

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

For

Shanghai ZoomSmart Technology Co., Ltd

Room 802 Hengxi Road No.809 Pujiang Town Minhang district, Shanghai, 201114 China

FCC ID: 2AUFL-LT51

Report Type: Original Report	Product Type: Rugged Phone
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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Applicant:	Shanghai ZoomSmart Technology Co., Ltd
Tested Model:	LT51
Product Type:	Rugged Phone
Power Supply:	DC 5.0V from adapter and DC 3.85V from Lithium-ion polymer battery
RF Function:	GSM/GPRS/EGPRS, WCDMA, CDMA, LTE
Operating Band/Frequency:	GSM/GPRS/EGPRS 850: 824-849 MHz(TX), 869-894 MHz(RX) GSM/GPRS/EGPRS 1900: 1850-1910 MHz(TX), 1930-1990 MHz(RX) WCDMA Band II: 1850-1910 MHz(TX), 1930-1990 MHz(RX) WCDMA Band V: 824-849 MHz(TX), 869-894 MHz(RX) CDMA850 Band: 824-849 MHz(TX), 869-894 MHz(RX) LTE Band 2: 1850-1910 MHz(TX), 1930MHz-1990 MHz(RX) LTE Band 4: 1710-1755 MHz(TX), 2110-2155 MHz(RX) LTE Band 5: 824-849 MHz(TX), 869-894 MHz(RX) LTE Band 7: 2500-2570 MHz(TX), 2620-2690 MHz(RX) LTE Band 17: 704-716 MHz(TX), 734-746 MHz(RX) LTE Band 41: 2555-2655 MHz(TX), 2555-2655 MHz(RX)
Modulation Type:	GSM/GPRS/EGPRS: GMSK,8PSK WCDMA: BPSK,QPSK,16QAM CDMA: BPSK,QPSK,16QAM LTE: QPSK,16QAM
Antenna Type:	FPC antenna
*Maximum Antenna Gain:	GSM/GPRS/EGPRS 850: -0.27 dBi GSM/GPRS/EGPRS 1900: -0.37 dBi WCDMA Band II: -0.37 dBi WCDMA Band V: -0.27 dBi CDMA850 Band: -0.27 dBi LTE Band 2: -0.37 dBi LTE Band 4: 0.1 dBi LTE Band 5: -0.27 dBi LTE Band 7: -0.93 dBi LTE Band 17: -0.08 dBi LTE Band 41: -1.24dBi

Adapter Information:

Model: P12DUSB050200 US

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

Output: DC 5.0V, 2.0A

Note: The maximum antenna gain was declared by the manufacturer.

*All measurement and test data in this report was gathered from production sample serial number: 20200817002.
(Assigned by the BACL. The EUT supplied by the applicant was received on 2020-08-17)

Objective

This type approval report is prepared on behalf of *Shanghai ZoomSmart Technology Co., Ltd* in accordance with Part 2, Part 22-Subpart H and Part 24-Subpart E , Part 27 of the Federal Communication Commission's rules.

The objective is to determine the compliance of EUT with FCC rules for output power, modulation characteristic, occupied bandwidth, and spurious emission at antenna terminal, spurious radiated emission, frequency stability, and band edge.

Related Submittal(s)/Grant(s)

FCC Part 15.247 DSS Submittal with FCC ID: 2AUFL-LT51
FCC Part 15.247 DTS Submittal with FCC ID: 2AUFL-LT51
FCC Part 15.407 NII Submittal with FCC ID: 2AUFL-LT51
FCC Part 15.225 DXX submissions with FCC ID: 2AUFL-LT51

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: ANSI C63.26-2015.

All radiated and conducted emissions measurements were performed at Bay Area Compliance Laboratories Corp. (Kunshan). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Measurement Uncertainty

Item		Uncertainty
AC Power Lines Conducted Emissions		3.19dB
RF conducted test with spectrum		0.9dB
RF Output Power with Power meter		0.5dB
Radiated emission	30MHz~1GHz	5.91dB
	1GHz~6GHz	4.68dB
	6GHz~18GHz	4.92dB
	18GHz~40GHz	5.21dB
Occupied Bandwidth		0.5kHz
Temperature		1.0℃
Humidity		6%

Test Facility

The test site used by Bay Area Compliance Laboratories Corp. (Kunshan) to collect test data is located on the No.248 Chenghu Road, Kunshan, Jiangsu province, China.

Bay Area Compliant Laboratories Corp. (Kunshan) Lab is accredited to ISO/IEC 17025 by A2LA (Lab code: 4323.01) and the FCC designation No. CN1185 under the FCC KDB 974614 D01 and CAB identifier CN0004 under the ISED requirement. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2014.

SYSTEM TEST CONFIGURATION

Justification

The EUT was configured for testing according to ANSI C63.26-2015.

The final qualification test was performed with the EUT operating at normal mode.

Channel List

Mode		Channel		Frequency (MHz)
GSM/GPRS/EGPRS 850		Low	128	824.2
		Middle	190	836.6
		High	251	848.8
GSM/GPRS/EGPRS 1900		Low	512	1850.2
		Middle	661	1880.0
		High	810	1909.8
WCDMA Band II		Low	9262	1852.4
		Middle	9400	1880.0
		High	9538	1907.6
WCDMA Band V		Low	4132	826.4
		Middle	4183	836.6
		High	4233	846.6
CDMA850 Band		Low	1013	824.70
		Middle	384	836.52
		High	777	848.31
LTE Band 2	1.4M	Low	18607	1850.7
		Middle	18900	1880.0
		High	19193	1909.3
	3M	Low	18615	1851.5
		Middle	18900	1880.0
		High	19185	1908.5
	5M	Low	18625	1852.5
		Middle	18900	1880.0
		High	19175	1907.5
	10M	Low	18650	1855.0
		Middle	18900	1880.0
		High	19150	1905.0
	15M	Low	18675	1857.5
		Middle	18900	1880.0
		High	19125	1902.5
	20M	Low	18700	1860.0
		Middle	18900	1880.0
		High	19100	1900.0

Mode		Channel		Frequency (MHz)
LTE Band 4	1.4M	Low	19957	1710.7
		Middle	20175	1732.5
		High	20393	1754.3
	3M	Low	19965	1711.5
		Middle	20175	1732.5
		High	20385	1753.5
	5M	Low	19975	1712.5
		Middle	20175	1732.5
		High	20375	1752.5
	10M	Low	20000	1715.0
		Middle	20175	1732.5
		High	20350	1750.0
	15M	Low	20025	1717.5
		Middle	20175	1732.5
		High	20325	1747.5
	20M	Low	20050	1720.0
		Middle	20175	1732.5
		High	20300	1745.0
LTE Band 5	1.4M	Low	20407	824.7
		Middle	20525	836.5
		High	20643	848.3
	3M	Low	20415	825.5
		Middle	20525	836.5
		High	20635	847.5
	5M	Low	20425	826.5
		Middle	20525	836.5
		High	20625	846.5
	10M	Low	20450	829.0
		Middle	20525	836.5
		High	20600	844.0
LTE Band 7	5M	Low	20775	2502.5
		Middle	21100	2535.0
		High	21425	2567.5
	10M	Low	20800	2505.0
		Middle	21100	2535.0
		High	21400	2565.0
	15M	Low	20825	2507.5
		Middle	21100	2535.0
		High	21375	2562.5
	20M	Low	20850	2510.0
		Middle	21100	2535.0
		High	21350	2560.0

Mode		Channel		Frequency (MHz)
LTE Band 17	5M	Low	23755	706.5
		Middle	23790	710.0
		High	23825	713.5
	10M	Low	23780	709.0
		Middle	23790	710.0
		High	23800	711.0
LTE Band 41	5M	Low	40265	2557.5
		Middle	40740	2605.0
		High	41215	2652.5
	10M	Low	40290	2560.0
		Middle	40740	2605.0
		High	41190	2650.0
	15M	Low	40315	2562.5
		Middle	40740	2605.0
		High	41165	2647.5
	20M	Low	40340	2565.0
		Middle	40740	2605.0
		High	41140	2645.0

Equipment Modifications

No modifications were made to the EUT.

Support Equipment List and Details

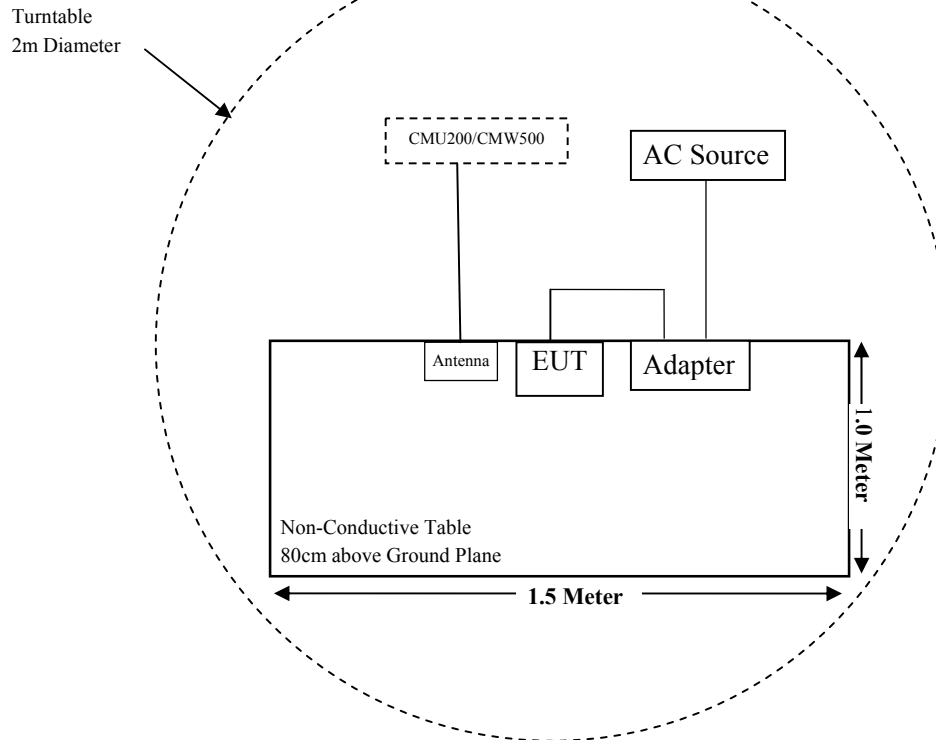
Manufacturer	Description	Model	Serial Number
Aihuaxin technology	Antenna	/	/
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	110605
Rohde & Schwarz	Wideband Radio Communication Tester	CMW500	104478

External I/O Cable

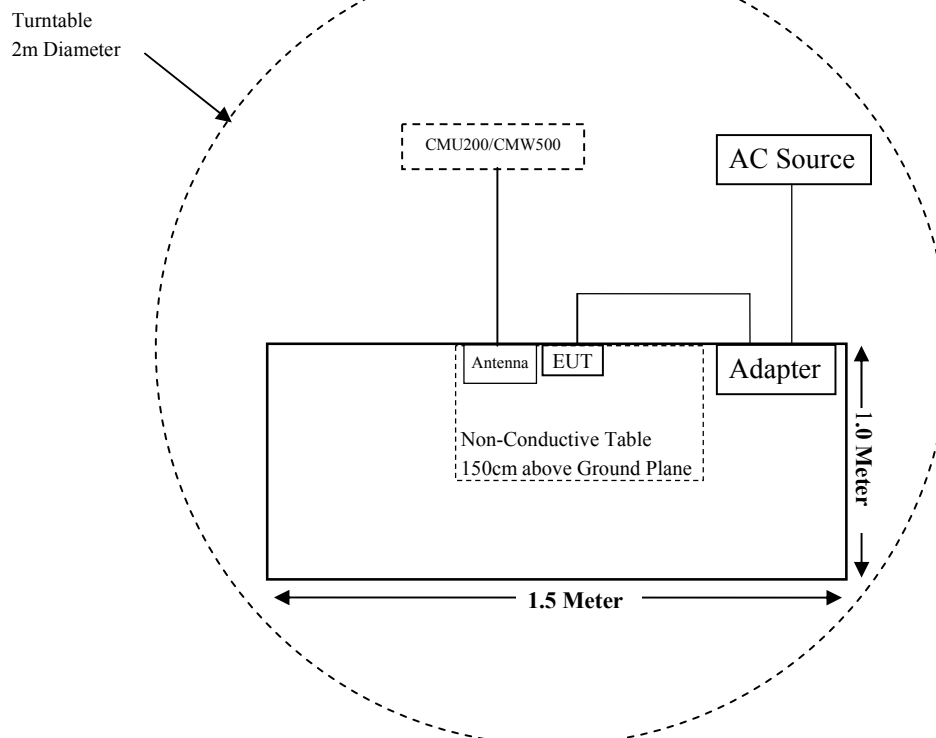
Cable Description	Length (m)	From Port	To
USB Cable	1.0	EUT	Adapter
Power Cable	1.0	Adapter	LISN

Block Diagram of Test Setup

For Radiated Emissions (Below 1GHz):



For Radiated Emissions (Above 1GHz):



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§1.1307(b)(1)& §2.1093	RF Exposure Information	Compliant
§2.1046; § 22.913 (a);§ 24.232 (c); § 27.50 (b)(c)(d);§27.50(h) (2)	RF Output Power	Compliant
§ 2.1047	Modulation Characteristics	Not Applicable
§ 2.1049; § 22.905; § 22.917; § 24.238; §27.53	Occupied Bandwidth	Compliant
§ 2.1051; § 22.917 (a); § 24.238 (a); §27.53 (m) (g) (h)	Spurious Emissions at Antenna Terminal	Compliant
§ 2.1053; § 22.917 (a); § 24.238 (a); §27.53 (m) (g) (h)	Spurious Radiated Emissions	Compliant
§ 22.917 (a); § 24.238 (a); §27.53 (m) (g) (h)	Band Edge	Compliant
§ 2.1055; § 22.355; § 24.235; §27.54	Frequency stability	Compliant

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Radiated Emission Test (Chamber 1#)					
Rohde & Schwarz	EMI Test Receiver	ESCI	100195	2019-12-14	2020-12-13
HP	Signal Generator	N5183A	MY51040755	2019-12-14	2020-12-13
Sunol Sciences	Broadband Antenna	JB3	A090413-1	2017-12-26	2020-12-25
Sunol Sciences	Broadband Antenna	JB3	A090314-2	2019-01-09	2022-01-08
Sonoma Instrunent	Pre-amplifier	310N	171205	2020-08-14	2021-08-13
Rohde & Schwarz	Auto test Software	EMC32	100361	/	/
MICRO-COAX	Coaxial Cable	Cable-8	008	2020-08-15	2021-08-14
MICRO-COAX	Coaxial Cable	Cable-9	009	2020-08-15	2021-08-14
MICRO-COAX	Coaxial Cable	Cable-10	010	2020-08-15	2021-08-14
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	110605	2020-04-01	2021-03-31
Rohde & Schwarz	Wideband Radio Communication Tester	CMW500	104478	2020-08-05	2021-08-04
Radiated Emission Test (Chamber 2#)					
HP	Signal Generator	N5183A	MY51040755	2019-12-14	2020-12-13
Rohde & Schwarz	EMI Test Receiver	ESU40	100207	2020-04-01	2021-03-31
ETS-LINDGREN	Horn Antenna	3115	9207-3900	2020-07-15	2023-07-14
ETS-LINDGREN	Horn Antenna	3115	6229	2020-01-10	2023-01-09
ETS-LINDGREN	Horn Antenna	3116	00084159	2019-12-12	2022-12-11
ETS-LINDGREN	Horn Antenna	3116	2516	2020-01-17	2023-01-16
A.H.Systems,inc	Amplifier	PAM-0118P	512	2020-02-20	2021-02-19
EM Electronics Corporation	Amplifier	EM18G40G	060726	2020-03-22	2021-03-21
Rohde & Schwarz	Auto test Software	EMC32	100361	/	/
MICRO-COAX	Coaxial Cable	Cable-6	006	2019-12-12	2020-12-11
MICRO-COAX	Coaxial Cable	Cable-11	011	2020-08-15	2021-08-14
MICRO-COAX	Coaxial Cable	Cable-12	012	2020-08-15	2021-08-14
MICRO-COAX	Coaxial Cable	Cable-13	013	2020-08-15	2021-08-14
MICRO-COAX	Coaxial Cable	Cable-16	016	2020-08-15	2021-08-14
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	110605	2020-04-01	2021-03-31
Rohde & Schwarz	Wideband Radio Communication Tester	CMW500	104478	2020-08-05	2021-08-04

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
RF Conducted Test					
Rohde & Schwarz	Signal Analyzer	FSIQ26	836131/009	2019-12-14	2020-12-13
Rohde & Schwarz	EMI Test Receiver	ESIB26	100146	2019-12-14	2020-12-13
Narda	Attenuator	6dB	006	2020-01-10	2021-01-09
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	110605	2020-04-01	2021-03-31
Rohde & Schwarz	Wideband Radio Communication Tester	CMW500	104478	2020-08-05	2021-08-04
Mini-Circuits	Power splitter	ZFRSC-14-S+	SF019411452	2019-11-10	2020-11-09
BACL	Temperature & Humidity Chamber	BTH-150	30023	2019-12-20	2020-12-19
EAST	Regulated DC Power Supply	MCH-303D-II	14070562	2019-10-10	2020-10-09
EAST	Regulated DC Power Supply	MCH-303D-II	14070562	2020-10-10	2021-10-09
ZOOMSMART	RF Cable	ZOOMSMART C01	C01	Each Time	/

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

FCC §1.1307(b) & §2.1093 - RF EXPOSURE INFORMATION

Applicable Standard

FCC§1.1307, §2.1093.

Test Result

Compliance, please refer to the SAR report: RSH201022050-SA.

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 (b) (c) (d) (h) - RF OUTPUT POWER

Applicable Standards

According to FCC §2.1046 and §22.913 (a), the ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts (38.45dBm).

According to FCC §2.1046 and §24.232 (c), mobile and portable stations are limited to 2 watts (33dBm) EIRP and the equipment must employ a means for limiting power to the minimum necessary for successful communications.

According to §27.50(b), mobile stations transmitting in the 746-757 MHz, 776-788 MHz, and 805-806 MHz bands is limited to 30 watts ERP.

According to §27.50(d), the maximum EIRP must not exceed 1Watts (30dBm) for 1710-1755MHz.

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

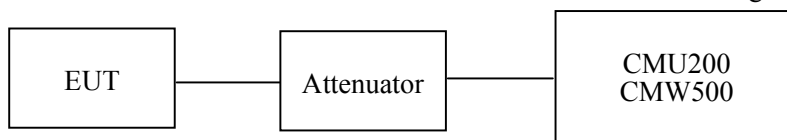
According to §27.50(h), Mobile and other user stations. Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

The peak-to-average power ratio (PAPR) of the transmitter output power must not exceed 13 dB.

Test Procedure

Conducted method:

The RF output of the transmitter was connected to the CMW500/CMU200 through sufficient attenuation.



Radiated Output Power:

The measurements procedures specified in ANSI C63.26-2015 were applied.

a) Connect the equipment as illustrated. Mount the equipment with the manufacturer specified antenna in a vertical orientation on a manufacturer specified mounting surface located on a non-conducting rotating platform of a RF anechoic chamber (preferred) or a standard radiation site.

b) Key the transmitter, then rotate the EUT 360o azimuthally and record spectrum analyzer power level (LVL) measurements at angular increments that are sufficiently small to permit resolution of all peaks. If a standard radiation test site is used, raise and lower the test antenna to obtain a maximum reading at each angular increment. (Note: several batteries may be needed to offset the effect of battery voltage droop, which should not exceed 5% of the manufactured specified battery voltage during transmission).

c) Replace the transmitter under test with a vertically polarized half-wave dipole (or an antenna whose gain is known relative to an ideal half-wave dipole). The center of the antenna should be at the same location as the center of the antenna under test.

d) Connect the antenna to a signal generator with a known output power and record the path loss (in dB) as LOSS. If a standard radiation test site is used, raise and lower the test antenna to obtain a maximum reading.
 $\text{LOSS} = \text{Generator Output Power (dBm)} - \text{Analyzer reading (dBm)}$

e) Determine the effective radiated output power at each angular position from the readings in steps b) and d) using the following equation:

$$\text{ERP (dBm)} = \text{LVL (dBm)} + \text{LOSS (dB)}$$

f) The maximum ERP is the maximum value determined in the preceding step.

(Note: Effective Isotropic Radiated Power (EIRP) can be computed using the following:

$$\text{EIRP (dBm)} = \text{ERP (dBm)} + 2.15 \text{ (dB)}$$

Test Data

Environmental Conditions

Temperature:	23.6-24.0 °C
Relative Humidity:	49-55 %
ATM Pressure:	101.1-101.6 kPa

The testing was performed by CK Huang from 2020-10-17 to 2020-10-28.

Conducted Power:**GSM/GPRS/EGPRS 850 Band**

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)	Limit (dBm)
GSM	128	824.20	33.32	38.45
	190	836.60	32.99	38.45
	251	848.80	33.12	38.45

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)				Limit (dBm)
			1 slot	2 slots	3 slots	4 slots	
GPRS	128	824.20	33.17	32.01	31.17	29.68	38.45
	190	836.60	32.68	32.22	30.62	29.74	38.45
	251	848.80	32.96	32.11	30.59	29.54	38.45

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)				Limit (dBm)
			1 slot	2 slots	3 slots	4 slots	
EGPRS	128	824.20	26.58	25.52	24.43	23.46	38.45
	190	836.60	26.39	25.28	24.24	23.19	38.45
	251	848.80	26.39	25.25	24.27	23.21	38.45

WCDMA Band V

Mode	Test Condition	Test Mode	3GPP Sub Test	Average Output Power (dBm)		
				Low Frequency	Middle Frequency	High Frequency
WCDMA (Band V)	Normal	Rel 99	1	22.43	22.59	22.33
		HSDPA	1	22.05	21.93	22.09
			2	22.06	22.08	22.05
			3	22.09	22.03	22.20
			4	22.13	22.00	22.23
		HSUPA	1	22.04	22.09	22.18
			2	22.06	22.07	22.14
			3	22.16	22.10	22.19
			4	22.02	22.11	22.17
			5	22.03	22.04	22.08
		HSPA+	1	22.10	21.97	22.16

CDMA850 Band

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)		Limit (dBm)
			RTAP 153.6kbps Subtype 0	RETAP 4096bps Subtype 2	
CDMA 1xEV-DO (BC0)	1013	824.70	22.19	22.15	38.45
	384	836.52	22.31	22.20	38.45
	777	848.31	22.08	21.95	38.45

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)				Limit (dBm)
			RC1+SO55	RC3+SO55	RC3+SO32 (FCH)	RC3+SO32 (SCH)	
CDMA 1xRTT (BC0)	1013	824.70	22.47	22.31	22.28	22.13	38.45
	384	836.52	22.53	22.24	22.45	22.24	38.45
	777	848.31	22.18	22.14	22.09	22.15	38.45

PCS 1900 Band

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)	Limit (dBm)
GSM	512	1850.2	30.01	33
	661	1880.0	30.82	33
	810	1909.8	30.97	33

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)				Limit (dBm)
			1 slot	2 slots	3 slots	4 slots	
GPRS	512	1850.2	29.98	29.68	28.42	27.29	33
	661	1880.0	30.75	30.05	28.56	27.81	33
	810	1909.8	30.84	30.47	29.35	28.33	33

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)				Limit (dBm)
			1 slot	2 slots	3 slots	4 slots	
EGPRS	512	1850.2	25.29	24.45	23.09	22.01	33
	661	1880.0	25.83	24.99	23.64	22.72	33
	810	1909.8	26.19	25.34	24.02	23.02	33

WCDMA Band II

Mode	Test Condition	Test Mode	3GPP Sub Test	Average Output Power (dBm)		
				Low Frequency	Middle Frequency	High Frequency
WCDMA (Band II)	Normal	Rel 99	1	22.27	22.17	22.29
		HSDPA	1	22.38	22.14	22.15
			2	22.17	22.03	22.05
			3	22.29	22.00	22.26
			4	22.26	22.00	22.25
		HSUPA	1	22.21	22.16	22.18
			2	22.30	22.18	22.08
			3	22.18	22.05	22.09
			4	22.36	22.13	22.21
			5	22.32	22.09	22.17
		HSPA+	1	22.26	21.98	22.11

Maximum Output Power:**LTE Band 2**

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	1#0	23.89	24.00	23.43
		1#3	23.31	24.12	24.09
		1#5	23.76	23.66	24.18
		3#0	23.85	23.46	23.75
		3#1	23.38	23.88	23.65
		3#3	23.37	23.98	23.59
		6#0	24.15	24.12	24.23
	16-QAM	1#0	24.04	23.58	24.06
		1#3	24.21	23.28	23.76
		1#5	23.28	24.12	24.12
		3#0	24.15	23.93	23.71
		3#1	23.80	23.30	23.84
		3#3	23.65	24.05	23.35
		6#0	24.01	23.47	23.34
3M	QPSK	1#0	23.72	23.84	23.75
		1#7	23.54	23.85	24.02
		1#14	24.22	23.72	23.77
		8#0	24.00	23.66	23.50
		8#4	23.58	23.27	24.09
		8#7	23.81	23.86	24.03
		15#0	23.83	23.29	23.65
	16-QAM	1#0	23.94	23.82	23.63
		1#7	24.13	23.86	23.35
		1#14	23.89	23.86	24.05
		8#0	23.88	23.59	23.50
		8#4	23.87	23.92	23.55
		8#7	23.56	23.61	24.17
		15#0	23.81	23.74	23.38

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	23.39	23.84	23.73
		1#12	23.55	23.83	23.76
		1#24	24.12	23.28	23.71
		12#0	23.79	23.31	23.28
		12#6	23.41	23.44	23.68
		12#11	23.93	23.54	24.15
		25#0	24.00	23.60	23.74
	16-QAM	1#0	23.86	23.37	23.27
		1#12	23.67	23.56	24.24
		1#24	23.29	23.69	23.63
		12#0	24.05	23.59	23.45
		12#6	24.03	23.81	24.18
		12#11	24.25	23.64	23.67
		25#0	23.30	23.76	23.86
10M	QPSK	1#0	23.50	23.44	23.41
		1#24	23.66	24.18	23.60
		1#49	23.62	23.49	23.80
		25#0	24.08	23.46	23.65
		25#12	24.10	24.25	23.79
		25#24	23.86	23.84	23.64
		50#0	23.37	24.25	23.60
	16-QAM	1#0	24.15	24.19	23.52
		1#24	24.13	23.55	23.36
		1#49	24.25	23.89	23.59
		25#0	23.92	23.72	23.36
		25#12	23.86	24.17	23.51
		25#24	23.54	23.28	23.50
		50#0	23.74	23.44	23.65

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
15M	QPSK	1#0	23.74	23.63	23.66
		1#37	23.70	23.40	24.06
		1#74	24.00	24.17	23.58
		36#0	23.89	24.24	23.58
		36#17	23.73	23.88	23.62
		36#35	23.68	24.19	23.77
		75#0	23.92	23.47	23.49
	16-QAM	1#0	23.54	24.16	23.58
		1#37	23.56	23.68	23.90
		1#74	23.34	23.60	24.16
		36#0	23.71	23.45	24.18
		36#17	23.48	24.24	23.78
		36#35	24.13	23.90	24.02
		75#0	24.15	23.49	24.00
20M	QPSK	1#0	24.03	24.22	23.72
		1#49	23.59	23.56	23.90
		1#99	23.34	24.25	23.36
		50#0	24.00	23.48	23.45
		50#24	23.68	23.76	23.94
		50#49	24.07	24.14	23.99
		100#0	24.02	24.02	23.52
	16-QAM	1#0	23.72	23.52	23.27
		1#49	23.93	24.08	23.79
		1#99	23.28	23.61	23.85
		50#0	23.70	24.21	23.30
		50#24	24.17	24.08	24.05
		50#49	23.54	23.71	23.60
		100#0	23.50	23.80	23.38

LTE Band 4

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	1#0	21.88	22.04	22.31
		1#3	22.53	21.86	22.96
		1#5	22.46	22.11	21.98
		3#0	21.79	21.94	22.29
		3#1	22.52	22.61	22.46
		3#3	22.61	22.16	22.88
		6#0	21.95	22.44	22.76
	16-QAM	1#0	21.92	22.16	22.61
		1#3	22.33	22.75	22.30
		1#5	22.18	21.91	22.18
		3#0	22.63	21.86	22.40
		3#1	21.98	22.22	22.04
		3#3	22.02	22.73	22.42
		6#0	22.56	21.78	22.09
3M	QPSK	1#0	22.09	22.71	22.96
		1#7	21.76	22.61	22.73
		1#14	22.13	21.90	22.74
		8#0	22.61	22.17	22.34
		8#4	22.61	22.12	22.64
		8#7	21.75	22.31	21.99
		15#0	22.72	22.22	22.15
	16-QAM	1#0	22.33	22.06	22.28
		1#7	22.22	22.10	22.15
		1#14	22.49	22.60	22.58
		8#0	22.30	21.83	21.97
		8#4	22.66	22.28	22.28
		8#7	21.99	22.07	22.89
		15#0	22.29	22.68	22.71

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	22.18	22.10	22.17
		1#12	22.35	22.76	22.24
		1#24	21.80	22.19	21.97
		12#0	21.92	22.37	22.13
		12#6	22.23	21.99	22.67
		12#11	21.85	21.97	22.23
		25#0	22.43	22.36	22.76
	16-QAM	1#0	22.70	21.90	22.92
		1#12	22.53	22.18	22.54
		1#24	22.07	22.53	22.21
		12#0	22.71	22.31	22.63
		12#6	22.47	22.40	22.73
		12#11	22.24	21.92	22.22
		25#0	22.26	21.80	22.13
10M	QPSK	1#0	22.30	22.38	22.40
		1#24	22.38	22.27	22.32
		1#49	22.63	22.24	22.31
		25#0	22.57	22.50	22.32
		25#12	21.87	21.82	22.66
		25#24	22.18	22.14	22.04
		50#0	21.94	22.67	22.45
	16-QAM	1#0	22.49	21.86	22.49
		1#24	21.94	22.17	22.15
		1#49	21.92	22.34	22.63
		25#0	22.58	22.09	21.98
		25#12	22.43	22.66	21.98
		25#24	21.90	22.35	22.26
		50#0	22.39	22.64	22.75

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
15M	QPSK	1#0	21.98	22.06	22.50
		1#37	22.44	22.03	22.62
		1#74	21.98	22.45	22.21
		36#0	21.78	21.82	21.98
		36#17	22.39	22.65	22.36
		36#35	22.12	22.03	22.58
		75#0	22.29	22.68	22.11
	16-QAM	1#0	21.79	22.27	22.71
		1#37	22.29	22.66	22.49
		1#74	21.93	22.01	22.81
		36#0	22.11	22.00	22.47
		36#17	22.56	22.18	21.98
		36#35	22.42	22.00	22.37
		75#0	22.02	22.37	22.47
20M	QPSK	1#0	21.85	22.26	22.06
		1#49	21.85	22.41	22.26
		1#99	22.49	21.94	22.21
		50#0	22.12	22.17	22.22
		50#24	22.27	22.18	22.50
		50#49	22.50	22.52	22.00
		100#0	22.30	22.57	22.04
	16-QAM	1#0	22.29	21.84	22.40
		1#49	22.49	22.21	21.97
		1#99	22.17	22.50	22.95
		50#0	22.13	21.80	22.61
		50#24	22.03	22.45	22.34
		50#49	22.66	21.90	22.30
		100#0	21.78	22.28	22.24

LTE Band 5

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	1#0	21.92	22.51	22.26
		1#3	22.17	22.61	22.32
		1#5	21.74	21.94	22.13
		3#0	22.13	21.95	22.39
		3#1	22.36	22.02	22.93
		3#3	22.36	21.83	22.64
		6#0	22.69	22.70	22.10
	16-QAM	1#0	22.06	22.16	22.05
		1#3	22.66	21.99	22.63
		1#5	21.84	22.31	22.69
		3#0	22.24	22.34	22.79
		3#1	22.23	22.55	22.55
		3#3	22.39	22.05	22.50
		6#0	22.67	22.55	22.92
3M	QPSK	1#0	22.43	22.09	22.75
		1#7	22.17	22.46	22.45
		1#14	22.00	21.97	22.15
		8#0	21.98	22.12	22.95
		8#4	21.85	22.09	22.42
		8#7	22.10	22.14	22.73
		15#0	22.57	22.08	22.73
	16-QAM	1#0	22.11	21.93	22.16
		1#7	22.03	21.98	22.18
		1#14	21.93	22.31	22.40
		8#0	21.73	22.51	22.53
		8#4	21.79	22.74	22.90
		8#7	22.02	21.94	22.22
		15#0	22.65	22.36	22.73

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	22.07	22.04	22.48
		1#12	22.53	22.54	22.52
		1#24	22.01	22.39	22.50
		12#0	22.18	22.18	22.08
		12#6	22.33	22.19	22.43
		12#11	22.22	22.64	22.03
		25#0	22.24	22.11	22.57
	16-QAM	1#0	22.05	22.28	22.57
		1#12	21.98	21.84	22.24
		1#24	21.87	22.24	22.80
		12#0	22.69	21.82	22.30
		12#6	21.97	22.60	22.63
		12#11	22.33	22.23	22.74
		25#0	21.87	22.30	22.04
10M	QPSK	1#0	21.97	22.63	22.77
		1#24	22.59	22.36	22.59
		1#49	21.93	22.67	22.16
		25#0	22.24	22.69	22.58
		25#12	22.05	22.29	22.40
		25#24	22.41	22.51	22.20
		50#0	21.84	22.59	22.89
	16-QAM	1#0	22.69	22.12	22.79
		1#24	21.82	22.15	22.12
		1#49	22.45	21.78	22.23
		25#0	22.43	21.88	22.04
		25#12	21.99	22.66	22.07
		25#24	22.59	22.17	22.37
		50#0	21.82	22.63	22.06

LTE Band 7

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	22.36	22.50	22.22
		1#12	21.88	22.68	22.03
		1#24	22.32	22.24	22.11
		12#0	22.69	22.09	22.95
		12#6	22.39	22.67	22.40
		12#11	22.57	22.20	22.07
		25#0	22.65	22.66	22.01
	16-QAM	1#0	22.53	21.88	22.84
		1#12	22.14	22.42	21.96
		1#24	21.75	22.39	22.06
		12#0	22.50	22.60	22.42
		12#6	22.34	22.64	22.42
		12#11	22.13	22.46	22.94
		25#0	21.73	21.93	22.29
10M	QPSK	1#0	22.30	22.15	22.78
		1#24	22.37	22.53	22.31
		1#49	22.40	21.96	21.96
		25#0	22.66	22.23	22.72
		25#12	22.02	22.16	22.10
		25#24	22.27	22.73	22.87
		50#0	22.18	21.94	22.73
	16-QAM	1#0	22.53	22.26	22.45
		1#24	22.22	22.22	22.55
		1#49	22.57	21.92	22.34
		25#0	22.18	22.44	22.37
		25#12	22.49	22.01	22.47
		25#24	22.06	22.73	22.51
		50#0	21.99	22.56	22.09

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
15M	QPSK	1#0	22.10	21.79	22.82
		1#37	21.86	21.89	22.88
		1#74	22.67	21.97	22.15
		36#0	22.02	22.49	22.47
		36#17	22.05	22.60	22.48
		36#35	22.67	22.63	22.89
		75#0	22.02	22.35	22.19
	16-QAM	1#0	21.76	21.98	22.83
		1#37	22.47	21.80	22.18
		1#74	22.61	22.37	22.50
		36#0	22.28	22.18	22.60
		36#17	21.99	22.77	21.99
		36#35	21.97	22.16	22.86
		75#0	22.53	22.05	22.84
20M	QPSK	1#0	22.04	22.17	22.95
		1#49	22.14	22.59	21.98
		1#99	22.28	22.42	22.38
		50#0	21.87	22.74	21.97
		50#24	22.25	21.91	22.13
		50#49	22.48	22.19	21.99
		100#0	22.20	22.77	22.26
	16-QAM	1#0	22.15	22.76	22.20
		1#49	22.38	22.72	22.38
		1#99	22.10	22.36	22.58
		50#0	22.72	21.81	22.77
		50#24	22.70	22.52	22.68
		50#49	22.42	22.17	22.79
		100#0	21.89	22.06	22.05

LTE Band 17

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	22.25	21.95	22.84
		1#12	21.86	22.50	22.23
		1#24	21.80	22.43	21.99
		12#0	21.93	22.75	22.31
		12#6	22.21	22.42	22.85
		12#11	21.74	22.49	22.60
		25#0	22.21	22.63	22.81
	16-QAM	1#0	21.74	21.83	22.95
		1#12	22.32	22.47	22.45
		1#24	22.30	22.72	22.36
		12#0	22.16	22.26	22.08
		12#6	22.00	22.34	22.75
		12#11	22.50	22.68	22.24
		25#0	21.79	22.03	22.27
10M	QPSK	1#0	22.46	22.74	22.73
		1#24	22.08	22.19	22.41
		1#49	22.37	22.17	22.19
		25#0	22.16	22.01	22.52
		25#12	21.75	22.68	22.94
		25#24	21.85	22.43	22.13
		50#0	22.03	22.64	22.29
	16-QAM	1#0	22.62	21.80	22.65
		1#24	22.17	21.98	22.17
		1#49	21.79	21.85	22.28
		25#0	21.95	21.80	22.74
		25#12	22.37	21.86	22.88
		25#24	22.56	22.26	22.02
		50#0	21.96	21.92	22.19

LTE Band 41

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	22.66	22.08	22.17
		1#12	22.58	21.96	22.85
		1#24	22.65	22.27	22.27
		12#0	22.21	22.37	22.17
		12#6	22.34	22.63	22.39
		12#11	22.07	21.91	22.15
		25#0	22.38	22.04	22.56
	16-QAM	1#0	22.00	22.48	22.25
		1#12	22.18	22.36	21.97
		1#24	22.25	22.03	22.90
		12#0	22.46	22.24	21.96
		12#6	21.79	22.26	22.95
		12#11	22.45	22.75	22.31
		25#0	22.36	22.70	22.75
10M	QPSK	1#0	22.30	22.22	22.22
		1#24	22.43	22.20	22.76
		1#49	21.89	22.25	22.59
		25#0	22.49	21.86	22.31
		25#12	22.11	22.54	22.31
		25#24	22.09	21.86	22.75
		50#0	21.88	22.34	22.70
	16-QAM	1#0	22.35	22.29	22.06
		1#24	22.41	22.00	22.59
		1#49	22.25	21.79	22.34
		25#0	22.40	22.18	22.33
		25#12	22.71	22.15	22.36
		25#24	21.83	22.40	22.50
		50#0	21.79	22.08	22.05

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
15M	QPSK	1#0	22.04	22.60	22.08
		1#37	22.50	22.61	22.10
		1#74	22.72	21.79	22.72
		36#0	21.96	22.32	22.64
		36#17	22.01	22.56	21.98
		36#35	22.47	22.76	22.71
		75#0	22.60	22.19	22.11
	16-QAM	1#0	22.70	22.57	22.23
		1#37	21.85	22.47	22.22
		1#74	21.92	22.36	22.64
		36#0	22.11	22.49	22.29
		36#17	22.41	22.60	22.55
		36#35	21.89	22.12	22.15
		75#0	22.17	22.06	22.85
20M	QPSK	1#0	22.69	22.34	22.51
		1#49	21.95	22.70	22.00
		1#99	22.37	21.95	22.55
		50#0	22.62	22.72	22.40
		50#24	21.74	22.55	22.24
		50#49	22.14	22.52	22.50
		100#0	22.13	21.94	22.30
	16-QAM	1#0	22.52	22.22	22.45
		1#49	22.53	22.59	22.89
		1#99	22.69	22.00	22.72
		50#0	21.89	21.98	22.00
		50#24	22.57	22.02	22.47
		50#49	22.21	22.20	22.76
		100#0	21.82	21.93	21.97

Peak-to-average ratio (PAR):**GSM/GPRS/ EGPRS 850 Band**

Mode	Channel	PAR (dB)	Limit (dB)
GSM	Low	2.13	≤ 13
	Middle	2.28	≤ 13
	High	2.15	≤ 13

Mode	Channel	PAR (dB)	Limit (dB)
GPRS	Low	2.11	≤ 13
	Middle	2.07	≤ 13
	High	2.18	≤ 13

Mode	Channel	PAR (dB)	Limit (dB)
EGPRS	Low	1.94	≤ 13
	Middle	2.19	≤ 13
	High	2.03	≤ 13

CDMA850 Band

Mode	Channel	PAR (dB)	Limit(dBm)
EV-DO (BC0)	Low	2.10	≤ 13
	Middle	2.02	≤ 13
	High	2.12	≤ 13

Mode	Channel	PAR (dB)	Limit(dBm)
1xRTT	Low	2.15	≤ 13
	Middle	2.14	≤ 13
	High	2.08	≤ 13

WCDMA Band V

Mode	Channel	PAR (dB)	Limit (dB)
WCDMA (Rel99)	Low	2.14	≤ 13
	Middle	2.00	≤ 13
	High	2.11	≤ 13
WCDMA (HSDPA)	Low	2.07	≤ 13
	Middle	2.09	≤ 13
	High	2.05	≤ 13
WCDMA (HSUPA)	Low	2.21	≤ 13
	Middle	2.20	≤ 13
	High	2.18	≤ 13
WCDMA (HSPA+)	Low	2.02	≤ 13
	Middle	2.04	≤ 13
	High	2.00	≤ 13

PCS 1900

Mode	Channel	PAR (dB)	Limit (dB)
GSM	Low	2.12	≤ 13
	Middle	2.16	≤ 13
	High	2.24	≤ 13

Mode	Channel	PAR (dB)	Limit (dB)
GPRS	Low	2.23	≤ 13
	Middle	2.17	≤ 13
	High	2.19	≤ 13

Mode	Channel	PAR (dB)	Limit (dB)
EGPRS	Low	2.23	≤ 13
	Middle	2.11	≤ 13
	High	2.23	≤ 13

WCDMA Band II

Mode	Channel	PAR (dB)	Limit (dB)
WCDMA (Rel99)	Low	2.24	≤ 13
	Middle	2.02	≤ 13
	High	2.11	≤ 13
WCDMA (HSDPA)	Low	2.16	≤ 13
	Middle	2.17	≤ 13
	High	2.09	≤ 13
WCDMA (HSUPA)	Low	1.95	≤ 13
	Middle	1.94	≤ 13
	High	2.19	≤ 13
WCDMA (HSPA+)	Low	2.09	≤ 13
	Middle	2.22	≤ 13
	High	2.14	≤ 13

LTE Band 2

Test Modulation		Test Bandwidth	Low Channel (dB)	Middle Channel (dB)	High Channel (dB)	Limit (dB)
QPSK	1 RB	20M	3.07	3.19	3.18	≤ 13
	100 RB		5.01	5.18	5.06	≤ 13
16-QAM	1 RB	20M	4.18	4.17	4.01	≤ 13
	100 RB		6.13	6.19	6.10	≤ 13

LTE Band 4

Test Modulation		Test Bandwidth	Low Channel (dB)	Middle Channel (dB)	High Channel (dB)	Limit(dB)
QPSK	1 RB	20M	3.12	3.02	3.17	≤ 13
	100 RB		5.04	5.05	5.06	≤ 13
16-QAM	1 RB	20M	4.03	4.17	4.09	≤ 13
	100 RB		6.01	6.16	6.16	≤ 13

LTE Band 5

Test Modulation		Test Bandwidth	Low Channel (dB)	Middle Channel (dB)	High Channel (dB)	Limit(dB)
QPSK	1 RB	10M	3.11	3.11	3.06	≤ 13
	50 RB		5.03	5.03	5.13	≤ 13
16-QAM	1 RB	10M	4.00	4.10	4.19	≤ 13
	50 RB		6.01	6.05	6.11	≤ 13

LTE Band 7

Test Modulation		Test Bandwidth	Low Channel (dB)	Middle Channel (dB)	High Channel (dB)	Limit(dB)
QPSK	1 RB	20M	3.02	3.20	3.01	≤ 13
	100 RB		5.08	5.01	5.12	≤ 13
16-QAM	1 RB	20M	4.17	4.15	4.01	≤ 13
	100 RB		6.13	6.14	6.10	≤ 13

LTE Band 17

Test Modulation		Test Bandwidth	Low Channel (dB)	Middle Channel (dB)	High Channel (dB)	Limit(dB)
QPSK	1 RB	10M	3.02	3.06	3.04	≤ 13
	50 RB		5.15	5.15	5.13	≤ 13
16-QAM	1 RB	10M	4.06	4.06	4.12	≤ 13
	50 RB		6.09	6.09	6.14	≤ 13

LTE Band 41

Test Modulation		Test Bandwidth	Low Channel (dB)	Middle Channel (dB)	High Channel (dB)	Limit(dB)
QPSK	1 RB	20M	3.08	3.18	3.12	≤ 13
	100 RB		5.05	5.05	5.11	≤ 13
16-QAM	1 RB	20M	4.16	4.01	4.10	≤ 13
	100 RB		6.04	6.12	6.06	≤ 13

Radiated Power:**GSM/GPRS/EGPRS Mode**

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
GSM 850, Low Channel (ERP)										
824.20	98.73	77	150	H	31.57	0.62	-1.18	29.77	38.45	8.68
824.20	99.16	310	150	V	32	0.62	-1.18	30.2	38.45	8.25
GPRS 850, Low Channel (ERP)										
824.20	98.67	44	150	H	31.51	0.62	-1.18	29.71	38.45	8.74
824.20	99.19	216	150	V	32.03	0.62	-1.18	30.23	38.45	8.22
EGPRS 850, Low Channel (ERP)										
824.20	93.61	79	150	H	26.45	0.62	-1.18	24.65	38.45	13.8
824.20	94.13	114	150	V	26.97	0.62	-1.18	25.17	38.45	13.28
GSM 1900, Low Channel (EIRP)										
1850.2	91.75	227	150	H	21.62	0.84	8.76	29.54	33	3.46
1850.2	90.46	156	150	V	20.33	0.84	8.76	28.25	33	4.75
GPRS 1900, Low Channel (EIRP)										
1850.2	91.25	176	150	H	21.12	0.84	8.76	29.04	33	3.96
1850.2	90.96	274	150	V	20.83	0.84	8.76	28.75	33	4.25
EGPRS 1900, Low Channel (EIRP)										
1850.2	87.19	275	150	H	17.06	0.84	8.76	24.98	33	8.02
1850.2	89.82	300	150	V	19.69	0.84	8.76	27.61	33	5.39

GSM/GPRS/EGPRS Mode

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
GSM 850, Middle Channel (ERP)										
836.60	98.53	353	100	H	31.41	0.63	-1.14	29.64	38.45	8.81
836.60	99.35	204	150	V	32.23	0.63	-1.14	30.46	38.45	7.99
GPRS 850, Middle Channel (ERP)										
836.60	98.27	273	100	H	31.15	0.63	-1.14	29.38	38.45	9.07
836.60	99.88	172	150	V	32.76	0.63	-1.14	30.99	38.45	7.46
EGPRS 850, Middle Channel (ERP)										
836.60	93.46	190	150	H	26.34	0.63	-1.14	24.57	38.45	13.88
836.60	94.61	110	100	V	27.49	0.63	-1.14	25.72	38.45	12.73
GSM 1900, Middle Channel (EIRP)										
1880.00	91.72	251	150	H	21.59	0.85	8.81	29.55	33	3.45
1880.00	90.06	338	100	V	19.93	0.85	8.81	27.89	33	5.11
GPRS 1900, Middle Channel (EIRP)										
1880.00	91.09	311	150	H	20.96	0.85	8.81	28.92	33	4.08
1880.00	90.18	343	100	V	20.05	0.85	8.81	28.01	33	4.99
EGPRS 1900, Middle Channel (EIRP)										
1880.00	87.83	313	150	H	17.7	0.85	8.81	25.66	33	7.34
1880.00	89.46	21	100	V	19.33	0.85	8.81	27.29	33	5.71

GSM/GPRS/EGPRS Mode

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
GSM 850, High Channel (ERP)										
848.80	98.95	59	150	H	31.86	0.63	-1.10	30.13	38.45	8.32
848.80	99.73	43	150	V	32.64	0.63	-1.10	30.91	38.45	7.54
GPRS 850, High Channel (ERP)										
848.80	98.27	234	150	H	31.18	0.63	-1.10	29.45	38.45	9
848.80	99.97	43	150	V	32.88	0.63	-1.10	31.15	38.45	7.3
EGPRS 850, High Channel (ERP)										
848.80	93.46	227	150	H	26.37	0.63	-1.10	24.64	38.45	13.81
848.80	94.64	179	150	V	27.55	0.63	-1.10	25.82	38.45	12.63
GSM 1900, High Channel (EIRP)										
1909.80	91.81	243	150	H	21.68	0.85	8.85	29.68	33	3.32
1909.80	90.94	134	150	V	20.81	0.85	8.85	28.81	33	4.19
GPRS 1900, High Channel (EIRP)										
1909.80	91.7	43	150	H	21.57	0.85	8.85	29.57	33	3.43
1909.80	90.97	223	150	V	20.84	0.85	8.85	28.84	33	4.16
EGPRS 1900, High Channel (EIRP)										
1909.80	87.18	165	150	H	17.05	0.85	8.85	25.05	33	7.95
1909.80	89.51	273	150	V	19.38	0.85	8.85	27.38	33	5.62

WCDMA Mode

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
WCDMA Band V, Low Channel(ERP)										
826.40	87.81	21	200	H	20.66	0.63	-1.17	18.86	38.45	19.59
826.40	88.71	148	150	V	21.56	0.63	-1.17	19.76	38.45	18.69
WCDMA Band II, Low Channel(EIRP)										
1852.40	86.24	78	200	H	16.11	0.84	8.76	24.03	33.00	8.97
1852.40	85.57	56	150	V	15.44	0.84	8.76	23.36	33.00	9.64

WCDMA Mode

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
WCDMA Band V, Middle Channel(ERP)										
836.60	87.06	59	200	H	19.94	0.63	-1.14	18.17	38.45	20.28
836.60	88.99	263	150	V	21.87	0.63	-1.14	20.10	38.45	18.35
WCDMA Band II, Middle Channel(EIRP)										
1880.00	85.63	309	200	H	15.50	0.85	8.81	23.46	33.00	9.54
1880.00	85.66	81	150	V	15.53	0.85	8.81	23.49	33.00	9.51

WCDMA Mode

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBi)			
WCDMA Band V, High Channel(ERP)										
846.60	87.66	304	200	H	20.56	0.63	-1.11	18.82	38.45	19.63
846.60	88.39	354	150	V	21.29	0.63	-1.11	19.55	38.45	18.90
WCDMA Band II, High Channel(EIRP)										
1907.60	86.66	149	200	H	16.53	0.85	8.85	24.53	33.00	8.47
1907.60	87.78	189	150	V	17.65	0.85	8.85	25.65	33.00	7.35

CDMA Mode

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
EVDO mode , Low Channel (ERP)										
824.70	87.33	218	200	H	20.17	0.62	-1.18	18.37	38.45	20.08
824.70	88.93	259	150	V	21.77	0.62	-1.18	19.97	38.45	18.48
EVDO mode, Middle Channel (ERP)										
836.52	86.96	198	200	H	19.83	0.63	-1.14	18.06	38.45	20.39
836.52	89.03	43	150	V	21.9	0.63	-1.14	20.13	38.45	18.32
EVDO mode, High Channel (ERP)										
848.31	87.11	37	200	H	20.02	0.63	-1.10	18.29	38.45	20.16
848.31	88.79	98	150	V	21.70	0.63	-1.10	19.97	38.45	18.48

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
1xRTT mode, Low Channel(ERP)										
824.70	87.11	218	200	H	19.95	0.62	-1.18	18.15	38.45	20.30
824.70	88.06	259	150	V	20.90	0.62	-1.18	19.10	38.45	19.35
1xRTT mode, Middle Channel(ERP)										
836.52	86.91	198	200	H	19.78	0.63	-1.14	18.01	38.45	20.44
836.52	88.96	43	150	V	21.83	0.63	-1.14	20.06	38.45	18.39
1xRTT mode, High Channel(ERP)										
848.31	86.83	37	200	H	19.74	0.63	-1.1	18.01	38.45	20.44
848.31	88.69	98	150	V	21.60	0.63	-1.1	19.87	38.45	18.58

EIRP:**LTE Band 2**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 1.4M BW Low Channel								
1850.7	H	88.22	14.97	0.84	8.76	22.89	33.00	10.11
1850.7	V	87.11	13.86	0.84	8.76	21.78	33.00	11.22
16-QAM 1.4M BW Low Channel								
1850.7	H	88.07	14.82	0.84	8.76	22.74	33.00	10.26
1850.7	V	87.20	13.95	0.84	8.76	21.87	33.00	11.13
QPSK 3M BW Low Channel								
1851.5	H	88.34	15.10	0.84	8.76	23.02	33.00	9.98
1851.5	V	87.33	14.09	0.84	8.76	22.01	33.00	10.99
16-QAM 3M BW Low Channel								
1851.5	H	88.12	14.88	0.84	8.76	22.80	33.00	10.20
1851.5	V	87.11	13.87	0.84	8.76	21.79	33.00	11.21
QPSK 5M BW Low Channel								
1852.5	H	88.96	15.73	0.84	8.76	23.65	33.00	9.35
1852.5	V	87.85	14.62	0.84	8.76	22.54	33.00	10.46
16-QAM 5M BW Low Channel								
1852.5	H	88.15	14.92	0.84	8.76	22.84	33.00	10.16
1852.5	V	87.66	14.43	0.84	8.76	22.35	33.00	10.65
QPSK 10M BW Low Channel								
1855.0	H	88.46	15.25	0.84	8.77	23.18	33.00	9.82
1855.0	V	87.45	14.24	0.84	8.77	22.17	33.00	10.83
16-QAM 10M BW Low Channel								
1855.0	H	88.24	15.03	0.84	8.77	22.96	33.00	10.04
1855.0	V	87.13	13.92	0.84	8.77	21.85	33.00	11.15
QPSK 15M BW Low Channel								
1857.5	H	88.26	15.06	0.84	8.77	22.99	33.00	10.01
1857.5	V	87.56	14.36	0.84	8.77	22.29	33.00	10.71
16-QAM 15M BW Low Channel								
1857.5	H	88.03	14.83	0.84	8.77	22.76	33.00	10.24
1857.5	V	87.43	14.23	0.84	8.77	22.16	33.00	10.84

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 20M BW Low Channel								
1860.0	H	88.58	15.40	0.84	8.78	23.34	33.00	9.66
1860.0	V	87.53	14.35	0.84	8.78	22.29	33.00	10.71
16-QAM 20M BW Low Channel								
1860.0	H	88.20	15.02	0.84	8.78	22.96	33.00	10.04
1860.0	V	87.45	14.27	0.84	8.78	22.21	33.00	10.79

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 1.4M BW Middle Channel								
1880.0	H	88.58	15.54	0.85	8.81	23.50	33.00	9.50
1880.0	V	87.66	14.62	0.85	8.81	22.58	33.00	10.42
16-QAM 1.4M BW Middle Channel								
1880.0	H	88.90	15.86	0.85	8.81	23.82	33.00	9.18
1880.0	V	87.77	14.73	0.85	8.81	22.69	33.00	10.31
QPSK 3M BW Middle Channel								
1880.0	H	88.62	15.58	0.85	8.81	23.54	33.00	9.46
1880.0	V	87.70	14.66	0.85	8.81	22.62	33.00	10.38
16-QAM 3M BW Middle Channel								
1880.0	H	88.41	15.37	0.85	8.81	23.33	33.00	9.67
1880.0	V	87.45	14.63	0.85	8.81	22.59	33.00	10.41
QPSK 5M BW Middle Channel								
1880.0	H	88.34	15.30	0.85	8.81	23.26	33.00	9.74
1880.0	V	87.91	15.09	0.85	8.81	23.05	33.00	9.95
16-QAM 5M BW Middle Channel								
1880.0	H	88.04	15.00	0.85	8.81	22.96	33.00	10.04
1880.0	V	87.78	14.96	0.85	8.81	22.92	33.00	10.08
QPSK 10M BW Middle Channel								
1880.0	H	88.62	15.58	0.85	8.81	23.54	33.00	9.46
1880.0	V	87.78	14.96	0.85	8.81	22.92	33.00	10.08
16-QAM 10M BW Middle Channel								
1880.0	H	88.00	14.96	0.85	8.81	22.92	33.00	10.08
1880.0	V	87.71	14.89	0.85	8.81	22.85	33.00	10.15
QPSK 15M BW Middle Channel								
1880.0	H	88.47	15.43	0.85	8.81	23.39	33.00	9.61
1880.0	V	87.73	14.91	0.85	8.81	22.87	33.00	10.13
16-QAM 15M BW Middle Channel								
1880.0	H	88.90	15.86	0.85	8.81	23.82	33.00	9.18
1880.0	V	87.88	15.06	0.85	8.81	23.02	33.00	9.98

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 20M BW Middle Channel								
1880.0	H	88.17	15.13	0.85	8.81	23.09	33.00	9.91
1880.0	V	87.32	14.50	0.85	8.81	22.46	33.00	10.54
16-QAM 20M BW Middle Channel								
1880.0	H	88.42	15.38	0.85	8.81	23.34	33.00	9.66
1880.0	V	87.31	14.49	0.85	8.81	22.45	33.00	10.55

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 1.4M BW High Channel								
1909.3	H	88.54	15.70	0.85	8.85	23.70	33.00	9.30
1909.3	V	87.03	14.19	0.85	8.85	22.19	33.00	10.81
16-QAM 1.4M BW High Channel								
1909.3	H	88.27	15.43	0.85	8.85	23.43	33.00	9.57
1909.3	V	87.58	14.74	0.85	8.85	22.74	33.00	10.26
QPSK 3M BW High Channel								
1908.5	H	88.81	15.96	0.85	8.85	23.96	33.00	9.04
1908.5	V	87.58	14.73	0.85	8.85	22.73	33.00	10.27
16-QAM 3M BW Low Channel								
1908.5	H	88.05	15.20	0.85	8.85	23.20	33.00	9.80
1908.5	V	87.45	14.60	0.85	8.85	22.60	33.00	10.40
QPSK 5M BW High Channel								
1907.5	H	88.02	15.17	0.85	8.85	23.17	33.00	9.83
1907.5	V	87.73	14.88	0.85	8.85	22.88	33.00	10.12
16-QAM 5M BW High Channel								
1907.5	H	88.88	16.03	0.85	8.85	24.03	33.00	8.97
1907.5	V	87.84	14.99	0.85	8.85	22.99	33.00	10.01
QPSK 10M BW High Channel								
1905.0	H	88.42	15.55	0.85	8.85	23.55	33.00	9.45
1905.0	V	87.61	14.74	0.85	8.85	22.74	33.00	10.26
16-QAM 10M BW High Channel								
1905.0	H	88.62	15.75	0.85	8.85	23.75	33.00	9.25
1905.0	V	87.72	14.85	0.85	8.85	22.85	33.00	10.15
QPSK 15M BW High Channel								
1902.5	H	88.59	15.70	0.85	8.84	23.69	33.00	9.31
1902.5	V	87.65	14.76	0.85	8.84	22.75	33.00	10.25
16-QAM 15M BW High Channel								
1902.5	H	88.45	15.56	0.85	8.84	23.55	33.00	9.45
1902.5	V	87.69	14.80	0.85	8.84	22.79	33.00	10.21

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 20M BW High Channel								
1900.0	H	88.78	15.88	0.85	8.84	23.87	33.00	9.13
1900.0	V	87.57	14.67	0.85	8.84	22.66	33.00	10.34
16-QAM 20M BW High Channel								
1900.0	H	88.51	15.61	0.85	8.84	23.60	33.00	9.40
1900.0	V	87.83	14.93	0.85	8.84	22.92	33.00	10.08

LTE Band 4

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 1.4M BW Low Channel								
1710.7	H	88.37	14.15	0.84	8.54	21.85	30.00	8.15
1710.7	V	87.02	12.80	0.84	8.54	20.50	30.00	9.50
16-QAM 1.4M BW Low Channel								
1710.7	H	88.94	14.72	0.84	8.54	22.42	30.00	7.58
1710.7	V	87.13	12.91	0.84	8.54	20.61	30.00	9.39
QPSK 3M BW Low Channel								
1711.5	H	88.65	14.44	0.84	8.54	22.14	30.00	7.86
1711.5	V	87.46	13.25	0.84	8.54	20.95	30.00	9.05
16-QAM 3M BW Low Channel								
1711.5	H	88.99	14.78	0.84	8.54	22.48	30.00	7.52
1711.5	V	87.38	13.17	0.84	8.54	20.87	30.00	9.13
QPSK 5M BW Low Channel								
1712.5	H	88.36	14.16	0.84	8.54	21.86	30.00	8.14
1712.5	V	87.93	13.73	0.84	8.54	21.43	30.00	8.57
16-QAM 5M BW Low Channel								
1712.5	H	88.76	14.56	0.84	8.54	22.26	30.00	7.74
1712.5	V	87.16	12.96	0.84	8.54	20.66	30.00	9.34
QPSK 10M BW Low Channel								
1715.0	H	88.03	13.85	0.84	8.54	21.55	30.00	8.45
1715.0	V	87.22	13.04	0.84	8.54	20.74	30.00	9.26
16-QAM 10M BW Low Channel								
1715.0	H	88.35	14.17	0.84	8.54	21.87	30.00	8.13
1715.0	V	87.82	13.64	0.84	8.54	21.34	30.00	8.66
QPSK 15M BW Low Channel								
1717.5	H	88.28	14.11	0.84	8.55	21.82	30.00	8.18
1717.5	V	87.23	13.06	0.84	8.55	20.77	30.00	9.23
16-QAM 15M BW Low Channel								
1717.5	H	88.58	14.41	0.84	8.55	22.12	30.00	7.88
1717.5	V	87.71	13.54	0.84	8.55	21.25	30.00	8.75

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 20M BW Low Channel								
1720.0	H	88.94	14.79	0.84	8.55	22.50	30.00	7.50
1720.0	V	87.94	13.79	0.84	8.55	21.50	30.00	8.50
16-QAM 20M BW Low Channel								
1720.0	H	88.88	14.73	0.84	8.55	22.44	30.00	7.56
1720.0	V	87.58	13.43	0.84	8.55	21.14	30.00	8.86

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 1.4M BW Middle Channel								
1732.5	H	88.21	14.15	0.84	8.57	21.88	30.00	8.12
1732.5	V	87.74	13.68	0.84	8.57	21.41	30.00	8.59
16-QAM 1.4M BW Middle Channel								
1732.5	H	88.32	14.26	0.84	8.57	21.99	30.00	8.01
1732.5	V	87.87	13.81	0.84	8.57	21.54	30.00	8.46
QPSK 3M BW Middle Channel								
1732.5	H	88.85	14.79	0.84	8.57	22.52	30.00	7.48
1732.5	V	87.86	13.80	0.84	8.57	21.53	30.00	8.47
16-QAM 3M BW Middle Channel								
1732.5	H	88.95	14.89	0.84	8.57	22.62	30.00	7.38
1732.5	V	87.75	13.69	0.84	8.57	21.42	30.00	8.58
QPSK 5M BW Middle Channel								
1732.5	H	88.27	14.21	0.84	8.57	21.94	30.00	8.06
1732.5	V	87.97	13.91	0.84	8.57	21.64	30.00	8.36
16-QAM 5M BW Middle Channel								
1732.5	H	88.11	14.05	0.84	8.57	21.78	30.00	8.22
1732.5	V	87.74	13.68	0.84	8.57	21.41	30.00	8.59
QPSK 10M BW Middle Channel								
1732.5	H	88.98	14.92	0.84	8.57	22.65	30.00	7.35
1732.5	V	87.74	13.68	0.84	8.57	21.41	30.00	8.59
16-QAM 10M BW Middle Channel								
1732.5	H	88.21	14.15	0.84	8.57	21.88	30.00	8.12
1732.5	V	87.73	13.67	0.84	8.57	21.40	30.00	8.60
QPSK 15M BW Middle Channel								
1732.5	H	88.71	14.65	0.84	8.57	22.38	30.00	7.62
1732.5	V	87.32	13.26	0.84	8.57	20.99	30.00	9.01
16-QAM 15M BW Middle Channel								
1732.5	H	88.51	14.45	0.84	8.57	22.18	30.00	7.82
1732.5	V	87.53	13.47	0.84	8.57	21.20	30.00	8.80

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 20M BW Middle Channel								
1732.5	H	88.44	14.38	0.84	8.57	22.11	30.00	7.89
1732.5	V	87.34	13.28	0.84	8.57	21.01	30.00	8.99
16-QAM 20M BW Middle Channel								
1732.5	H	88.54	14.48	0.84	8.57	22.21	30.00	7.79
1732.5	V	87.10	13.04	0.84	8.57	20.77	30.00	9.23

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 1.4M BW High Channel								
1754.3	H	88.61	14.70	0.84	8.61	22.47	30.00	7.53
1754.3	V	87.43	13.52	0.84	8.61	21.29	30.00	8.71
16-QAM 1.4M BW High Channel								
1754.3	H	88.87	14.96	0.84	8.61	22.73	30.00	7.27
1754.3	V	87.26	13.35	0.84	8.61	21.12	30.00	8.88
QPSK 3M BW High Channel								
1753.5	H	88.67	14.75	0.84	8.60	22.51	30.00	7.49
1753.5	V	87.62	13.70	0.84	8.60	21.46	30.00	8.54
16-QAM 3M BW High Channel								
1753.5	H	88.33	14.41	0.84	8.60	22.17	30.00	7.83
1753.5	V	87.57	13.65	0.84	8.60	21.41	30.00	8.59
QPSK 5M BW High Channel								
1752.5	H	88.82	14.89	0.84	8.60	22.65	30.00	7.35
1752.5	V	87.19	13.26	0.84	8.60	21.02	30.00	8.98
16-QAM 5M BW High Channel								
1752.5	H	88.94	15.01	0.84	8.60	22.77	30.00	7.23
1752.5	V	87.84	13.91	0.84	8.60	21.67	30.00	8.33
QPSK 10M BW High Channel								
1750.0	H	88.03	14.09	0.84	8.60	21.85	30.00	8.15
1750.0	V	87.02	13.08	0.84	8.60	20.84	30.00	9.16
16-QAM 10M BW High Channel								
1750.0	H	88.44	14.50	0.84	8.60	22.26	30.00	7.74
1750.0	V	87.98	14.04	0.84	8.60	21.80	30.00	8.20
QPSK 15M BW High Channel								
1747.5	H	88.67	14.71	0.84	8.60	22.47	30.00	7.53
1747.5	V	87.79	13.83	0.84	8.60	21.59	30.00	8.41
16-QAM 15M BW High Channel								
1747.5	H	88.33	14.37	0.84	8.60	22.13	30.00	7.87
1747.5	V	87.64	13.68	0.84	8.60	21.44	30.00	8.56

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 20M BW High Channel								
1745.0	H	88.91	14.94	0.84	8.59	22.69	30.00	7.31
1745.0	V	87.74	13.77	0.84	8.59	21.52	30.00	8.48
16-QAM 20M High Channel								
1745.0	H	88.48	14.51	0.84	8.59	22.26	30.00	7.74
1745.0	V	87.88	13.91	0.84	8.59	21.66	30.00	8.34

LTE Band 5

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 1.4M BW Low Channel								
824.7	H	89.32	22.13	0.62	-1.18	20.33	38.45	18.12
824.7	V	87.23	20.04	0.62	-1.18	18.24	38.45	20.21
16-QAM 1.4M BW Low Channel								
824.7	H	89.61	22.42	0.62	-1.18	20.62	38.45	17.83
824.7	V	87.43	20.24	0.62	-1.18	18.44	38.45	20.01
QPSK 3M BW Low Channel								
825.5	H	89.65	22.47	0.63	-1.17	20.67	38.45	17.78
825.5	V	88.03	20.85	0.63	-1.17	19.05	38.45	19.40
16-QAM 3M BW Low Channel								
825.5	H	89.32	22.14	0.63	-1.17	20.34	38.45	18.11
825.5	V	88.11	20.93	0.63	-1.17	19.13	38.45	19.32
QPSK 5M BW Low Channel								
826.5	H	89.43	22.25	0.63	-1.17	20.45	38.45	18.00
826.5	V	88.05	20.87	0.63	-1.17	19.07	38.45	19.38
16-QAM 5M BW Low Channel								
826.5	H	89.51	22.33	0.63	-1.17	20.53	38.45	17.92
826.5	V	88.12	20.94	0.63	-1.17	19.14	38.45	19.31
QPSK 10M BW Low Channel								
829.0	H	89.56	22.39	0.63	-1.16	20.60	38.45	17.85
829.0	V	88.14	20.97	0.63	-1.16	19.18	38.45	19.27
16-QAM 10M BW Low Channel								
829.0	H	89.59	22.42	0.63	-1.16	20.63	38.45	17.82
829.0	V	88.03	20.86	0.63	-1.16	19.07	38.45	19.38

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 1.4M BW Middle Channel								
836.5	H	89.77	22.61	0.63	-1.14	20.84	38.45	17.61
836.5	V	88.02	20.86	0.63	-1.14	19.09	38.45	19.36
16-QAM 1.4M BW Middle Channel								
836.5	H	89.55	22.39	0.63	-1.14	20.62	38.45	17.83
836.5	V	88.11	20.95	0.63	-1.14	19.18	38.45	19.27
QPSK 3M BW Middle Channel								
836.5	H	89.71	22.55	0.63	-1.14	20.78	38.45	17.67
836.5	V	88.06	20.90	0.63	-1.14	19.13	38.45	19.32
16-QAM 3M BW Middle Channel								
836.5	H	89.68	22.52	0.63	-1.14	20.75	38.45	17.70
836.5	V	88.31	21.15	0.63	-1.14	19.38	38.45	19.07
QPSK 5M BW Middle Channel								
836.5	H	89.55	22.39	0.63	-1.14	20.62	38.45	17.83
836.5	V	88.16	21.00	0.63	-1.14	19.23	38.45	19.22
16-QAM 5M BW Middle Channel								
836.5	H	89.61	22.45	0.63	-1.14	20.68	38.45	17.77
836.5	V	88.35	21.19	0.63	-1.14	19.42	38.45	19.03
QPSK 10M BW Middle Channel								
836.5	H	89.59	22.43	0.63	-1.14	20.66	38.45	17.79
836.5	V	88.24	21.08	0.63	-1.14	19.31	38.45	19.14
16-QAM 10M BW Middle Channel								
836.5	H	89.68	22.52	0.63	-1.14	20.75	38.45	17.70
836.5	V	88.31	21.15	0.63	-1.14	19.38	38.45	19.07

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 1.4M BW High Channel								
848.3	H	89.55	22.43	0.62	-1.11	20.70	38.45	17.75
848.3	V	88.12	21.00	0.62	-1.11	19.27	38.45	19.18
16-QAM 1.4M BW High Channel								
848.3	H	89.61	22.49	0.62	-1.11	20.76	38.45	17.69
848.3	V	88.24	21.12	0.62	-1.11	19.39	38.45	19.06
QPSK 3M BW High Channel								
847.5	H	89.5	22.37	0.63	-1.11	20.63	38.45	17.82
847.5	V	88.12	20.99	0.63	-1.11	19.25	38.45	19.20
16-QAM 3M BW High Channel								
847.5	H	89.52	22.39	0.63	-1.11	20.65	38.45	17.80
847.5	V	88.4	21.27	0.63	-1.11	19.53	38.45	18.92
QPSK 5M BW High Channel								
846.5	H	89.04	21.91	0.63	-1.11	20.17	38.45	18.28
846.5	V	88.88	21.75	0.63	-1.11	20.01	38.45	18.44
16-QAM 5M BW High Channel								
846.5	H	89.05	21.92	0.63	-1.11	20.18	38.45	18.27
846.5	V	88.79	21.66	0.63	-1.11	19.92	38.45	18.53
QPSK 10M BW High Channel								
844.0	H	89.33	22.19	0.63	-1.12	20.44	38.45	18.01
844.0	V	88.54	21.40	0.63	-1.12	19.65	38.45	18.80
16-QAM 10M BW High Channel								
844.0	H	89.53	22.39	0.63	-1.12	20.64	38.45	17.81
844.0	V	88.37	21.23	0.63	-1.12	19.48	38.45	18.97

EIRP:**LTE Band 7**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK 5M BW Low Channel								
2502.5	H	88.15	15.69	0.89	10.10	24.90	33.00	8.10
2502.5	V	87.27	14.81	0.89	10.10	24.02	33.00	8.98
16-QAM 5M BW Low Channel								
2502.5	H	88.52	16.06	0.89	10.10	25.27	33.00	7.73
2502.5	V	87.43	14.97	0.89	10.10	24.18	33.00	8.82
QPSK 10M BW Low Channel								
2505.0	H	88.6	16.14	0.89	10.09	25.34	33.00	7.66
2505.0	V	87.81	15.35	0.89	10.09	24.55	33.00	8.45
16-QAM 10M BW Low Channel								
2505.0	H	88.39	15.93	0.89	10.09	25.13	33.00	7.87
2505.0	V	87.57	15.11	0.89	10.09	24.31	33.00	8.69
QPSK 15M BW Low Channel								
2507.5	H	88.46	16.01	0.89	10.09	25.21	33.00	7.79
2507.5	V	87.72	15.27	0.89	10.09	24.47	33.00	8.53
16-QAM 15M BW Low Channel								
2507.5	H	88.9	16.45	0.89	10.09	25.65	33.00	7.35
2507.5	V	87.54	15.09	0.89	10.09	24.29	33.00	8.71
QPSK 20M BW Low Channel								
2510.0	H	88.37	15.93	0.89	10.09	25.13	33.00	7.87
2510.0	V	87.76	15.32	0.89	10.09	24.52	33.00	8.48
16-QAM 20M BW Low Channel								
2510.0	H	88.73	16.29	0.89	10.09	25.49	33.00	7.51
2510.0	V	87.21	14.77	0.89	10.09	23.97	33.00	9.03

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK 5M BW Middle Channel								
2535.0	H	88.69	16.32	0.89	10.05	25.48	33.00	7.52
2535.0	V	87.52	15.15	0.89	10.05	24.31	33.00	8.69
16-QAM 5M BW Middle Channel								
2535.0	H	88.17	15.80	0.89	10.05	24.96	33.00	8.04
2535.0	V	87.18	14.81	0.89	10.05	23.97	33.00	9.03
QPSK 10M BW Middle Channel								
2535.0	H	88.65	16.28	0.89	10.05	25.44	33.00	7.56
2535.0	V	87.48	15.11	0.89	10.05	24.27	33.00	8.73
16-QAM 10M BW Middle Channel								
2535.0	H	88.67	16.30	0.89	10.05	25.46	33.00	7.54
2535.0	V	87.15	14.78	0.89	10.05	23.94	33.00	9.06
QPSK 15M BW Middle Channel								
2535.0	H	88.35	15.98	0.89	10.05	25.14	33.00	7.86
2535.0	V	87.69	15.32	0.89	10.05	24.48	33.00	8.52
16-QAM 15M BW Middle Channel								
2535.0	H	88.82	16.45	0.89	10.05	25.61	33.00	7.39
2535.0	V	87.78	15.41	0.89	10.05	24.57	33.00	8.43
QPSK 20M BW Middle Channel								
2535.0	H	88.44	16.07	0.89	10.05	25.23	33.00	7.77
2535.0	V	87.03	14.66	0.89	10.05	23.82	33.00	8.18
16-QAM 20M BW Middle Channel								
2535.0	H	88.69	16.32	0.89	10.05	25.48	33.00	7.52
2535.0	V	87.67	15.30	0.89	10.05	24.46	33.00	8.54

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK 5M BW High Channel								
2567.5	H	88.98	16.70	0.89	10.01	25.82	33.00	7.18
2567.5	V	87.33	15.05	0.89	10.01	24.17	33.00	8.83
16-QAM 5M BW High Channel								
2567.5	H	88.50	16.22	0.89	10.01	25.34	33.00	7.66
2567.5	V	87.66	15.38	0.89	10.01	24.50	33.00	8.50
QPSK 10M BW High Channel								
2565.0	H	88.93	16.64	0.89	10.01	25.76	33.00	7.24
2565.0	V	87.12	14.83	0.89	10.01	23.95	33.00	9.05
16-QAM 10M BW High Channel								
2565.0	H	88.85	16.56	0.89	10.01	25.68	33.00	7.32
2565.0	V	87.35	15.06	0.89	10.01	24.18	33.00	8.82
QPSK 15M BW High Channel								
2562.5	H	88.14	15.85	0.89	10.01	24.97	33.00	8.03
2562.5	V	87.21	14.92	0.89	10.01	24.04	33.00	8.96
16-QAM 15M BW High Channel								
2562.5	H	88.71	16.42	0.89	10.01	25.54	33.00	7.46
2562.5	V	87.85	15.56	0.89	10.01	24.68	33.00	8.32
QPSK 20M BW High Channel								
2560.0	H	88.71	16.41	0.89	10.02	25.54	33.00	7.46
2560.0	V	87.75	15.45	0.89	10.02	24.58	33.00	8.42
16-QAM 20M BW High Channel								
2560.0	H	88.14	15.84	0.89	10.02	24.97	33.00	8.03
2560.0	V	87.83	15.53	0.89	10.02	24.66	33.00	8.34

ERP:**LTE Band 17**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 5M BW Low Channel								
706.5	H	88.77	24.49	0.62	-1.72	22.15	34.77	12.62
706.5	V	87.11	22.83	0.62	-1.72	20.49	34.77	14.28
16-QAM 5M BW Low Channel								
706.5	H	88.03	23.75	0.62	-1.72	21.41	34.77	13.36
706.5	V	87.93	23.65	0.62	-1.72	21.31	34.77	13.46
QPSK 10M BW Low Channel								
709.0	H	88.76	24.48	0.62	-1.71	22.15	34.77	12.62
709.0	V	87.21	22.93	0.62	-1.71	20.60	34.77	14.17
16-QAM 10M BW Low Channel								
709.0	H	88.98	24.70	0.62	-1.71	22.37	34.77	12.40
709.0	V	87.37	23.09	0.62	-1.71	20.76	34.77	14.01

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 5M BW Middle Channel								
710.0	H	88.35	24.07	0.62	-1.7	21.75	34.77	13.02
710.0	V	87.19	22.91	0.62	-1.7	20.59	34.77	14.18
16-QAM 5M BW Middle Channel								
710.0	H	88.72	24.44	0.62	-1.7	22.12	34.77	12.65
710.0	V	87.83	23.55	0.62	-1.7	21.23	34.77	13.54
QPSK 10M BW Middle Channel								
710.0	H	88.71	24.43	0.62	-1.7	22.11	34.77	12.66
710.0	V	87.92	23.64	0.62	-1.7	21.32	34.77	13.45
16-QAM 10M BW Middle Channel								
710.0	H	88.59	24.31	0.62	-1.7	21.99	34.77	12.78
710.0	V	87.83	23.55	0.62	-1.7	21.23	34.77	13.54

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 5M BW High Channel								
713.5	H	88.69	24.41	0.62	-1.68	22.11	34.77	12.66
713.5	V	87.13	22.85	0.62	-1.68	20.55	34.77	14.22
16-QAM 5M BW High Channel								
713.5	H	88.22	23.94	0.62	-1.68	21.64	34.77	13.13
713.5	V	87.24	22.96	0.62	-1.68	20.66	34.77	14.11
QPSK 10M BW High Channel								
711.0	H	88.14	23.86	0.62	-1.7	21.54	34.77	13.23
711.0	V	87.25	22.97	0.62	-1.7	20.65	34.77	14.12
16-QAM 10M BW High Channel								
711.0	H	88.27	23.99	0.62	-1.7	21.67	34.77	13.10
711.0	V	87.14	22.86	0.62	-1.7	20.54	34.77	14.23

EIRP:**LTE Band 41**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 5M BW Low Channel								
2557.5	H	88.18	15.87	0.89	10.02	25.00	33.00	8.00
2557.5	V	87.91	15.60	0.89	10.02	24.73	33.00	8.27
16-QAM 5M BW Low Channel								
2557.5	H	88.52	16.21	0.89	10.02	25.34	33.00	7.66
2557.5	V	87.50	15.19	0.89	10.02	24.32	33.00	8.68
QPSK 10M BW Low Channel								
2560	H	88.27	15.96	0.89	10.02	25.09	33.00	7.91
2560	V	87.86	15.55	0.89	10.02	24.68	33.00	8.32
16-QAM 10M BW Low Channel								
2560	H	88.03	15.72	0.89	10.02	24.85	33.00	8.15
2560	V	87.14	14.83	0.89	10.02	23.96	33.00	9.04
QPSK 15M BW Low Channel								
2562.5	H	88.08	15.77	0.89	10.02	24.90	33.00	8.10
2562.5	V	87.91	15.60	0.89	10.02	24.73	33.00	8.27
16-QAM 15M BW Low Channel								
2562.5	H	88.26	15.95	0.89	10.02	25.08	33.00	7.92
2562.5	V	87.00	14.69	0.89	10.02	23.82	33.00	9.18
QPSK 20M BW Low Channel								
2565	H	88.42	16.11	0.89	10.02	25.24	33.00	7.76
2565	V	87.01	14.70	0.89	10.02	23.83	33.00	9.17
16-QAM 20M BW Low Channel								
2565	H	88.34	16.03	0.89	10.02	25.16	33.00	7.84
2565	V	87.48	15.17	0.89	10.02	24.30	33.00	8.70

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 5M BW Middle Channel								
2605.0	H	88.18	15.97	0.9	9.97	25.04	33.00	7.96
2605.0	V	87.56	15.35	0.9	9.97	24.42	33.00	8.58
16-QAM 5M BW Middle Channel								
2605.0	H	88.28	16.07	0.9	9.97	25.14	33.00	7.86
2605.0	V	87.71	15.50	0.9	9.97	24.57	33.00	8.43
QPSK 10M BW Middle Channel								
2605.0	H	88.93	16.72	0.9	9.97	25.79	33.00	7.21
2605.0	V	87.14	14.93	0.9	9.97	24.00	33.00	9.00
16-QAM 10M BW Middle Channel								
2605.0	H	88.07	15.86	0.9	9.97	24.93	33.00	8.07
2605.0	V	87.96	15.75	0.9	9.97	24.82	33.00	8.18
QPSK 15M BW Middle Channel								
2605.0	H	88.66	16.45	0.9	9.97	25.52	33.00	7.48
2605.0	V	87.64	15.43	0.9	9.97	24.50	33.00	8.50
16-QAM 15M BW Middle Channel								
2605.0	H	88.91	16.70	0.9	9.97	25.77	33.00	7.23
2605.0	V	87.81	15.60	0.9	9.97	24.67	33.00	8.33
QPSK 20M BW Middle Channel								
2605.0	H	88.65	16.44	0.9	9.97	25.51	33.00	7.49
2605.0	V	87.57	15.36	0.9	9.97	24.43	33.00	8.57
16-QAM 20M BW Middle Channel								
2605.0	H	88.99	16.78	0.9	9.97	25.85	33.00	7.15
2605.0	V	87.71	15.50	0.9	9.97	24.57	33.00	8.43

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 5M BW High Channel								
2652.5	H	88.92	16.88	0.9	9.89	25.87	33.00	7.13
2652.5	V	87.21	15.17	0.9	9.89	24.16	33.00	8.84
16-QAM 5M BW High Channel								
2652.5	H	88.68	16.64	0.9	9.89	25.63	33.00	7.37
2652.5	V	87.31	15.27	0.9	9.89	24.26	33.00	8.74
QPSK 10M BW High Channel								
2650.0	H	88.11	16.07	0.9	9.89	25.06	33.00	7.94
2650.0	V	87.57	15.53	0.9	9.89	24.52	33.00	8.48
16-QAM 10M BW High Channel								
2650.0	H	88.64	16.60	0.9	9.89	25.59	33.00	7.41
2650.0	V	87.25	15.21	0.9	9.89	24.20	33.00	8.80
QPSK 15M BW High Channel								
2647.5	H	88.73	16.69	0.9	9.89	25.68	33.00	7.32
2647.5	V	87.53	15.49	0.9	9.89	24.48	33.00	8.52
16-QAM 15M BW High Channel								
2647.5	H	88.20	16.16	0.9	9.89	25.15	33.00	7.85
2647.5	V	87.33	15.29	0.9	9.89	24.28	33.00	8.72
QPSK 20M BW High Channel								
2645.0	H	88.64	16.60	0.9	9.89	25.59	33.00	7.41
2645.0	V	87.26	15.22	0.9	9.89	24.21	33.00	8.79
16-QAM 20M High Channel								
2645.0	H	88.42	16.38	0.9	9.89	25.37	33.00	7.63
2645.0	V	87.05	15.01	0.9	9.89	24.00	33.00	9.00

Note:

All above data were tested without amplifier.

Absolute Level (dBm) = Submitted Level (dBm) - Cable loss (dB) + Antenna Gain (dBd/dBi)

Margin (dB) = Limit (dBm) - Absolute Level (dBm)

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

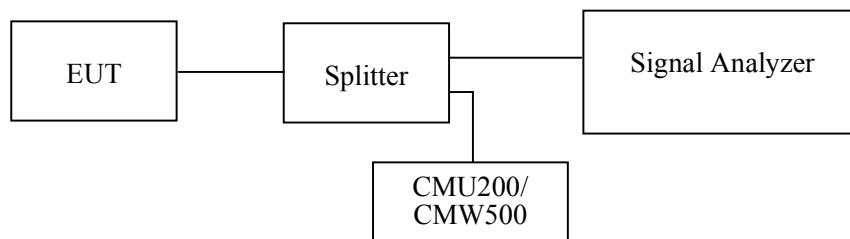
Applicable Standards

FCC 47 §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 resolution bandwidth of the spectrum analyzer was set at 5 kHz (Cellular /PCS) & 100 kHz (WCDMA) & 30 kHz (CDMA) & 30 kHz/50 kHz/100 kHz/300 kHz (LTE), and the 26 dB & 99% bandwidth was recorded.



Test Data

Environmental Conditions

Temperature:	23.9~24.3 °C
Relative Humidity:	49~53 %
ATM Pressure:	100.7~102.9 kPa

The testing was performed by CK Huang from 2020-10-17 to 2020-11-06.

EUT operation mode: Transmitting

Test Result: Compliant.

GSM 850 Band

Mode	Frequency (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
GSM (GMSK)	824.2	0.319	0.244
	836.6	0.321	0.246
	848.8	0.315	0.244
GPRS (GMSK)	824.2	0.317	0.246
	836.6	0.321	0.244
	848.8	0.315	0.246
EGPRS (8PSK)	824.2	0.313	0.244
	836.6	0.313	0.248
	848.8	0.317	0.244

WCDMA Band V

Mode	Frequency (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
WCDMA (Rel 99)	826.4	4.770	4.188
	836.6	4.749	4.188
	846.6	4.729	4.188
WCDMA (HSDPA)	826.4	4.770	4.168
	836.6	4.729	4.188
	846.6	4.729	4.168
WCDMA (HSUPA)	826.4	4.729	4.168
	836.6	4.749	4.188
	846.6	4.729	4.168
WCDMA (HSPA+)	826.4	4.729	4.168
	836.6	4.749	4.168
	846.6	4.689	4.188

CDMA850 Band

Mode	Frequency (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
EVDO(BC0)	824.70	1.323	1.106
	836.52	1.293	1.112
	848.31	1.311	1.106

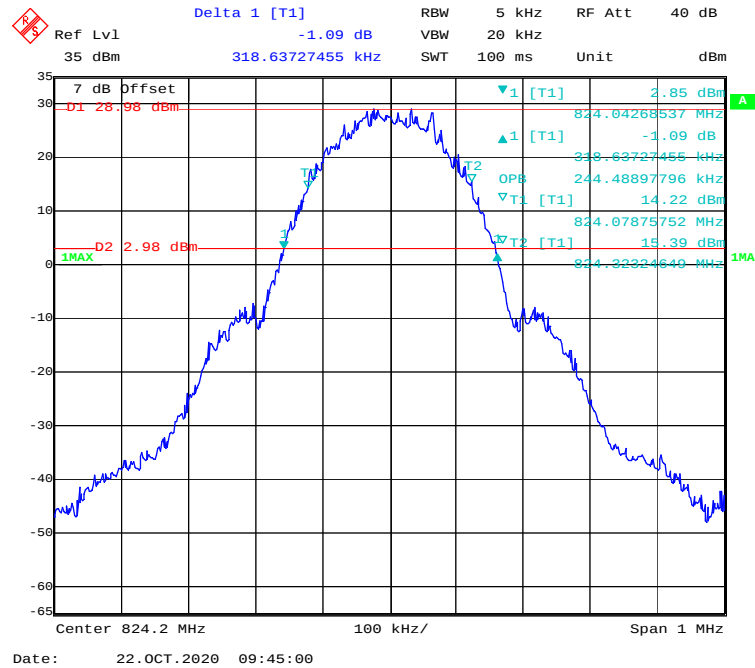
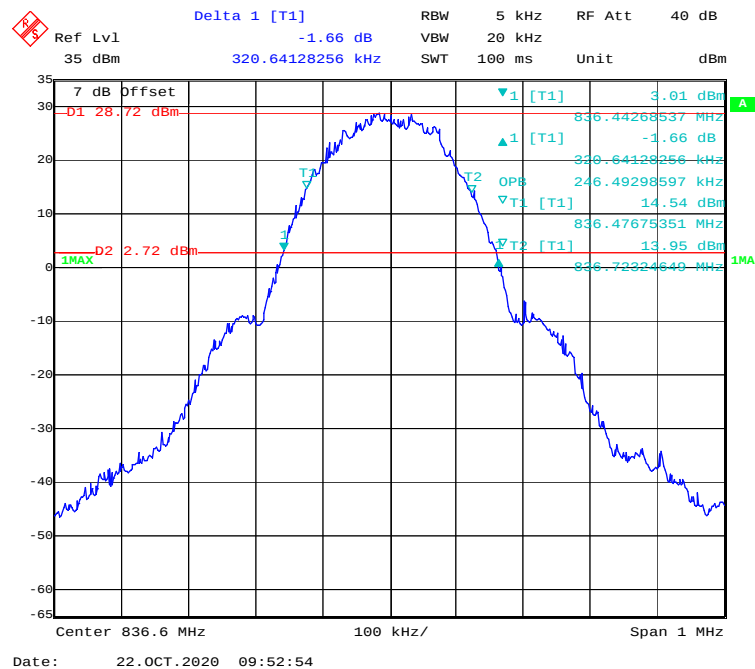
Mode	Frequency (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
1xRTT	824.70	1.329	1.106
	836.52	1.305	1.118
	848.31	1.317	1.100

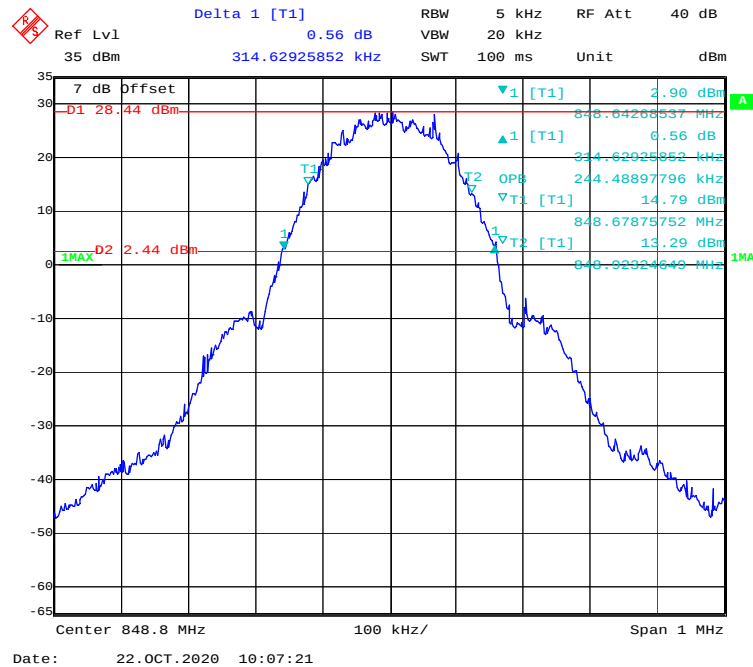
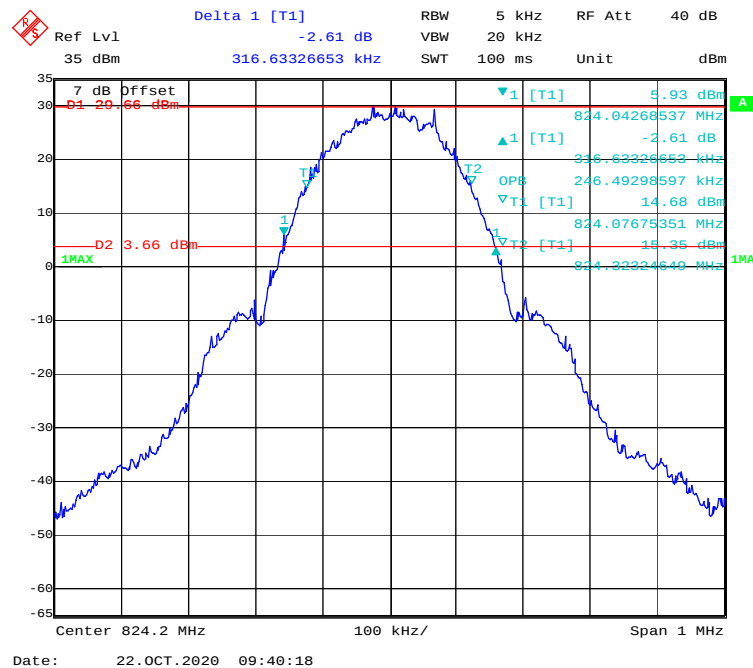
PCS 1900

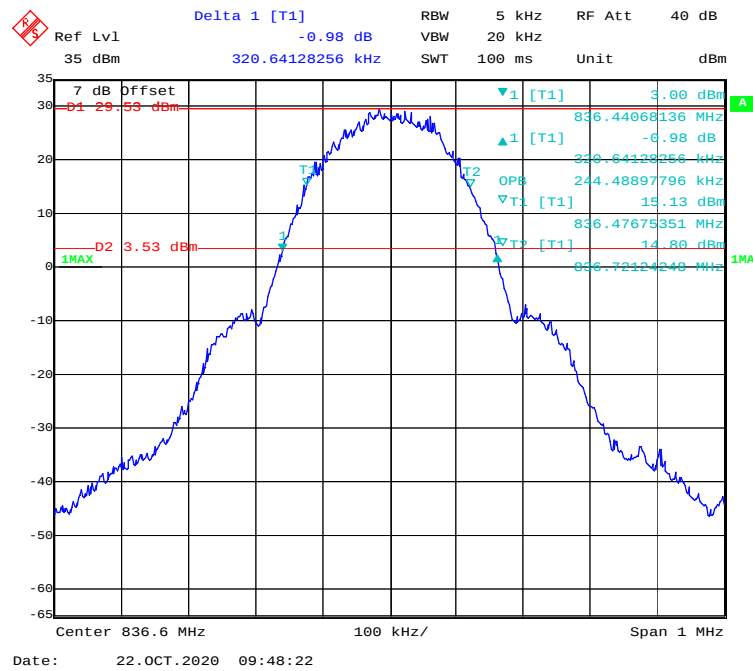
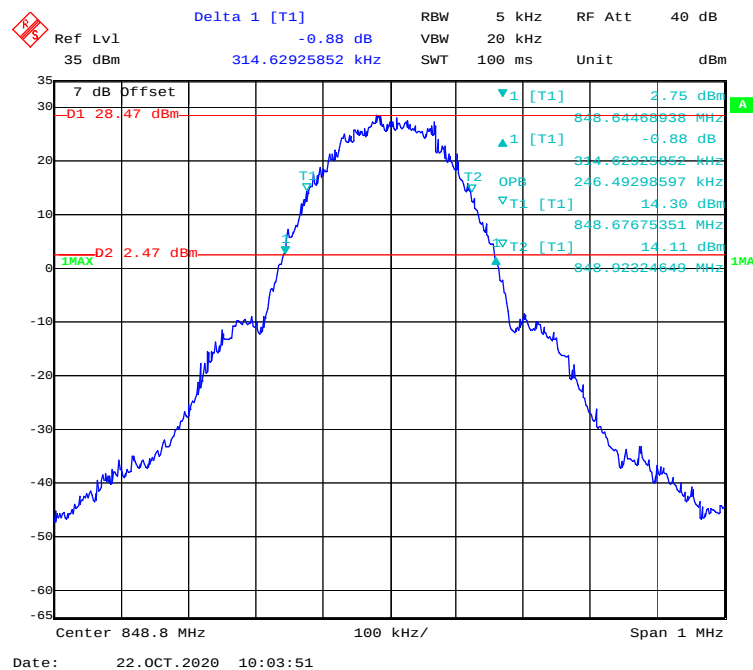
Mode	Frequency (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
GSM (GMSK)	1850.2	0.313	0.242
	1880.0	0.324	0.246
	1909.8	0.322	0.242
GPRS (GMSK)	1850.2	0.317	0.244
	1880.0	0.317	0.244
	1909.8	0.317	0.246
EGPRS (8PSK)	1850.2	0.309	0.248
	1880.0	0.313	0.244
	1909.8	0.309	0.244

WCDMA Band II

Mode	Frequency (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
WCDMA (Rel 99)	1852.4	4.749	4.128
	1880.0	4.729	4.128
	1907.6	4.770	4.128
WCDMA (HSDPA)	1852.4	4.749	4.128
	1880.0	4.729	4.128
	1907.6	4.770	4.148
WCDMA (HSUPA)	1852.4	4.729	4.128
	1880.0	4.770	4.128
	1907.6	4.749	4.148
WCDMA (HSPA+)	1852.4	4.729	4.128
	1880.0	4.770	4.128
	1907.6	4.749	4.148

GSM 850 Band**99% Occupied & 26 dB Emissions Bandwidth for GSM (GMSK) Low channel****99% Occupied & 26 dB Emissions Bandwidth for GSM (GMSK) Middle channel**

99% Occupied & 26 dB Emissions Bandwidth for GSM (GMSK) High channel**99% Occupied & 26 dB Emissions Bandwidth for GPRS (GMSK) Low channel**

99% Occupied & 26 dB Emissions Bandwidth for GPRS (GMSK) Middle channel**99% Occupied & 26 dB Emissions Bandwidth for GPRS (GMSK) High channel**

[illegible]

Delta 1 [T1] -0.86 dB
 Ref Lvl 35 dBm
 312.62525050 kHz
 RBW 5 kHz
 VBW 20 kHz
 SWT 100 ms
 RF Att 40 dB

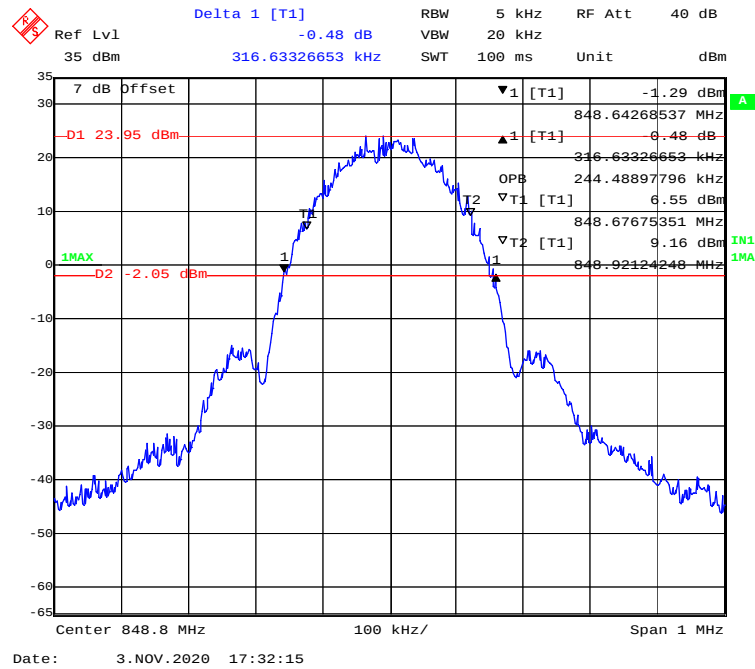
7 dB Offset
 -D1 23.65 dBm
 1MAX
 D2 -2.35 dBm
 1IN1 1MAX

836.44468938 MHz
 312.62525050 kHz
 248.49699399 kHz
 OPB
 ∇T1 [T1] 9.47 dBm
 836.47675351 MHz
 ∇T2 [T1] 9.47 dBm
 836.72525050 MHz

Center 836.6 MHz
 100 kHz/
 Span 1 MHz

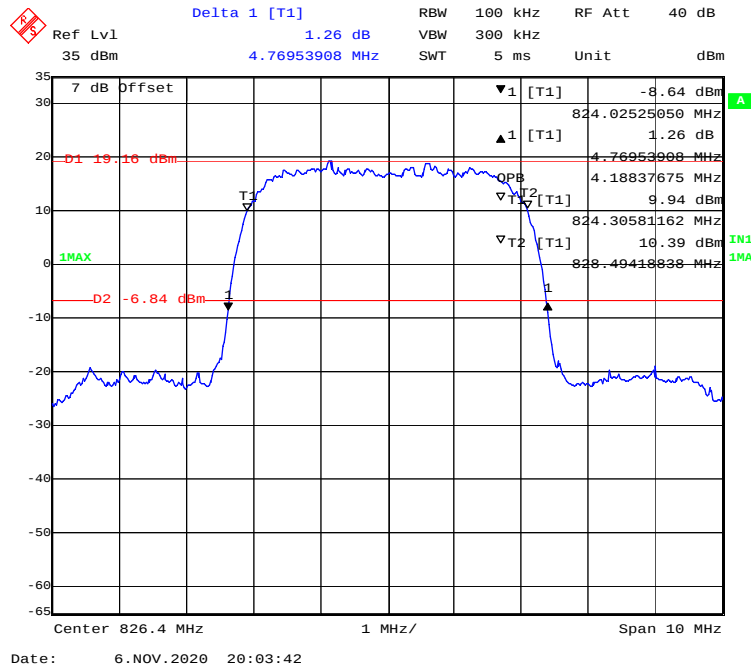
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99% Occupied & 26 dB Emissions Bandwidth for EGPRS (GMSK) High channel

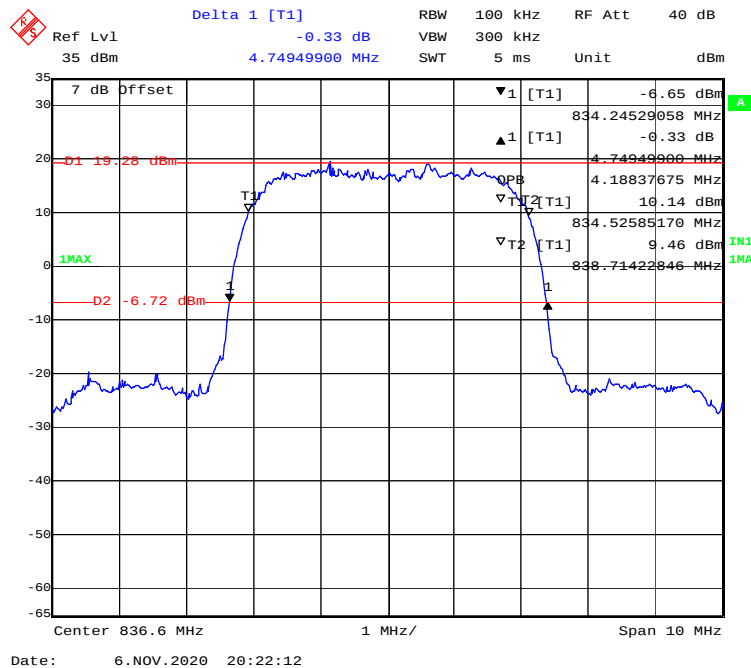


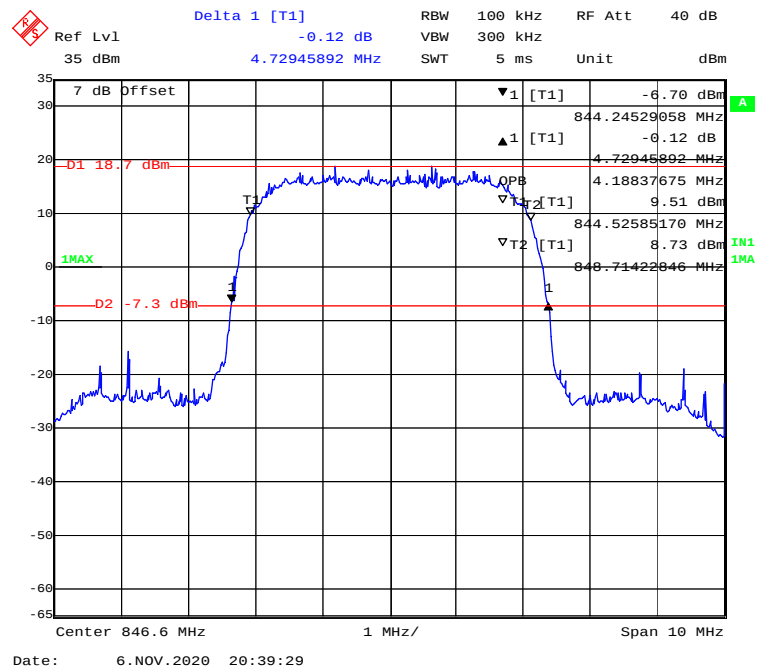
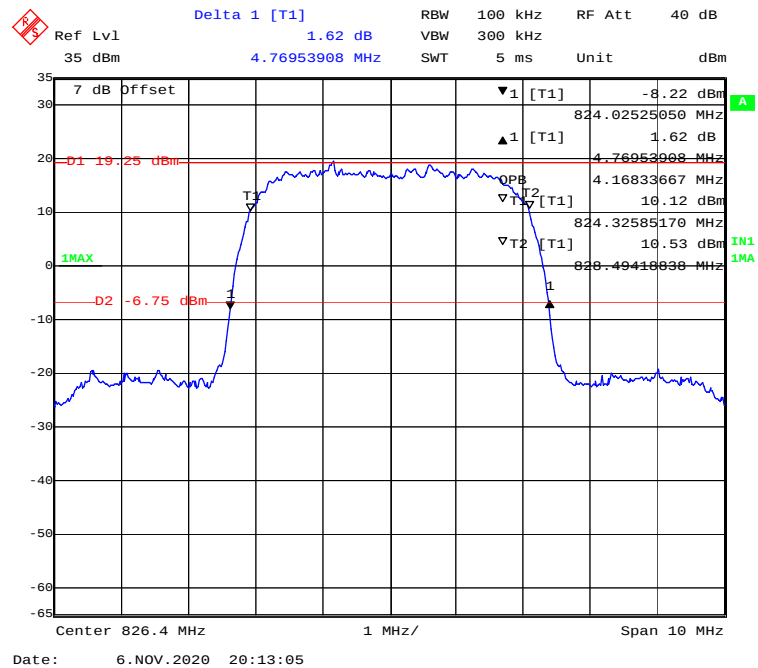
WCDMA Band V

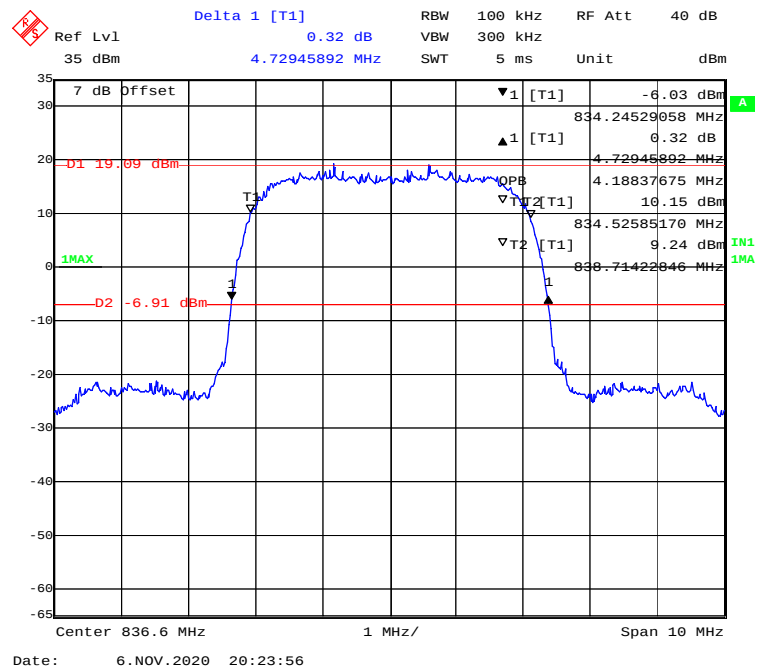
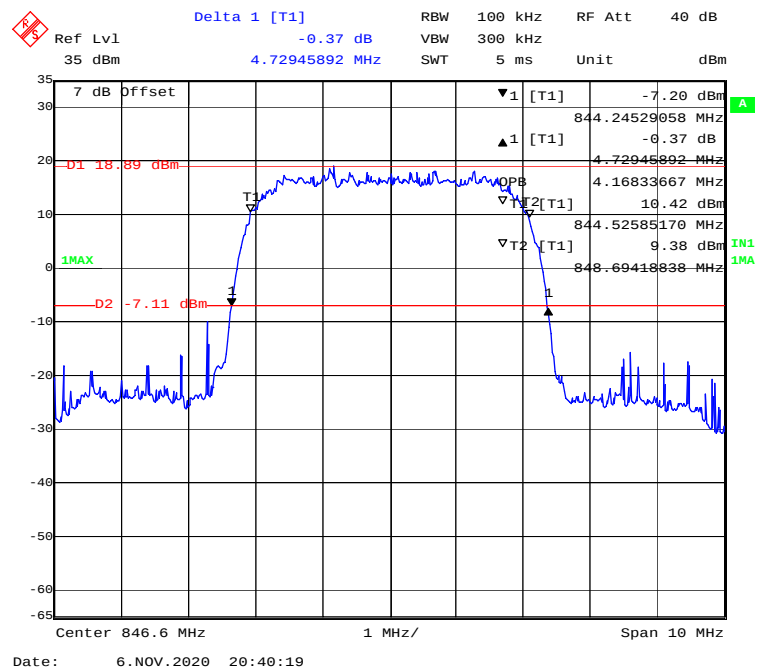
99% Occupied & 26 dB Emissions Bandwidth for WCDMA (Rel 99) Low channel

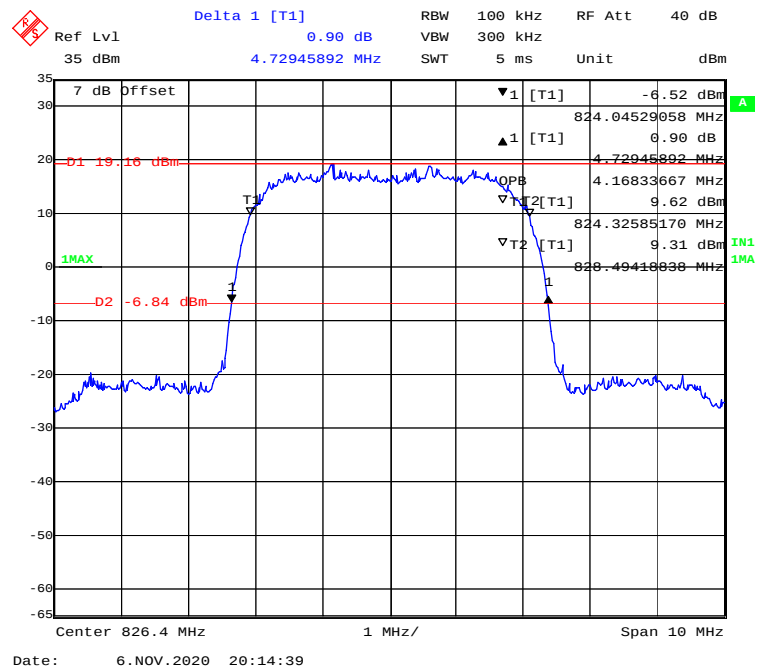
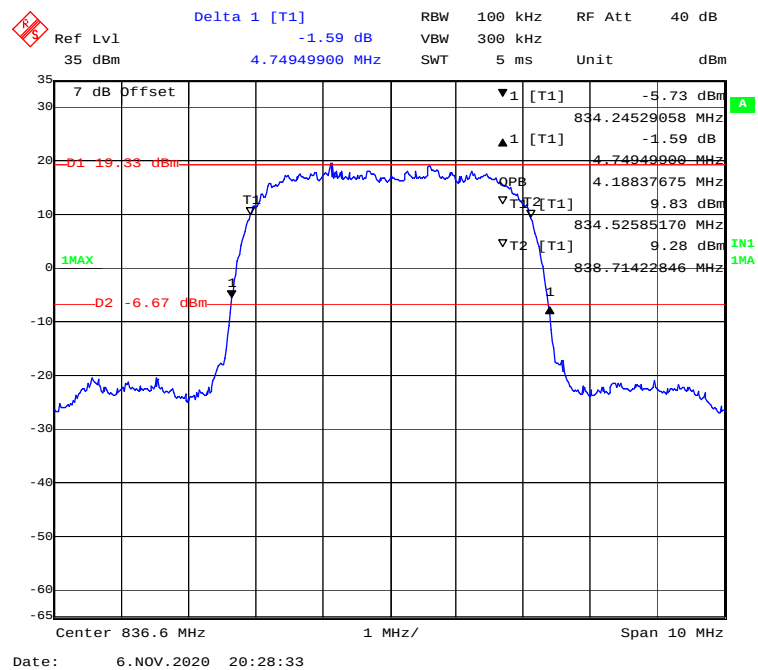


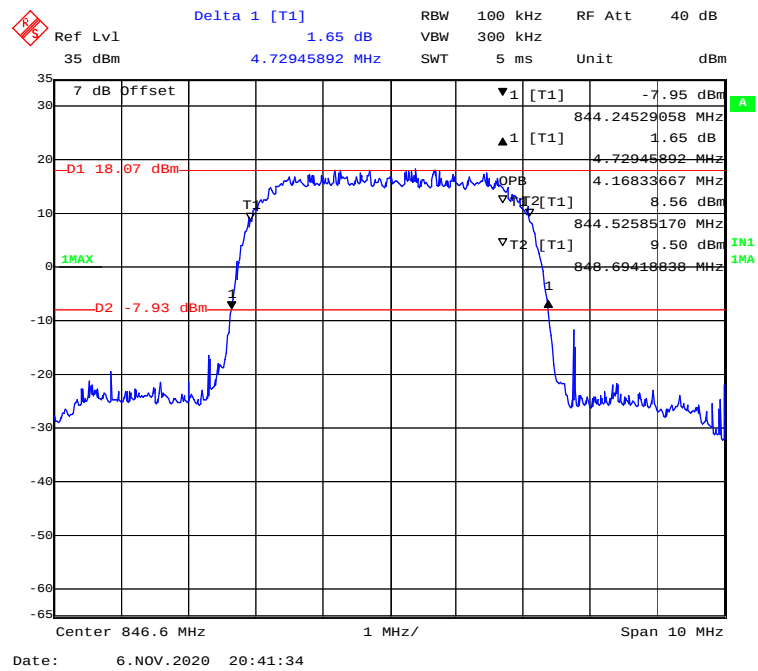
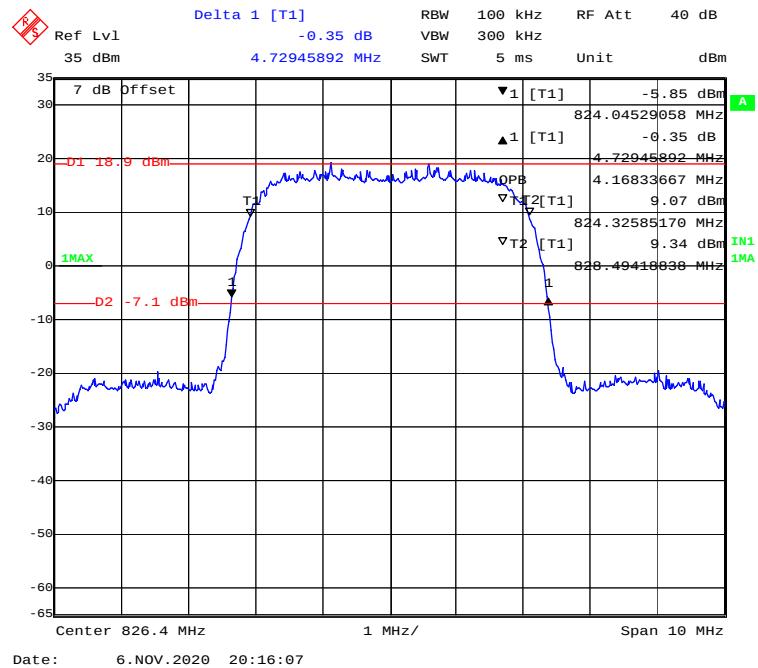
99% Occupied & 26 dB Emissions Bandwidth for WCDMA (Rel 99) Middle channel



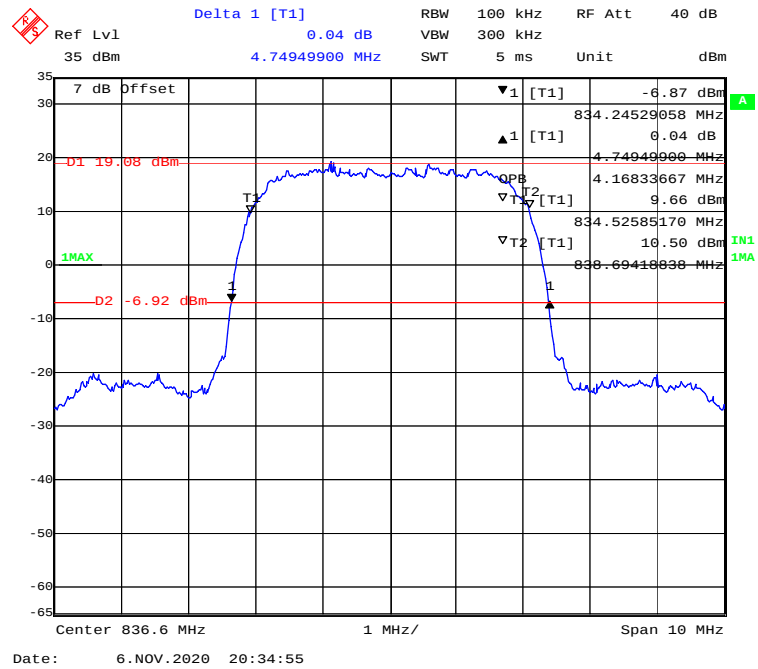
99% Occupied & 26 dB Emissions Bandwidth for WCDMA (Rel 99) High channel**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSDPA) Low channel**

99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSDPA) Middle channel**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSDPA) High channel**

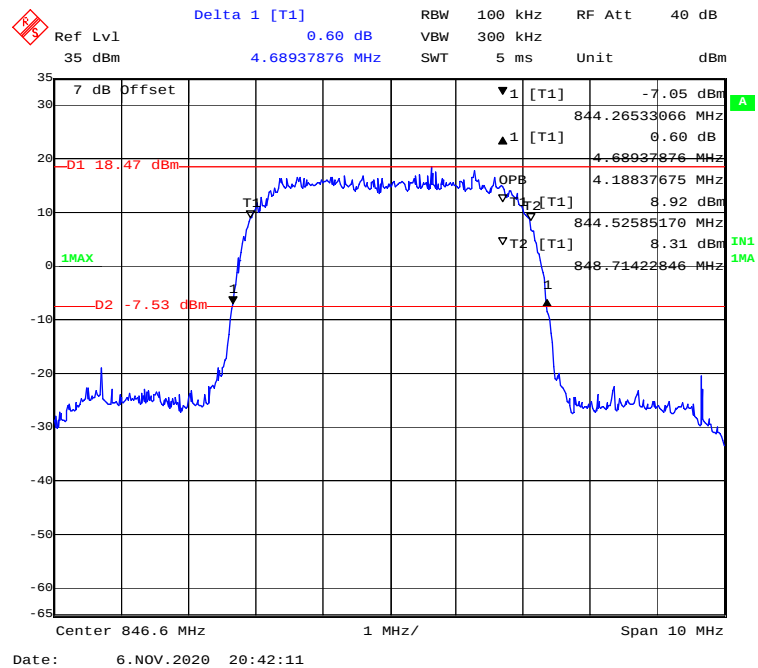
99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSUPA) Low channel**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSUPA) Middle channel**

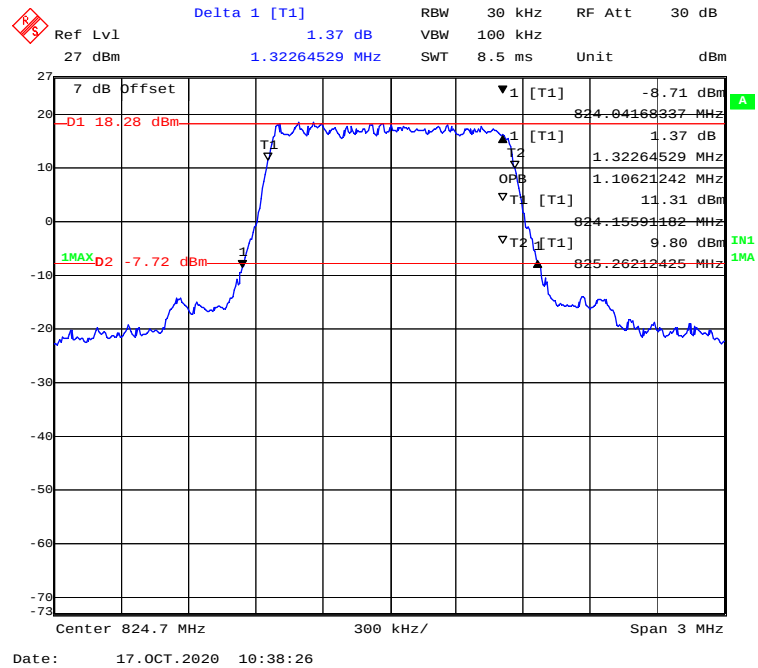
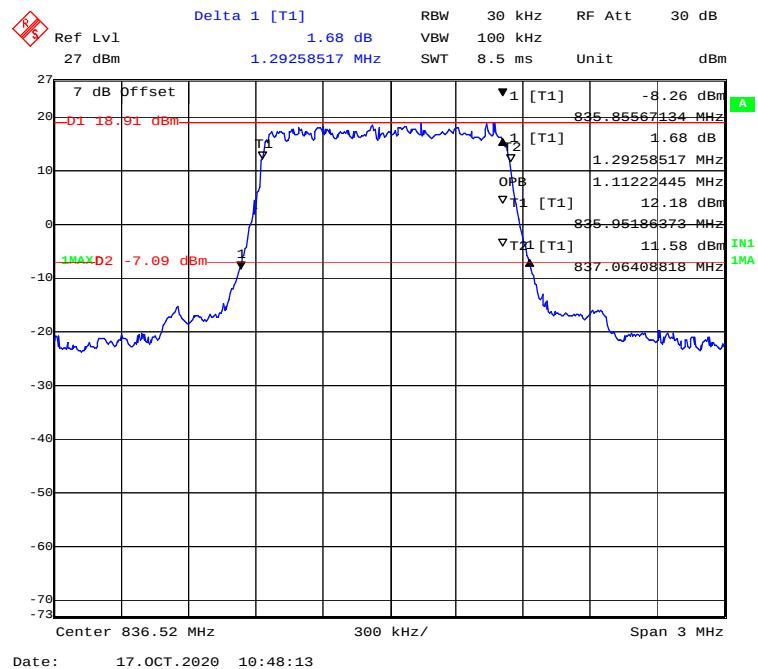
99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSUPA) High channel**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSPA+) Low channel**

99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSPA+) Middle channel



99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSPA+) High channel



CDMA850 Band**EVDO mode, 99% Occupied & 26 dB Emissions Bandwidth Low channel****EVDO mode, 99% Occupied & 26 dB Emissions Bandwidth Middle channel**

[illegible]

Ref Lvl 27 dBm Delta 1 [T1] 1.41 dB RBW 30 kHz RF Att 30 dB
 27 dBm 1.32865731 MHz SWT 8.5 ms Unit dBm

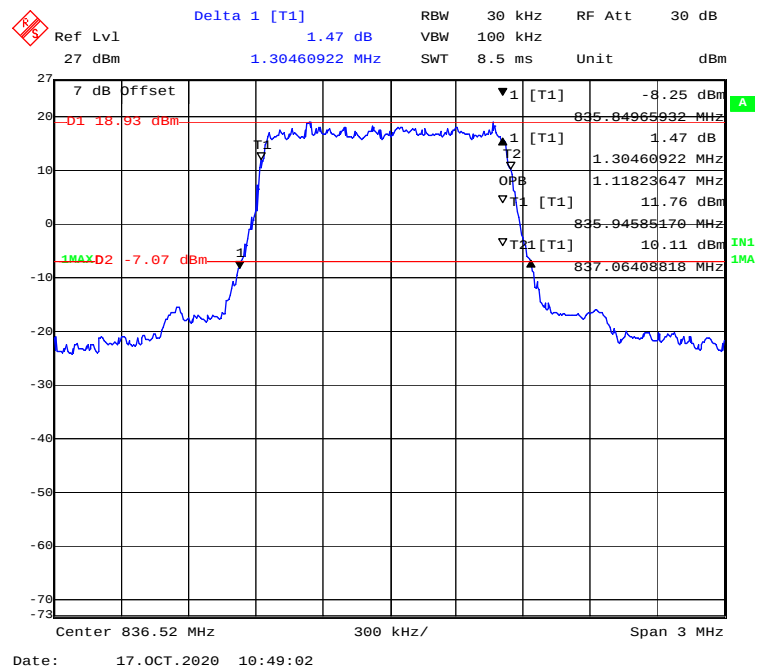
7 dB Offset
 D1 18.28 dBm
 1MAX D2 -7.72 dBm

▼1 [T1]
 1 [T1]
 T1 [T1]
 OPB
 ▼T1 [T1]
 ▼T2 [T1]

-9.63 dBm
 824.04168337 MHz
 1.41 dB
 1.32865731 MHz
 1.10621242 MHz
 11.71 dBm
 824.15591102 MHz
 11.17 dBm
 825.26212425 MHz

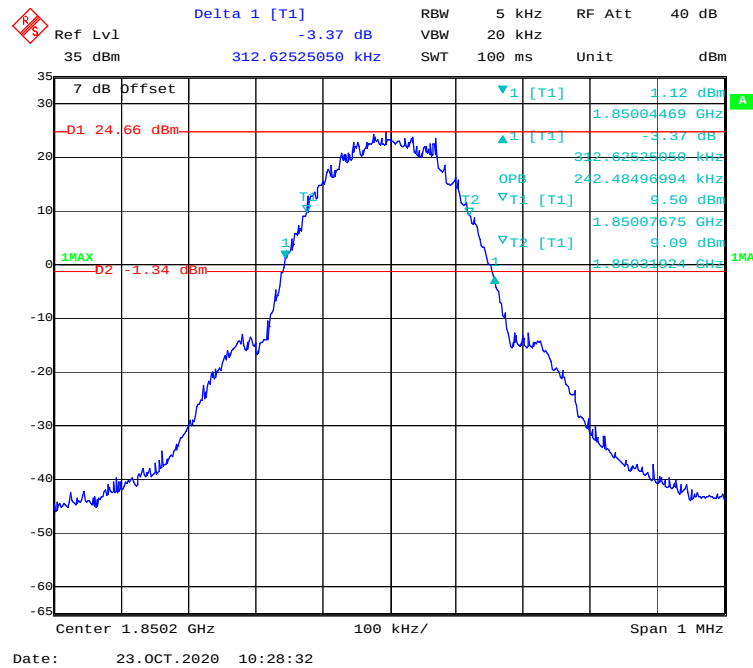
Center 824.7 MHz 300 kHz/ Span 3 MHz

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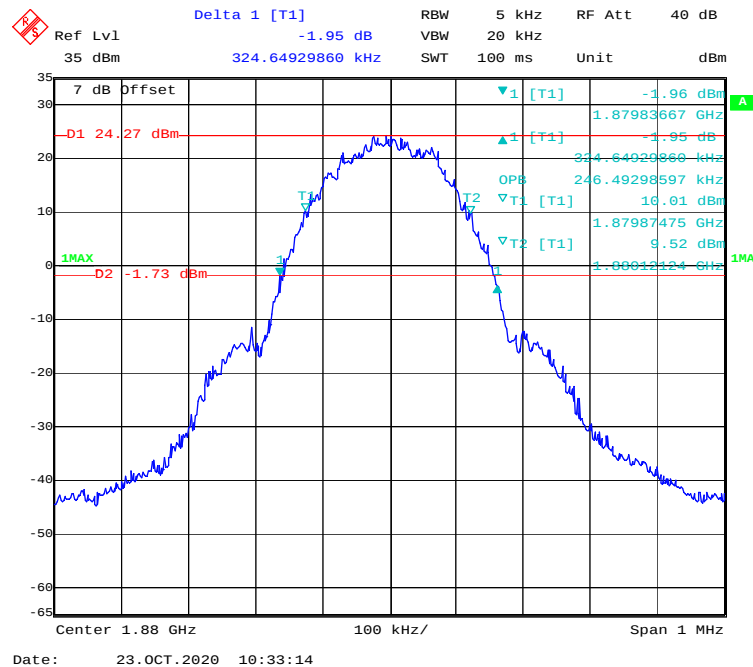
1xRTT mode, 99% Occupied & 26 dB Emissions Bandwidth Middle channel**1xRTT mode, 99% Occupied & 26 dB Emissions Bandwidth High channel**

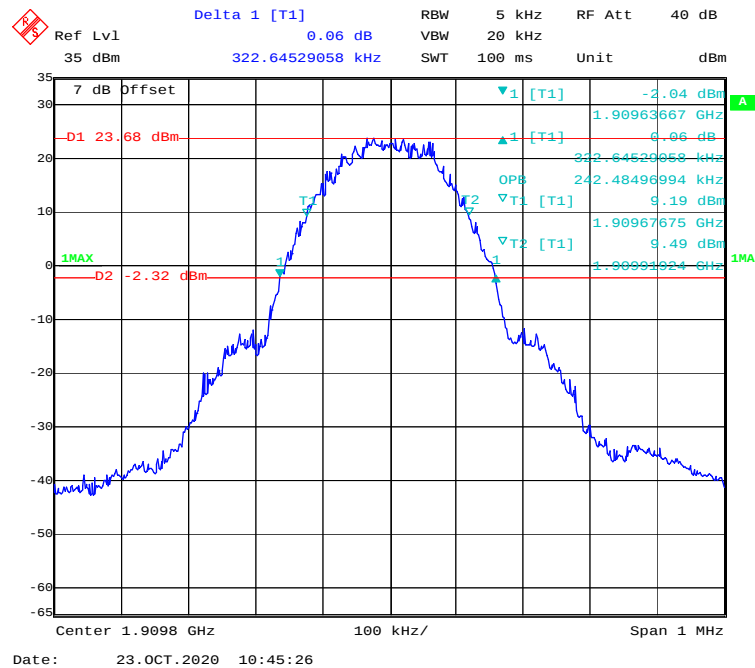
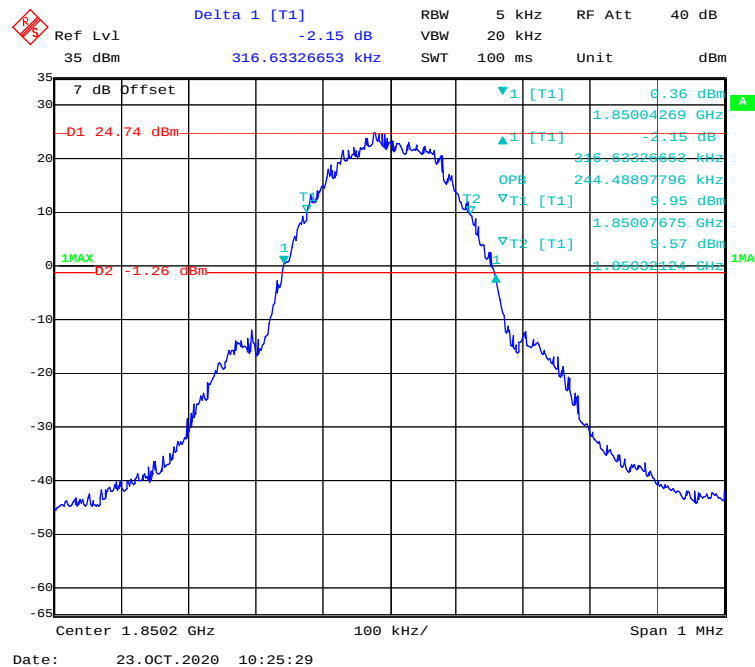
PCS 1900 Band

99% Occupied & 26 dB Emissions Bandwidth for GSM (GMSK) Low channel

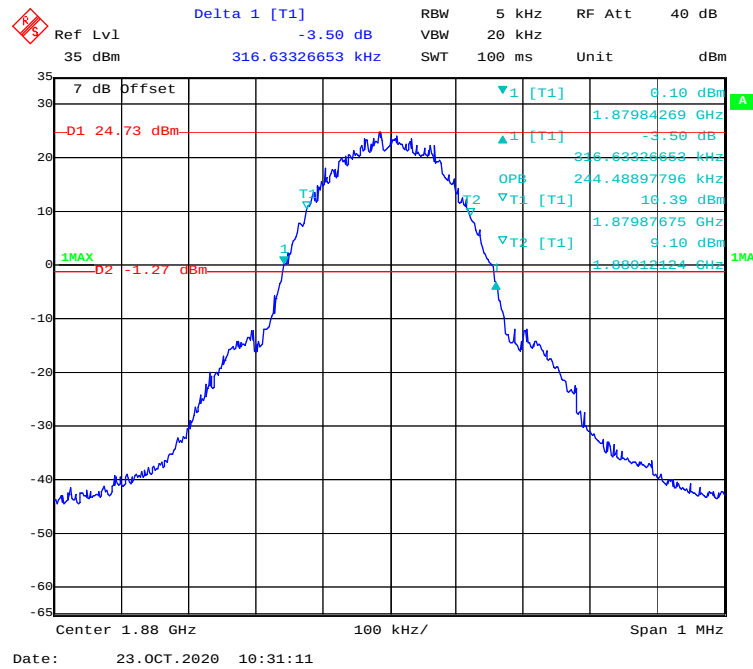


99% Occupied & 26 dB Emissions Bandwidth for GSM (GMSK) Middle channel

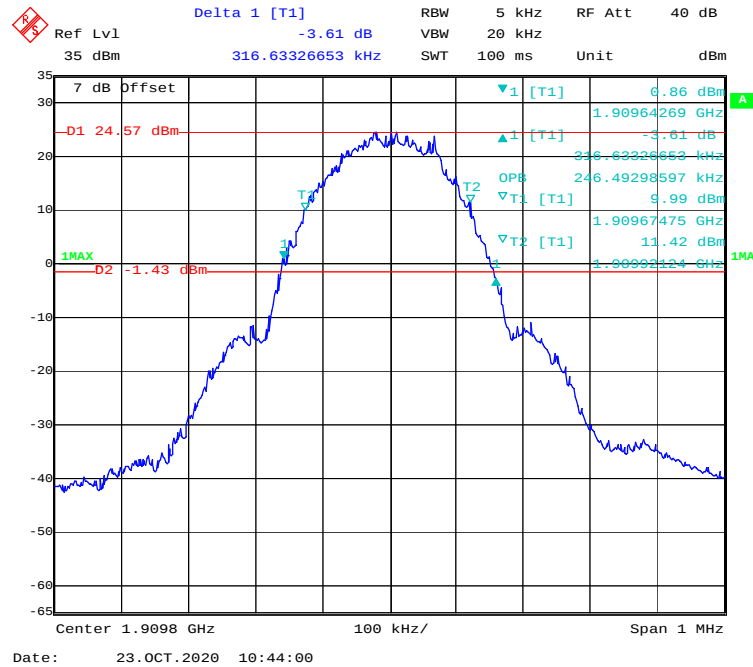


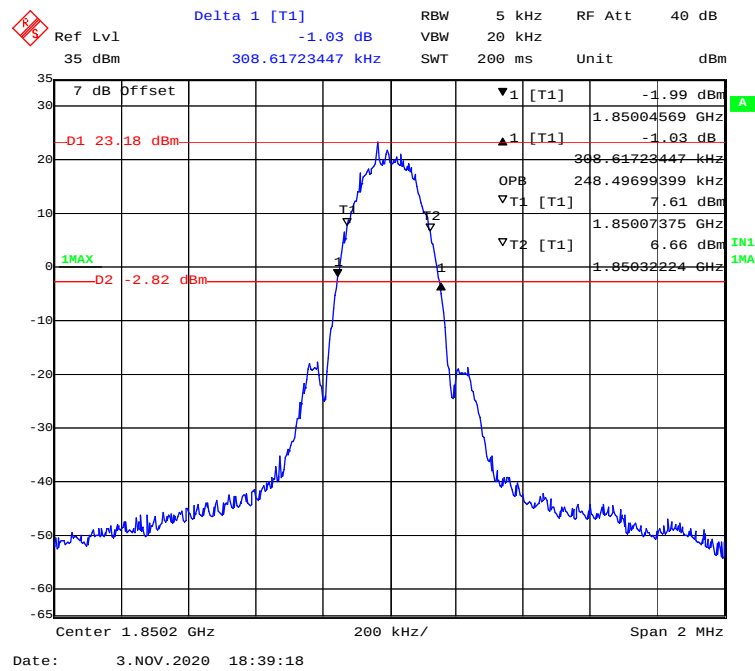
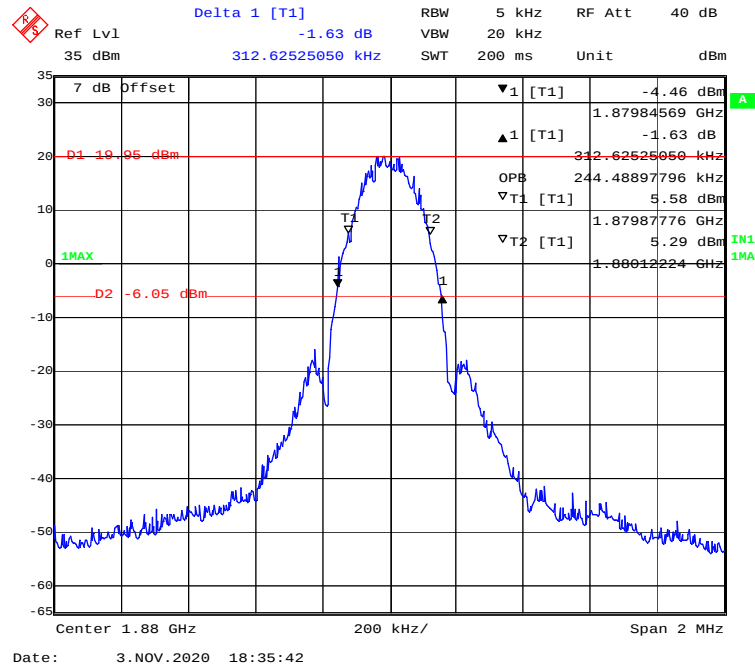
99% Occupied & 26 dB Emissions Bandwidth for GSM (GMSK) High channel**99% Occupied & 26 dB Emissions Bandwidth for GPRS (GMSK) Low channel**

99% Occupied & 26 dB Emissions Bandwidth for GPRS (GMSK) Middle channel

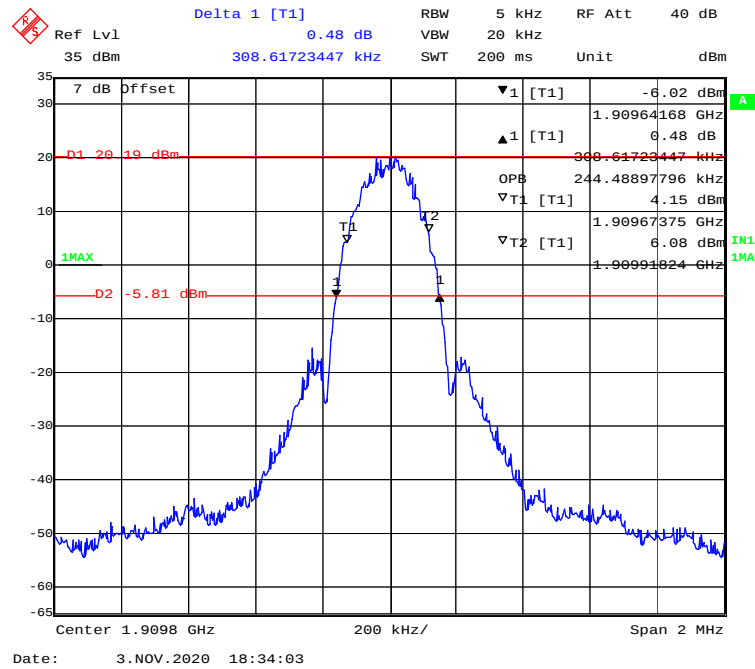


99% Occupied & 26 dB Emissions Bandwidth for GPRS (GMSK) High channel

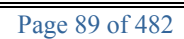


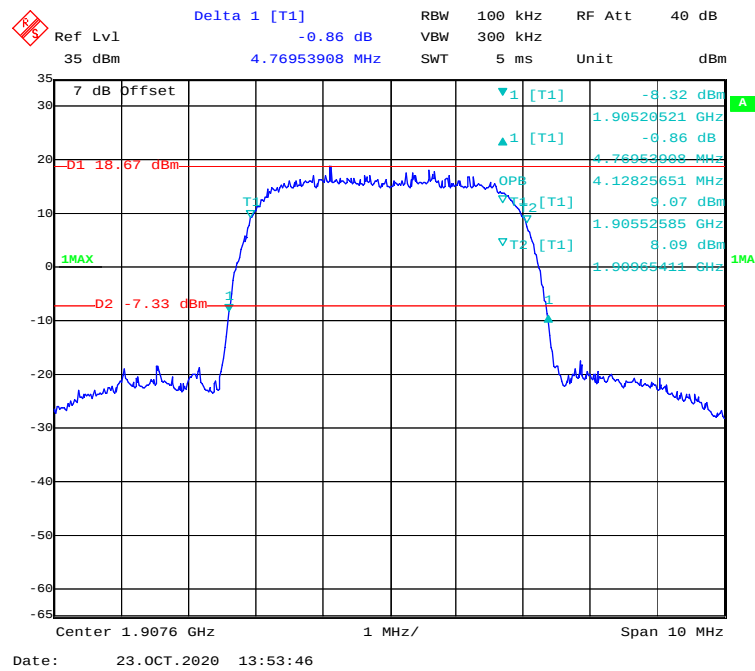
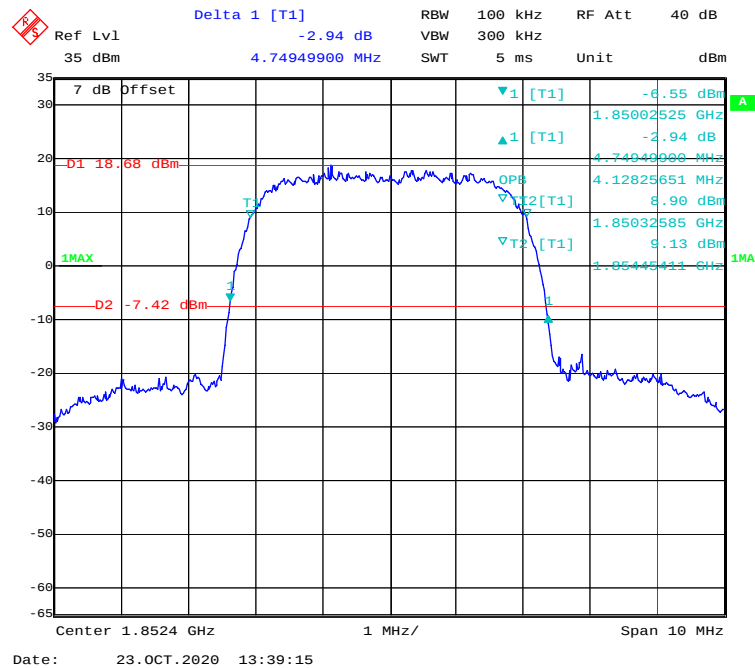
99% Occupied & 26 dB Emissions Bandwidth for EGPRS (8PSK) Low channel**99% Occupied & 26 dB Emissions Bandwidth for EGPRS (8PSK) Middle channel**

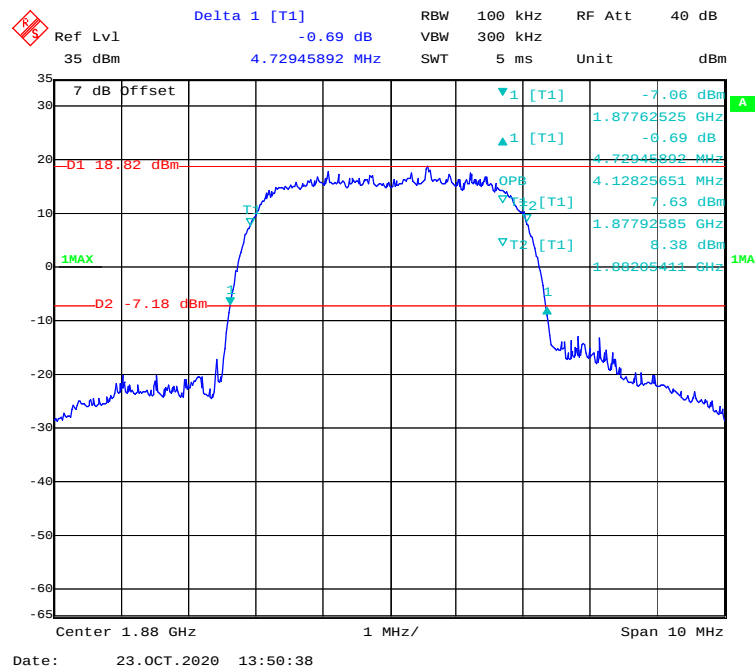
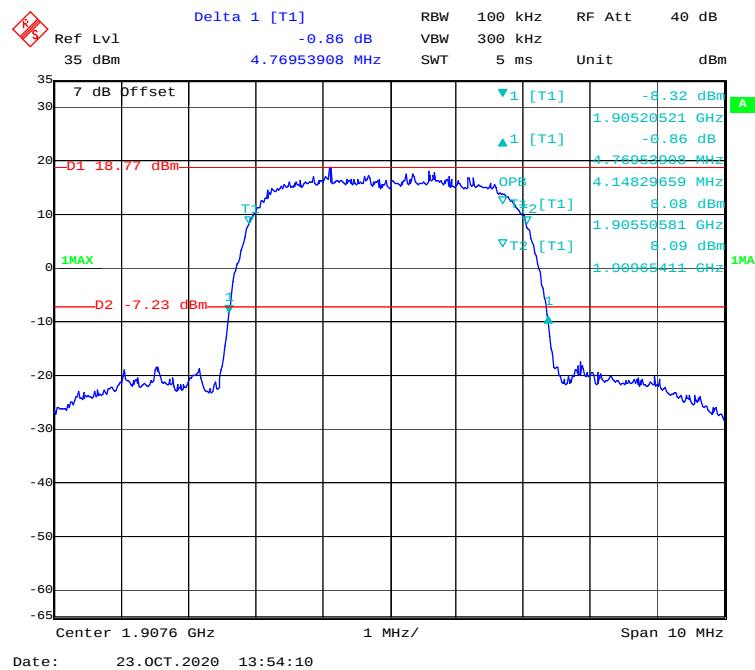
99% Occupied & 26 dB Emissions Bandwidth for EGPRS (8PSK) High channel



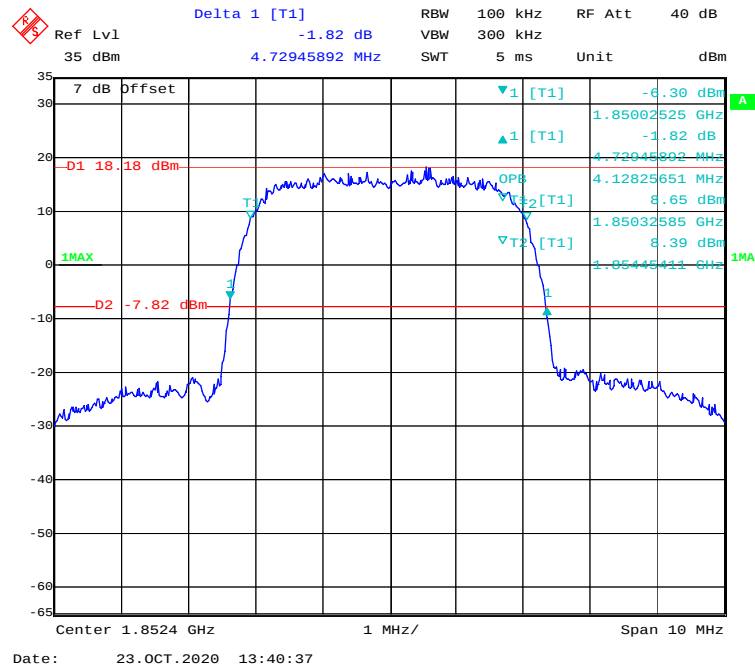
99% Occupied & 26 dB Emissions Bandwidth for WCDMA (Rel 99) Low channel



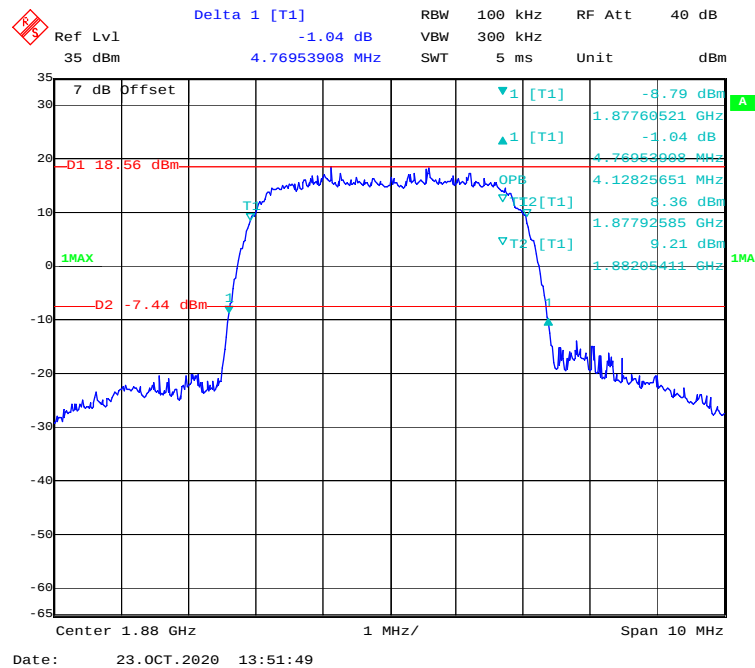
99% Occupied & 26 dB Emissions Bandwidth for WCDMA (Rel 99) High channel**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSDPA) Low channel**

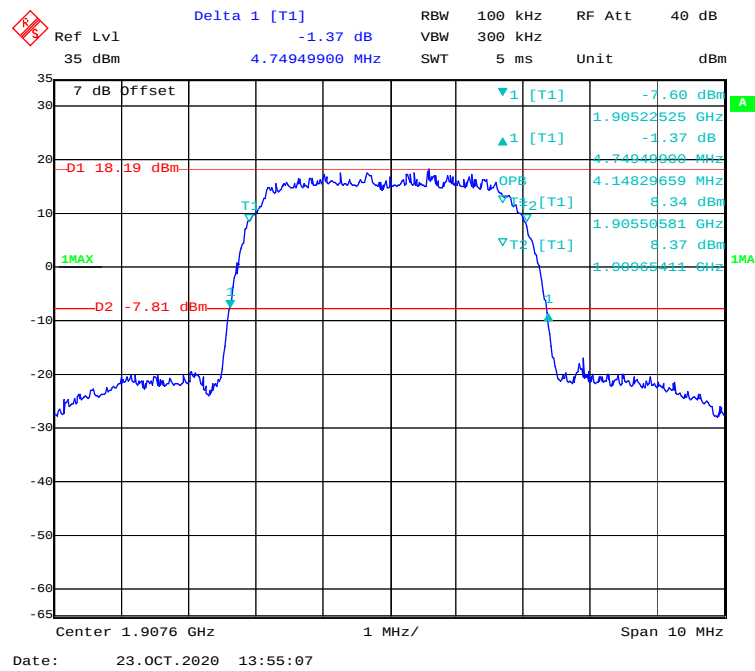
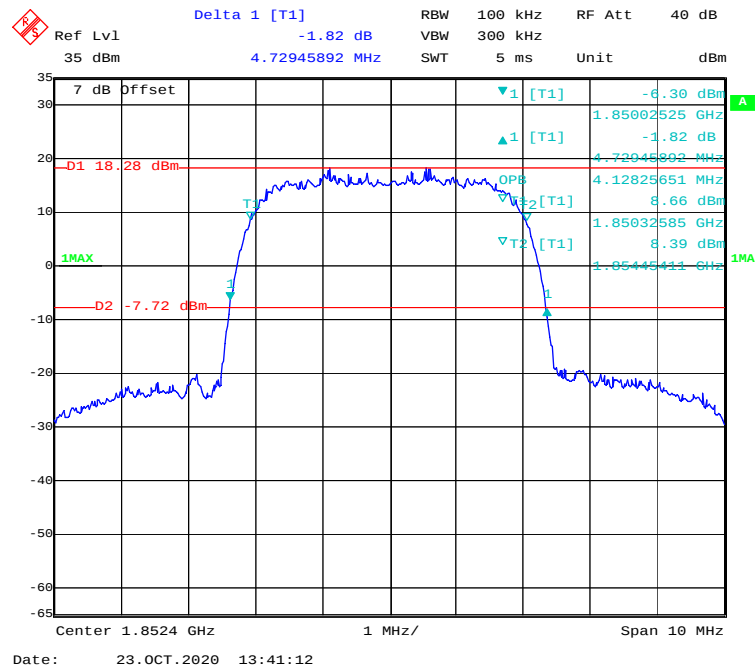
99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSDPA) Middle channel**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSDPA) High channel**

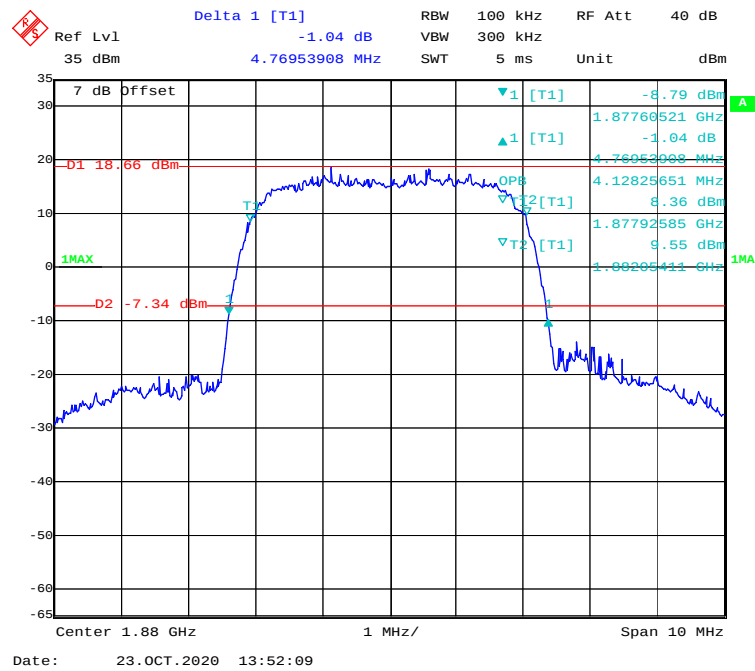
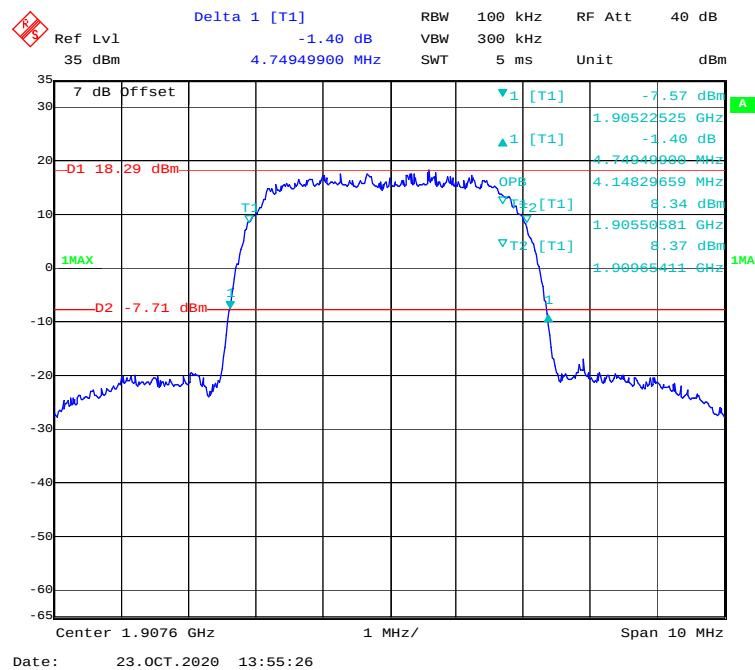
99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSUPA) Low channel



99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSUPA) Middle channel



99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSUPA) High channel**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSPA+) Low channel**

99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSPA+) Middle channel**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSPA+) High channel**

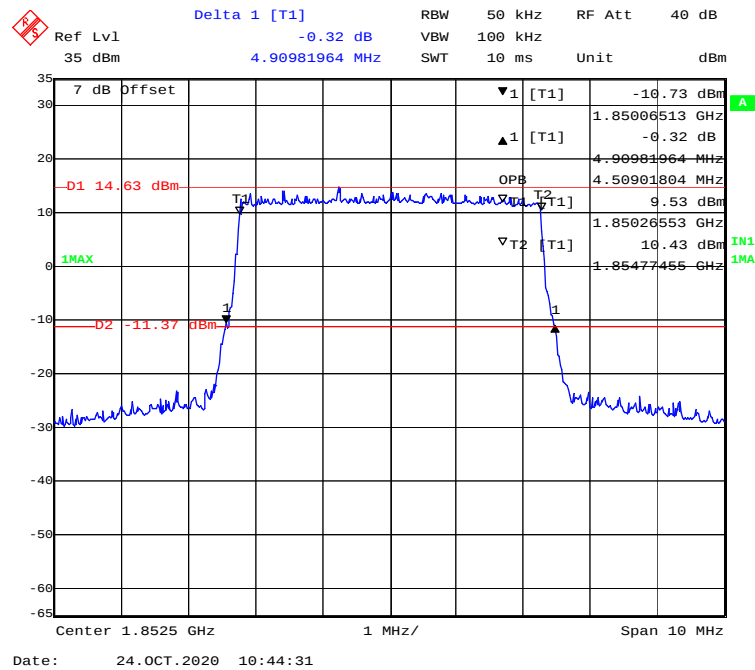
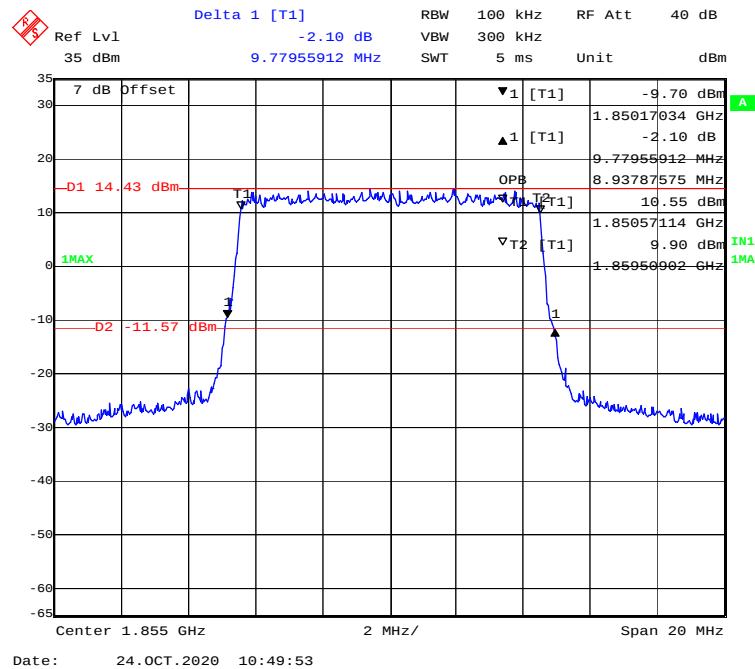
LTE Band 2:

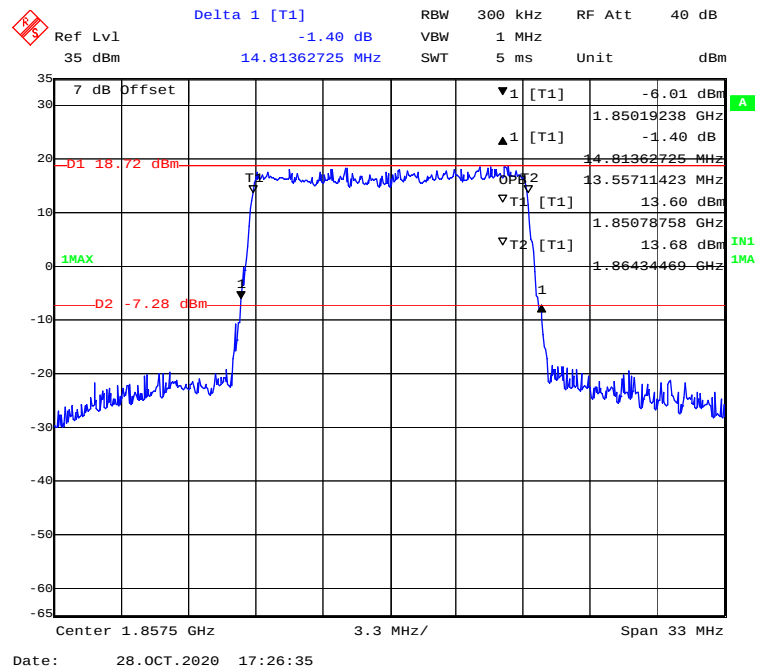
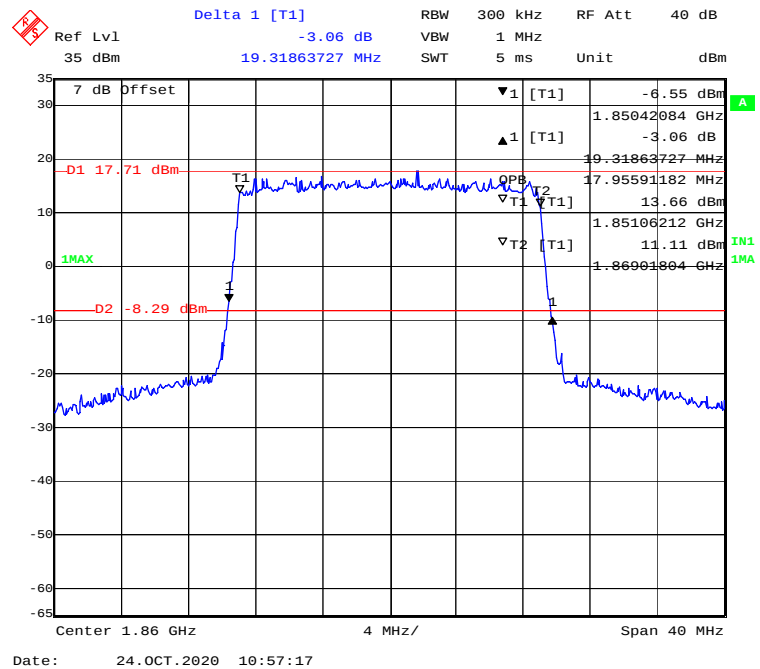
Test Modulation	Test Bandwidth	Test Channel	26 dB Bandwidth	99% Occupied Bandwidth
			MHz	MHz
QPSK	1.4M	Low	1.329	1.100
	3M		2.934	2.693
	5M		4.910	4.509
	10M		9.780	8.938
	15M		14.814	13.557
	20M		19.319	17.956
	1.4M	Middle	1.377	1.106
	3M		2.970	2.693
	5M		4.950	4.509
	10M		9.780	8.978
	15M		14.910	13.467
	20M		19.399	17.876
	1.4M	High	1.335	1.118
	3M		2.970	2.705
	5M		4.970	4.489
	10M		9.780	8.978
	15M		14.910	13.527
	20M		19.399	17.956

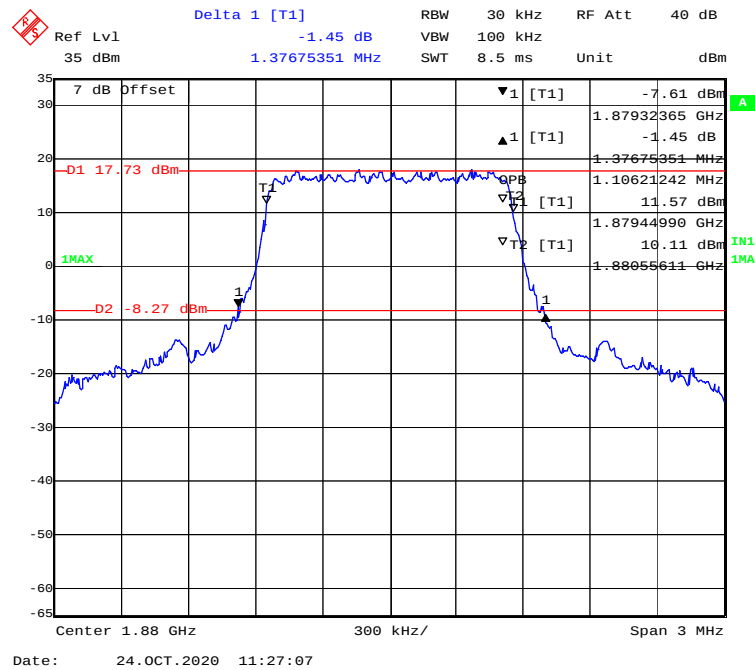
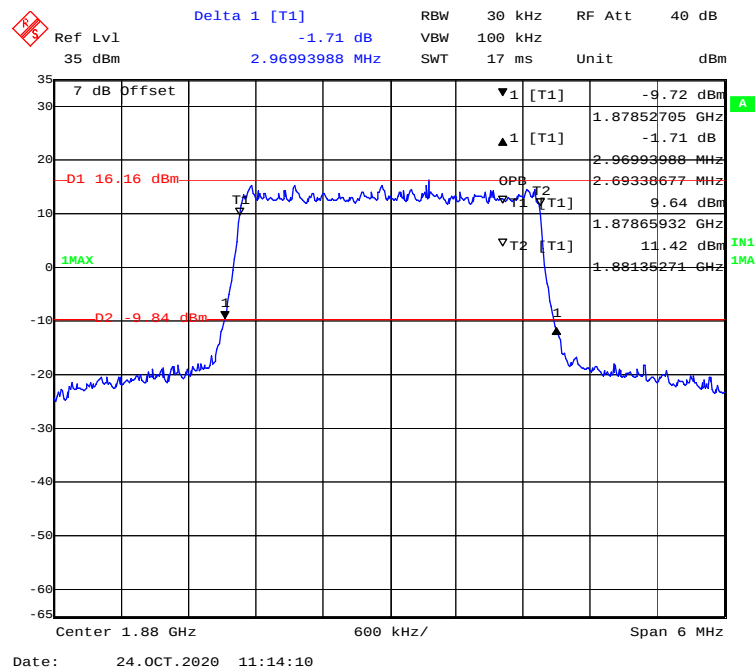
Test Modulation	Test Bandwidth	Test Channel	26 dB Bandwidth	99% Occupied Bandwidth
			MHz	MHz
16-QAM	1.4M	Low	1.353	1.112
	3M		2.934	2.705
	5M		4.970	4.509
	10M		9.780	8.978
	15M		14.880	13.557
	20M		19.479	17.956
	1.4M	Middle	1.347	1.112
	3M		2.946	2.693
	5M		4.950	4.489
	10M		9.739	8.938
	15M		14.970	13.527
	20M		19.399	17.876
	1.4M	High	1.323	1.118
	3M		2.946	2.705
	5M		4.970	4.489
	10M		9.820	8.978
	15M		14.910	13.527
	20M		19.479	17.956

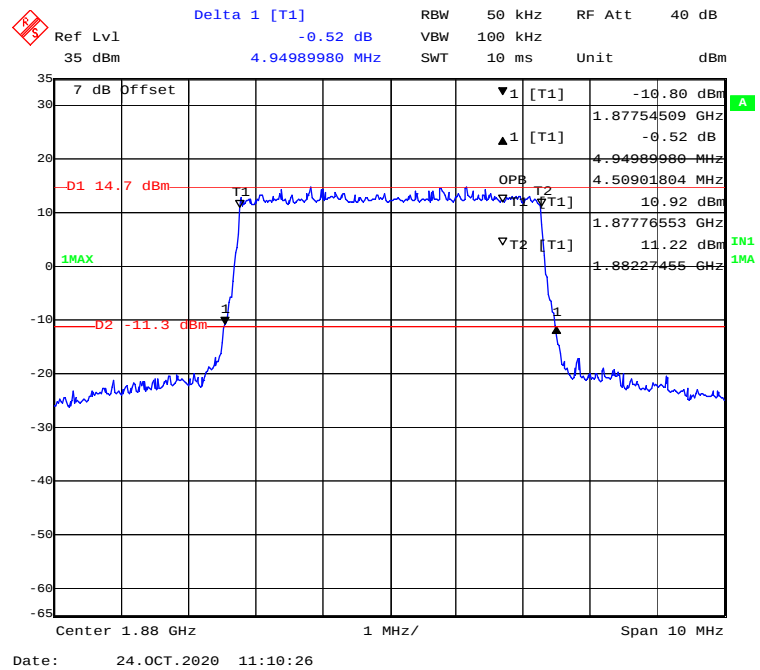
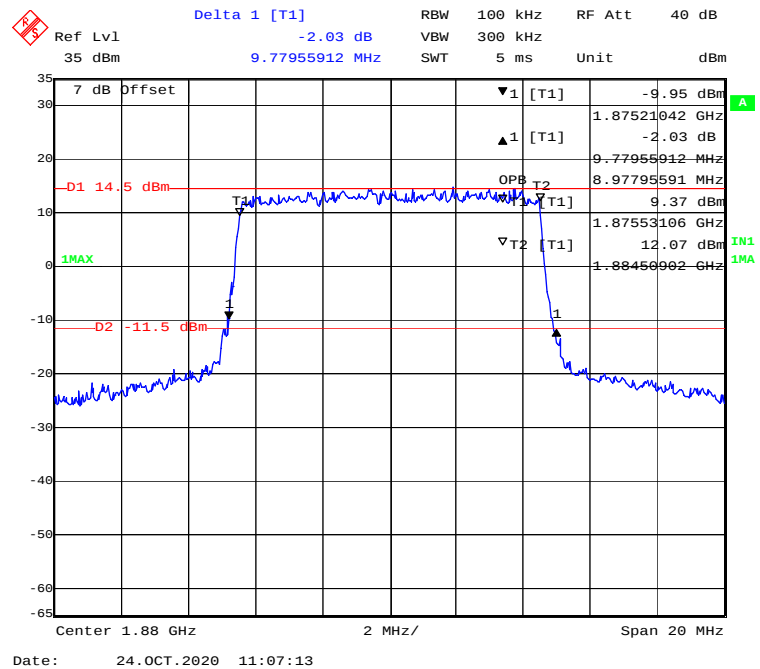
Delta 1 [T1] -1.89 dB
 RBW 30 kHz
 RF Att 40 dB
 Ref Lvl 35 dBm
 Unit dBm
 1.32865731 MHz
 Span 3 MHz
 Center 1.8507 GHz
 300 kHz/
 Date: 24.OCT.2020 10:16:37

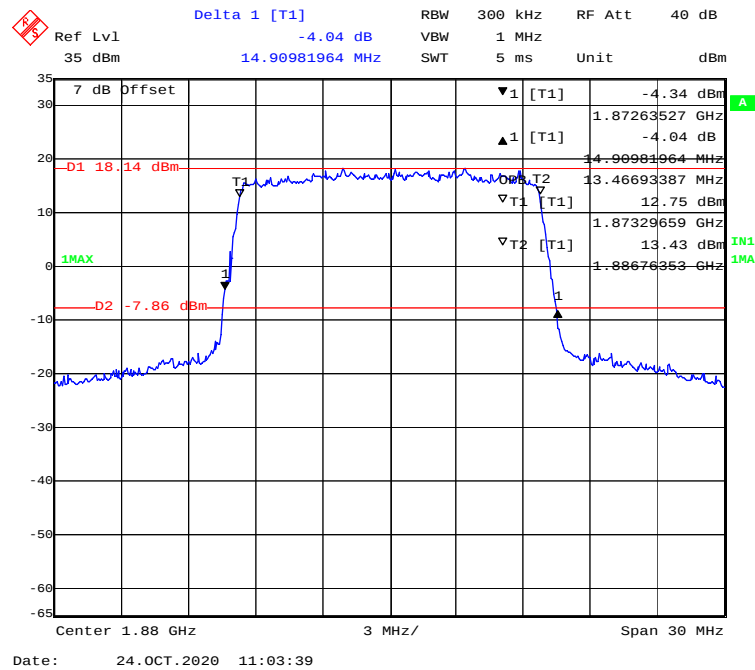
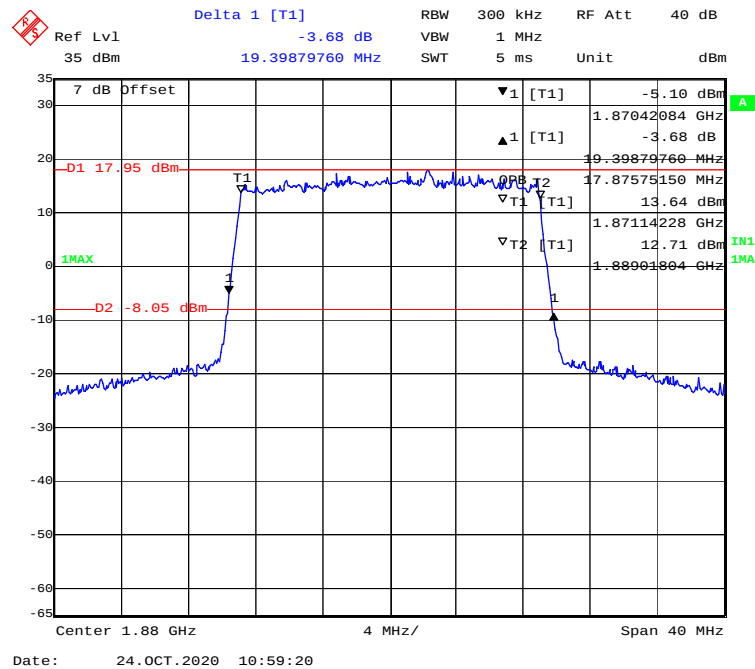
[illegible]

QPSK (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**QPSK (10MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

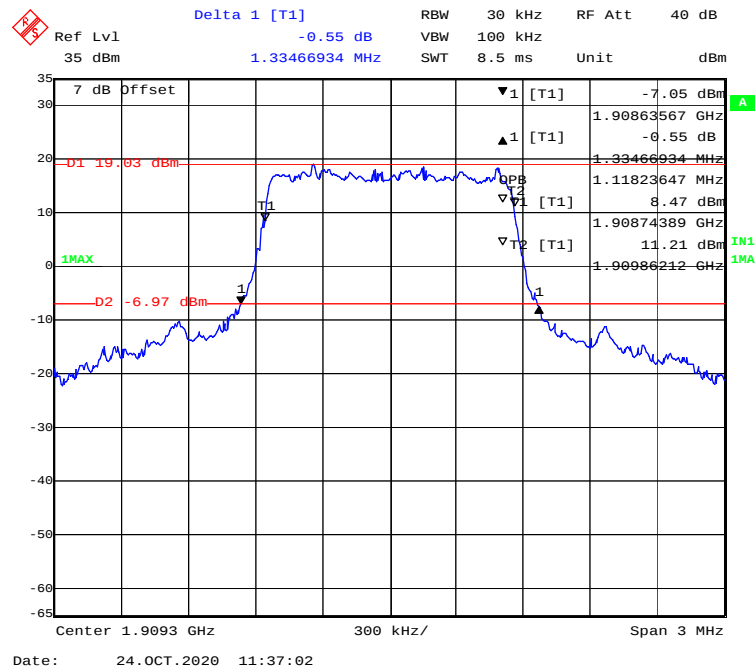
QPSK (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**QPSK (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**QPSK (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

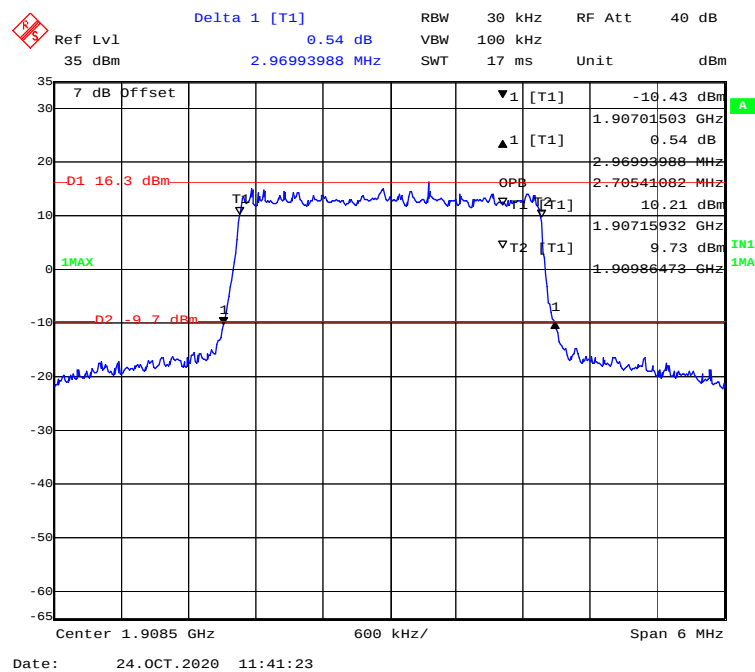
QPSK (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**QPSK (10MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

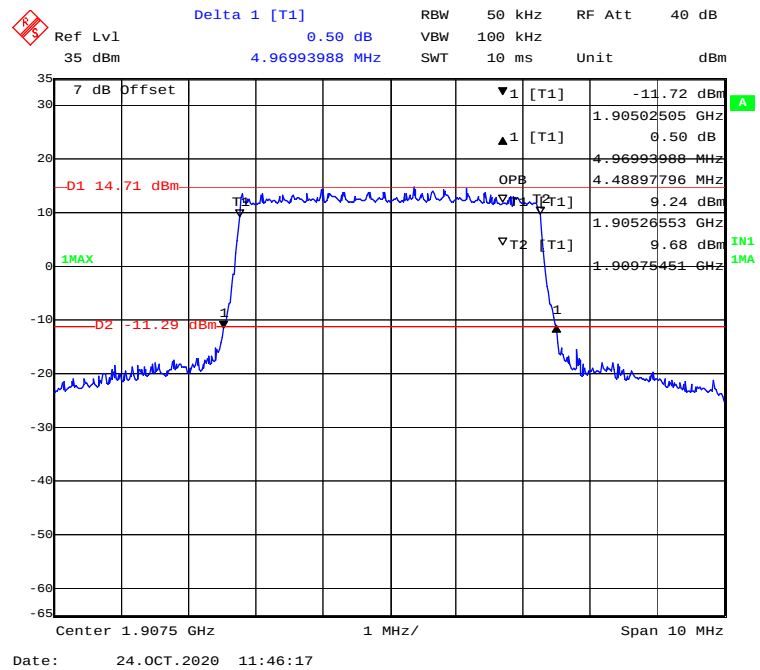
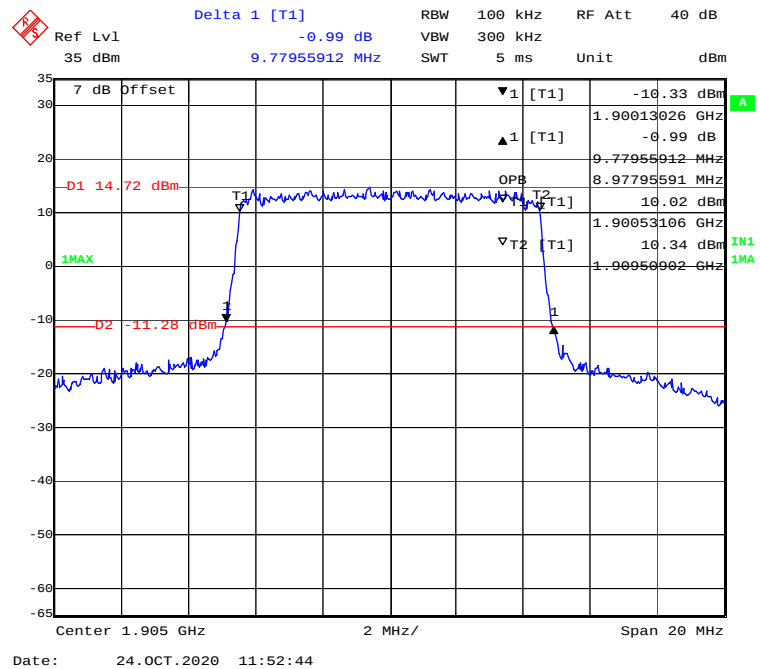
QPSK (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**QPSK (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

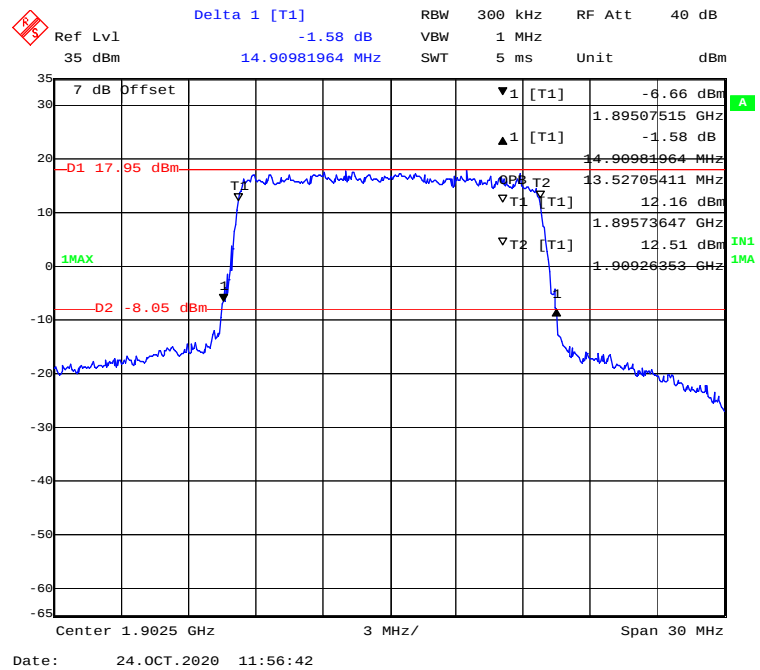
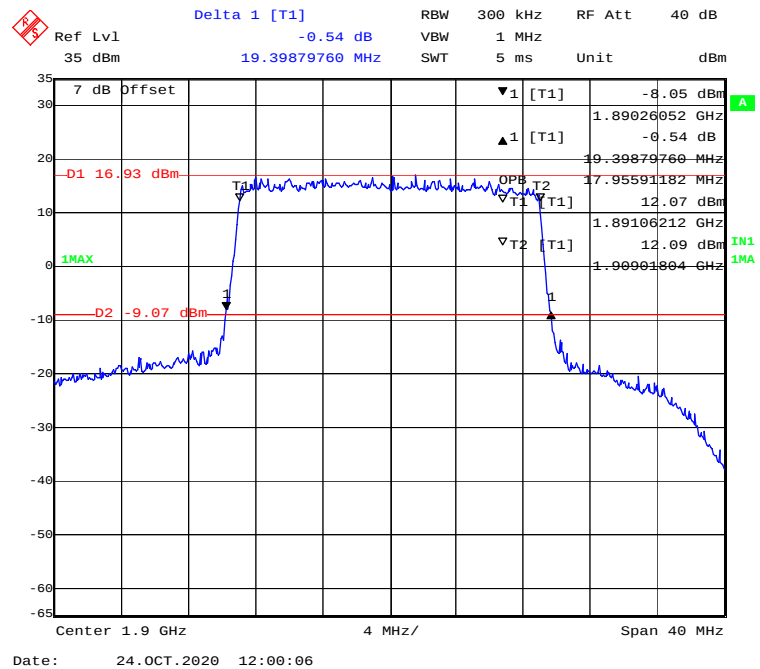
QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel

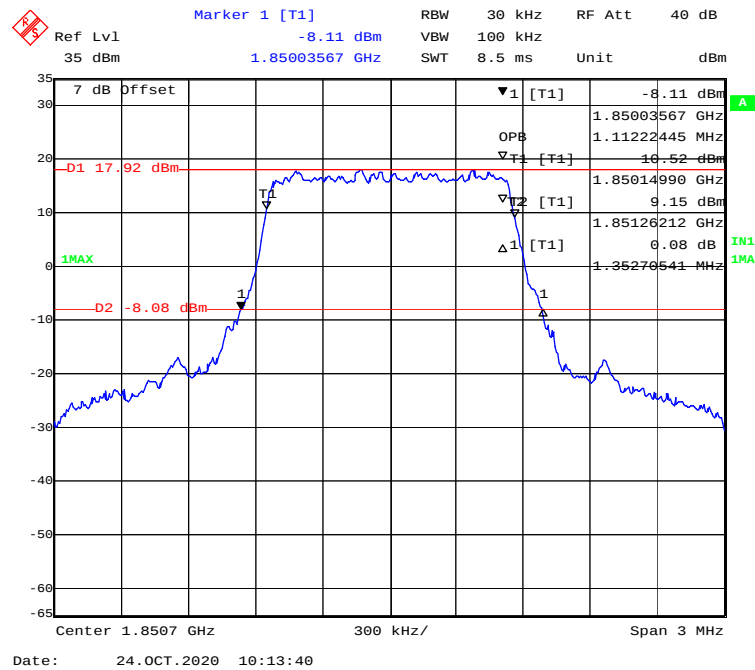
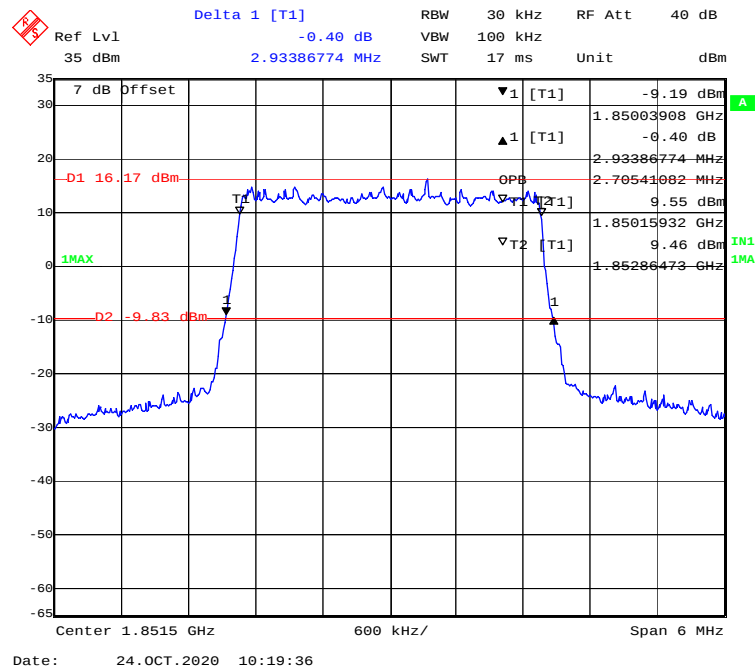


QPSK (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel

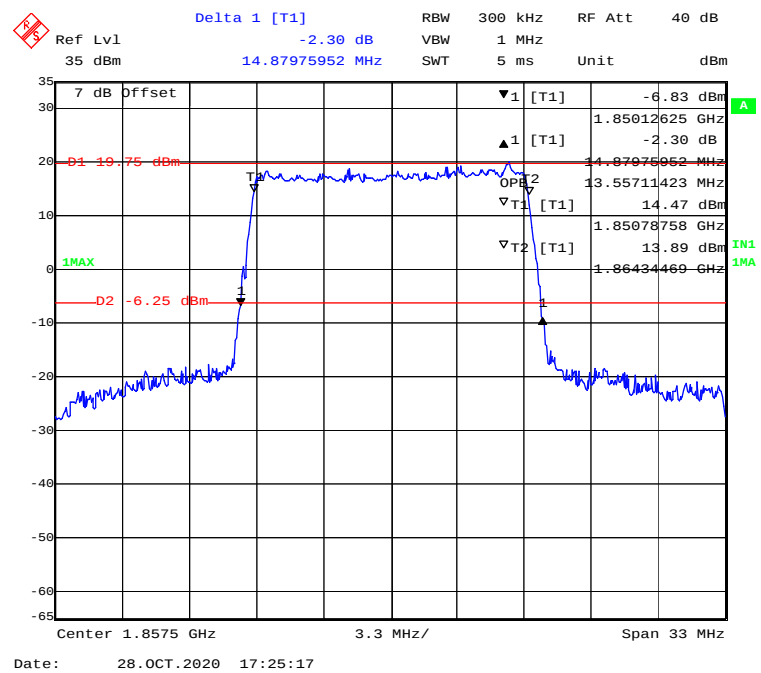


QPSK (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**QPSK (10MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

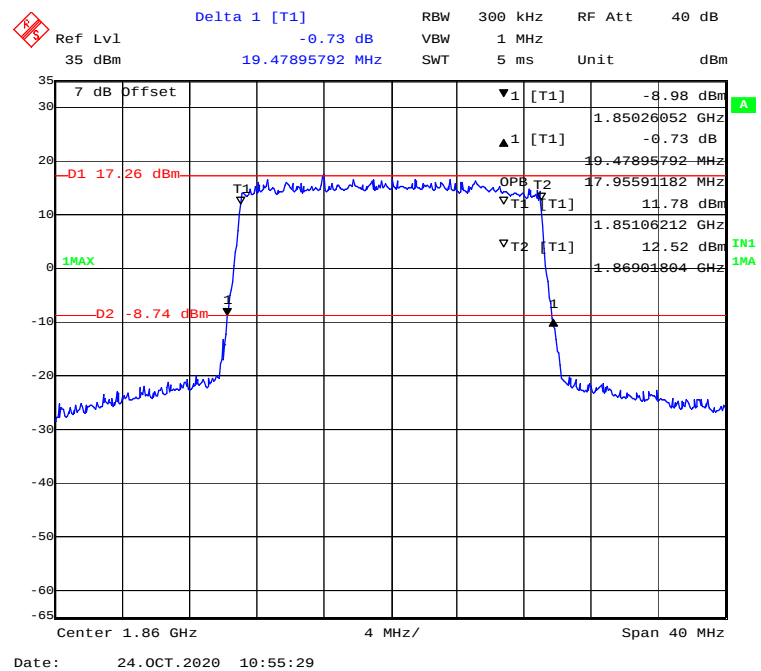
QPSK (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**QPSK (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

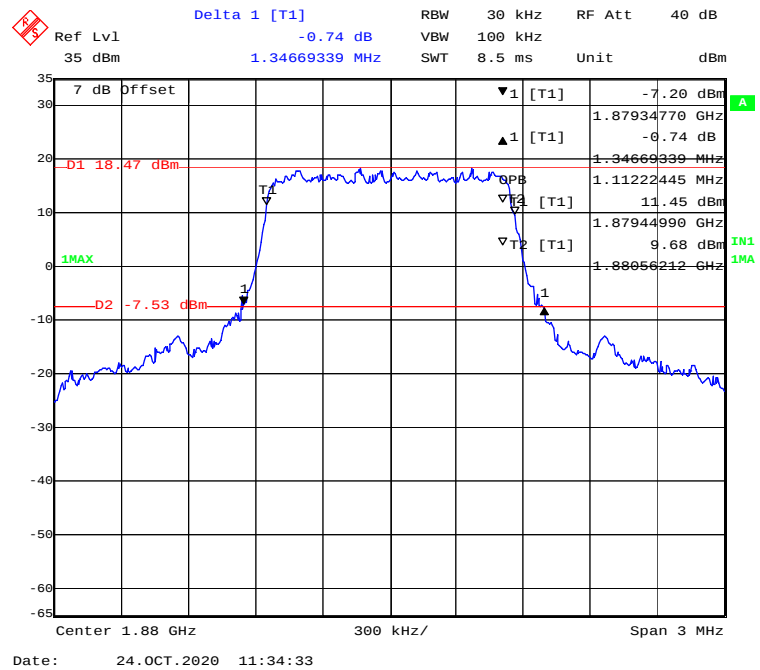
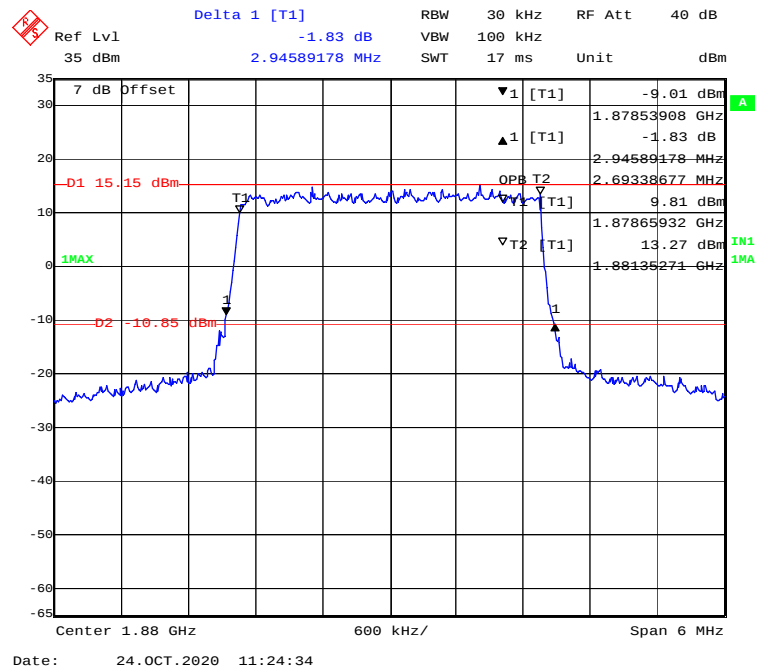
16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**16-QAM (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

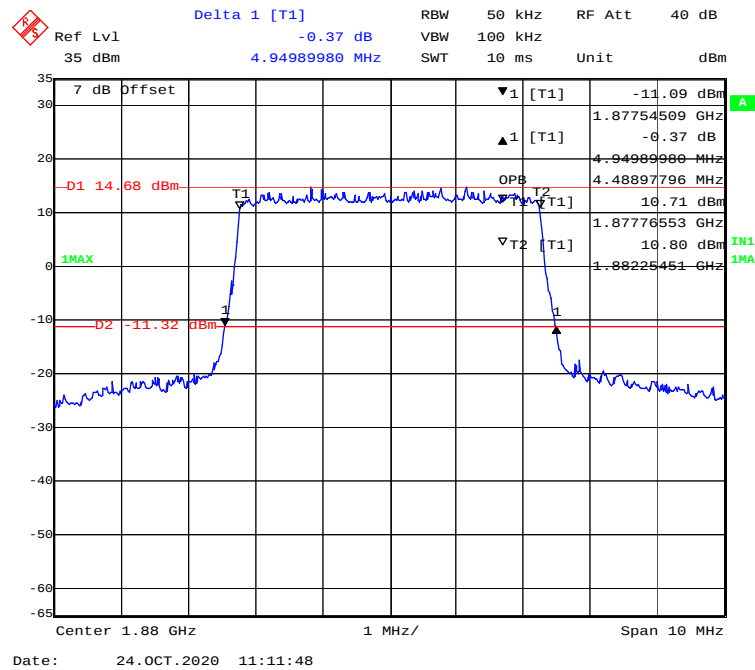
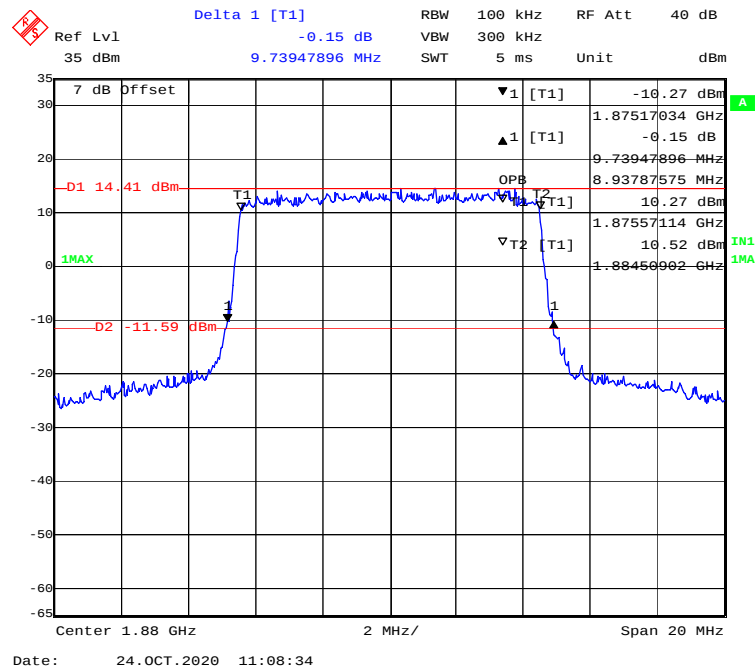
16-QAM (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel

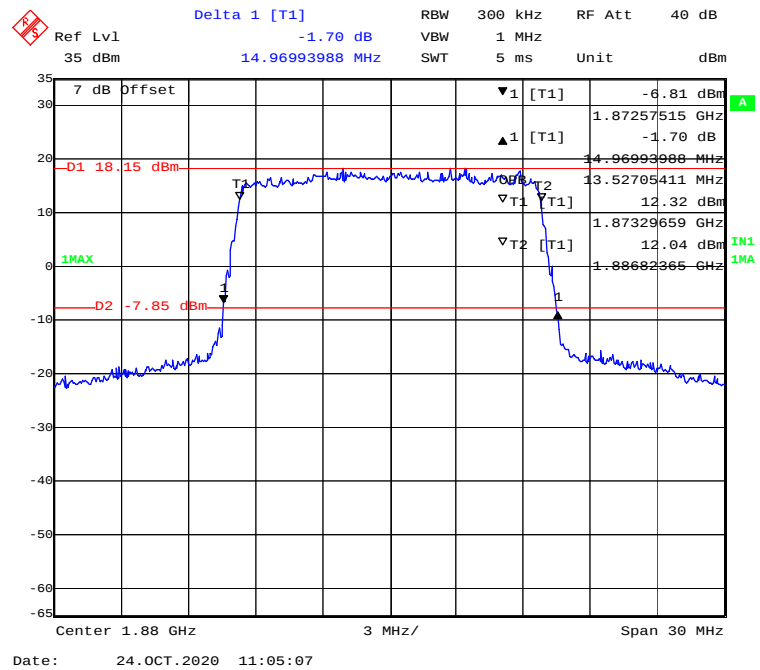
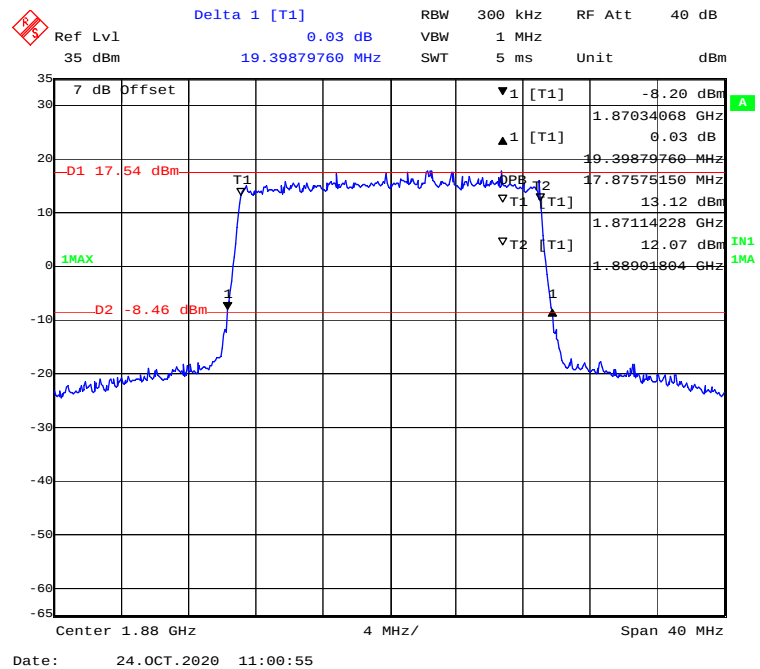


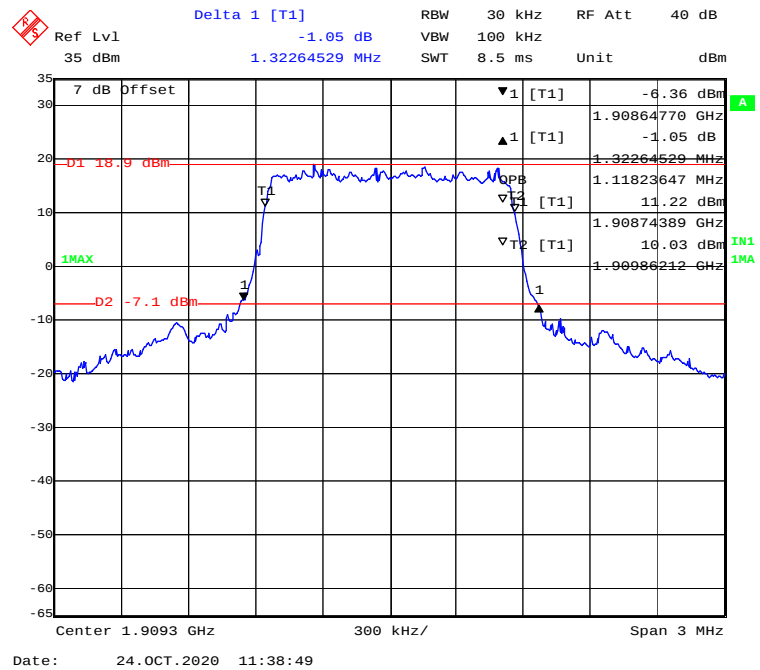
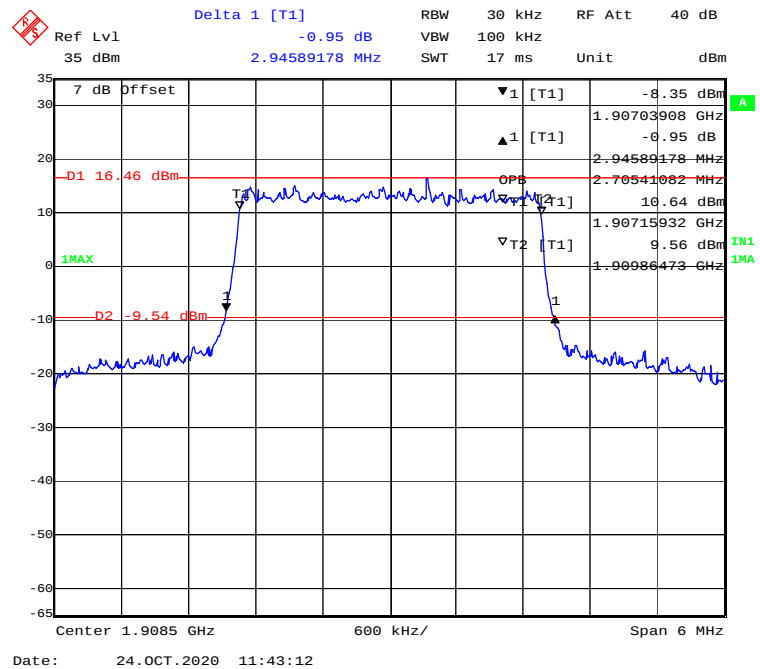
16-QAM (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel

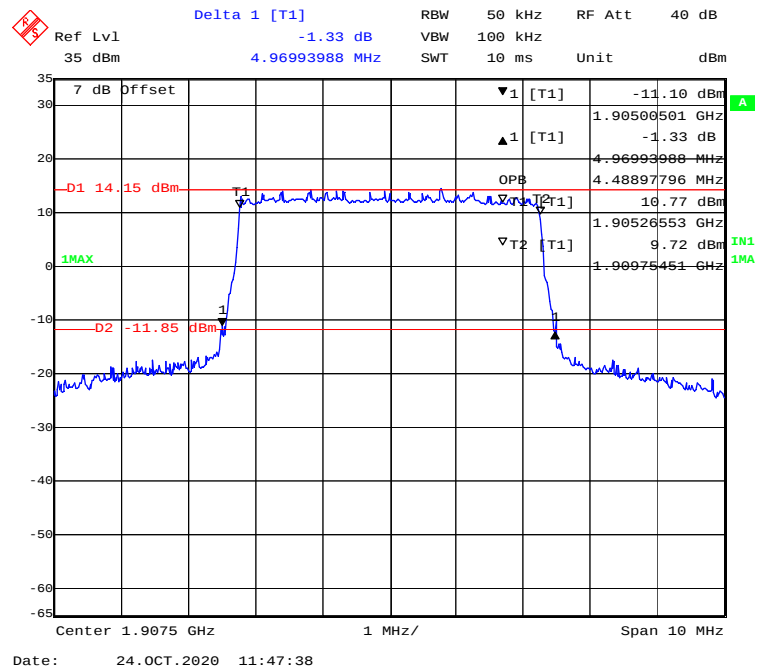
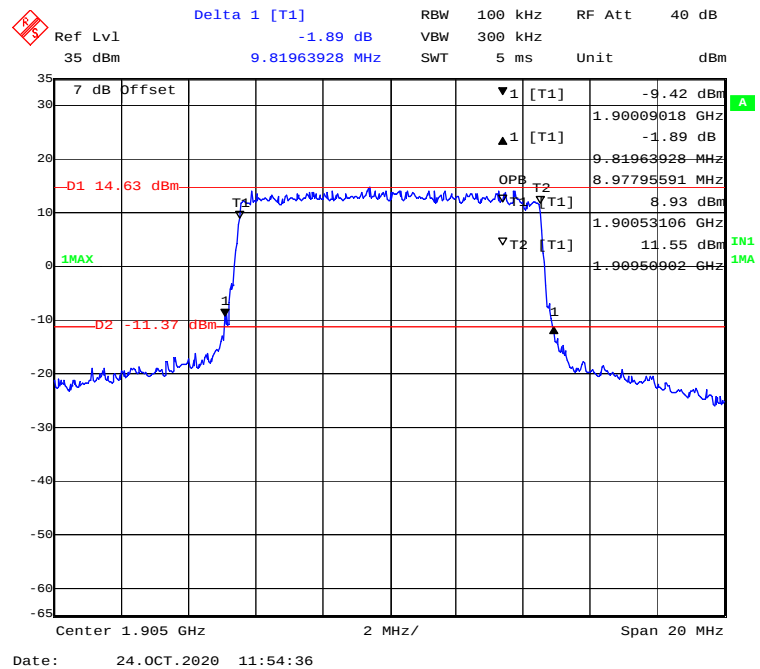


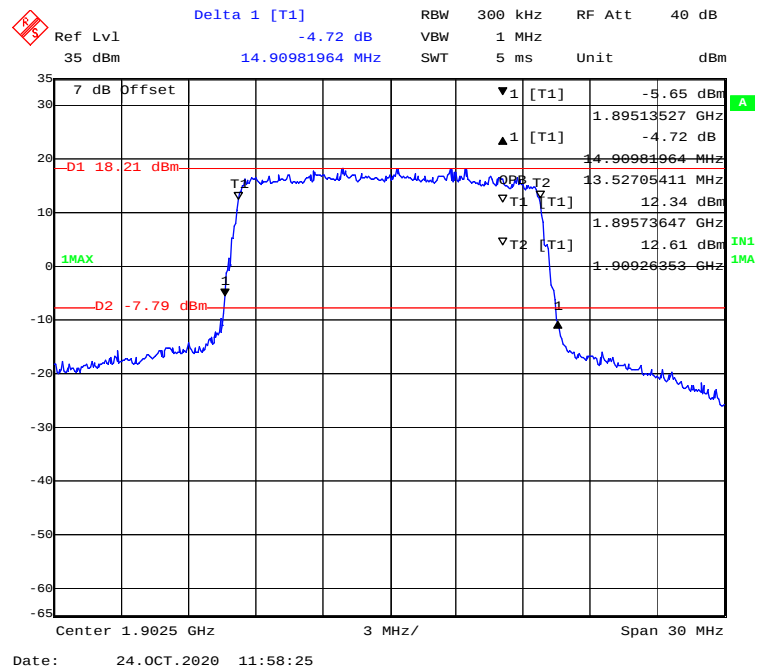
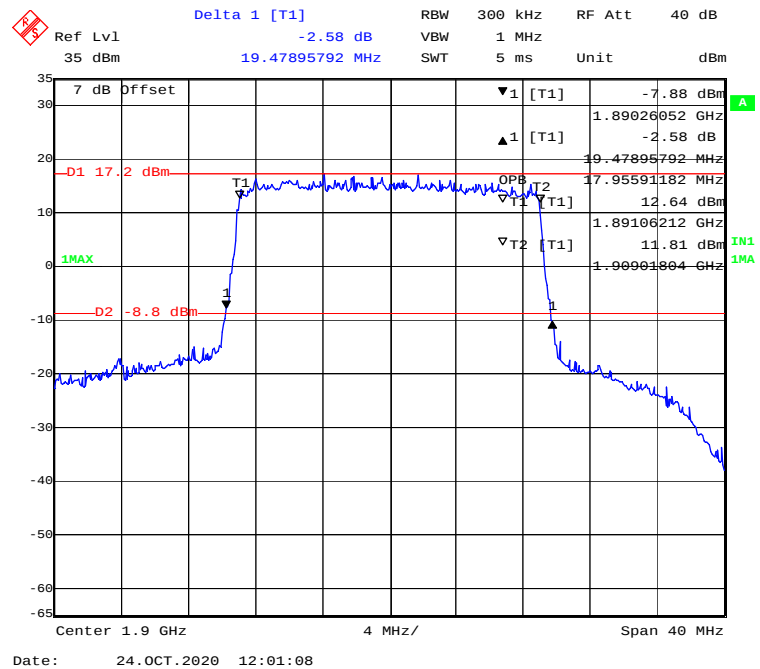
16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**16-QAM (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

16-QAM (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**16-QAM (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

16-QAM (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**16-QAM (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**16-QAM (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

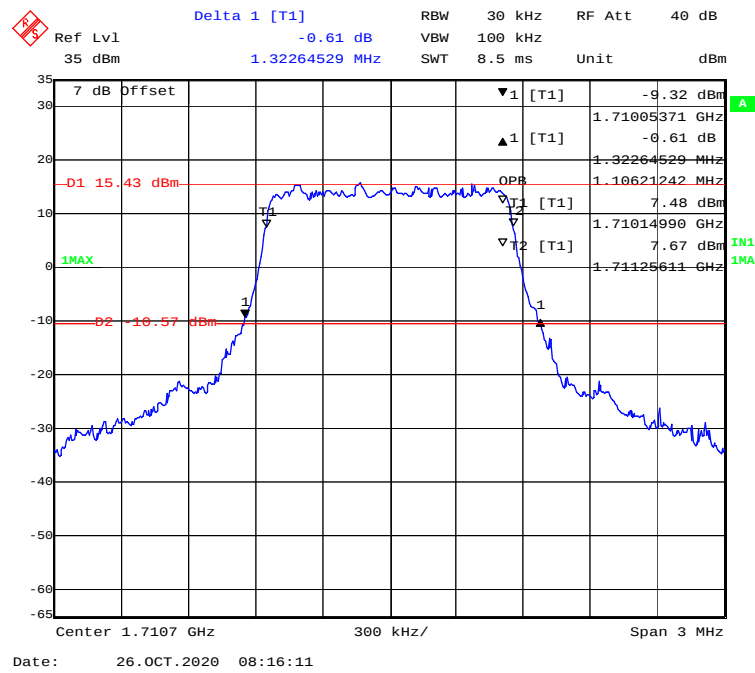
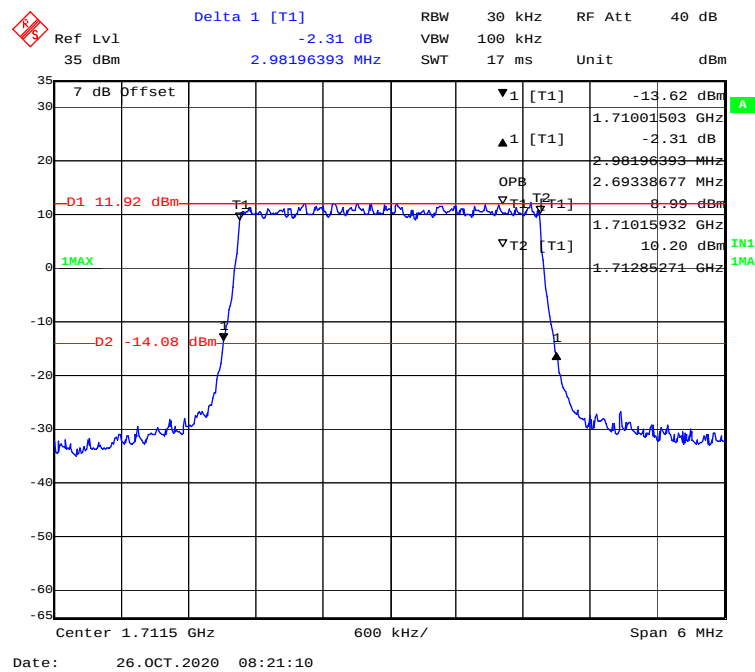
16-QAM (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**16-QAM (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

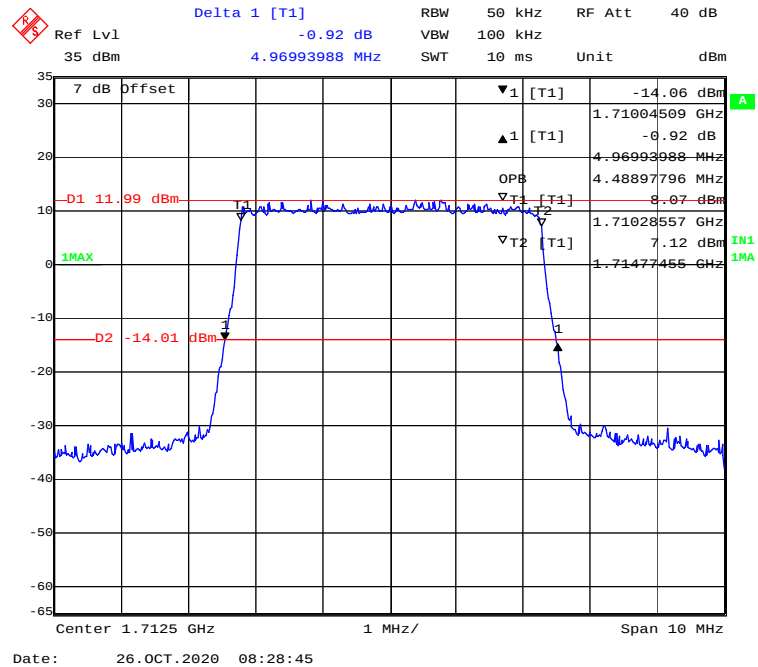
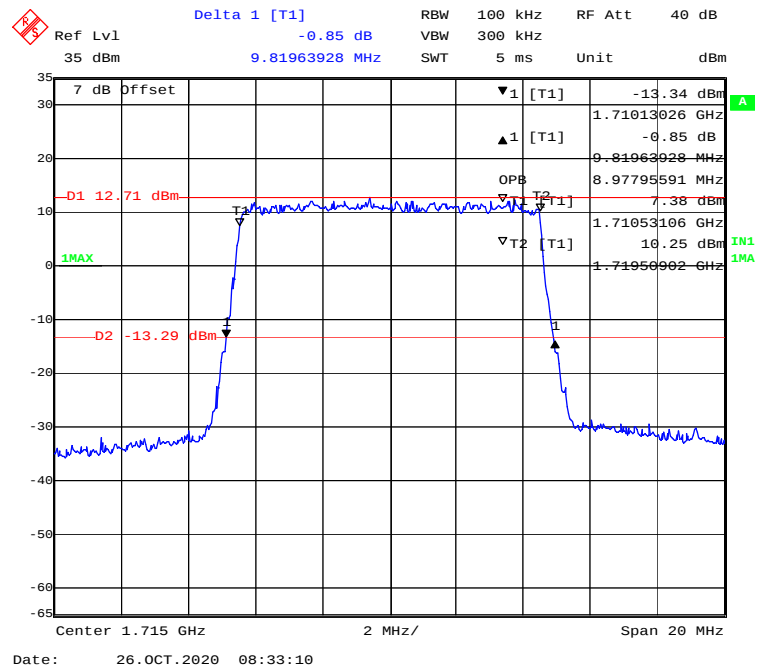
16-QAM (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**16-QAM (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

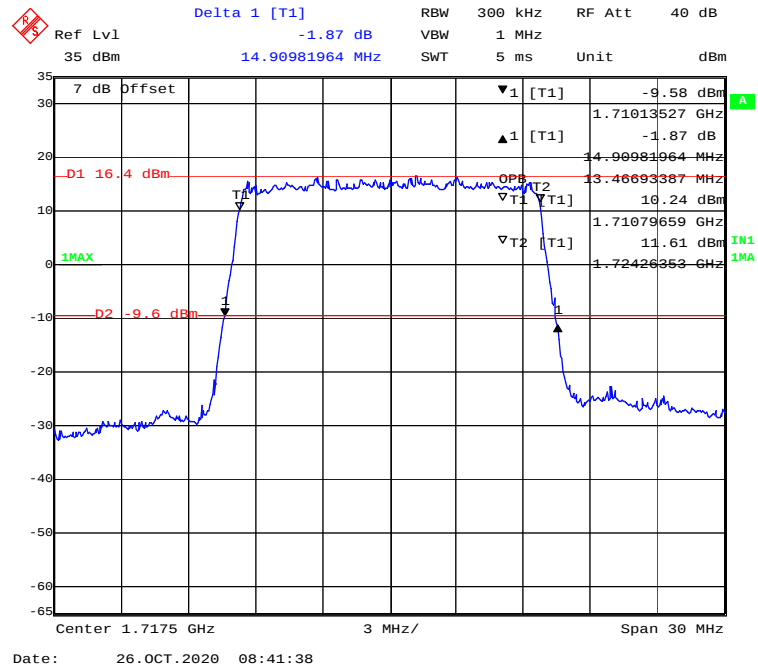
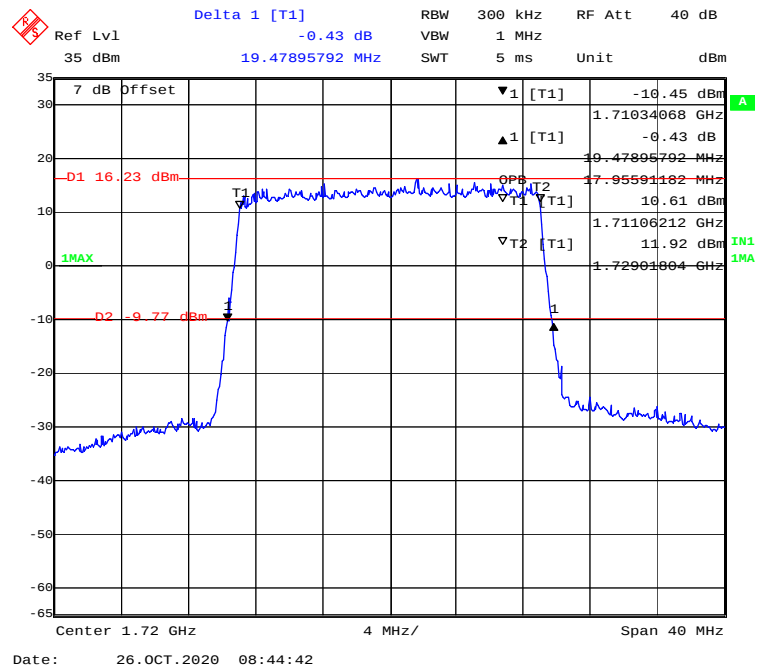
LTE Band 4:

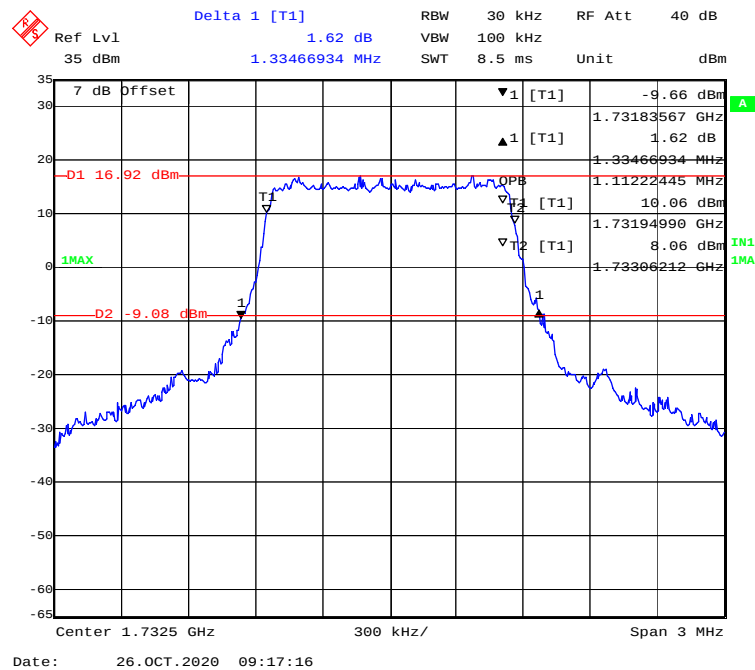
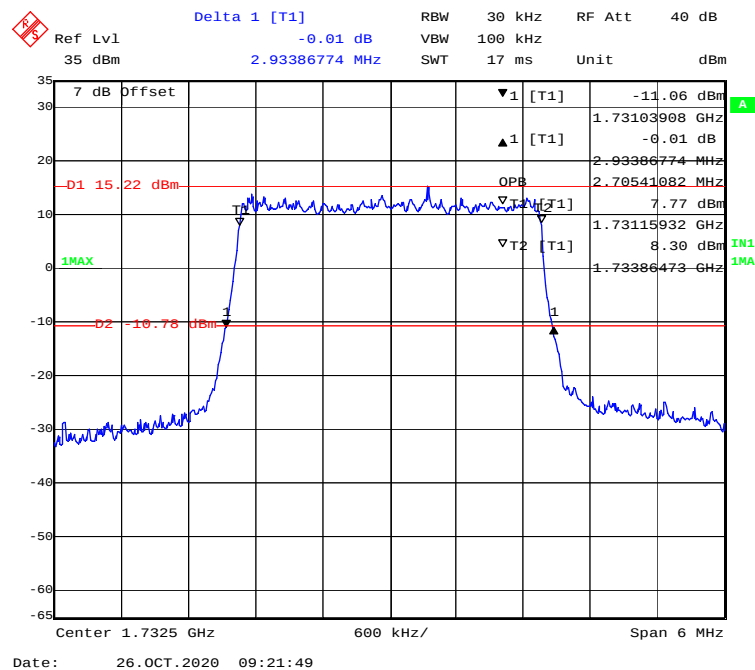
Test Modulation	Test Bandwidth	Test Channel	26 dB Bandwidth	99% Occupied Bandwidth
			MHz	MHz
QPSK	1.4M	Low	1.323	1.106
	3M		2.982	2.693
	5M		4.970	4.489
	10M		9.820	8.978
	15M		14.910	13.467
	20M		19.479	17.956
	1.4M	Middle	1.335	1.112
	3M		2.934	2.705
	5M		4.950	4.489
	10M		9.780	8.938
	15M		14.850	13.467
	20M		19.319	17.956
	1.4M	High	1.341	1.112
	3M		2.970	2.693
	5M		4.910	4.469
	10M		9.699	8.938
	15M		14.970	13.527
	20M		19.479	17.956

Test Modulation	Test Bandwidth	Test Channel	26 dB Bandwidth	99% Occupied Bandwidth
			MHz	MHz
16-QAM	1.4M	Low	1.305	1.106
	3M		2.958	2.693
	5M		4.950	4.489
	10M		9.820	8.978
	15M		14.910	13.467
	20M		19.399	17.956
	1.4M	Middle	1.341	1.106
	3M		2.934	2.693
	5M		4.950	4.489
	10M		9.739	8.938
	15M		14.850	13.467
	20M		19.238	17.876
	1.4M	High	1.353	1.118
	3M		2.982	2.693
	5M		4.930	4.469
	10M		9.699	8.978
	15M		14.850	13.527
	20M		19.479	17.876

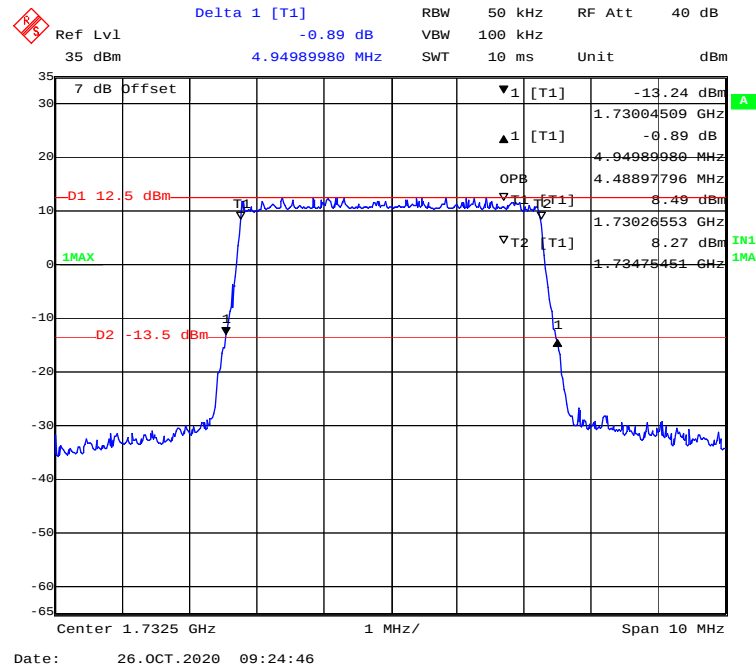
QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**QPSK (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

QPSK (5MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**QPSK (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

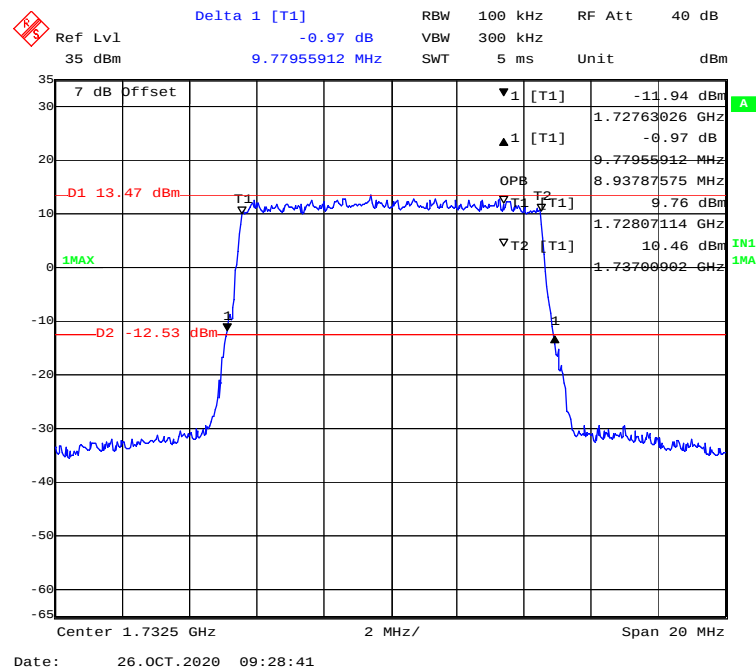
QPSK (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**QPSK (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**QPSK (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

QPSK (5MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



QPSK (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



Delta 1 [T1] -1.53 dB
 RBW 300 kHz RF Att 40 dB
 Ref Lvl 35 dBm VBW 1 MHz
 14.84969940 MHz SWT 5 ms Unit dBm

7 dB Offset
 D1 16.92 dBm
 1MAX
 D2 -9.08 dBm
 IN1 1MA

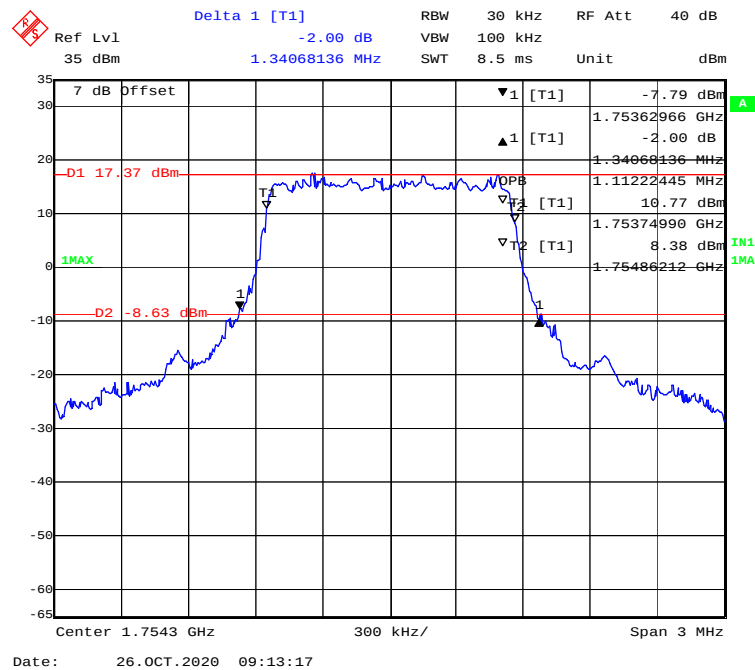
1 [T1] -7.06 dBm
 1 [T1] -1.53 dB
 14.84969940 MHz
 13.46693387 MHz
 11.15 dBm
 1.72579659 GHz
 11.03 dBm
 1.73026353 GHz

Center 1.7325 GHz 3 MHz/ Span 30 MHz

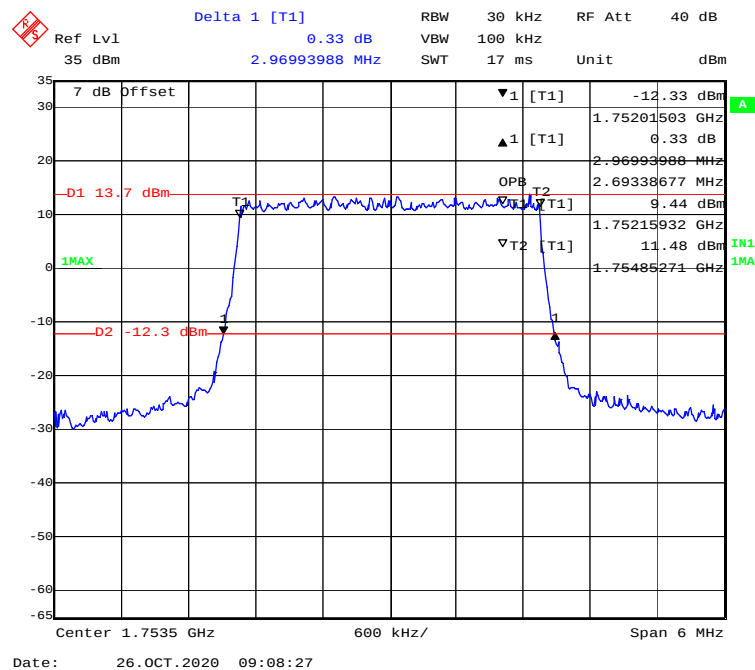
Date: 26.OCT.2020 09:32:27

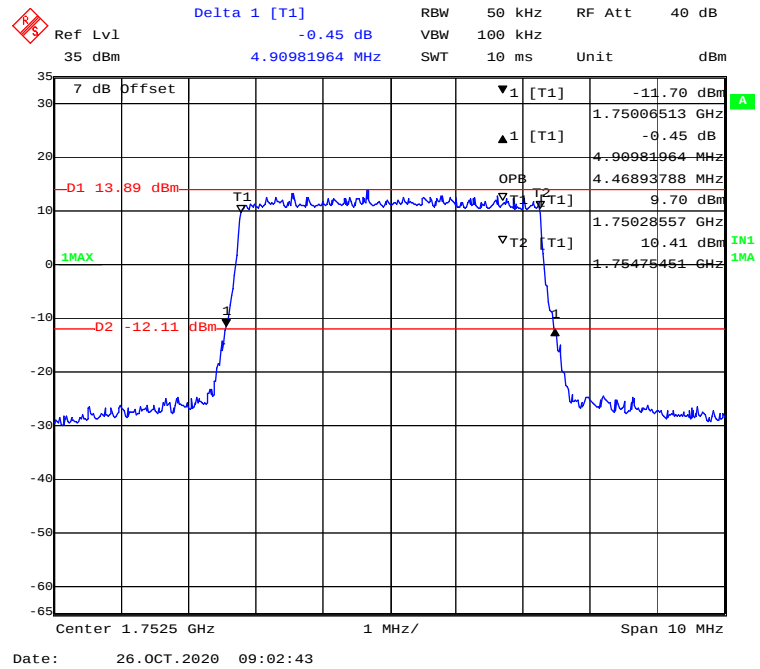
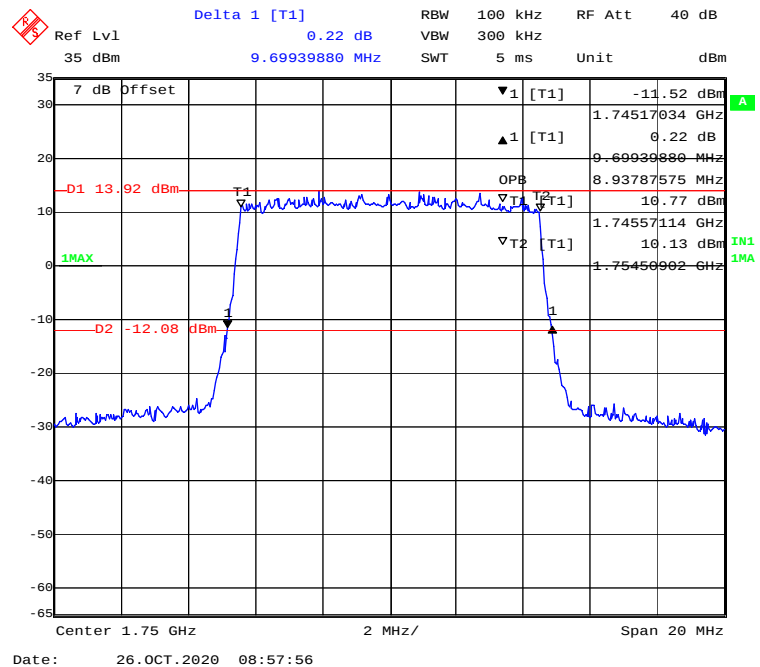
[illegible]

QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



QPSK (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



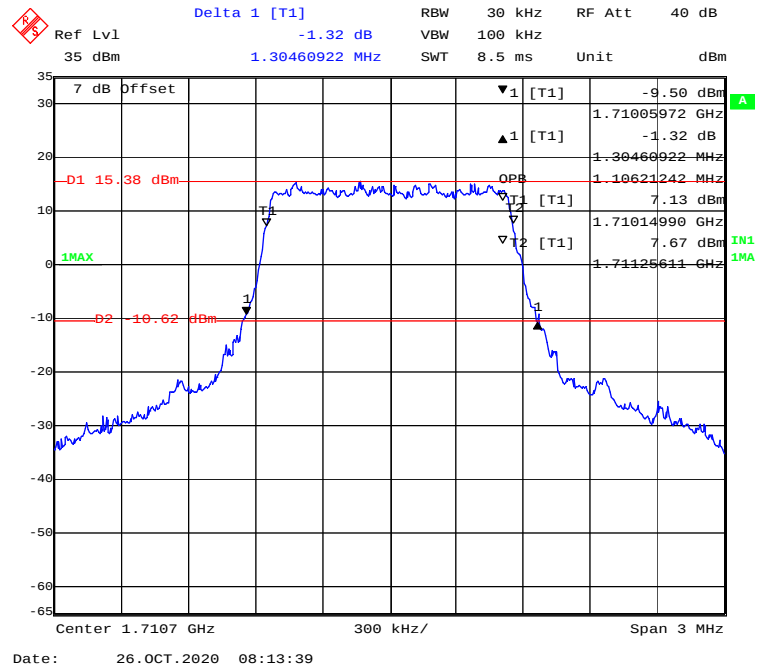
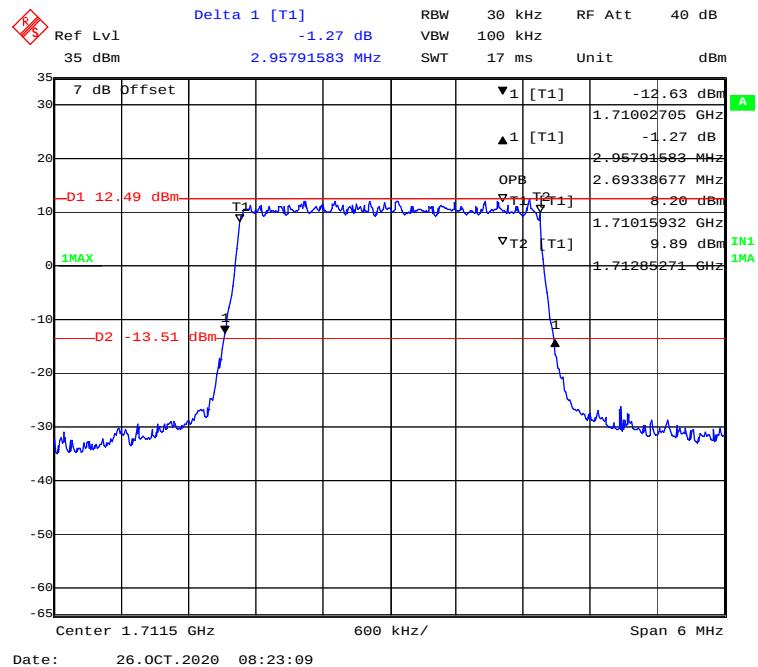
QPSK (5MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**QPSK (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

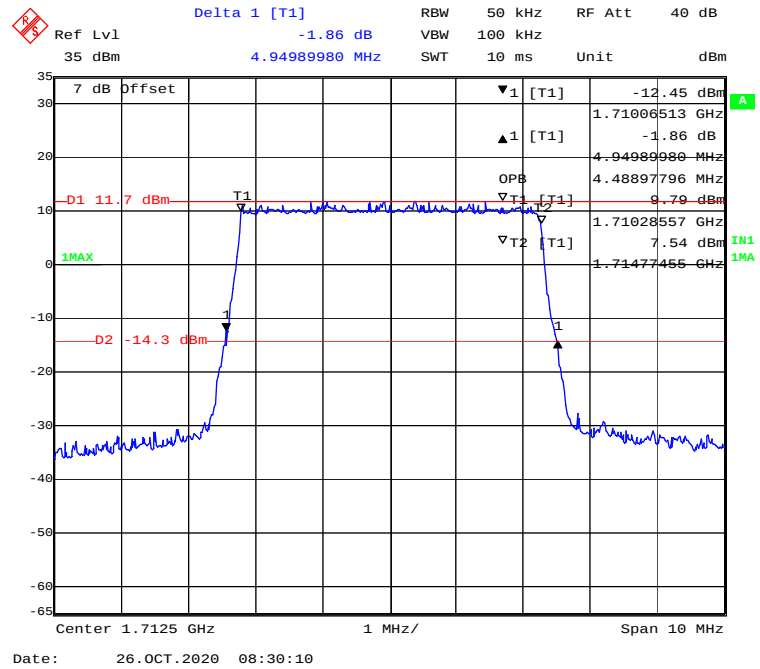
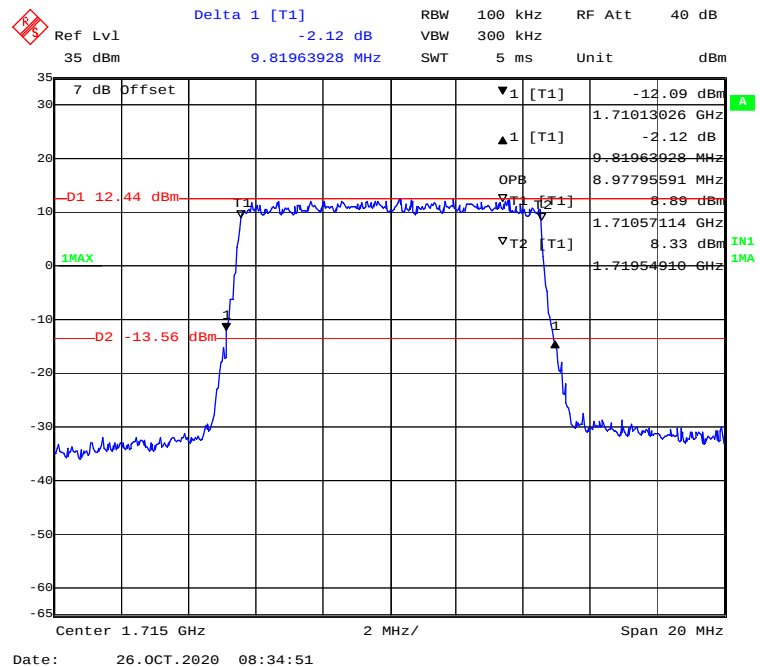
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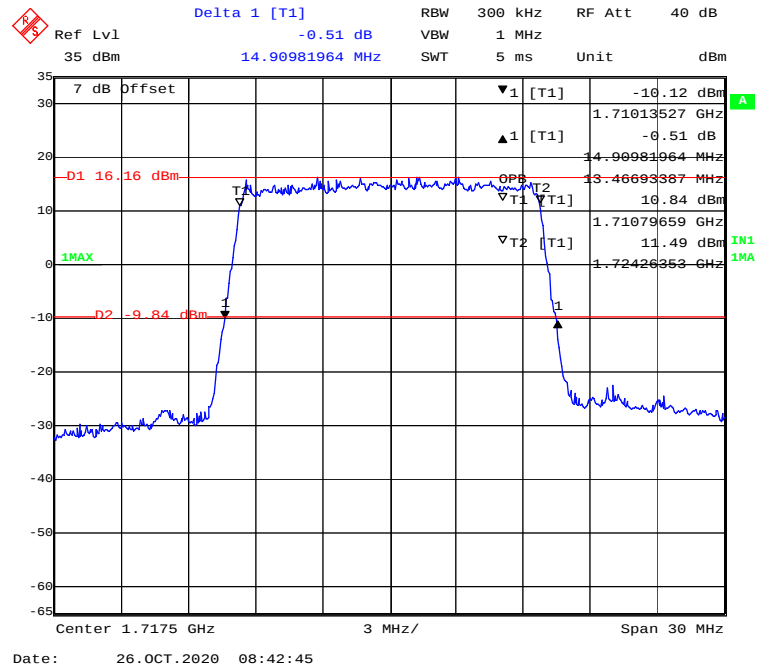
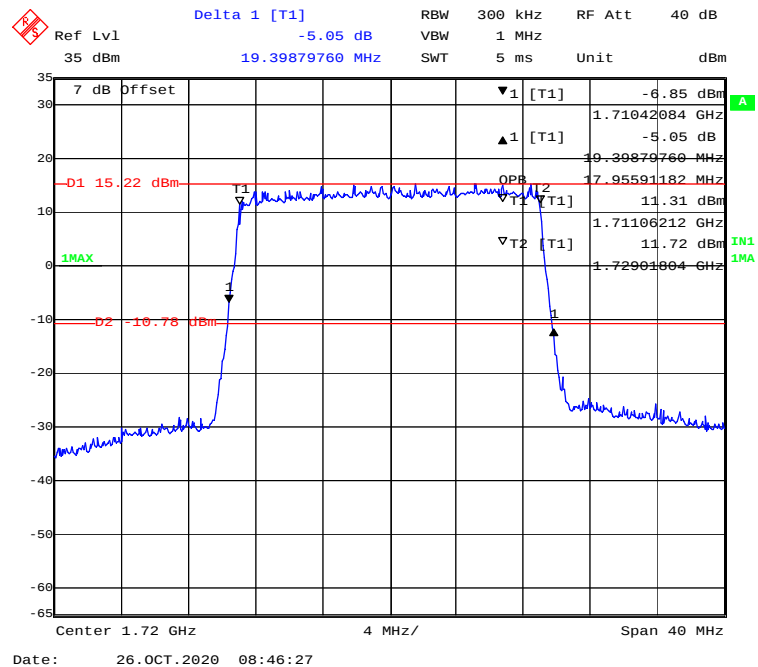
Delta 1 [T1] -0.96 dB
 RBW 300 kHz RF Att 40 dB
 Ref Lvl 35 dBm
 VBW 1 MHz
 SWT 5 ms Unit dBm

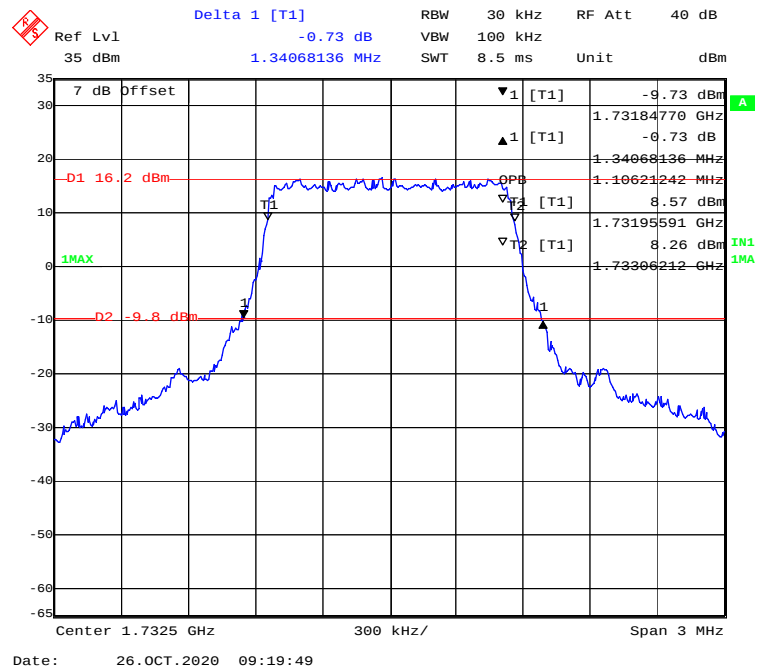
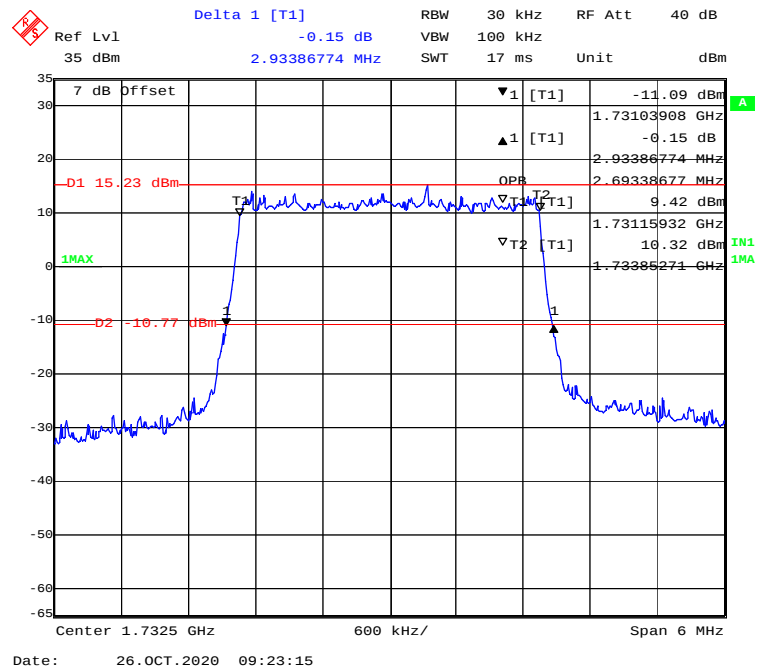
7 dB Offset
 -D1 16.94 dBm
 1MAX
 -D2 -9.06 dBm
 1
 ▼1 [T1] -9.14 dBm
 ▲1 [T1] -0.96 dBm
 OPB 17.95591182 MHz
 ▼T1 [T1] 11.45 dBm
 ▼T2 [T1] 1.73606212 GHz
 10.44 dBm
 1.75401804 GHz
 IN1 1MA
 Center 1.745 GHz 4 MHz/ Span 40 MHz

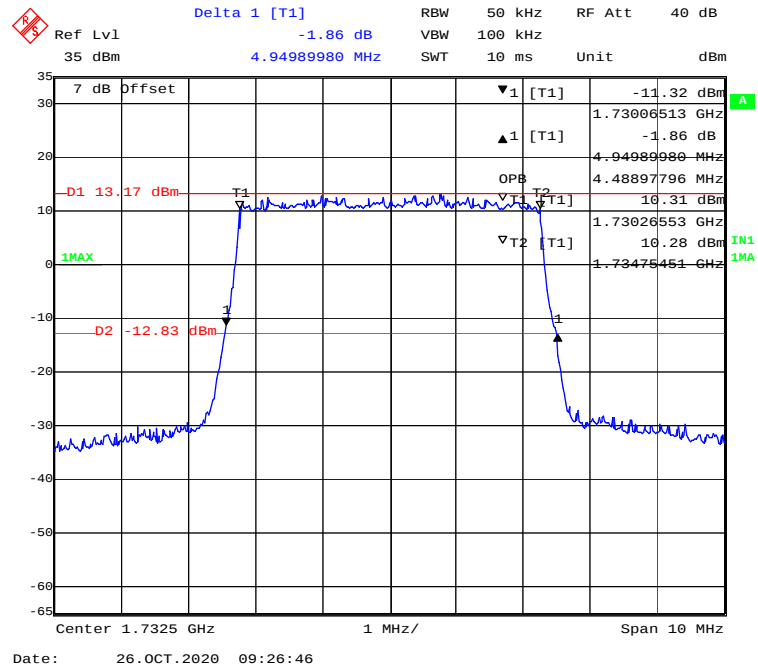
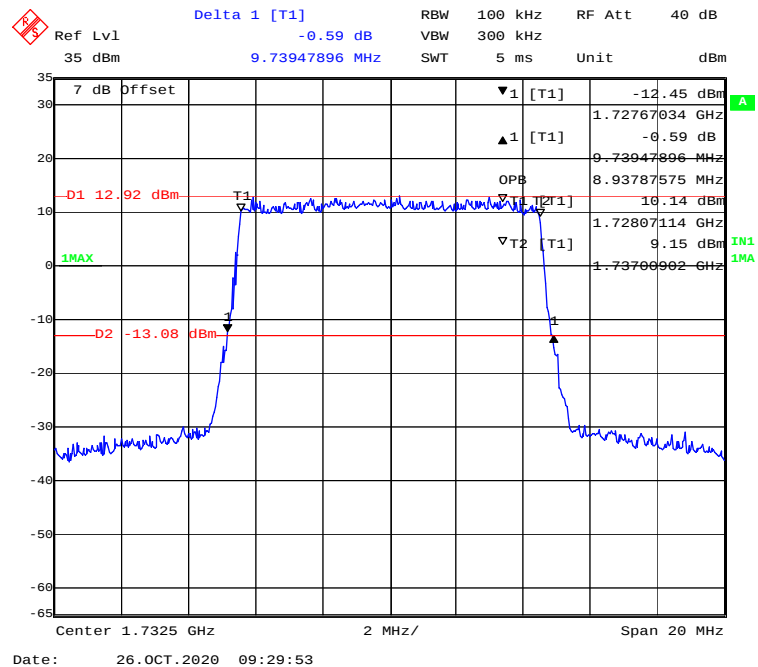
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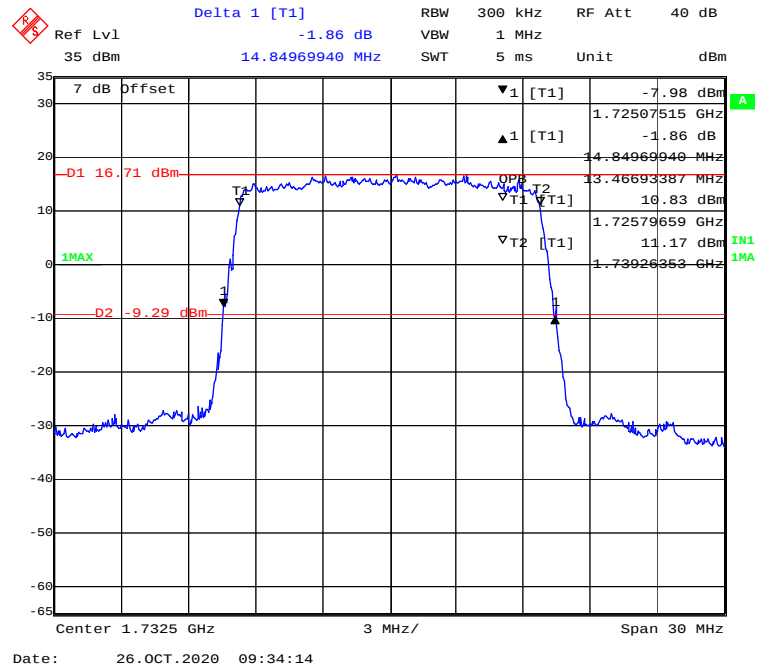
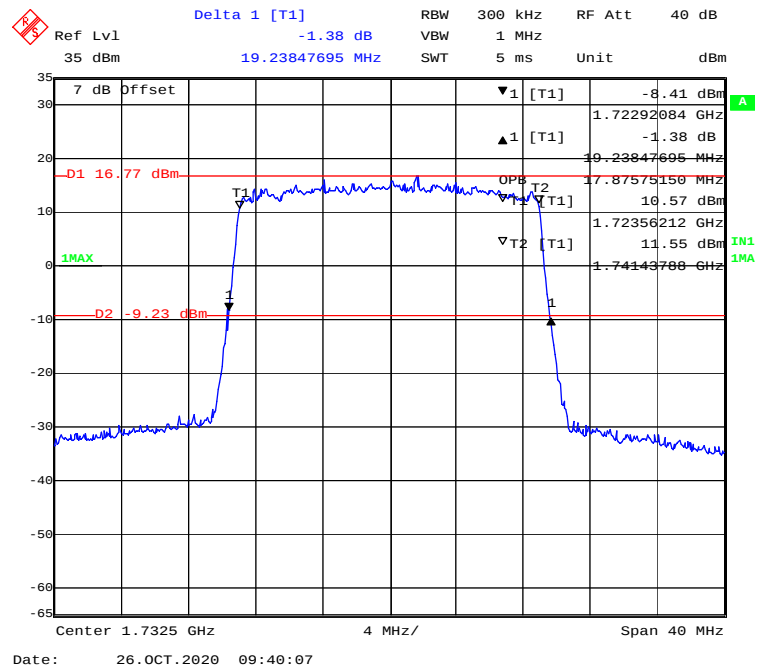
16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**16-QAM (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

16-QAM (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**16-QAM (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

16-QAM (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**16-QAM (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**16-QAM (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

16-QAM (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**16-QAM (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

16-QAM (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**16-QAM (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

Ref Lvl 35 dBm
Delta 1 [T1] 0.09 dB
RBW 30 kHz
VBW 100 kHz
SWT 8.5 ms
RF Att 40 dB
Unit dBm

7 dB Offset
-01 17.82 dBm
-02 -8.18 dBm
1MAX
1

▼1 [T1] -8.16 dBm
▲1 [T1] 0.09 dB
1.75362966 GHz
1.35270541 MHz
1.11823647 MHz
9.86 dBm
1.75374389 GHz
10.08 dBm
1.75486212 GHz

Center 1.7543 GHz
300 kHz/
Span 3 MHz

Date: 26. OCT. 2020 09:15:35

Ref Lvl 35 dBm Delta 1 [T1] -1.29 dB RBW 30 kHz RF Att 40 dB
 35 dBm 2.98196393 MHz SWT 17 ms Unit dBm

7 dB Offset

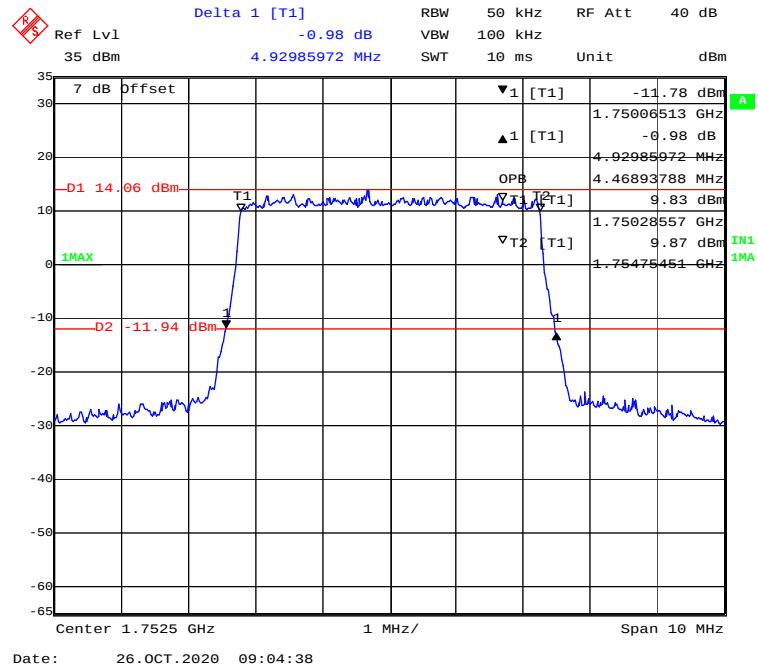
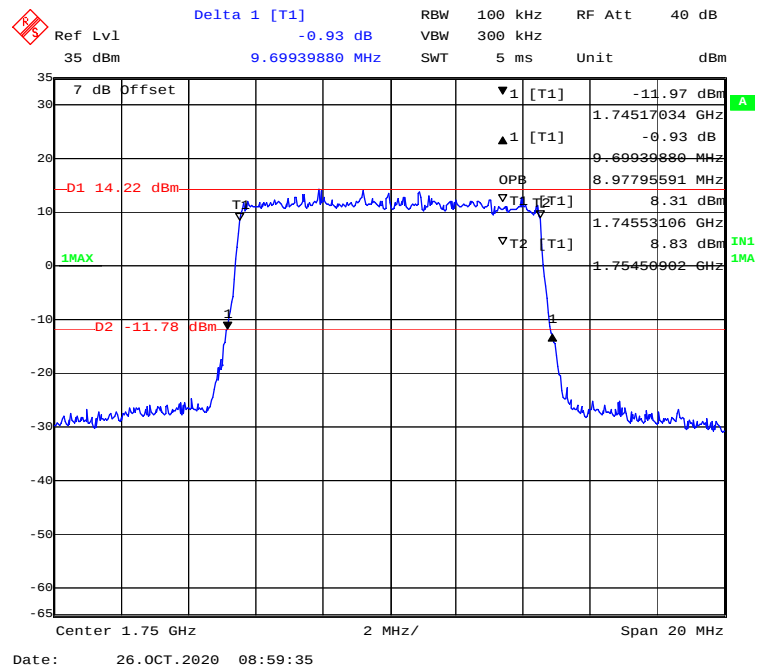
▼1 [T1] -12.46 dBm
 ▲1 [T1] -1.29 dB
 OPB 2.98196393 MHz
 T1 [T1] 10.22 dBm
 T2 [T1] 1.75215932 GHz
 T2 [T1] 2.69338677 MHz
 T2 [T1] 11.75215932 GHz
 T2 [T1] 11.75485271 GHz

D1 13.94 dBm
 D2 -12.06 dBm

IMAX
 IN1
 IN2

Center 1.7535 GHz 600 kHz/ Span 6 MHz

Date: 26.OCT.2020 09:11:37

16-QAM (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**16-QAM (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

Delta 1 [T1] 0.74 dB
 RBW 300 kHz RF Att 40 dB
 Ref Lvl 35 dBm VBW 1 MHz
 35 dBm SWT 5 ms Unit dBm

7 dB Offset
 D1 17.13 dBm
 1MAX
 D2 -8.87 dBm
 IN1 1MA

▼1 [T1] -9.07 dBm
 ▲1 [T1] 0.74 dB
 14.84969940 MHz
 OPB
 ▽1 [T1] 13.52705411 MHz
 ▽2 [T1] 11.57 dBm
 ▽T2 [T1] 1.74073647 GHz
 9.62 dBm
 1.75426353 GHz
 1

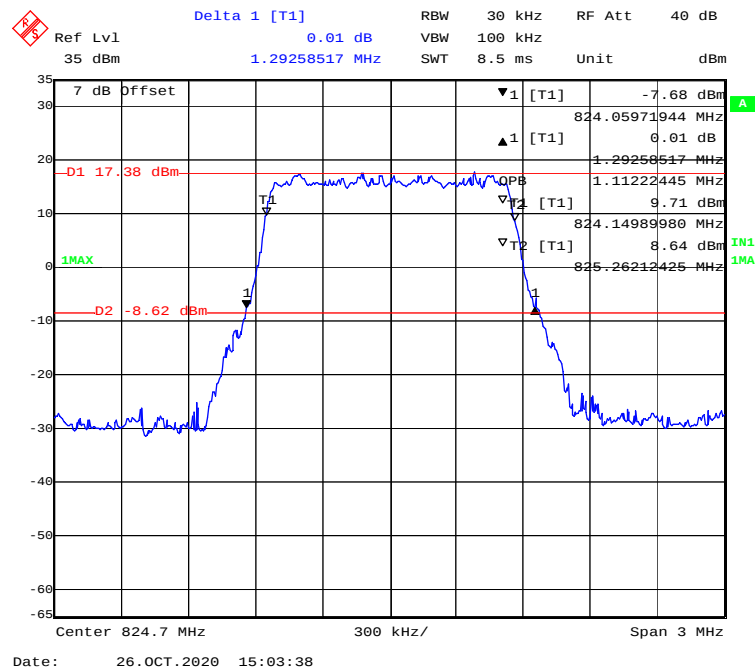
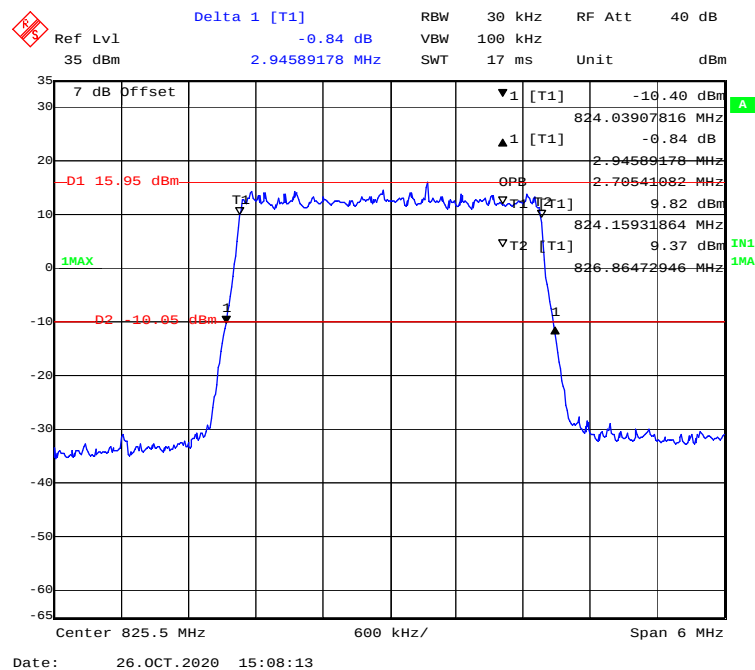
Center 1.7475 GHz 3 MHz/ Span 30 MHz

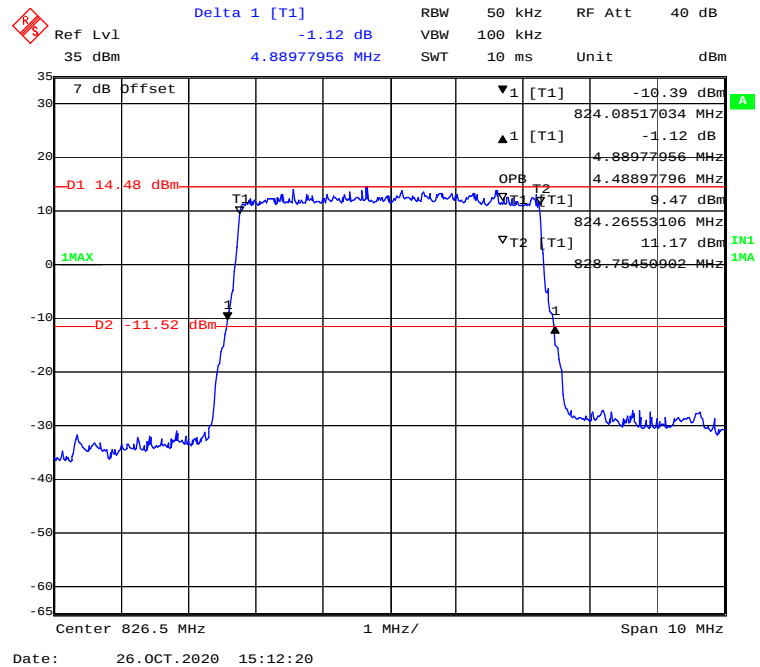
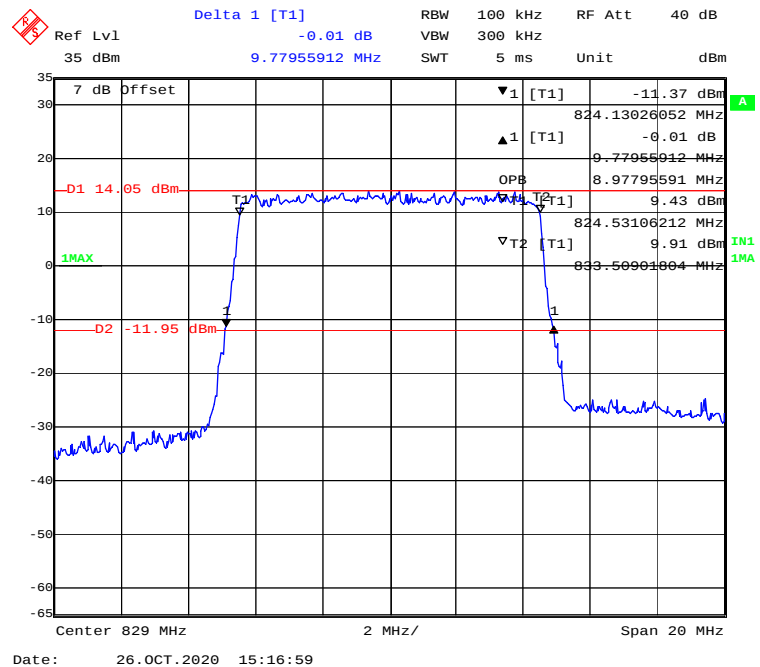
Date: 26.OCT.2020 08:55:30

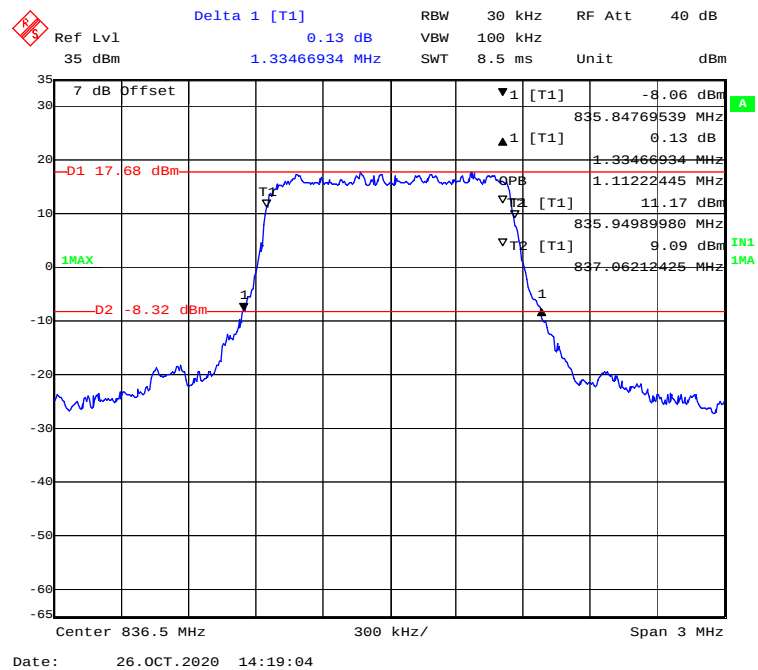
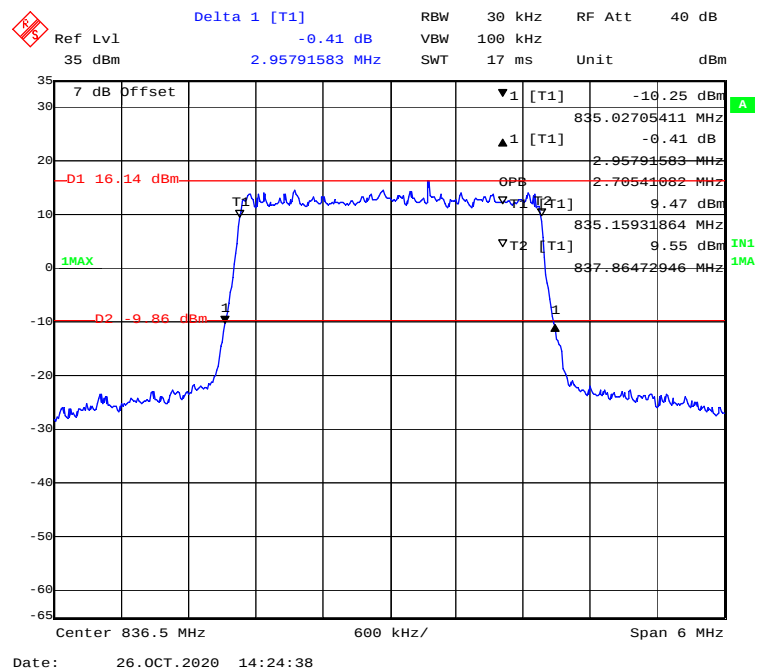
[illegible]

LTE Band 5:

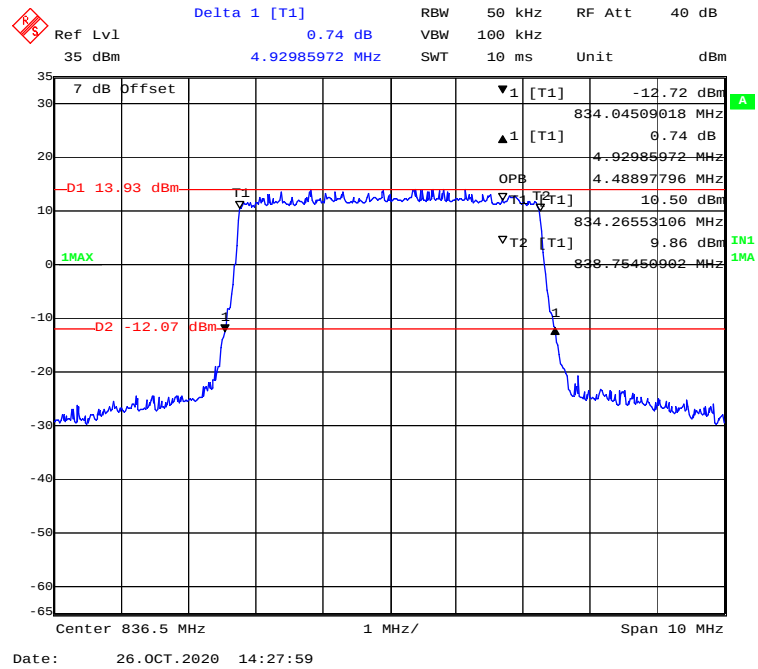
Test Modulation	Test Bandwidth	Test Channel	26 dB Bandwidth	99% Occupied Bandwidth
			MHz	MHz
QPSK	1.4M	Low	1.293	1.112
	3M		2.946	2.705
	5M		4.890	4.489
	10M		9.780	8.978
	1.4M	Middle	1.335	1.112
	3M		2.958	2.705
	5M		4.930	4.489
	10M		9.860	8.978
	1.4M	High	1.305	1.112
	3M		2.970	2.693
	5M		4.990	4.509
	10M		9.739	8.978
16-QAM	1.4M	Low	1.311	1.100
	3M		2.934	2.705
	5M		4.910	4.469
	10M		9.739	8.978
	1.4M	Middle	1.317	1.106
	3M		2.946	2.693
	5M		4.910	4.489
	10M		9.739	8.938
	1.4M	High	1.299	1.112
	3M		2.970	2.693
	5M		4.930	4.489
	10M		9.739	8.978

QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**QPSK (3.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

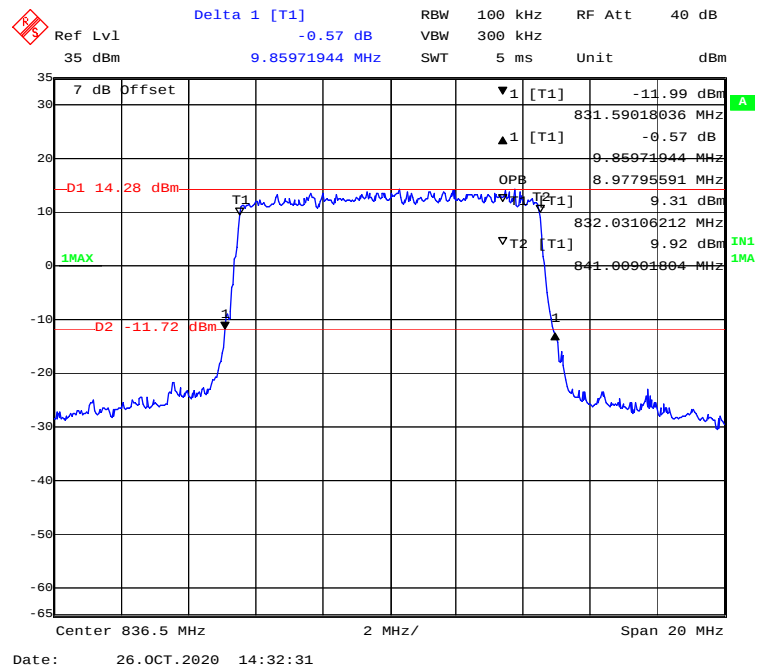
QPSK (5.0MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**QPSK (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**QPSK (3.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

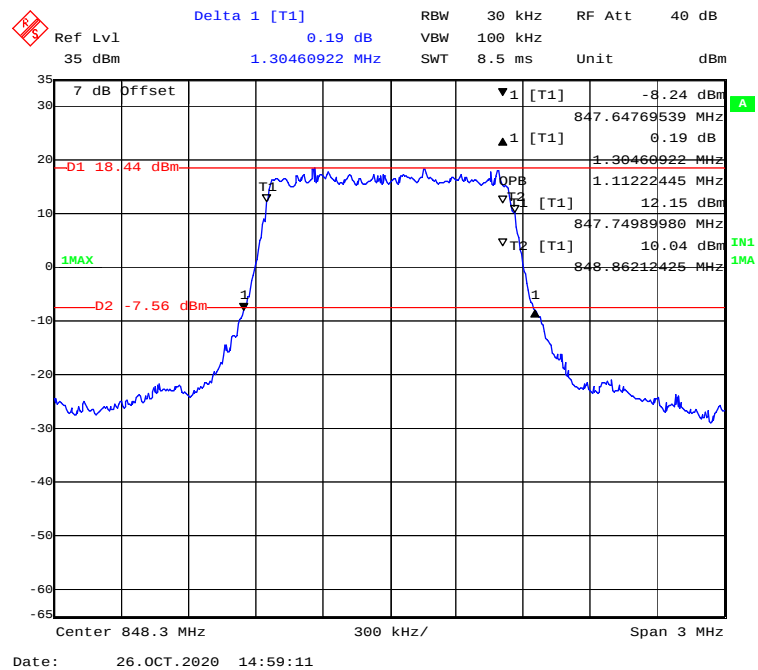
QPSK (5.0MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



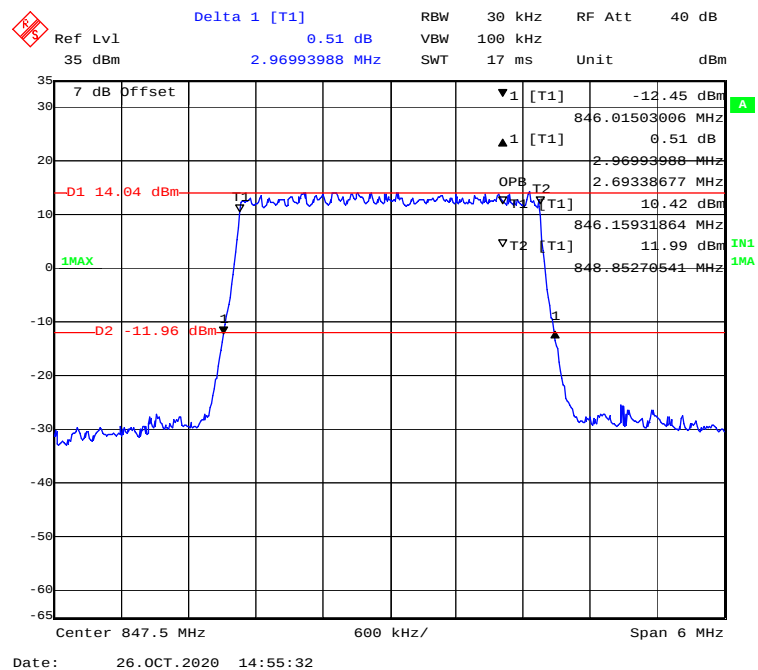
QPSK (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel

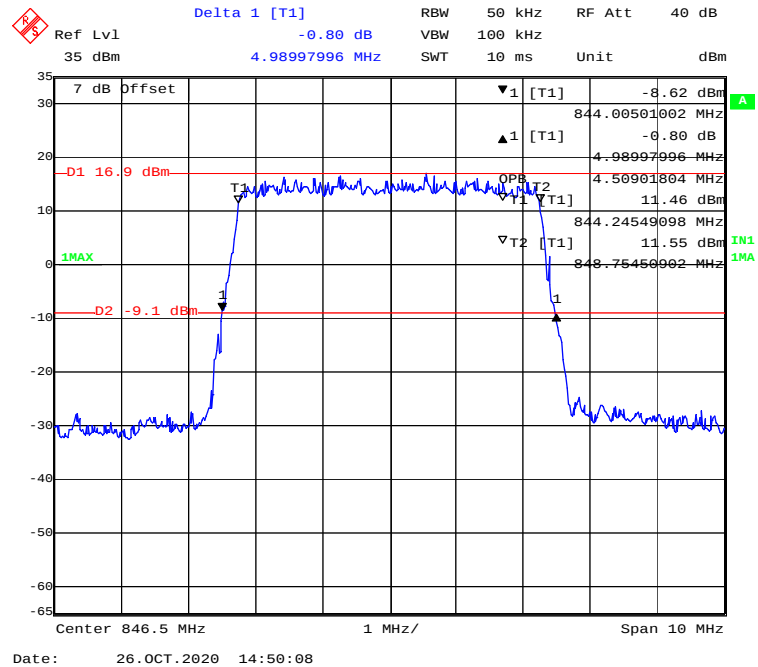
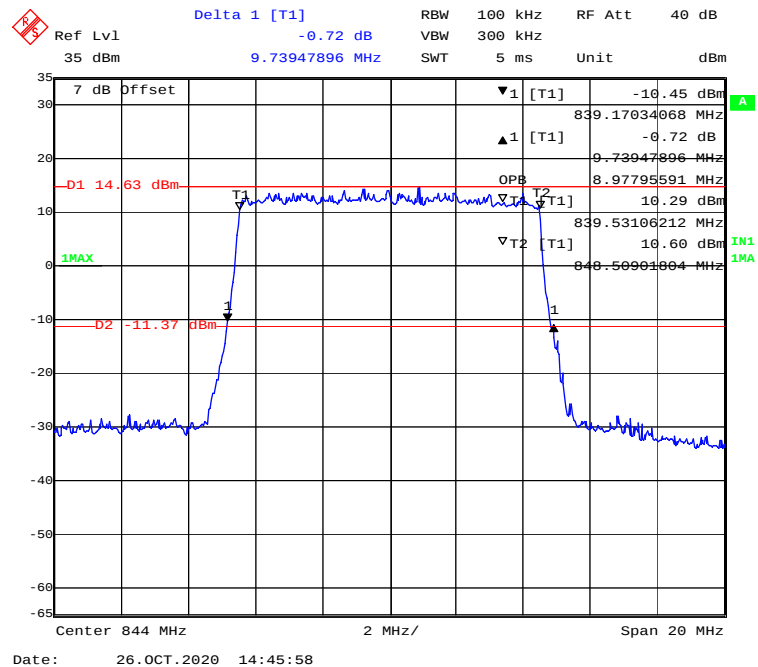


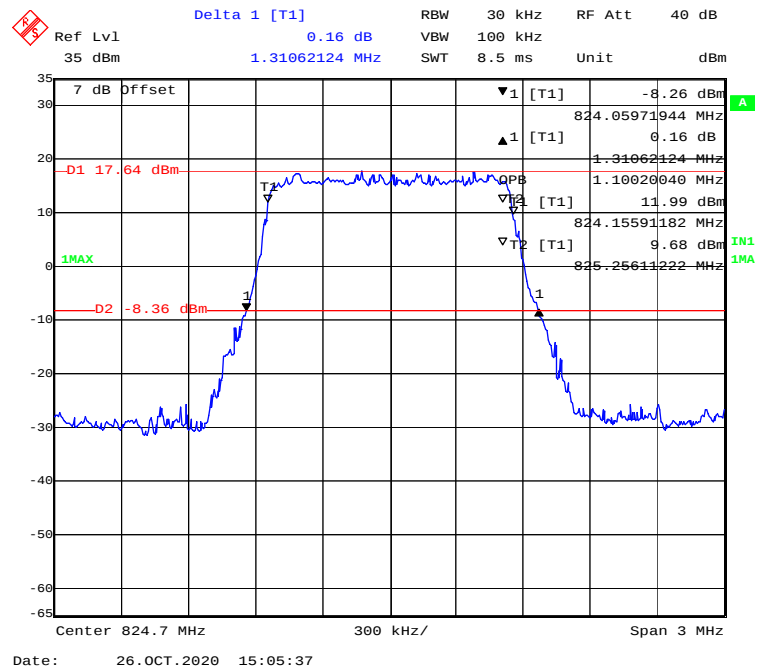
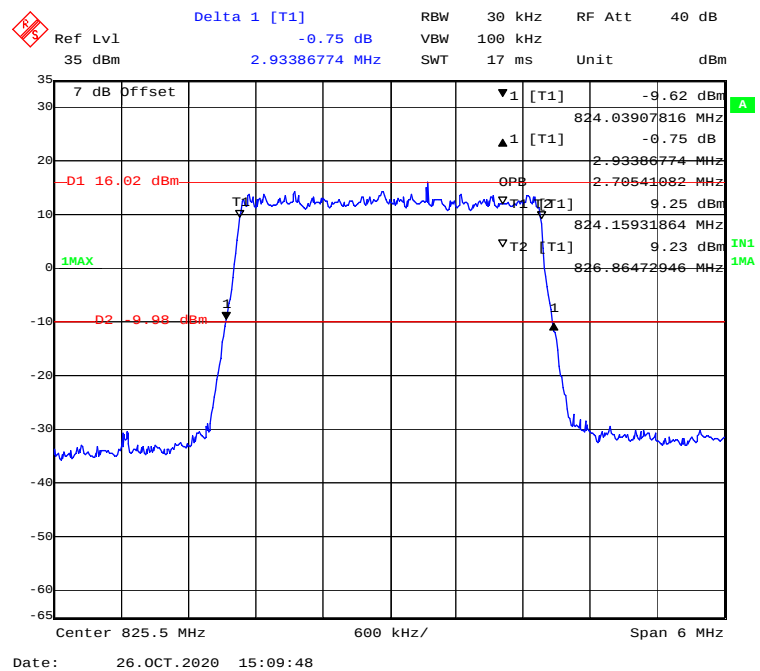
QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel

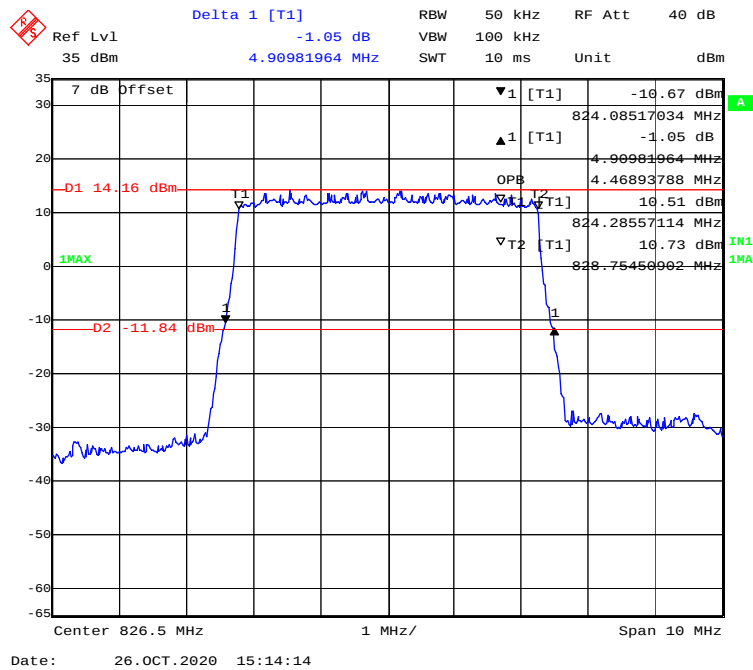
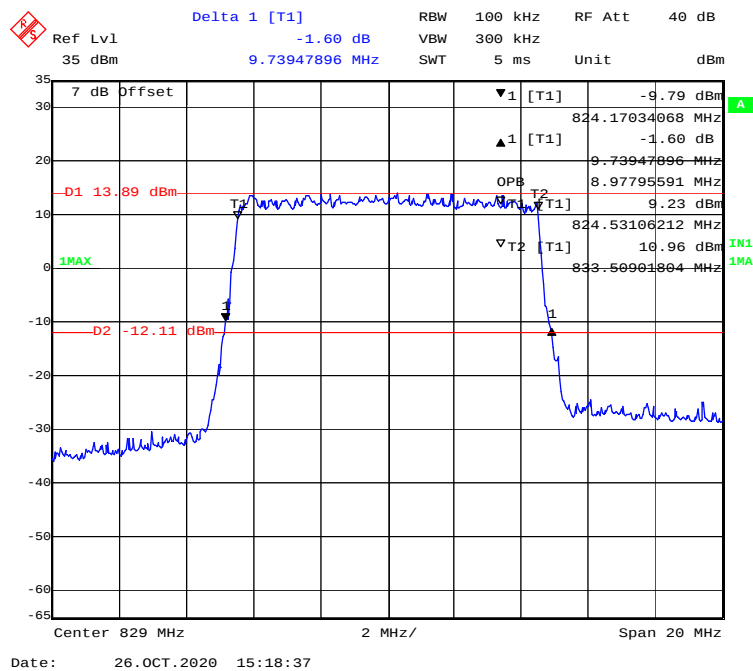


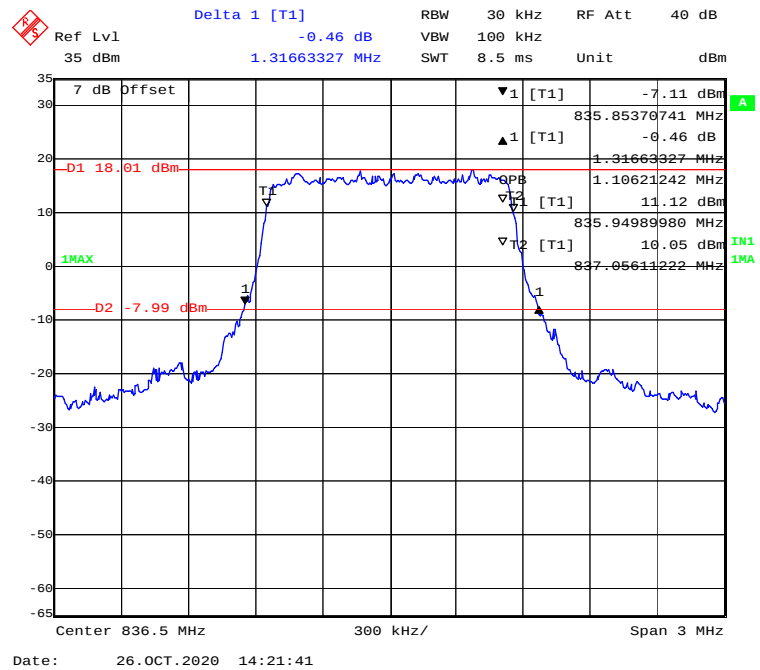
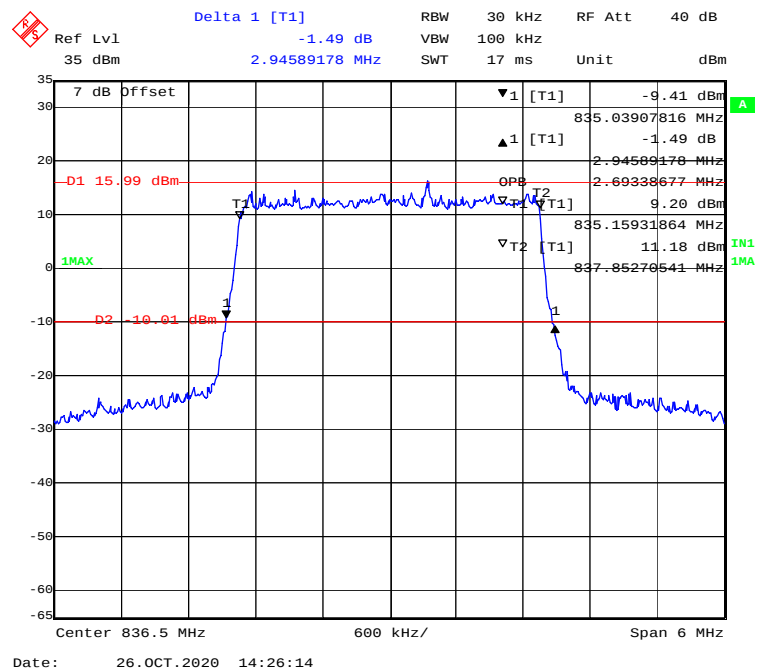
QPSK (3.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel

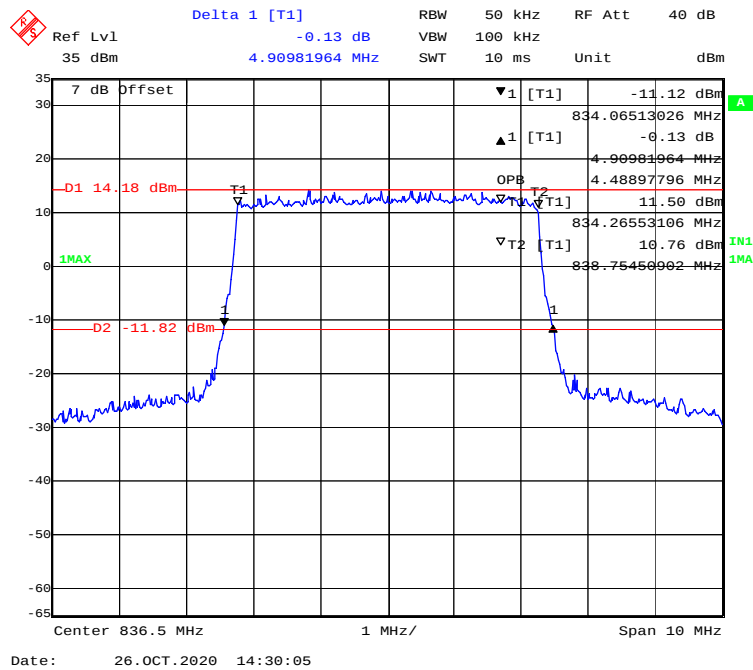
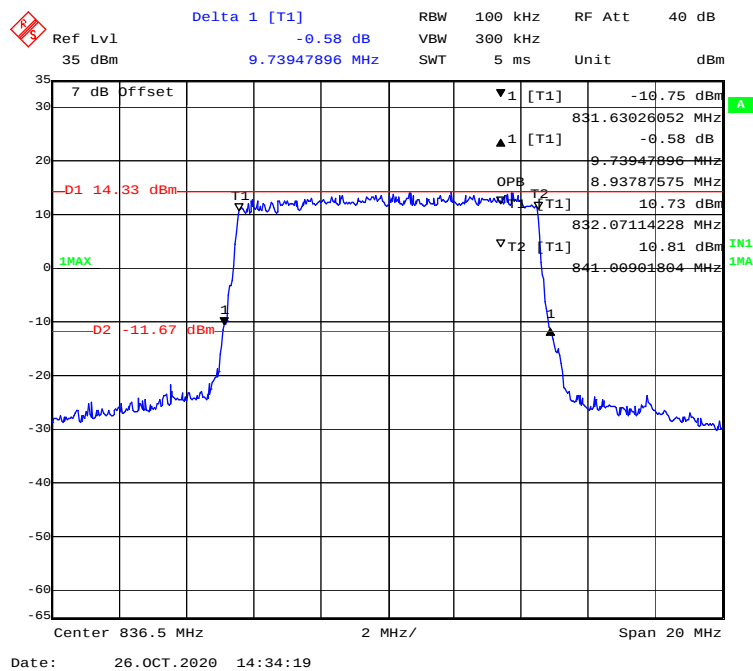


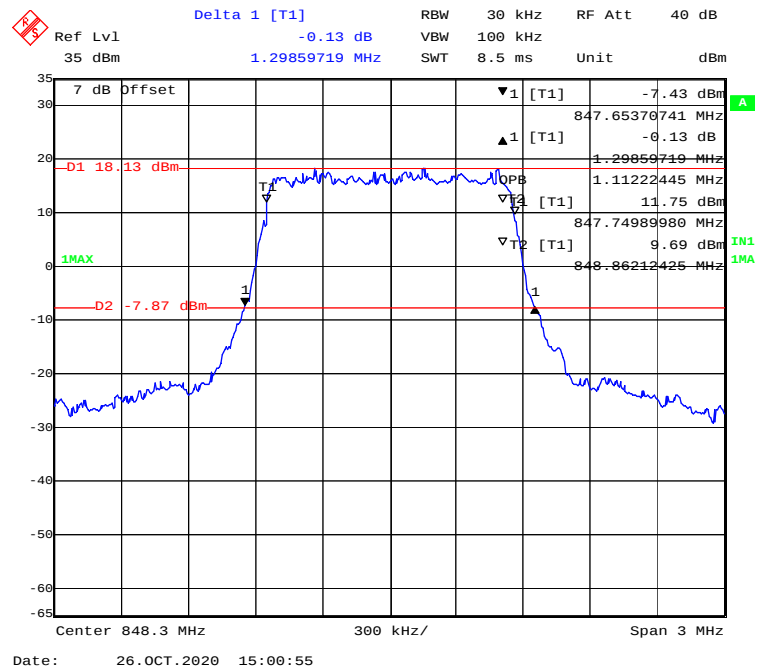
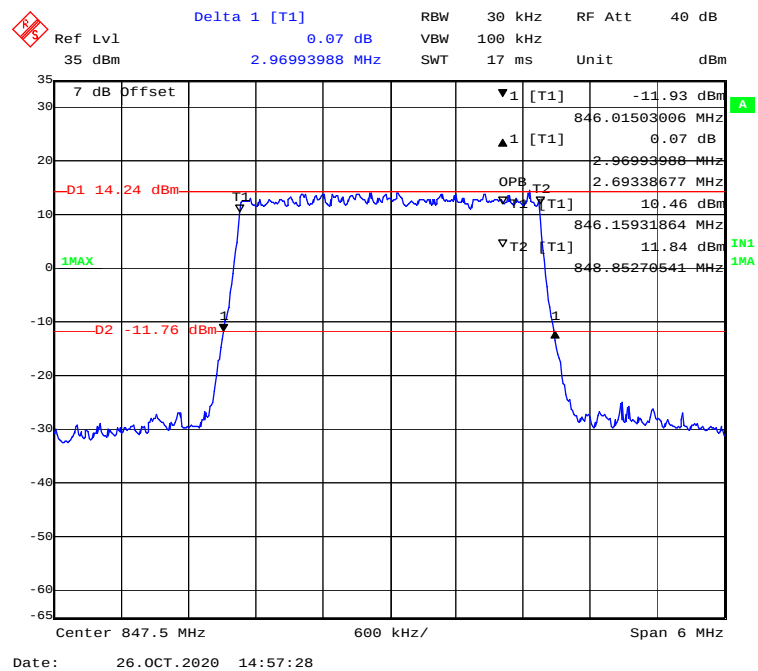
QPSK (5.0MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**QPSK (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

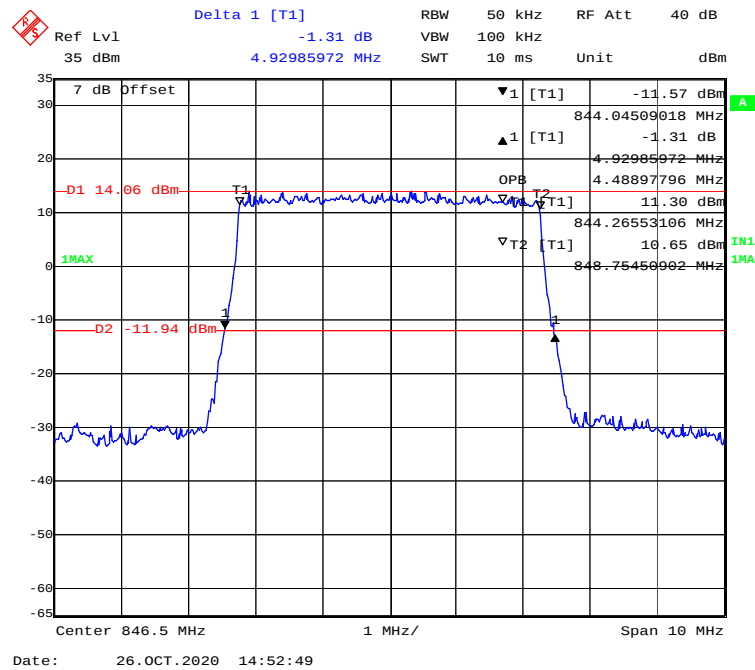
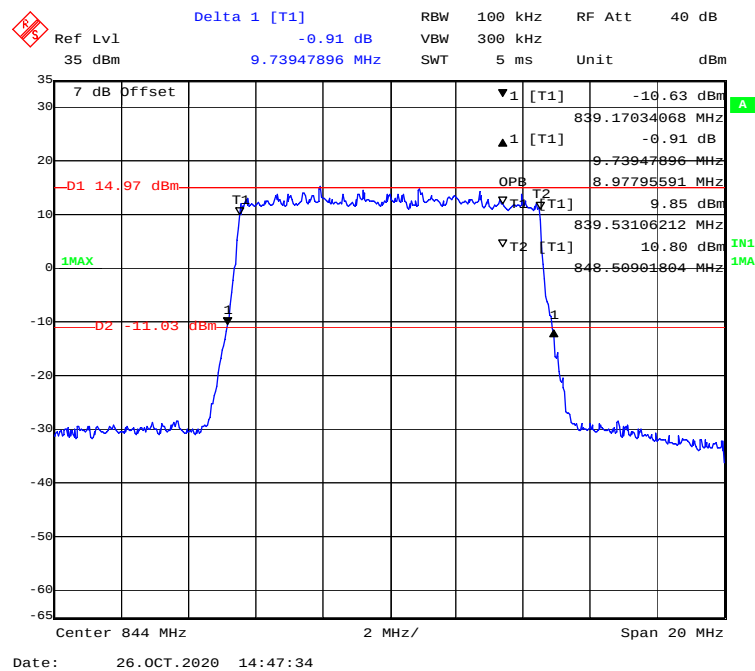
16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**16-QAM (3.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

16-QAM (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**16-QAM (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**16-QAM (3.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

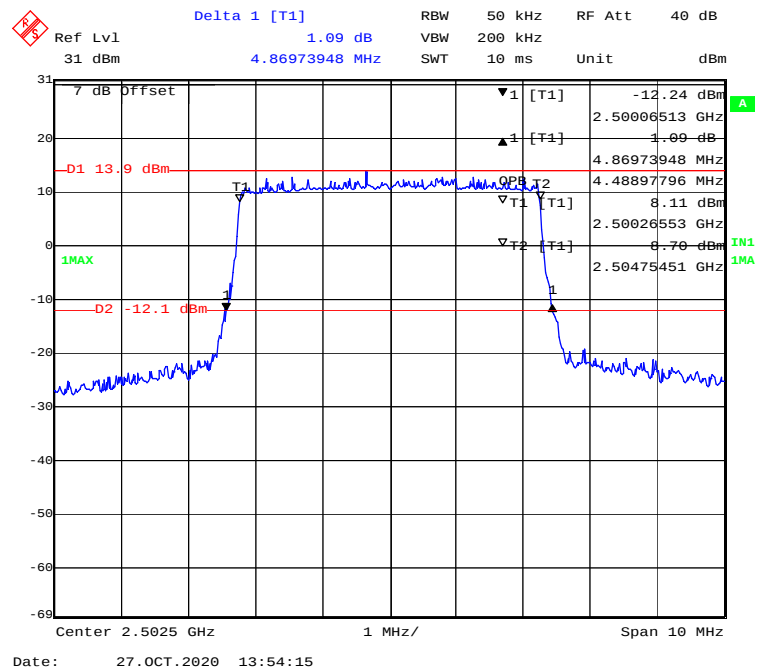
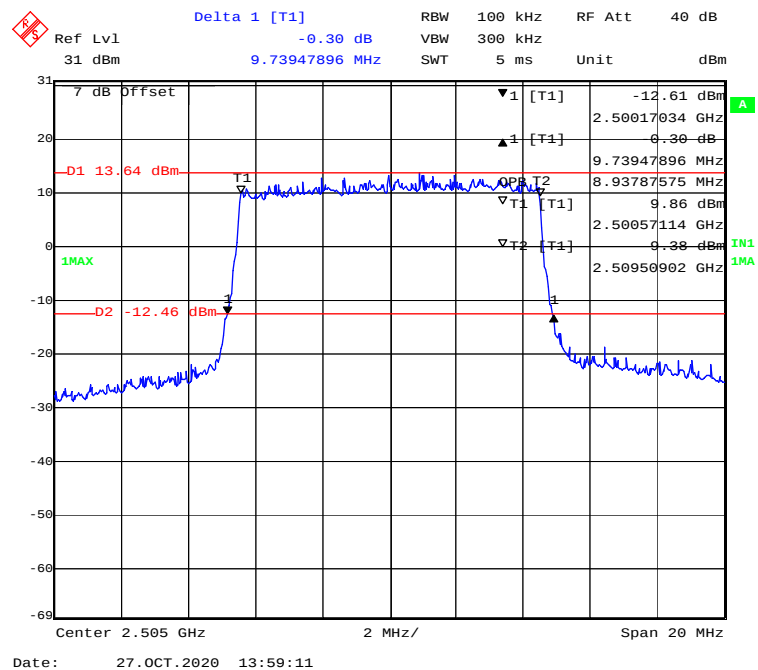
16-QAM (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**16-QAM (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

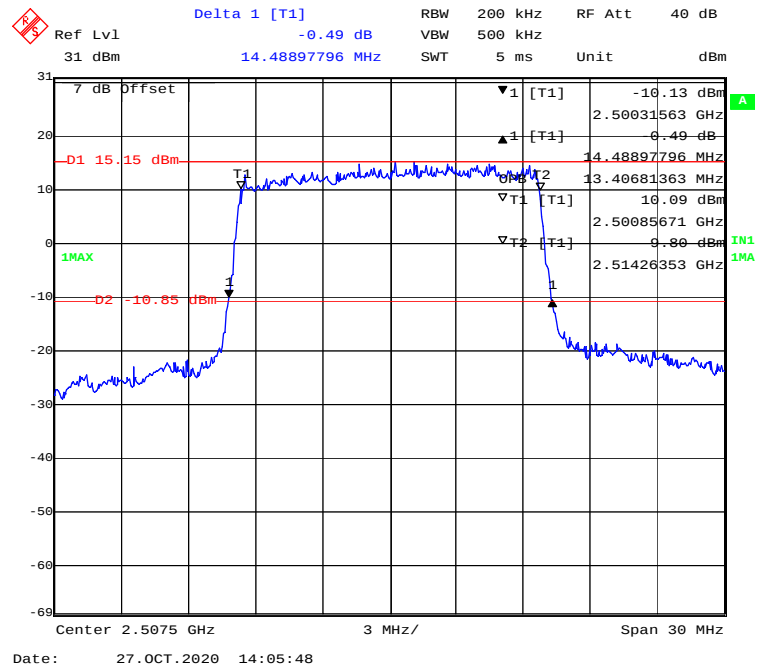
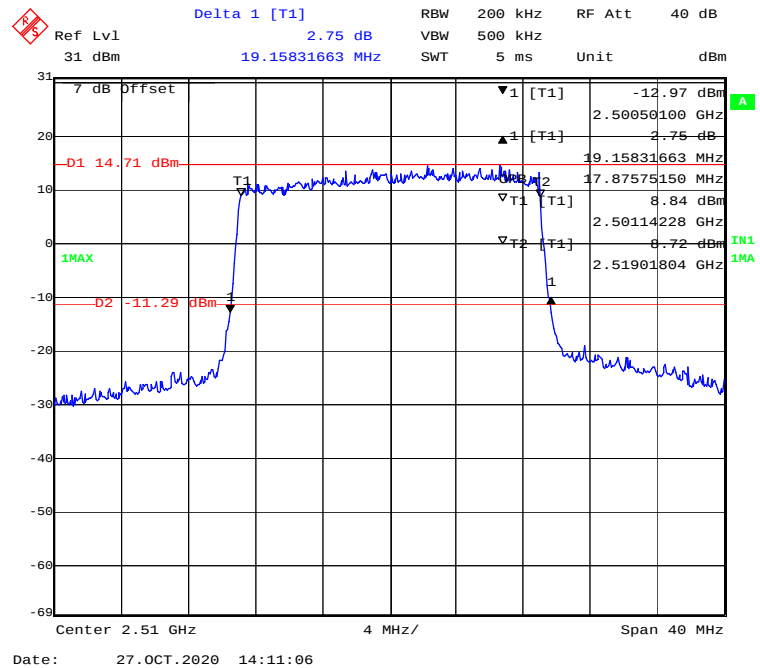
16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**16-QAM (3.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

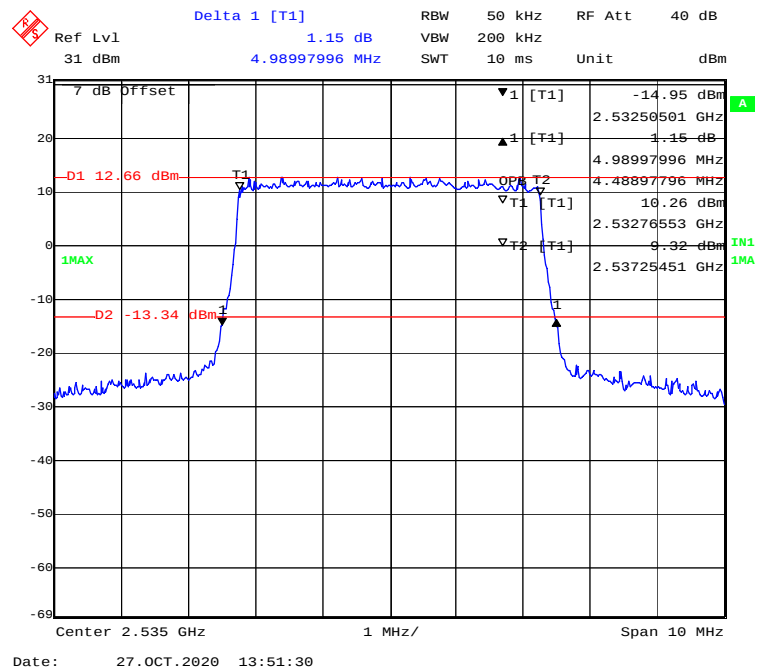
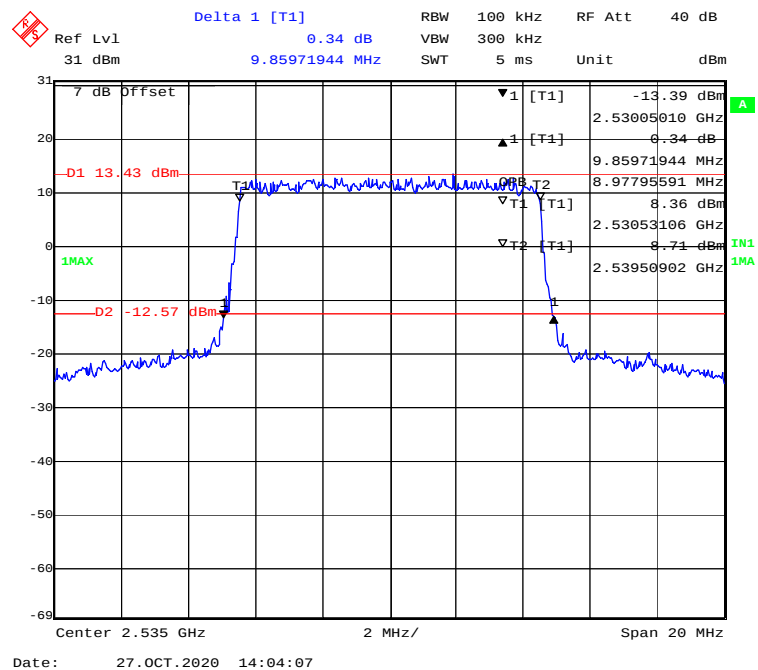
16-QAM (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**16-QAM (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

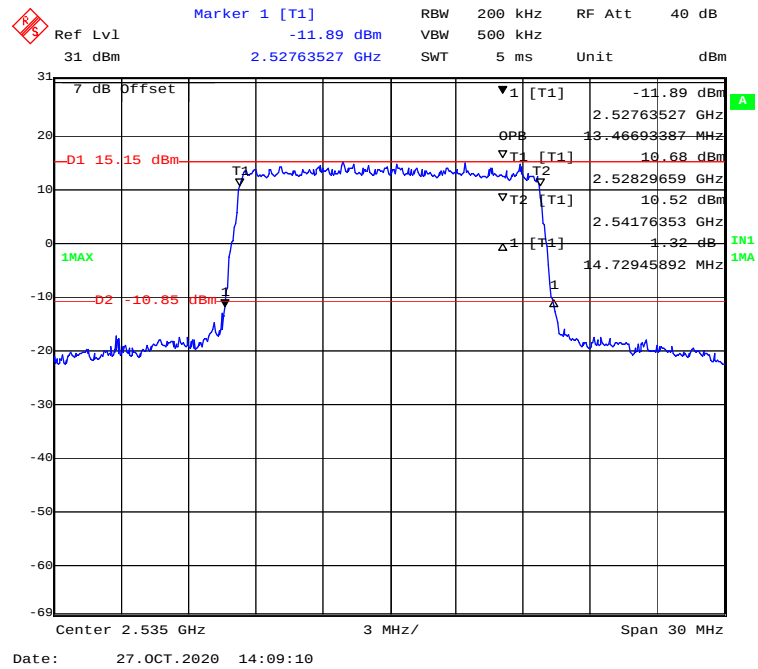
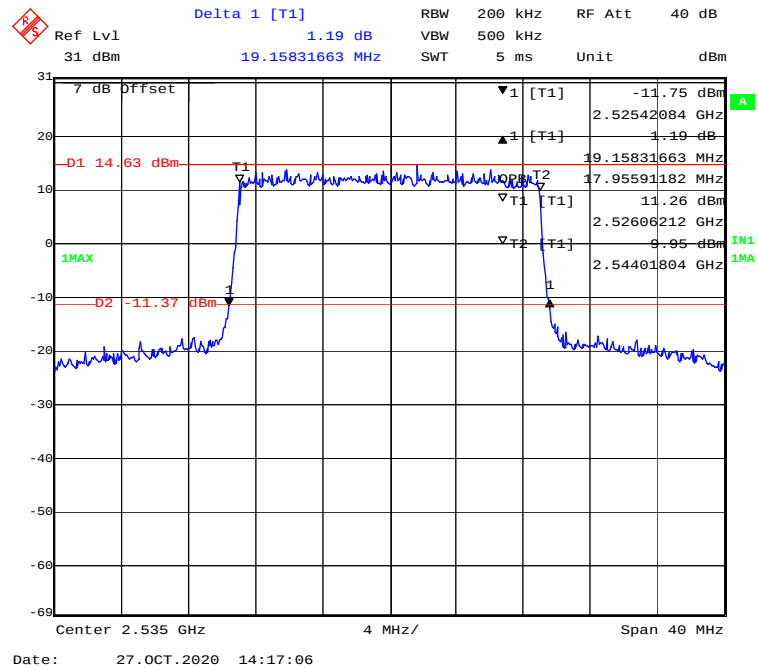
LTE Band 7:

Test Modulation	Test Bandwidth	Test Channel	26 dB Bandwidth	99% Occupied Bandwidth
			MHz	MHz
QPSK	5M	Low	4.870	4.489
	10M		9.739	8.938
	15M		14.489	13.407
	20M		19.158	17.876
	5M	Middle	4.990	4.489
	10M		9.860	8.978
	15M		14.729	13.467
	20M		19.158	17.956
	5M	High	4.930	4.489
	10M		9.739	8.938
	15M		14.790	13.467
	20M		19.479	17.956
16-QAM	5M	Low	4.930	4.469
	10M		9.699	8.938
	15M		14.549	13.407
	20M		19.158	17.876
	5M	Middle	4.970	4.489
	10M		9.739	8.978
	15M		14.729	13.467
	20M		19.238	17.956
	5M	High	4.970	4.489
	10M		9.659	8.938
	15M		14.669	13.467
	20M		19.238	17.876

QPSK (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**QPSK (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

QPSK (15MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**QPSK (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

QPSK (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**QPSK (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

QPSK (15MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**QPSK (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

Ref Lvl 31 dBm Delta 1 [T1] 0.24 dB RBW 50 kHz RF Att 40 dB

31 dBm 4.92985972 MHz VBW 200 kHz Unit dBm

7 dB Offset

D1 13.5 dBm

1MAX

D2 -12.5 dBm

▼1 [T1] -12.98 dBm

1 [T1] 0.24 dB

OPB T2 4.92985972 MHz

▼T1 [T1] 8.21 dBm

▼T2 [T1] 8.91 dBm

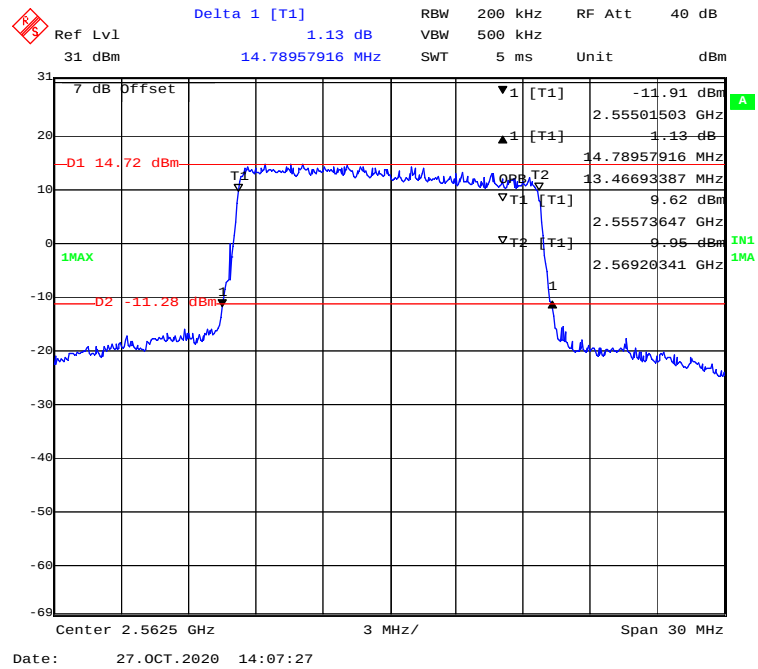
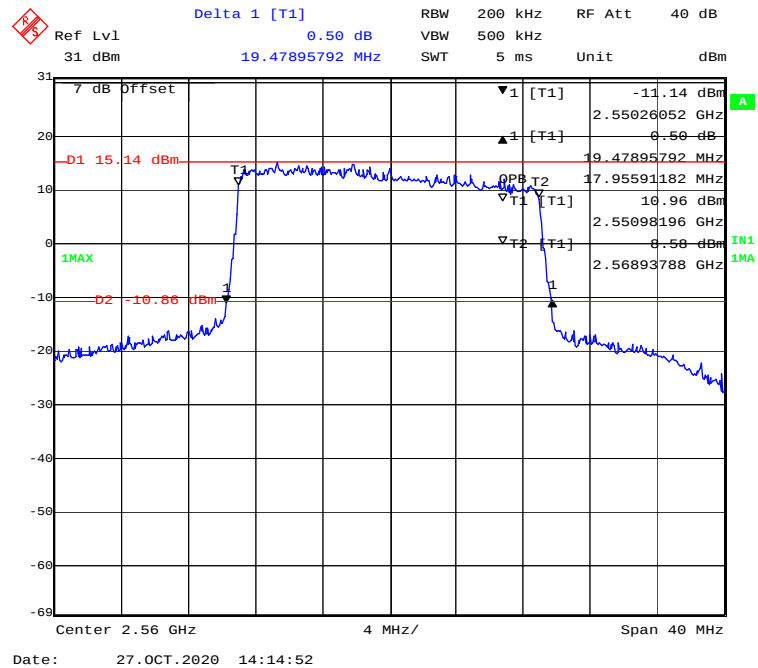
2.56504509 GHz

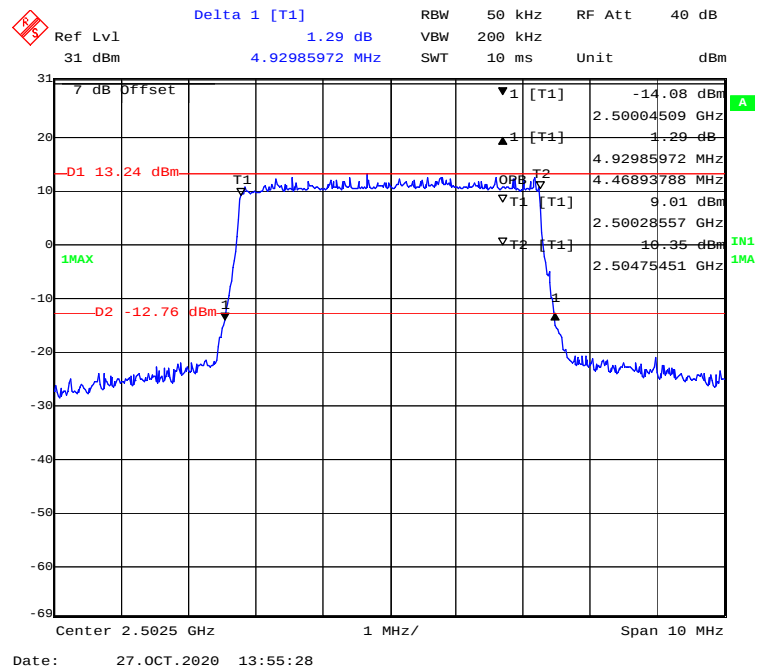
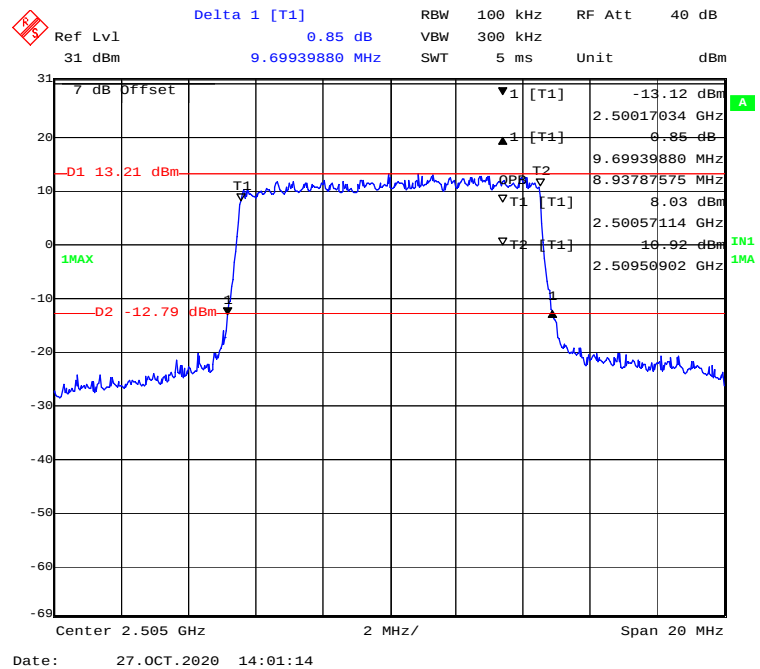
2.56526553 GHz

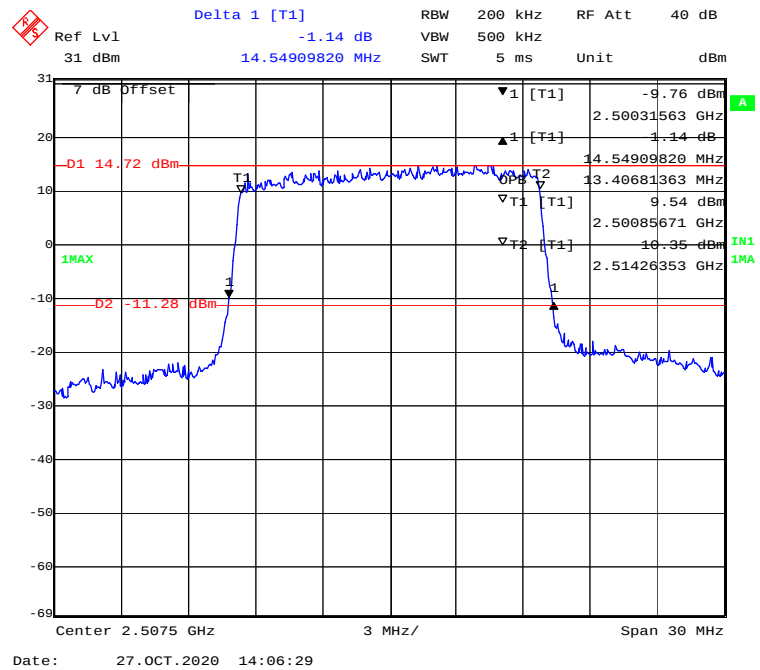
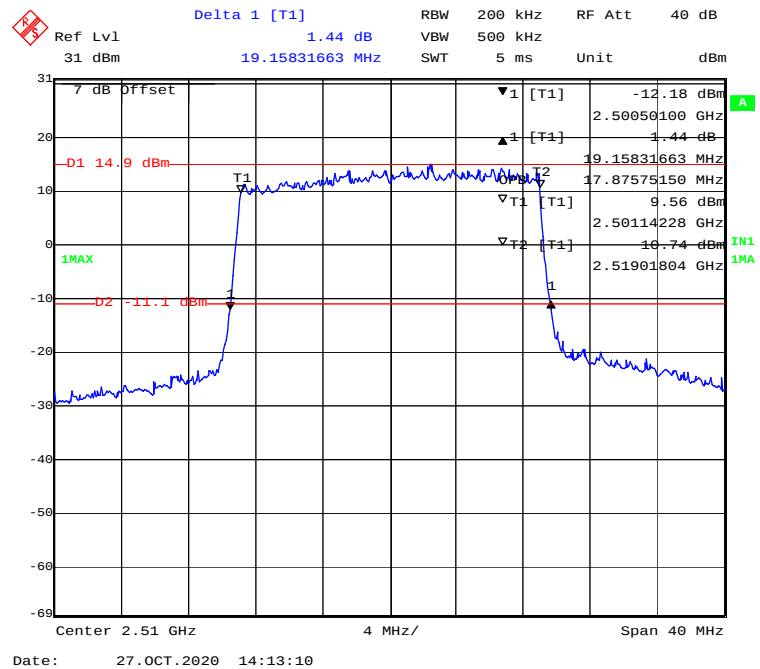
2.56975451 GHz

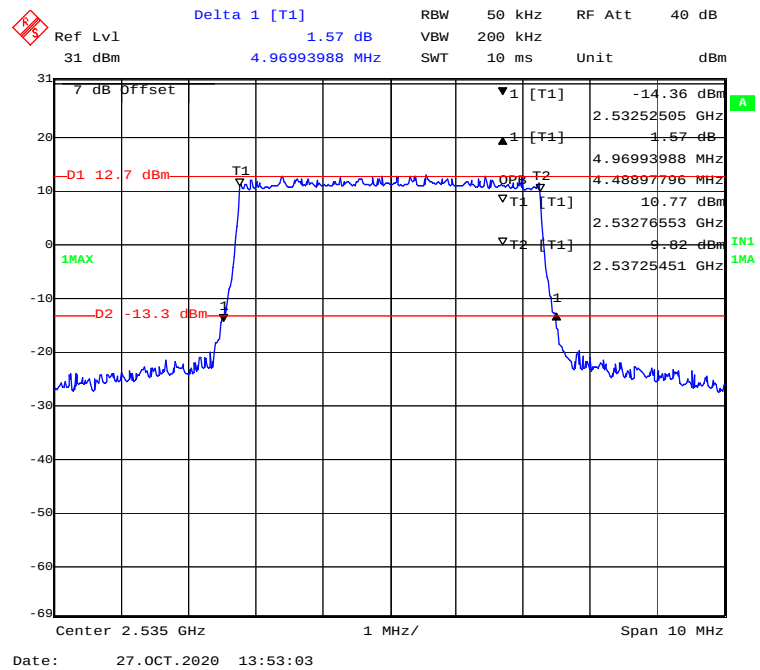
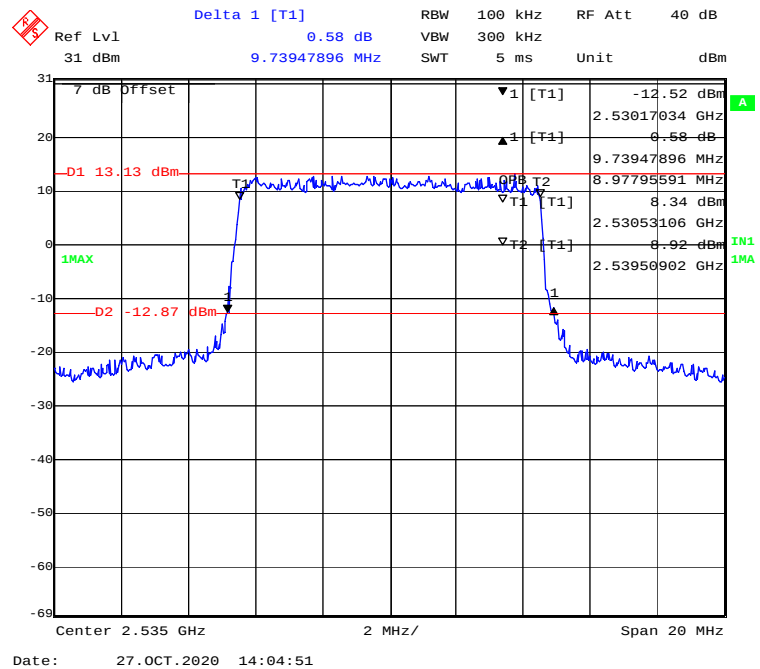
Center 2.5675 GHz 1 MHz/ Span 10 MHz

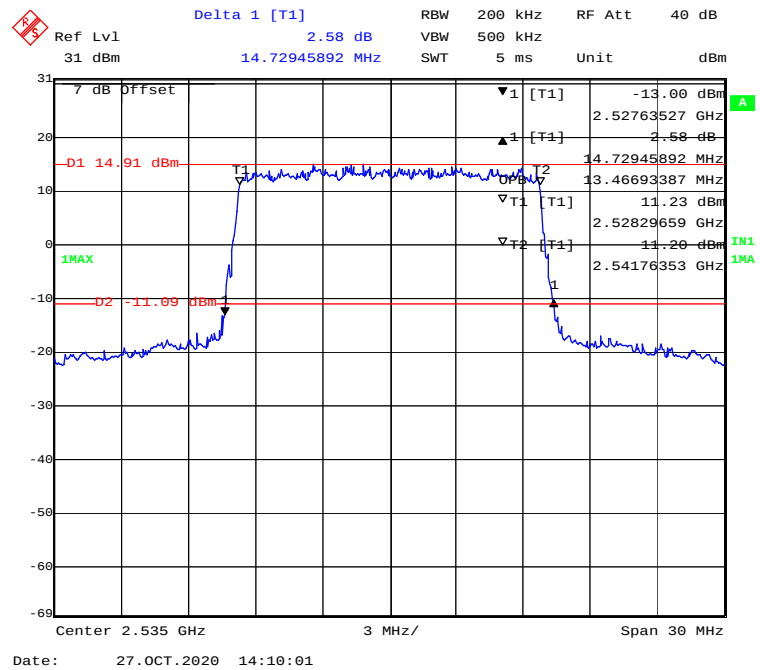
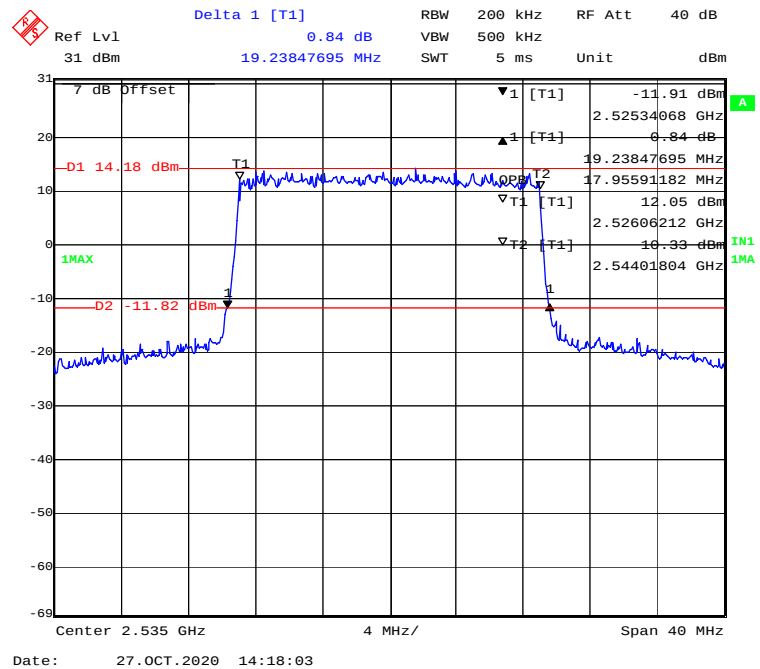
Date: 27.OCT.2020 13:56:25

QPSK (15MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**QPSK (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

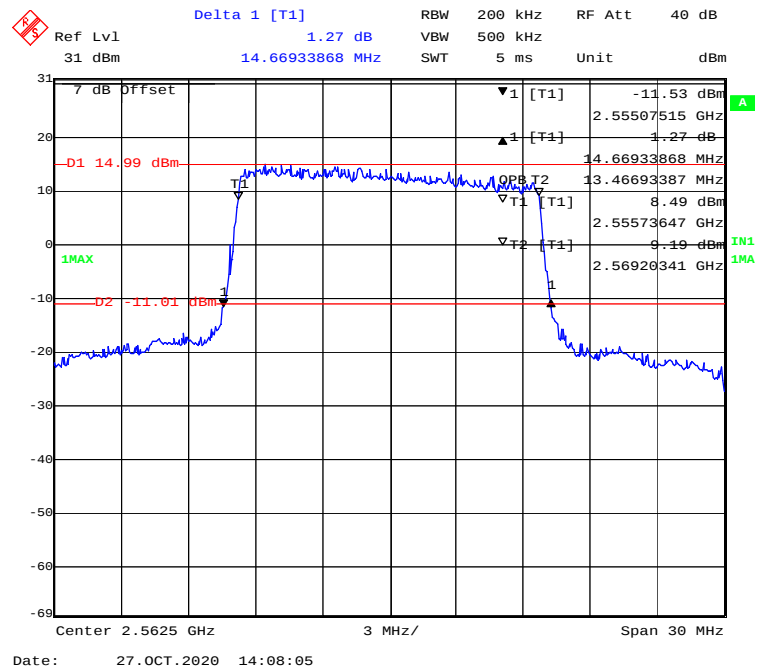
16-QAM (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**16-QAM (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

16-QAM (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**16-QAM (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

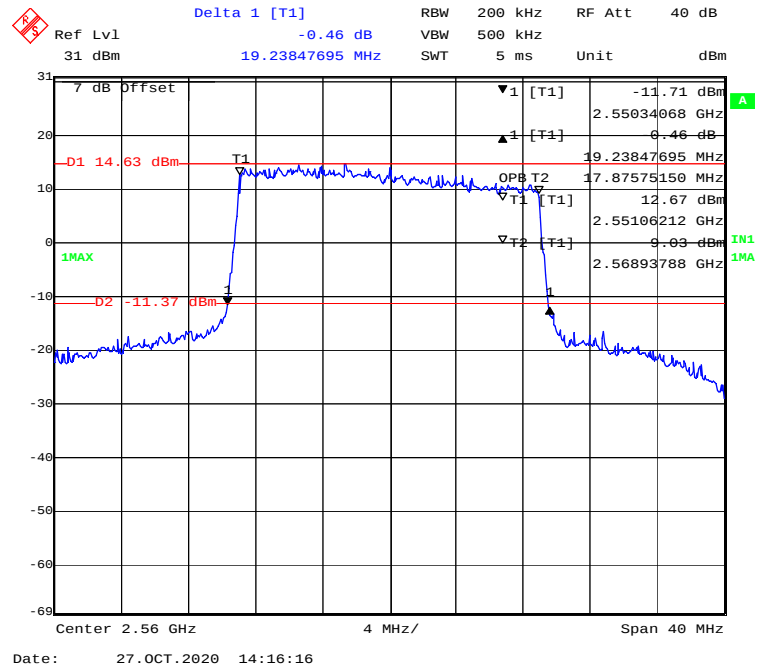
16-QAM (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**16-QAM (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

16-QAM (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**16-QAM (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

16-QAM (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel

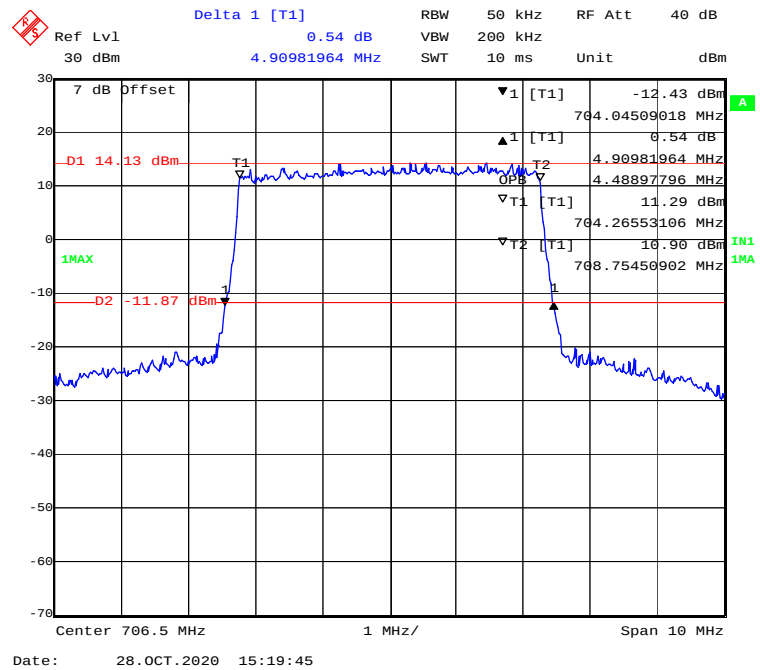
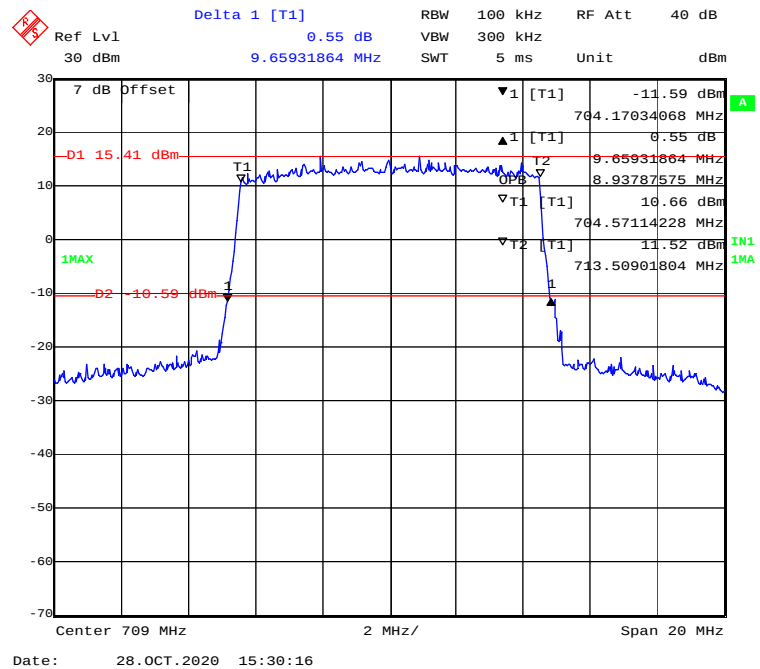


16-QAM (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



LTE Band 17:

Test Modulation	Test Bandwidth	Test Channel	26 dB Bandwidth	99% Occupied Bandwidth
			MHz	MHz
QPSK	5M	Low	4.910	4.489
	10M		9.659	8.938
	5M	Middle	4.950	4.489
	10M		9.739	8.938
	5M	High	4.950	4.489
	10M		9.739	8.978
16-QAM	5M	Low	4.890	4.489
	10M		9.699	8.938
	5M	Middle	4.930	4.489
	10M		9.739	8.938
	5M	High	4.890	4.489
	10M		9.739	8.938

QPSK (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**QPSK (10MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

Delta 1 [T1] 1.45 dB

Ref Lvl 30 dBm

RBW 50 kHz

RF Att 40 dB

SWT 10 ms

Unit dBm

7 dB Offset

D1 14.72 dBm

1MAX

D2 -11.28 dBm

Center 710 MHz

1 MHz/

Span 10 MHz

Date: 28.OCT.2020 15:26:44

Delta 1 [T1] 0.20 dB
 RBW 100 kHz RF Att 40 dB
 VBW 300 kHz
 SWT 5 ms Unit dBm

Ref Lvl 30 dBm
 9.73947896 MHz

7 dB Offset
 -D1 14.91 dBm
 1MAX
 -D2 -11.09 dBm
 IN1 1MA

30
 20
 10
 0
 -10
 -20
 -30
 -40
 -50
 -60
 -70

Center 710 MHz
 2 MHz/
 Span 20 MHz

Date: 28.OCT.2020 15:34:32

Delta 1 [T1] 0.74 dB

Ref Lvl 30 dBm RBW 50 kHz RF Att 40 dB

SWT 10 ms Unit dBm

7 dB Offset

-D1 14.16 dBm

1MAX

706.06513026 MHz -11.36 dBm

0.74 dB

4.88977956 MHz

4.48897796 MHz

11.02 dBm

704.26553106 MHz

9.98 dBm

708.75450902 MHz

Center 706.5 MHz 1 MHz/ Span 10 MHz

Date: 28.OCT.2020 15:18:32

Delta 1 [T1] 2.64 dB

Ref Lvl 30 dBm

RBW 100 kHz

SWT 5 ms

RF Att 40 dB

Unit dBm

7 dB Offset

D1 15.46 dBm

D2 -10.54 dBm

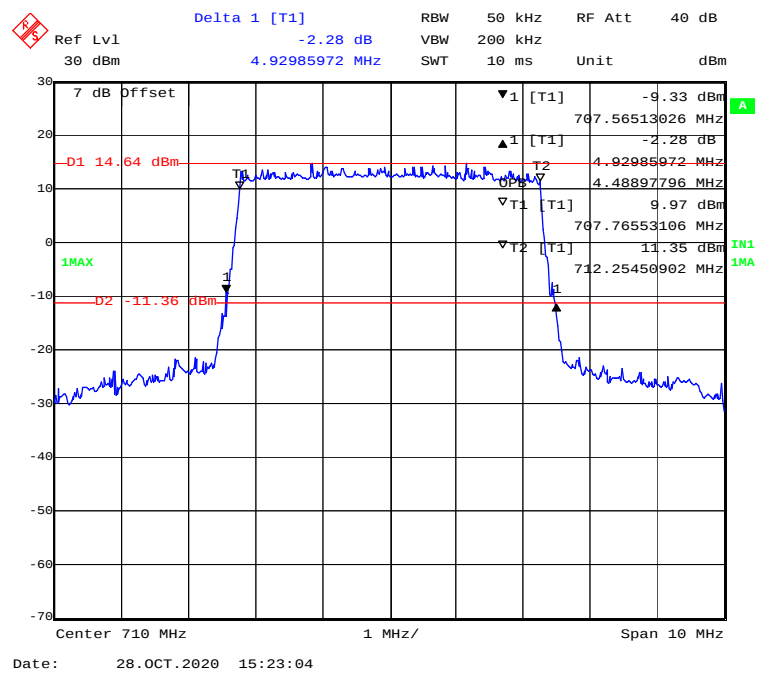
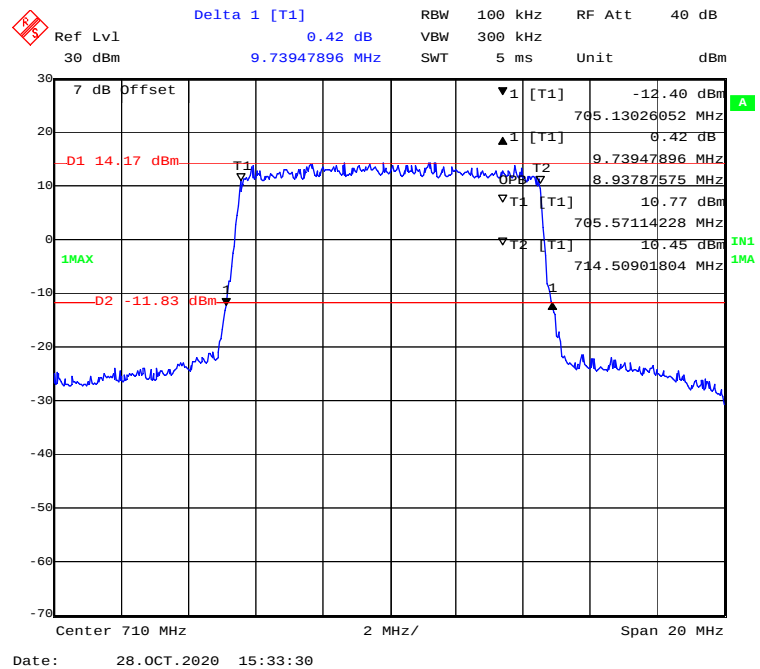
1MAX

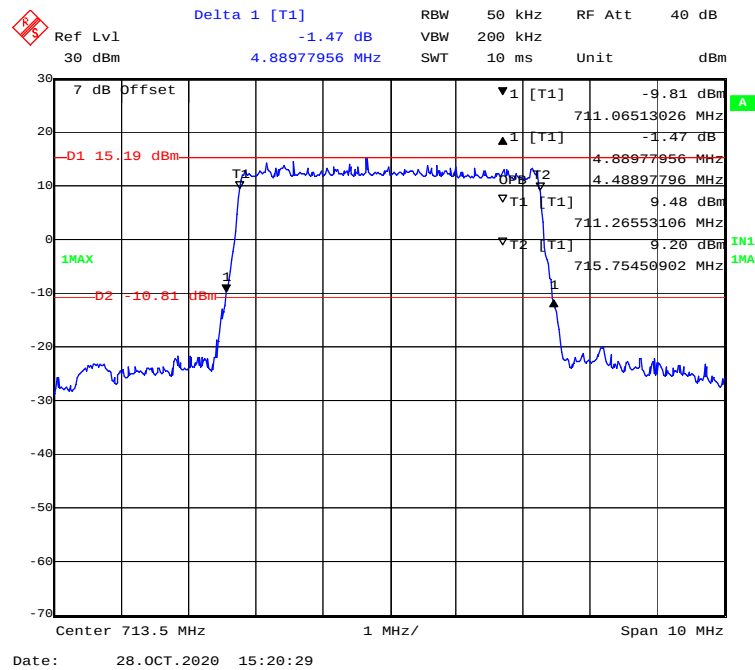
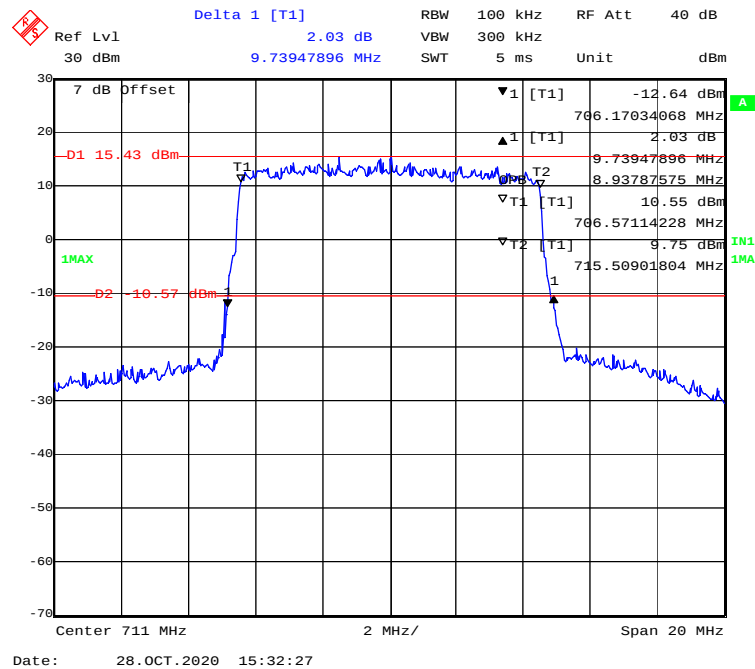
Center 709 MHz

2 MHz/

Span 20 MHz

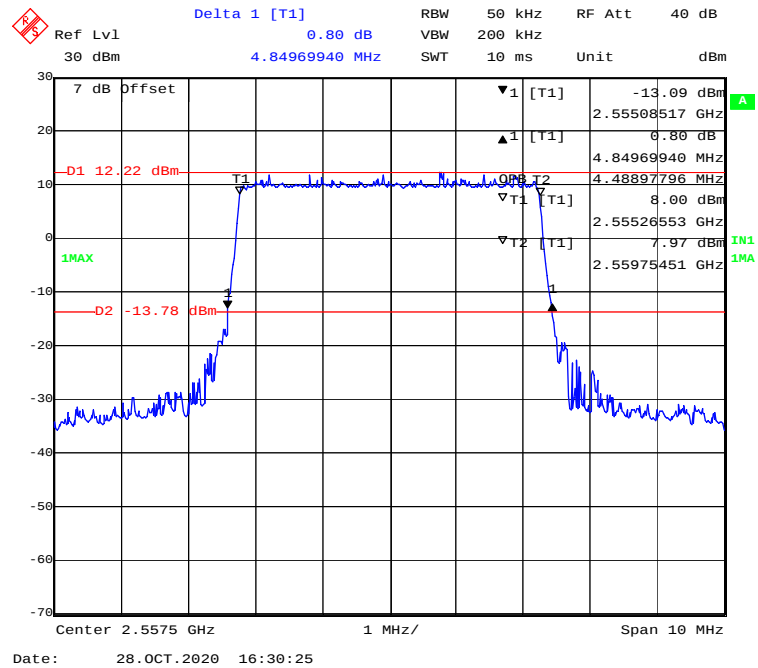
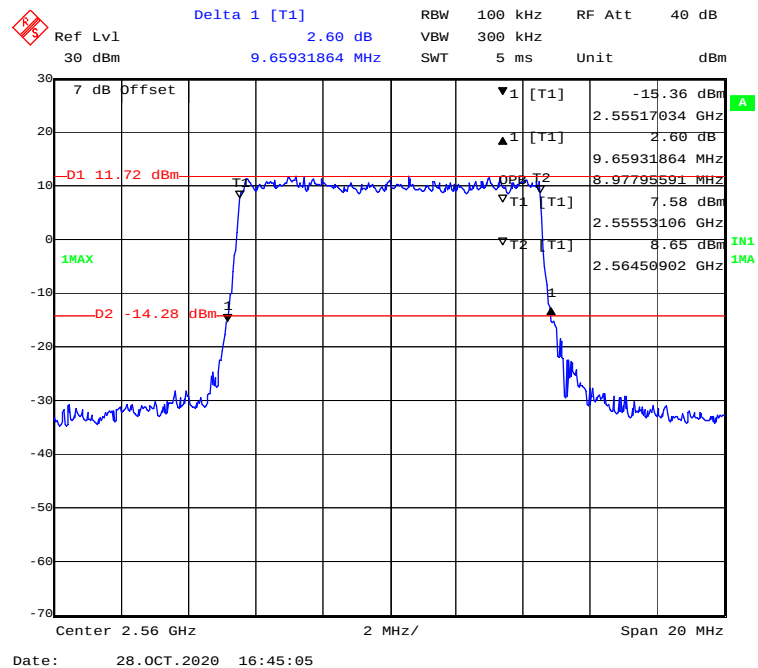
Date: 28.OCT.2020 15:28:58

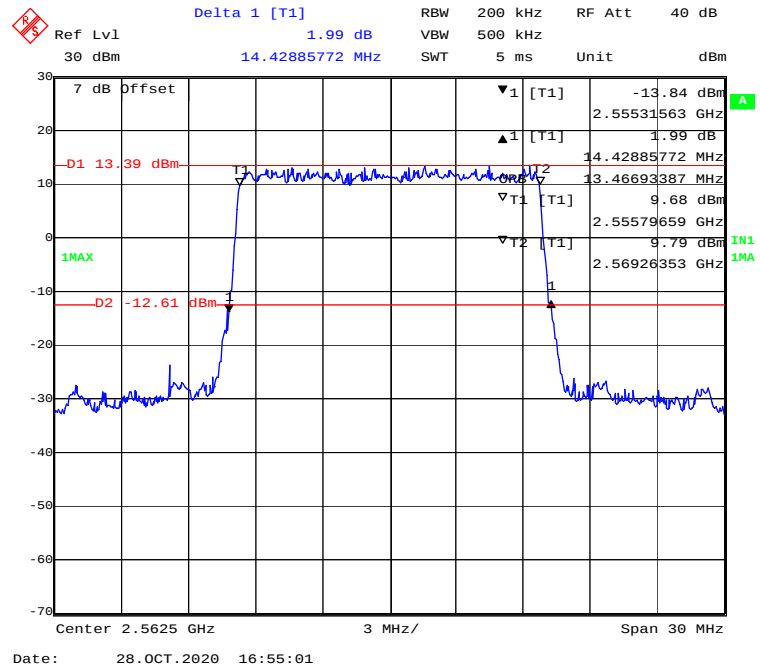
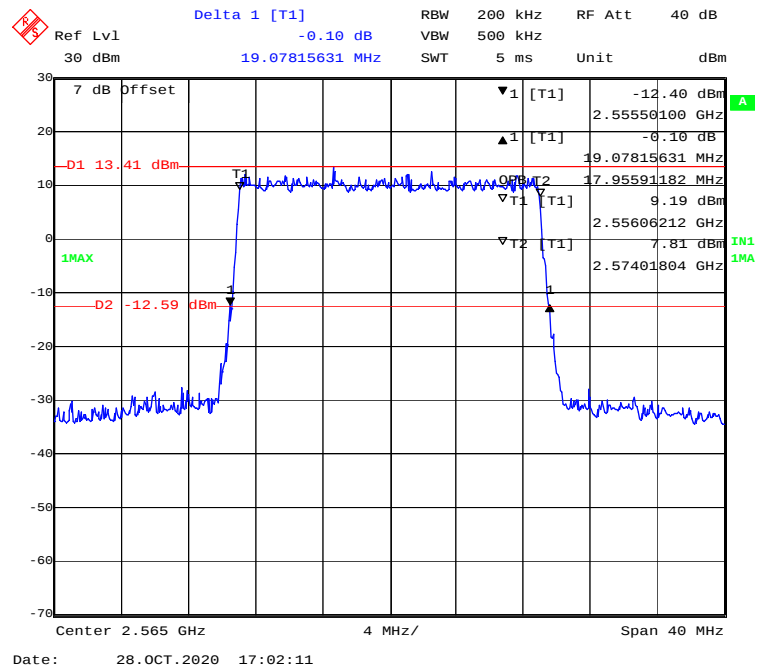
16-QAM (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**16-QAM (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

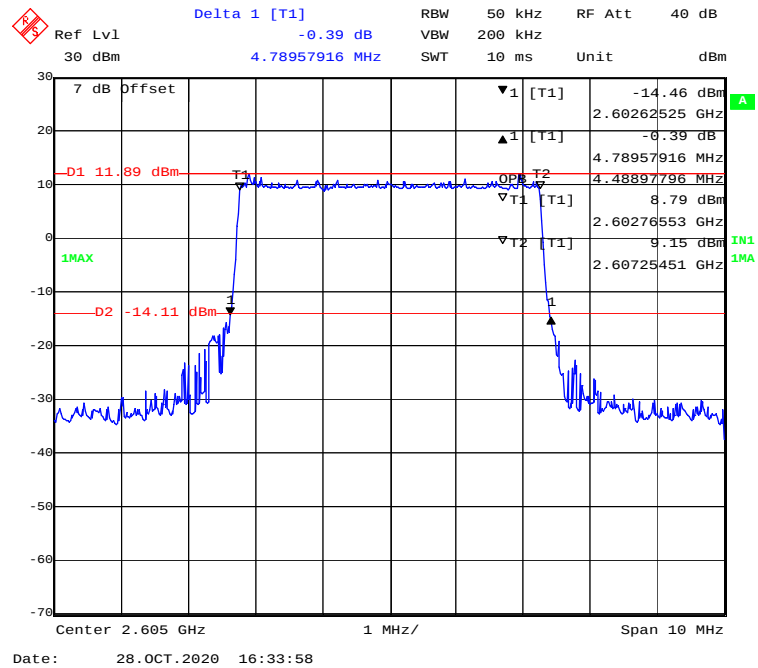
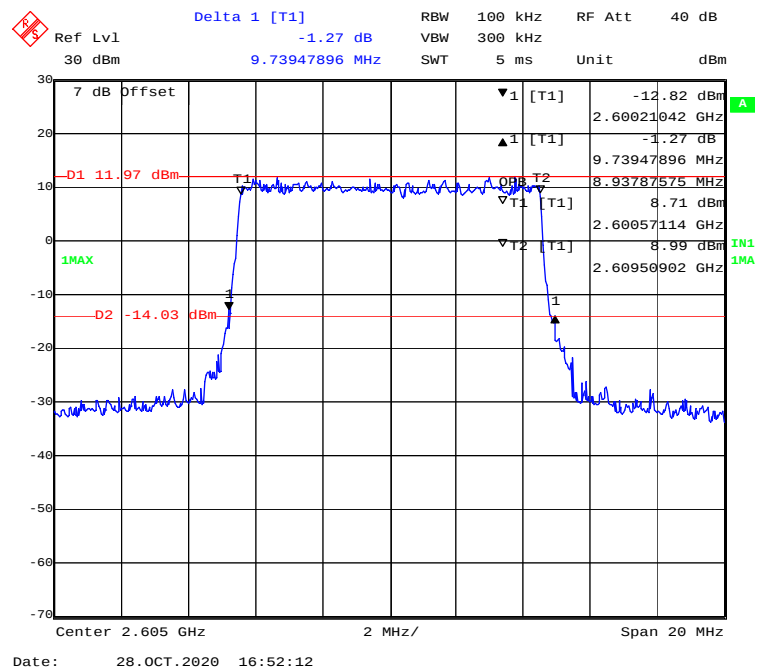
16-QAM (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**16-QAM (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

LTE Band 41:

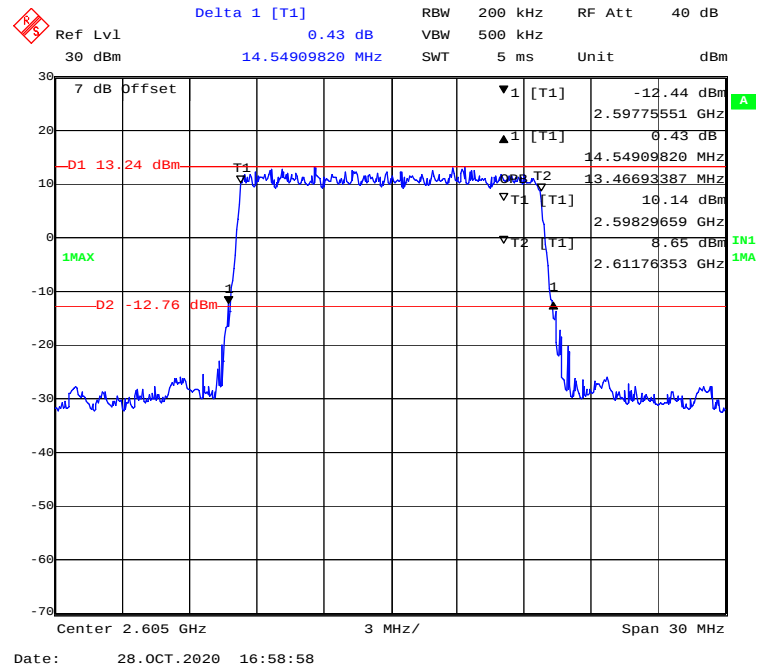
Test Modulation	Test Bandwidth	Test Channel	26 dB Bandwidth	99% Occupied Bandwidth
			MHz	MHz
QPSK	5M	Low	4.850	4.489
	10M		9.659	8.978
	15M		14.429	13.467
	20M		19.078	17.956
	5M	Middle	4.790	4.489
	10M		9.739	8.938
	15M		14.549	13.467
	20M		19.078	17.956
	5M	High	4.810	4.469
	10M		9.619	8.978
	15M		14.429	13.467
	20M		19.078	17.876
16-QAM	5M	Low	4.850	4.489
	10M		9.699	8.978
	15M		14.489	13.467
	20M		19.078	17.956
	5M	Middle	4.770	4.489
	10M		9.619	8.978
	15M		14.489	13.467
	20M		18.998	17.956
	5M	High	4.830	4.489
	10M		9.619	8.978
	15M		14.489	13.467
	20M		18.998	17.956

QPSK (5MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**QPSK (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

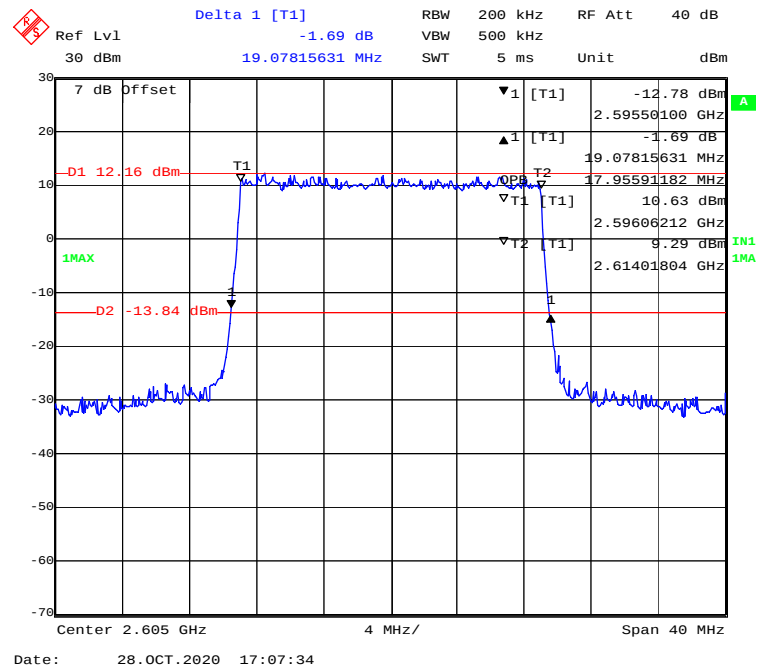
QPSK (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**QPSK (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

QPSK (5MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**QPSK (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

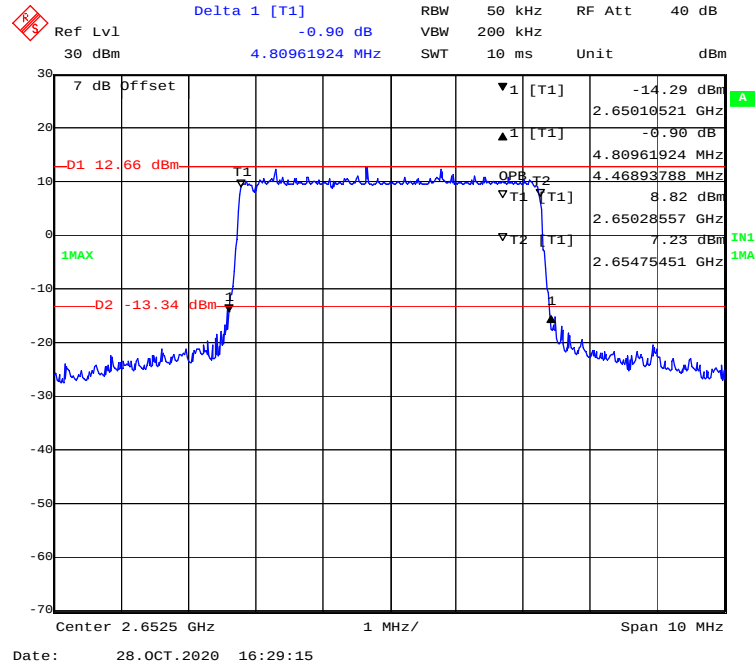
QPSK (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



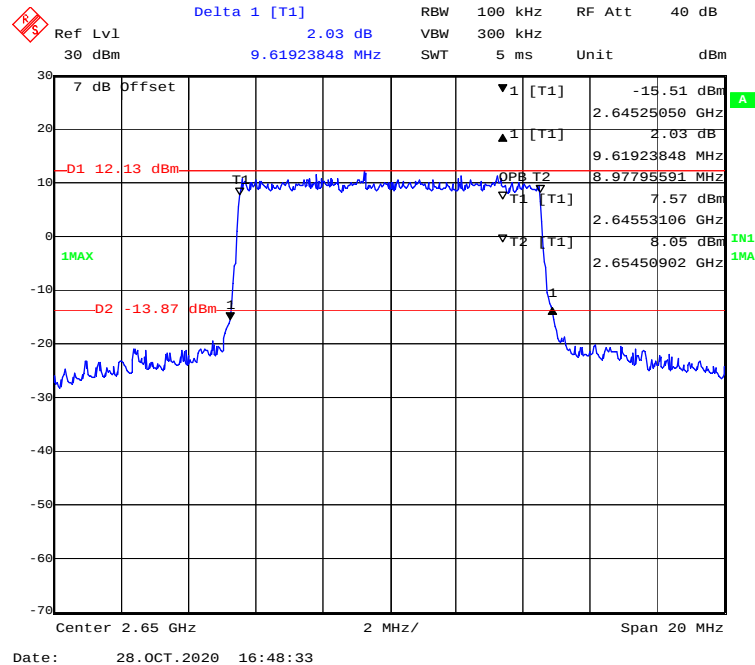
QPSK (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel

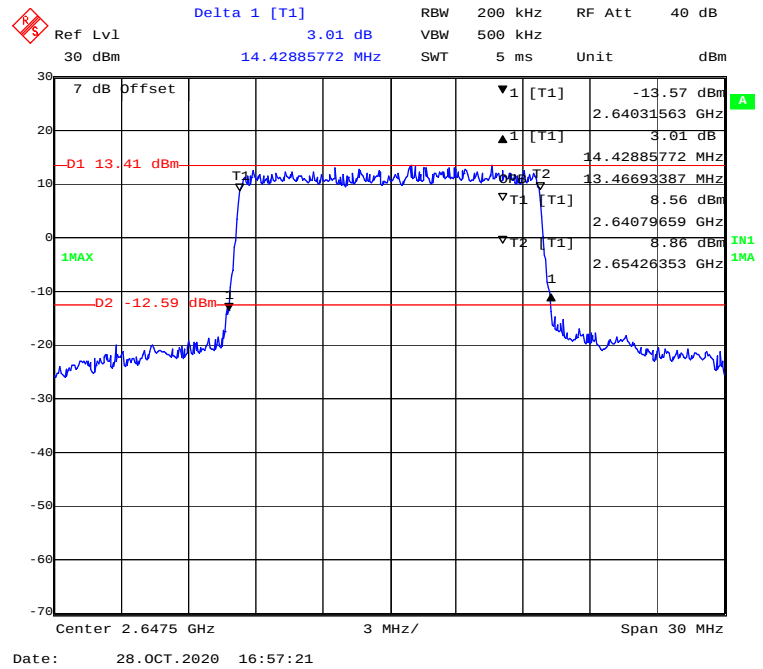
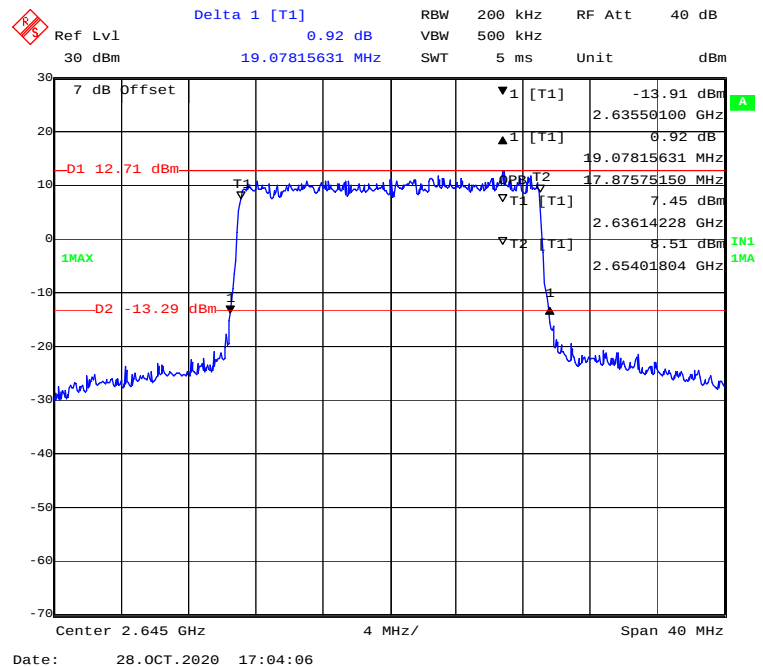


QPSK (5MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel

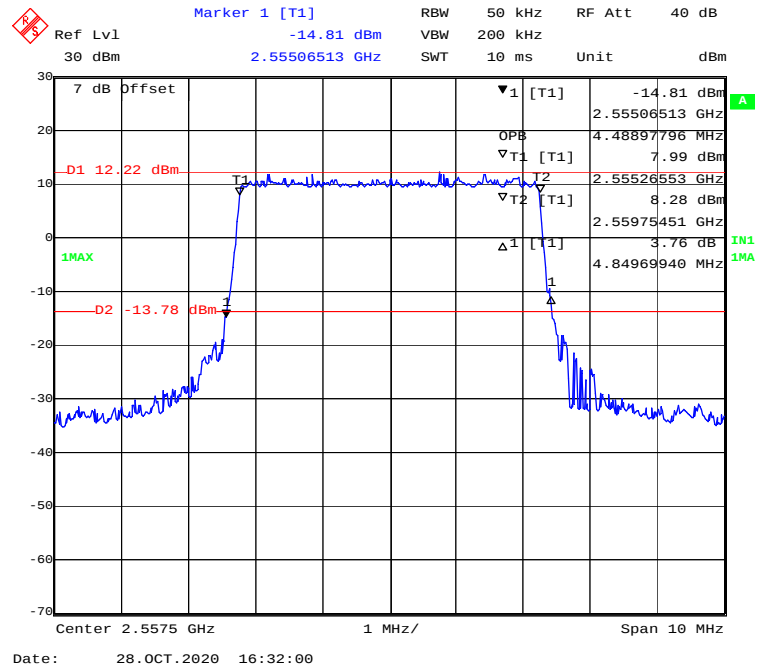


QPSK (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel

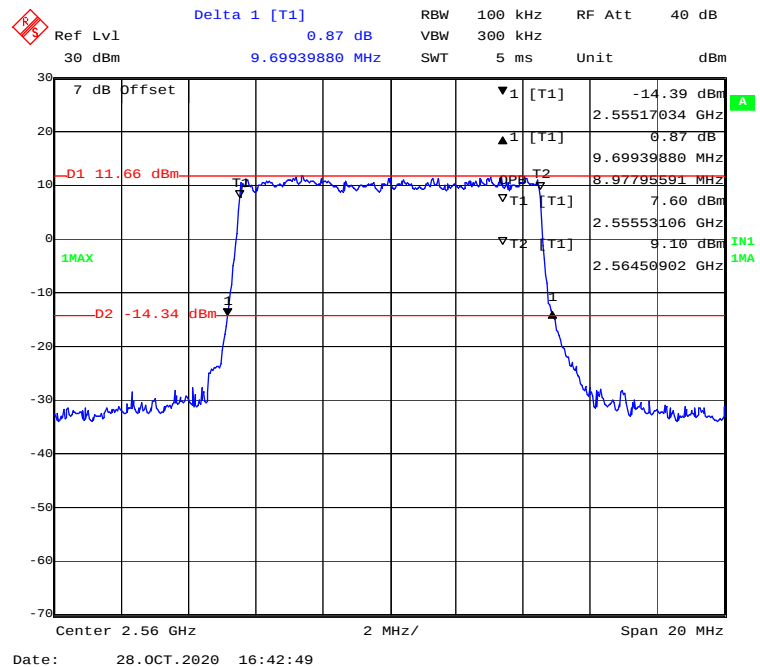


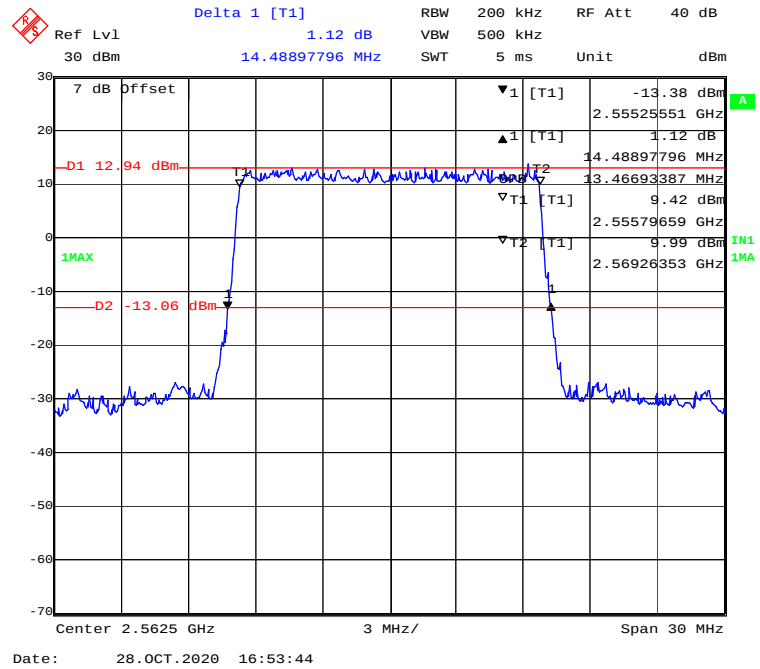
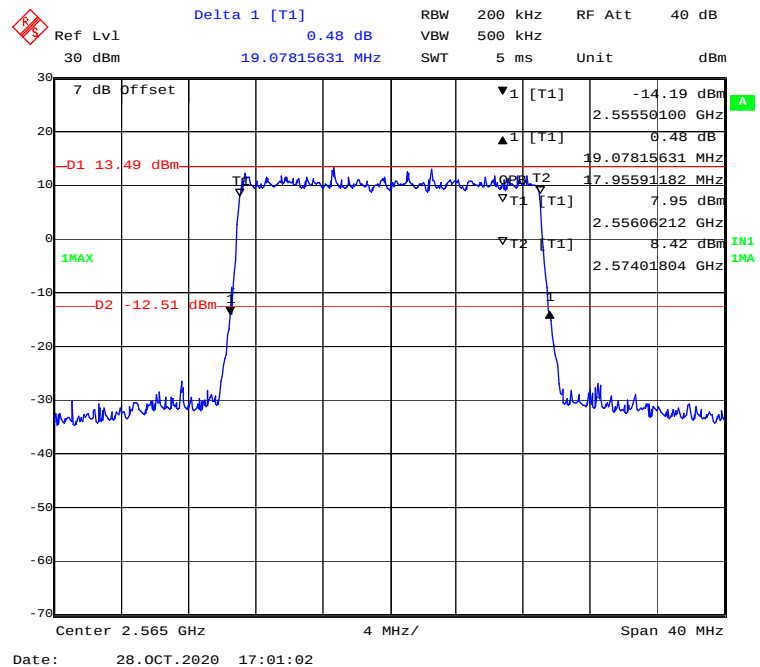
QPSK (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**QPSK (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

16-QAM (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



16-QAM (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



16-QAM (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**16-QAM (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

Delta 1 [T1] 0.60 dB RBW 50 kHz RF Att 40 dB
 Ref Lvl 30 dBm Unit dBm
 30 dBm 4.76953908 MHz SWT 10 ms

7 dB Offset

D1 12.21 dBm

1MAX

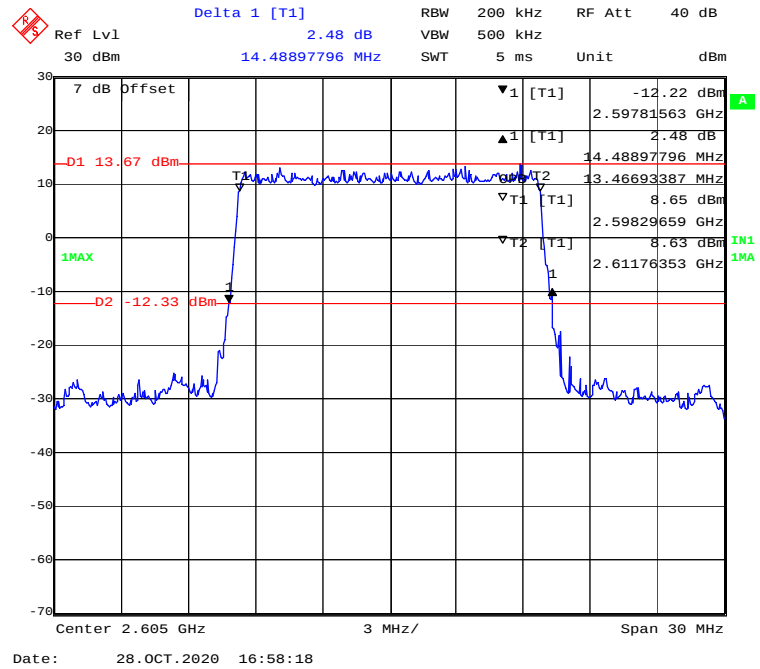
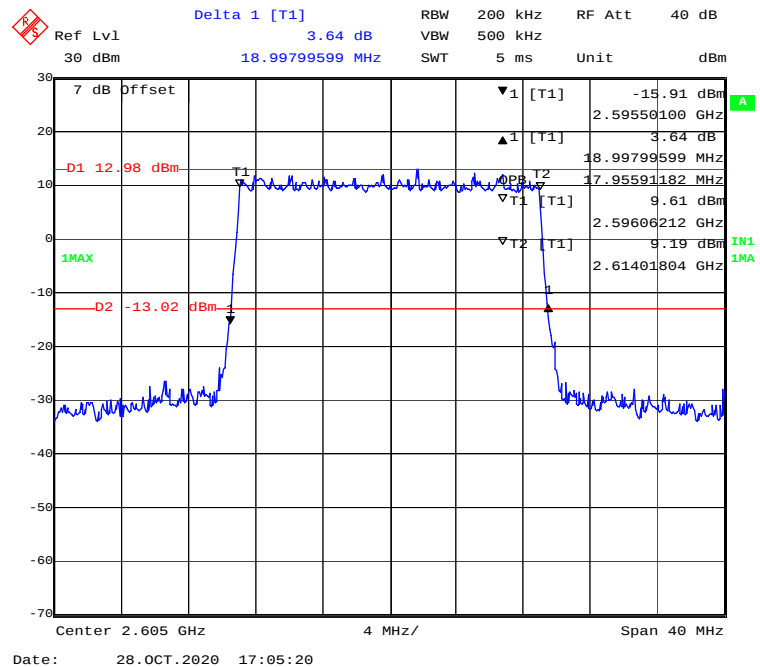
D2 -13.79 dBm

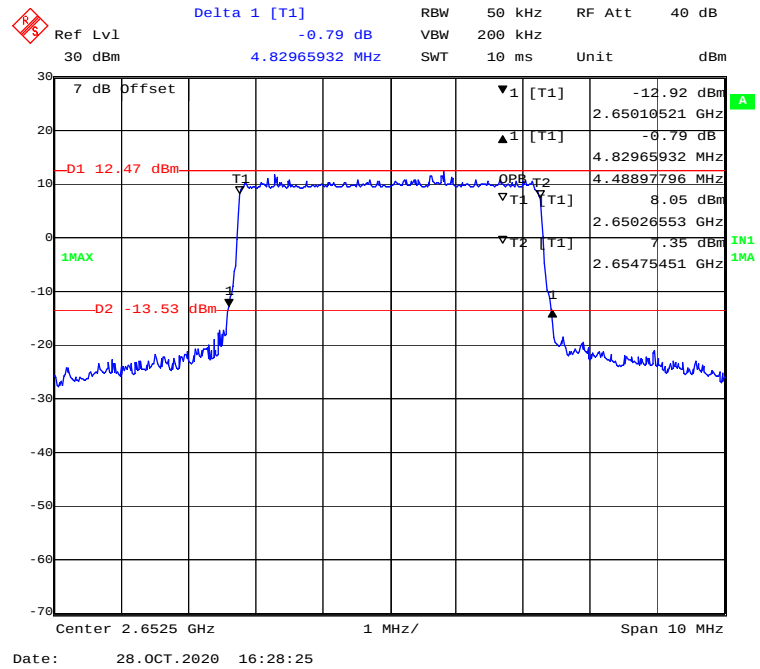
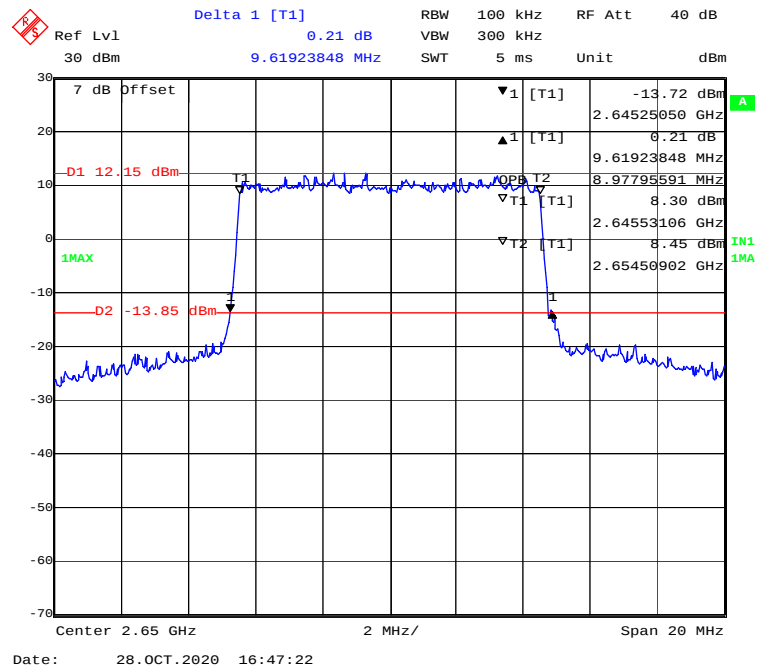
▼1 [T1] -13.59 dBm 2.60262525 GHz
 ▲1 [T1] 0.60 dB 4.76953908 MHz
 OPB T2 4.48897796 MHz
 ▼T1 [T1] 10.13 dBm 2.60276553 GHz
 ▼T2 [T1] 8.96 dBm 2.60725451 GHz

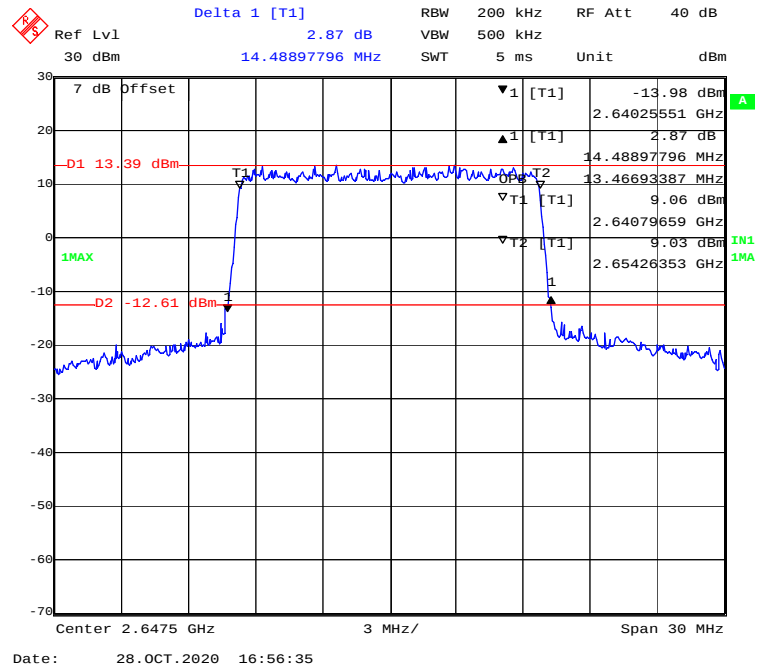
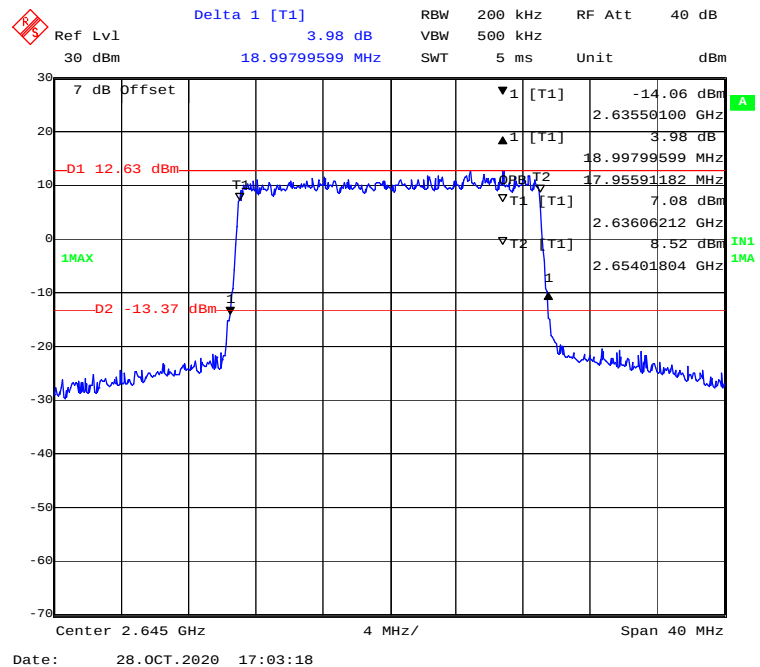
Center 2.605 GHz 1 MHz/ Span 10 MHz

Date: 28.OCT.2020 16:33:06

[illegible]

16-QAM (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**16-QAM (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

16-QAM (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**16-QAM (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

16-QAM (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**16-QAM (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

FCC § 2.1051; § 22.917 (a); § 24.238 (a); §27.53(m)(g)(h) - SPURIOUS EMISSIONS AT ANTENNA TERMINALS**Applicable Standards**

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

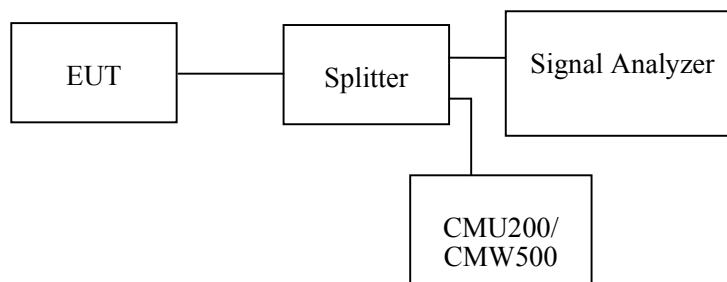
The spectrum was to be investigated to the tenth harmonics of the highest fundamental frequency as specified in § 2.1051.

According to §22.917(a),the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

According to §27.53(m),for mobile digital stations, any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $55 + 10 \log(P)$ dB.

Test Procedure

The RF output of the transceiver was connected to a spectrum analyzer and simulator through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 100 kHz for below 1GHz & 1MHz for above 1GHz. sufficient scans were taken to show any out of band emissions up to 10th harmonic.

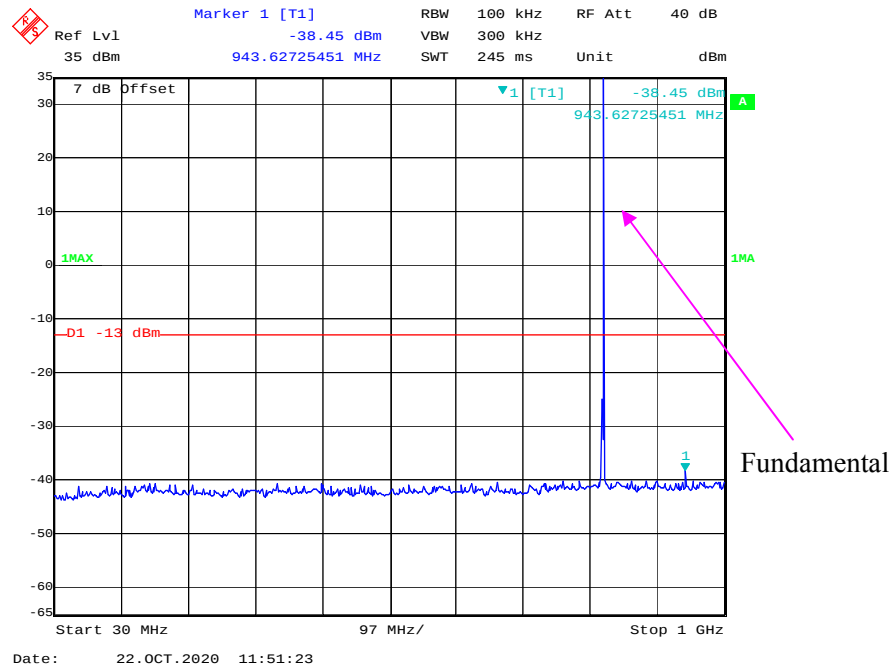
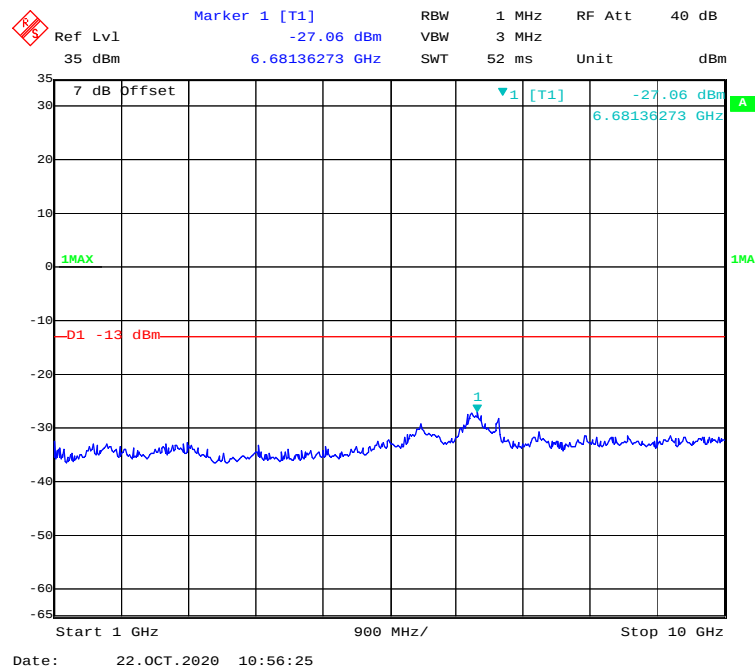
**Test Data****Environmental Conditions**

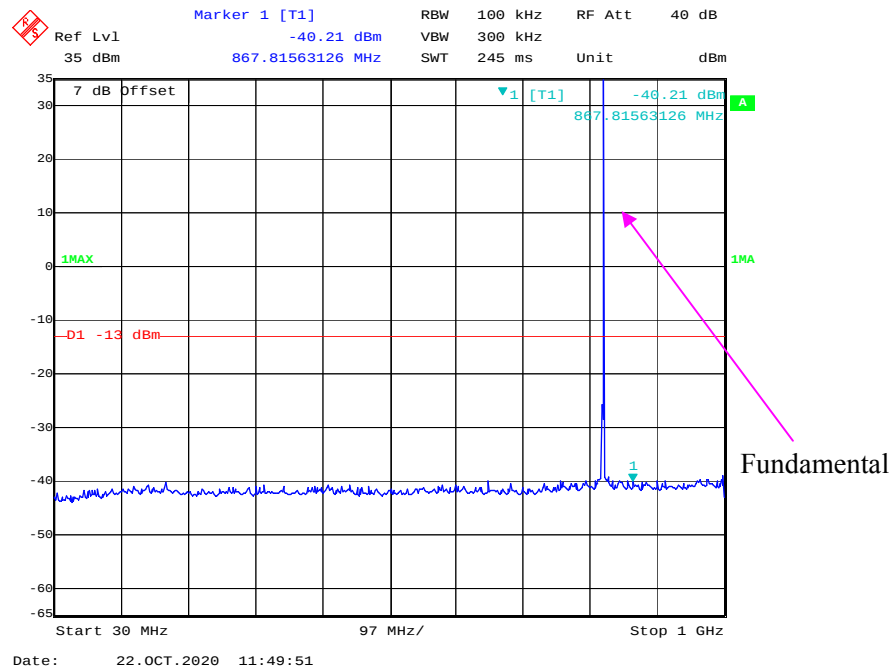
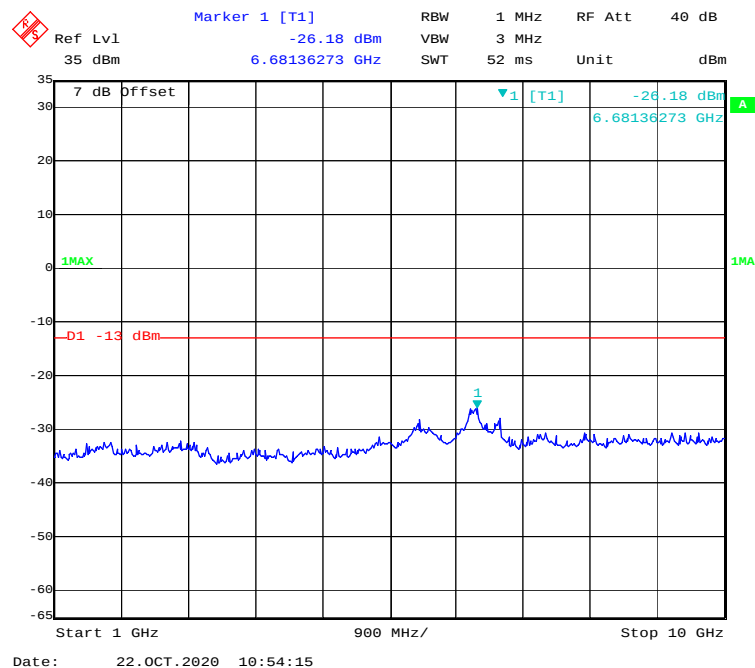
Temperature:	23.1~24.4 °C
Relative Humidity:	49~52 %
ATM Pressure:	101.2~101.7 kPa

The testing was performed by CK Huang from 2020-10-17 to 2020-11-03.

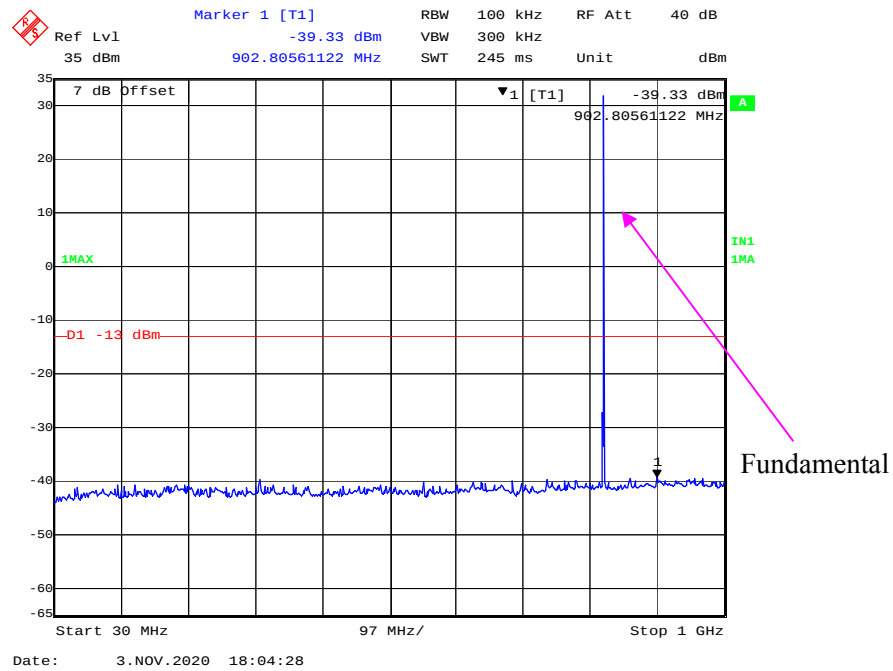
EUT operation mode: Transmitting

Test Result: Compliance.

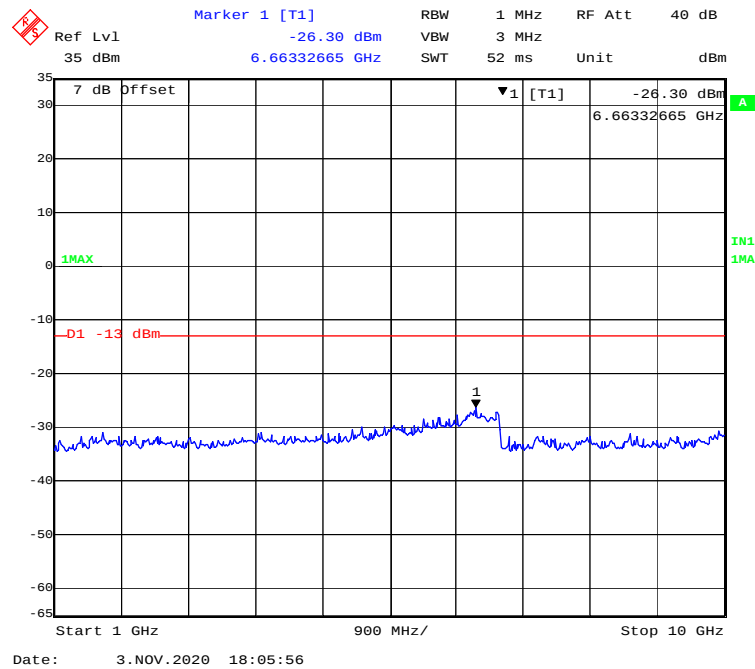
GSM 850 Band:**30 MHz – 1GHz(GSM Mode), Low channel****1 GHz – 10 GHz (GSM Mode), Low channel**

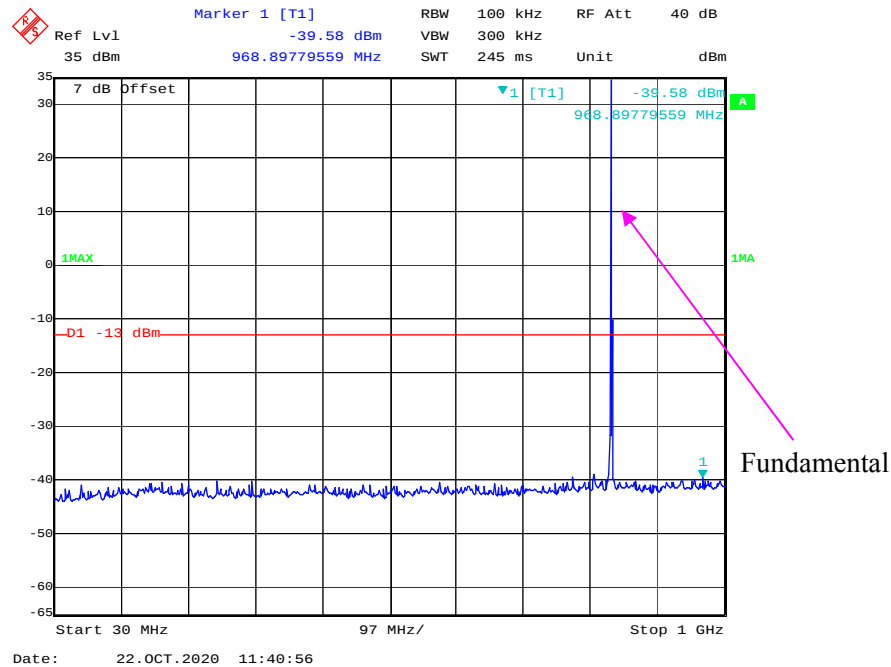
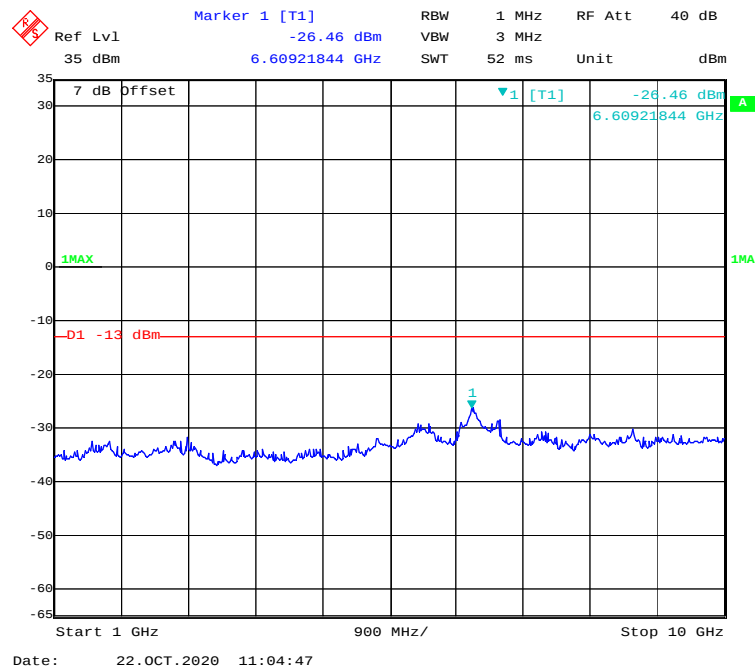
30 MHz – 1GHz(GPRS Mode)), Low channel**1 GHz – 10 GHz (GPRS Mode)), Low channel**

30 MHz – 1GHz(EGPRS Mode)), Low channel

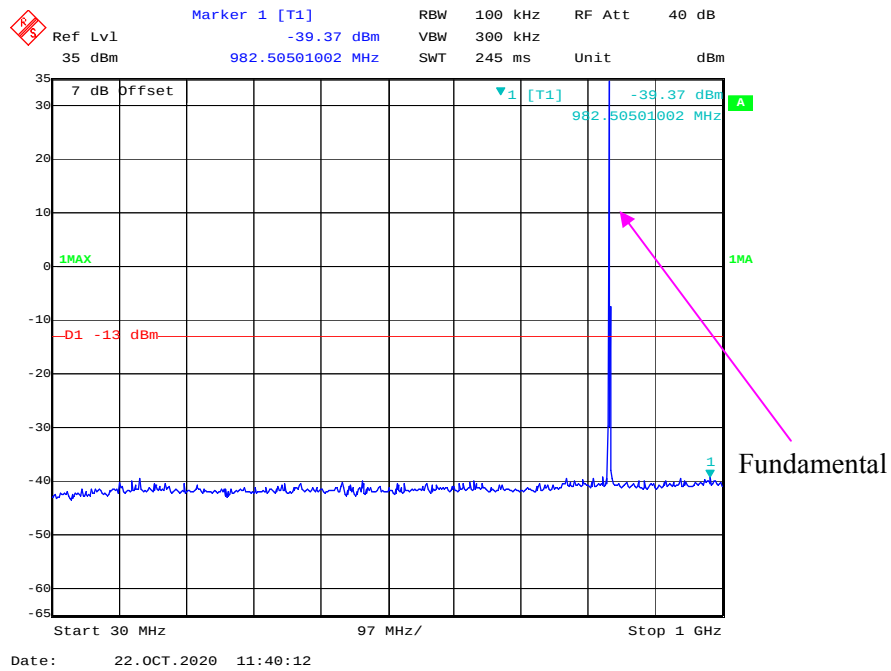


1 GHz – 10 GHz (EGPRS Mode)), Low channel

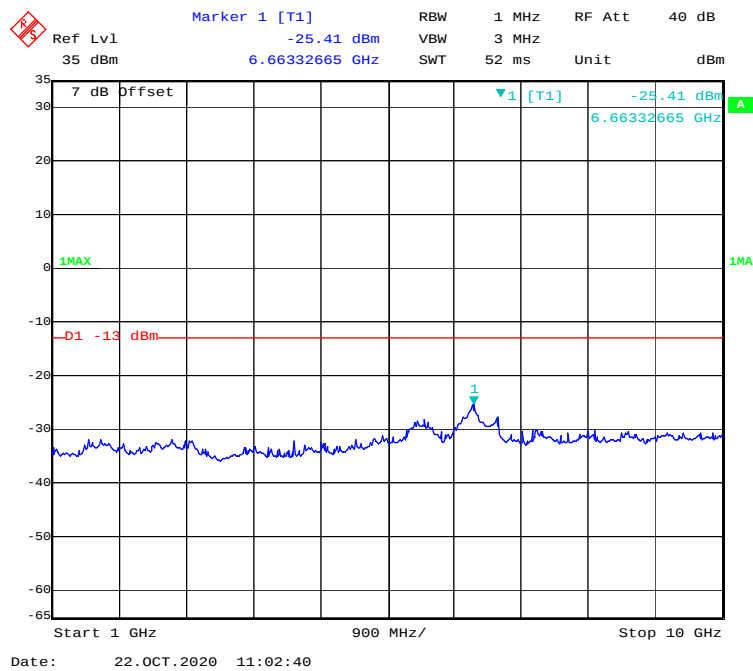


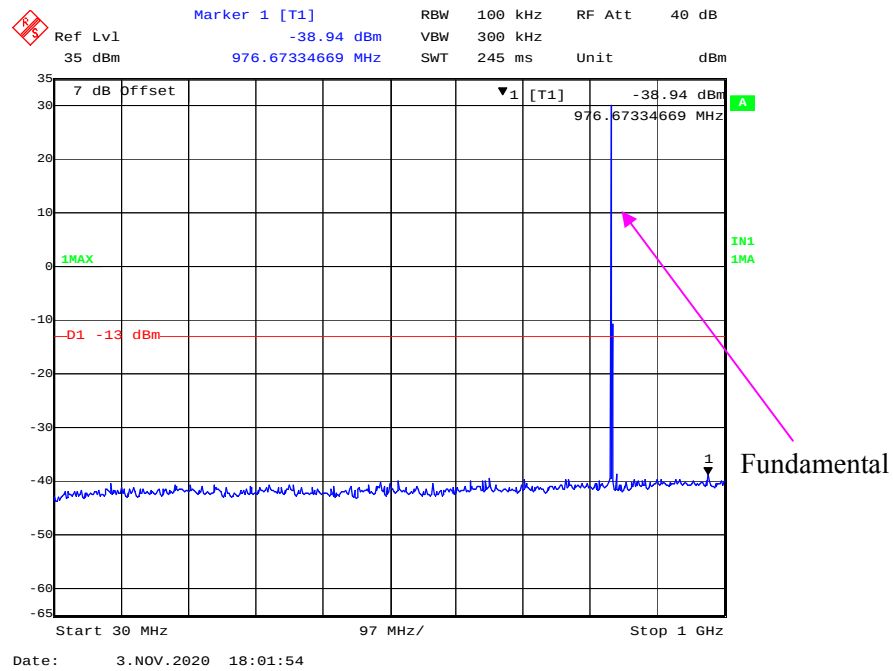
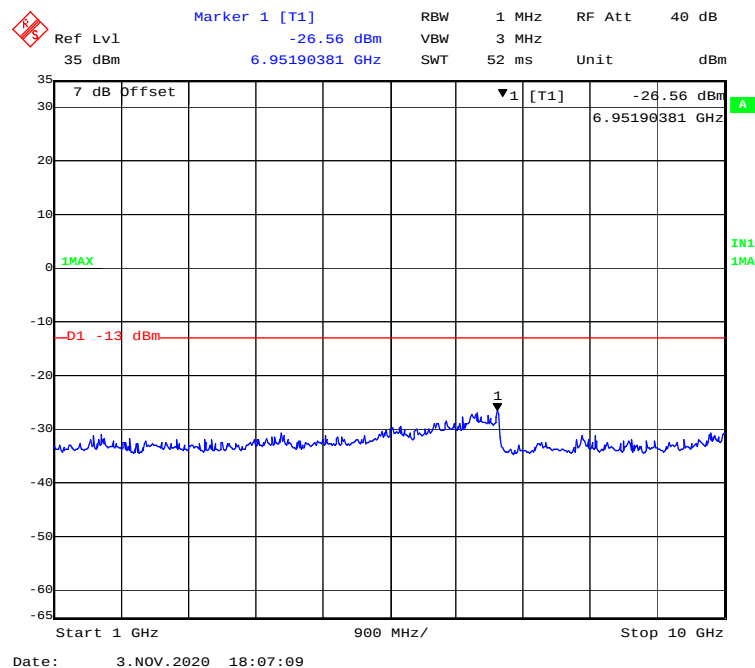
30 MHz – 1GHz(GSM Mode)), Middle channel**1 GHz – 10 GHz (GSM Mode)), Middle channel**

30 MHz – 1GHz(GPRS Mode) , Middle channel

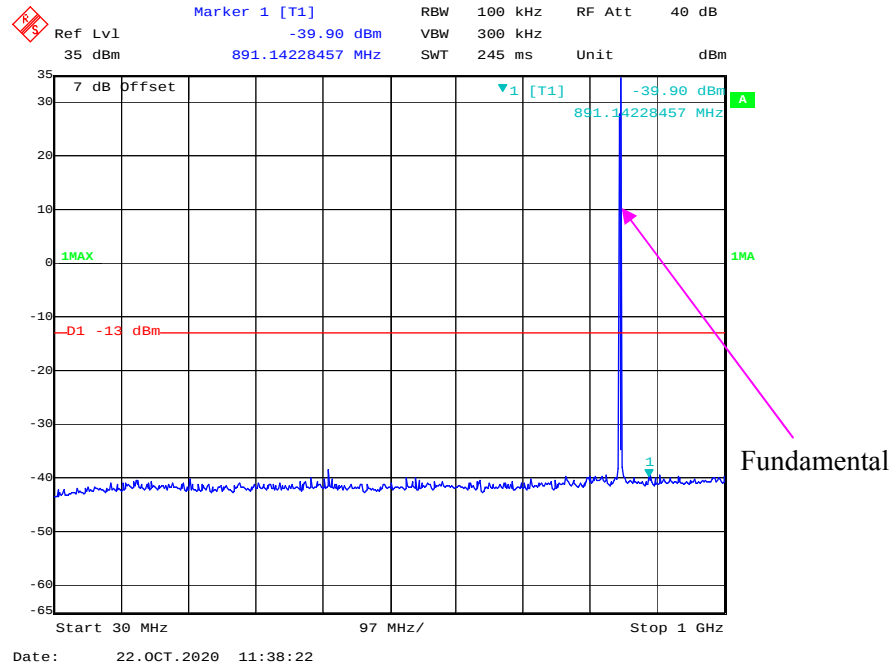


1 GHz – 10 GHz (GPRS Mode), Middle channel

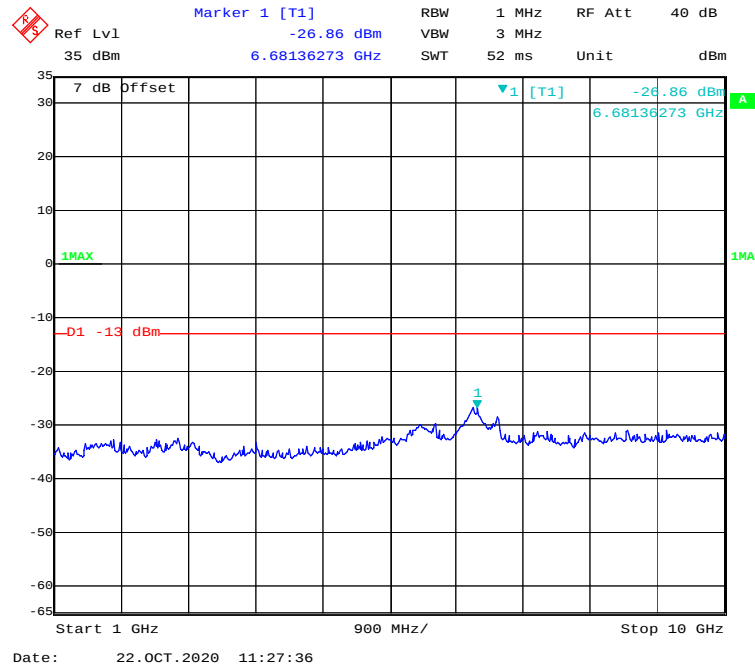


30 MHz – 1GHz(EGPRS Mode) , Middle channel**1 GHz – 10 GHz (EGPRS Mode), Middle channel**

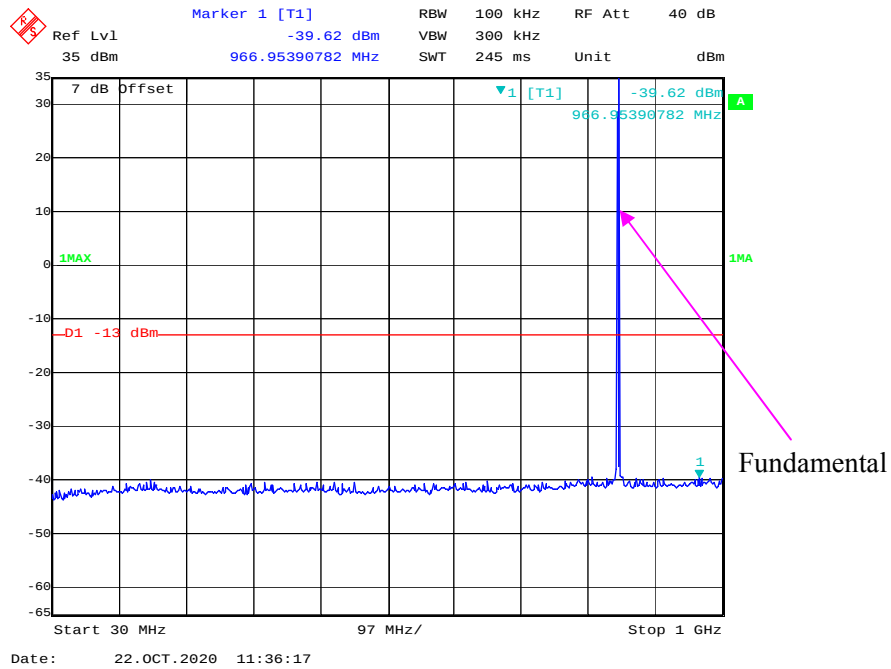
30 MHz – 1GHz(GSM Mode), High channel



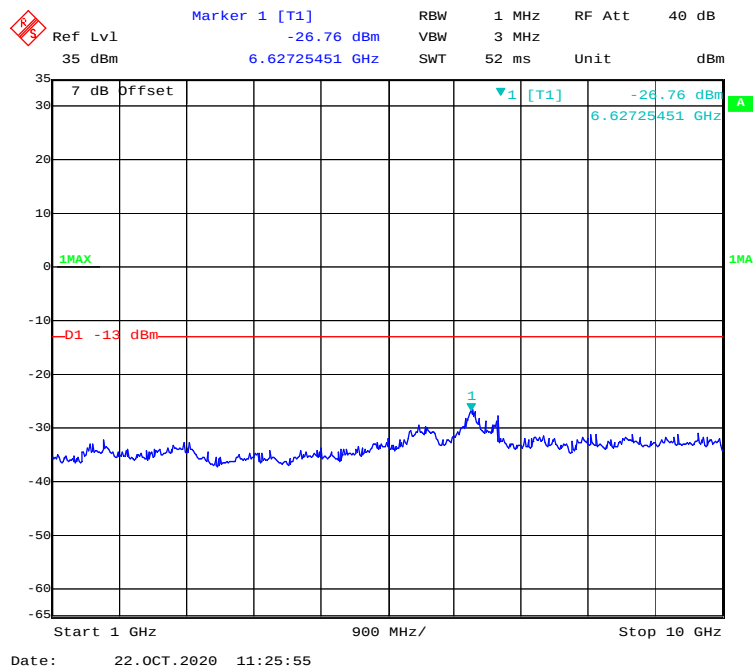
1 GHz – 10 GHz (GSM Mode), High channel

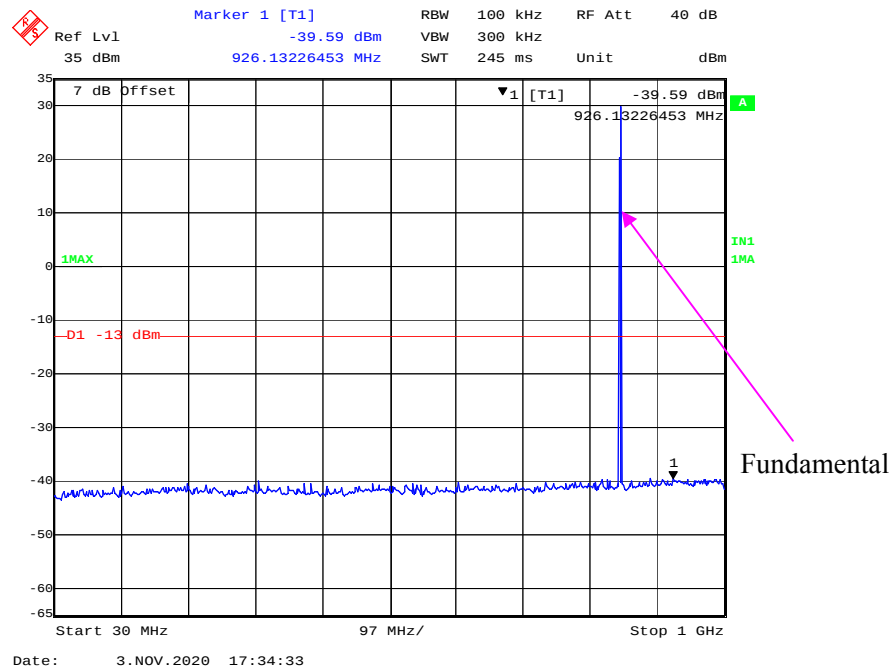
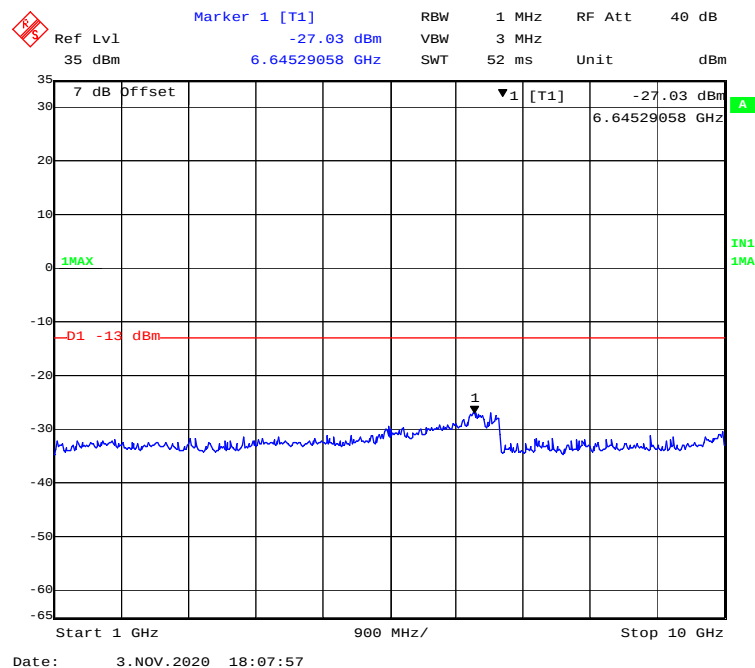


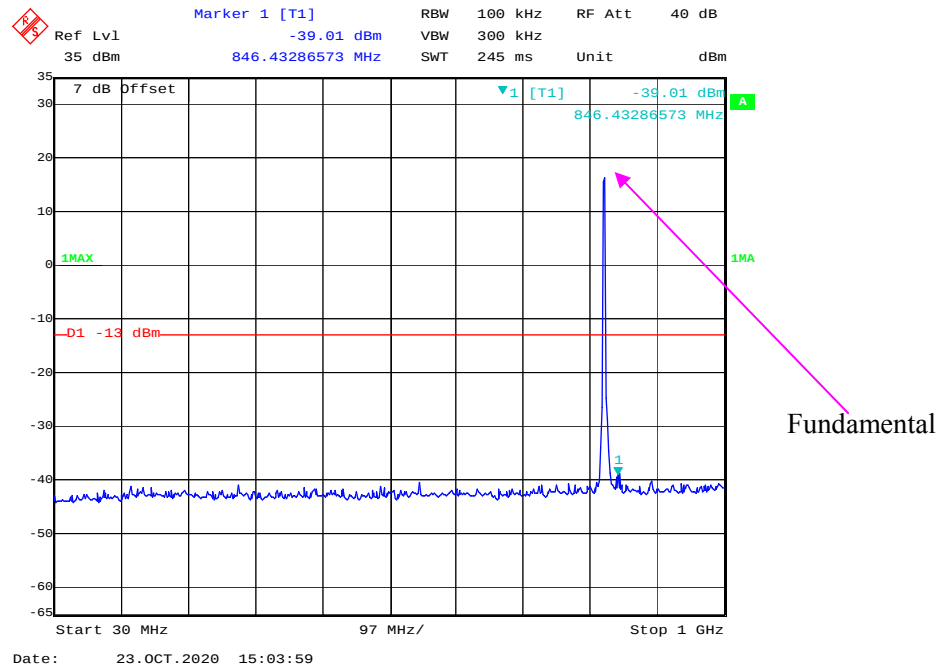
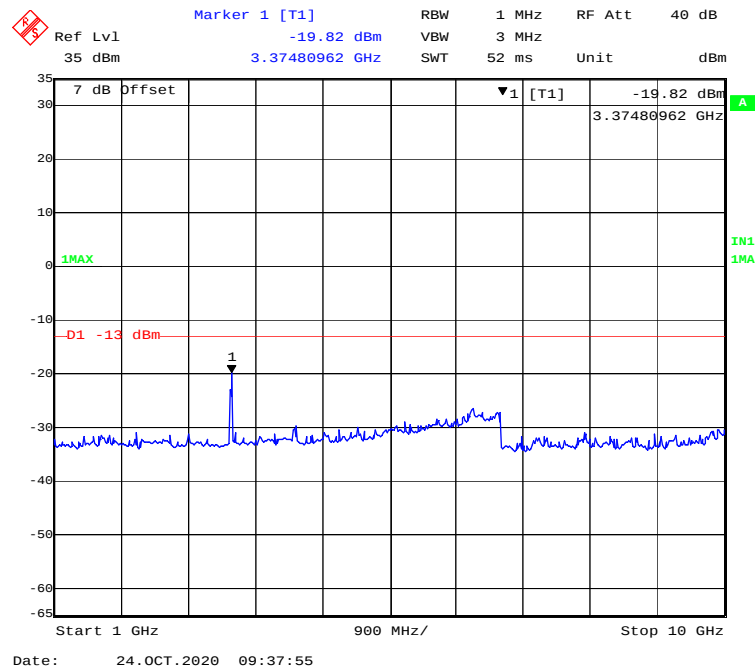
30 MHz – 1GHz(GPRS Mode), High channel



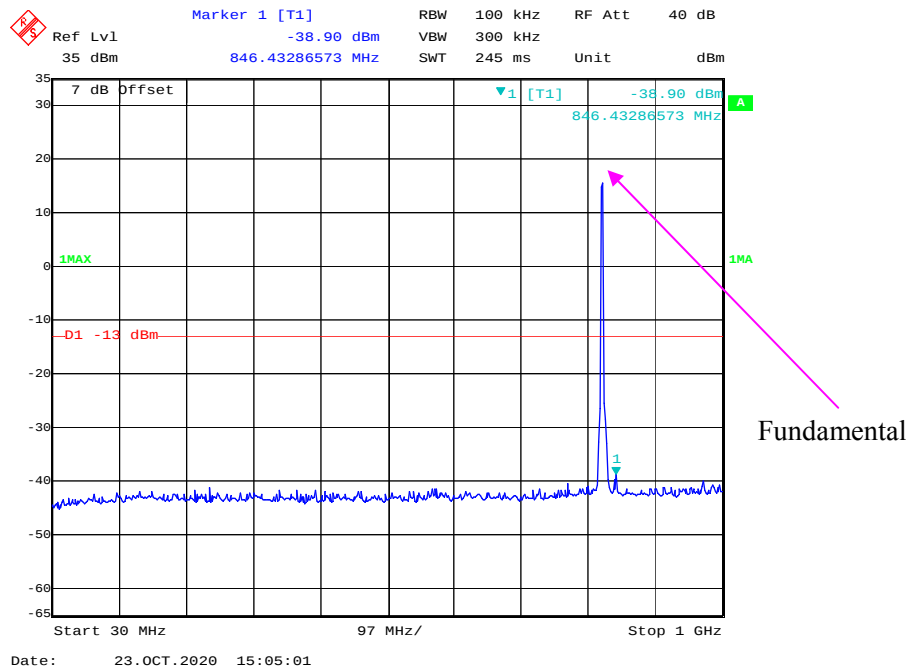
1 GHz – 10 GHz (GPRS Mode), High channel



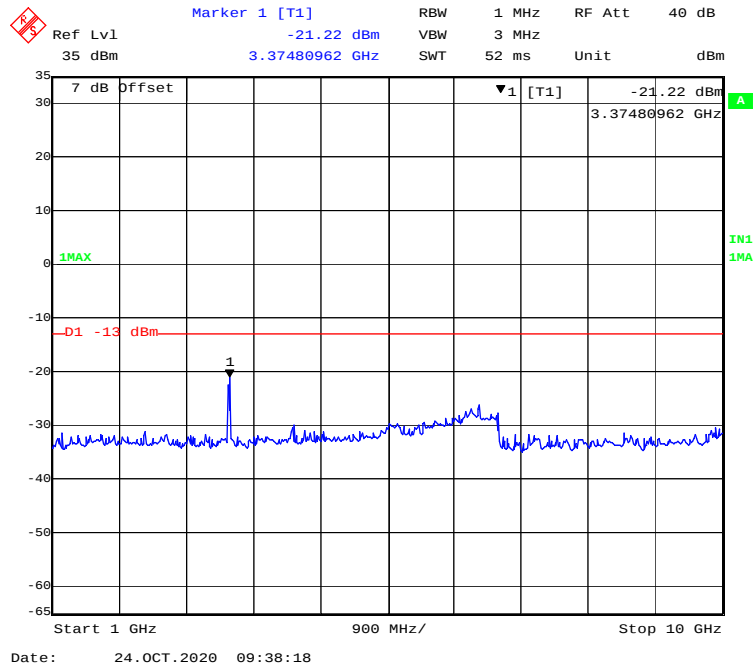
30 MHz – 1GHz(EGPRS Mode), High channel**1 GHz – 10 GHz (EGPRS Mode), High channel**

WCDMA Band V:**30 MHz – 1GHz WCDMA (Rel 99) Mode, Low channel****1 GHz – 10 GHz WCDMA (Rel 99) Mode, Low channel**

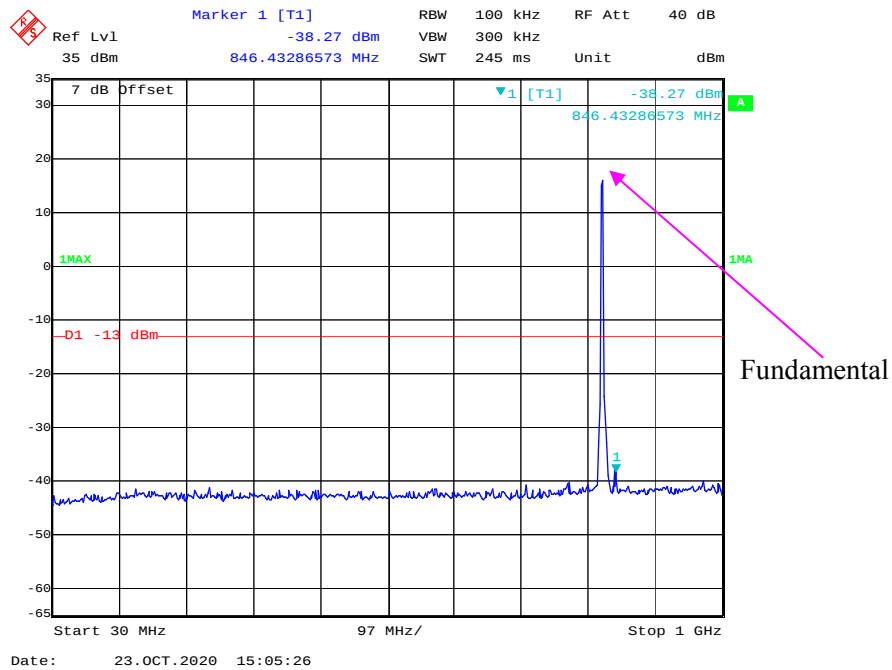
30 MHz – 1GHz WCDMA (HSDPA) Mode, Low channel



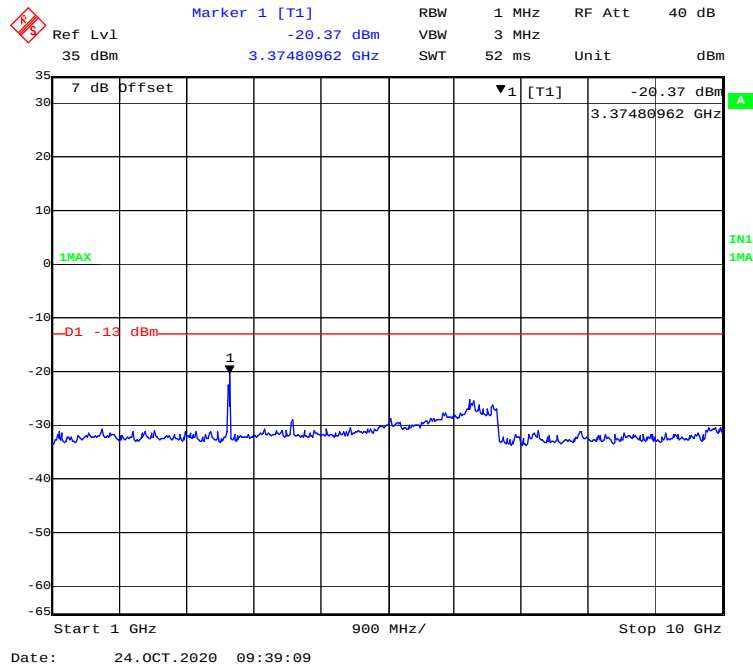
1 GHz – 10 GHz WCDMA (HSDPA) Mode, Low channel



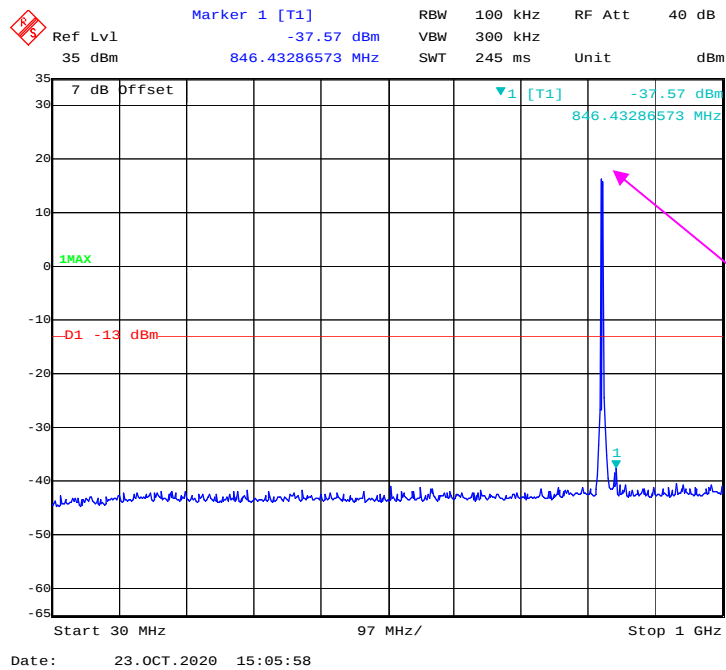
30 MHz – 1GHz WCDMA (HSUPA) Mode, Low channel



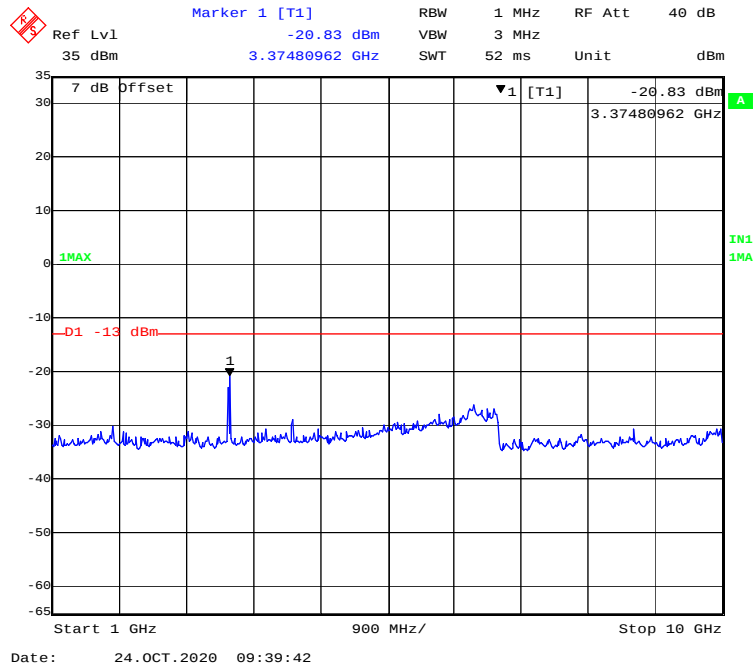
1 GHz – 10 GHz WCDMA (HSUPA) Mode, Low channel

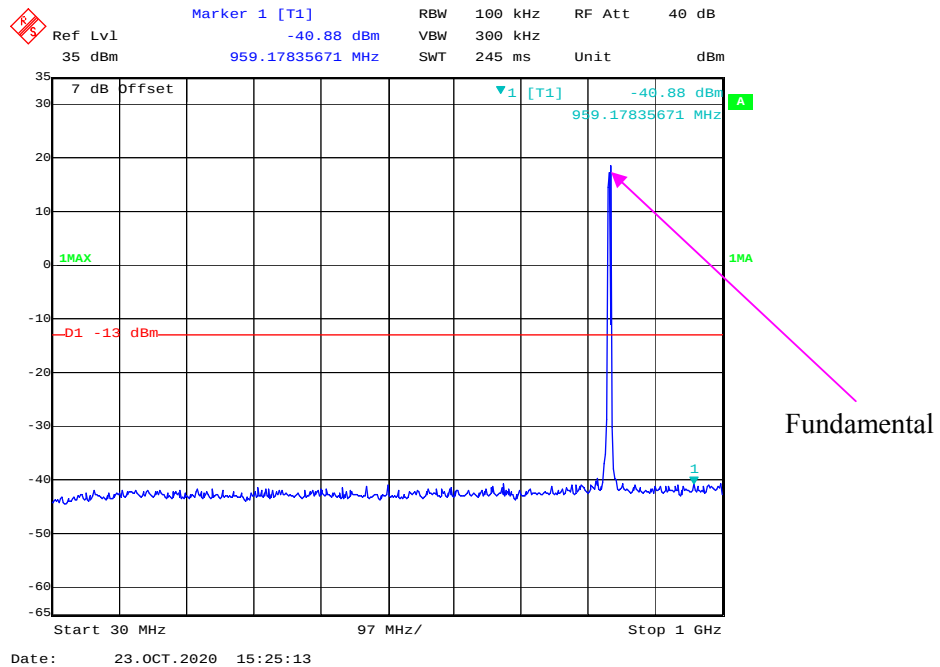
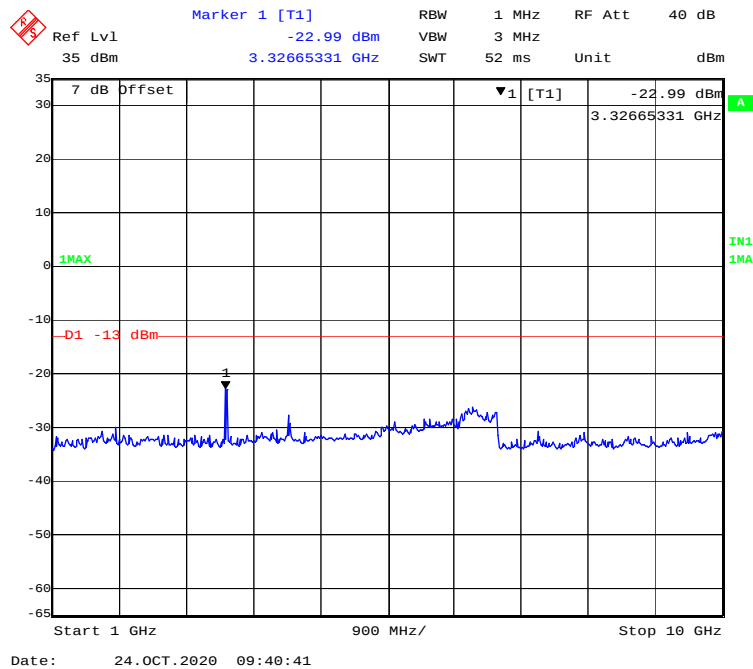


30 MHz – 1GHz WCDMA (HSPA+) Mode, Low channel

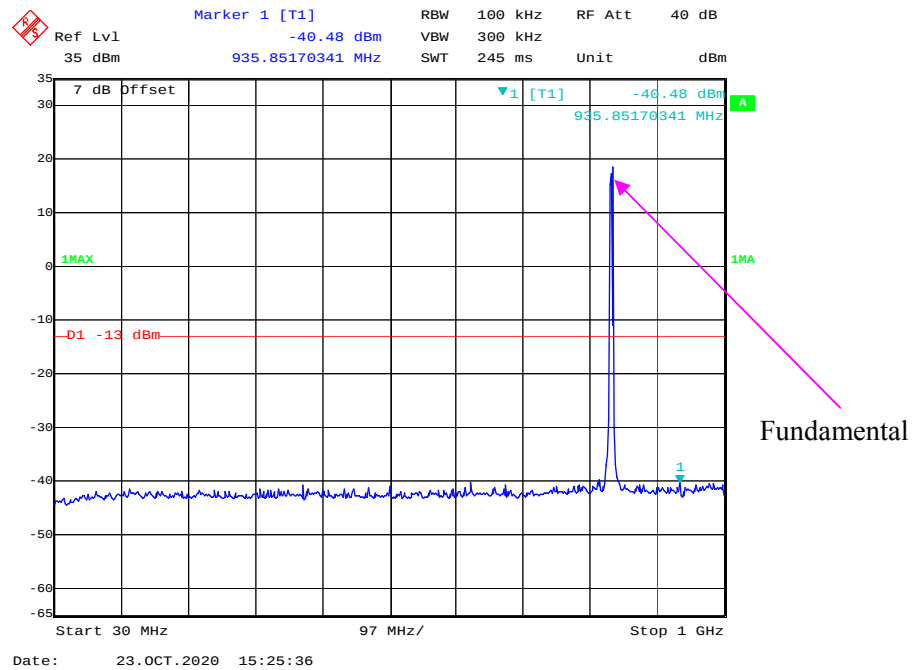


1 GHz – 10 GHz WCDMA (HSPA+) Mode, Low channel

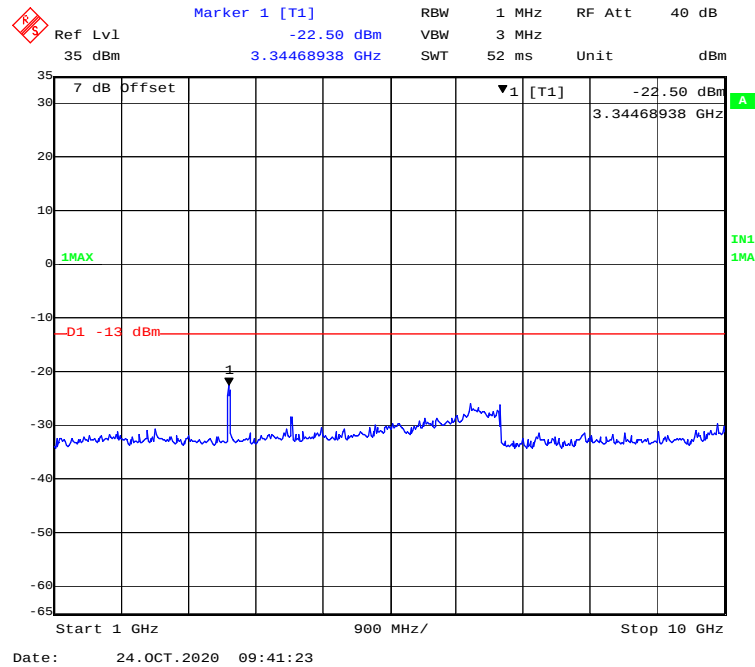


30 MHz – 1GHz WCDMA (Rel 99) Mode, Middle channel**1 GHz – 10 GHz WCDMA (Rel 99) Mode, Middle channel**

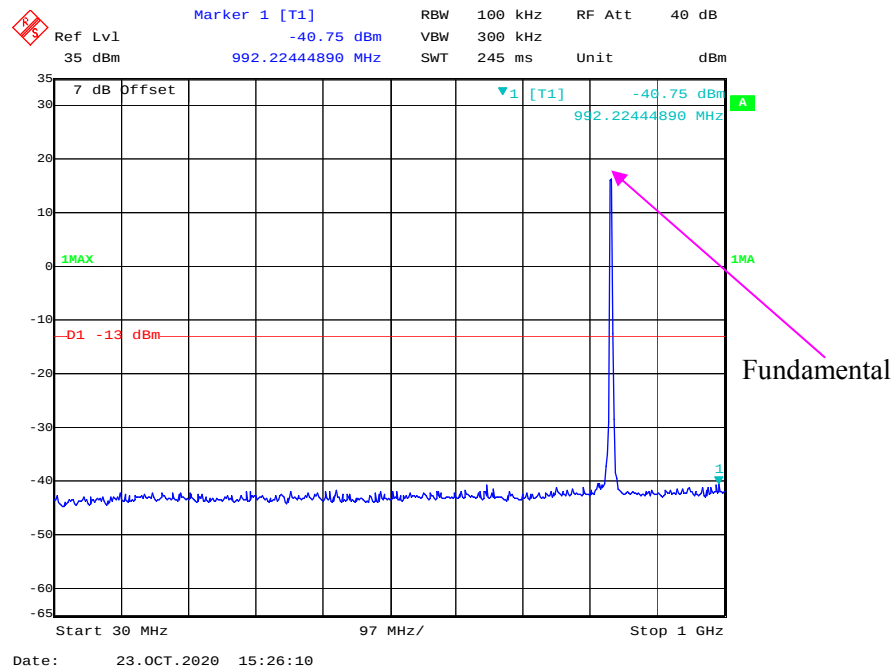
30 MHz – 1GHz WCDMA (HSDPA) Mode, Middle channel



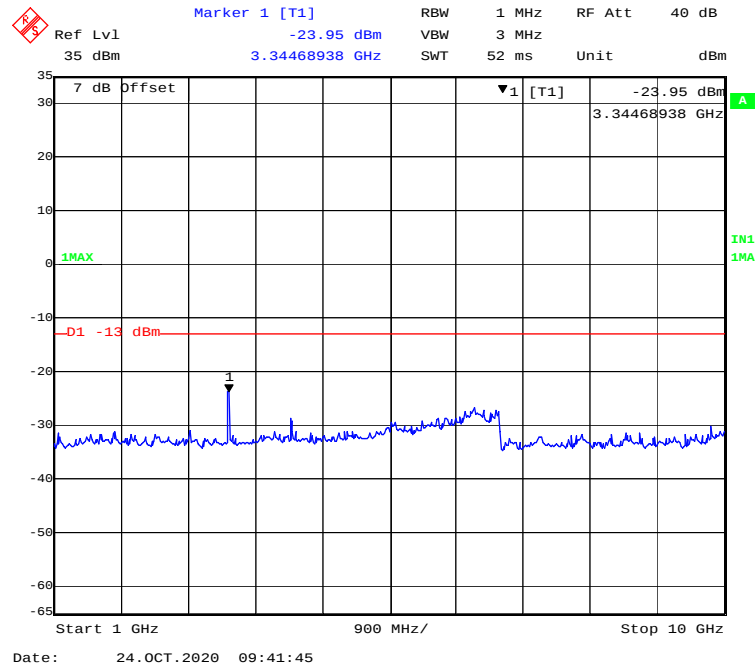
1 GHz – 10 GHz WCDMA (HSDPA) Mode, Middle channel



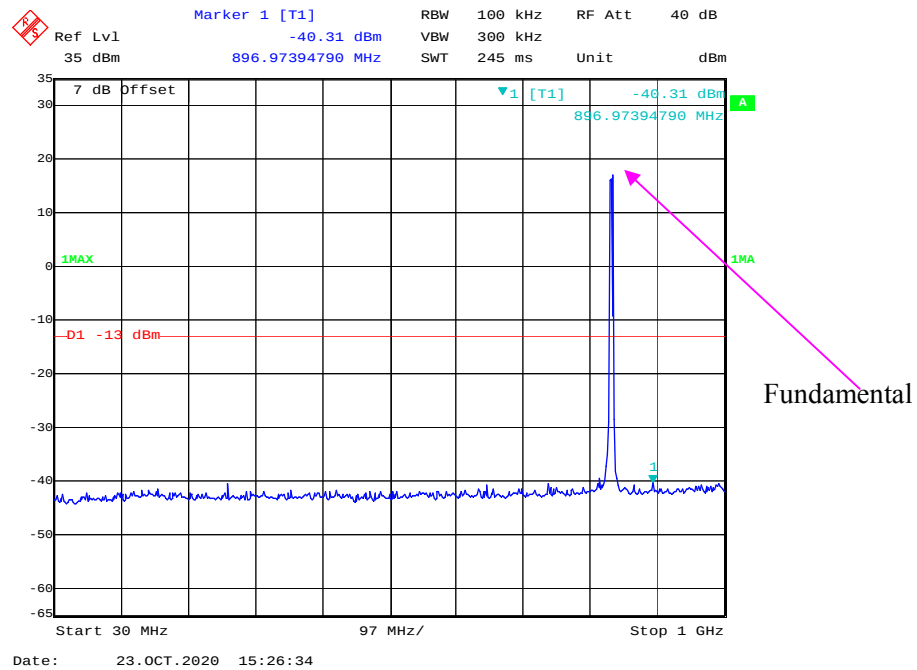
30 MHz – 1GHz WCDMA (HSUPA) Mode, Middle channel



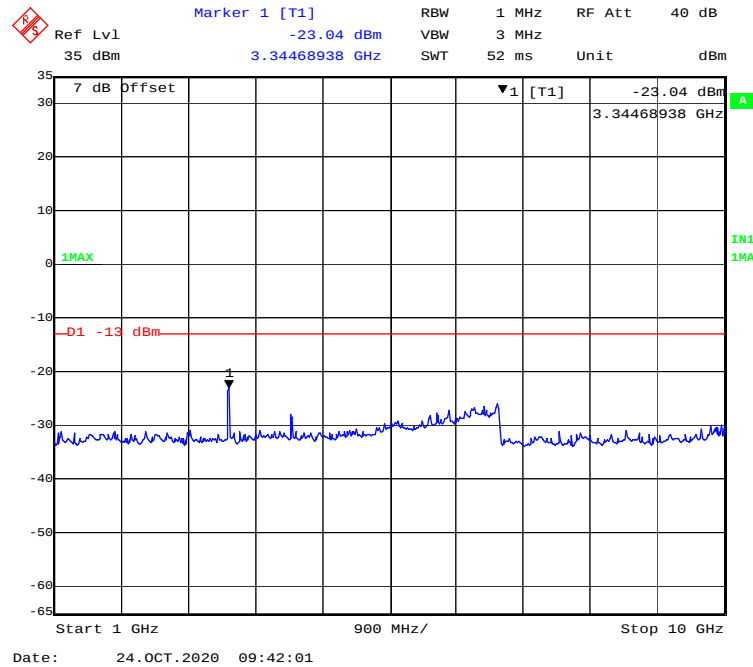
1 GHz – 10 GHz WCDMA (HSUPA) Mode, Middle channel

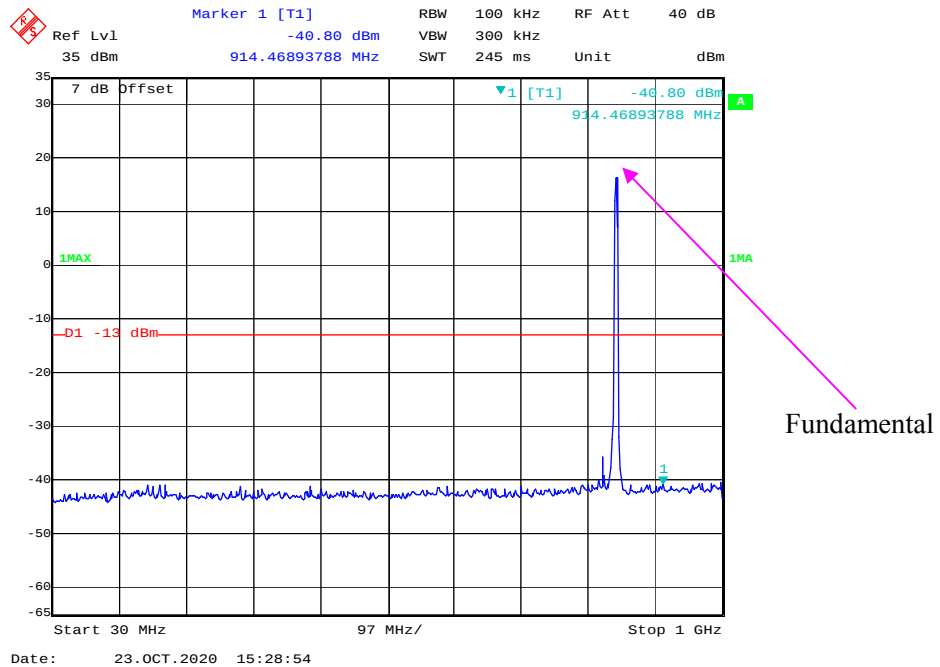
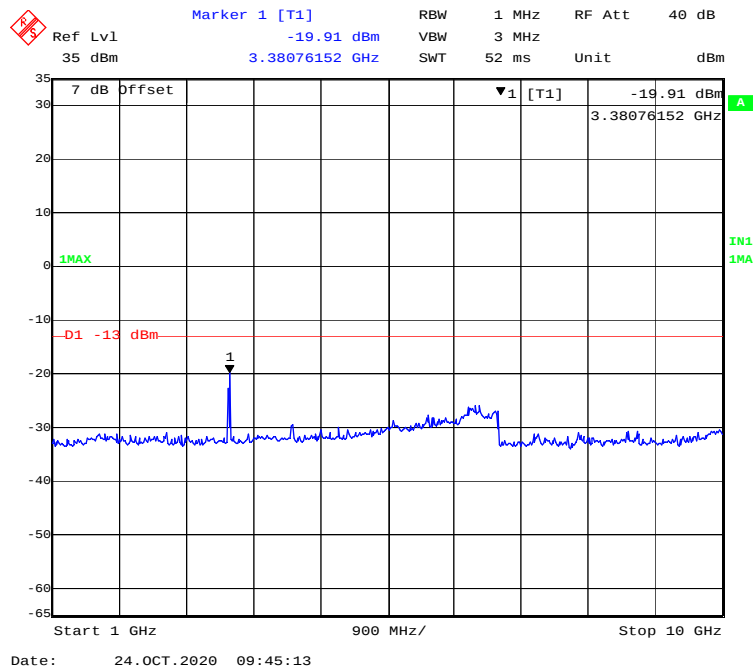


30 MHz – 1GHz WCDMA (HSPA+) Mode, Middle channel

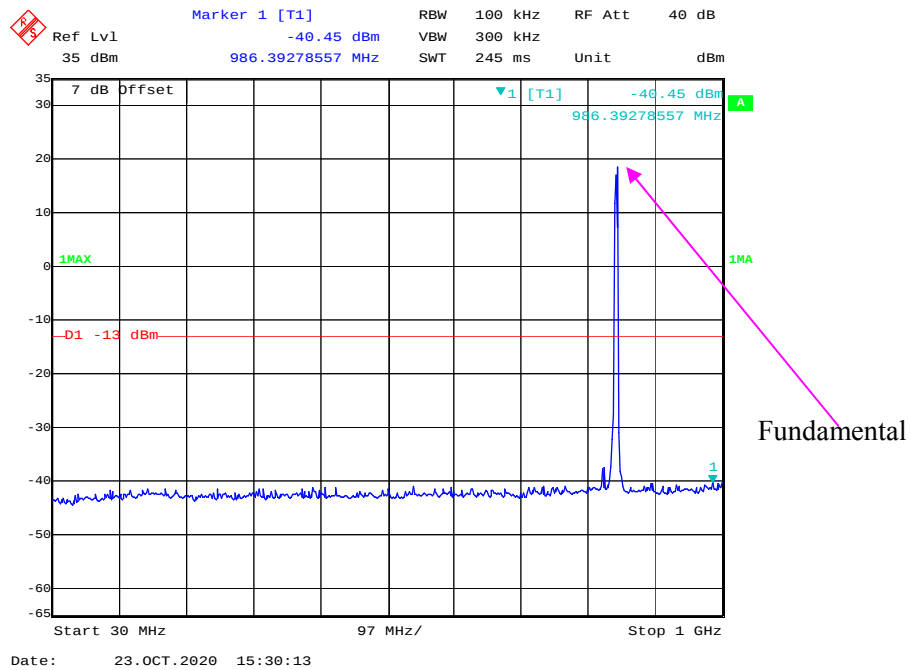


1 GHz – 10 GHz WCDMA (HSPA+) Mode, Middle channel

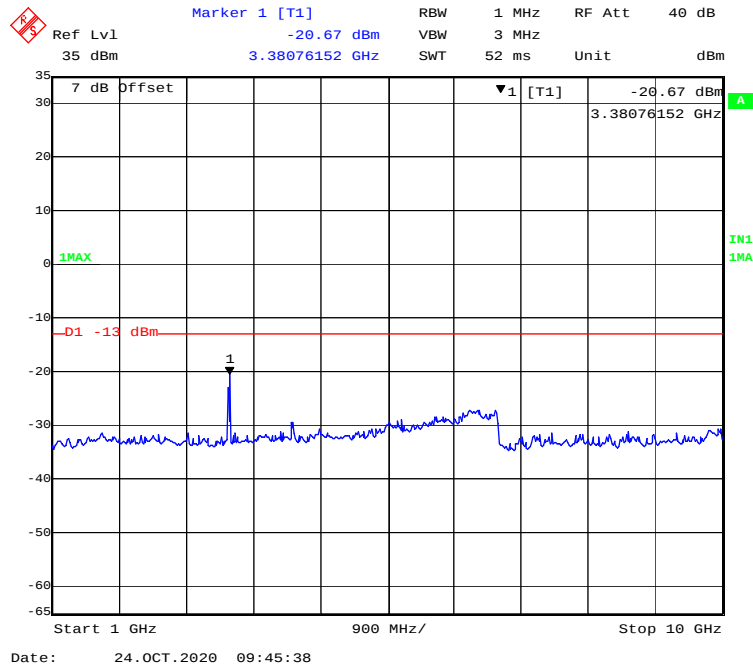


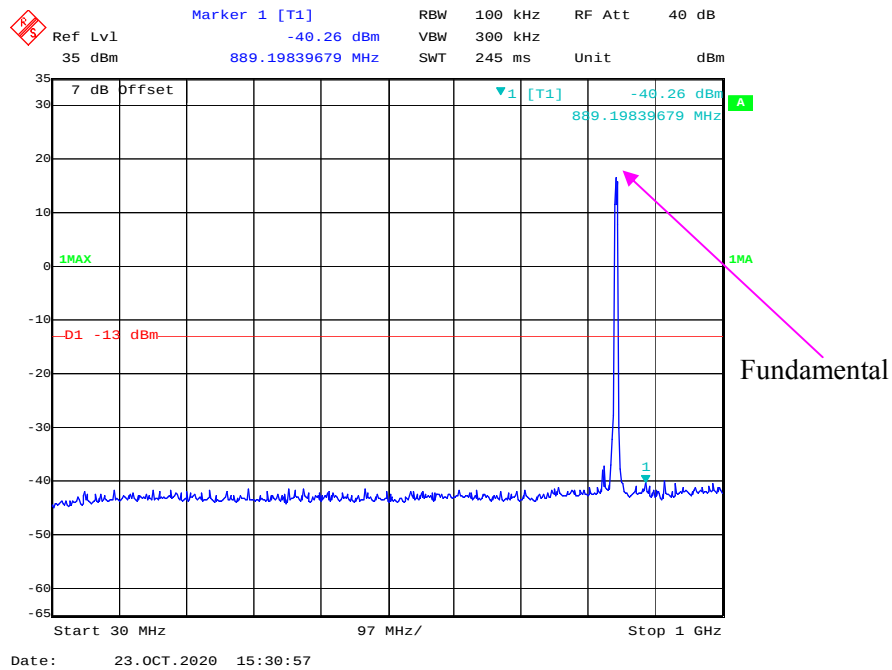
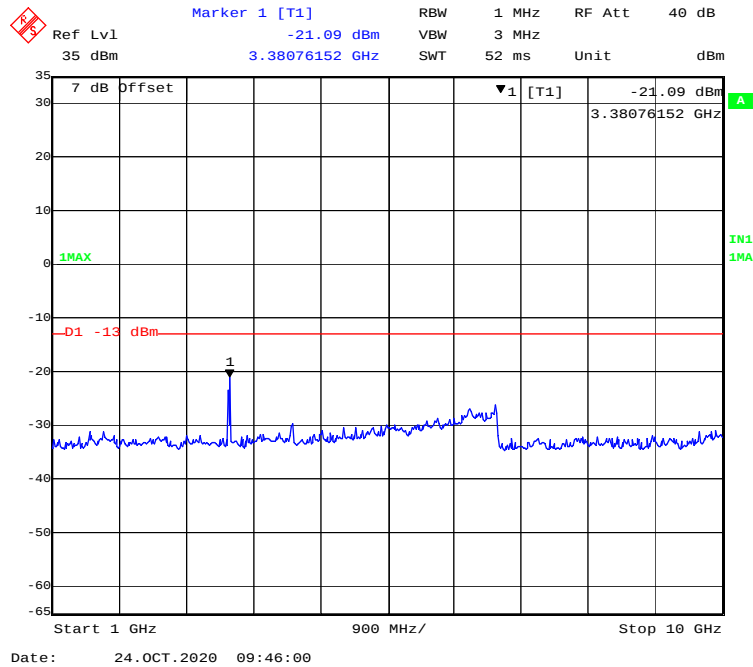
30 MHz – 1GHz WCDMA (Rel 99) Mode, High channel**1 GHz – 10 GHz WCDMA (Rel 99) Mode, High channel**

30 MHz – 1GHz WCDMA (HSDPA) Mode, High channel

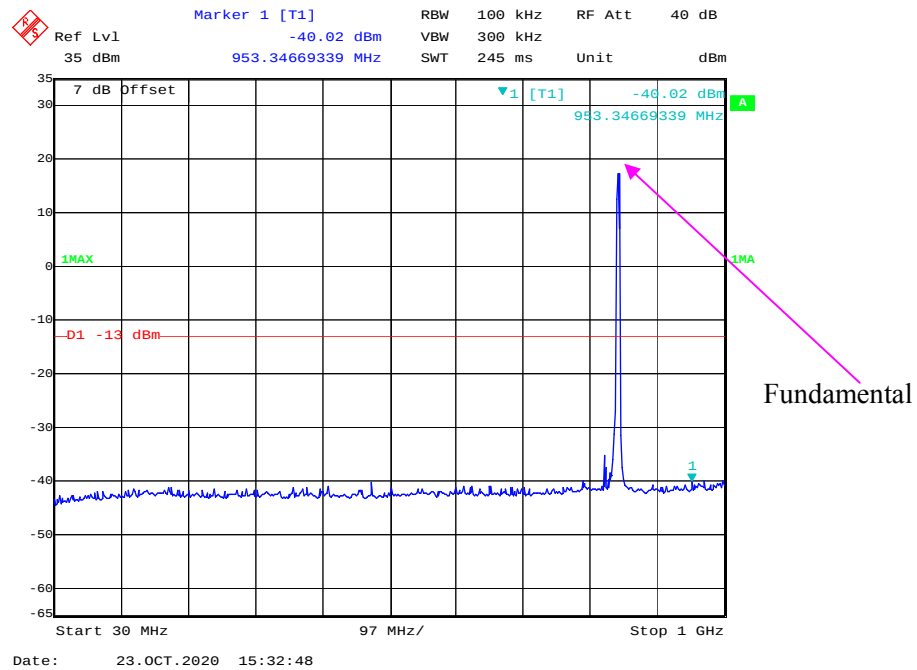


1 GHz – 10 GHz WCDMA (HSDPA) Mode, High channel

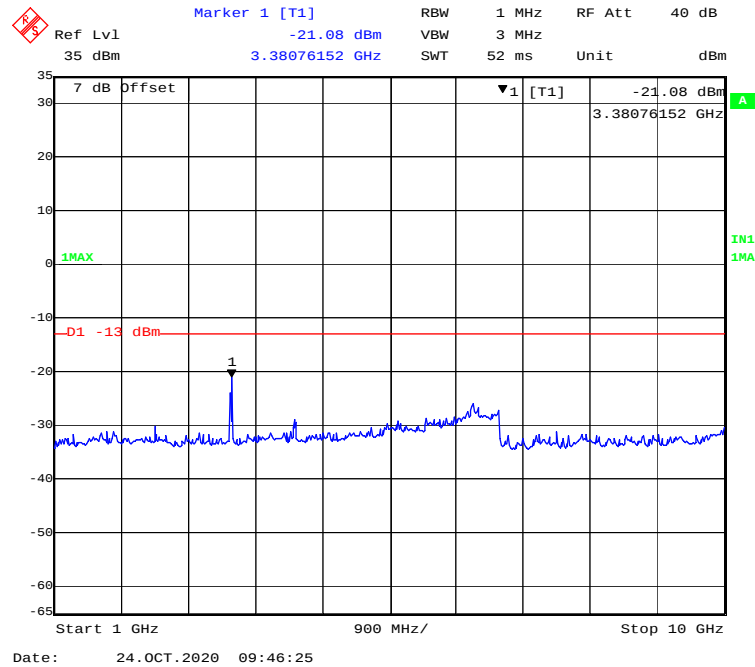


30 MHz – 1GHz WCDMA (HSUPA) Mode, High channel**1 GHz – 10 GHz WCDMA (HSUPA) Mode, High channel**

30 MHz – 1GHz WCDMA (HSPA+) Mode, High channel



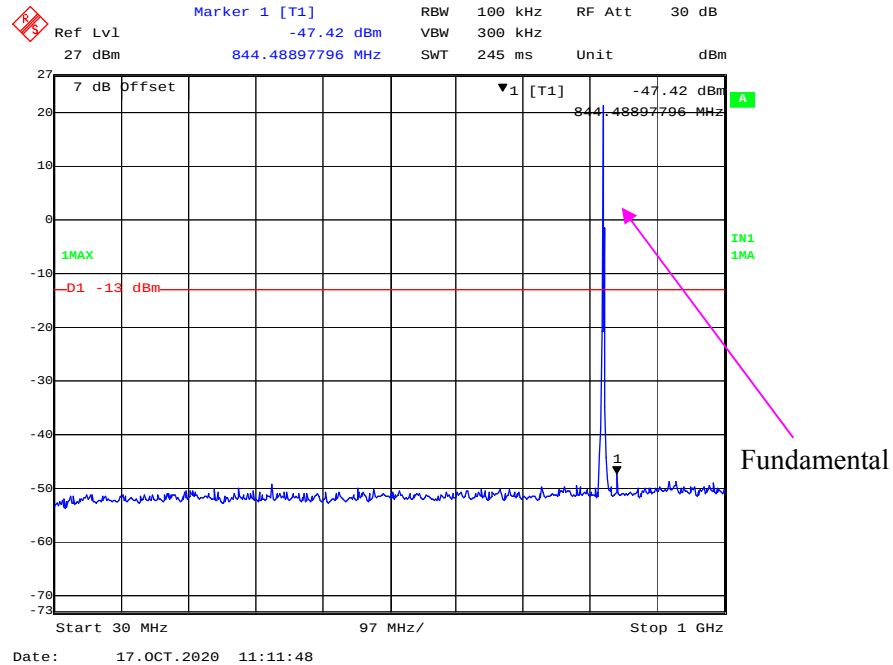
1 GHz – 10 GHz WCDMA (HSPA+) Mode, High channel



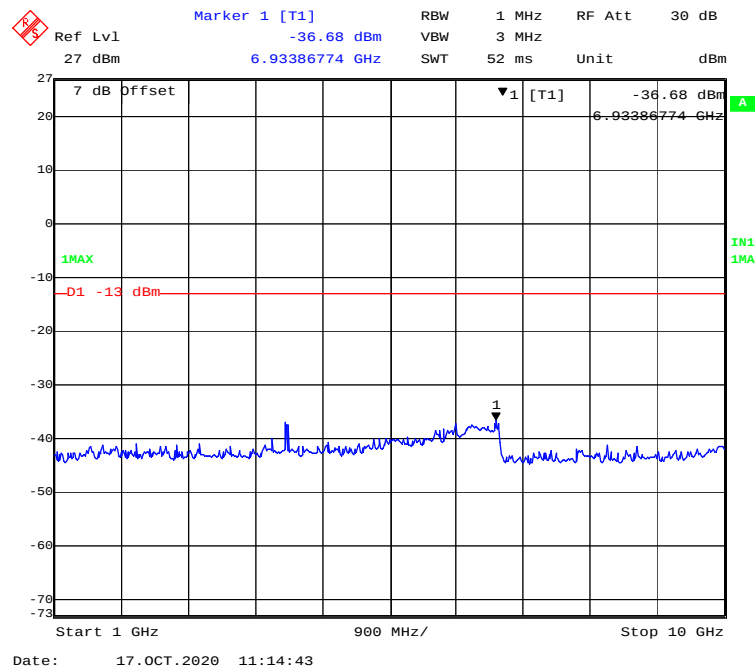
CDMA850 Band:

EVDO mode:

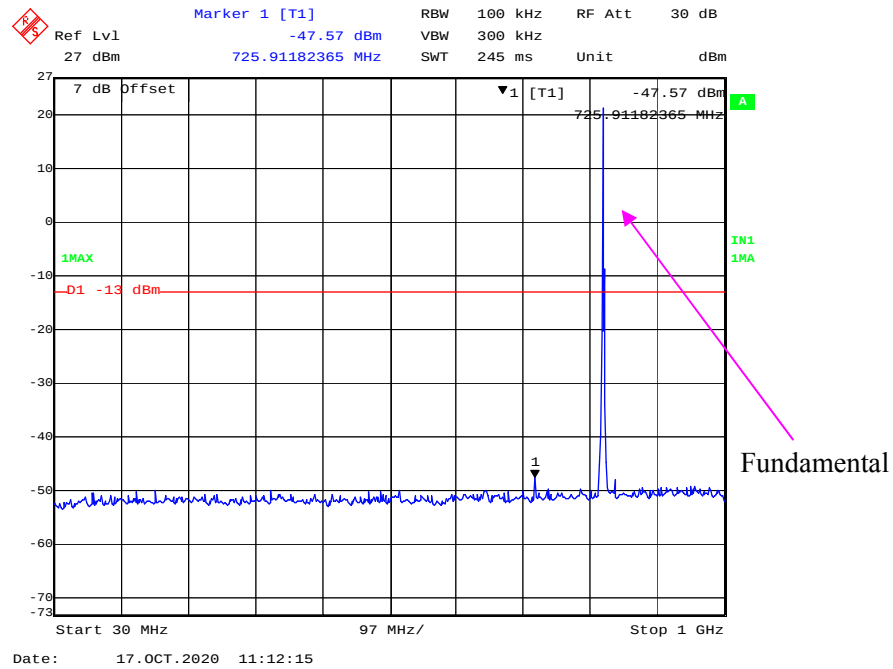
30 MHz – 1GHz, Low channel



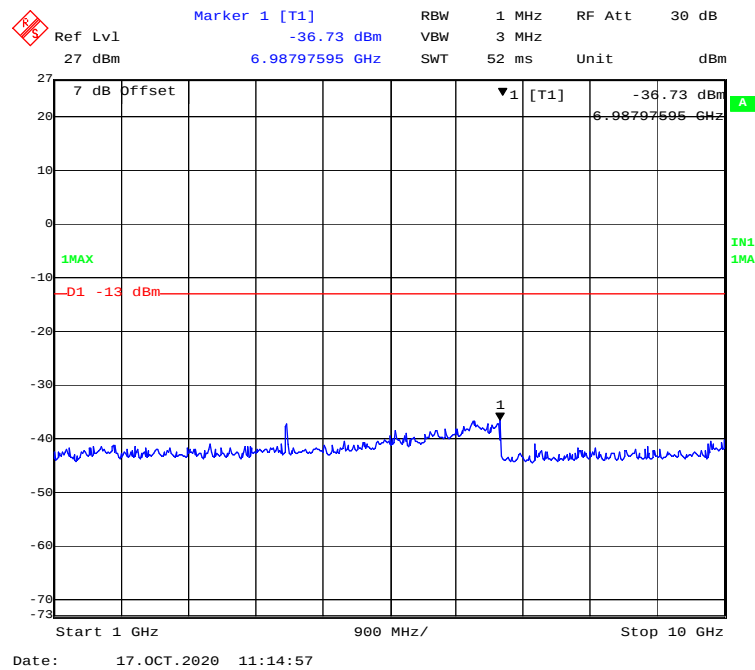
1 GHz – 10 GHz, Low channel

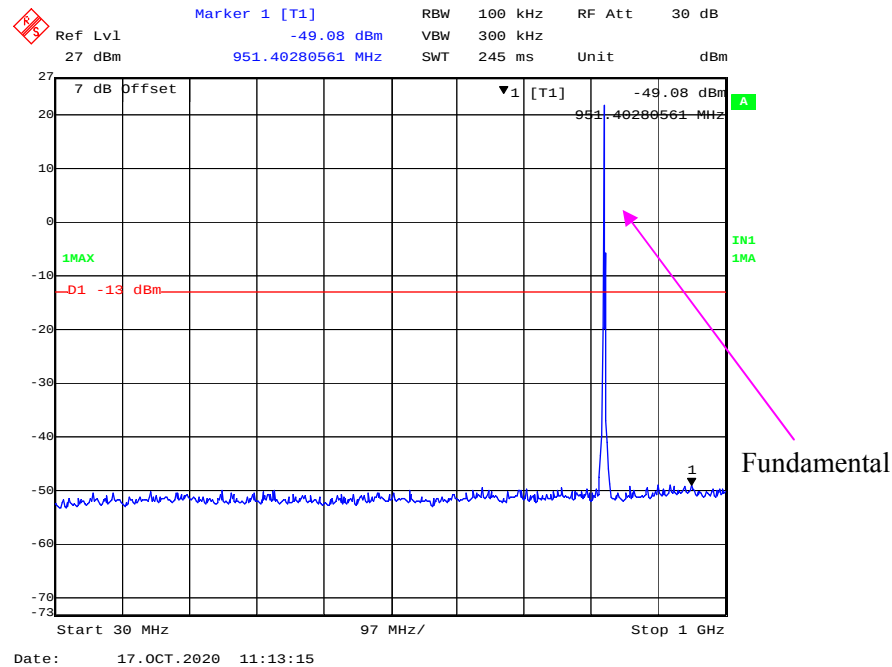
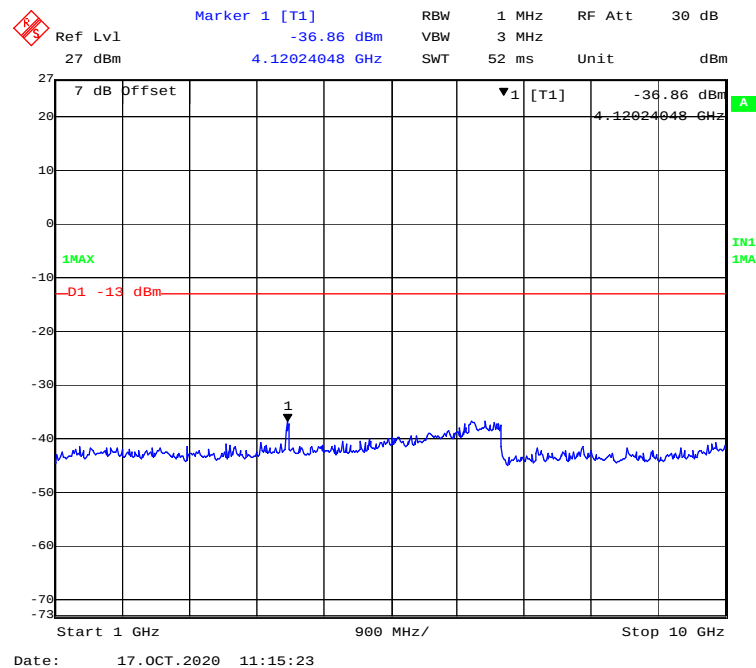


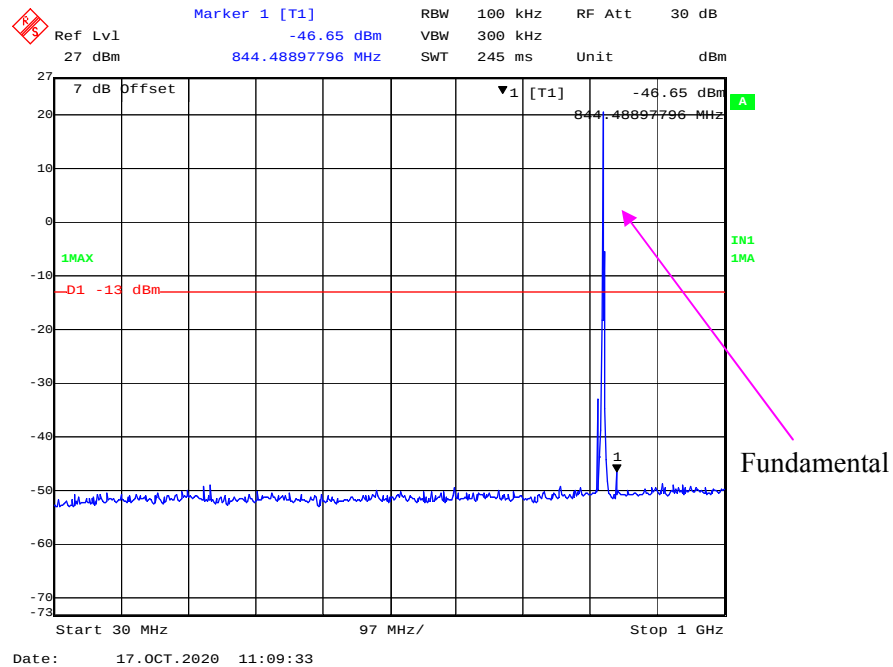
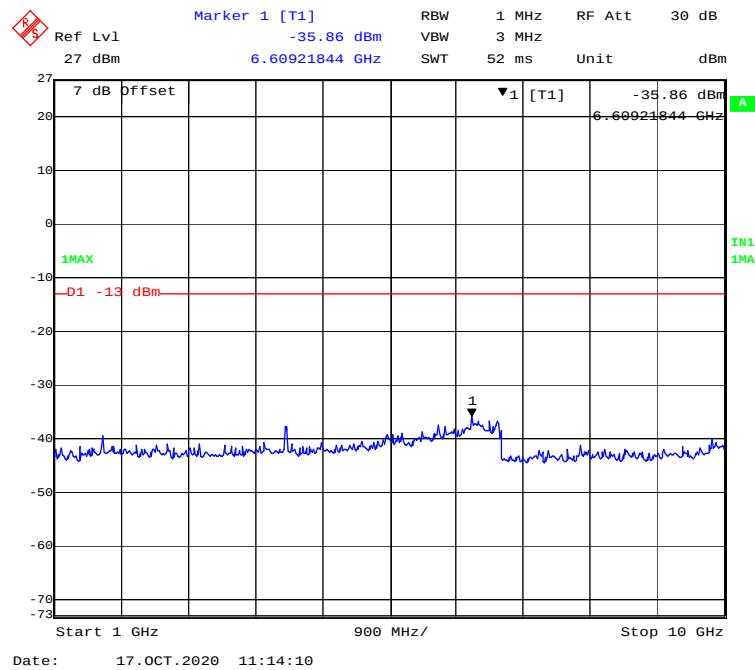
30 MHz – 1GHz, Middle channel



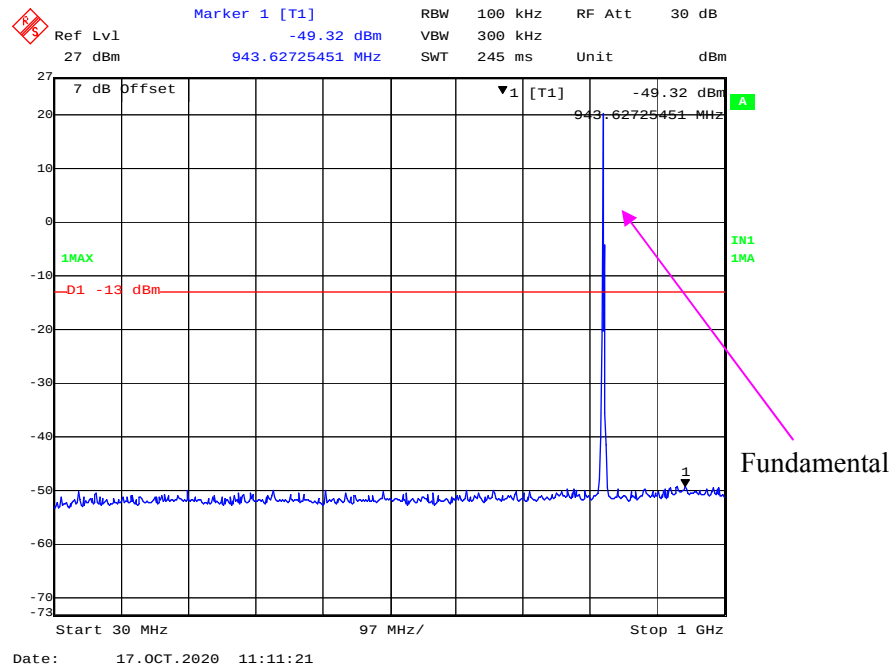
1 GHz – 10 GHz, Middle channel



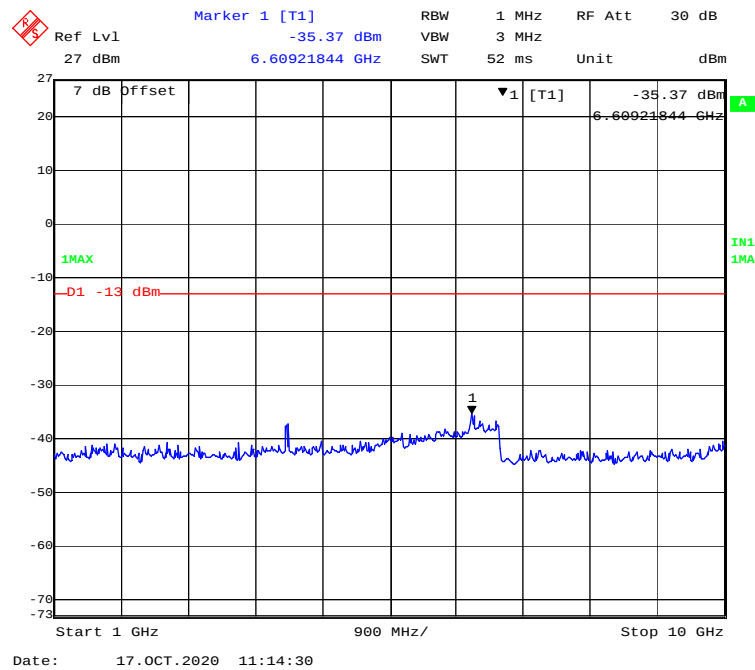
30 MHz – 1GHz, High channel**1 GHz – 10 GHz, High channel**

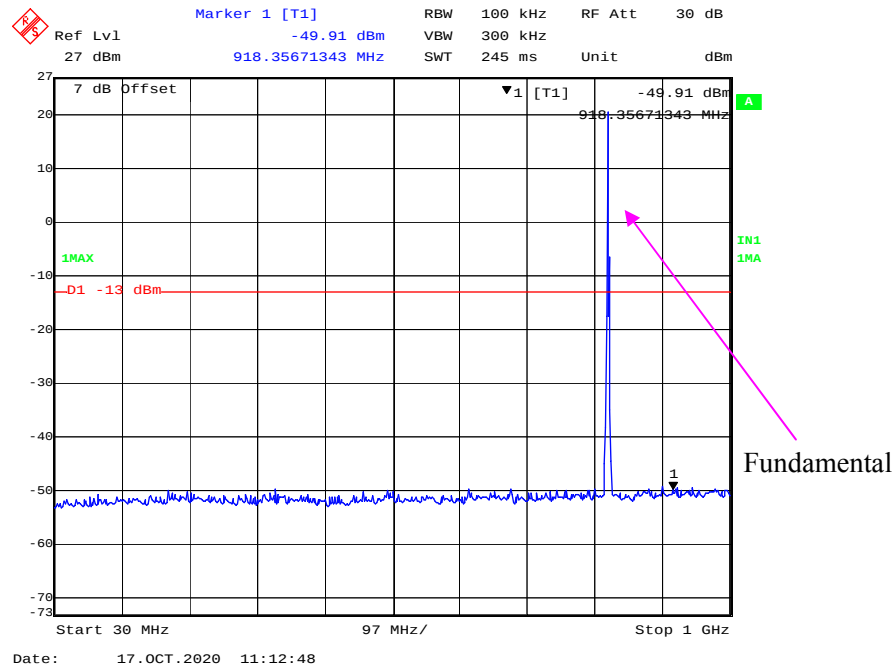
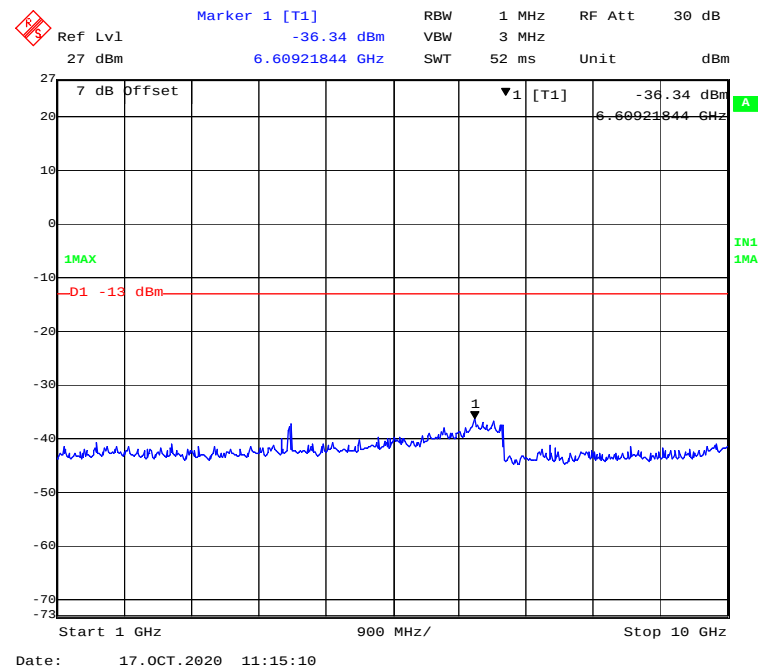
1xRTT mode:**30 MHz – 1GHz, Low channel****1 GHz – 10 GHz, Low channel**

30 MHz – 1GHz, Middle channel



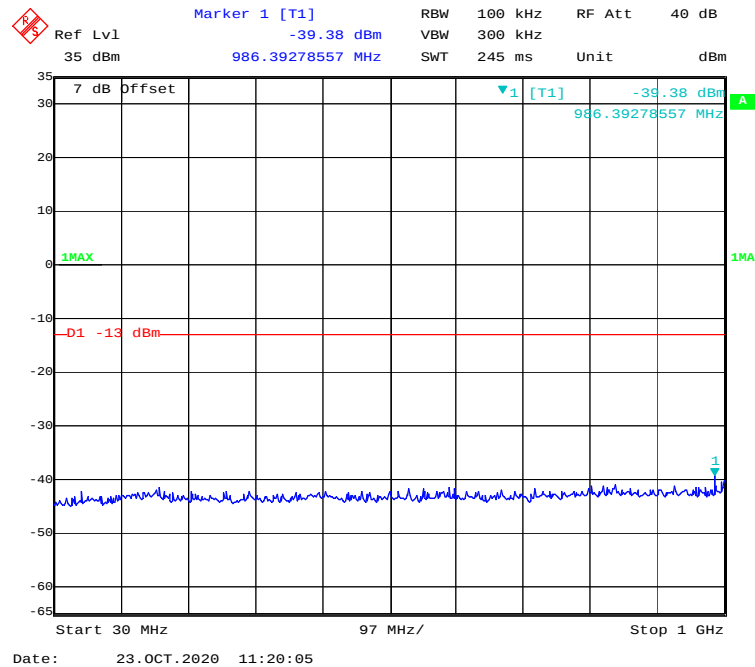
1 GHz – 10 GHz, Middle channel



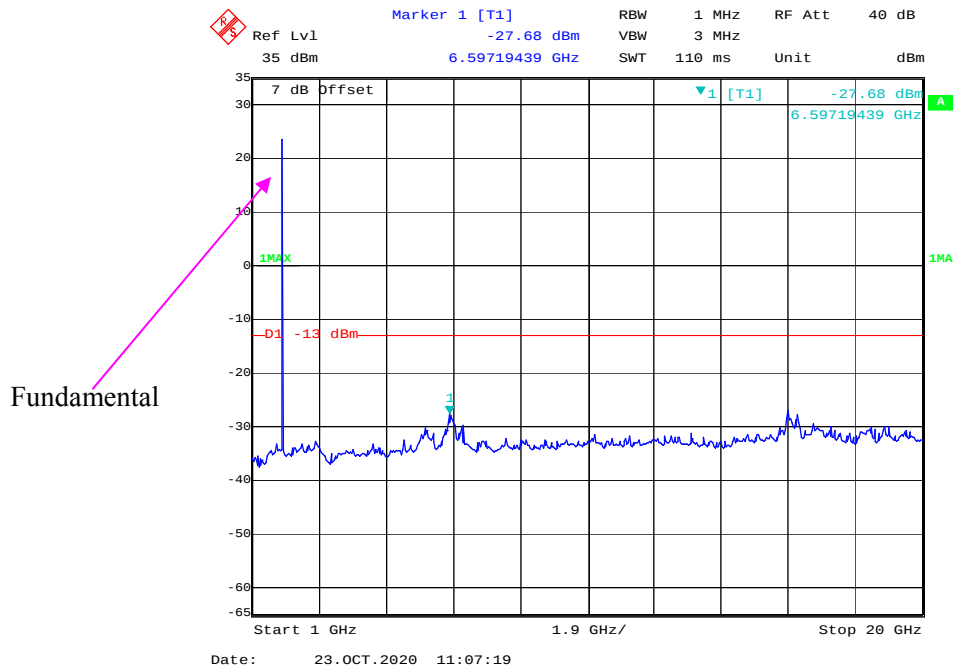
30 MHz – 1GHz, High channel**1 GHz – 10 GHz, High channel**

PCS 1900 Band:

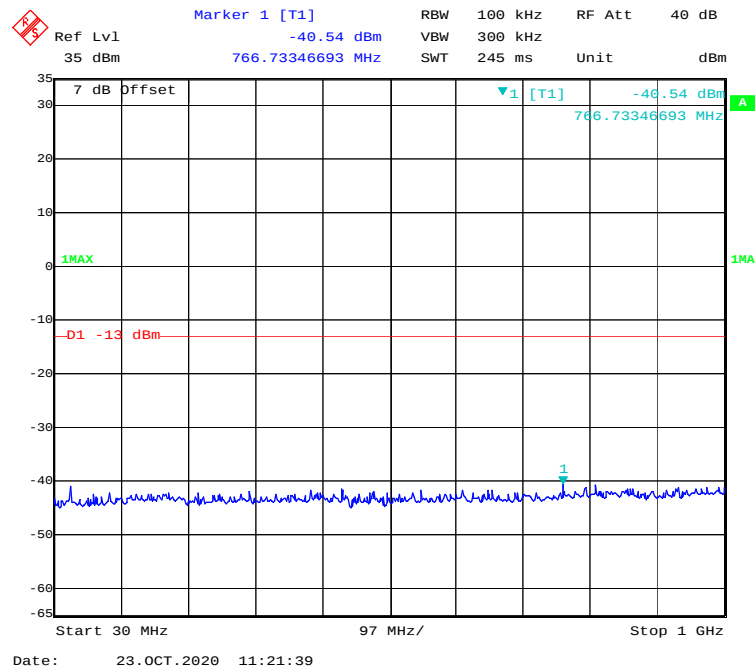
30 MHz – 1GHz(GSM Mode) , Low channel



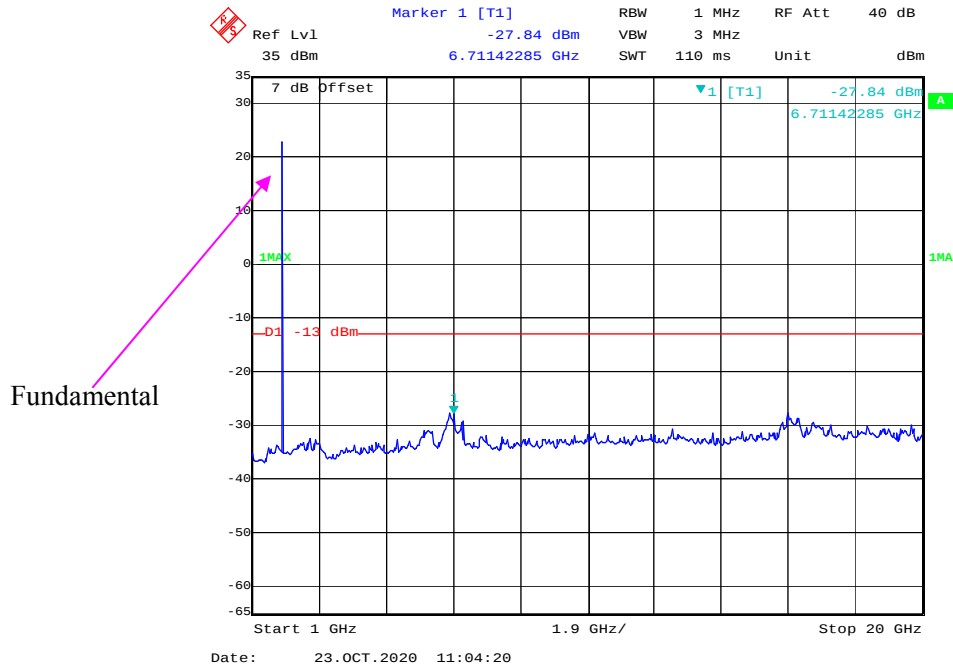
1 GHz – 20 GHz (GSM Mode) , Low channel



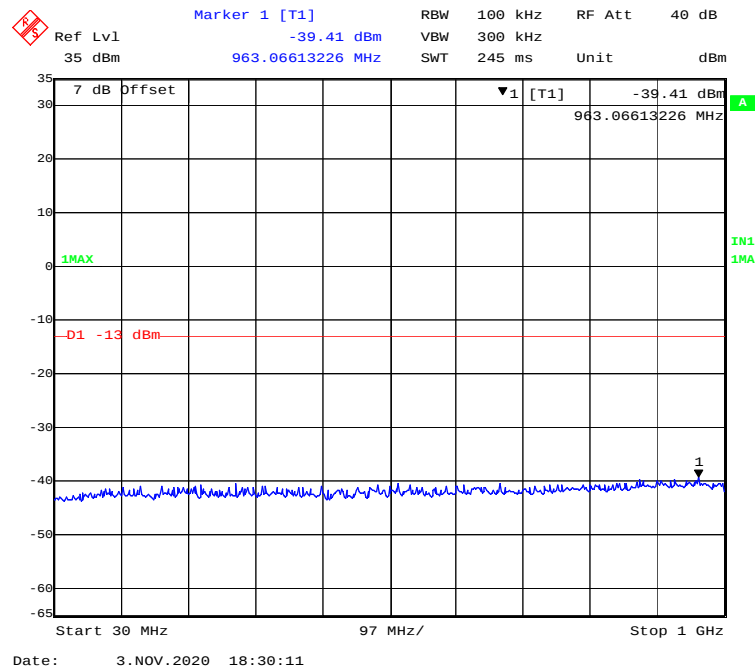
30 MHz – 1GHz(GPRS Mode) , Low channel



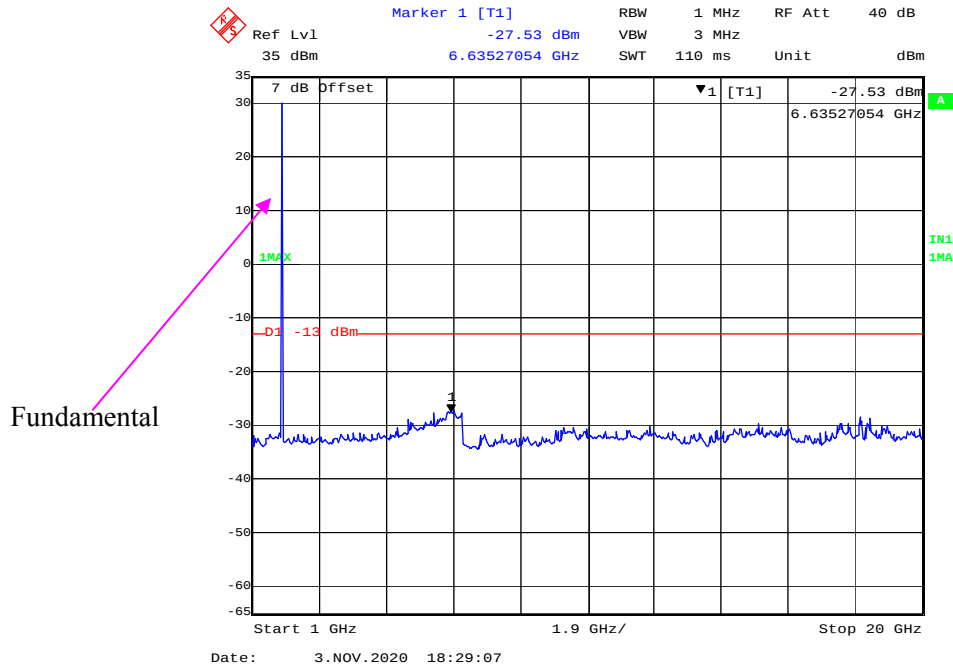
1 GHz – 20 GHz (GPRS Mode) , Low channel

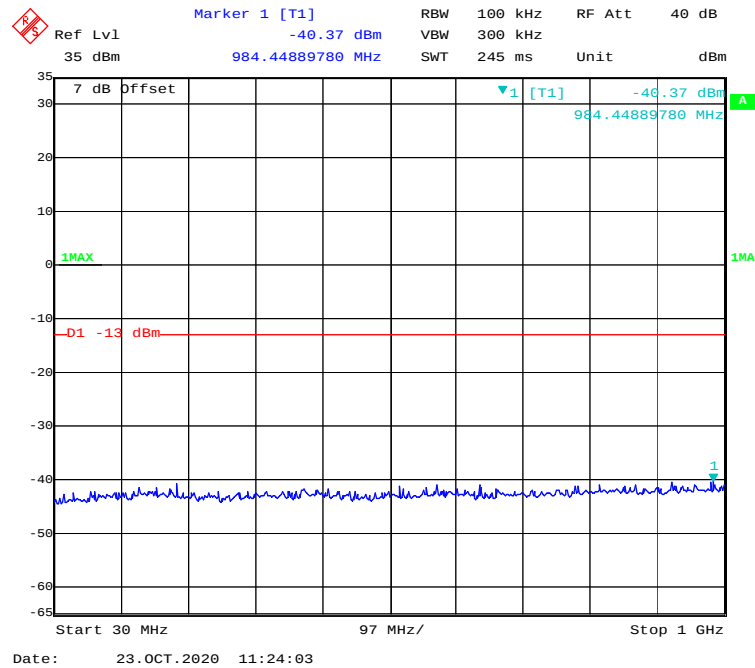
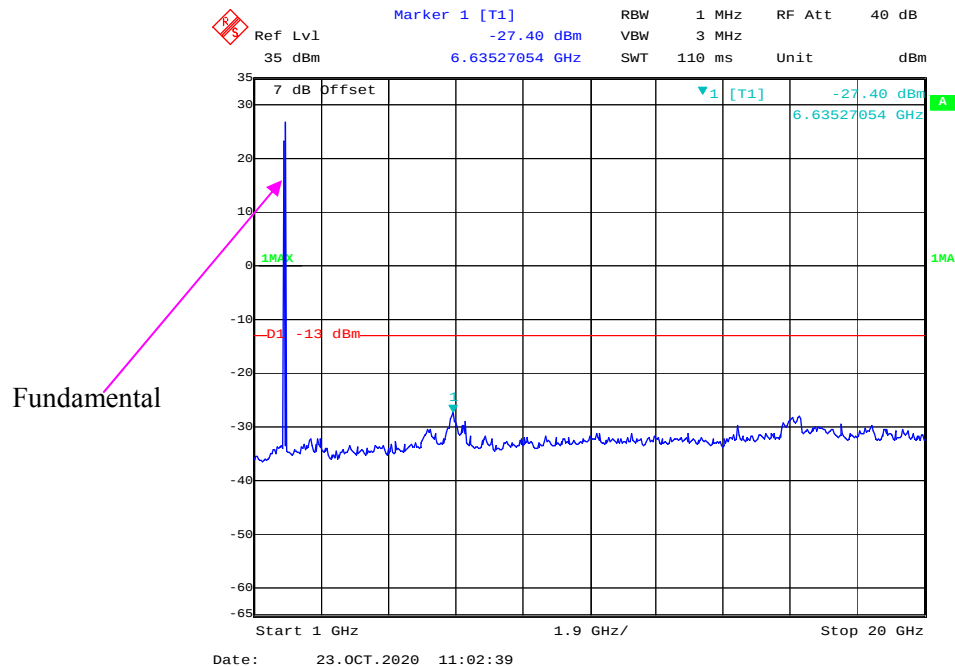


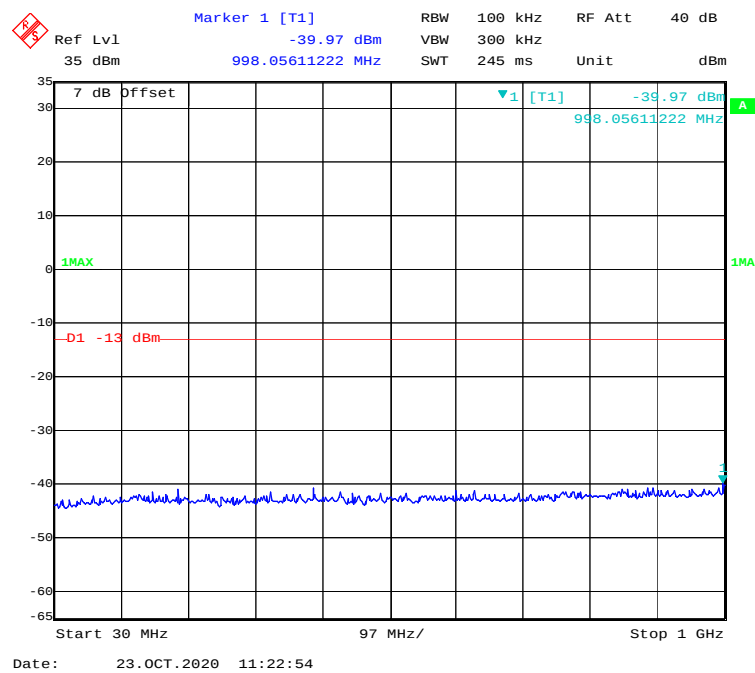
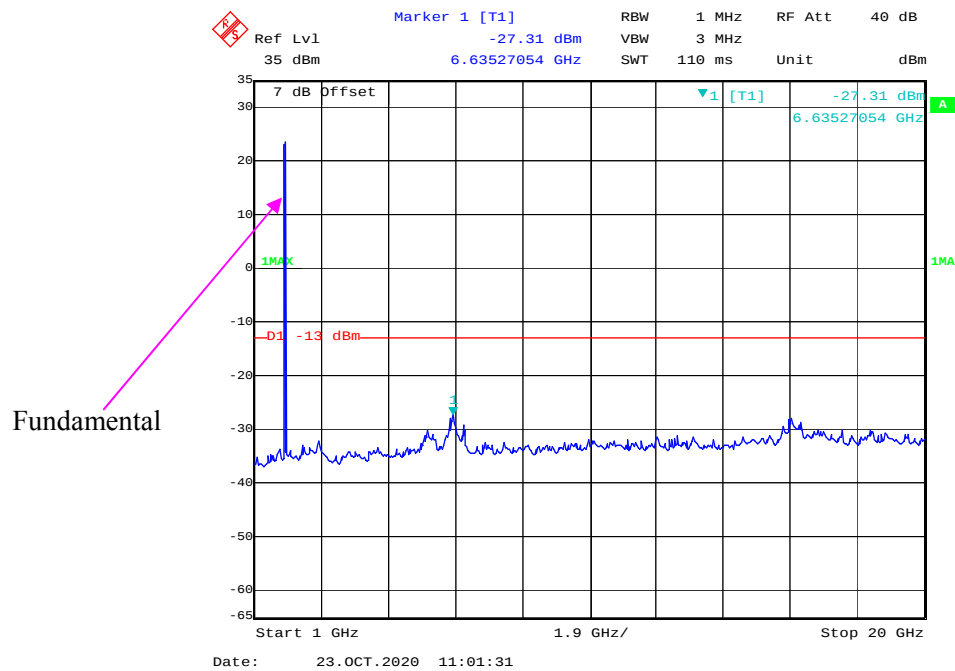
30 MHz – 1GHz(EGPRS Mode) , Low channel



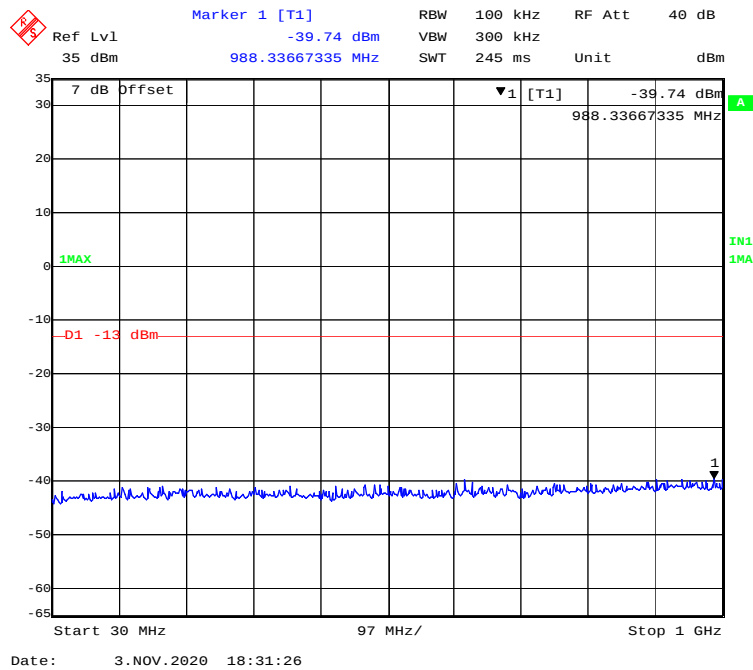
1 GHz – 20 GHz (EGPRS Mode) , Low channel



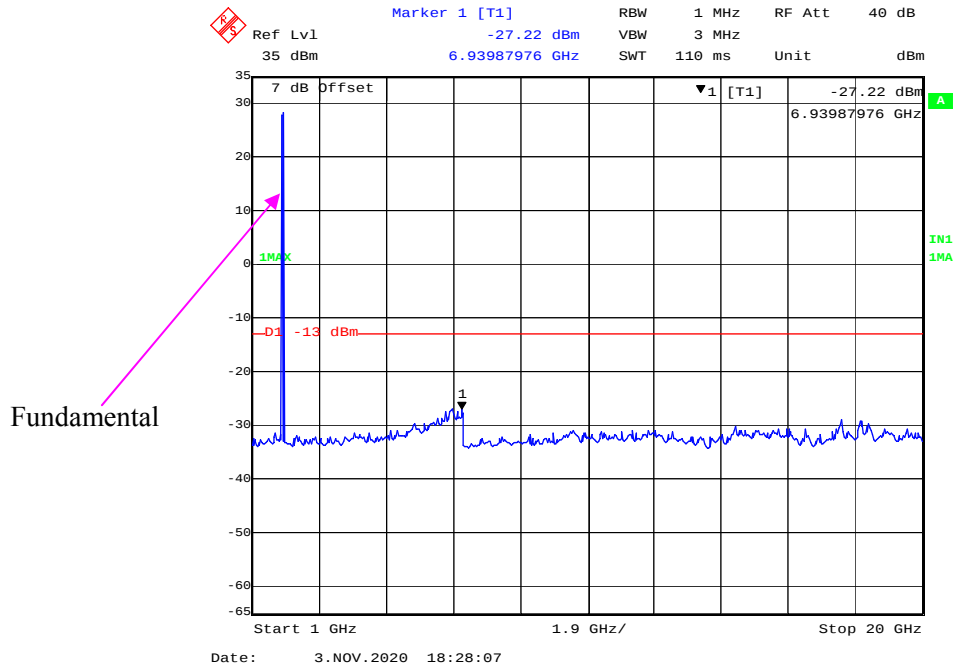
30 MHz – 1GHz(GSM Mode) , Middle channel**1 GHz – 20 GHz (GSM Mode) , Middle channel**

30 MHz – 1GHz(GPRS Mode) , Middle channel**1 GHz – 20 GHz (GPRS Mode) , Middle channel**

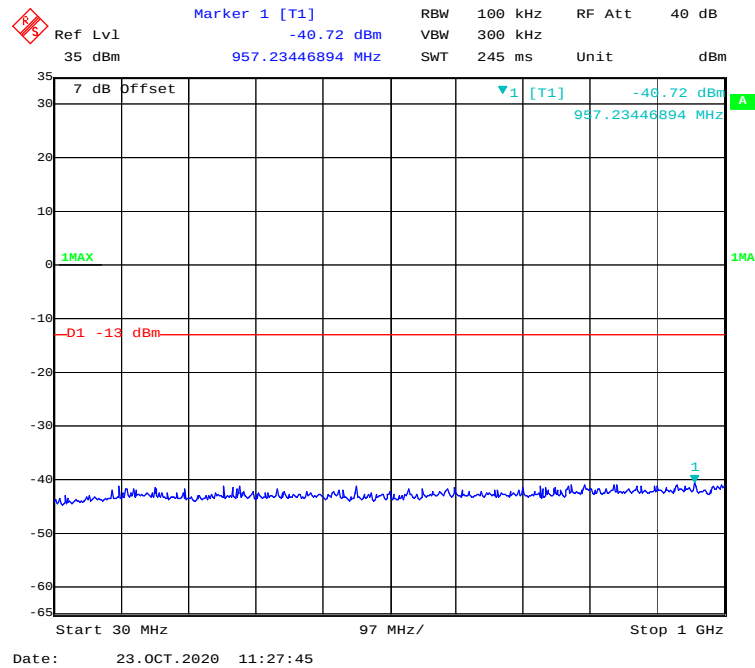
30 MHz – 1GHz(EGPRS Mode) , Middle channel



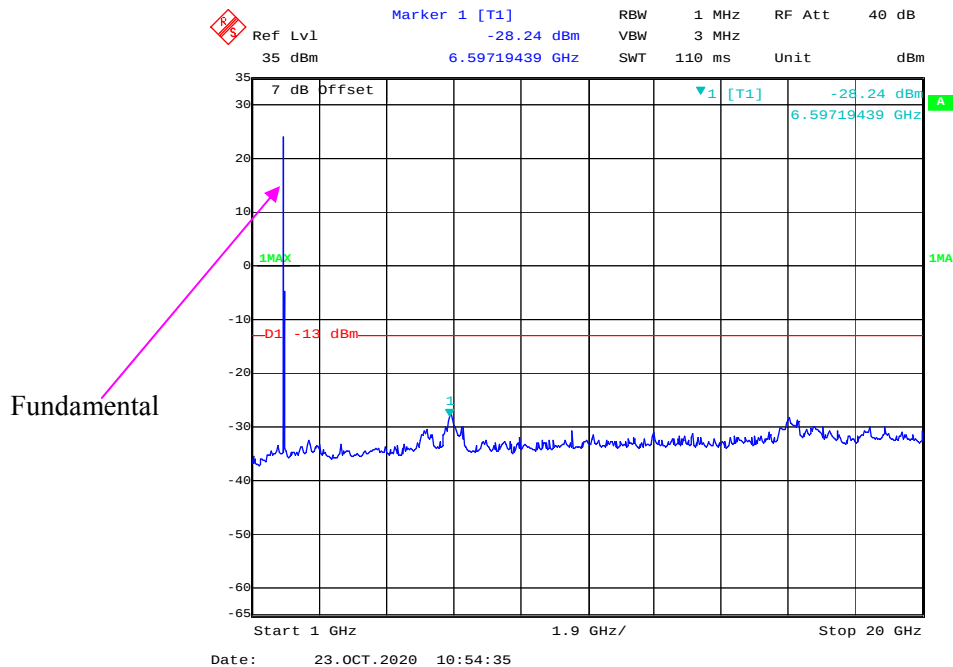
1 GHz – 20 GHz (EGPRS Mode) , Middle channel

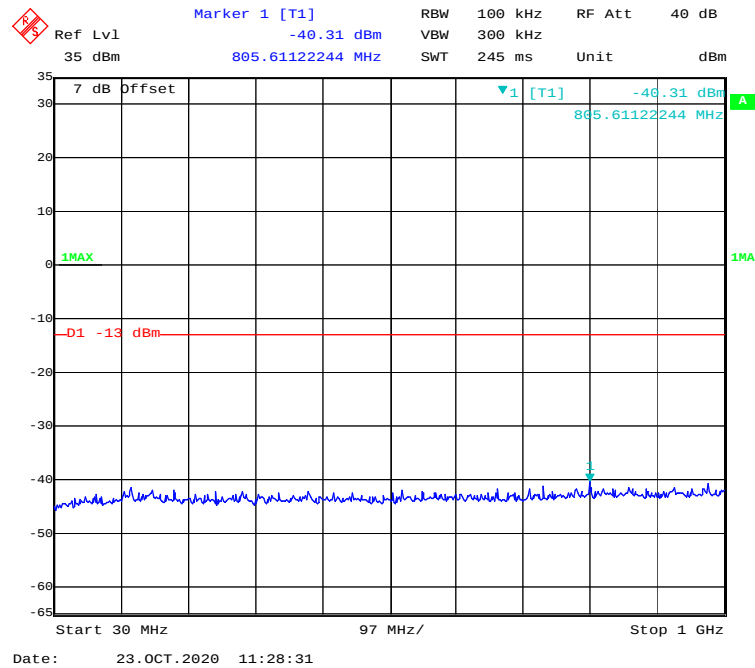
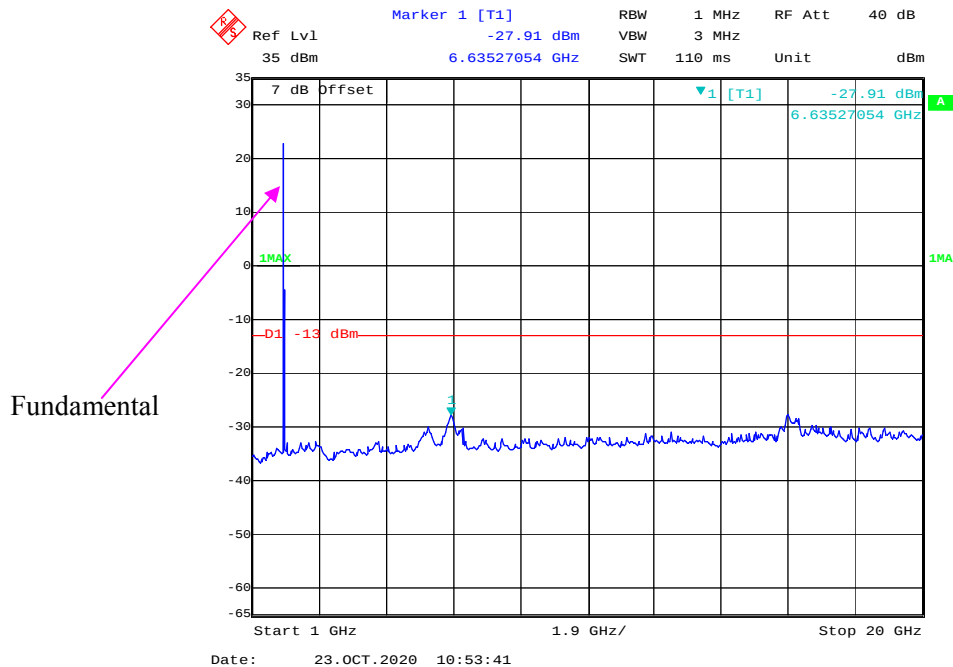


30 MHz – 1GHz(GSM Mode) , High channel

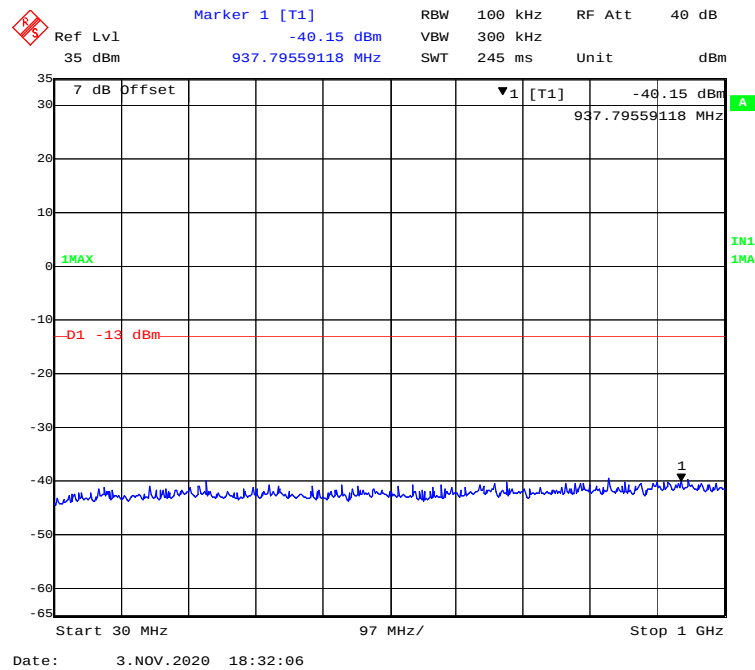


1 GHz – 20 GHz (GSM Mode) , High channel

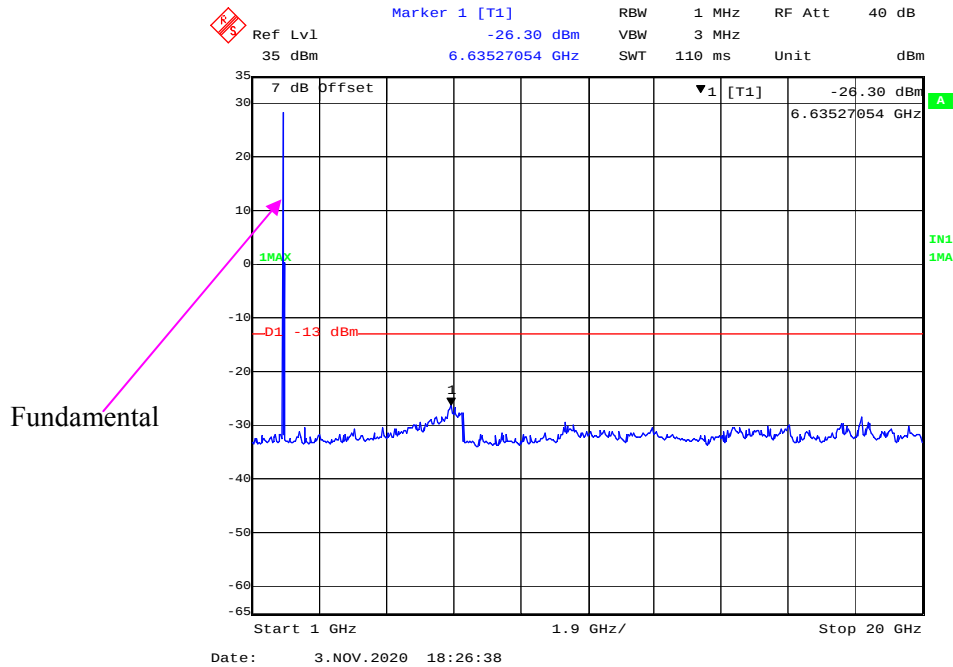


30 MHz – 1GHz(GPRS Mode) , High channel**1 GHz – 20 GHz (GPRS Mode) , High channel**

30 MHz – 1GHz(EGPRS Mode) , High channel

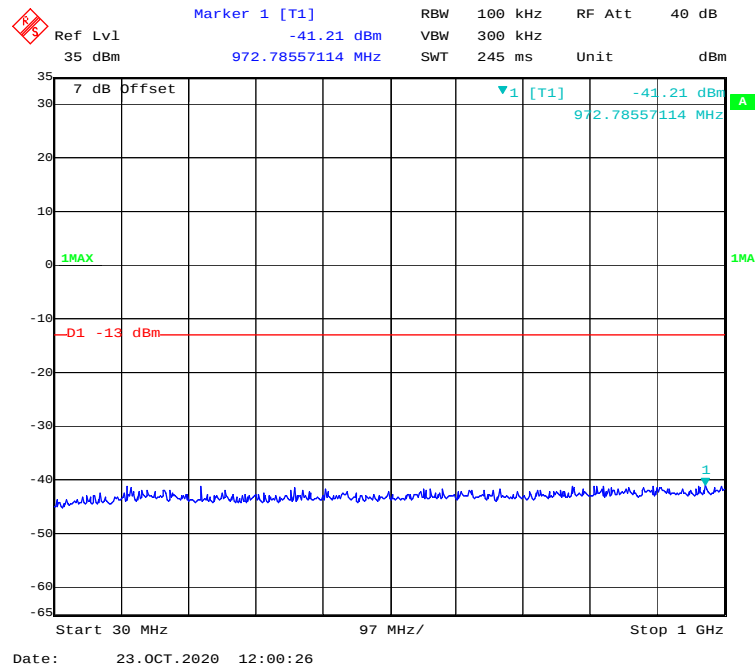


1 GHz – 20 GHz (EGPRS Mode) , High channel

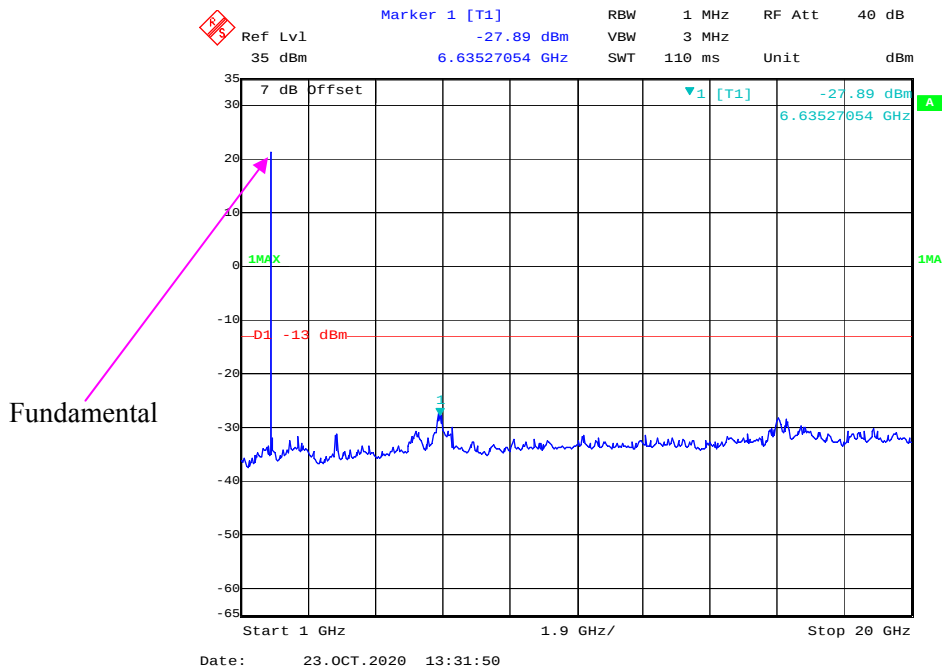


WCDMA Band II:

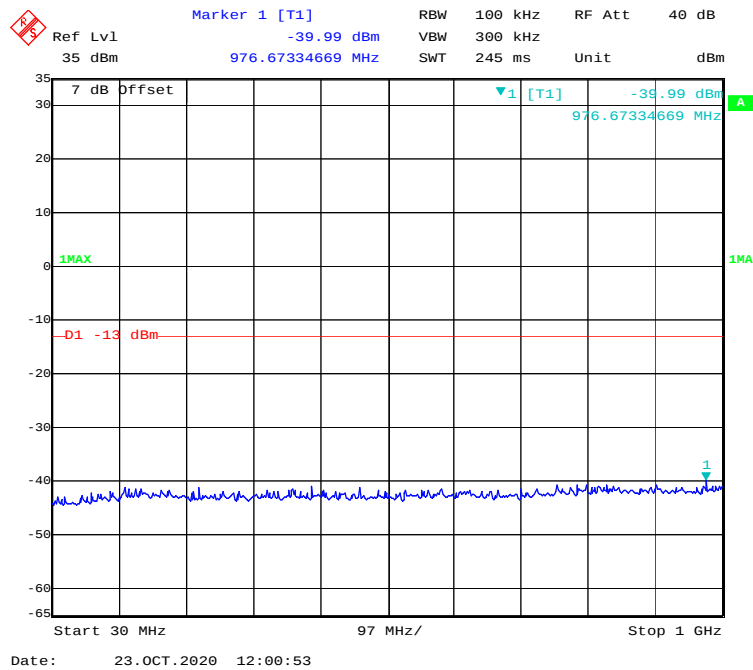
30 MHz – 1GHz WCDMA (Rel 99) Mode , Low channel



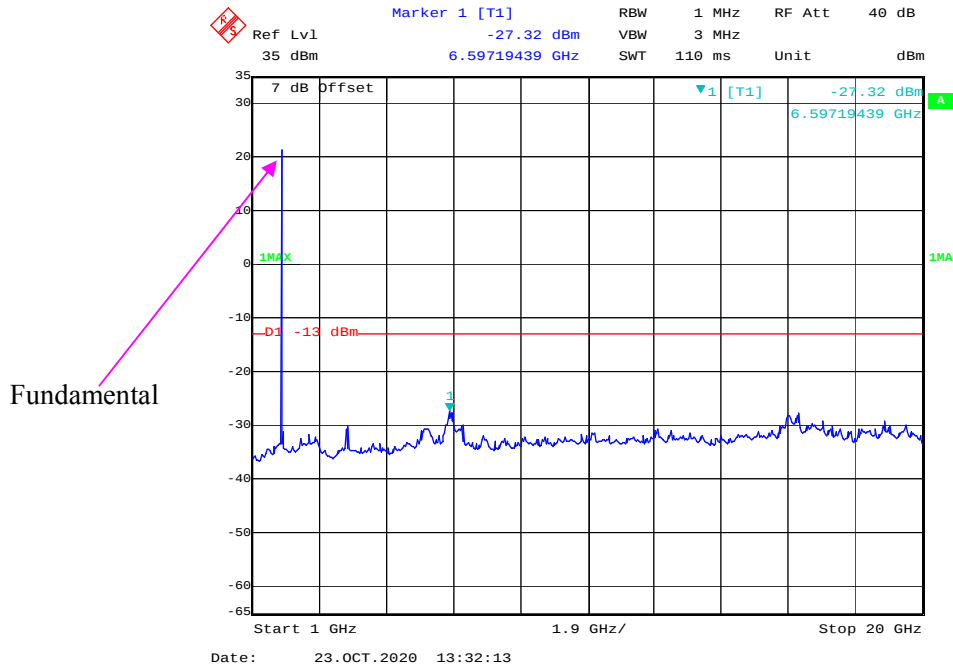
1 GHz – 20 GHz WCDMA (Rel 99) Mode , Low channel



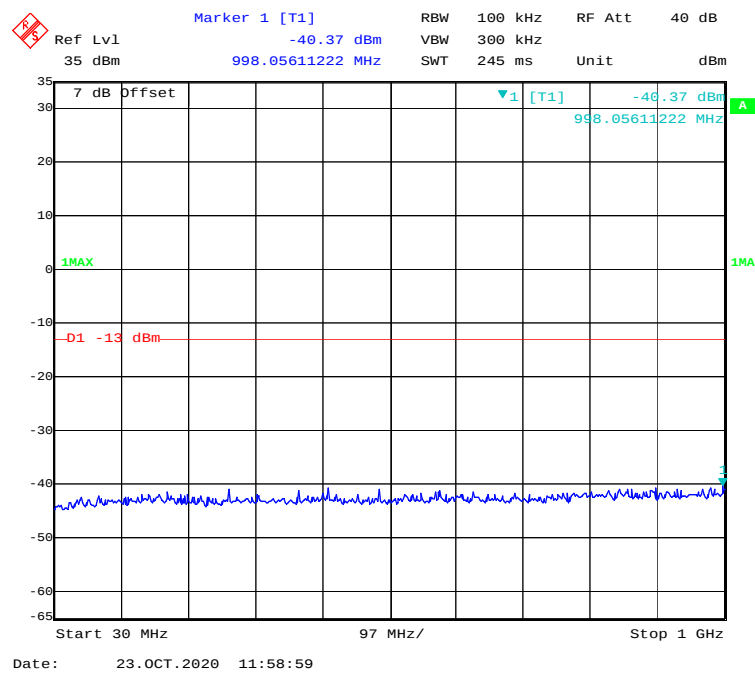
30 MHz – 1GHz WCDMA (HSDPA) Mode , Low channel



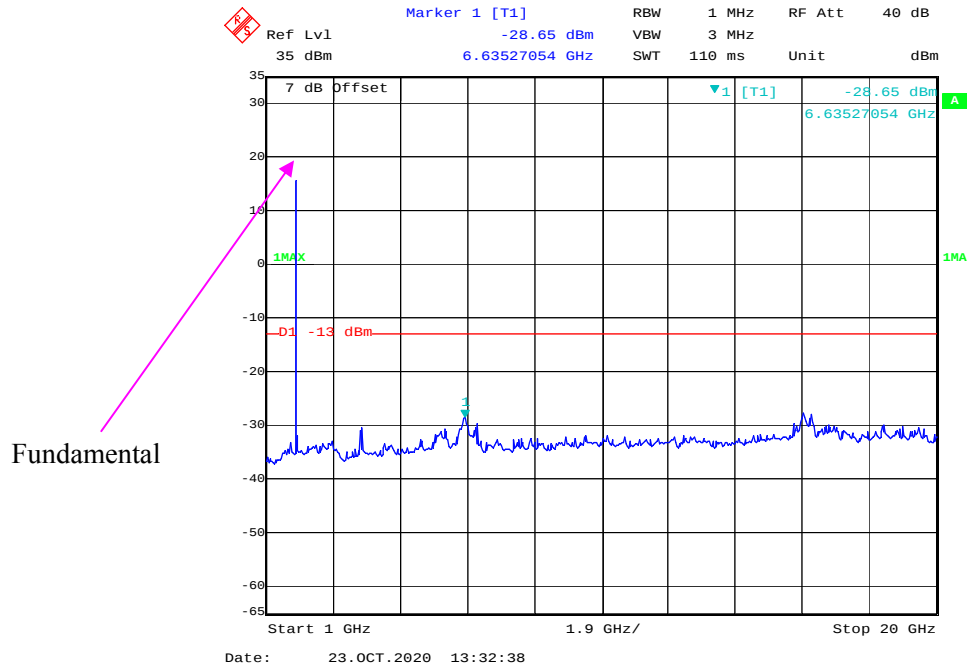
1 GHz – 20 GHz WCDMA (HSDPA) Mode , Low channel



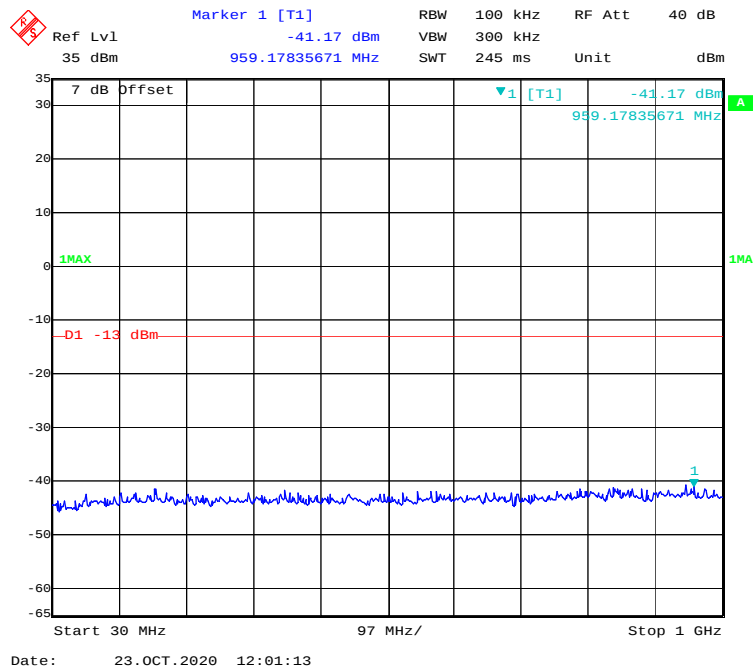
30 MHz – 1GHz WCDMA (HSUPA) Mode , Low channel



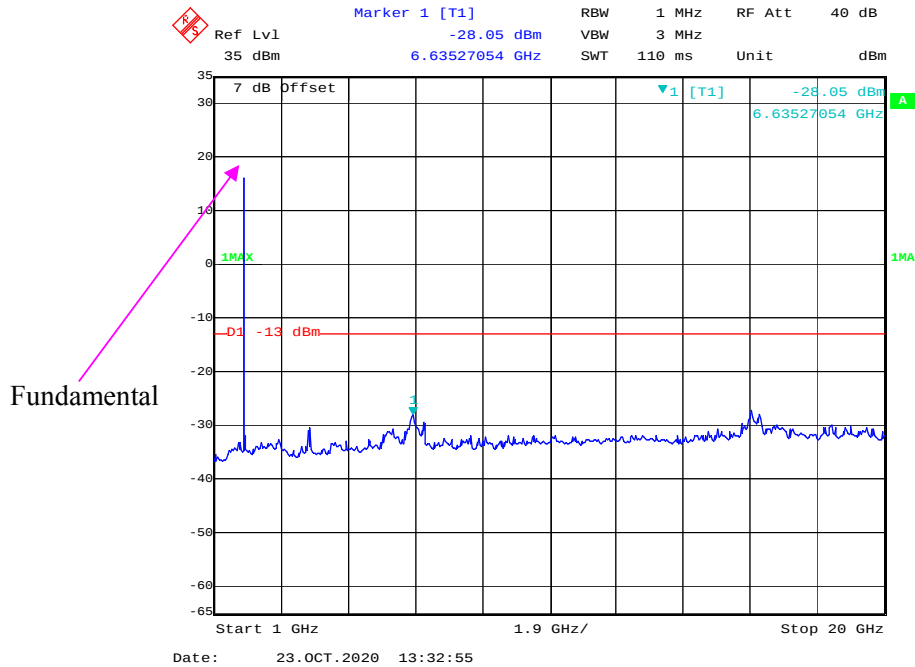
1 GHz – 20 GHz WCDMA (HSUPA) Mode , Low channel



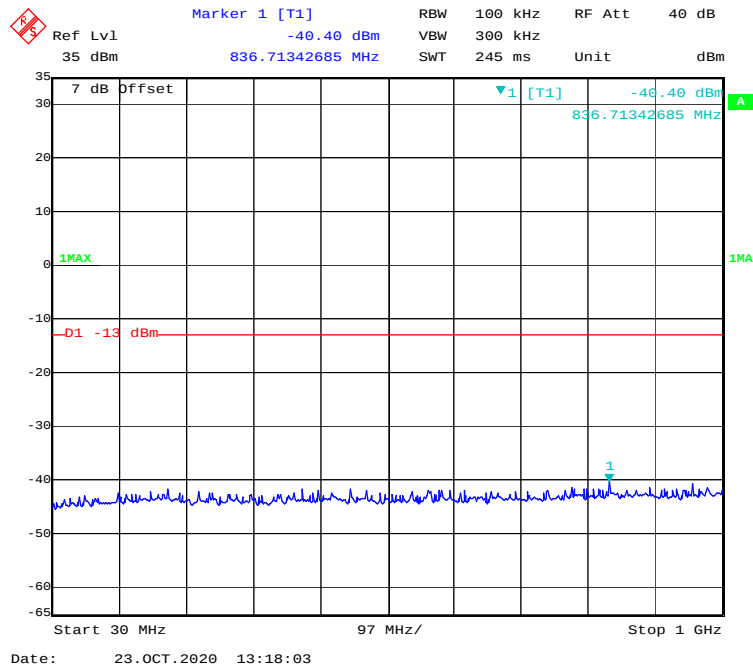
30 MHz – 1GHz WCDMA (HSPA+) Mode , Low channel



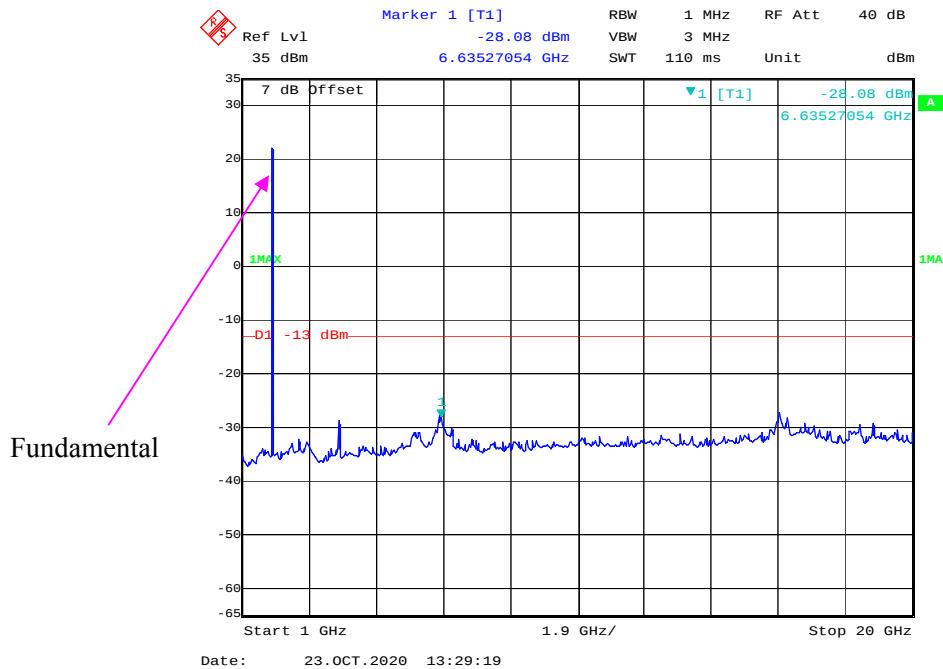
1 GHz – 20 GHz WCDMA (HSPA+) Mode , Low channel



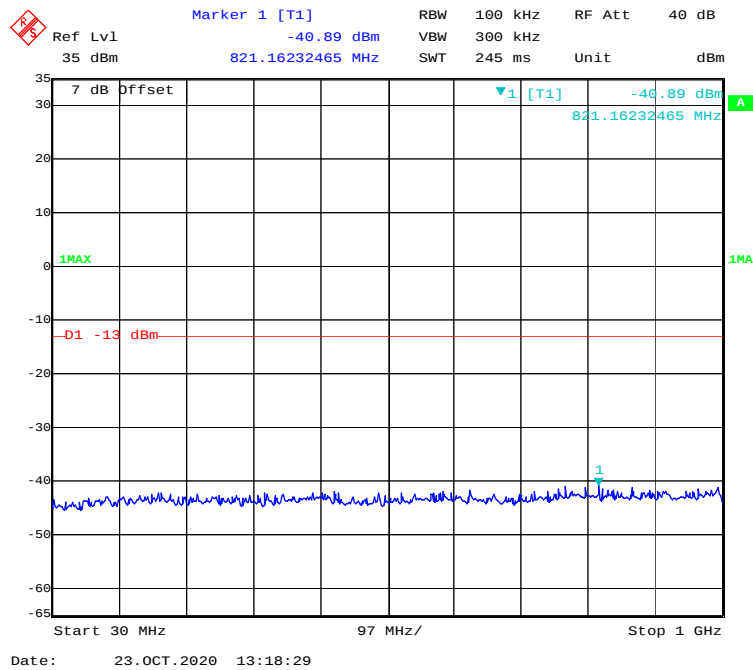
30 MHz – 1GHz WCDMA (Rel 99) Mode , Middle channel



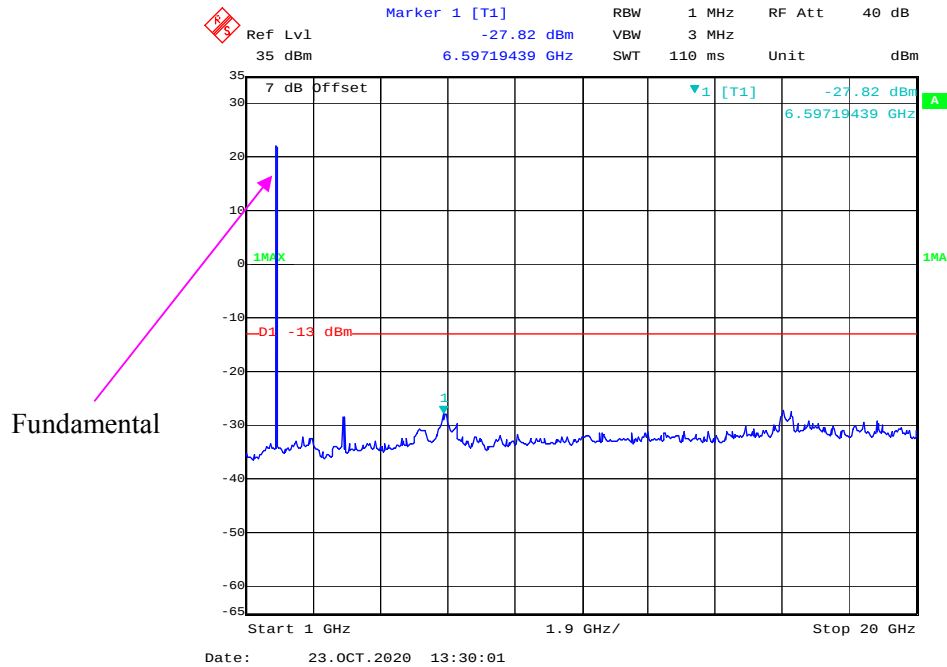
1 GHz – 20 GHz WCDMA (Rel 99) Mode , Middle channel



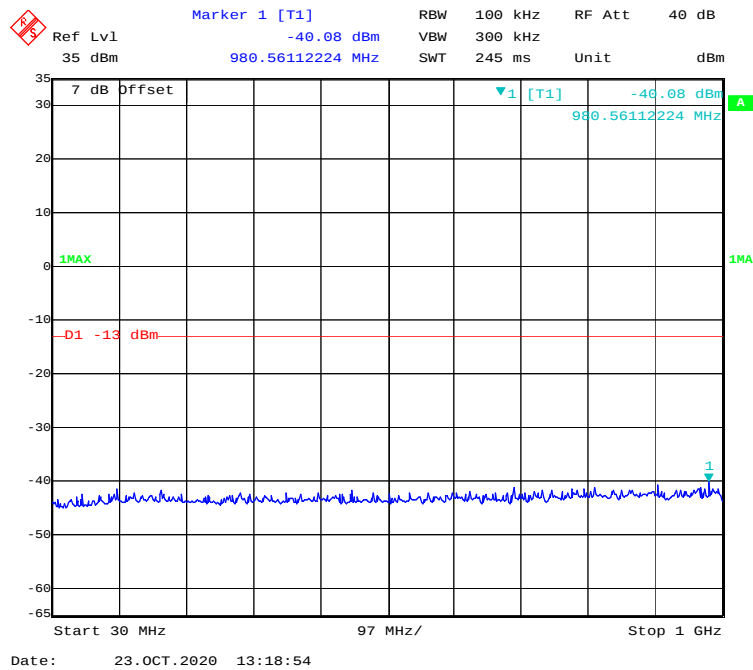
30 MHz – 1GHz WCDMA (HSDPA) Mode , Middle channel



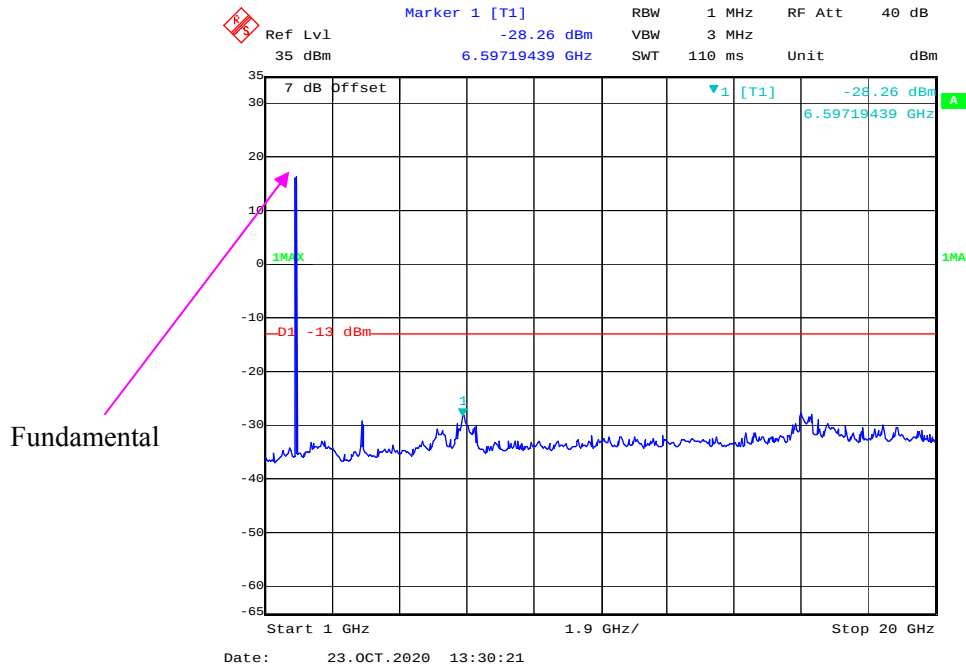
1 GHz – 20 GHz WCDMA (HSDPA) Mode , Middle channel



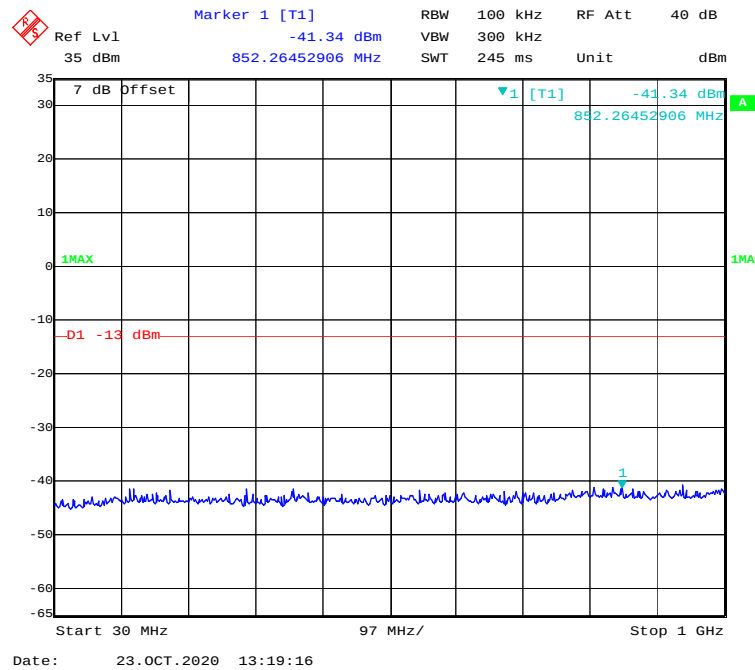
30 MHz – 1GHz WCDMA (HSUPA) Mode , Middle channel



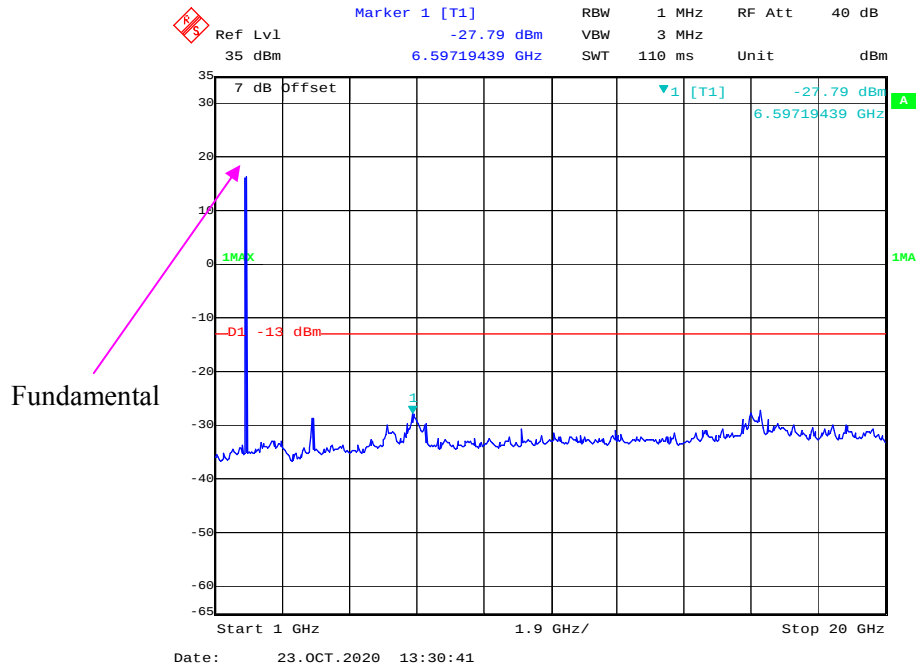
1 GHz – 20 GHz WCDMA (HSUPA) Mode , Middle channel



30 MHz – 1GHz WCDMA (HSPA+) Mode , Middle channel



1 GHz – 20 GHz WCDMA (HSPA+) Mode , Middle channel



Marker 1 [T1]
 Ref Lvl -41.06 dBm
 35 dBm 968.89779559 MHz
 RBW 100 kHz RF Att 40 dB
 VBW 300 kHz
 SWT 245 ms Unit dBm

7 dB Offset
 1MAX
 -D1 -13 dBm
 1
 Start 30 MHz 97 MHz/ Stop 1 GHz

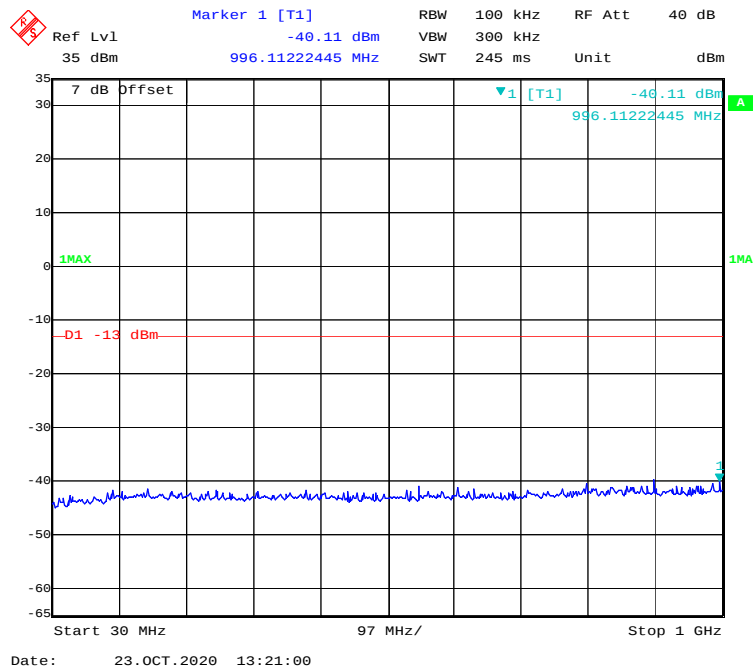
Ref Lvl -26.76 dBm RBW 1 MHz RF Att 40 dB
35 dBm 3.81763527 GHz VBW 3 MHz Unit dBm
SWT 110 ms

7 dB Offset
▼1 [T1] -26.76 dBm
3.81763527 GHz
1MAX
D1 -13 dBm
1

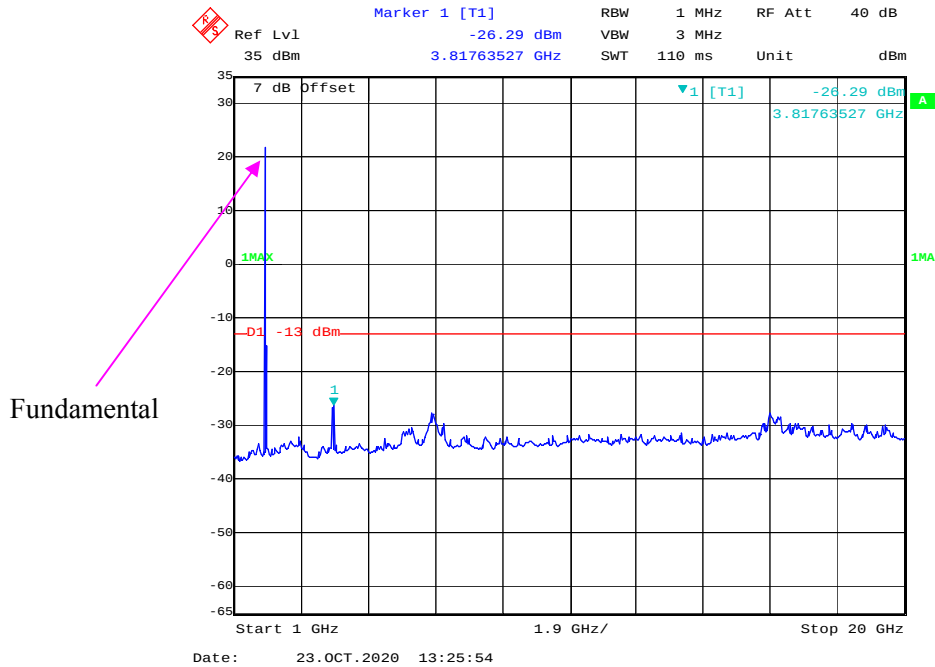
Start 1 GHz 1.9 GHz/ Stop 20 GHz

Date: 23.OCT.2020 13:25:32

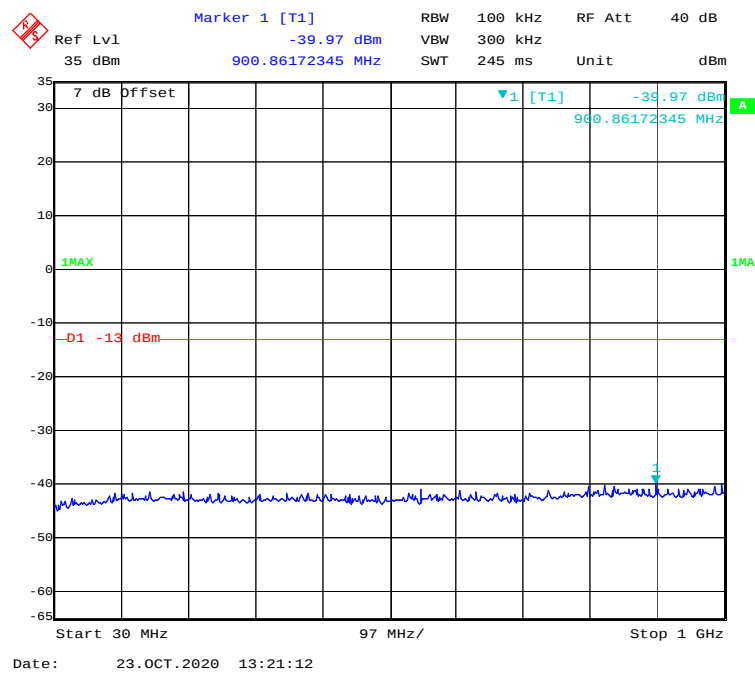
30 MHz – 1GHz WCDMA (HSDPA) Mode , High channel



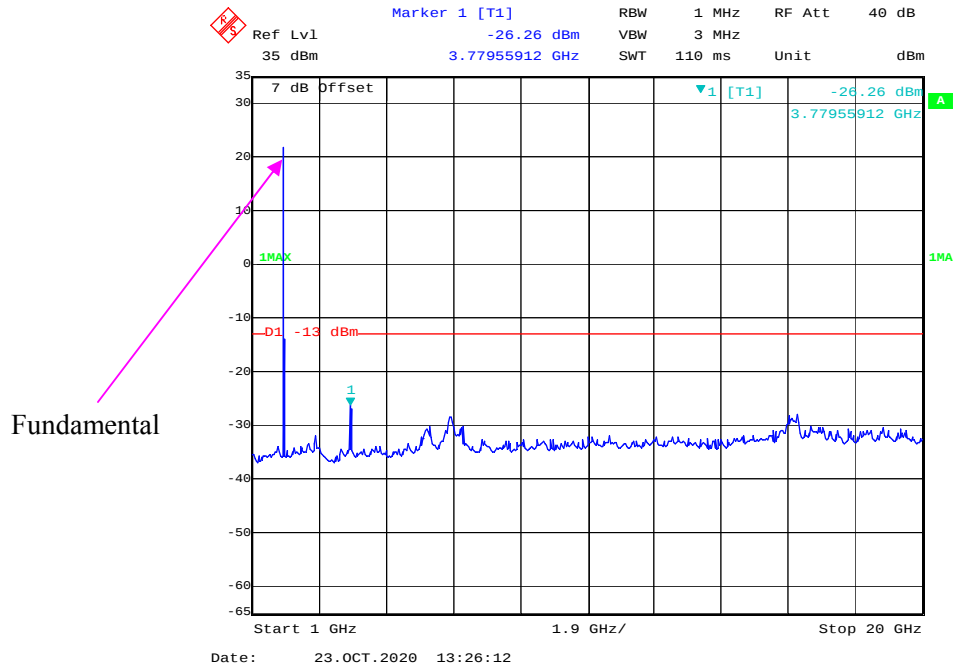
1 GHz – 20 GHz WCDMA (HSDPA) Mode , High channel



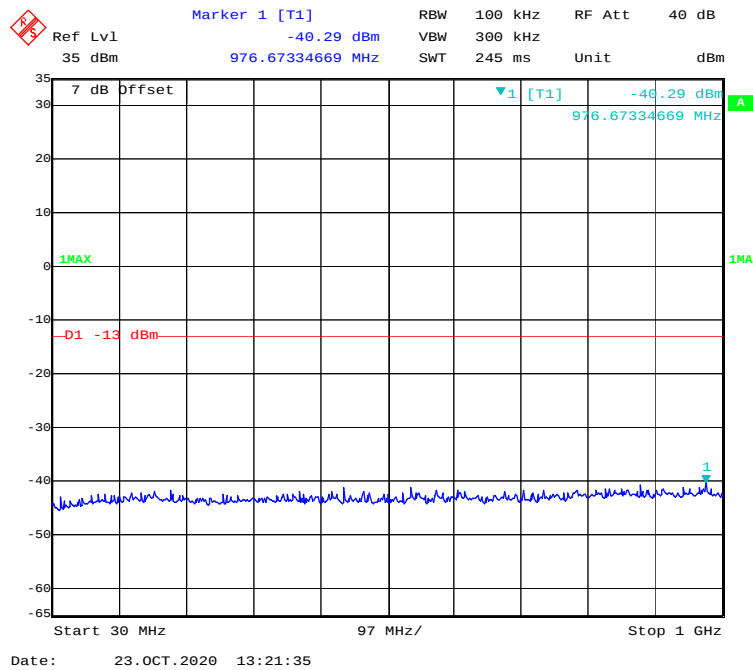
30 MHz – 1GHz WCDMA (HSUPA) Mode , High channel



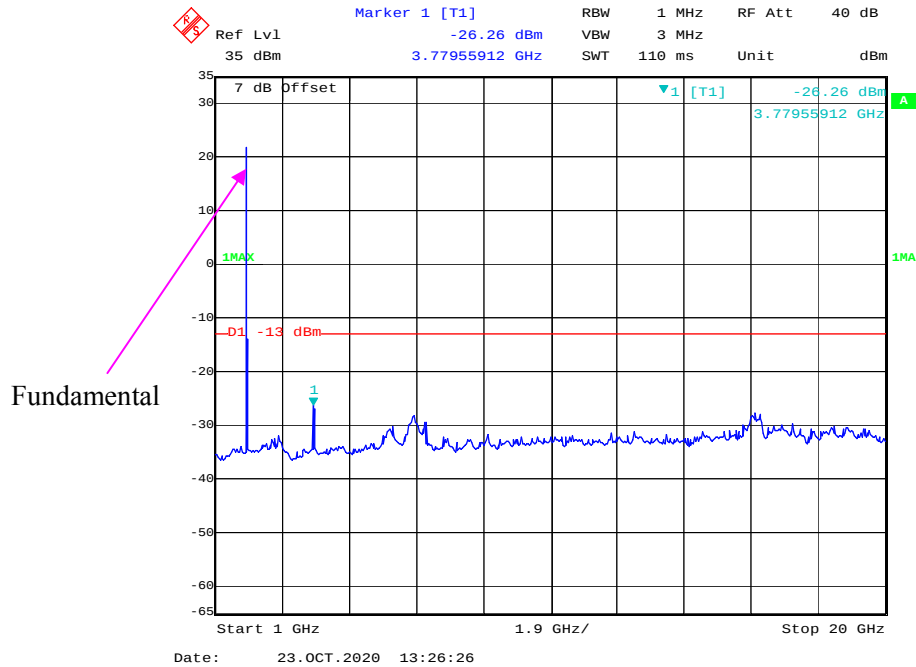
1 GHz – 20 GHz WCDMA (HSUPA) Mode , High channel



30 MHz – 1GHz WCDMA (HSPA+) Mode , High channel

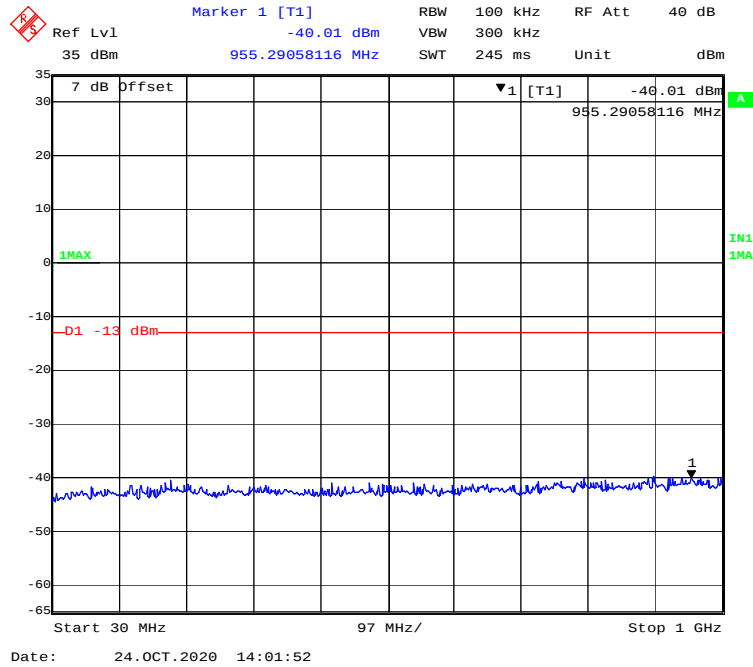


1 GHz – 20 GHz WCDMA (HSPA+) Mode , High channel

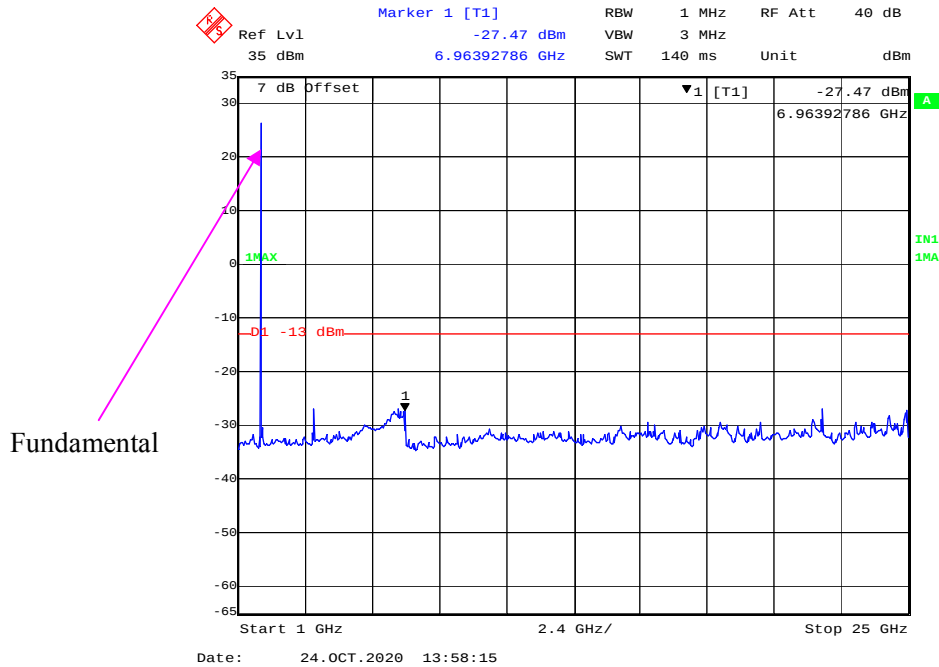


LTE Band 2:

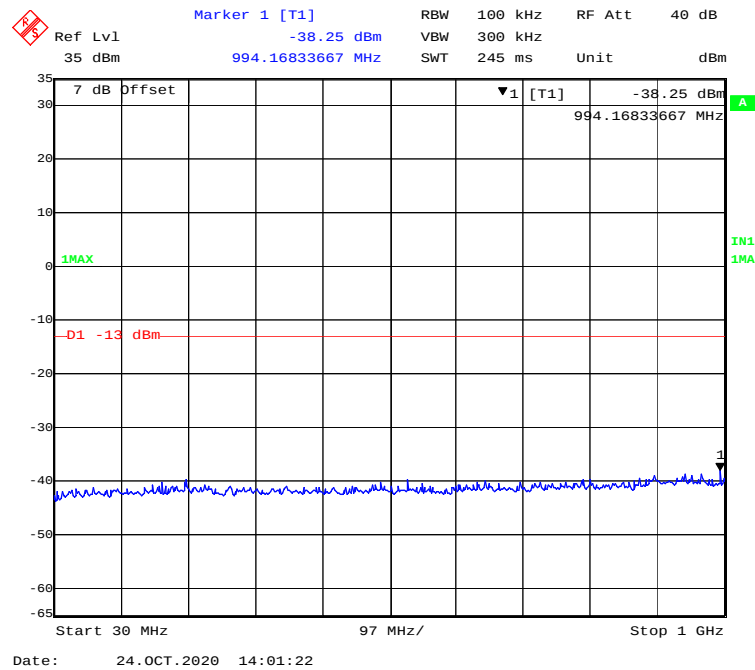
30 MHz - 1 GHz (1.4 MHz, QPSK, Low Channel)



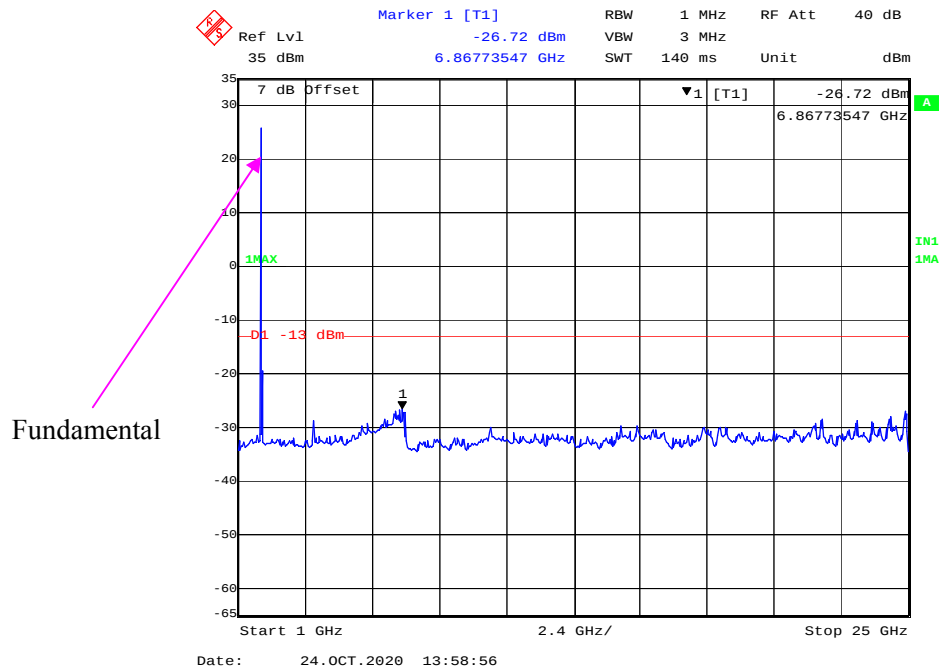
1 GHz – 25 GHz (1.4 MHz, QPSK, Low Channel)



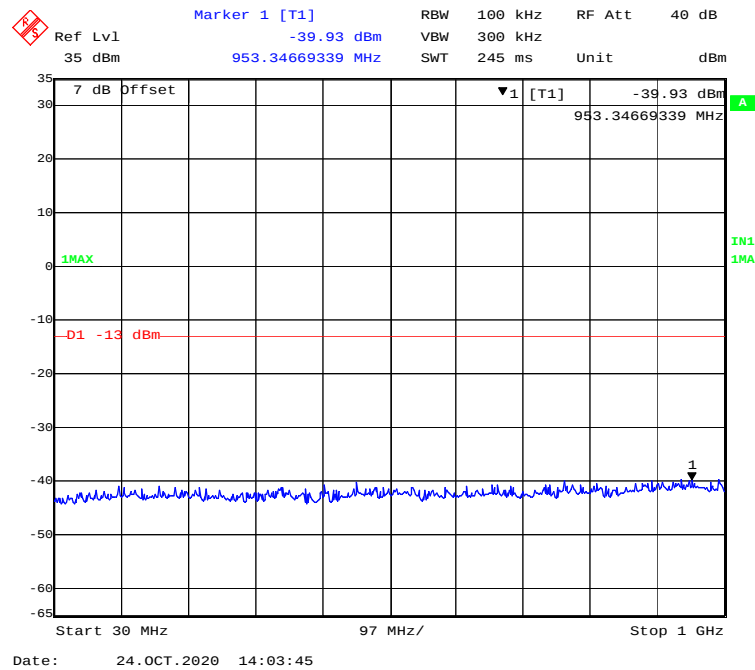
30 MHz - 1 GHz (1.4 MHz, 16-QAM, Low Channel)



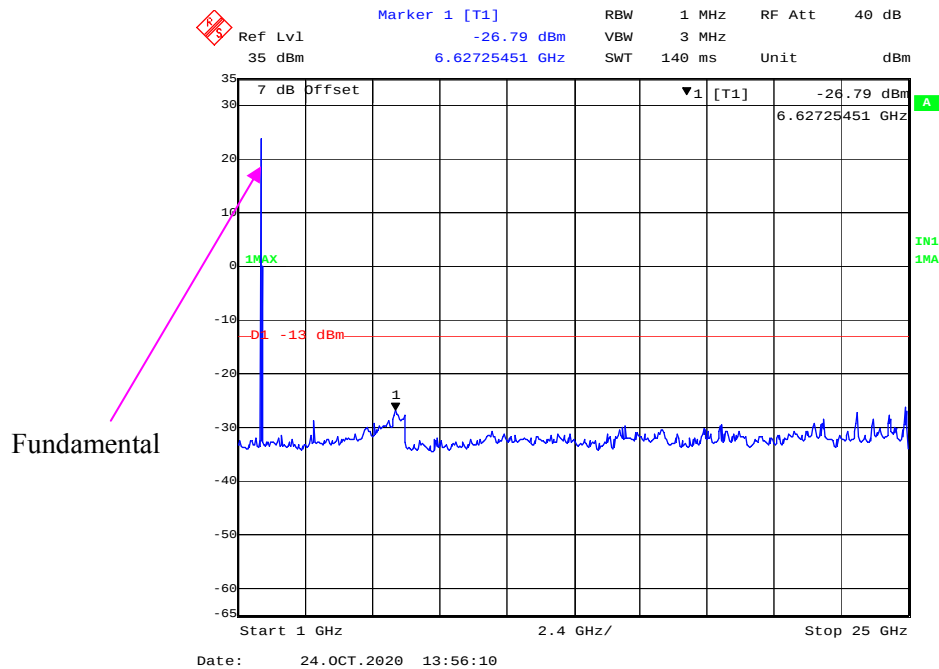
1 GHz – 25 GHz (1.4 MHz, 16-QAM, Low Channel)



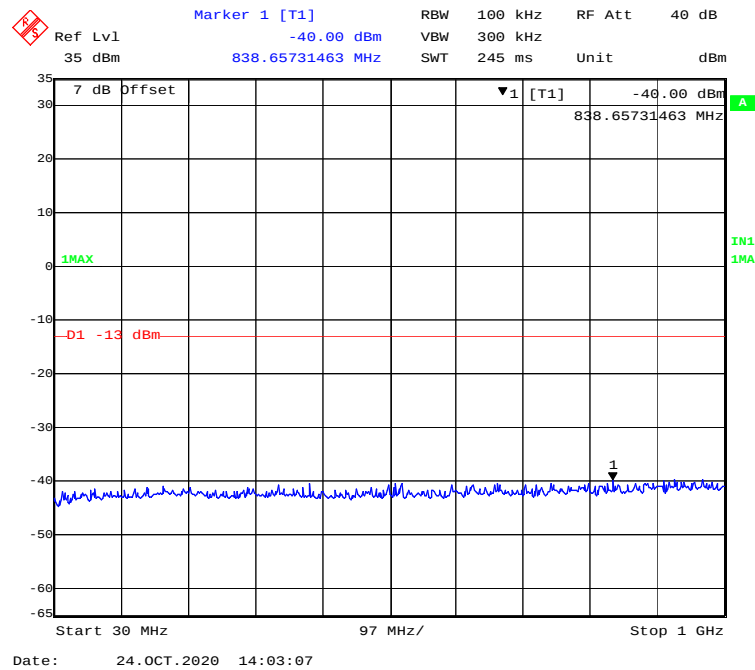
30 MHz - 1 GHz (3 MHz, QPSK, Low Channel)



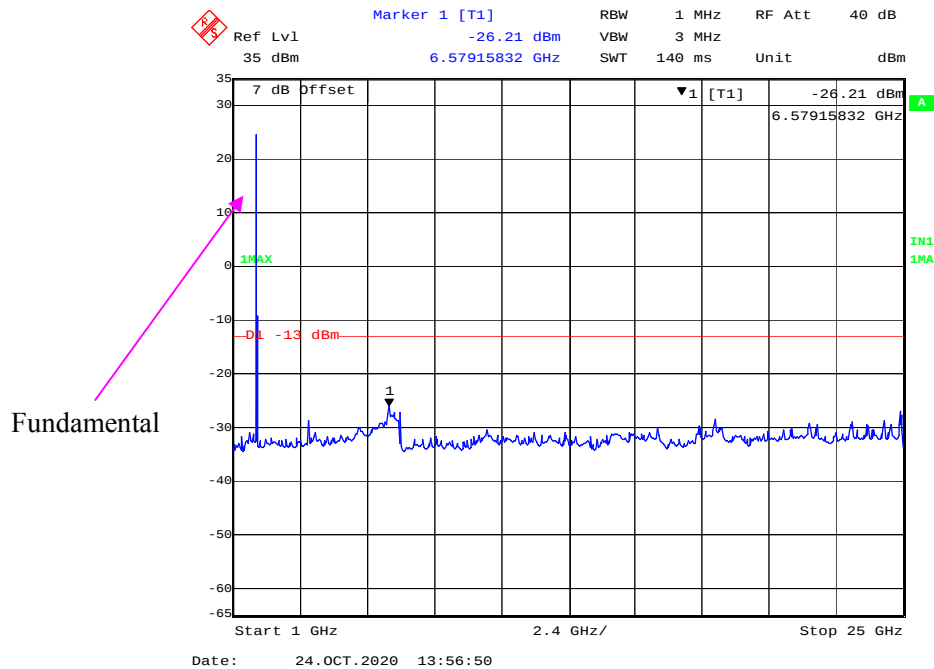
1 GHz – 25 GHz (3 MHz, QPSK, Low Channel)



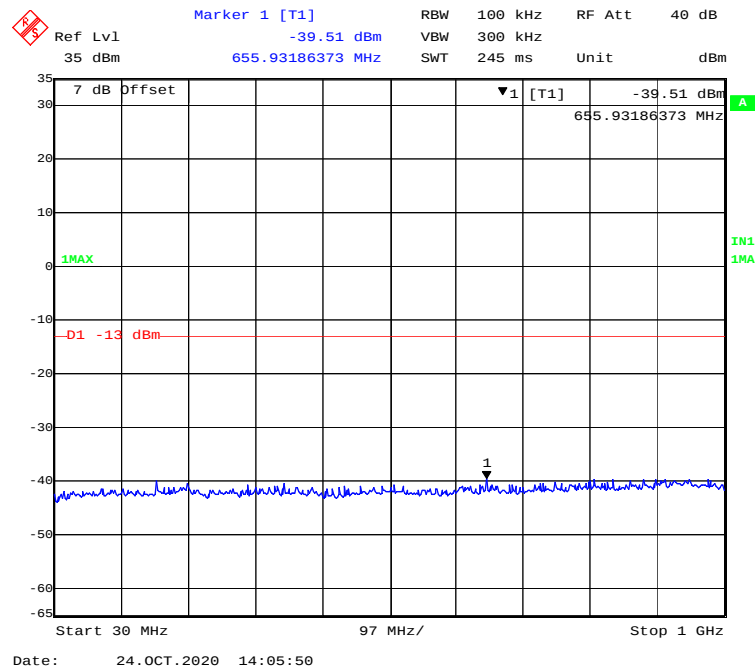
30 MHz - 1 GHz (3 MHz, 16-QAM, Low Channel)



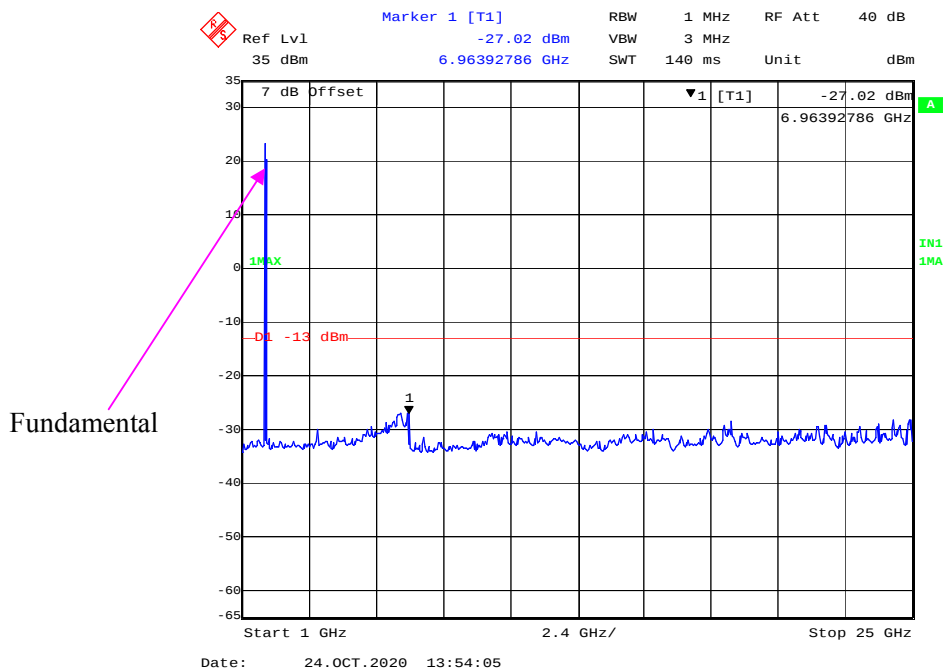
1 GHz – 25 GHz (3 MHz, 16-QAM, Low Channel)



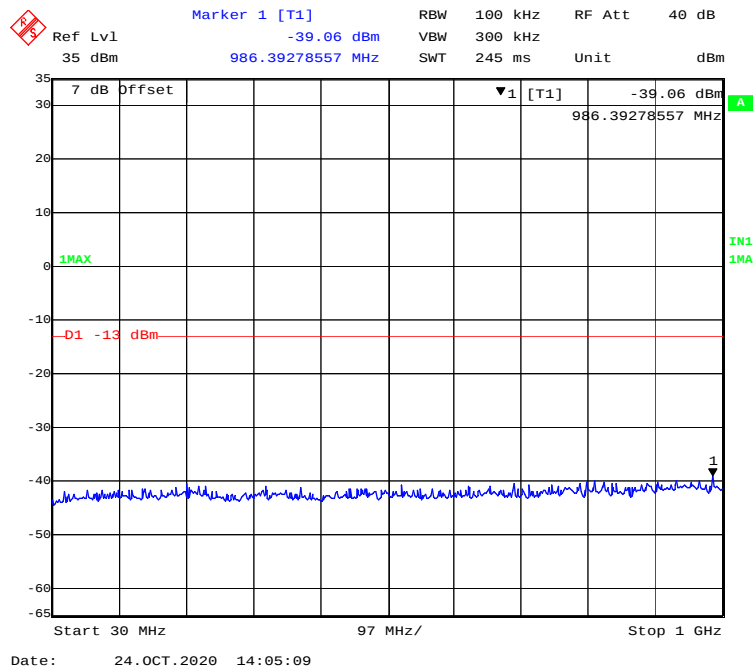
30 MHz - 1 GHz (5 MHz, QPSK, Low Channel)



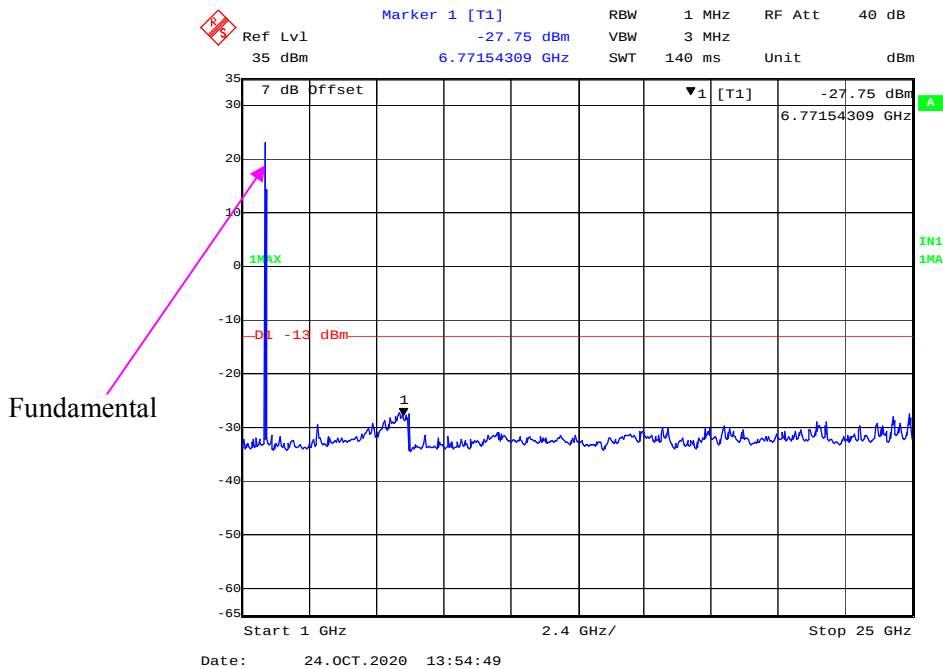
1 GHz – 25 GHz (5 MHz, QPSK, Low Channel)



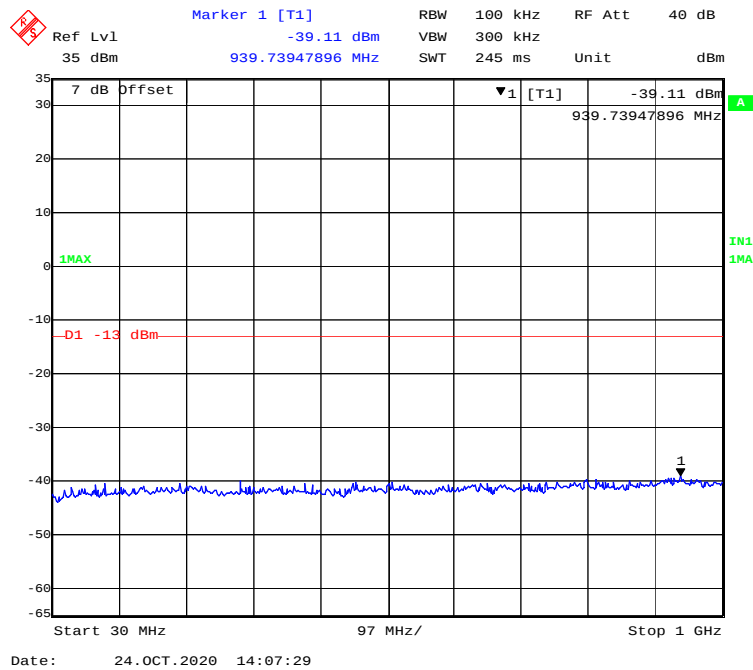
30 MHz - 1 GHz (5 MHz, 16-QAM, Low Channel)



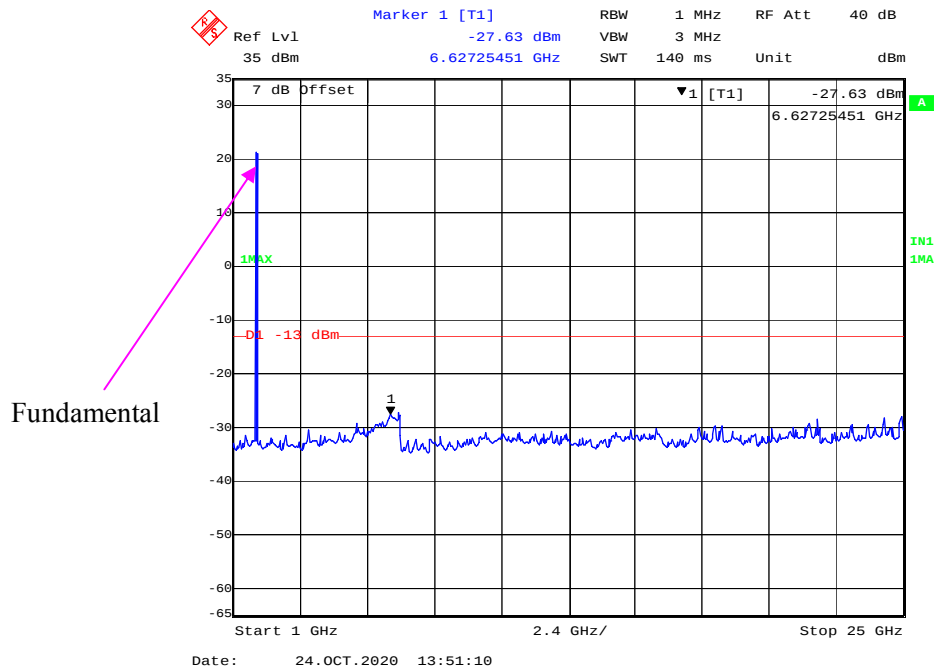
1 GHz – 25 GHz (5 MHz, 16-QAM, Low Channel)



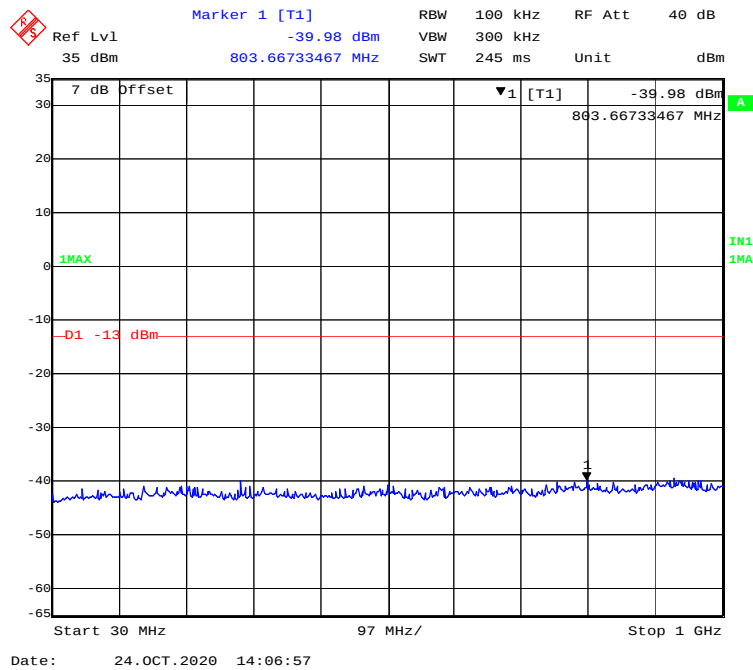
30 MHz - 1 GHz (10 MHz, QPSK, Low Channel)



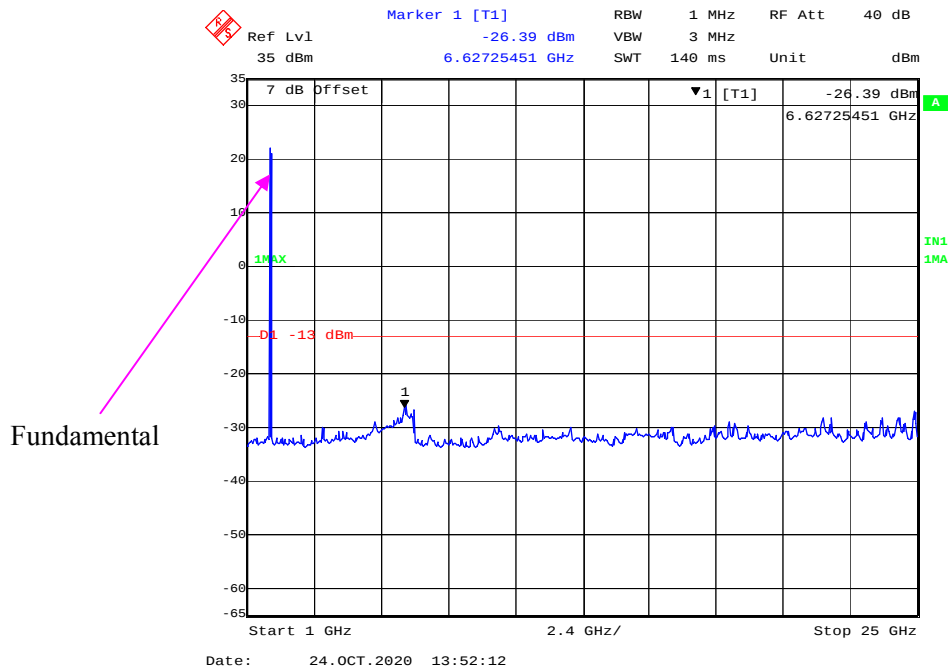
1 GHz – 25 GHz (10 MHz, QPSK, Low Channel)



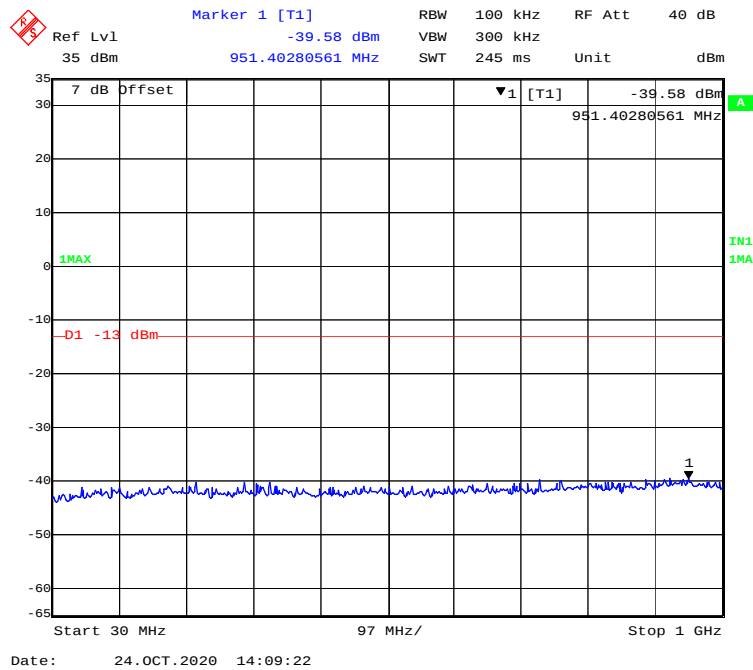
30 MHz - 1 GHz (10 MHz, 16-QAM, Low Channel)



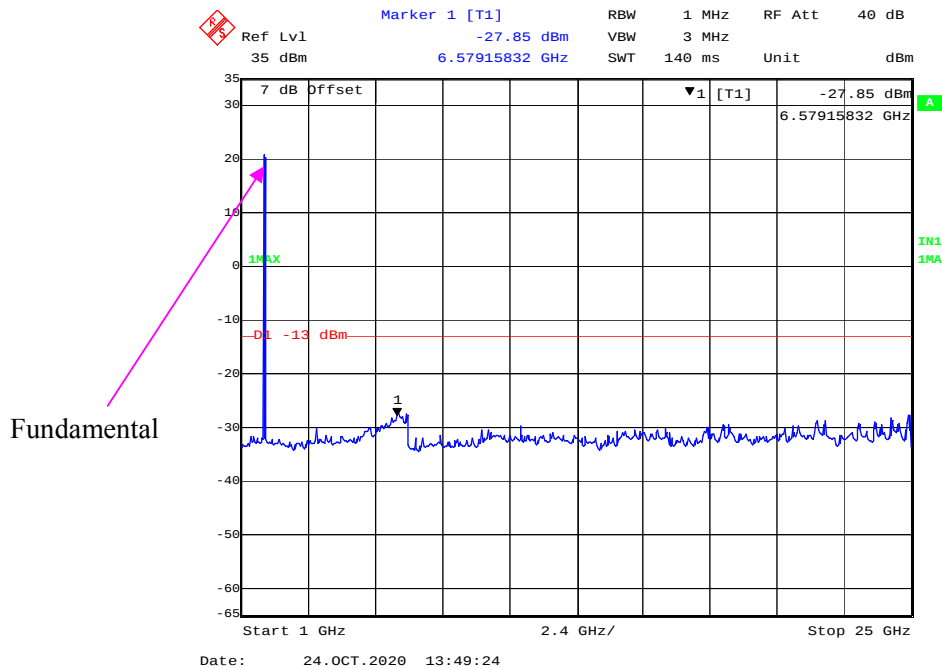
1 GHz – 25 GHz (10 MHz, 16-QAM, Low Channel)



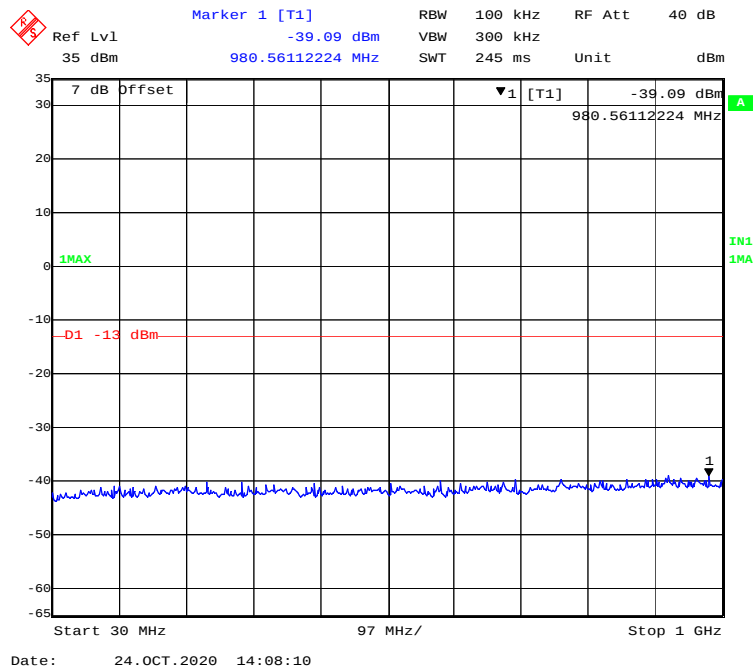
30 MHz - 1 GHz (15 MHz, QPSK, Low Channel)



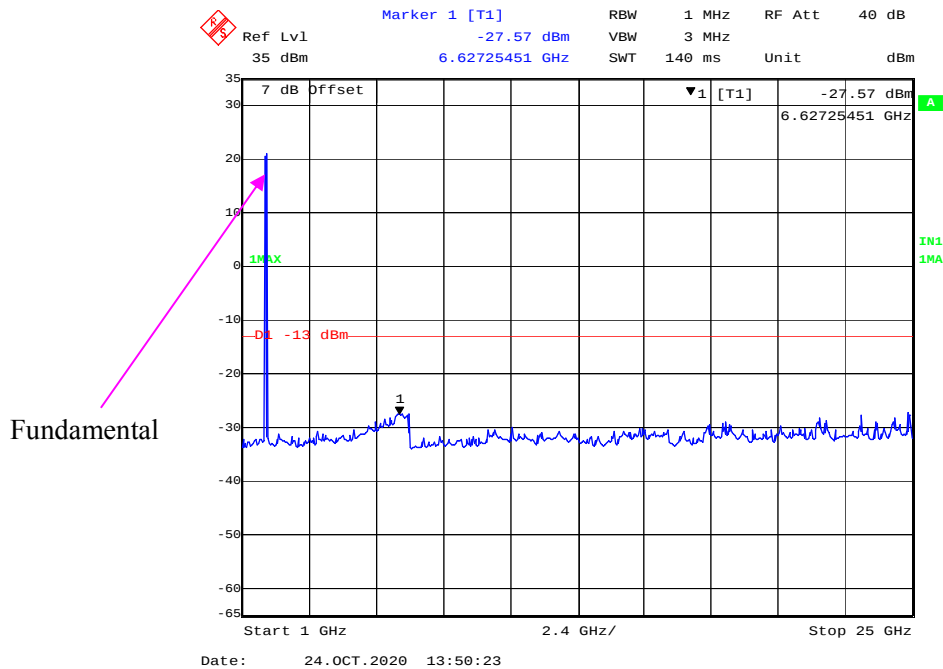
1 GHz – 25 GHz (15 MHz, QPSK, Low Channel)



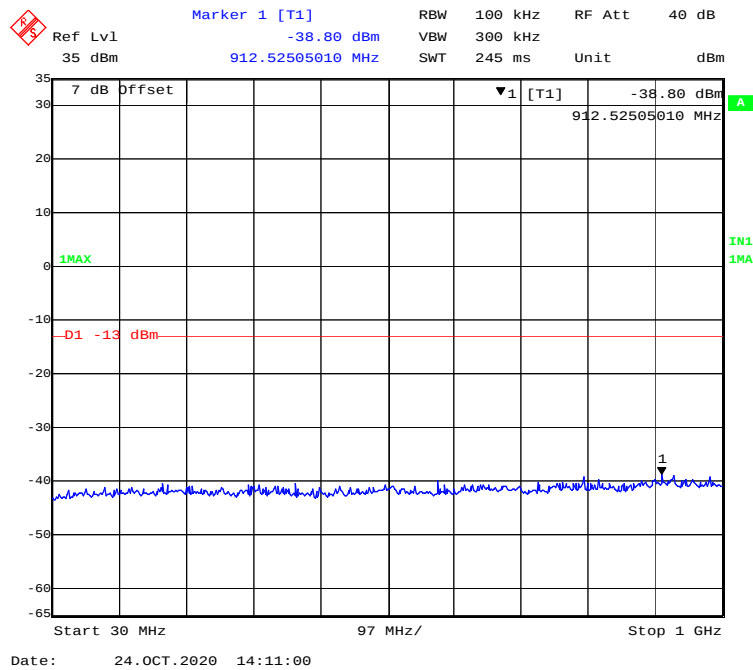
30 MHz - 1 GHz (15 MHz, 16-QAM, Low Channel)



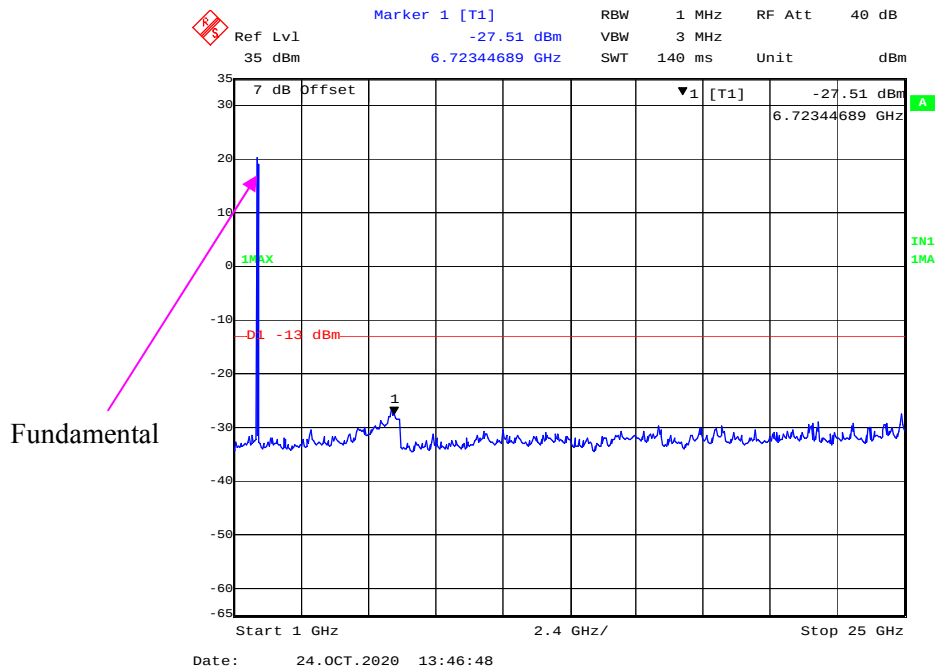
1 GHz – 25 GHz (15 MHz, 16-QAM, Low Channel)



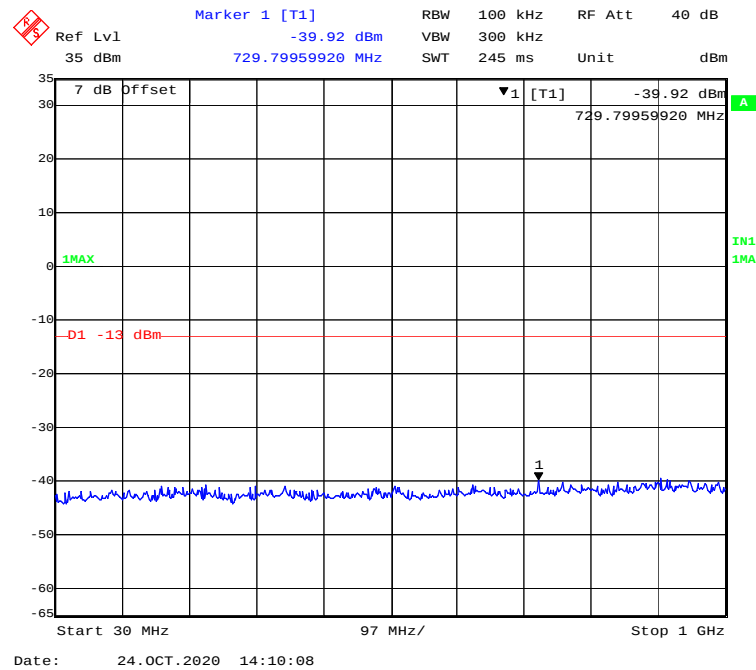
30 MHz - 1 GHz (20 MHz, QPSK, Low Channel)



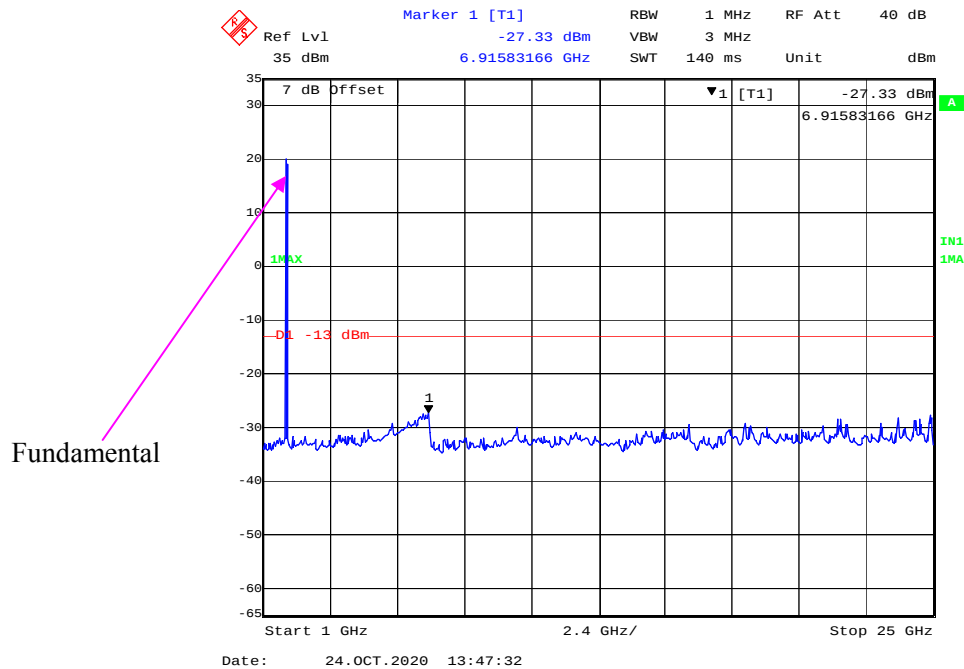
1 GHz – 25 GHz (20 MHz, QPSK, Low Channel)



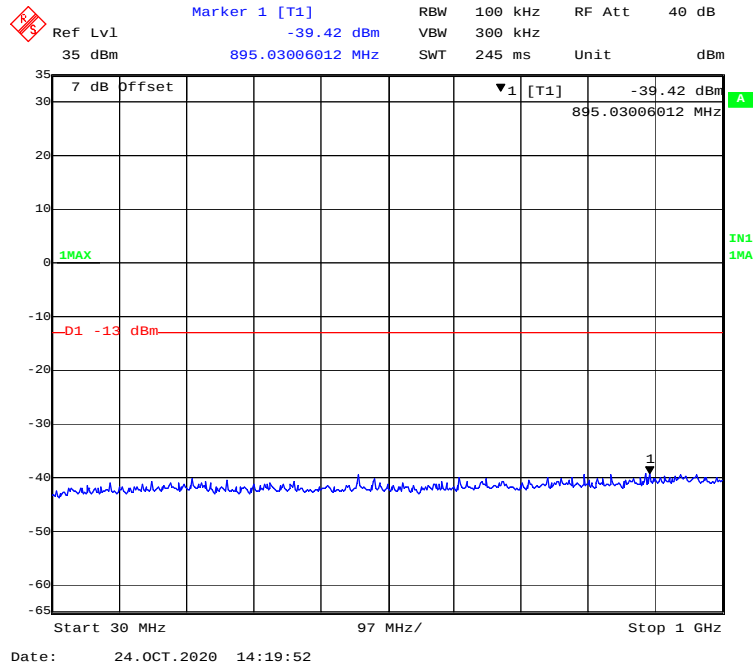
30 MHz - 1 GHz (20 MHz, 16-QAM, Low Channel)



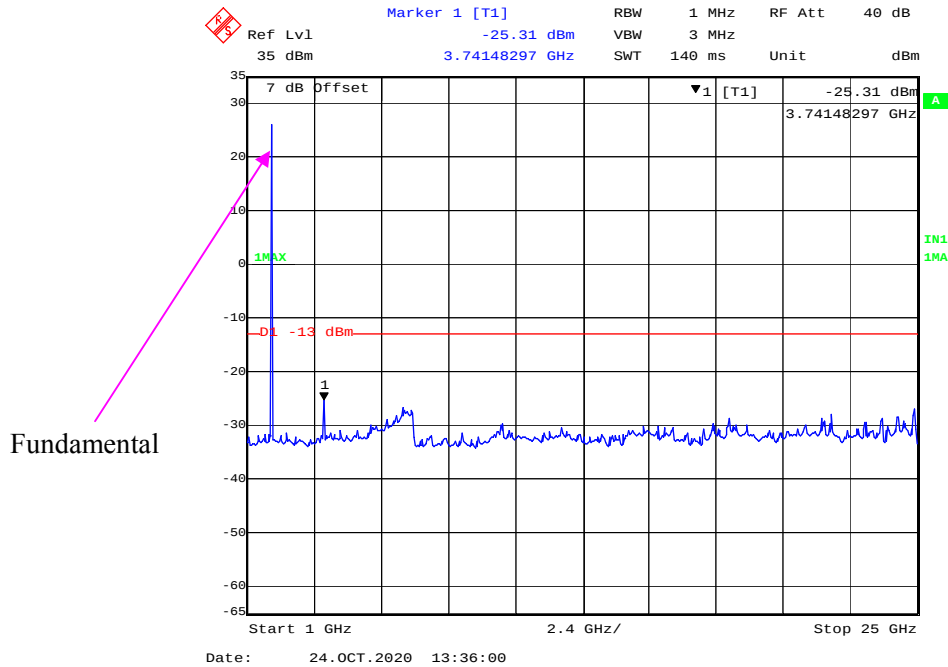
1 GHz – 25 GHz (20 MHz, 16-QAM, Low Channel)



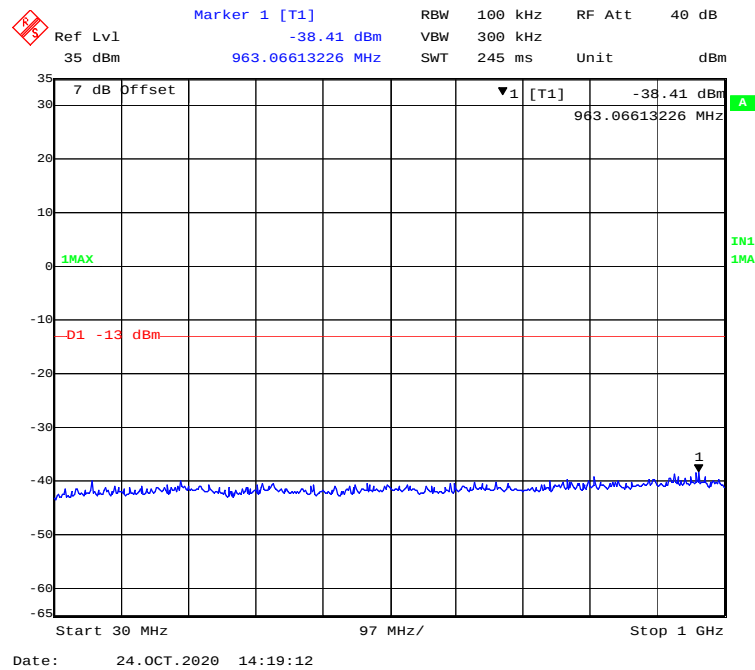
30 MHz - 1 GHz (1.4 MHz, QPSK, Middle Channel)



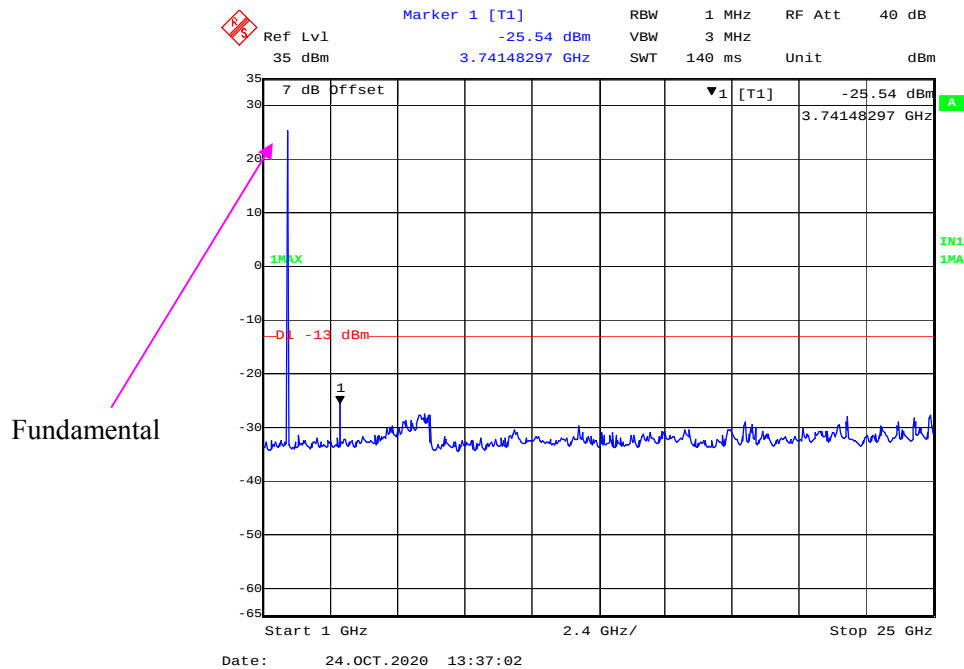
1 GHz – 25 GHz (1.4 MHz, QPSK, Middle Channel)



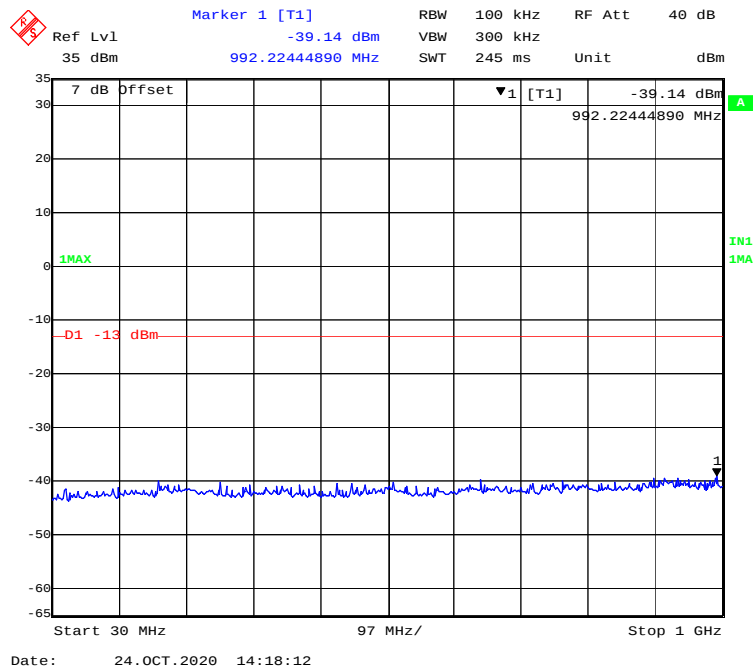
30 MHz - 1 GHz (1.4 MHz, 16-QAM, Middle Channel)



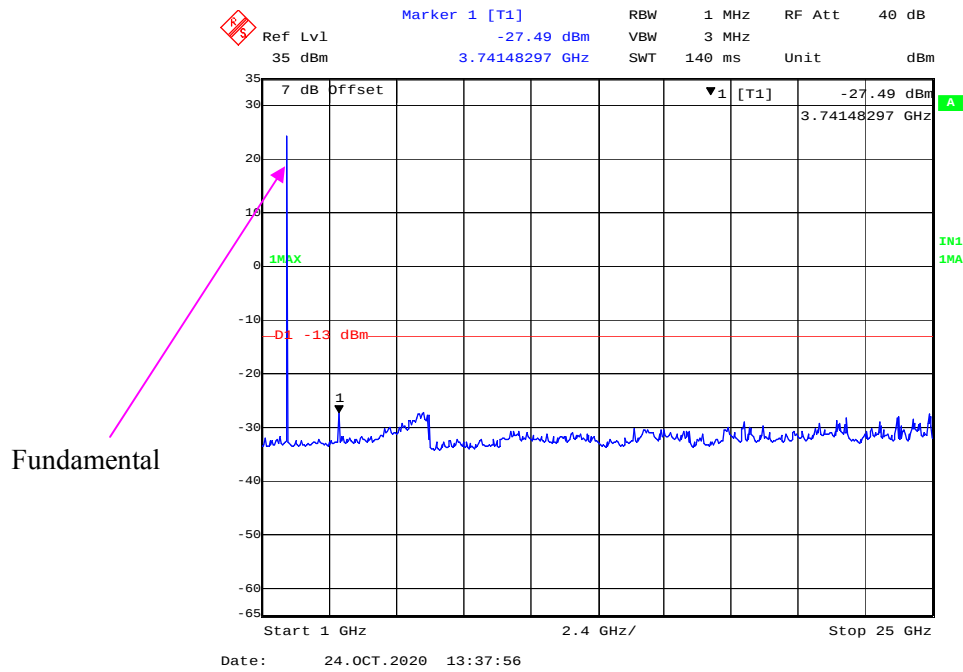
1 GHz – 25 GHz (1.4 MHz, 16-QAM, Middle Channel)



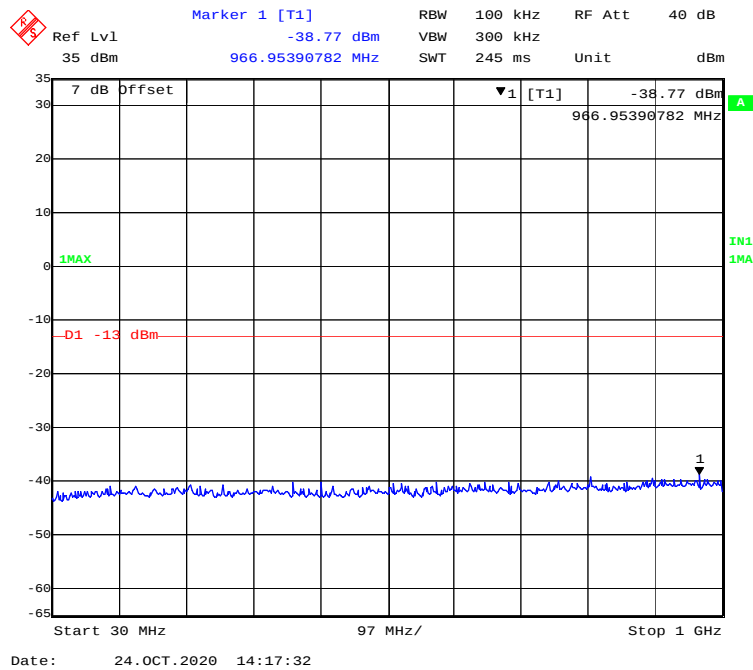
30 MHz - 1 GHz (3 MHz, QPSK, Middle Channel)



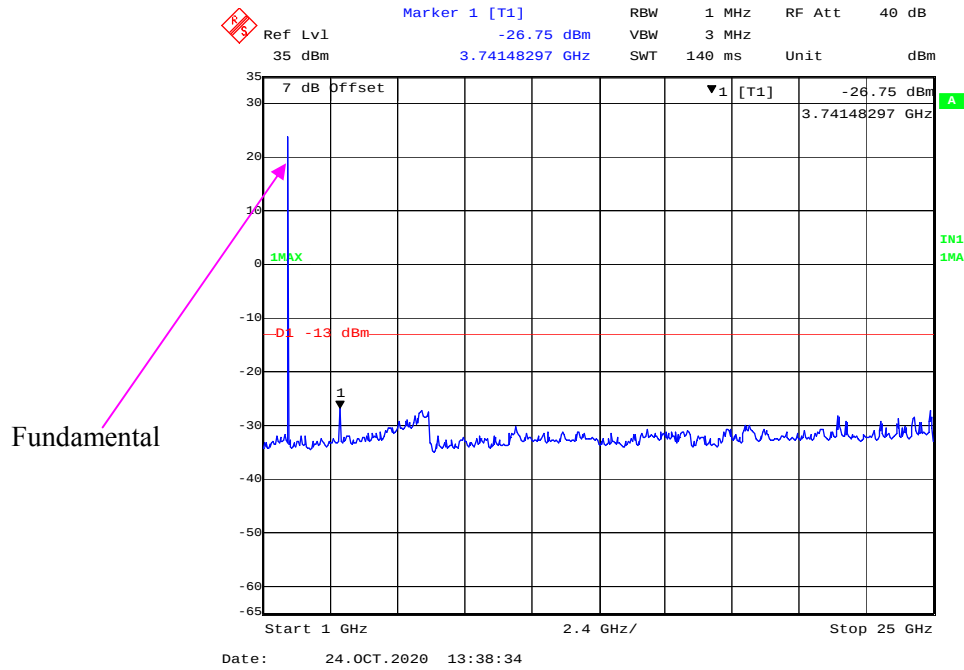
1 GHz – 25 GHz (3 MHz, QPSK, Middle Channel)



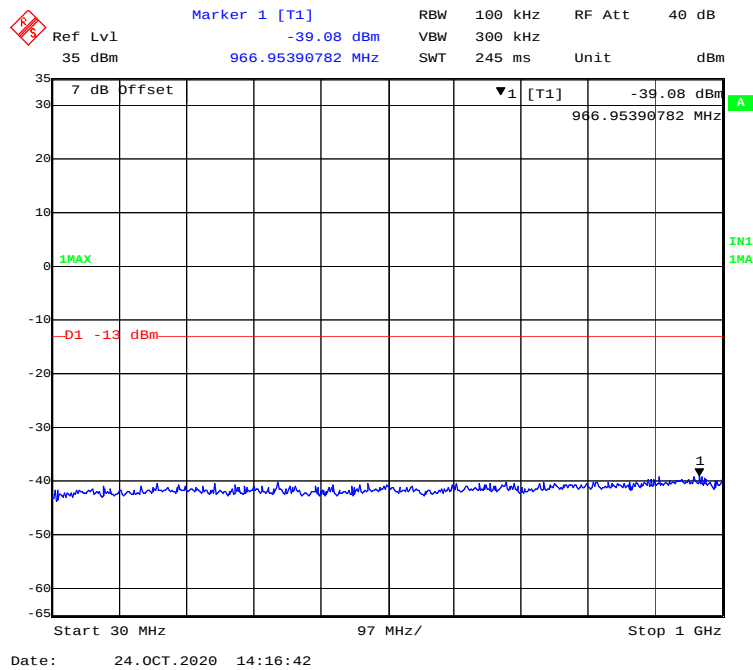
30 MHz - 1 GHz (3 MHz, 16-QAM, Middle Channel)



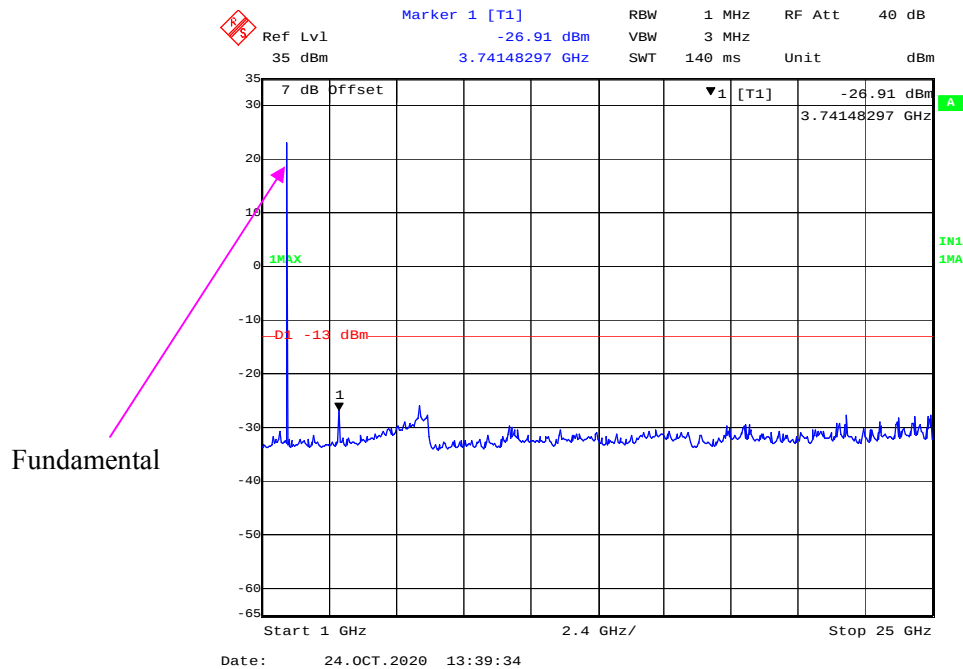
1 GHz – 25 GHz (3 MHz, 16-QAM, Middle Channel)



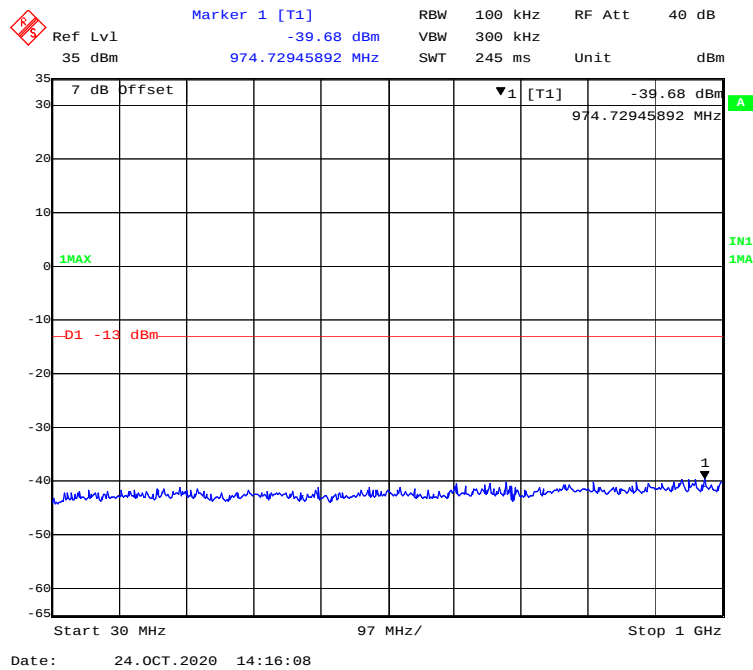
30 MHz - 1 GHz (5 MHz, QPSK, Middle Channel)



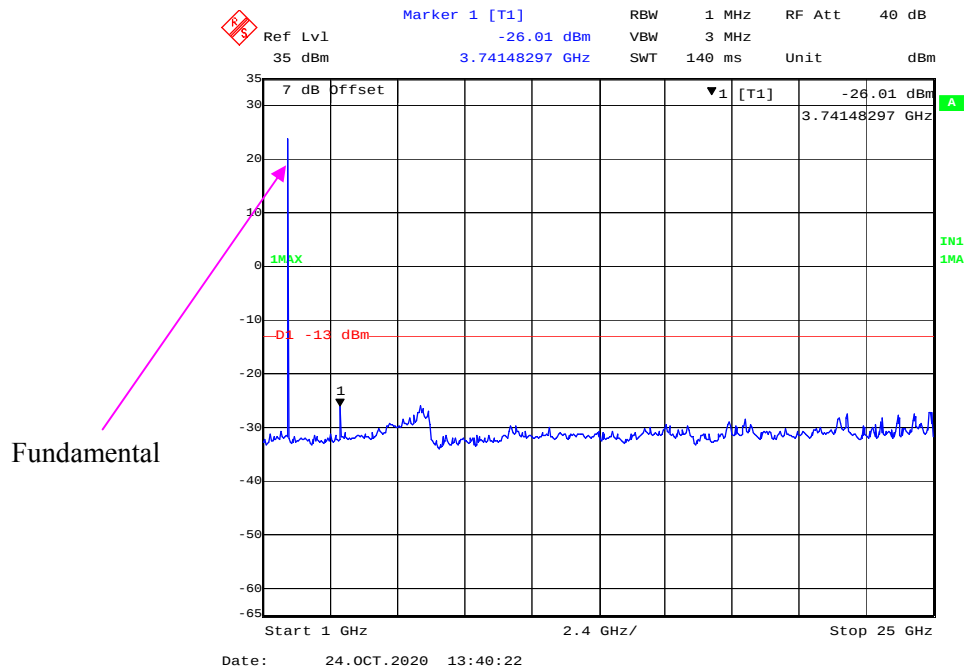
1 GHz – 25 GHz (5 MHz, QPSK, Middle Channel)



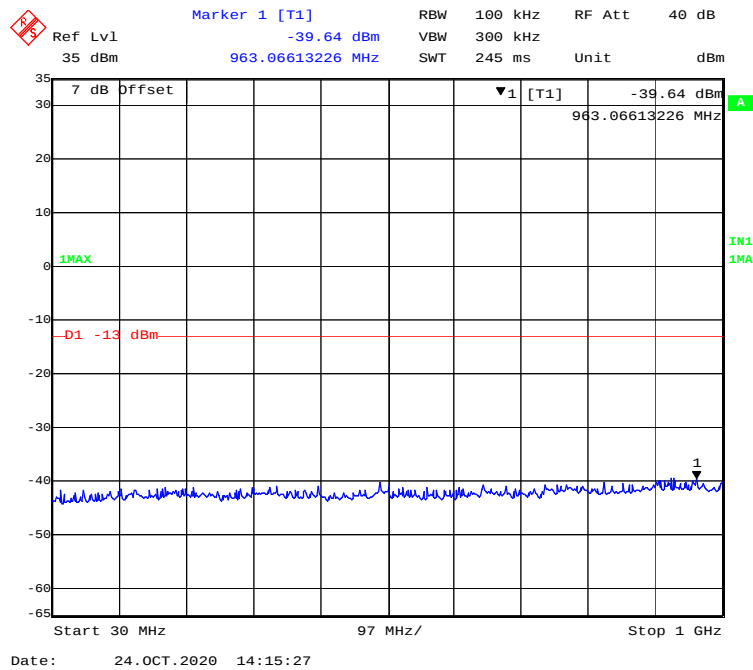
30 MHz - 1 GHz (5 MHz, 16-QAM, Middle Channel)



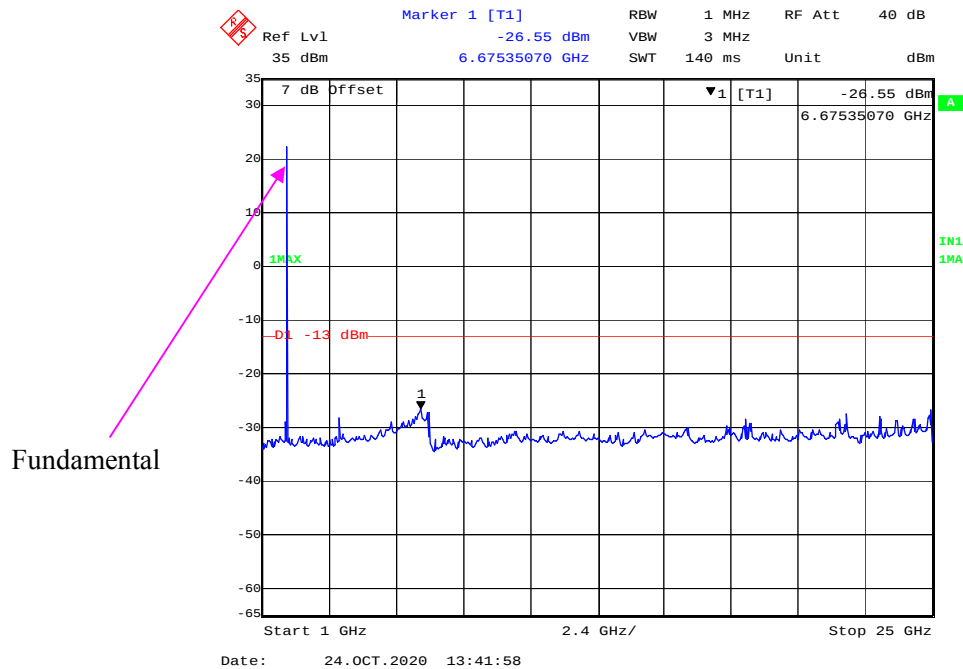
1 GHz – 25 GHz (5 MHz, 16-QAM, Middle Channel)



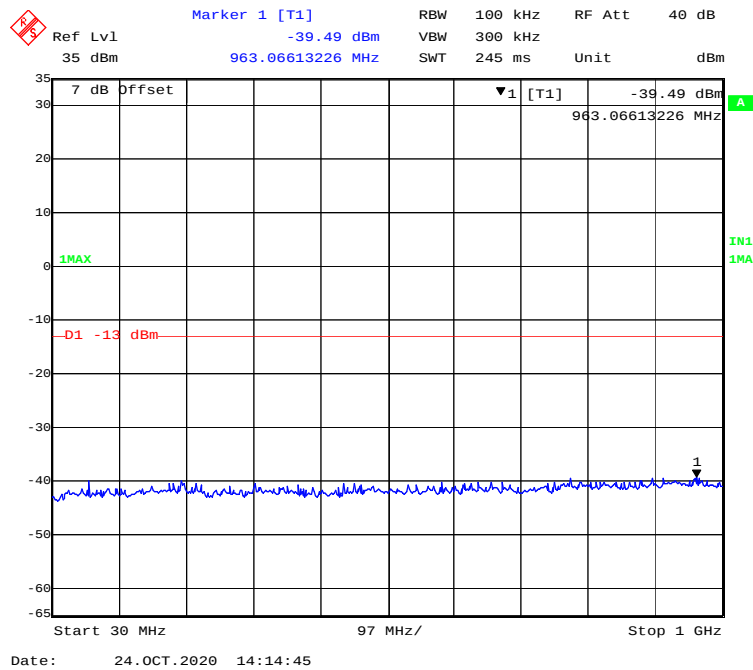
30 MHz - 1 GHz (10 MHz, QPSK, Middle Channel)



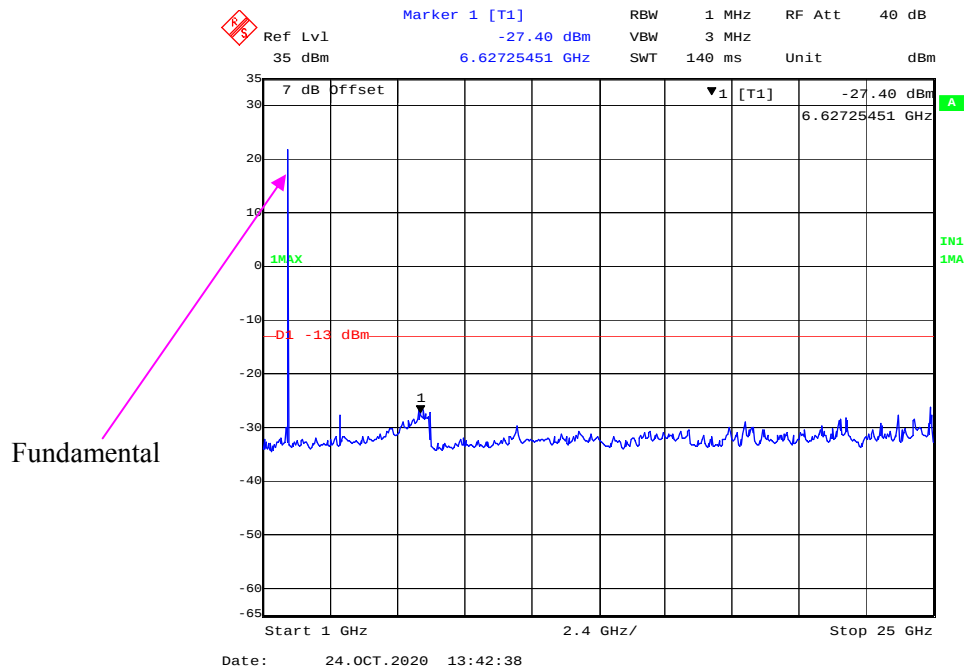
1 GHz – 25 GHz (10 MHz, QPSK, Middle Channel)



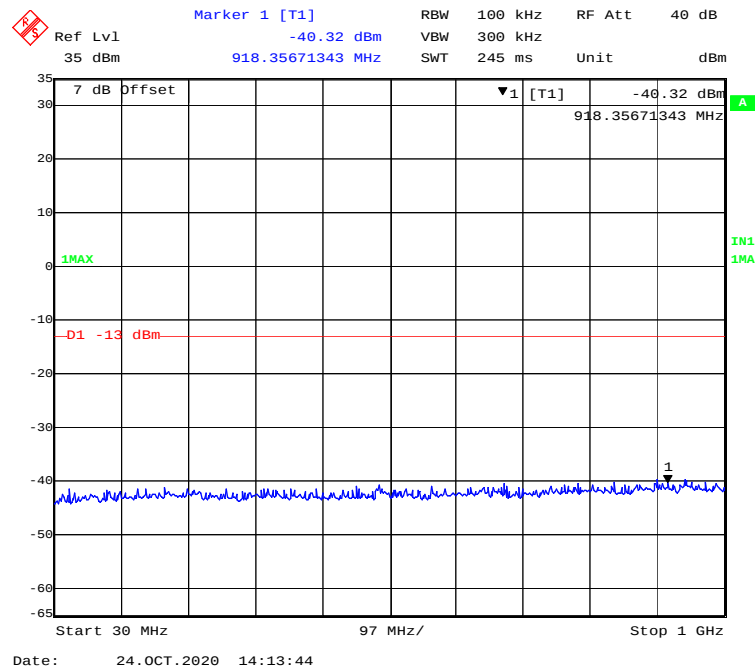
30 MHz - 1 GHz (10 MHz, 16-QAM, Middle Channel)



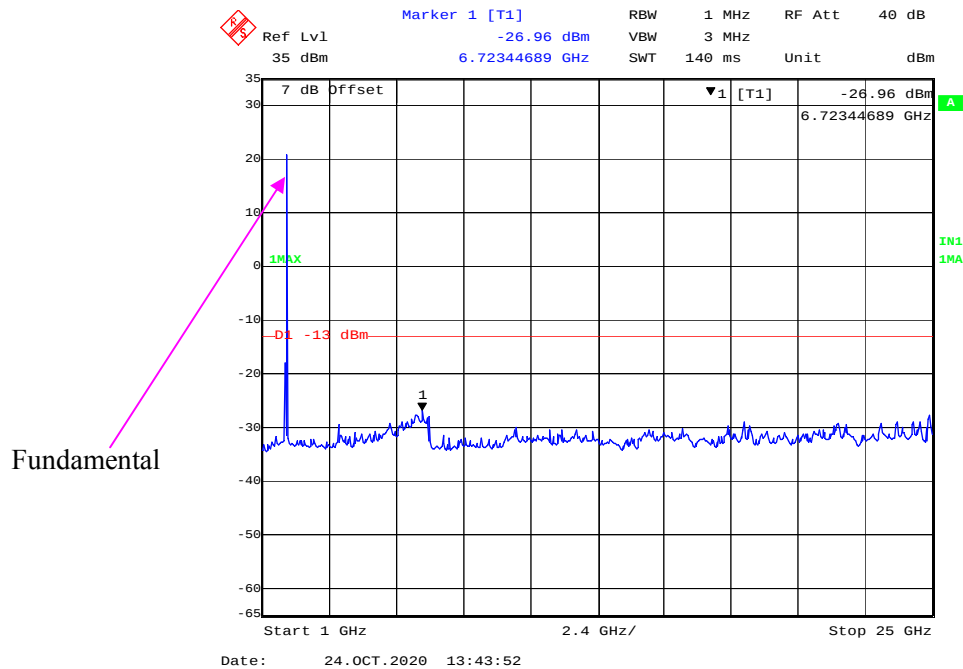
1 GHz – 25 GHz (10 MHz, 16-QAM, Middle Channel)



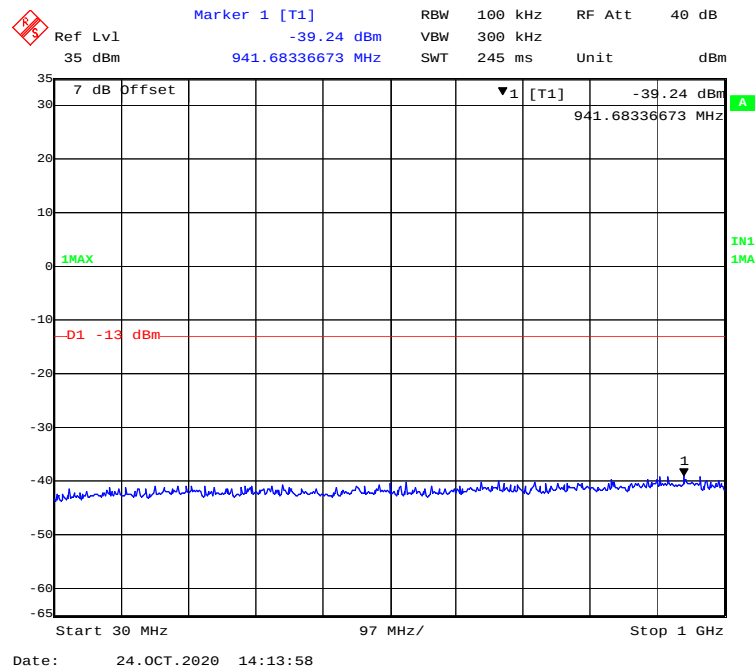
30 MHz - 1 GHz (15 MHz, QPSK, Middle Channel)



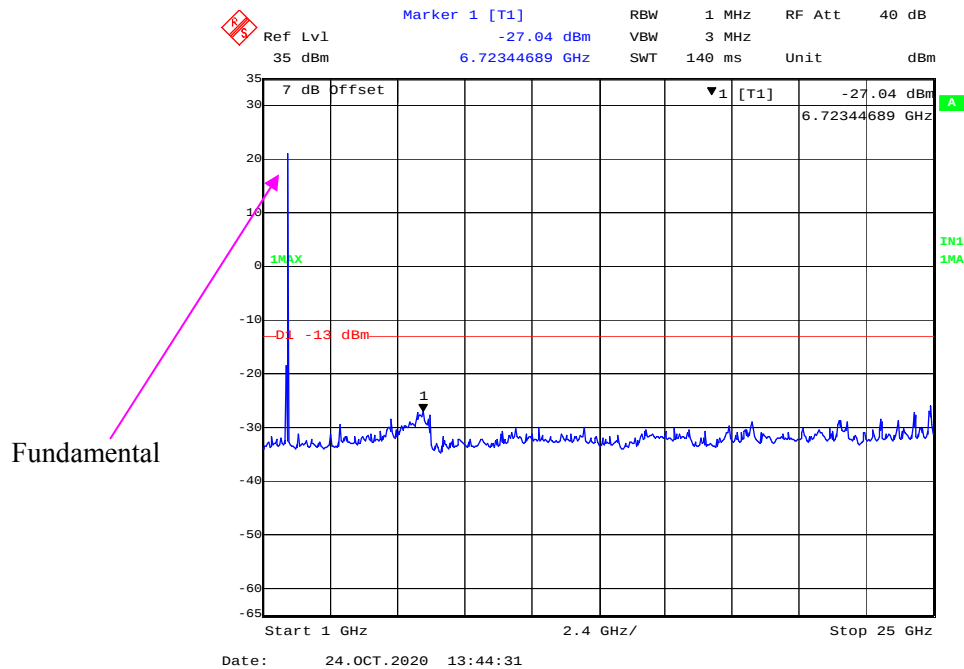
1 GHz – 25 GHz (15 MHz, QPSK, Middle Channel)



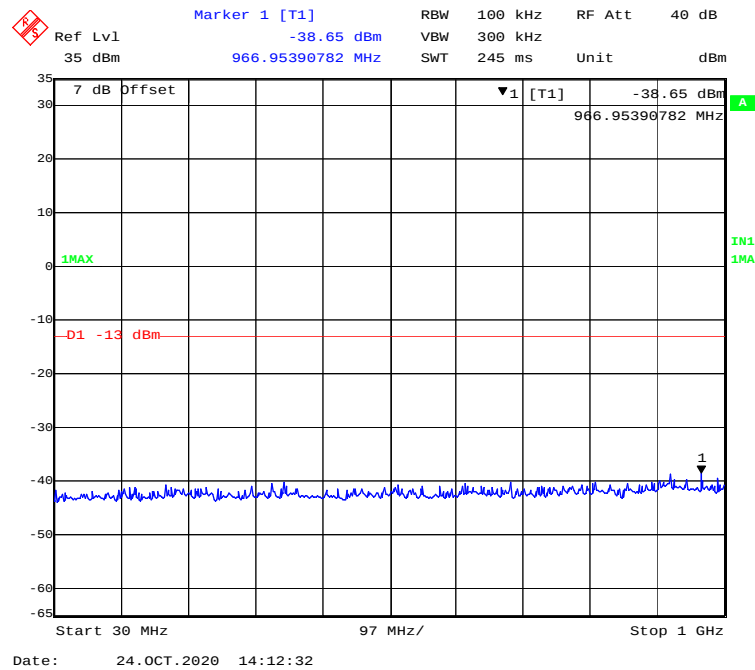
30 MHz - 1 GHz (15 MHz, 16-QAM, Middle Channel)



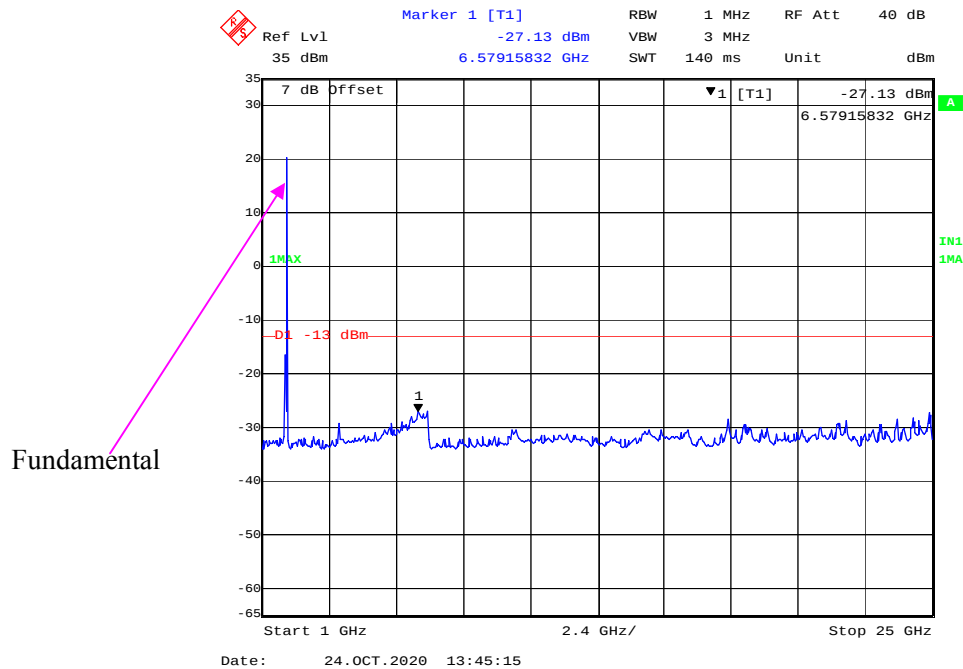
1 GHz – 25 GHz (15 MHz, 16-QAM, Middle Channel)

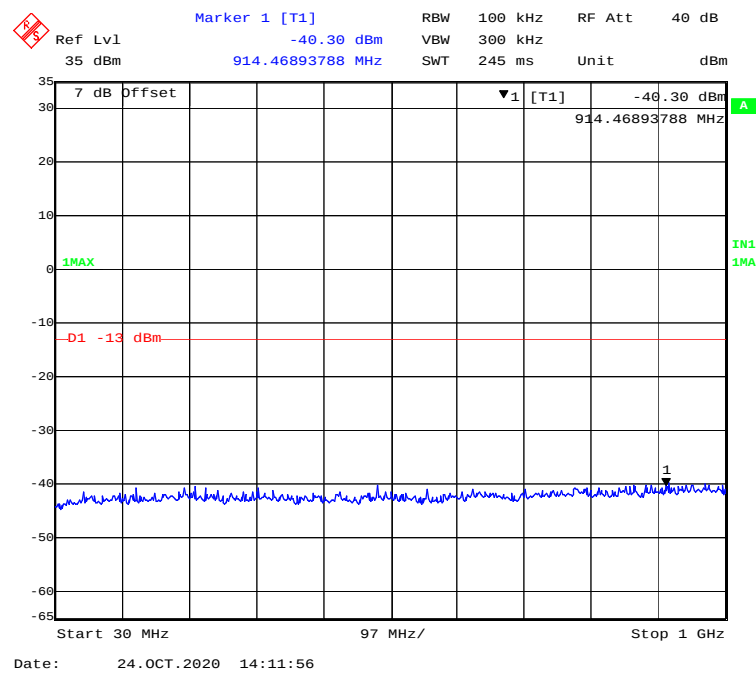
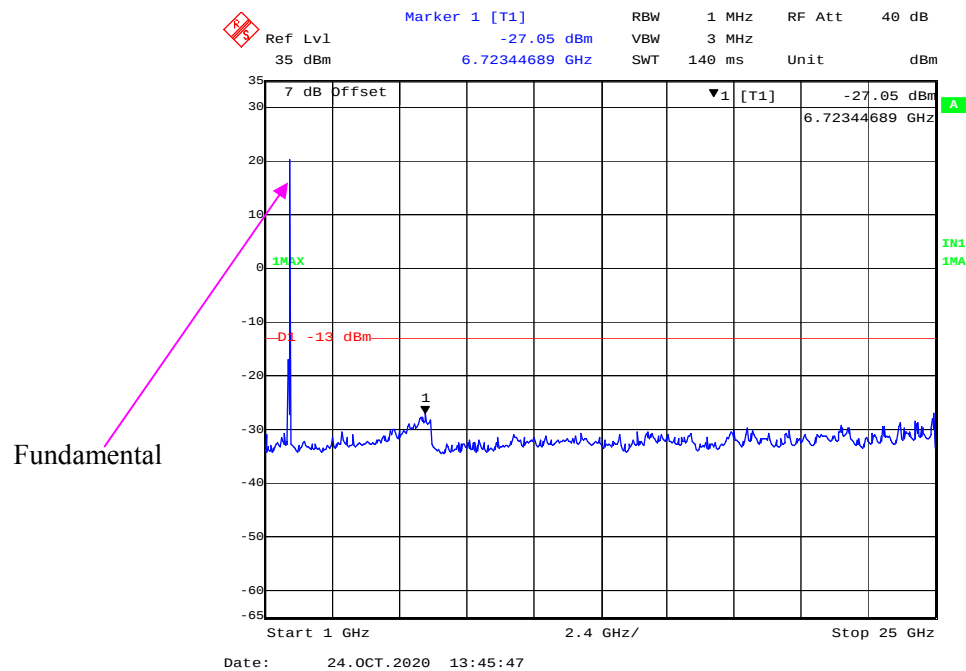


30 MHz - 1 GHz (20 MHz, QPSK, Middle Channel)

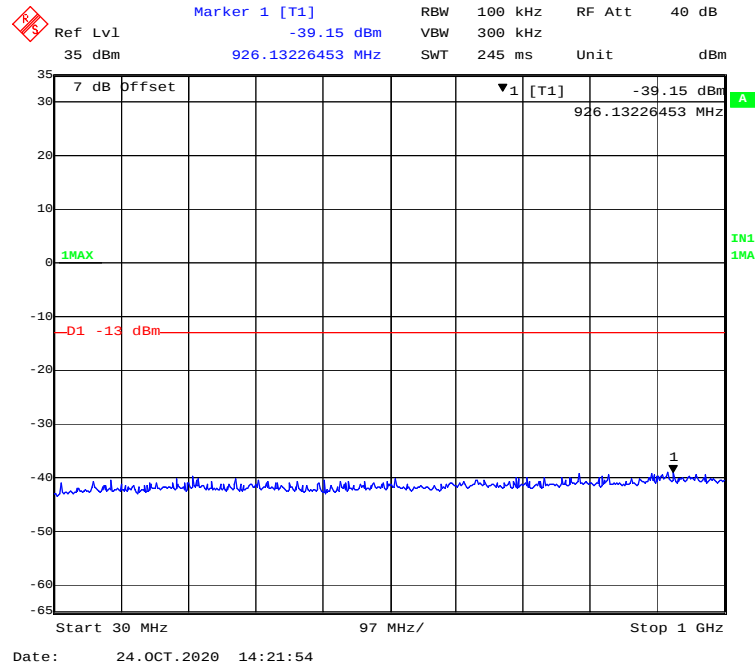


1 GHz – 25 GHz (20 MHz, QPSK, Middle Channel)

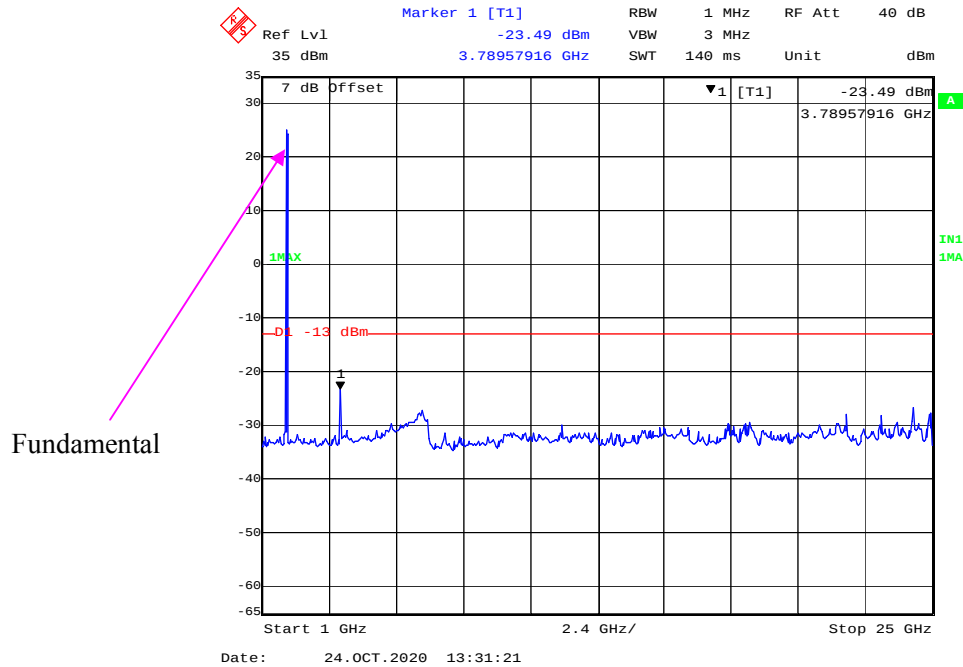


30 MHz - 1 GHz (20 MHz, 16-QAM, Middle Channel)**1 GHz – 25 GHz (20 MHz, 16-QAM, Middle Channel)**

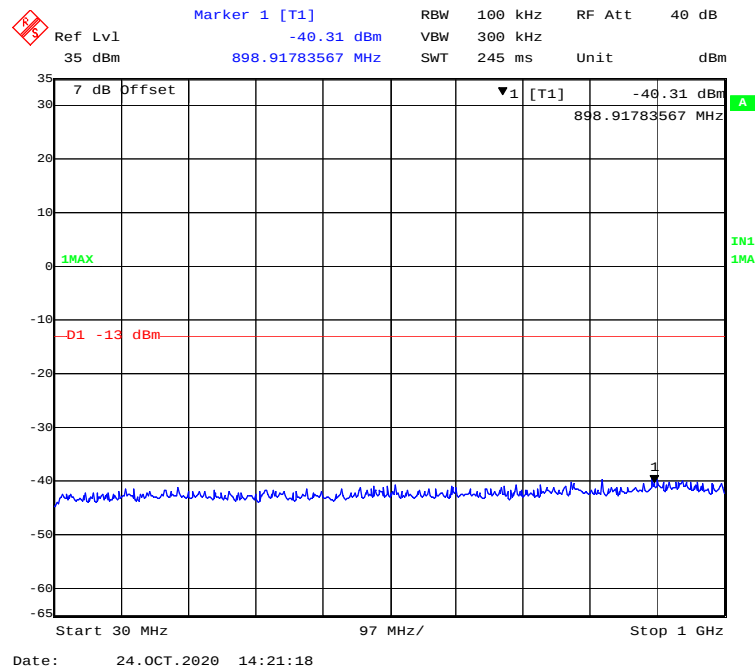
30 MHz - 1 GHz (1.4 MHz, QPSK, High Channel)



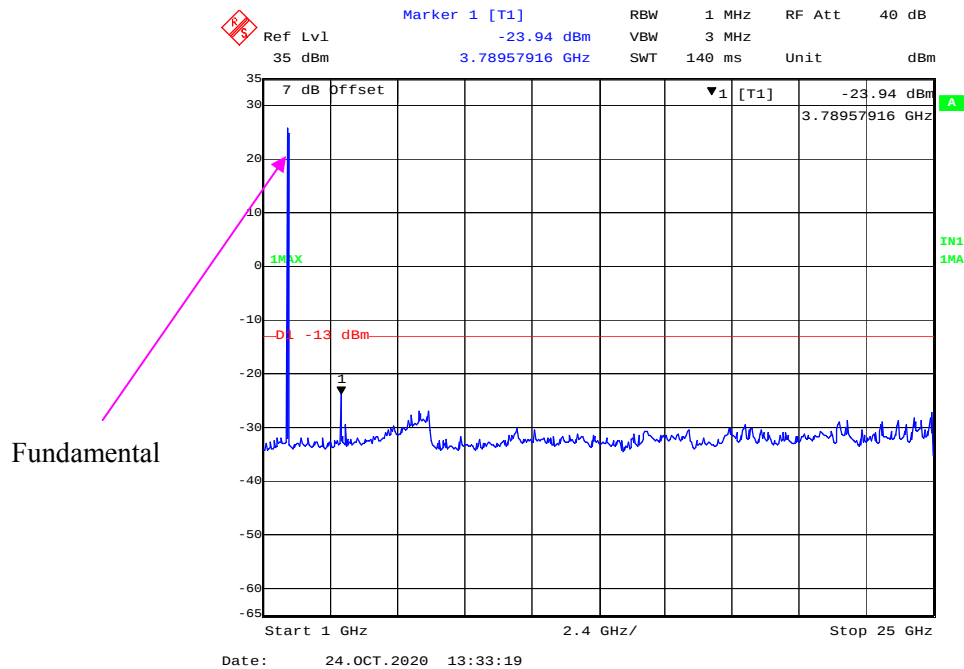
1 GHz – 25 GHz (1.4 MHz, QPSK, High Channel)



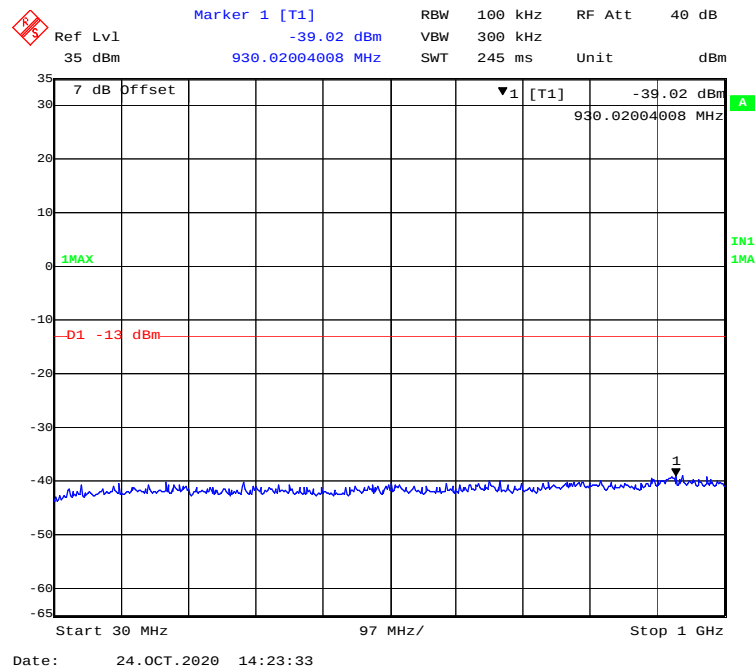
30 MHz - 1 GHz (1.4 MHz, 16-QAM, High Channel)



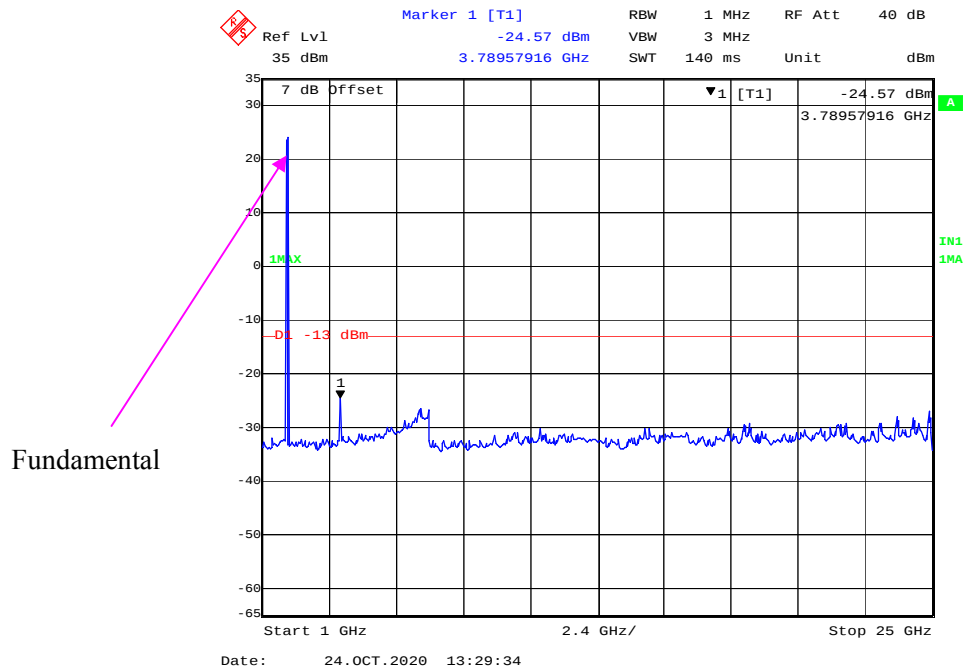
1 GHz – 25 GHz (1.4 MHz, 16-QAM, High Channel)



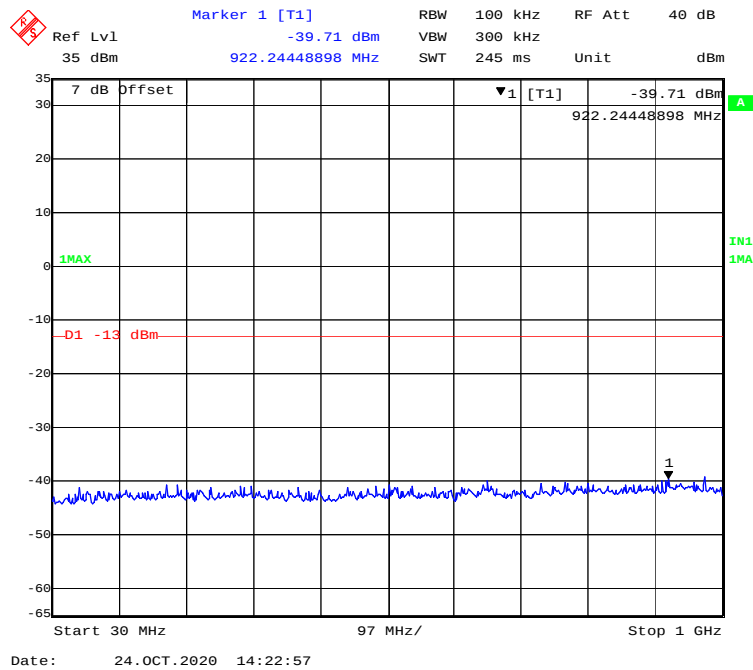
30 MHz - 1 GHz (3 MHz, QPSK, High Channel)



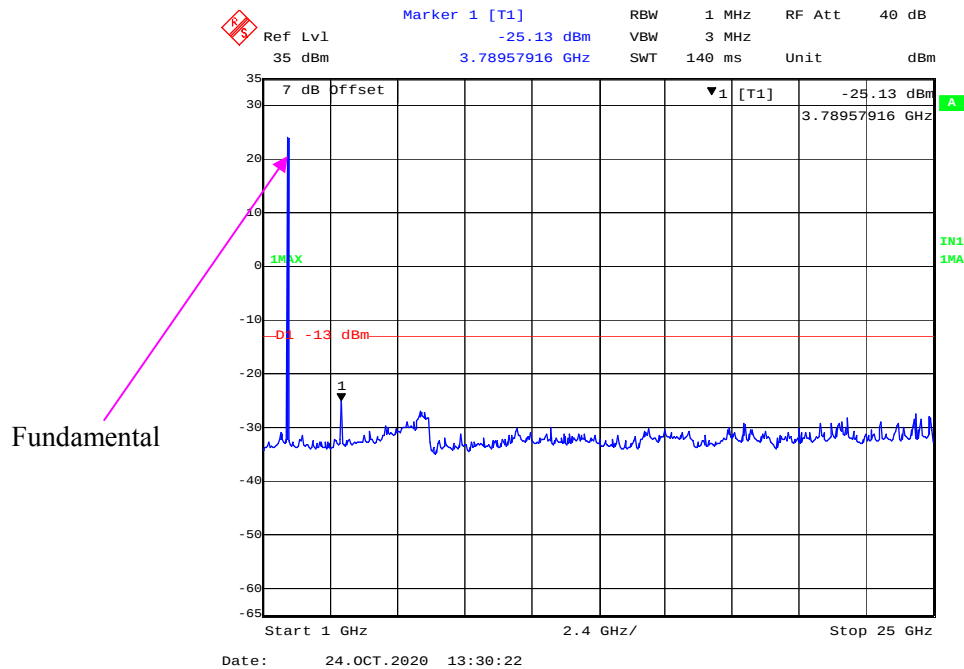
1 GHz - 25 GHz (3 MHz, QPSK, High Channel)



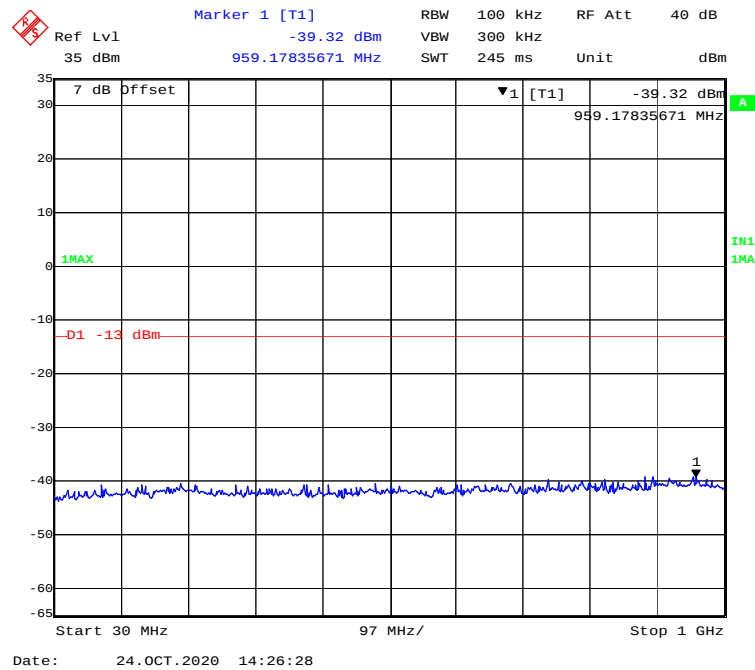
30 MHz - 1 GHz (3 MHz, 16-QAM, High Channel)



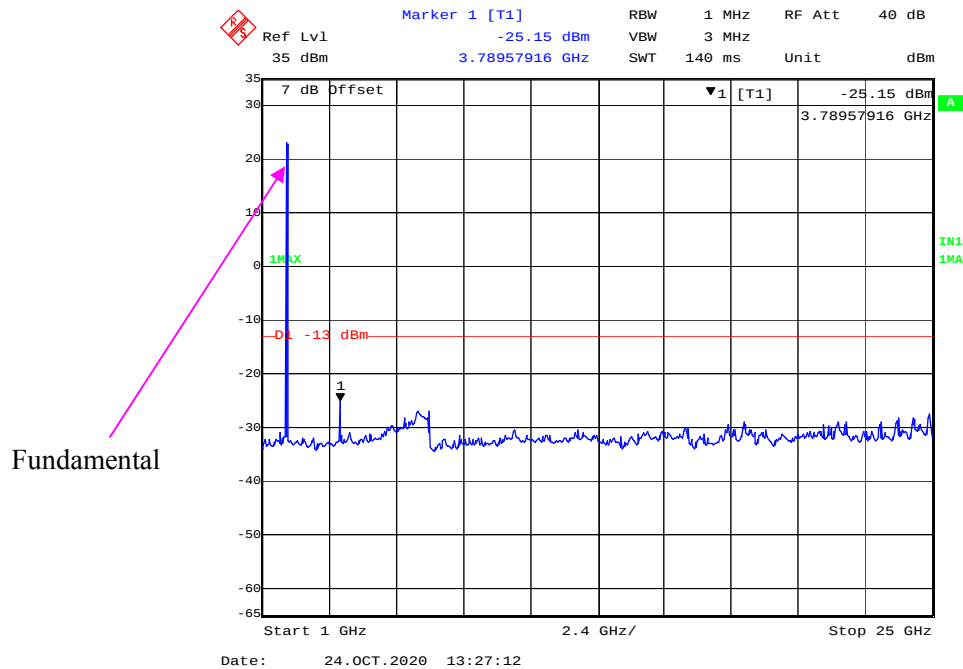
1 GHz – 25 GHz (3 MHz, 16-QAM, High Channel)



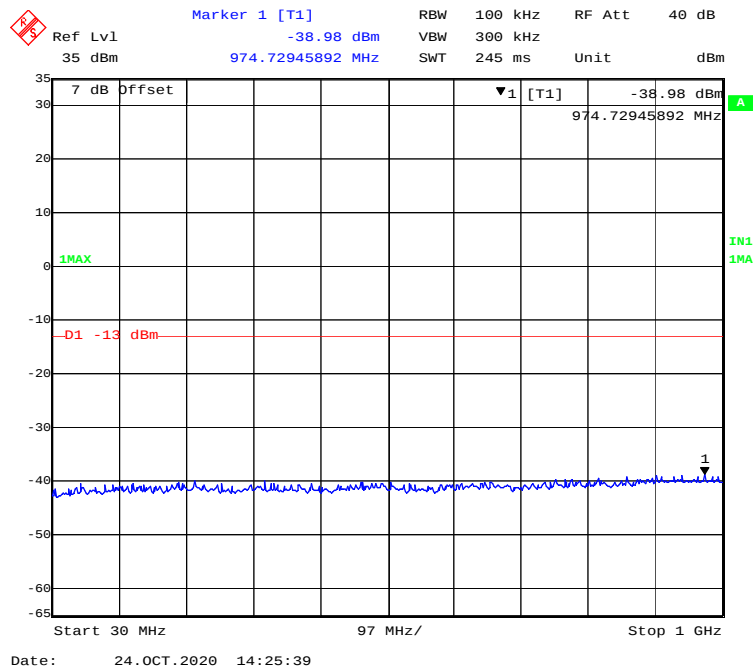
30 MHz - 1 GHz (5 MHz, QPSK, High Channel)



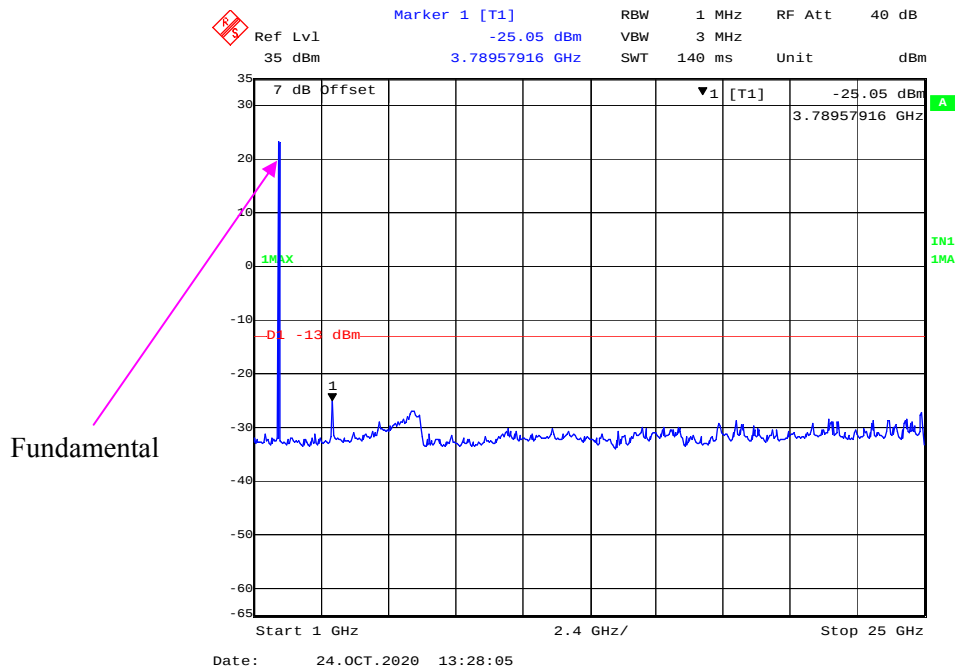
1 GHz - 25 GHz (5 MHz, QPSK, High Channel)



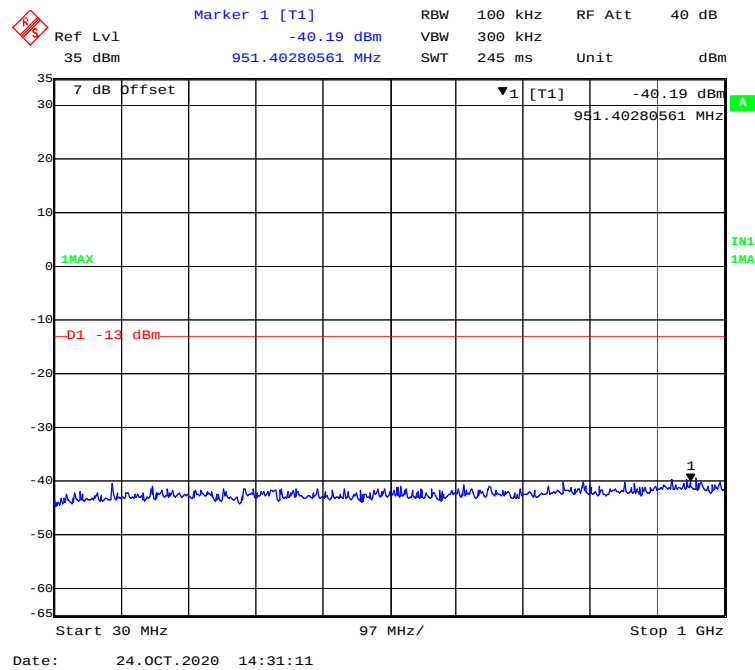
30 MHz - 1 GHz (5 MHz, 16-QAM, High Channel)



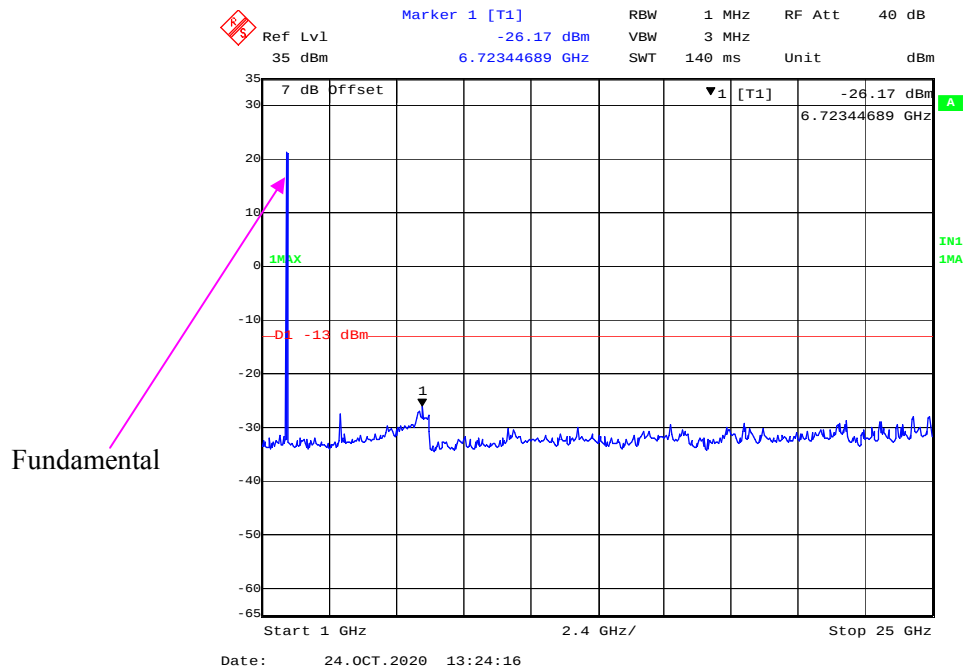
1 GHz – 25 GHz (5 MHz, 16-QAM, High Channel)



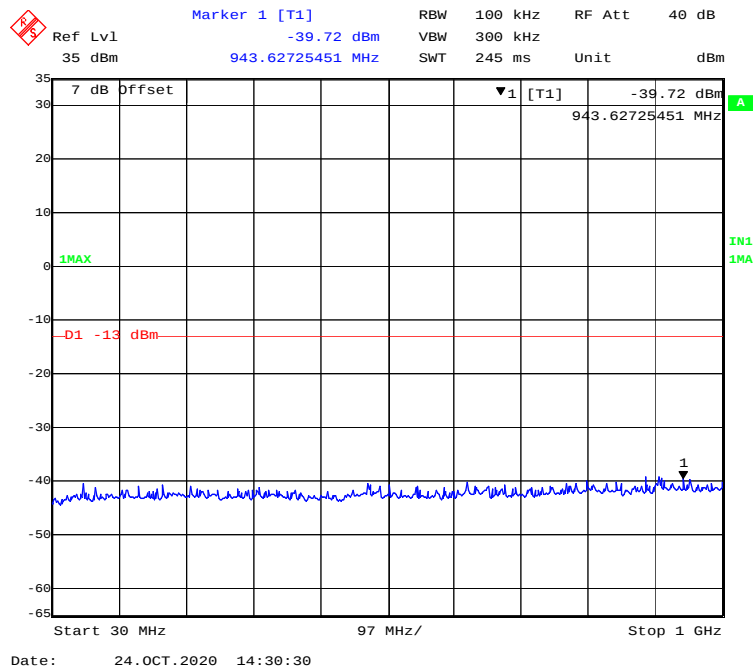
30 MHz - 1 GHz (10 MHz, QPSK, High Channel)



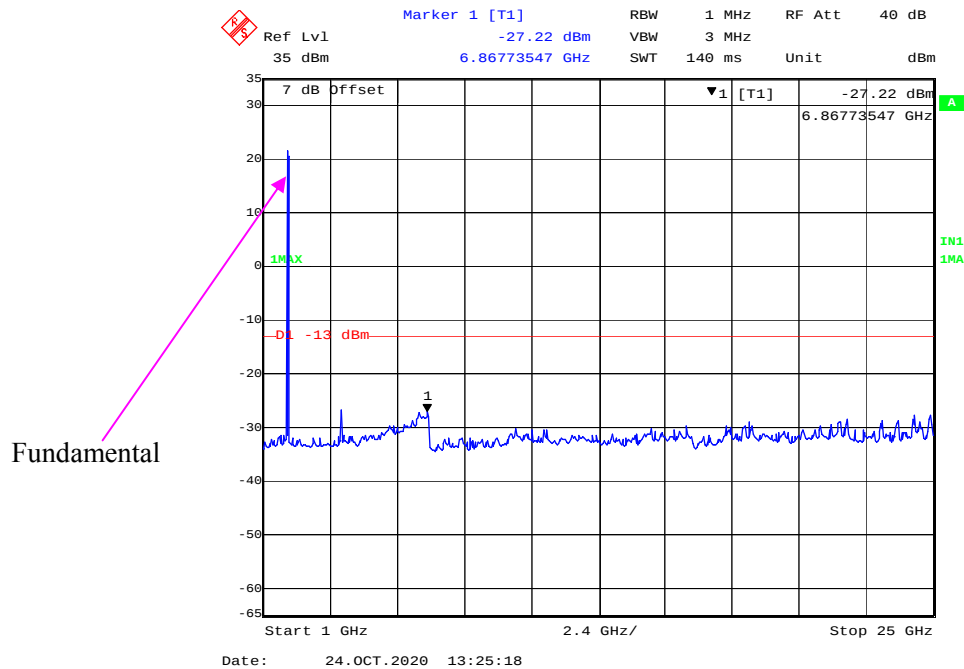
1 GHz – 25 GHz (10 MHz, QPSK, High Channel)



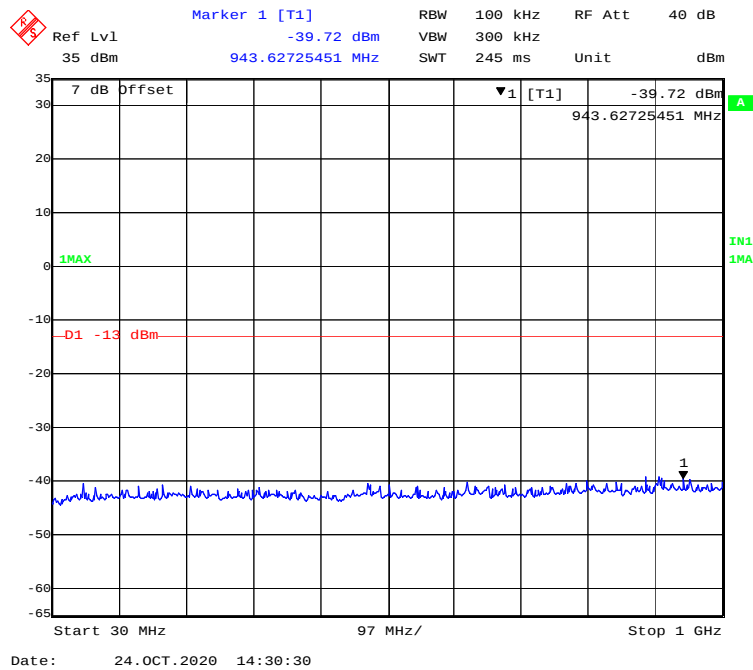
30 MHz - 1 GHz (10 MHz, 16-QAM, High Channel)



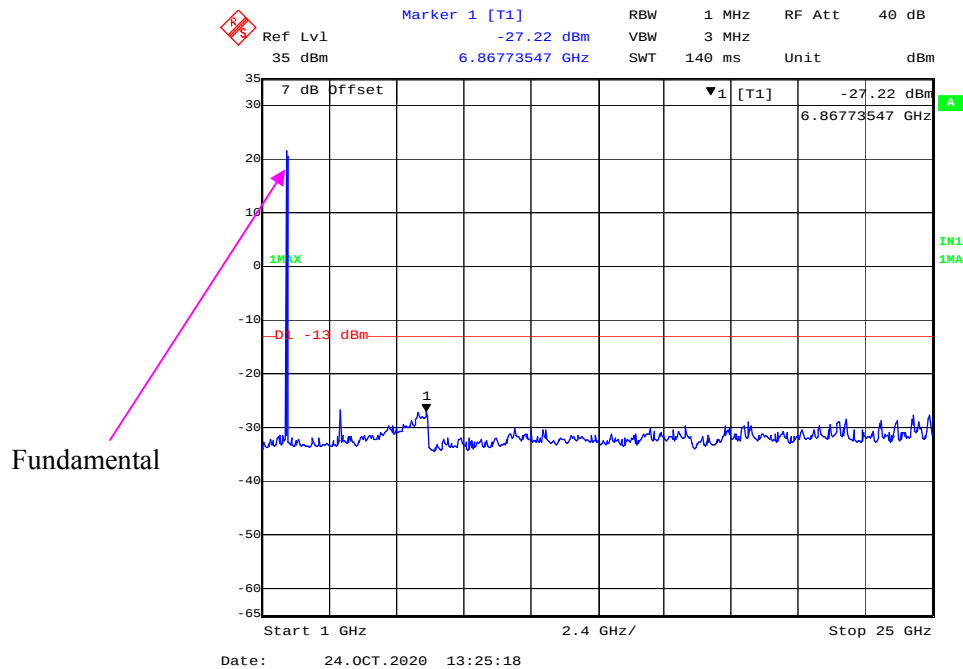
1 GHz – 25 GHz (10 MHz, 16-QAM, High Channel)



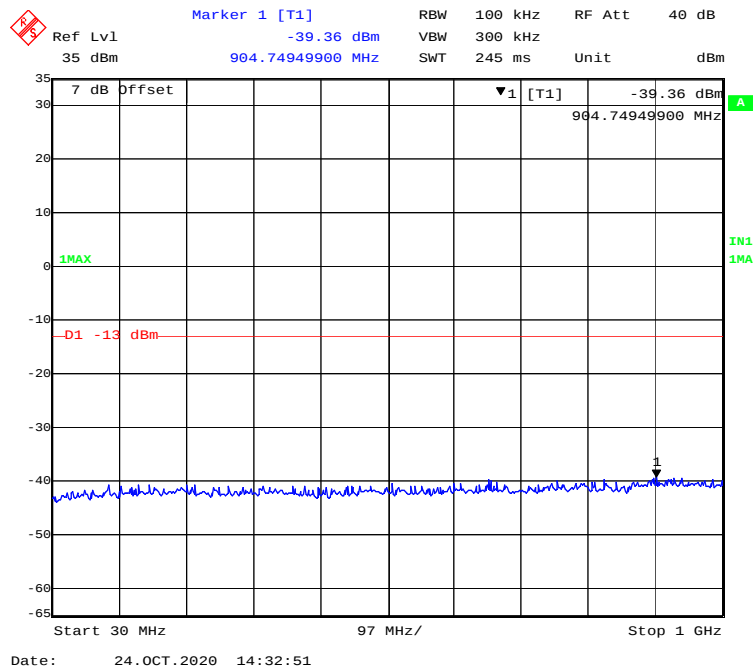
30 MHz - 1 GHz (15 MHz, QPSK, High Channel)



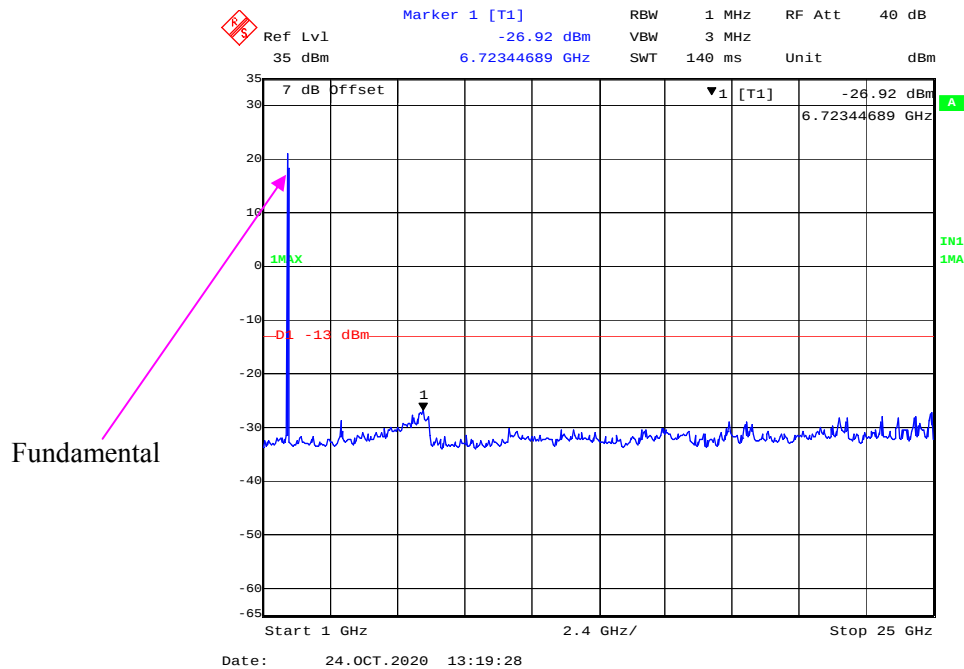
1 GHz – 25 GHz (15 MHz, QPSK, High Channel)



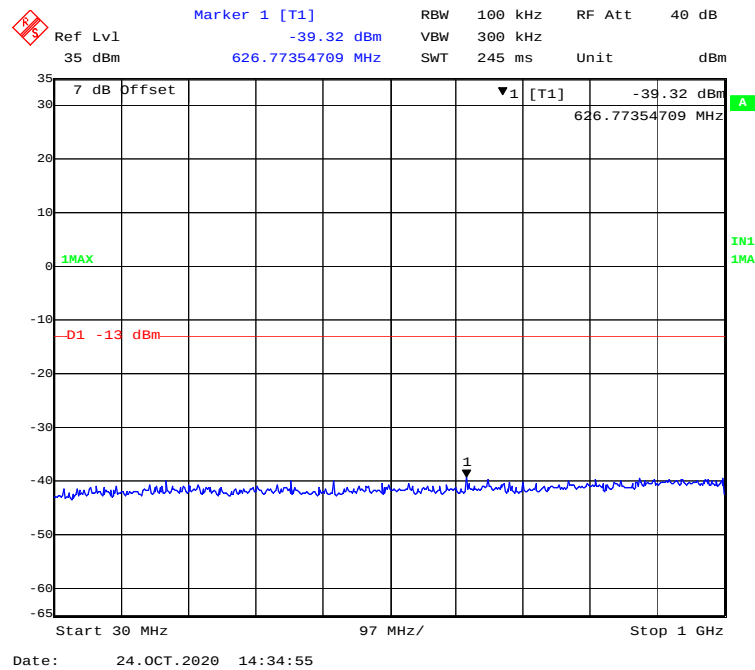
30 MHz - 1 GHz (15 MHz, 16-QAM, High Channel)



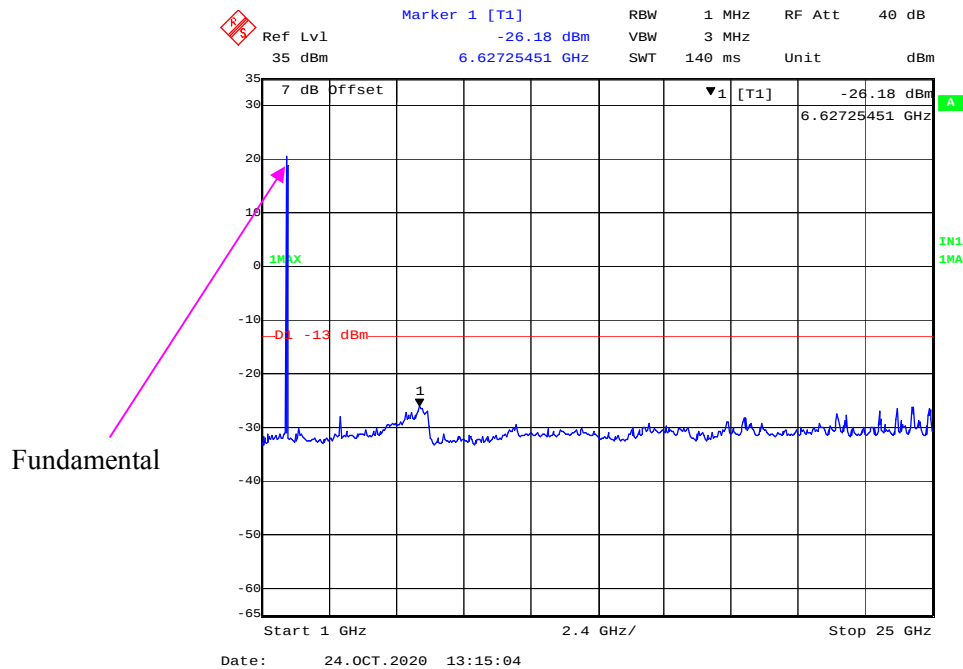
1 GHz – 25 GHz (15 MHz, 16-QAM, High Channel)



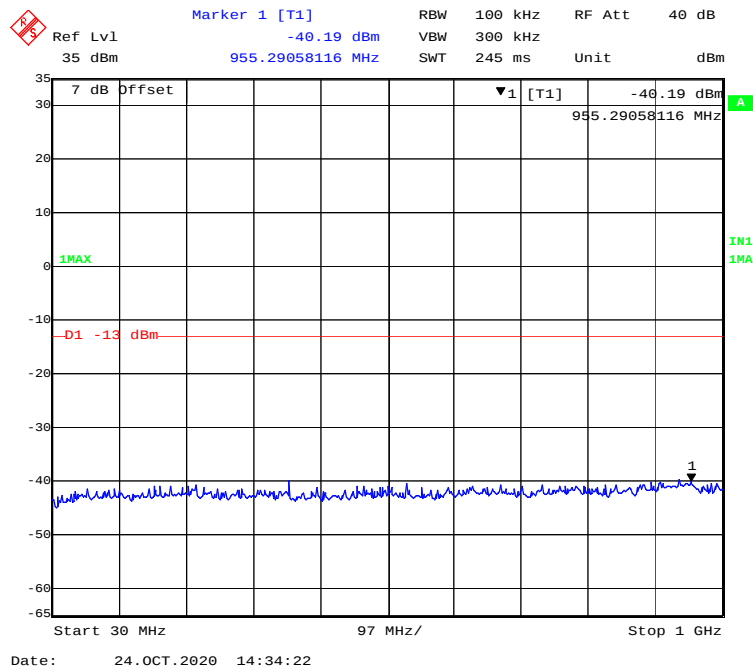
30 MHz - 1 GHz (20 MHz, QPSK, High Channel)



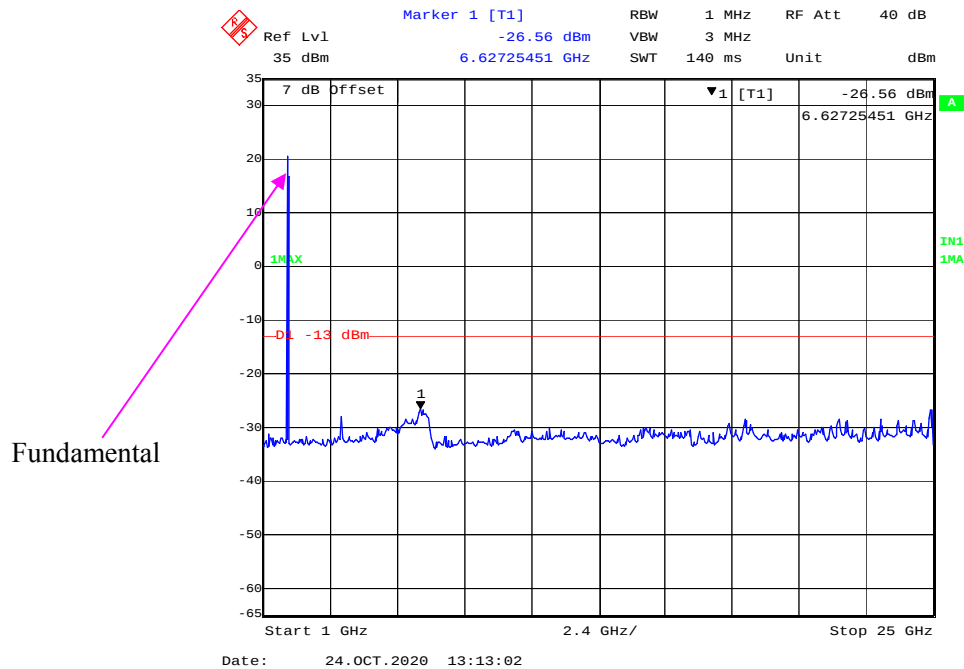
1 GHz – 25 GHz (20 MHz, QPSK, High Channel)



30 MHz - 1 GHz (20 MHz, 16-QAM, High Channel)

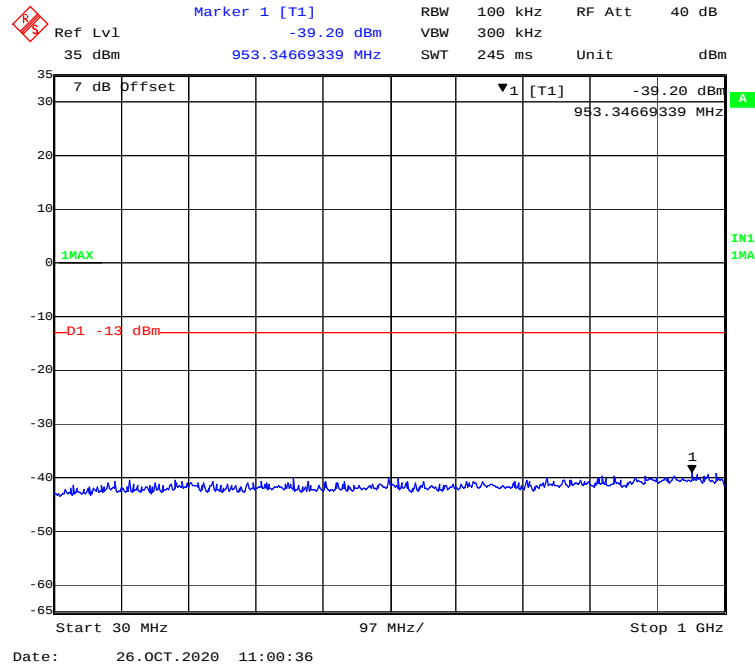


1 GHz – 25 GHz (20 MHz, 16-QAM, High Channel)

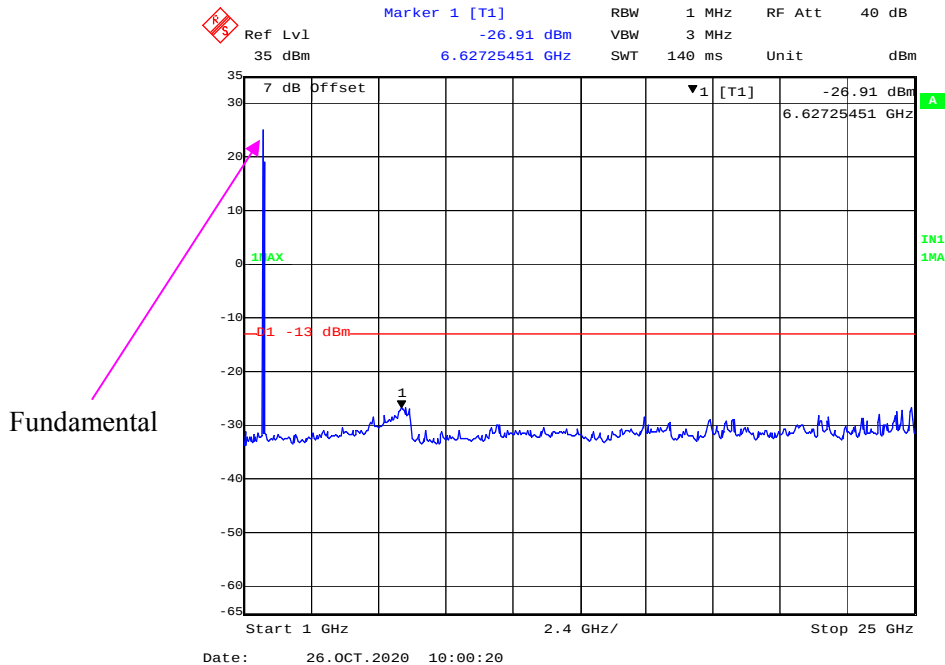


LTE Band 4:

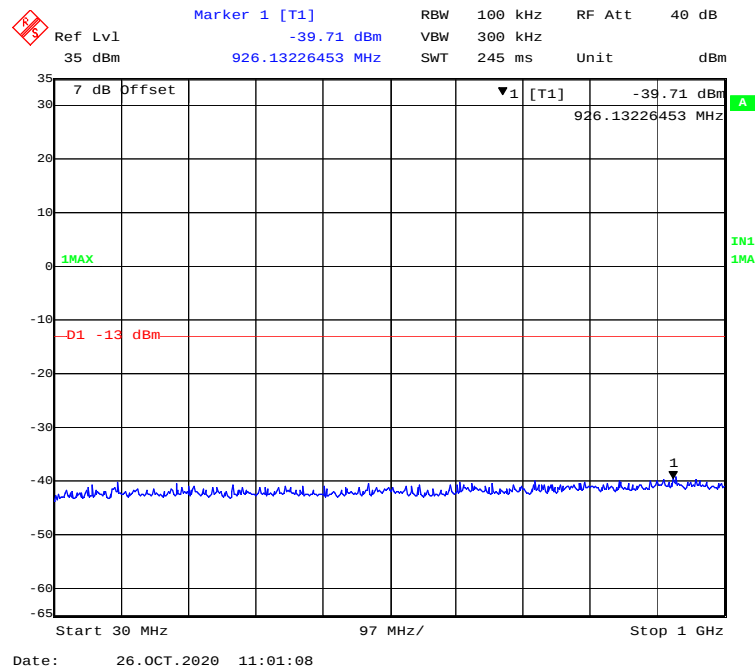
30 MHz - 1 GHz (1.4 MHz, QPSK, Low Channel)



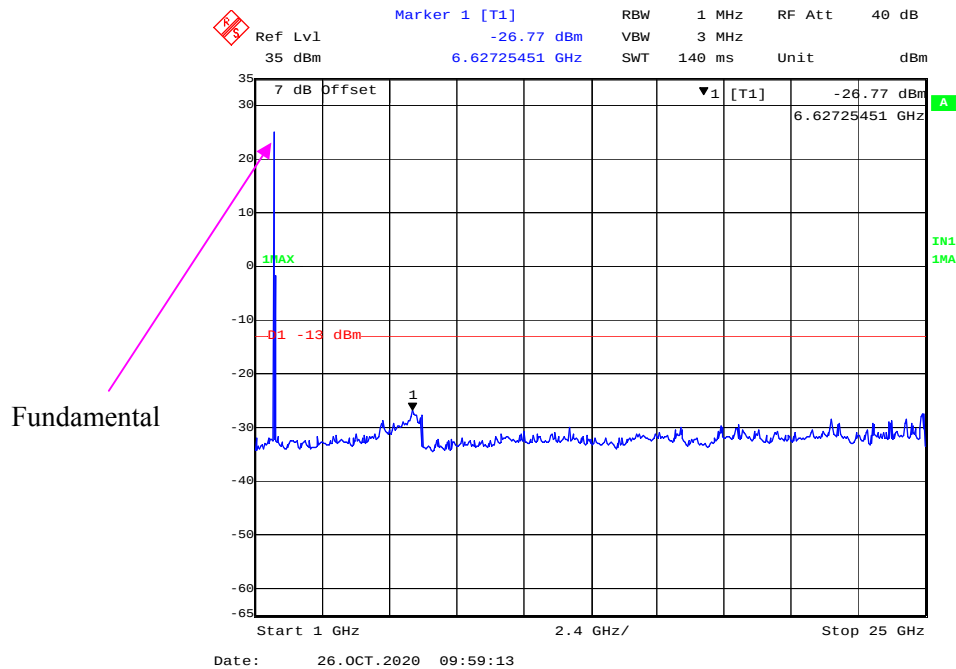
1 GHz – 25 GHz (1.4 MHz, QPSK, Low Channel)



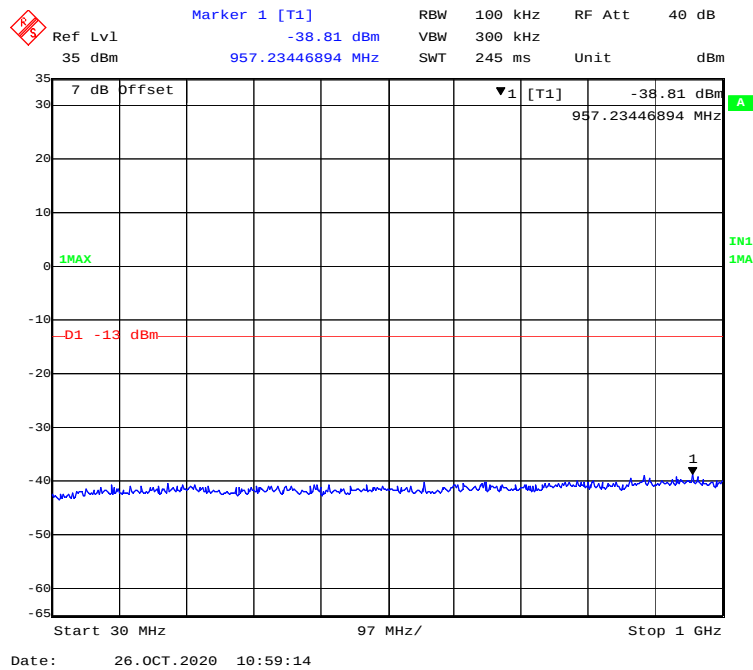
30 MHz - 1 GHz (1.4 MHz, 16-QAM, Low Channel)



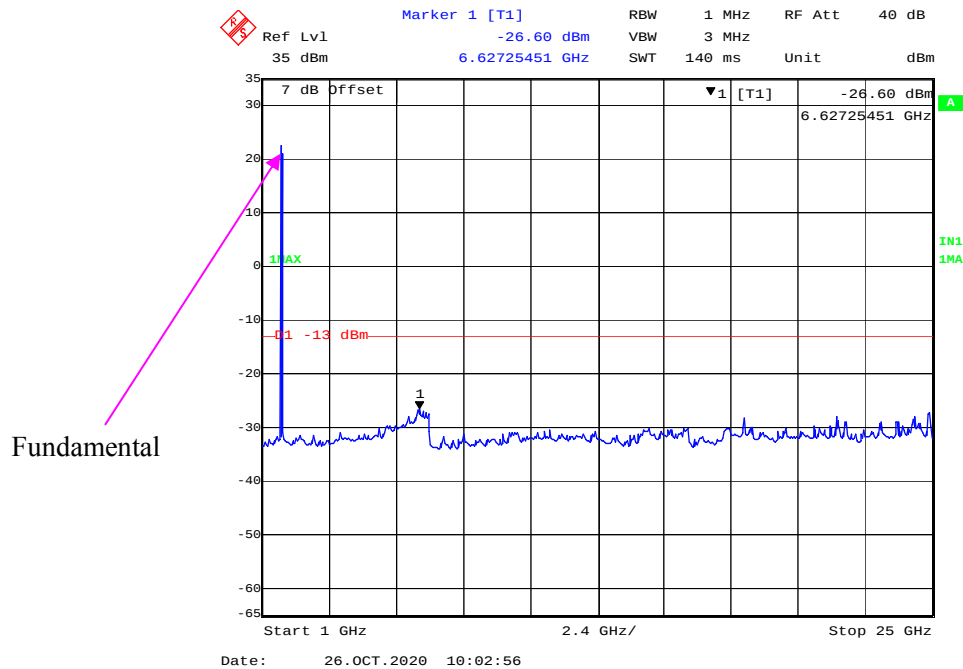
1 GHz – 25 GHz (1.4 MHz, 16-QAM, Low Channel)



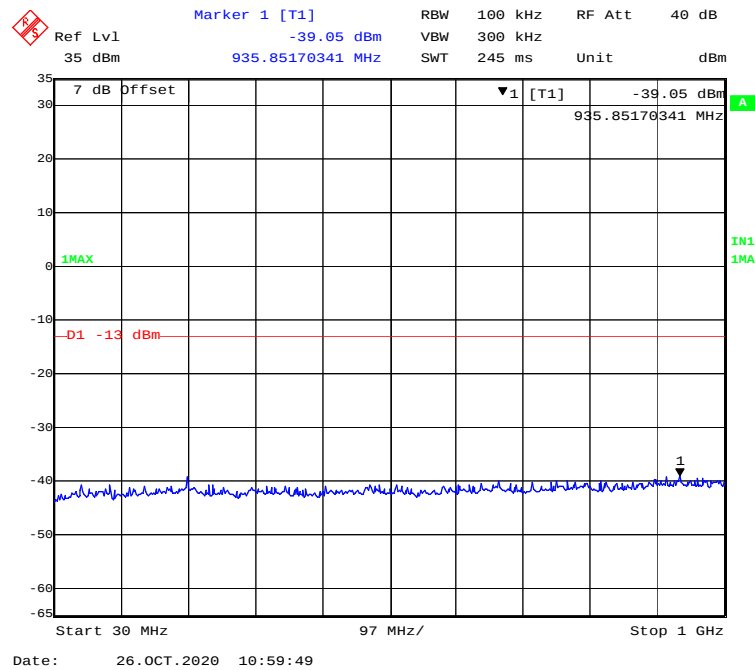
30 MHz - 1 GHz (3 MHz, QPSK, Low Channel)



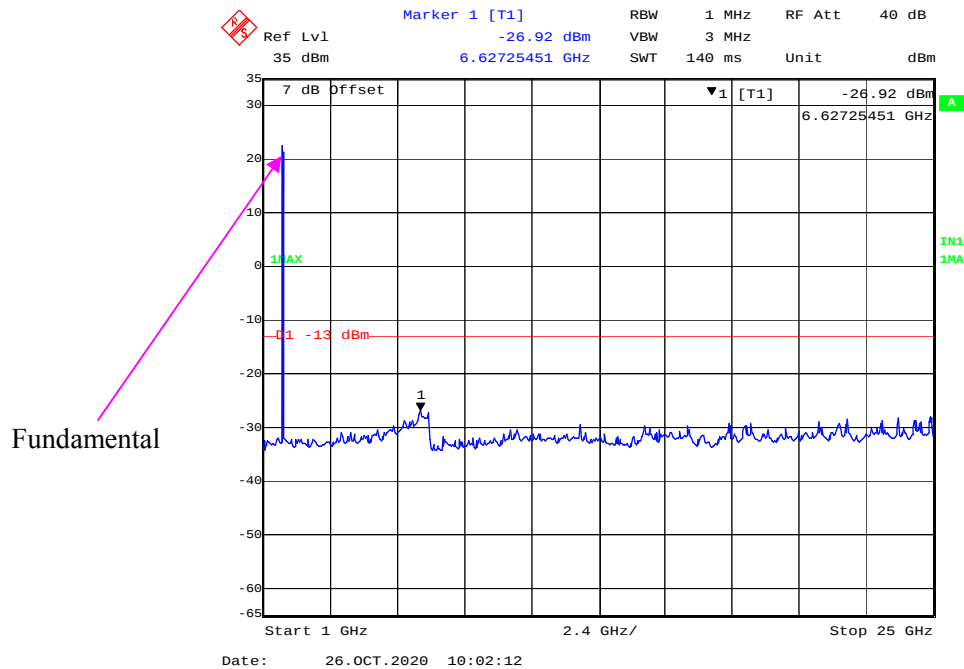
1 GHz – 25 GHz (3 MHz, QPSK, Low Channel)



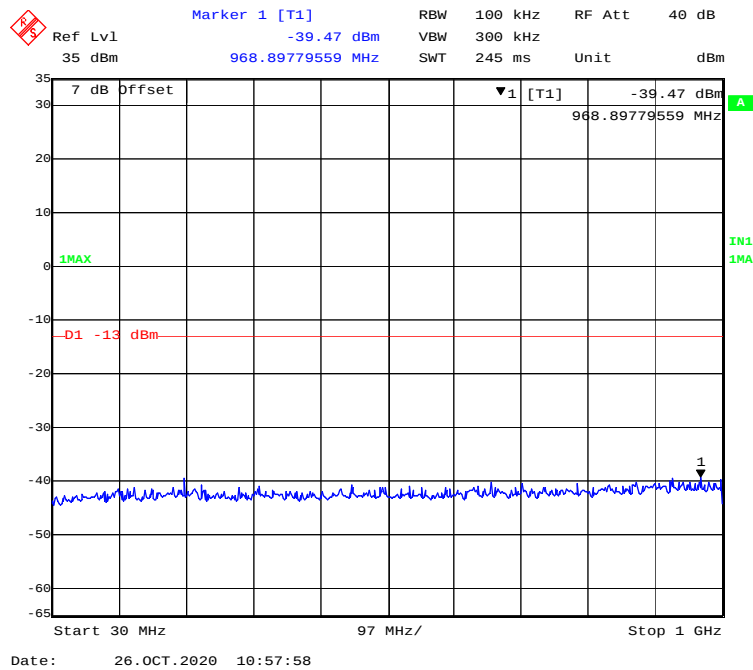
30 MHz - 1 GHz (3 MHz, 16-QAM, Low Channel)



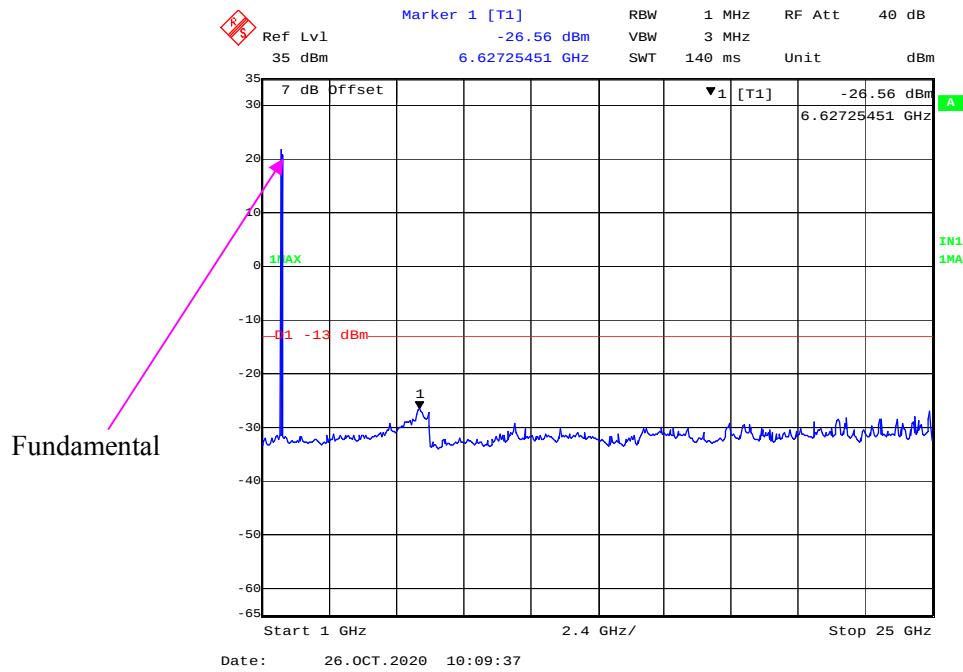
1 GHz – 25 GHz (3 MHz, 16-QAM, Low Channel)



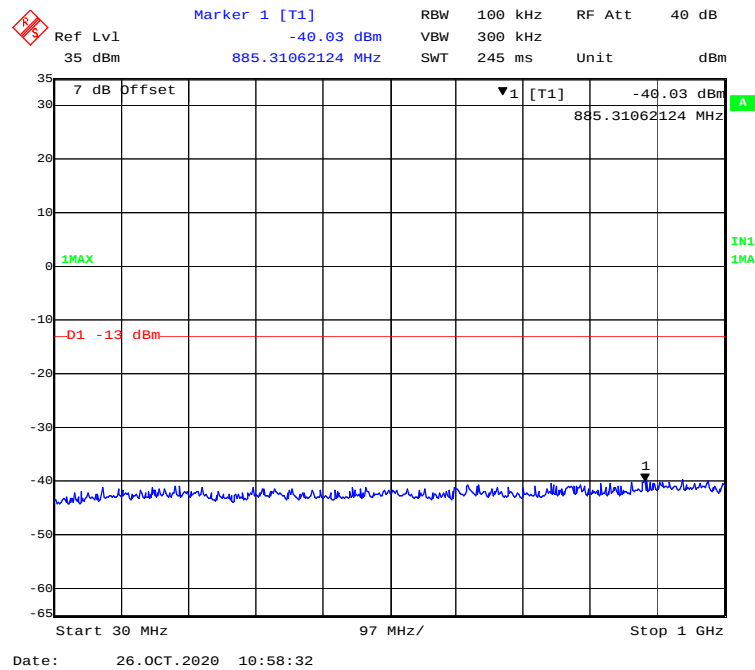
30 MHz - 1 GHz (5 MHz, QPSK, Low Channel)



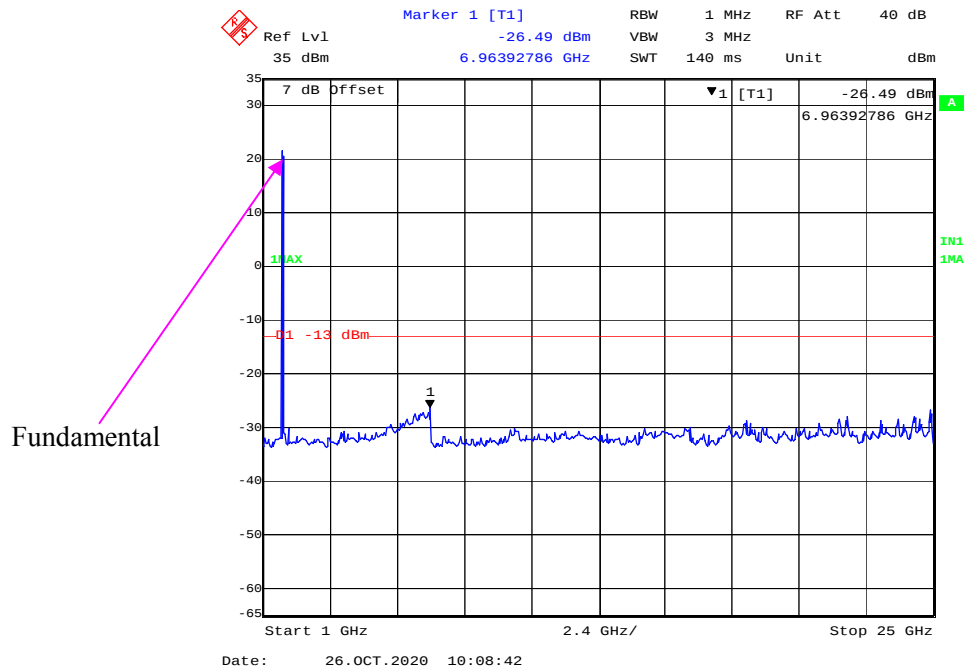
1 GHz – 25 GHz (5 MHz, QPSK, Low Channel)



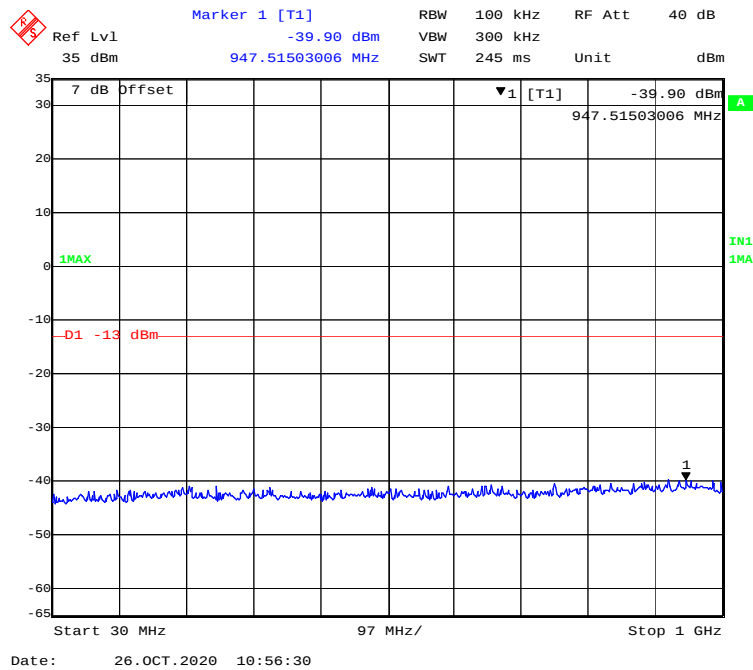
30 MHz - 1 GHz (5 MHz, 16-QAM, Low Channel)



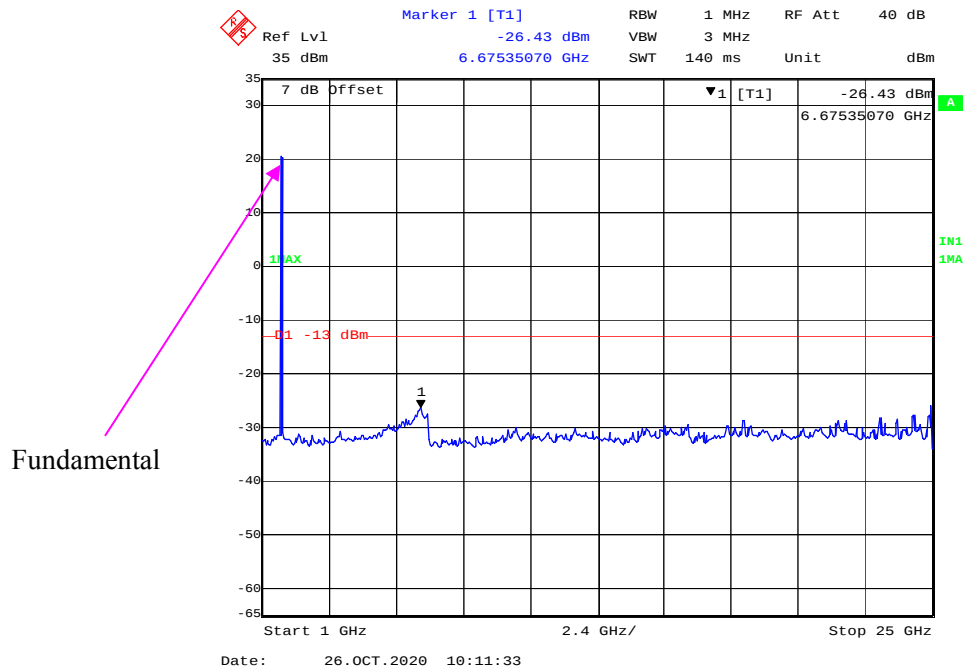
1 GHz - 25 GHz (5 MHz, 16-QAM, Low Channel)



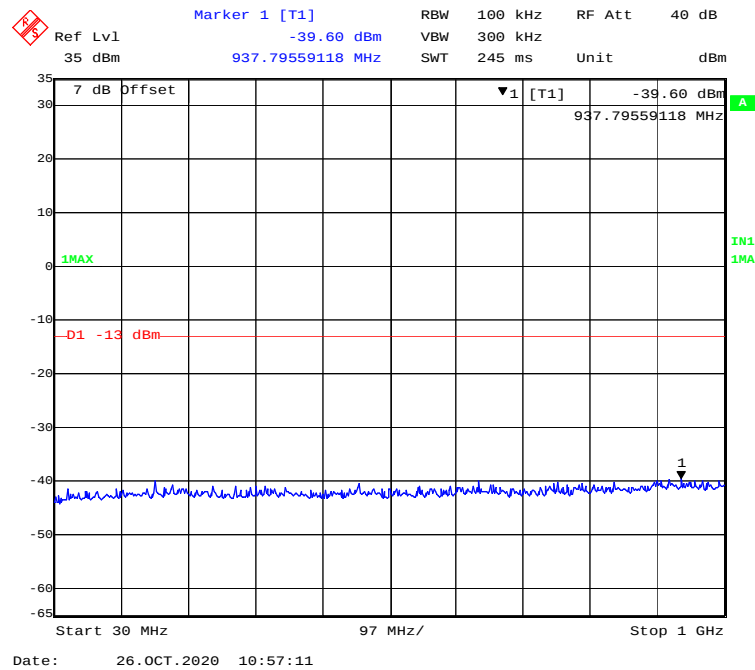
30 MHz - 1 GHz (10 MHz, QPSK, Low Channel)



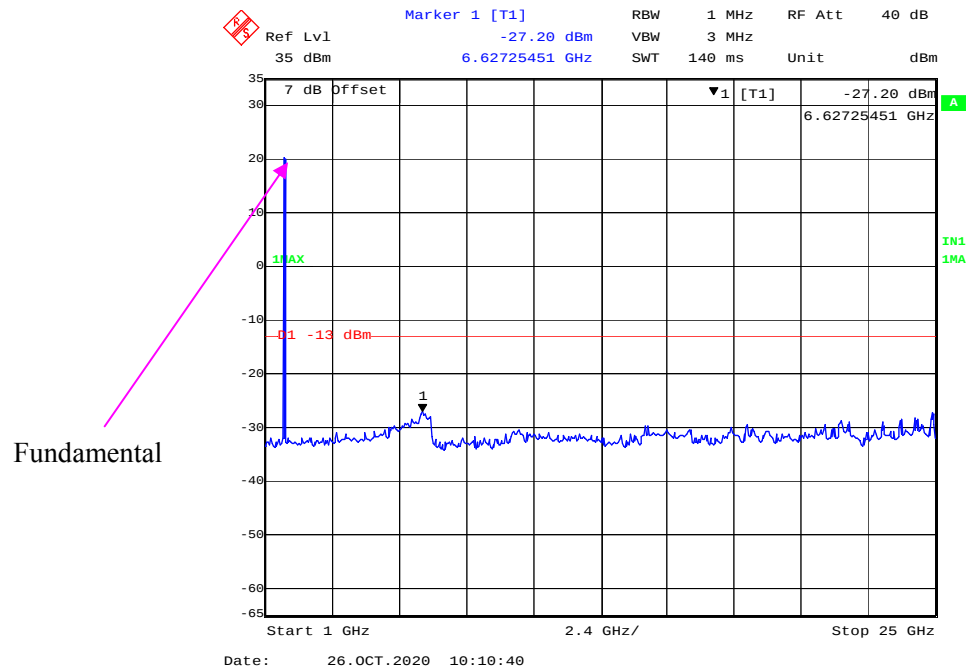
1 GHz – 25 GHz (10 MHz, QPSK, Low Channel)



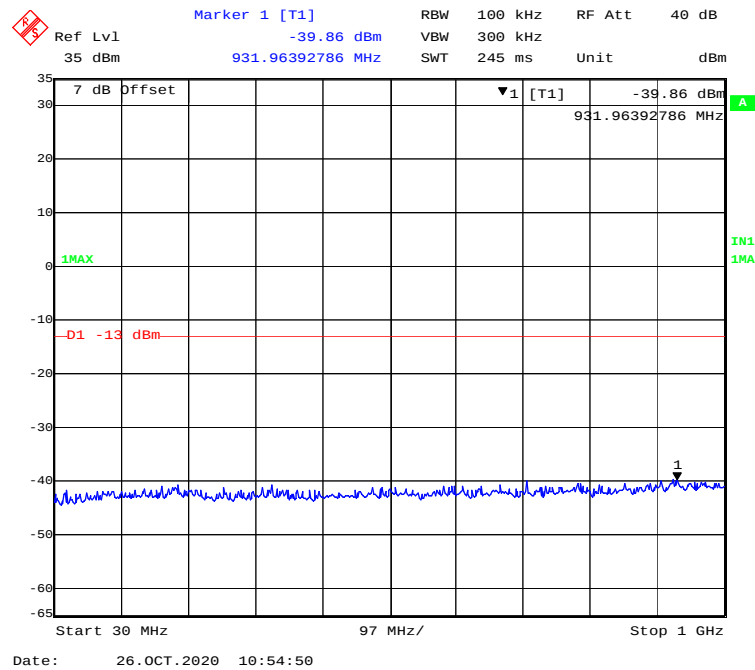
30 MHz - 1 GHz (10 MHz, 16-QAM, Low Channel)



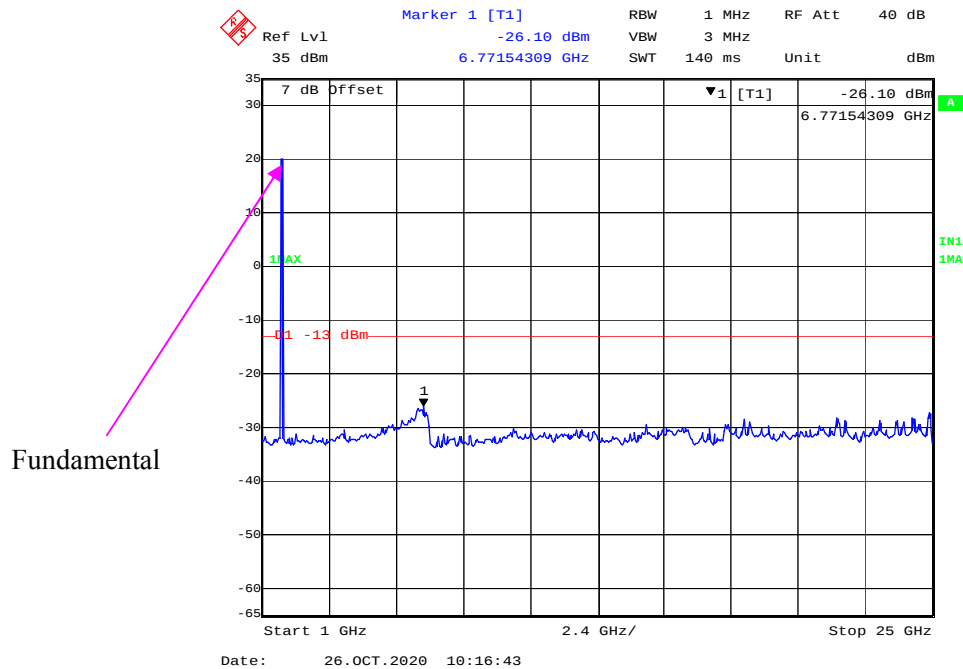
1 GHz – 25 GHz (10 MHz, 16-QAM, Low Channel)



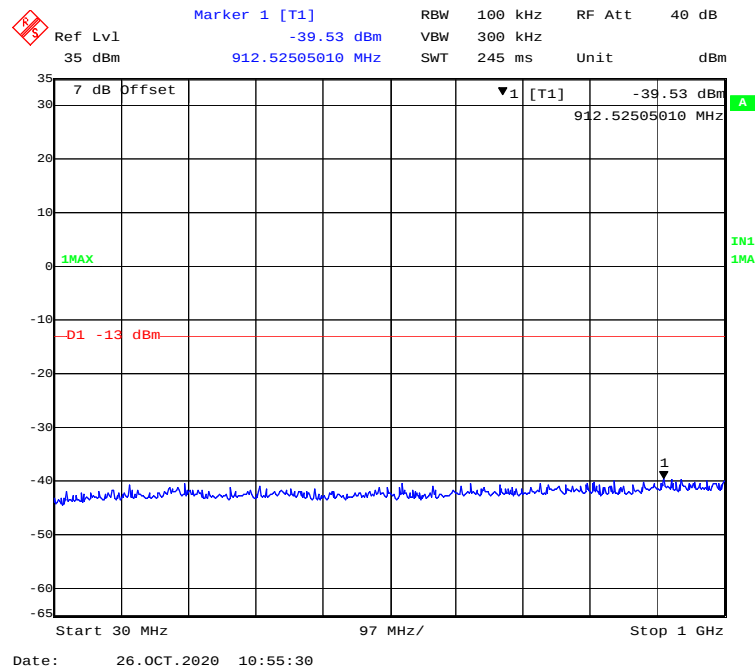
30 MHz - 1 GHz (15 MHz, QPSK, Low Channel)



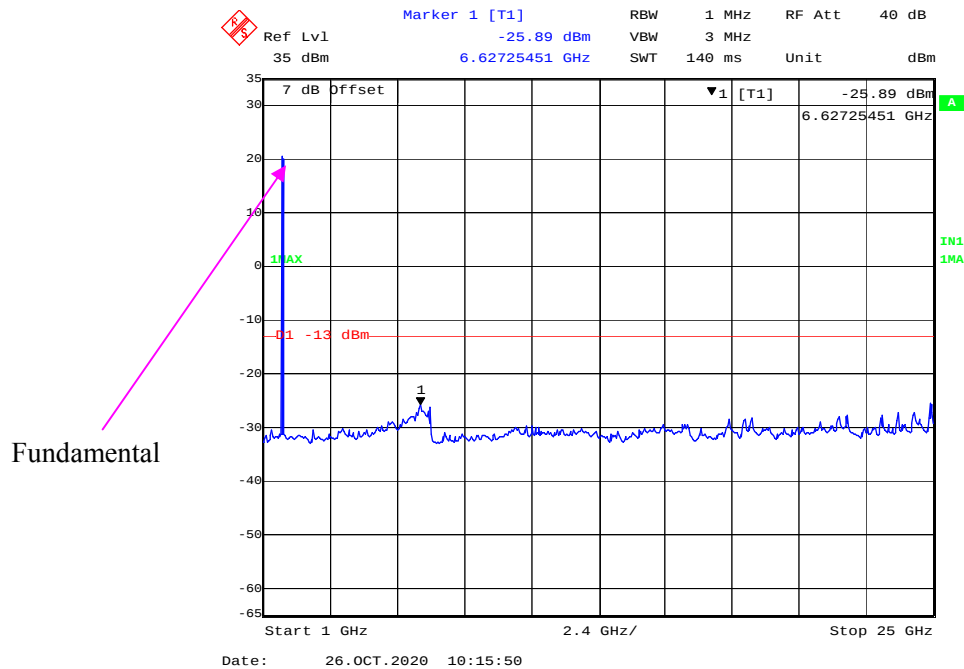
1 GHz – 25 GHz (15 MHz, QPSK, Low Channel)



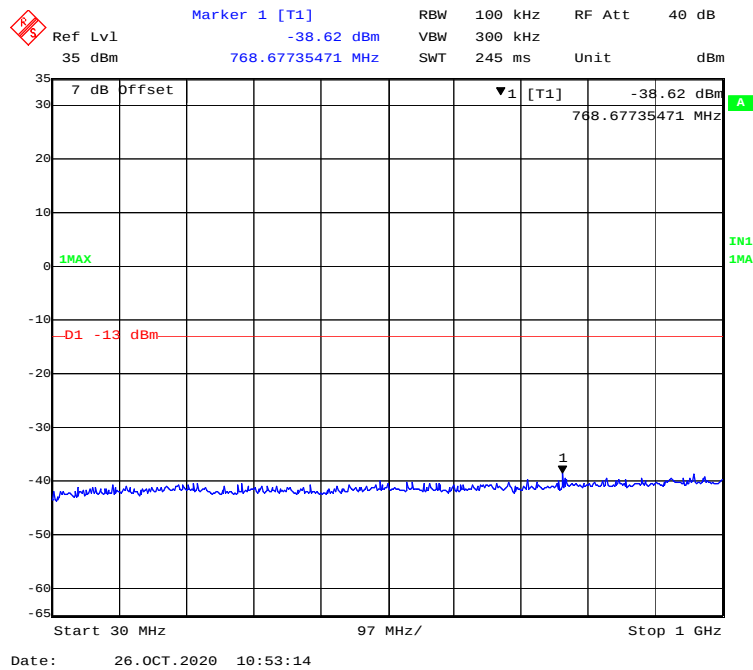
30 MHz - 1 GHz (15 MHz, 16-QAM, Low Channel)



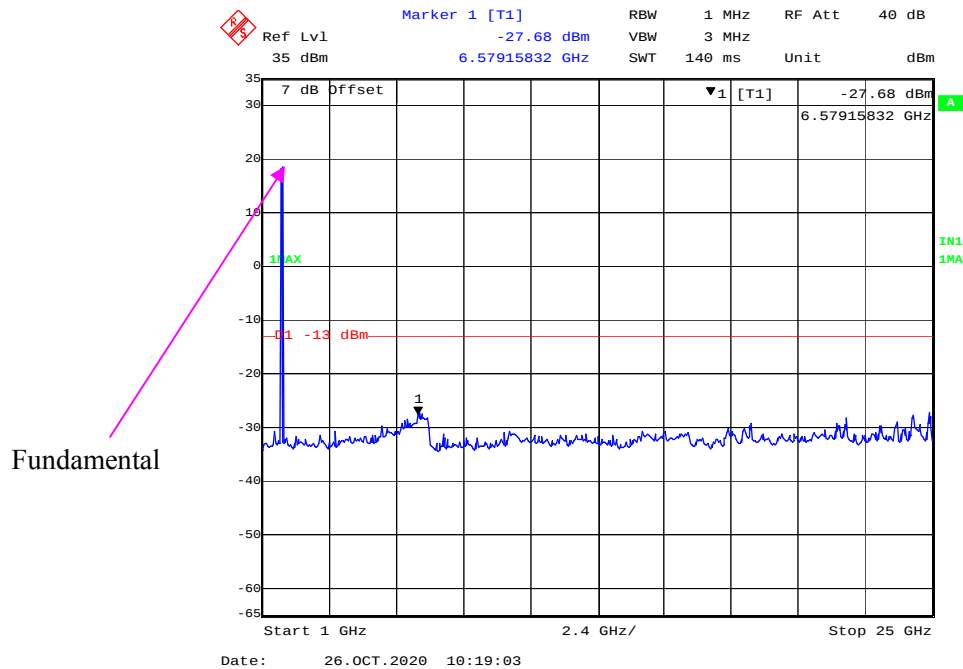
1 GHz – 25 GHz (15 MHz, 16-QAM, Low Channel)



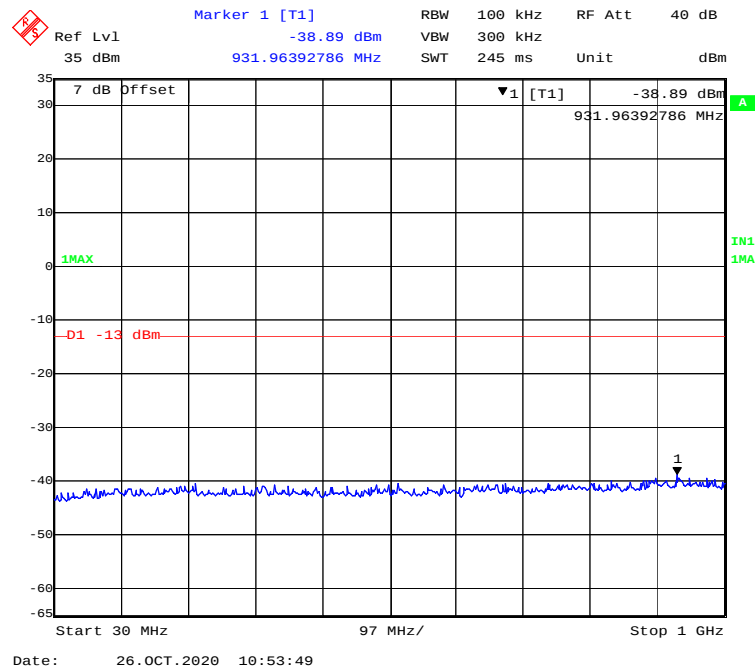
30 MHz - 1 GHz (20 MHz, QPSK, Low Channel)



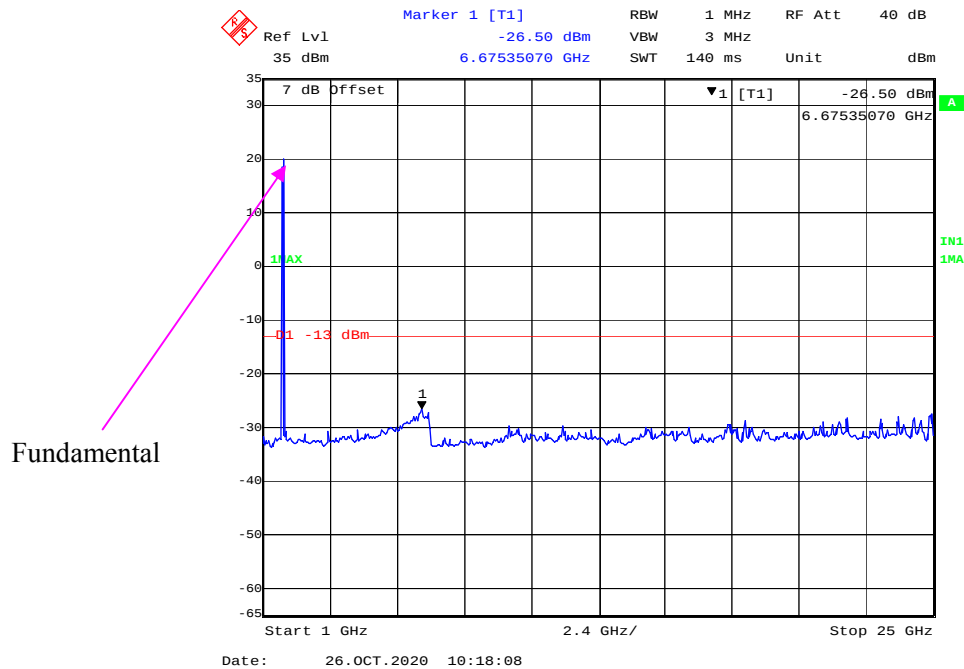
1 GHz – 25 GHz (20 MHz, QPSK, Low Channel)



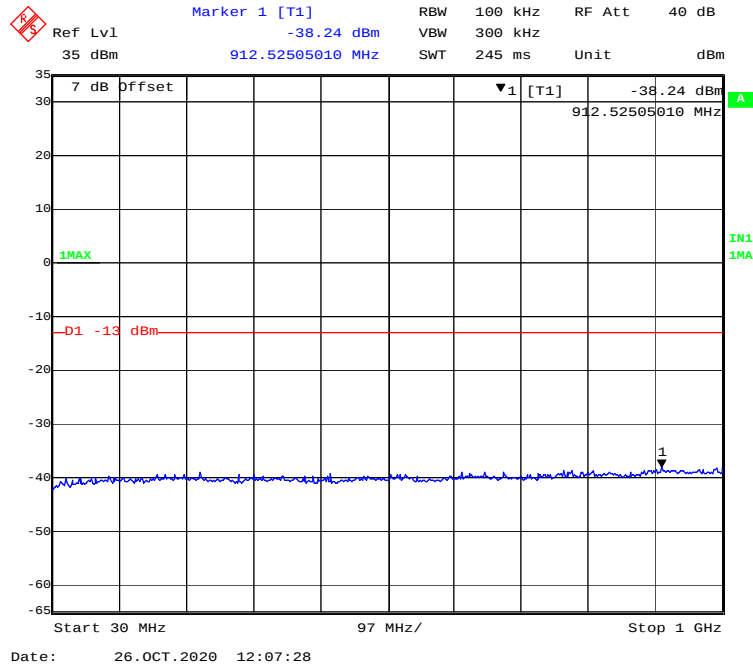
30 MHz - 1 GHz (20 MHz, 16-QAM, Low Channel)



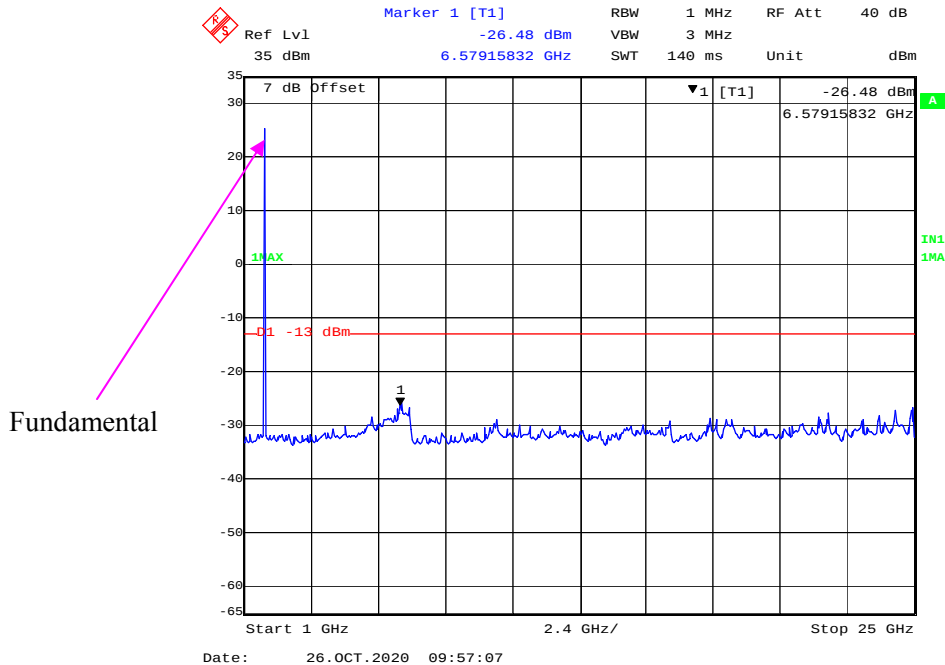
1 GHz – 25 GHz (20 MHz, 16-QAM, Low Channel)



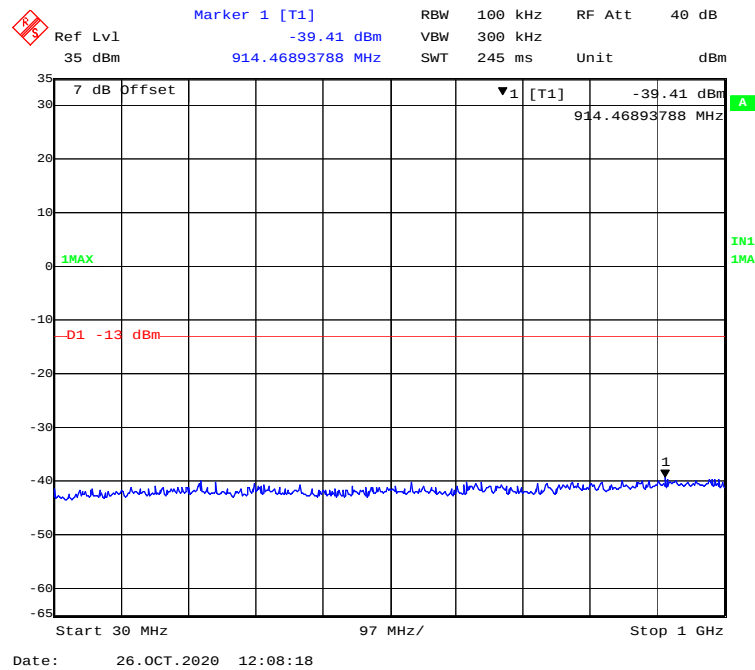
30 MHz - 1 GHz (1.4 MHz, QPSK, Middle Channel)



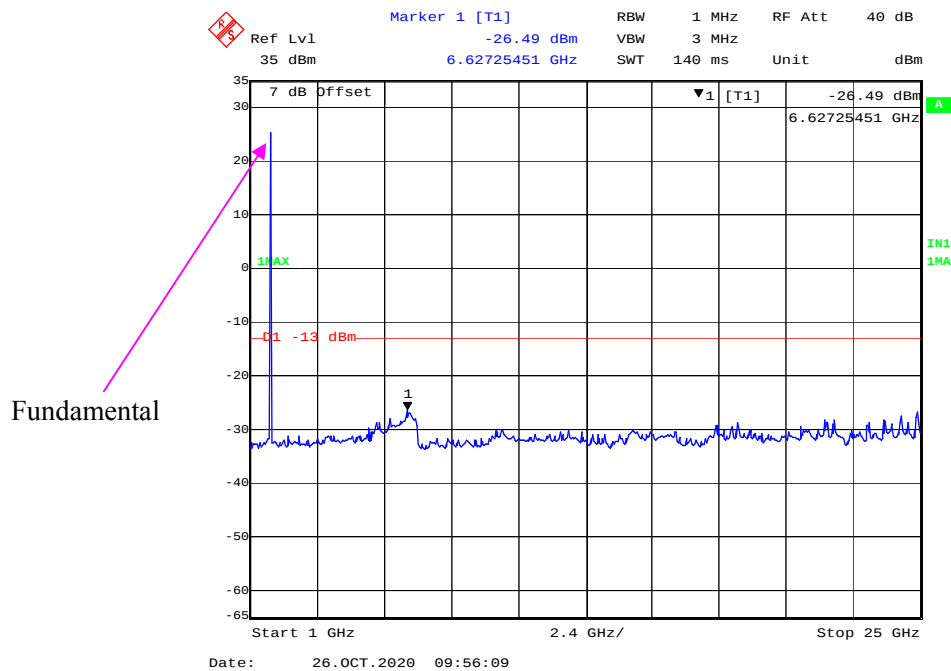
1 GHz – 25 GHz (1.4 MHz, QPSK, Middle Channel)



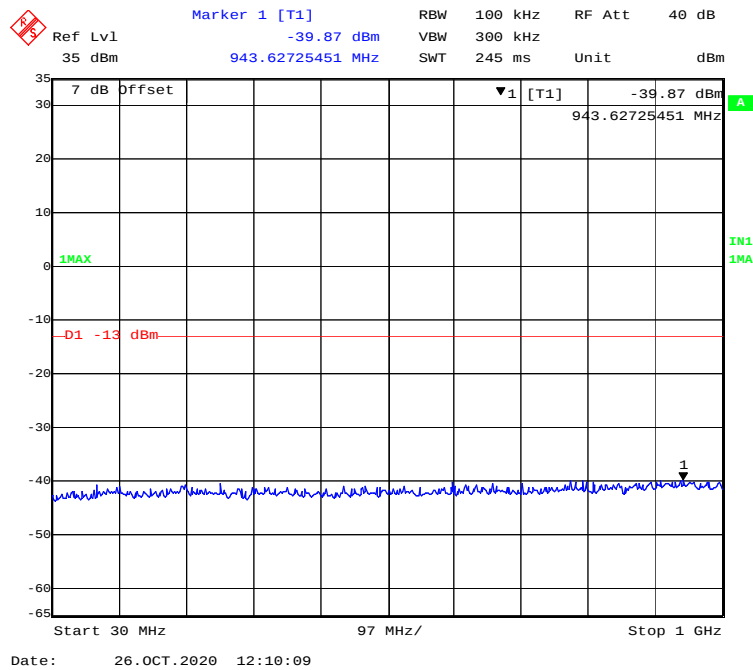
30 MHz - 1 GHz (1.4 MHz, 16-QAM, Middle Channel)



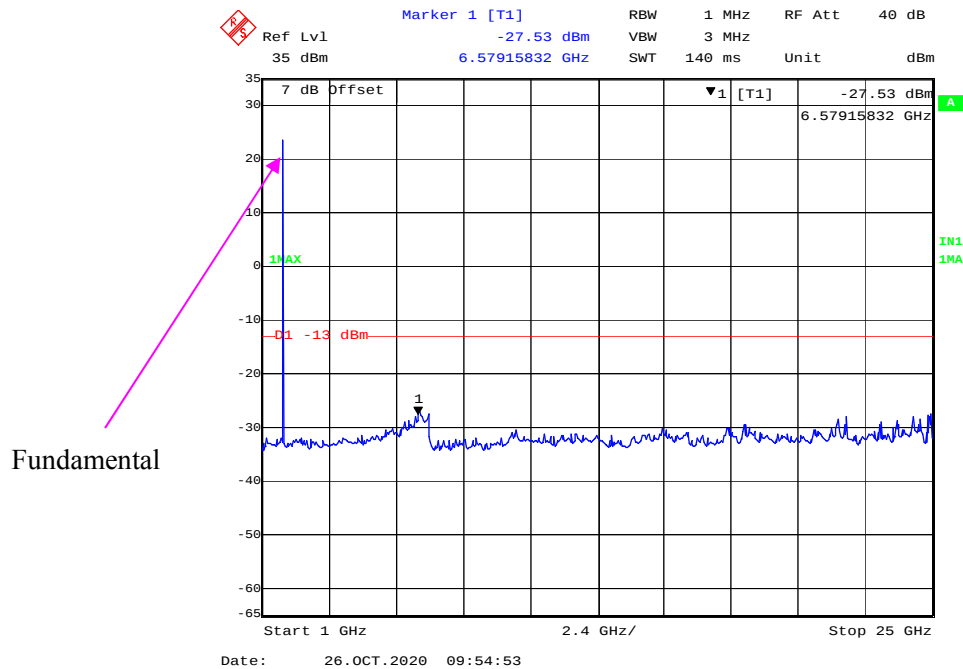
1 GHz – 25 GHz (1.4 MHz, 16-QAM, Middle Channel)



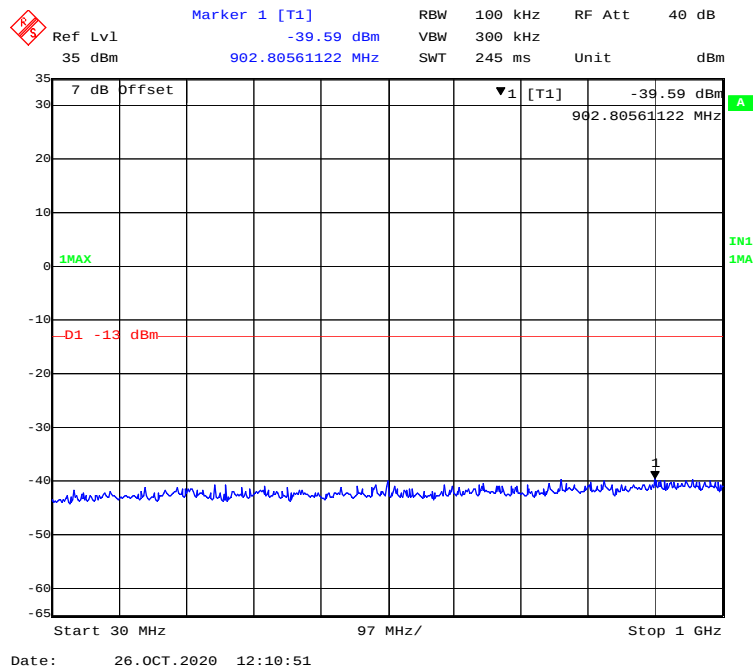
30 MHz - 1 GHz (3 MHz, QPSK, Middle Channel)



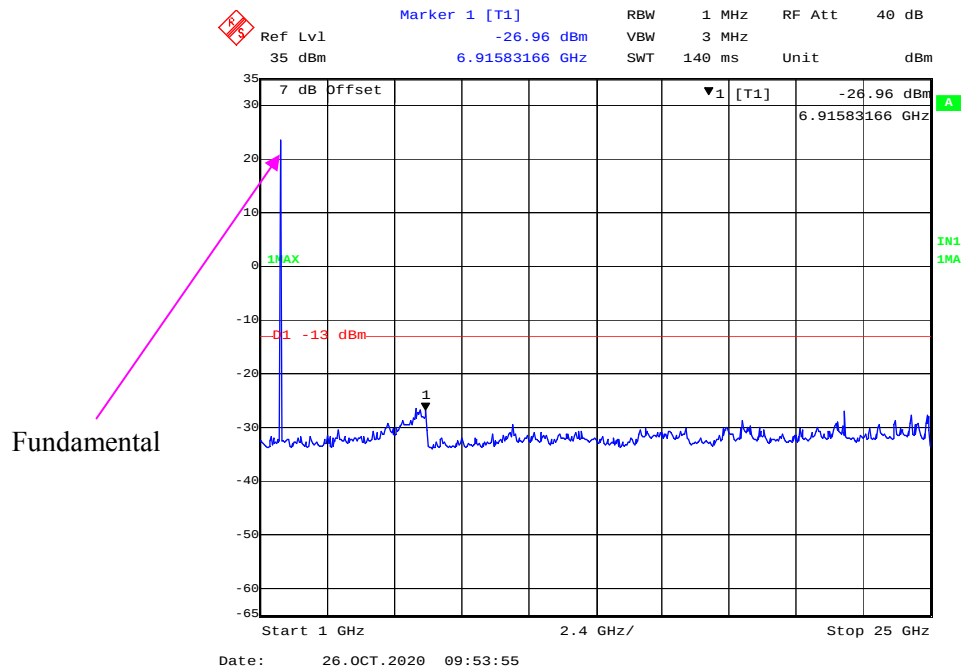
1 GHz – 25 GHz (3 MHz, QPSK, Middle Channel)



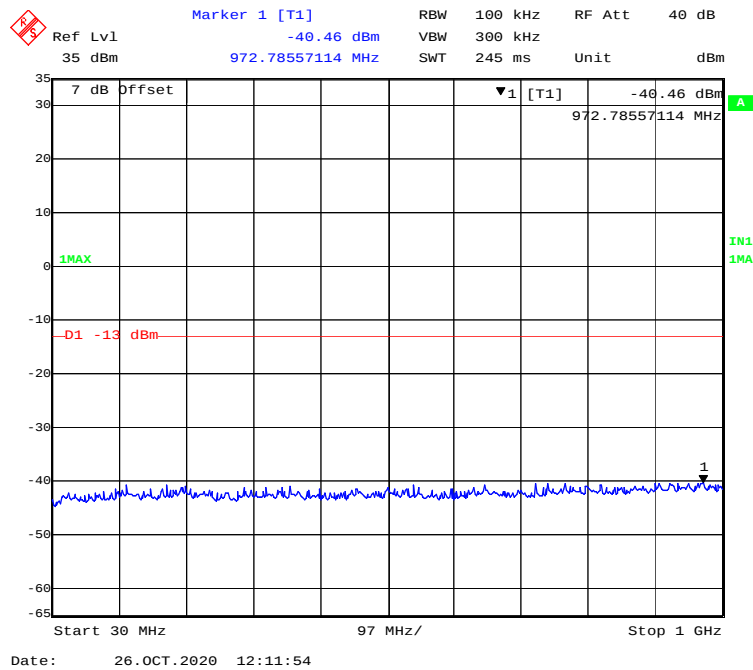
30 MHz - 1 GHz (3 MHz, 16-QAM, Middle Channel)



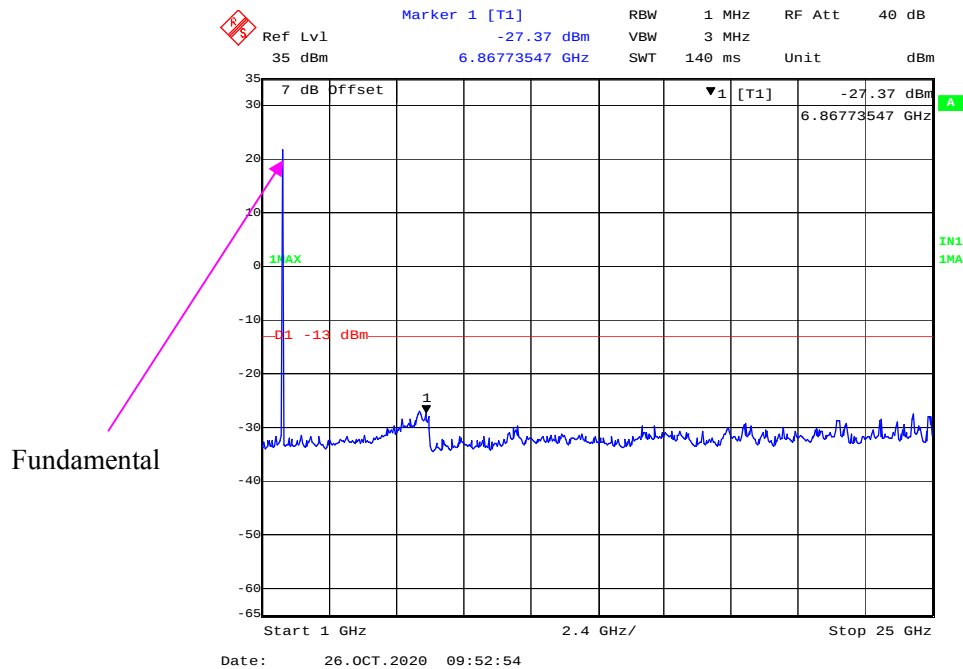
1 GHz – 25 GHz (3 MHz, 16-QAM, Middle Channel)



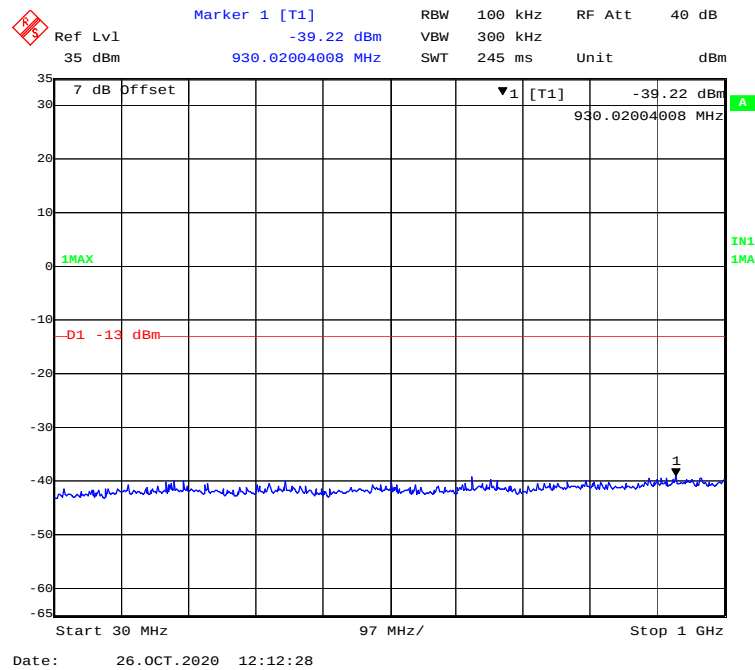
30 MHz - 1 GHz (5 MHz, QPSK, Middle Channel)



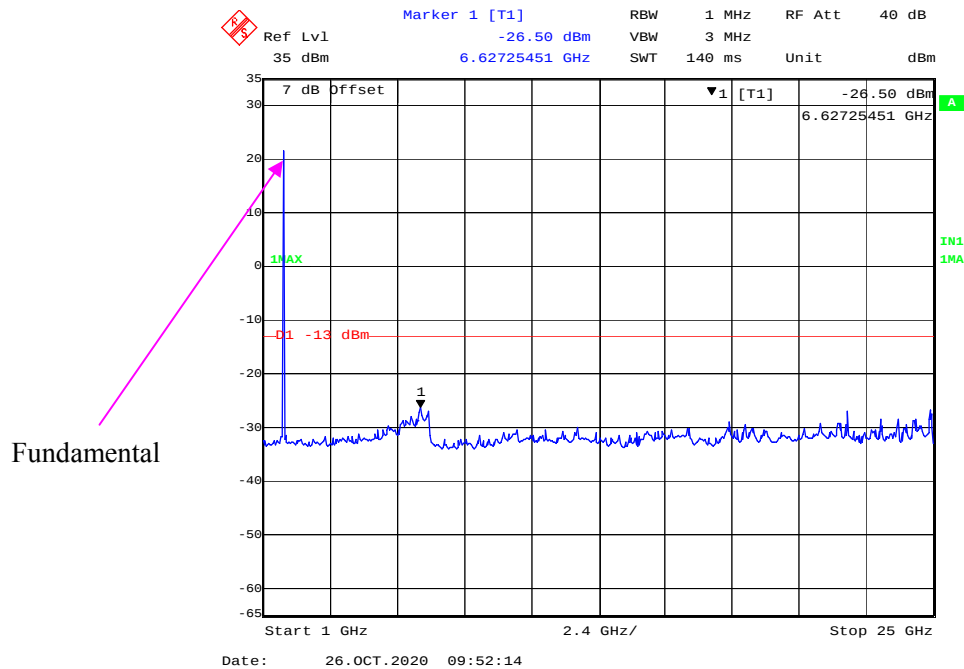
1 GHz – 25 GHz (5 MHz, QPSK, Middle Channel)



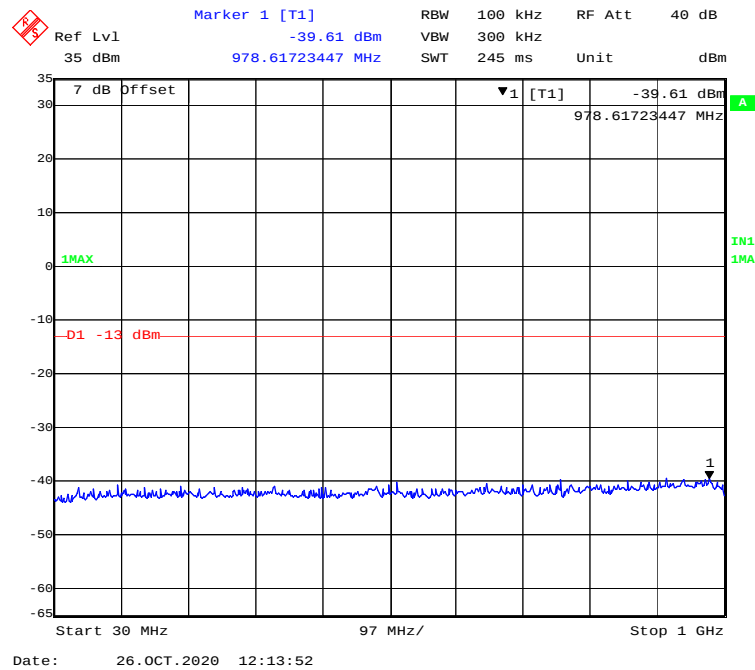
30 MHz - 1 GHz (5 MHz, 16-QAM, Middle Channel)



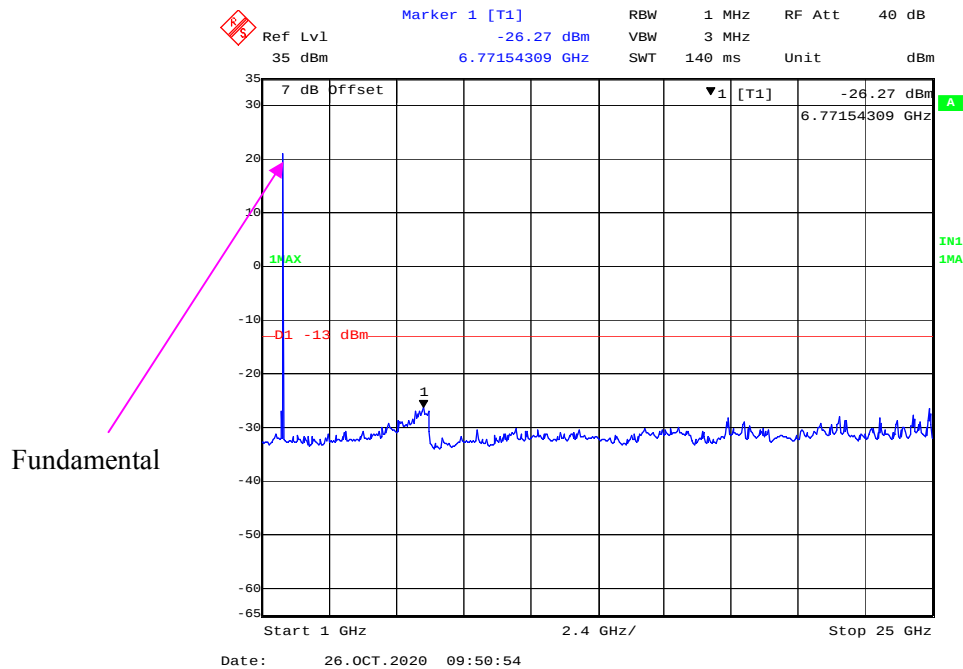
1 GHz – 25 GHz (5 MHz, 16-QAM, Middle Channel)



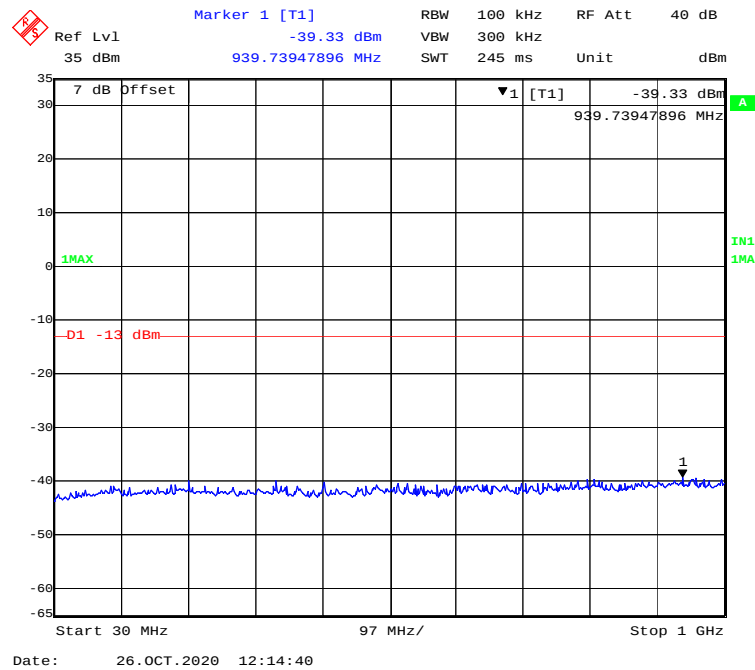
30 MHz - 1 GHz (10 MHz, QPSK, Middle Channel)



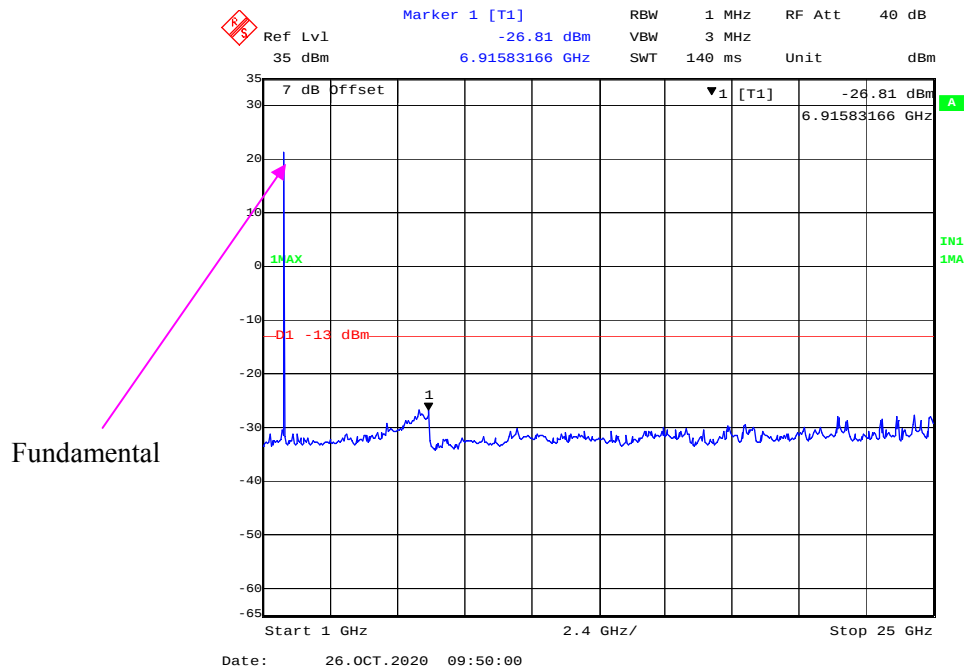
1 GHz – 25 GHz (10 MHz, QPSK, Middle Channel)



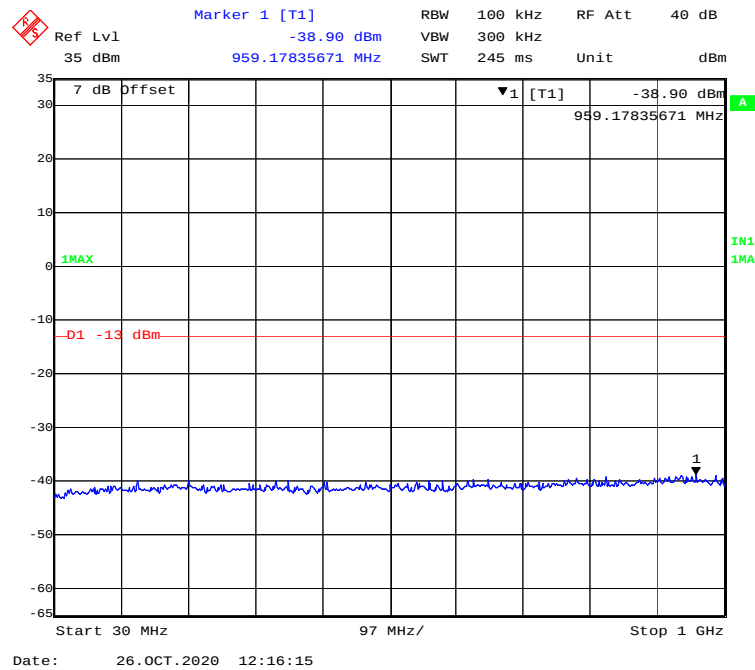
30 MHz - 1 GHz (10 MHz, 16-QAM, Middle Channel)



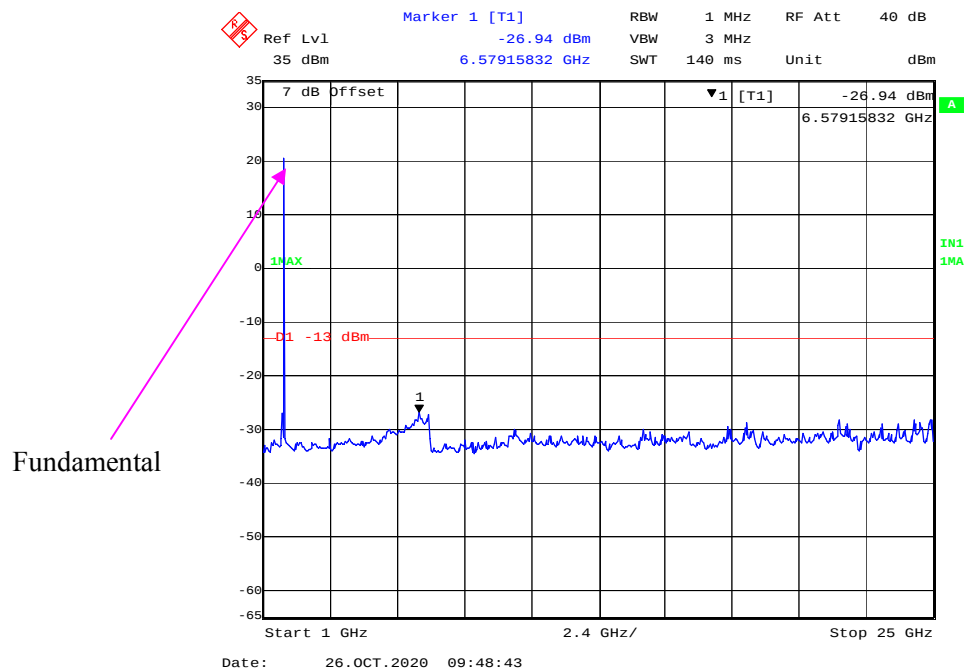
1 GHz – 25 GHz (10 MHz, 16-QAM, Middle Channel)



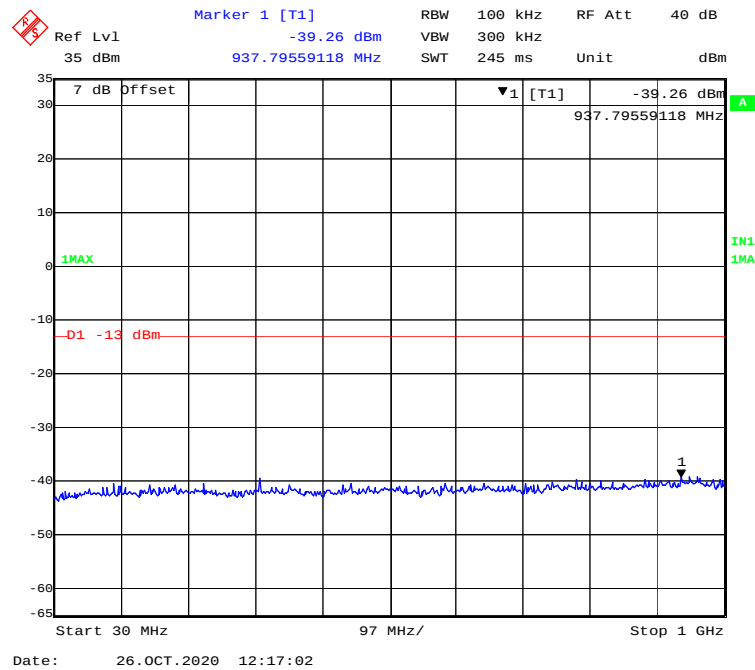
30 MHz - 1 GHz (15 MHz, QPSK, Middle Channel)



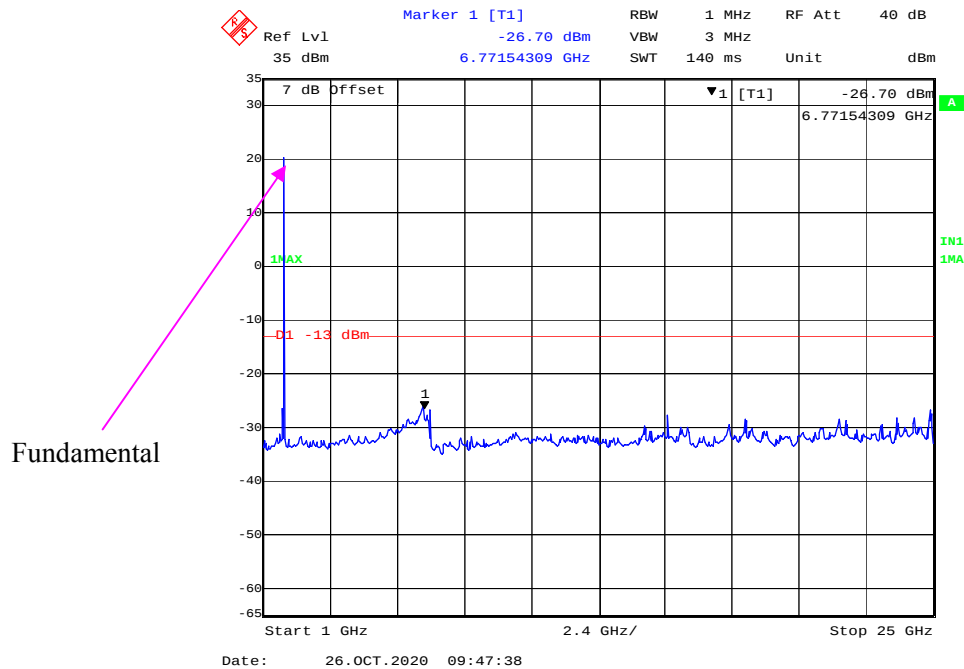
1 GHz – 25 GHz (15 MHz, QPSK, Middle Channel)



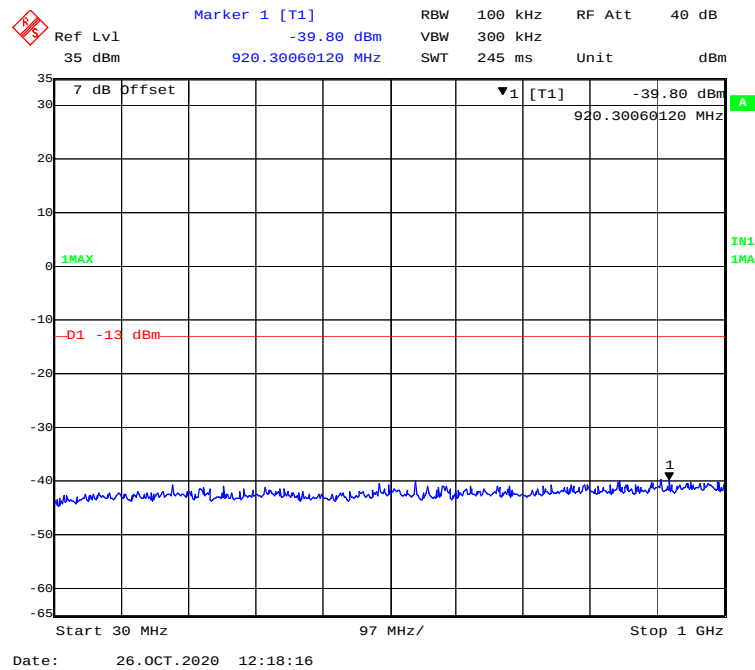
30 MHz - 1 GHz (15 MHz, 16-QAM, Middle Channel)



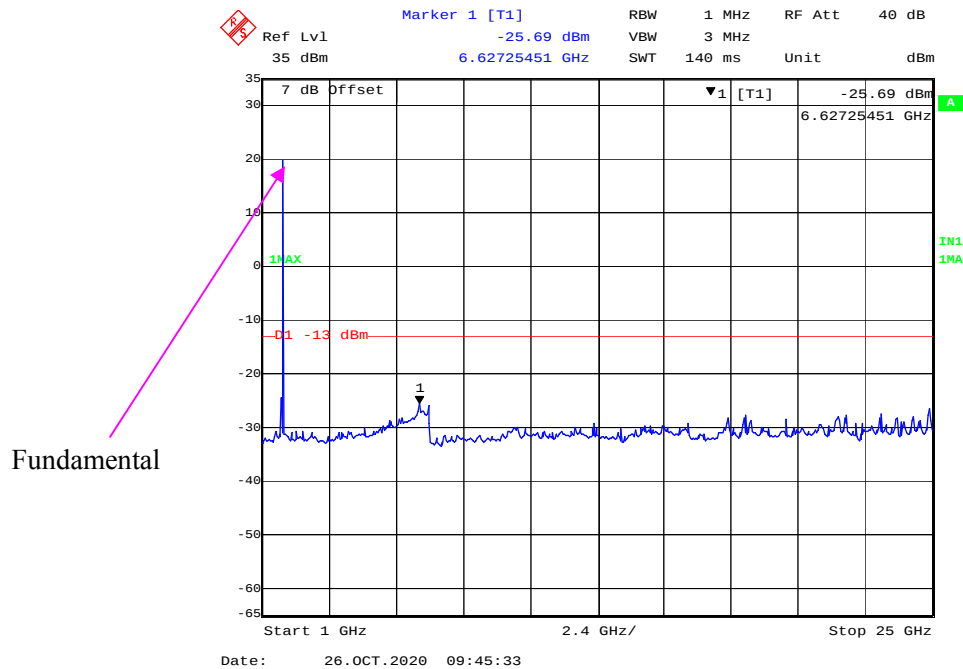
1 GHz – 25 GHz (15 MHz, 16-QAM, Middle Channel)



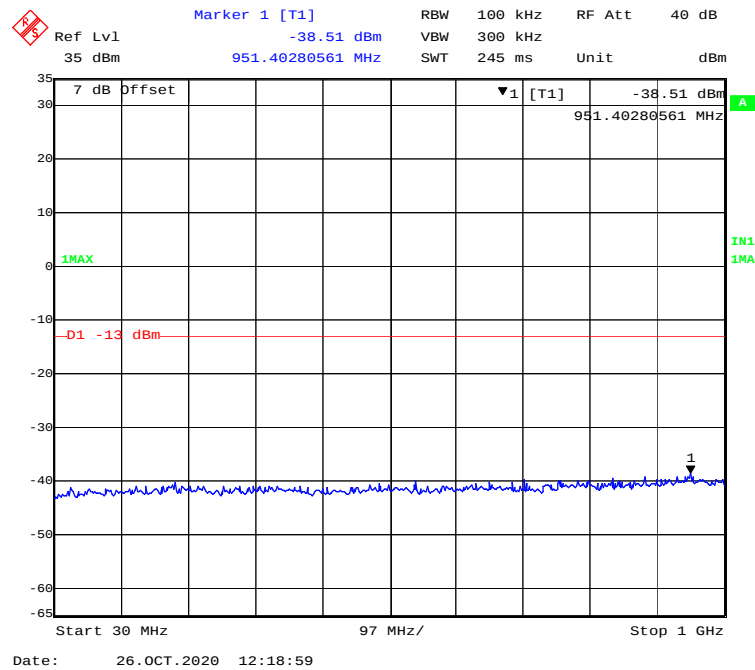
30 MHz - 1 GHz (20 MHz, QPSK, Middle Channel)



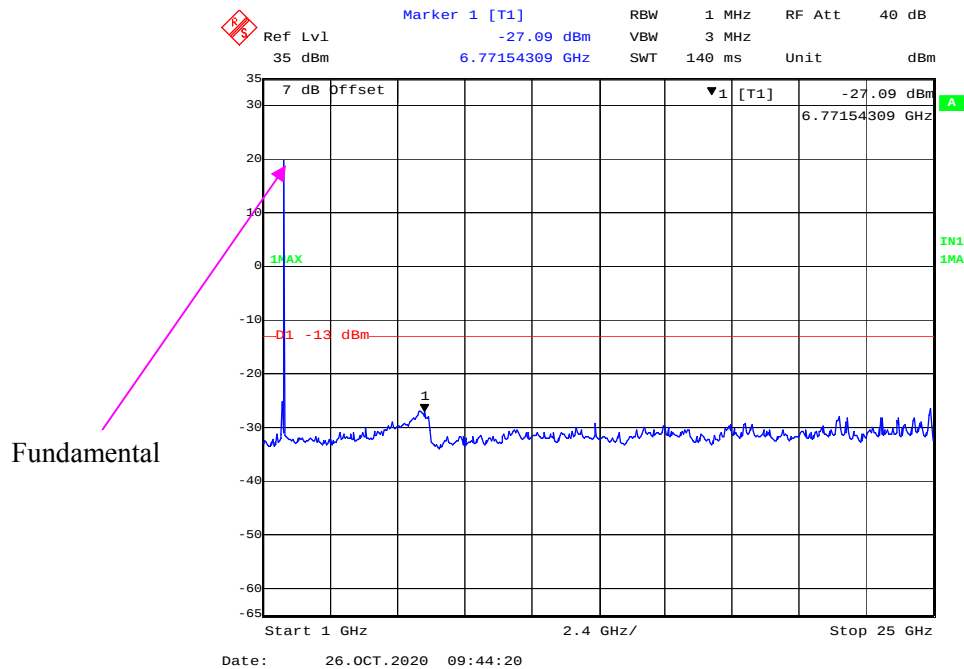
1 GHz – 25 GHz (20 MHz, QPSK, Middle Channel)



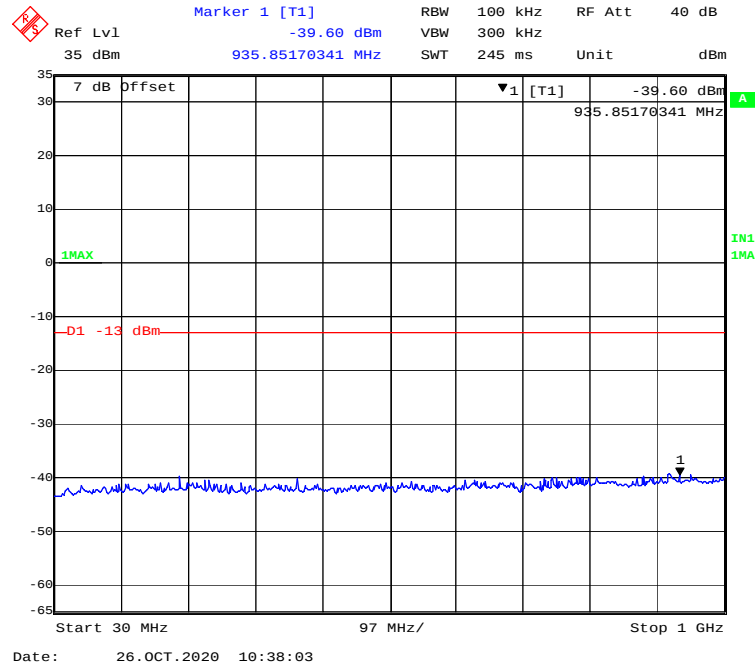
30 MHz - 1 GHz (20 MHz, 16-QAM, Middle Channel)



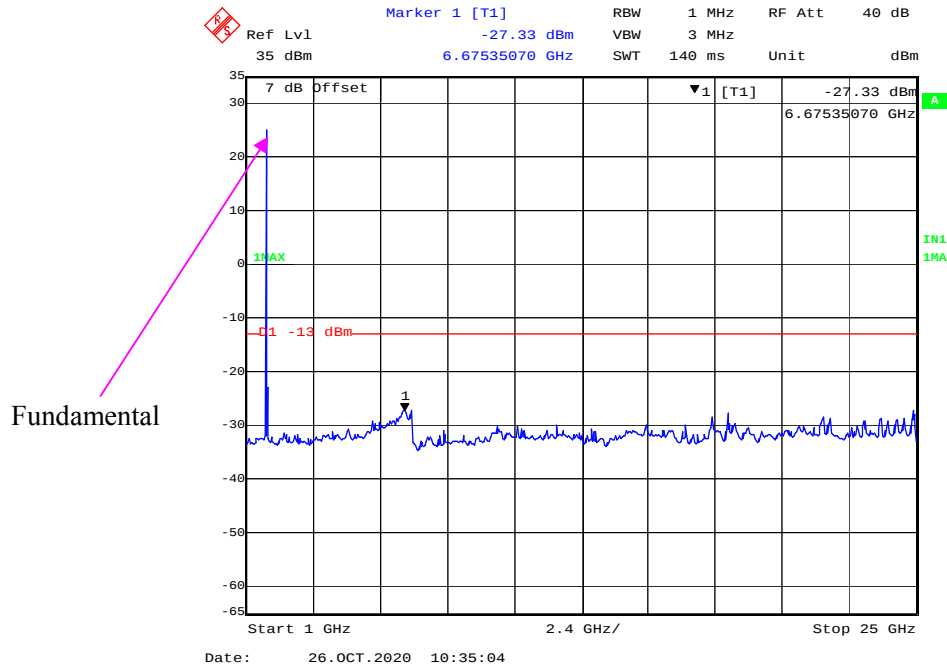
1 GHz – 25 GHz (20 MHz, 16-QAM, Middle Channel)



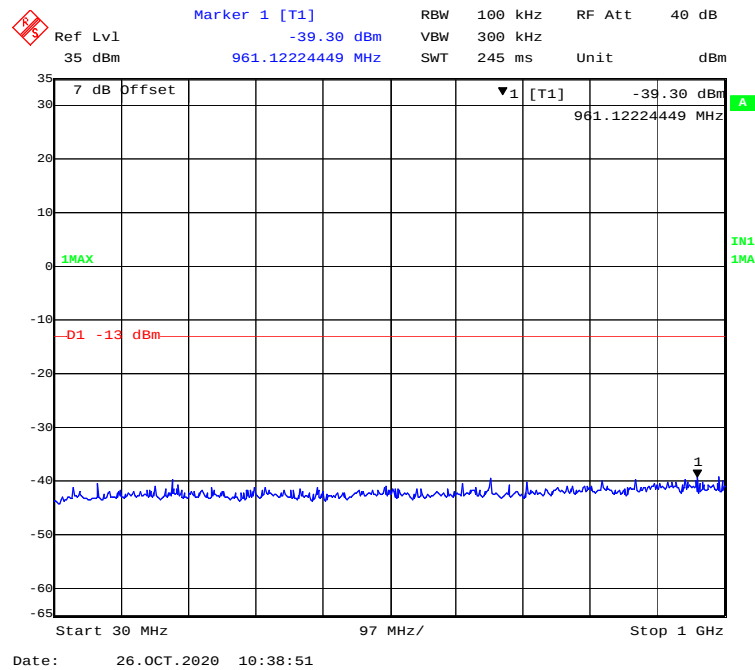
30 MHz - 1 GHz (1.4 MHz, QPSK, High Channel)



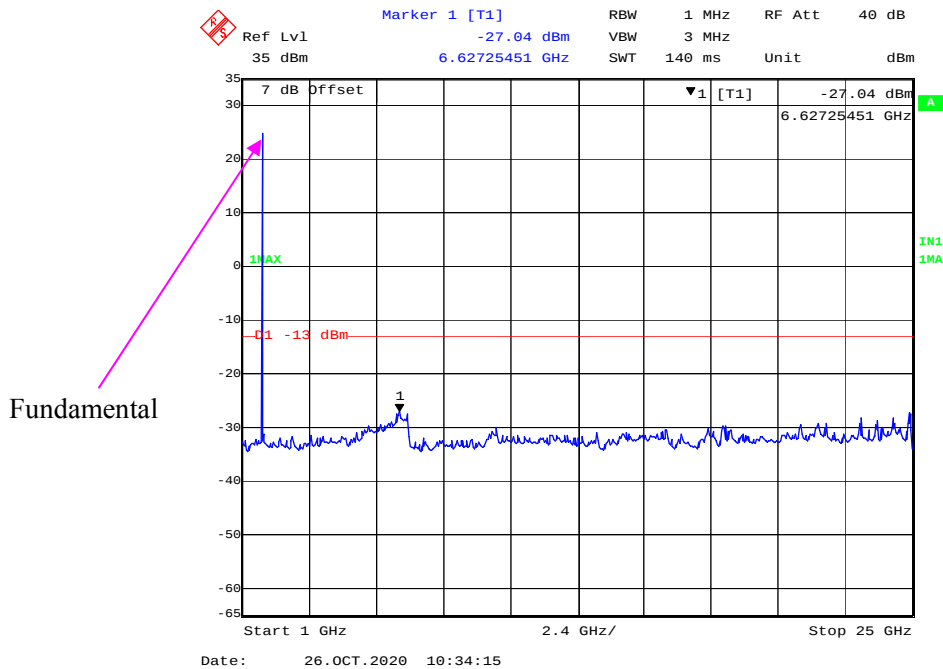
1 GHz - 25 GHz (1.4 MHz, QPSK, High Channel)



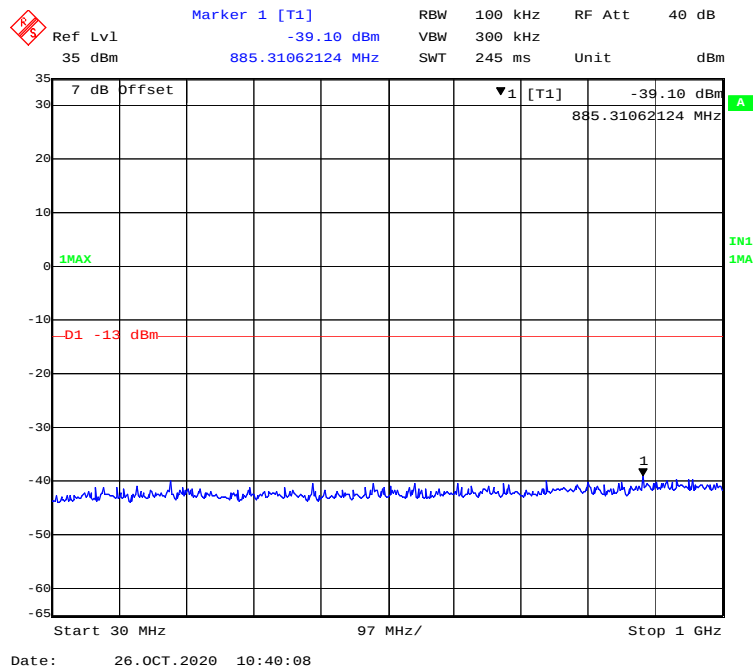
30 MHz - 1 GHz (1.4 MHz, 16-QAM, High Channel)



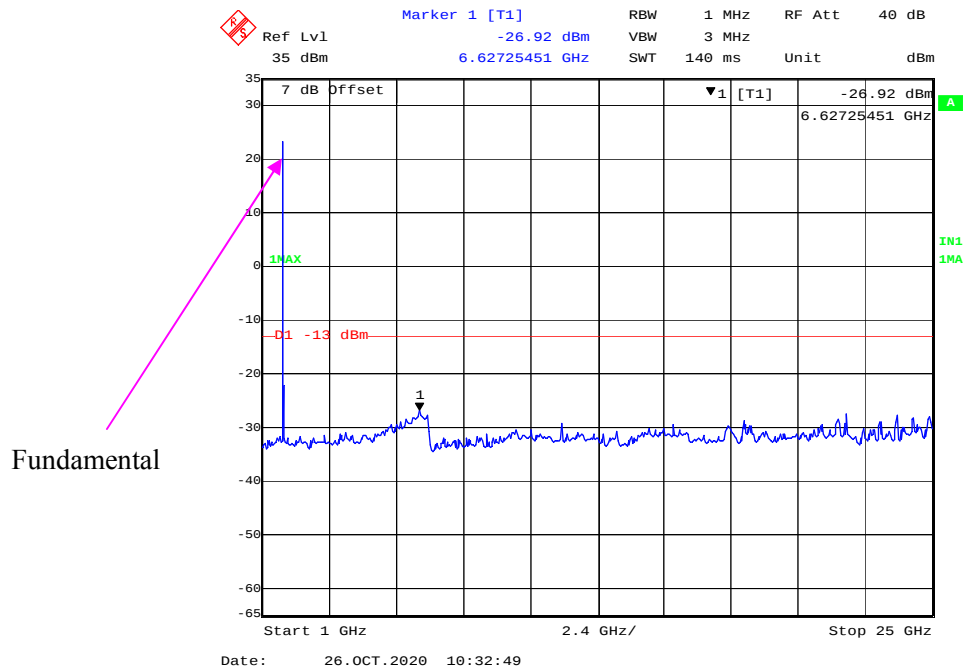
1 GHz – 25 GHz (1.4 MHz, 16-QAM, High Channel)



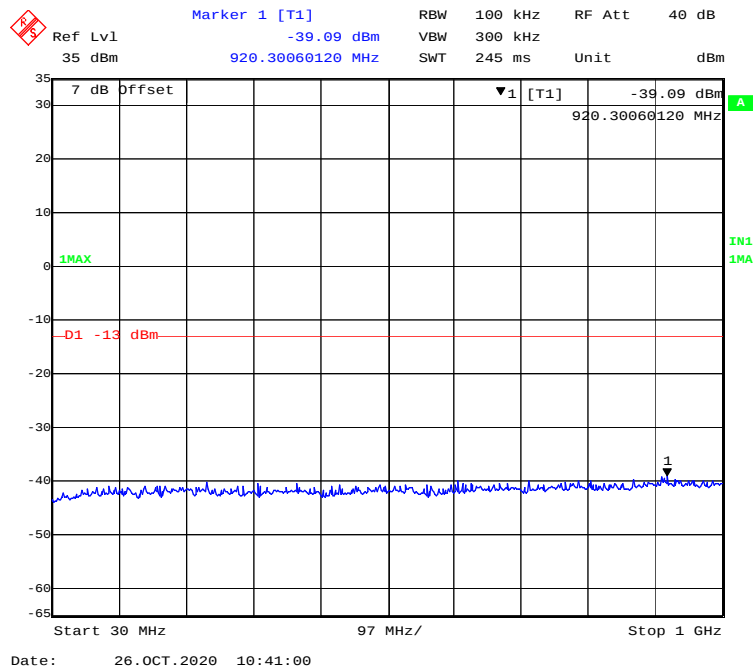
30 MHz - 1 GHz (3 MHz, QPSK, High Channel)



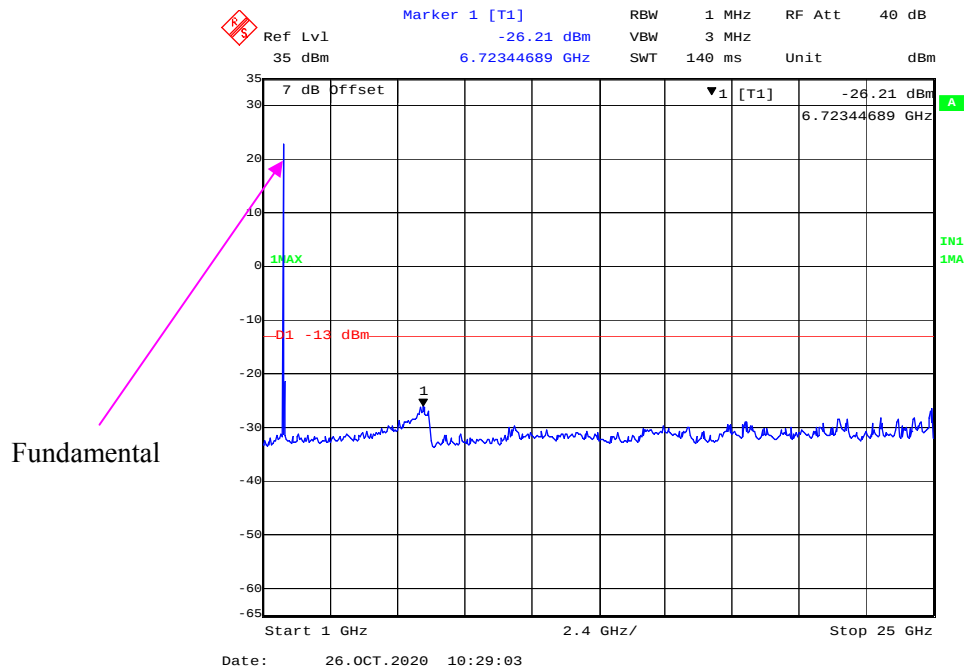
1 GHz – 25 GHz (3 MHz, QPSK, High Channel)



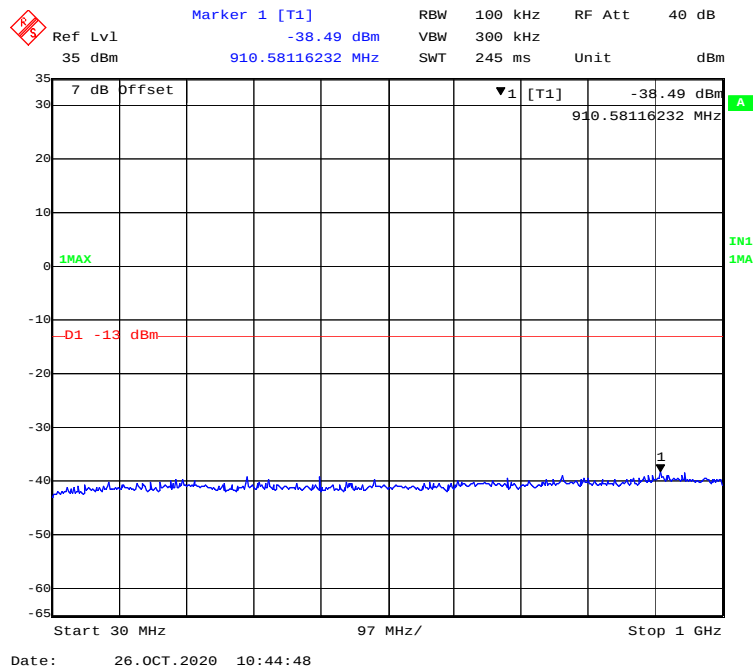
30 MHz - 1 GHz (3 MHz, 16-QAM, High Channel)



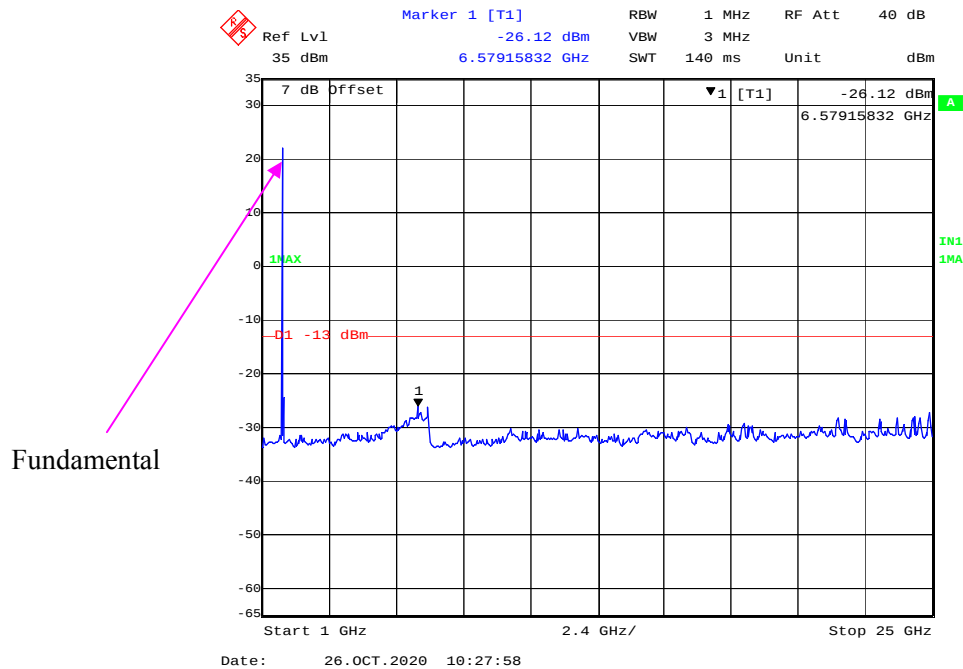
1 GHz – 25 GHz (3 MHz, 16-QAM, High Channel)



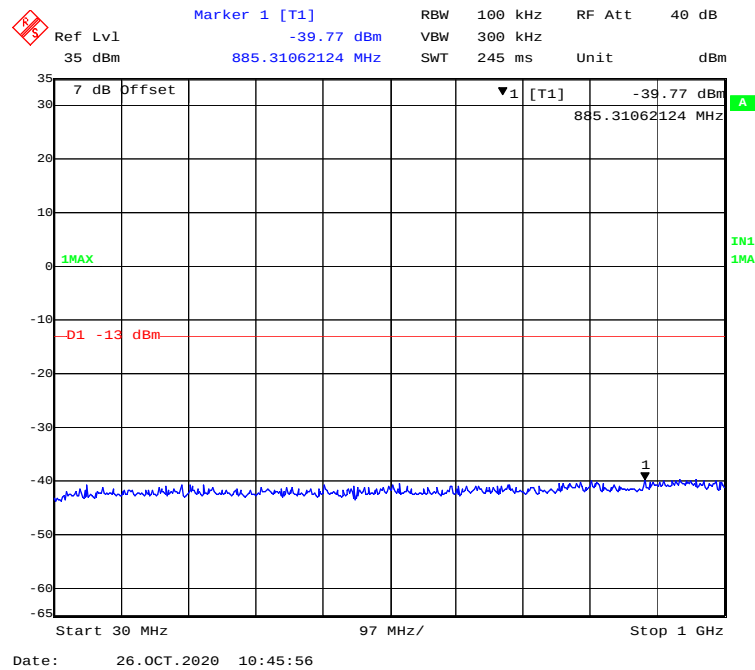
30 MHz - 1 GHz (5 MHz, QPSK, High Channel)



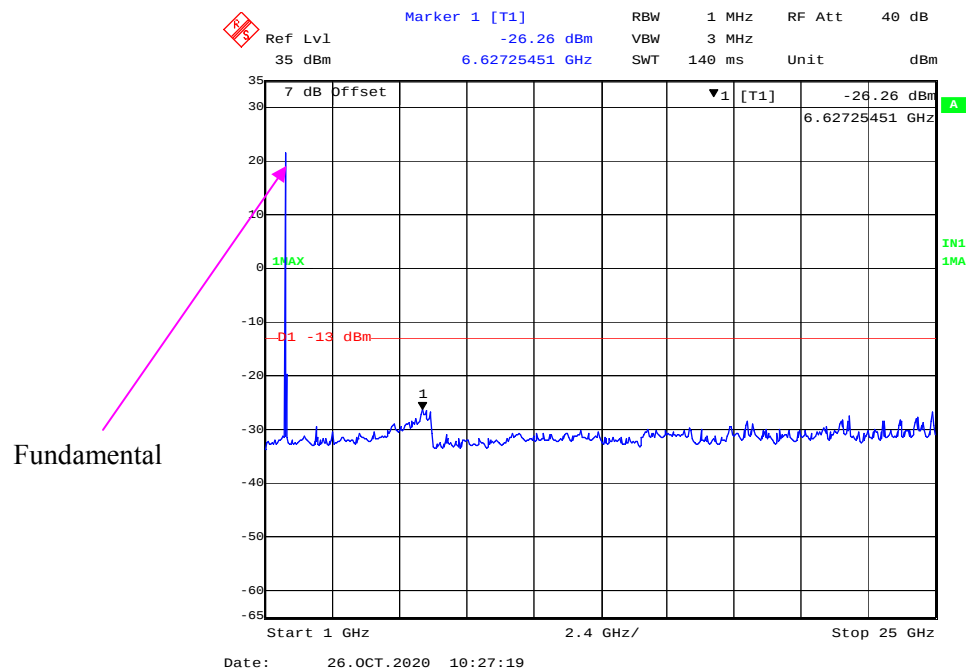
1 GHz - 25 GHz (5 MHz, QPSK, High Channel)



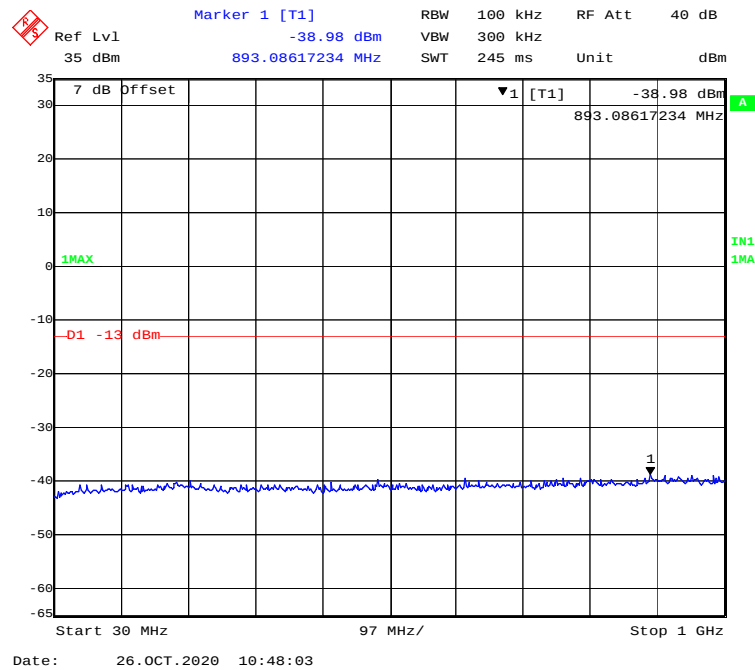
30 MHz - 1 GHz (5 MHz, 16-QAM, High Channel)



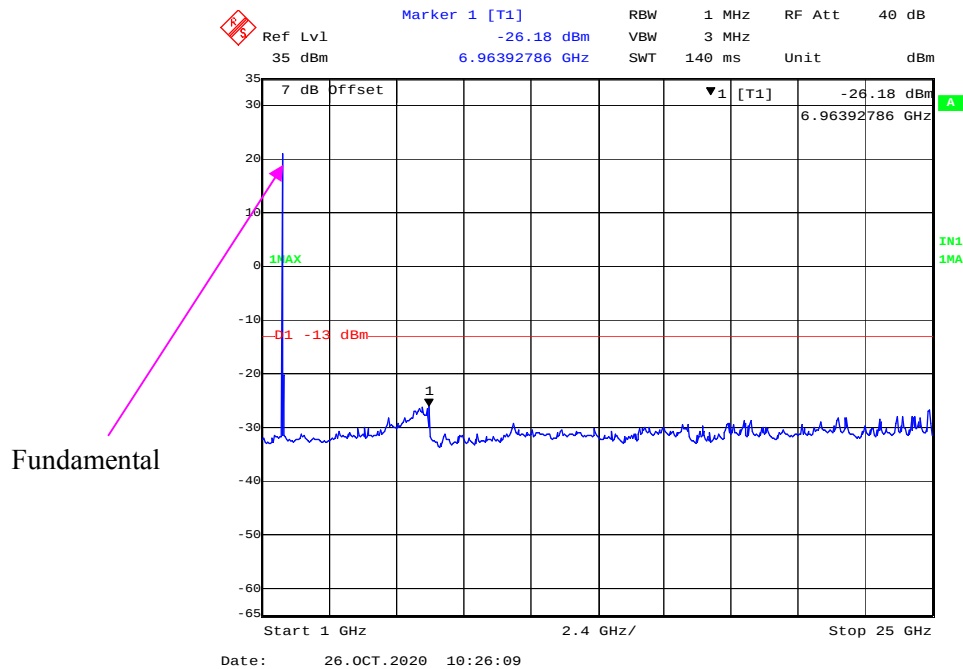
1 GHz – 25 GHz (5 MHz, 16-QAM, High Channel)



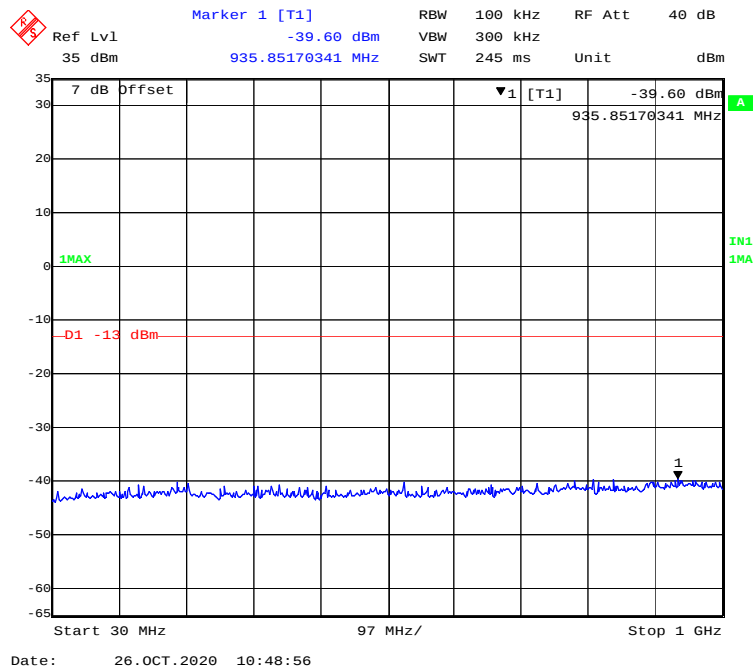
30 MHz - 1 GHz (10 MHz, QPSK, High Channel)



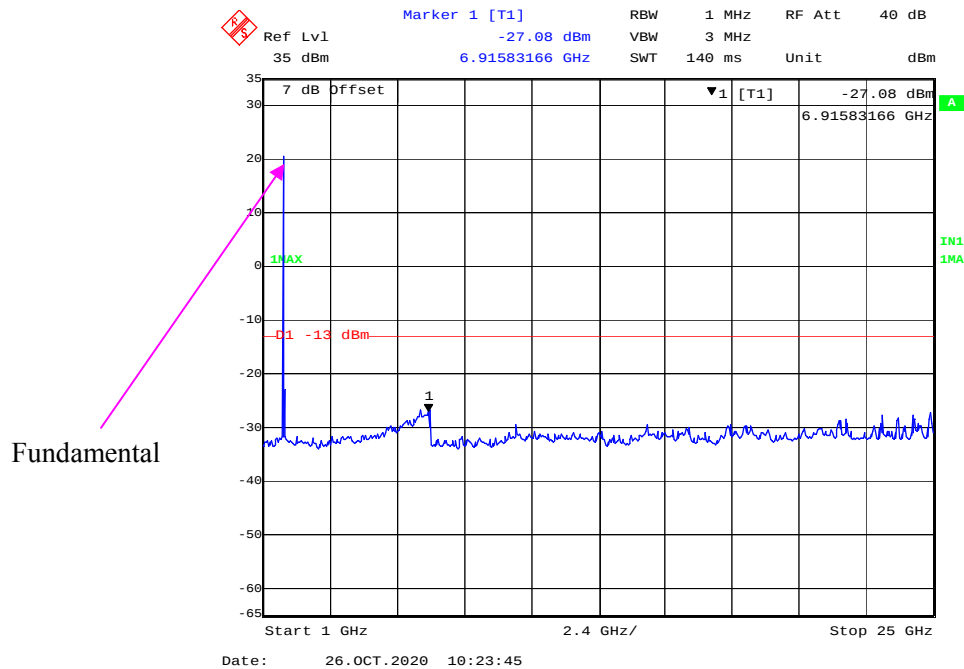
1 GHz – 25 GHz (10 MHz, QPSK, High Channel)



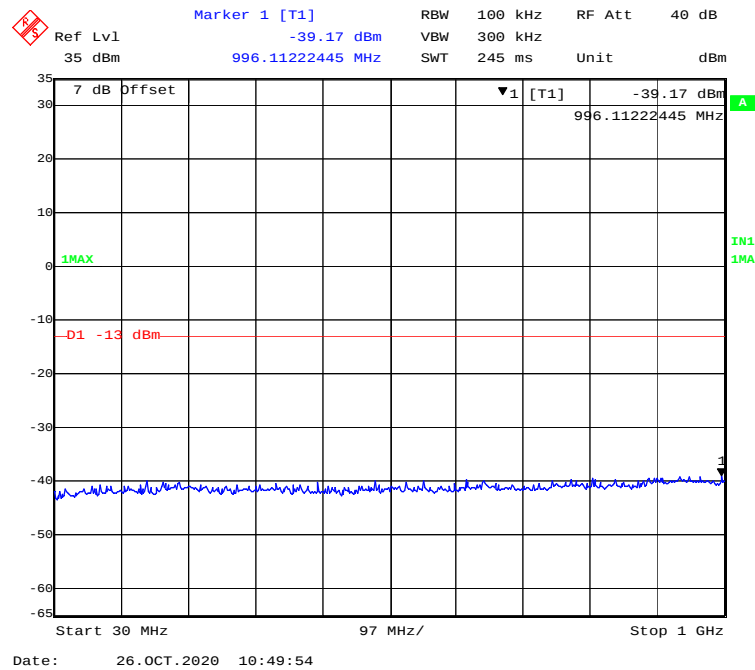
30 MHz - 1 GHz (10 MHz, 16-QAM, High Channel)



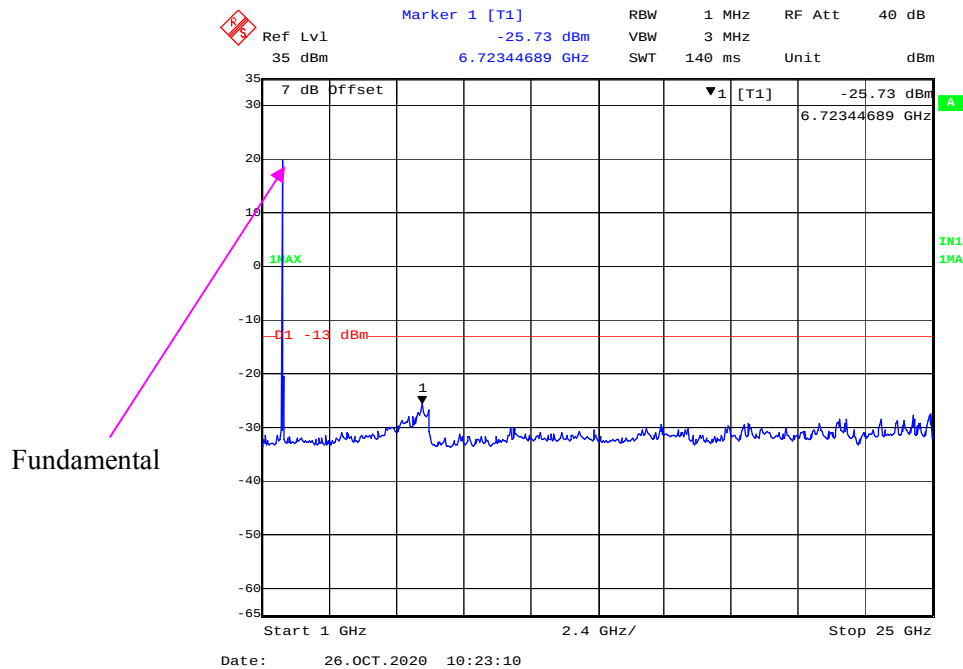
1 GHz – 25 GHz (10 MHz, 16-QAM, High Channel)



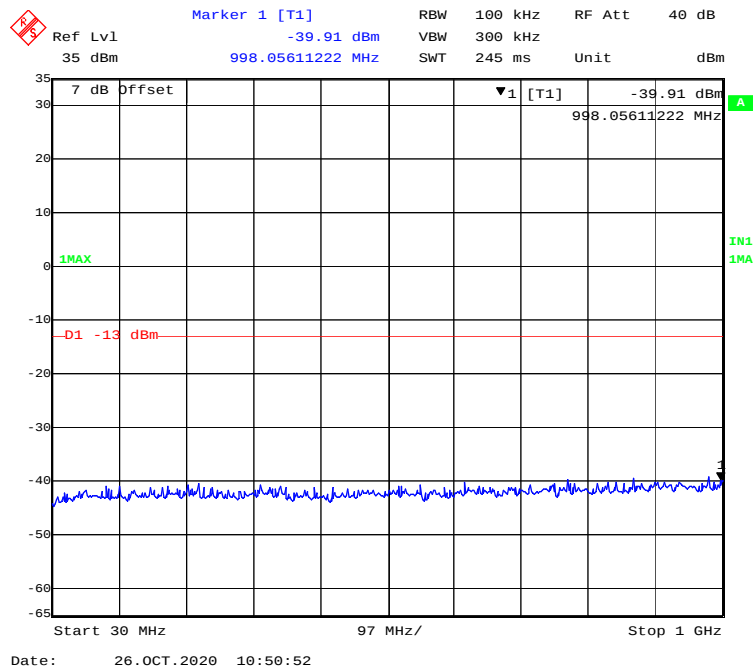
30 MHz - 1 GHz (15 MHz, QPSK, High Channel)



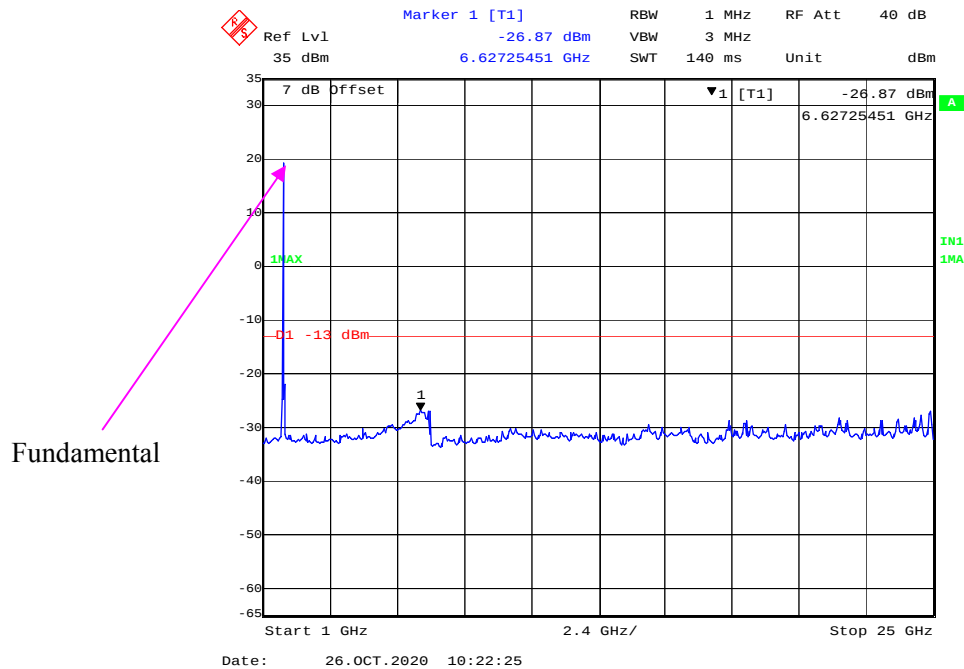
1 GHz – 25 GHz (15 MHz, QPSK, Middle Channel)



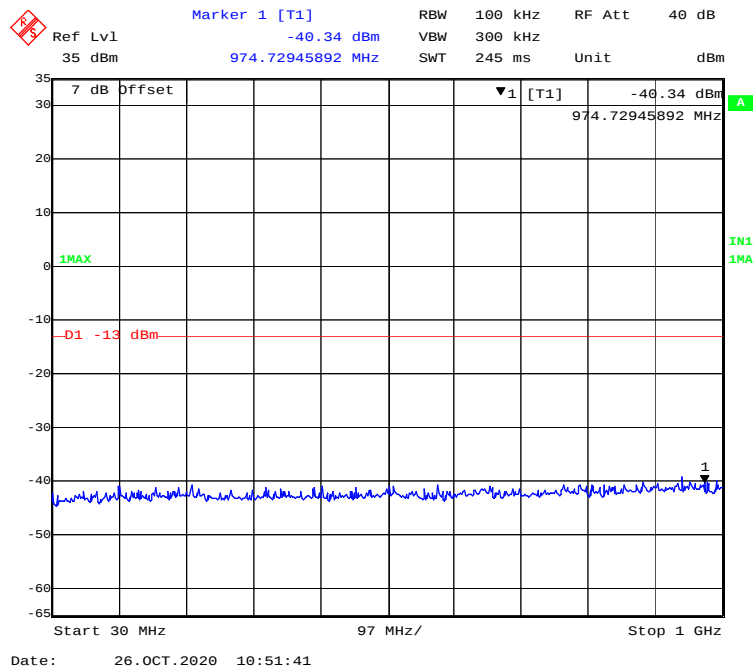
30 MHz - 1 GHz (15 MHz, 16-QAM, High Channel)



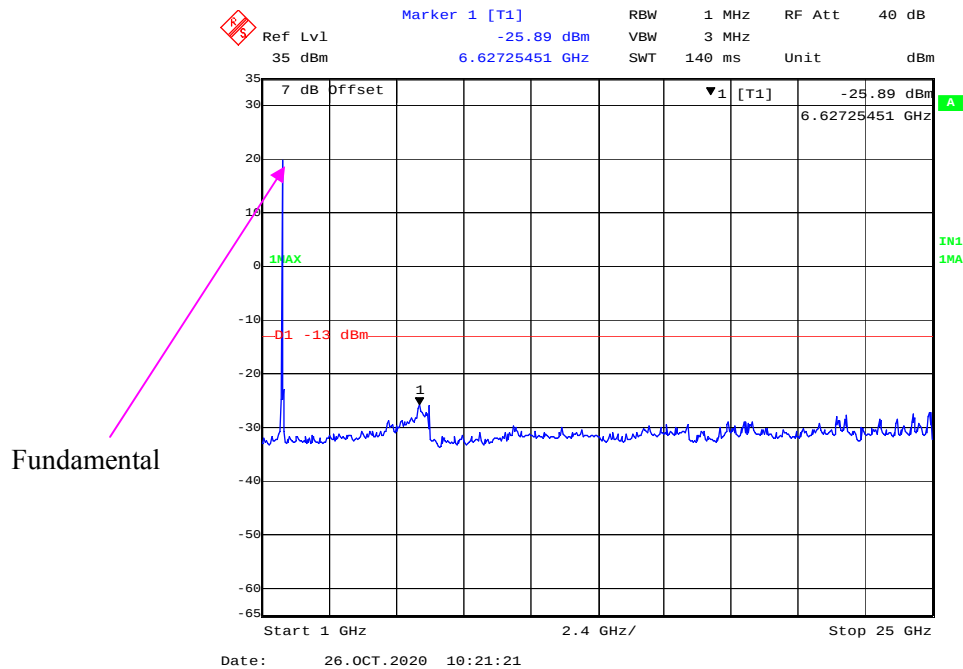
1 GHz – 25 GHz (15 MHz, 16-QAM, High Channel)



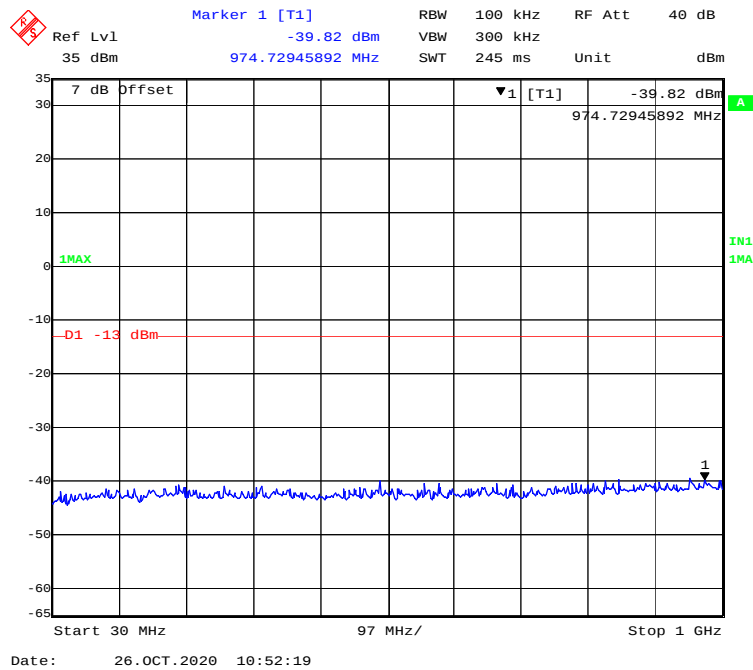
30 MHz - 1 GHz (20 MHz, QPSK, High Channel)



1 GHz – 25 GHz (20 MHz, QPSK, High Channel)



30 MHz - 1 GHz (20 MHz, 16-QAM, High Channel)



1 GHz – 25 GHz (20 MHz, 16-QAM, High Channel)

