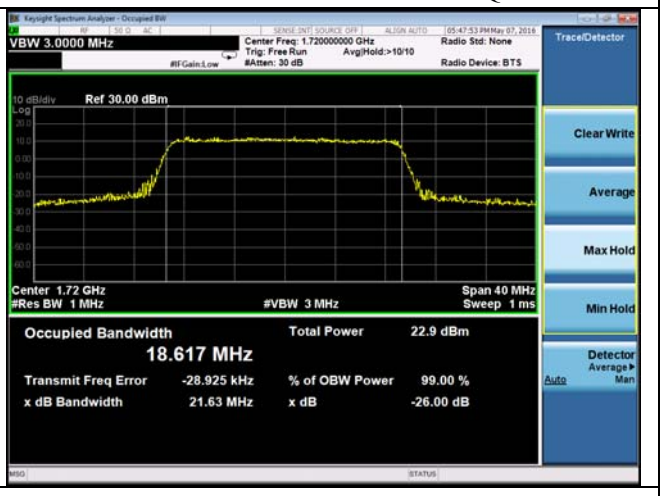
Middle Channel / 15MHz / 16QAM

Highest Channel / 15MHz / QPSK

Highest Channel / 15MHz / 16QAM

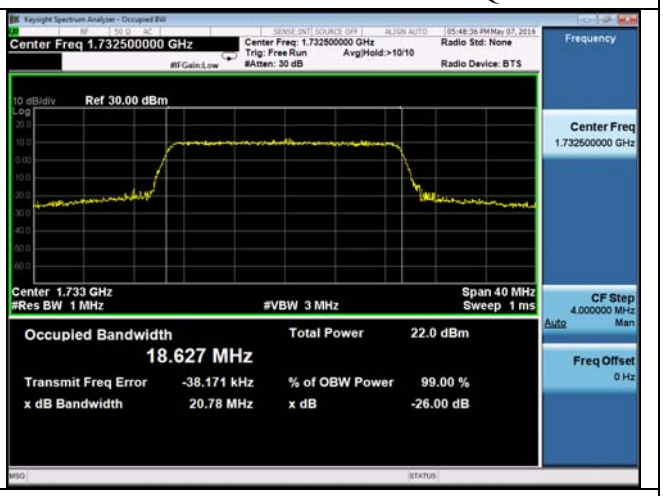
Lowest Channel / 20MHz / QPSK

Lowest Channel / 20MHz / 16QAM

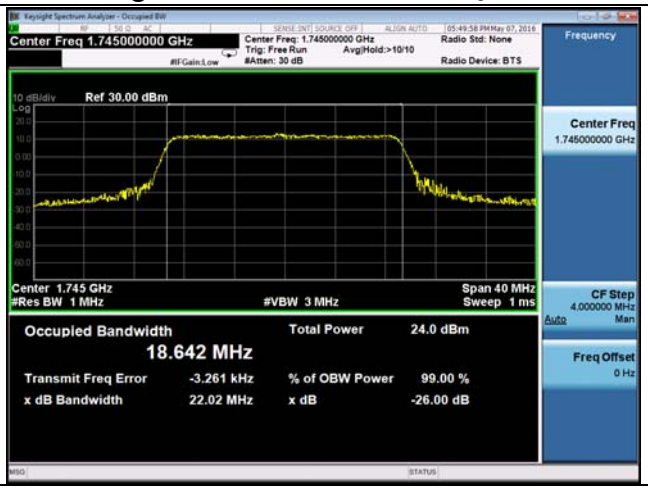


Middle Channel / 20MHz / QPSK

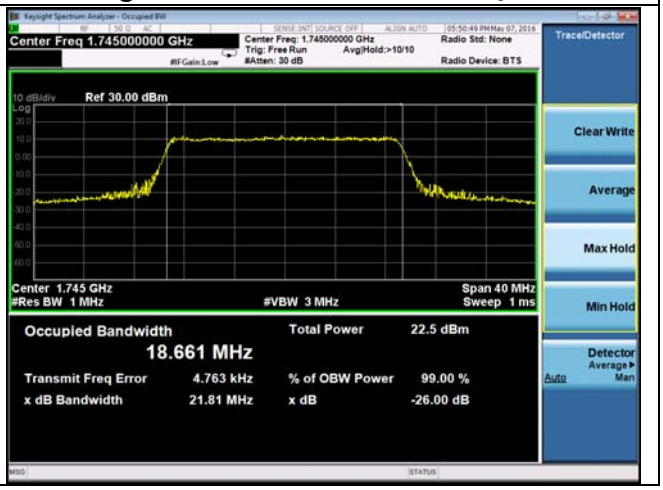
Middle Channel / 20MHz / 16QAM



Highest Channel / 20MHz / QPSK



Highest Channel / 20MHz / 16QAM

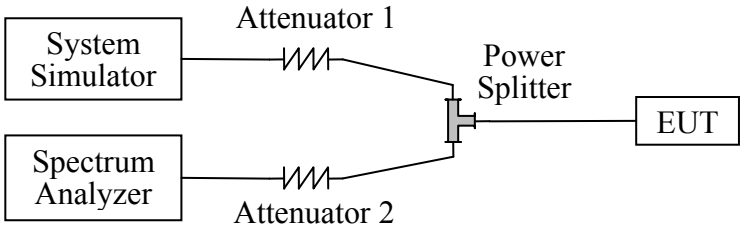


4.3 Peak-to-Average Ratio

4.3.1 Requirement

According to FCC section 27.50(d) (5), the peak to average ratio (PAR) of the transmission maynot exceed 13dB.

4.3.2 Test Description

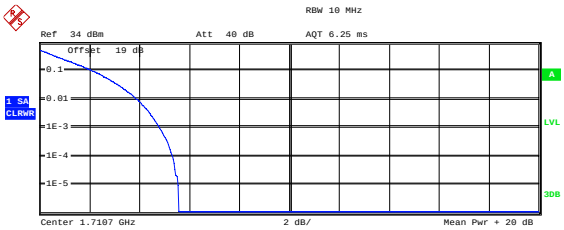


4.3.3 Test Result

	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest	5.32	6.35	5.29	6.28	5.26	6.57	5.19	6.54	5.26	6.54	5.32	6.38
Middle	5.38	6.44	5.35	6.38	5.26	6.35	5.22	6.35	5.29	6.51	5.26	6.47
Highest	5.22	6.35	5.32	5.93	5.42	6.54	5.35	6.19	5.29	6.38	5.29	6.38

Test Plots:

Lowest Channel / 1.4MHz / QPSK

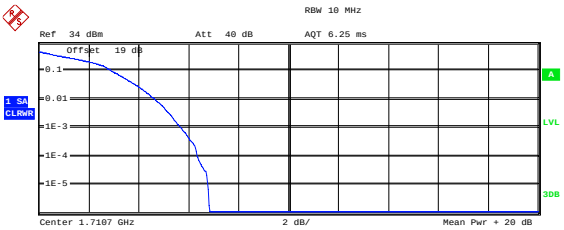


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	21.19 dBm
Peak	26.76 dBm
Crest	5.57 dB
10 %	2.12 dB
1 %	3.88 dB
.1 %	4.78 dB
.01 %	5.32 dB

Date: 16.MAY.2016 17:32:34

Lowest Channel / 1.4MHz / 16QAM

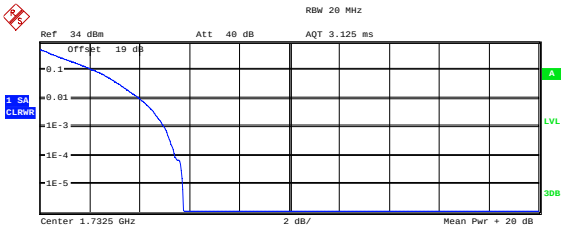


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	21.20 dBm
Peak	28.03 dBm
Crest	6.83 dB
10 %	2.92 dB
1 %	4.65 dB
.1 %	5.67 dB
.01 %	6.35 dB

Date: 16.MAY.2016 17:33:33

Middle Channel / 1.4MHz / QPSK

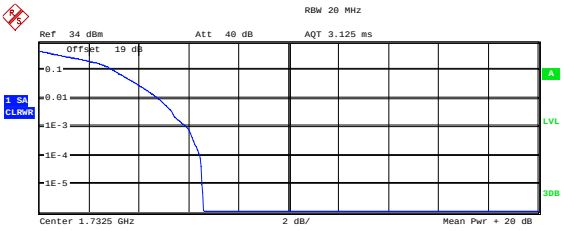


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	21.51 dBm
Peak	27.26 dBm
Crest	5.75 dB
10 %	2.15 dB
1 %	4.01 dB
.1 %	4.97 dB
.01 %	5.38 dB

Date: 16.MAY.2016 17:41:59

Middle Channel / 1.4MHz / 16QAM

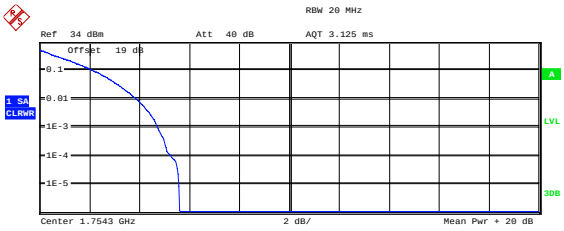


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	21.52 dBm
Peak	28.11 dBm
Crest	6.59 dB
10 %	2.98 dB
1 %	4.78 dB
.1 %	5.90 dB
.01 %	6.44 dB

Date: 16.MAY.2016 17:41:24

Highest Channel / 1.4MHz / QPSK

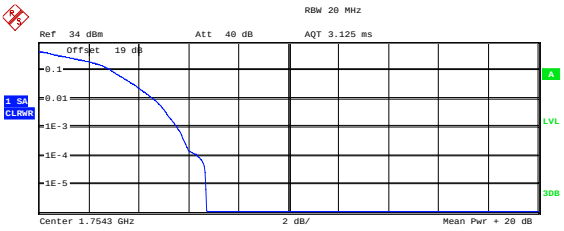


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	21.14 dBm
Peak	26.73 dBm
Crest	5.59 dB
10 %	2.15 dB
1 %	3.85 dB
.1 %	4.71 dB
.01 %	5.22 dB

Date: 16.MAY.2016 17:42:39

Highest Channel / 1.4MHz / 16QAM

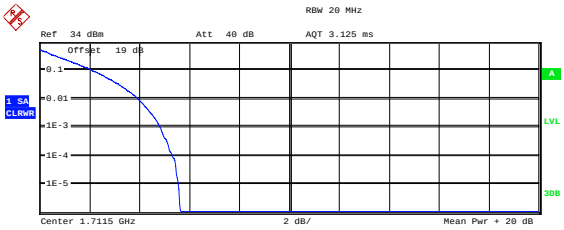


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	21.16 dBm
Peak	27.86 dBm
Crest	6.70 dB
10 %	2.88 dB
1 %	4.58 dB
.1 %	5.51 dB
.01 %	6.35 dB

Date: 16.MAY.2016 17:43:03

Lowest Channel / 3MHz / QPSK

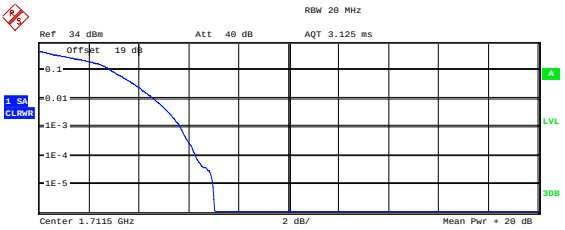


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	21.00 dBm
Peak	26.61 dBm
Crest	5.61 dB
10 %	2.12 dB
1 %	3.94 dB
.1 %	4.81 dB
.01 %	5.29 dB

Date: 16.MAY.2016 17:44:33

Lowest Channel / 3MHz / 16QAM

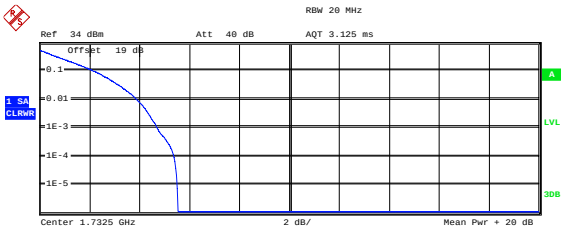


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	21.00 dBm
Peak	28.02 dBm
Crest	7.03 dB
10 %	2.88 dB
1 %	4.58 dB
.1 %	5.67 dB
.01 %	6.28 dB

Date: 16.MAY.2016 17:44:01

Middle Channel / 3MHz / QPSK

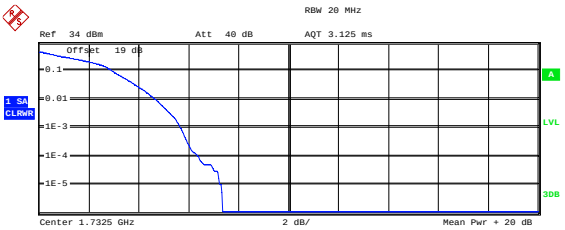


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	21.46 dBm
Peak	26.98 dBm
Crest	5.52 dB
10 %	2.15 dB
1 %	3.88 dB
.1 %	4.68 dB
.01 %	5.35 dB

Date: 16.MAY.2016 17:45:20

Middle Channel / 3MHz / 16QAM

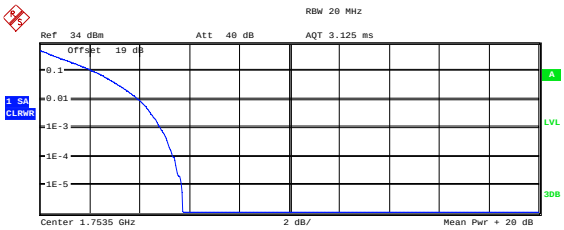


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	21.45 dBm
Peak	28.82 dBm
Crest	7.36 dB
10 %	2.92 dB
1 %	4.65 dB
.1 %	5.67 dB
.01 %	6.38 dB

Date: 16.MAY.2016 17:45:38

Highest Channel / 3MHz / QPSK

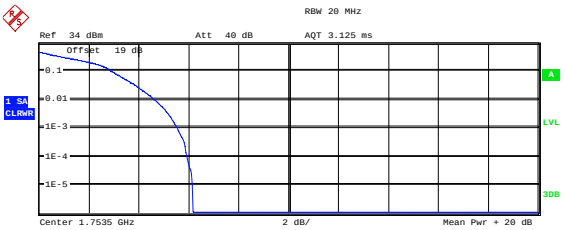


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	21.34 dBm
Peak	27.08 dBm
Crest	5.73 dB
10 %	2.15 dB
1 %	3.94 dB
.1 %	4.81 dB
.01 %	5.32 dB

Date: 16.MAY.2016 17:46:25

Highest Channel / 3MHz / 16QAM

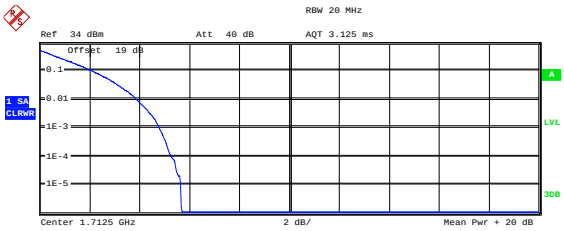


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	21.33 dBm
Peak	27.50 dBm
Crest	6.17 dB
10 %	2.92 dB
1 %	4.62 dB
.1 %	5.54 dB
.01 %	5.93 dB

Date: 16.MAY.2016 17:46:08

Lowest Channel / 5MHz / QPSK

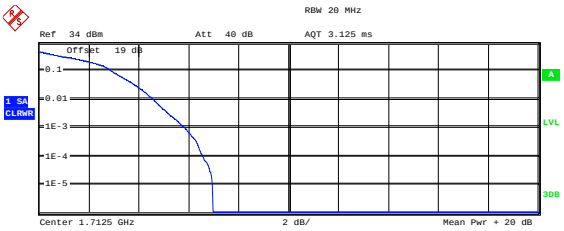


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	21.65 dBm
Peak	27.32 dBm
Crest	5.67 dB
10 %	2.12 dB
1 %	3.85 dB
.1 %	4.78 dB
.01 %	5.26 dB

Date: 16.MAY.2016 17:47:01

Lowest Channel / 5MHz / 16QAM

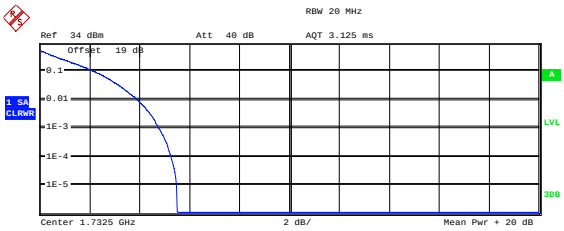


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	21.68 dBm
Peak	28.66 dBm
Crest	6.98 dB
10 %	2.92 dB
1 %	4.55 dB
.1 %	5.83 dB
.01 %	6.57 dB

Date: 16.MAY.2016 17:47:31

Middle Channel / 5MHz / QPSK

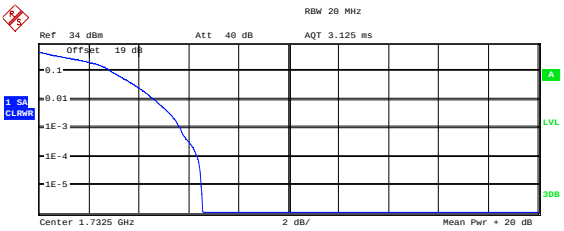


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	21.55 dBm
Peak	27.05 dBm
Crest	5.50 dB
10 %	2.18 dB
1 %	3.88 dB
.1 %	4.78 dB
.01 %	5.26 dB

Date: 16.MAY.2016 17:48:18

Middle Channel / 5MHz / 16QAM

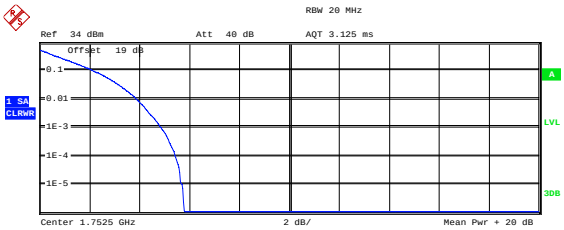


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	21.55 dBm
Peak	28.11 dBm
Crest	6.56 dB
10 %	2.88 dB
1 %	4.62 dB
.1 %	5.64 dB
.01 %	6.35 dB

Date: 16.MAY.2016 17:47:58

Highest Channel / 5MHz / QPSK

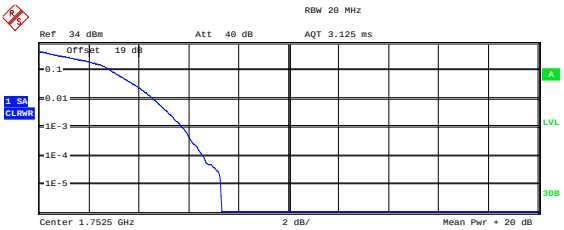


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	21.36 dBm
Peak	27.14 dBm
Crest	5.78 dB
10 %	2.15 dB
1 %	3.88 dB
.1 %	4.84 dB
.01 %	5.42 dB

Date: 16.MAY.2016 17:48:53

Highest Channel / 5MHz / 16QAM

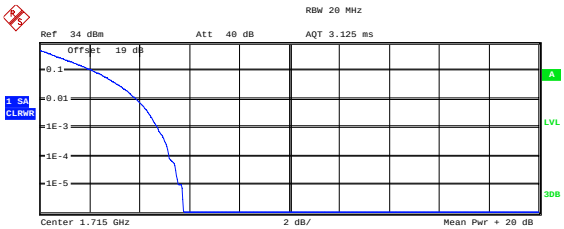


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	21.38 dBm
Peak	28.69 dBm
Crest	7.31 dB
10 %	2.88 dB
1 %	4.58 dB
.1 %	5.74 dB
.01 %	6.54 dB

Date: 16.MAY.2016 17:49:26

Lowest Channel / 10MHz / QPSK

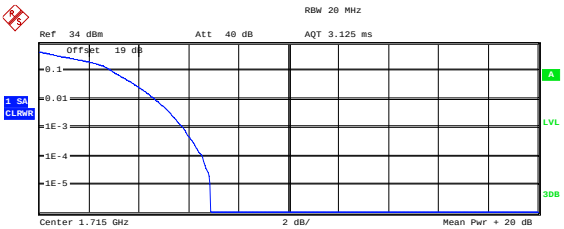


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	21.37 dBm
Peak	27.11 dBm
Crest	5.75 dB
10 %	2.15 dB
1 %	3.85 dB
.1 %	4.71 dB
.01 %	5.19 dB

Date: 16.MAY.2016 17:50:43

Lowest Channel / 10MHz / 16QAM

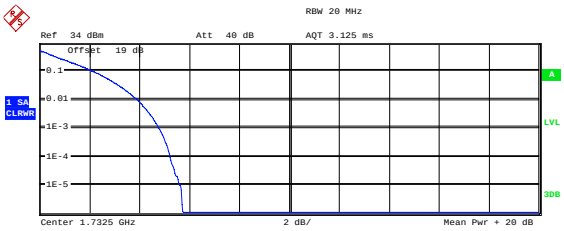


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	21.22 dBm
Peak	28.10 dBm
Crest	6.88 dB
10 %	2.92 dB
1 %	4.65 dB
.1 %	5.77 dB
.01 %	6.54 dB

Date: 16.MAY.2016 17:50:28

Middle Channel / 10MHz / QPSK

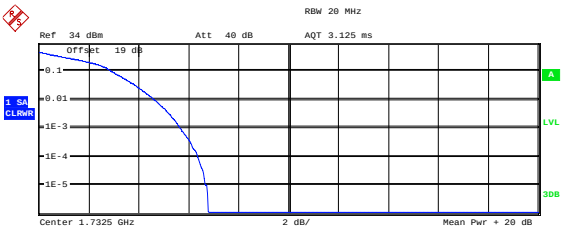


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	21.20 dBm
Peak	26.91 dBm
Crest	5.71 dB
10 %	2.15 dB
1 %	3.88 dB
.1 %	4.78 dB
.01 %	5.22 dB

Date: 16.MAY.2016 17:51:06

Middle Channel / 10MHz / 16QAM

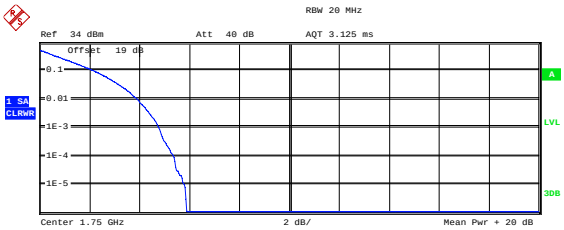


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	21.11 dBm
Peak	27.90 dBm
Crest	6.79 dB
10 %	2.92 dB
1 %	4.62 dB
.1 %	5.64 dB
.01 %	6.35 dB

Date: 16.MAY.2016 17:51:23

Highest Channel / 10MHz / QPSK

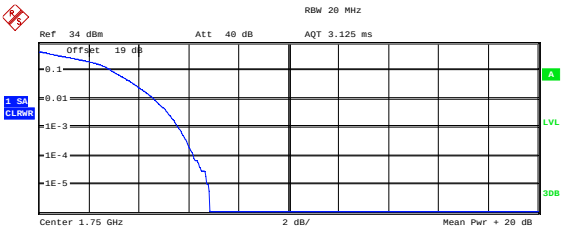


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	21.10 dBm
Peak	26.98 dBm
Crest	5.88 dB
10 %	2.15 dB
1 %	3.88 dB
.1 %	4.78 dB
.01 %	5.35 dB

Date: 16.MAY.2016 17:51:52

Highest Channel / 10 MHz / 16QAM

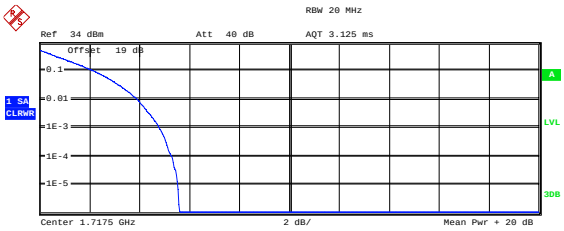


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	20.97 dBm
Peak	27.83 dBm
Crest	6.86 dB
10 %	2.92 dB
1 %	4.62 dB
.1 %	5.58 dB
.01 %	6.19 dB

Date: 16.MAY.2016 17:52:07

Lowest Channel / 15MHz / QPSK

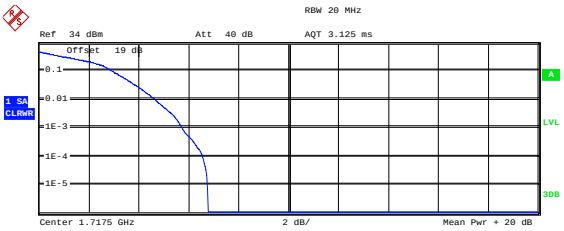


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	21.33 dBm
Peak	26.91 dBm
Crest	5.58 dB
10 %	2.15 dB
1 %	3.88 dB
.1 %	4.78 dB
.01 %	5.26 dB

Date: 16.MAY.2016 17:53:37

Lowest Channel / 15MHz / 16QAM

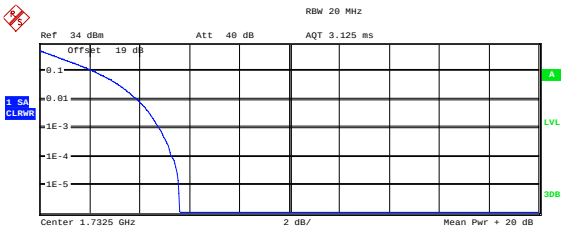


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	21.20 dBm
Peak	27.97 dBm
Crest	6.77 dB
10 %	2.92 dB
1 %	4.62 dB
.1 %	5.74 dB
.01 %	6.54 dB

Date: 16.MAY.2016 17:53:19

Middle Channel / 15MHz / QPSK

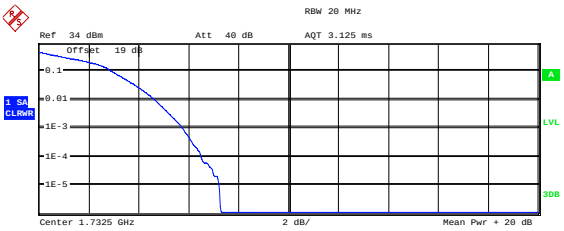


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	21.18 dBm
Peak	26.77 dBm
Crest	5.59 dB
10 %	2.18 dB
1 %	3.91 dB
.1 %	4.78 dB
.01 %	5.29 dB

Date: 16.MAY.2016 17:54:03

Middle Channel / 15MHz / 16QAM

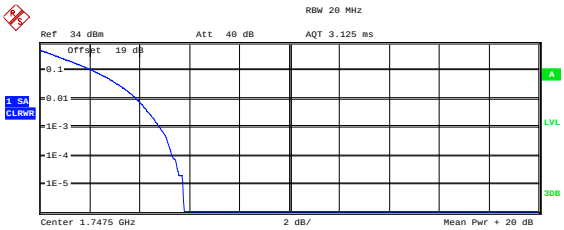


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	21.05 dBm
Peak	28.32 dBm
Crest	7.28 dB
10 %	2.92 dB
1 %	4.62 dB
.1 %	5.74 dB
.01 %	6.51 dB

Date: 16.MAY.2016 17:54:13

Highest Channel / 15MHz / QPSK

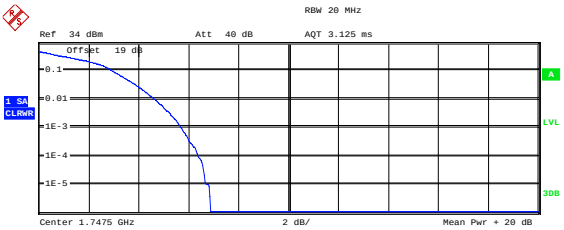


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	21.05 dBm
Peak	26.81 dBm
Crest	5.77 dB
10 %	2.15 dB
1 %	3.88 dB
.1 %	4.81 dB
.01 %	5.29 dB

Date: 16.MAY.2016 17:54:48

Highest Channel / 15MHz / 16QAM

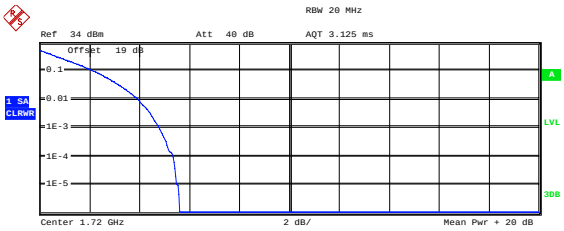


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	20.93 dBm
Peak	27.80 dBm
Crest	6.87 dB
10 %	2.92 dB
1 %	4.62 dB
.1 %	5.67 dB
.01 %	6.38 dB

Date: 16.MAY.2016 17:54:38

Lowest Channel / 20MHz / QPSK

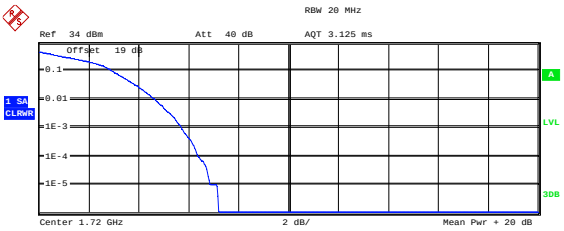


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	21.25 dBm
Peak	26.84 dBm
Crest	5.60 dB
10 %	2.15 dB
1 %	3.91 dB
.1 %	4.78 dB
.01 %	5.32 dB

Date: 16.MAY.2016 17:55:24

Lowest Channel / 20MHz / 16QAM

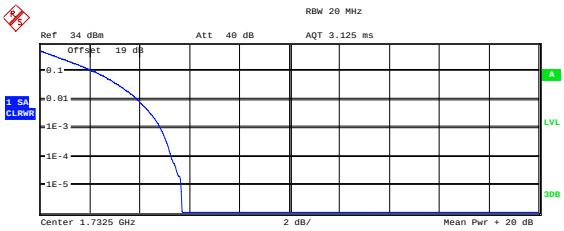


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	21.06 dBm
Peak	28.25 dBm
Crest	7.19 dB
10 %	2.92 dB
1 %	4.62 dB
.1 %	5.71 dB
.01 %	6.38 dB

Date: 16.MAY.2016 17:55:40

Middle Channel / 20MHz / QPSK

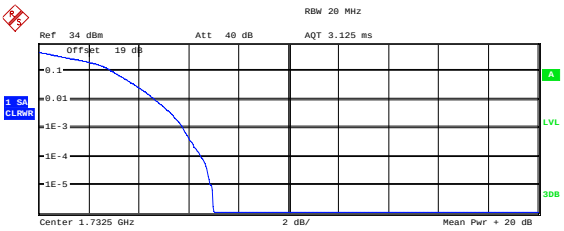


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	21.16 dBm
Peak	26.84 dBm
Crest	5.68 dB
10 %	2.15 dB
1 %	3.91 dB
.1 %	4.84 dB
.01 %	5.26 dB

Date: 16.MAY.2016 17:56:13

Middle Channel / 20MHz / 16QAM

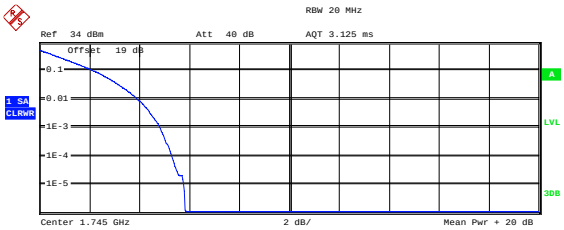


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	20.98 dBm
Peak	27.97 dBm
Crest	6.99 dB
10 %	2.92 dB
1 %	4.65 dB
.1 %	5.77 dB
.01 %	6.47 dB

Date: 16.MAY.2016 17:56:00

Highest Channel / 20MHz / QPSK

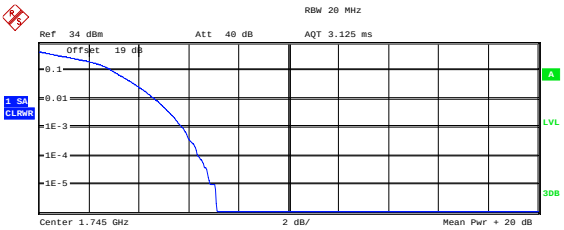


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	21.03 dBm
Peak	26.86 dBm
Crest	5.83 dB
10 %	2.15 dB
1 %	3.91 dB
.1 %	4.81 dB
.01 %	5.29 dB

Date: 16.MAY.2016 17:56:40

Highest Channel / 20MHz / 16QAM



Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 23.7MHz

	Trace 1
Mean	20.87 dBm
Peak	27.99 dBm
Crest	7.12 dB
10 %	2.92 dB
1 %	4.65 dB
.1 %	5.74 dB
.01 %	6.38 dB

Date: 16.MAY.2016 17:56:54

4.4 Frequency Stability

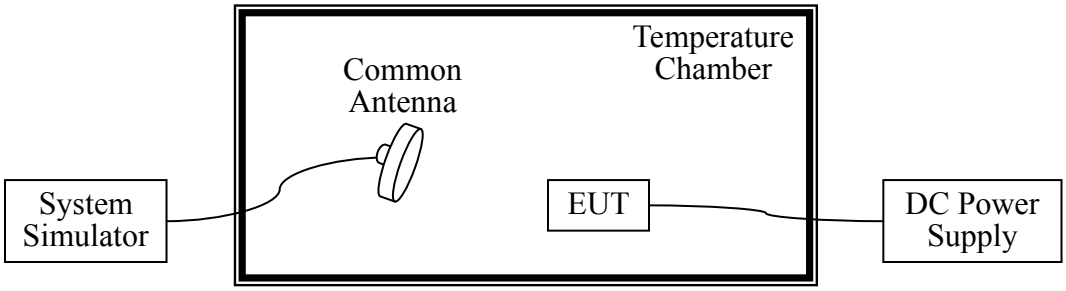
4.4.1 Requirement

According to FCC section 2.1055 and 27.54, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. According to FCC section 2.1055, the test conditions are:

(a) The temperature is varied from -30°C to +50°C at intervals of not more than 10°C.

(b) The supply voltage shall be measured at the input to the cable normally provided with the equipment, or at the power supply terminals if cables are not normally provided.

4.4.2 Test Description



4.4.3 Test Setup

The EUT, which is powered by the DC Power Supply directly, is located in the Temperature Chamber. The EUT is commanded by the System Simulator (SS) to operate at the maximum output power. A call is established between the EUT and the SS via a Common Antenna.

4.4.4 Test Results

For hand carried, battery powered equipment, reduce primary supply voltage to the battery operating end point which shall be specified by the manufacturer; the normal temperature here used is 20°C. The frequency deviation limit is ±2.5ppm.

Test Conditions		LTE Band 4 (QPSK) / Middle Channel	Limit
Power (VDC)	Temp (°C)	BW 10MHz	Note 4
		Deviation (ppm)	Verdict
3.8	-20	0.0002	Pass
	-10	-0.0007	
	0	0.0003	
	10	0.0003	
	20	-0.0002	
	30	0.0010	
	40	-0.0004	
	50	0.0003	
	60	-0.0006	
4.2	20	0.0008	
3.6	20	0.0001	

NOTE:

(1) The EUT stops transmitting at temperatures -30°C, 70°C

(2) The manufacturer declared that the EUT could work properly between temperatures -20°C~60°C.

(3) Normal Voltage = 3.6V; Max Voltage= 3.8V; Min Voltage=4.2V.

(4) The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.

4.5 Conducted Out of Band Emissions

4.5.1 Requirement

According to FCC section 2.1051 and 27.53(g), the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43+10*log(P)dB. This calculated to be -13dBm.

4.5.2 Test Description

See section 4.2.1 of this report.

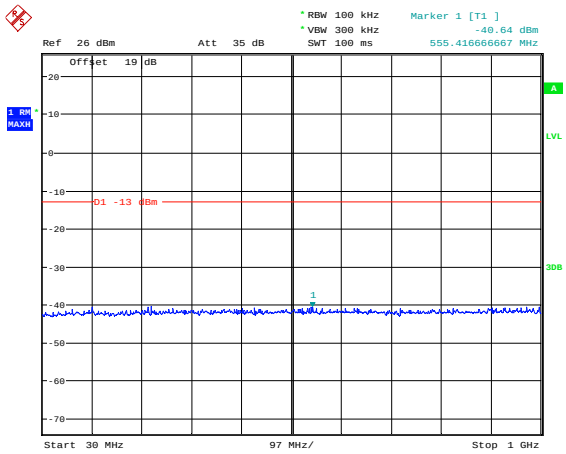
4.5.3 Test Results

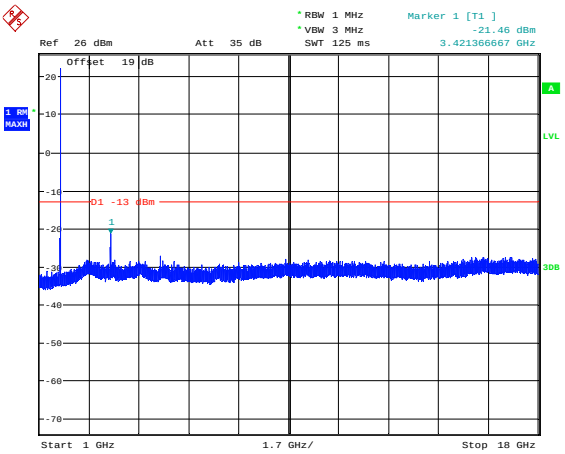
The measurement frequency range is from 30MHz to the 10thharmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the out of band emissions. Only the worst RB size/offset presented.

Compliant. See attached pots.

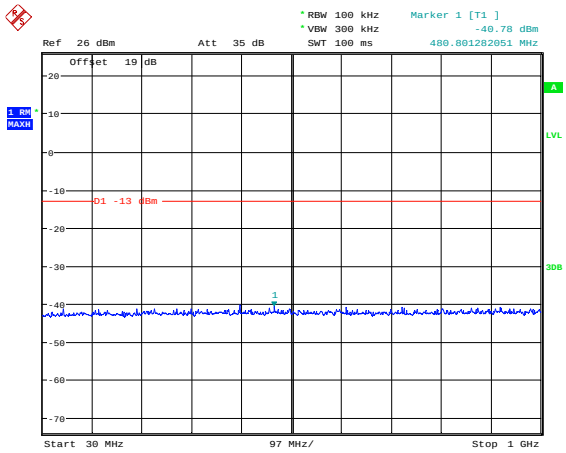
Test Plots:

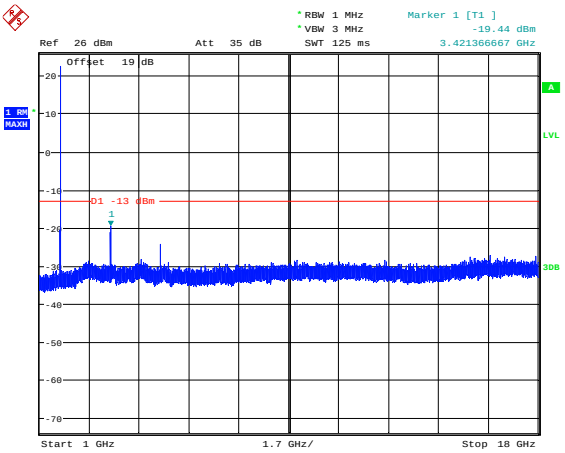
Lowest Channel / 1.4MHz / QPSK



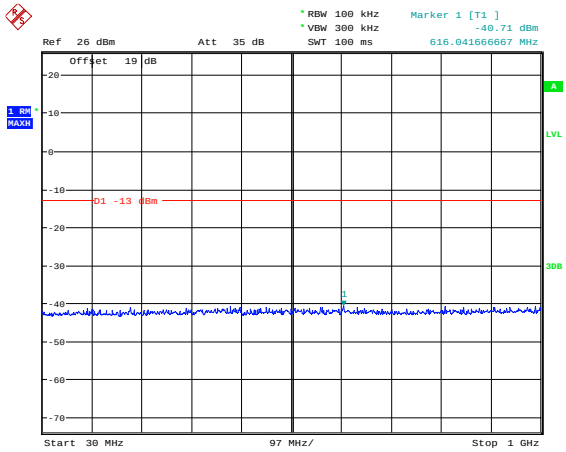


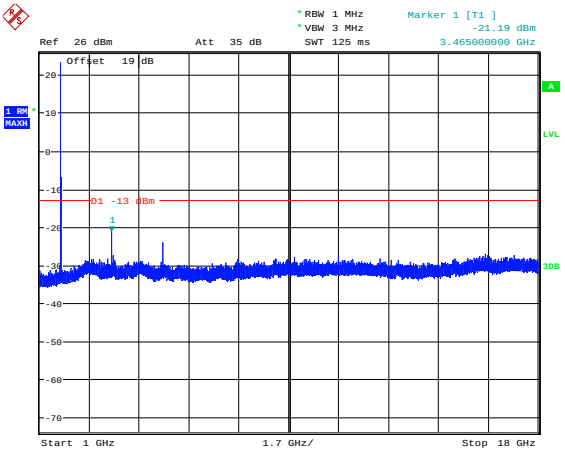
Lowest Channel / 1.4MHz / 16QAM



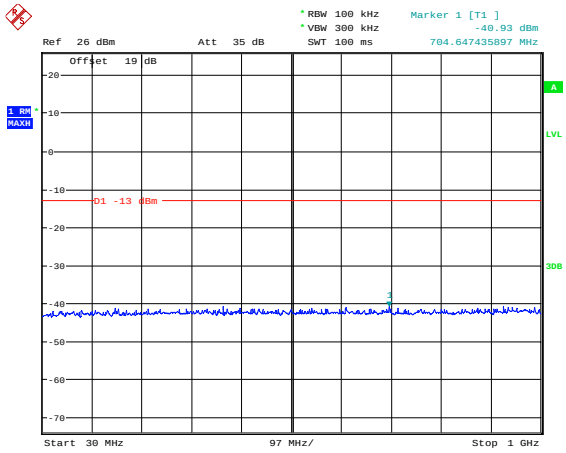


Middle Channel / 1.4MHz / QPSK

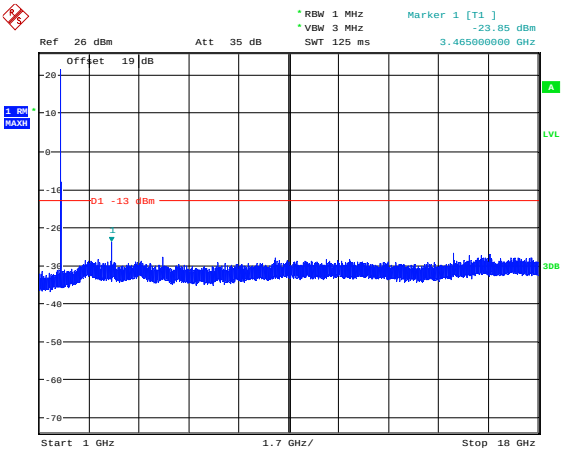




Middle Channel / 1.4MHz / 16QAM

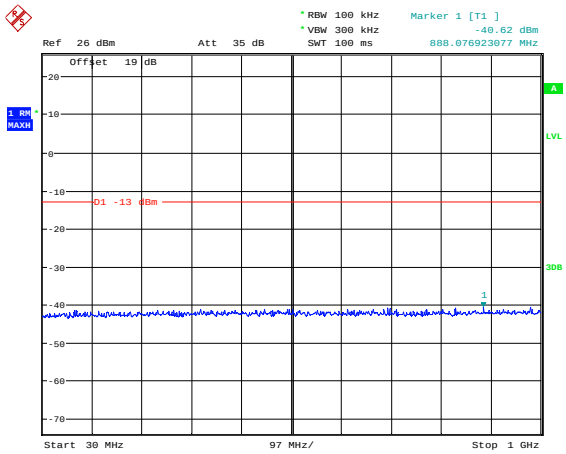


Date: 16.MAY.2016 18:57:09



Date: 16.MAY.2016 18:08:25

Highest Channel / 1.4MHz / QPSK



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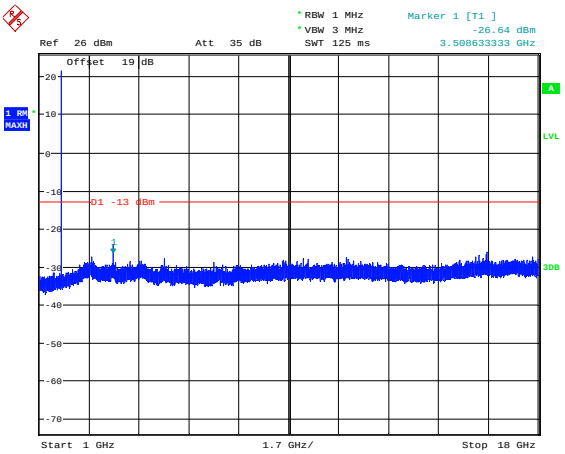
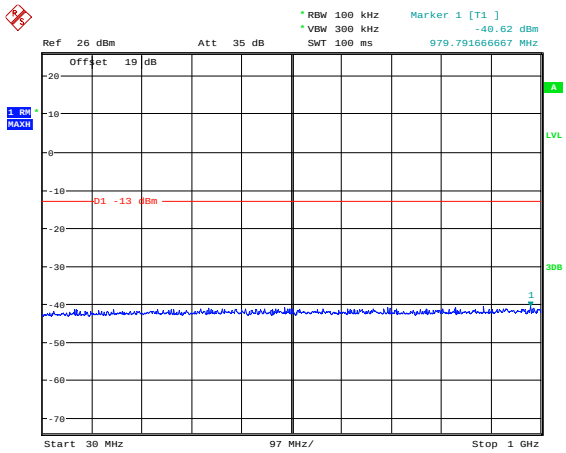
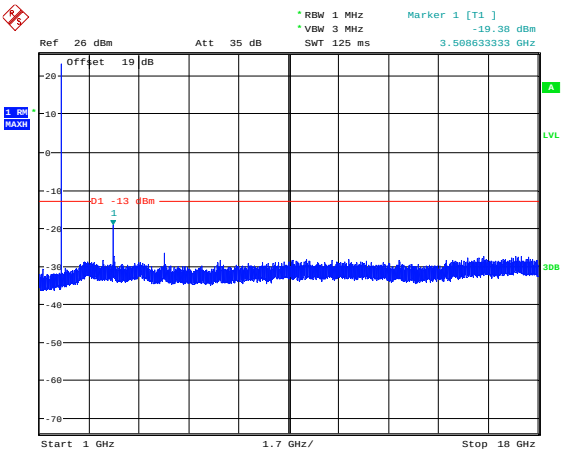


Date: 16.MAY.2016 18:08:58

Highest Channel / 1.4MHz / 16QAM

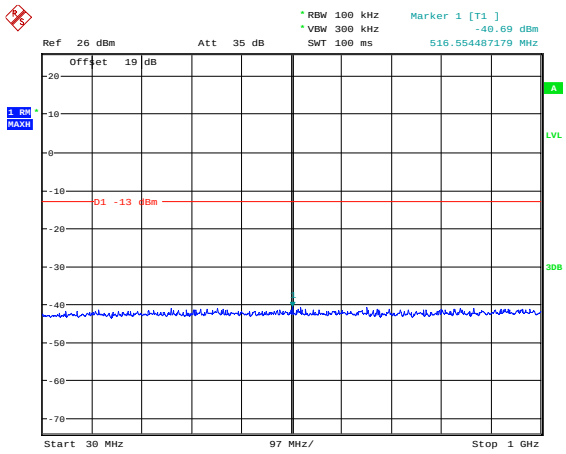


Date: 16.MAY.2016 18:57:24



Date: 16.MAY.2016 18:09:25

Lowest Channel / 3MHz / QPSK



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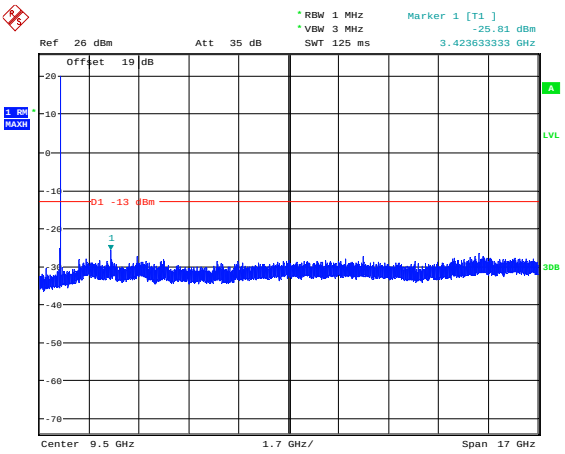
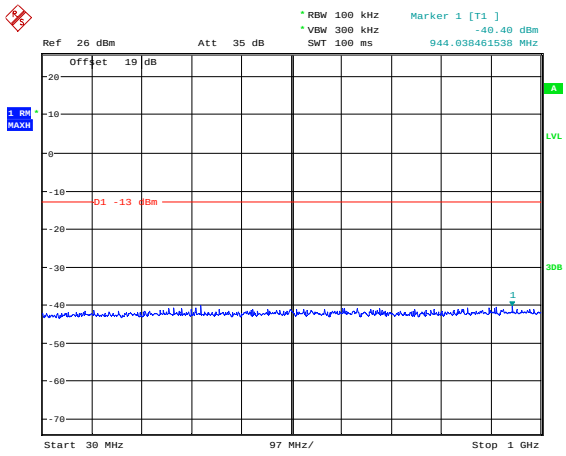


Date: 16.MAY.2016 18:11:49

Lowest Channel / 3MHz / 16QAM



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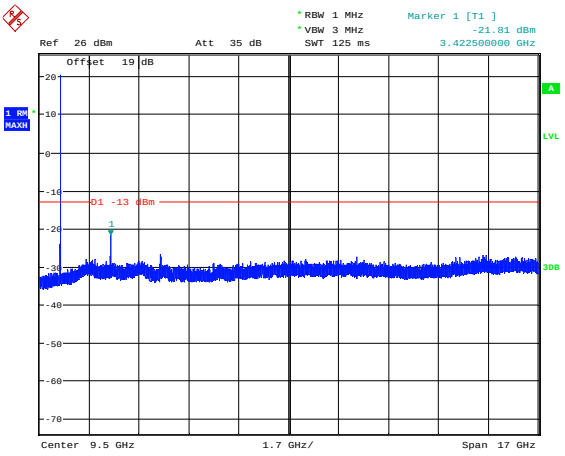
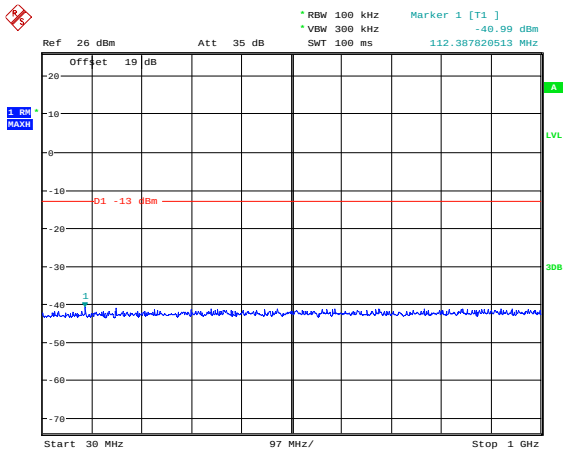


Date: 16.MAY.2016 18:10:52

Middle Channel / 3MHz / QPSK



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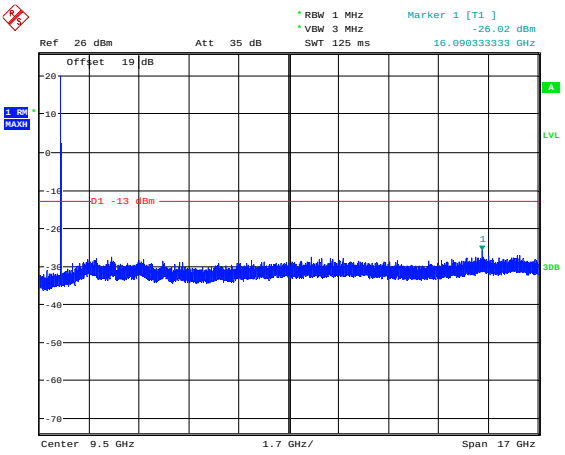

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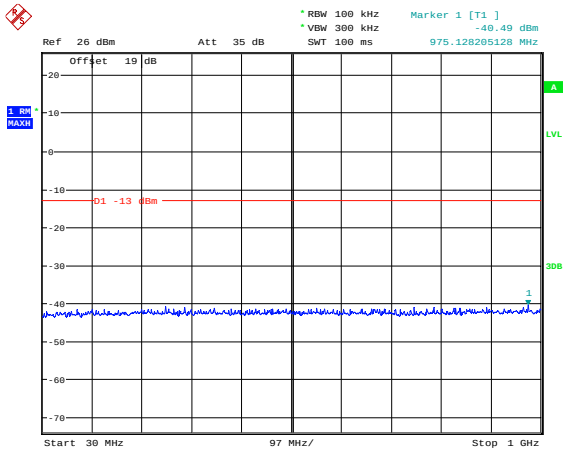
Middle Channel / 3MHz / 16QAM



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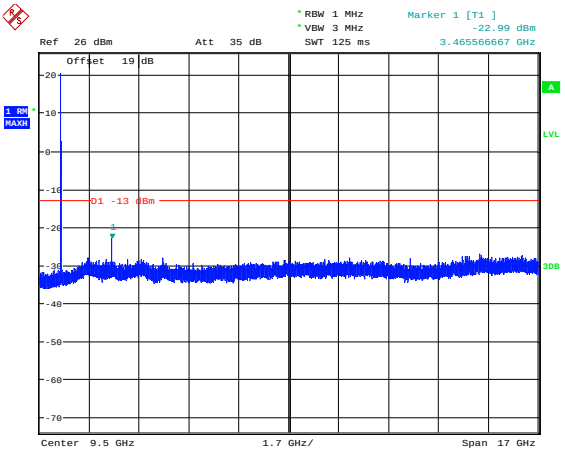

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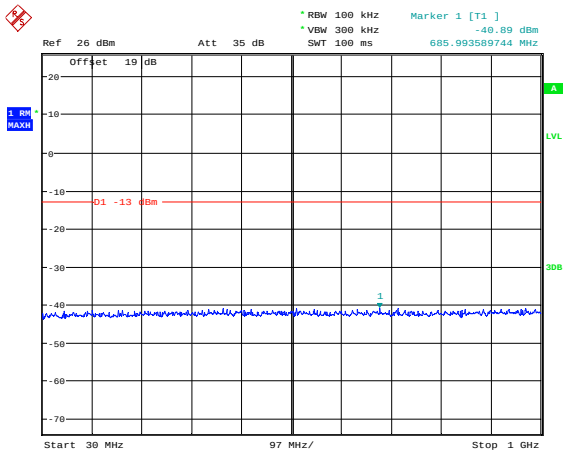
Highest Channel / 3MHz / QPSK



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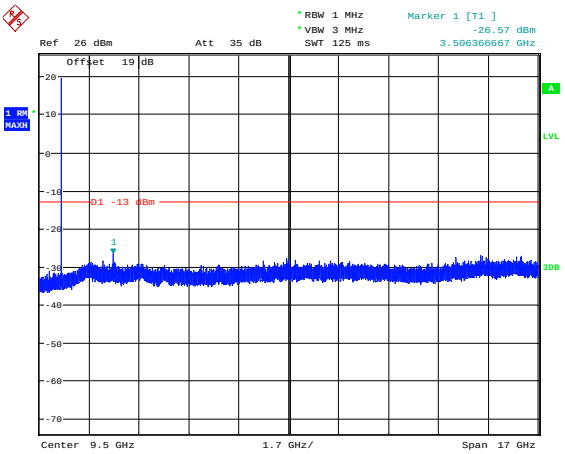

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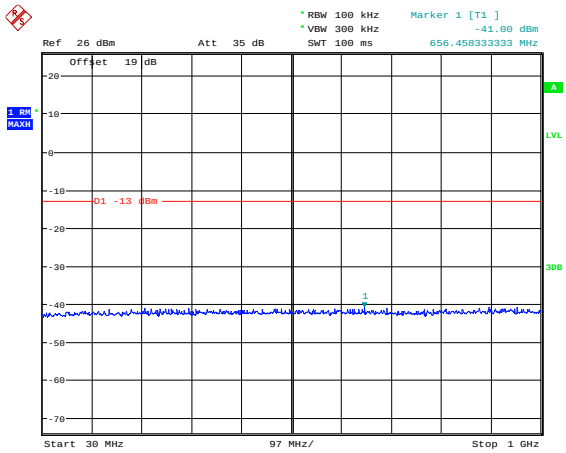
Highest Channel / 3MHz / 16QAM



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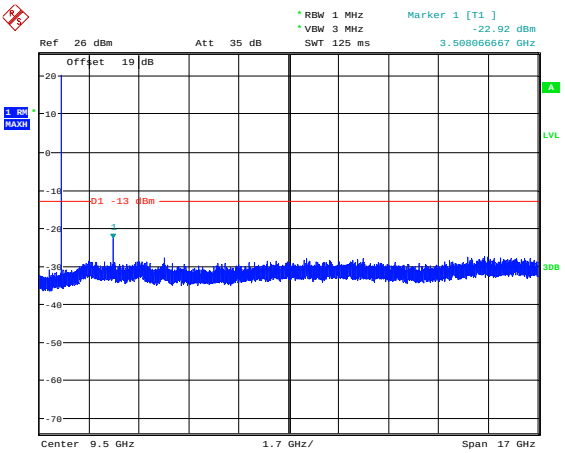
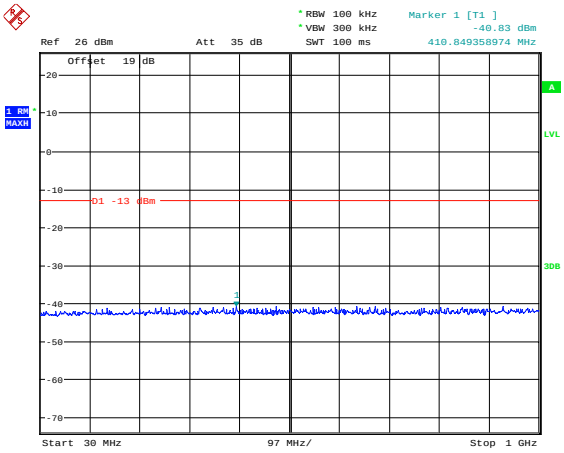


Date: 16.MAY.2016 18:13:40

Lowest Channel / 5MHz / QPSK



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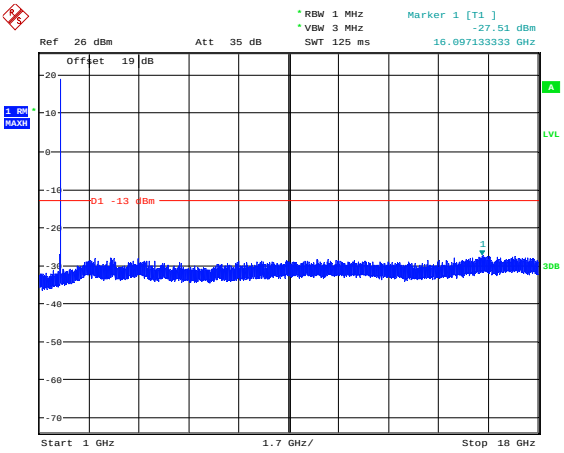
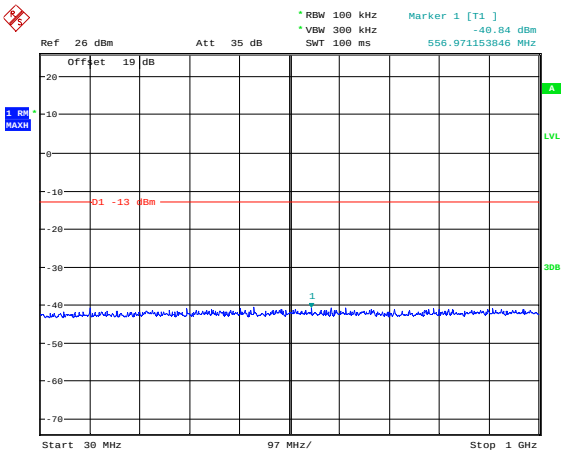


Date: 16.MAY.2016 18:15:01

Lowest Channel / 5MHz / 16QAM



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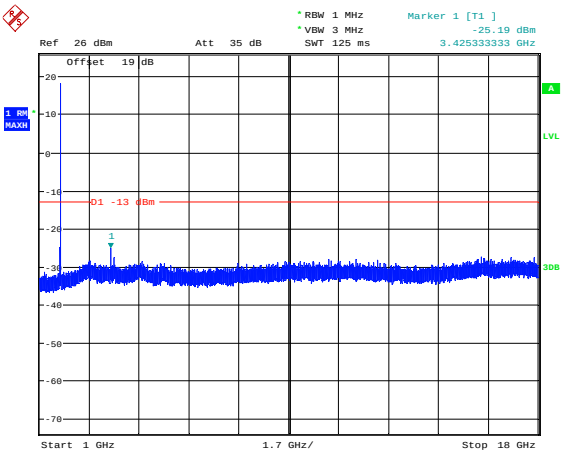

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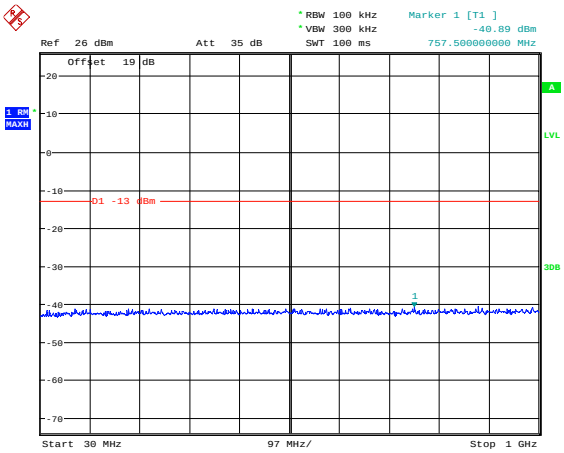
Middle Channel / 5MHz / QPSK



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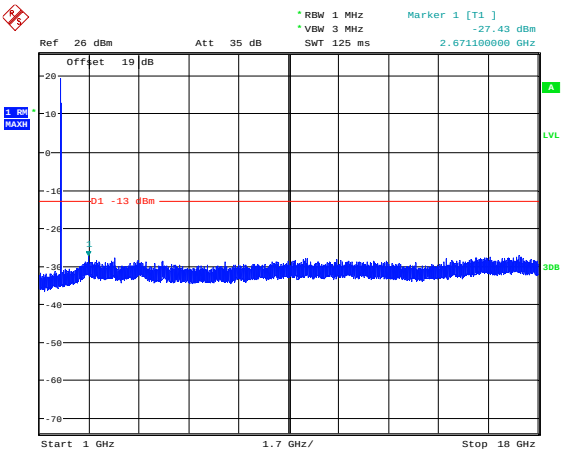
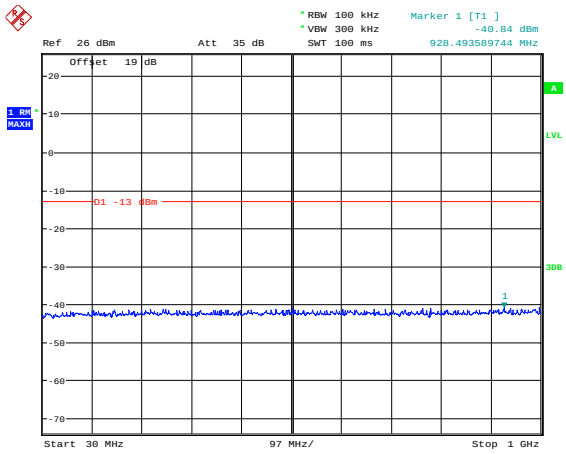
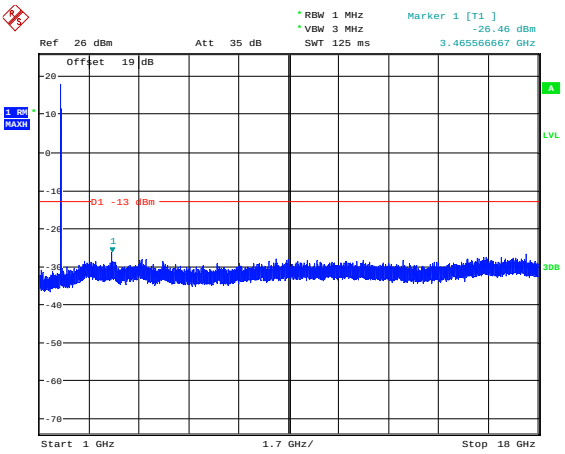


Date: 16.MAY.2016 18:17:06

Middle Channel / 5MHz / 16QAM

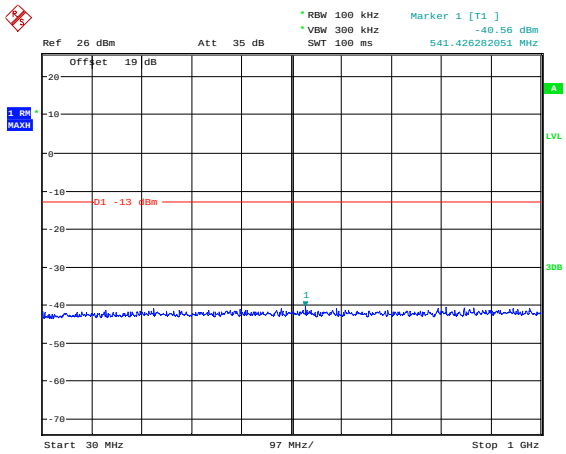


Date: 16.MAY.2016 18:58:58

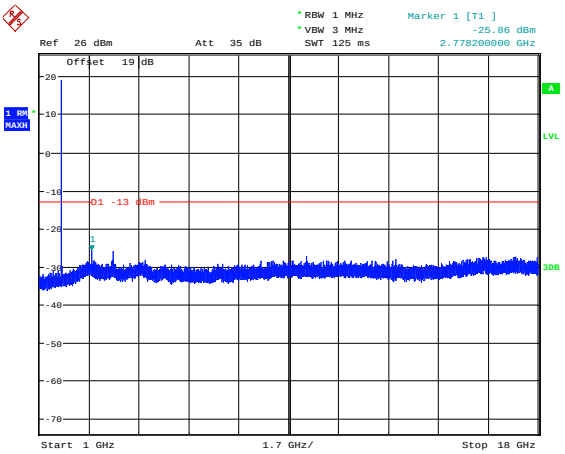


Date: 16.MAY.2016 18:16:14

Highest Channel / 5MHz / QPSK

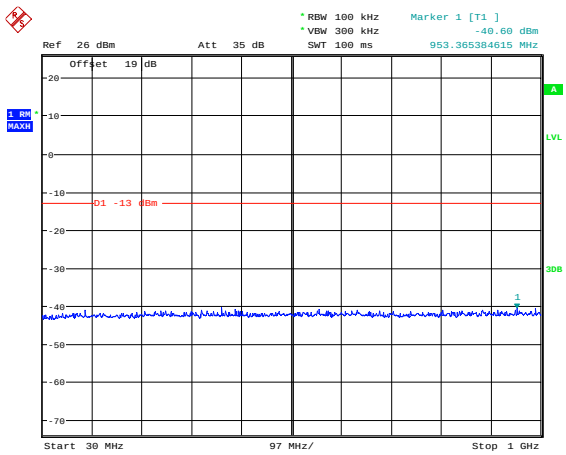


Date: 16.MAY.2016 18:59:06



Date: 16.MAY.2016 18:18:37

Highest Channel / 5MHz / 16QAM



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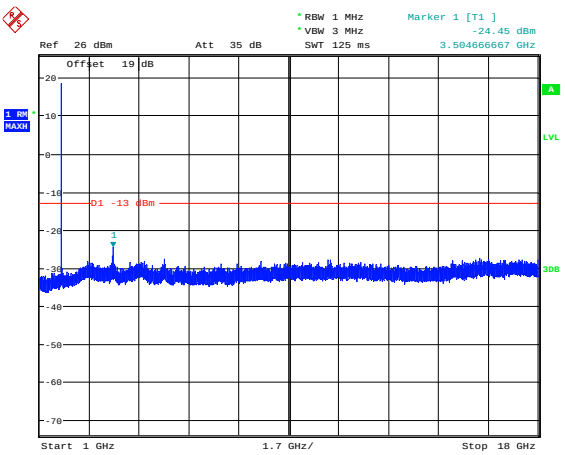
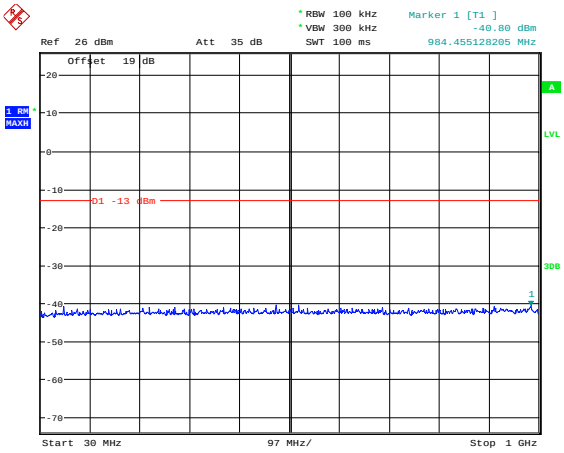
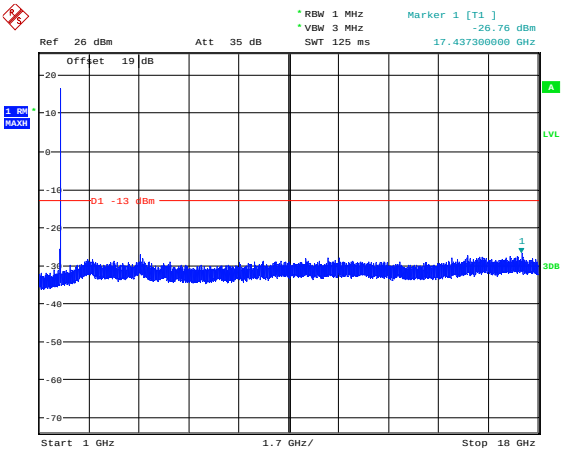


Date: 16.MAY.2016 18:19:11

Lowest Channel / 10MHz / QPSK

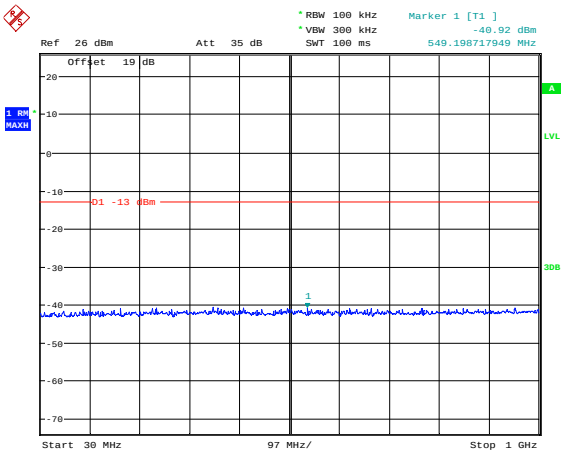


Date: 16.MAY.2016 18:59:26



Date: 16.MAY.2016 18:20:50

Lowest Channel / 10MHz / 16QAM



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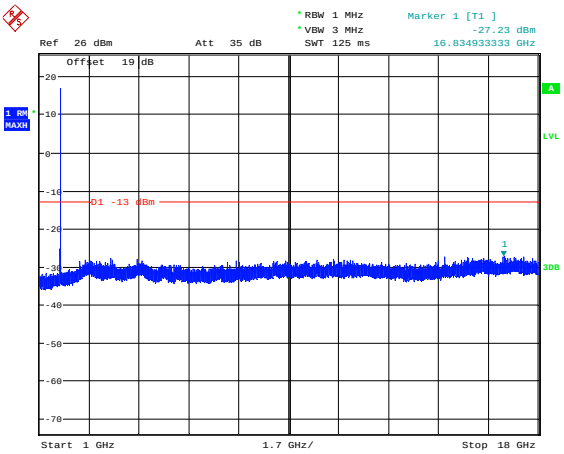
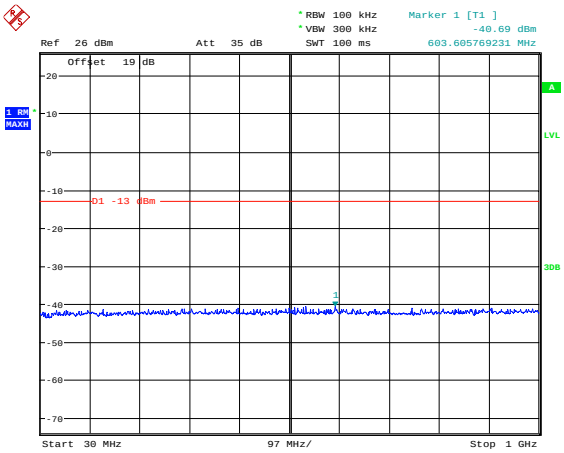
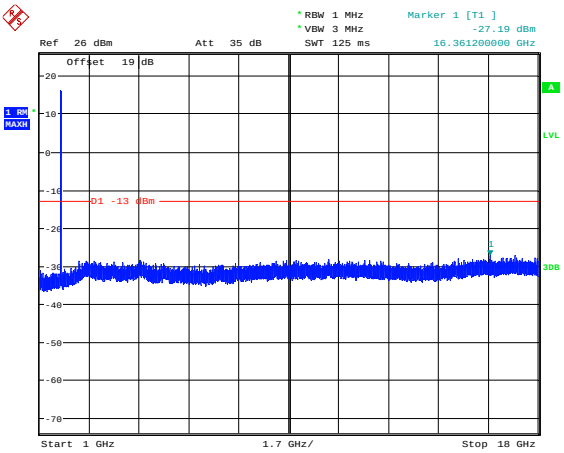


Date: 16.MAY.2016 18:20:04

Middle Channel / 10MHz / QPSK

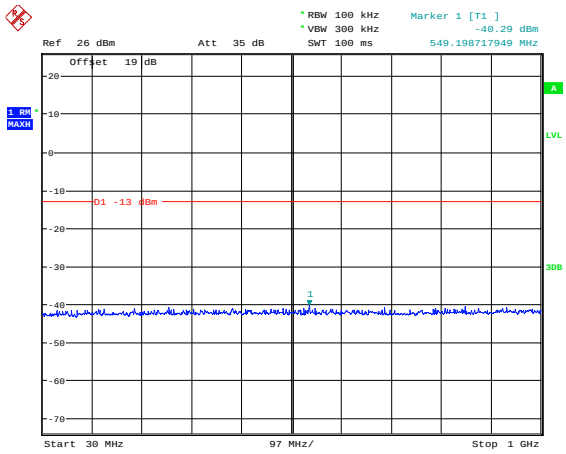


Date: 16.MAY.2016 18:59:52

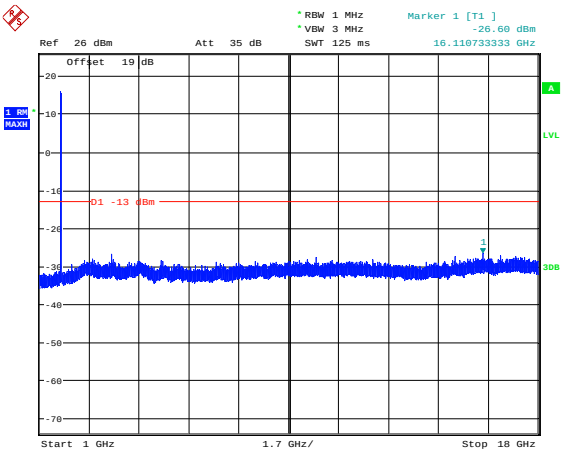


Date: 16.MAY.2016 18:21:20

Middle Channel / 10MHz / 16QAM

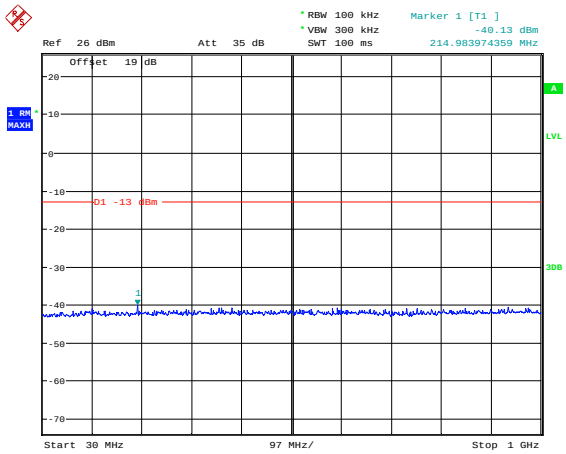


Date: 16.MAY.2016 19:00:06



Date: 16.MAY.2016 18:22:00

Highest Channel / 10MHz / QPSK



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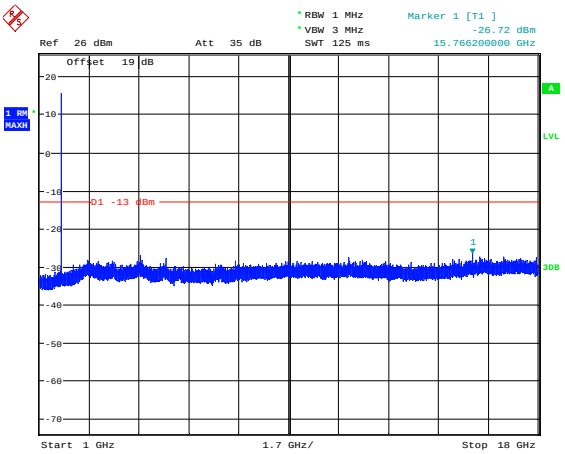

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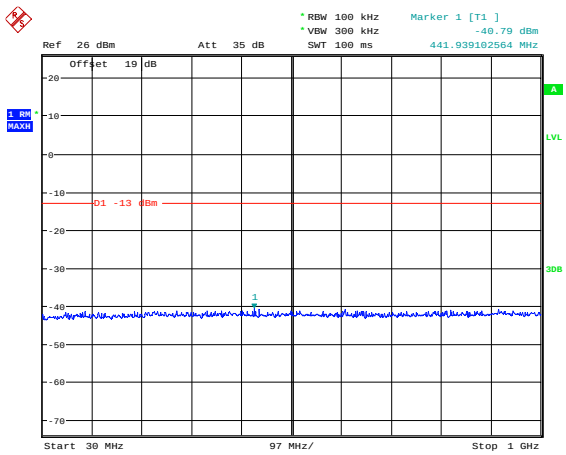
Highest Channel / 10MHz / 16QAM



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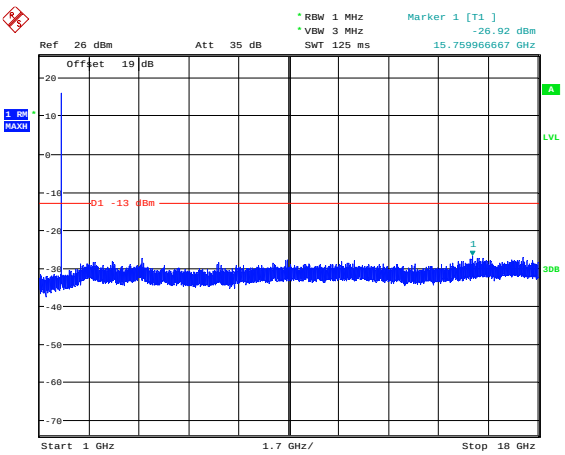

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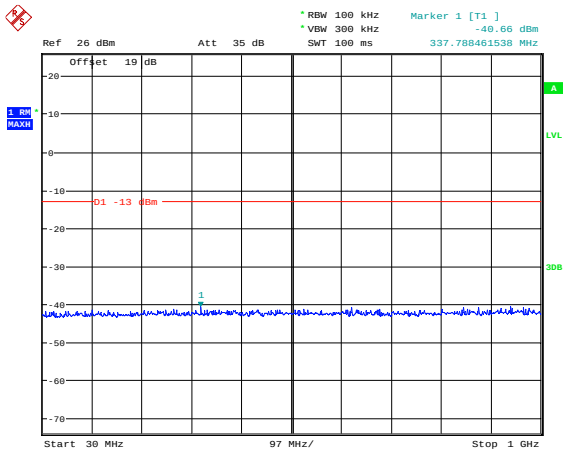
Lowest Channel / 15MHz / QPSK



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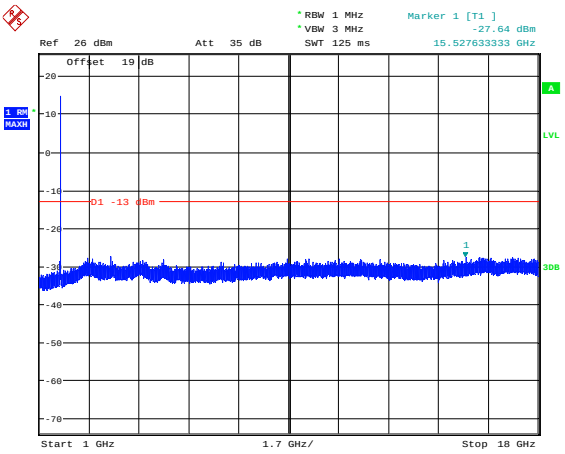
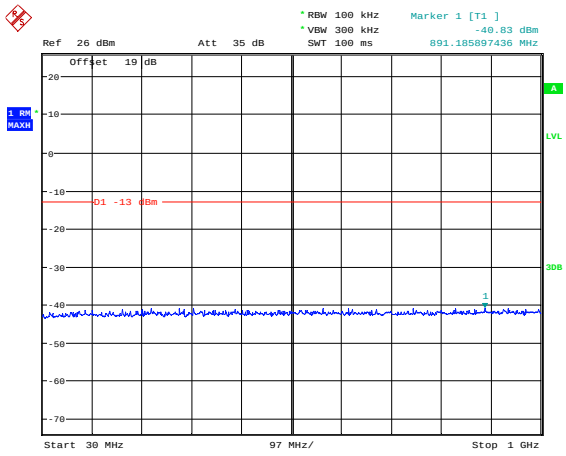
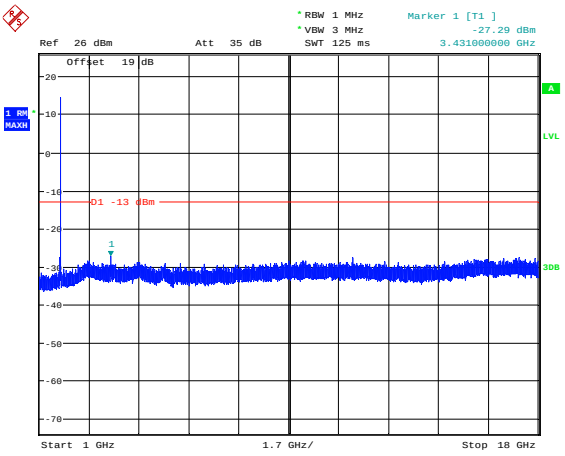


Date: 16.MAY.2016 18:24:14

Lowest Channel / 15MHz / 16QAM

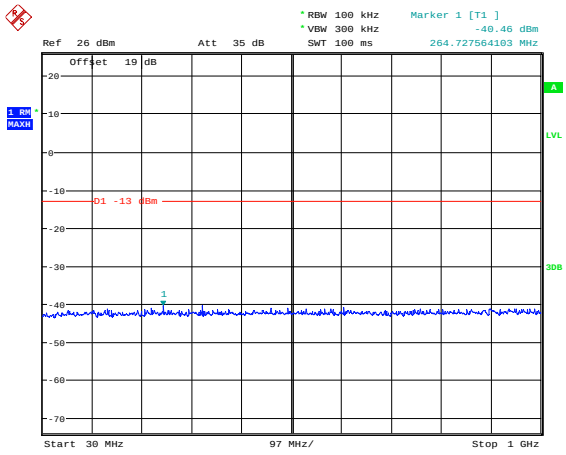


Date: 16.MAY.2016 19:00:49



Date: 16.MAY.2016 18:39:11

Middle Channel / 15MHz / QPSK



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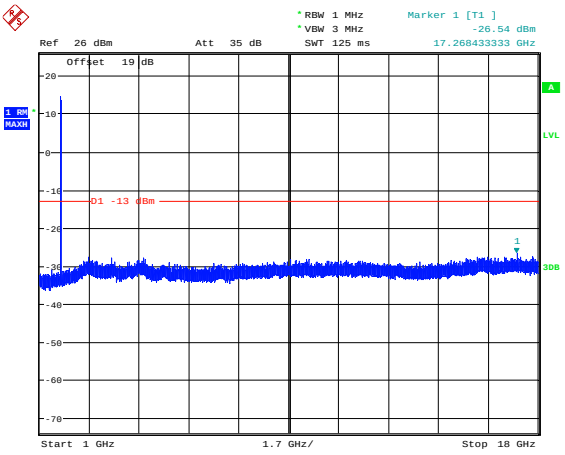
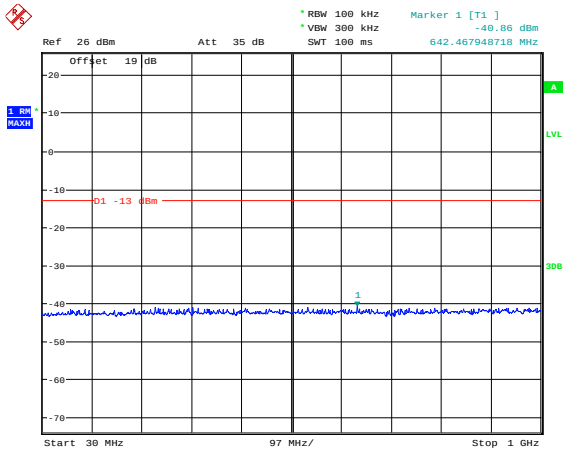


Date: 16.MAY.2016 18:48:29

Middle Channel / 15MHz / 16QAM



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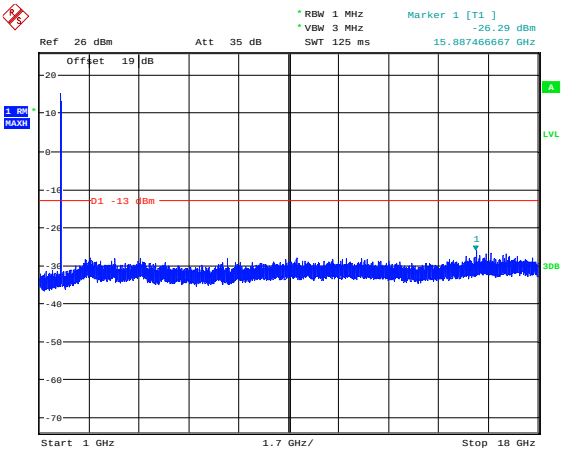

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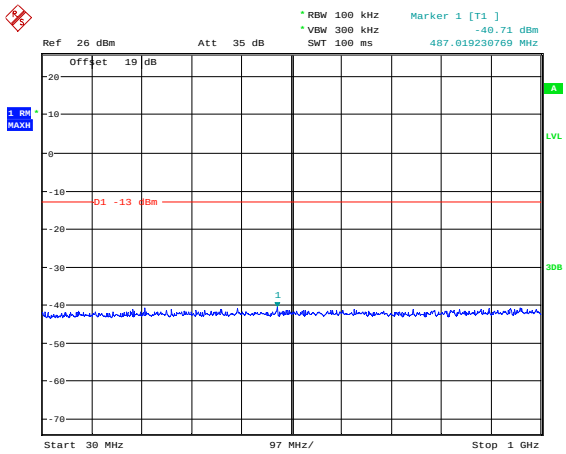
Highest Channel / 15MHz / QPSK



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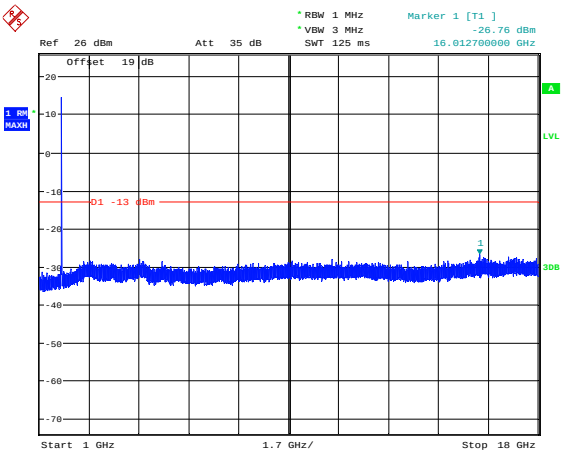
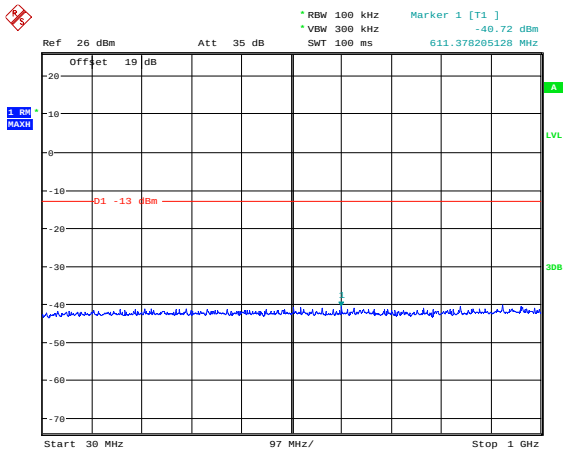


Date: 16.MAY.2016 18:49:04

Highest Channel / 15MHz / 16QAM



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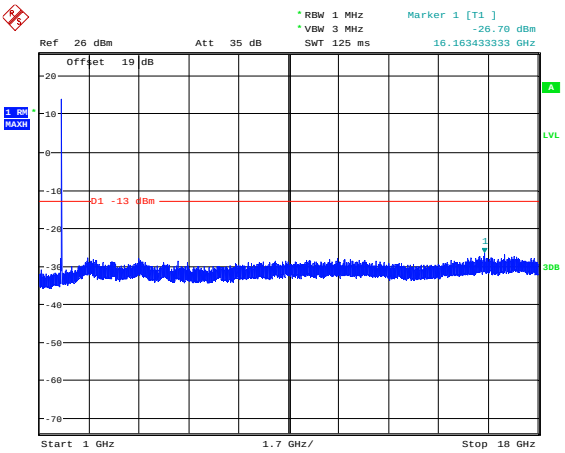

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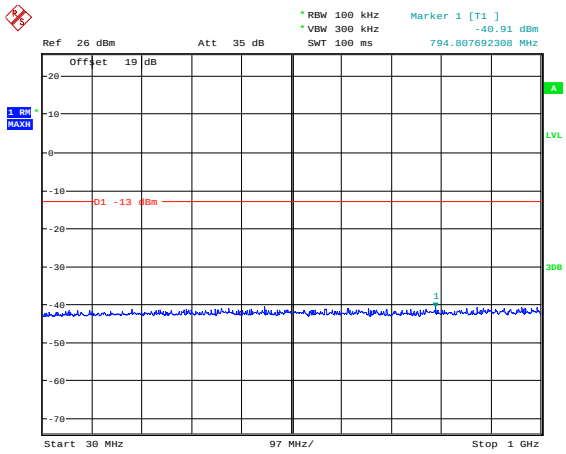
Lowest Channel / 20MHz / QPSK



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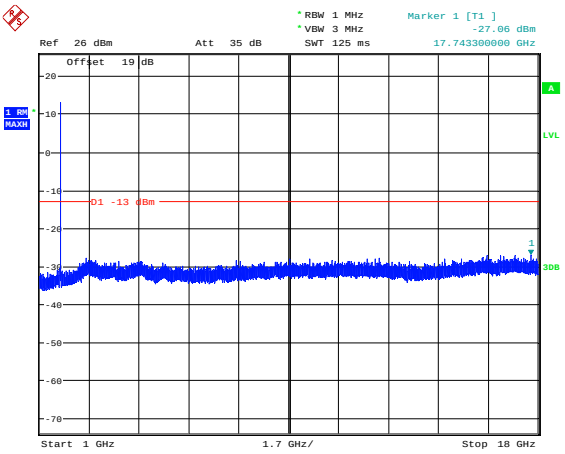

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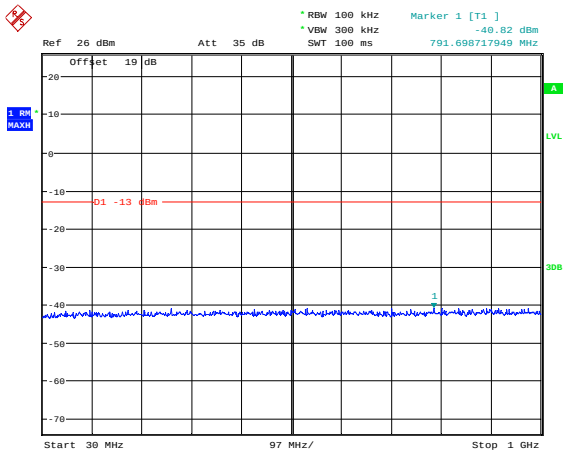
Lowest Channel / 20MHz / 16QAM



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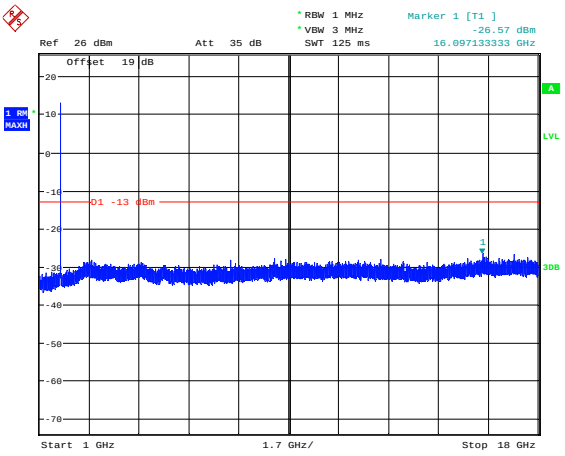

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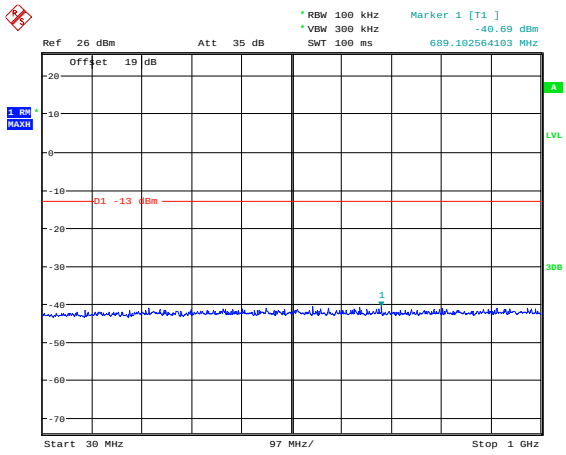
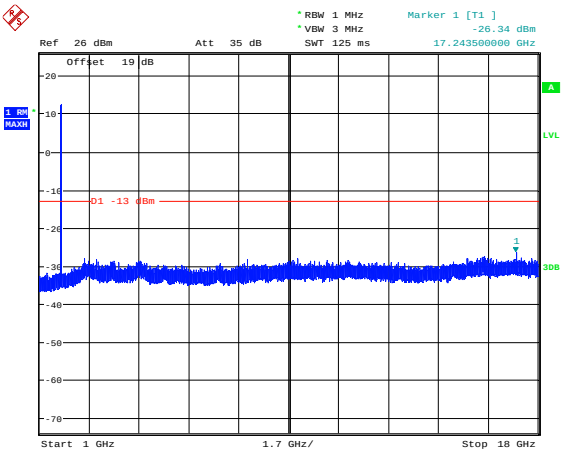
Middle Channel / 20MHz / QPSK

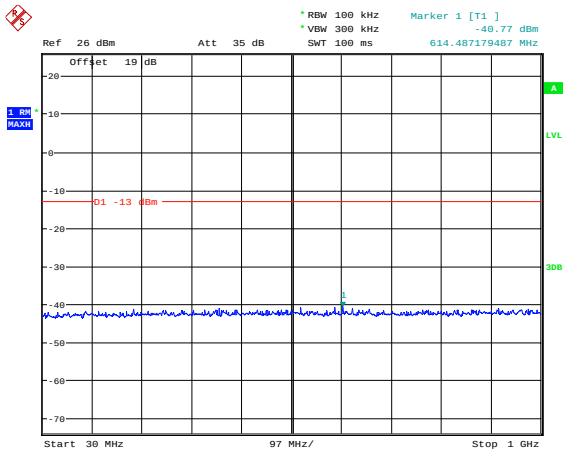


Date: 16.MAY.2016 19:01:52



Date: 16.MAY.2016 18:52:05

Middle Channel / 20MHz / 16QAM



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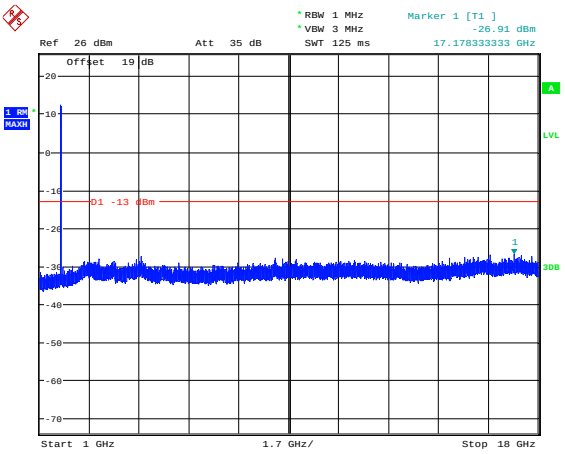

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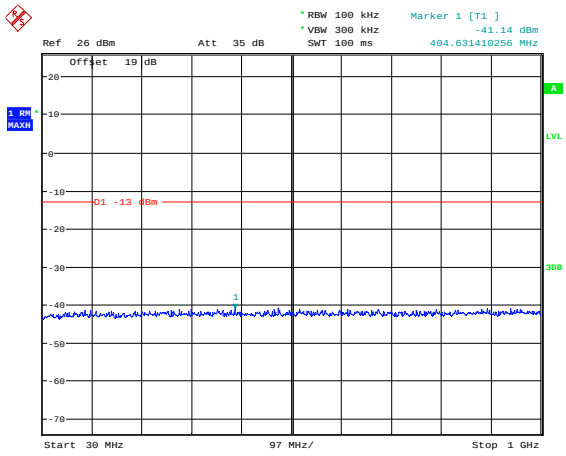
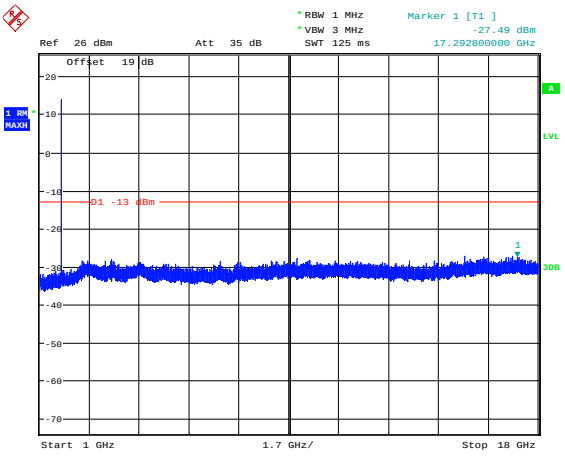
Highest Channel / 20MHz / QPSK



Date: 16.MAY.2016 19:02:08



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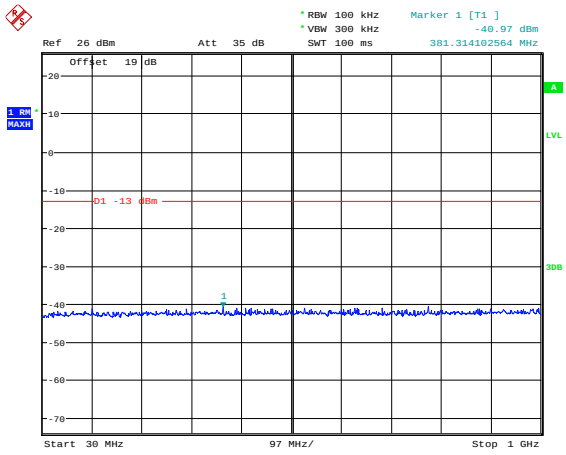
Highest Channel / 20MHz / 16QAM



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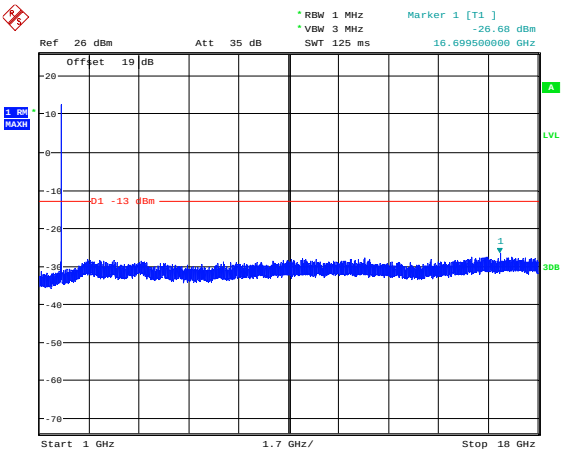


Date: 16.MAY.2016 18:54:02

NOTE：

The power of the EUT transmitting frequency should be ignored.

4.6 Band Edge

4.6.1 Requirement

According to FCC section 27.53 (h), for operations in the 1710–1755 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 + 10 log10(P) dB.

4.6.2 Test Description

See section 4.2.1 of this report.

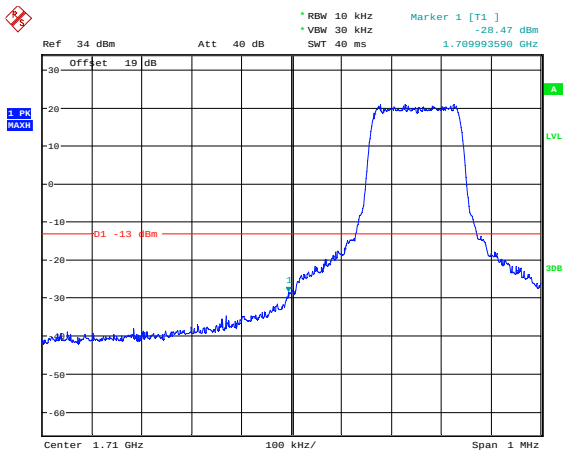
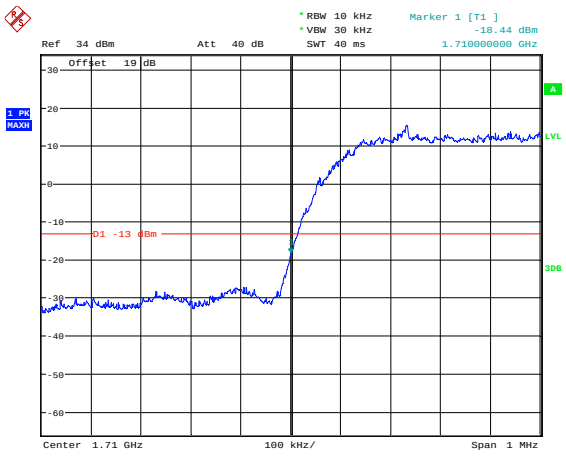
4.6.3 Test Results

The lowest and highest channels are tested to verify the band edge emissions.

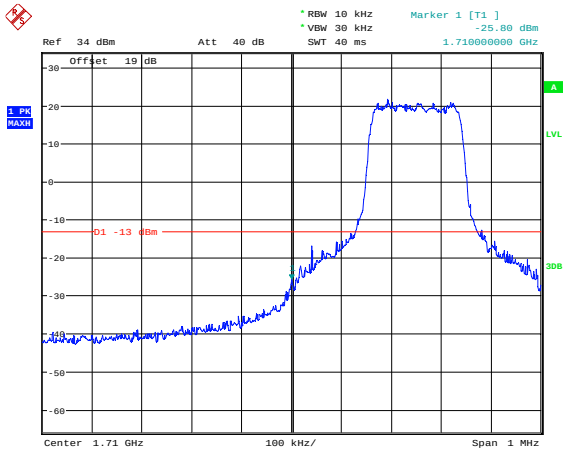
Compliant. See attached pots.

NOTE：
1) The power of the EUT transmitting frequency should be ignored.

Test Plots:

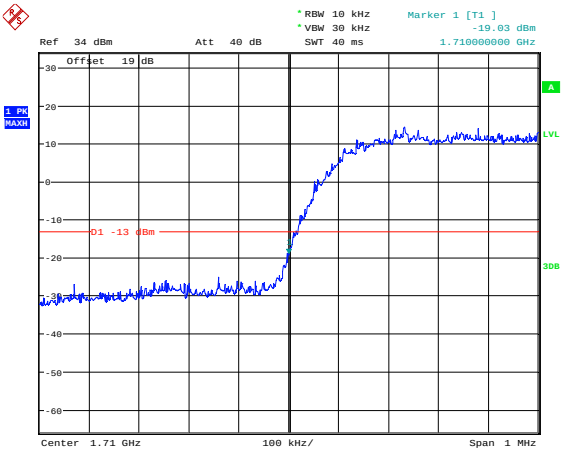
Lowest Channel / 1.4MHz / QPSK / 1RB	Lowest Channel / 1.4MHz / QPSK / Full RB
	

Lowest Channel / 1.4MHz / 16QAM / 1RB



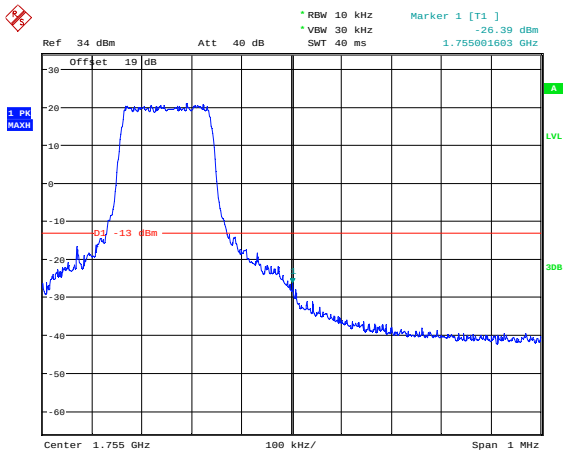
Date: 20.MAY.2016 14:28:54

Lowest Channel / 1.4MHz / 16QAM / Full RB



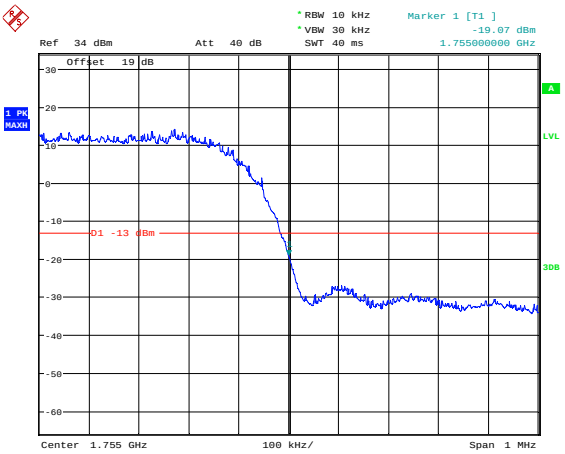
Date: 20.MAY.2016 19:31:49

Highest Channel / 1.4MHz / QPSK / 1RB



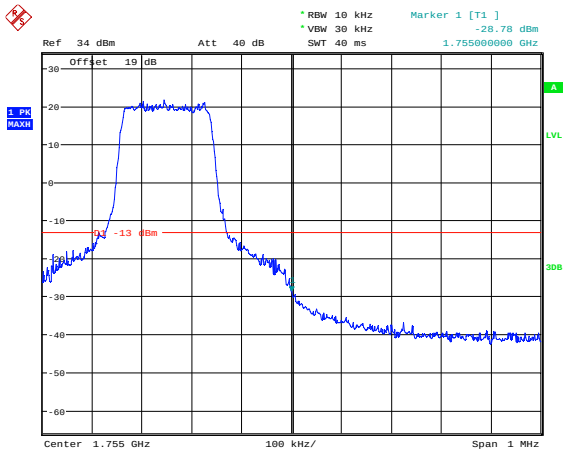
Date: 20.MAY.2016 14:31:45

Highest Channel / 1.4MHz / QPSK / Full RB



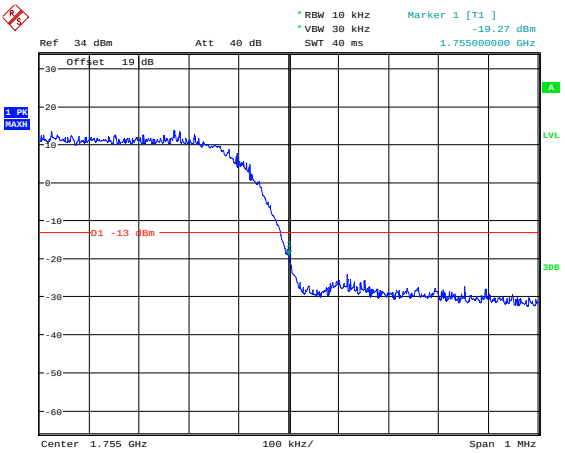
Date: 19.MAY.2016 19:33:36

Highest Channel / 1.4MHz / 16QAM / 1RB



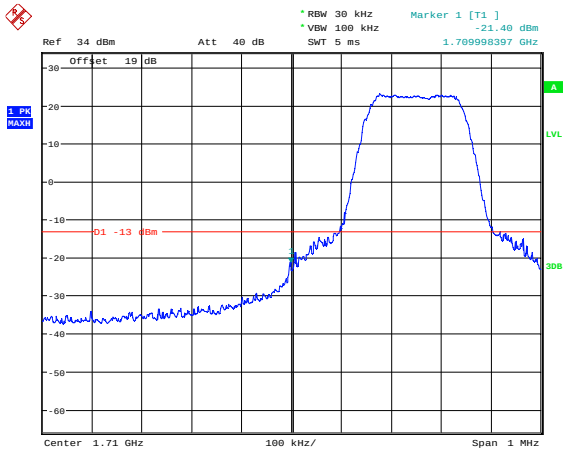
Date: 20.MAY.2016 14:30:52

Highest Channel / 1.4MHz / 16QAM / Full RB

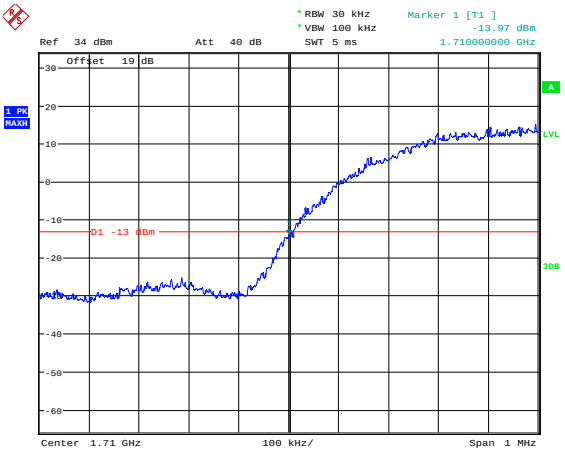


Date: 19.MAY.2016 19:34:17

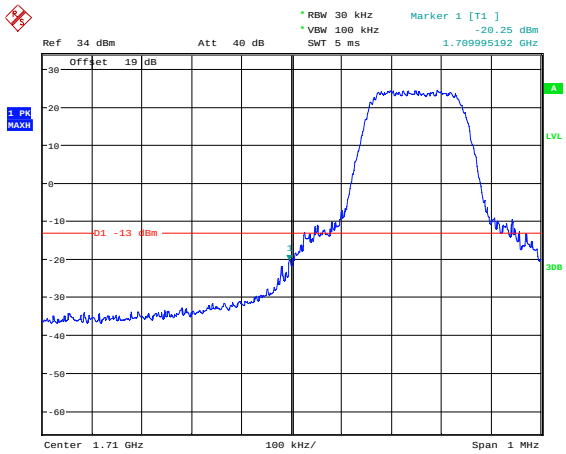
Lowest Channel / 3MHz / QPSK / 1RB



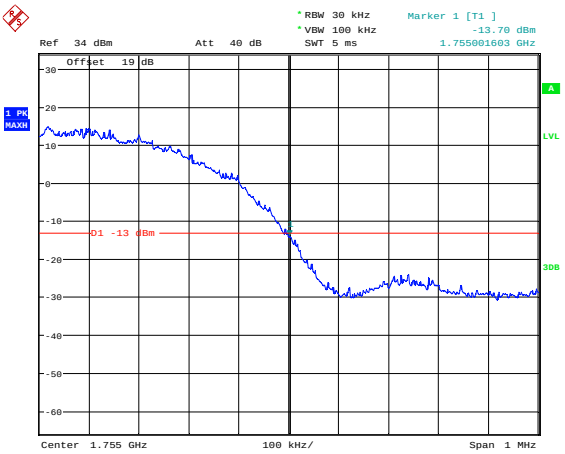
Lowest Channel / 3MHz / QPSK / Full RB



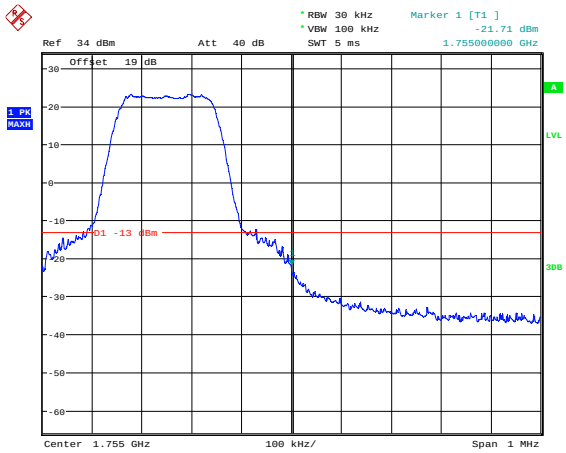
Lowest Channel / 3MHz / 16QAM / 1RB



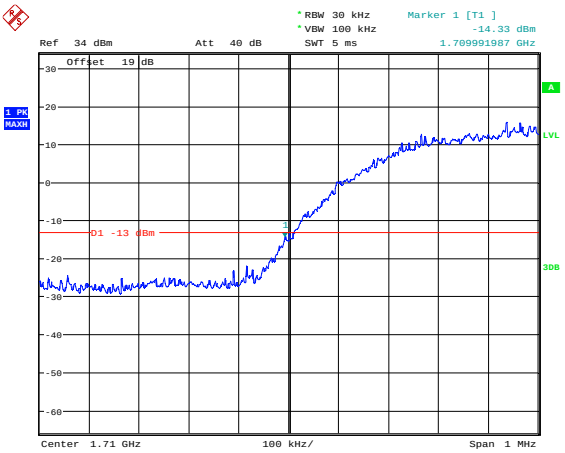
Lowest Channel / 3MHz / 16QAM / Full RB



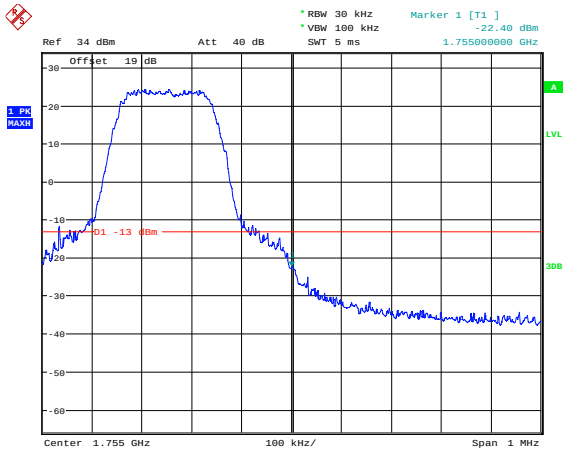
Highest Channel / 3MHz / QPSK / 1RB



Highest Channel / 3MHz / QPSK / Full RB



Highest Channel / 3MHz / 16QAM / 1RB



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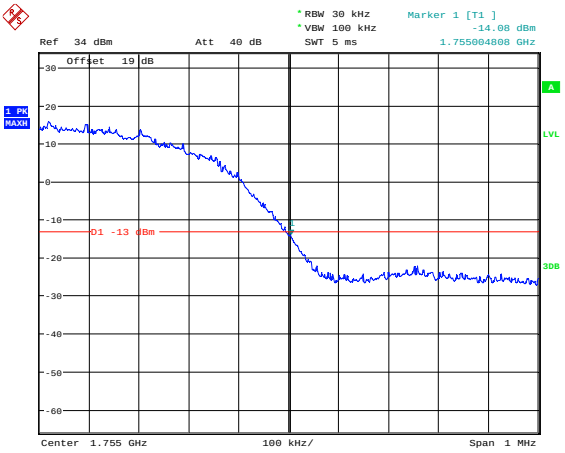
Highest Channel / 3MHz / 16QAM / Full RB



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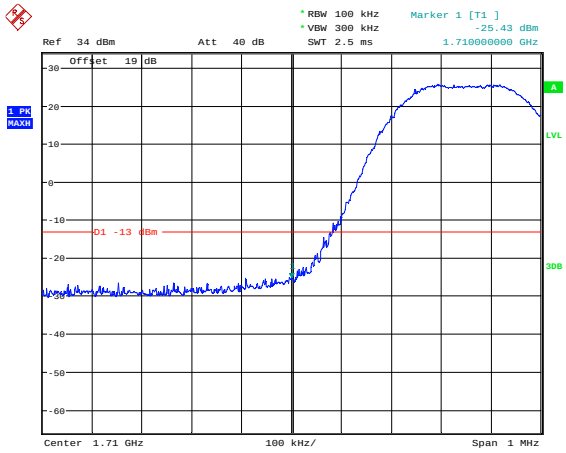
Lowest Channel / 5MHz / QPSK / 1RB



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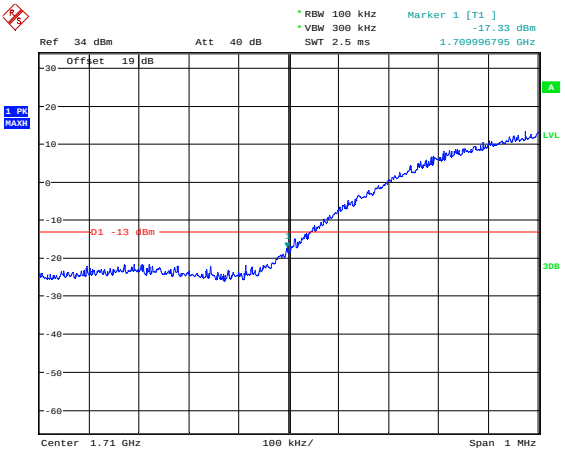
Lowest Channel / 5MHz / QPSK / Full RB



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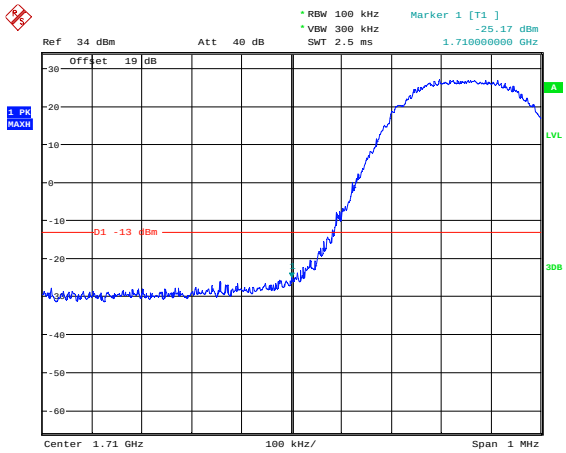
Lowest Channel / 5MHz / 16QAM / 1RB



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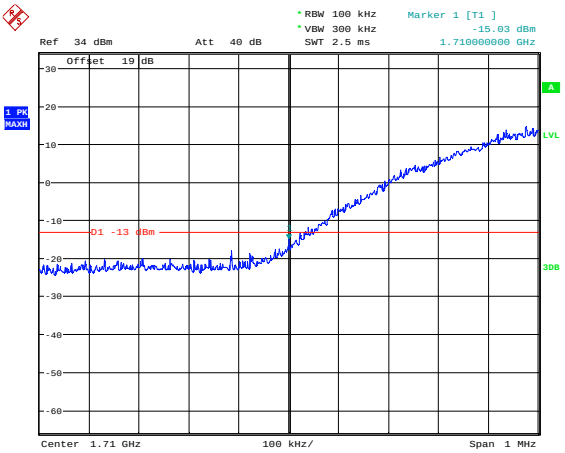
Lowest Channel / 5MHz / 16QAM / Full RB



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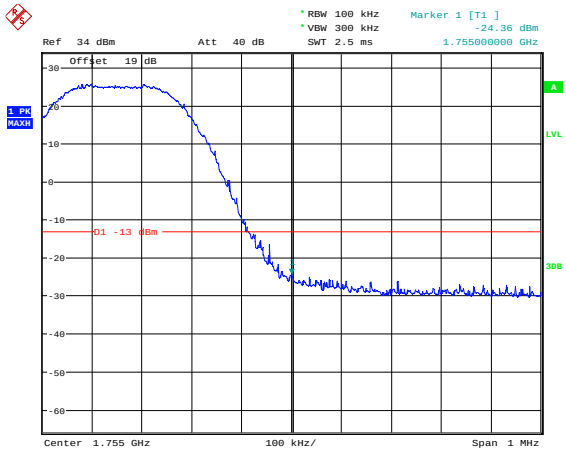
Highest Channel / 5MHz / QPSK / 1RB



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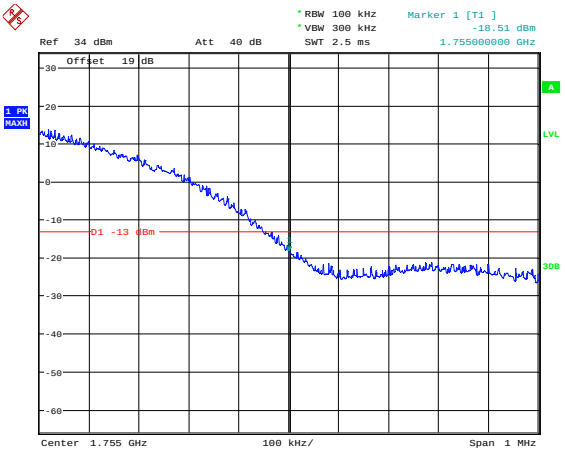
Highest Channel / 5MHz / QPSK / Full RB



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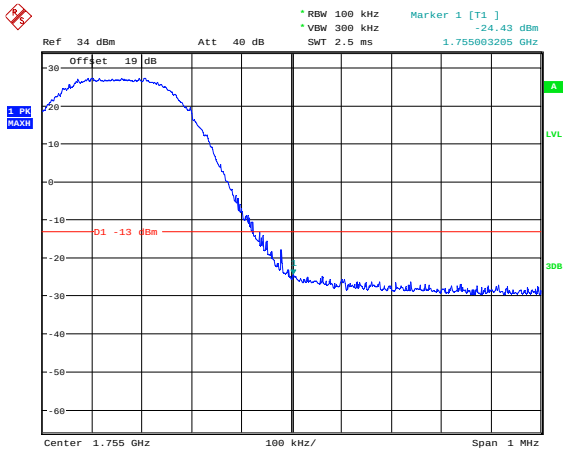
Highest Channel / 5MHz / 16QAM / 1RB



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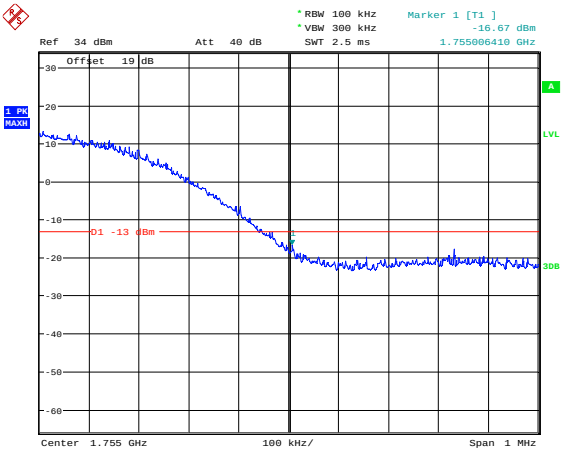
Highest Channel / 5MHz / 16QAM / Full RB



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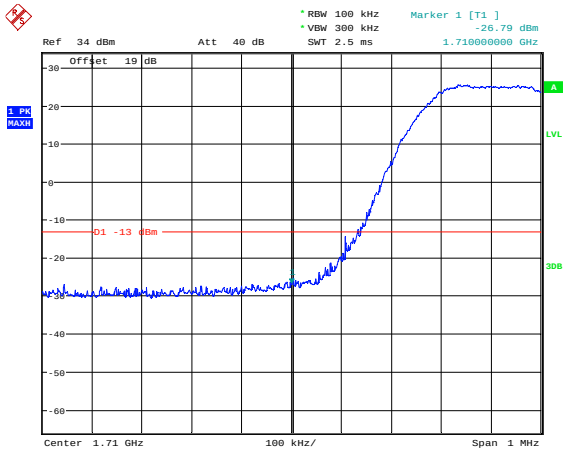
Lowest Channel / 10MHz / QPSK / 1RB



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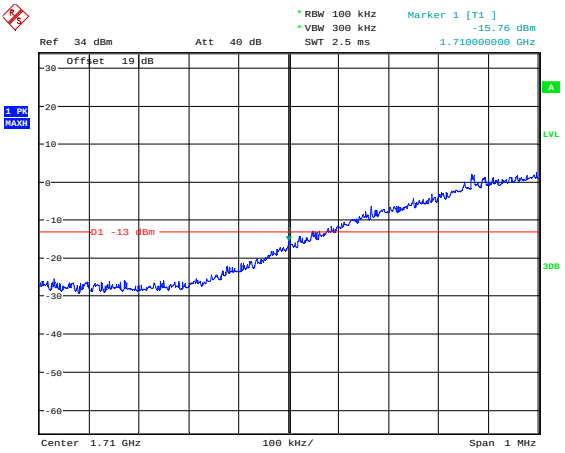
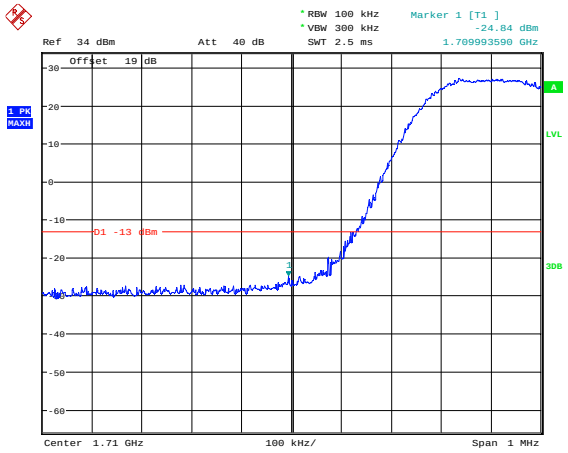


Date: 19.MAY.2016 19:46:04

Lowest Channel / 10MHz / 16QAM / 1RB



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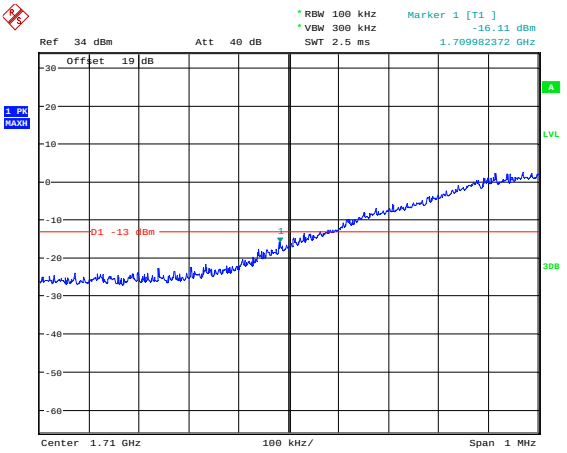

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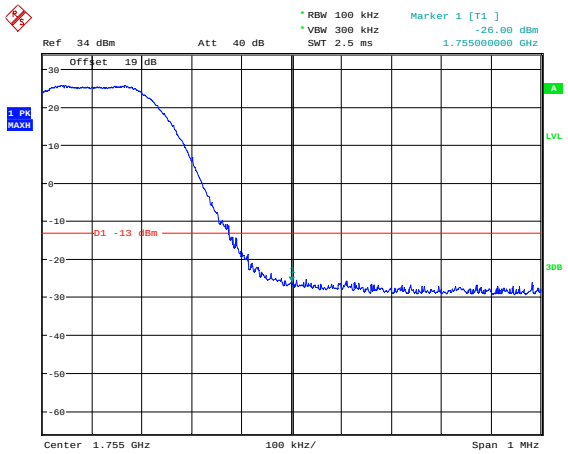

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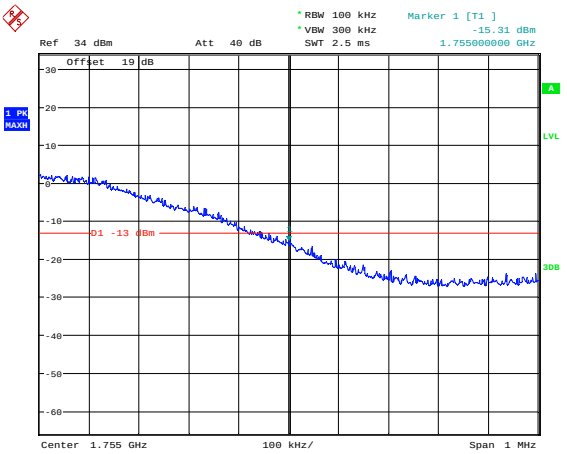
Highest Channel / 10MHz / QPSK / Full RB



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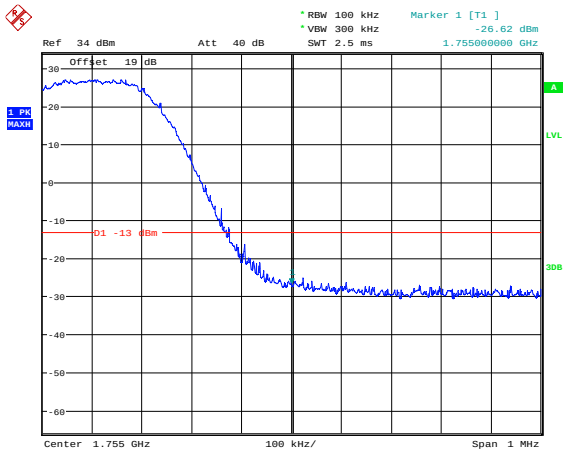
Highest Channel / 10MHz / 16QAM / 1RB



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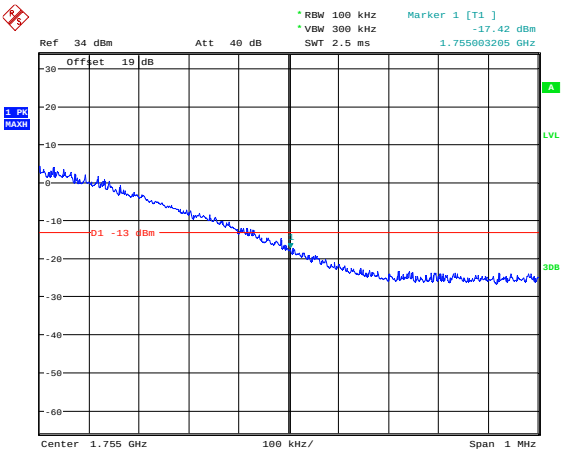
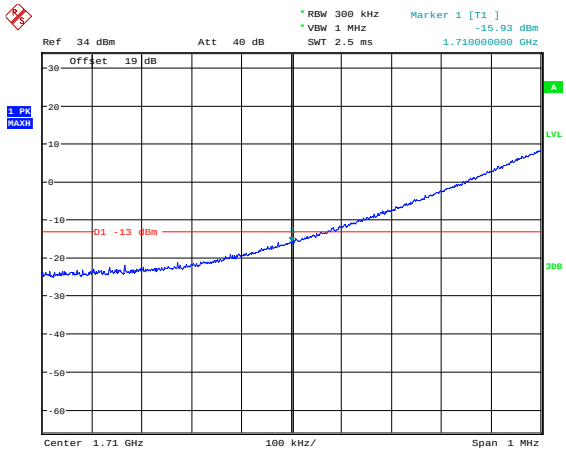
Highest Channel / 10MHz / 16QAM / Full RB



Date: 19.MAY.2016 19:48:04

Lowest Channel / 15MHz / QPSK / 1RB



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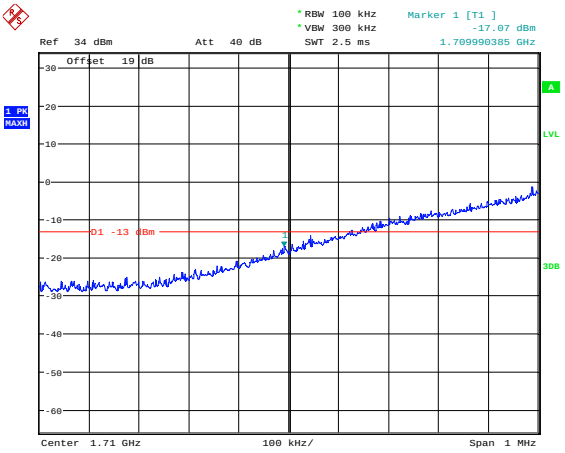
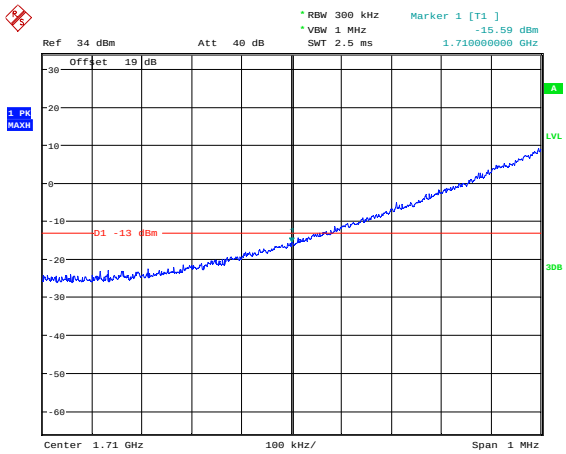
Lowest Channel / 15MHz / QPSK / Full RB



Date: 19.MAY.2016 19:56:59

Lowest Channel / 15MHz / 16QAM / 1RB



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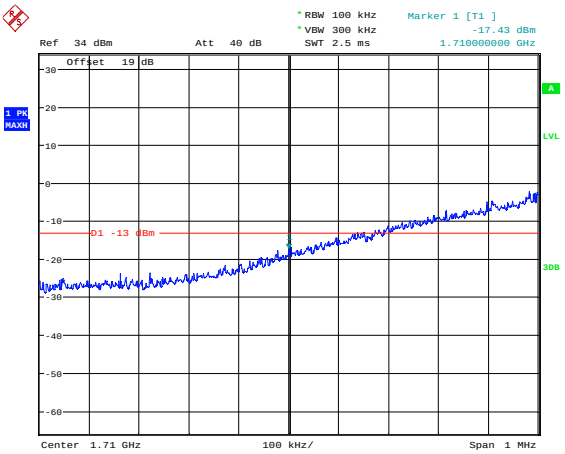
Lowest Channel / 15MHz / 16QAM / Full RB



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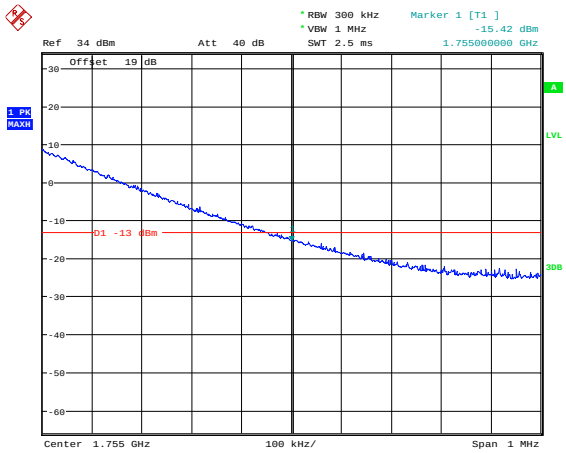
Highest Channel / 15MHz / QPSK / 1RB



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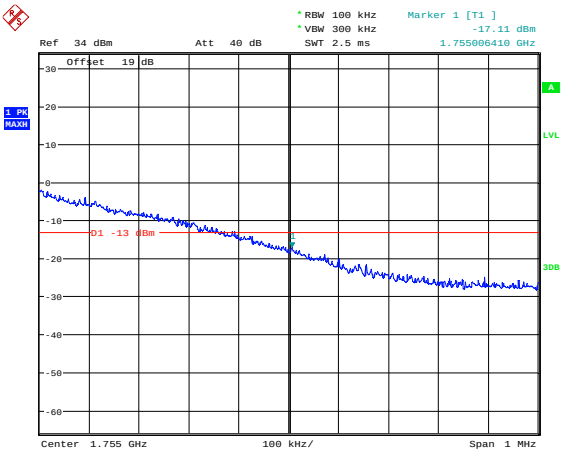
Highest Channel / 15MHz / QPSK / Full RB



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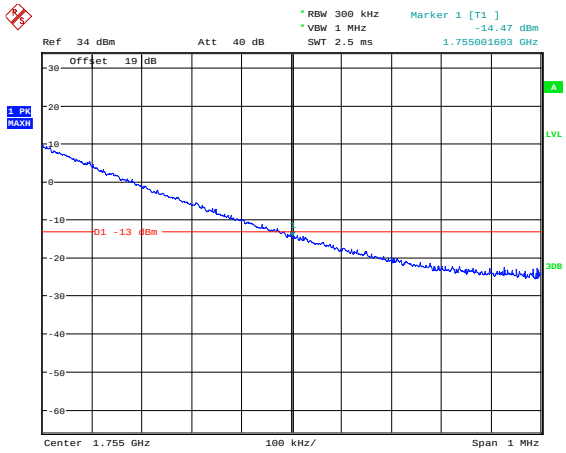
Highest Channel / 15MHz / 16QAM / 1RB



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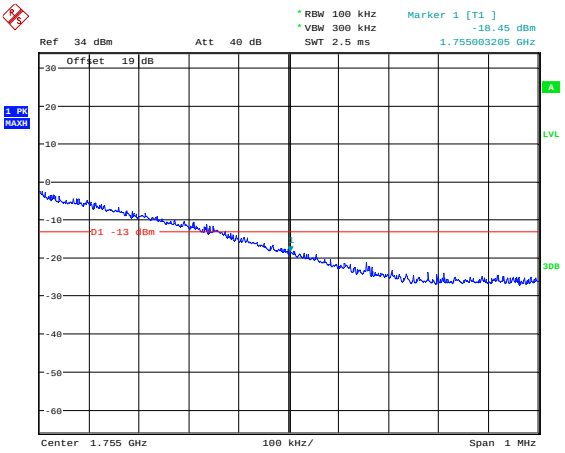
Highest Channel / 15MHz / 16QAM / Full RB



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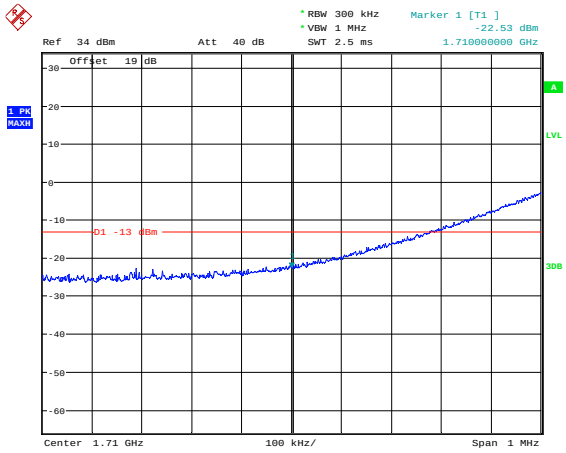
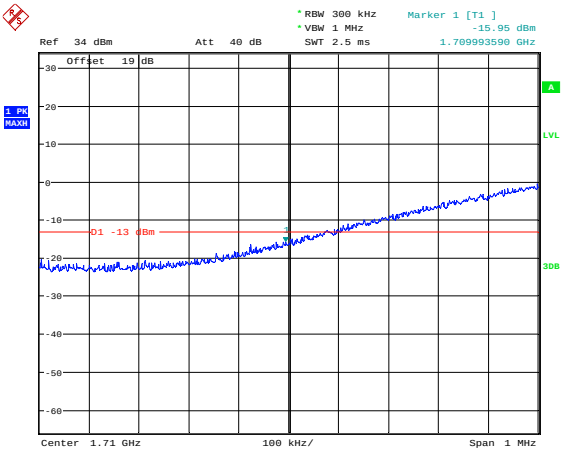
Lowest Channel / 20MHz / QPSK / 1RB



Date: 20.MAY.2016 15:07:28

Lowest Channel / 20MHz / QPSK / Full RB



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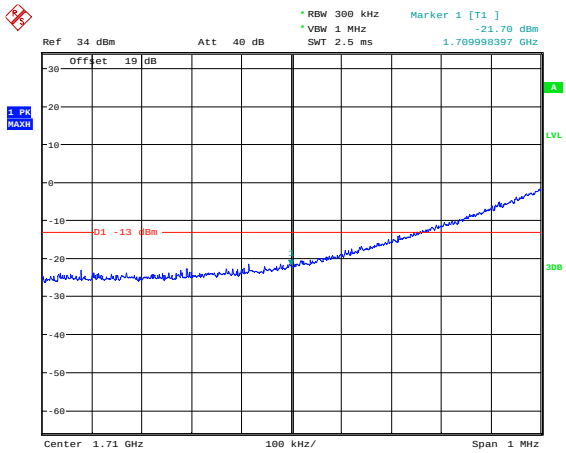
Lowest Channel / 20MHz / 16QAM / 1RB



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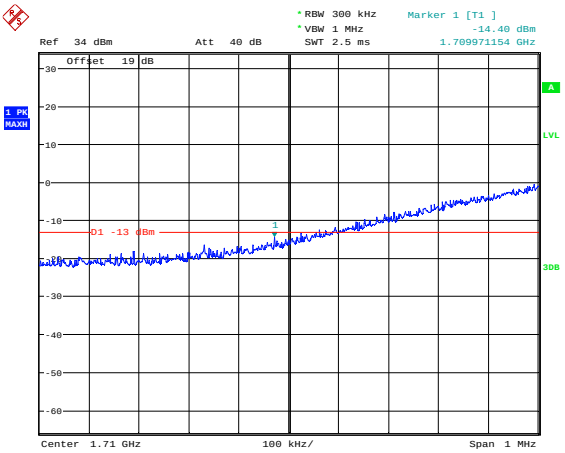
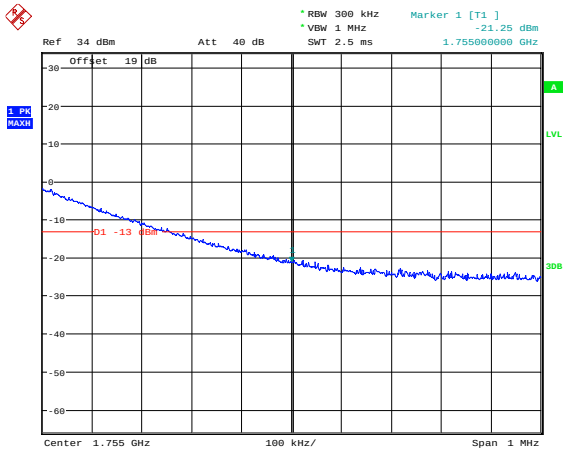
Lowest Channel / 20MHz / 16QAM / Full RB



Date: 19.MAY.2016 20:00:26

Highest Channel / 20MHz / QPSK / 1RB



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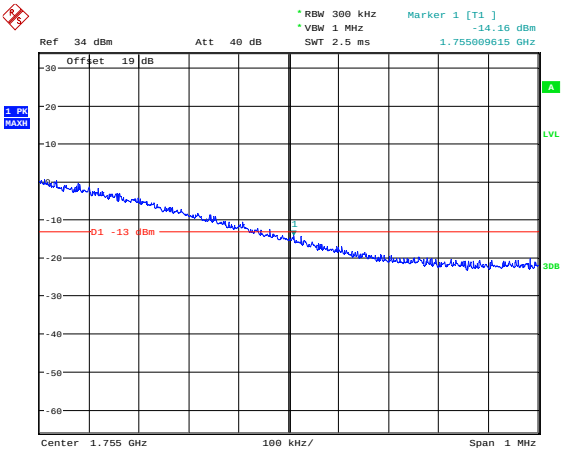
Highest Channel / 20MHz / QPSK / Full RB



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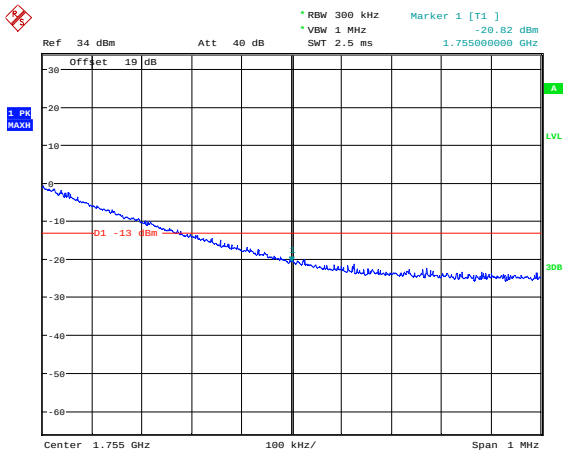
Highest Channel / 20MHz / 16QAM / 1RB



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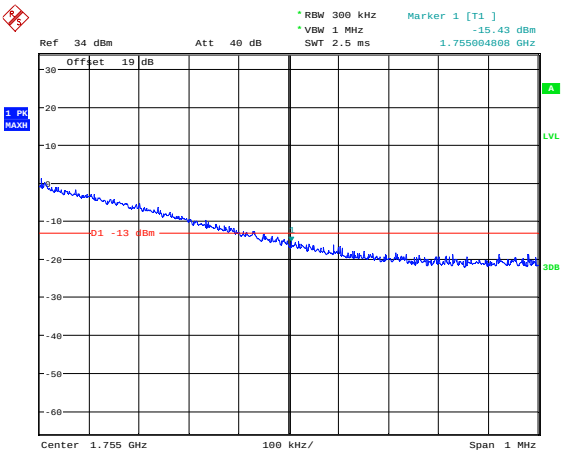
Highest Channel / 20MHz / 16QAM / Full RB



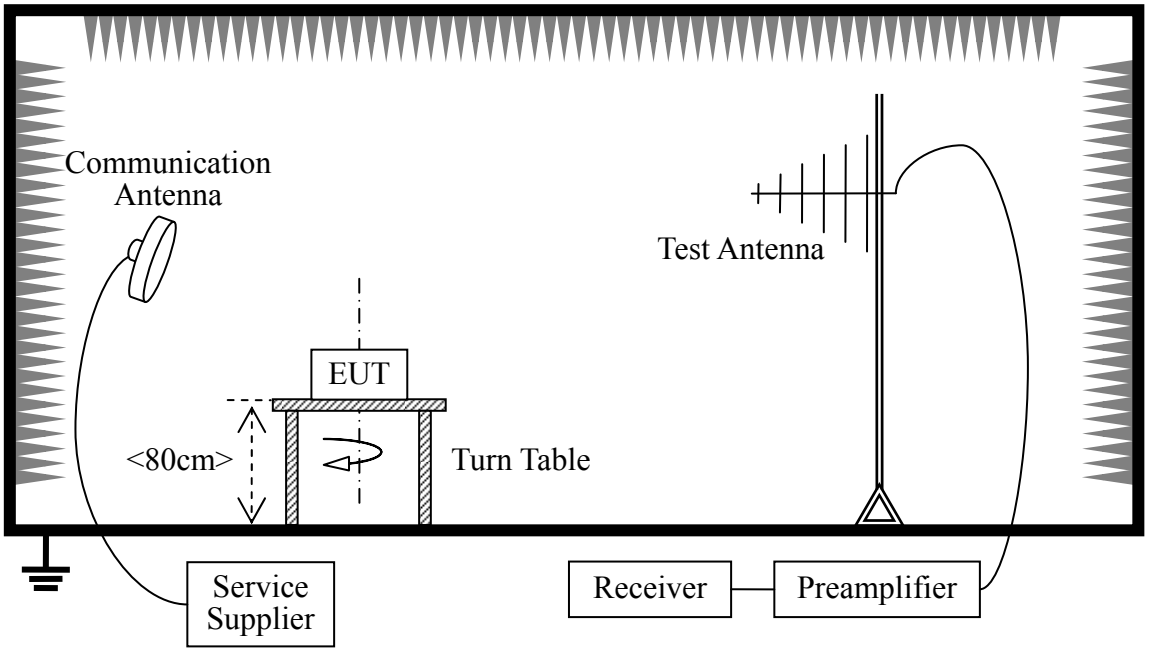
Date: 19.MAY.2016 20:03:04

4.7 Transmitter Radiated Power (EIRP/ERP)

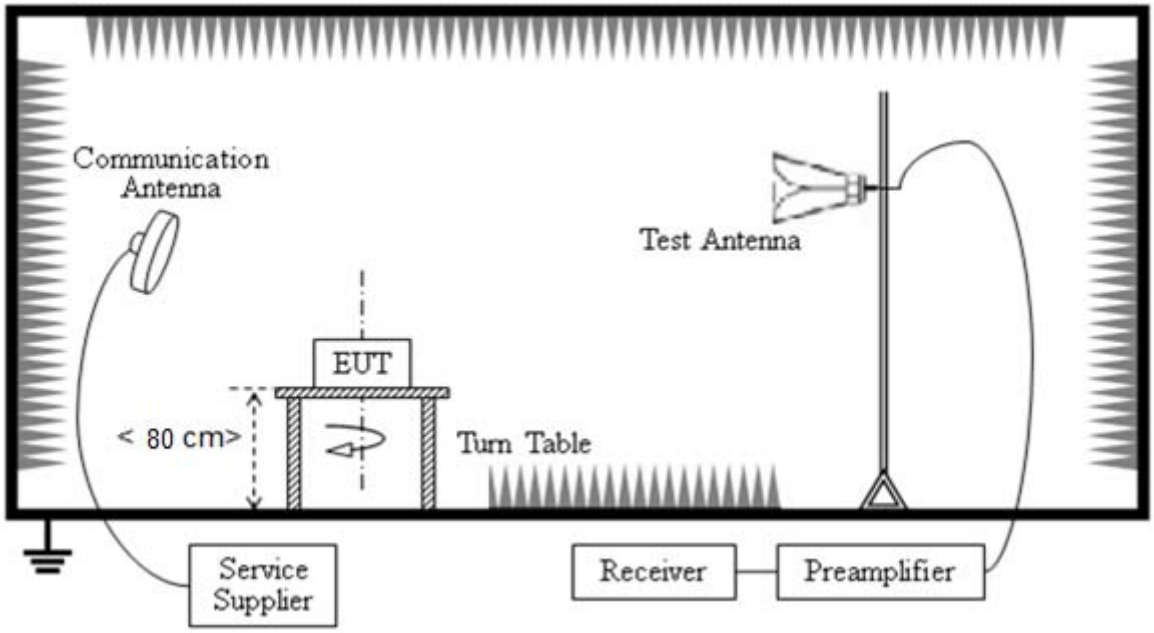
4.7.1 Requirement

According to FCC section 27.50(d), fixed, mobile and portable (hand-held) stations in the 1710-1755MHz band are limited to 1wat EIRP.

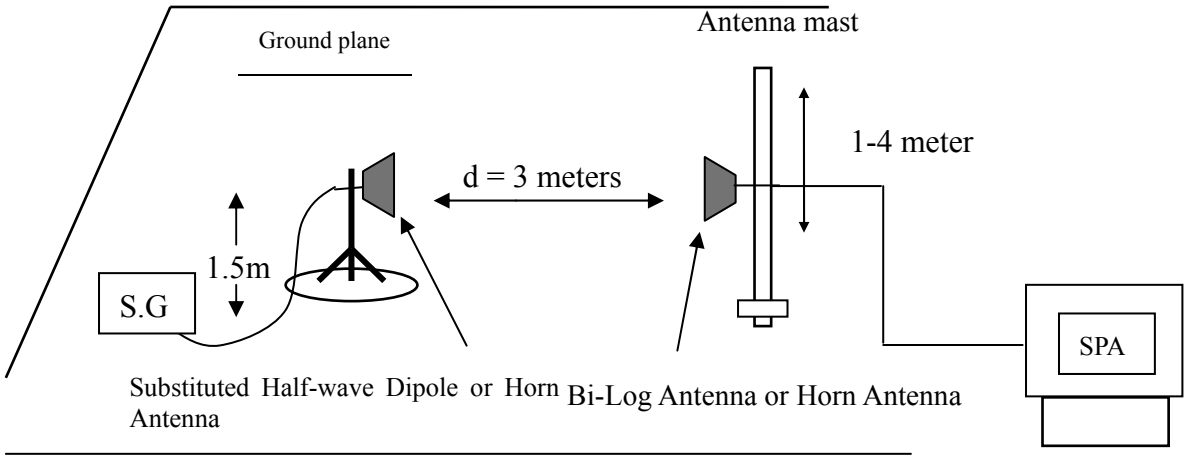
4.7.2 Test Description



Radiated Emissions 30-1000MHz



Radiated Emissions above 1000MHz



Substituted method

4.7.3 Test Procedure

The measurements procedures in TIA-603C-2004 are used.

1. EUT was placed on a 0.8 meter high non-conductive stand at a 3 meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. The height of receiving antenna is 1-4m. Detected emissions were maximized at each frequency by rotating the EUT through 360° and adjusting the receiving antenna polarization. The radiated emission measurements of all transmit frequencies in three channels (High, Middle, Low) were measured with peak detector.

2. The EUT is then put into continuously transmitting mode at its maximum power level during the test. And the maximum value of the receiver should be recorded as (P_r).
3. The EUT shall be replaced by a substitution antenna. In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (P_{Mea}) is applied to the input of the substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (P_r). The power of signal source (P_{Mea}) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.
4. The cable loss (P_{cl}) between the Signal Source with the Substitution Antenna and the Substitution Antenna Gain (G_a) should be recorded after test. The measurement results are obtained as described below:
   Power(EIRP)=P_{Mea}+ P_{cl} + G_a
5. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15dBi) and known input power.
6. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP -2.15dBi.

4.7.4 Test Results

The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. The lowest, middle and highest channels are tested. All modes are tested.

Limits

Band	Burst Peak ERP (dBm)
LTE Band IV	≤30dBm (1W)

Measurement Result

LTE Band 4 / 1.4MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	22.77	0.189	19.89	0.097
Middle		1	0	22.84	0.192	20.04	0.101
Highest		1	0	22.41	0.174	19.50	0.089
Lowest	16QAM	1	0	22.61	0.182	20.28	0.107
Middle		1	0	21.87	0.154	19.33	0.086
Highest		1	0	22.77	0.189	20.18	0.104
Limit	EIRP < 1W			Result		Pass	

LTE Band 4 / 3MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	22.59	0.182	20.01	0.100
Middle		1	0	22.38	0.173	20.00	0.100
Highest		1	0	22.30	0.170	19.77	0.095
Lowest	16QAM	1	0	22.00	0.158	19.88	0.097
Middle		1	0	22.27	0.169	20.19	0.104
Highest		1	0	22.53	0.179	19.95	0.099
Limit	EIRP < 1W			Result		Pass	

LTE Band 4 / 5MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	22.75	0.188	20.27	0.106
Middle		1	0	22.73	0.187	19.75	0.094
Highest		1	0	21.79	0.151	20.39	0.109
Lowest	16QAM	1	0	22.70	0.186	20.27	0.106
Middle		1	0	22.19	0.166	19.62	0.092
Highest		1	0	21.79	0.151	19.47	0.089
Limit	EIRP < 1W			Result		Pass	

LTE Band 4 / 10MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	21.98	0.158	20.22	0.105
Middle		1	0	22.38	0.173	20.19	0.104
Highest		1	0	22.31	0.170	19.60	0.091
Lowest	16QAM	1	0	22.13	0.163	19.34	0.086
Middle		1	0	22.88	0.194	19.86	0.097
Highest		1	0	22.78	0.190	19.59	0.091
Limit	EIRP < 1W			Result		Pass	

LTE Band 4 / 15MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	22.35	0.172	19.29	0.085
Middle		1	0	21.61	0.145	20.45	0.111
Highest		1	0	22.68	0.185	20.07	0.102
Lowest	16QAM	1	0	21.94	0.156	20.46	0.111
Middle		1	0	21.97	0.157	19.54	0.090
Highest		1	0	22.00	0.158	19.23	0.084
Limit	EIRP < 1W			Result		Pass	

LTE Band 4 / 20MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	21.70	0.148	19.44	0.088
Middle		1	0	22.65	0.184	19.29	0.085
Highest		1	0	22.04	0.160	20.17	0.104
Lowest	16QAM	1	0	22.43	0.175	20.44	0.111
Middle		1	0	21.93	0.156	19.76	0.095
Highest		1	0	22.88	0.194	19.22	0.084
Limit	EIRP < 1W			Result		Pass	

4.8 Radiated Out of Band Emissions

4.8.1 Requirement

According to FCC section 2.1053 and section 27.53(g), the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43+10*log(P)dB. This calculated to be -13dBm.

4.8.2 Test Description

See section 4.7.2 of this report.

4.8.3 Test Procedure

1. The lowest, middle and the highest channel were selected to perform tests respectively.
2. The EUT was placed on a rotatable non-conductive table 0.8 meters above the ground.
3. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between one meter and four meters to search for the maximum spurious emission for both horizontal and vertical polarizations.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking record of maximum spurious emission.
7. A substituted antenna was in place of the EUT and was driven by a signal generator.
8. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
9. Taking the record of output power at antenna port.
10. Repeat step 7 to step 8 for another polarization.
11. EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
12. ERP (dBm) = EIRP - 2.15
13. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
14. The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)
    = P(W) - [43 + 10log(P)] (dB)
    = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
    = -13dBm.

4.8.4 Test Results

LTE Band 4 / 1.4MHz / QPSK / RB Size 1 Offset 0 Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	3420	-57.60	-13	Pass
	H	5128	-48.53	-13	Pass
	H	6843	-34.06	-13	Pass
	H	8551	-50.14	-13	Pass
	V	3420	-62.95	-13	Pass
	V	5128	-54.22	-13	Pass
	V	6843	-41.20	-13	Pass
	V	8551	-52.11	-13	Pass
Middle	H	3462	-57.04	-13	Pass
	H	5198	-43.82	-13	Pass
	H	6927	-36.44	-13	Pass
	H	8663	-46.11	-13	Pass
	V	3462	-61.79	-13	Pass
	V	5198	-50.73	-13	Pass
	V	6927	-41.06	-13	Pass
	V	8663	-49.68	-13	Pass
Highest	H	3511	-58.76	-13	Pass
	H	5261	-45.77	-13	Pass
	H	7018	-39.56	-13	Pass
	H	8768	-46.57	-13	Pass
	V	3511	-61.86	-13	Pass
	V	5261	-50.08	-13	Pass
	V	7018	-44.24	-13	Pass
	V	8768	-50.54	-13	Pass

LTE Band 4 / 3MHz / QPSK / RB Size 1 Offset 0 Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	3420	-57.82	-13	Pass
	H	5128	-47.67	-13	Pass
	H	6843	-33.60	-13	Pass
	H	8551	-44.84	-13	Pass
	V	3420	-62.70	-13	Pass
	V	5128	-54.19	-13	Pass
	V	6843	-40.95	-13	Pass
	V	8551	-48.16	-13	Pass
Middle	H	3462	-53.88	-13	Pass
	H	5191	-44.78	-13	Pass
	H	6927	-37.24	-13	Pass
	H	8656	-45.66	-13	Pass
	V	3462	-61.03	-13	Pass
	V	5191	-48.41	-13	Pass
	V	6927	-40.72	-13	Pass
	V	8656	-50.02	-13	Pass
Highest	H	3504	-59.02	-13	Pass
	H	5254	-45.49	-13	Pass
	H	7011	-40.52	-13	Pass
	H	8761	-47.52	-13	Pass
	V	3504	-62.43	-13	Pass
	V	5254	-49.66	-13	Pass
	V	7011	-44.67	-13	Pass
	V	8761	-51.42	-13	Pass

LTE Band 4 / 5MHz / QPSK / RB Size 1 Offset 0 Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	3420	-57.10	-13	Pass
	H	5128	-50.82	-13	Pass
	H	6843	-33.70	-13	Pass
	H	8551	-49.51	-13	Pass
	V	3420	-60.64	-13	Pass
	V	5128	-54.19	-13	Pass
	V	6843	-40.25	-13	Pass
	V	8551	-51.71	-13	Pass
Middle	H	3462	-55.87	-13	Pass
	H	5191	-45.96	-13	Pass
	H	6920	-35.78	-13	Pass
	H	8649	-45.83	-13	Pass
	V	3462	-60.47	-13	Pass
	V	5191	-49.64	-13	Pass
	V	6920	-38.94	-13	Pass
	V	8649	-48.61	-13	Pass
Highest	H	3504	-58.48	-13	Pass
	H	5254	-49.47	-13	Pass
	H	7004	-38.85	-13	Pass
	H	8754	-47.55	-13	Pass
	V	3504	-62.21	-13	Pass
	V	5254	-51.50	-13	Pass
	V	7004	-43.24	-13	Pass
	V	8754	-50.76	-13	Pass

LTE Band 4 / 10MHz / QPSK / RB Size 1 Offset 0 Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	3420	-57.05	-13	Pass
	H	5132	-48.93	-13	Pass
	H	6843	-34.06	-13	Pass
	V	3420	-61.82	-13	Pass
	V	5132	-53.63	-13	Pass
	V	6843	-40.14	-13	Pass
Middle	H	3455	-55.66	-13	Pass
	H	5184	-47.30	-13	Pass
	H	6913	-36.28	-13	Pass
	H	8642	-46.93	-13	Pass
	V	3455	-61.01	-13	Pass
	V	5184	-51.61	-13	Pass
	V	6913	-40.03	-13	Pass
	V	8642	-49.98	-13	Pass
Highest	H	3490	-58.01	-13	Pass
	H	5240	-49.36	-13	Pass
	H	6983	-38.14	-13	Pass
	H	8726	-48.09	-13	Pass
	V	3490	-61.87	-13	Pass
	V	5240	-51.25	-13	Pass
	V	6983	-41.01	-13	Pass
	V	8726	-50.86	-13	Pass

LTE Band 4 / 15MHz / QPSK / RB Size 1 Offset 0 Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	3420	-57.05	-13	Pass
	H	5135	-48.74	-13	Pass
	H	6843	-34.92	-13	Pass
	V	3420	-61.45	-13	Pass
	V	5135	-53.50	-13	Pass
	V	6843	-41.91	-13	Pass
Middle	H	3455	-55.10	-13	Pass
	H	5177	-48.01	-13	Pass
	H	6906	-35.58	-13	Pass
	H	8628	-47.03	-13	Pass
	V	3455	-60.95	-13	Pass
	V	5177	-51.63	-13	Pass
	V	6906	-40.06	-13	Pass
	V	8628	-48.99	-13	Pass
Highest	H	3483	-56.79	-13	Pass
	H	5226	-46.50	-13	Pass
	H	6962	-37.01	-13	Pass
	H	8705	-47.83	-13	Pass
	V	3483	-62.01	-13	Pass
	V	5226	-48.39	-13	Pass
	V	6962	-40.71	-13	Pass
	V	8705	-50.06	-13	Pass

LTE Band 4 / 20MHz / QPSK / RB Size 1 Offset 0 Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	3420	-58.82	-13	Pass
	H	5135	-49.60	-13	Pass
	H	6843	-35.10	-13	Pass
	H	8558	-50.62	-13	Pass
	V	3420	-61.67	-13	Pass
	V	5135	-53.17	-13	Pass
	V	6843	-40.94	-13	Pass
	V	8558	-51.79	-13	Pass
Middle	H	3448	-55.35	-13	Pass
	H	5170	-47.10	-13	Pass
	H	6892	-36.82	-13	Pass
	H	8621	-48.03	-13	Pass
	V	3448	-61.29	-13	Pass
	V	5170	-50.84	-13	Pass
	V	6892	-42.86	-13	Pass
	V	8621	-50.57	-13	Pass
Highest	H	3476	-55.44	-13	Pass
	H	5212	-46.03	-13	Pass
	H	6948	-33.84	-13	Pass
	H	8684	-46.53	-13	Pass
	V	3476	-61.04	-13	Pass
	V	5212	-48.22	-13	Pass
	V	6948	-38.65	-13	Pass
	V	8684	-48.56	-13	Pass

NOTE:

1) All of modes were tested, and only the worst result was record in this report.

Photos of the EUT

** END OF REPORT **