TESTING LABORATORY
CERTIFICATE #4820.01

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

For

Shenzhen Inrico Electronics Co.,Ltd

3/F, Building No.118, High Tech Industrial Park, 72 Guowei Road, Luohu District, Shenzhen

FCC ID:2AIV6-S300

Report Type:	**Product Type:**
Original Report	Smart Phone

Report Number:	RDG200601011-00B
Report Date:	2020-06-28
Reviewed By:	Ivan Cao Assistant Manager
Test Laboratory:	Bay Area Compliance Laboratories Corp. (Dongguan) No.69 Pulongcun, Puxinhu Industry Area, Tangxia, Dongguan, Guangdong, China Tel: +86-769-86858888 Fax: +86-769-86858891 www.baclcorp.com.cn

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

EUT Name:		Smart Phone
EUT Model:		S300
Operation modes:		GSM Voice, GPRS/EDGE Data, WCDMA(R99 (Voice+Data), HSDPA,HSUPA,DC-HSDPA, HSPA+) FDD-LTE
Modulation Type:		GMSK, 8PSK, BPSK, QPSK, 16QAM
Rated Input Voltage:		DC 3.8V from battery or DC 5V from adapter
Adapter Information	**Model:**	HJ-0501000E1-US
	Input:	100-240V~50/60Hz 0.2A
	Output:	DC5V 2000mA
Serial Number:		RDG200601011-RF-S1
EUT Received Date:		2020.06.05
EUT Received Status:		Good

Objective

This report is prepared on behalf of ***Shenzhen Inrico Electronics Co.,Ltd*** in accordance with: Part 2-Subpart J, Part 22-Subpart H, Part 24-Subpart E, Part 27of 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)

No related submittal.

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-603-E-2016.

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

Measurement Uncertainty

Parameter	Measurement Uncertainty
Occupied Channel Bandwidth	±5 %
RF output power, conducted	±0.61dB
Unwanted Emissions, radiated	30MHz ~ 1GHz:5.85 dB 1G~26.5GHz: 5.23 dB
Unwanted Emissions, conducted	±1.5 dB
Temperature	±1℃
Humidity	±5%
DC and low frequency voltages	±0.4%
Duty Cycle	1%

Note: Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.

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 Industry Area, Tangxia, Dongguan, Guangdong, China.

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 897218, the FCC Designation No. : CN1220.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: CN0022.

Declarations

BACL is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with a triangle symbol “△”. Customer model name, addresses, names, trademarks etc. are not considered data.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

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SYSTEM TEST CONFIGURATION

Justification

The EUT was configured for testing according to TIA-603-E-2016.

he test items were performed with the EUT operating at testing mode. The device operates on GSM Band 850/1900MHz,WCDMA Band 2/4/5, and LTE band 2/4/7/12/17/66, test was performed with channels as below table:

Frequency Bands	Bandwidth (MHz)	Test Frequency(MHz)		
		Low	Middle	High
GSM/GPRS/EDGE 850	0.25	824.2	836.6	848.8
GSM/GPRS/EDGE 1900	0.25	1850.2	1880	1909.8
WCDMA Band 2	4.2	1852.4	1880	1907.6
WCDMA Band 4	4.2	1712.4	1732.6	1752.6
WCDMA Band 5	4.2	826.4	836.6	846.6
LTE Band 2	1.4	1850.7	1880	1909.3
	3	1851.5	1880	1908.5
	5	1852.5	1880	1907.5
	10	1855	1880	1905
	15	1857.5	1880	1902.5
	20	1860	1880	1900
LTE Band 4	1.4	1710.7	1732.5	1754.3
	3	1711.5	1732.5	1753.5
	5	1712.5	1732.5	1752.5
	10	1715	1732.5	1750
	15	1717.5	1732.5	1747.5
	20	1720	1732.5	1745
LTE Band 7	5	2502.5	2535	2567.5
	10	2505	2535	2565
	15	2507.5	2535	2562.5
	20	2510	2535	2560
LTE Band 12	1.4	699.7	707.5	715.3
	3	700.5	707.5	714.5
	5	701.5	707.5	713.5
	10	704	707.5	711
LTE Band 17	5	706.5	710	713.5
	10	709	710	711
LTE Band 66	1.4	1710.7	1745	1779.3
	3	1711.5	1745	1778.5
	5	1712.5	1745	1777.5
	10	1715	1745	1775
	15	1717.5	1745	1772.5
	20	1720	1745	1770

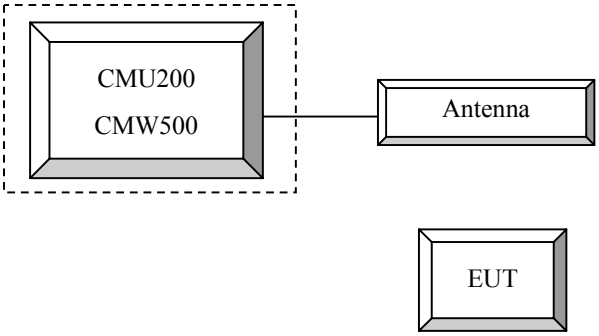
Equipment Modifications

No modification was made to the EUT.

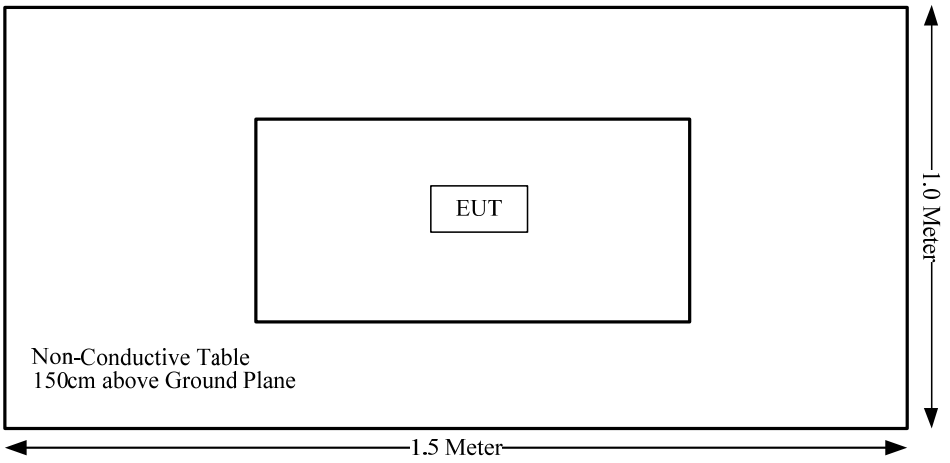
Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
Un-known	ANTENNA	Un-known	Un-known

Configuration of Test Setup



Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

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

FCC §1.1310 & §2.1093- RF EXPOSURE

Applicable Standard

FCC§1.1310 and §2.1093.

Test Result

Compliance, please refer to the SAR report: RDG200601011-20.

FCC §2.1047 - MODULATION CHARACTERISTIC

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

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

Applicable Standard

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

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

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

According to §27.50

(b)(10) Portable stations (hand-held devices) transmitting in the 746-757 MHz, 776-788 MHz, and 805-806 MHz bands are limited to 3 watts ERP.

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

(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.

(h),(2) Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

Test Procedure

GSM/GPRS/EGPRS

Function: Menu select > GSM Mobile Station > GSM 850/1900
Press Connection control to choose the different menus
Press RESET > choose all the reset all settings
Connection Press Signal Off to turn off the signal and change settings
Network Support > GSM + GPRS or GSM + EGSM
Main Service > Packet Data
Service selection > Test Mode A – Auto Slot Config. off
MS Signal Press Slot Config Bottom on the right twice to select and change the number of time slots and power setting
> Slot configuration > Uplink/Gamma
> 33 dBm for GPRS 850
> 30 dBm for GPRS 1900
> 27 dBm for EGPRS 850
> 26 dBm for EGPRS 1900
BS Signal Enter the same channel number for TCH channel (test channel) and BCCH channel
Frequency Offset > + 0 Hz
Mode > BCCH and TCH

BCCH Level > -85 dBm (May need to adjust if link is not stable)
BCCH Channel > choose desire test channel [Enter the same channel number for TCH channel (test channel) and BCCH channel]

Channel Type > Off
P0 > 4 dB
Slot Config > Unchanged (if already set under MS signal)
TCH > choose desired test channel
Hopping > Off
Main Timeslot > 3
Network Coding Scheme > CS4 (GPRS) and MCS5 (EGPRS)

Bit Stream > 2E9-1 PSR Bit Stream
AF/RF Enter appropriate offsets for Ext. Att. Output and Ext. Att. Input
Connection Press Signal on to turn on the signal and change settings

WCDMA-Release 99

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

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

WCDMA HSDPA

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

	Mode	HSDPA	HSDPA	HSDPA	HSDPA
	Subset	1	2	3	4
WCDMA General Settings	Loopback Mode	Test Mode 1			
	Rel99 RMC	12.2kbps RMC			
	HSDPA FRC	H-Set1			
	Power Control Algorithm	Algorithm2			
	βc	2/15	12/15	15/15	15/15
	βd	15/15	15/15	8/15	4/15
	βd (SF)	64			
	βc/ βd	2/15	12/15	15/8	15/4
	βhs	4/15	24/15	30/15	30/15
	MPR(dB)	0	0	0.5	0.5
HSDPA Specific Settings	DACK	8			
	DNAK	8			
	DCQI	8			
	Ack-Nack repetition factor	3			
	CQI Feedback	4ms			
	CQI Repetition Factor	2			
	Ahs=βhs/ βc	30/15			

WCDMA HSUPA

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

	Mode	HSUPA	HSUPA	HSUPA	HSUPA	HSUPA
	Subset	1	2	3	4	5
WCDMA General Settings	Loopback Mode	Test Mode 1				
	Rel99 RMC	12.2kbps RMC				
	HSDPA FRC	H-Set1				
	HSUPA Test	HSUPA Loopback				
	Power Control Algorithm	Algorithm2				
	βc	11/15	6/15	15/15	2/15	15/15
	βd	15/15	15/15	9/15	15/15	0
	βec	209/225	12/15	30/15	2/15	5/15
	βc/ βd	11/15	6/15	15/9	2/15	-
	βhs	22/15	12/15	30/15	4/15	5/15
	CM(dB)	1.0	3.0	2.0	3.0	1.0
	MPR(dB)	0	2	1	2	0
HSDPA Specific Settings	DACK	8				
	DNAK	8				
	DCQI	8				
	Ack-Nack repetition factor	3				
	CQI Feedback	4ms				
	CQI Repetition Factor	2				
	Ahs=βhs/ βc	30/15				
HSUPA Specific Settings	DE-DPCCH	6	8	8	5	7
	DHARQ	0	0	0	0	0
	AG Index	20	12	15	17	21
	ETFCI	75	67	92	71	81
	Associated Max UL Data Rate kbps	242.1	174.9	482.8	205.8	308.9
	Reference E_FCIs	E-TFCI 11 E E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO23 E-TFCI 75 E-TFCI PO26 E-TFCI 81 E-TFCI PO 27		E-TFCI 11 E-TFCI PO4 E-TFCI 92 E-TFCI PO 18	E-TFCI 11 E E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO23 E-TFCI 75 E-TFCI PO26 E-TFCI 81 E-TFCI PO 27	

HSPA+

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

Sub-test	β_c (Note3)	β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (2xSF2) (Note 4)	β_{ed} (2xSF4) (Note 4)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 4)	E-TFCI (Note 5)	E-TFCI (boost)
1	1	0	30/15	30/15	β_{ed}1: 30/15 β_{ed}2: 30/15	β_{ed}3: 24/15 β_{ed}4: 24/15	3.5	2.5	14	105	105

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c .

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

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

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

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

DC-HSDPA

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

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

Parameter	Unit	Value
Nominal Avg. Inf. Bit Rate	kbps	60
Inter-TTI Distance	TTI's	1
Number of HARQ Processes	Processes	6
Information Bit Payload (N_{INF})	Bits	120
Number Code Blocks	Blocks	1
Binary Channel Bits Per TTI	Bits	960
Total Available SML's in UE	SML's	19200
Number of SML's per HARQ Proc.	SML's	3200
Coding Rate		0.15
Number of Physical Channel Codes	Codes	1
Modulation		QPSK

Note 1: The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table.

Note 2: Maximum number of transmission is limited to 1, i.e., retransmission is not allowed. The redundancy and constellation version 0 shall be used.

LTE (FDD):

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

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

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

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

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

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

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

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

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

Radiated method:

TIA-603-E-2016 section 2.2.17

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
ERP/EIRP Test					
Sunol Sciences	Antenna	JB3	A060611-1	2017-11-10	2020-11-10
R&S	EMI Test Receiver	ESR3	102453	2019-09-12	2020-09-12
Unknown	Coaxial Cable	C-NJNJ-50	C-0075-01	2019-09-05	2020-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-0400-01	2019-09-05	2020-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-1400-01	2020-05-06	2021-05-06
EMCO	Adjustable Dipole Antenna	3121C	9109-753	N/A	N/A
Unknown	Coaxial Cable	C-NJNJ-50	C-0200-02	2019-09-05	2020-09-05
Agilent	Signal Generator	E8247C	MY43321350	2019-12-10	2020-12-10
Agilent	Spectrum Analyzer	E4440A	SG43360054	2020-05-09	2021-05-09
TDK RF	Horn Antenna	HRN-0118	130 084	2018-10-12	2021-10-12
ETS-Lindgren	Horn Antenna	3115	000 527 35	2018-10-12	2021-10-12
Unknown	Coaxial Cable	C-SJSJ-50	C-0800-01	2019-09-05	2020-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-0200-02	2019-09-05	2020-09-05
Conducted Output Power Test					
R&S	Universal Radio Communication Tester	CMU200	106 891	2019-12-14	2020-12-14
R&S	Wideband Radio Communication Tester	CMW500	147473	2019-08-03	2020-08-03
E-Microwave	Coaxial Attenuators	EMCA10-5RN-6	OE01203239	Each time	/
Unknown	Coaxial Cable	C-SJ00-0010	C0010/03	Each time	/

*** 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

Test Items:	Radiation Below 1GHz	Radiation Above 1GHz	Conducted Output Power
Temperature:	21.1 °C	23.8°C	26.8°C~ 27.4 °C
Relative Humidity:	56%	56 %	62%~66 %
ATM Pressure:	100.7 kPa	100.8kPa	99.8kPa ~100.7kPa
Tester:	Leo Long	Jalon Liu	Lucy Lu
Test Date:	2020-06-16	2020-06-11	2020-06-06~2020-06-17

Test Result: Compliance

Conducted Output Power

Cellular Band & PCS Band

Band	Channel No.	Conducted Peak Output Power (dBm)								
		GSM	GPRS 1 TX Slot	GPRS 2 TX Slots	GPRS 3 TX Slots	GPRS 4 TX Slots	EGPRS 1 TX Slot	EGPRS 2 TX Slots	EGPRS 3 TX Slots	EGPRS 4 TX Slots
Cellular	128	31.48	31.56	30.46	28.44	27.6	25.43	24.48	22.34	23.32
	190	31.69	31.77	30.71	28.68	27.66	25.33	24.39	22.27	21.21
	251	31.82	31.87	30.78	28.79	27.82	25.14	24.18	22.09	20.94
PCS	512	28.84	28.78	27.76	25.82	24.89	24.49	23.2	21.08	19.88
	661	28.53	28.45	27.43	25.48	24.52	24.41	23.15	21.05	19.83
	810	28.24	28.01	27.02	25.06	24.01	24.57	23.48	21.28	20.05

WCDMA Band 2

Mode	3GPP Sub Test	Low Channel		Middle Channel		High Channel	
		Ave. Power (dBm)	PAR (dB)	Ave. Power (dBm)	PAR (dB)	Ave. Power (dBm)	PAR (dB)
Rel 99	1	21.93	3.17	21.88	3.24	21.78	2.88
HSDPA	1	19.43	5.58	19.1	5.54	19.52	4.94
	2	19.38	5.68	18.87	5.88	19.25	4.51
	3	19.18	5.88	18.82	6.08	19.04	4.51
	4	19.38	5.68	18.25	5.68	18.67	4.71
HSUPA	1	19.65	5.58	19.43	4.81	19.64	4.17
	2	19.7	5.93	19.33	4.51	19.94	4.62
	3	19.9	5.53	18.93	4.51	19.54	4.42
	4	19.7	5.33	18.93	4.91	19.54	4.82
	5	19.3	5.13	18.73	5.31	19.54	4.62
DC-HSDPA	1	18.9	5.33	18.93	4.91	19.74	4.82
	2	19.3	5.73	18.53	5.31	19.74	4.82
	3	18.9	5.33	18.13	5.11	19.94	5.02
	4	18.7	5.13	17.93	5.51	19.56	5.42
HSPA+ (16QAM)	1	18.5	4.93	17.73	5.91	18.24	5.02

WCDMA Band 4

Mode	3GPP Sub Test	Low Channel		Middle Channel		High Channel	
		Ave. Power (dBm)	PAR (dB)	Ave. Power (dBm)	PAR (dB)	Ave. Power (dBm)	PAR (dB)
Rel 99	1	21.93	3.14	21.88	3.11	21.78	3.11
HSDPA	1	19.43	8.37	19.1	5.51	19.52	5.32
	2	19.34	8.54	18.97	5.12	19.24	5.26
	3	19.25	7.56	18.76	5.32	19.15	5.16
	4	19.05	7.36	18.69	5.24	19.07	5.39
HSUPA	1	19.65	5.06	19.43	4.81	19.64	4.58
	2	19.25	5.23	19.1	4.46	18.7	4.96
	3	18.85	5.43	18.9	4.66	18.5	4.96
	4	18.45	5.63	18.9	4.86	18.5	5.16
	5	18.45	5.43	18.5	5.26	18.5	5.56
DC-HSDPA	1	18.05	5.83	18.5	5.46	18.5	5.56
	2	17.65	5.43	18.3	5.86	18.1	5.76
	3	17.45	5.63	18.3	5.46	17.9	5.96
	4	17.45	5.23	18.3	5.26	17.9	6.36
HSPA+ (16QAM)	1	17.45	5.03	18.3	5.46	17.9	6.16

WCDMA Band 5

Mode	3GPP Sub Test	Low Channel		Middle Channel		High Channel	
		Ave. Power (dBm)	PAR (dB)	Ave. Power (dBm)	PAR (dB)	Ave. Power (dBm)	PAR (dB)
Rel 99	1	23.34	2.72	23.29	2.69	23.31	2.6
HSDPA	1	20.5	5.35	20.56	5.22	20.58	5.45
	2	20.45	6.08	20.57	5.13	20.15	5.68
	3	20.25	6.28	20.55	5.33	20.16	5.28
	4	20.25	6.28	20.46	5.53	20.15	5.28
HSUPA	1	20.98	4.17	20.64	4.33	20.82	4.13
	2	20.68	4.12	20.99	3.72	20.72	4.37
	3	20.68	3.92	20.79	3.92	20.92	3.97
	4	20.68	4.12	20.79	4.12	20.72	4.37
	5	20.68	4.12	20.59	4.12	20.72	4.37
DC-HSDPA	1	20.28	3.72	20.19	3.92	20.32	3.97
	2	20.28	3.92	20.39	3.92	20.32	3.97
	3	20.08	3.72	20.39	4.12	20.32	4.17
	4	19.68	3.92	20.19	4.32	20.52	3.97
HSPA+ (16QAM)	1	19.68	4.12	20.19	4.32	20.12	3.77

LTE Band 2

Channel Bandwidth	Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4MHz	QPSK	RB1#0	22.06	21.97	22.08
		RB1#3	22.25	22.18	22.40
		RB1#5	22.03	21.88	22.11
		RB3#0	22.15	22.00	22.10
		RB3#3	22.13	22.01	22.20
		RB6#0	21.10	21.11	21.21
	16QAM	RB1#0	21.09	21.17	21.22
		RB1#3	21.30	21.33	21.40
		RB1#5	21.12	21.17	21.24
		RB3#0	21.38	21.11	21.39
		RB3#3	21.39	21.15	21.38
		RB6#0	20.14	20.17	20.20
3MHz	QPSK	RB1#0	22.11	22.10	22.21
		RB1#8	22.06	22.08	22.21
		RB1#14	22.04	22.04	22.24
		RB6#0	21.04	21.03	21.13
		RB6#9	21.07	20.97	21.19
		RB15#0	21.11	21.11	21.28
	16QAM	RB1#0	21.70	21.28	21.29
		RB1#8	21.64	21.25	21.28
		RB1#14	21.63	21.26	21.26
		RB6#0	20.11	20.05	20.17
		RB6#9	20.14	20.14	20.18
		RB15#0	20.20	20.11	20.37
5MHz	QPSK	RB1#0	22.04	21.99	22.04
		RB1#13	22.10	22.07	22.19
		RB1#24	21.98	22.00	22.14
		RB15#0	21.01	21.13	21.35
		RB15#10	21.21	21.10	21.24
		RB25#0	21.14	21.12	21.29
	16QAM	RB1#0	20.96	21.34	21.12
		RB1#13	21.00	21.44	21.28
		RB1#24	20.89	21.35	21.23
		RB15#0	20.10	20.10	20.42
		RB15#10	20.25	20.11	20.27
		RB25#0	20.19	20.16	20.34

10MHz	QPSK	RB1#0	22.07	21.99	22.14
		RB1#25	22.20	22.21	22.31
		RB1#49	22.04	22.04	22.19
		RB25#0	20.94	21.24	21.47
		RB25#25	21.36	21.16	21.13
		RB50#0	21.24	21.20	21.42
	16QAM	RB1#0	21.68	21.18	21.03
		RB1#25	21.77	21.40	21.33
		RB1#49	21.49	21.21	21.23
		RB25#0	19.96	20.25	20.58
		RB25#25	20.36	20.20	20.26
		RB50#0	20.20	20.28	20.42
15MHz	QPSK	RB1#0	21.96	21.87	22.00
		RB1#38	22.09	22.10	22.22
		RB1#74	21.91	21.98	22.16
		RB36#0	20.91	21.18	21.25
		RB36#39	21.20	21.16	21.08
		RB75#0	21.08	21.20	21.21
	16QAM	RB1#0	21.58	21.03	21.24
		RB1#38	21.60	21.30	21.46
		RB1#74	21.32	21.19	21.61
		RB36#0	19.96	20.19	20.16
		RB36#39	20.15	20.22	20.12
		RB75#0	20.03	20.20	20.13
20MHz	QPSK	RB1#0	21.81	21.68	21.74
		RB1#50	22.27	22.26	22.26
		RB1#99	21.70	21.87	21.92
		RB50#0	20.62	21.29	20.79
		RB50#50	20.73	21.30	20.73
		RB100#0	20.74	21.30	20.78
	16QAM	RB1#0	21.10	20.92	21.30
		RB1#50	21.38	21.52	21.69
		RB1#99	21.01	21.09	21.55
		RB50#0	19.54	20.30	19.70
		RB50#50	19.68	20.32	19.71
		RB100#0	19.68	20.26	19.75

LTE Band 4

Channel Bandwidth	Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4MHz	QPSK	RB1#0	21.88	21.93	21.91
		RB1#3	22.05	22.14	22.17
		RB1#5	21.90	21.93	21.95
		RB3#0	22.06	22.00	22.04
		RB3#3	21.96	22.02	22.05
		RB6#0	20.95	20.96	21.02
	16QAM	RB1#0	20.90	21.01	20.89
		RB1#3	21.09	21.13	21.13
		RB1#5	20.91	21.06	21.00
		RB3#0	21.18	20.98	21.17
		RB3#3	21.23	21.00	21.11
		RB6#0	20.02	20.04	19.99
3MHz	QPSK	RB1#0	21.99	22.02	22.45
		RB1#8	22.00	22.00	22.13
		RB1#14	21.98	21.98	22.06
		RB6#0	20.95	20.90	20.95
		RB6#9	20.99	20.89	20.99
		RB15#0	21.00	21.01	21.04
	16QAM	RB1#0	21.63	21.13	21.03
		RB1#8	21.59	21.18	21.04
		RB1#14	21.54	21.19	21.03
		RB6#0	20.04	20.35	19.96
		RB6#9	20.11	20.38	20.02
		RB15#0	20.13	20.45	20.31
5MHz	QPSK	RB1#0	22.32	22.14	22.43
		RB1#13	22.05	22.08	22.21
		RB1#24	21.94	22.06	21.94
		RB15#0	21.03	21.09	21.55
		RB15#10	21.03	21.08	21.52
		RB25#0	20.99	21.26	21.52
	16QAM	RB1#0	20.79	21.53	21.47
		RB1#13	20.94	21.73	21.62
		RB1#24	20.88	21.55	21.53
		RB15#0	20.13	20.53	20.56
		RB15#10	20.13	20.51	20.54
		RB25#0	20.02	20.48	20.51
10MHz	QPSK	RB1#0	22.45	22.09	22.00
		RB1#25	22.29	22.23	22.23
		RB1#49	22.14	22.00	22.12
		RB25#0	21.14	21.13	21.15
		RB25#25	21.24	21.11	21.16
		RB50#0	21.25	21.19	21.16
	16QAM	RB1#0	21.18	21.09	21.62
		RB1#25	21.40	21.15	21.79
		RB1#49	21.25	21.08	21.67
		RB25#0	20.26	20.33	20.25
		RB25#25	20.34	20.27	20.28
		RB50#0	20.30	20.26	20.23

15MHz	QPSK	RB1#0	21.94	21.98	21.98
		RB1#38	22.14	22.07	22.11
		RB1#74	22.05	21.95	22.06
		RB36#0	21.12	21.14	21.14
		RB36#39	21.21	21.12	21.18
		RB75#0	21.23	21.15	21.18
	16QAM	RB1#0	21.40	21.56	21.13
		RB1#38	21.59	21.66	21.25
		RB1#74	21.50	21.54	21.19
		RB36#0	20.15	20.20	20.18
		RB36#39	20.28	20.18	20.20
		RB75#0	20.22	20.14	20.15
20MHz	QPSK	RB1#0	21.76	21.89	21.77
		RB1#50	22.27	22.24	22.17
		RB1#99	21.87	21.89	21.85
		RB50#0	21.06	21.08	21.12
		RB50#50	21.23	21.04	21.09
		RB100#0	21.13	21.08	21.13
	16QAM	RB1#0	21.15	21.10	21.34
		RB1#50	21.64	21.51	21.83
		RB1#99	21.20	21.10	21.47
		RB50#0	20.15	20.16	20.15
		RB50#50	20.24	20.11	20.16
		RB100#0	20.22	20.14	20.16

LTE Band 7

Channel Bandwidth	Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5 MHz	QPSK	RB1#0	23.41	22.21	22.93
		RB1#13	23.65	22.32	22.40
		RB1#24	23.53	22.70	21.95
		RB15#0	22.63	22.13	22.62
		RB15#10	22.64	22.40	22.22
		RB25#0	22.55	22.25	22.38
	16QAM	RB1#0	22.28	22.30	22.83
		RB1#13	22.41	22.46	22.31
		RB1#24	22.31	22.80	21.88
		RB15#0	21.55	21.85	22.36
		RB15#10	21.61	21.93	22.15
		RB25#0	21.57	21.85	22.23
10 MHz	QPSK	RB1#0	23.01	22.14	24.15
		RB1#25	23.85	22.12	22.85
		RB1#49	23.75	22.95	21.94
		RB25#0	22.61	22.00	23.44
		RB25#25	22.73	22.55	22.38
		RB50#0	22.63	22.25	22.97
	16QAM	RB1#0	22.89	22.12	23.23
		RB1#25	23.13	22.23	22.71
		RB1#49	23.01	23.00	21.83
		RB25#0	21.55	21.87	22.39
		RB25#25	21.68	22.00	22.28
		RB50#0	21.58	21.94	22.30
15 MHz	QPSK	RB1#0	22.97	22.33	24.43
		RB1#38	23.80	22.00	23.35
		RB1#74	23.69	23.24	21.87
		RB36#0	22.76	21.86	23.67
		RB36#39	22.89	22.67	22.57
		RB75#0	22.84	22.21	23.33
	16QAM	RB1#0	22.81	22.24	23.36
		RB1#38	23.05	22.05	23.42
		RB1#74	23.00	22.98	22.10
		RB36#0	21.61	21.87	22.43
		RB36#39	21.75	22.15	22.42
		RB75#0	21.73	22.09	22.42
20MHz	QPSK	RB1#0	23.12	23.06	24.10
		RB1#50	23.93	22.40	24.30
		RB1#99	23.47	23.64	22.32
		RB50#0	22.47	22.33	23.31
		RB50#50	22.69	23.02	23.33
		RB100#0	22.60	22.67	23.33
	16QAM	RB1#0	22.51	22.64	23.37
		RB1#50	22.96	22.42	23.91
		RB1#99	22.69	22.87	22.83
		RB50#0	21.41	21.89	22.26
		RB50#50	21.68	21.98	22.26
		RB100#0	21.59	21.91	22.21

LTE Band 12

Channel Bandwidth	Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4MHz	QPSK	RB1#0	22.35	23.52	23.49
		RB1#3	22.62	23.74	23.77
		RB1#5	22.24	23.55	23.71
		RB3#0	22.67	23.39	23.38
		RB3#3	22.60	23.39	23.38
		RB6#0	22.48	22.59	22.60
	16QAM	RB1#0	22.34	22.42	22.27
		RB1#3	22.57	22.58	22.50
		RB1#5	22.39	22.44	22.39
		RB3#0	22.62	22.22	22.39
		RB3#3	22.70	22.27	22.31
		RB6#0	21.45	21.43	21.32
3MHz	QPSK	RB1#0	22.57	23.65	23.04
		RB1#8	22.65	23.57	23.56
		RB1#14	22.32	23.23	23.72
		RB6#0	22.45	22.49	22.41
		RB6#9	22.36	22.56	22.62
		RB15#0	22.42	22.46	22.49
	16QAM	RB1#0	22.81	22.50	22.49
		RB1#8	23.04	22.45	22.37
		RB1#14	22.80	22.49	22.43
		RB6#0	21.51	21.30	21.34
		RB6#9	21.51	21.41	21.36
		RB15#0	21.64	21.25	21.55
5MHz	QPSK	RB1#0	22.89	23.41	23.00
		RB1#13	22.88	23.57	23.35
		RB1#24	23.31	23.31	23.57
		RB15#0	22.71	22.17	22.70
		RB15#10	22.58	22.46	22.67
		RB25#0	22.57	22.24	22.64
	16QAM	RB1#0	22.16	22.54	22.36
		RB1#13	22.41	22.61	22.48
		RB1#24	22.26	22.53	22.39
		RB15#0	21.76	21.09	21.76
		RB15#10	21.61	21.34	21.65
		RB25#0	21.65	21.17	21.63
10MHz	QPSK	RB1#0	23.23	23.42	23.57
		RB1#25	23.61	23.67	22.65
		RB1#49	23.61	22.38	23.73
		RB25#0	22.64	22.02	22.46
		RB25#25	22.91	22.17	22.42
		RB50#0	22.83	22.14	22.51
	16QAM	RB1#0	22.88	22.53	22.28
		RB1#25	23.07	22.59	22.52
		RB1#49	22.80	22.59	22.40
		RB25#0	21.69	21.08	21.44
		RB25#25	21.93	21.12	21.50
		RB50#0	21.83	21.11	21.50

LTE Band 17

Channel Bandwidth	Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5 MHz	QPSK	RB1#0	23.29	23.40	22.93
		RB1#13	23.55	23.20	23.47
		RB1#24	23.36	22.63	23.52
		RB15#0	22.20	22.45	22.70
		RB15#10	22.62	22.24	22.73
		RB25#0	22.35	22.30	22.63
	16QAM	RB1#0	22.14	22.50	22.39
		RB1#13	22.22	22.65	22.52
		RB1#24	22.08	22.64	22.35
		RB15#0	21.22	21.46	21.75
		RB15#10	21.56	21.18	21.69
		RB25#0	21.34	21.29	21.64
10 MHz	QPSK	RB1#0	23.49	23.49	23.64
		RB1#25	23.57	23.12	23.00
		RB1#49	22.95	23.55	23.71
		RB25#0	22.06	22.24	22.49
		RB25#25	22.08	22.19	22.44
		RB50#0	22.16	22.31	22.56
	16QAM	RB1#0	22.87	22.48	22.33
		RB1#25	22.91	22.61	22.57
		RB1#49	22.99	22.58	22.40
		RB25#0	21.03	21.19	21.52
		RB25#25	21.08	21.21	21.56
		RB50#0	21.11	21.26	21.51

LTE Band 66

Channel Bandwidth	Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4MHz	QPSK	RB1#0	22.09	22.11	22.16
		RB1#3	22.24	22.27	22.37
		RB1#5	22.09	22.10	22.19
		RB3#0	22.19	22.14	22.25
		RB3#3	22.20	22.23	22.28
		RB6#0	21.14	21.14	21.24
	16QAM	RB1#0	21.13	21.24	21.18
		RB1#3	21.30	21.38	21.35
		RB1#5	21.13	21.18	21.19
		RB3#0	21.39	21.20	21.32
		RB3#3	21.40	21.19	21.36
		RB6#0	20.22	20.17	20.18
3MHz	QPSK	RB1#0	22.17	22.13	22.30
		RB1#8	22.07	22.17	22.29
		RB1#14	22.07	22.15	22.28
		RB6#0	21.09	21.13	21.22
		RB6#9	21.07	21.12	21.17
		RB15#0	21.17	21.17	21.34
	16QAM	RB1#0	21.76	21.29	21.32
		RB1#8	21.74	21.30	21.28
		RB1#14	21.68	21.27	21.24
		RB6#0	20.20	20.14	20.18
		RB6#9	20.21	20.21	20.15
		RB15#0	20.30	20.20	20.33
5MHz	QPSK	RB1#0	22.08	22.05	22.17
		RB1#13	22.19	22.21	22.26
		RB1#24	22.05	22.08	22.14
		RB15#0	21.22	21.20	21.34
		RB15#10	21.19	21.15	21.27
		RB25#0	21.18	21.15	21.27
	16QAM	RB1#0	20.96	21.38	21.26
		RB1#13	21.07	21.49	21.33
		RB1#24	20.93	21.37	21.22
		RB15#0	20.32	20.23	20.39
		RB15#10	20.27	20.18	20.29
		RB25#0	20.29	20.20	20.27
10MHz	QPSK	RB1#0	22.08	22.11	22.28
		RB1#25	22.26	22.29	22.40
		RB1#49	22.12	22.16	22.26
		RB25#0	21.25	21.23	21.32
		RB25#25	21.26	21.21	21.26
		RB50#0	21.29	21.24	21.33
	16QAM	RB1#0	21.75	21.22	21.22
		RB1#25	21.89	21.44	21.40
		RB1#49	21.78	21.27	21.24
		RB25#0	20.36	20.28	20.42
		RB25#25	20.37	20.30	20.30
		RB50#0	20.34	20.33	20.32

15MHz	QPSK	RB1#0	22.01	21.99	22.10
		RB1#38	22.18	22.18	22.30
		RB1#74	22.09	22.09	22.15
		RB36#0	21.13	21.16	21.36
		RB36#39	21.27	21.22	21.32
		RB75#0	21.27	21.21	21.33
	16QAM	RB1#0	21.63	21.44	21.68
		RB1#38	21.78	21.58	21.87
		RB1#74	21.69	21.49	21.74
		RB36#0	20.25	20.23	20.30
		RB36#39	20.31	20.24	20.32
		RB75#0	20.30	20.25	20.26
20MHz	QPSK	RB1#0	21.88	21.90	21.85
		RB1#50	22.33	22.33	22.40
		RB1#99	21.96	22.03	21.97
		RB50#0	21.15	21.20	21.33
		RB50#50	21.25	21.19	21.18
		RB100#0	21.20	21.19	21.24
	16QAM	RB1#0	21.23	21.09	21.42
		RB1#50	21.68	21.57	21.91
		RB1#99	21.28	21.20	21.48
		RB50#0	20.19	20.27	20.27
		RB50#50	20.31	20.24	20.20
		RB100#0	20.30	20.24	20.20

PAR, Band 2

Test Modulation		Channel Bandwidth	Low Channel PAR (dB)	Middle Channel PAR (dB)	High Channel PAR (dB)	Limit (dB)
QPSK	1 RB	20 MHz	5.16	4.50	3.17	13
	100 RB		5.51	5.71	5.42	13
16QAM	1 RB	20 MHz	6.28	5.19	4.29	13
	100 RB		6.41	6.63	6.22	13

PAR, Band 4

Test Modulation		Channel Bandwidth	Low Channel PAR (dB)	Middle Channel PAR (dB)	High Channel PAR (dB)	Limit (dB)
QPSK	1 RB	20 MHz	5.32	5.16	5.26	13
	100 RB		5.80	5.71	5.71	13
16QAM	1 RB	20 MHz	6.25	6.15	5.99	13
	100 RB		6.63	6.57	6.57	13

PAR, Band 7

Test Modulation		Channel Bandwidth	Low Channel PAR (dB)	Middle Channel PAR (dB)	High Channel PAR (dB)	Limit (dB)
QPSK	1 RB	20 MHz	2.69	3.69	1.99	13
	100 RB		5.00	5.03	4.71	13
16QAM	1 RB	20 MHz	3.72	3.88	3.24	13
	100 RB		5.90	5.87	5.58	13

PAR, Band 12

Test Modulation		Channel Bandwidth	Low Channel PAR (dB)	Middle Channel PAR (dB)	High Channel PAR (dB)	Limit (dB)
QPSK	1 RB	10 MHz	3.59	3.85	2.76	13
	50 RB		3.59	4.94	5.16	13
16QAM	1 RB	10 MHz	4.07	5.19	3.72	13
	50 RB		5.22	6.03	5.96	13

PAR, 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	3.56	3.14	2.82	13
	50 RB		5	5.03	5.13	13
16QAM	1 RB	10 MHz	4.62	4.36	3.78	13
	50 RB		6.6	5.87	6.86	13

PAR, Band 66

Test Modulation		Channel Bandwidth	Low Channel PAR (dB)	Middle Channel PAR (dB)	High Channel PAR (dB)	Limit (dB)
QPSK	1 RB	20 MHz	4.94	5	4.62	13
	100 RB		5.74	5.71	5.45	13
16QAM	1 RB	20 MHz	5.93	5.9	5.26	13
	100 RB		6.54	6.54	6.38	13

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

ERP & EIRP

Part 22H

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
GSM 850 Middle Channel								
836.60	H	92.23	17.31	0.00	0.97	16.34	38.45	22.11
836.60	V	98.82	27.03	0.00	0.97	26.06	38.45	12.39
EGPRS850 Middle Channel								
836.60	H	88.15	13.23	0.00	0.97	12.26	38.45	26.19
836.60	V	94.17	22.38	0.00	0.97	21.41	38.45	17.04
WCDMA R99 Band 5 middle channel								
836.60	H	82.68	7.76	0.00	0.97	6.79	38.45	31.66
836.60	V	89.88	18.09	0.00	0.97	17.12	38.45	21.33

Part 24E

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
PCS 1900 Middle Channel								
1880.00	H	92.90	20.29	11.66	2.66	29.29	33.00	3.71
1880.00	V	92.65	20.18	11.66	2.66	29.18	33.00	3.82
EGPRS1900 Middle Channel								
1880.00	H	88.31	15.70	11.66	2.66	24.70	33.00	8.30
1880.00	V	86.23	13.76	11.66	2.66	22.76	33.00	10.24
WCDMA R99 Band 2 middle channel								
1880.00	H	81.28	8.67	11.66	2.66	17.67	33.00	15.33
1880.00	V	83.01	10.54	11.66	2.66	19.54	33.00	13.46

Part 27

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
WCDMA R99 Band 4 middle channel								
1732.60	H	79.38	5.33	10.90	2.51	13.72	30.00	16.28
1732.60	V	84.67	10.30	10.90	2.51	18.69	30.00	11.31

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

LTE Band 2

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
1880.00	1.40	QPSK	H	80.00	7.39	11.66	2.66	16.39	33.00	16.61
1880.00			V	82.23	9.76	11.66	2.66	18.76	33.00	14.24
1880.00	3.00		H	79.72	7.11	11.66	2.66	16.11	33.00	16.89
1880.00			V	81.89	9.42	11.66	2.66	18.42	33.00	14.58
1880.00	5.00		H	79.53	6.92	11.66	2.66	15.92	33.00	17.08
1880.00			V	81.73	9.26	11.66	2.66	18.26	33.00	14.74
1880.00	10.00		H	79.15	6.54	11.66	2.66	15.54	33.00	17.46
1880.00			V	81.43	8.96	11.66	2.66	17.96	33.00	15.04
1880.00	15.00		H	78.99	6.38	11.66	2.66	15.38	33.00	17.62
1880.00			V	81.16	8.69	11.66	2.66	17.69	33.00	15.31
1880.00	20.00		H	78.72	6.11	11.66	2.66	15.11	33.00	17.89
1880.00			V	80.52	8.05	11.66	2.66	17.05	33.00	15.95
1880.00	1.40	16QAM	H	79.65	7.04	11.66	2.66	16.04	33.00	16.96
1880.00			V	81.80	9.33	11.66	2.66	18.33	33.00	14.67
1880.00	3.00		H	79.40	6.79	11.66	2.66	15.79	33.00	17.21
1880.00			V	81.49	9.02	11.66	2.66	18.02	33.00	14.98
1880.00	5.00		H	79.08	6.47	11.66	2.66	15.47	33.00	17.53
1880.00			V	81.36	8.89	11.66	2.66	17.89	33.00	15.11
1880.00	10.00		H	78.81	6.20	11.66	2.66	15.20	33.00	17.80
1880.00			V	81.05	8.58	11.66	2.66	17.58	33.00	15.42
1880.00	15.00		H	78.75	6.14	11.66	2.66	15.14	33.00	17.86
1880.00			V	80.72	8.25	11.66	2.66	17.25	33.00	15.75
1880.00	20.00		H	78.39	5.78	11.66	2.66	14.78	33.00	18.22
1880.00			V	80.07	7.60	11.66	2.66	16.60	33.00	16.40

LTE Band 4

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
1732.50	1.40	QPSK	H	81.65	7.60	10.90	2.51	15.99	30.00	14.01
1732.50			V	84.04	9.67	10.90	2.51	18.06	30.00	11.94
1732.50	3.00		H	81.48	7.43	10.90	2.51	15.82	30.00	14.18
1732.50			V	83.73	9.36	10.90	2.51	17.75	30.00	12.25
1732.50	5.00		H	81.39	7.34	10.90	2.51	15.73	30.00	14.27
1732.50			V	83.59	9.22	10.90	2.51	17.61	30.00	12.39
1732.50	10.00		H	80.76	6.71	10.90	2.51	15.10	30.00	14.90
1732.50			V	83.18	8.81	10.90	2.51	17.20	30.00	12.80
1732.50	15.00		H	80.56	6.51	10.90	2.51	14.90	30.00	15.10
1732.50			V	82.90	8.53	10.90	2.51	16.92	30.00	13.08
1732.50	20.00		H	80.53	6.48	10.90	2.51	14.87	30.00	15.13
1732.50			V	83.37	9.00	10.90	2.51	17.39	30.00	12.61
1732.50	1.40	16QAM	H	81.40	7.35	10.90	2.51	15.74	30.00	14.26
1732.50			V	83.57	9.20	10.90	2.51	17.59	30.00	12.41
1732.50	3.00		H	80.98	6.93	10.90	2.51	15.32	30.00	14.68
1732.50			V	83.18	8.81	10.90	2.51	17.20	30.00	12.80
1732.50	5.00		H	80.93	6.88	10.90	2.51	15.27	30.00	14.73
1732.50			V	83.22	8.85	10.90	2.51	17.24	30.00	12.76
1732.50	10.00		H	80.49	6.44	10.90	2.51	14.83	30.00	15.17
1732.50			V	82.72	8.35	10.90	2.51	16.74	30.00	13.26
1732.50	15.00		H	80.41	6.36	10.90	2.51	14.75	30.00	15.25
1732.50			V	83.48	9.11	10.90	2.51	17.50	30.00	12.50
1732.50	20.00		H	79.98	5.93	10.90	2.51	14.32	30.00	15.68
1732.50			V	82.98	8.61	10.90	2.51	17.00	30.00	13.00

LTE Band 7

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
2535.00	5.00	QPSK	H	78.69	6.08	13.14	3.10	16.12	33.00	16.88
2535.00			V	79.34	8.19	13.14	3.10	18.23	33.00	14.77
2535.00	10.00		H	78.41	5.80	13.14	3.10	15.84	33.00	17.16
2535.00			V	79.15	8.00	13.14	3.10	18.04	33.00	14.96
2535.00	15.00		H	78.01	5.40	13.14	3.10	15.44	33.00	17.56
2535.00			V	78.37	7.22	13.14	3.10	17.26	33.00	15.74
2535.00	20.00		H	77.59	4.98	13.14	3.10	15.02	33.00	17.98
2535.00			V	78.26	7.11	13.14	3.10	17.15	33.00	15.85
2535.00	5.00	16QAM	H	78.53	5.92	13.14	3.10	15.96	33.00	17.04
2535.00			V	79.01	7.86	13.14	3.10	17.90	33.00	15.10
2535.00	10.00		H	78.21	5.60	13.14	3.10	15.64	33.00	17.36
2535.00			V	78.92	7.77	13.14	3.10	17.81	33.00	15.19
2535.00	15.00		H	77.79	5.18	13.14	3.10	15.22	33.00	17.78
2535.00			V	78.13	6.98	13.14	3.10	17.02	33.00	15.98
2535.00	20.00		H	77.36	4.75	13.14	3.10	14.79	33.00	18.21
2535.00			V	77.98	6.83	13.14	3.10	16.87	33.00	16.13

LTE Band 12

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
707.50	1.40	QPSK	H	77.98	1.12	0.00	0.94	0.18	34.77	34.59
707.50			V	94.42	20.00	0.00	0.94	19.06	34.77	15.71
707.50	3.00		H	76.74	-0.12	0.00	0.94	-1.06	34.77	35.83
707.50			V	93.18	18.76	0.00	0.94	17.82	34.77	16.95
707.50	5.00		H	76.37	-0.49	0.00	0.94	-1.43	34.77	36.20
707.50			V	92.81	18.39	0.00	0.94	17.45	34.77	17.32
707.50	10.00		H	76.06	-0.80	0.00	0.94	-1.74	34.77	36.51
707.50			V	92.50	18.08	0.00	0.94	17.14	34.77	17.63
707.50	1.40	16QAM	H	78.33	1.47	0.00	0.94	0.53	34.77	34.24
707.50			V	94.77	20.35	0.00	0.94	19.41	34.77	15.36
707.50	3.00		H	77.33	0.47	0.00	0.94	-0.47	34.77	35.24
707.50			V	93.77	19.35	0.00	0.94	18.41	34.77	16.36
707.50	5.00		H	76.61	-0.25	0.00	0.94	-1.19	34.77	35.96
707.50			V	93.05	18.63	0.00	0.94	17.69	34.77	17.08
707.50	10.00		H	76.11	-0.75	0.00	0.94	-1.69	34.77	36.46
707.50			V	92.55	18.13	0.00	0.94	17.19	34.77	17.58

LTE Band 17

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
710.00	5.00	QPSK	H	75.96	-0.85	0.00	0.94	-1.79	34.77	36.56
710.00			V	91.80	17.44	0.00	0.94	16.50	34.77	18.27
710.00	10.00		H	75.37	-1.44	0.00	0.94	-2.38	34.77	37.15
710.00			V	91.21	16.85	0.00	0.94	15.91	34.77	18.86
710.00	5.00	16QAM	H	76.19	-0.62	0.00	0.94	-1.56	34.77	36.33
710.00			V	92.03	17.67	0.00	0.94	16.73	34.77	18.04
710.00	10.00		H	75.58	-1.23	0.00	0.94	-2.17	34.77	36.94
710.00			V	91.42	17.06	0.00	0.94	16.12	34.77	18.65

LTE Band 66

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
1745.00	1.40	QPSK	H	82.65	8.71	10.94	2.53	17.12	38.45	21.33
1745.00			V	85.04	10.76	10.94	2.53	19.17	38.45	19.28
1745.00	3.00		H	82.48	8.54	10.94	2.53	16.95	38.45	21.50
1745.00			V	84.73	10.45	10.94	2.53	18.86	38.45	19.59
1745.00	5.00		H	82.39	8.45	10.94	2.53	16.86	38.45	21.59
1745.00			V	84.59	10.31	10.94	2.53	18.72	38.45	19.73
1745.00	10.00		H	81.76	7.82	10.94	2.53	16.23	38.45	22.22
1745.00			V	84.18	9.90	10.94	2.53	18.31	38.45	20.14
1745.00	15.00		H	81.56	7.62	10.94	2.53	16.03	38.45	22.42
1745.00			V	83.90	9.62	10.94	2.53	18.03	38.45	20.42
1745.00	20.00		H	81.53	7.59	10.94	2.53	16.00	38.45	22.45
1745.00			V	83.37	9.09	10.94	2.53	17.50	38.45	20.95
1745.00	1.40	16QAM	H	82.13	8.19	10.94	2.53	16.60	38.45	21.85
1745.00			V	84.76	10.48	10.94	2.53	18.89	38.45	19.56
1745.00	3.00		H	82.19	8.25	10.94	2.53	16.66	38.45	21.79
1745.00			V	84.33	10.05	10.94	2.53	18.46	38.45	19.99
1745.00	5.00		H	82.15	8.21	10.94	2.53	16.62	38.45	21.83
1745.00			V	84.28	10.00	10.94	2.53	18.41	38.45	20.04
1745.00	10.00		H	81.36	7.42	10.94	2.53	15.83	38.45	22.62
1745.00			V	83.73	9.45	10.94	2.53	17.86	38.45	20.59
1745.00	15.00		H	81.04	7.10	10.94	2.53	15.51	38.45	22.94
1745.00			V	83.50	9.22	10.94	2.53	17.63	38.45	20.82
1745.00	20.00		H	81.06	7.12	10.94	2.53	15.53	38.45	22.92
1745.00			V	83.14	8.86	10.94	2.53	17.27	38.45	21.18

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

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

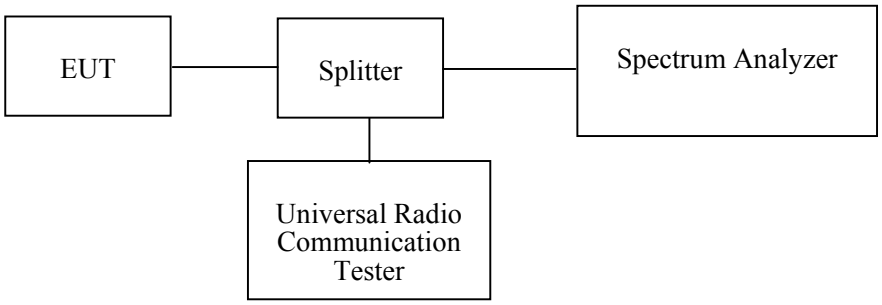
Applicable Standard

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

Test Procedure

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

The 26 dB & 99% bandwidth was recorded.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSP 38	100478	2020-05-09	2021-05-09
Unknown	Coaxial Cable	C-SJ00-0010	C0010/04	Each time	N/A
E-Microwave	Blocking Control	EMDCB-00036	0E01201048	Each time	N/A
E-Microwave	Coaxial Attenuators	EMCA10-5RN-6	OE01203239	Each time	N/A

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

Test Data

Environmental Conditions

Temperature:	26.8°C~ 27.4 °C
Relative Humidity:	62%~66 %
ATM Pressure:	99.8kPa ~100.7kPa
Tester:	Lucy Lu
Test Date:	2020-06-06~2020-06-17

Test Mode: Transmitting

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

Band	Test Channel	Mode	99% Occupied Bandwidth (MHz)	26 dB Occupied Bandwidth (MHz)
Cellular	M	GSM	0.246	0.318
		EDGE	0.252	0.306
PCS		GSM	0.246	0.324
		EDGE	0.250	0.320
WCDMA Band II		Rel 99	4.160	4.726
		HSDPA	4.180	4.735
		HSUPA	4.180	4.738
WCDMA Band IV		Rel 99	4.180	4.726
		HSDPA	4.220	5.047
		HSUPA	4.220	5.139
WCDMA Band V		Rel 99	4.180	4.760
		HSDPA	4.220	5.139
		HSUPA	4.200	5.137

Band	Bandwidth	Modulation	99% occupied bandwidth (MHz)	26 dB bandwidth (MHz)
LTE Band 2	1.4 MHz	QPSK	1.104	1.290
		16QAM	1.104	1.302
	3 MHz	QPSK	2.688	2.856
		16QAM	2.688	2.880
	5 MHz	QPSK	4.540	5.160
		16QAM	4.520	5.140
	10 MHz	QPSK	8.960	10.000
		16QAM	8.960	9.840
	15 MHz	QPSK	13.680	15.180
		16QAM	13.620	15.180
	20 MHz	QPSK	18.080	19.680
		16QAM	18.160	19.600
LTE Band 4	1.4 MHz	QPSK	1.098	1.278
		16QAM	1.098	1.302
	3 MHz	QPSK	2.688	2.880
		16QAM	2.688	2.880
	5 MHz	QPSK	4.560	5.160
		16QAM	4.520	5.140
	10 MHz	QPSK	8.960	9.880
		16QAM	8.960	9.840
	15 MHz	QPSK	13.560	15.240
		16QAM	13.620	15.240
	20 MHz	QPSK	18.000	19.520
		16QAM	18.000	19.680
LTE Band 7	5 MHz	QPSK	4.560	5.260
		16QAM	4.520	5.160
	10 MHz	QPSK	8.960	10.000
		16QAM	8.960	9.880
	15 MHz	QPSK	13.620	15.240
		16QAM	13.620	15.120
	20 MHz	QPSK	18.080	19.760
		16QAM	18.080	19.760

Band	Bandwidth	Modulation	99% occupied bandwidth (MHz)	26 dB bandwidth (MHz)
LTE Band 12	1.4 MHz	QPSK	1.104	1.344
		16QAM	1.104	1.320
	3 MHz	QPSK	2.688	2.868
		16QAM	2.676	2.868
	5 MHz	QPSK	4.520	5.140
		16QAM	4.520	5.080
	10 MHz	QPSK	8.960	9.680
		16QAM	8.960	9.720
LTE Band 17	5 MHz	QPSK	4.520	5.180
		16QAM	4.520	5.060
	10 MHz	QPSK	8.920	9.760
		16QAM	8.920	9.720
LTE Band 66	1.4 MHz	QPSK	1.092	1.290
		16QAM	1.098	1.308
	3 MHz	QPSK	2.676	2.880
		16QAM	2.688	2.868
	5 MHz	QPSK	4.540	5.180
		16QAM	4.540	5.160
	10 MHz	QPSK	8.960	9.920
		16QAM	8.960	9.920
	15 MHz	QPSK	13.620	15.240
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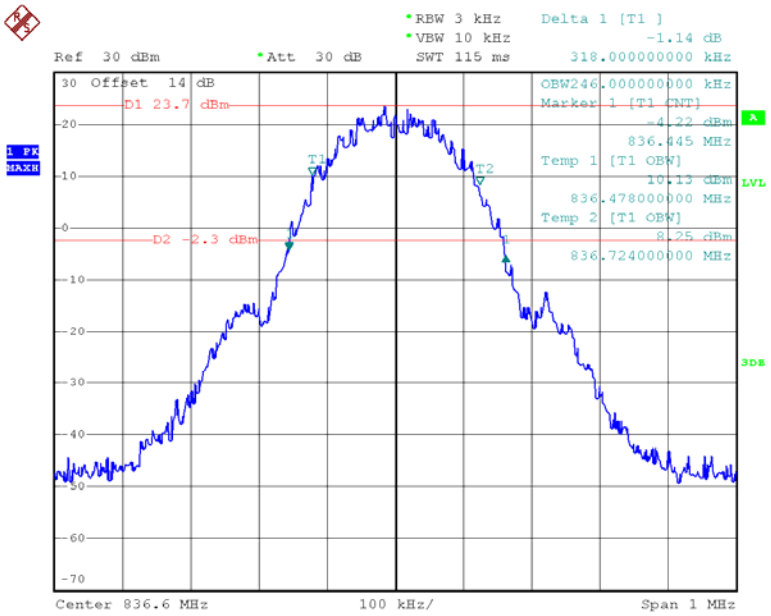
	20 MHz	QPSK	18.000	19.600
		16QAM	18.080	19.680

GSM Cellular 850



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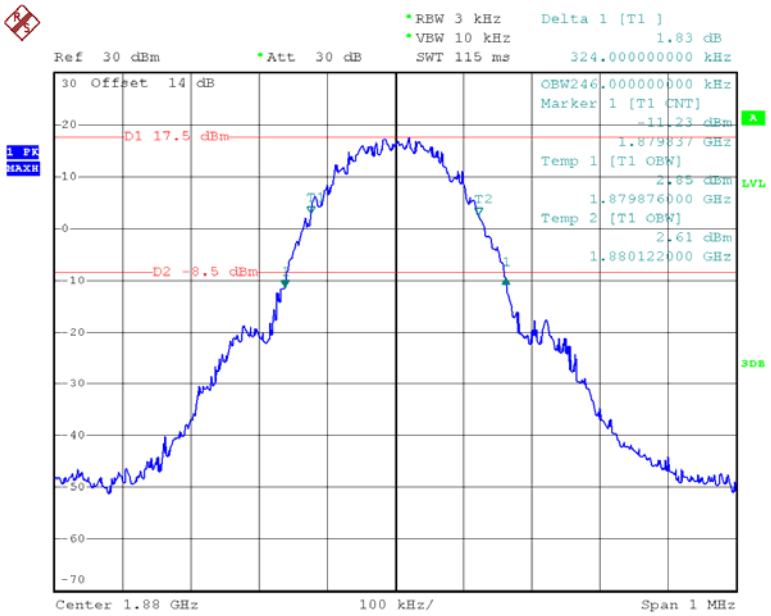

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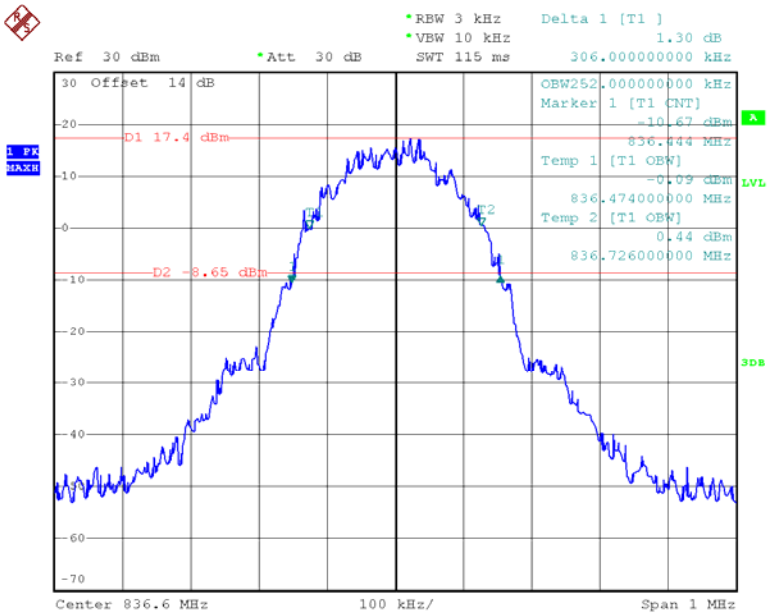
EDGE Cellular 850



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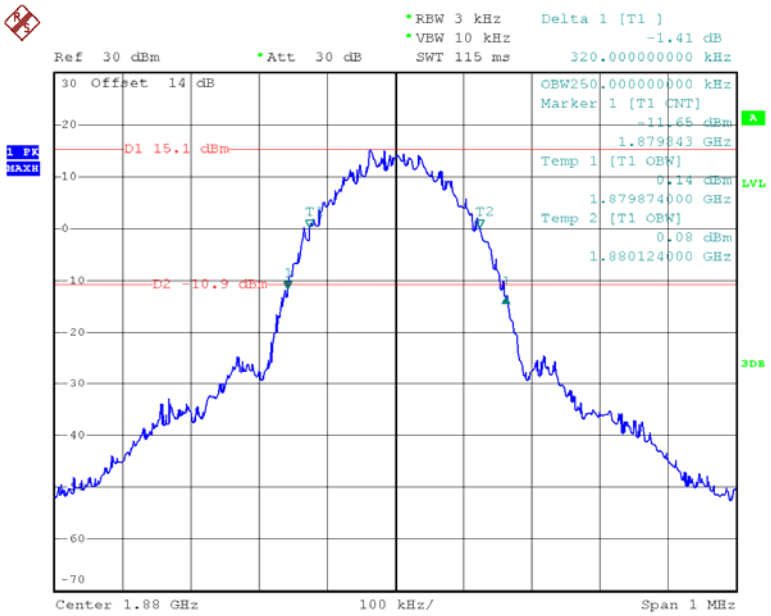

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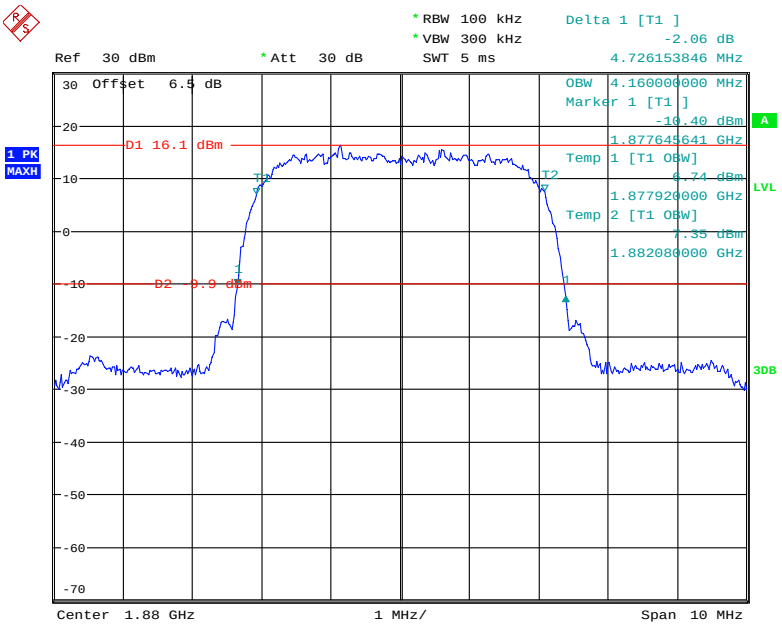
WCDMA Band 2 Rel 99



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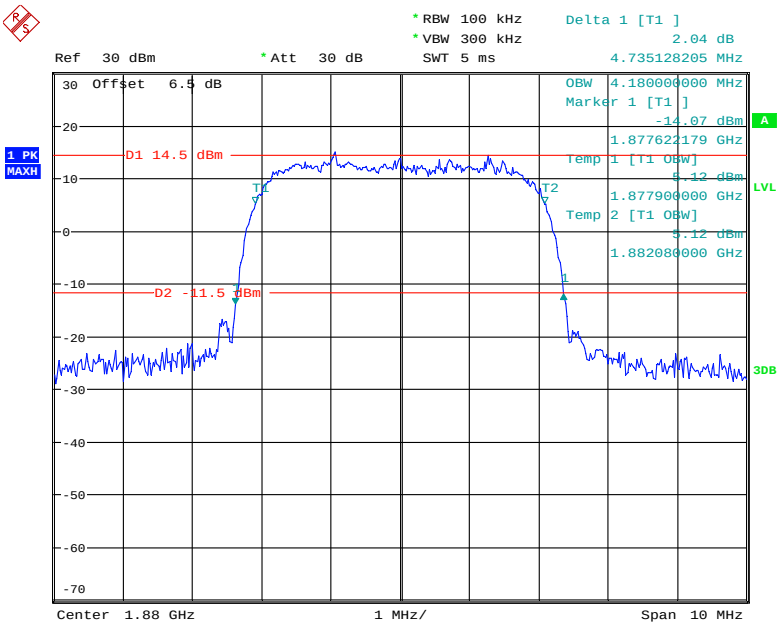

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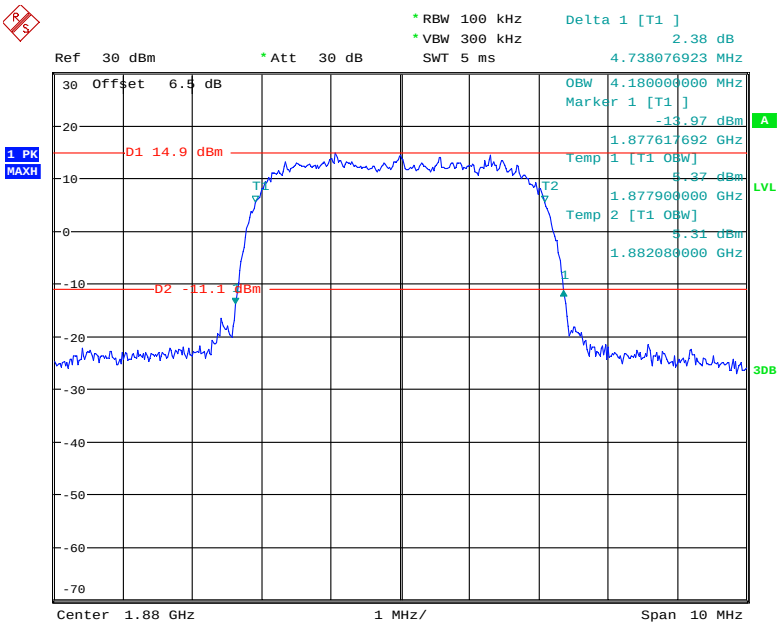

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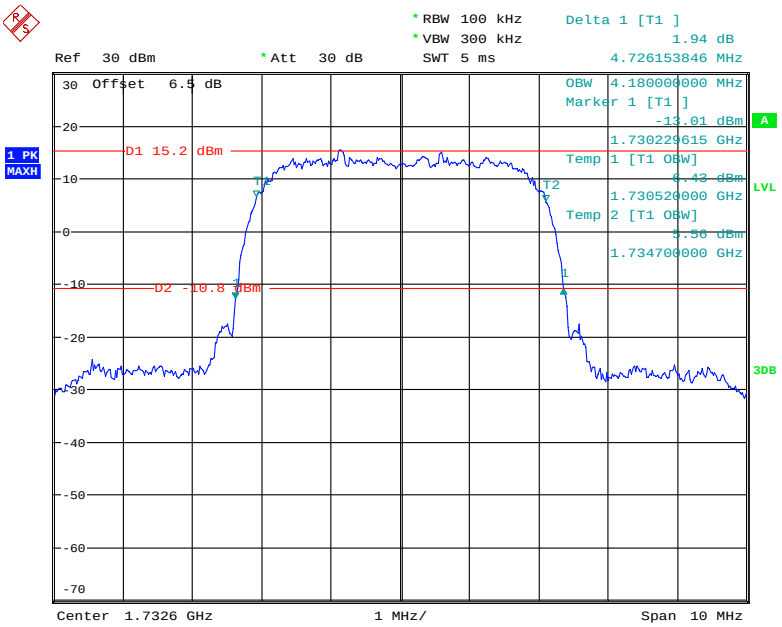

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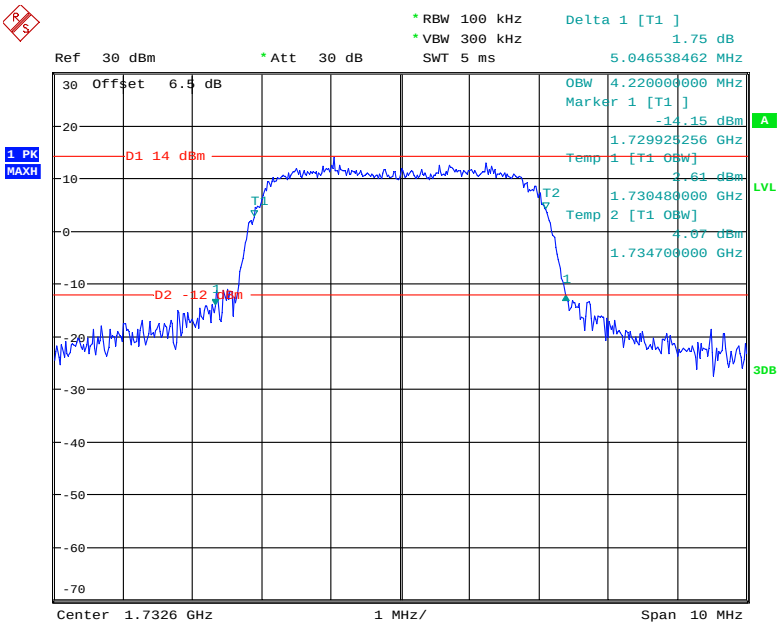

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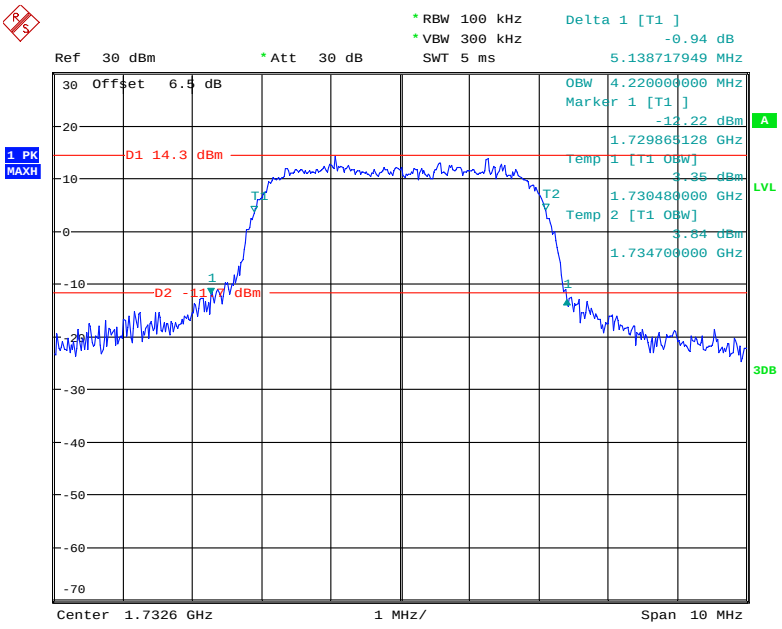

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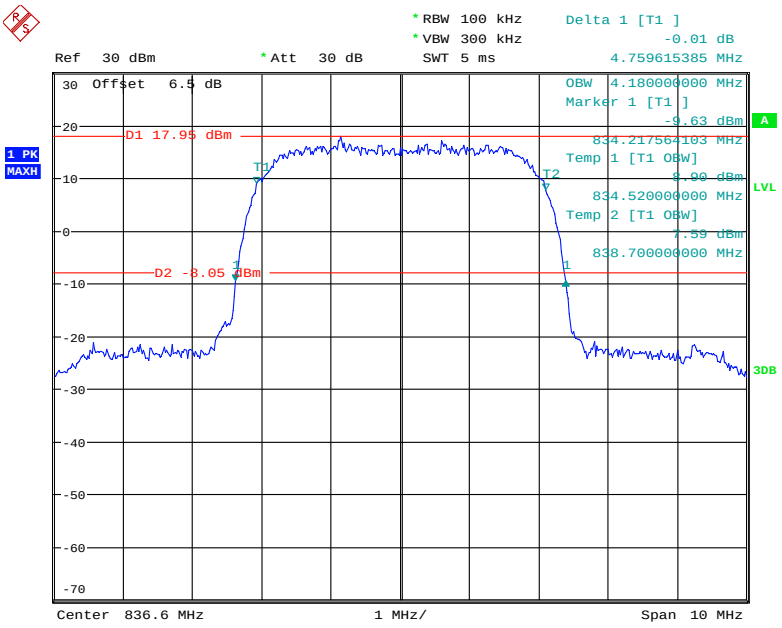

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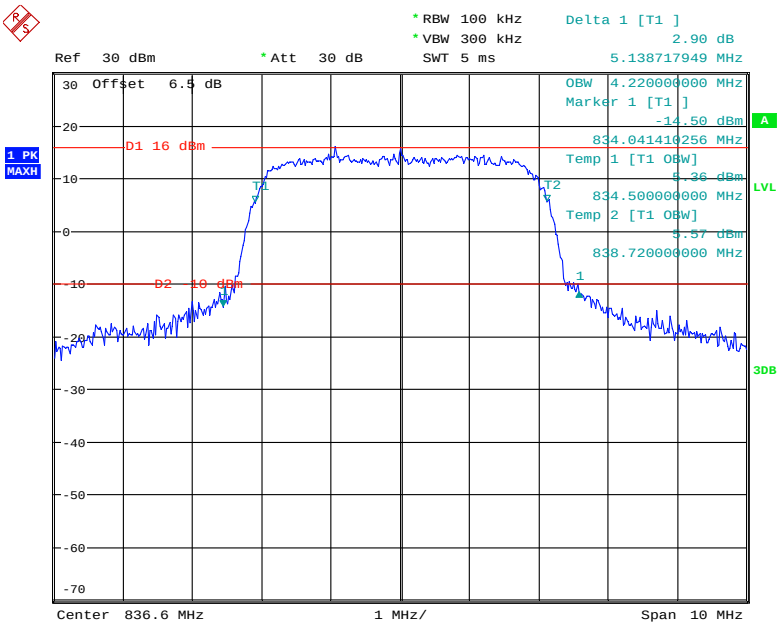

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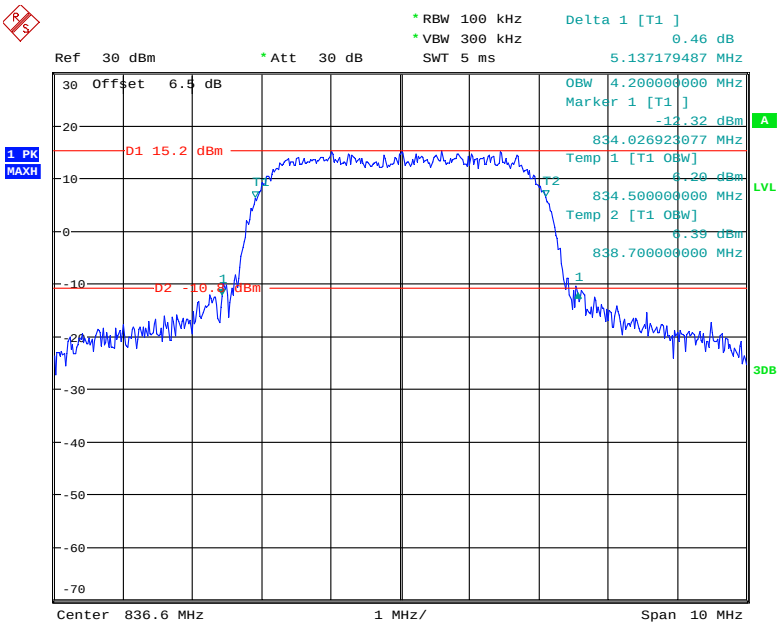

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LTE Band 2

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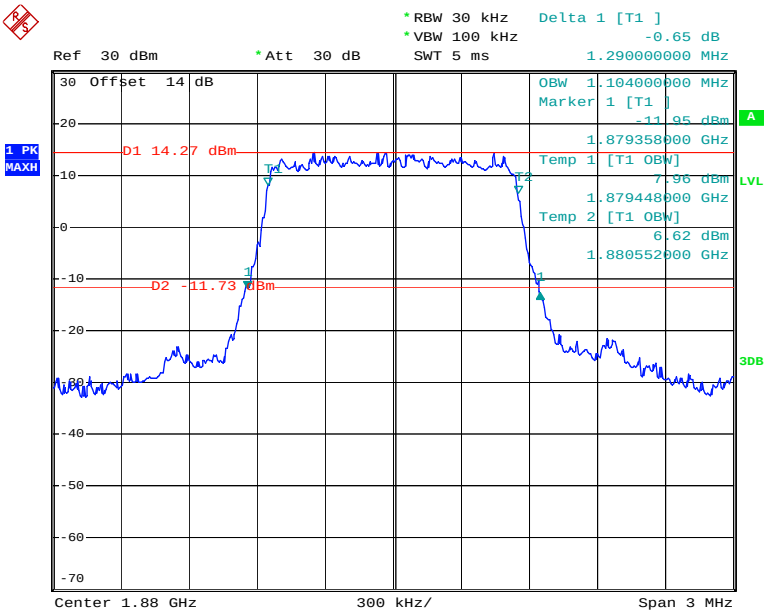

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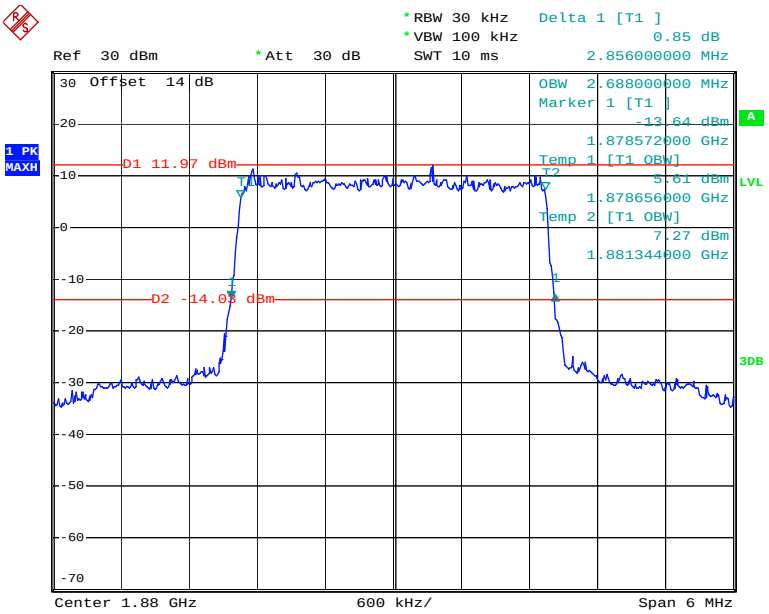

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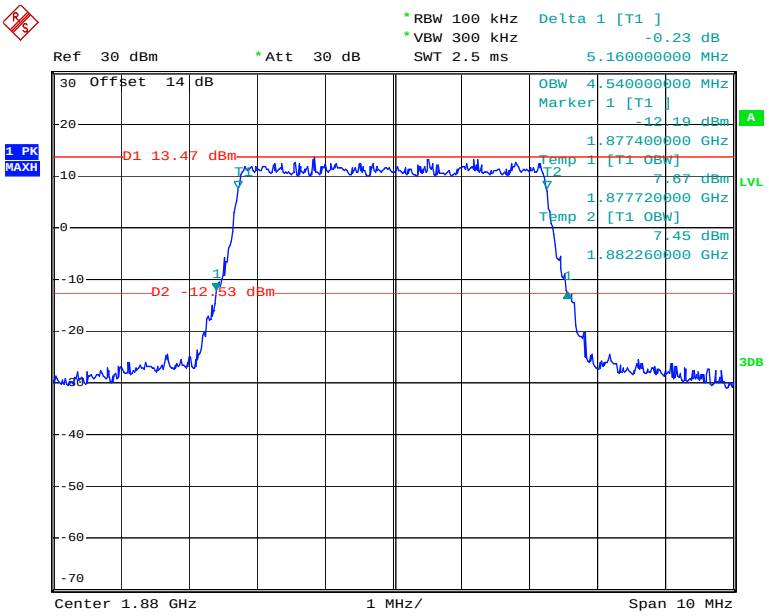

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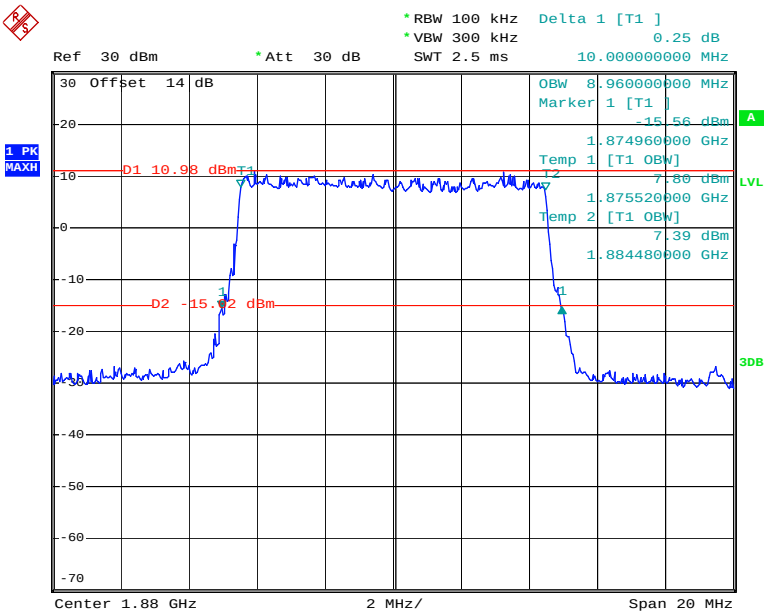

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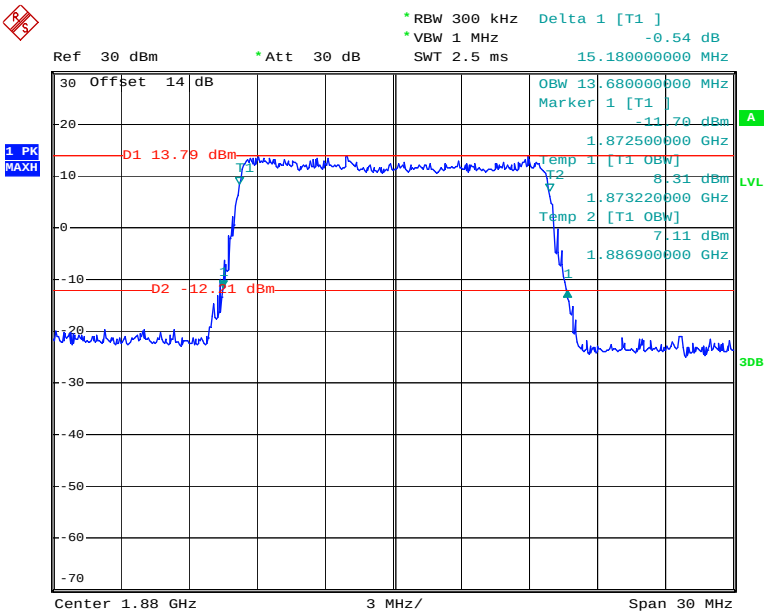

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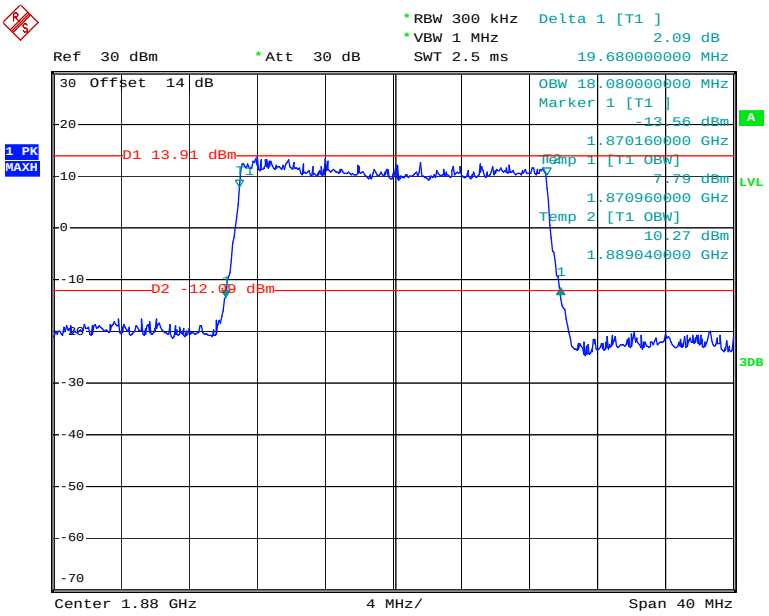

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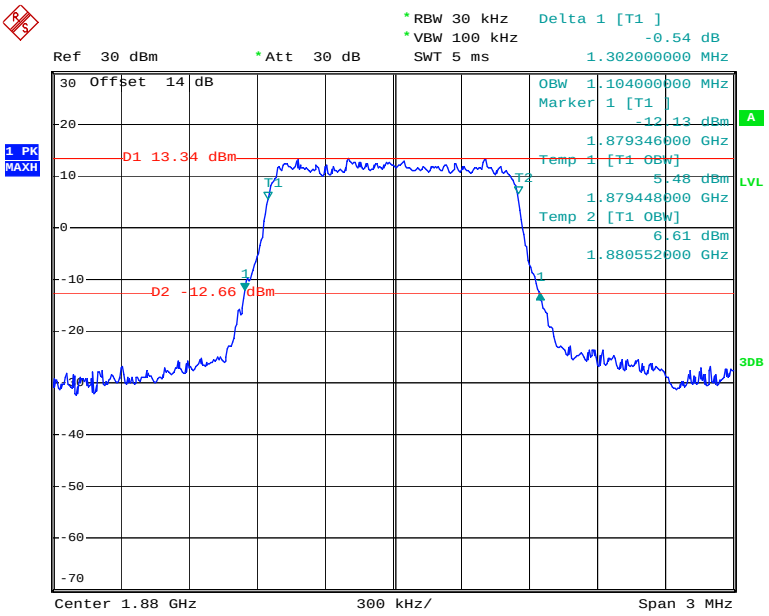

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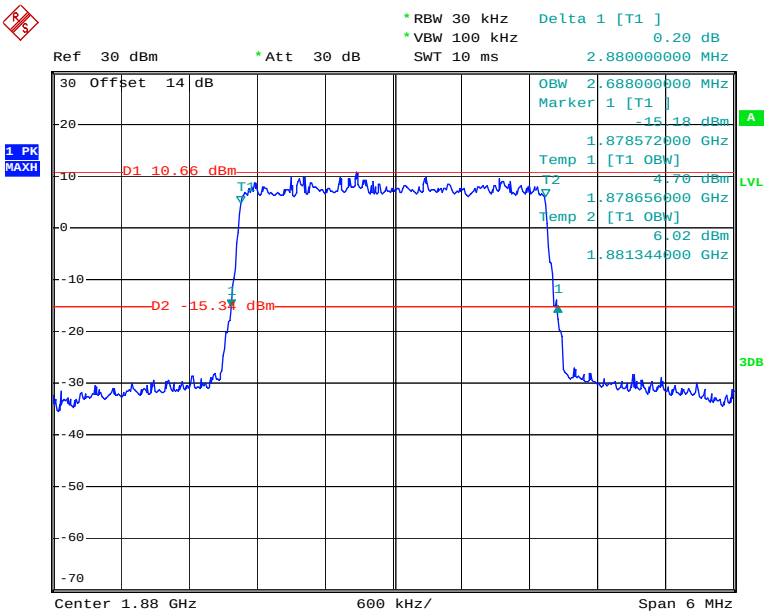

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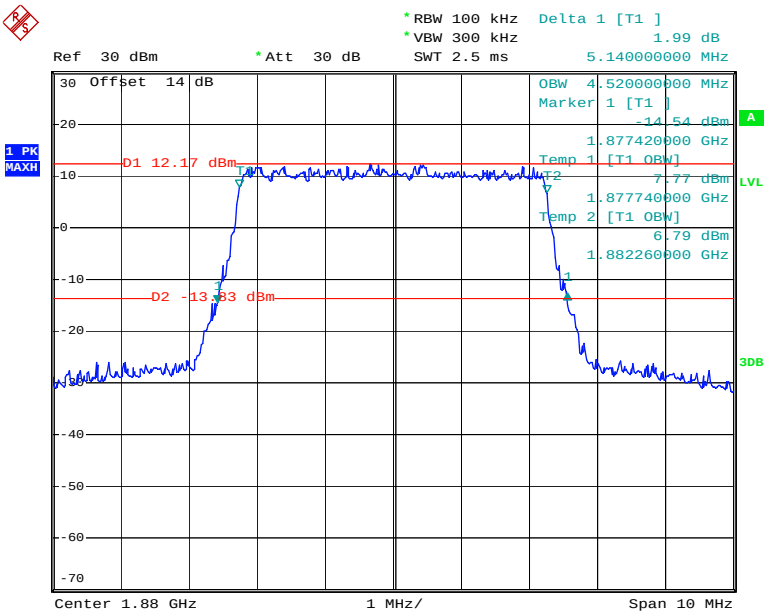
16QAM_5 MHz



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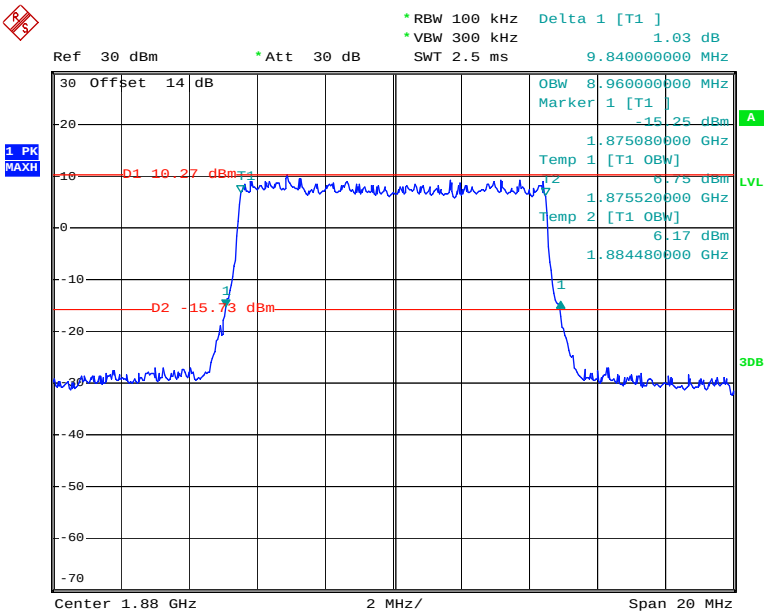

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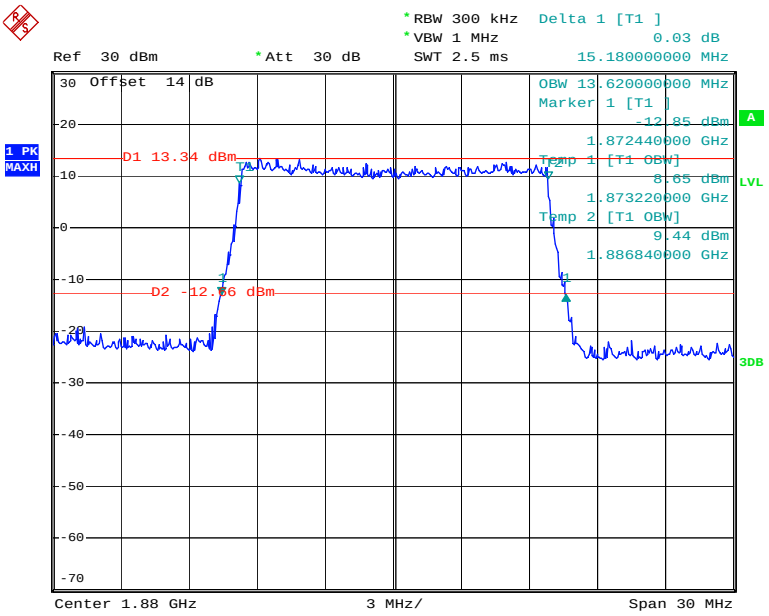

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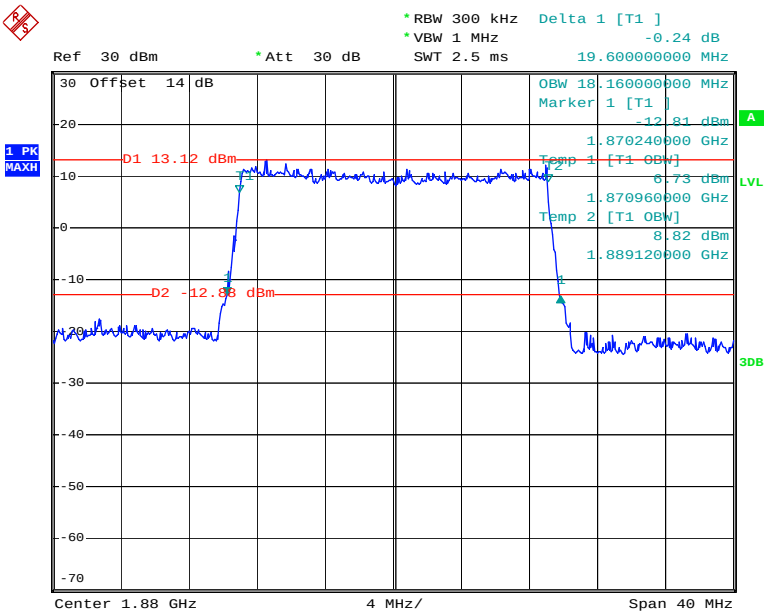

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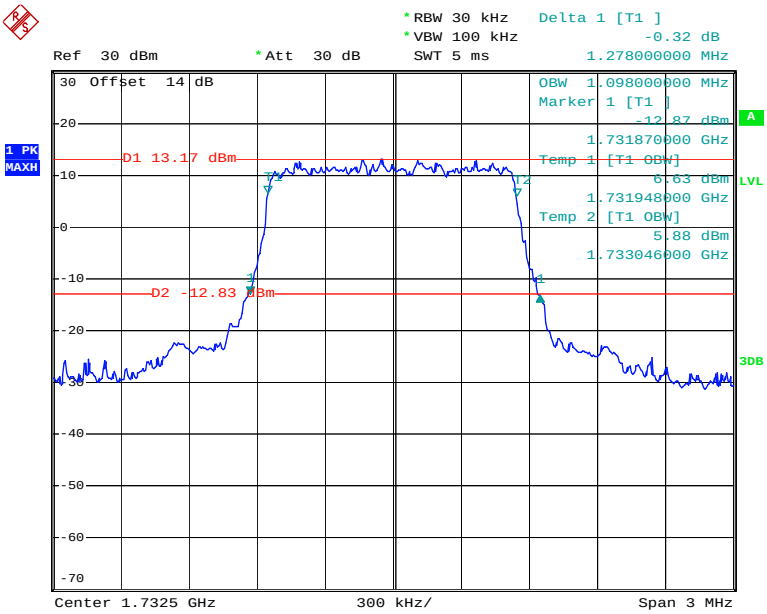
LTE Band 4

QPSK_1.4 MHz



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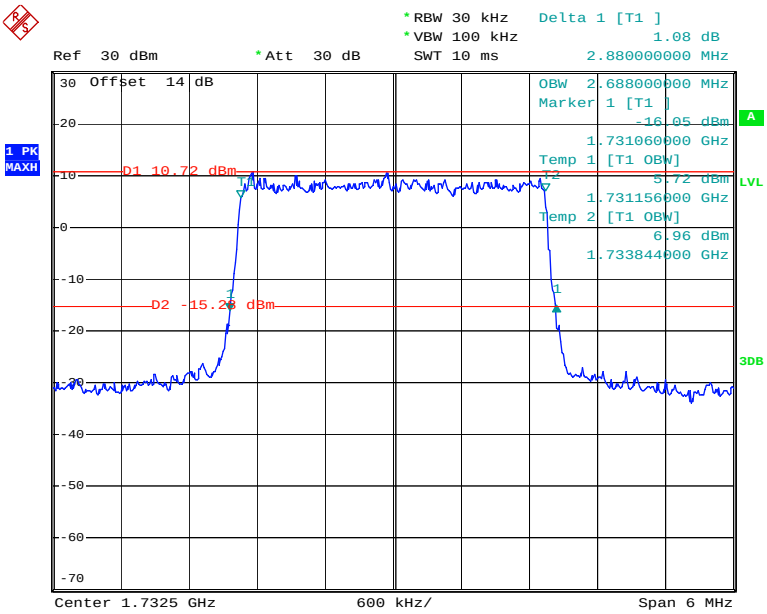
QPSK_3 MHz



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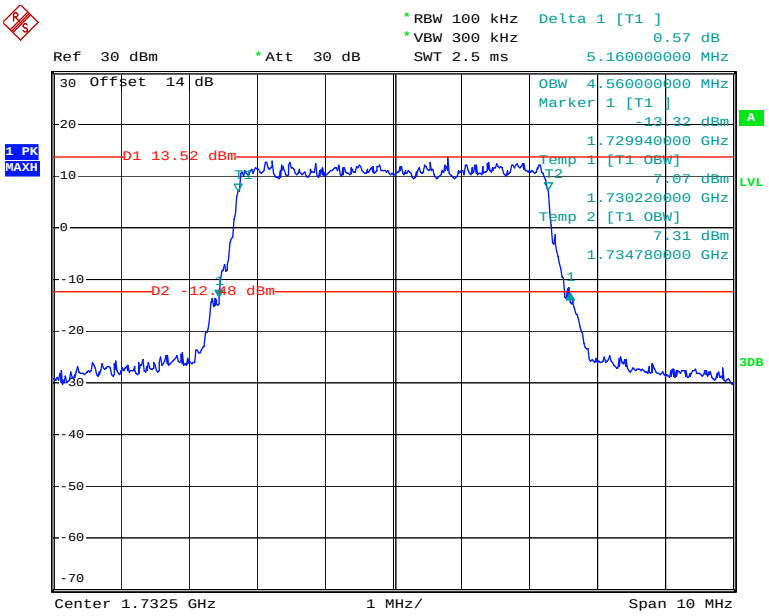
QPSK_5 MHz



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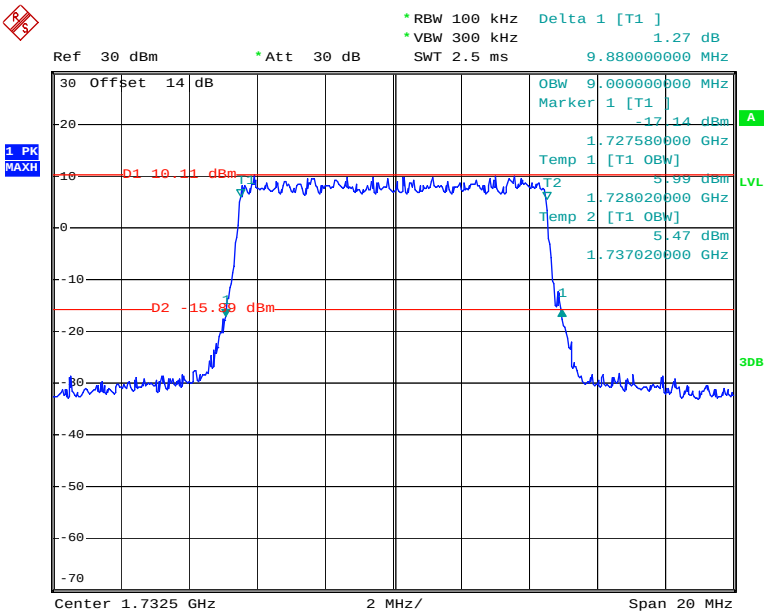
QPSK_10 MHz



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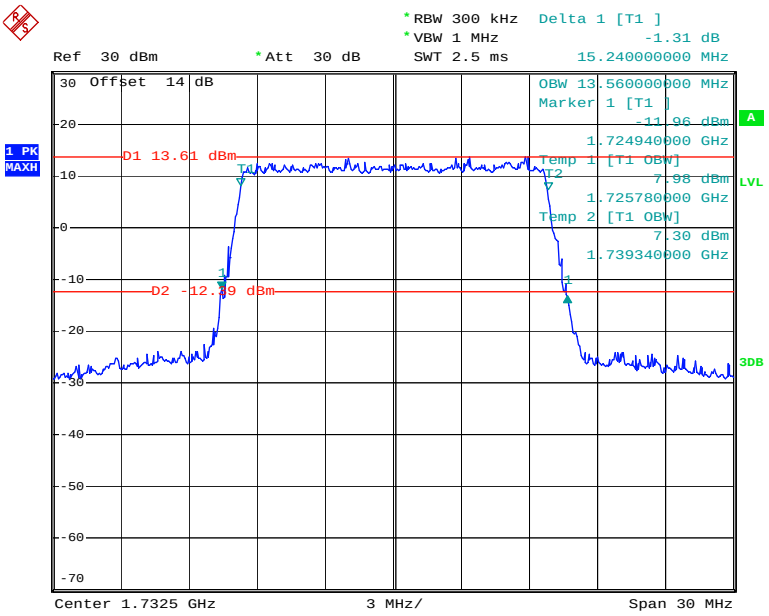

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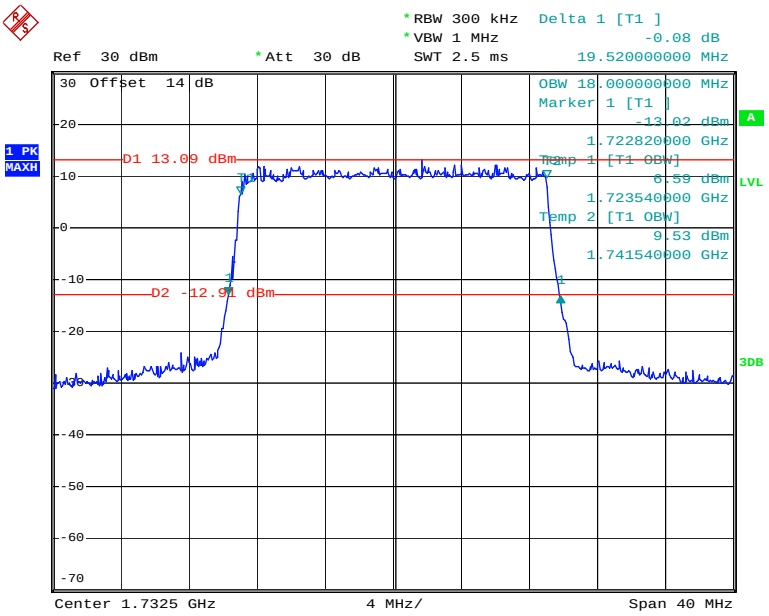

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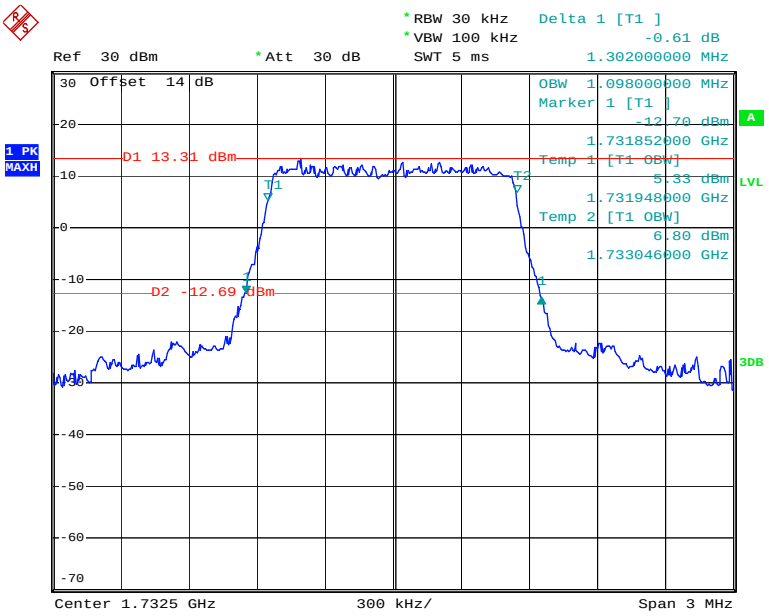

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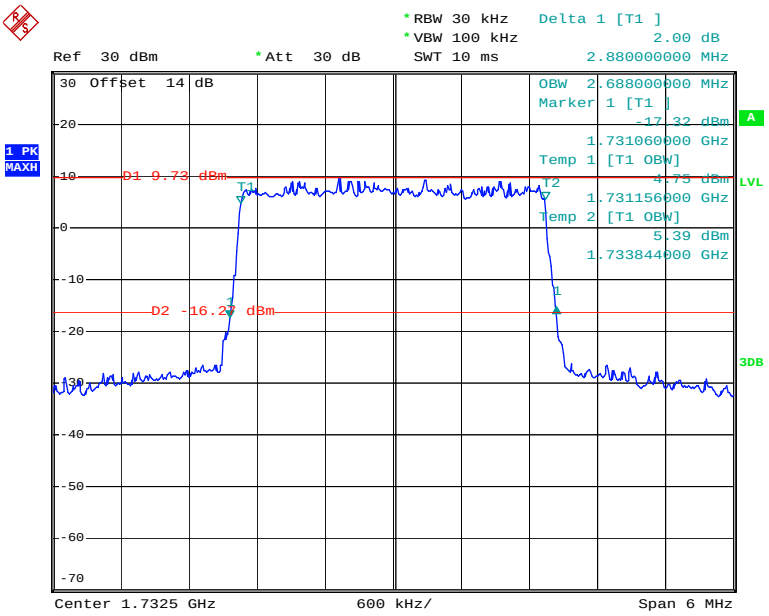

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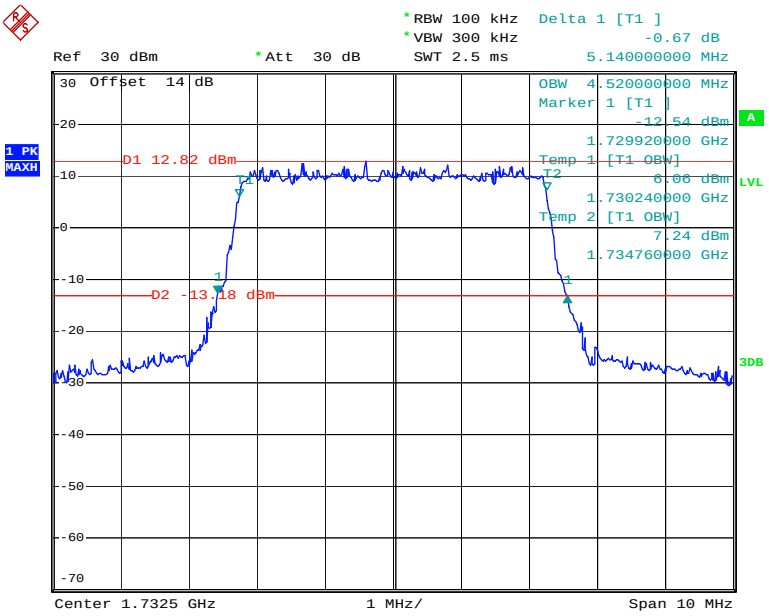

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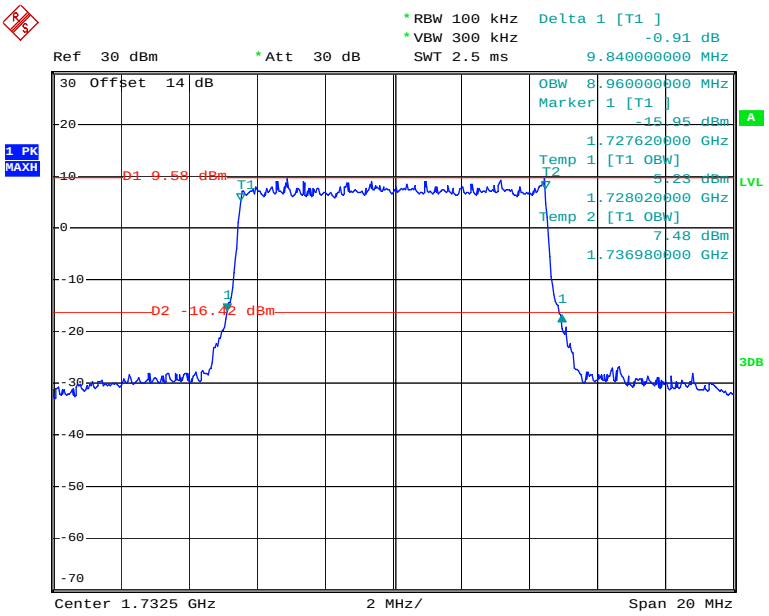

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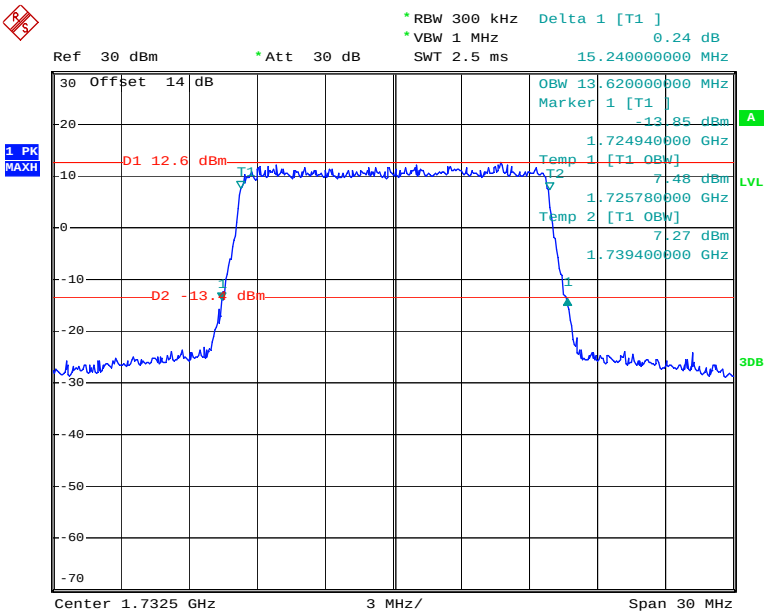

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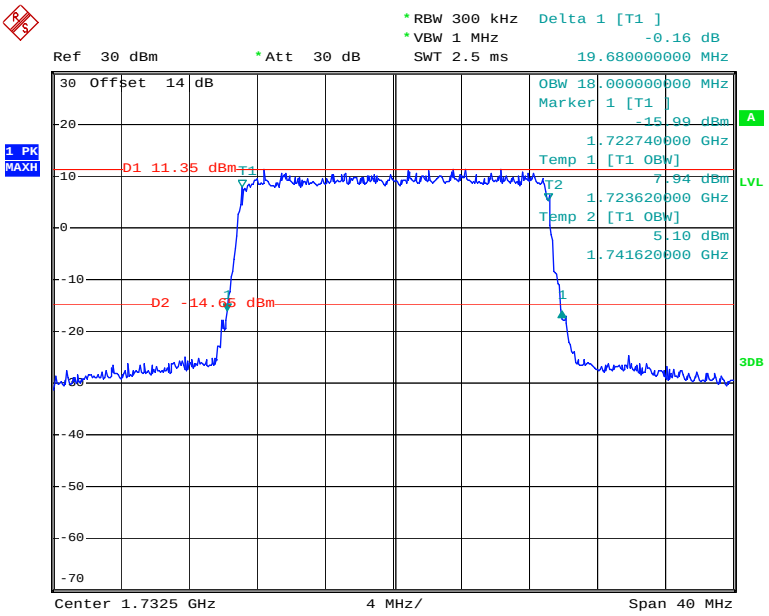

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LTE Band 7:

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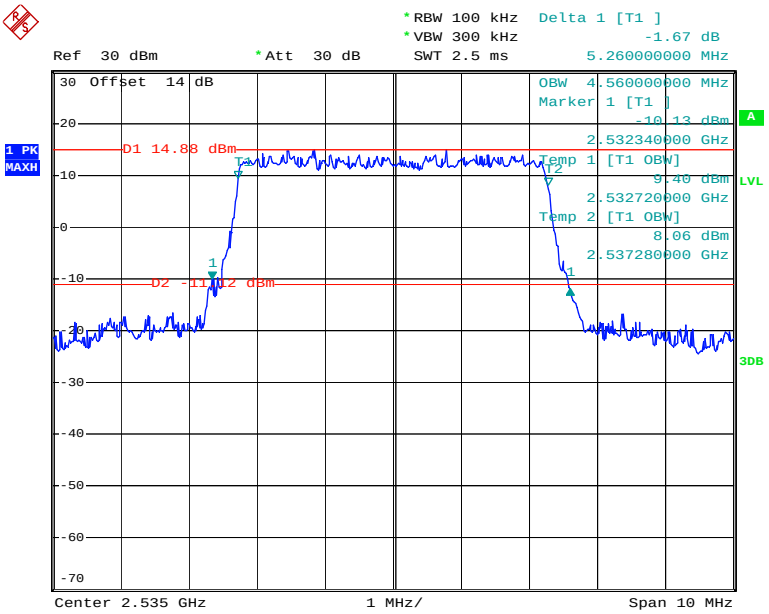

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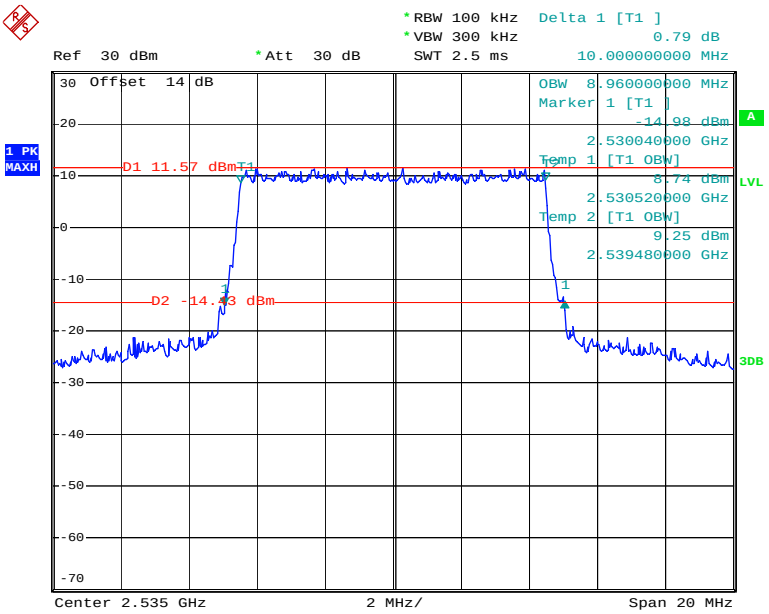

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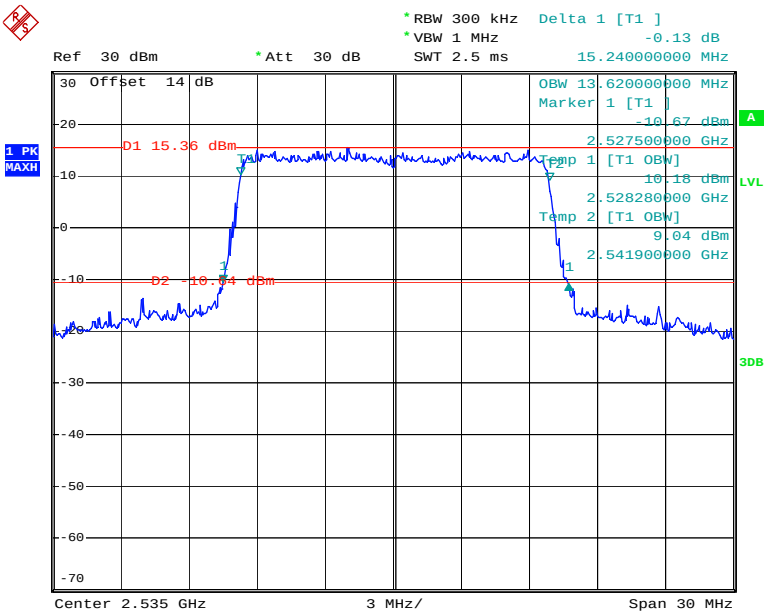

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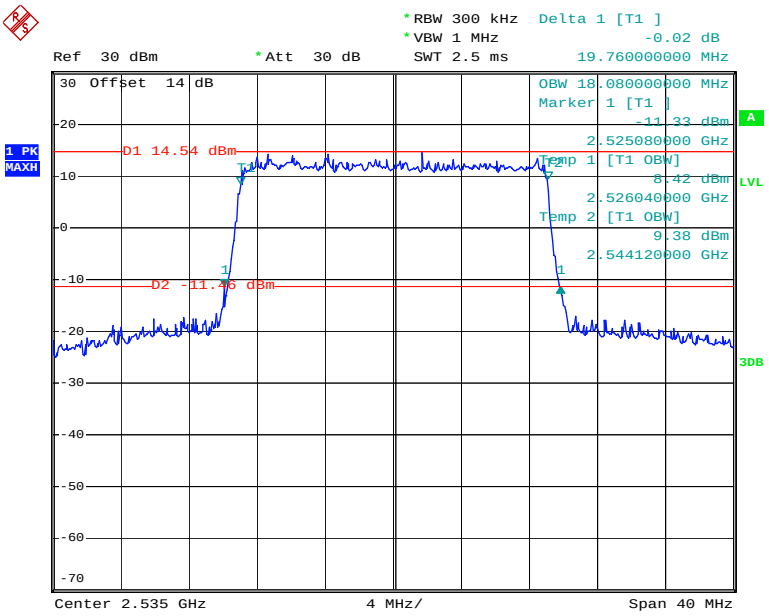

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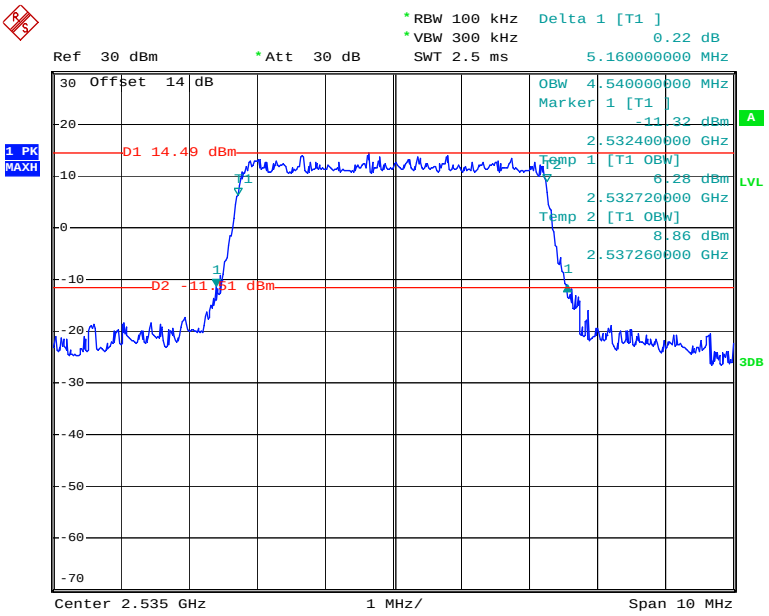

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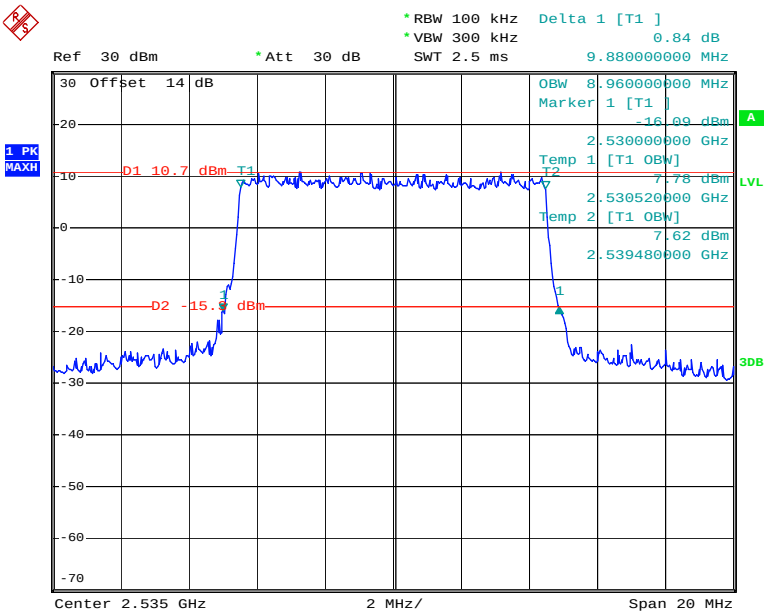

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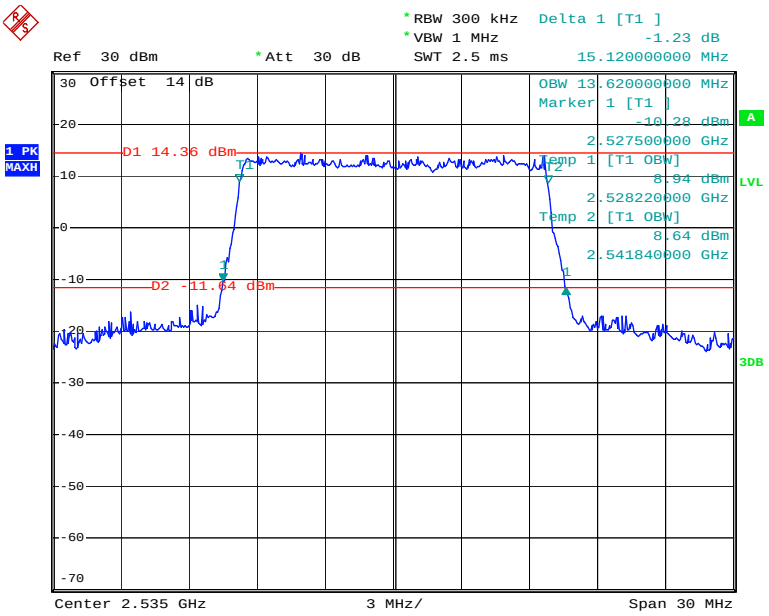

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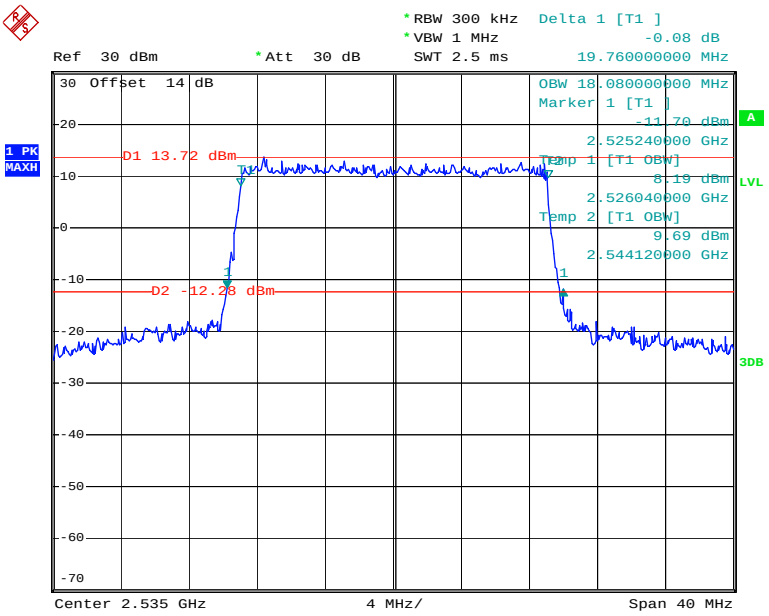

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LTE Band 12

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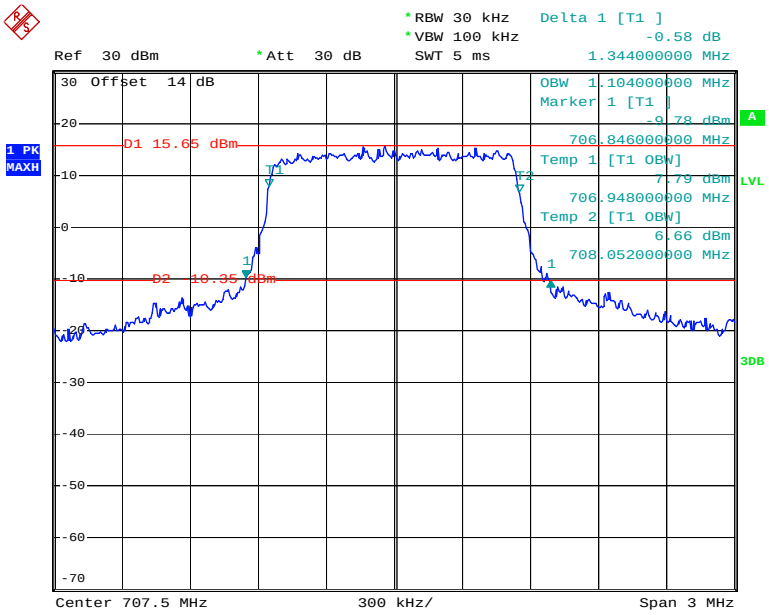

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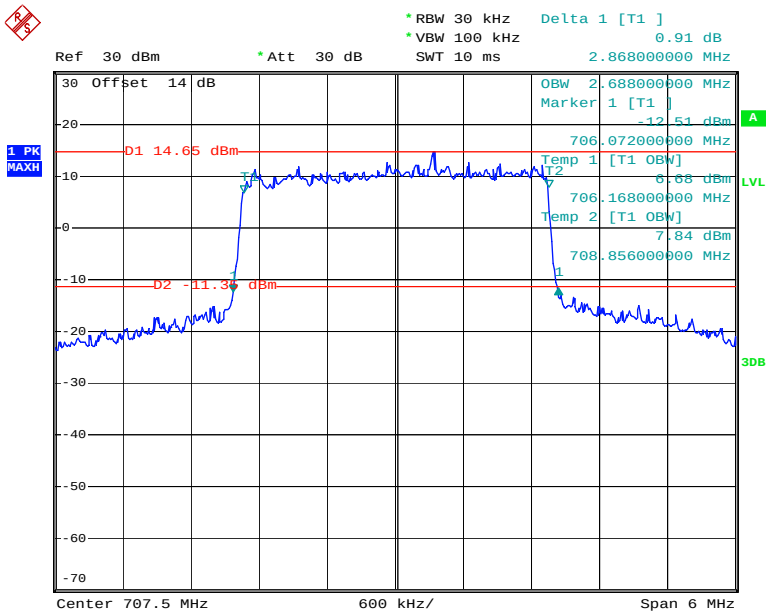

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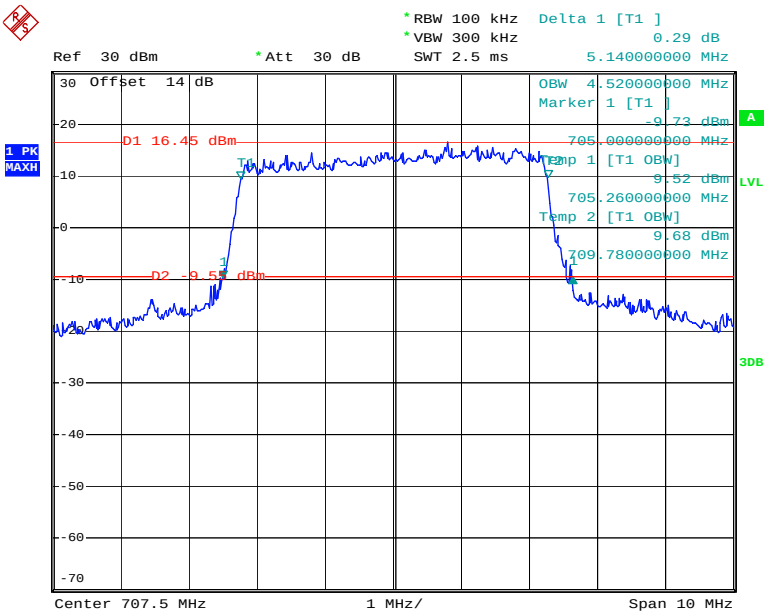

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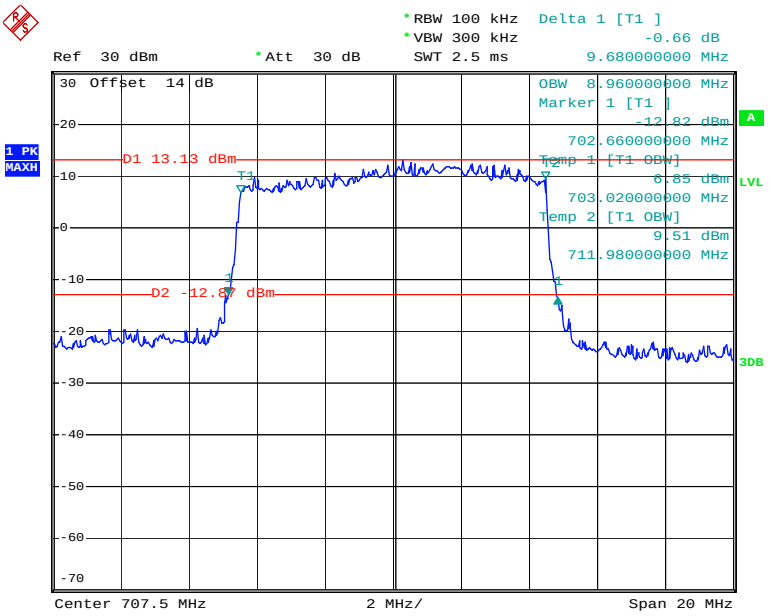
QPSK_10 MHz



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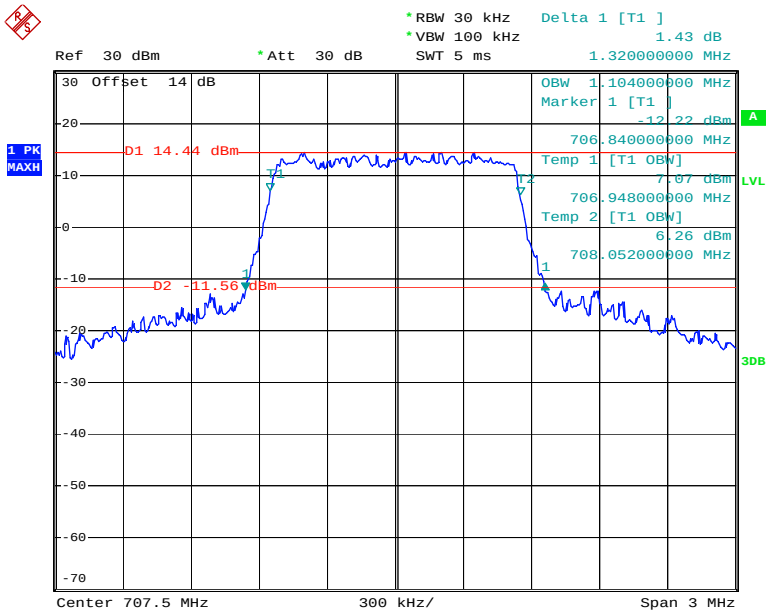

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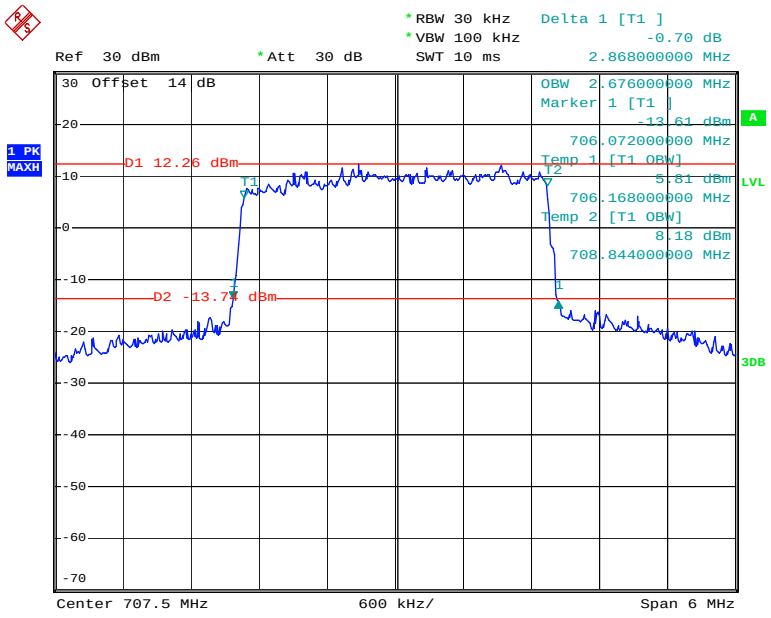
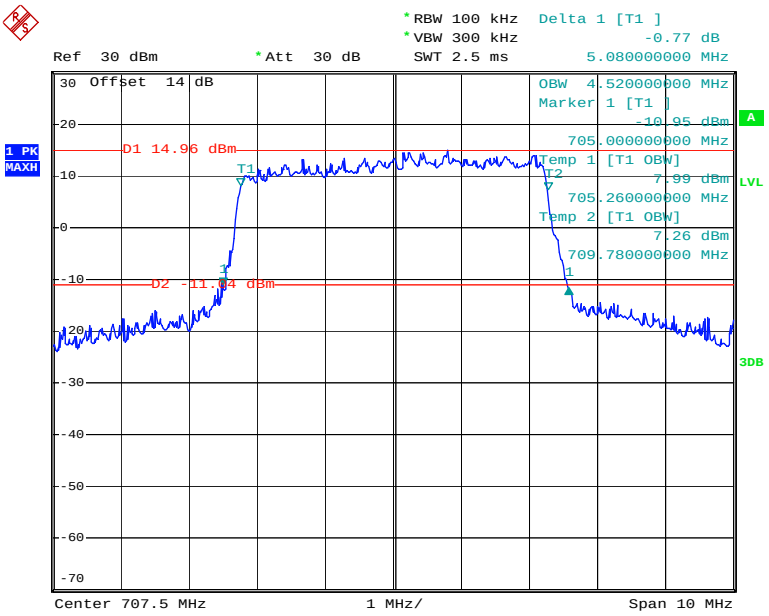
16QAM_3 MHz



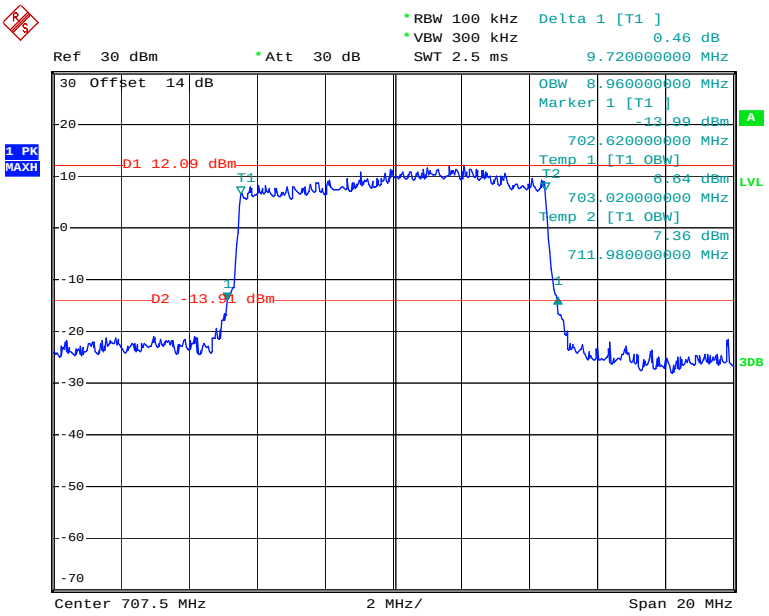
Date: 9.JUN.2020 13:09:48

16QAM_5 MHz



Date: 9.JUN.2020 13:10:35

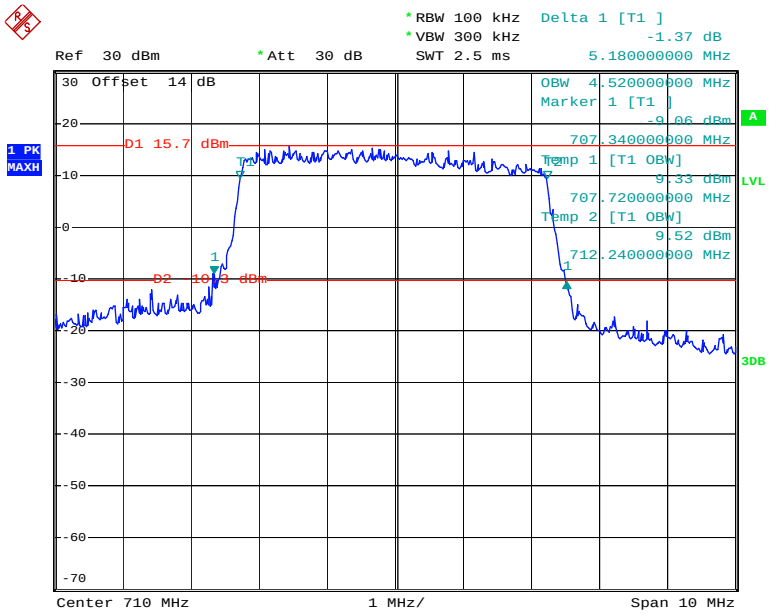
16QAM_10 MHz



Date: 9.JUN.2020 13:11:19

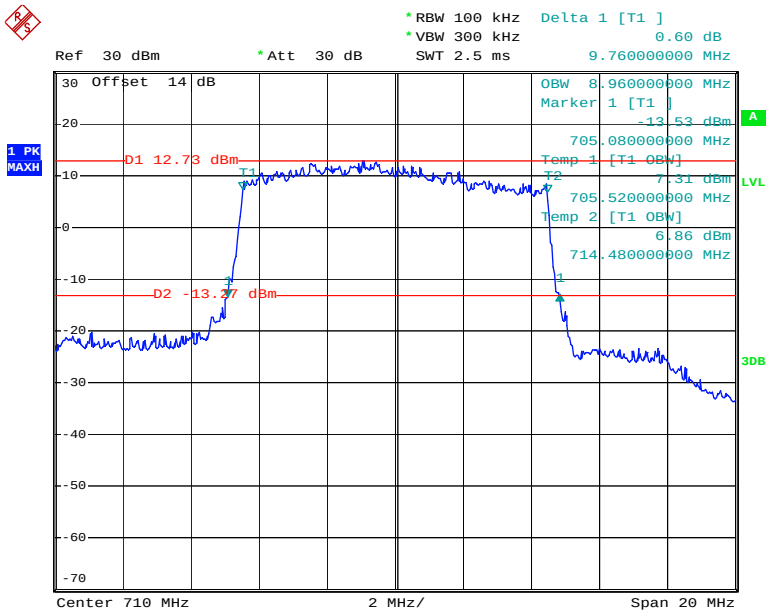
LTE Band 17:

QPSK_5 MHz



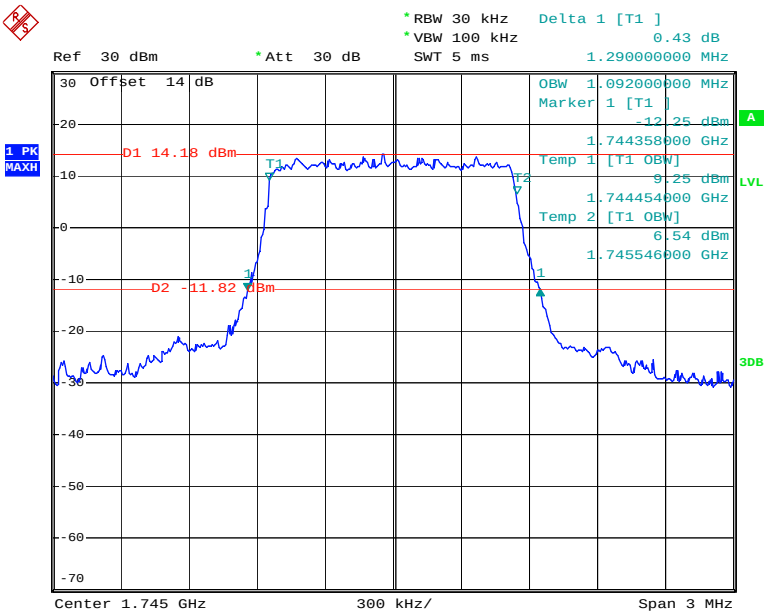
Date: 9.JUN.2020 13:11:44

QPSK_10 MHz



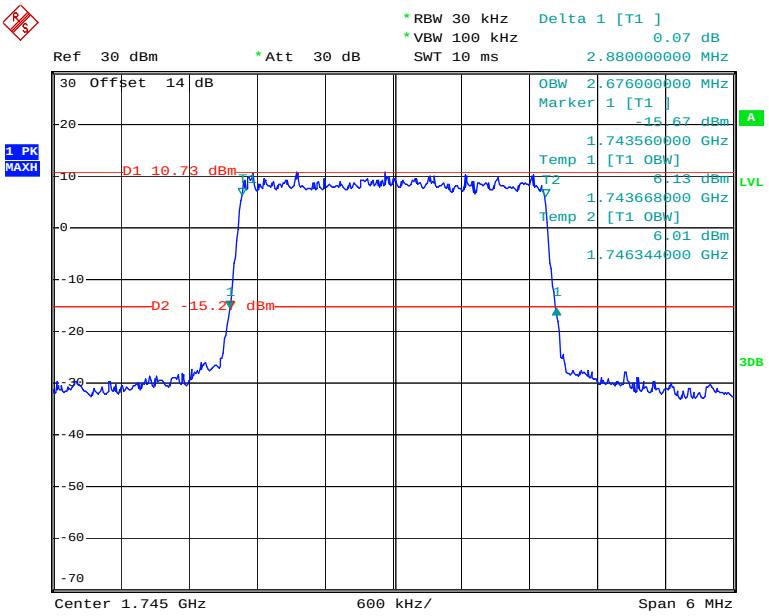
Date: 9.JUN.2020 13:12:33

16QAM_5 MHz



Date: 9.JUN.2020 13:13:19

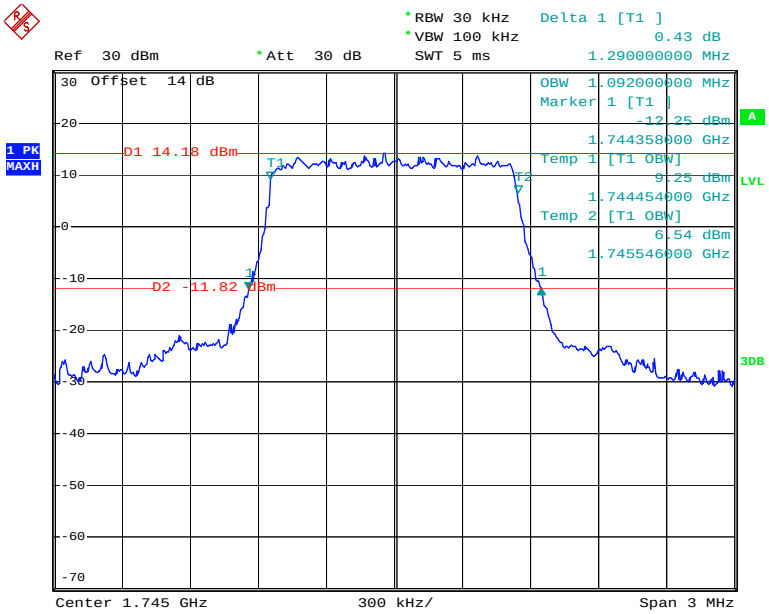
16QAM_10 MHz



Date: 9.JUN.2020 13:14:01

LTE Band 66:

QPSK_1.4 MHz



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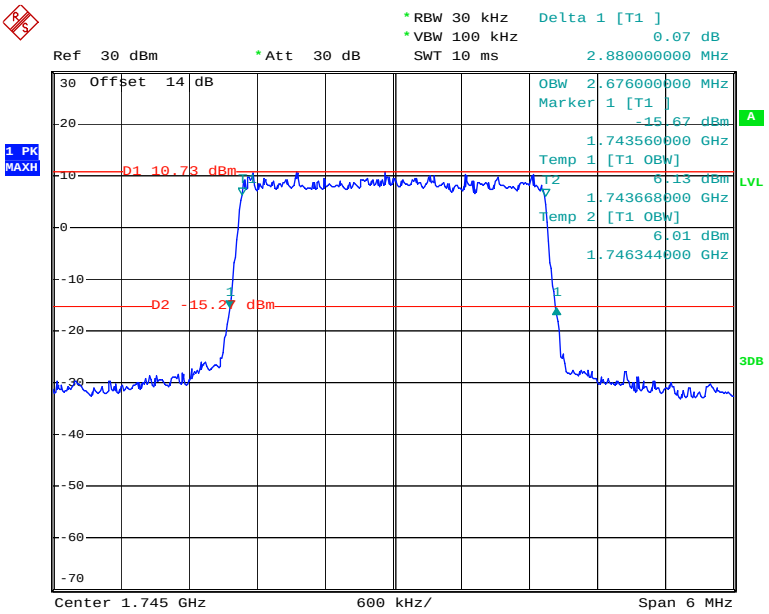
QPSK_3 MHz



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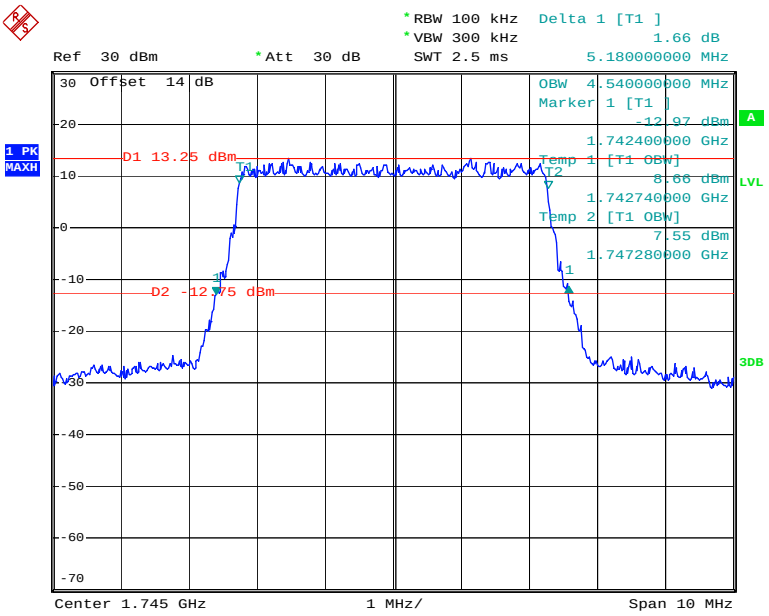
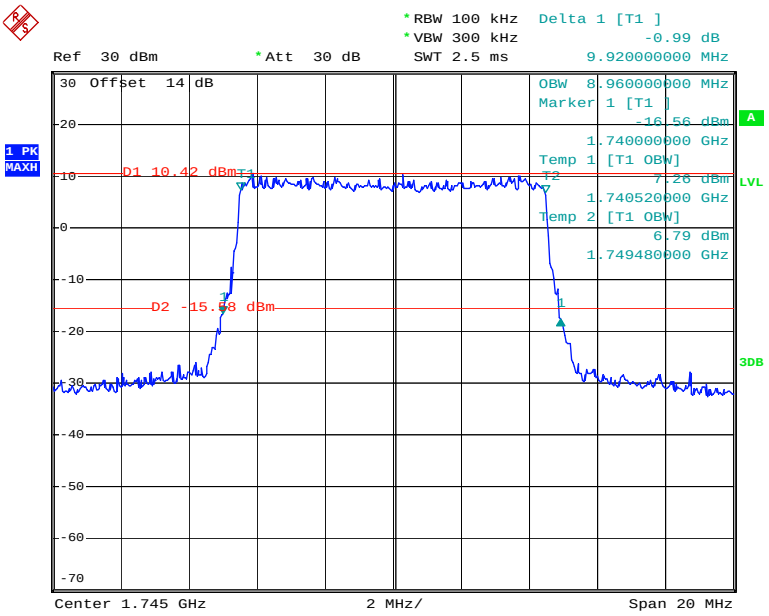
QPSK_5 MHz



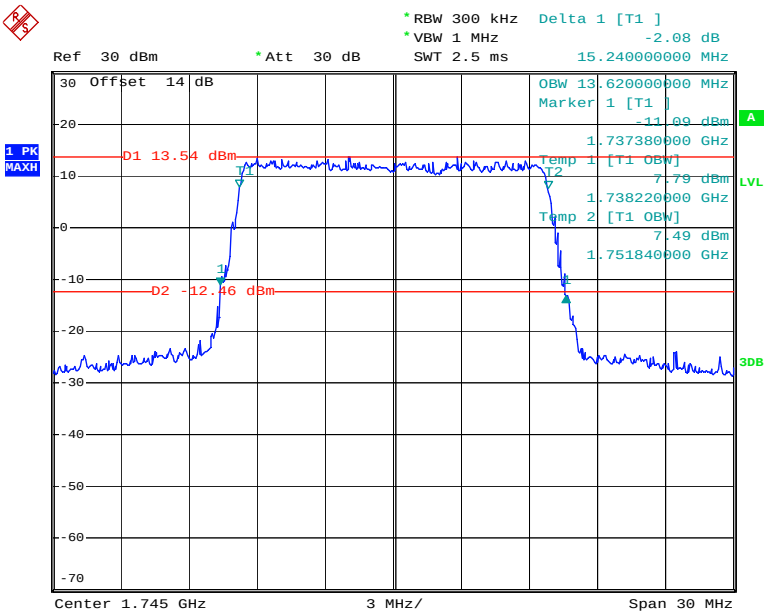
Date: 9.JUN.2020 13:14:42

QPSK_10 MHz



Date: 9.JUN.2020 13:15:25

QPSK_15 MHz



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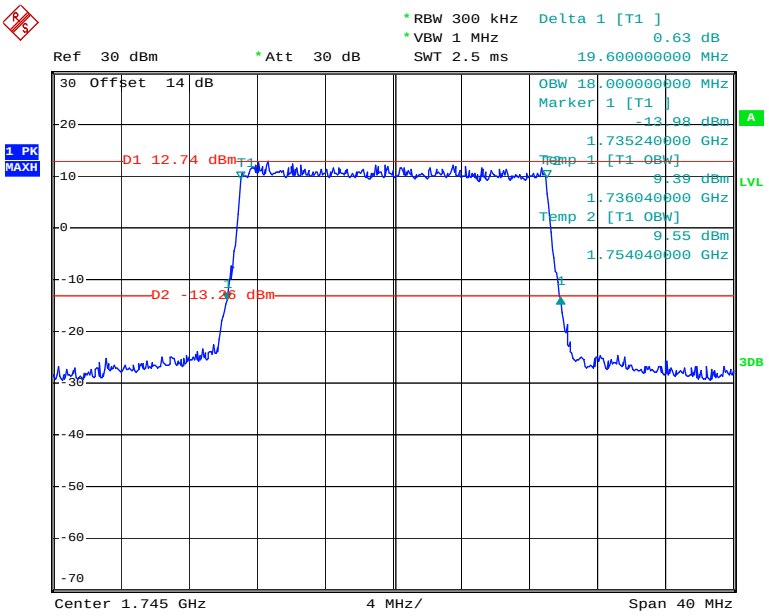
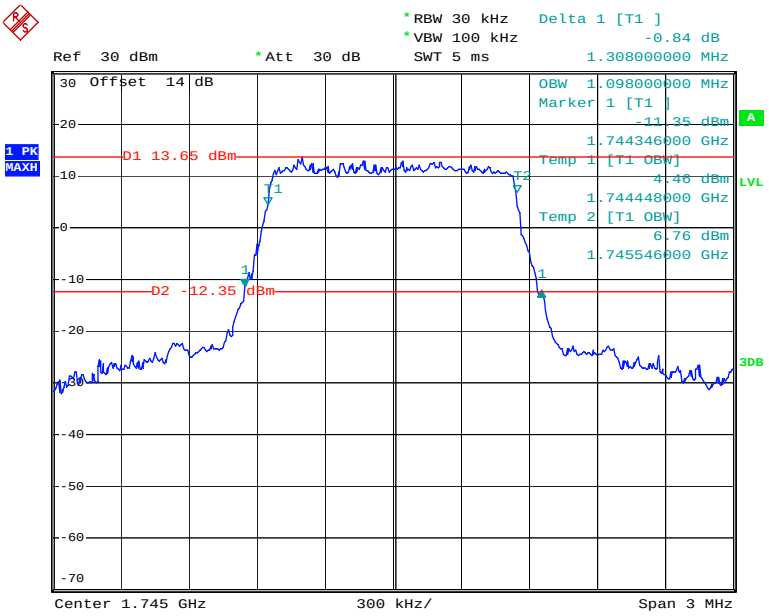
QPSK_20 MHz



Date: 9.JUN.2020 13:17:03

16QAM_1.4 MHz



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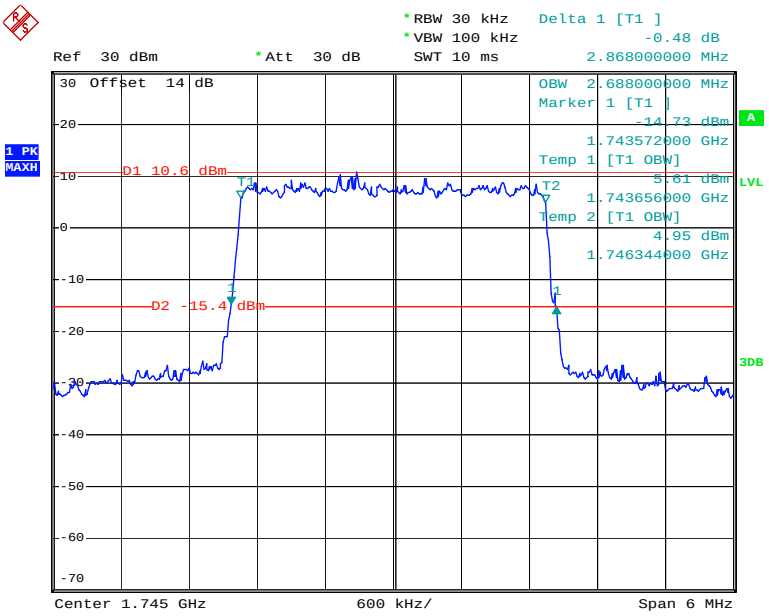
16QAM_3 MHz



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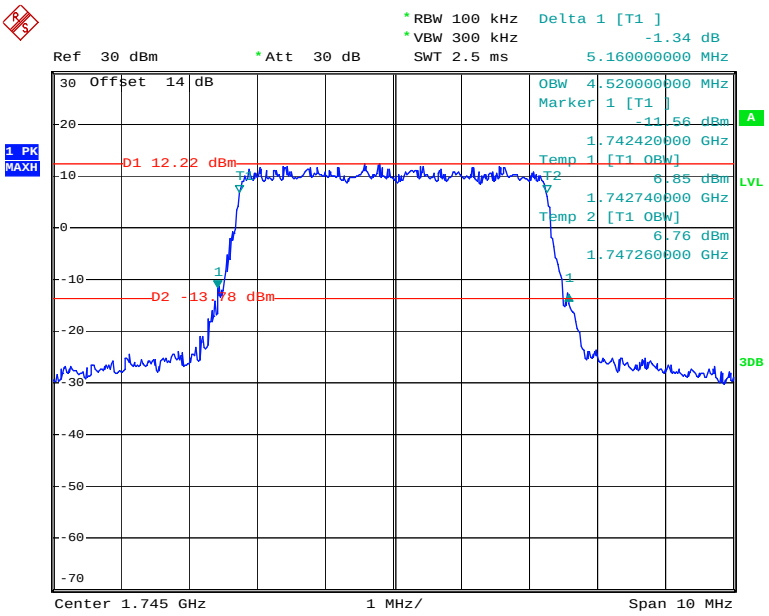
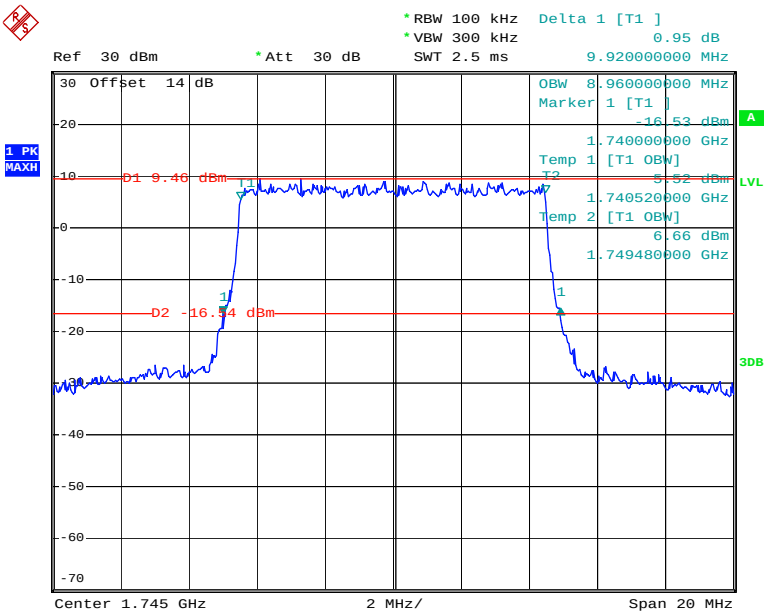
16QAM_5 MHz



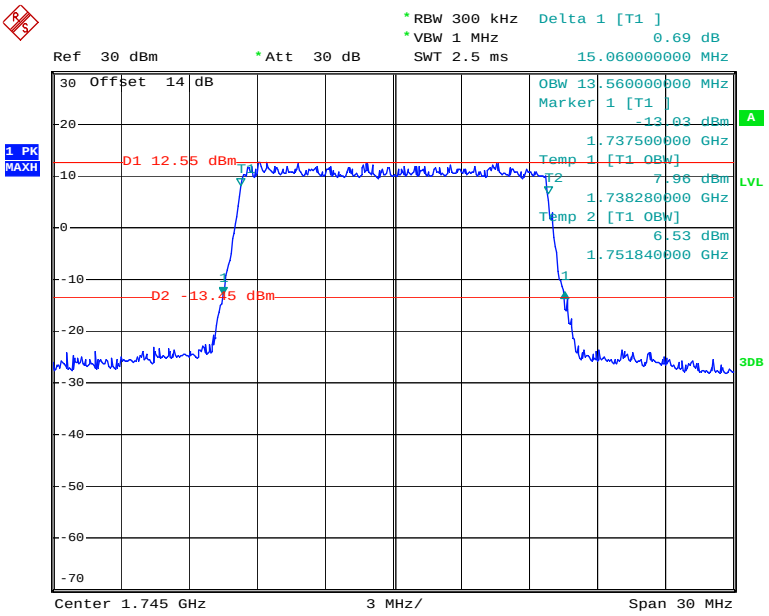
Date: 9.JUN.2020 13:15:00

16QAM_10 MHz



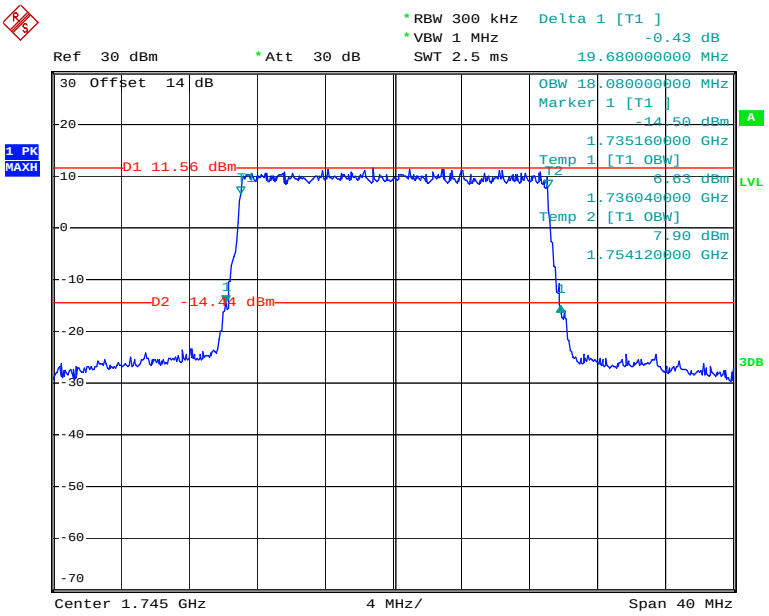
Date: 9.JUN.2020 13:15:47

16QAM_15 MHz



Date: 9.JUN.2020 13:16:35

16QAM_20 MHz



Date: 9.JUN.2020 13:17:27

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

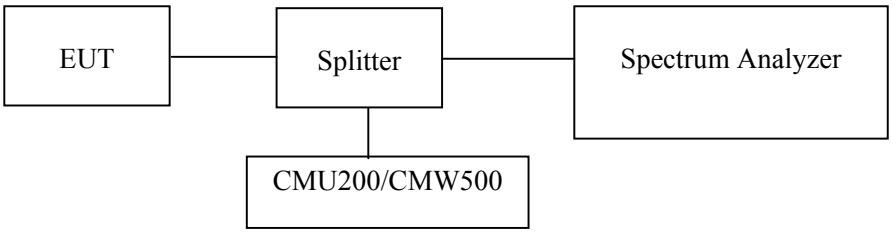
Applicable Standard

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	2020-05-09	2021-05-09
Unknown	Coaxial Cable	C-SJ00-0010	C0010/04	Each time	N/A
E-Microwave	Blocking Control	EMDCB-00036	0E01201048	Each time	N/A
E-Microwave	Coaxial Attenuators	EMCA10-5RN-6	OE01203239	Each time	N/A

*** 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).

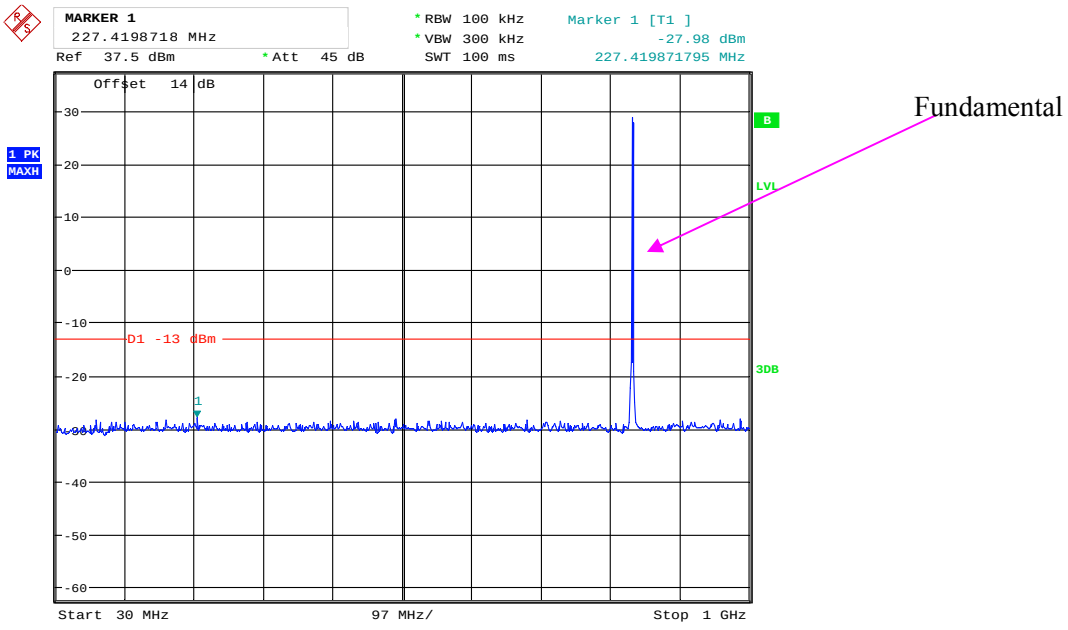
Test Data

Environmental Conditions

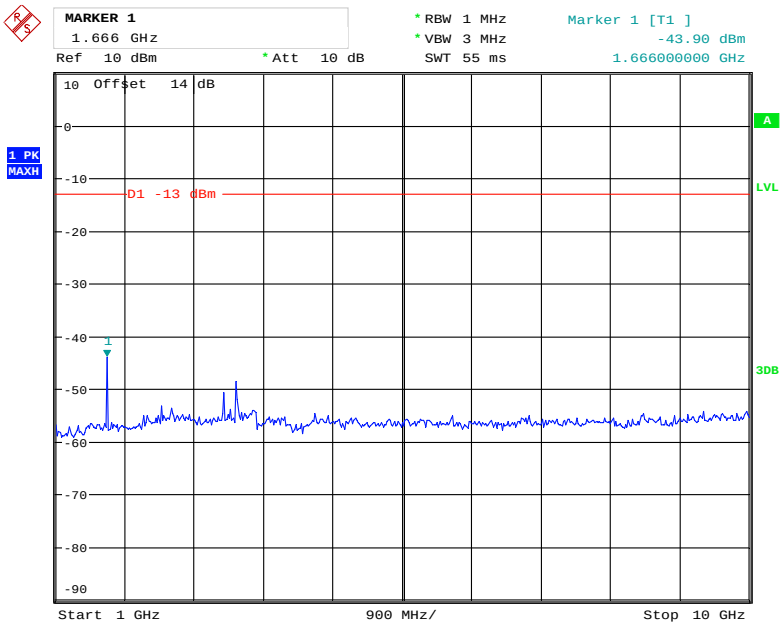
Temperature:	27.4 °C
Relative Humidity:	62%
ATM Pressure:	100.7kPa
Tester:	Lucy Lu
Test Date:	2020-06-17

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

GSM850 Middle Channel

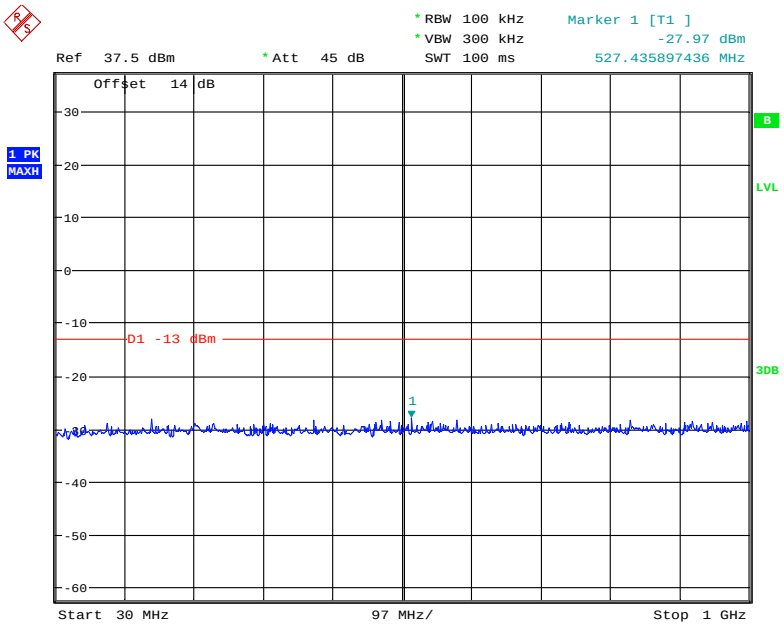


Date: 17.JUN.2020 17:35:08

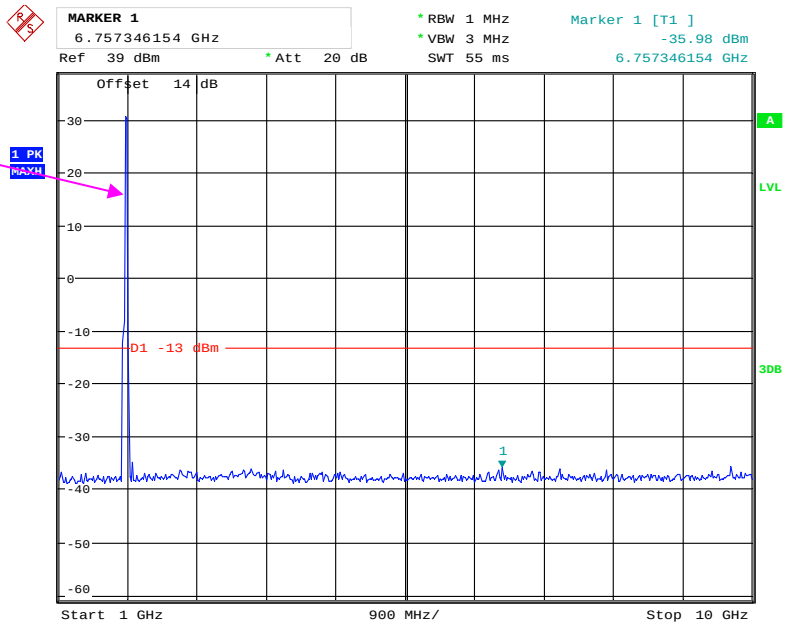


Date: 17.JUN.2020 17:41:45

PCS 1900 Middle Channel



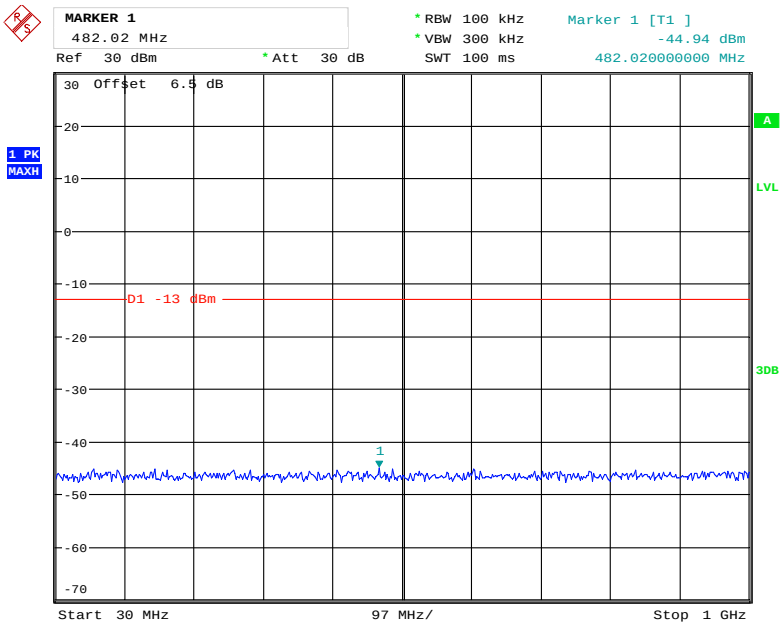
Date: 17.JUN.2020 17:42:37



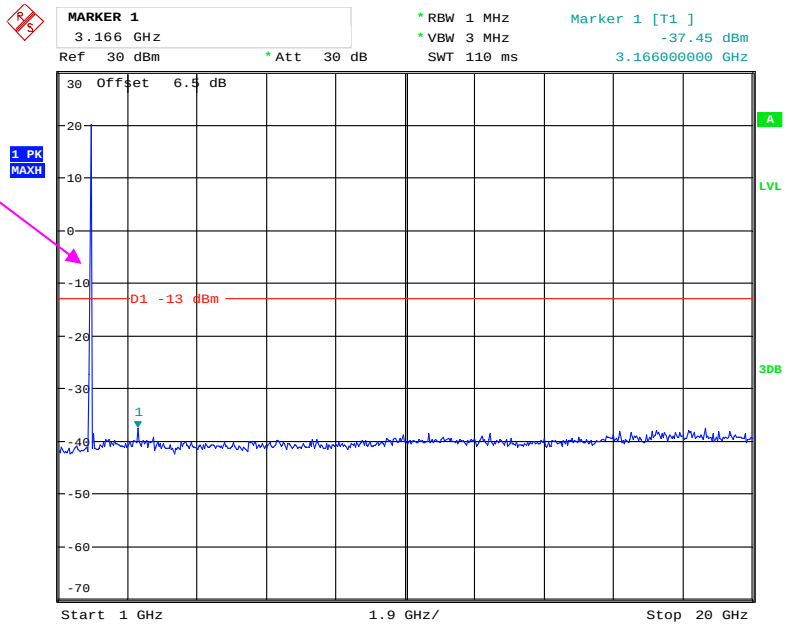
Fundamental

Date: 17.JUN.2020 17:49:40

WCDMA Band 2 Rel 99 Middle Channel



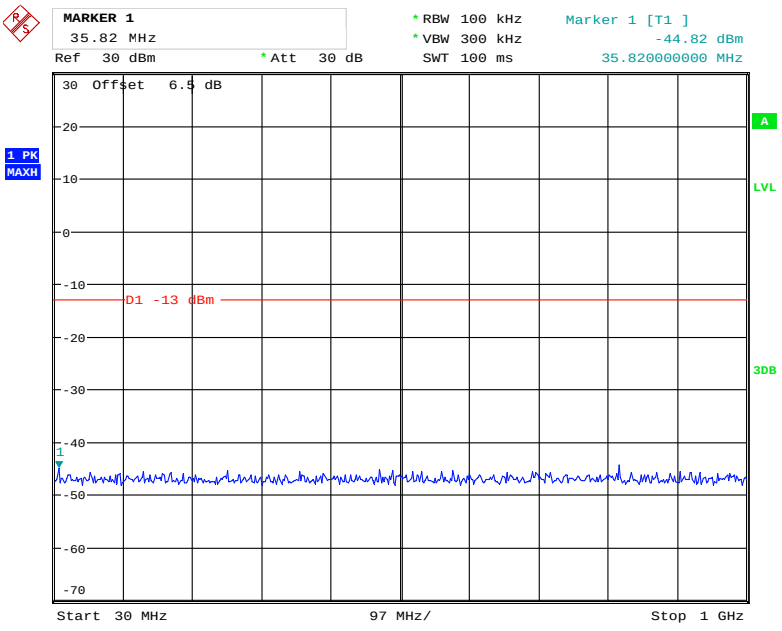
Date: 17.JUN.2020 14:56:49



Fundamental

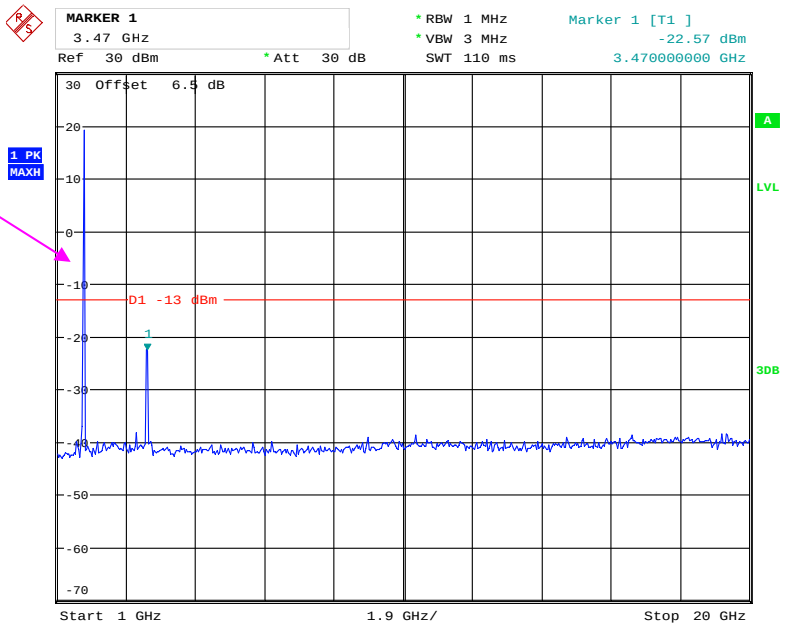
Date: 17.JUN.2020 14:57:35

WCDMA Band 4 Rel 99 Middle Channel



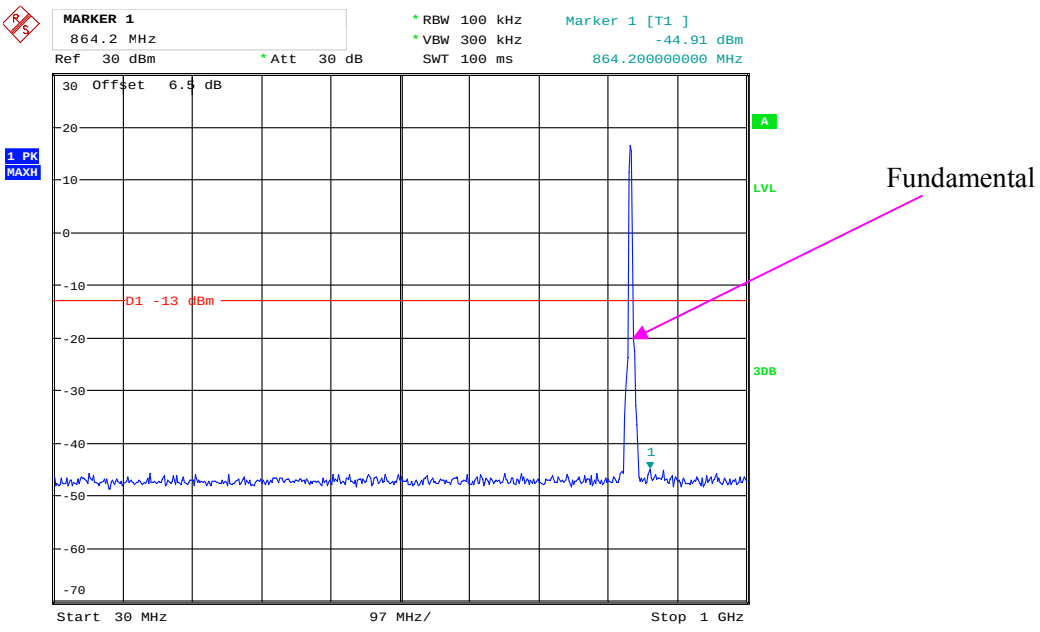
Date: 17.JUN.2020 15:28:14

Fundamental

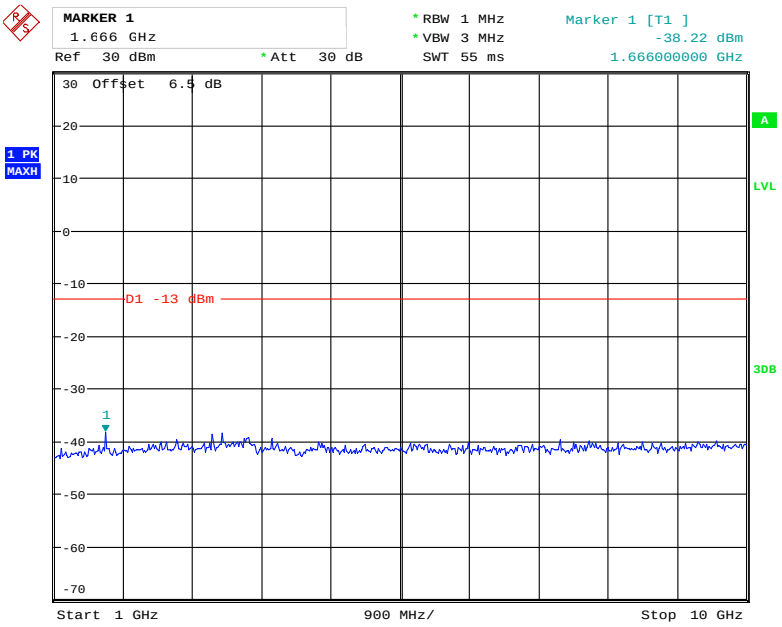


Date: 17.JUN.2020 15:28:46

WCDMA Band 5 Rel 99 Middle Channel



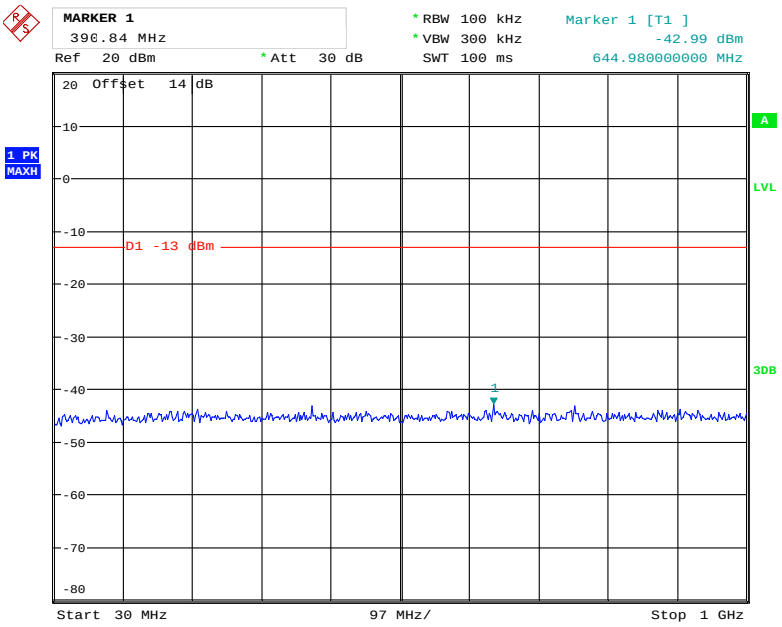
Date: 17.JUN.2020 15:30:14



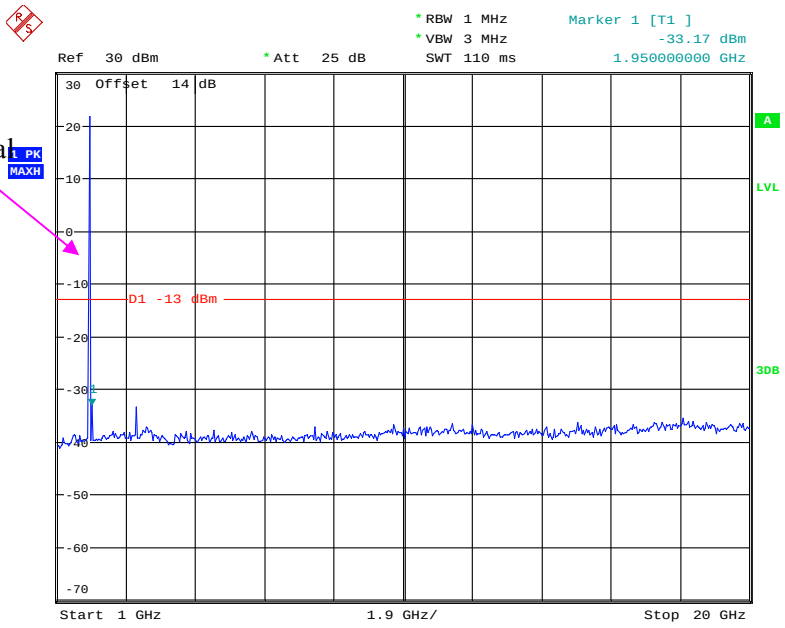
Date: 17.JUN.2020 15:29:38

LTE Band 2:

1.4M QPSK Middle Channel



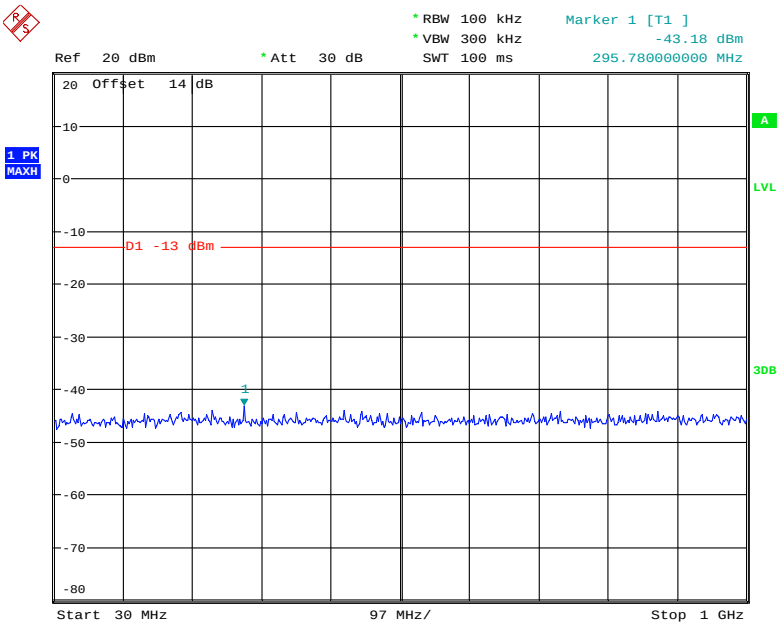
Date: 17.JUN.2020 18:52:50



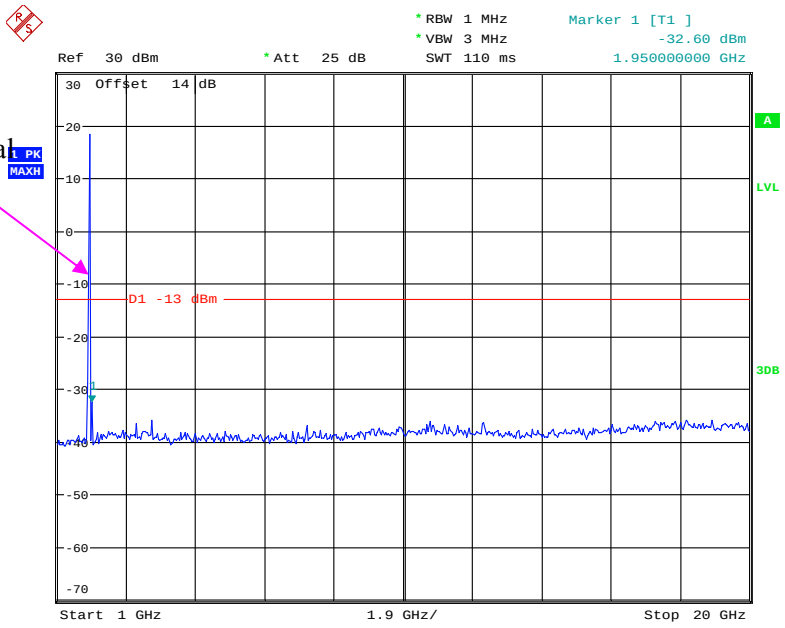
Fundamental

Date: 17.JUN.2020 18:53:02

3M QPSK Middle Channel

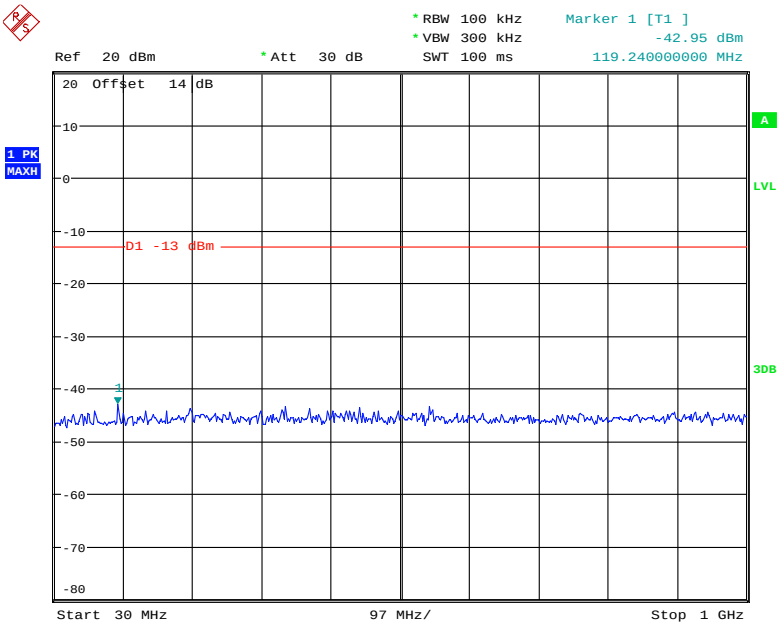


Date: 17.JUN.2020 18:53:21

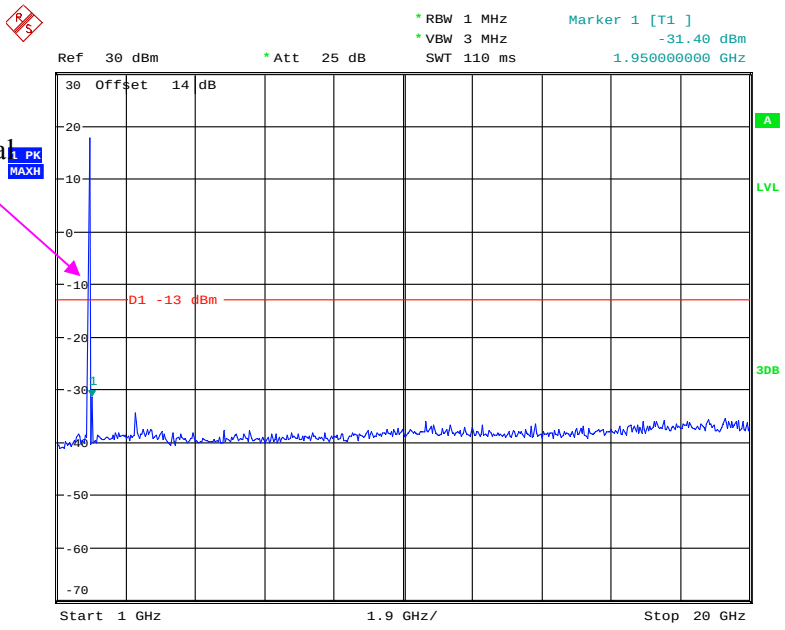


Date: 17.JUN.2020 18:53:33

5M QPSK Middle Channel

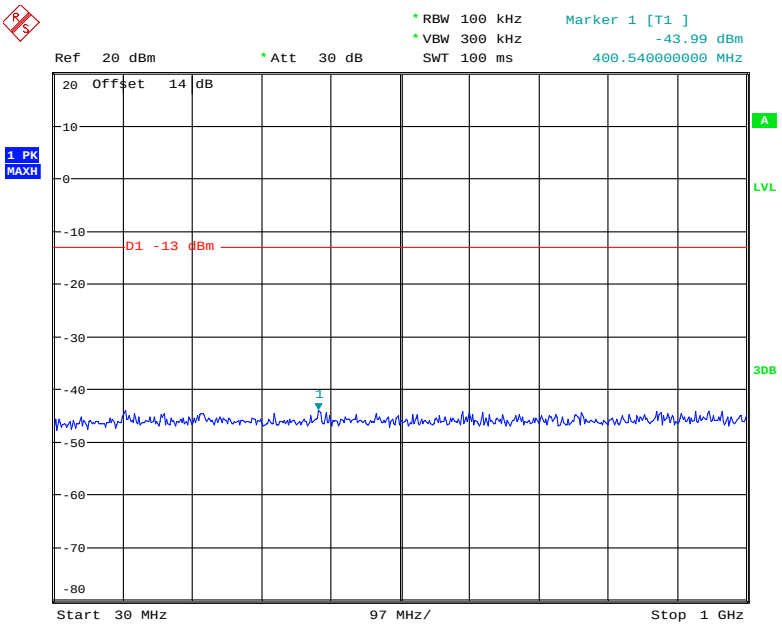


Date: 17.JUN.2020 18:53:55

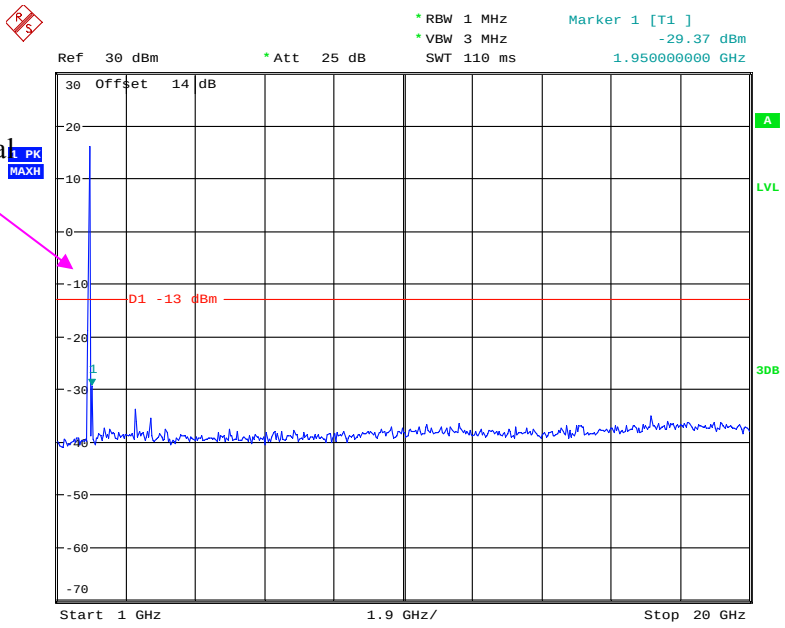


Date: 17.JUN.2020 18:54:07

10M QPSK Middle Channel

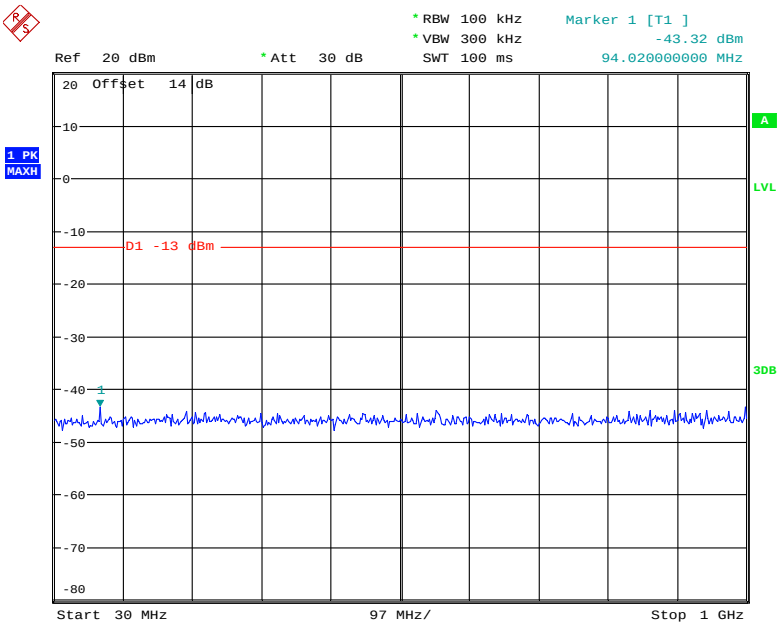


Date: 17.JUN.2020 18:54:28

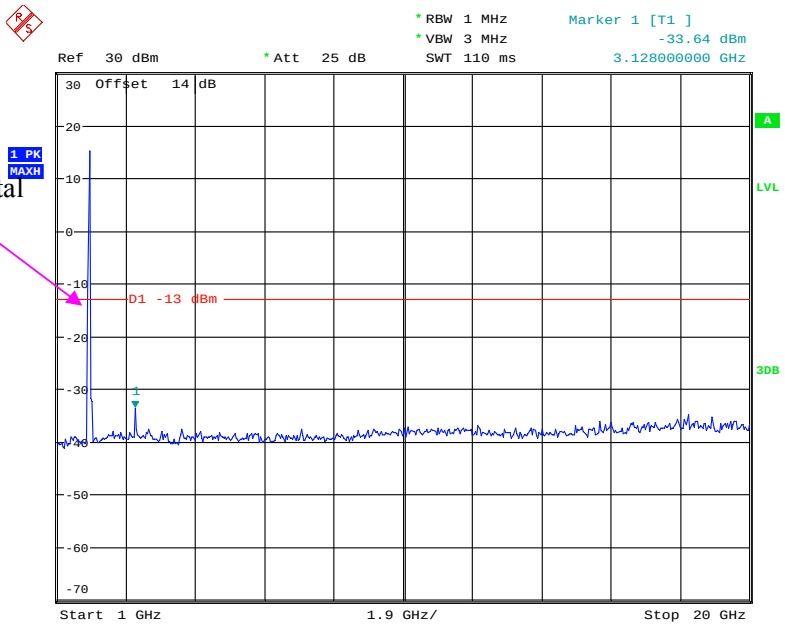


Date: 17.JUN.2020 18:54:40

15M QPSK Middle Channel



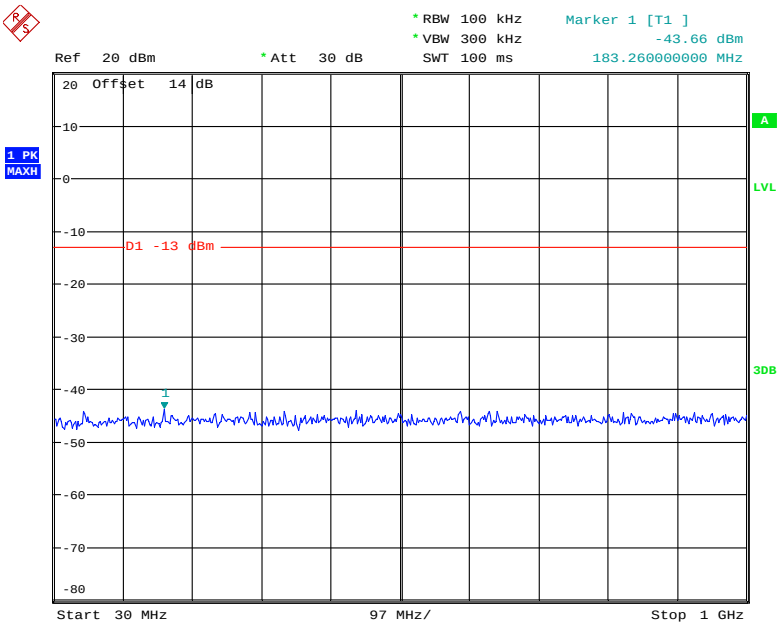
Date: 17.JUN.2020 18:55:02



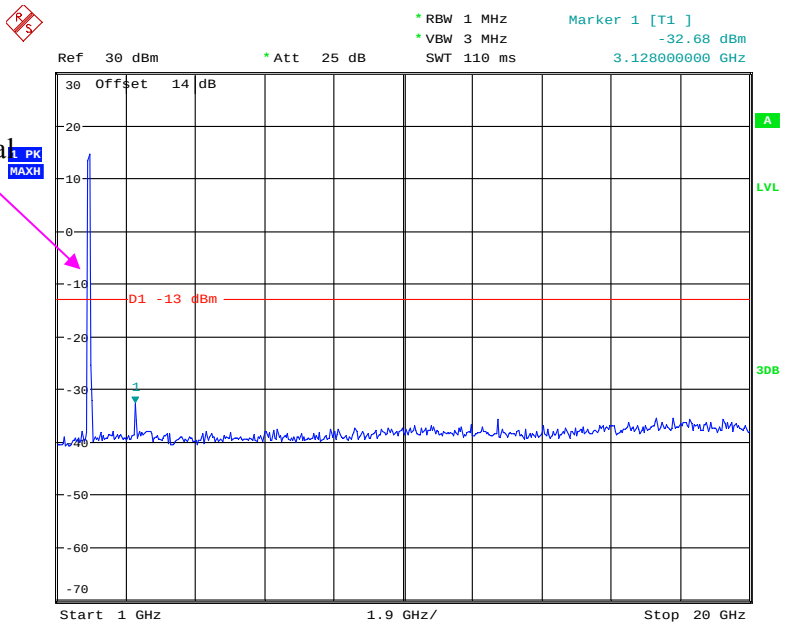
Fundamental

Date: 17.JUN.2020 18:55:14

20M QPSK Middle Channel



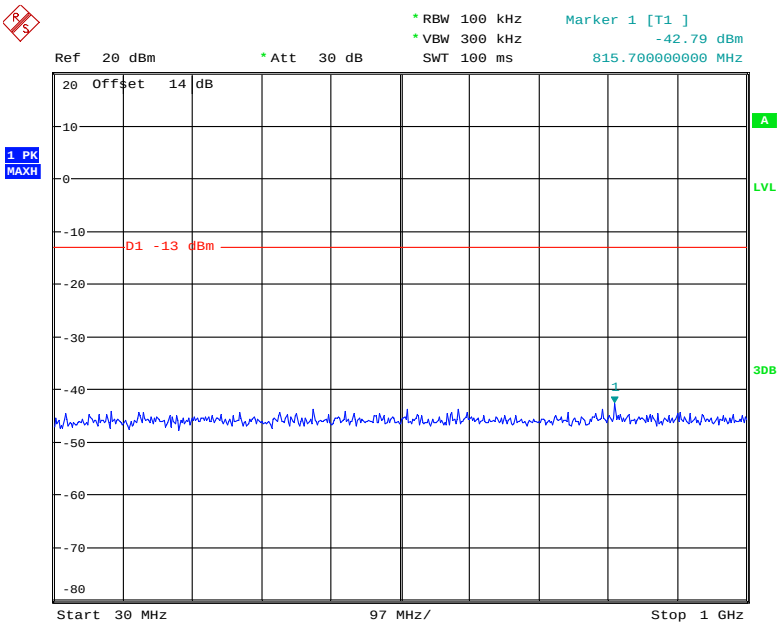
Date: 17.JUN.2020 18:55:37



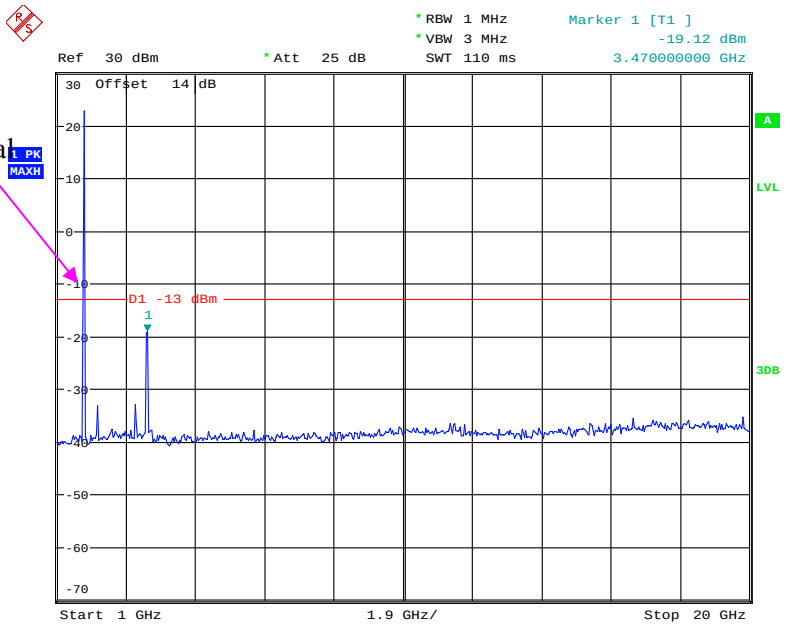
Date: 17.JUN.2020 18:55:49

LTE Band 4:

1.4M QPSK Middle Channel

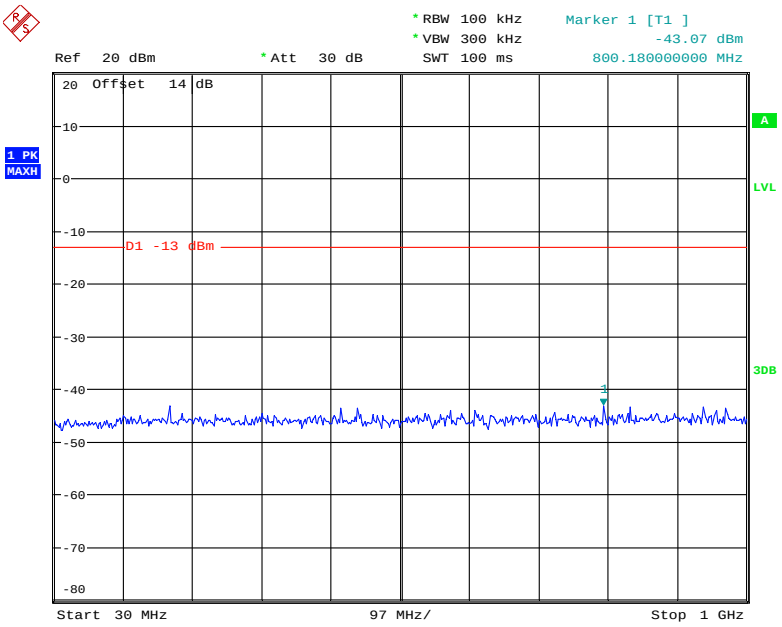


Date: 17.JUN.2020 18:56:10

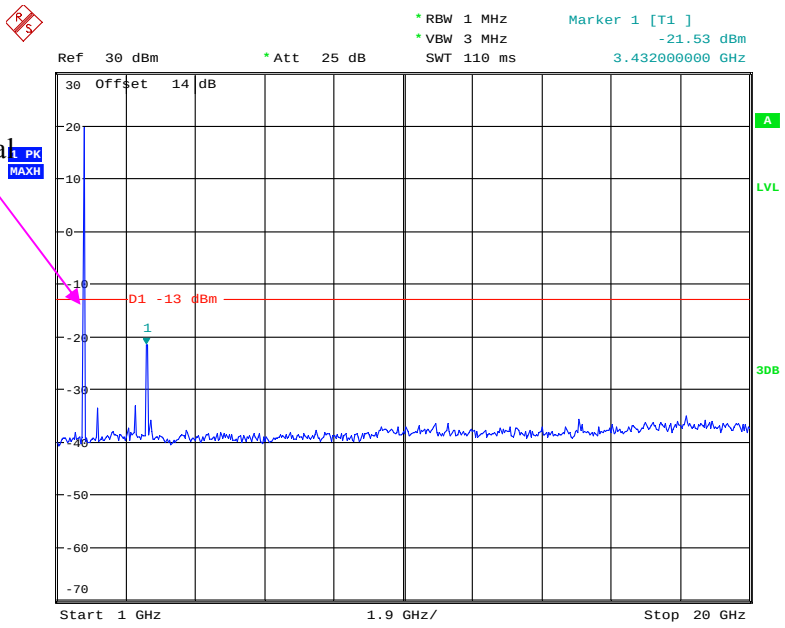


Date: 17.JUN.2020 18:56:22

3M QPSK Middle Channel

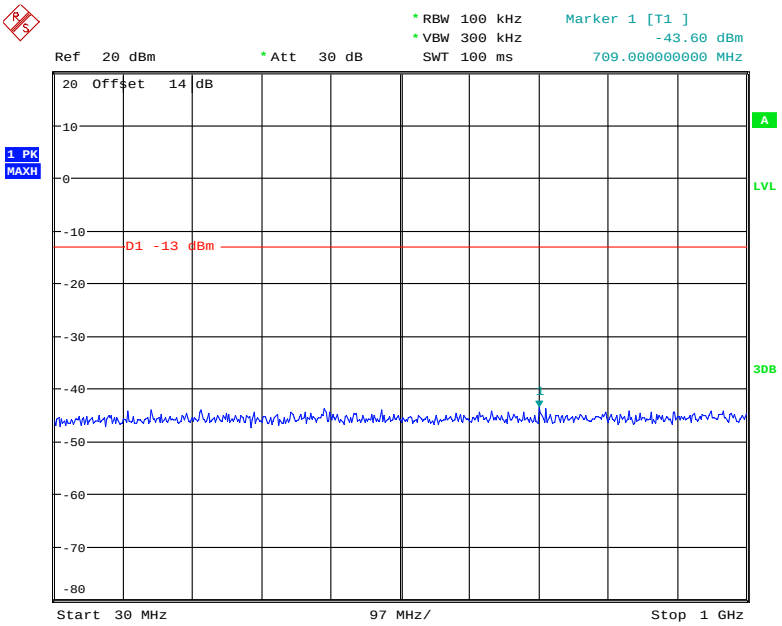


Date: 17.JUN.2020 18:56:40

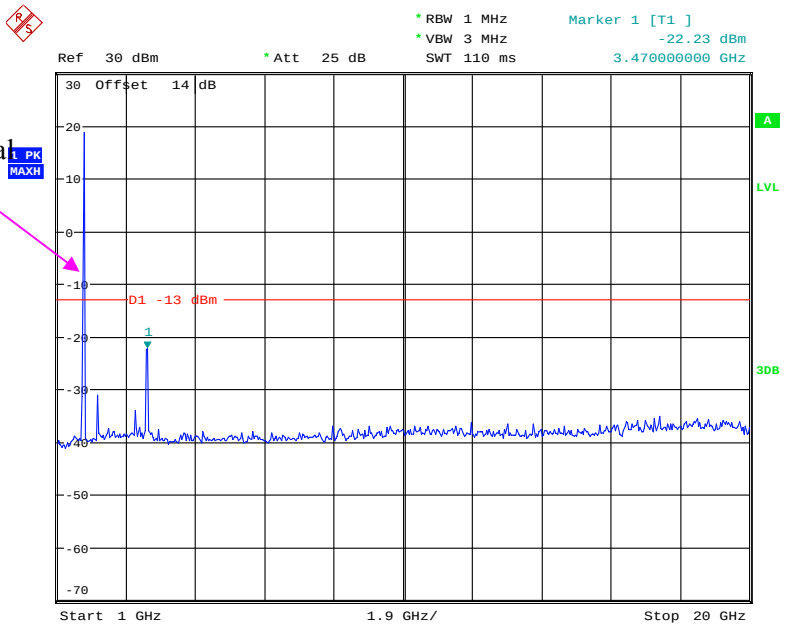


Date: 17.JUN.2020 18:56:52

5M QPSK Middle Channel



Date: 17.JUN.2020 18:57:13



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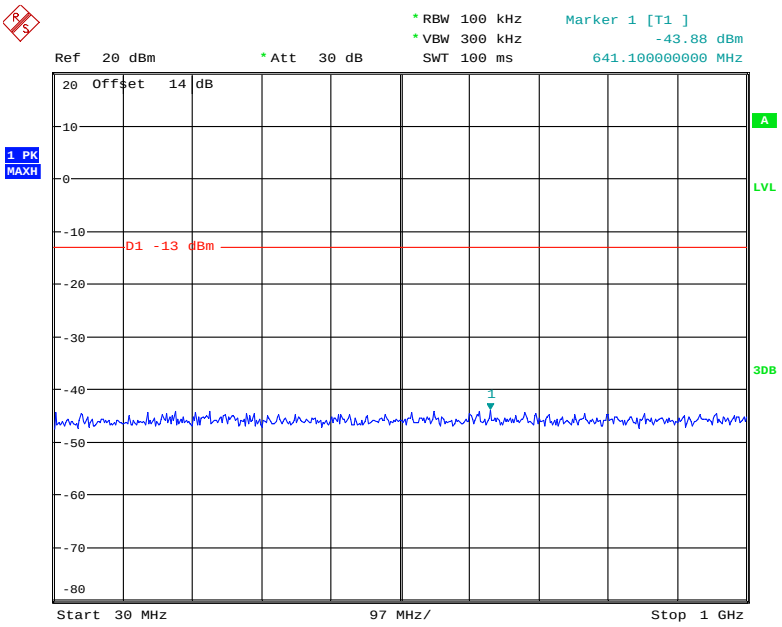
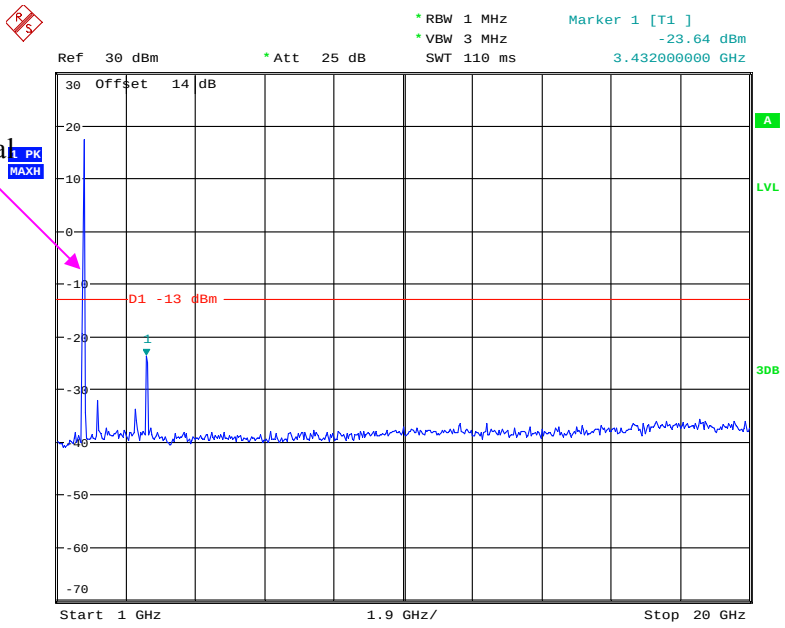
10M QPSK Middle Channel

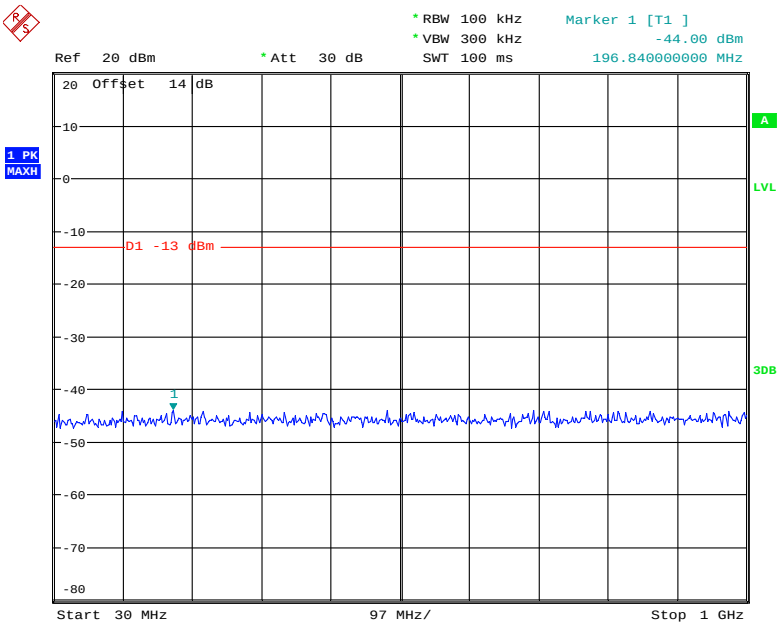


Date: 17.JUN.2020 18:57:43

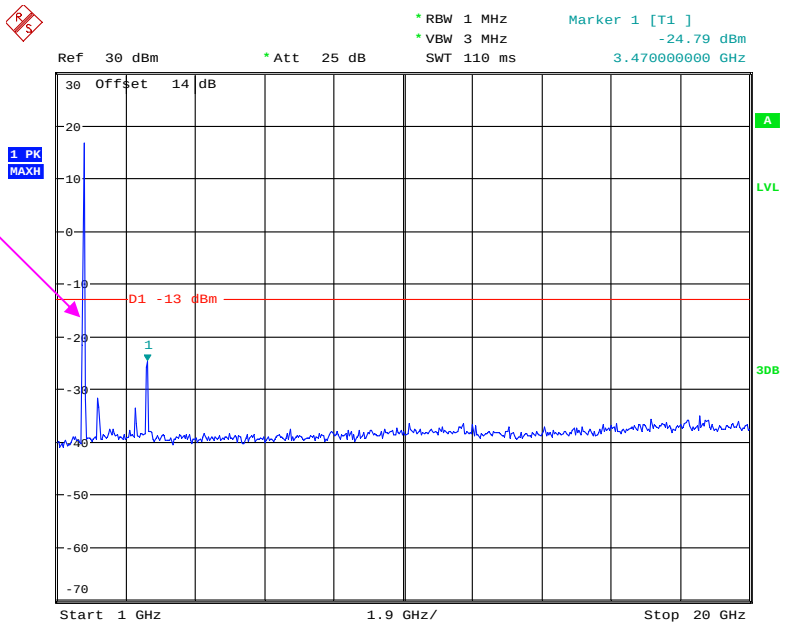


Date: 17.JUN.2020 18:57:53

15M QPSK Middle Channel



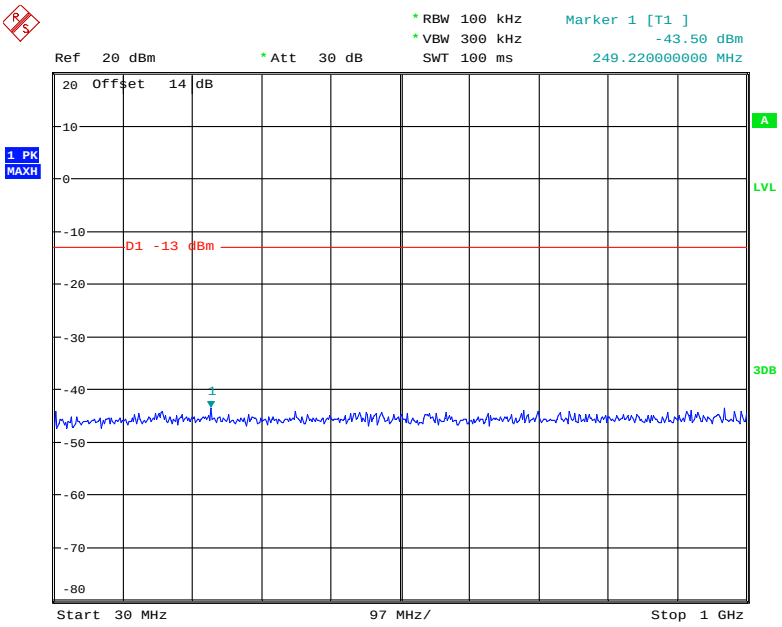
Date: 17.JUN.2020 18:58:14



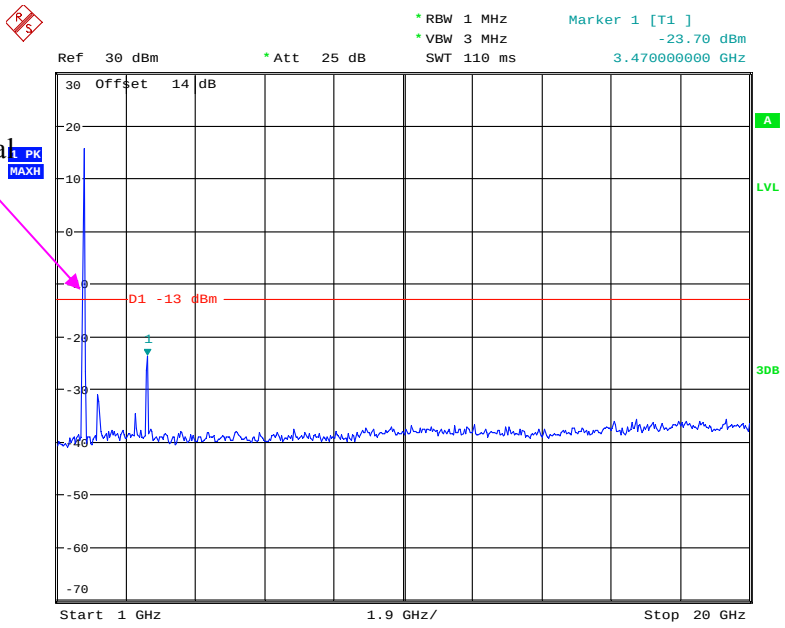
Fundamental

Date: 17.JUN.2020 18:58:24

20M QPSK Middle Channel



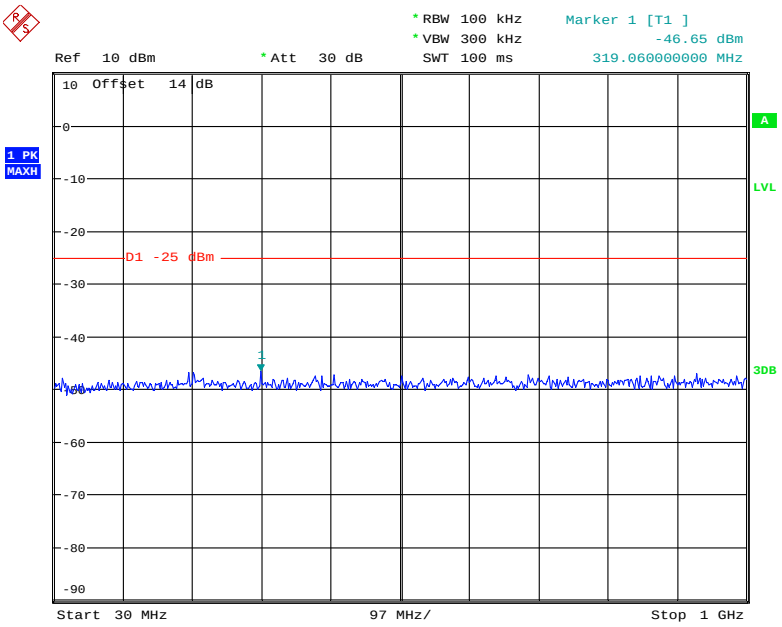
Date: 17.JUN.2020 18:58:49



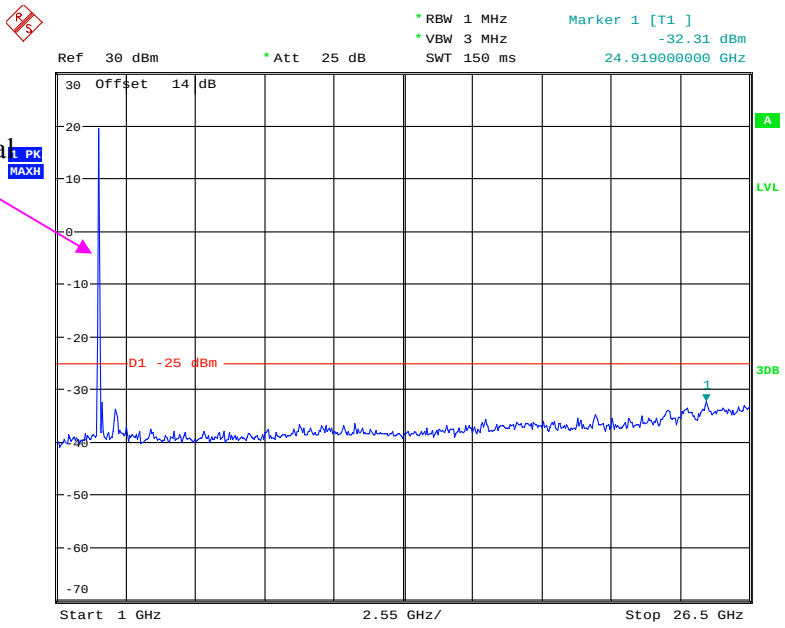
Date: 17.JUN.2020 18:58:59

LTE Band 7:

5M QPSK Middle Channel

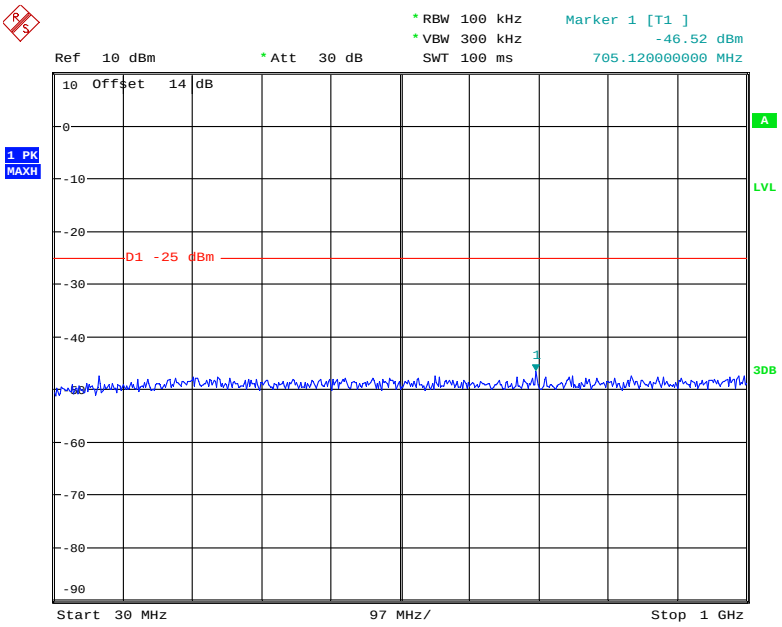


Date: 17.JUN.2020 18:59:17

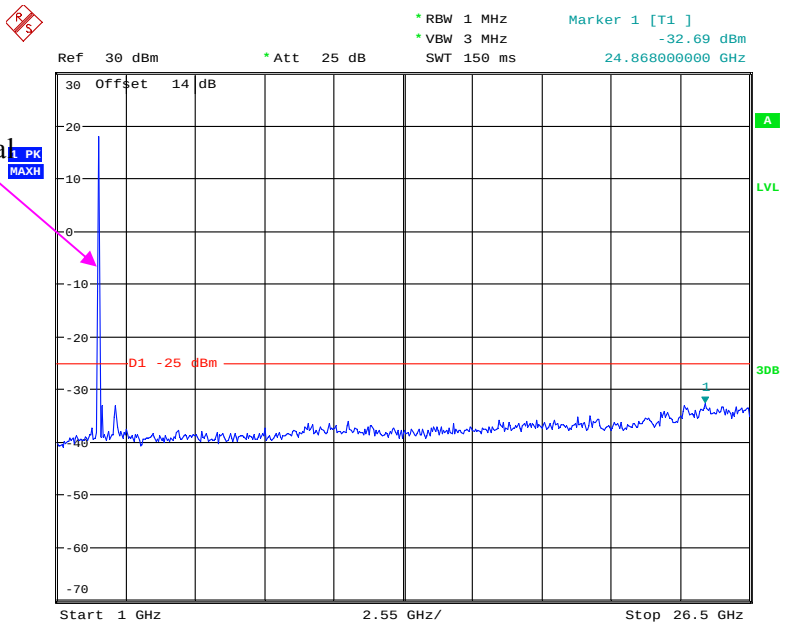


Date: 17.JUN.2020 18:59:28

10M QPSK Middle Channel

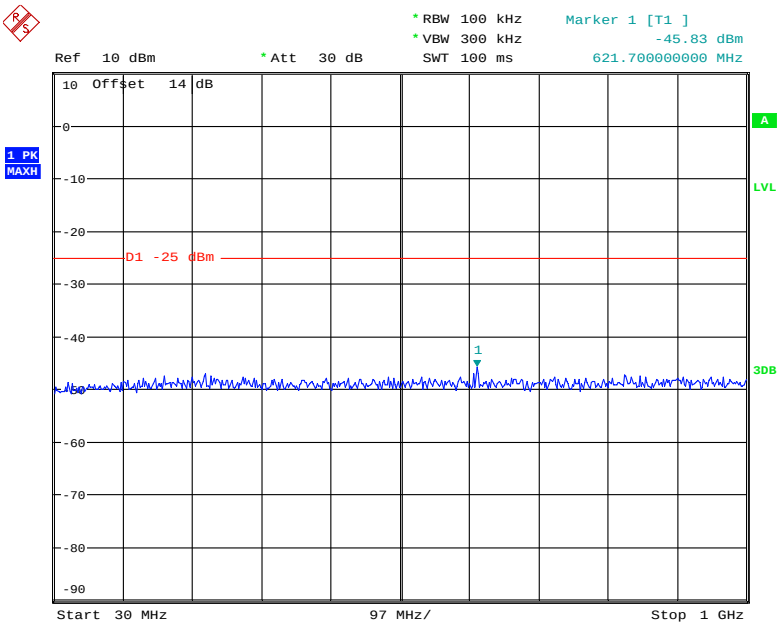


Date: 17.JUN.2020 18:59:47

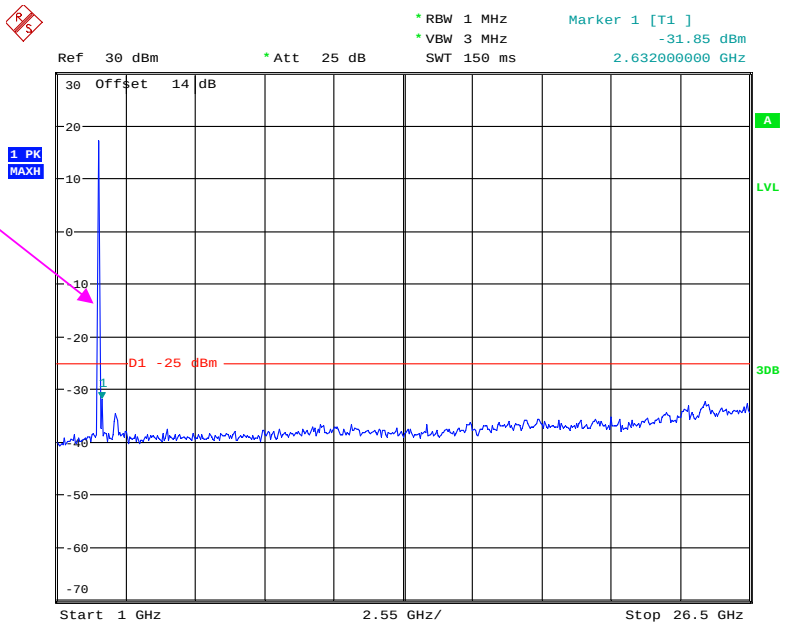


Date: 17.JUN.2020 18:59:57

15M QPSK Middle Channel



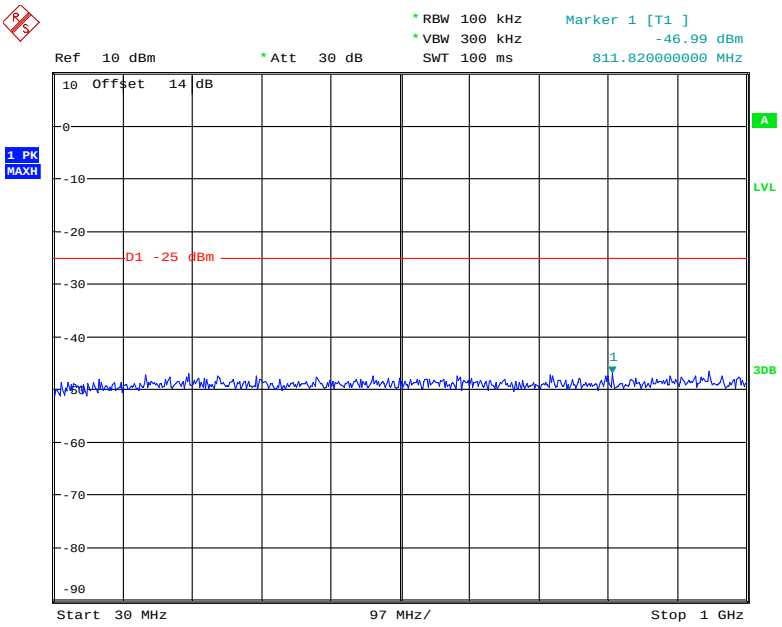
Date: 17.JUN.2020 19:00:18



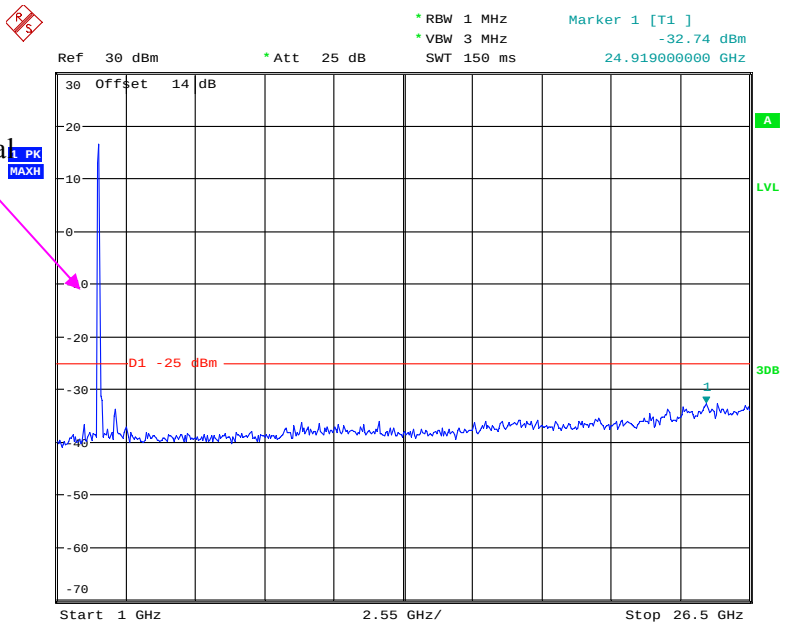
Fundamental

Date: 17.JUN.2020 19:00:29

20M QPSK Middle Channel



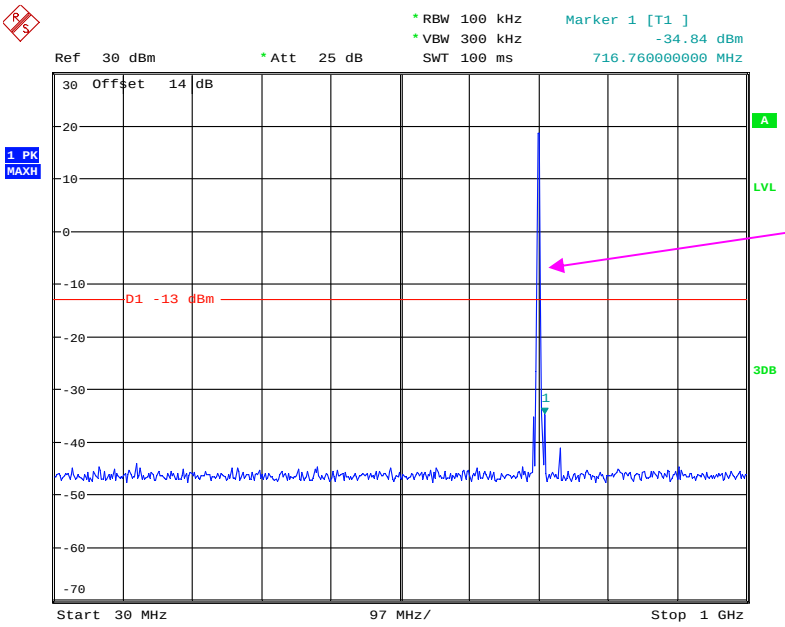
Date: 17.JUN.2020 19:00:50



Date: 17.JUN.2020 19:01:01

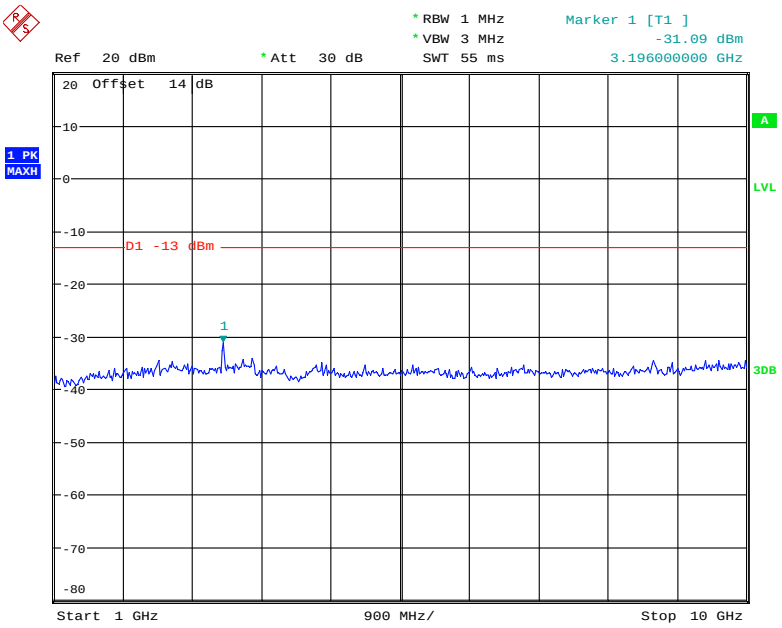
LTE Band 12:

1.4M QPSK Middle Channel



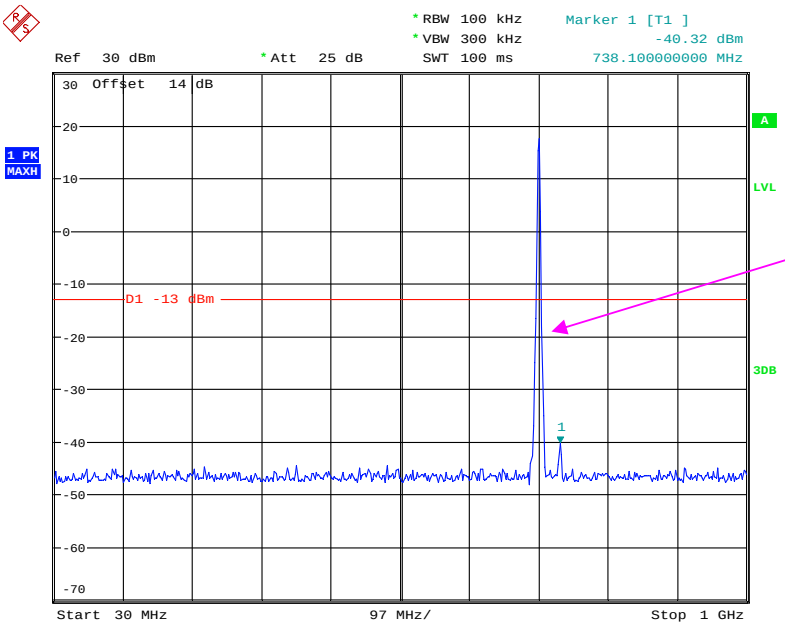
Fundamental

Date: 17.JUN.2020 19:01:23



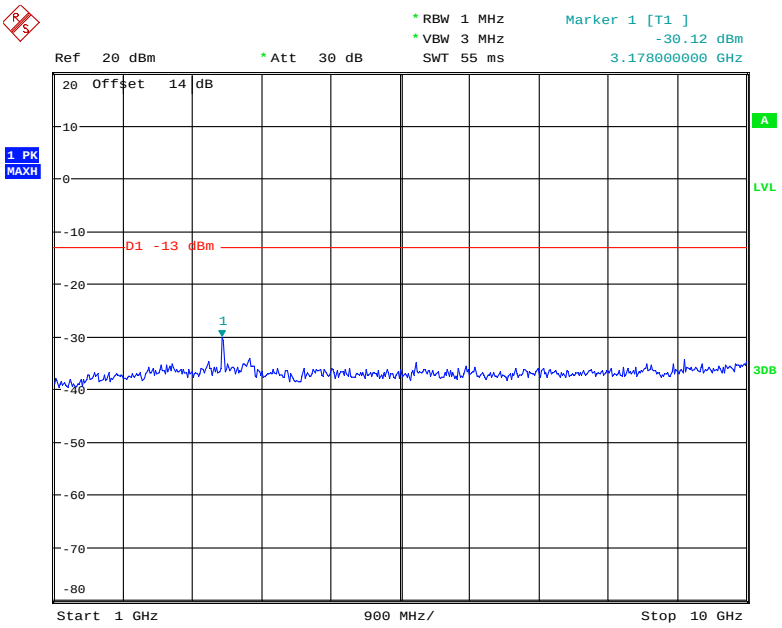
Date: 17.JUN.2020 19:01:36

3M QPSK Middle Channel



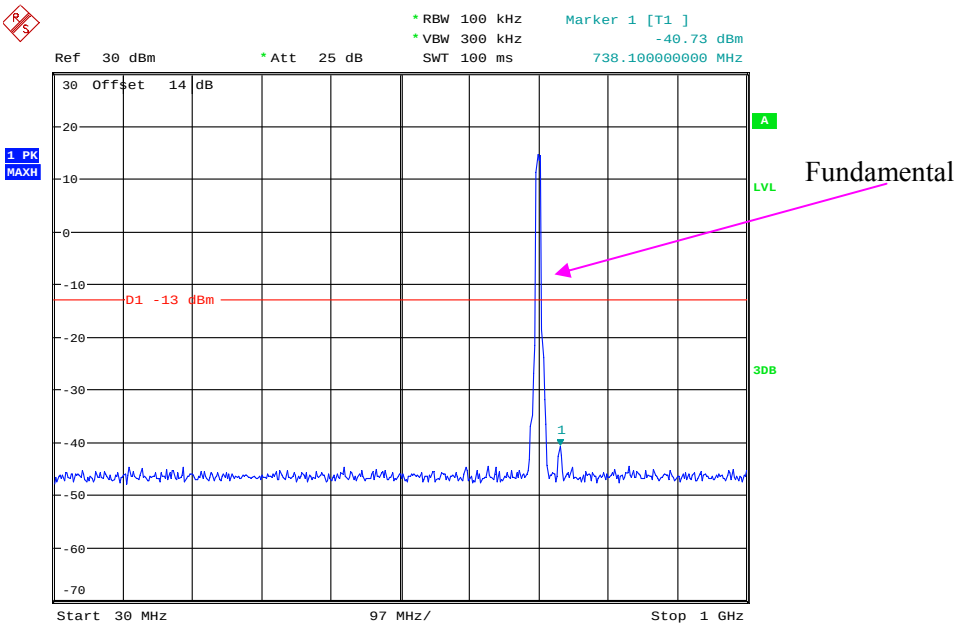
Fundamental

Date: 17.JUN.2020 19:01:54

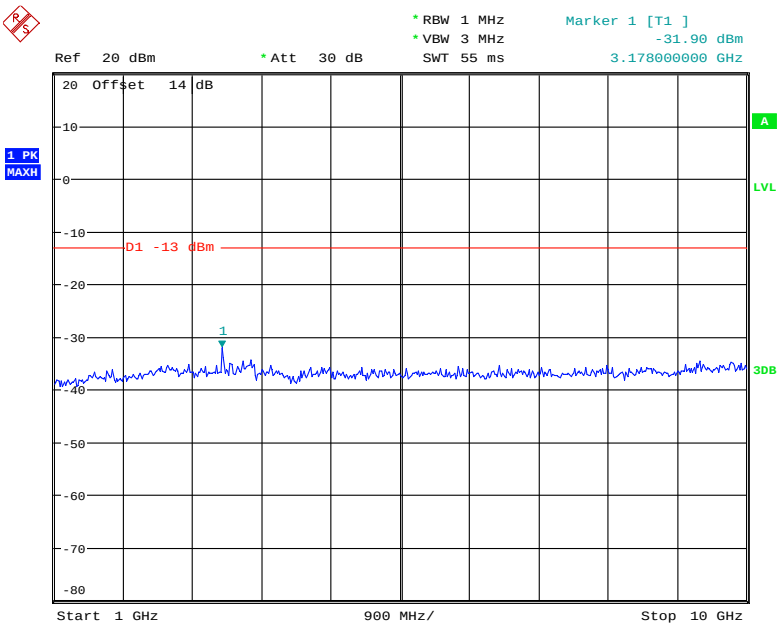


Date: 17.JUN.2020 19:02:04

5M QPSK Middle Channel

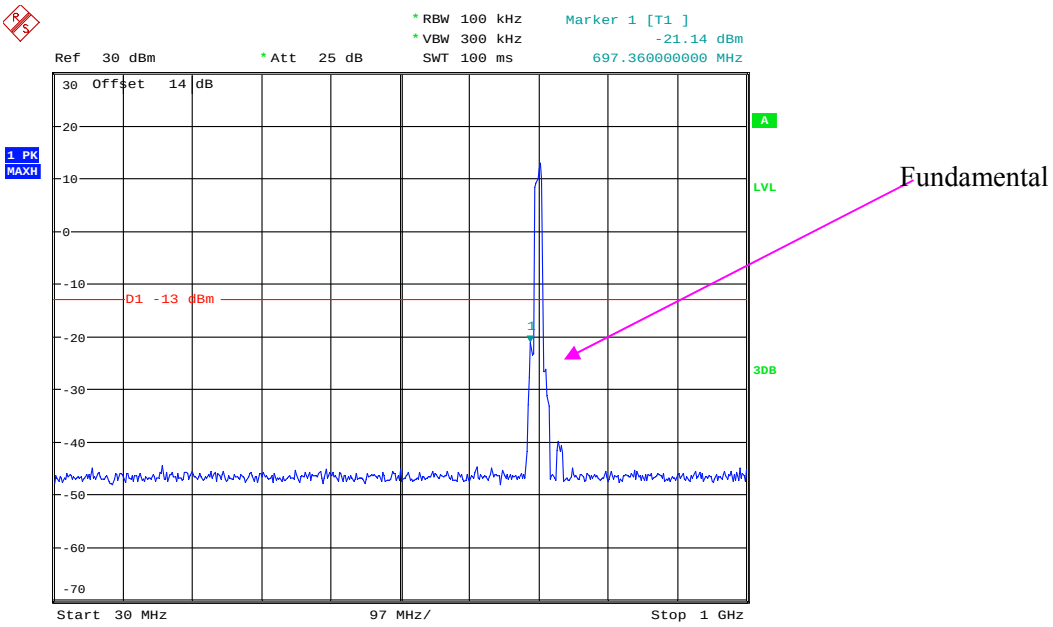


Date: 17.JUN.2020 19:02:25

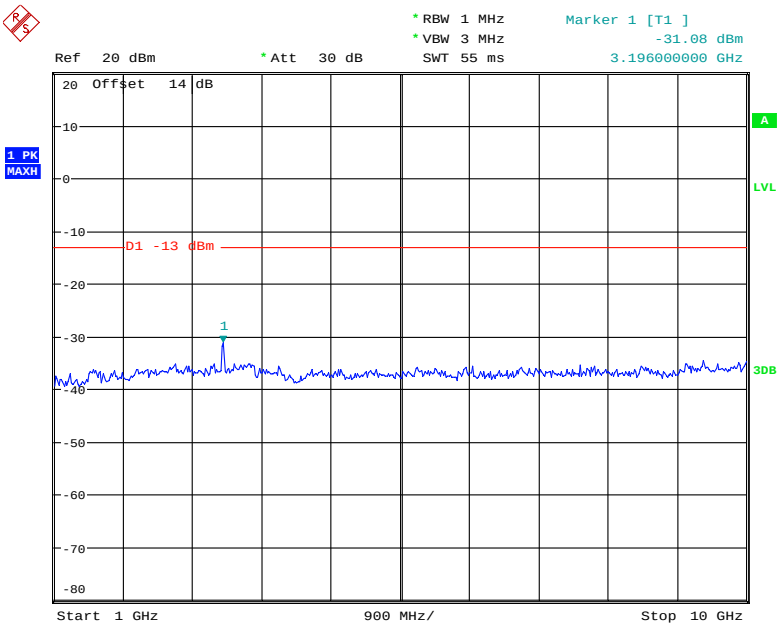


Date: 17.JUN.2020 19:02:35

10M QPSK Middle Channel



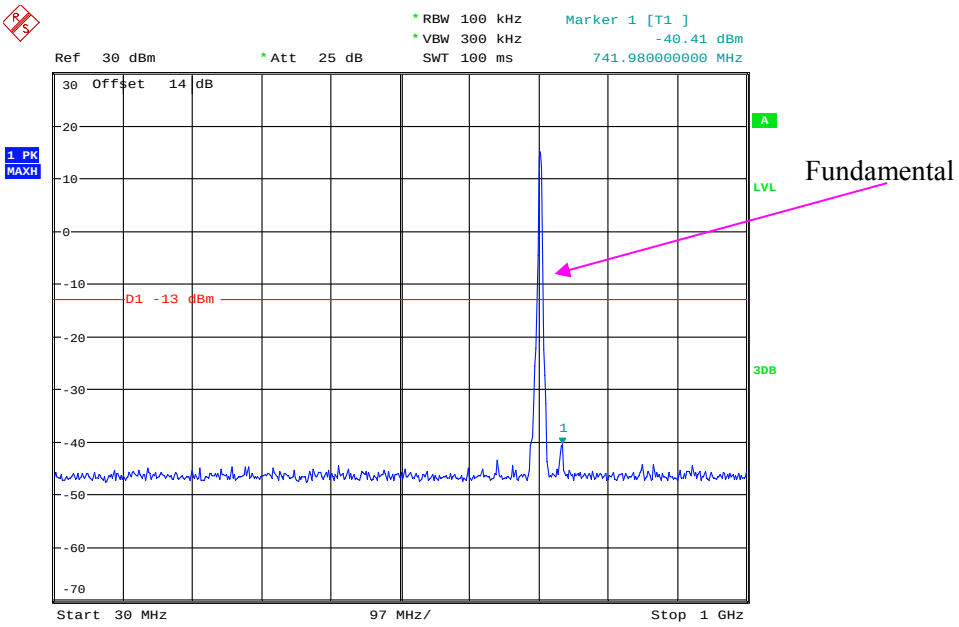
Date: 17.JUN.2020 19:02:54



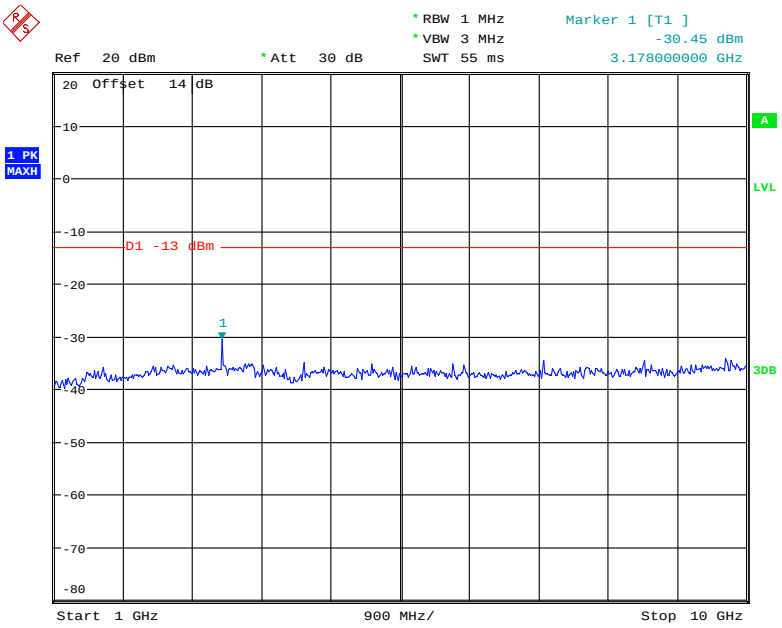
Date: 17.JUN.2020 19:03:04

LTE Band 17:

5M QPSK Middle Channel

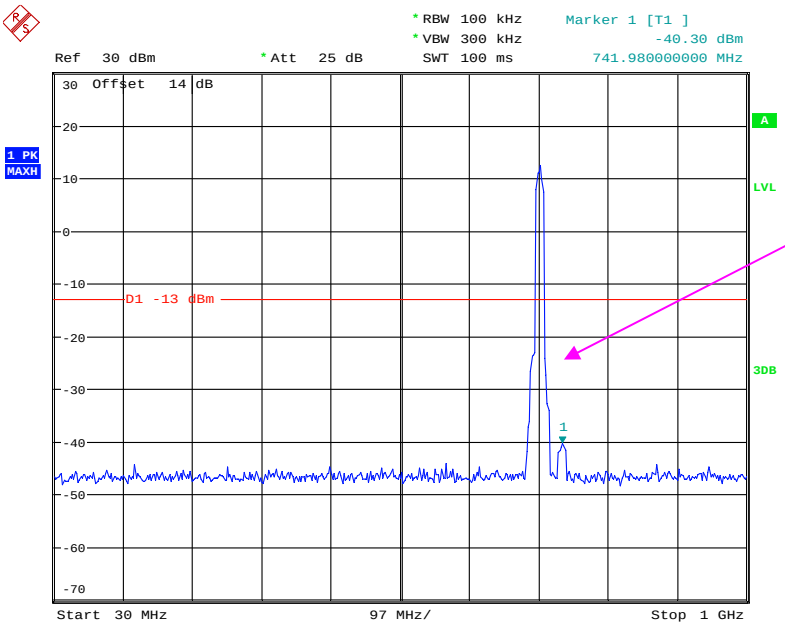


Date: 17.JUN.2020 19:03:27

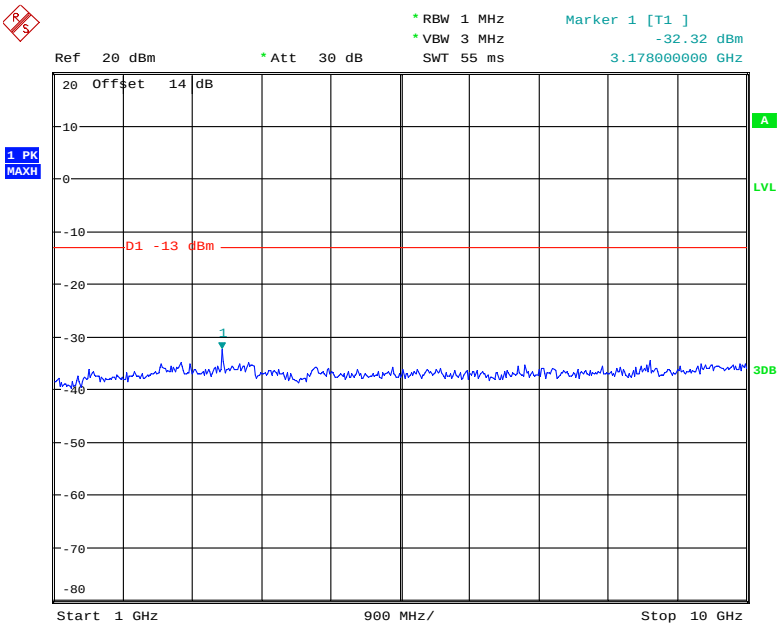


Date: 17.JUN.2020 19:03:37

10M QPSK Middle Channel



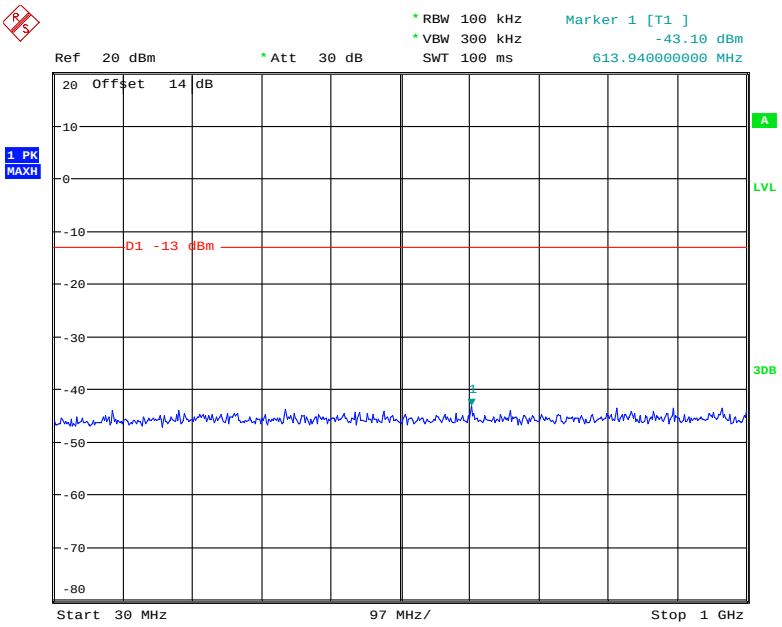
Date: 17.JUN.2020 19:03:56



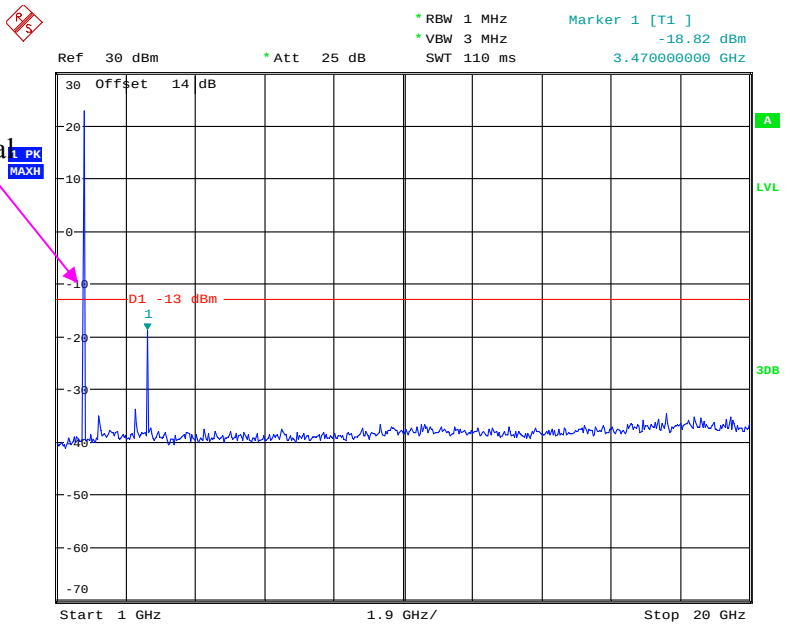
Date: 17.JUN.2020 19:04:06

LTE Band 66:

1.4M QPSK Middle Channel

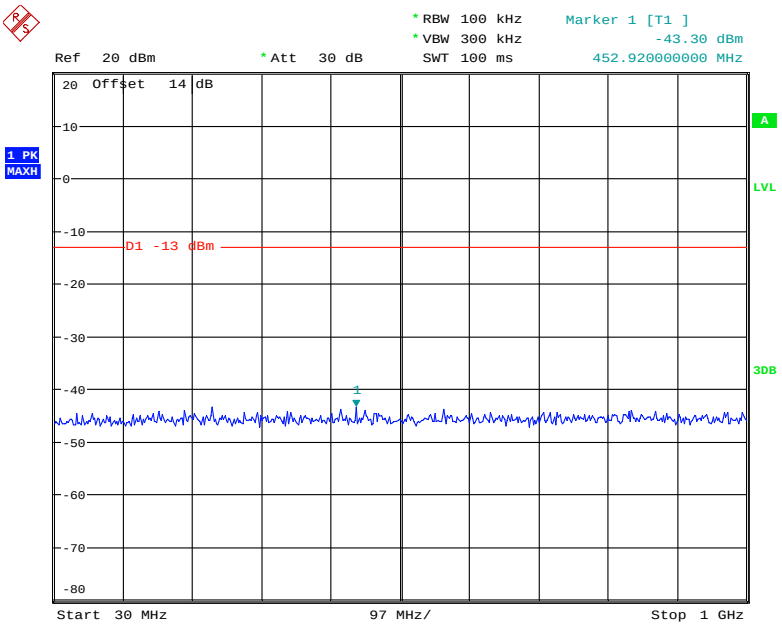


Date: 17.JUN.2020 19:04:29

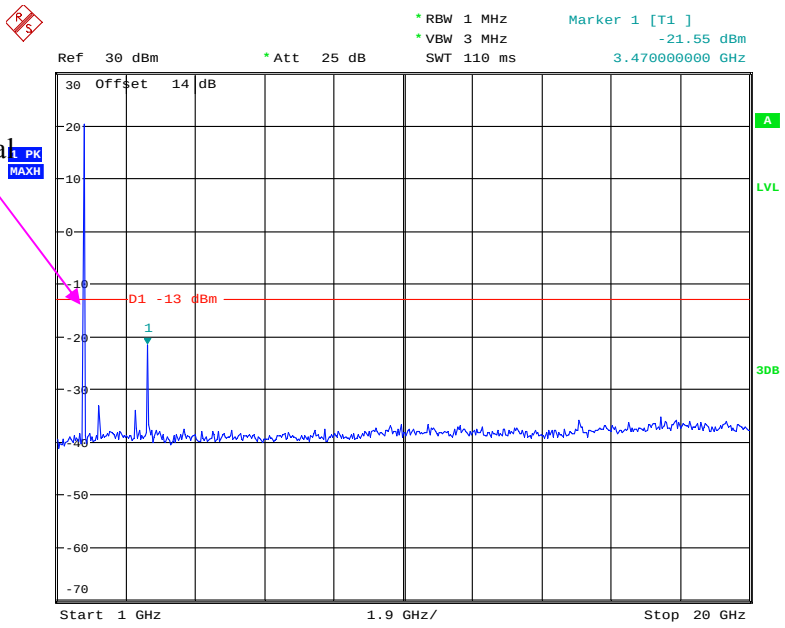


Date: 17.JUN.2020 19:04:39

3M QPSK Middle Channel

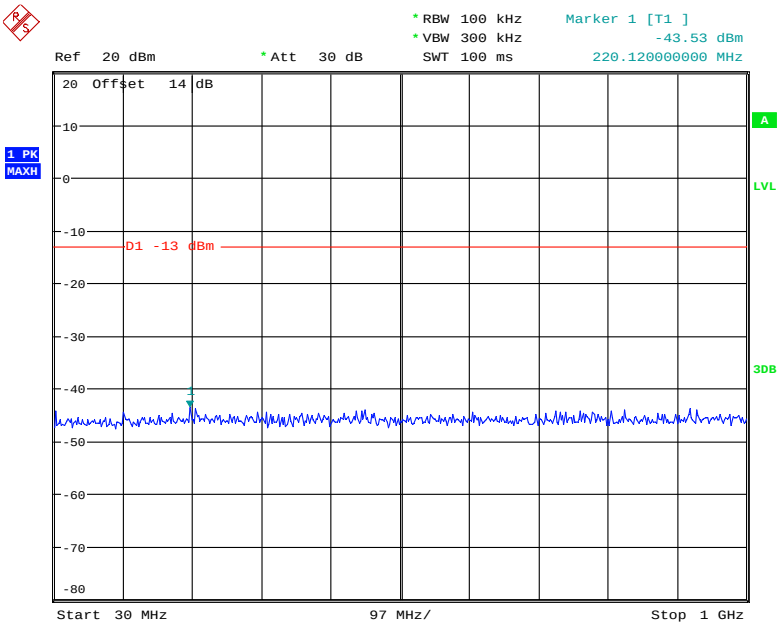


Date: 17.JUN.2020 19:05:00

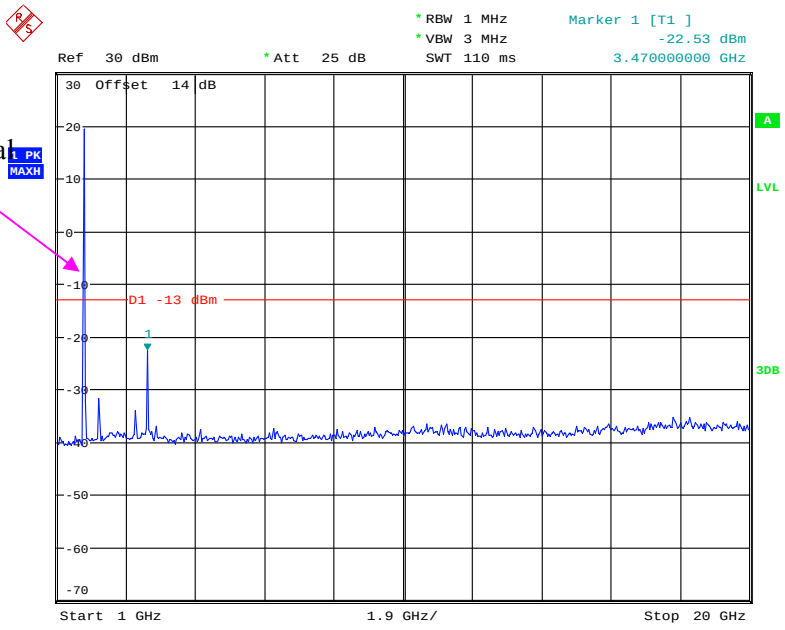


Date: 17.JUN.2020 19:05:10

5M QPSK Middle Channel

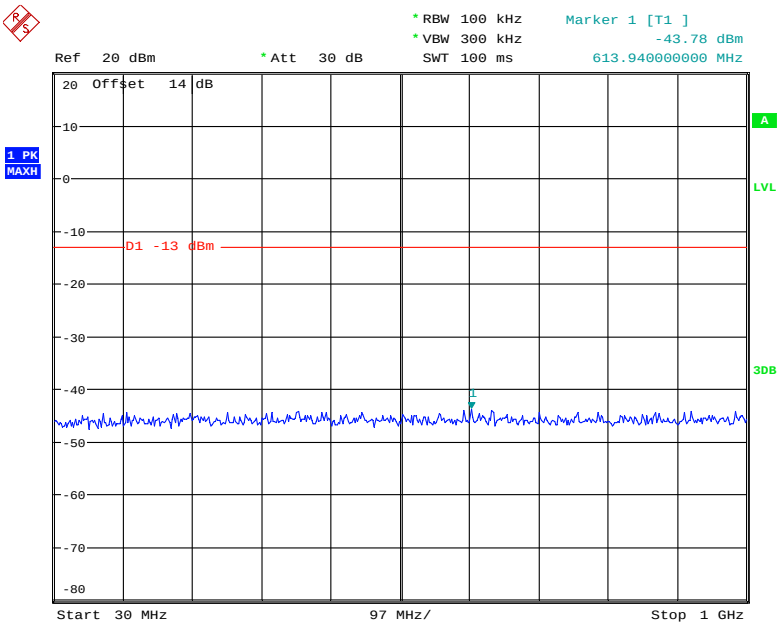


Date: 17.JUN.2020 19:05:28

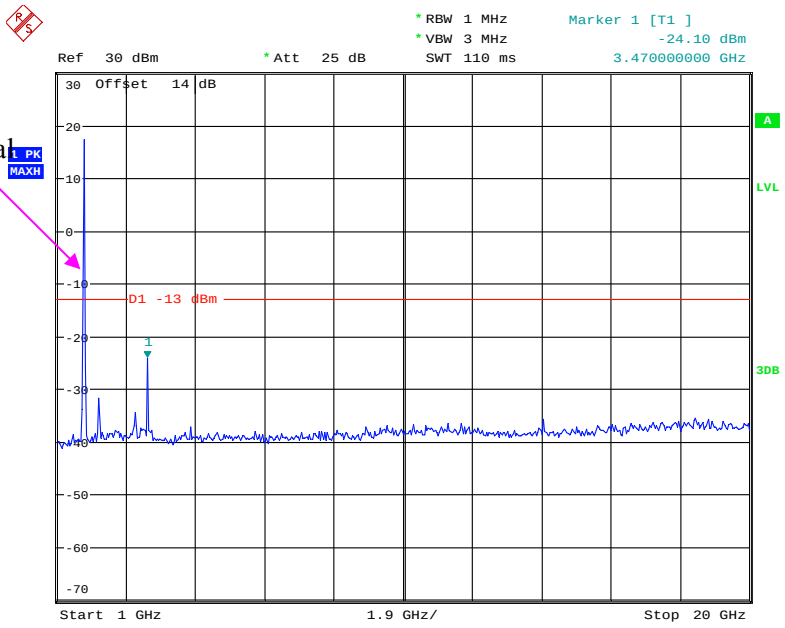


Date: 17.JUN.2020 19:05:39

10M QPSK Middle Channel



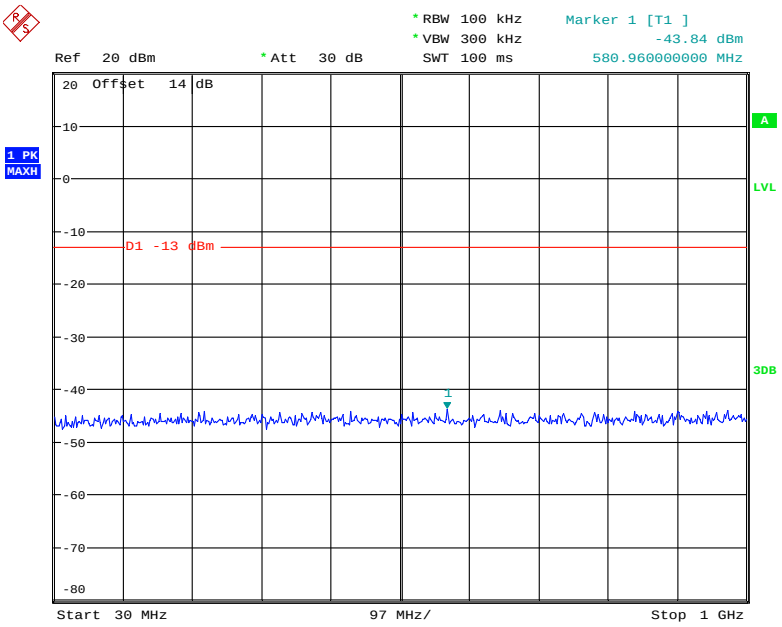
Date: 17.JUN.2020 19:05:57



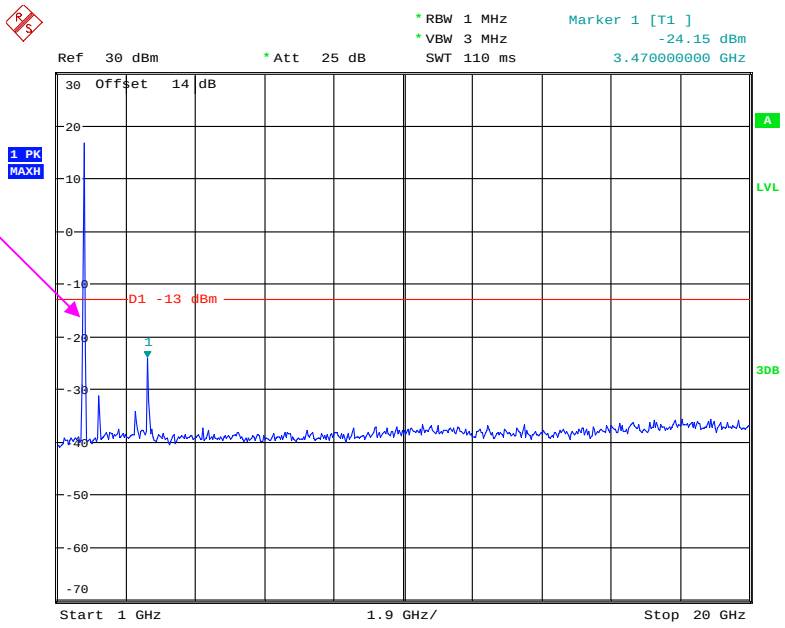
Fundamental

Date: 17.JUN.2020 19:06:08

15M QPSK Middle Channel



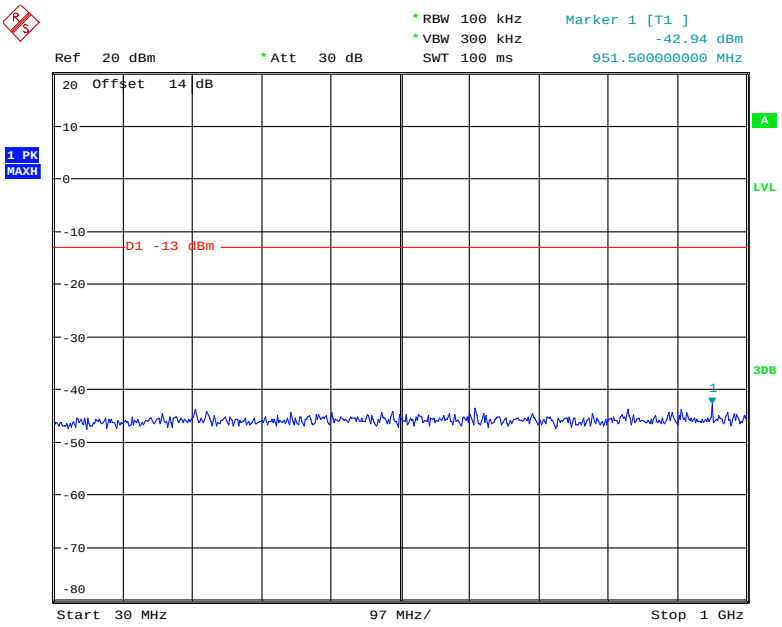
Date: 17.JUN.2020 19:06:29



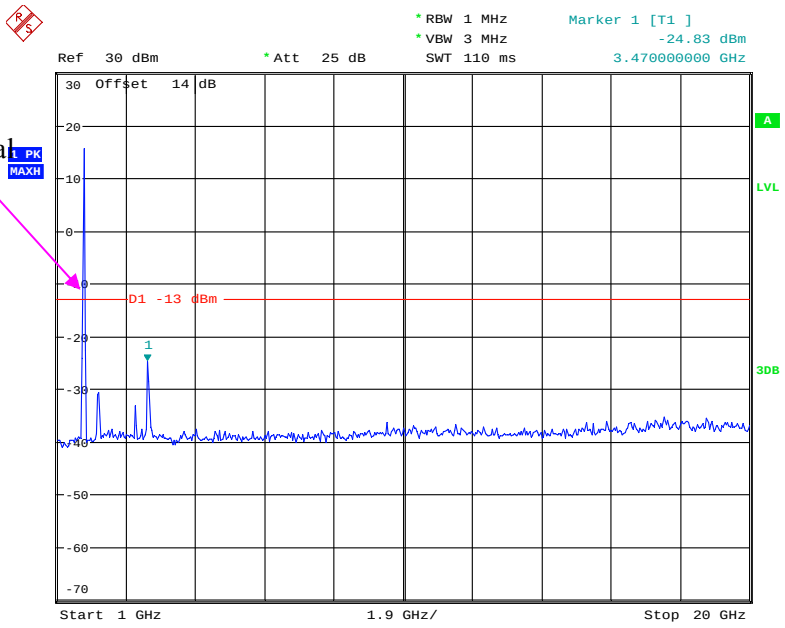
Fundamental

Date: 17.JUN.2020 19:06:39

20M QPSK Middle Channel



Date: 17.JUN.2020 19:07:01



Date: 17.JUN.2020 19:07:11

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

Applicable Standard

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

Test Procedure

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

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

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

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

Spurious emissions in dB = 10 lg (TXpwr in Watts/0.001) – the absolute level

Spurious attenuation limit in dB = 43 + 10 Log_{10} (power out in Watts)

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Radiation Below 1G Test					
Sunol Sciences	Antenna	JB3	A060611-1	2017-11-10	2020-11-10
R&S	EMI Test Receiver	ESR3	102453	2019-09-12	2020-09-12
Unknown	Coaxial Cable	C-NJNJ-50	C-0075-01	2019-09-05	2020-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-0400-01	2019-09-05	2020-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-1400-01	2020-05-06	2021-05-06
HP	Amplifier	8447D	2727A05902	2019-09-05	2020-09-05
EMCO	Adjustable Dipole Antenna	3121C	9109-753	N/A	N/A
Unknown	Coaxial Cable	C-NJNJ-50	C-0200-02	2019-09-05	2020-09-05
Agilent	Signal Generator	E8247C	MY43321350	2019-12-10	2020-12-10
Radiation Above 1G Test					
Agilent	Spectrum Analyzer	E4440A	SG43360054	2020-05-09	2021-05-09
TDK RF	Horn Antenna	HRN-0118	130 084	2018-10-12	2021-10-12
ETS-Lindgren	Horn Antenna	3115	000 527 35	2018-10-12	2021-10-12
Unknown	Coaxial Cable	C-SJSJ-50	C-0800-01	2019-09-05	2020-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-0200-02	2019-09-05	2020-09-05
MITEQ	Amplifier	AFS42-00101800-25-S-42	2001271	2019-09-05	2020-09-05
Micro-tronics	High Pass Filter	HPM50111	S/N-G217	2019-06-16	2020-06-16
Agilent	Signal Generator	E8247C	MY43321350	2019-12-10	2020-12-10
Sinoscite	Band-stop filter	BSF1710-1785MN-0383-003	0383003	2019-06-16	2020-06-16
Sinoscite	Band-stop filter	BSF1850-1910MS-0935V2	0935V2	2019-06-16	2020-06-16
Sinoscite	Band-stop filter	BSF2500-2750MS-1439-001	1437001	2019-06-16	2020-06-16
Ducommun Technolagies	Horn Antenna	ARH-4223-02	1007726-01 1304	2017-12-06	2020-12-05
Ducommun Technolagies	Horn Antenna	ARH-4223-02	1007726-02 1304	2017-12-06	2020-12-05
Quinstar	Amplifier	QLW-18405536-JO	15964001001	2019-06-27	2020-06-27

*** 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

Test Items	Radiation Below 1GHz	Radiation Above 1GHz
Temperature:	21.1 °C	23.8°C
Relative Humidity:	56%	56 %
ATM Pressure:	100.7 kPa	100.8kPa
Tester:	Leo Long	Jalon Liu
Test Date:	2020-06-15	2020-06-11

Test Result: Compliance.

EUT Operation Mode: Transmitting

Cellular Band (PART 22H)

30 MHz-10 GHz:

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
GSM850, Frequency:836.600 MHz								
1673.200	H	38.79	-65.15	10.6	0.73	-55.3	-13.0	42.3
1673.200	V	40.61	-63.93	10.6	0.73	-54.1	-13.0	41.1
2509.800	H	42.46	-60.45	13.1	1.25	-48.6	-13.0	35.6
2509.800	V	41.95	-60.99	13.1	1.25	-49.1	-13.0	36.1
3346.400	H	36.84	-62.84	13.8	1.61	-50.6	-13.0	37.6
3346.400	V	37.23	-62.49	13.8	1.61	-50.3	-13.0	37.3
700.300	H	40.71	-60.71	0.0	0.94	-61.7	-13.0	48.7
700.300	V	40.26	-63.64	0.0	0.94	-64.6	-13.0	51.6
WCDMA Band V, Frequency:836.600 MHz								
1673.200	H	41.59	-62.35	10.6	0.73	-52.5	-13.0	39.5
1673.200	V	41.14	-63.4	10.6	0.73	-53.5	-13.0	40.5
2509.800	H	38.41	-64.5	13.1	1.25	-52.6	-13.0	39.6
2509.800	V	38.07	-64.87	13.1	1.25	-53.0	-13.0	40.0
3346.400	H	37.08	-62.6	13.8	1.61	-50.4	-13.0	37.4
3346.400	V	36.39	-63.33	13.8	1.61	-51.1	-13.0	38.1
126.200	H	44.57	-59.63	0.0	0.32	-60.0	-13.0	47.0
700.300	V	41.21	-62.69	0.0	0.94	-63.6	-13.0	50.6

Part 27

30 MHz-20 GHz:

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
WCDMA Band IV, Frequency: 1732.600 MHz								
3465.200	H	36.80	-62.38	13.9	1.62	-50.1	-13.0	37.1
3465.200	V	37.21	-62.01	13.9	1.62	-49.7	-13.0	36.7
5197.800	H	35.62	-59.07	14.0	1.52	-46.6	-13.0	33.6
5197.800	V	35.52	-59.24	14.0	1.52	-46.8	-13.0	33.8
126.200	H	44.34	-59.86	0.0	0.32	-60.2	-13.0	47.2
700.300	V	40.76	-63.14	0.0	0.94	-64.1	-13.0	51.1

PCS Band (PART 24E)

30 MHz-20 GHz:

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
GSM1900, Frequency:1880.000 MHz								
3760.000	H	38.01	-59.63	13.8	1.63	-47.5	-13.0	34.5
3760.000	V	38.00	-59.5	13.8	1.63	-47.4	-13.0	34.4
5640.000	H	41.90	-51.69	14.0	1.31	-39.0	-13.0	26.0
5640.000	V	42.06	-51.42	14.0	1.31	-38.7	-13.0	25.7
700.300	H	40.51	-60.91	0.0	0.94	-61.9	-13.0	48.9
700.300	V	41.14	-62.76	0.0	0.94	-63.7	-13.0	50.7
WCDMA Band II, Frequency:1880.000 MHz								
3760.000	H	37.12	-60.52	13.8	1.63	-48.4	-13.0	35.4
3760.000	V	37.22	-60.28	13.8	1.63	-48.2	-13.0	35.2
5640.000	H	35.21	-58.38	14.0	1.31	-45.7	-13.0	32.7
5640.000	V	35.29	-58.19	14.0	1.31	-45.5	-13.0	32.5
126.200	H	44.31	-59.89	0.0	0.32	-60.2	-13.0	47.2
700.300	V	41.72	-62.18	0.0	0.94	-63.1	-13.0	50.1

LTE Band 2 (30MHz-20GHz):

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK,Frequency:1880.000 MHz								
3760.00	H	37.22	-60.42	13.76	1.63	-48.29	-13.00	35.29
3760.00	V	37.18	-60.32	13.76	1.63	-48.19	-13.00	35.19
5640.00	H	36.23	-57.36	14.02	1.31	-44.65	-13.00	31.65
5640.00	V	35.49	-57.99	14.02	1.31	-45.28	-13.00	32.28
844.90	H	36.50	-61.47	0.00	0.98	-62.45	-13.00	49.45
844.90	V	36.83	-64.12	0.00	0.98	-65.10	-13.00	52.10

LTE Band 4(30MHz-20GHz):

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK, Frequency: 1732.500 MHz								
3465.00	H	37.78	-61.41	13.91	1.62	-49.12	-13.00	36.12
3465.00	V	37.64	-61.58	13.91	1.62	-49.29	-13.00	36.29
5197.50	H	35.69	-59.00	14.00	1.52	-46.52	-13.00	33.52
5197.50	V	35.63	-59.13	14.00	1.52	-46.65	-13.00	33.65
844.90	H	36.27	-61.70	0.00	0.98	-62.68	-13.00	49.68
844.90	V	37.05	-63.90	0.00	0.98	-64.88	-13.00	51.88

LTE Band 7 (30MHz-26.5GHz):

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK,Frequency:2535.000 MHz								
5070.00	H	36.36	-58.75	13.93	1.34	-46.16	-25.00	21.16
5070.00	V	36.27	-58.65	13.93	1.34	-46.06	-25.00	21.06
7605.00	H	35.96	-52.92	13.21	1.40	-41.11	-25.00	16.11
7605.00	V	35.62	-53.66	13.21	1.40	-41.85	-25.00	16.85
590.80	H	34.36	-67.96	0.00	0.76	-68.72	-25.00	43.72
880.00	V	37.56	-62.24	0.00	1.03	-63.27	-25.00	38.27

LTE Band 12 (30MHz-10GHz):

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK,Frequency:707.500 MHz								
1415.00	H	39.55	-64.06	9.08	1.22	-56.20	-13.00	43.20
1415.00	V	39.46	-64.67	9.08	1.22	-56.81	-13.00	43.81
2122.50	H	37.51	-64.50	11.27	1.11	-54.34	-13.00	41.34
2122.50	V	37.25	-64.74	11.27	1.11	-54.58	-13.00	41.58
2830.00	H	37.33	-64.09	13.34	1.36	-52.11	-13.00	39.11
2830.00	V	37.25	-64.40	13.34	1.36	-52.42	-13.00	39.42
844.90	H	36.83	-61.14	0.00	0.98	-62.12	-13.00	49.12
844.90	V	37.13	-63.82	0.00	0.98	-64.80	-13.00	51.80

LTE Band 17 (30MHz-10GHz):

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK,Frequency:710.000 MHz								
1420.00	H	38.22	-65.46	9.10	1.23	-57.59	-13.00	44.59
1420.00	V	37.98	-66.20	9.10	1.23	-58.33	-13.00	45.33
2130.00	H	37.43	-64.57	11.22	1.11	-54.46	-13.00	41.46
2130.00	V	37.15	-64.82	11.22	1.11	-54.71	-13.00	41.71
2840.00	H	37.01	-64.31	13.42	1.36	-52.25	-13.00	39.25
2840.00	V	36.79	-64.77	13.42	1.36	-52.71	-13.00	39.71
844.90	H	36.67	-61.30	0.00	0.98	-62.28	-13.00	49.28
844.90	V	38.05	-62.90	0.00	0.98	-63.88	-13.00	50.88

LTE Band 66 (30MHz-20GHz):

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK,Frequency:1745.000 MHz								
3490.00	H	39.87	-59.19	13.83	1.61	-46.97	-13.00	33.97
3490.00	V	39.25	-59.82	13.83	1.61	-47.60	-13.00	34.6
5235.00	H	36.20	-58.71	14.11	1.40	-46.00	-13.00	33
5235.00	V	35.86	-59.13	14.11	1.40	-46.42	-13.00	33.42
844.90	H	36.06	-61.91	0.00	0.98	-62.89	-13.00	49.89
844.90	V	37.22	-63.73	0.00	0.98	-64.71	-13.00	51.71

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

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

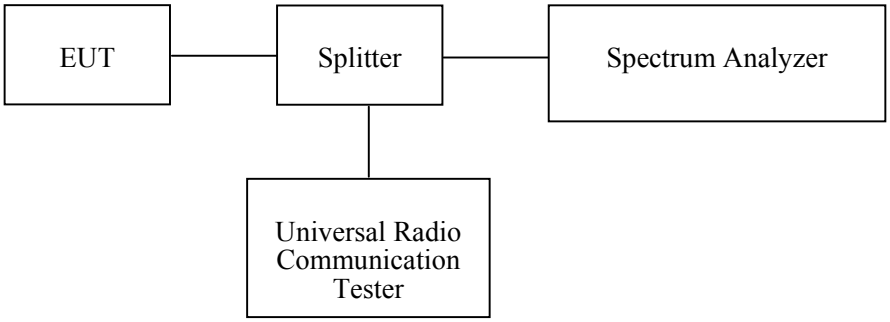
Applicable Standard

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

Test Procedure

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

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



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSP 38	100478	2020-05-09	2021-05-09
Unknown	Coaxial Cable	C-SJ00-0010	C0010/04	Each time	N/A
E-Microwave	Blocking Control	EMDCB-00036	0E01201048	Each time	N/A
E-Microwave	Coaxial Attenuators	EMCA10-5RN-6	OE01203239	Each time	N/A

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

Test Data

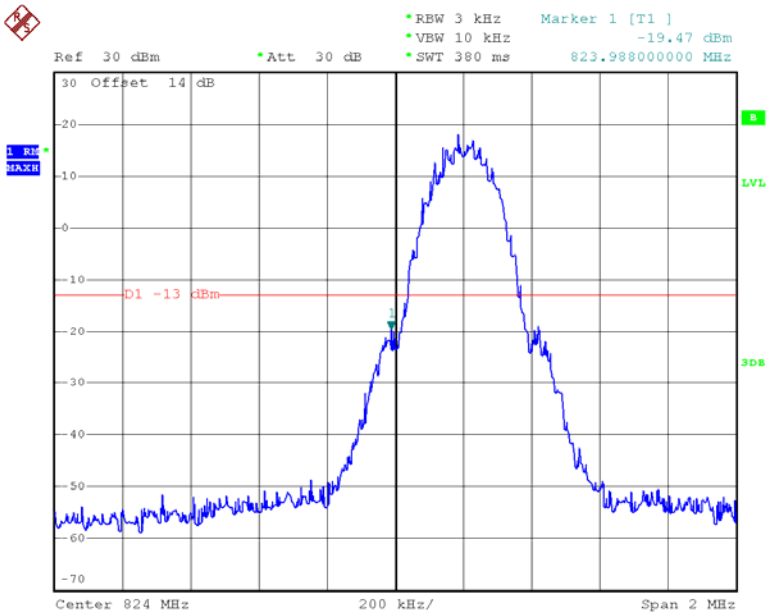
Environmental Conditions

Temperature:	26.8°C~ 27.4 °C
Relative Humidity:	62%~66 %
ATM Pressure:	99.8kPa ~100.7kPa
Tester:	Lucy Lu
Test Date:	2020-06-06~2020-06-17

Test Mode: Transmitting

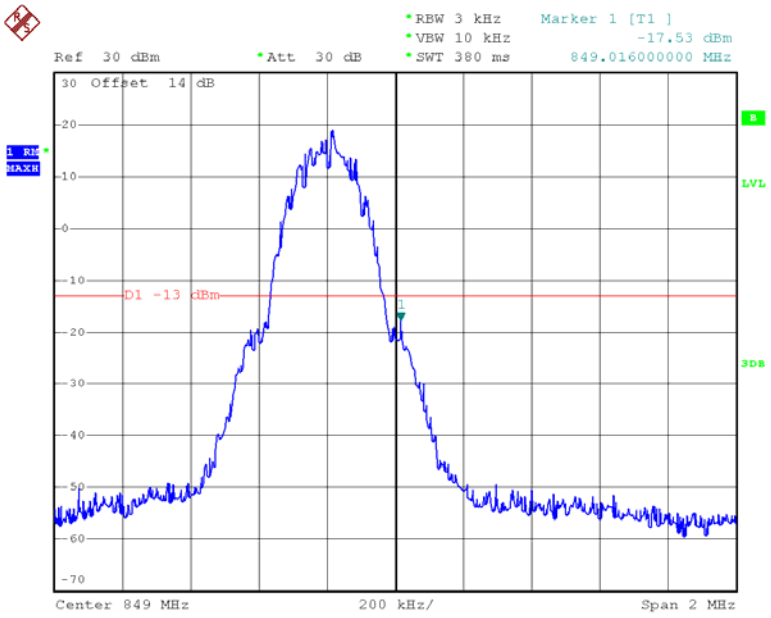
Test Result: Compliance. Please refer to the following plots.

GSM 850, Left Band Edge



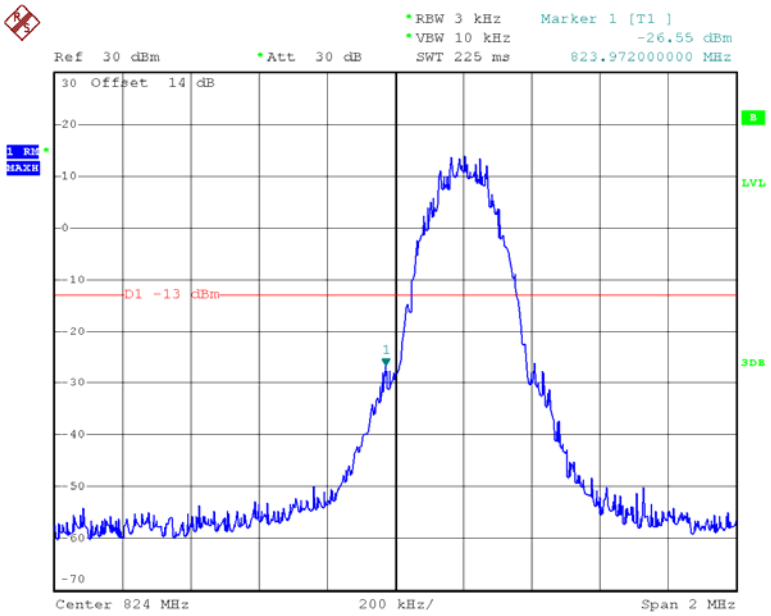
Date: 6.JUN.2020 16:30:32

GSM 850, Right Band Edge



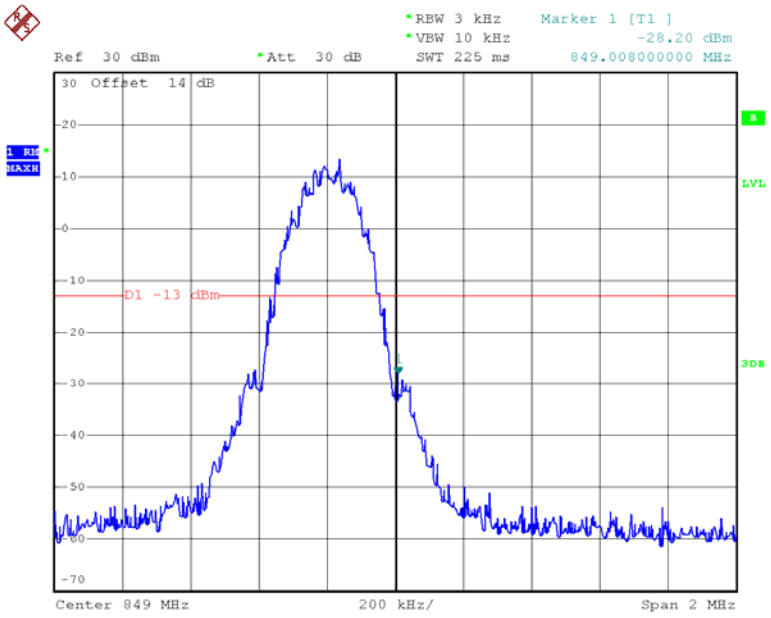
Date: 6.JUN.2020 16:31:02

EDGE 850, Left Band Edge



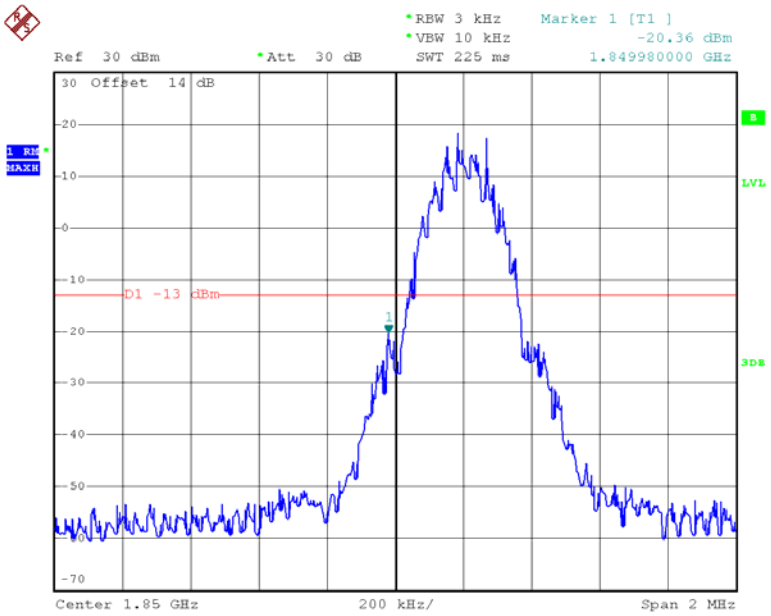
Date: 6.JUN.2020 16:13:40

EDGE 850, Right Band Edge



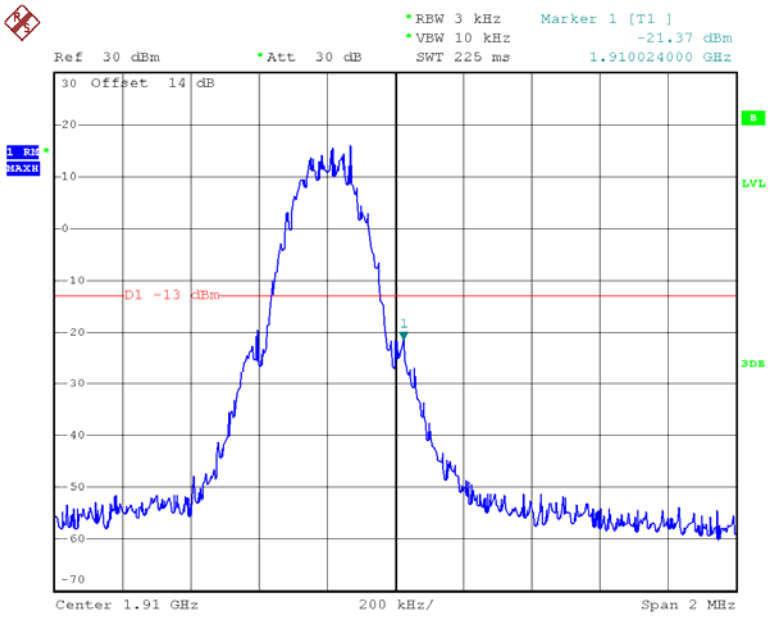
Date: 6.JUN.2020 16:14:42

GSM 1900, Left Band Edge



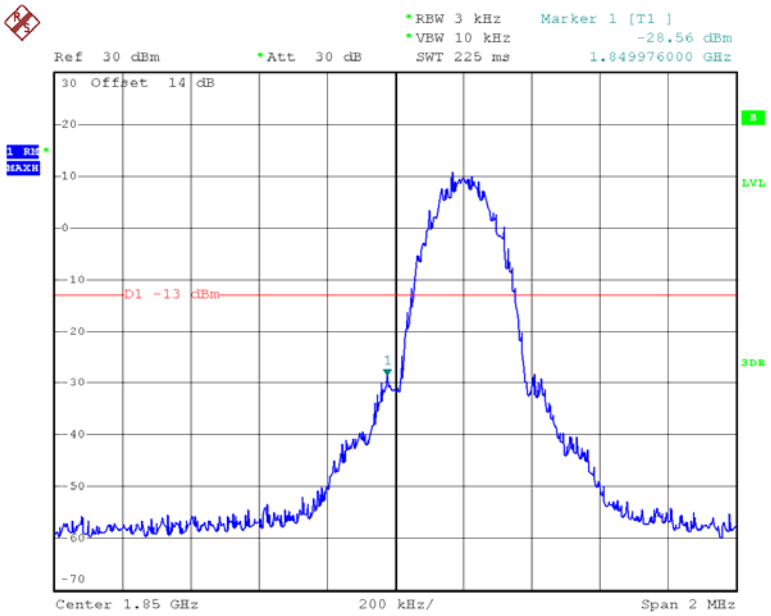
Date: 6.JUN.2020 16:21:55

GSM 1900, Right Band Edge



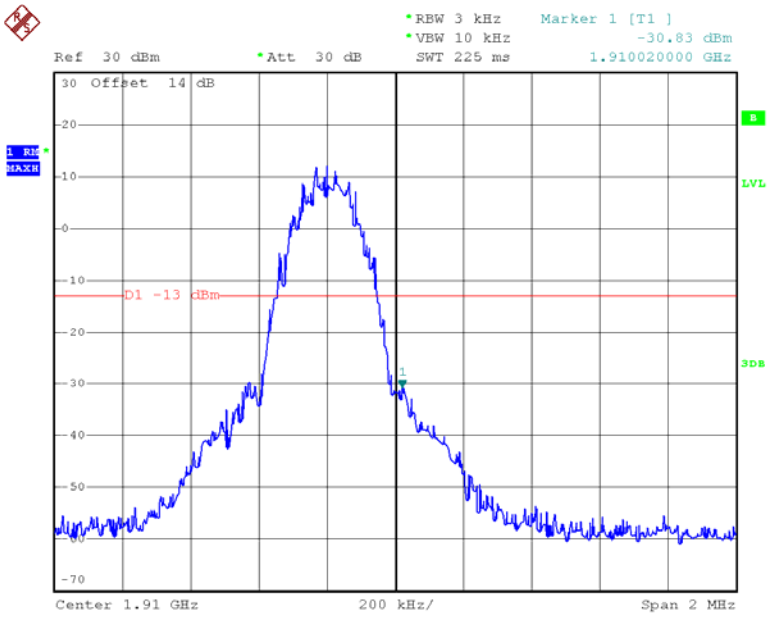
Date: 6.JUN.2020 16:22:35

EDGE 1900, Left Band Edge



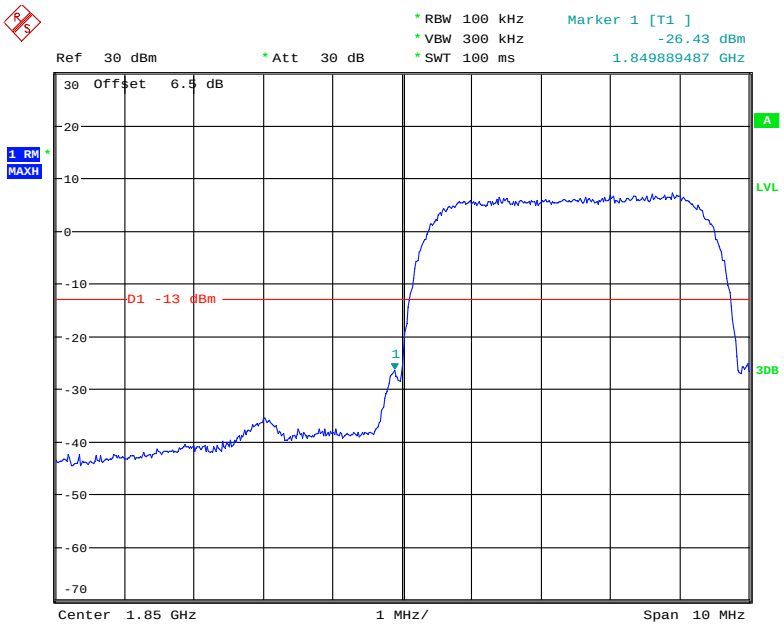
Date: 6.JUN.2020 16:09:11

EDGE 1900, Right Band Edge



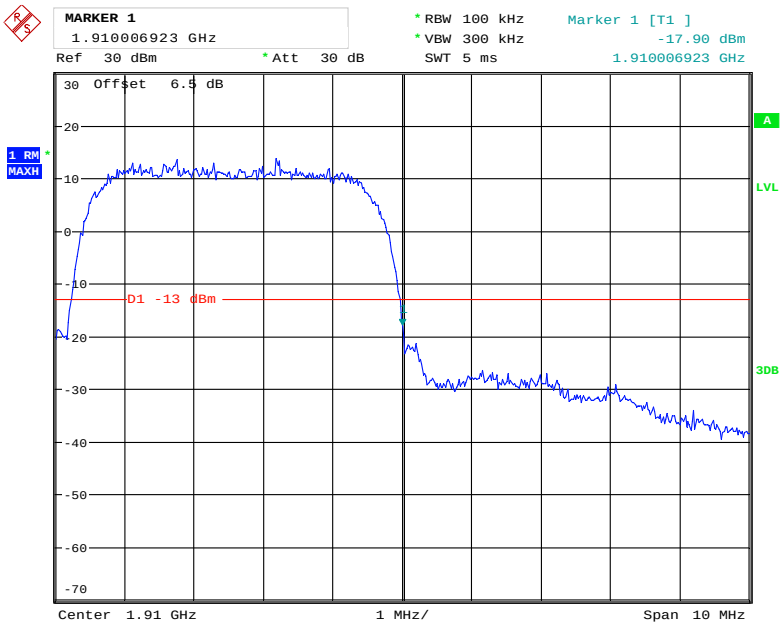
Date: 6.JUN.2020 16:09:59

WCDMA Band 2 Rel 99, Left Band Edge



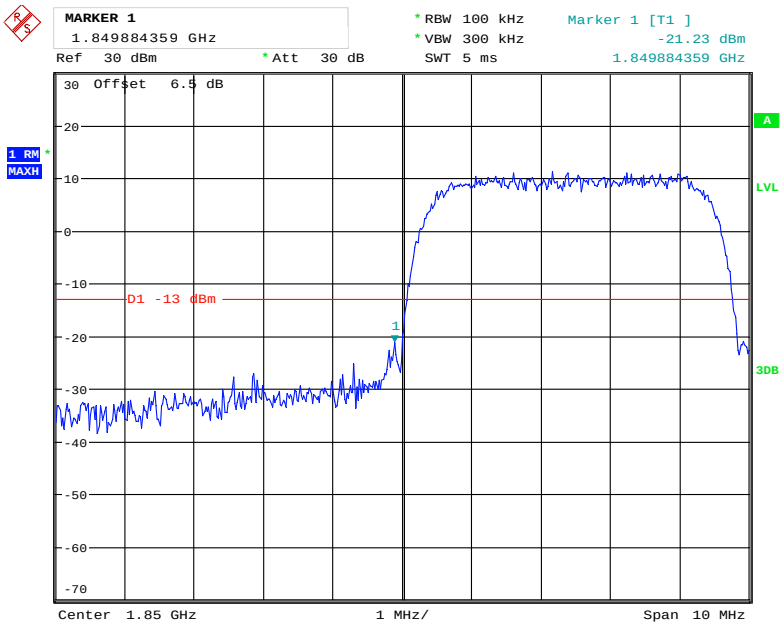
Date: 17.JUN.2020 14:43:21

WCDMA Band 2 Rel 99, Right Band Edge



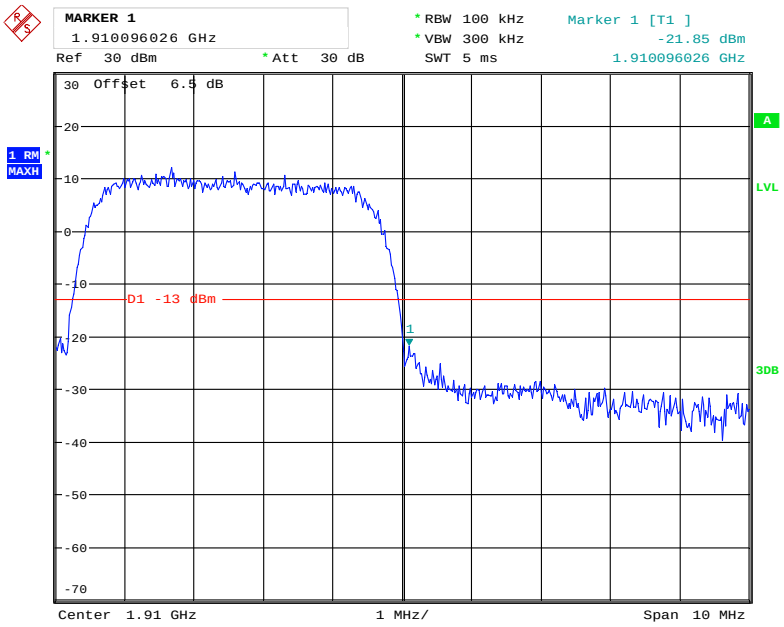
Date: 17.JUN.2020 15:00:08

WCDMA Band 2 HSDPA, Left Band Edge



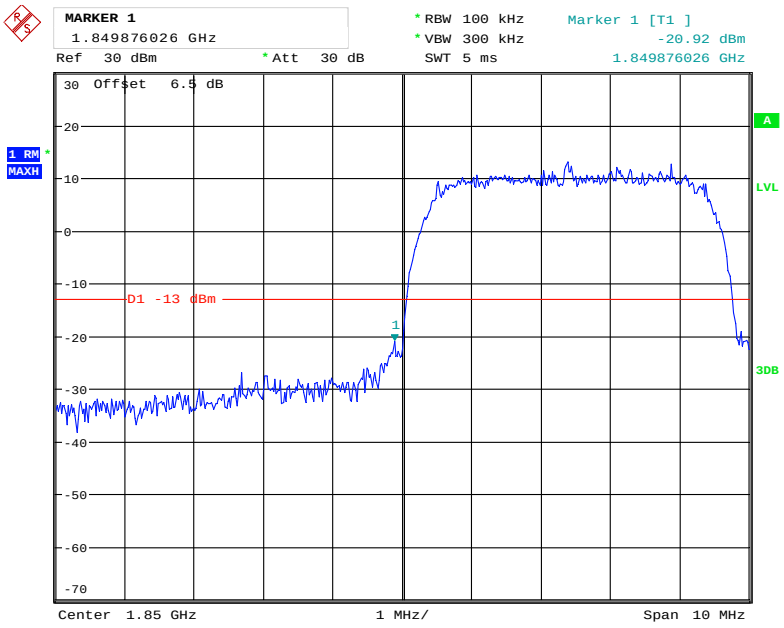
Date: 17.JUN.2020 15:48:23

WCDMA Band 2 HSDPA, Right Band Edge



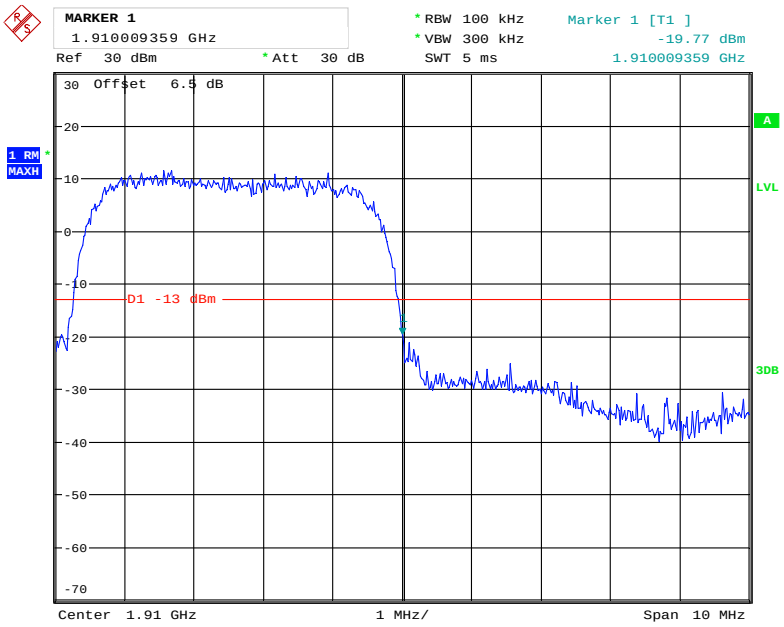
Date: 17.JUN.2020 15:47:40

WCDMA Band 2 HSUPA, Left Band Edge



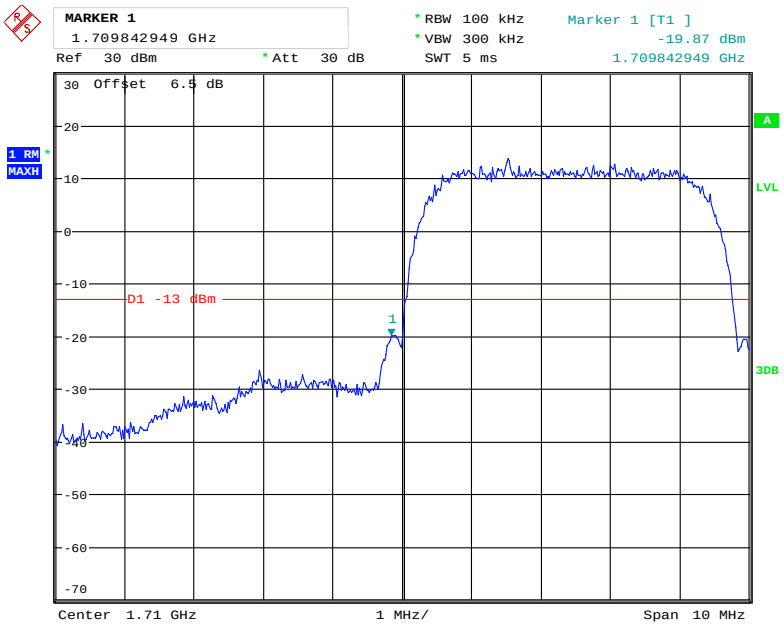
Date: 17.JUN.2020 16:25:13

WCDMA Band 2 HSUPA, Right Band Edge



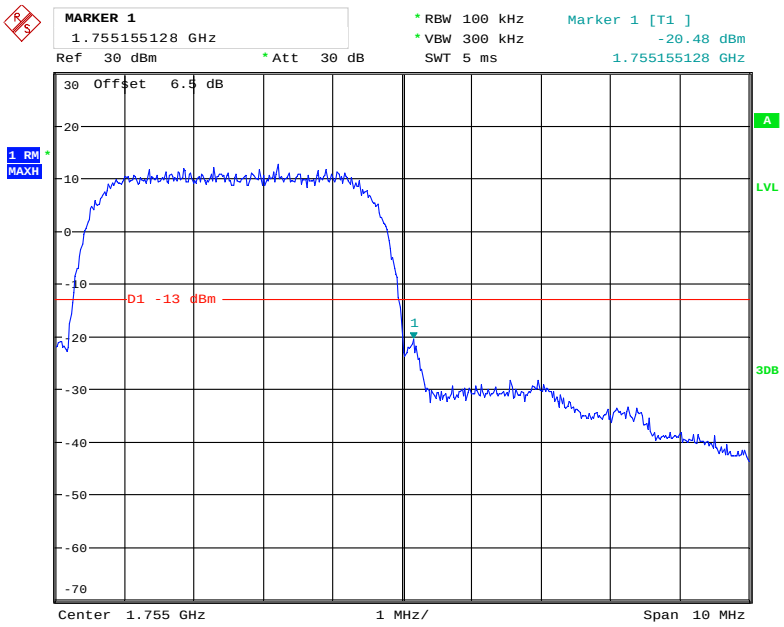
Date: 17.JUN.2020 16:24:17

WCDMA Band 4 Rel 99, Left Band Edge



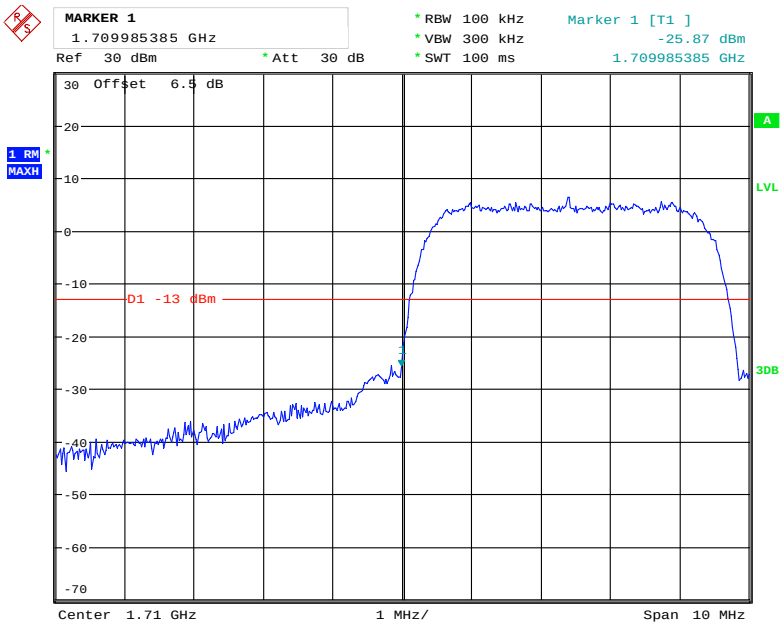
Date: 17.JUN.2020 15:09:20

WCDMA Band 4 Rel 99, Right Band Edge



Date: 17.JUN.2020 15:13:05

WCDMA Band 4 HSDPA, Left Band Edge



Date: 17.JUN.2020 15:37:08

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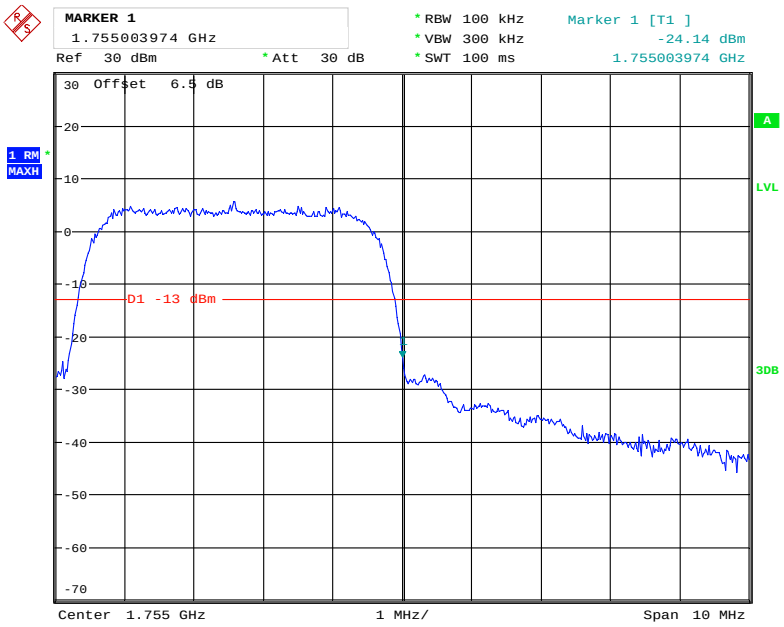

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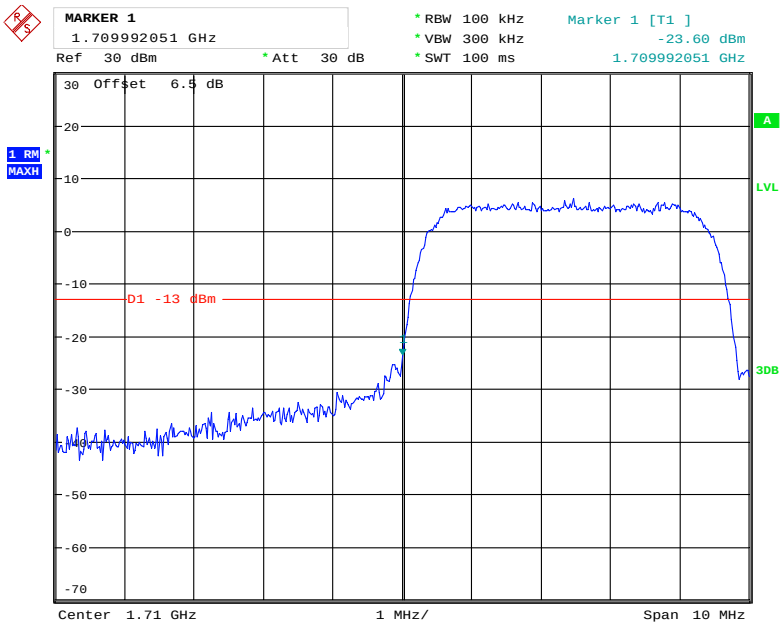
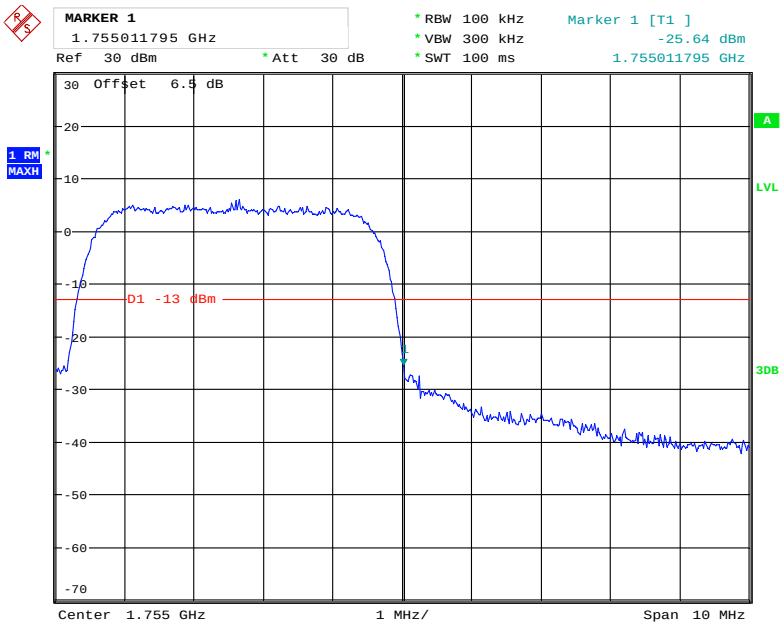
WCDMA Band 4 HSUPA, Left Band Edge



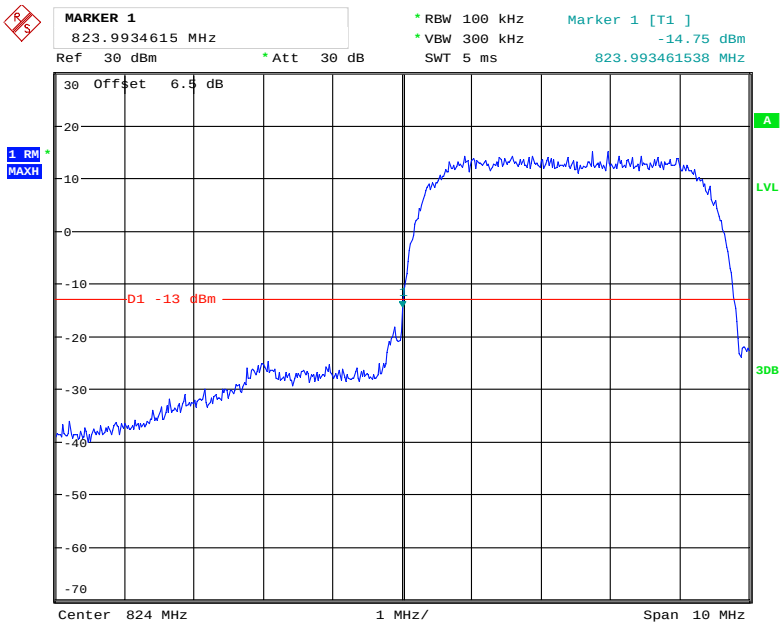
Date: 17.JUN.2020 16:23:10

WCDMA Band 4 HSUPA, Right Band Edge



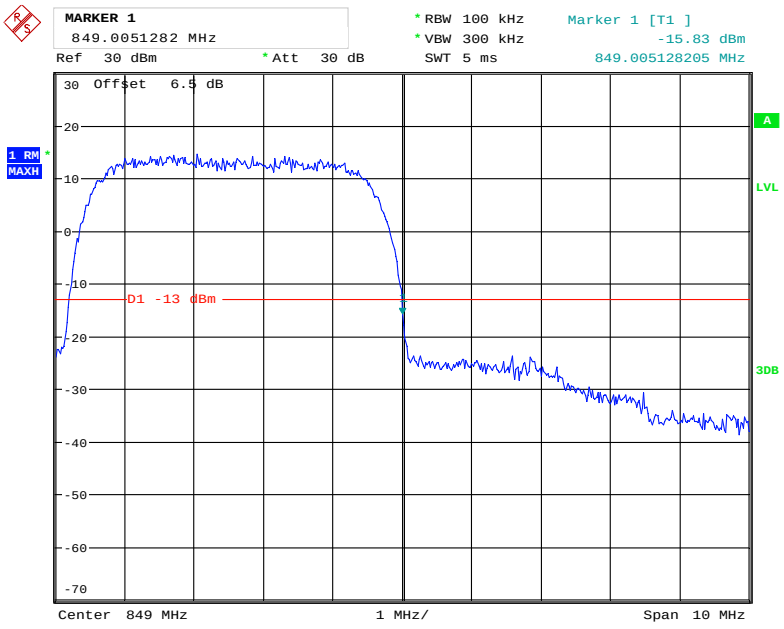
Date: 17.JUN.2020 16:22:32

WCDMA Band 5 Rel 99, Left Band Edge



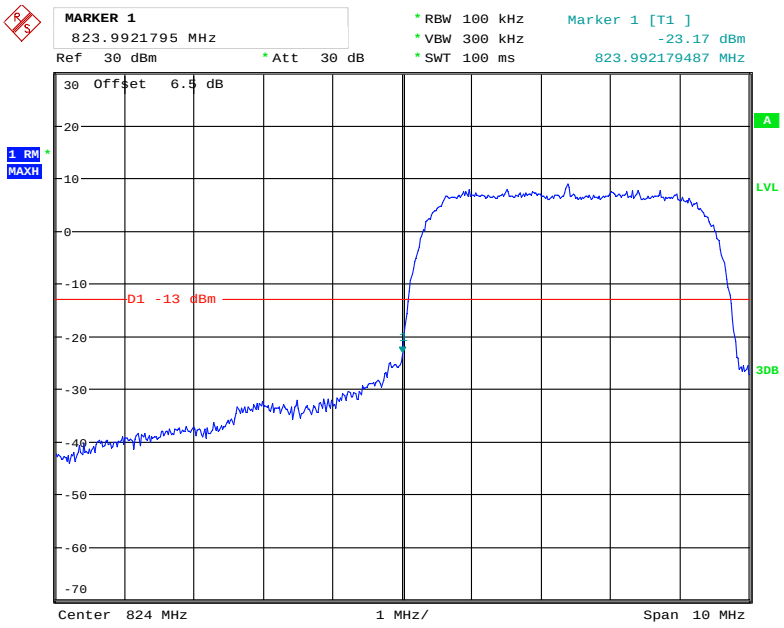
Date: 17.JUN.2020 15:15:00

WCDMA Band 5 Rel 99, Right Band Edge



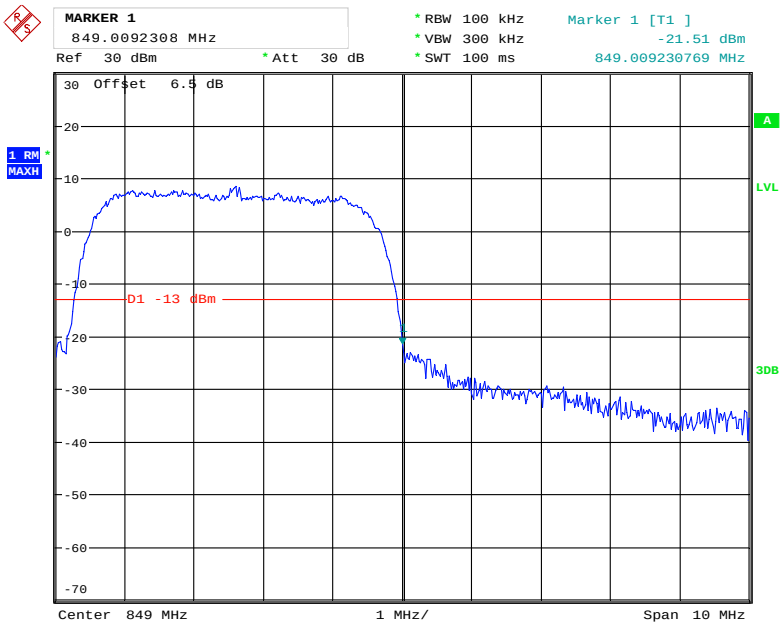
Date: 17.JUN.2020 15:15:58

WCDMA Band 5 HSDPA, Left Band Edge



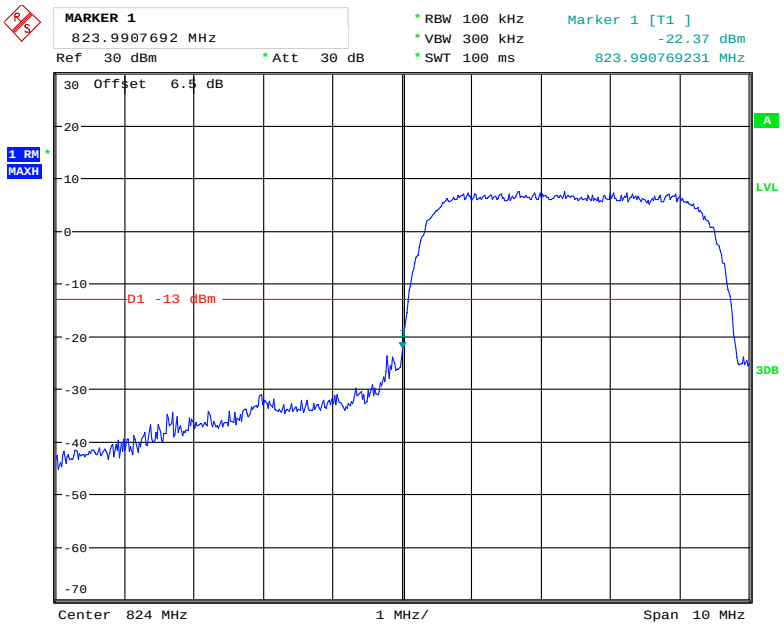
Date: 17.JUN.2020 15:46:40

WCDMA Band 5 HSDPA, Right Band Edge



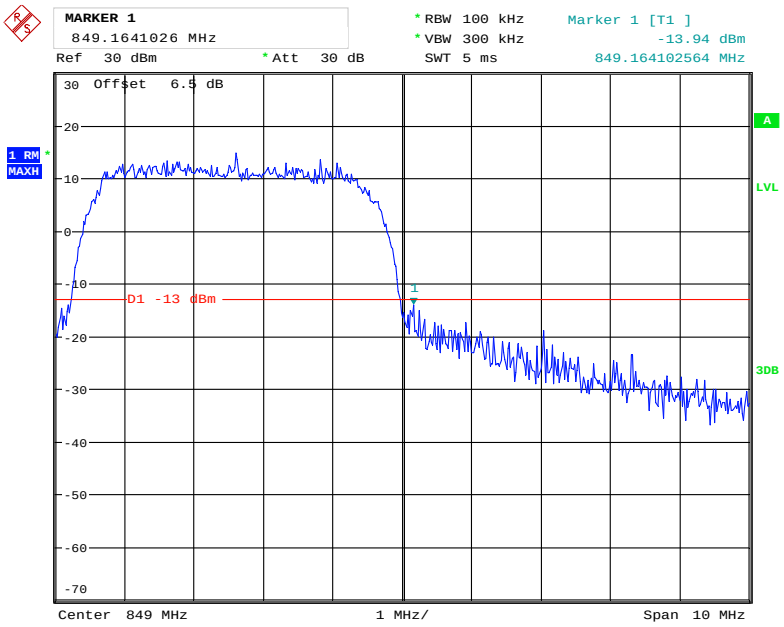
Date: 17.JUN.2020 15:45:56

WCDMA Band 5 HSUPA, Left Band Edge



Date: 17.JUN.2020 16:21:23

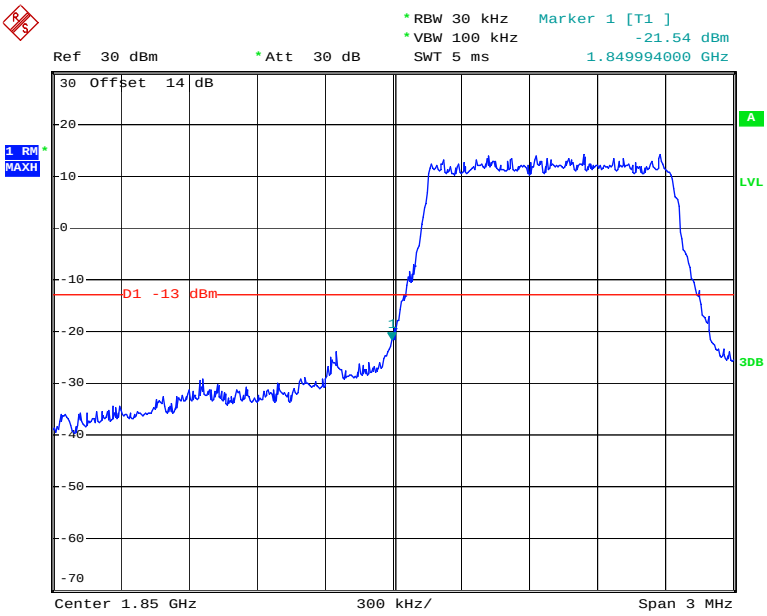
WCDMA Band 5 HSUPA, Right Band Edge



Date: 17.JUN.2020 16:20:20

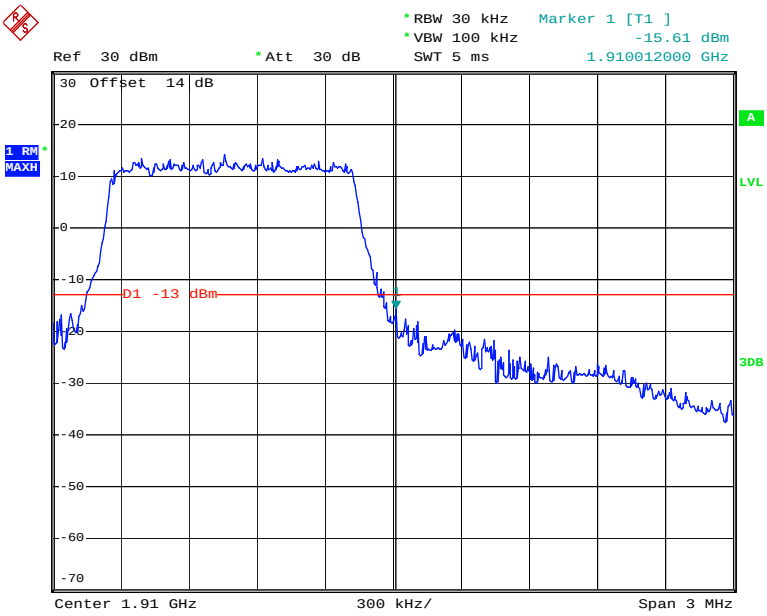
LTE Band 2

1.4M QPSK Left Band Edge



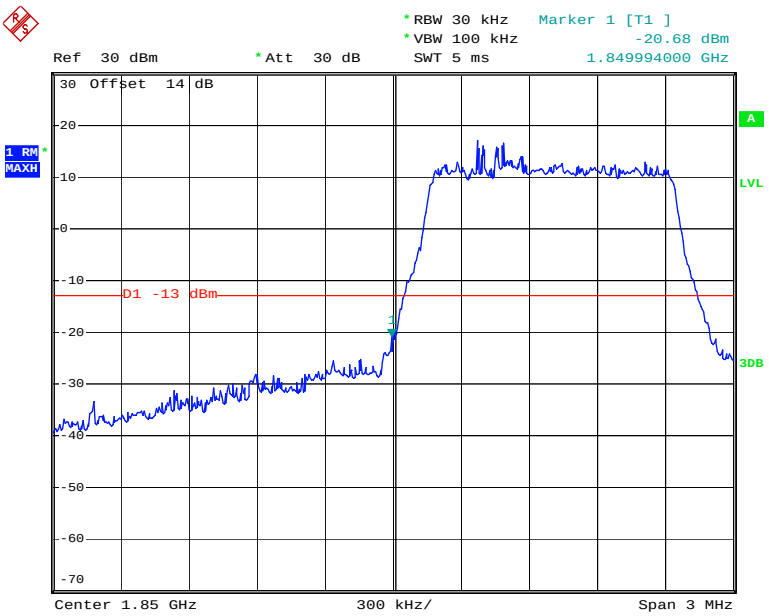
Date: 9.JUN.2020 14:10:01

1.4M QPSK Right Band Edge



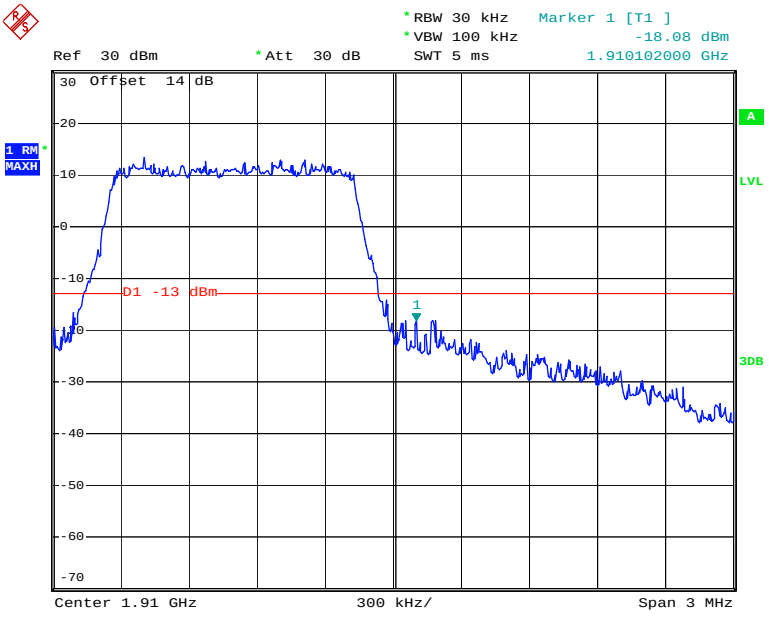
Date: 9.JUN.2020 14:10:40

1.4M 16QAM Left Band Edge



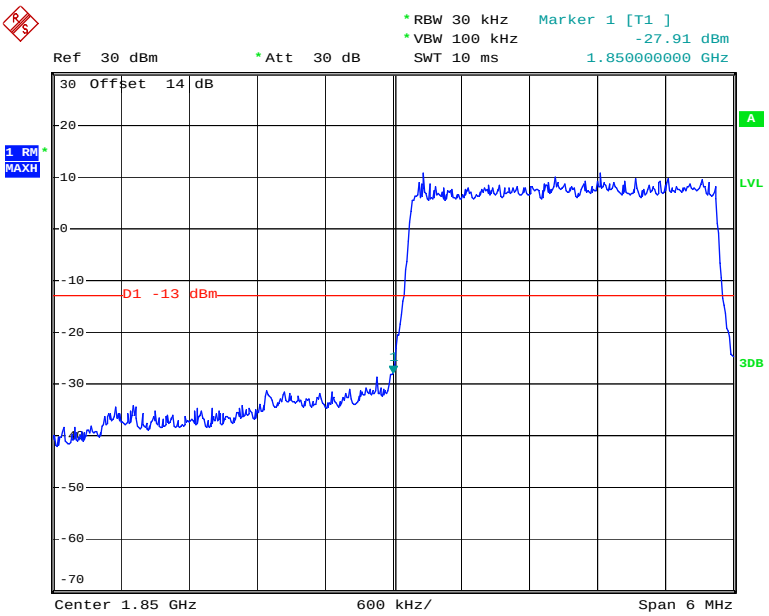
Date: 9.JUN.2020 14:10:22

1.4M 16QAM Right Band Edge



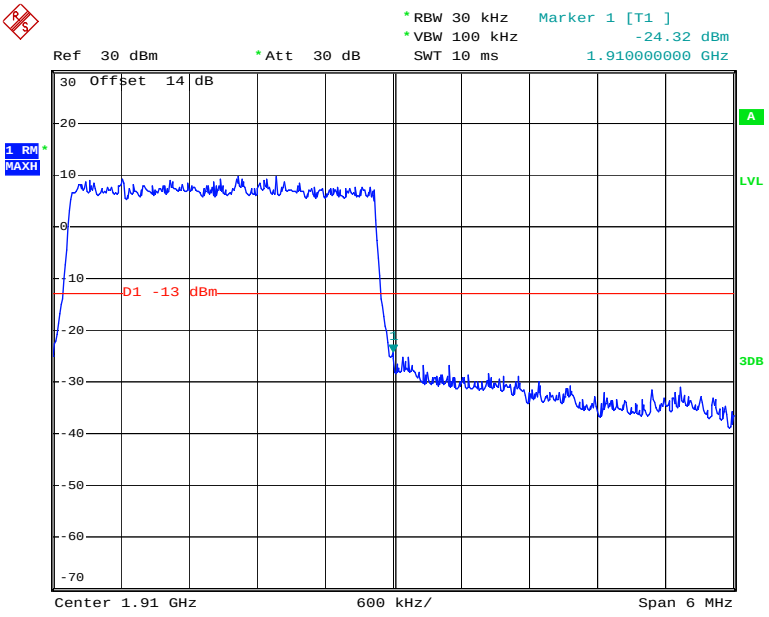
Date: 9.JUN.2020 14:11:00

3M QPSK Left Band Edge



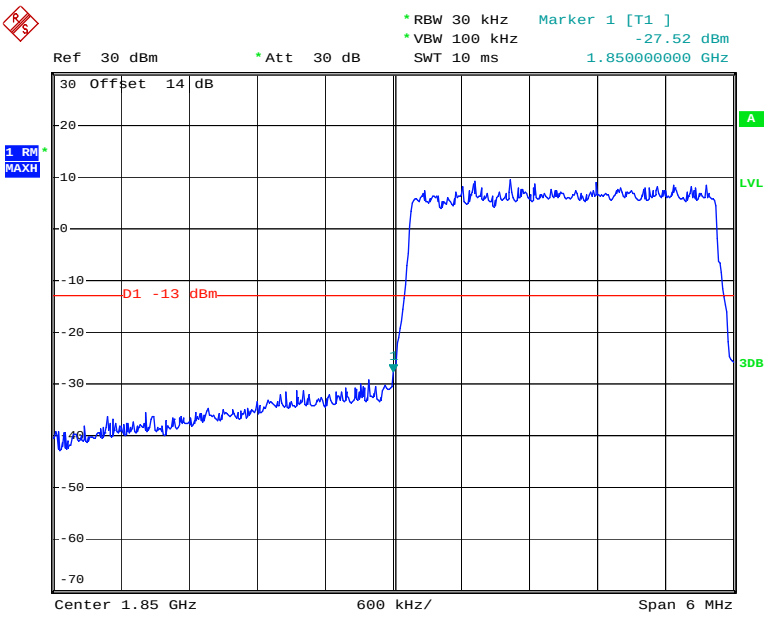
Date: 9.JUN.2020 14:11:21

3M QPSK Right Band Edge



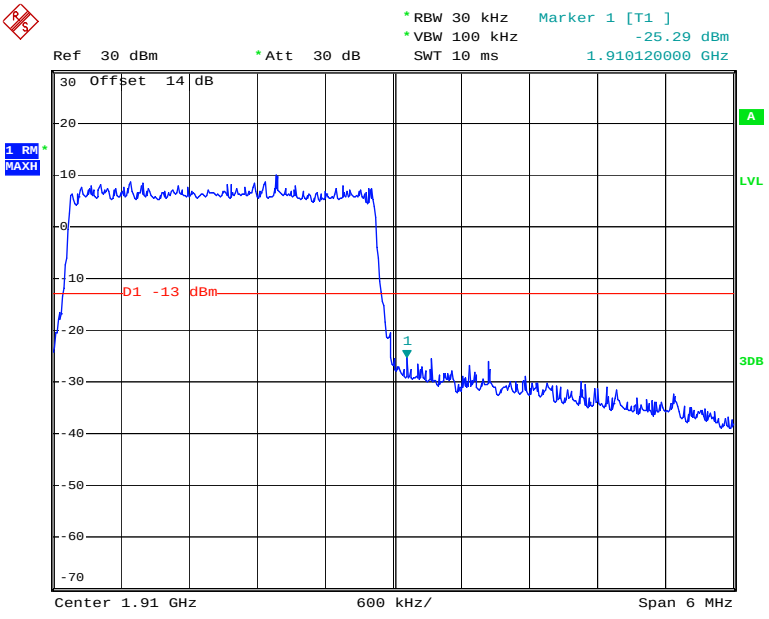
Date: 9.JUN.2020 14:11:56

3M 16QAM Left Band Edge



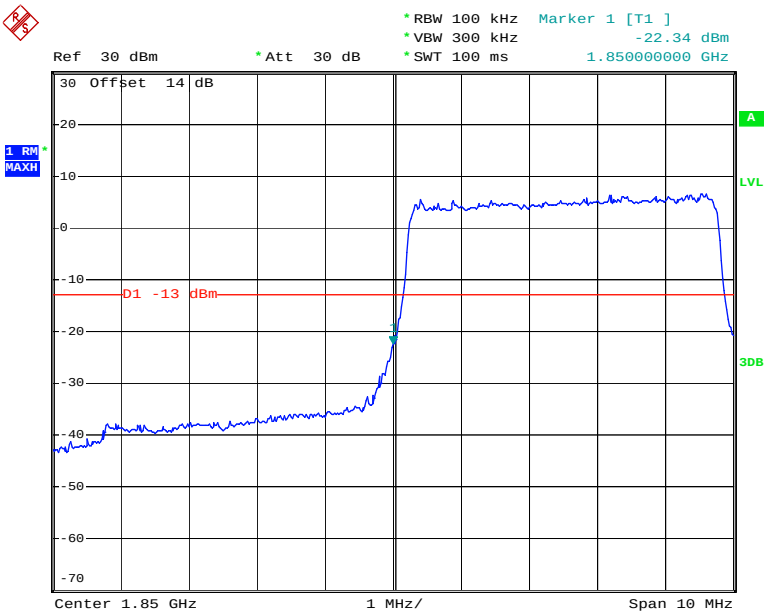
Date: 9.JUN.2020 14:11:38

3M 16QAM Right Band Edge



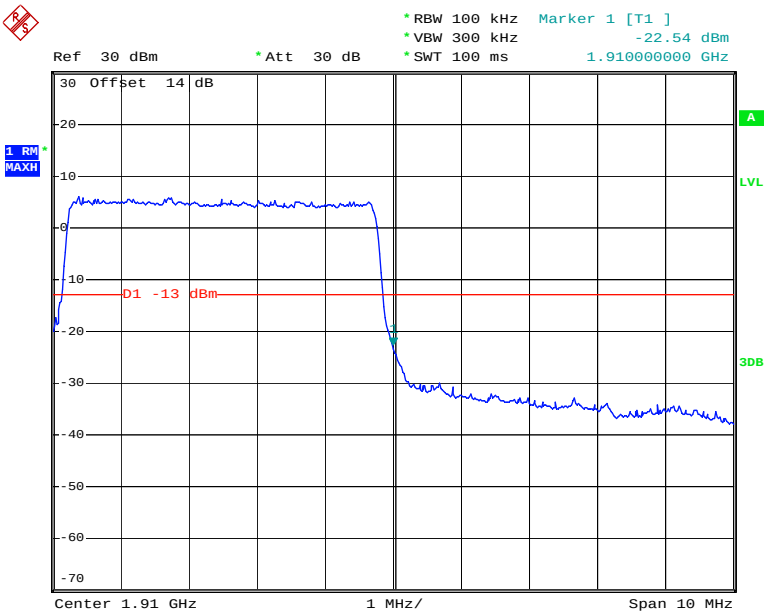
Date: 9.JUN.2020 14:12:16

5M QPSK Left Band Edge



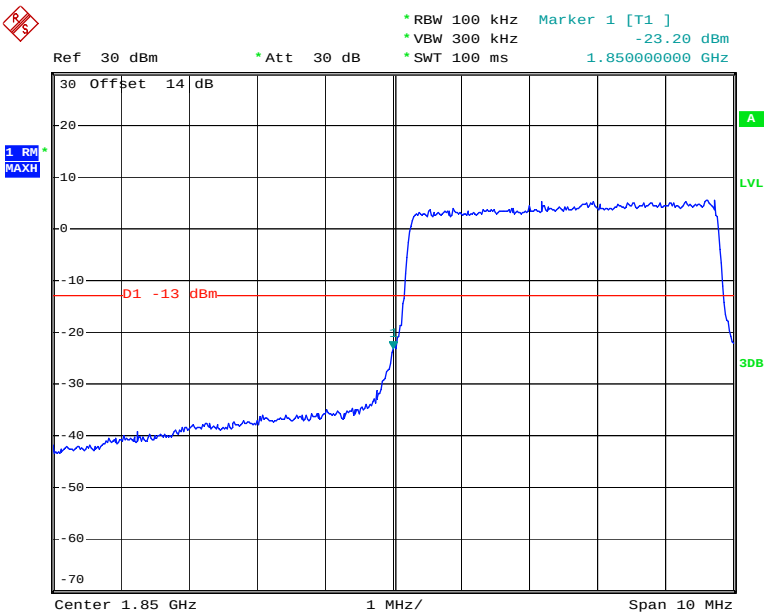
Date: 9.JUN.2020 14:12:52

5M QPSK Right Band Edge



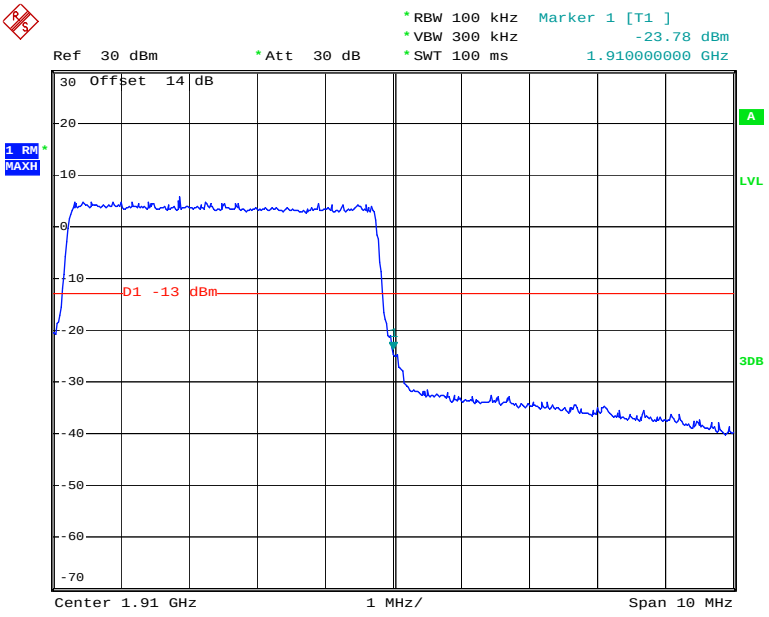
Date: 9.JUN.2020 14:13:46

5M 16QAM Left Band Edge



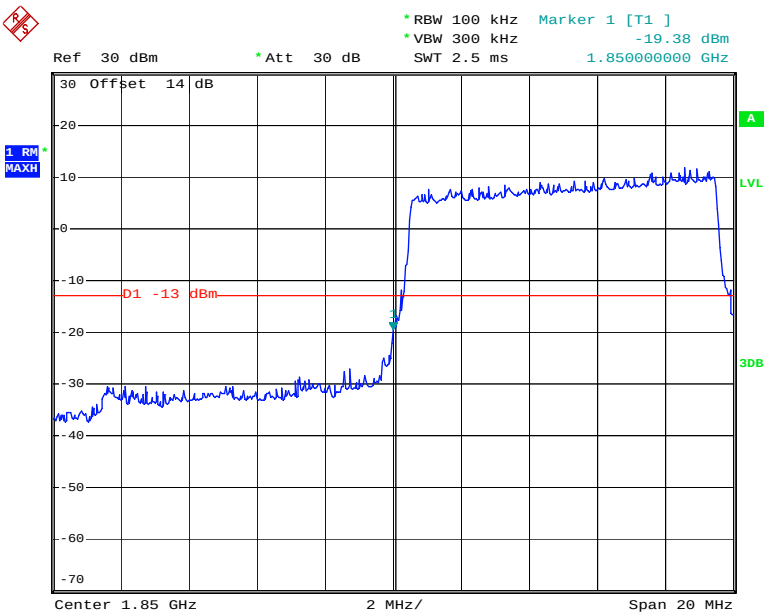
Date: 9.JUN.2020 14:13:16

5M 16QAM Right Band Edge



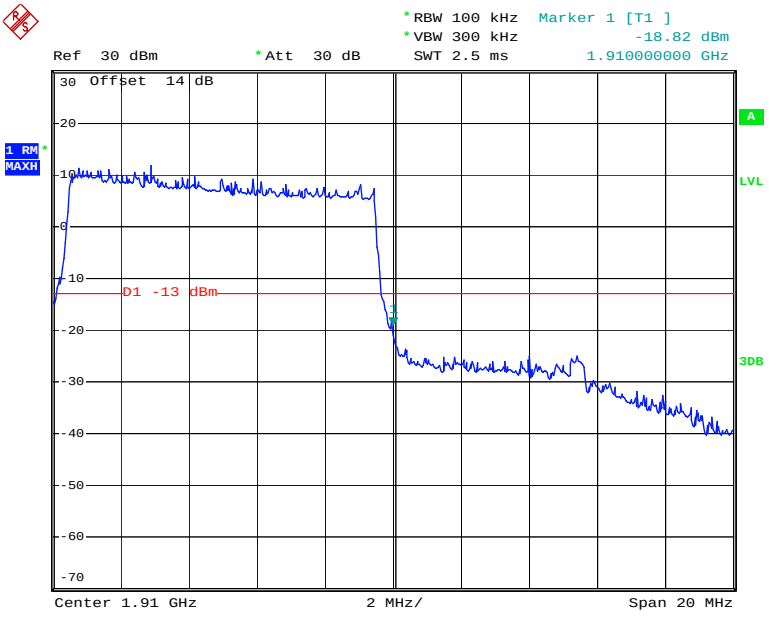
Date: 9.JUN.2020 14:14:18

10M QPSK Left Band Edge



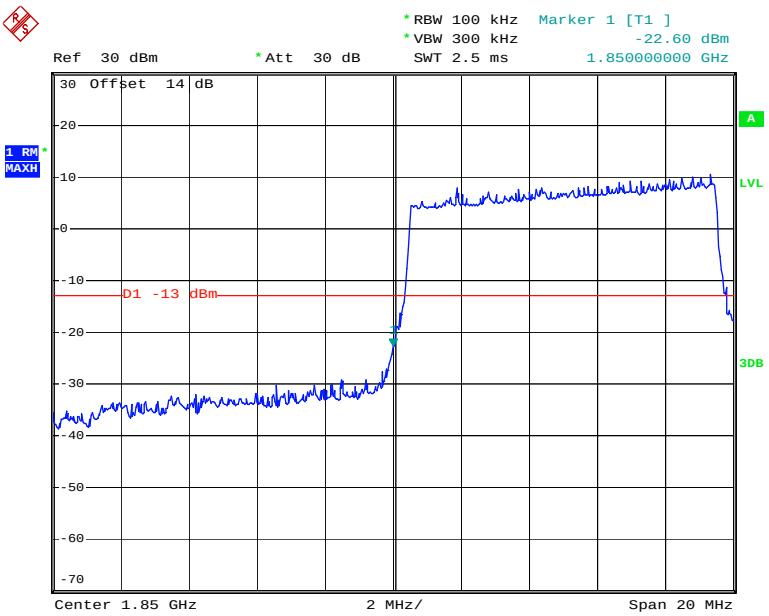
Date: 9.JUN.2020 14:14:42

10M QPSK Right Band Edge



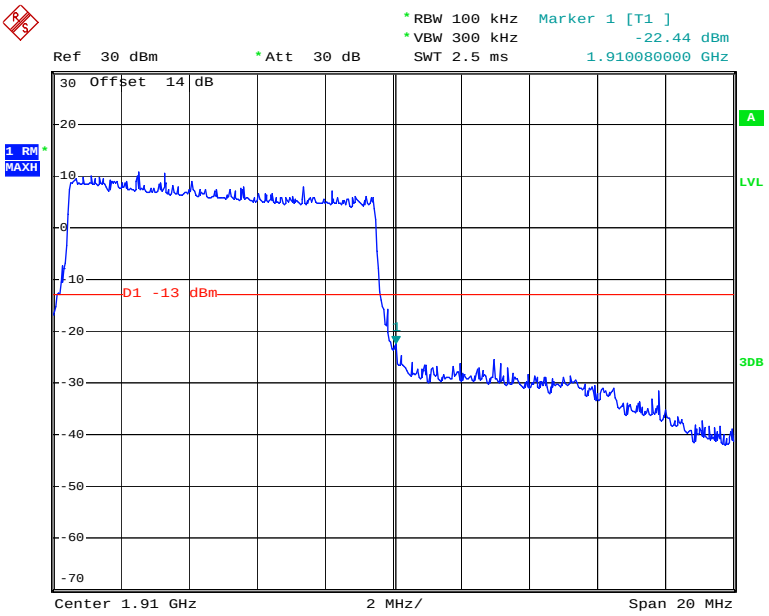
Date: 9.JUN.2020 14:15:22

10M 16QAM Left Band Edge



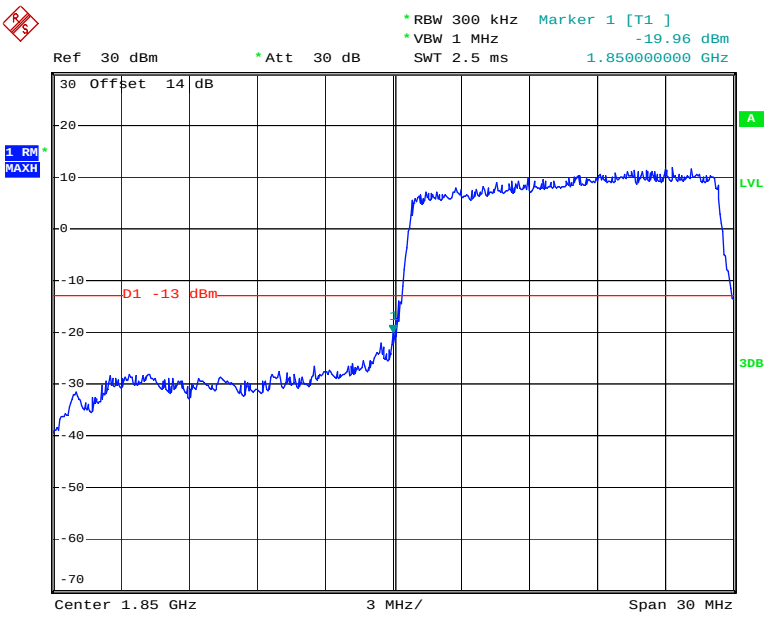
Date: 9.JUN.2020 14:15:00

10M 16QAM Right Band Edge



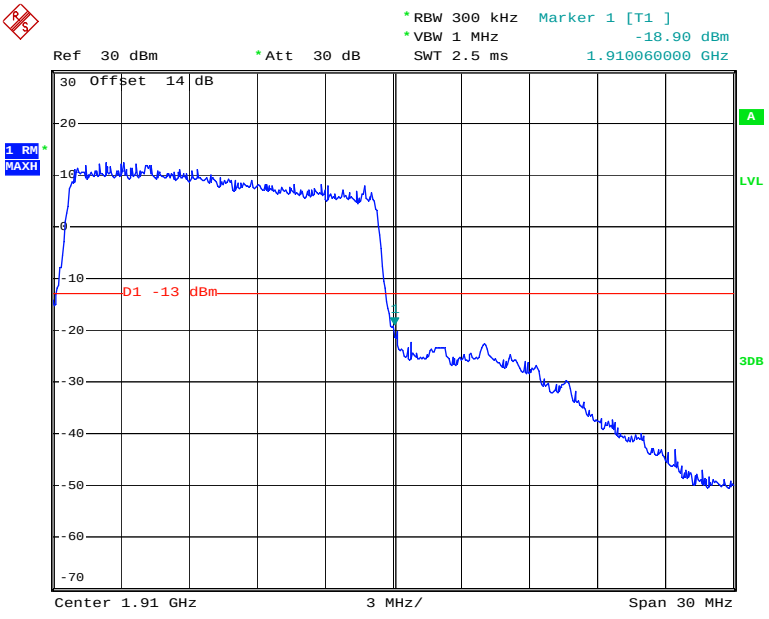
Date: 9.JUN.2020 14:15:40

15M QPSK Left Band Edge



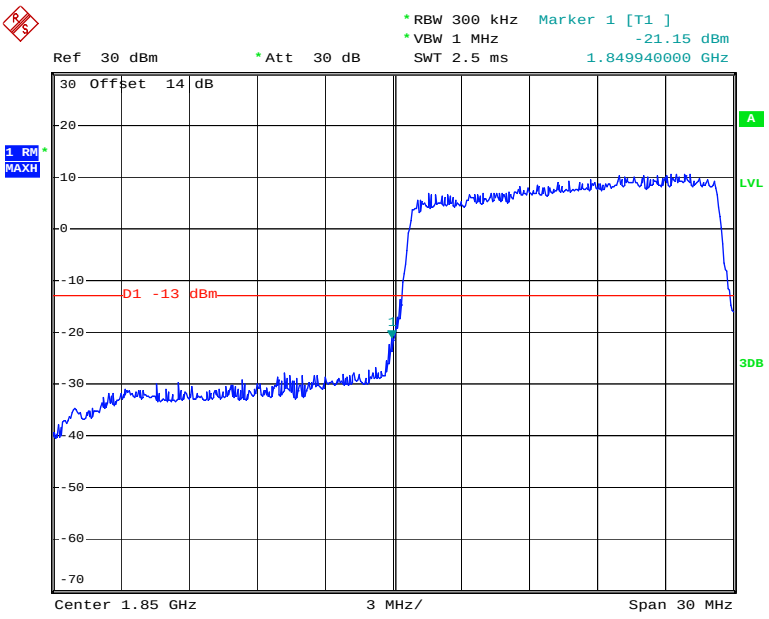
Date: 9.JUN.2020 14:16:04

15M QPSK Right Band Edge



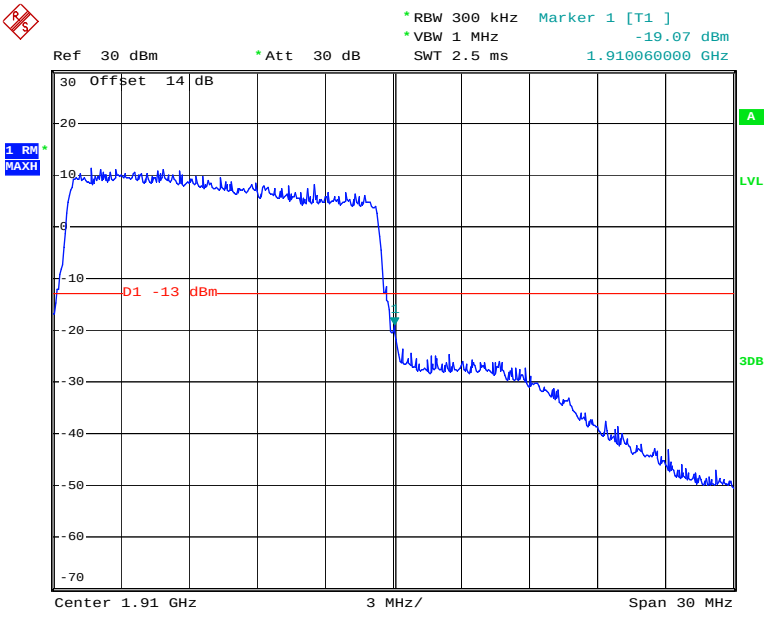
Date: 9.JUN.2020 14:16:46

15M 16QAM Left Band Edge



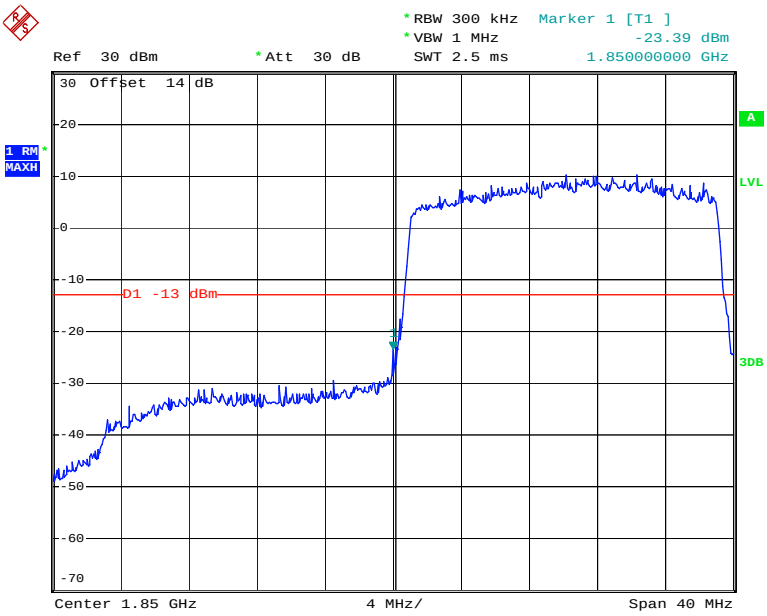
Date: 9.JUN.2020 14:16:24

15M 16QAM Right Band Edge



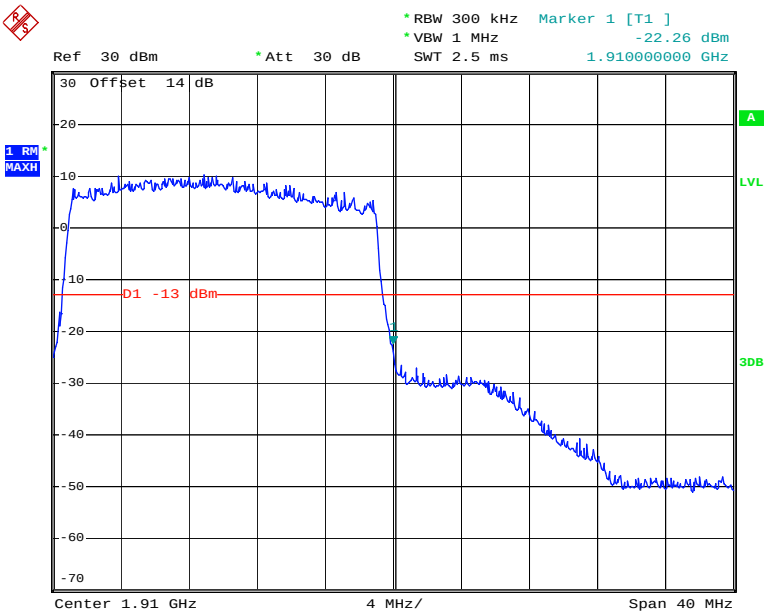
Date: 9.JUN.2020 14:17:09

20M QPSK Left Band Edge



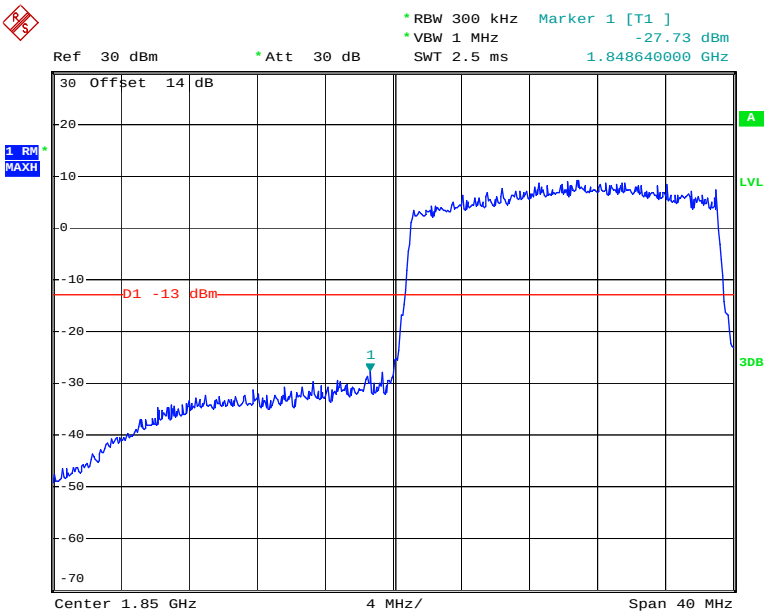
Date: 9.JUN.2020 14:17:33

20M QPSK Right Band Edge



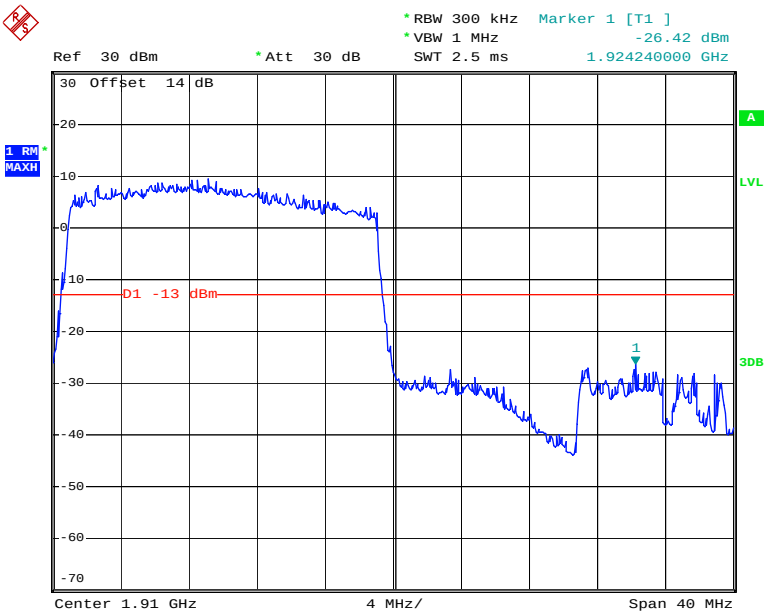
Date: 9.JUN.2020 14:18:14

20M 16QAM Left Band Edge



Date: 9.JUN.2020 14:17:53

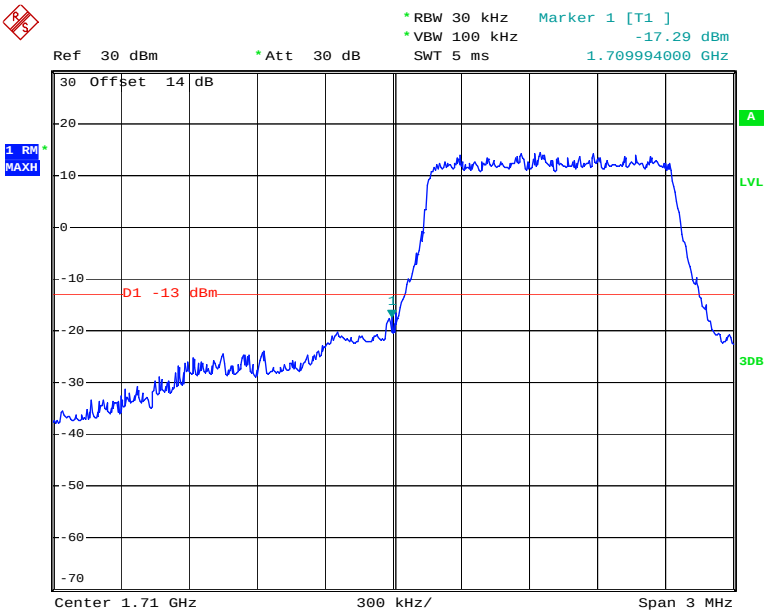
20M 16QAM Right Band Edge



Date: 9.JUN.2020 14:18:34

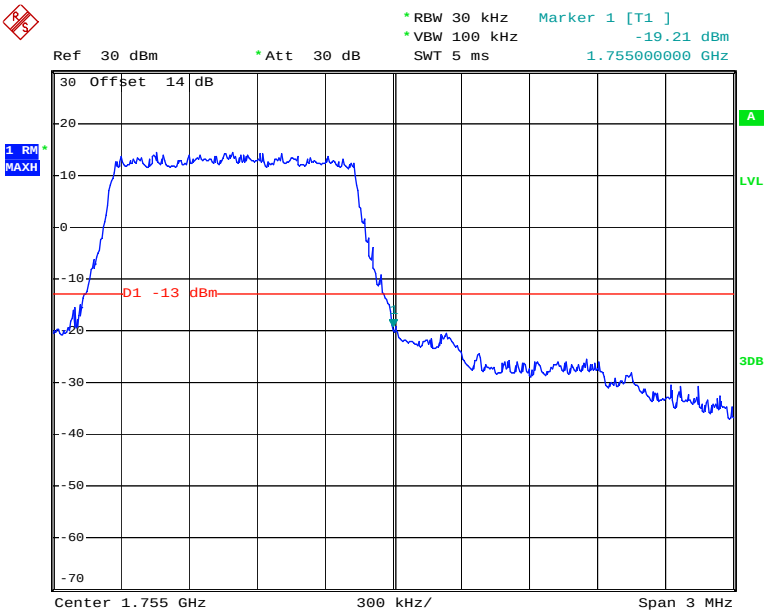
LTE Band 4

1.4M QPSK Left Band Edge



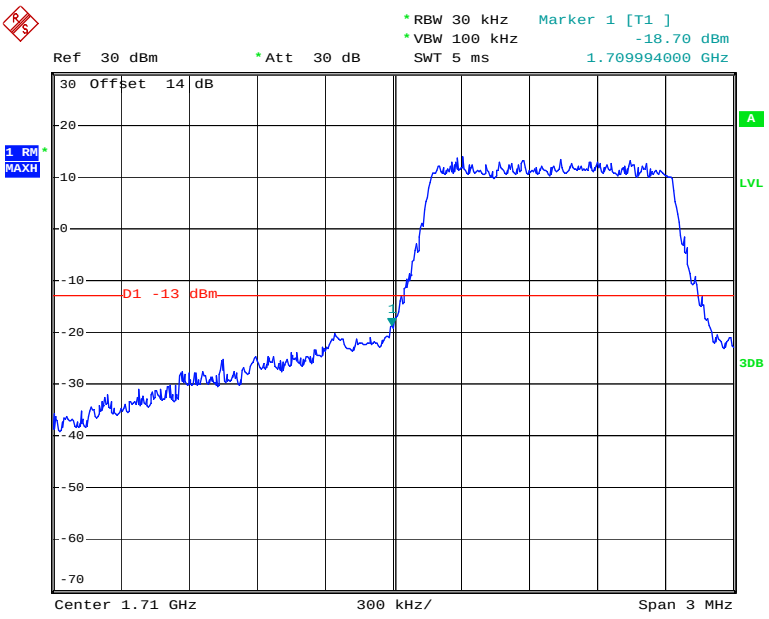
Date: 9.JUN.2020 14:20:42

1.4M QPSK Right Band Edge



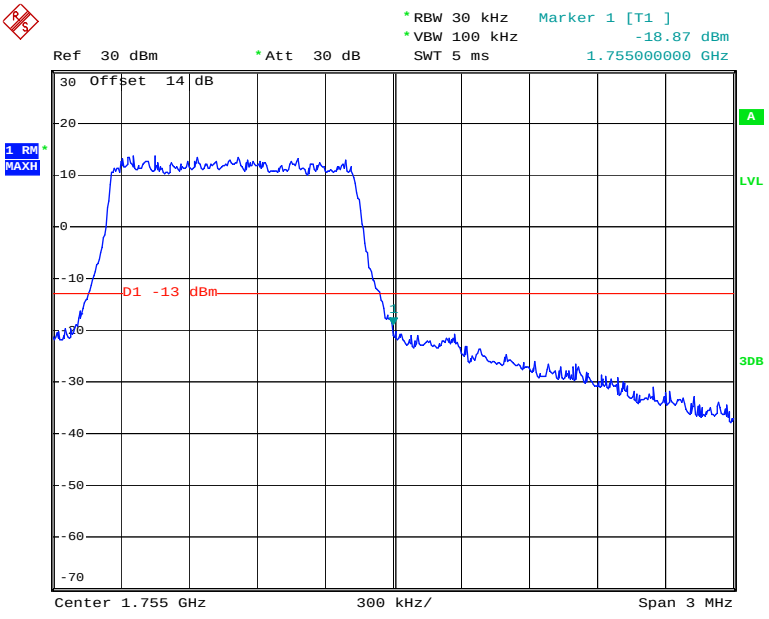
Date: 9.JUN.2020 14:21:21

1.4M 16QAM Left Band Edge



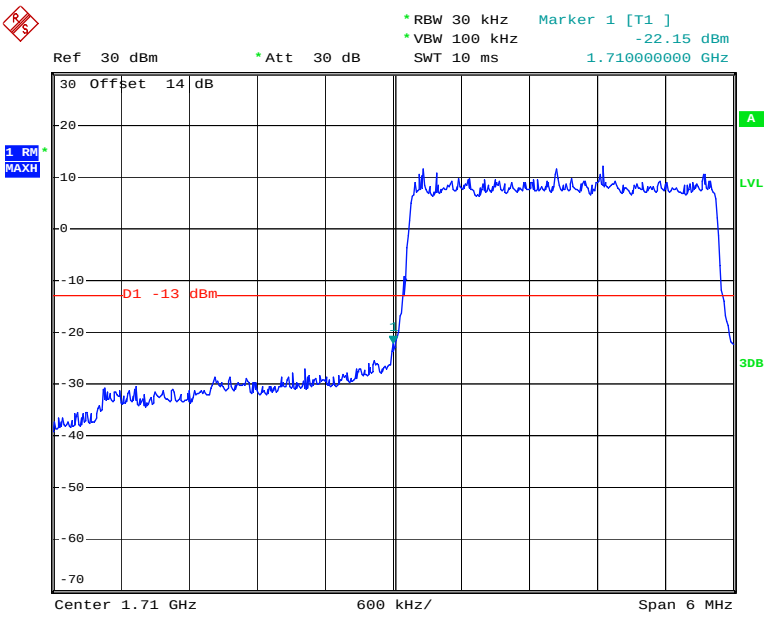
Date: 9.JUN.2020 14:21:00

1.4M 16QAM Right Band Edge



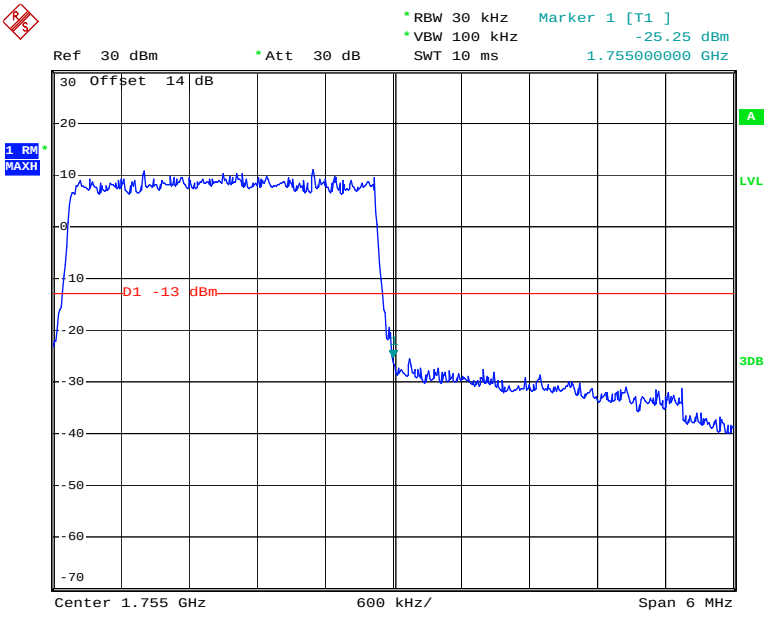
Date: 9.JUN.2020 14:21:38

3M QPSK Left Band Edge



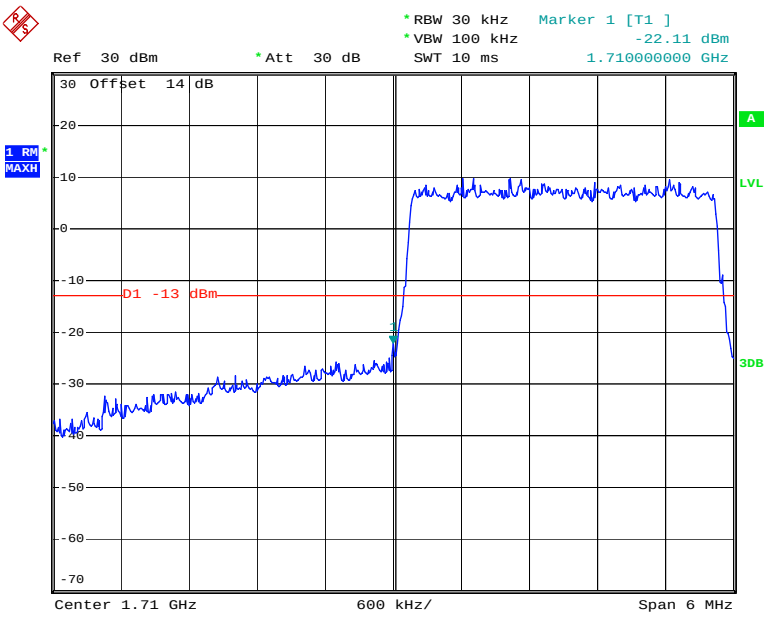
Date: 9.JUN.2020 14:22:01

3M QPSK Right Band Edge



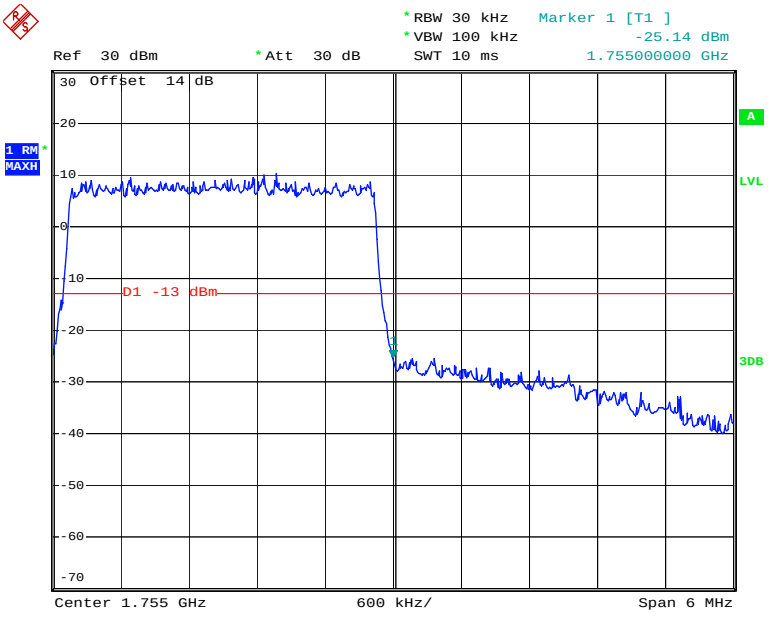
Date: 9.JUN.2020 14:22:40

3M 16QAM Left Band Edge



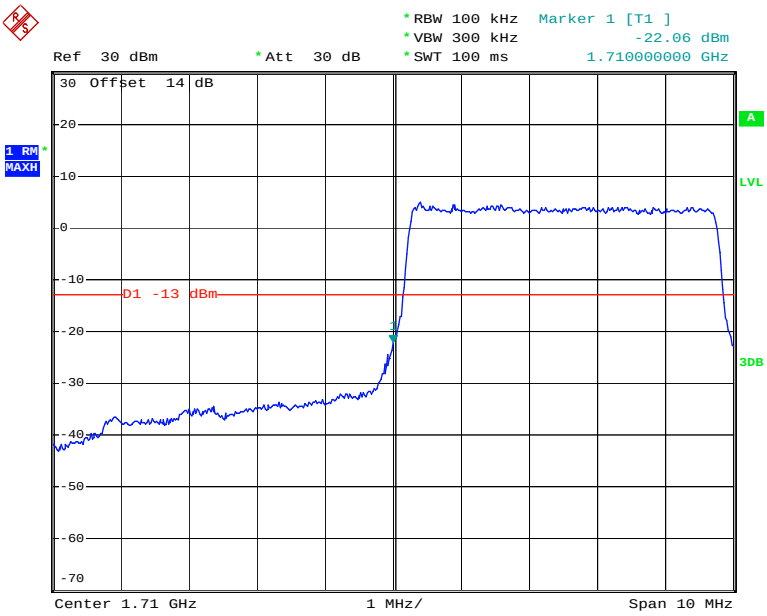
Date: 9.JUN.2020 14:22:22

3M 16QAM Right Band Edge



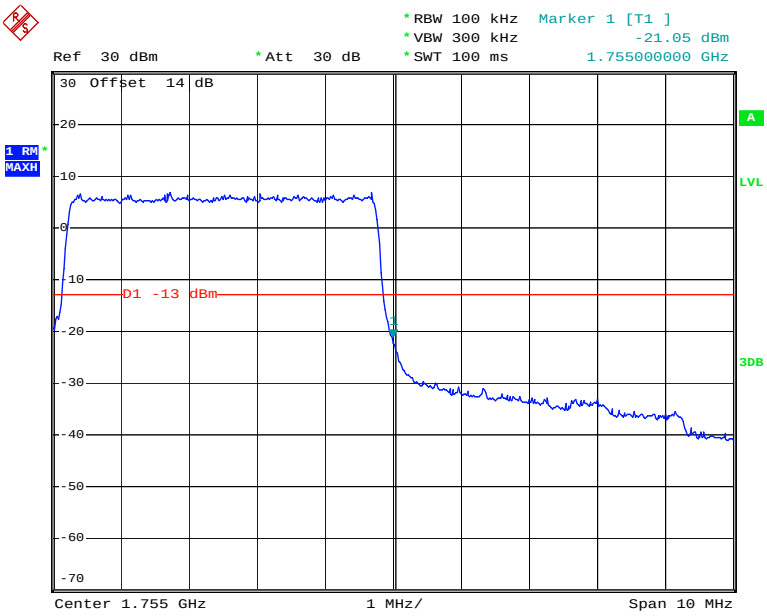
Date: 9.JUN.2020 14:23:00

5M QPSK Left Band Edge



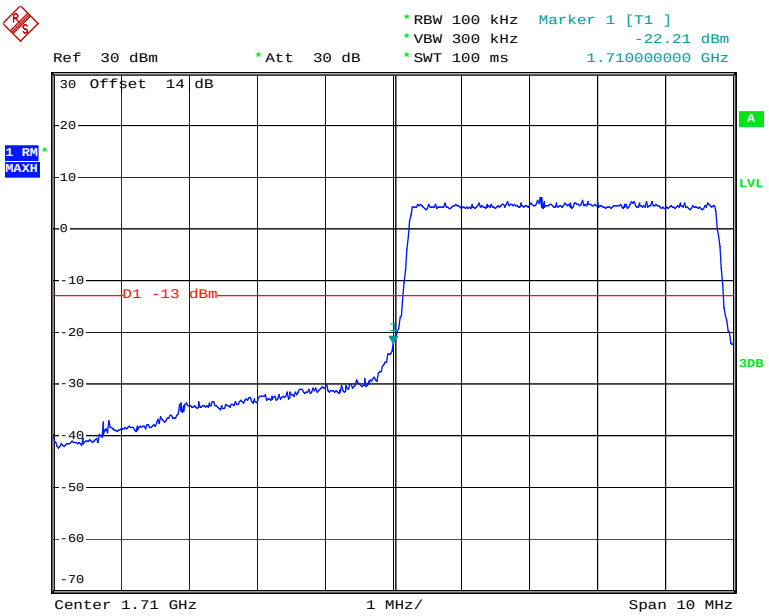
Date: 23.JUN.2020 10:24:13

5M QPSK Right Band Edge



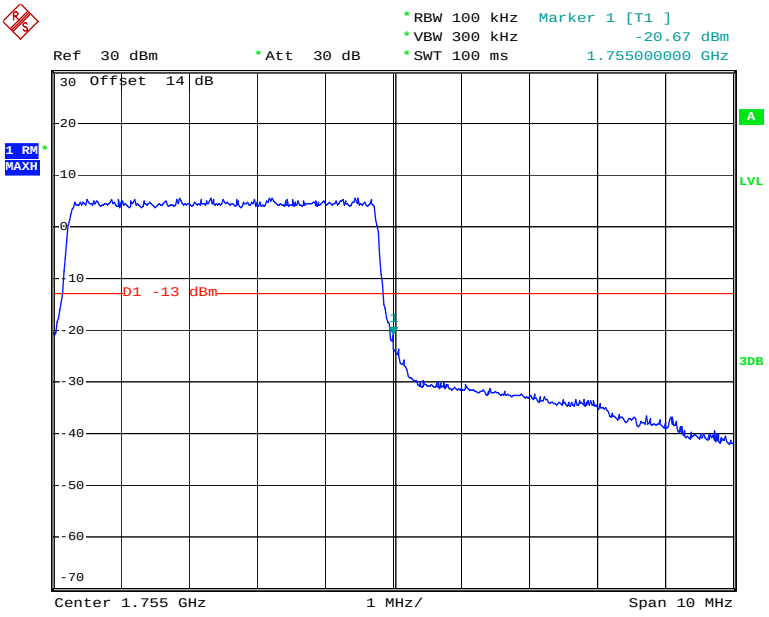
Date: 9.JUN.2020 14:26:35

5M 16QAM Left Band Edge



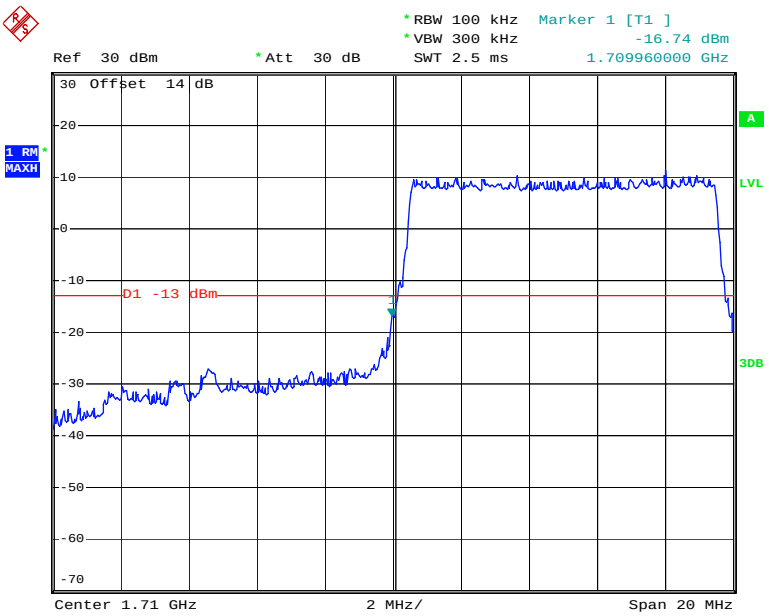
Date: 9.JUN.2020 14:26:01

5M 16QAM Right Band Edge



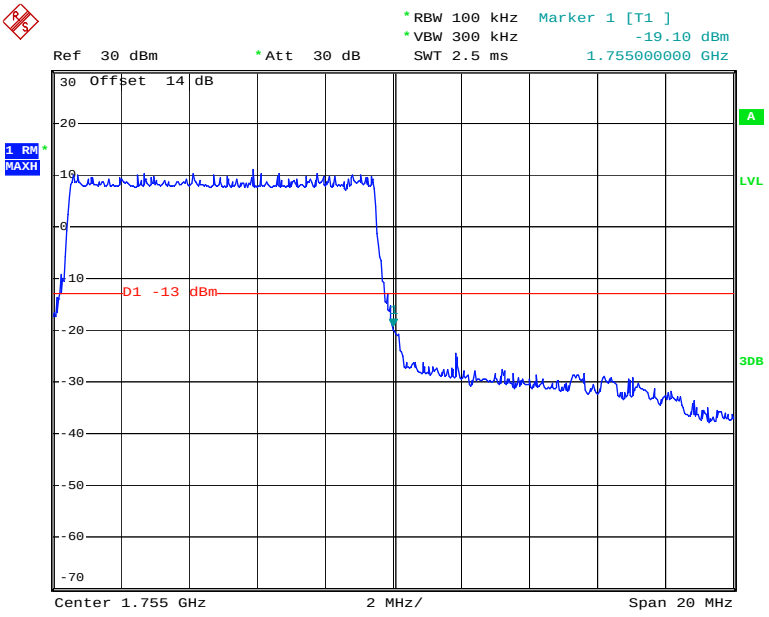
Date: 9.JUN.2020 14:27:00

10M QPSK Left Band Edge



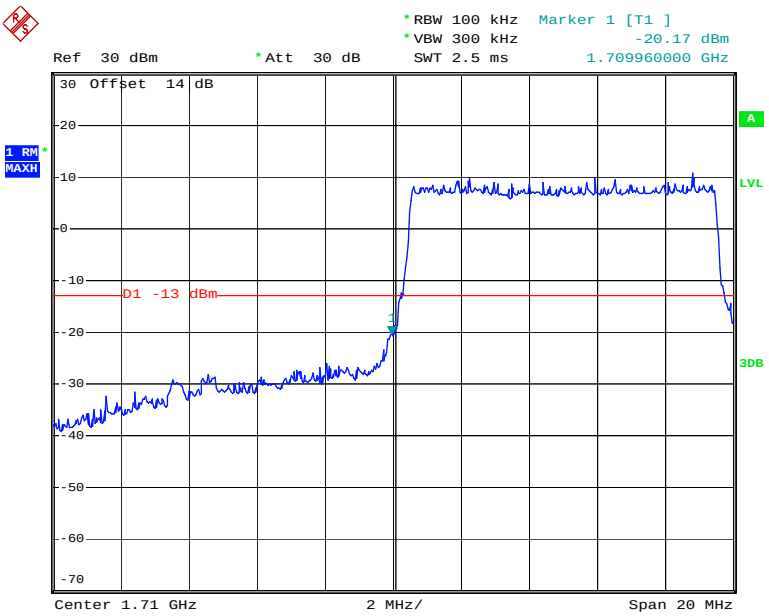
Date: 9.JUN.2020 14:27:24

10M QPSK Right Band Edge



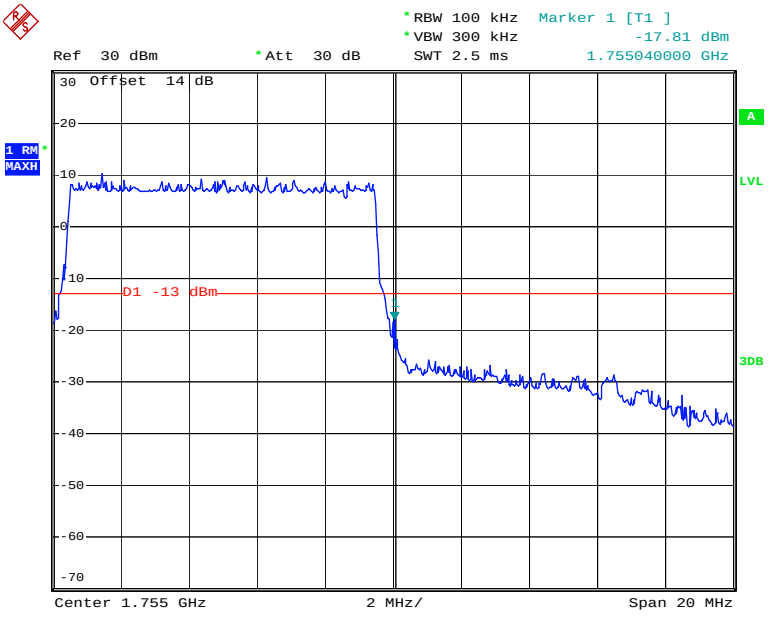
Date: 9.JUN.2020 14:28:04

10M 16QAM Left Band Edge



Date: 9.JUN.2020 14:27:42

10M 16QAM Right Band Edge



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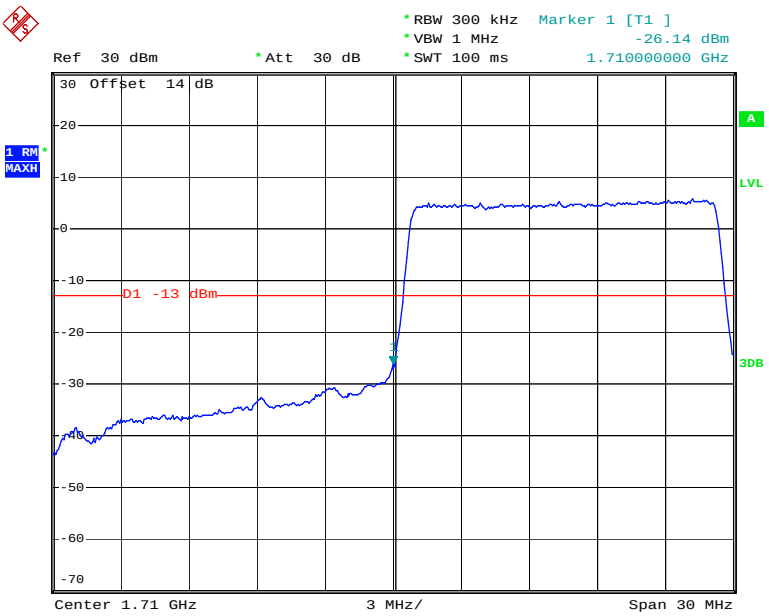
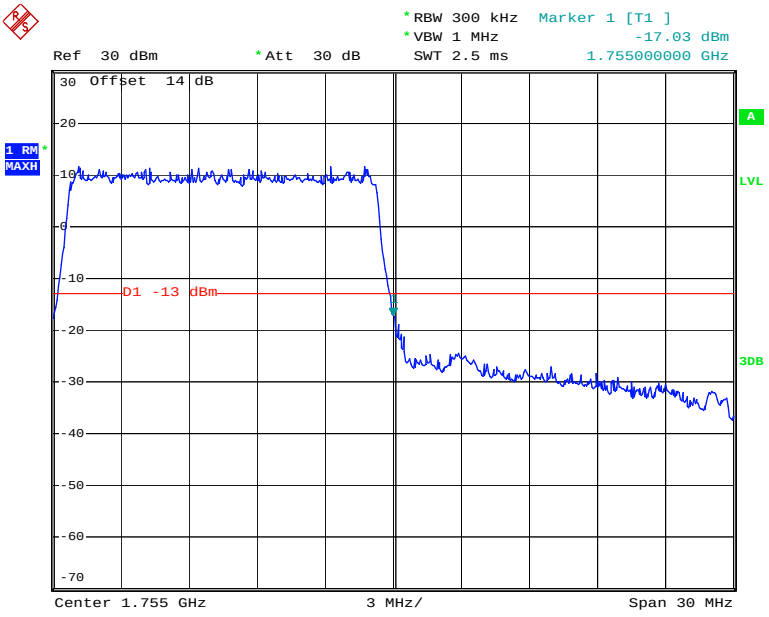
15M QPSK Left Band Edge



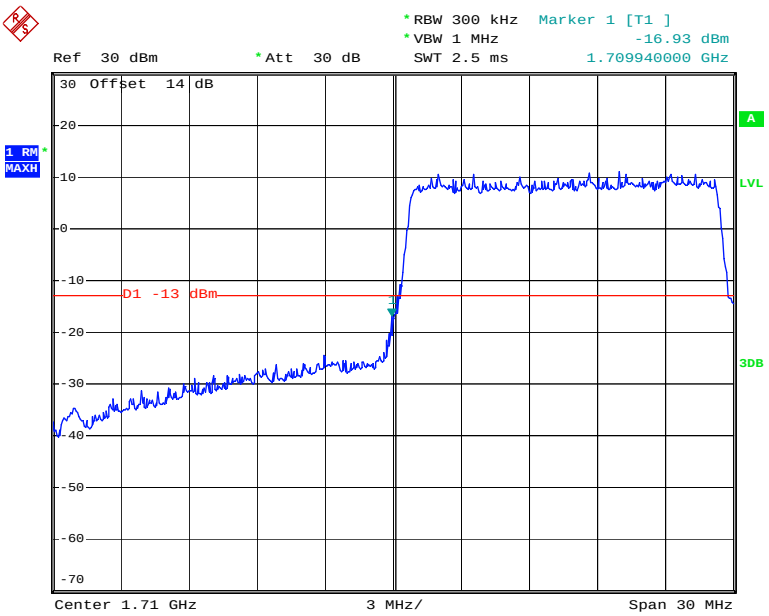
Date: 9.JUN.2020 14:29:09

15M QPSK Right Band Edge



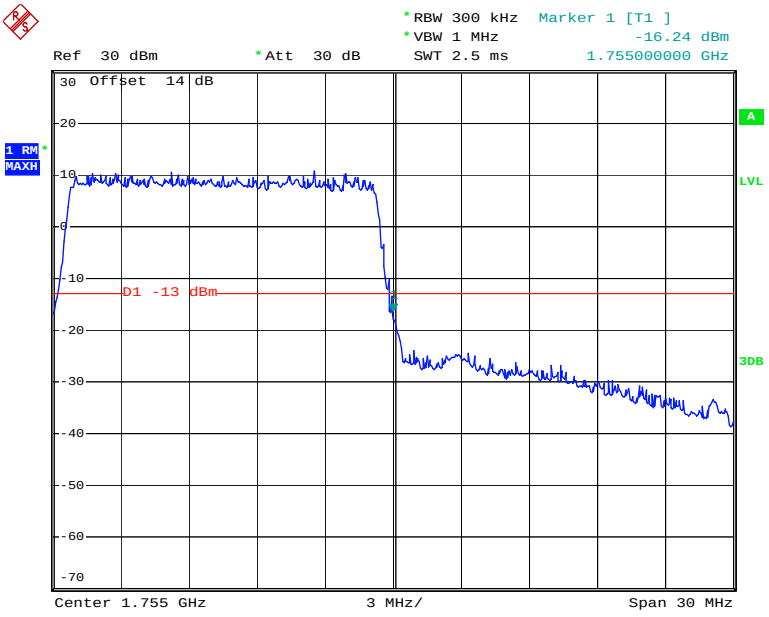
Date: 9.JUN.2020 14:29:51

15M 16QAM Left Band Edge



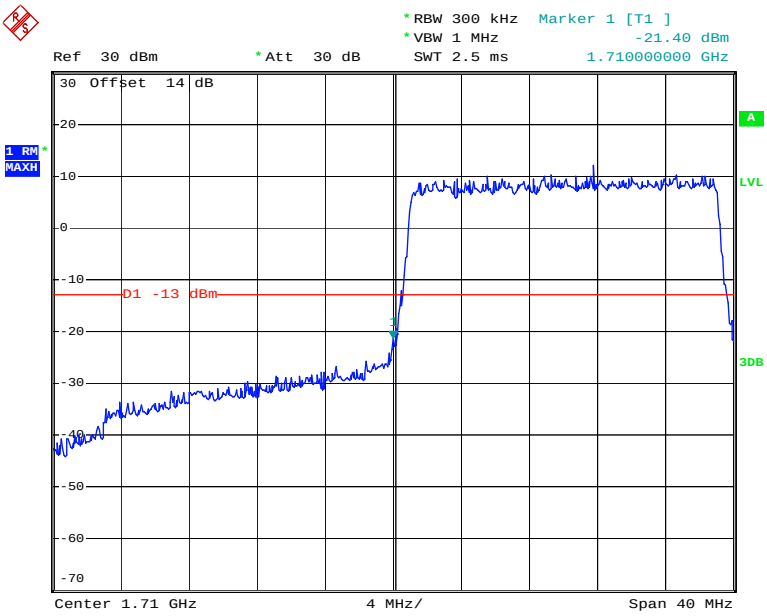
Date: 9.JUN.2020 14:29:29

15M 16QAM Right Band Edge



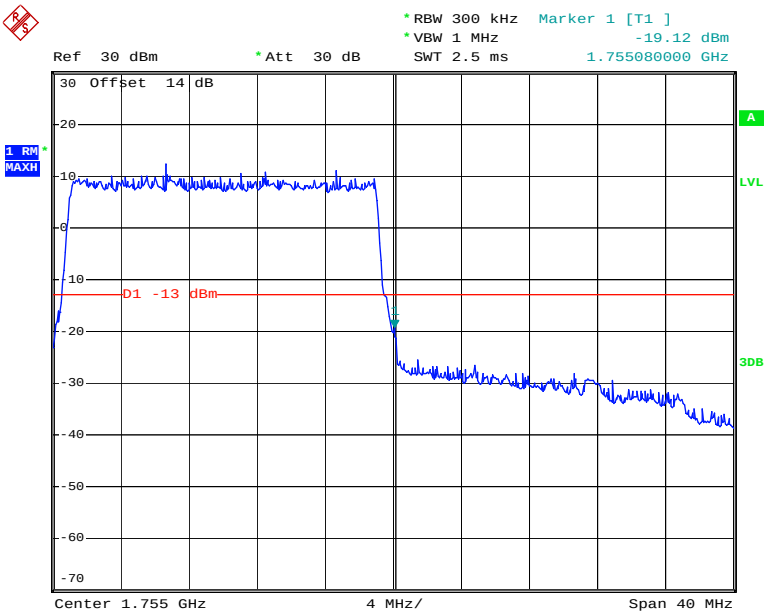
Date: 9.JUN.2020 14:30:11

20M QPSK Left Band Edge



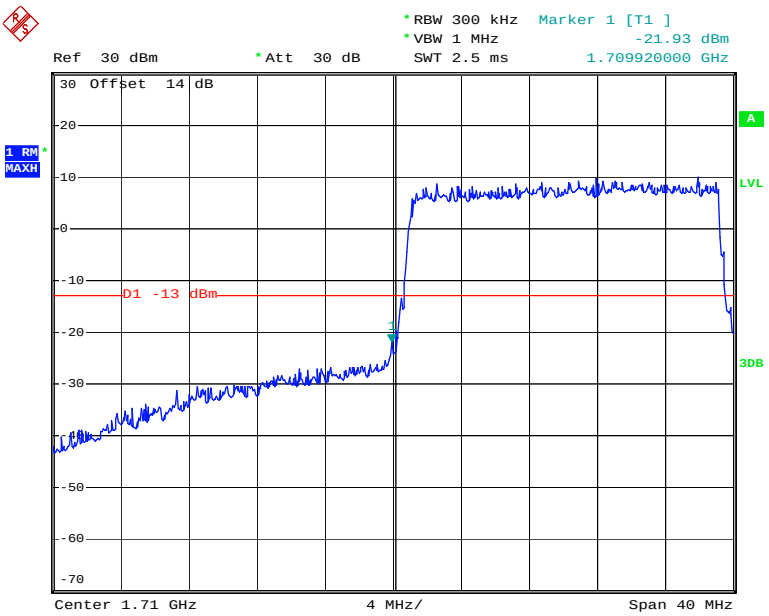
Date: 9.JUN.2020 14:30:35

20M QPSK Right Band Edge



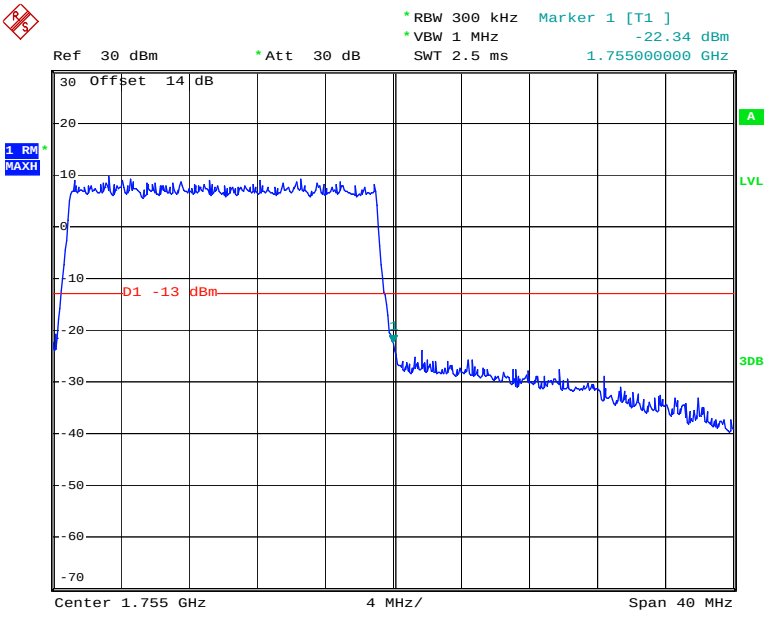
Date: 9.JUN.2020 14:31:19

20M 16QAM Left Band Edge



Date: 9.JUN.2020 14:30:55

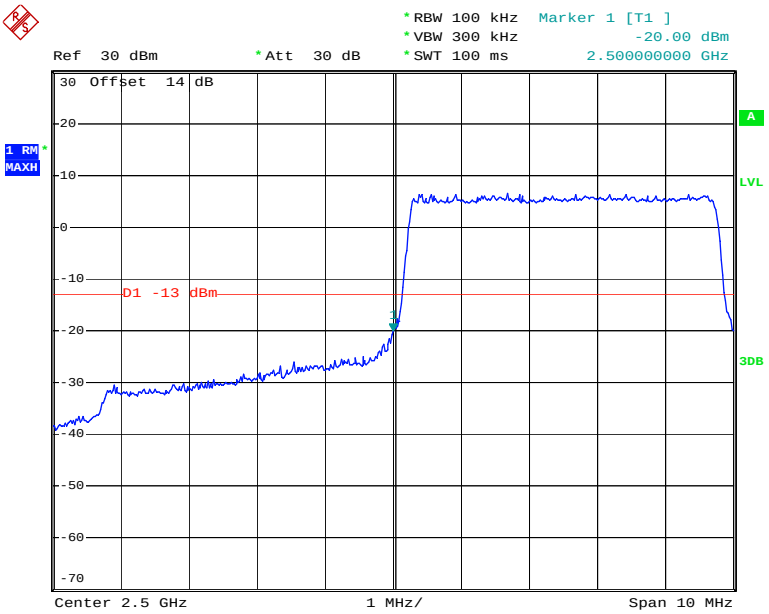
20M 16QAM Right Band Edge



Date: 9.JUN.2020 14:31:40

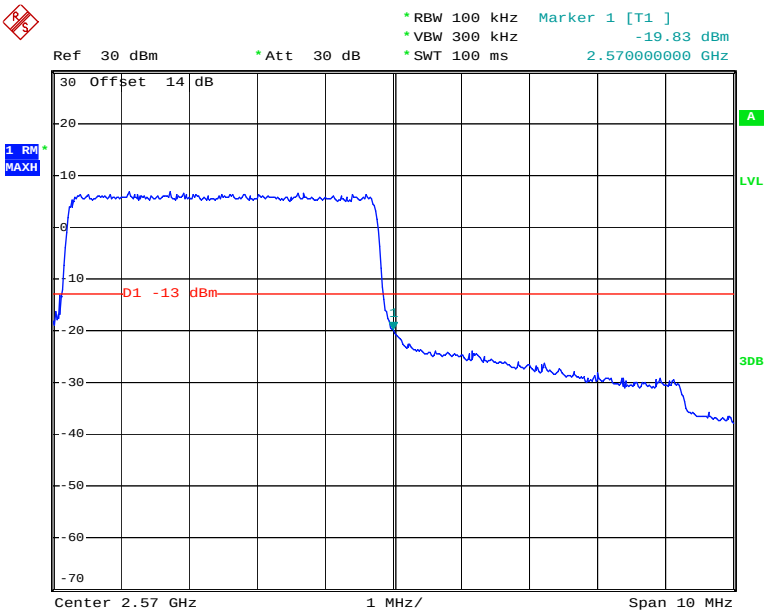
LTE Band 7

5M QPSK Left Band Edge



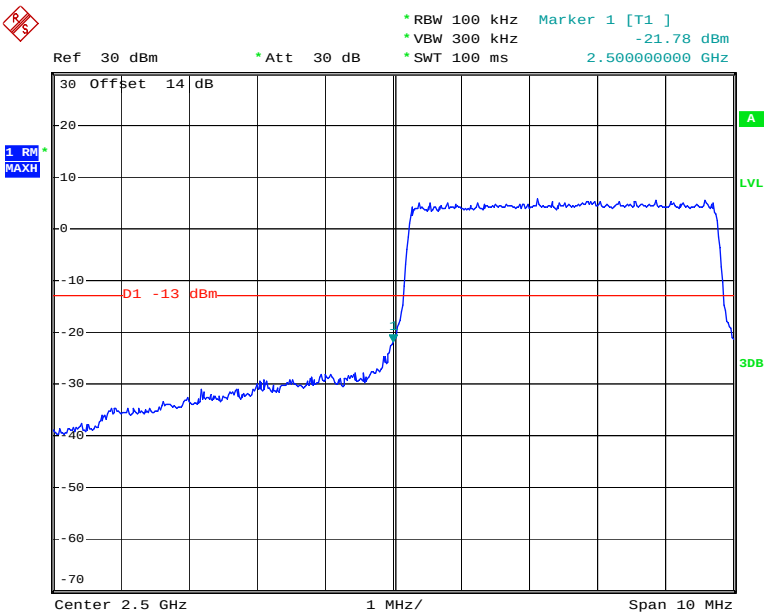
Date: 9.JUN.2020 14:32:15

5M QPSK Right Band Edge



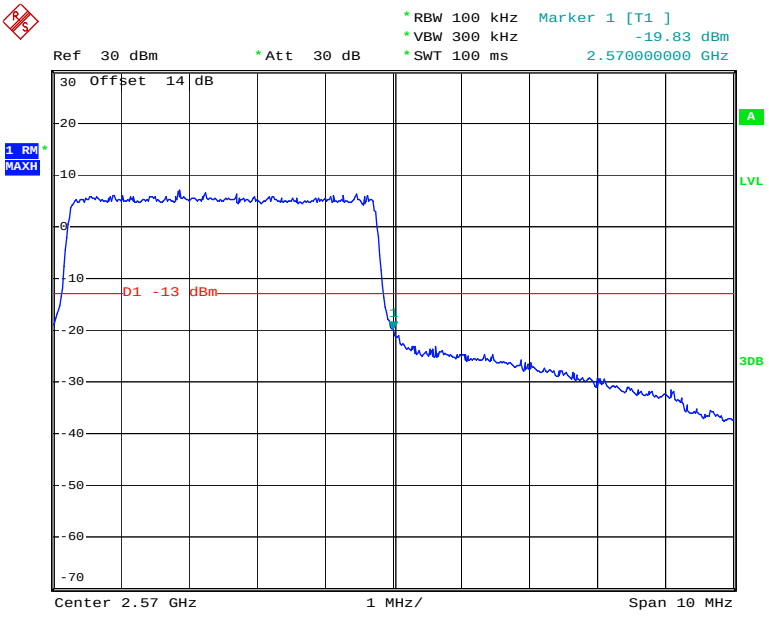
Date: 9.JUN.2020 14:33:12

5M 16QAM Left Band Edge



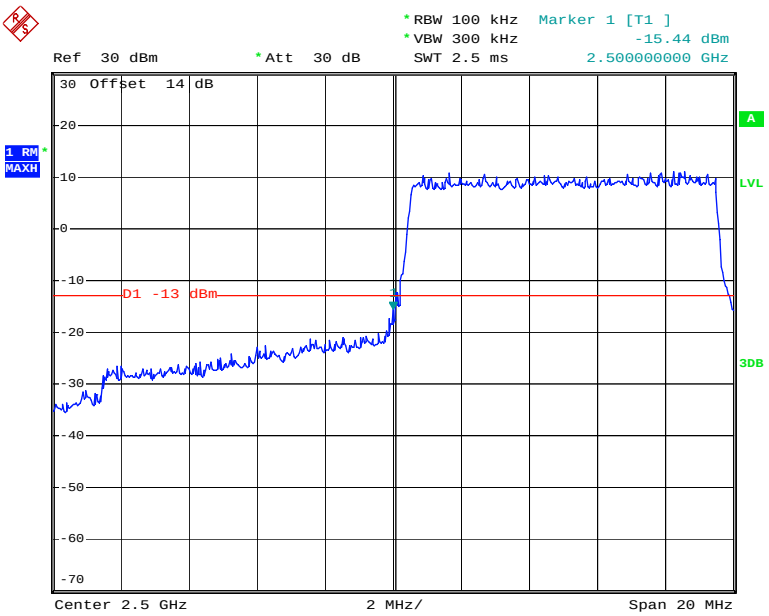
Date: 9.JUN.2020 14:32:44

5M 16QAM Right Band Edge



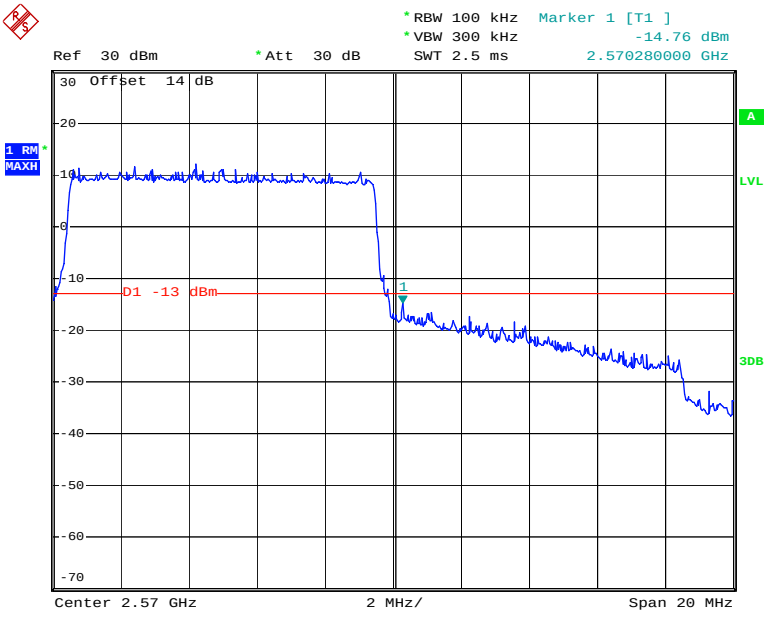
Date: 9.JUN.2020 14:33:39

10M QPSK Left Band Edge



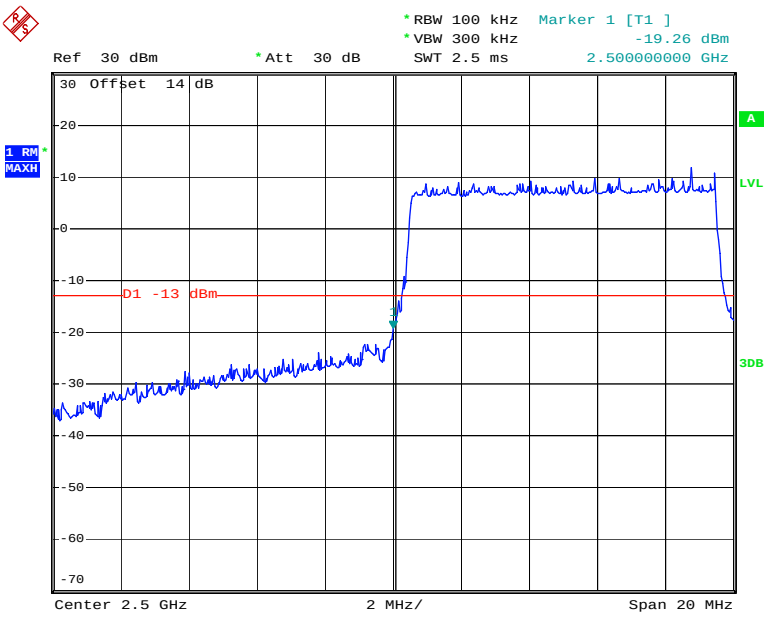
Date: 9.JUN.2020 14:34:16

10M QPSK Right Band Edge



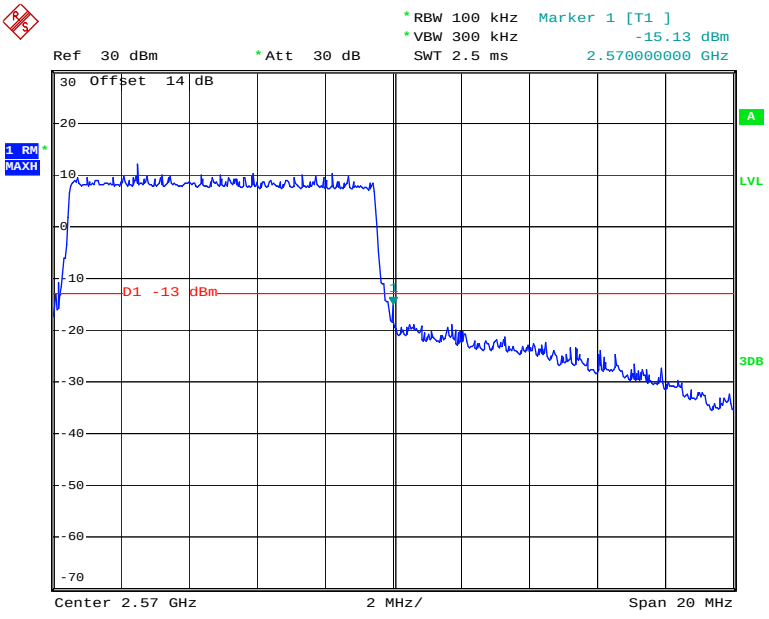
Date: 9.JUN.2020 14:37:14

10M 16QAM Left Band Edge



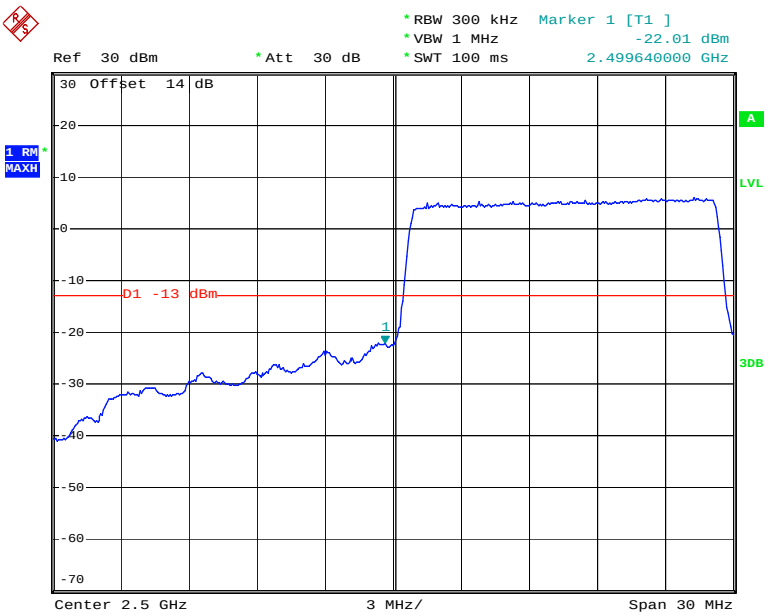
Date: 9.JUN.2020 14:36:55

10M 16QAM Right Band Edge



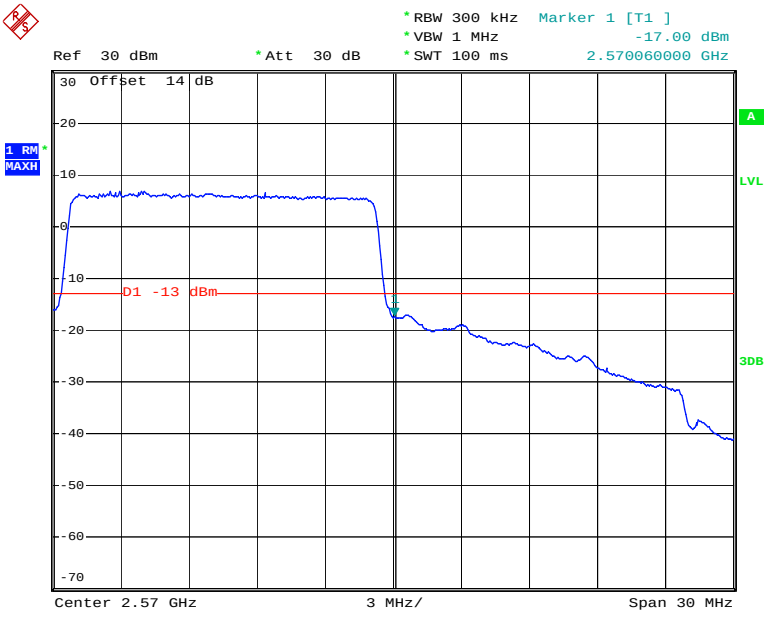
Date: 9.JUN.2020 14:37:35

15M QPSK Left Band Edge



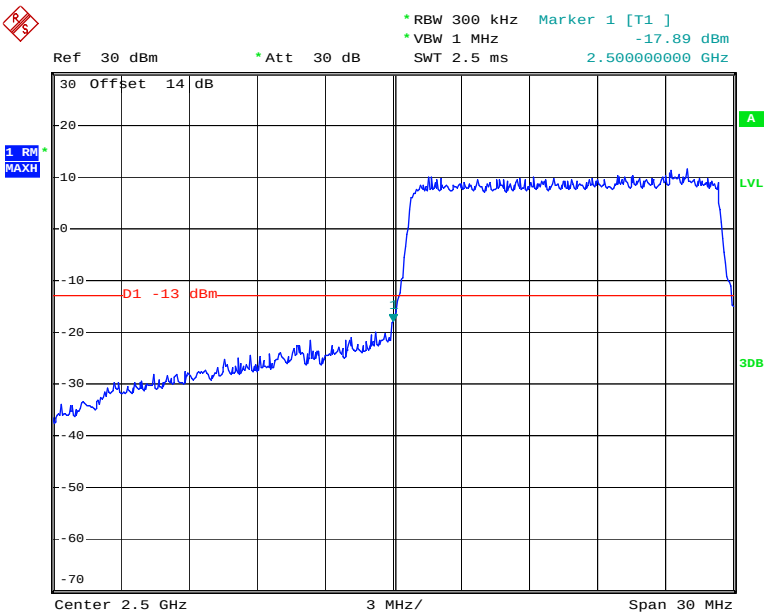
Date: 9.JUN.2020 14:38:14

15M QPSK Right Band Edge



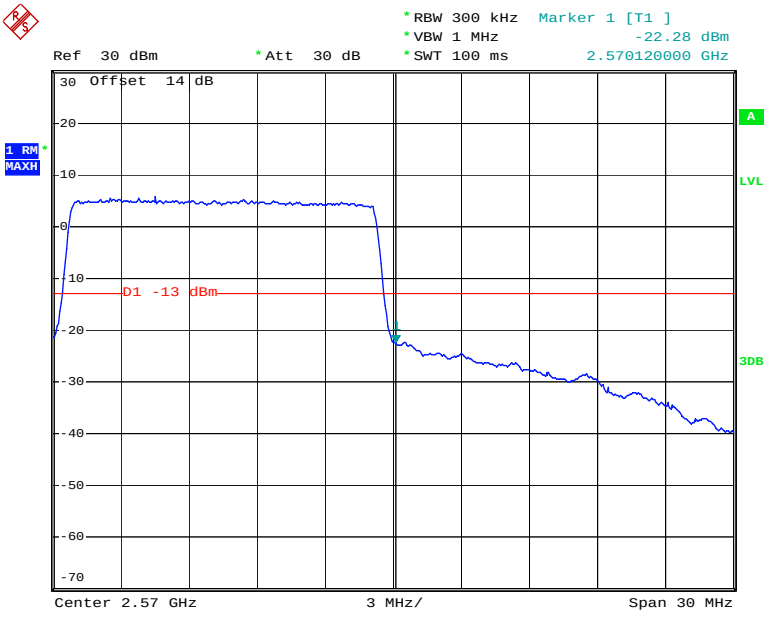
Date: 9.JUN.2020 14:39:07

15M 16QAM Left Band Edge



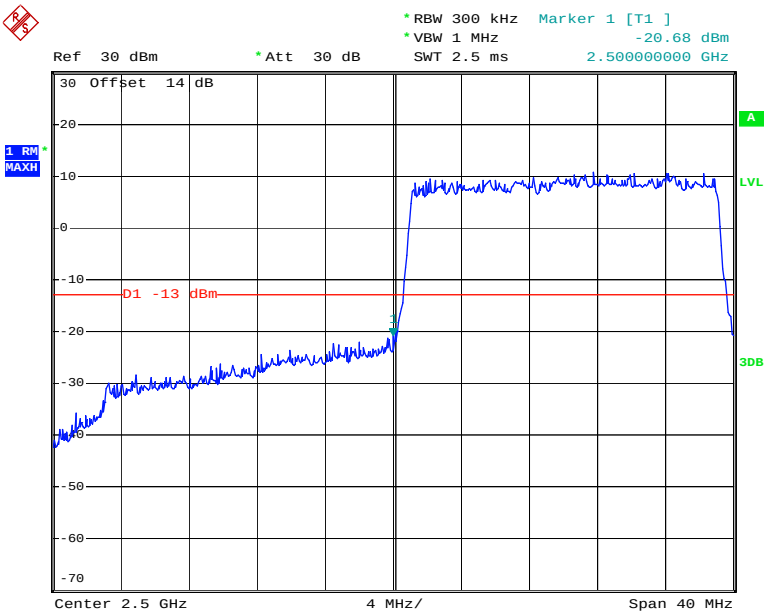
Date: 9.JUN.2020 14:38:34

15M 16QAM Right Band Edge



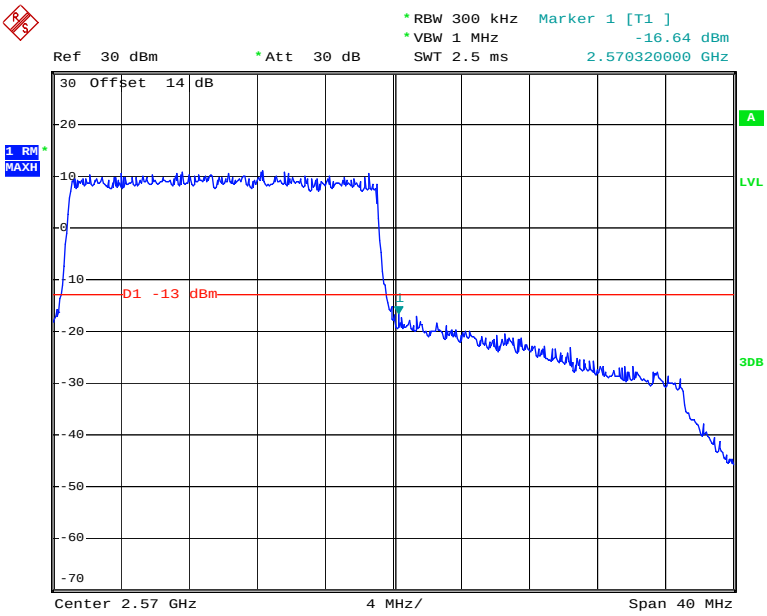
Date: 9.JUN.2020 14:39:39

20M QPSK Left Band Edge



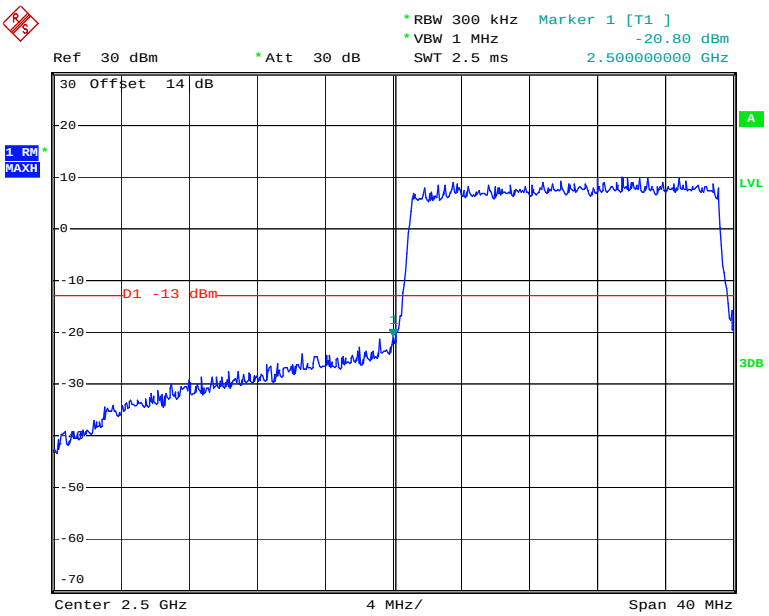
Date: 9.JUN.2020 14:40:03

20M QPSK Right Band Edge



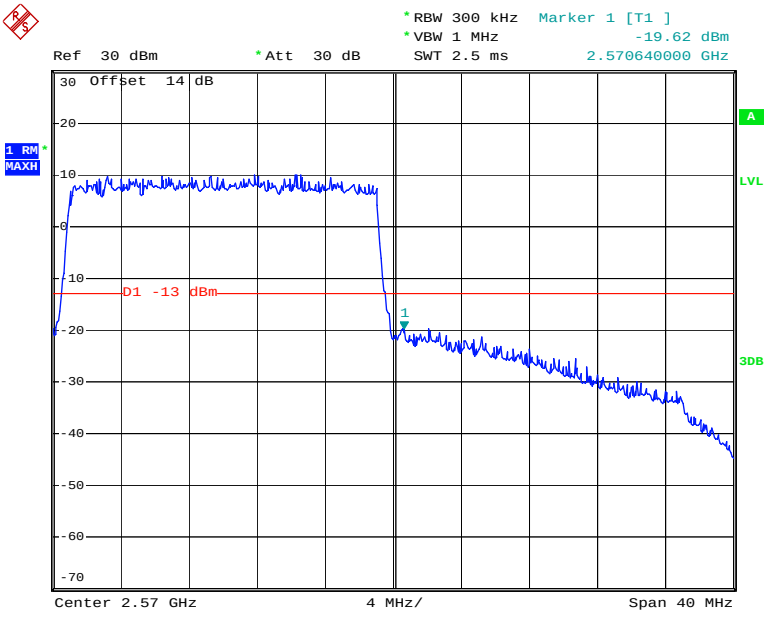
Date: 9.JUN.2020 14:40:48

20M 16QAM Left Band Edge



Date: 9.JUN.2020 14:40:26

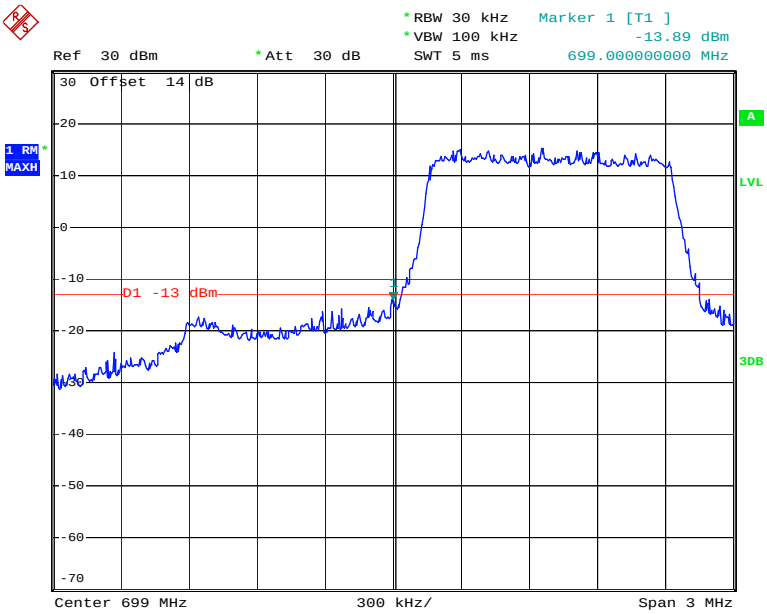
20M 16QAM Right Band Edge



Date: 9.JUN.2020 14:41:08

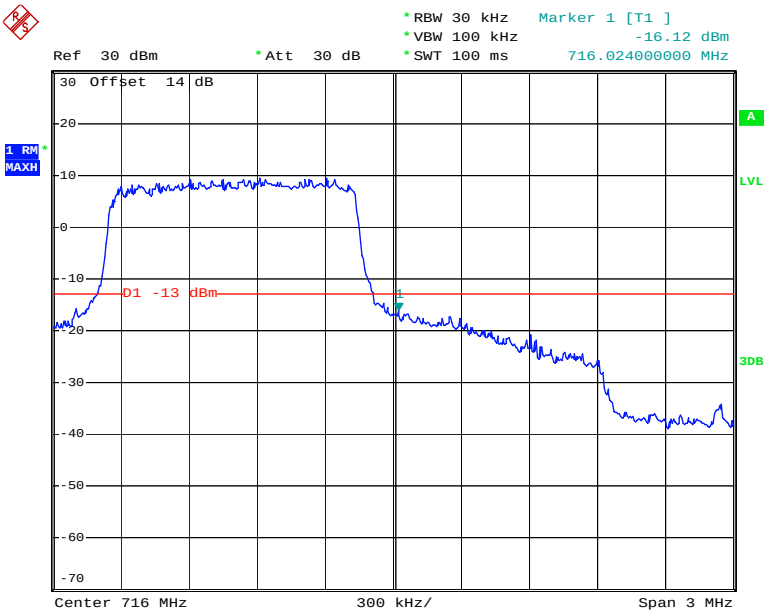
LTE Band 12

1.4M QPSK Left Band Edge



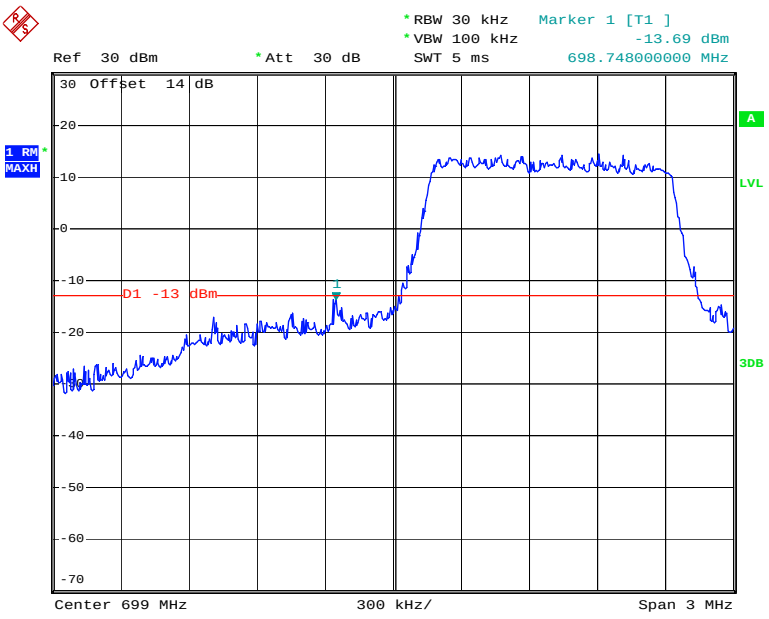
Date: 9.JUN.2020 14:41:33

1.4M QPSK Right Band Edge



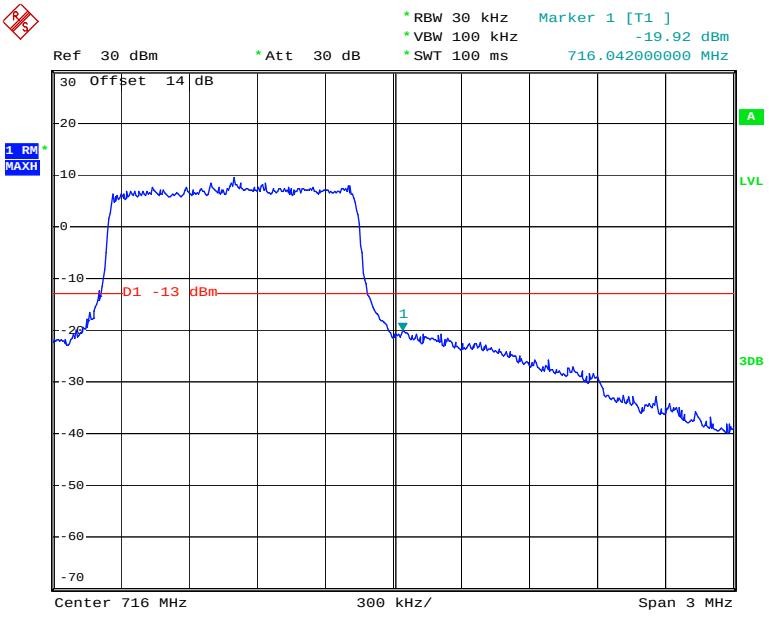
Date: 9.JUN.2020 14:42:20

1.4M 16QAM Left Band Edge



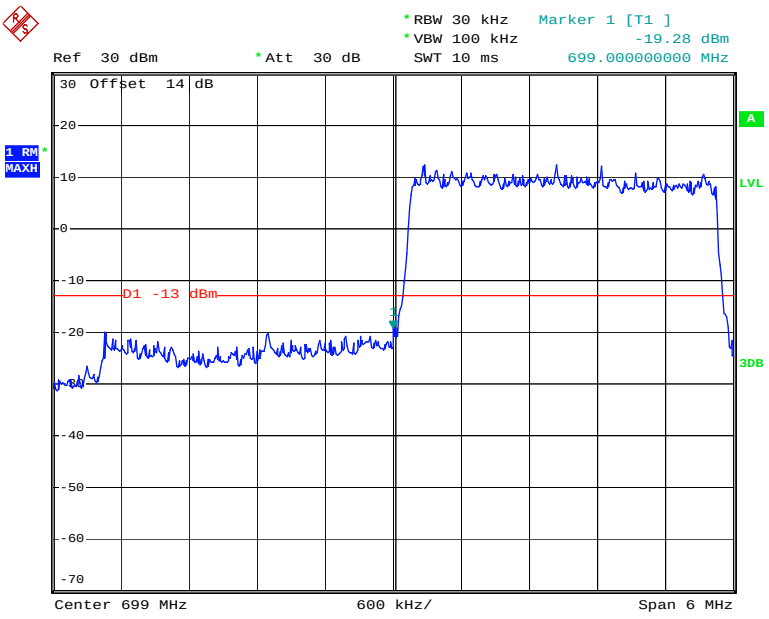
Date: 9.JUN.2020 14:41:50

1.4M 16QAM Right Band Edge



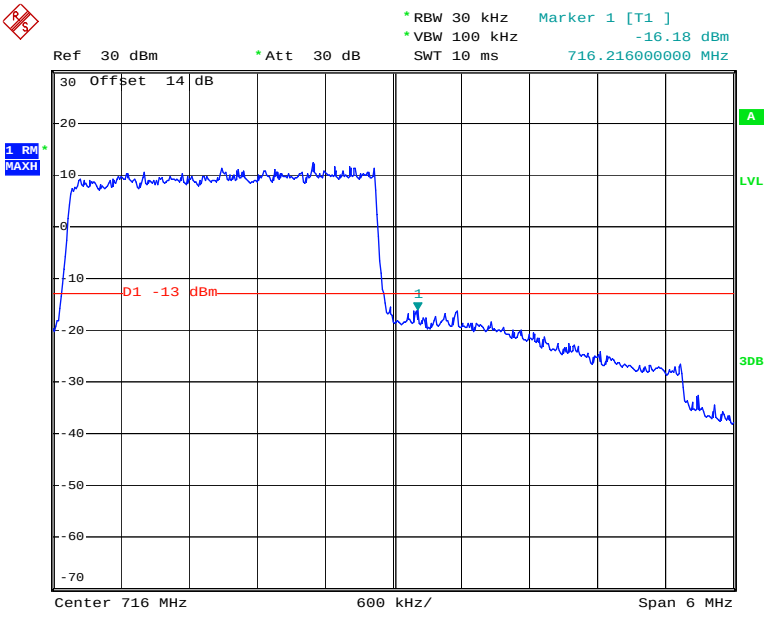
Date: 9.JUN.2020 14:42:47

3M QPSK Left Band Edge



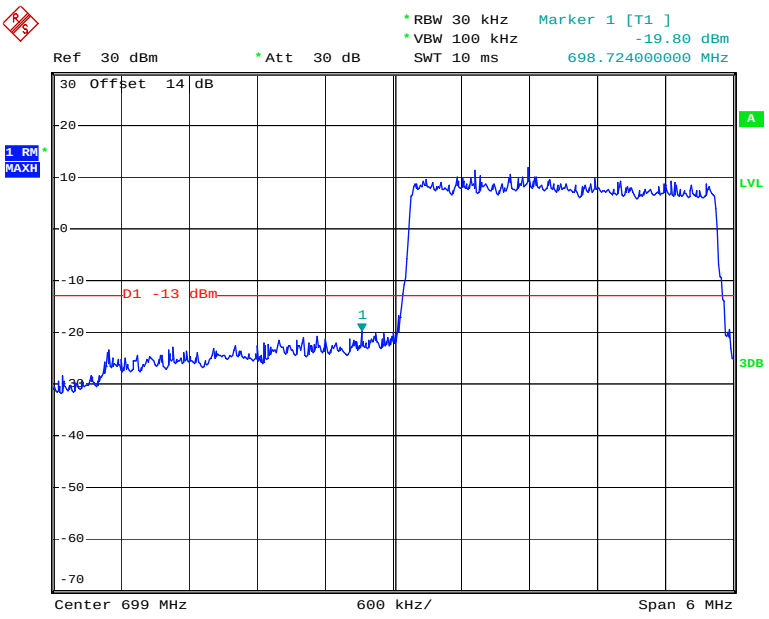
Date: 9.JUN.2020 14:43:12

3M QPSK Right Band Edge



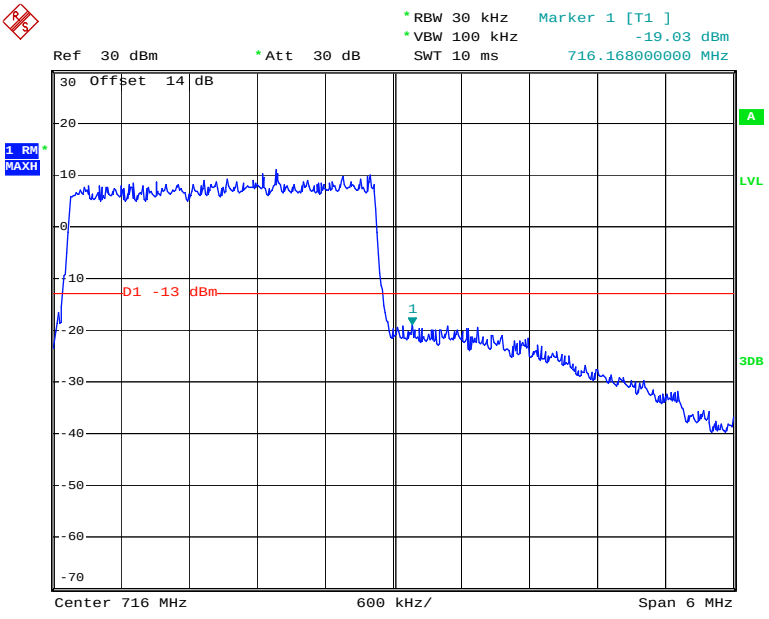
Date: 9.JUN.2020 14:49:20

3M 16QAM Left Band Edge



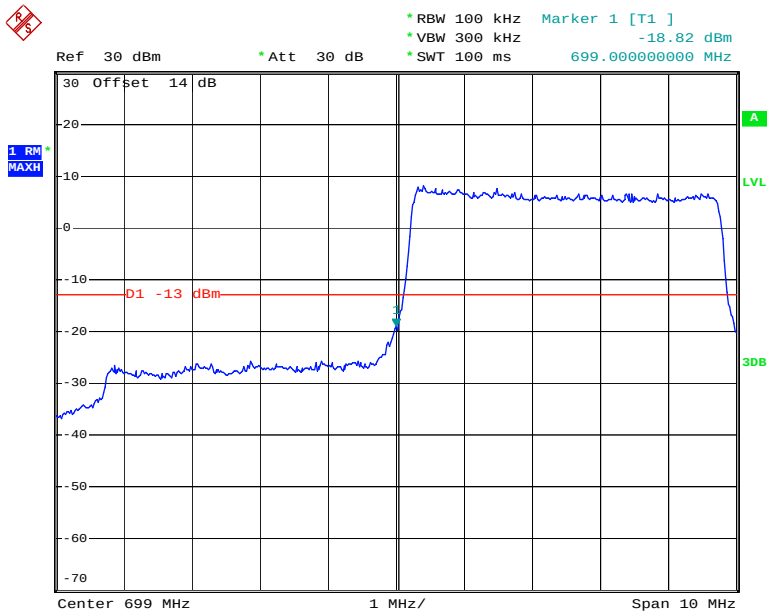
Date: 9.JUN.2020 14:43:32

3M 16QAM Right Band Edge



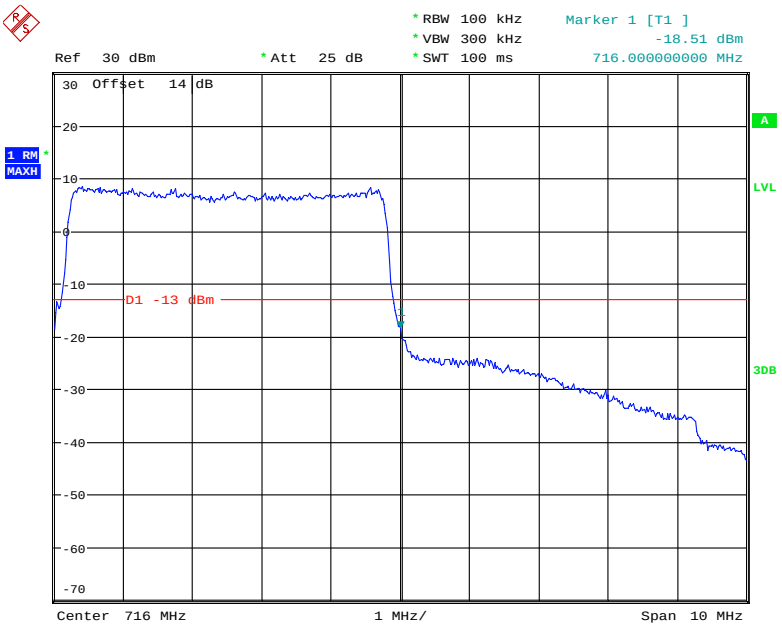
Date: 9.JUN.2020 14:49:37

5M QPSK Left Band Edge



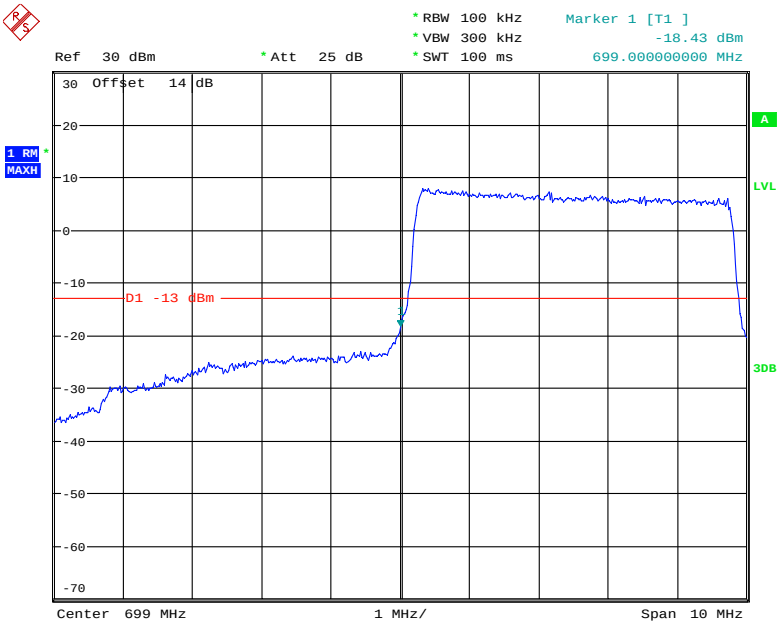
Date: 9.JUN.2020 14:50:07

5M QPSK Right Band Edge



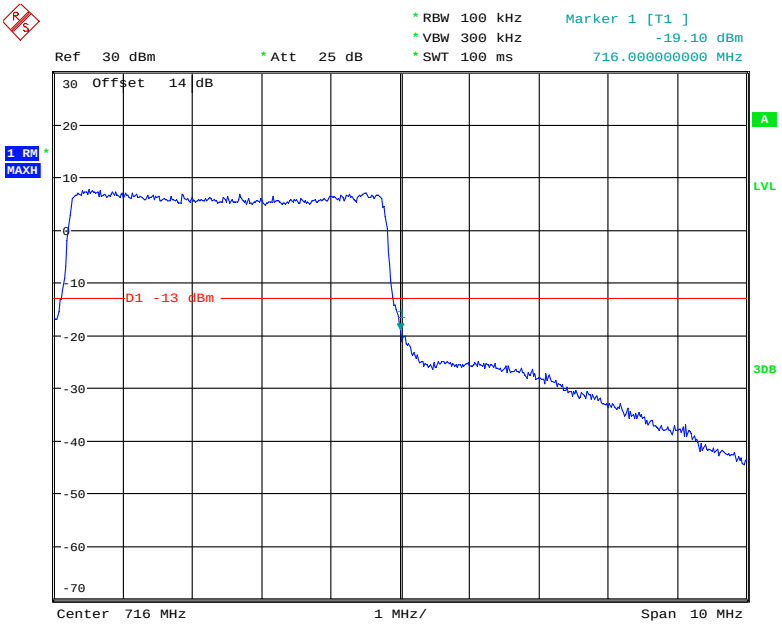
Date: 12.JUN.2020 12:04:55

5M 16QAM Left Band Edge



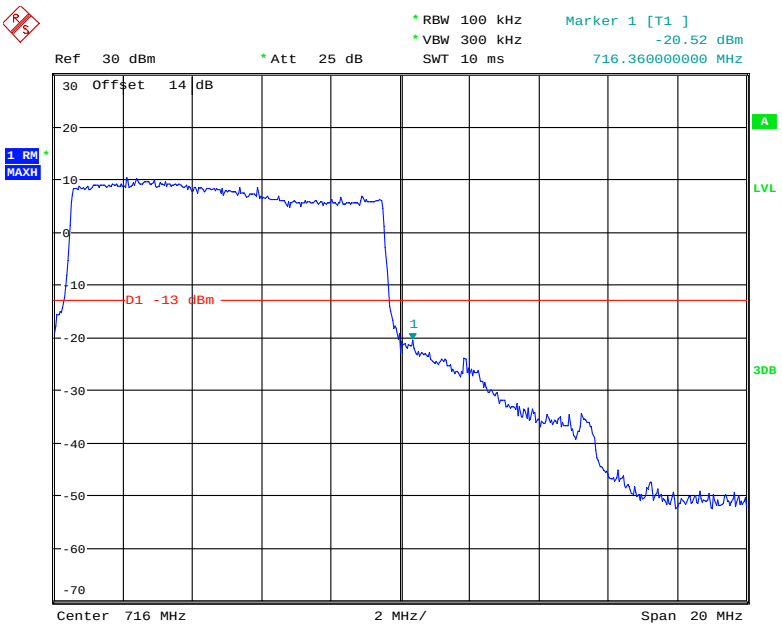
Date: 12.JUN.2020 12:04:27

5M 16QAM Right Band Edge



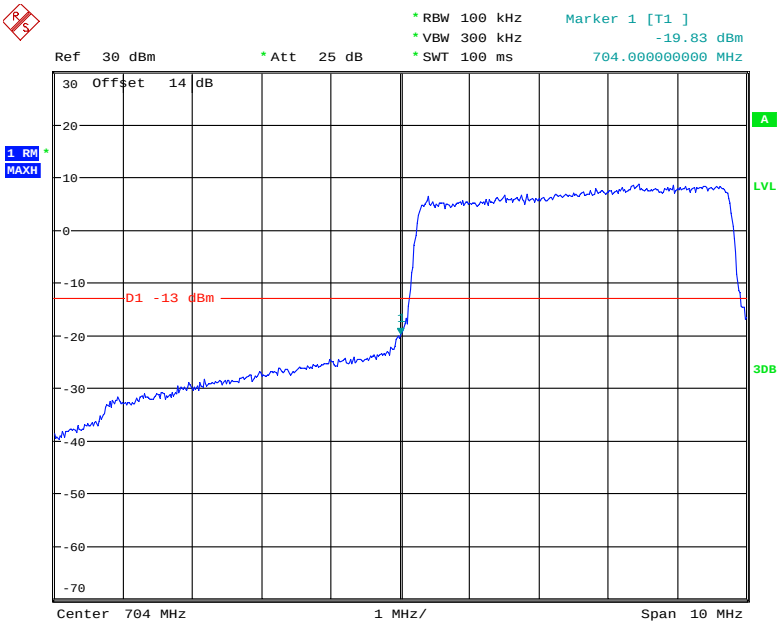
Date: 12.JUN.2020 12:05:25

10M QPSK Left Band Edge



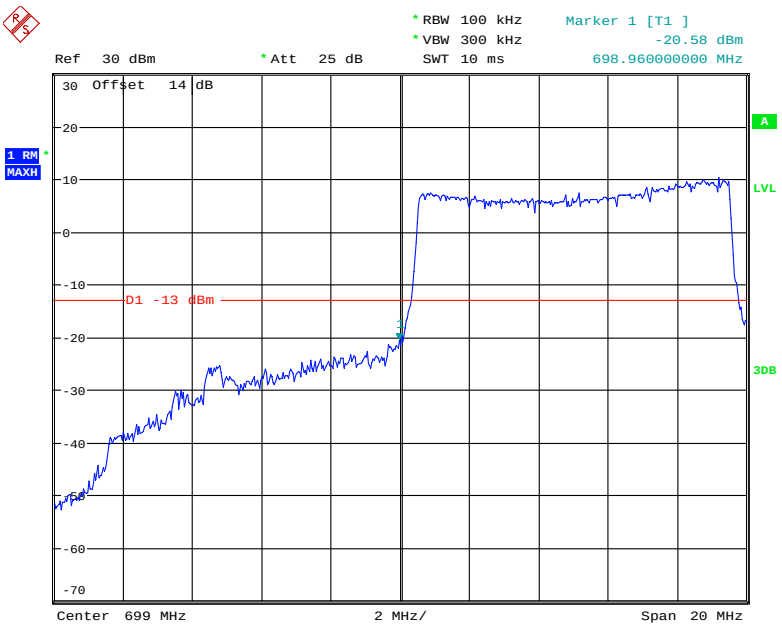
Date: 12.JUN.2020 12:06:21

10M QPSK Right Band Edge



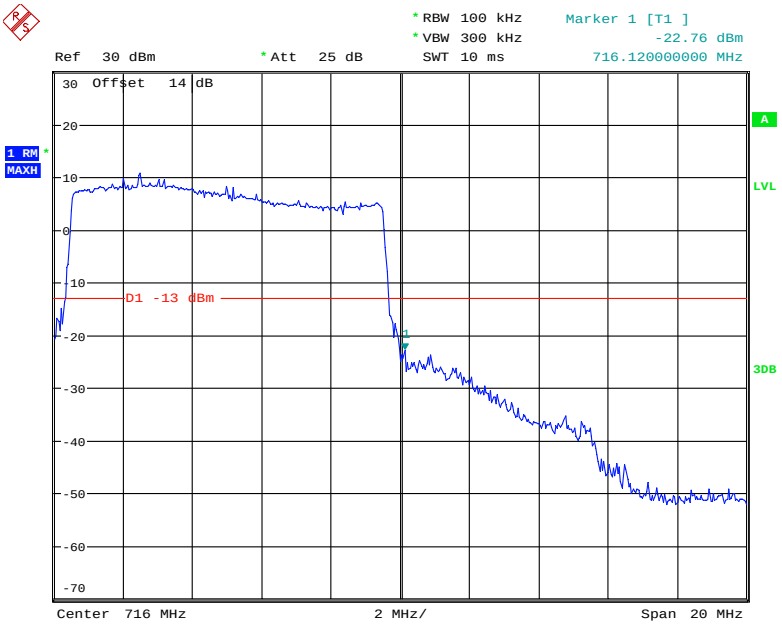
Date: 12.JUN.2020 12:07:09

10M 16QAM Left Band Edge



Date: 12.JUN.2020 12:06:03

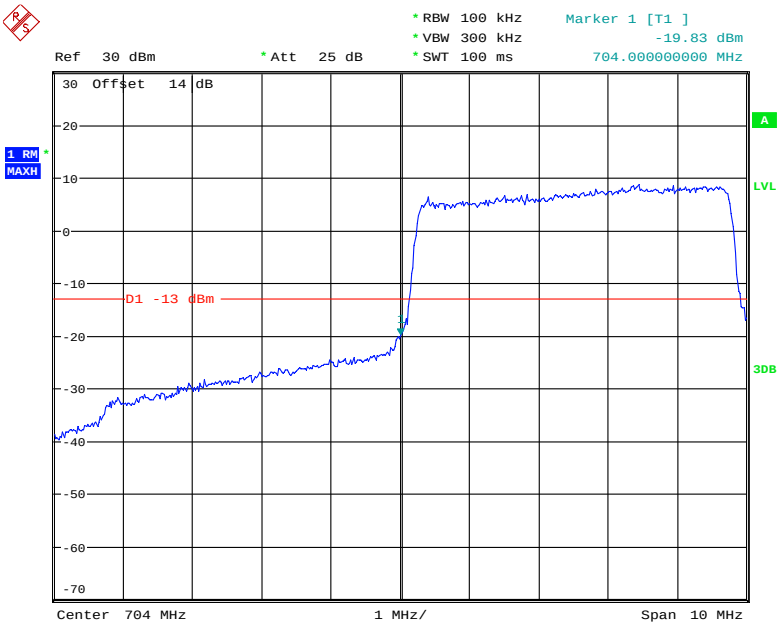
10M 16QAM Right Band Edge



Date: 12.JUN.2020 12:06:39

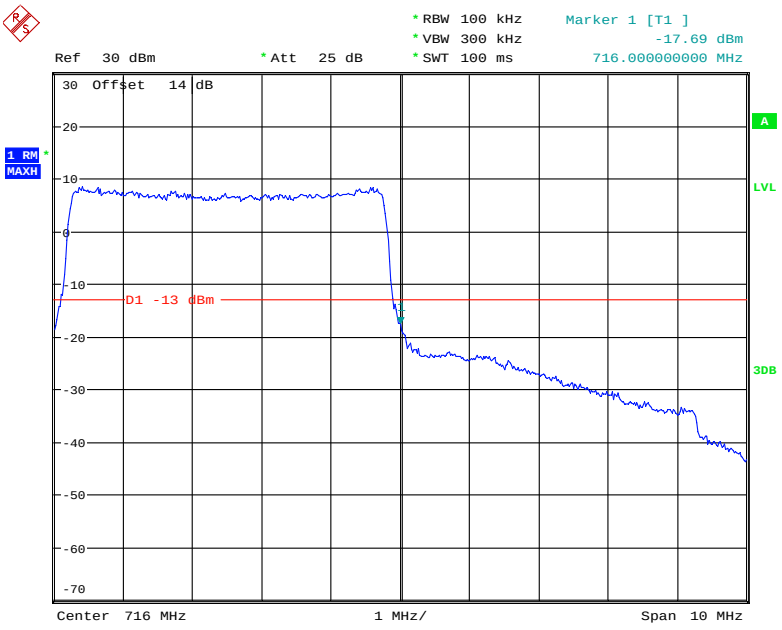
LTE Band 17

5M QPSK Left Band Edge



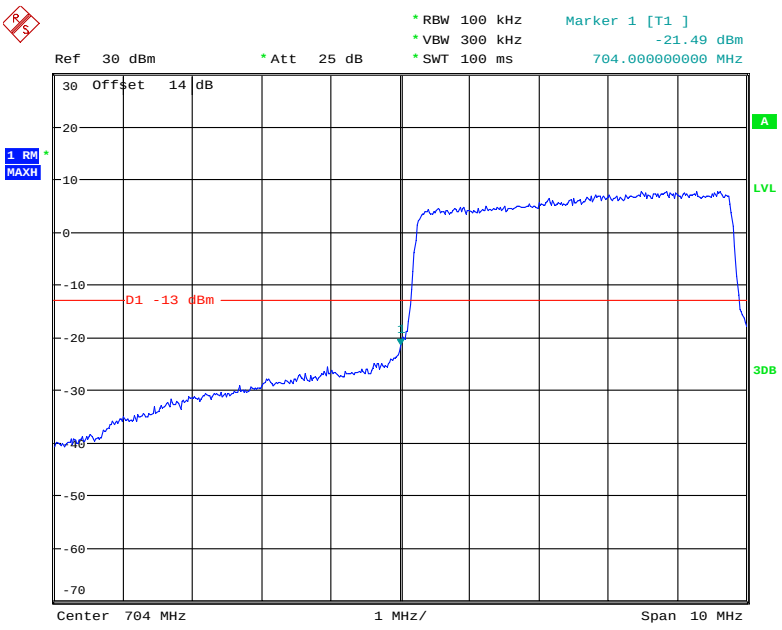
Date: 12.JUN.2020 12:07:09

5M QPSK Right Band Edge



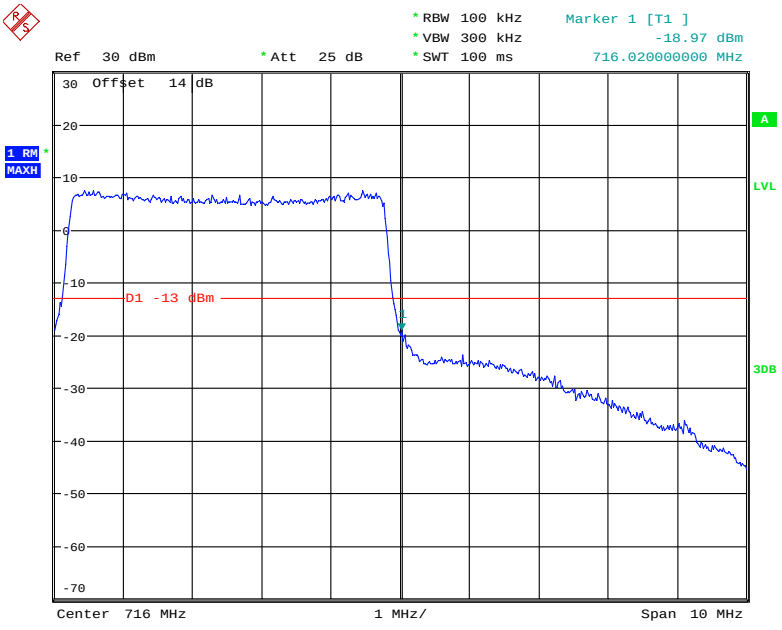
Date: 12.JUN.2020 12:08:14

5M 16QAM Left Band Edge



Date: 12.JUN.2020 12:07:44

5M 16QAM Right Band Edge



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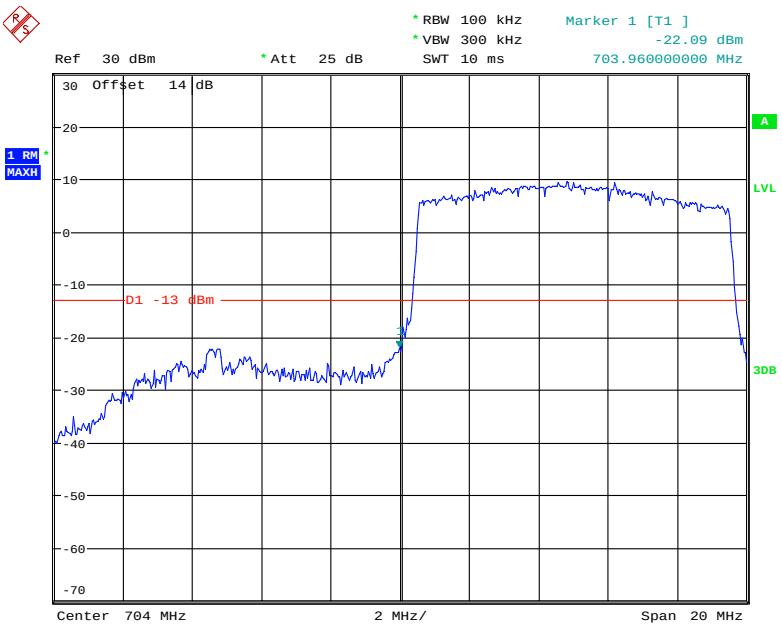
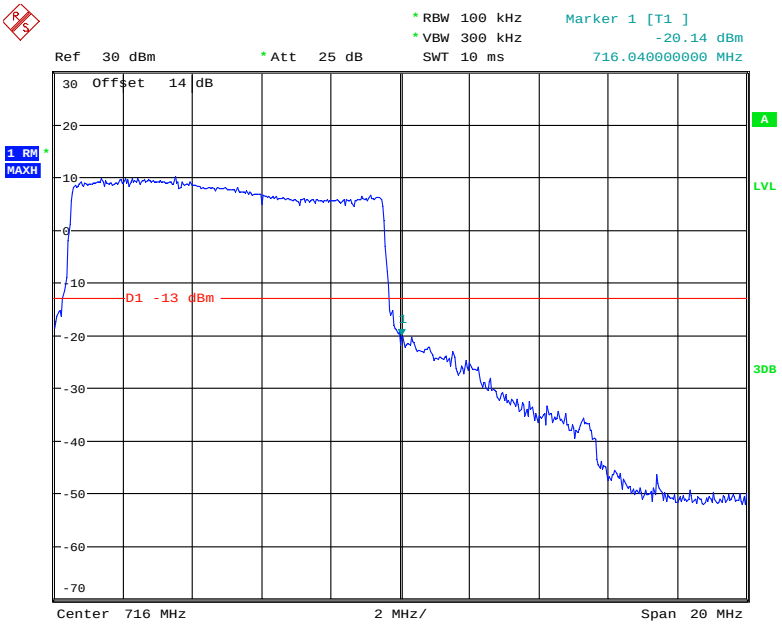
10M QPSK Left Band Edge



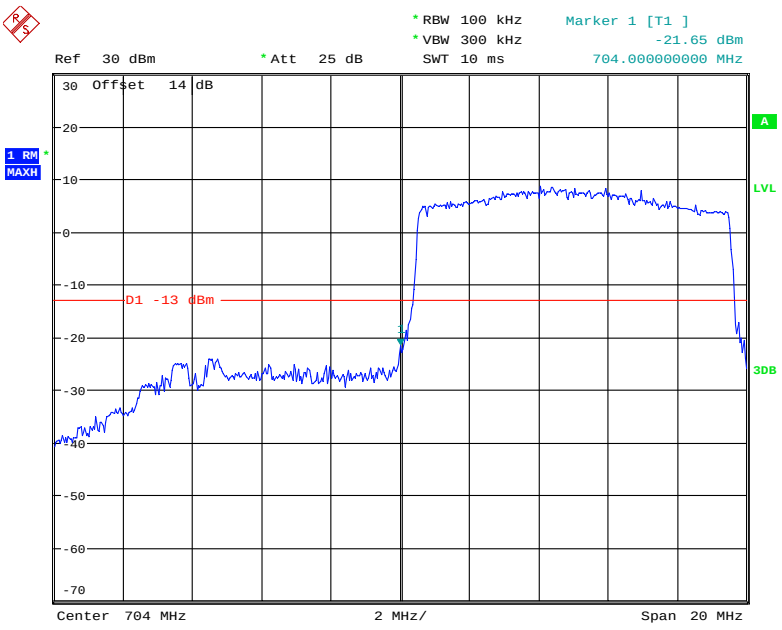
Date: 12.JUN.2020 12:08:59

10M QPSK Right Band Edge



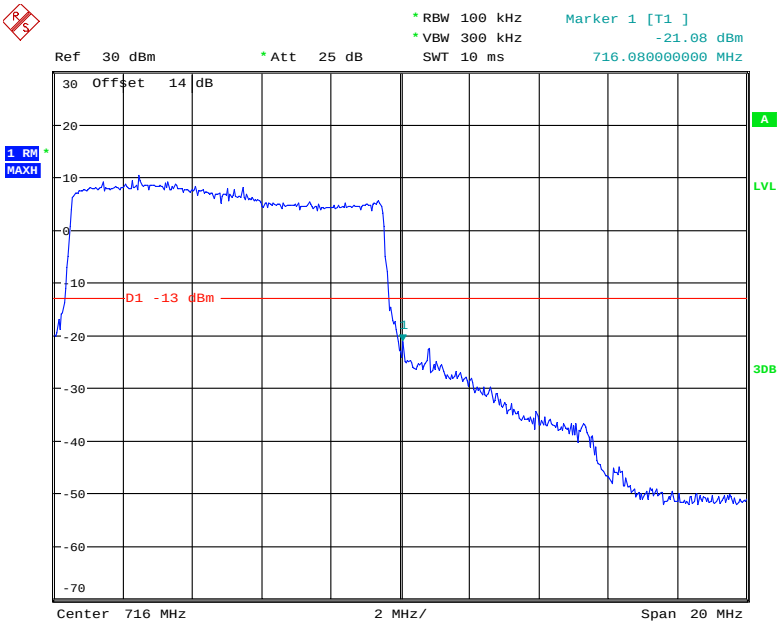
Date: 12.JUN.2020 12:09:36

10M 16QAM Left Band Edge



Date: 12.JUN.2020 12:09:17

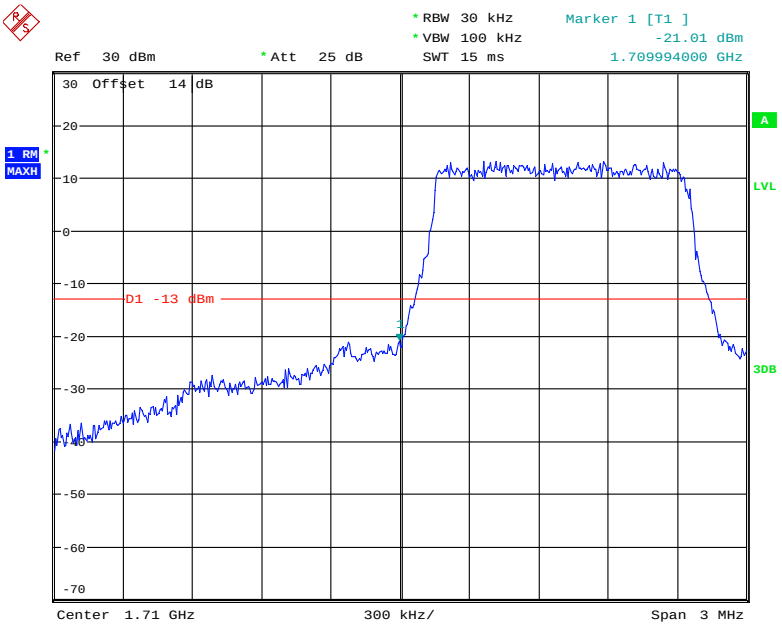
10M 16QAM Right Band Edge



Date: 12.JUN.2020 12:09:53

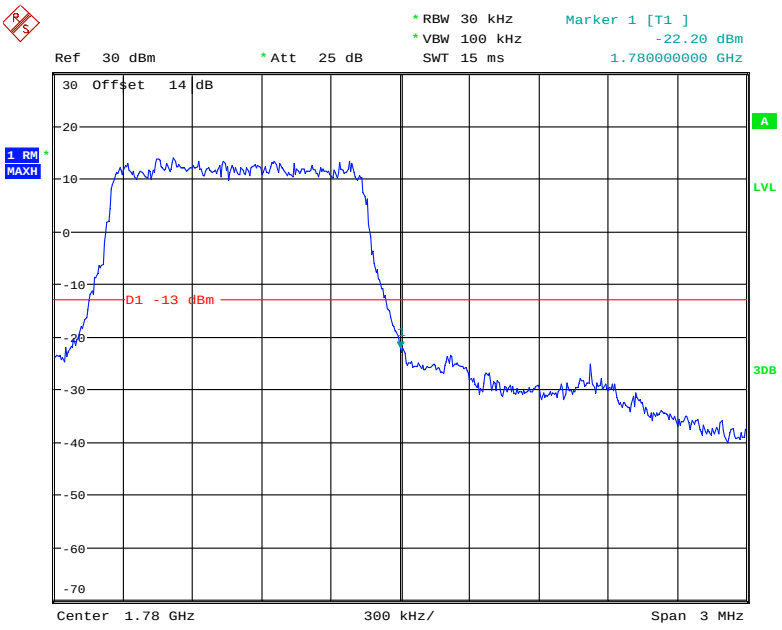
LTE Band 66

1.4M QPSK Left Band Edge



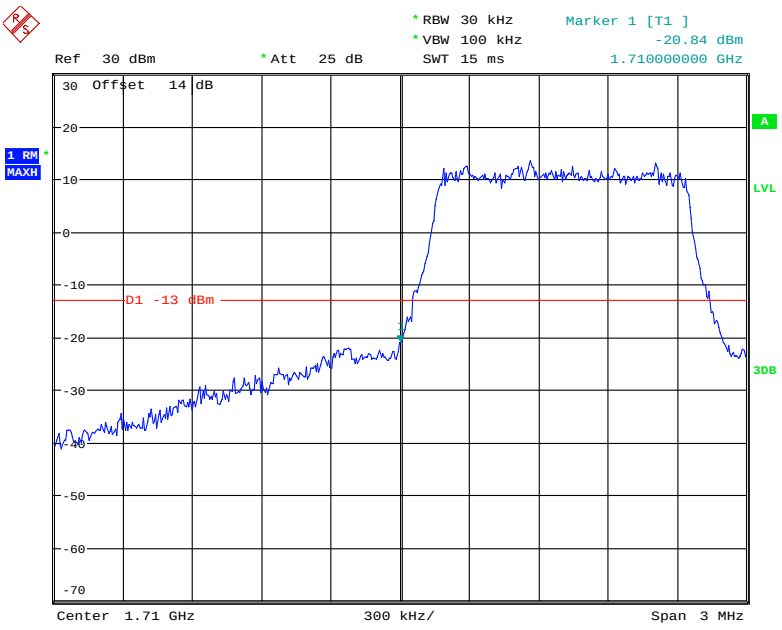
Date: 12.JUN.2020 12:10:13

1.4M QPSK Right Band Edge



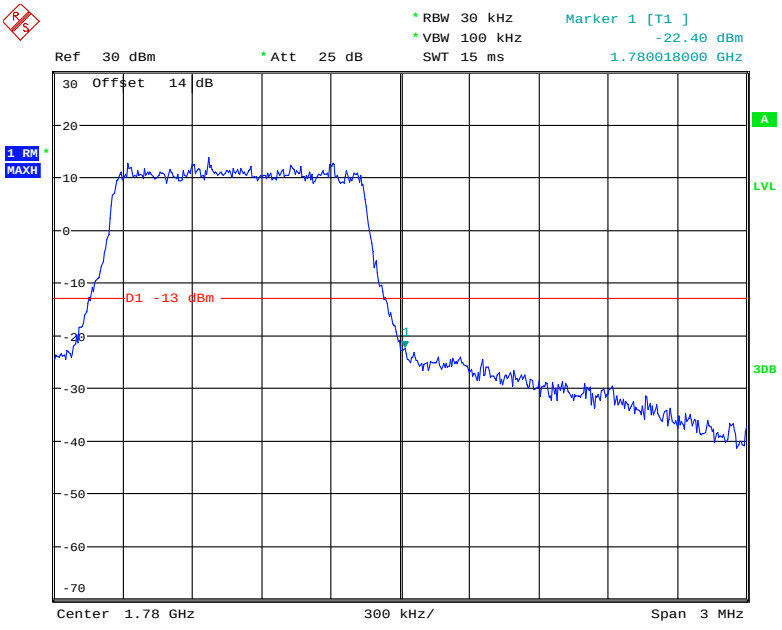
Date: 12.JUN.2020 12:11:17

1.4M 16QAM Left Band Edge



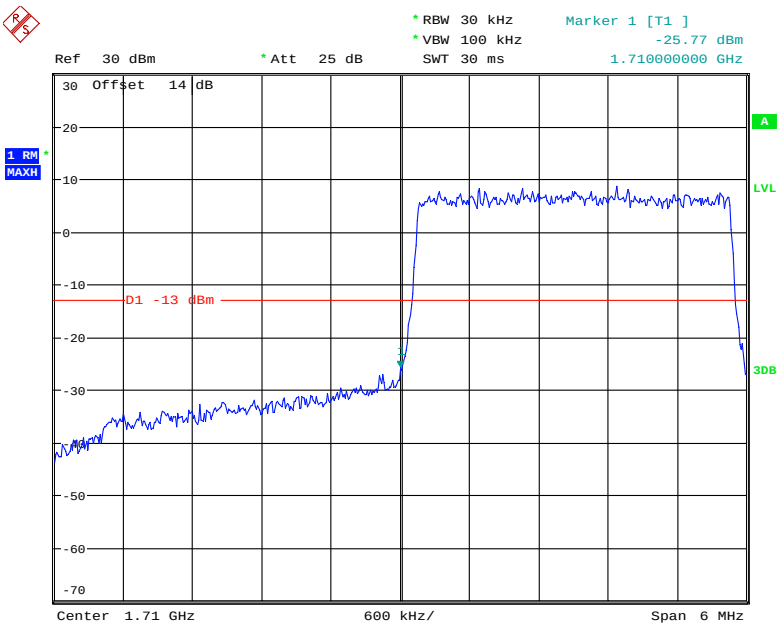
Date: 12.JUN.2020 12:10:33

1.4M 16QAM Right Band Edge



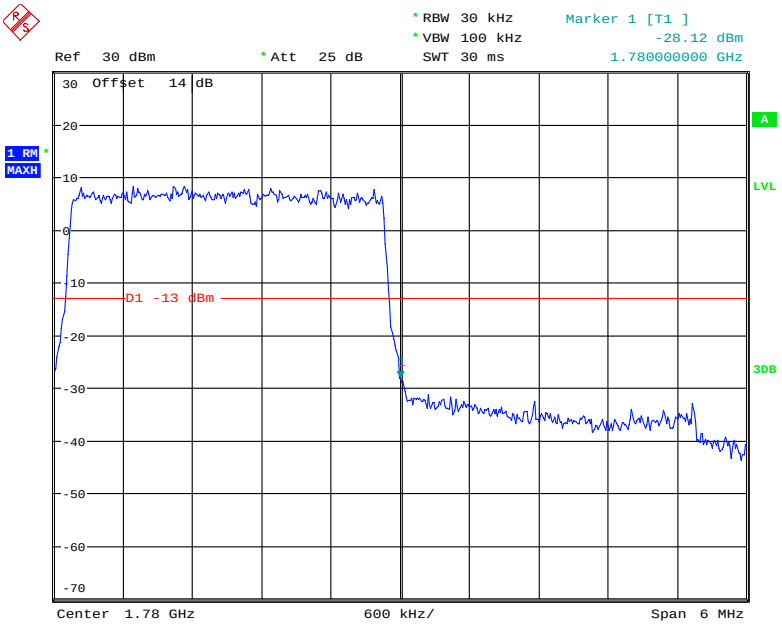
Date: 12.JUN.2020 12:11:36

3M QPSK Left Band Edge



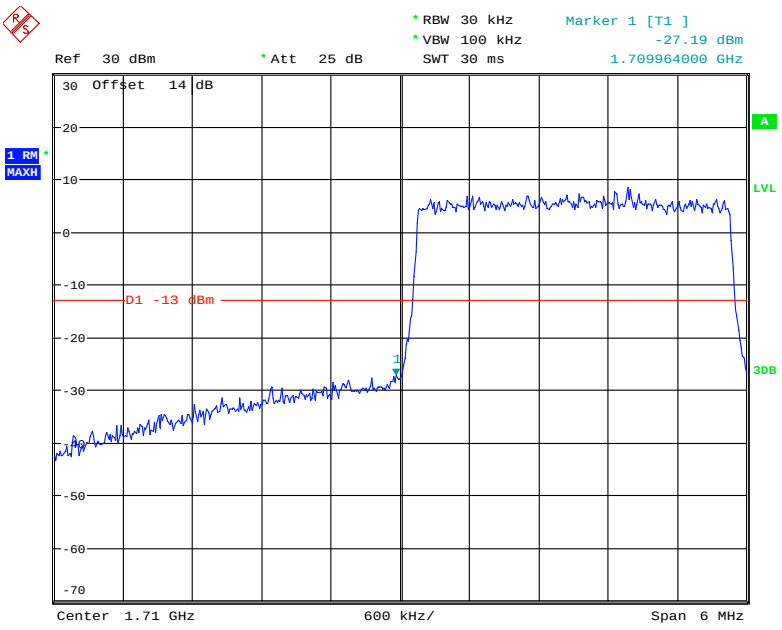
Date: 12.JUN.2020 12:12:09

3M QPSK Right Band Edge



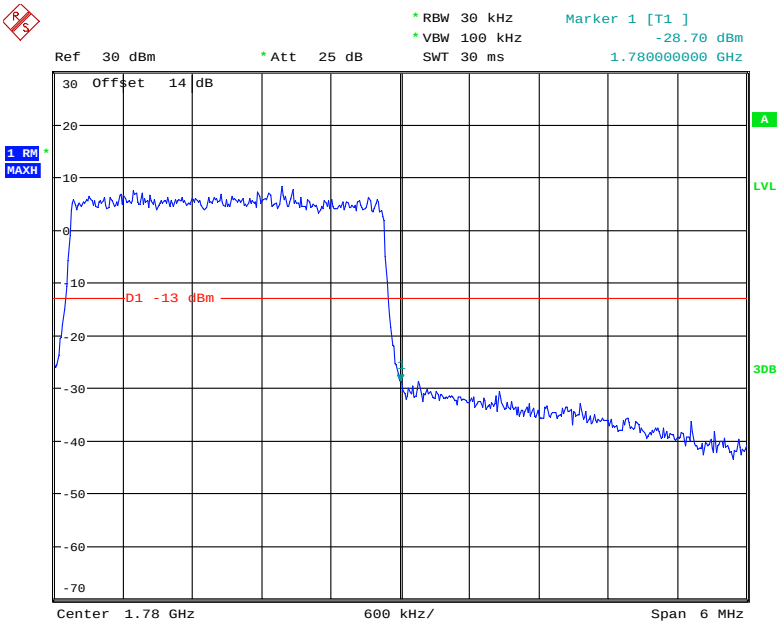
Date: 12.JUN.2020 12:13:27

3M 16QAM Left Band Edge



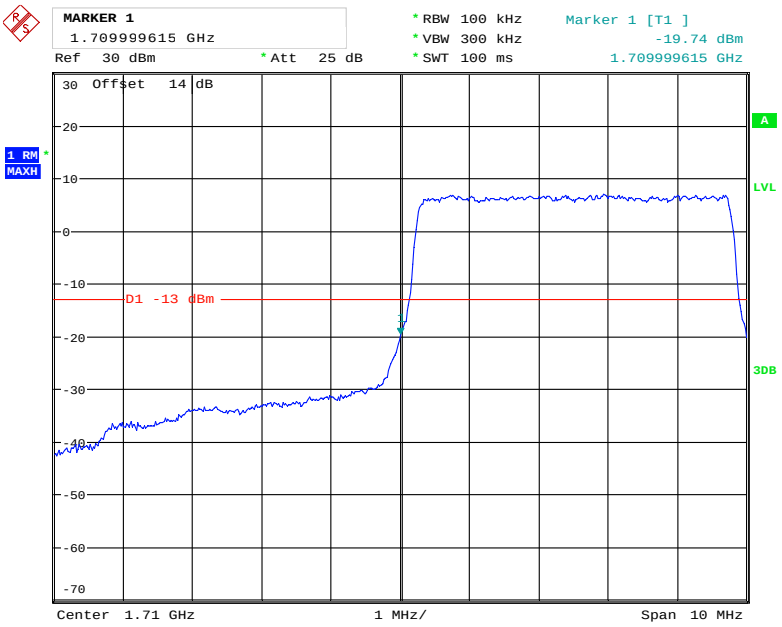
Date: 12.JUN.2020 12:12:26

3M 16QAM Right Band Edge



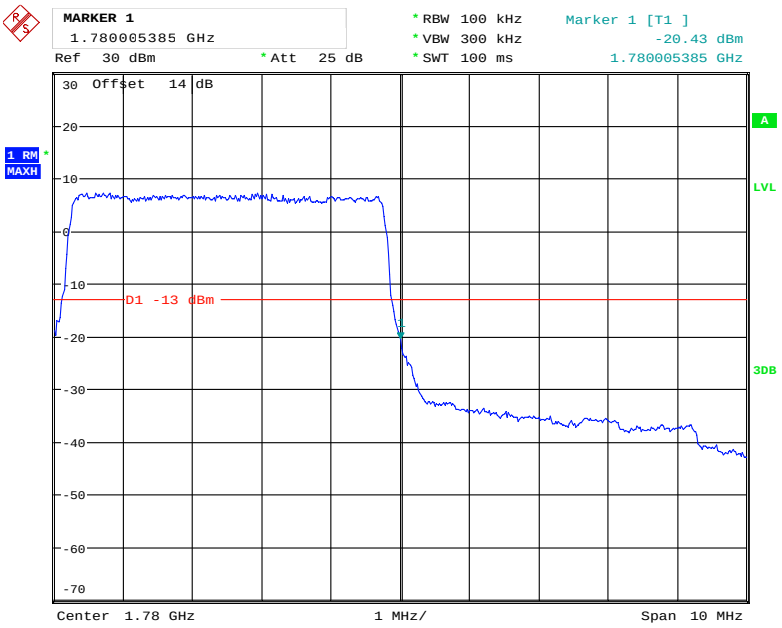
Date: 12.JUN.2020 12:13:44

5M QPSK Left Band Edge



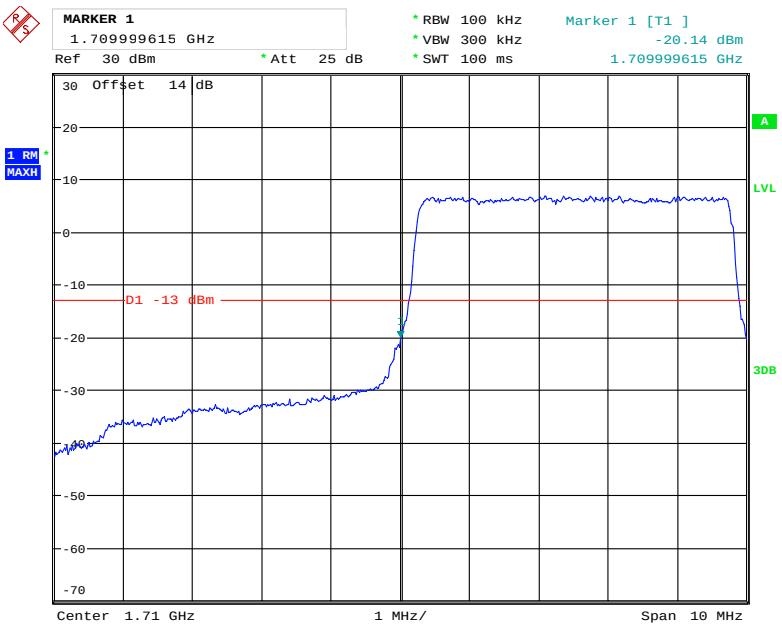
Date: 12.JUN.2020 12:35:35

5M QPSK Right Band Edge



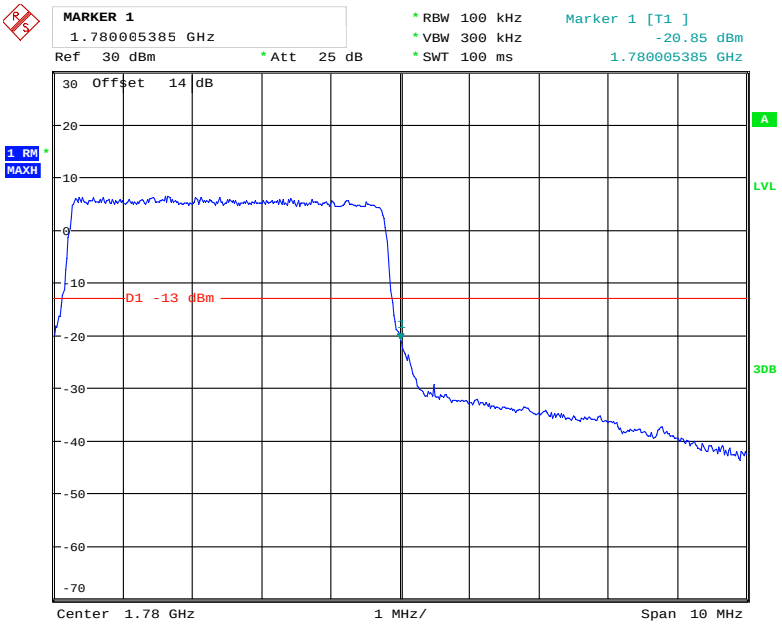
Date: 12.JUN.2020 12:33:28

5M 16QAM Left Band Edge



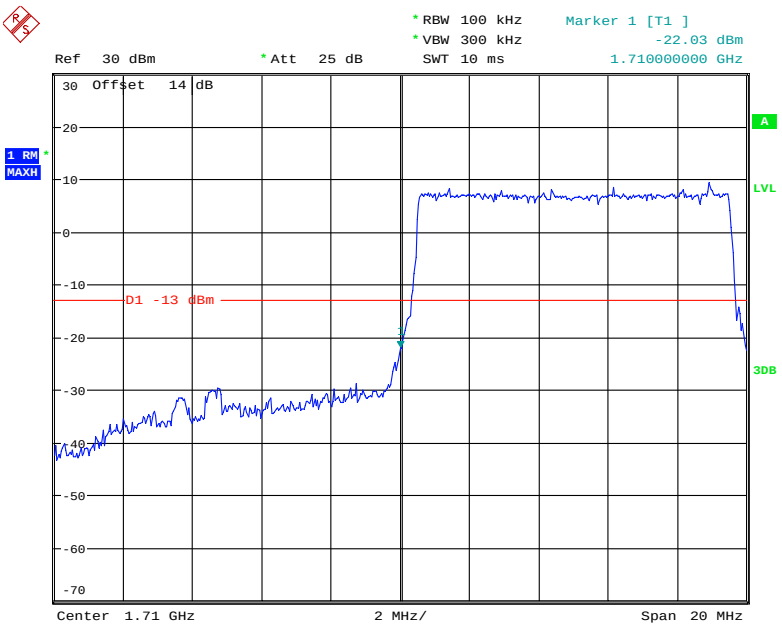
Date: 12.JUN.2020 12:36:31

5M 16QAM Right Band Edge



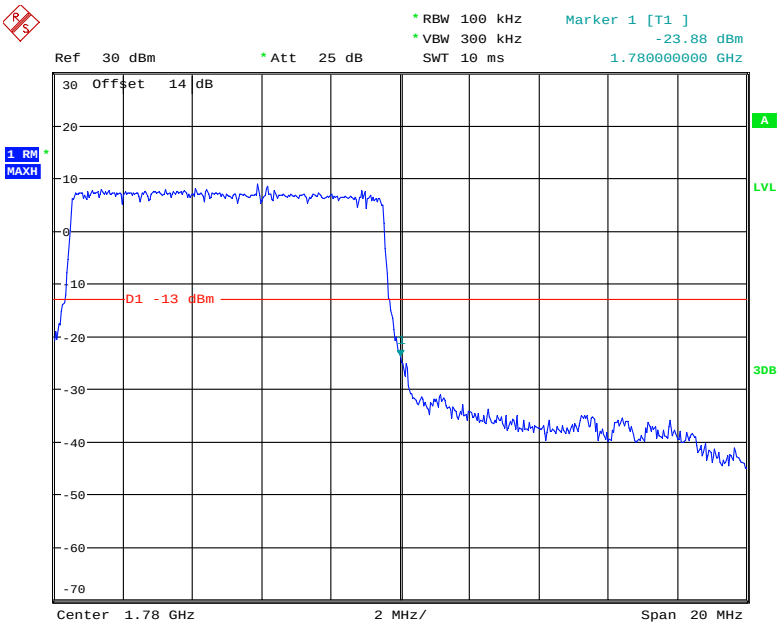
Date: 12.JUN.2020 12:32:02

10M QPSK Left Band Edge



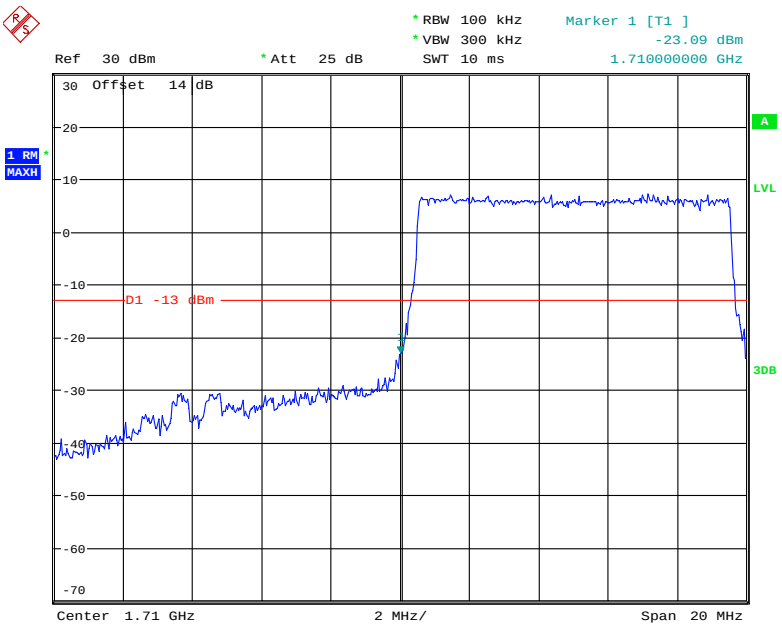
Date: 12.JUN.2020 12:16:20

10M QPSK Right Band Edge



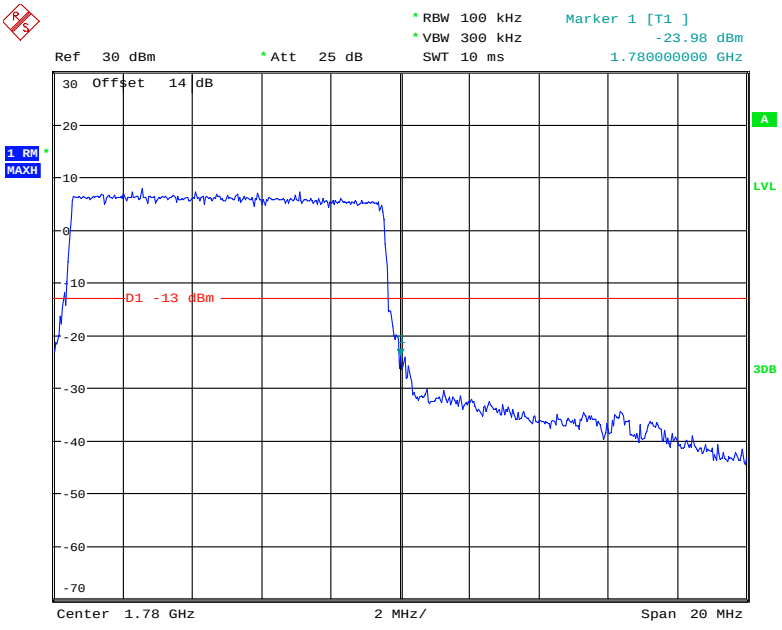
Date: 12.JUN.2020 12:17:39

10M 16QAM Left Band Edge



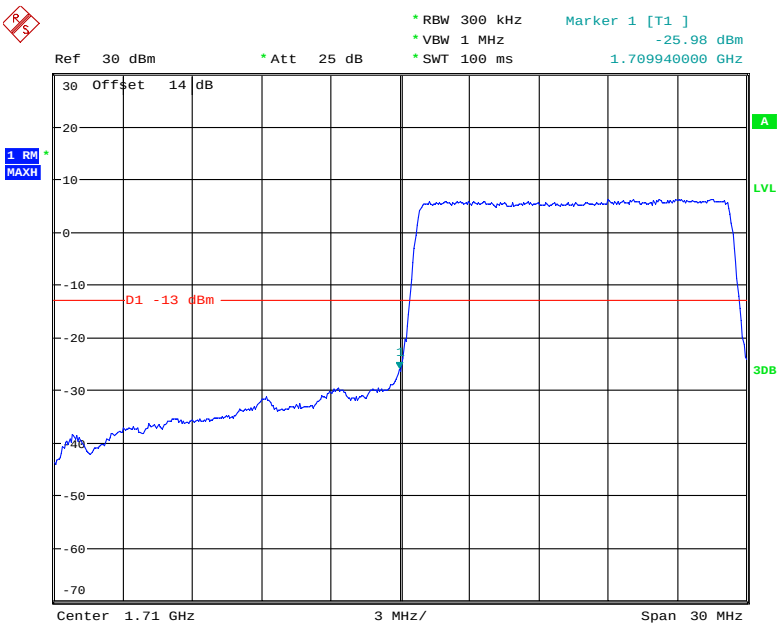
Date: 12.JUN.2020 12:16:37

10M 16QAM Right Band Edge



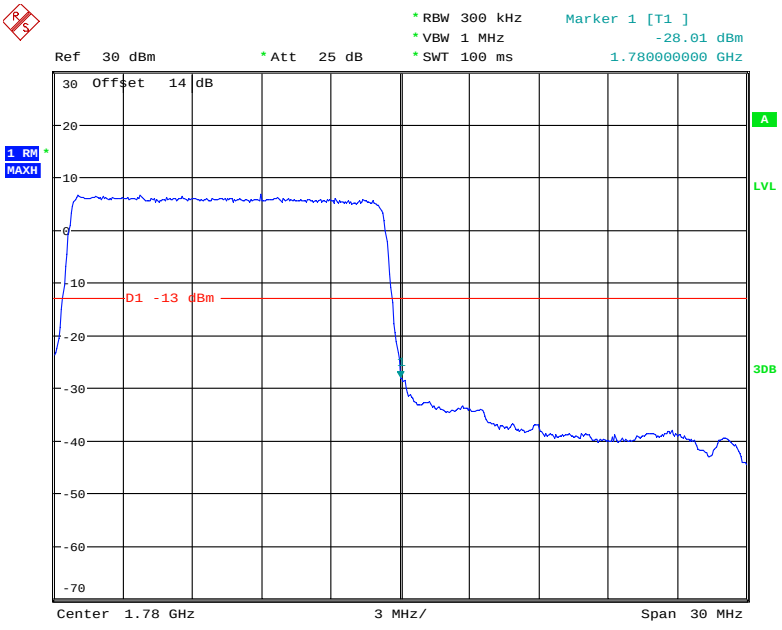
Date: 12.JUN.2020 12:18:00

15M QPSK Left Band Edge



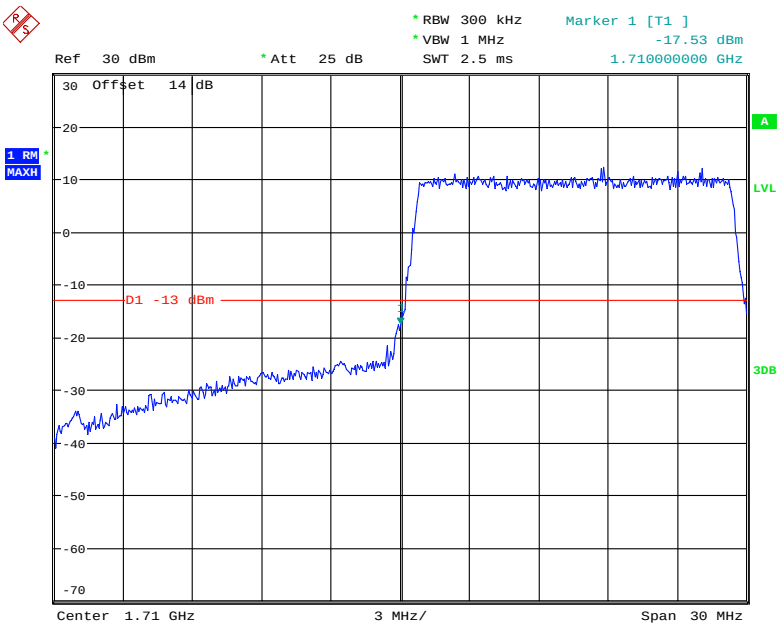
Date: 12.JUN.2020 12:18:37

15M QPSK Right Band Edge



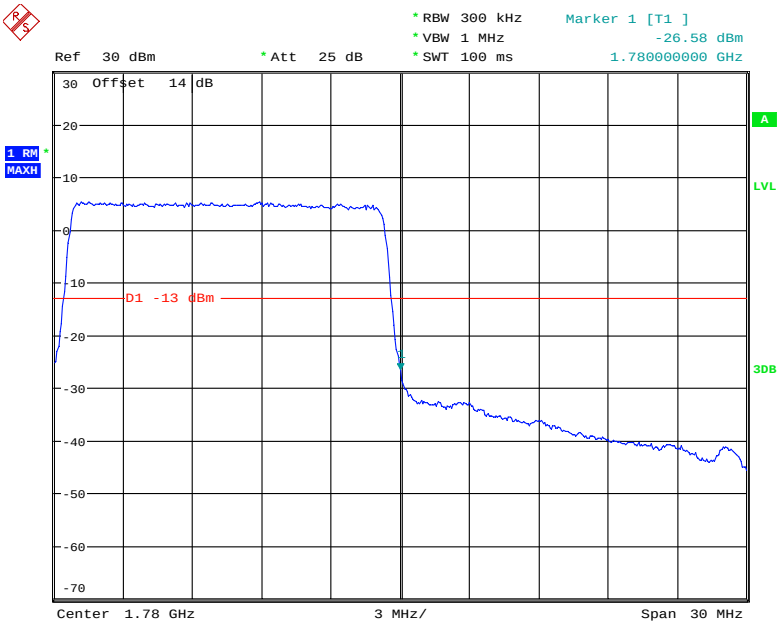
Date: 12.JUN.2020 12:19:50

15M 16QAM Left Band Edge



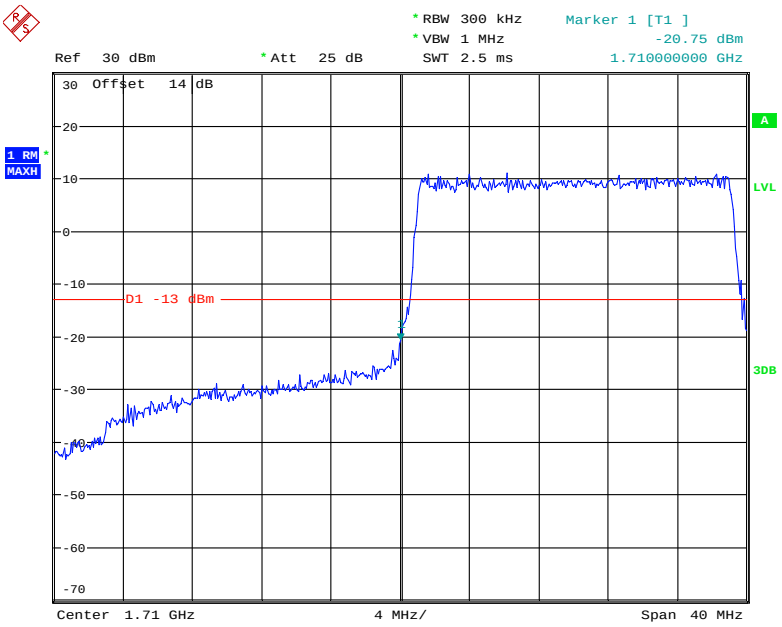
Date: 12.JUN.2020 12:18:56

15M 16QAM Right Band Edge



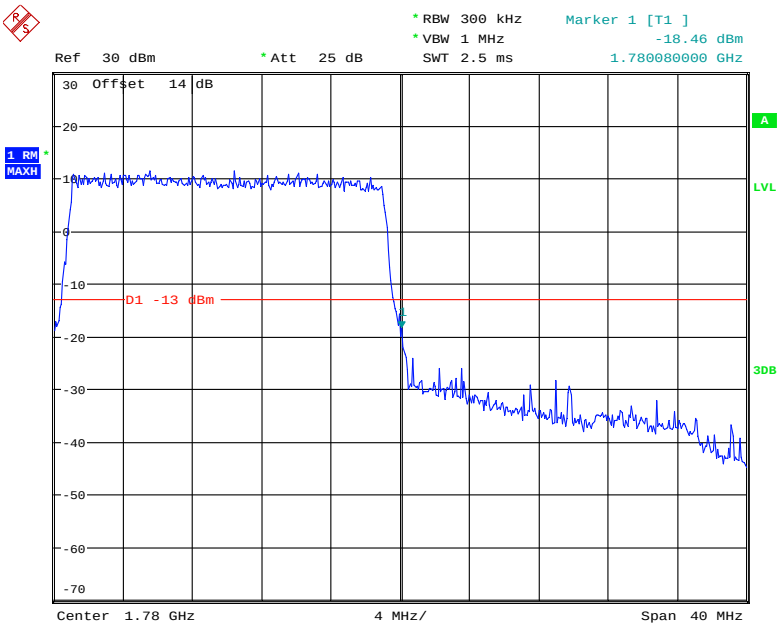
Date: 12.JUN.2020 12:20:20

20M QPSK Left Band Edge



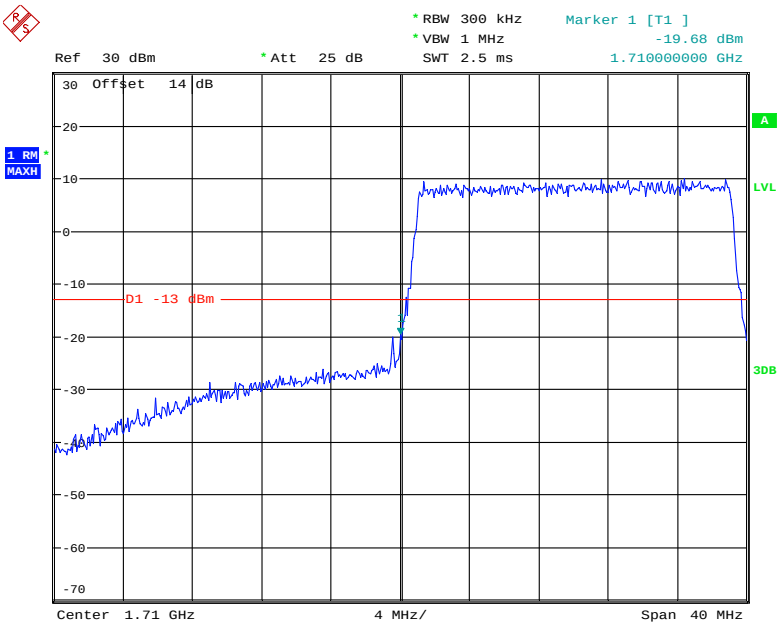
Date: 12.JUN.2020 12:20:53

20M QPSK Right Band Edge



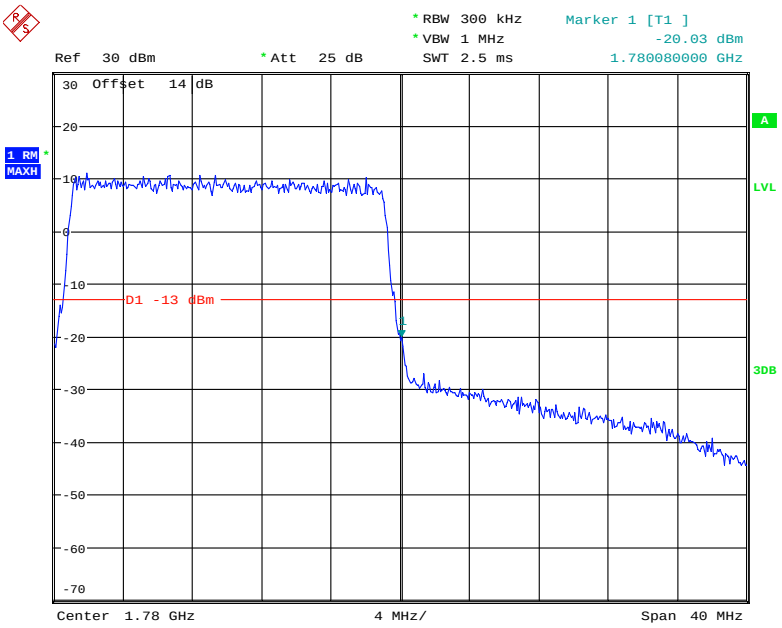
Date: 12.JUN.2020 12:22:10

20M 16QAM Left Band Edge



Date: 12.JUN.2020 12:21:12

20M 16QAM Right Band Edge



Date: 12.JUN.2020 12:22:32

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

Applicable Standard

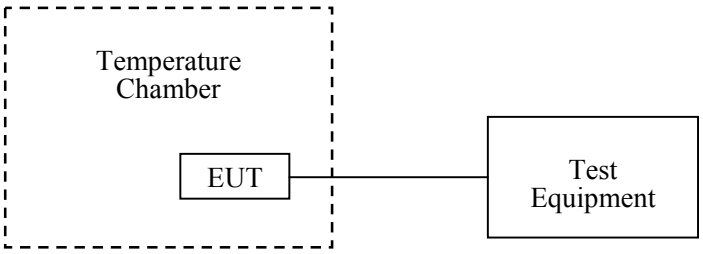
FCC § 2.1055 (a), § 2.1055 (d), §22.355, §24.235, §27.54

Test Procedure

Frequency Stability vs. Temperature: The equipment under test was connected to an external DC power supply and the RF output was connected to communication test set via feed-through attenuators. The EUT was placed inside the temperature chamber. The leads and RF output cable exited the chamber through an opening made for the purpose.

After the temperature stabilized for approximately 20 minutes, the frequency output was recorded from the communication test set.

Frequency Stability vs. Voltage: An external variable DC power supply was connected to the battery terminals of the equipment under test. The voltage was set from 85% to 115% of the nominal value and was then decreased until the transmitter light no longer illuminated; i.e., the battery end point. The output frequency was recorded for each battery voltage.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSP 38	100478	2020-05-09	2021-05-09
Unknown	Coaxial Cable	C-SJ00-0010	C0010/04	Each time	N/A
E-Microwave	Blocking Control	EMDCB-00036	0E01201048	Each time	N/A
E-Microwave	Coaxial Attenuators	EMCA10-5RN-6	OE01203239	Each time	N/A
R&S	Universal Radio Communication Tester	CMU200	106 891	2019-09-12	2020-09-12
R&S	Wideband Radio Communication Tester	CMW500	149216	2019-09-12	2020-09-12
ESPEC	Constant temperature and humidity Tester	ESX-4CA	018 463	2020-03-10	2021-03-09
UNI-T	Multimeter	UT39A	M130199938	2019-07-24	2020-07-24
Pro instrument	DC Power Supply	pps3300	3300012	N/A	N/A

*** 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:	27.4 °C
Relative Humidity:	65%
ATM Pressure:	100.7kPa
Tester:	Lucy Lu
Test Date:	2020-06-16

Test Result: Compliance.

Cellular Band

GMSK, Middle Channel, f_c = 836.6 MHz				
Temperature	Voltage	Frequency Error	Frequency Error	Limit
℃	V_{DC}	Hz	ppm	ppm
-30	3.8	8	0.00956	2.5
-20		6	0.00717	
-10		0	0.00000	
0		4	0.00478	
10		-3	-0.00359	
20		7	0.00837	
30		7	0.00837	
40		5	0.00598	
50		6	0.00717	
20	3.6	4	0.00478	
20	4.3	8	0.00956	

8PSK, Middle Channel, f_c = 836.6 MHz				
Temperature	Voltage	Frequency Error	Frequency Error	Limit
℃	V_{DC}	Hz	ppm	ppm
-30	3.8	10	0.01195	2.5
-20		12	0.01434	
-10		9	0.01076	
0		5	0.00598	
10		7	0.00837	
20		9	0.01076	
30		6	0.00717	
40		6	0.00717	
50		5	0.00598	
20	3.6	5	0.00598	
20	4.3	4	0.00478	

PCS Band

GMSK, Middle Channel, f_c = 1880.0 MHz				
Temperature	Voltage	Frequency Error	Frequency Error	Results
℃	V_{DC}	Hz	ppm	
-30	3.8	12	0.00638	Pass
-20		15	0.00798	
-10		5	0.00266	
0		6	0.00319	
10		9	0.00479	
20		10	0.00532	
30		14	0.00745	
40		12	0.00638	
50		12	0.00638	
20	3.6	11	0.00585	
20	4.3	12	0.00638	

8PSK, Middle Channel, f_c = 1880.0 MHz				
Temperature	Voltage	Frequency Error	Frequency Error	Results
℃	V_{DC}	Hz	ppm	
-30	3.8	15	0.00798	Pass
-20		16	0.00851	
-10		20	0.01064	
0		21	0.01117	
10		17	0.00904	
20		17	0.00904	
30		15	0.00798	
40		14	0.00745	
50		21	0.01117	
20	3.6	20	0.01064	
20	4.3	19	0.01011	

WCDMA Band II: R99

Middle Channel, f_c = 1880.0 MHz				
Temperature	Voltage	Frequency Error	Frequency Error	Result
℃	V_{DC}	Hz	ppm	
-30	3.8	-9.28	-0.00494	Pass
-20		-9.78	-0.00520	
-10		-10.28	-0.00547	
0		-10.78	-0.00573	
10		-9.78	-0.00520	
20		-10.28	-0.00547	
30		-9.28	-0.00494	
40		-9.28	-0.00494	
50		-10.28	-0.00547	
20	3.6	-9.78	-0.00520	
20	4.3	-10.28	-0.00547	

WCDMA BandⅣ: R99

QPSK, Channel Bandwidth:10MHz					
Power Supplied	Temperature	F_L	Limit	F_H	Limit
Vdc	℃	MHz	MHz	MHz	MHz
3.8	-30	1710.6962	1710	1754.727	1755
	-20	1710.7980		1754.777	
	-10	1710.7998		1754.877	
	0	1710.7004		1754.777	
	10	1710.6001		1754.777	
	20	1710.6986		1754.680	
	30	1710.6186		1754.744	
	40	1710.5016		1754.694	
	50	1710.4007		1754.744	
3.6	20	1710.6974		1754.644	
4.3	20	1710.6016		1754.694	

WCDMA Band Ⅴ: R99

Middle Channel, f_c = 836.6 MHz				
Temperature	**Voltage**	**Frequency Error**	**Frequency Error**	**Limit**
℃	**V_{DC}**	**Hz**	**ppm**	**ppm**
-30	3.8	-7.15	-0.00855	2.5
-20		-6.15	-0.00735	
-10		-5.15	-0.00616	
0		-6.15	-0.00735	
10		-5.65	-0.00675	
20		-7.65	-0.00914	
30		-7.65	-0.00914	
40		-6.65	-0.00795	
50		-7.65	-0.00914	
20	3.6	-8.15	-0.00974	
20	4.3	-7.15	-0.00855	

LTE Band 2:

QPSK, Channel Bandwidth:10MHz Middle Channel, f_c = 1880 MHz				
Temperature	**Voltage**	**Frequency Error**	**Frequency Error**	**Result**
℃	**V_{DC}**	**Hz**	**ppm**	
-30	3.8	-4.34	-0.00231	Pass
-20		-5.24	-0.00279	
-10		-4.94	-0.00263	
0		-3.44	-0.00183	
10		-2.24	-0.00119	
20		-4.29	-0.00228	
30		-4.29	-0.00228	
40		-4.59	-0.00244	
50		-6.09	-0.00324	
20	3.6	-5.79	-0.00308	
20	4.3	-6.99	-0.00372	

16QAM, Channel Bandwidth:10MHz Middle Channel, f_c =1880 MHz				
Temperature	**Voltage**	**Frequency Error**	**Frequency Error**	**Result**
℃	**V_{DC}**	**Hz**	**ppm**	
-30	3.8	-4.34	-0.0023	Pass
-20		-4.94	-0.0026	
-10		-4.94	-0.0026	
0		-4.34	-0.0023	
10		-5.24	-0.0028	
20		-2.45	-0.0013	
30		-4.24	-0.0023	
40		-3.94	-0.0021	
50		-3.34	-0.0018	
20	3.6	-3.94	-0.0021	
20	4.3	-3.64	-0.0019	

LTE Band 4

QPSK, Channel Bandwidth:10MHz					
Power Supplied	**Temperature**	**F_L**	**Limit**	**F_H**	**Limit**
Vdc	**℃**	**MHz**	**MHz**	**MHz**	**MHz**
3.8	-30	1710.550000	1710	1754.580000	1755
	-20	1710.500000		1754.480000	
	-10	1710.400000		1754.430000	
	0	1710.500000		1754.430000	
	10	1710.550000		1754.480000	
	20	1710.520000		1754.520000	
	30	1710.460000		1754.460000	
	40	1710.510000		1754.560000	
	50	1710.560000		1754.560000	
3.6	20	1710.460000		1754.460000	
4.3	20	1710.360000		1754.410000	

16QAM, Channel Bandwidth:10MHz					
Power Supplied	**Temperature**	**F_L**	**Limit**	**F_H**	**Limit**
Vdc	**℃**	**MHz**	**MHz**	**MHz**	**MHz**
3.8	-30	1710.550000	1710	1754.420000	1755
	-20	1710.600000		1754.520000	
	-10	1710.550000		1754.570000	
	0	1710.500000		1754.470000	
	10	1710.400000		1754.520000	
	20	1710.520000		1754.480000	
	30	1710.490000		1754.420000	
	40	1710.390000		1754.370000	
	50	1710.440000		1754.470000	
3.6	20	1710.540000		1754.420000	
4.3	20	1710.540000		1754.370000	

LTE Band 7

QPSK, Channel Bandwidth:10MHz					
Power Supplied	**Temperature**	**F_L**	**Limit**	**F_H**	**Limit**
Vdc	**℃**	**MHz**	**MHz**	**MHz**	**MHz**
3.8	-30	2500.460000	2500	2569.450000	2570
	-20	2500.360000		2569.450000	
	-10	2500.260000		2569.550000	
	0	2500.160000		2569.550000	
	10	2500.260000		2569.600000	
	20	2500.520000		2569.480000	
	30	2500.520000		2569.450000	
	40	2500.470000		2569.500000	
	50	2500.420000		2569.400000	
3.6	20	2500.370000		2569.400000	
4.3	20	2500.270000		2569.400000	

16QAM, Channel Bandwidth:10MHz					
Power Supplied	**Temperature**	**F_L**	**Limit**	**F_H**	**Limit**
Vdc	**℃**	**MHz**	**MHz**	**MHz**	**MHz**
3.8	-30	2500.460000	2500	2569.330000	2570
	-20	2500.410000		2569.510000	
	-10	2500.510000		2569.310000	
	0	2500.610000		2569.570000	
	10	2500.710000		2569.560000	
	20	2500.520000		2569.480000	
	30	2500.580000		2569.560000	
	40	2500.680000		2569.500000	
	50	2500.780000		2569.510000	
3.6	20	2500.680000		2569.490000	
4.3	20	2500.680000		2569.250000	

LTE Band 12

QPSK, Channel Bandwidth:10MHz					
Power Supplied	**Temperature**	**F_L**	**Limit**	**F_H**	**Limit**
Vdc	**℃**	**MHz**	**MHz**	**MHz**	**MHz**
3.8	-30	699.580000	699	715.420000	716
	-20	699.630000		715.420000	
	-10	699.580000		715.320000	
	0	699.580000		715.320000	
	10	699.630000		715.320000	
	20	699.520000		715.480000	
	30	699.520000		715.480000	
	40	699.620000		715.430000	
	50	699.670000		715.430000	
3.6	20	699.720000		715.330000	
4.3	20	699.720000		715.280000	

16QAM, Channel Bandwidth:10MHz					
Power Supplied	**Temperature**	**F_L**	**Limit**	**F_H**	**Limit**
Vdc	**℃**	**MHz**	**MHz**	**MHz**	**MHz**
3.8	-30	699.550000	699	715.510000	716
	-20	699.650000		715.460000	
	-10	699.650000		715.460000	
	0	699.700000		715.560000	
	10	699.800000		715.560000	
	20	699.520000		715.480000	
	30	699.580000		715.480000	
	40	699.630000		715.480000	
	50	699.730000		715.430000	
3.6	20	699.630000		715.330000	
4.3	20	699.630000		715.380000	

LTE Band 17

QPSK, Channel Bandwidth:10MHz					
Power Supplied	**Temperature**	**F_L**	**Limit**	**F_H**	**Limit**
Vdc	**℃**	**MHz**	**MHz**	**MHz**	**MHz**
3.8	-30	704.500000	704	715.480000	716
	-20	704.500000		715.480000	
	-10	704.550000		715.380000	
	0	704.550000		715.280000	
	10	704.500000		715.330000	
	20	704.560000		715.480000	
	30	704.590000		715.480000	
	40	704.690000		715.480000	
	50	704.590000		715.380000	
3.6	20	704.640000		715.430000	
4.3	20	704.690000		715.530000	

16QAM, Channel Bandwidth:10MHz					
Power Supplied	**Temperature**	**F_L**	**Limit**	**F_H**	**Limit**
Vdc	**℃**	**MHz**	**MHz**	**MHz**	**MHz**
3.8	-30	704.490000	704	715.410000	716
	-20	704.440000		715.310000	
	-10	704.540000		715.210000	
	0	704.640000		715.260000	
	10	704.540000		715.260000	
	20	704.520000		715.440000	
	30	704.490000		715.410000	
	40	704.590000		715.510000	
	50	704.640000		715.460000	
3.6	20	704.740000		715.560000	
4.3	20	704.840000		715.560000	

LTE Band 66

QPSK, Channel Bandwidth:10MHz					
Power Supplied	**Temperature**	**F_L**	**Limit**	**F_H**	**Limit**
Vdc	**℃**	**MHz**	**MHz**	**MHz**	**MHz**
3.8	-30	1710.530000	1710	1779.640000	1780
	-20	1710.580000		1779.490000	
	-10	1710.580000		1779.540000	
	0	1710.580000		1779.440000	
	10	1710.670000		1779.540000	
	20	1710.560000		1779.620000	
	30	1710.520000		1779.520000	
	40	1710.560000		1779.640000	
	50	1710.550000		1779.540000	
3.6	20	1710.630000		1779.480000	
4.3	20	1710.510000		1779.380000	

16QAM, Channel Bandwidth:10MHz					
Power Supplied	**Temperature**	**F_L**	**Limit**	**F_H**	**Limit**
Vdc	**℃**	**MHz**	**MHz**	**MHz**	**MHz**
3.8	-30	1710.580000	1710	1779.540000	1780
	-20	1710.680000		1779.440000	
	-10	1710.580000		1779.540000	
	0	1710.530000		1779.640000	
	10	1710.580000		1779.640000	
	20	1710.520000		1779.480000	
	30	1710.580000		1779.540000	
	40	1710.580000		1779.640000	
	50	1710.530000		1779.540000	
3.6	20	1710.630000		1779.440000	
4.3	20	1710.580000		1779.340000	

Note: The fundamental emissions stay within the authorized bands of operation based on the frequency deviation measured is small, the extreme voltage was declared by applicant.

******* END OF REPORT *******