

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

For

Beijing Wiseasy Technology CO., Ltd.

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FCC ID: 2AXOJ-WISENET5

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Applicant:	Beijing Wiseasy Technology CO., Ltd.
Tested Model:	WISENET5
Product Type:	WISENET5
Power Supply:	DC 5.0V from adapter and DC 3.8V from battery
RF Function:	GPRS/EGPRS, WCDMA, LTE
Operating Band/Frequency:	GPRS/EGPRS 850: 824-849 MHz(TX), 869-894 MHz(RX) 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) 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 12: 699-716 MHz(TX), 729-746 MHz(RX) LTE Band 17: 704-716 MHz(TX), 734-746 MHz(RX)
Modulation Type:	GPRS/EGPRS: GMSK/8PSK WCDMA: BPSK,QPSK,16QAM LTE: QPSK,16QAM
Antenna Type:	FPC Antenna
*Maximum Antenna Gain:	GPRS/EGPRS 850/WCDMA Band V: 0.2 dBi GPRS/EGPRS 1900/WCDMA Band II: 0.39 dBi LTE Band 2/4: 0.39 dBi , LTE Band 5/12/17:0.2 dBi

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: RKSA201130001-1(Assigned by the BACL. The EUT supplied by the applicant was received on 2020-11-30)*

Objective

This type approval report is prepared on behalf of *Beijing Wiseasy 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 submissions with FCC ID: 2AXOJ-WISENET5
FCC Part 15.247 DTS submissions with FCC ID: 2AXOJ-WISENET5
FCC Part 15.407 NII submissions with FCC ID: 2AXOJ-WISENET5
FCC Part 15.225 DXX submissions with FCC ID: 2AXOJ-WISENET5

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°C
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)
GPRS/EGPRS 850		Low	128	824.2
		Middle	190	836.6
		High	251	848.8
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
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 12	1.4M	Low	23017	699.7
		Middle	23095	707.5
		High	23173	715.3
	3M	Low	23025	700.5
		Middle	23095	707.5
		High	23165	714.5
	5M	Low	23035	701.5
		Middle	23095	707.5
		High	23155	713.5
	10M	Low	23060	704.0
		Middle	23095	707.5
		High	23130	711.0

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

Equipment Modifications

No modifications were made to the EUT.

Support Equipment List and Details

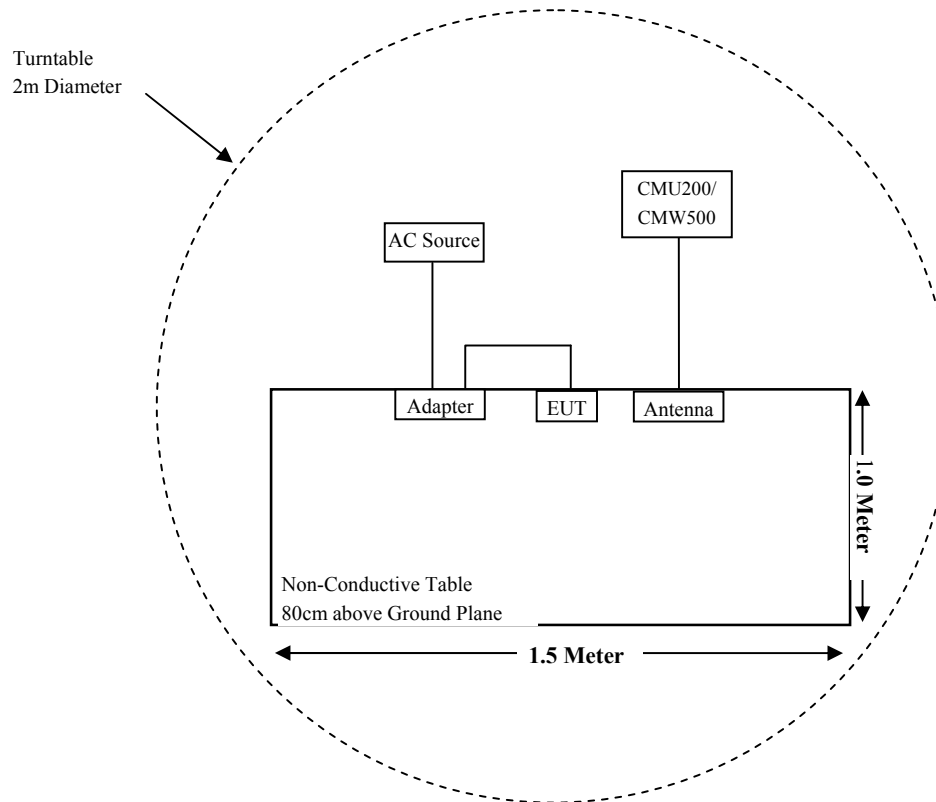
Manufacturer	Description	Model	Serial Number
Aihuaxin technology	Antenna	/	/
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	110605
Rohde & Schwarz	Wideband Radio Communication Tester	CMW500	104478

External I/O Cable

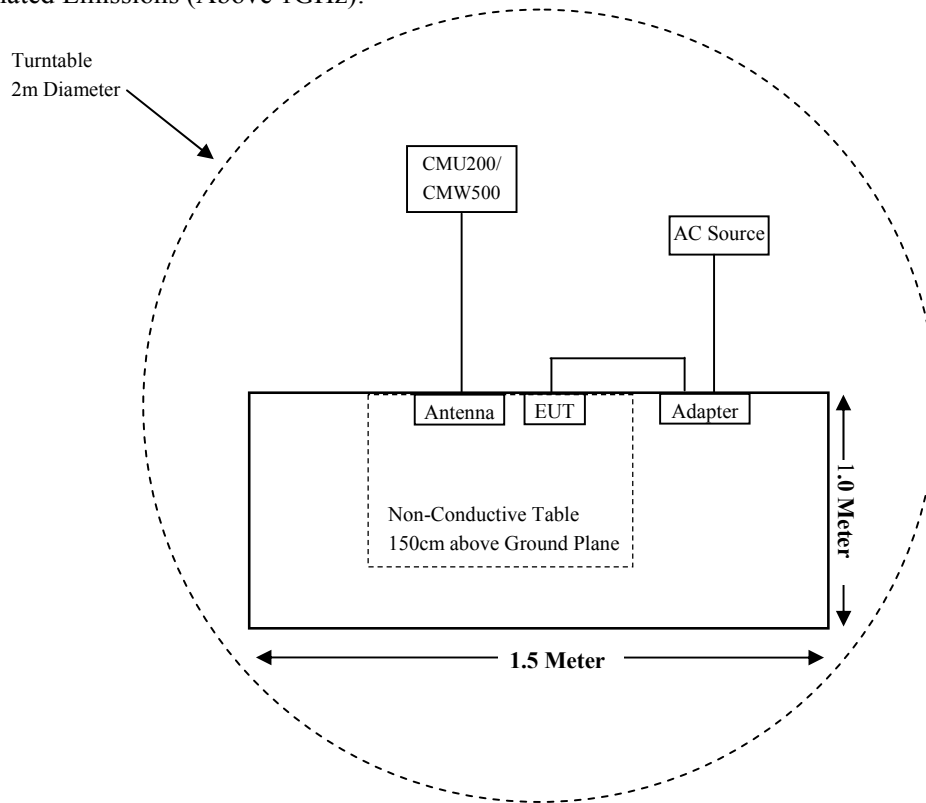
Cable Description	Length (m)	From Port	To
Power cable1	1.0	EUT	Adapter
Power cable2	1.5	Adapter	LISN/AC Source

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 (c) (d)	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 (g) (h)	Spurious Emissions at Antenna Terminal	Compliant
§ 2.1053; § 22.917 (a); § 24.238 (a); §27.53 (g) (h)	Spurious Radiated Emissions	Compliant
§ 22.917 (a); § 24.238 (a); §27.53 (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	2020-11-27	2021-11-26
HP	Signal Generator	N5183A	MY51040755	2020-11-27	2021-11-26
Sunol Sciences	Broadband Antenna	JB3	A090314-1	2020-01-07	2023-01-06
Sunol Sciences	Broadband Antenna	JB3	A090314-2	2020-08-05	2023-08-04
Sonoma Instrunent	Pre-amplifier	310N	171205	2020-08-14	2021-08-13
Rohde & Schwarz	Auto test Software	EMC32	100361	/	/
MICRO-COAX	Coaxial Cable	Cable-6	006	2020-08-15	2021-08-14
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	2020-07-28	2021-07-27
Radiated Emission Test (Chamber 2#)					
HP	Signal Generator	N5183A	MY51040755	2020-11-27	2021-11-26
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	2019-10-18	2022-10-17
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	2020-08-15	2021-08-14
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	2020-07-28	2021-07-27

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
RF Conducted Test					
Rohde & Schwarz	Signal Analyzer	FSIQ26	836131/009	2020-12-14	2021-12-13
Narda	Attenuator	10dB	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
Mini-Circuits	Power splitter	ZFRSC-14-S+	SF019411452	2020-11-10	2021-11-09
BACL	Temperature & Humidity Chamber	BTH-150	30023	2020-12-20	2021-12-19
EAST	Regulated DC Power Supply	MCH-303D-II	14070562	2020-10-10	2021-10-09
Beijing Wiseasy	RF Cable	Beijing Wiseasy 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: RKSA201130001-20A.

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 (c) (d) - 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.

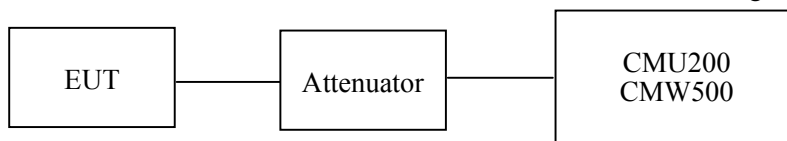
According to §27.50(d), the maximum EIRP must not exceed 1Watts (30dBm) for 1710-1755MHz.

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.

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 ,If a standard radiation test site is used, raise and lower the test antenna to obtain a maximum reading and adjustment signal generator level, make the value of the spectrum analyzer equal to the test value of step b (LVL), record this value as submitted Level (dBm).

$$\text{ERP/ EIRP (dBm)} = \text{Submitted Level (dBm)} - \text{Cable loss(dB)} + \text{Antenna Gain(dBd/dBi)}$$

Test Data

Environmental Conditions

Temperature:	23.6~24.0 °C
Relative Humidity:	49~54 %
ATM Pressure:	101.5~102.0 kPa

The testing was performed by CK Huang from 2020-12-20 to 2020-12-24.

Conducted Power:

GPRS/EGPRS 850 Band

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)				Limit (dBm)
			1 slot	2 slots	3 slots	4 slots	
GPRS	128	824.20	33.21	32.37	31.67	30.74	38.45
	190	836.60	33.03	32.71	31.64	30.72	38.45
	251	848.80	33.49	32.01	31.11	30.72	38.45

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)				Limit (dBm)
			1 slot	2 slots	3 slots	4 slots	
EGPRS	128	824.20	28.08	27.03	26.53	25.63	38.45
	190	836.60	28.95	27.34	26.46	25.62	38.45
	251	848.80	28.77	27.93	26.28	25.64	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	22.65	22.48	22.69
		HSDPA	1	22.01	22.05	22.07
			2	22.07	22.15	22.07
			3	22.11	22.03	22.13
			4	21.96	22.06	22.28
		HSUPA	1	21.97	22.01	22.11
			2	22.06	22.10	22.27
			3	22.11	22.01	22.26
			4	21.94	21.98	22.11
			5	22.02	22.02	22.07
		HSPA+	1	22.00	22.05	22.15

PCS 1900 Band

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)				Limit (dBm)
			1 slot	2 slots	3 slots	4 slots	
GPRS	512	1850.2	31.76	29.08	27.85	25.4	33
	661	1880.0	31.71	29.03	27.5	25.37	33
	810	1909.8	31.59	29.48	27.16	25.28	33

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)				Limit (dBm)
			1 slot	2 slots	3 slots	4 slots	
EGPRS	512	1850.2	25.04	24.45	23.68	22.37	33
	661	1880.0	25.46	24.01	23.95	22.18	33
	810	1909.8	25.75	24.69	23.77	22.82	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	22.96	22.87	22.67
		HSDPA	1	22.30	22.13	22.06
			2	22.32	22.09	22.18
			3	22.17	22.04	22.05
			4	22.27	21.97	22.08
		HSUPA	1	22.28	22.14	22.03
			2	22.30	22.11	22.16
			3	22.23	22.12	22.19
			4	22.32	22.07	22.06
			5	22.23	22.15	22.24
		HSPA+	1	22.25	22.03	22.29

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	20.53	20.88	20.90
		1#3	20.58	20.86	20.87
		1#5	20.63	20.75	20.83
		3#0	20.55	20.71	20.92
		3#1	20.42	20.81	20.96
		3#3	20.40	20.85	20.98
		6#0	20.44	20.81	21.00
	16-QAM	1#0	20.57	20.71	20.92
		1#3	20.58	20.72	20.98
		1#5	20.52	20.69	20.96
		3#0	20.56	20.64	21.01
		3#1	20.54	20.61	21.09
		3#3	20.65	20.59	21.13
		6#0	20.58	20.55	21.23
3M	QPSK	1#0	20.64	20.52	21.32
		1#7	20.51	20.50	21.35
		1#14	20.52	20.49	21.27
		8#0	20.54	20.48	21.26
		8#4	20.68	20.46	21.24
		8#7	20.80	20.47	21.24
		15#0	20.86	20.48	21.24
	16-QAM	1#0	20.96	20.48	21.14
		1#7	21.01	20.50	21.22
		1#14	21.00	20.62	21.23
		8#0	21.01	20.65	21.30
		8#4	21.14	20.67	21.29
		8#7	21.24	20.73	21.22
		15#0	21.18	20.77	21.26

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	21.10	20.85	21.32
		1#12	21.13	20.82	21.37
		1#24	21.17	20.85	21.37
		12#0	21.22	20.83	21.46
		12#6	21.15	20.79	21.49
		12#11	21.08	20.71	21.51
		25#0	21.09	20.59	21.52
	16-QAM	1#0	21.07	20.60	21.51
		1#12	20.99	20.53	21.43
		1#24	20.98	20.49	21.37
		12#0	20.98	20.63	21.36
		12#6	20.96	20.72	21.43
		12#11	21.06	20.76	21.43
		25#0	21.02	20.66	21.54
10M	QPSK	1#0	21.16	20.64	21.52
		1#24	21.04	20.52	21.50
		1#49	21.06	20.49	21.49
		25#0	21.08	20.58	21.55
		25#12	21.06	20.68	21.59
		25#24	21.19	20.59	21.59
		50#0	21.11	20.48	21.56
	16-QAM	1#0	21.09	20.43	21.64
		1#24	20.99	20.39	21.66
		1#49	20.90	20.42	21.67
		25#0	20.92	20.41	21.68
		25#12	20.91	20.40	21.68
		25#24	20.87	20.44	21.74
		50#0	20.87	20.38	21.76

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
15M	QPSK	1#0	21.00	20.34	21.82
		1#37	20.92	20.32	21.82
		1#74	20.96	20.32	21.86
		36#0	20.97	20.29	21.93
		36#17	20.91	20.30	21.91
		36#35	20.96	20.34	21.82
		75#0	20.91	20.44	21.83
	16-QAM	1#0	21.05	20.45	21.81
		1#37	20.92	20.49	21.78
		1#74	20.99	20.43	21.72
		36#0	20.93	20.29	21.84
		36#17	20.98	20.31	21.92
		36#35	20.96	20.37	21.88
		75#0	20.92	20.36	21.88
20M	QPSK	1#0	20.91	20.31	21.88
		1#49	20.95	20.30	21.90
		1#99	21.06	20.22	21.88
		50#0	20.99	20.20	21.81
		50#24	20.91	20.16	21.75
		50#49	20.90	20.23	21.78
		100#0	20.91	20.22	21.77
	16-QAM	1#0	20.81	20.30	21.75
		1#49	20.68	20.41	21.78
		1#99	20.68	20.45	21.80
		50#0	20.65	20.46	21.78
		50#24	20.66	20.34	21.77
		50#49	20.75	20.25	21.83
		100#0	20.81	20.31	21.83

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	20.95	21.11	21.08
		1#3	21.01	21.19	20.98
		1#5	20.95	21.20	21.00
		3#0	20.92	21.06	21.08
		3#1	20.90	21.17	21.05
		3#3	20.97	21.09	21.07
		6#0	20.95	21.02	21.18
	16-QAM	1#0	20.98	20.97	21.23
		1#3	20.99	20.88	21.19
		1#5	21.00	20.78	21.22
		3#0	21.01	20.74	21.13
		3#1	21.01	20.83	21.16
		3#3	20.90	20.81	21.25
		6#0	20.87	20.91	21.23
3M	QPSK	1#0	20.91	20.96	21.16
		1#7	20.78	20.92	21.24
		1#14	20.70	20.94	21.10
		8#0	20.75	20.92	21.04
		8#4	20.75	20.93	21.09
		8#7	20.78	20.94	21.17
		15#0	20.66	21.02	21.24
	16-QAM	1#0	20.68	21.12	21.19
		1#7	20.72	21.10	21.24
		1#14	20.80	21.20	21.22
		8#0	20.88	21.23	21.21
		8#4	20.81	21.19	21.23
		8#7	20.83	21.21	21.36
		15#0	20.90	21.15	21.24

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	20.77	21.25	21.19
		1#12	20.90	21.38	21.23
		1#24	20.85	21.36	21.26
		12#0	20.84	21.30	21.31
		12#6	20.85	21.38	21.30
		12#11	20.97	21.41	21.42
		25#0	20.87	21.41	21.35
	16-QAM	1#0	20.83	21.37	21.39
		1#12	20.80	21.33	21.45
		1#24	20.81	21.36	21.48
		12#0	20.86	21.37	21.59
		12#6	20.73	21.33	21.61
		12#11	20.84	21.43	21.65
		25#0	20.83	21.42	21.56
10M	QPSK	1#0	20.86	21.34	21.55
		1#24	20.78	21.45	21.52
		1#49	20.88	21.42	21.60
		25#0	20.77	21.33	21.70
		25#12	20.81	21.47	21.71
		25#24	20.80	21.41	21.73
		50#0	20.77	21.48	21.81
	16-QAM	1#0	20.73	21.36	21.70
		1#24	20.76	21.27	21.73
		1#49	20.73	21.28	21.64
		25#0	20.85	21.31	21.70
		25#12	20.86	21.35	21.68
		25#24	20.84	21.39	21.64
		50#0	20.91	21.37	21.70

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
15M	QPSK	1#0	20.94	21.47	21.79
		1#37	21.06	21.45	21.79
		1#74	20.96	21.35	21.82
		36#0	20.97	21.35	21.72
		36#17	21.02	21.47	21.72
		36#35	20.93	21.45	21.65
		75#0	20.94	21.39	21.60
	16-QAM	1#0	21.05	21.35	21.59
		1#37	21.08	21.33	21.64
		1#74	21.06	21.32	21.76
		36#0	21.05	21.36	21.77
		36#17	21.03	21.36	21.76
		36#35	21.05	21.43	21.73
		75#0	21.13	21.40	21.70
20M	QPSK	1#0	21.13	21.54	21.71
		1#49	21.15	21.50	21.75
		1#99	21.15	21.44	21.71
		50#0	21.07	21.45	21.68
		50#24	21.01	21.35	21.61
		50#49	20.95	21.38	21.61
		100#0	21.08	21.32	21.63
	16-QAM	1#0	21.21	21.24	21.74
		1#49	21.23	21.28	21.88
		1#99	21.32	21.27	21.89
		50#0	21.32	21.18	21.84
		50#24	21.45	21.19	21.82
		50#49	21.50	21.14	21.79
		100#0	21.52	21.17	21.78

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	21.96	22.09	21.36
		1#3	21.98	22.01	21.49
		1#5	22.03	21.92	21.52
		3#0	22.02	21.81	21.50
		3#1	22.12	21.86	21.43
		3#3	22.21	21.92	21.42
		6#0	22.25	21.95	21.49
	16-QAM	1#0	22.14	21.87	21.49
		1#3	22.17	21.99	21.45
		1#5	22.23	21.93	21.45
		3#0	22.28	21.84	21.48
		3#1	22.31	21.90	21.38
		3#3	22.29	21.95	21.37
		6#0	22.24	22.00	21.41
3M	QPSK	1#0	22.15	21.97	21.38
		1#7	22.15	22.10	21.31
		1#14	22.03	22.02	21.31
		8#0	22.02	21.98	21.35
		8#4	22.07	21.98	21.33
		8#7	22.09	22.04	21.39
		15#0	22.02	22.01	21.40
	16-QAM	1#0	22.07	22.06	21.38
		1#7	22.06	22.17	21.42
		1#14	22.02	22.17	21.43
		8#0	22.01	22.06	21.51
		8#4	21.95	22.20	21.56
		8#7	21.98	22.23	21.56
		15#0	21.93	22.19	21.54

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	21.82	22.16	21.58
		1#12	21.82	22.21	21.60
		1#24	21.83	22.24	21.64
		12#0	21.82	22.33	21.62
		12#6	21.92	22.21	21.52
		12#11	21.95	22.32	21.45
		25#0	21.97	22.33	21.57
	16-QAM	1#0	21.98	22.32	21.64
		1#12	22.10	22.25	21.57
		1#24	22.16	22.28	21.69
		12#0	22.13	22.23	21.70
		12#6	22.15	22.33	21.68
		12#11	22.18	22.37	21.72
		25#0	22.26	22.31	21.78
10M	QPSK	1#0	22.28	22.28	21.82
		1#24	22.32	22.15	21.75
		1#49	22.25	22.25	21.72
		25#0	22.23	22.18	21.66
		25#12	22.15	22.12	21.65
		25#24	22.05	22.08	21.64
		50#0	21.94	22.07	21.60
	16-QAM	1#0	21.82	22.09	21.53
		1#24	21.69	22.13	21.63
		1#49	21.68	22.10	21.58
		25#0	21.76	22.06	21.48
		25#12	21.77	22.10	21.52
		25#24	21.80	22.12	21.54
		50#0	21.83	22.13	21.61

LTE Band 12

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	1#0	21.90	22.23	21.54
		1#3	21.88	22.26	21.53
		1#5	21.97	22.21	21.53
		3#0	21.90	22.27	21.39
		3#1	21.83	22.22	21.46
		3#3	21.79	22.08	21.46
		6#0	21.77	22.14	21.42
	16-QAM	1#0	21.75	22.24	21.45
		1#3	21.81	22.30	21.50
		1#5	21.86	22.37	21.49
		3#0	21.83	22.40	21.62
		3#1	21.83	22.47	21.63
		3#3	21.80	22.52	21.68
		6#0	21.79	22.57	21.72
3M	QPSK	1#0	21.90	22.65	21.72
		1#7	21.82	22.67	21.83
		1#14	21.84	22.70	21.75
		8#0	21.82	22.77	21.70
		8#4	21.76	22.70	21.68
		8#7	21.79	22.65	21.55
		15#0	21.83	22.61	21.51
	16-QAM	1#0	21.94	22.66	21.56
		1#7	21.98	22.56	21.54
		1#14	21.96	22.59	21.56
		8#0	21.97	22.50	21.60
		8#4	22.09	22.52	21.69
		8#7	22.02	22.53	21.78
		15#0	22.11	22.62	21.74

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	22.19	22.61	21.69
		1#12	22.26	22.52	21.66
		1#24	22.29	22.46	21.66
		12#0	22.37	22.42	21.79
		12#6	22.44	22.43	21.86
		12#11	22.40	22.38	21.80
		25#0	22.42	22.39	21.74
	16-QAM	1#0	22.38	22.50	21.74
		1#12	22.34	22.47	21.63
		1#24	22.28	22.49	21.56
		12#0	22.25	22.52	21.55
		12#6	22.30	22.47	21.57
		12#11	22.20	22.46	21.55
		25#0	22.26	22.43	21.56
10M	QPSK	1#0	22.19	22.43	21.64
		1#24	22.05	22.41	21.71
		1#49	22.00	22.49	21.65
		25#0	22.05	22.39	21.71
		25#12	22.10	22.42	21.70
		25#24	22.11	22.35	21.80
		50#0	22.15	22.43	21.80
	16-QAM	1#0	22.24	22.37	21.89
		1#24	22.35	22.32	21.94
		1#49	22.36	22.43	21.96
		25#0	22.34	22.51	21.96
		25#12	22.38	22.45	21.88
		25#24	22.35	22.45	21.88
		50#0	22.46	22.51	21.90

LTE Band 17

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	21.74	21.84	21.95
		1#12	21.72	21.73	21.92
		1#24	21.73	21.74	21.95
		12#0	21.78	21.71	21.93
		12#6	21.67	21.76	21.93
		12#11	21.65	21.79	21.95
		25#0	21.59	21.80	21.91
	16-QAM	1#0	21.56	21.89	21.89
		1#12	21.47	21.79	21.86
		1#24	21.55	21.79	21.75
		12#0	21.46	21.89	21.73
		12#6	21.58	21.97	21.74
		12#11	21.61	21.97	21.83
		25#0	21.72	21.95	21.88
10M	QPSK	1#0	21.70	21.92	21.87
		1#24	21.64	21.91	21.78
		1#49	21.58	21.91	21.65
		25#0	21.53	21.84	21.65
		25#12	21.57	21.77	21.67
		25#24	21.63	21.80	21.68
		50#0	21.54	21.68	21.63
	16-QAM	1#0	21.55	21.67	21.61
		1#24	21.59	21.73	21.71
		1#49	21.57	21.72	21.70
		25#0	21.56	21.72	21.74
		25#12	21.53	21.74	21.70
		25#24	21.62	21.66	21.70
		50#0	21.64	21.70	21.67

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

Mode	Channel	PAR (dB)	Limit (dB)
GPRS	Low	2.06	≤ 13
	Middle	2.16	≤ 13
	High	2.22	≤ 13

Mode	Channel	PAR (dB)	Limit (dB)
EGPRS	Low	2.24	≤ 13
	Middle	2.17	≤ 13
	High	2.05	≤ 13

WCDMA Band V

Mode	Channel	PAR (dB)	Limit (dB)
WCDMA (Rel99)	Low	2.08	≤ 13
	Middle	2.02	≤ 13
	High	2.20	≤ 13
WCDMA (HSDPA)	Low	2.03	≤ 13
	Middle	2.20	≤ 13
	High	2.16	≤ 13
WCDMA (HSUPA)	Low	1.98	≤ 13
	Middle	2.13	≤ 13
	High	2.17	≤ 13
WCDMA (HSPA+)	Low	2.03	≤ 13
	Middle	2.00	≤ 13
	High	2.10	≤ 13

PCS 1900

Mode	Channel	PAR (dB)	Limit (dB)
GPRS	Low	2.12	13
	Middle	2.01	13
	High	2.13	13

Mode	Channel	PAR (dB)	Limit (dB)
EGPRS	Low	2.19	13
	Middle	2.20	13
	High	2.11	13

WCDMA Band II

Mode	Channel	PAR (dB)	Limit (dB)
WCDMA (Rel99)	Low	2.01	≤ 13
	Middle	2.04	≤ 13
	High	2.11	≤ 13
WCDMA (HSDPA)	Low	2.08	≤ 13
	Middle	2.02	≤ 13
	High	2.00	≤ 13
WCDMA (HSUPA)	Low	2.17	≤ 13
	Middle	2.05	≤ 13
	High	2.25	≤ 13
WCDMA (HSPA+)	Low	2.20	≤ 13
	Middle	1.92	≤ 13
	High	2.10	≤ 13

LTE Band 2

Test Modulation		Test Bandwidth	Low Channel (dB)	Middle Channel (dB)	High Channel (dB)	Limit (dB)
QPSK	1 RB	20M	3.04	3.02	3.19	13
	100 RB		5.13	5.14	5.20	13
16-QAM	1 RB	20M	4.00	4.15	4.12	13
	100 RB		6.03	6.04	6.14	13

LTE Band 4

Test Modulation		Test Bandwidth	Low Channel (dB)	Middle Channel (dB)	High Channel (dB)	Limit(dB)
QPSK	1 RB	20M	3.17	3.05	3.04	13
	100 RB		5.04	5.06	5.12	13
16-QAM	1 RB	20M	4.16	4.14	4.01	13
	100 RB		6.09	6.19	6.04	13

LTE Band 5

Test Modulation		Test Bandwidth	Low Channel (dB)	Middle Channel (dB)	High Channel (dB)	Limit(dB)
QPSK	1 RB	10M	3.01	3.03	3.11	13
	50 RB		5.06	5.08	5.15	13
16-QAM	1 RB	10M	4.17	4.05	4.12	13
	50 RB		6.10	6.00	6.13	13

LTE Band 12

Test Modulation		Test Bandwidth	Low Channel (dB)	Middle Channel (dB)	High Channel (dB)	Limit(dB)
QPSK	1 RB	10M	3.15	3.12	3.06	13
	50 RB		5.09	5.16	5.12	13
16-QAM	1 RB	10M	4.15	4.14	4.09	13
	50 RB		6.14	6.04	6.09	13

LTE Band 17

Test Modulation		Test Bandwidth	Low Channel (dB)	Middle Channel (dB)	High Channel (dB)	Limit(dB)
QPSK	1 RB	10M	3.10	3.00	3.00	≤ 13
	50 RB		5.17	5.08	5.01	≤ 13
16-QAM	1 RB	10M	4.15	4.07	4.15	≤ 13
	50 RB		6.09	6.06	6.07	≤ 13

Radiated Power:**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)			
GPRS 850, Low Channel (ERP)										
824.20	98.51	77	200	H	33.71	0.62	-1.18	31.91	38.45	6.54
824.20	99.07	310	157	V	34.27	0.62	-1.18	32.47	38.45	5.98
EGPRS 850, Low Channel (ERP)										
824.20	93.92	56	152	H	30.26	0.62	-1.18	28.46	38.45	9.99
824.20	94.98	254	175	V	31.32	0.62	-1.18	29.52	38.45	8.93
GPRS 1900, Low Channel (EIRP)										
1850.20	91.84	225	198	H	19.92	0.84	8.76	27.84	33	5.16
1850.20	90.45	350	174	V	18.53	0.84	8.76	26.45	33	6.55
EGPRS 1900, Low Channel (EIRP)										
1850.20	87.48	275	163	H	16.56	0.84	8.76	24.48	33	8.52
1850.20	89.99	300	112	V	19.07	0.84	8.76	26.99	33	6.01

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)			
GPRS 850, Middle Channel (ERP)										
836.60	98.59	10	100	H	33.73	0.63	-1.14	31.96	38.45	6.49
836.60	99.71	256	150	V	34.85	0.63	-1.14	33.08	38.45	5.37
EGPRS 850, Middle Channel (ERP)										
836.60	93.60	122	150	H	28.74	0.63	-1.14	26.97	38.45	11.48
836.60	94.67	282	100	V	29.81	0.63	-1.14	28.04	38.45	10.41
GPRS 1900, Middle Channel (EIRP)										
1880.00	91.93	185	150	H	21.8	0.85	8.81	29.76	33	3.24
1880.00	90.54	134	100	V	20.41	0.85	8.81	28.37	33	4.63
EGPRS 1900, Middle Channel (EIRP)										
1880.00	88.00	319	150	H	17.87	0.85	8.81	25.83	33	7.17
1880.00	89.67	170	100	V	19.54	0.85	8.81	27.50	33	5.50

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)			
GPRS 850, High Channel (ERP)										
848.80	98.06	77	200	H	35.52	0.63	-1.1	33.79	38.45	4.66
848.80	99.74	310	157	V	37.2	0.63	-1.1	35.47	38.45	2.98
EGPRS 850, High Channel (ERP)										
848.80	93.25	56.00	152.00	H	30.71	0.63	-1.10	28.98	38.45	9.47
848.80	94.13	254.00	175.00	V	31.59	0.63	-1.10	29.86	38.45	8.59
GPRS 1900, High Channel (EIRP)										
1909.80	91.12	225	198	H	19.58	0.85	8.85	27.58	33	5.42
1909.80	90.42	350	174	V	18.88	0.85	8.85	26.88	33	6.12
EGPRS 1900, High Channel (EIRP)										
1909.80	89.06	275	163	H	18.52	0.85	8.85	26.52	33	6.48
1909.80	89.44	300	112	V	18.90	0.85	8.85	26.90	33	6.10

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	87.13	201	200	H	22.27	0.63	-1.17	20.47	38.45	17.98
826.40	88.49	217	150	V	23.63	0.63	-1.17	21.83	38.45	16.62
WCDMA Band II, Low Channel(EIRP)										
1852.40	82.06	254	200	H	11.93	0.84	8.76	19.85	33	13.15
1852.40	83.20	72	150	V	13.07	0.84	8.76	20.99	33	12.01

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	87.53	229	200	H	22.67	0.63	-1.14	20.90	38.45	17.55
836.60	88.33	347	150	V	23.47	0.63	-1.14	21.70	38.45	16.75
WCDMA Band II, Middle Channel(EIRP)										
1880.00	82.86	109	200	H	12.73	0.85	8.81	20.69	33	12.31
1880.00	83.48	347	150	V	13.35	0.85	8.81	21.31	33	11.69

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, High Channel(ERP)										
846.60	87.86	247	200	H	23	0.63	-1.11	21.26	38.45	17.19
846.60	86.24	102	150	V	21.38	0.63	-1.11	19.64	38.45	18.81
WCDMA Band II, High Channel(EIRP)										
1907.60	82.22	169	200	H	12.09	0.85	8.85	20.09	33	12.91
1907.60	83.71	2	150	V	13.58	0.85	8.85	21.58	33	11.42

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	88.2	13.47	0.84	8.76	21.39	33	11.61
1850.7	V	87.41	12.68	0.84	8.76	20.60	33	12.40
16-QAM 1.4M BW Low Channel								
1850.7	H	88.81	14.08	0.84	8.76	22.00	33	11.00
1850.7	V	87.24	12.51	0.84	8.76	20.43	33	12.57
QPSK 3M BW Low Channel								
1851.5	H	88.05	13.32	0.84	8.76	21.24	33	11.76
1851.5	V	87.81	13.08	0.84	8.76	21.00	33	12.00
16-QAM 3M BW Low Channel								
1851.5	H	88.09	13.36	0.84	8.76	21.28	33	11.72
1851.5	V	87.47	12.74	0.84	8.76	20.66	33	12.34
QPSK 5M BW Low Channel								
1852.5	H	88.93	14.2	0.84	8.76	22.12	33	10.88
1852.5	V	87.85	13.12	0.84	8.76	21.04	33	11.96
16-QAM 5M BW Low Channel								
1852.5	H	88.02	13.29	0.84	8.76	21.21	33	11.79
1852.5	V	87.29	12.56	0.84	8.76	20.48	33	12.52
QPSK 10M BW Low Channel								
1855.0	H	88.97	14.24	0.84	8.77	22.17	33	10.83
1855.0	V	87.56	12.83	0.84	8.77	20.76	33	12.24
16-QAM 10M BW Low Channel								
1855.0	H	88.58	13.85	0.84	8.77	21.78	33	11.22
1855.0	V	87.78	13.05	0.84	8.77	20.98	33	12.02
QPSK 15M BW Low Channel								
1857.5	H	88.66	13.93	0.84	8.77	21.86	33	11.14
1857.5	V	87.83	13.1	0.84	8.77	21.03	33	11.97
16-QAM 15M BW Low Channel								
1857.5	H	88.41	13.68	0.84	8.77	21.61	33	11.39
1857.5	V	87.25	12.52	0.84	8.77	20.45	33	12.55

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 20M BW Low Channel								
1860.0	H	88.49	13.76	0.84	8.78	21.70	33	11.3
1860.0	V	87.37	12.64	0.84	8.78	20.58	33	12.42
16-QAM 20M BW Low Channel								
1860.0	H	88.9	14.17	0.84	8.78	22.11	33	10.89
1860.0	V	87.3	12.57	0.84	8.78	20.51	33	12.49

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	H	88.72	13.99	0.85	8.81	21.95	33	11.05
1880	V	87.58	12.85	0.85	8.81	20.81	33	12.19
16-QAM 1.4M BW Middle Channel								
1880	H	88.64	13.91	0.85	8.81	21.87	33	11.13
1880	V	87.31	12.58	0.85	8.81	20.54	33	12.46
QPSK 3M BW Middle Channel								
1880	H	88.61	13.88	0.85	8.81	21.84	33	11.16
1880	V	87.57	12.84	0.85	8.81	20.80	33	12.20
16-QAM 3M BW Middle Channel								
1880	H	88.31	13.58	0.85	8.81	21.54	33	11.46
1880	V	87.87	13.14	0.85	8.81	21.10	33	11.90
QPSK 5M BW Middle Channel								
1880	H	88.35	13.62	0.85	8.81	21.58	33	11.42
1880	V	87.79	13.06	0.85	8.81	21.02	33	11.98
16-QAM 5M BW Middle Channel								
1880	H	88.87	14.14	0.85	8.81	22.10	33	10.90
1880	V	87.13	12.4	0.85	8.81	20.36	33	12.64
QPSK 10M BW Middle Channel								
1880	H	88.86	14.13	0.85	8.81	22.09	33	10.91
1880	V	87.74	13.01	0.85	8.81	20.97	33	12.03
16-QAM 10M BW Middle Channel								
1880	H	88.26	13.53	0.85	8.81	21.49	33	11.51
1880	V	87.77	13.04	0.85	8.81	21.00	33	12.00
QPSK 15M BW Middle Channel								
1880	H	88.38	13.65	0.85	8.81	21.61	33	11.39
1880	V	87.35	12.62	0.85	8.81	20.58	33	12.42
16-QAM 15M BW Middle Channel								
1880	H	88.4	13.67	0.85	8.81	21.63	33	11.37
1880	V	87.01	12.28	0.85	8.81	20.24	33	12.76

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	H	88.5	13.77	0.85	8.81	21.73	33	11.27
1880	V	87.49	12.76	0.85	8.81	20.72	33	12.28
16-QAM 20M BW Middle Channel								
1880	H	88.38	13.65	0.85	8.81	21.61	33	11.39
1880	V	87.6	12.87	0.85	8.81	20.83	33	12.17

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 1.4M BW High Channel								
1909.3	H	88.92	14.19	0.85	8.85	22.19	33	10.81
1909.3	V	87.39	12.66	0.85	8.85	20.66	33	12.34
16-QAM 1.4M BW High Channel								
1909.3	H	88.81	14.08	0.85	8.85	22.08	33	10.92
1909.3	V	87.43	12.70	0.85	8.85	20.70	33	12.30
QPSK 3M BW High Channel								
1908.5	H	88.19	13.46	0.85	8.85	21.46	33	11.54
1908.5	V	87.43	12.70	0.85	8.85	20.70	33	12.30
16-QAM 3M BW Low Channel								
1908.5	H	88.16	13.43	0.85	8.85	21.43	33	11.57
1908.5	V	87.99	13.26	0.85	8.85	21.26	33	11.74
QPSK 5M BW High Channel								
1907.5	H	88.77	14.04	0.85	8.85	22.04	33	10.96
1907.5	V	87.11	12.38	0.85	8.85	20.38	33	12.62
16-QAM 5M BW High Channel								
1907.5	H	88.94	14.21	0.85	8.85	22.21	33	10.79
1907.5	V	87.05	12.32	0.85	8.85	20.32	33	12.68
QPSK 10M BW High Channel								
1905.0	H	88.41	13.68	0.85	8.85	21.68	33	11.32
1905.0	V	87.13	12.40	0.85	8.85	20.40	33	12.60
16-QAM 10M BW High Channel								
1905.0	H	88.15	13.42	0.85	8.85	21.42	33	11.58
1905.0	V	87.28	12.55	0.85	8.85	20.55	33	12.45
QPSK 15M BW High Channel								
1902.5	H	88.32	13.59	0.85	8.84	21.58	33	11.42
1902.5	V	87.42	12.69	0.85	8.84	20.68	33	12.32
16-QAM 15M BW High Channel								
1902.5	H	88.97	14.24	0.85	8.84	22.23	33	10.77
1902.5	V	87.57	12.84	0.85	8.84	20.83	33	12.17

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 20M BW High Channel								
1900.0	H	88.77	14.04	0.85	8.84	22.03	33	10.97
1900.0	V	87.72	12.99	0.85	8.84	20.98	33	12.02
16-QAM 20M BW High Channel								
1900.0	H	88.23	13.5	0.85	8.84	21.49	33	11.51
1900.0	V	87	12.27	0.85	8.84	20.26	33	12.74

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	89.62	13.87	0.84	8.54	21.57	30	8.43
1710.7	V	88.57	12.82	0.84	8.54	20.52	30	9.48
16-QAM 1.4M BW Low Channel								
1710.7	H	89.77	14.02	0.84	8.54	21.72	30	8.28
1710.7	V	88.6	12.85	0.84	8.54	20.55	30	9.45
QPSK 3M BW Low Channel								
1711.5	H	90	14.25	0.84	8.54	21.95	30	8.05
1711.5	V	88.23	12.48	0.84	8.54	20.18	30	9.82
16-QAM 3M BW Low Channel								
1711.5	H	89.47	13.72	0.84	8.54	21.42	30	8.58
1711.5	V	88.44	12.69	0.84	8.54	20.39	30	9.61
QPSK 5M BW Low Channel								
1712.5	H	89.83	14.08	0.84	8.54	21.78	30	8.22
1712.5	V	88.97	13.22	0.84	8.54	20.92	30	9.08
16-QAM 5M BW Low Channel								
1712.5	H	89.64	13.89	0.84	8.54	21.59	30	8.41
1712.5	V	88.87	13.12	0.84	8.54	20.82	30	9.18
QPSK 10M BW Low Channel								
1715.0	H	89.63	13.88	0.84	8.54	21.58	30	8.42
1715.0	V	88.07	12.32	0.84	8.54	20.02	30	9.98
16-QAM 10M BW Low Channel								
1715.0	H	89.04	13.29	0.84	8.54	20.99	30	9.01
1715.0	V	88.89	13.14	0.84	8.54	20.84	30	9.16
QPSK 15M BW Low Channel								
1717.5	H	89.98	14.23	0.84	8.55	21.94	30	8.06
1717.5	V	88.96	13.21	0.84	8.55	20.92	30	9.08
16-QAM 15M BW Low Channel								
1717.5	H	89.56	13.81	0.84	8.55	21.52	30	8.48
1717.5	V	88.49	12.74	0.84	8.55	20.45	30	9.55

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 20M BW Low Channel								
1720.0	H	89.53	13.78	0.84	8.55	21.49	30	8.51
1720.0	V	88.29	12.54	0.84	8.55	20.25	30	9.75
16-QAM 20M BW Low Channel								
1720.0	H	89.94	14.19	0.84	8.55	21.90	30	8.1
1720.0	V	88.08	12.33	0.84	8.55	20.04	30	9.96

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	89.01	13.26	0.84	8.57	20.99	30	9.01
1732.5	V	88.95	13.2	0.84	8.57	20.93	30	9.07
16-QAM 1.4M BW Middle Channel								
1732.5	H	89.58	13.83	0.84	8.57	21.56	30	8.44
1732.5	V	88.65	12.9	0.84	8.57	20.63	30	9.37
QPSK 3M BW Middle Channel								
1732.5	H	89.98	14.23	0.84	8.57	21.96	30	8.04
1732.5	V	89	13.25	0.84	8.57	20.98	30	9.02
16-QAM 3M BW Middle Channel								
1732.5	H	89.13	13.38	0.84	8.57	21.11	30	8.89
1732.5	V	88.55	12.8	0.84	8.57	20.53	30	9.47
QPSK 5M BW Middle Channel								
1732.5	H	89.71	13.96	0.84	8.57	21.69	30	8.31
1732.5	V	88.46	12.71	0.84	8.57	20.44	30	9.56
16-QAM 5M BW Middle Channel								
1732.5	H	89	13.25	0.84	8.57	20.98	30	9.02
1732.5	V	88.44	12.69	0.84	8.57	20.42	30	9.58
QPSK 10M BW Middle Channel								
1732.5	H	89.97	14.22	0.84	8.57	21.95	30	8.05
1732.5	V	88.9	13.15	0.84	8.57	20.88	30	9.12
16-QAM 10M BW Middle Channel								
1732.5	H	89.49	13.74	0.84	8.57	21.47	30	8.53
1732.5	V	88.94	13.19	0.84	8.57	20.92	30	9.08
QPSK 15M BW Middle Channel								
1732.5	H	89.32	13.57	0.84	8.57	21.30	30	8.7
1732.5	V	88.1	12.35	0.84	8.57	20.08	30	9.92
16-QAM 15M BW Middle Channel								
1732.5	H	89.23	13.48	0.84	8.57	21.21	30	8.79
1732.5	V	88.23	12.48	0.84	8.57	20.21	30	9.79

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 20M BW Middle Channel								
1732.5	H	89.5	13.75	0.84	8.57	21.48	30	8.52
1732.5	V	88.66	12.91	0.84	8.57	20.64	30	9.36
16-QAM 20M BW Middle Channel								
1732.5	H	89.48	13.73	0.84	8.57	21.46	30	8.54
1732.5	V	88.98	13.23	0.84	8.57	20.96	30	9.04

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	89.88	14.13	0.84	8.61	21.90	30	8.10
1754.3	V	88.51	12.76	0.84	8.61	20.53	30	9.47
16-QAM 1.4M BW High Channel								
1754.3	H	89.89	14.14	0.84	8.61	21.91	30	8.09
1754.3	V	88.82	13.07	0.84	8.61	20.84	30	9.16
QPSK 3M BW High Channel								
1753.5	H	89.86	14.11	0.84	8.6	21.87	30	8.13
1753.5	V	88.32	12.57	0.84	8.6	20.33	30	9.67
16-QAM 3M BW High Channel								
1753.5	H	89.97	14.22	0.84	8.6	21.98	30	8.02
1753.5	V	89	13.25	0.84	8.6	21.01	30	8.99
QPSK 5M BW High Channel								
1752.5	H	89.73	13.98	0.84	8.6	21.74	30	8.26
1752.5	V	88.34	12.59	0.84	8.6	20.35	30	9.65
16-QAM 5M BW High Channel								
1752.5	H	89.07	13.32	0.84	8.6	21.08	30	8.92
1752.5	V	88.16	12.41	0.84	8.6	20.17	30	9.83
QPSK 10M BW High Channel								
1750.0	H	89.58	13.83	0.84	8.6	21.59	30	8.41
1750.0	V	88.62	12.87	0.84	8.6	20.63	30	9.37
16-QAM 10M BW High Channel								
1750.0	H	89.21	13.46	0.84	8.6	21.22	30	8.78
1750.0	V	88.26	12.51	0.84	8.6	20.27	30	9.73
QPSK 15M BW High Channel								
1747.5	H	89.56	13.81	0.84	8.6	21.57	30	8.43
1747.5	V	88.6	12.85	0.84	8.6	20.61	30	9.39
16-QAM 15M BW High Channel								
1747.5	H	89.68	13.93	0.84	8.6	21.69	30	8.31
1747.5	V	88.73	12.98	0.84	8.6	20.74	30	9.26

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	89.77	14.02	0.84	8.59	21.77	30	8.23
1745.0	V	88.65	12.9	0.84	8.59	20.65	30	9.35
16-QAM 20M High Channel								
1745.0	H	89.58	13.83	0.84	8.59	21.58	30	8.42
1745.0	V	88.23	12.48	0.84	8.59	20.23	30	9.77

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	87.42	23.55	0.62	-1.18	21.75	38.45	16.70
824.7	V	86.80	22.93	0.62	-1.18	21.13	38.45	17.32
16-QAM 1.4M BW Low Channel								
824.7	H	87.54	23.67	0.62	-1.18	21.87	38.45	16.58
824.7	V	86.65	22.78	0.62	-1.18	20.98	38.45	17.47
QPSK 3M BW Low Channel								
825.5	H	87.10	23.23	0.63	-1.17	21.43	38.45	17.02
825.5	V	86.17	22.30	0.63	-1.17	20.50	38.45	17.95
16-QAM 3M BW Low Channel								
825.5	H	87.90	24.03	0.63	-1.17	22.23	38.45	16.22
825.5	V	86.96	23.09	0.63	-1.17	21.29	38.45	17.16
QPSK 5M BW Low Channel								
826.5	H	87.24	23.37	0.63	-1.17	21.57	38.45	16.88
826.5	V	86.05	22.18	0.63	-1.17	20.38	38.45	18.07
16-QAM 5M BW Low Channel								
826.5	H	87.56	23.69	0.63	-1.17	21.89	38.45	16.56
826.5	V	86.53	22.66	0.63	-1.17	20.86	38.45	17.59
QPSK 10M BW Low Channel								
829.0	H	87.17	23.30	0.63	-1.16	21.51	38.45	16.94
829.0	V	86.73	22.86	0.63	-1.16	21.07	38.45	17.38
16-QAM 10M BW Low Channel								
829.0	H	87.93	24.06	0.63	-1.16	22.27	38.45	16.18
829.0	V	86.36	22.49	0.63	-1.16	20.7	38.45	17.75

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 1.4M BW Middle Channel								
836.5	H	87.63	23.76	0.63	-1.14	21.99	38.45	16.46
836.5	V	86.88	23.01	0.63	-1.14	21.24	38.45	17.21
16-QAM 1.4M BW Middle Channel								
836.5	H	87.71	23.84	0.63	-1.14	22.07	38.45	16.38
836.5	V	86.2	22.33	0.63	-1.14	20.56	38.45	17.89
QPSK 3M BW Middle Channel								
836.5	H	87.36	23.49	0.63	-1.14	21.72	38.45	16.73
836.5	V	86.35	22.48	0.63	-1.14	20.71	38.45	17.74
16-QAM 3M BW Middle Channel								
836.5	H	87.42	23.55	0.63	-1.14	21.78	38.45	16.67
836.5	V	86.17	22.3	0.63	-1.14	20.53	38.45	17.92
QPSK 5M BW Middle Channel								
836.5	H	87.08	23.21	0.63	-1.14	21.44	38.45	17.01
836.5	V	86.96	23.09	0.63	-1.14	21.32	38.45	17.13
16-QAM 5M BW Middle Channel								
836.5	H	87.95	24.08	0.63	-1.14	22.31	38.45	16.14
836.5	V	86.67	22.8	0.63	-1.14	21.03	38.45	17.42
QPSK 10M BW Middle Channel								
836.5	H	87.03	23.16	0.63	-1.14	21.39	38.45	17.06
836.5	V	86.7	22.83	0.63	-1.14	21.06	38.45	17.39
16-QAM 10M BW Middle Channel								
836.5	H	87.7	23.83	0.63	-1.14	22.06	38.45	16.39
836.5	V	86.82	22.95	0.63	-1.14	21.18	38.45	17.27

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	87.43	23.56	0.63	-1.11	21.82	38.45	16.63
848.3	V	86.16	22.29	0.63	-1.11	20.55	38.45	17.9
16-QAM 1.4M BW High Channel								
848.3	H	87.72	23.85	0.63	-1.11	22.11	38.45	16.34
848.3	V	86.29	22.42	0.63	-1.11	20.68	38.45	17.77
QPSK 3M BW High Channel								
847.5	H	87.61	23.74	0.63	-1.11	22	38.45	16.45
847.5	V	86.09	22.22	0.63	-1.11	20.48	38.45	17.97
16-QAM 3M BW High Channel								
847.5	H	87.22	23.35	0.63	-1.11	21.61	38.45	16.84
847.5	V	86.38	22.51	0.63	-1.11	20.77	38.45	17.68
QPSK 5M BW High Channel								
846.5	H	87.86	23.99	0.63	-1.11	22.25	38.45	16.2
846.5	V	86.13	22.26	0.63	-1.11	20.52	38.45	17.93
16-QAM 5M BW High Channel								
846.5	H	87.15	23.28	0.63	-1.11	21.54	38.45	16.91
846.5	V	86.75	22.88	0.63	-1.11	21.14	38.45	17.31
QPSK 10M BW High Channel								
844.0	H	87.09	23.22	0.63	-1.12	21.47	38.45	16.98
844.0	V	86.78	22.91	0.63	-1.12	21.16	38.45	17.29
16-QAM 10M BW High Channel								
844.0	H	87.63	23.76	0.63	-1.12	22.01	38.45	16.44
844.0	V	86.66	22.79	0.63	-1.12	21.04	38.45	17.41

ERP:**LTE Band 12**

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								
699.7	H	89.64	24	0.62	-1.75	21.63	34.77	13.14
699.7	V	88.24	22.6	0.62	-1.75	20.23	34.77	14.54
16-QAM 1.4M BW Low Channel								
699.7	H	89.91	24.27	0.62	-1.75	21.9	34.77	12.87
699.7	V	88.61	22.97	0.62	-1.75	20.6	34.77	14.17
QPSK 3M BW Low Channel								
700.5	H	89.69	24.05	0.62	-1.75	21.68	34.77	13.09
700.5	V	88.61	22.97	0.62	-1.75	20.6	34.77	14.17
16-QAM 3M BW Low Channel								
700.5	H	89.35	23.71	0.62	-1.75	21.34	34.77	13.43
700.5	V	88.65	23.01	0.62	-1.75	20.64	34.77	14.13
QPSK 5M BW Low Channel								
701.5	H	89.76	24.12	0.62	-1.74	21.76	34.77	13.01
701.5	V	88.82	23.18	0.62	-1.74	20.82	34.77	13.95
16-QAM 5M BW Low Channel								
701.5	H	89.78	24.14	0.62	-1.74	21.78	34.77	12.99
701.5	V	88.05	22.41	0.62	-1.74	20.05	34.77	14.72
QPSK 10M BW Low Channel								
704.0	H	89.04	23.4	0.62	-1.73	21.05	34.77	13.72
704.0	V	88.83	23.19	0.62	-1.73	20.84	34.77	13.93
16-QAM 10M BW Low Channel								
704.0	H	89.51	23.87	0.62	-1.73	21.52	34.77	13.25
704.0	V	88.97	23.33	0.62	-1.73	20.98	34.77	13.79

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								
707.5	H	87.57	24.08	0.62	-1.71	21.75	34.77	13.02
707.5	V	86.13	22.64	0.62	-1.71	20.31	34.77	14.46
16-QAM 1.4M BW Middle Channel								
707.5	H	87.57	24.08	0.62	-1.71	21.75	34.77	13.02
707.5	V	86.65	23.16	0.62	-1.71	20.83	34.77	13.94
QPSK 3M BW Middle Channel								
707.5	H	87.85	24.36	0.62	-1.71	22.03	34.77	12.74
707.5	V	86.72	23.23	0.62	-1.71	20.9	34.77	13.87
16-QAM 3M BW Middle Channel								
707.5	H	87.7	24.21	0.62	-1.71	21.88	34.77	12.89
707.5	V	86.13	22.64	0.62	-1.71	20.31	34.77	14.46
QPSK 5M BW Middle Channel								
707.5	H	87.61	24.12	0.62	-1.71	21.79	34.77	12.98
707.5	V	86.49	23	0.62	-1.71	20.67	34.77	14.1
16-QAM 5M BW Middle Channel								
707.5	H	87.43	23.94	0.62	-1.71	21.61	34.77	13.16
707.5	V	86.88	23.39	0.62	-1.71	21.06	34.77	13.71
QPSK 10M BW Middle Channel								
707.5	H	87.26	23.77	0.62	-1.71	21.44	34.77	13.33
707.5	V	86.45	22.96	0.62	-1.71	20.63	34.77	14.14
16-QAM 10M BW Middle Channel								
707.5	H	87.4	23.91	0.62	-1.71	21.58	34.77	13.19
707.5	V	86.46	22.97	0.62	-1.71	20.64	34.77	14.13

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								
715.3	H	89.11	23.19	0.62	-1.67	20.9	34.77	13.87
715.3	V	88.61	22.69	0.62	-1.67	20.4	34.77	14.37
16-QAM 1.4M BW High Channel								
715.3	H	89.29	23.37	0.62	-1.67	21.08	34.77	13.69
715.3	V	88.22	22.3	0.62	-1.67	20.01	34.77	14.76
QPSK 3M BW High Channel								
714.5	H	89.58	23.66	0.62	-1.68	21.36	34.77	13.41
714.5	V	88.56	22.64	0.62	-1.68	20.34	34.77	14.43
16-QAM 3M BW High Channel								
714.5	H	89.02	23.1	0.62	-1.68	20.8	34.77	13.97
714.5	V	88.02	22.1	0.62	-1.68	19.8	34.77	14.97
QPSK 5M BW High Channel								
713.5	H	89.77	23.85	0.62	-1.68	21.55	34.77	13.22
713.5	V	88.16	22.24	0.62	-1.68	19.94	34.77	14.83
16-QAM 5M BW High Channel								
713.5	H	89.25	23.33	0.62	-1.68	21.03	34.77	13.74
713.5	V	88.21	22.29	0.62	-1.68	19.99	34.77	14.78
QPSK 10M BW High Channel								
711.0	H	89.78	23.86	0.62	-1.7	21.54	34.77	13.23
711.0	V	88.01	22.09	0.62	-1.7	19.77	34.77	15
16-QAM 10M BW High Channel								
711.0	H	89.06	23.14	0.62	-1.7	20.82	34.77	13.95
711.0	V	88.73	22.81	0.62	-1.7	20.49	34.77	14.28

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	88.54	23.38	0.62	-1.72	21.04	34.77	13.73
706.5	V	87.53	22.37	0.62	-1.72	20.03	34.77	14.74
16-QAM 5M BW Low Channel								
706.5	H	88.51	23.35	0.62	-1.72	21.01	34.77	13.76
706.5	V	87.98	22.82	0.62	-1.72	20.48	34.77	14.29
QPSK 10M BW Low Channel								
709.0	H	88.57	23.41	0.62	-1.71	21.08	34.77	13.69
709.0	V	87.48	22.32	0.62	-1.71	19.99	34.77	14.78
16-QAM 10M BW Low Channel								
709.0	H	88.68	23.52	0.62	-1.71	21.19	34.77	13.58
709.0	V	87.11	21.95	0.62	-1.71	19.62	34.77	15.15

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	88.63	22.64	0.62	-1.7	20.32	34.77	14.45
710.0	V	87.01	21.02	0.62	-1.7	18.70	34.77	16.07
16-QAM 5M BW Middle Channel								
710.0	H	88.25	22.26	0.62	-1.7	19.94	34.77	14.83
710.0	V	87.99	22.00	0.62	-1.7	19.68	34.77	15.09
QPSK 10M BW Middle Channel								
710.0	H	88.16	22.17	0.62	-1.7	19.85	34.77	14.92
710.0	V	87.12	21.13	0.62	-1.7	18.81	34.77	15.96
16-QAM 10M BW Middle Channel								
710.0	H	88.96	22.97	0.62	-1.7	20.65	34.77	14.12
710.0	V	87.24	21.25	0.62	-1.7	18.93	34.77	15.84

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 5M BW High Channel								
713.5	H	88.45	23.63	0.62	-1.68	21.33	34.77	13.44
713.5	V	87.8	22.98	0.62	-1.68	20.68	34.77	14.09
16-QAM 5M BW High Channel								
713.5	H	88.72	23.90	0.62	-1.68	21.60	34.77	13.17
713.5	V	87.6	22.78	0.62	-1.68	20.48	34.77	14.29
QPSK 10M BW High Channel								
711.0	H	88.85	24.03	0.62	-1.7	21.71	34.77	13.06
711.0	V	87.7	22.88	0.62	-1.7	20.56	34.77	14.21
16-QAM 10M BW High Channel								
711.0	H	88.86	24.04	0.62	-1.7	21.72	34.77	13.05
711.0	V	87.9	23.08	0.62	-1.7	20.76	34.77	14.01

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

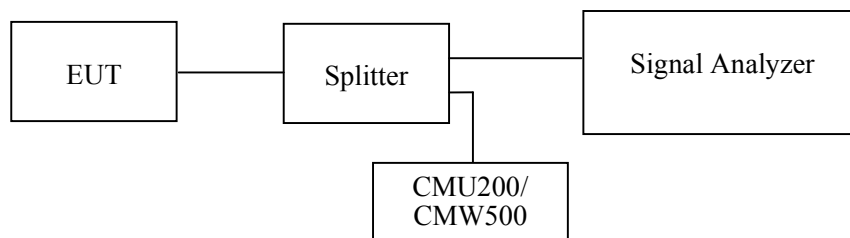
Applicable Standards

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/50 kHz/100 kHz/300 kHz (LTE), and the 26 dB & 99% bandwidth was recorded.



Test Data

Environmental Conditions

Temperature:	23.4~24.1 °C
Relative Humidity:	49~52 %
ATM Pressure:	100.5~102.1 kPa

The testing was performed by Jack Jiao from 2020-12-23 to 2021-03-09.

EUT operation mode: Transmitting

Test Result: Compliance.

GSM 850 Band

Mode	Frequency (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
GPRS (GMSK)	824.2	0.323	0.246
	836.6	0.321	0.248
	848.8	0.325	0.248
EGPRS (8PSK)	824.2	0.311	0.248
	836.6	0.303	0.248
	848.8	0.315	0.246

WCDMA Band V

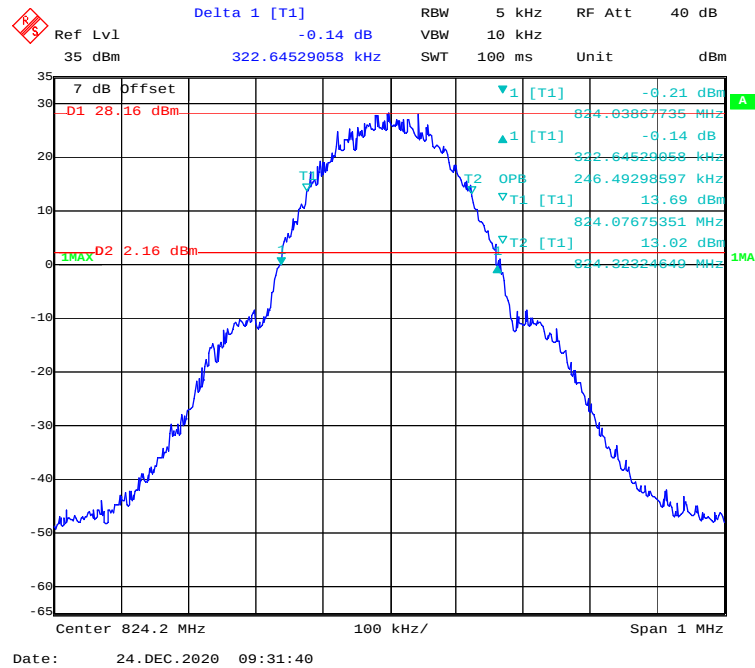
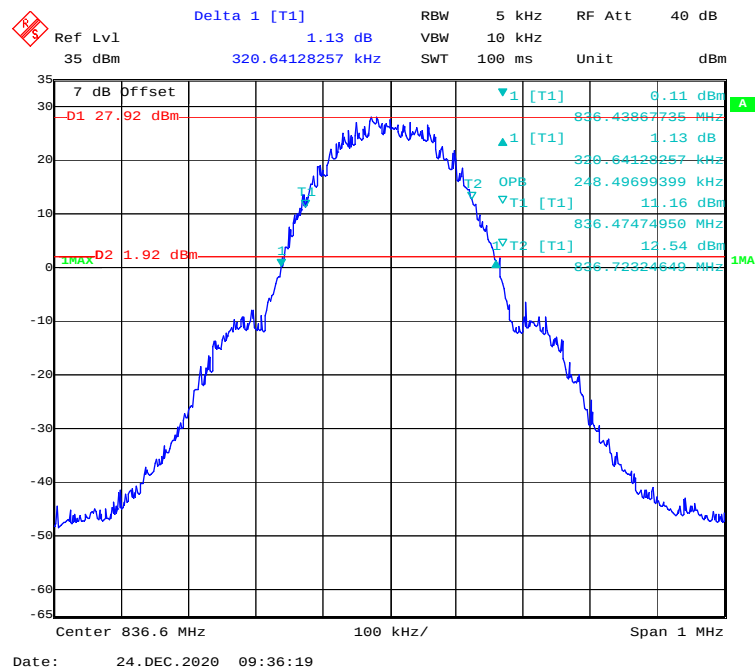
Mode	Frequency (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
WCDMA (Rel 99)	826.4	4.749	4.168
	836.6	4.770	4.188
	846.6	4.770	4.188
WCDMA (HSDPA)	826.4	4.749	4.188
	836.6	4.749	4.168
	846.6	4.729	4.168
WCDMA (HSUPA)	826.4	4.770	4.188
	836.6	4.729	4.168
	846.6	4.770	4.168
WCDMA (HSPA+)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

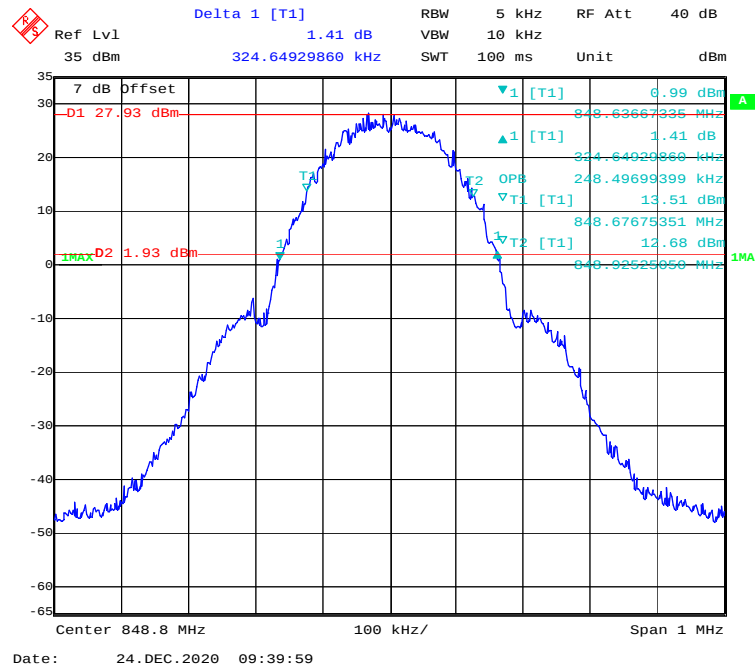
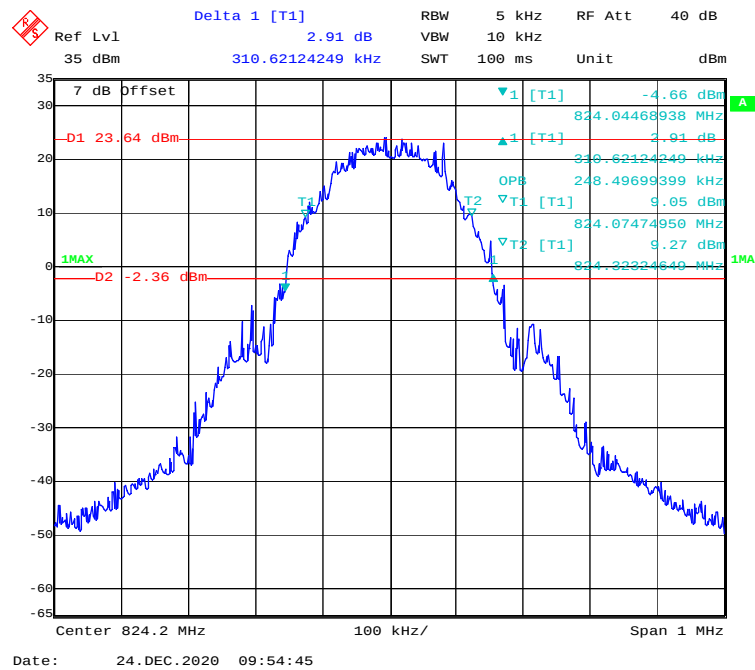
PCS 1900

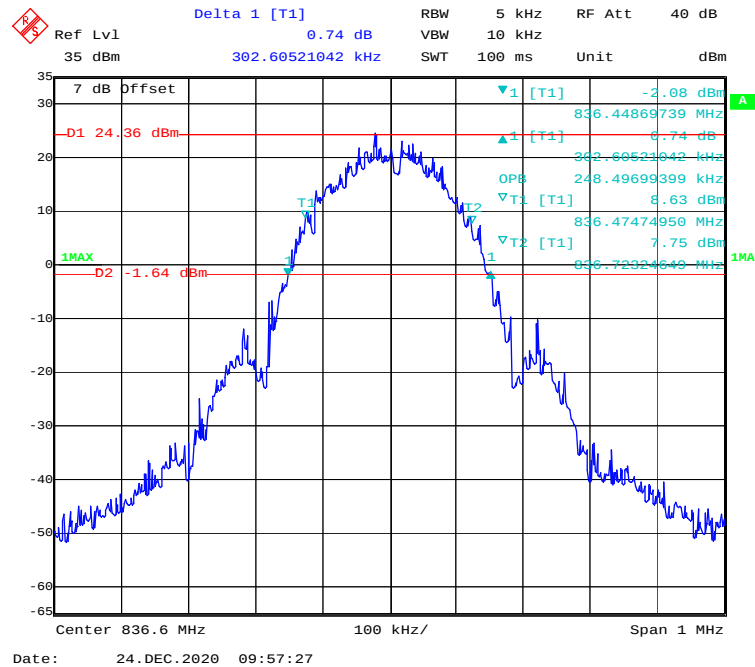
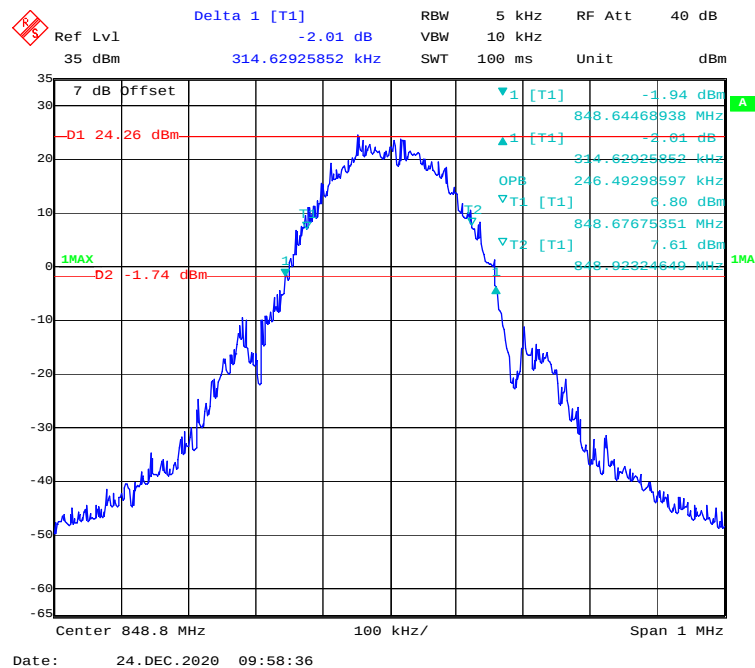
Mode	Frequency (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
GPRS (GMSK)	1850.2	0.319	0.246
	1880.0	0.321	0.244
	1909.8	0.315	0.246
EGPRS (8PSK)	1850.2	0.317	0.242
	1880.0	0.313	0.244
	1909.8	0.327	0.251

WCDMA Band II

Mode	Frequency (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
WCDMA (Rel 99)	1852.4	4.729	4.188
	1880.0	4.770	4.188
	1907.6	4.770	4.168
WCDMA (HSDPA)	1852.4	4.749	4.168
	1880.0	4.770	4.188
	1907.6	4.770	4.188
WCDMA (HSUPA)	1852.4	4.770	4.188
	1880.0	4.749	4.208
	1907.6	4.770	4.188
WCDMA (HSPA+)	1852.4	4.749	4.208
	1880.0	4.770	4.188
	1907.6	4.770	4.188

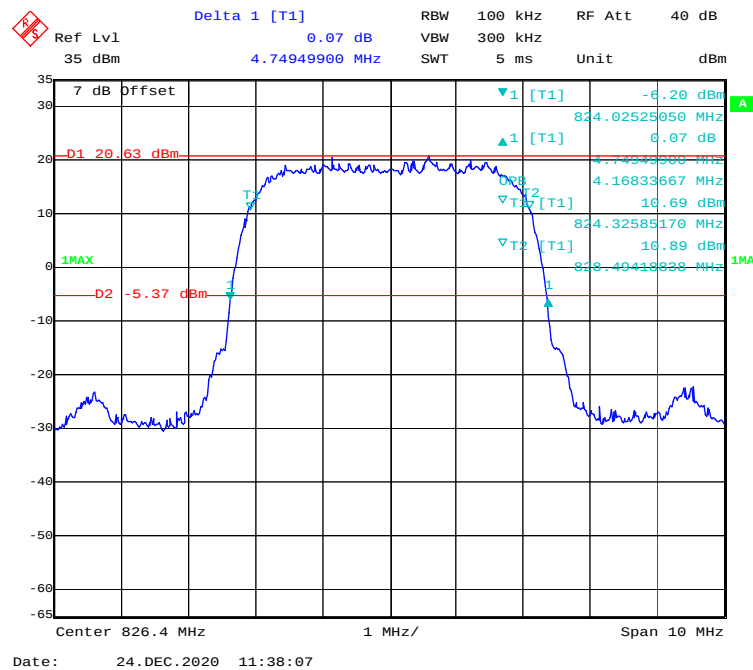
GSM 850 Band**99% Occupied & 26 dB Emissions Bandwidth for GPRS (GMSK) Low channel****99% Occupied & 26 dB Emissions Bandwidth for GPRS (GMSK) Middle channel**

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

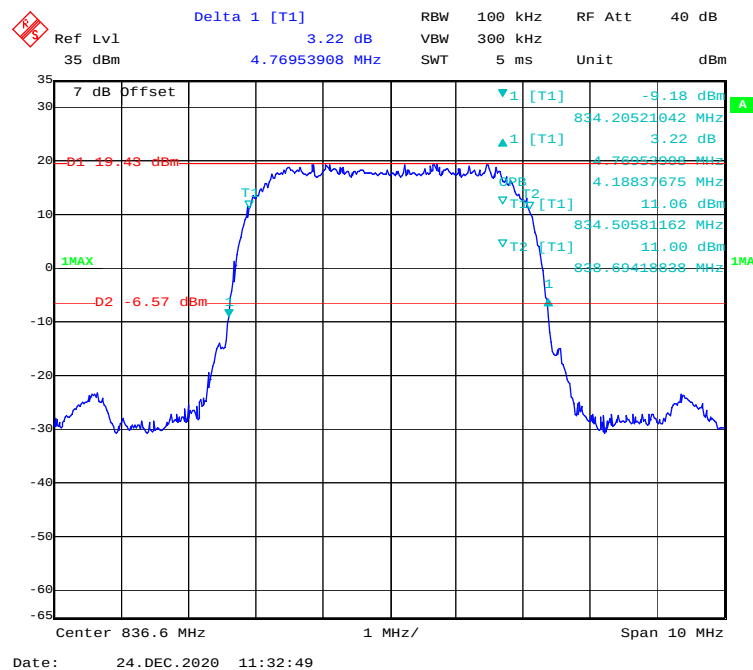
99% Occupied & 26 dB Emissions Bandwidth for EGPRS (GMSK) Middle channel**99% Occupied & 26 dB Emissions Bandwidth for EGPRS (GMSK) High channel**

WCDMA Band V

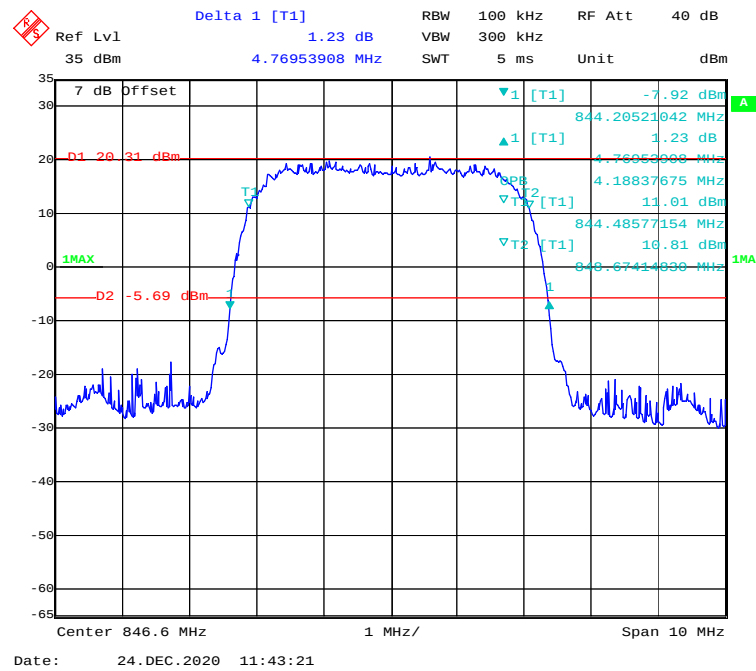
99% Occupied & 26 dB Emissions Bandwidth for WCDMA (Rel 99) Low channel

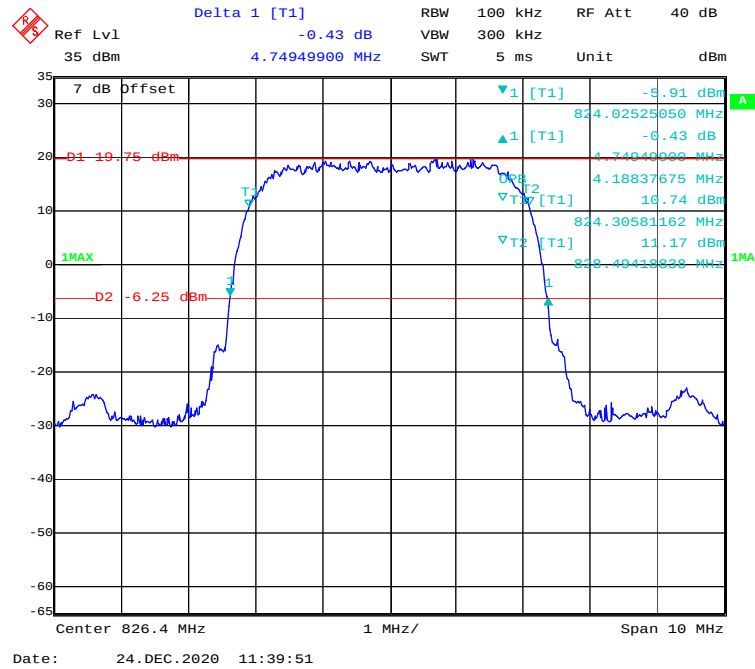
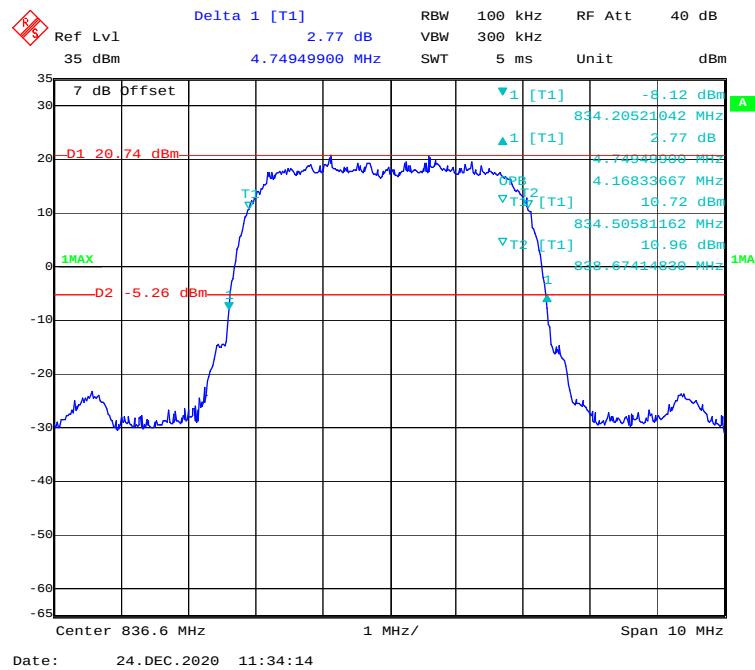


99% Occupied & 26 dB Emissions Bandwidth for WCDMA (Rel 99) Middle channel

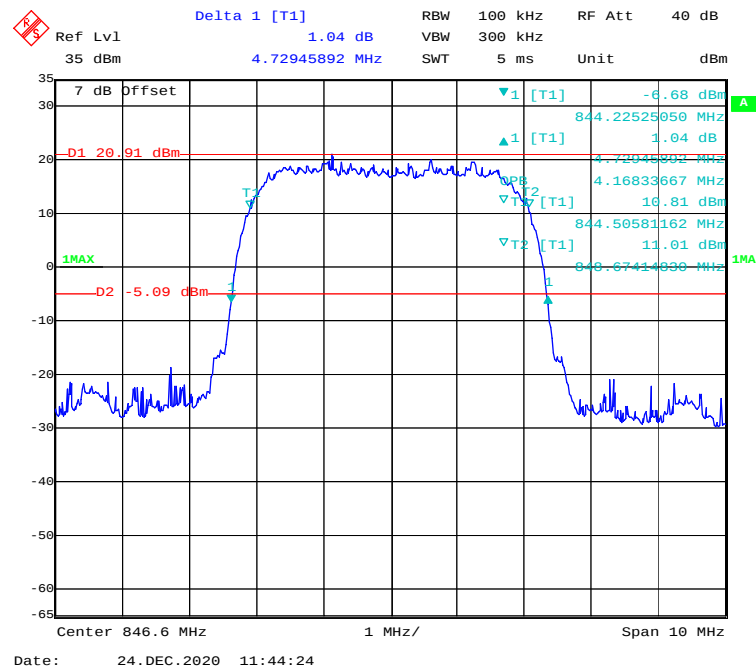


99% Occupied & 26 dB Emissions Bandwidth for WCDMA (Rel 99) High channel

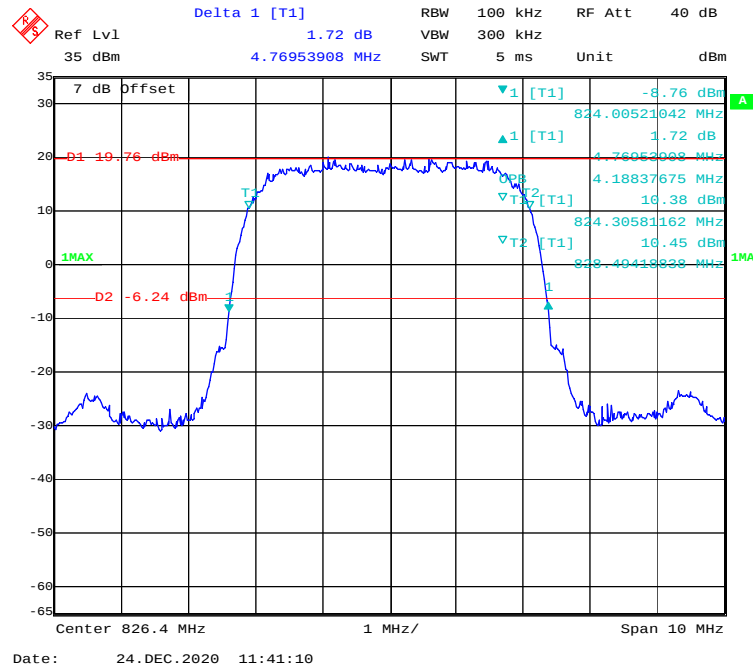


99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSDPA) Low channel**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSDPA) Middle channel**

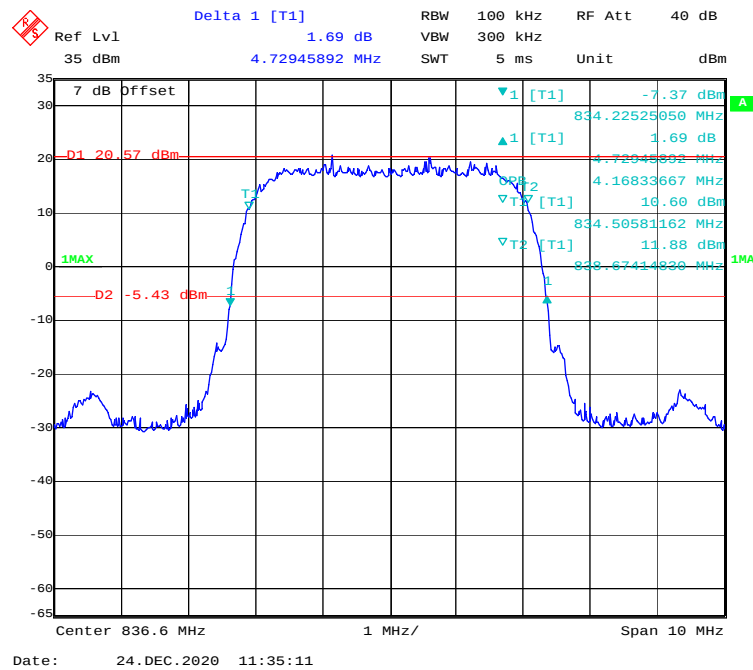
99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSDPA) High channel



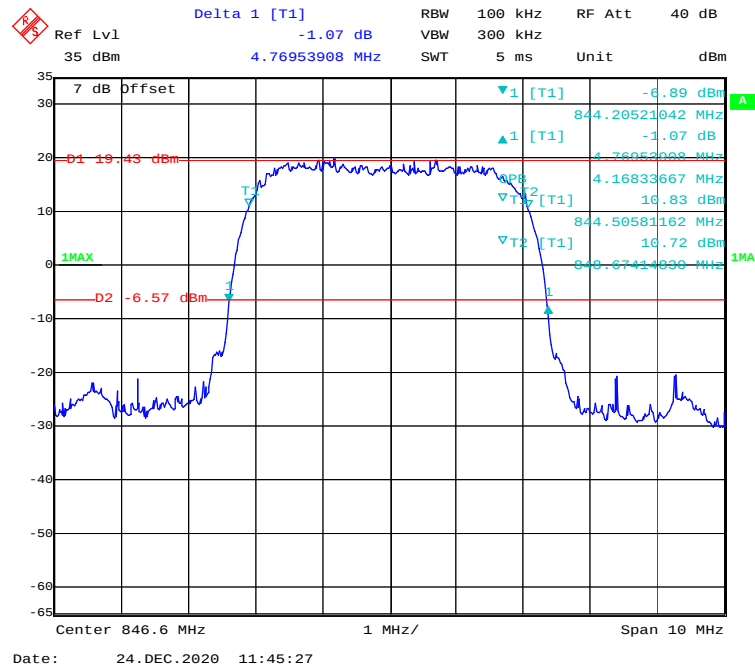
99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSUPA) Low channel



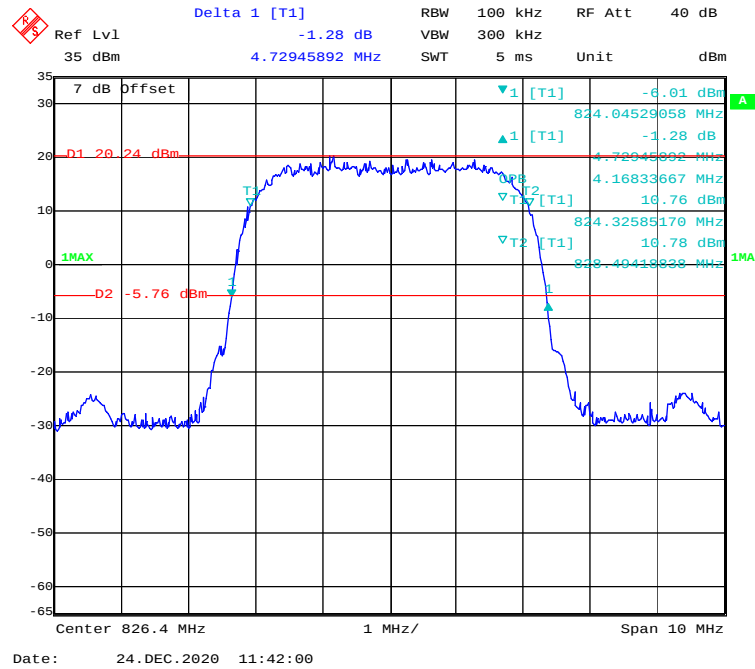
99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSUPA) Middle channel



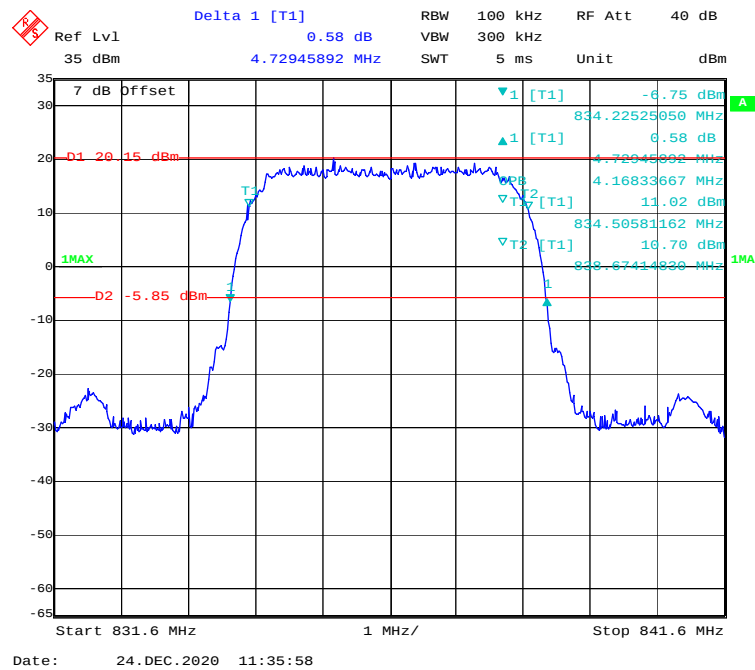
99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSUPA) High channel



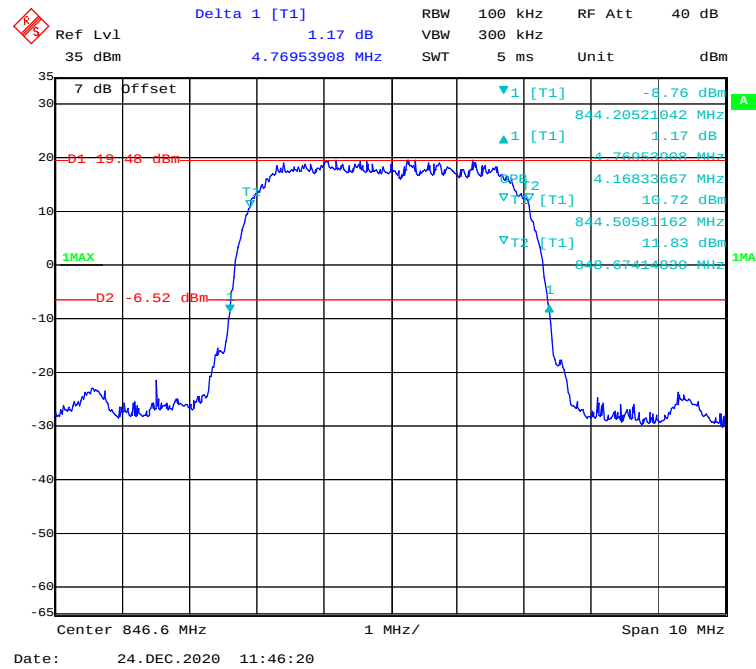
99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSPA+) Low channel



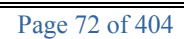
99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSPA+) Middle channel

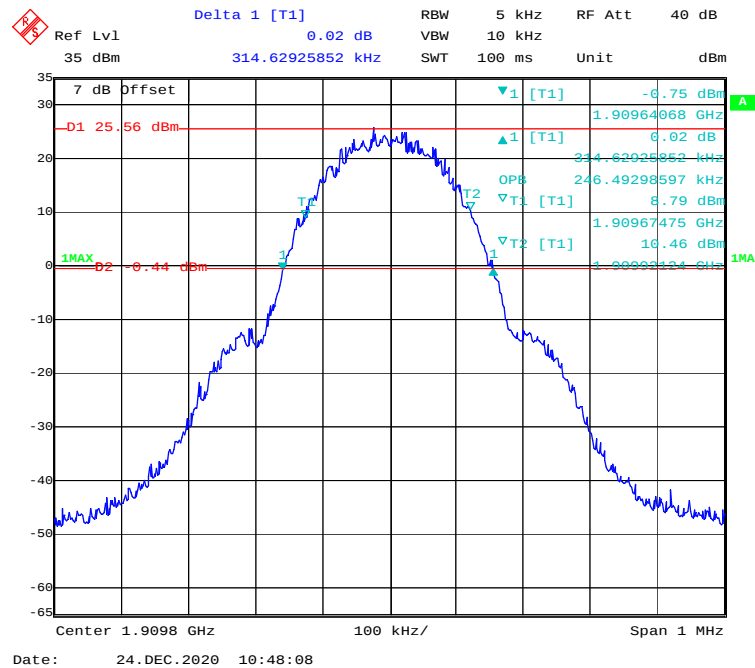
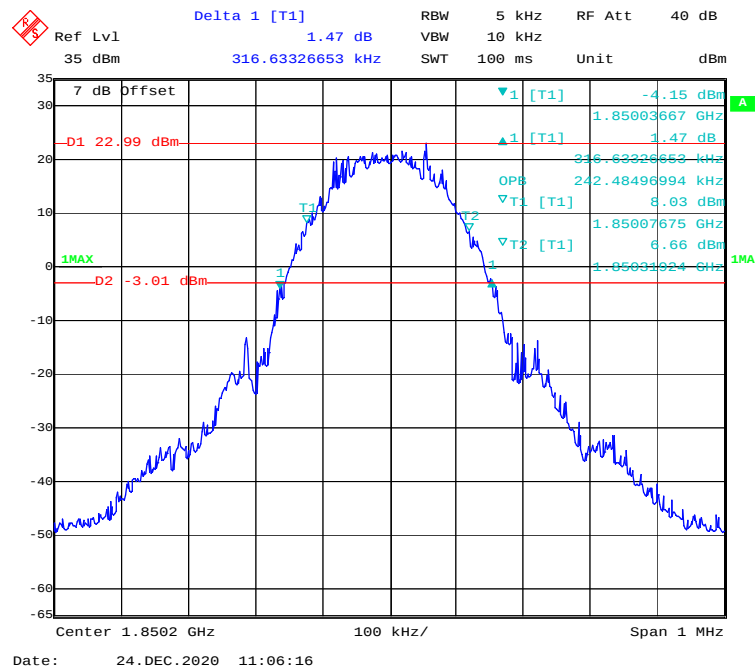


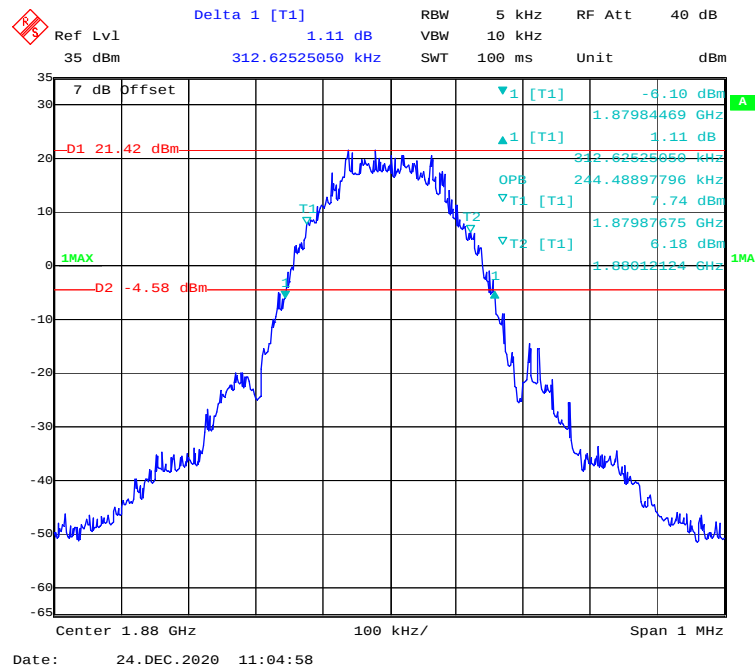
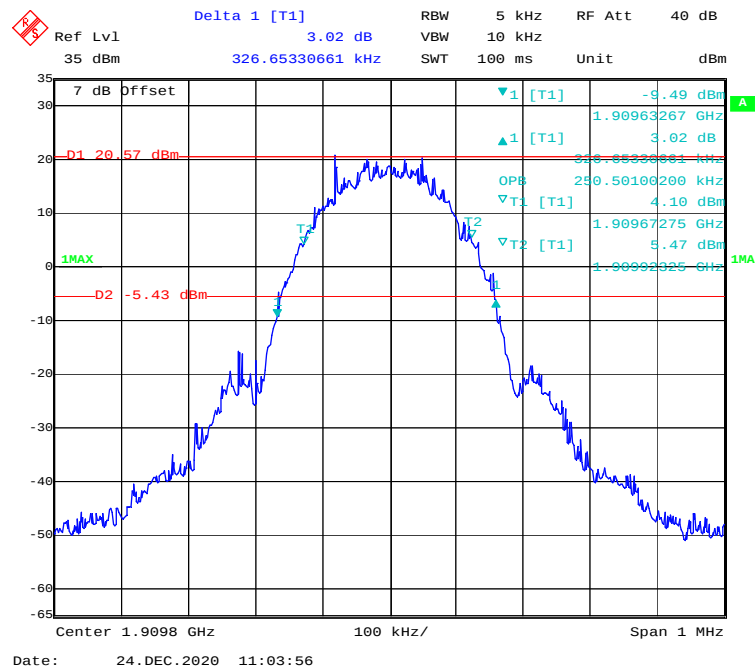
99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSPA+) High channel



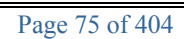
99% Occupied & 26 dB Emissions Bandwidth for GPRS (GMSK) Low channel



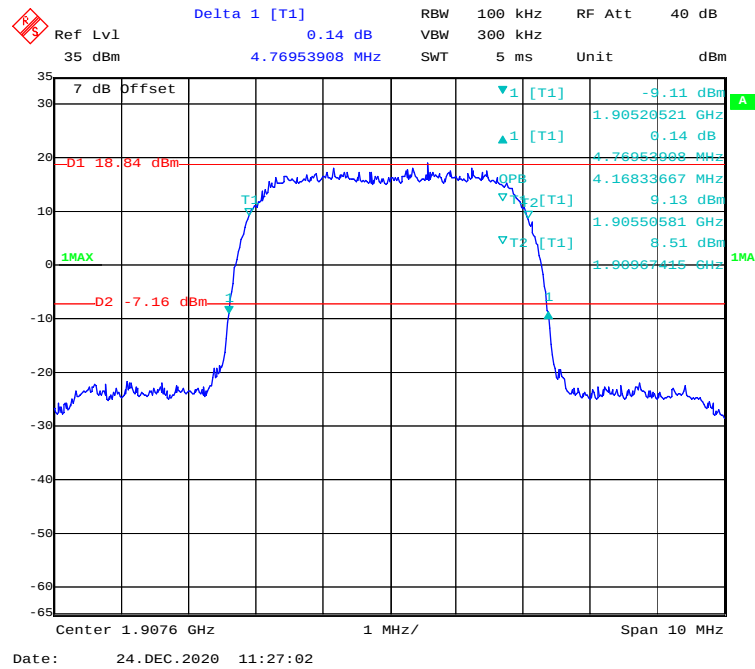
99% Occupied & 26 dB Emissions Bandwidth for GPRS (GMSK) High channel**99% Occupied & 26 dB Emissions Bandwidth for EGPRS (8PSK) Low channel**

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

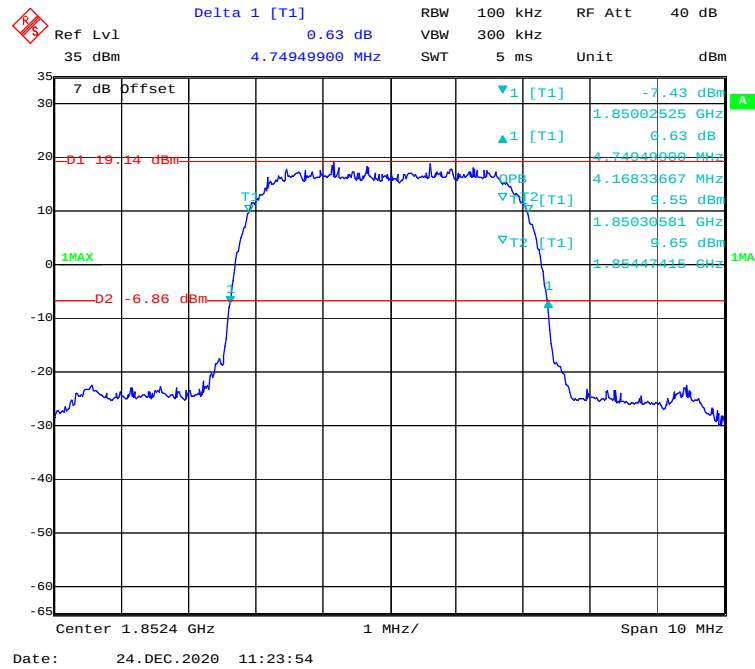
99% Occupied & 26 dB Emissions Bandwidth for WCDMA (Rel 99) Low channel



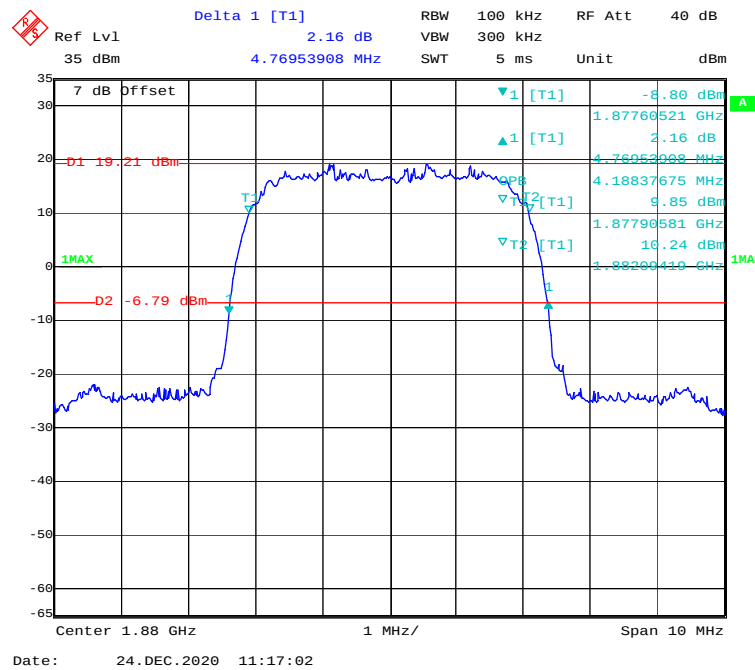
99% Occupied & 26 dB Emissions Bandwidth for WCDMA (Rel 99) High channel



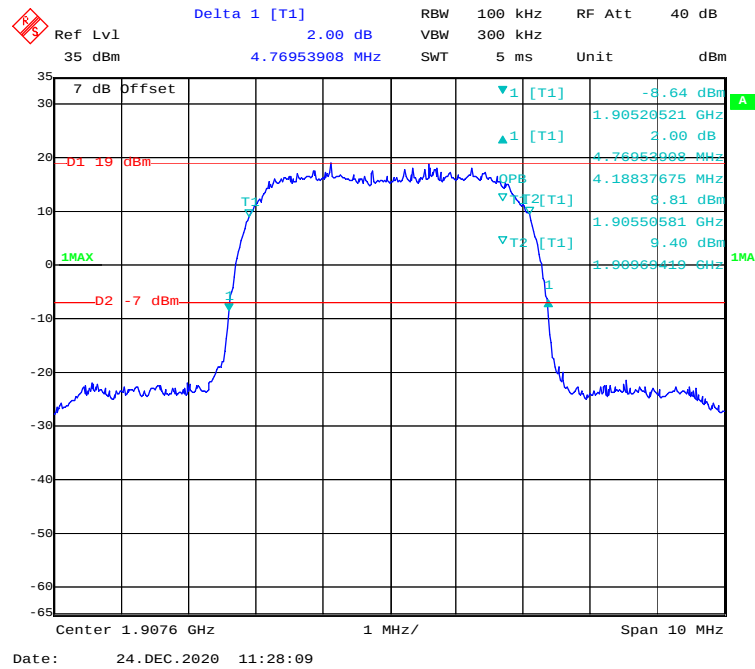
99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSDPA) Low channel

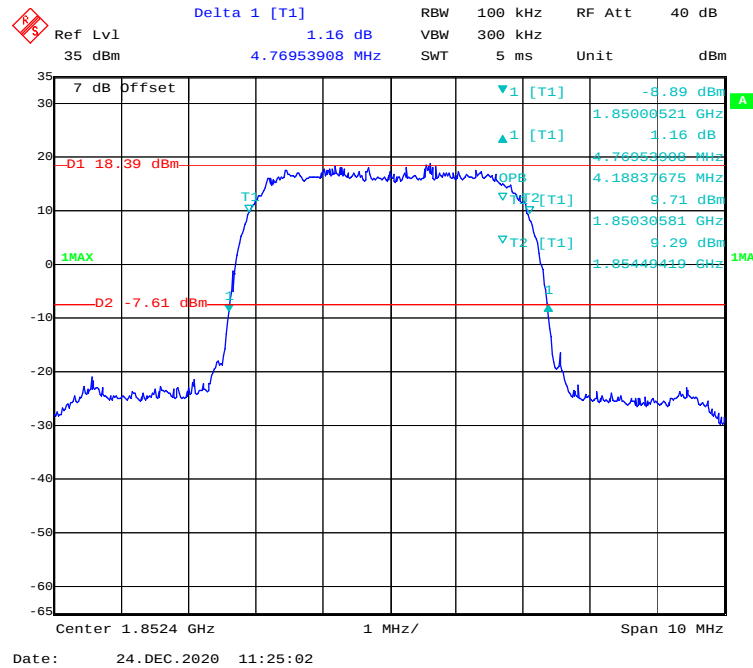
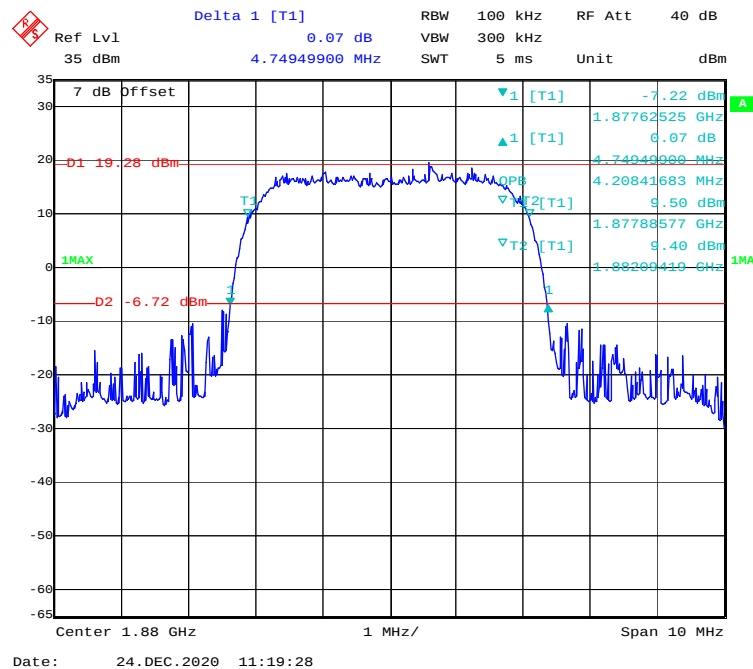


99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSDPA) Middle channel



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**

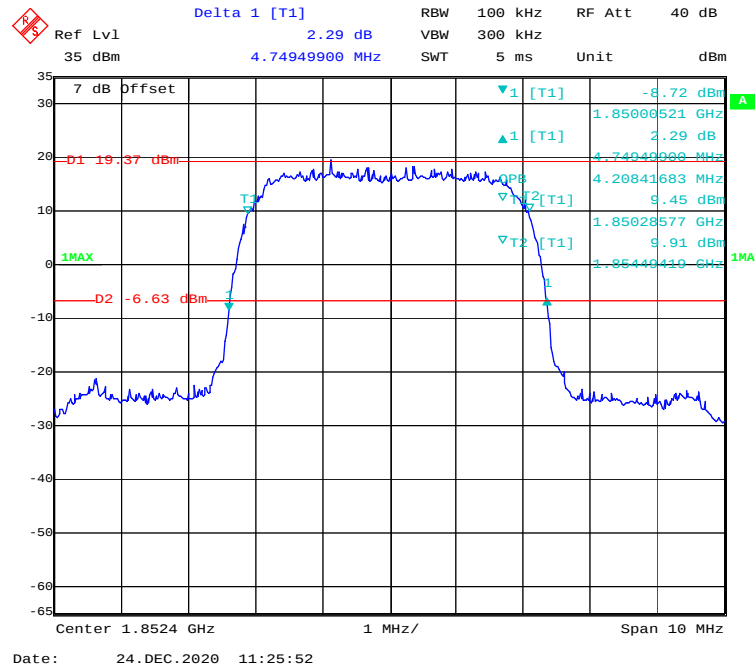
Ref Lvl 35 dBm
 Delta 1 [T1] 1.90 dB
 RBW 100 kHz
 RF Att 40 dB
 35 dBm
 4.76953908 MHz
 100 kHz
 5 ms
 Unit dBm

7 dB Offset
 -D1 18.93 dBm
 1MAX
 -D2 -7.07 dBm
 1
 -9.12 dBm
 1.90526521 GHz
 1.90 dB
 4.76053008 MHz
 4.18837675 MHz
 8.62 dBm
 1.90550581 GHz
 8.69 dBm
 1.90066410 GHz
 1MA

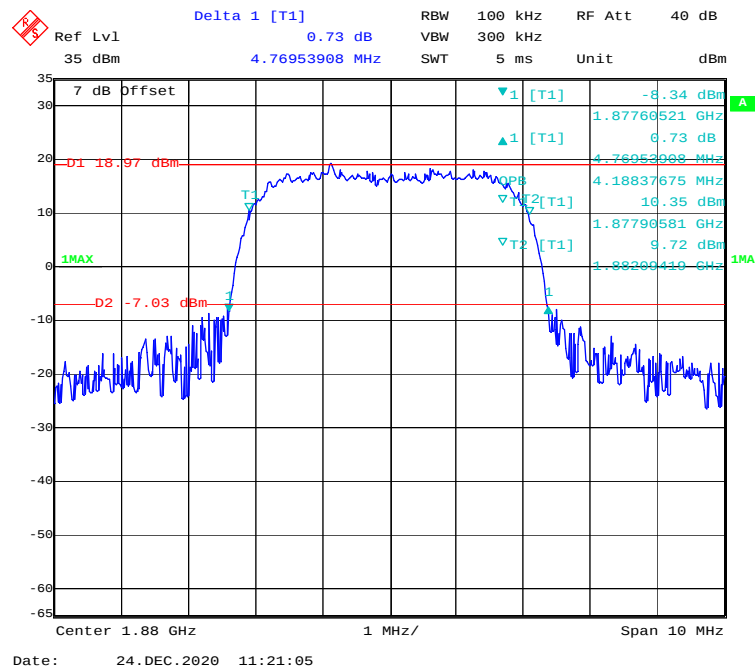
Center 1.9076 GHz
 1 MHz/
 Span 10 MHz

Date: 24. DEC. 2020 11:29:17

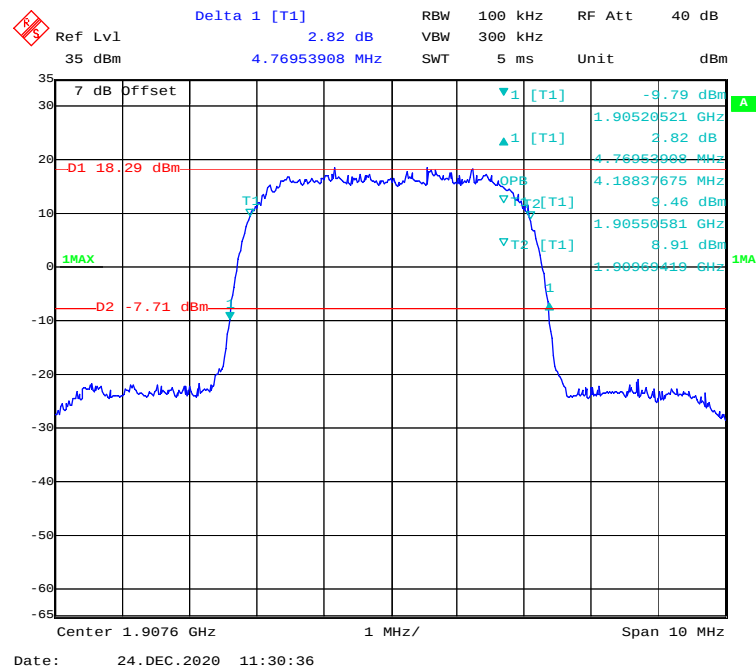
99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSPA+) Low channel



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



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



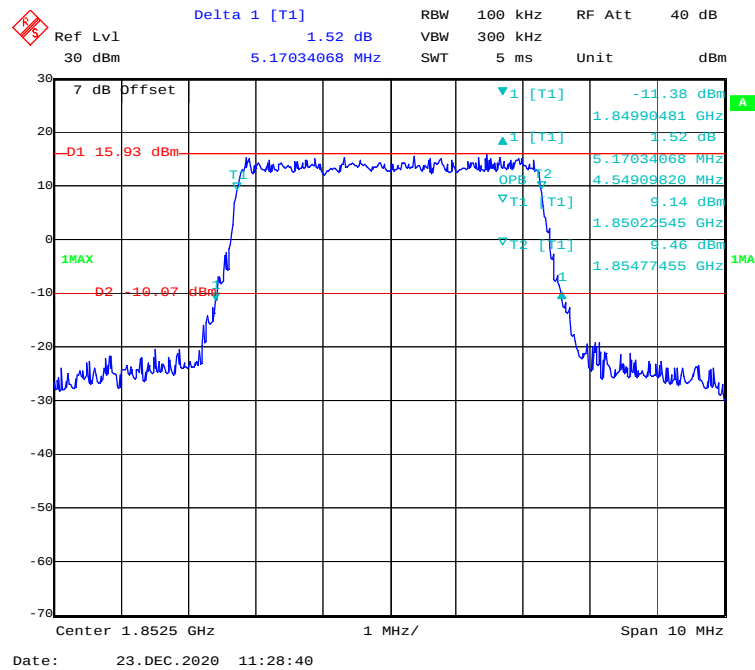
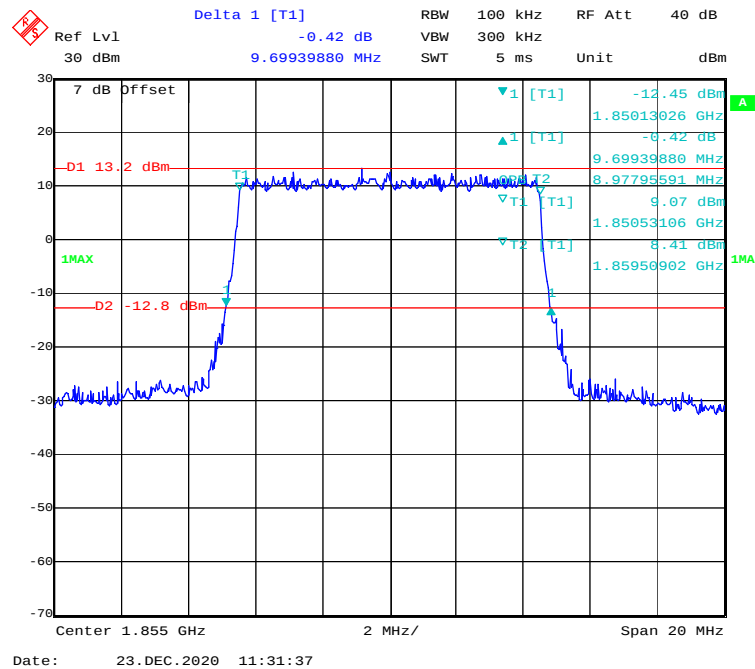
LTE Band 2:

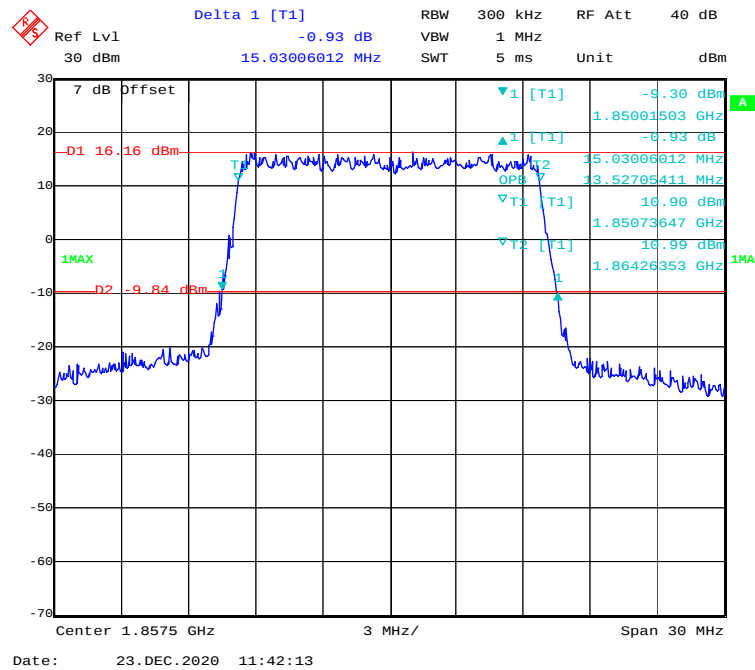
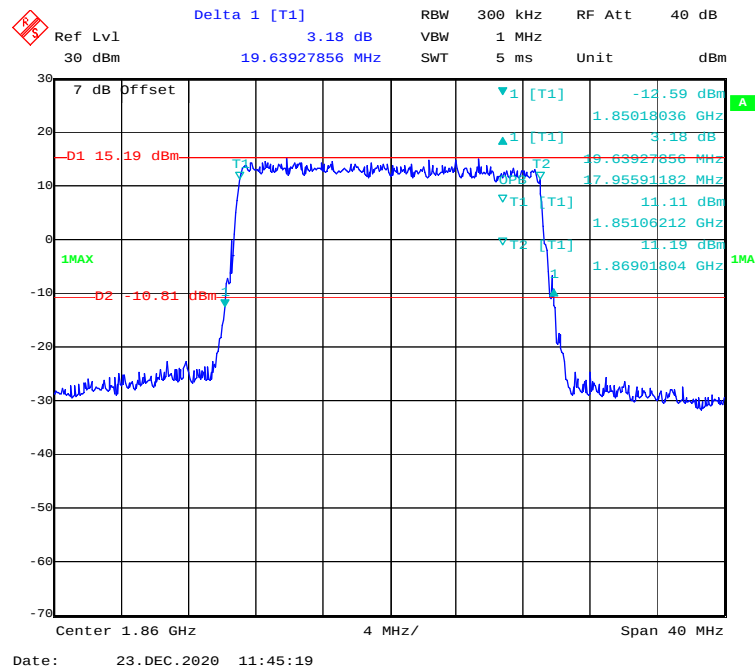
Test Modulation	Test Bandwidth	Test Channel	26 dB Bandwidth	99% Occupied Bandwidth
			MHz	MHz
QPSK	1.4M	Low	1.293	1.100
	3M		2.850	2.693
	5M		5.170	4.549
	10M		9.699	8.978
	15M		15.030	13.527
	20M		19.639	17.956
	1.4M	Middle	1.311	1.106
	3M		2.850	2.681
	5M		5.210	4.549
	10M		9.900	9.018
	15M		15.210	13.587
	20M		19.639	18.036
	1.4M	High	1.305	1.100
	3M		2.862	2.693
	5M		5.170	4.529
	10M		9.860	8.978
	15M		15.271	13.527
	20M		19.800	18.036

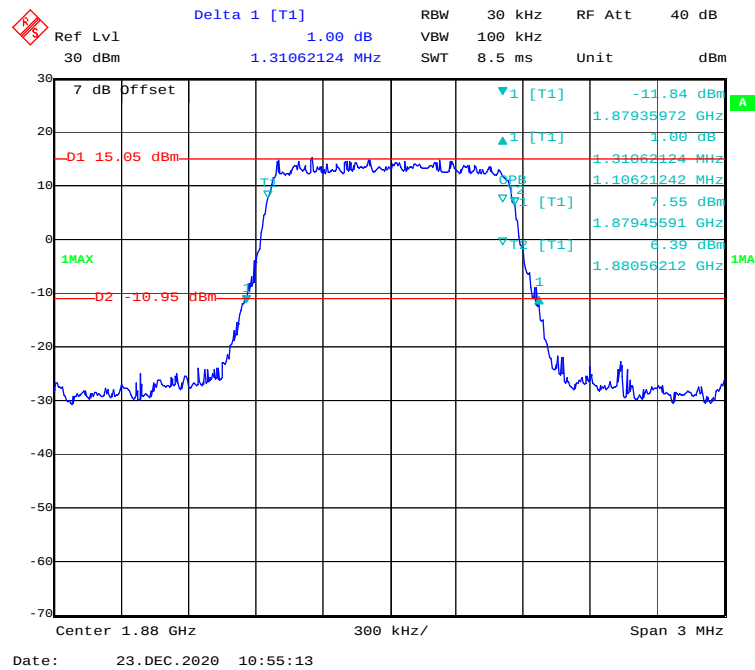
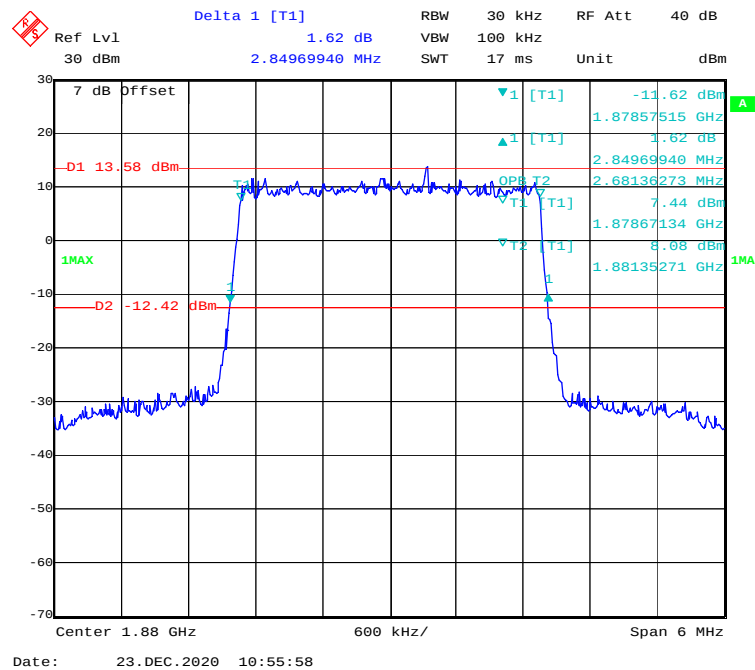
Test Modulation	Test Bandwidth	Test Channel	26 dB Bandwidth	99% Occupied Bandwidth
			MHz	MHz
16-QAM	1.4M	Low	1.299	1.100
	3M		2.874	2.693
	5M		5.190	4.529
	10M		9.739	8.978
	15M		14.970	13.527
	20M		19.479	18.036
	1.4M	Middle	1.293	1.094
	3M		2.886	2.669
	5M		5.210	4.529
	10M		9.739	9.018
	15M		15.030	13.587
	20M		19.559	18.036
	1.4M	High	1.287	1.094
	3M		2.886	2.693
	5M		6.012	4.549
	10M		9.780	8.978
	15M		15.210	13.587
	20M		19.800	18.036

Delta 1 [T1] -0.00 dB
 RBW 30 kHz RF Att 40 dB
 Ref Lvl 30 dBm Unit dBm
 30 dBm 1.29258517 MHz
 7 dB Offset
 D1 15.86 dBm
 1MAX
 D2 10.14 dBm
 1MA
 Center 1.8507 GHz 300 kHz/
 Span 3 MHz
 Date: 23.DEC.2020 11:21:48

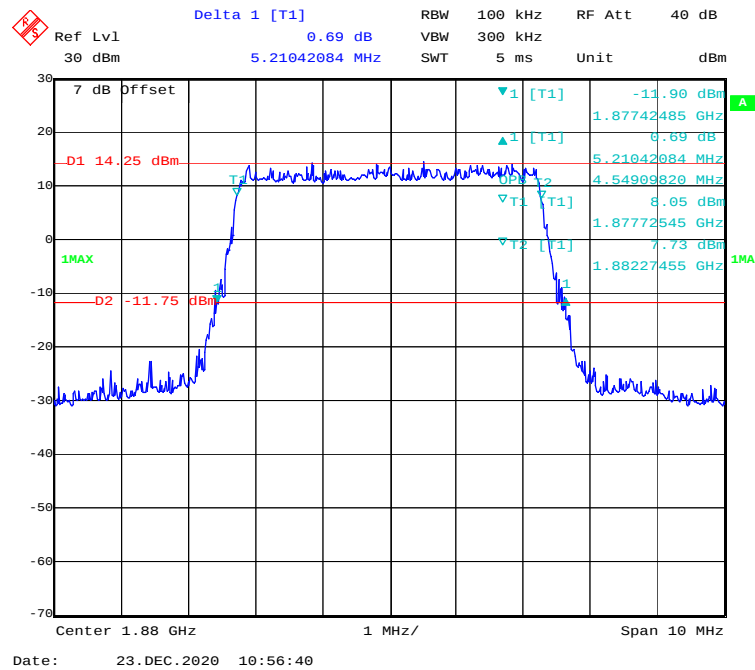
Delta 1 [T1] -0.91 dB
 RBW 30 kHz RF Att 40 dB
 Ref Lvl 30 dBm 100 kHz 17 ms Unit dBm
 30 dBm
 7 dB Offset
 -D1 13.45 dBm
 1MAX
 -D2 -12.55 dBm
 1
 -11.39 dBm
 1.85007515 GHz
 -0.91 dB
 2.84969940 MHz
 2.69338677 MHz
 7.47 dBm
 1.85015932 GHz
 8.88 dBm
 1.85285271 GHz
 1MAX
 Center 1.8515 GHz 600 kHz/
 Span 6 MHz
 Date: 23.DEC.2020 11:25:23

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

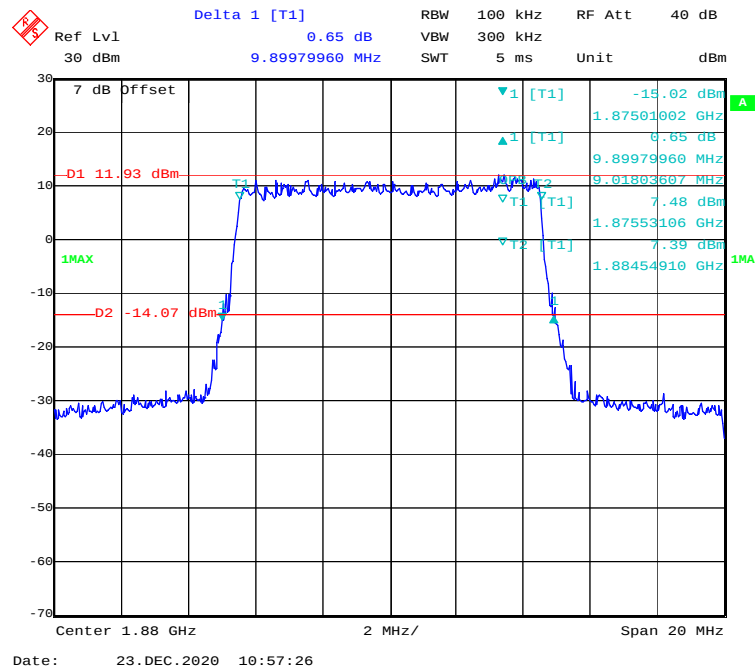
QPSK (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**QPSK (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

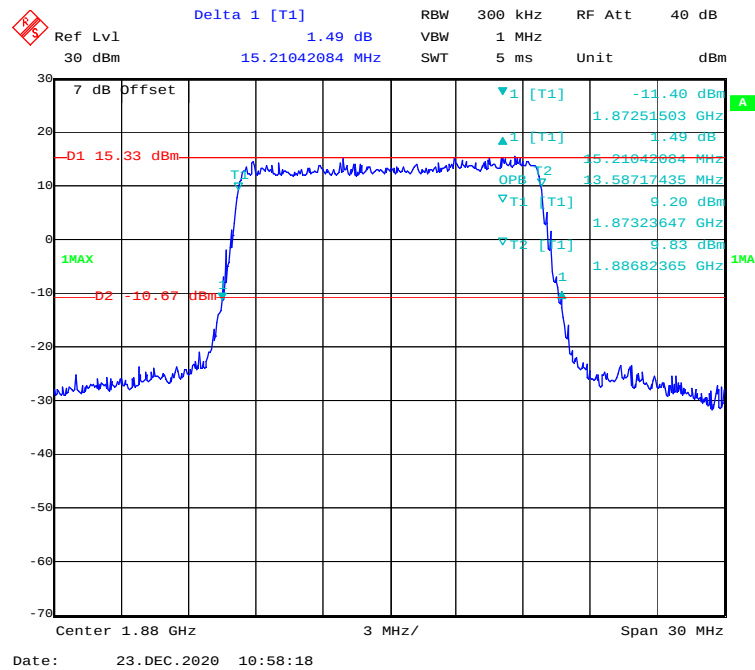
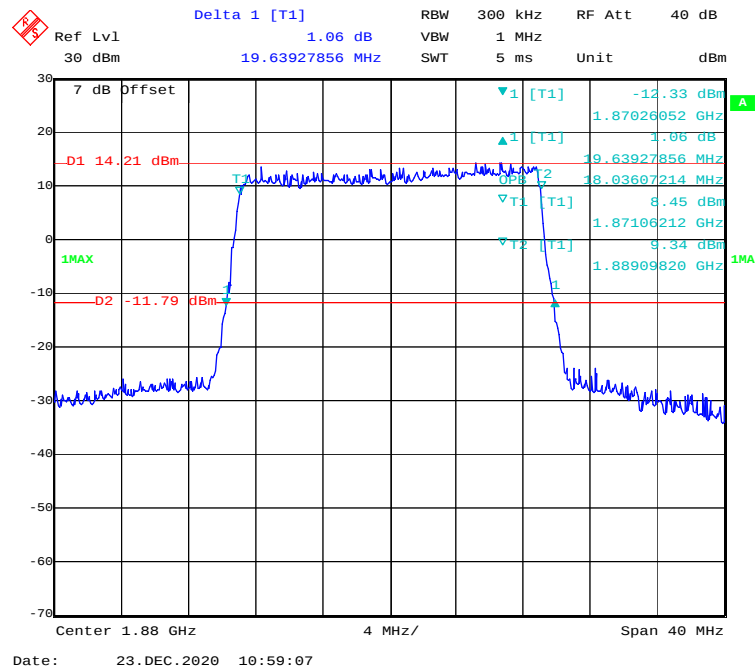
QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**QPSK (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

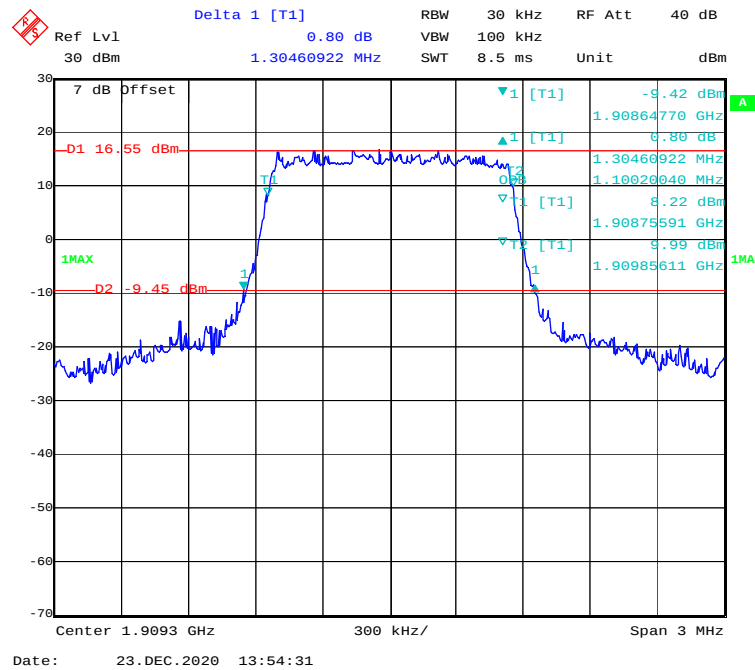
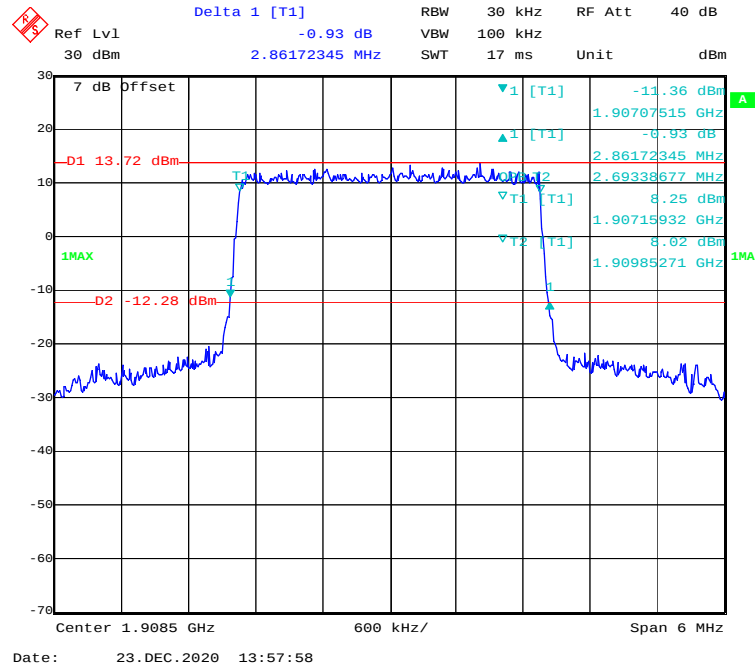
QPSK (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel

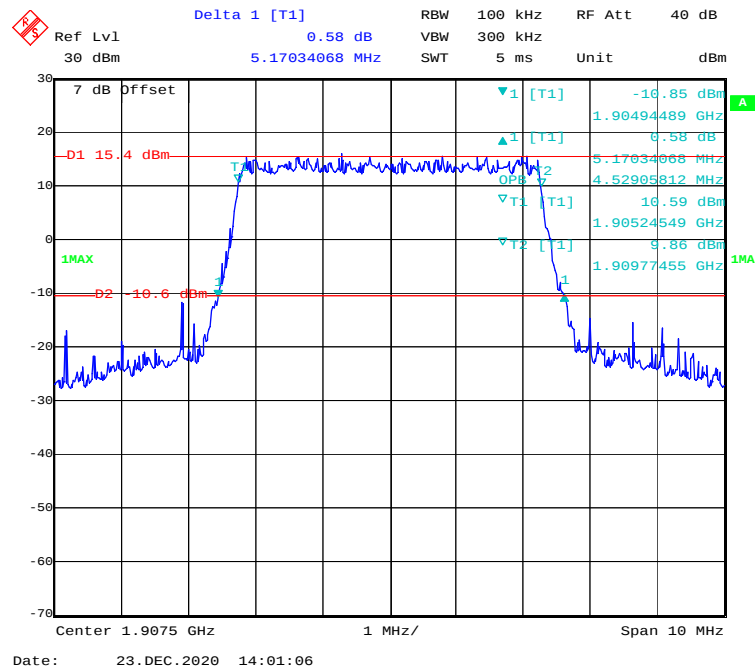
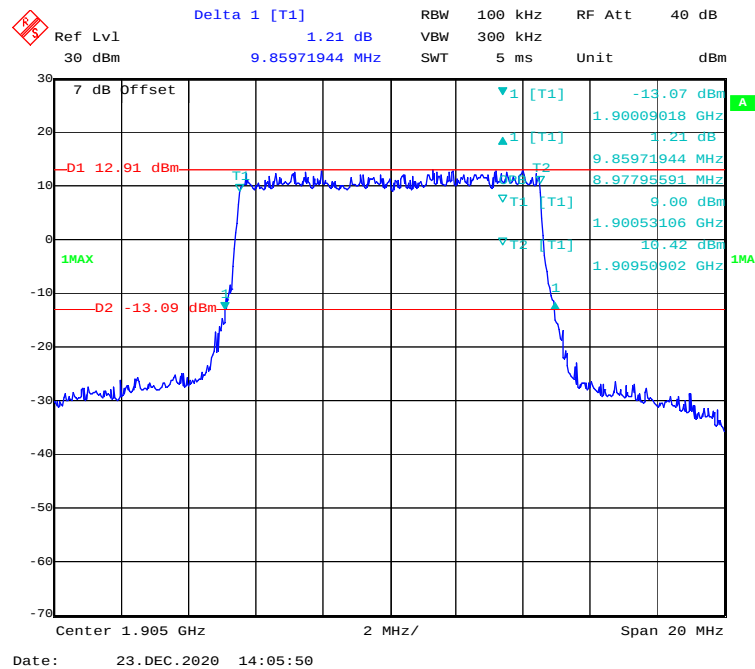


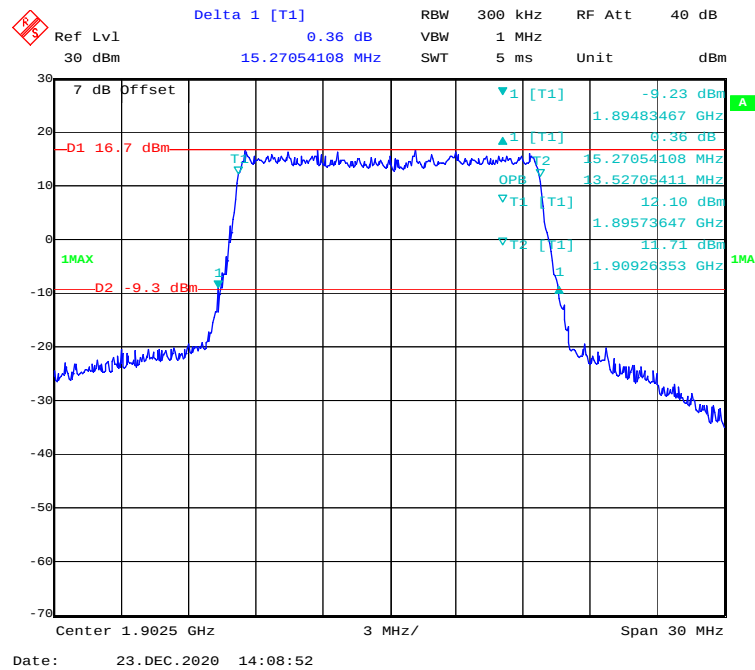
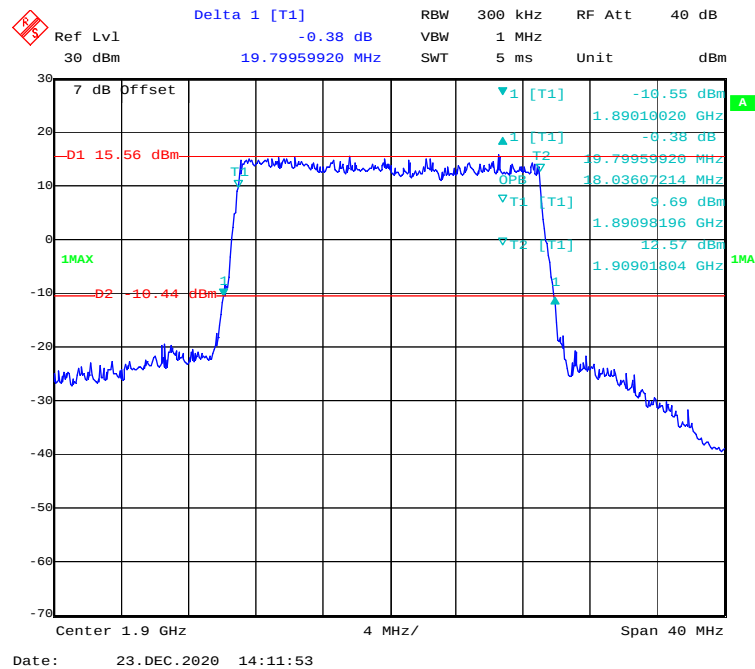
QPSK (10MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel

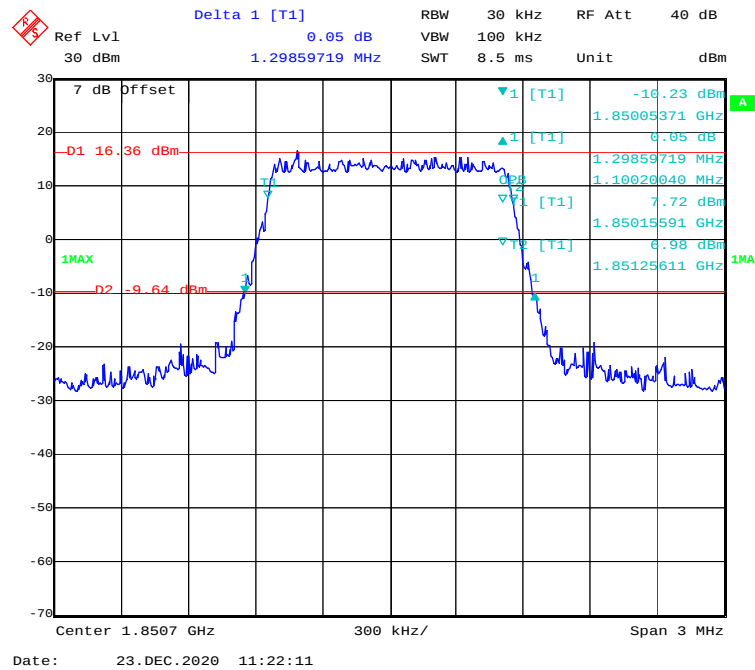
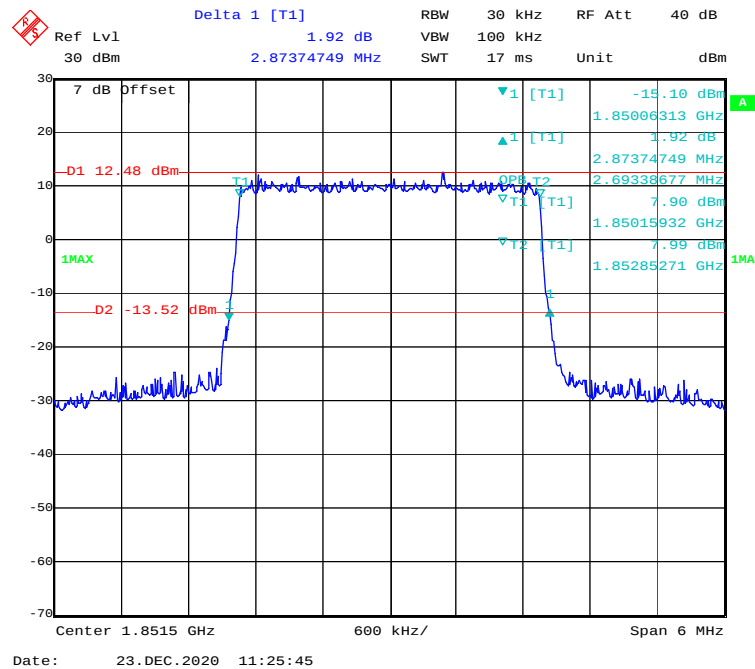


QPSK (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**QPSK (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

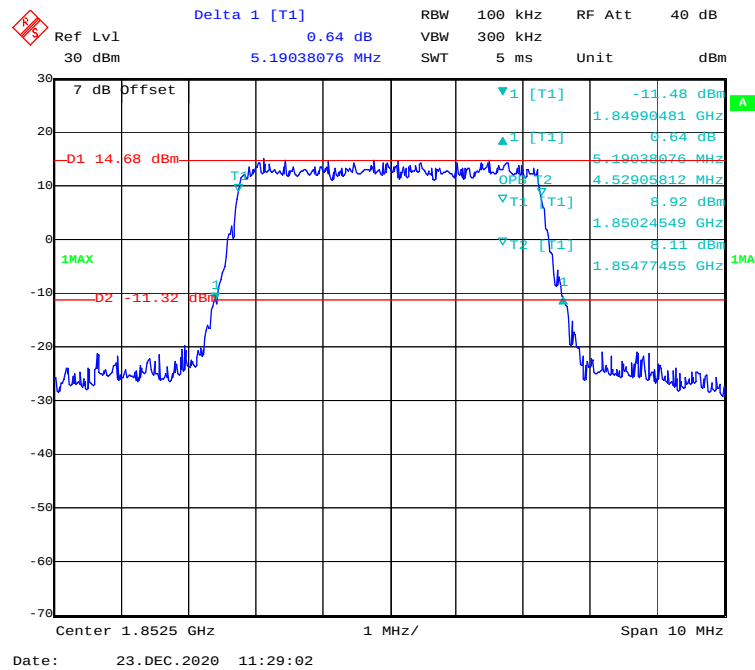
QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**QPSK (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

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

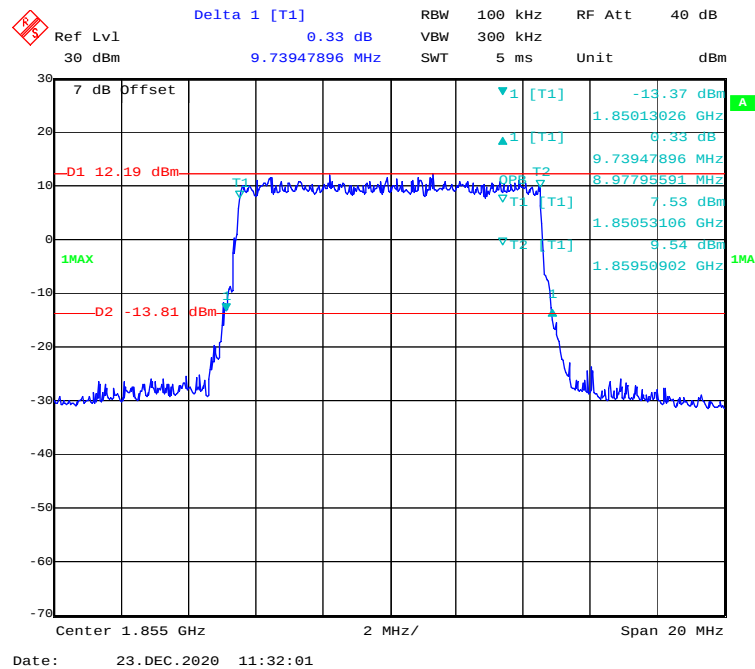
QPSK (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**QPSK (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

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**

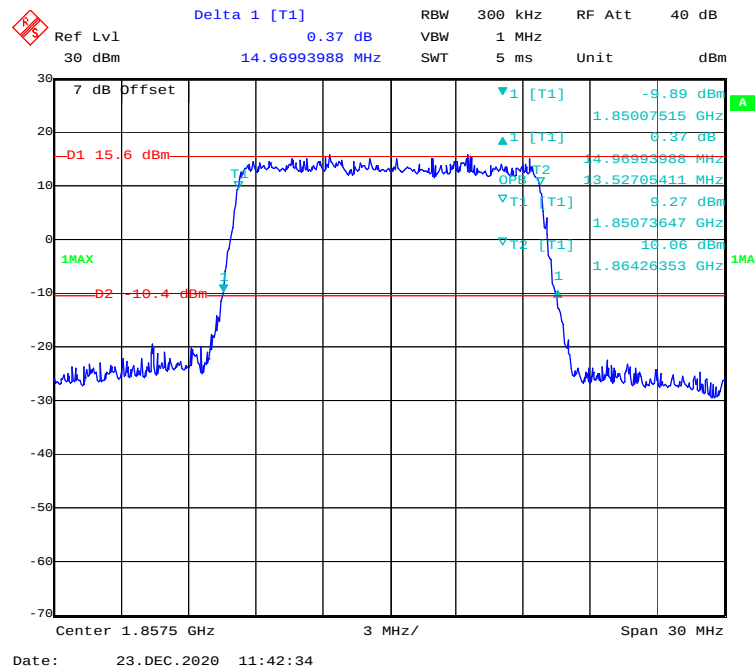
16-QAM (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



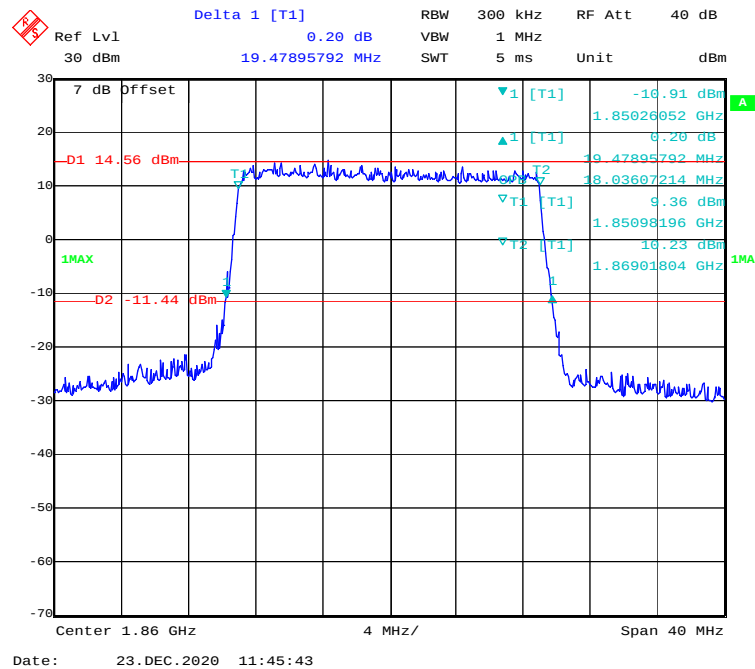
16-QAM (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel

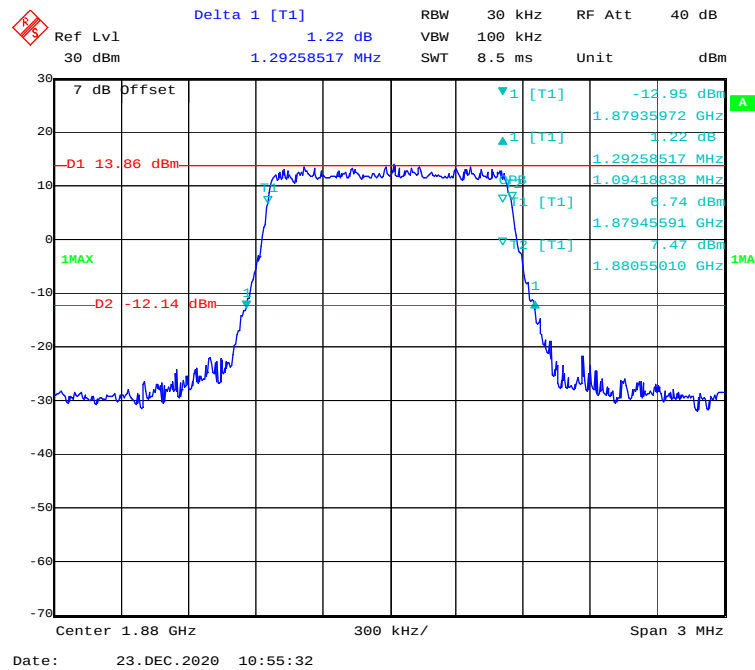
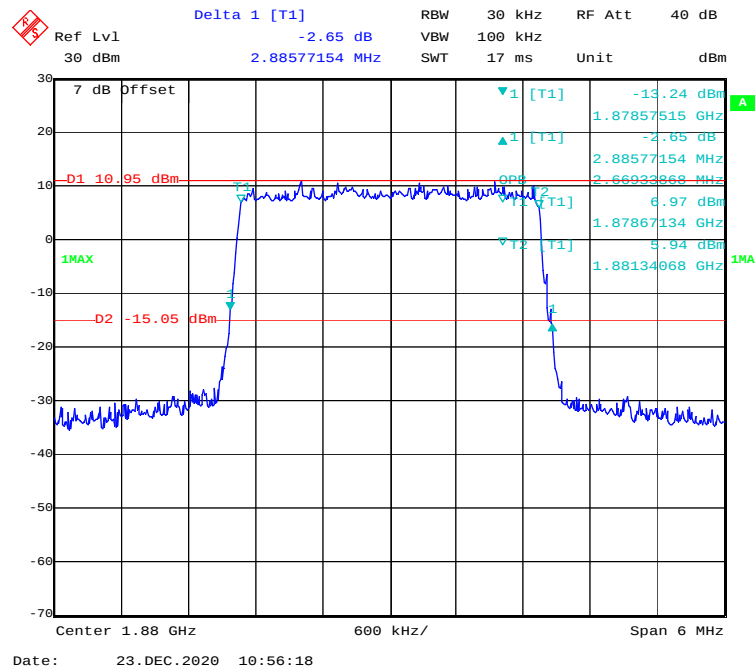


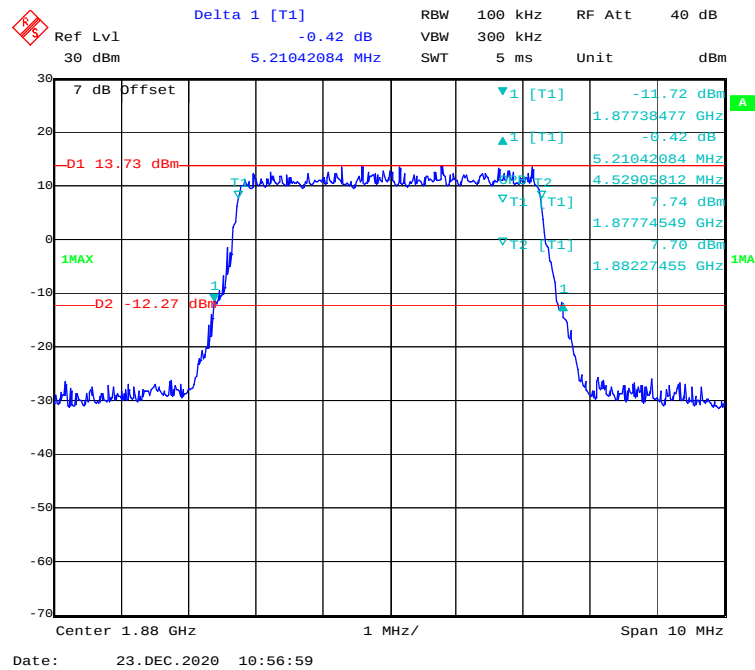
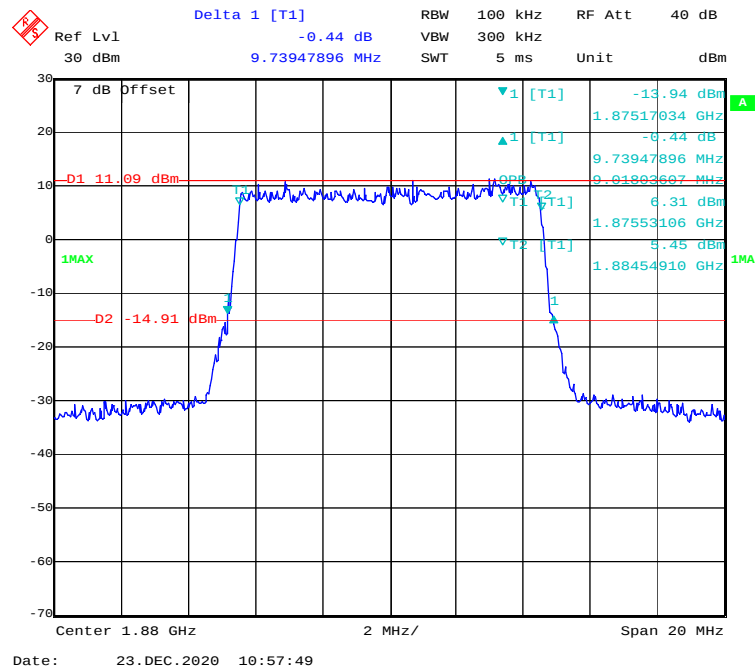
16-QAM (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel

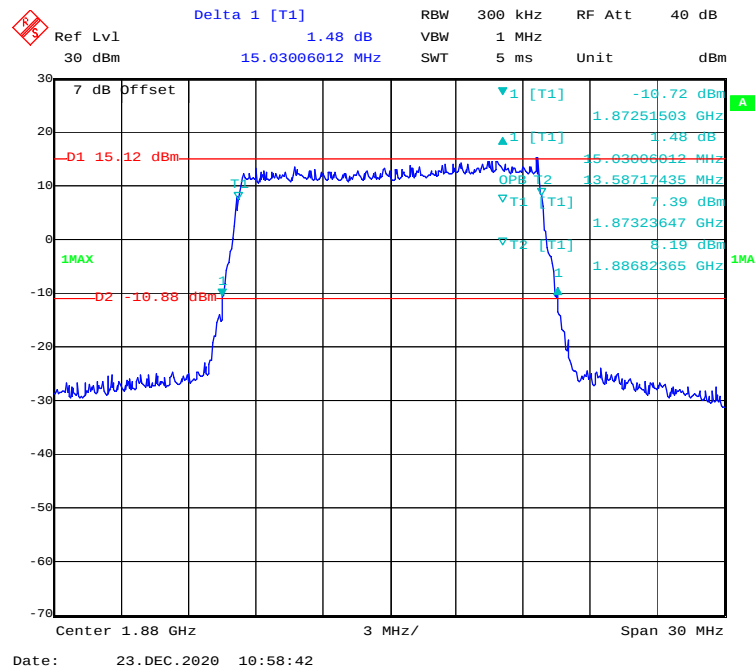
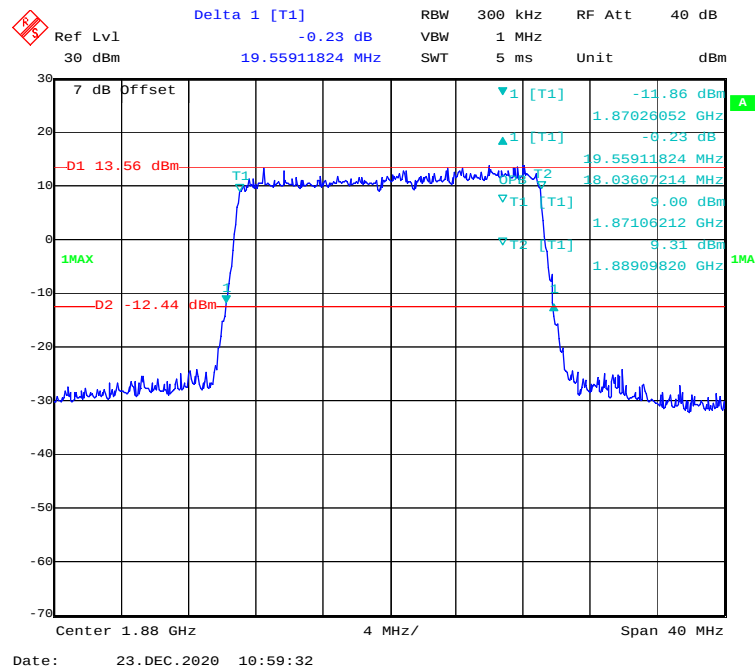


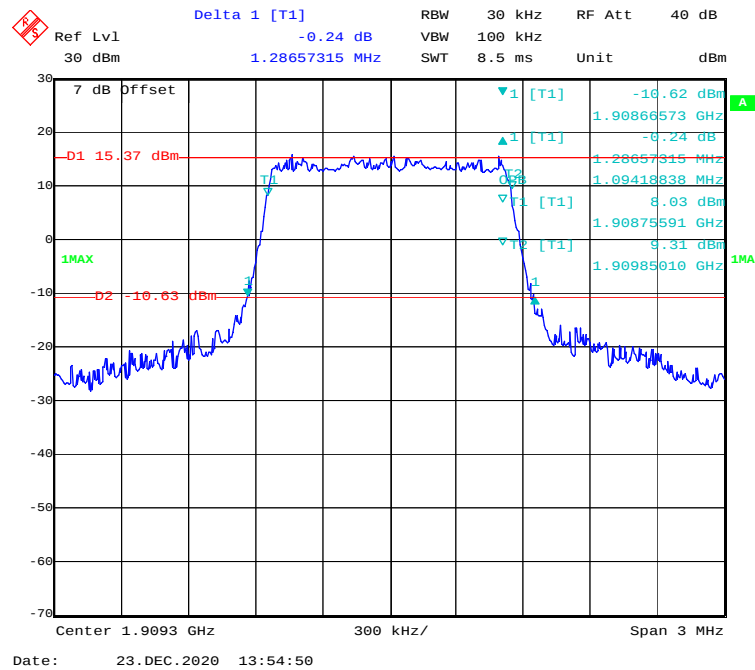
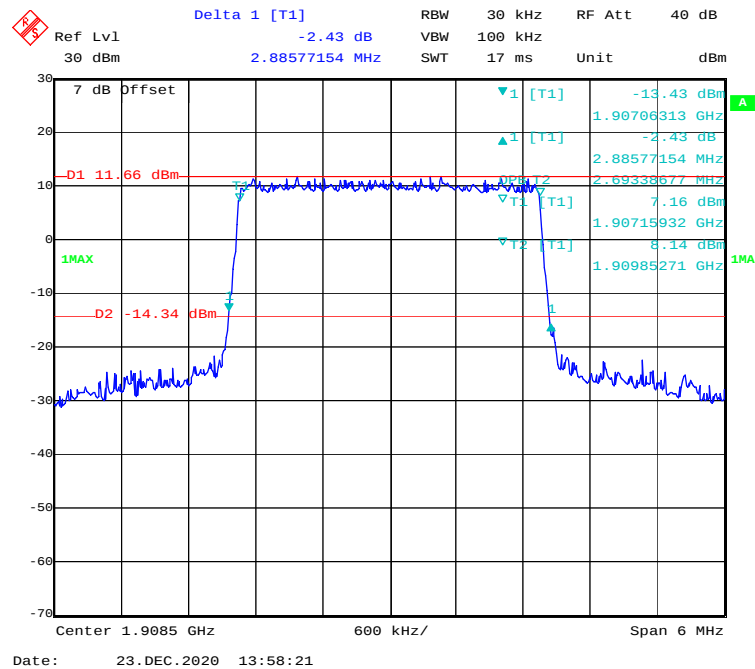
16-QAM (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



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**

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**

Delta 1 [T1] 1.08 dB
 Ref Lvl 30 dBm
 RBW 100 kHz
 RF Att 40 dB
 30 dBm
 6.01202405 MHz
 SWT 5 ms
 Unit dBm

7 dB Offset
 -D1 15.32 dBm
 1MAX
 D2 -10.66 dBm
 1
 1.90464429 GHz
 1.08 dB
 6.01202405 MHz
 4.54909820 MHz
 9.06 dBm
 1.90524549 GHz
 8.82 dBm
 1.90979459 GHz
 1.08 dBm

Center 1.9075 GHz
 1 MHz/
 Span 10 MHz

Date: 23. DEC. 2020 14:01:28

Ref Lvl 30 dBm
 Delta 1 [T1] 0.97 dB
 RBW 100 kHz
 VBW 300 kHz
 SWT 5 ms
 RF Att 40 dB
 Unit dBm

7 dB Offset
 -D1 11.61 dBm
 1MAX
 -D2 -14.39 dBm
 1MA

▼1 [T1] -14.48 dBm
 ▲1 [T1] 0.97 dB
 9.77955912 MHz
 7.93 dBm
 1.90017034 GHz
 8.97795591 MHz
 7.56 dBm
 1.90053106 GHz
 1.90950902 GHz

Center 1.905 GHz
 2 MHz/
 Span 20 MHz

Date: 23. DEC. 2020 14:06:10

Delta 1 [T1]

Ref Lvl 1.59 dB

30 dBm

300 kHz

1 MHz

5 ms

Unit dBm

7 dB Offset

D1 15.81 dBm

D2 10.10 dBm

1MAX

1MAX

▼1 [T1] -11.11 dBm

▲1 [T1] 1.59 dB

▼2 [T1] 35.21042084 MHz

▲2 [T1] 33.58717435 MHz

▼T1 [T1] 16.33 dBm

▲T1 [T1] 1.89573647 GHz

▼T2 [T1] 16.04 dBm

▲T2 [T1] 1.90932365 GHz

Center 1.9025 GHz

3 MHz/

Span 30 MHz

Date: 23. DEC. 2020 14:09:16

Delta 1 [T1]

Ref Lvl 1.57 dB

30 dBm

19.79959920 MHz

RBW 300 kHz

RF Att 40 dB

SWT 5 ms

Unit dBm

7 dB Offset

-D1 15.11 dBm

1MAX

D2 -10.89 dBm

▼1 [T1] -12.01 dBm

▲1 [T1] 1.57 dB

▼T1 [T1] 9.63 dBm

▼T2 [T1] 9.38 dBm

▼T3 [T1] 9.38 dBm

▼T4 [T1] 9.38 dBm

▼T5 [T1] 9.38 dBm

▼T6 [T1] 9.38 dBm

▼T7 [T1] 9.38 dBm

▼T8 [T1] 9.38 dBm

▼T9 [T1] 9.38 dBm

▼T10 [T1] 9.38 dBm

▼T11 [T1] 9.38 dBm

▼T12 [T1] 9.38 dBm

▼T13 [T1] 9.38 dBm

▼T14 [T1] 9.38 dBm

▼T15 [T1] 9.38 dBm

▼T16 [T1] 9.38 dBm

▼T17 [T1] 9.38 dBm

▼T18 [T1] 9.38 dBm

▼T19 [T1] 9.38 dBm

▼T20 [T1] 9.38 dBm

▼T21 [T1] 9.38 dBm

▼T22 [T1] 9.38 dBm

▼T23 [T1] 9.38 dBm

▼T24 [T1] 9.38 dBm

▼T25 [T1] 9.38 dBm

▼T26 [T1] 9.38 dBm

▼T27 [T1] 9.38 dBm

▼T28 [T1] 9.38 dBm

▼T29 [T1] 9.38 dBm

▼T30 [T1] 9.38 dBm

▼T31 [T1] 9.38 dBm

▼T32 [T1] 9.38 dBm

▼T33 [T1] 9.38 dBm

▼T34 [T1] 9.38 dBm

▼T35 [T1] 9.38 dBm

▼T36 [T1] 9.38 dBm

▼T37 [T1] 9.38 dBm

▼T38 [T1] 9.38 dBm

▼T39 [T1] 9.38 dBm

▼T40 [T1] 9.38 dBm

▼T41 [T1] 9.38 dBm

▼T42 [T1] 9.38 dBm

▼T43 [T1] 9.38 dBm

▼T44 [T1] 9.38 dBm

▼T45 [T1] 9.38 dBm

▼T46 [T1] 9.38 dBm

▼T47 [T1] 9.38 dBm

▼T48 [T1] 9.38 dBm

▼T49 [T1] 9.38 dBm

▼T50 [T1] 9.38 dBm

▼T51 [T1] 9.38 dBm

▼T52 [T1] 9.38 dBm

▼T53 [T1] 9.38 dBm

▼T54 [T1] 9.38 dBm

▼T55 [T1] 9.38 dBm

▼T56 [T1] 9.38 dBm

▼T57 [T1] 9.38 dBm

▼T58 [T1] 9.38 dBm

▼T59 [T1] 9.38 dBm

▼T60 [T1] 9.38 dBm

▼T61 [T1] 9.38 dBm

▼T62 [T1] 9.38 dBm

▼T63 [T1] 9.38 dBm

▼T64 [T1] 9.38 dBm

▼T65 [T1] 9.38 dBm

▼T66 [T1] 9.38 dBm

▼T67 [T1] 9.38 dBm

▼T68 [T1] 9.38 dBm

▼T69 [T1] 9.38 dBm

▼T70 [T1] 9.38 dBm

▼T71 [T1] 9.38 dBm

▼T72 [T1] 9.38 dBm

▼T73 [T1] 9.38 dBm

▼T74 [T1] 9.38 dBm

▼T75 [T1] 9.38 dBm

▼T76 [T1] 9.38 dBm

▼T77 [T1] 9.38 dBm

▼T78 [T1] 9.38 dBm

▼T79 [T1] 9.38 dBm

▼T80 [T1] 9.38 dBm

▼T81 [T1] 9.38 dBm

▼T82 [T1] 9.38 dBm

▼T83 [T1] 9.38 dBm

▼T84 [T1] 9.38 dBm

▼T85 [T1] 9.38 dBm

▼T86 [T1] 9.38 dBm

▼T87 [T1] 9.38 dBm

▼T88 [T1] 9.38 dBm

▼T89 [T1] 9.38 dBm

▼T90 [T1] 9.38 dBm

▼T91 [T1] 9.38 dBm

▼T92 [T1] 9.38 dBm

▼T93 [T1] 9.38 dBm

▼T94 [T1] 9.38 dBm

▼T95 [T1] 9.38 dBm

▼T96 [T1] 9.38 dBm

▼T97 [T1] 9.38 dBm

▼T98 [T1] 9.38 dBm

▼T99 [T1] 9.38 dBm

▼T100 [T1] 9.38 dBm

▼T101 [T1] 9.38 dBm

▼T102 [T1] 9.38 dBm

▼T103 [T1] 9.38 dBm

▼T104 [T1] 9.38 dBm

▼T105 [T1] 9.38 dBm

▼T106 [T1] 9.38 dBm

▼T107 [T1] 9.38 dBm

▼T108 [T1] 9.38 dBm

▼T109 [T1] 9.38 dBm

▼T110 [T1] 9.38 dBm

▼T111 [T1] 9.38 dBm

▼T112 [T1] 9.38 dBm

▼T113 [T1] 9.38 dBm

▼T114 [T1] 9.38 dBm

▼T115 [T1] 9.38 dBm

▼T116 [T1] 9.38 dBm

▼T117 [T1] 9.38 dBm

▼T118 [T1] 9.38 dBm

▼T119 [T1] 9.38 dBm

▼T120 [T1] 9.38 dBm

▼T121 [T1] 9.38 dBm

▼T122 [T1] 9.38 dBm

▼T123 [T1] 9.38 dBm

▼T124 [T1] 9.38 dBm

▼T125 [T1] 9.38 dBm

▼T126 [T1] 9.38 dBm

▼T127 [T1] 9.38 dBm

▼T128 [T1] 9.38 dBm

▼T129 [T1] 9.38 dBm

▼T130 [T1] 9.38 dBm

▼T131 [T1] 9.38 dBm

▼T132 [T1] 9.38 dBm

▼T133 [T1] 9.38 dBm

▼T134 [T1] 9.38 dBm

▼T135 [T1] 9.38 dBm

▼T136 [T1] 9.38 dBm

▼T137 [T1] 9.38 dBm

▼T138 [T1] 9.38 dBm

▼T139 [T1] 9.38 dBm

▼T140 [T1] 9.38 dBm

▼T141 [T1] 9.38 dBm

▼T142 [T1] 9.38 dBm

▼T143 [T1] 9.38 dBm

▼T144 [T1] 9.38 dBm

▼T145 [T1] 9.38 dBm

▼T146 [T1] 9.38 dBm

▼T147 [T1] 9.38 dBm

▼T148 [T1] 9.38 dBm

▼T149 [T1] 9.38 dBm

▼T150 [T1] 9.38 dBm

▼T151 [T1] 9.38 dBm

▼T152 [T1] 9.38 dBm

▼T153 [T1] 9.38 dBm

▼T154 [T1] 9.38 dBm

▼T155 [T1] 9.38 dBm

▼T156 [T1] 9.38 dBm

▼T157 [T1] 9.38 dBm

▼T158 [T1] 9.38 dBm

▼T159 [T1] 9.38 dBm

▼T160 [T1] 9.38 dBm

▼T161 [T1] 9.38 dBm

▼T162 [T1] 9.38 dBm

▼T163 [T1] 9.38 dBm

▼T164 [T1] 9.38 dBm

▼T165 [T1] 9.38 dBm

▼T166 [T1] 9.38 dBm

▼T167 [T1] 9.38 dBm

▼T168 [T1] 9.38 dBm

▼T169 [T1] 9.38 dBm

▼T170 [T1] 9.38 dBm

▼T171 [T1] 9.38 dBm

▼T172 [T1] 9.38 dBm

▼T173 [T1] 9.38 dBm

▼T174 [T1] 9.38 dBm

▼T175 [T1] 9.38 dBm

▼T176 [T1] 9.38 dBm

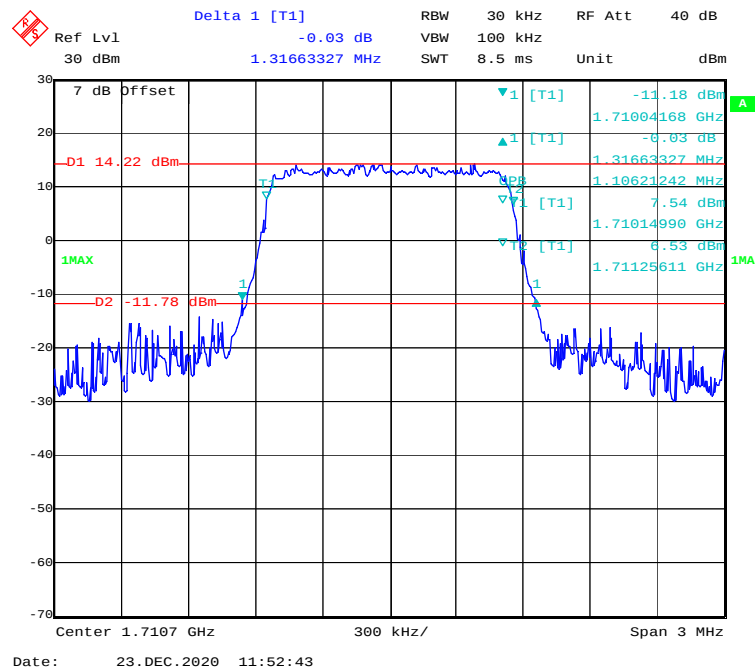
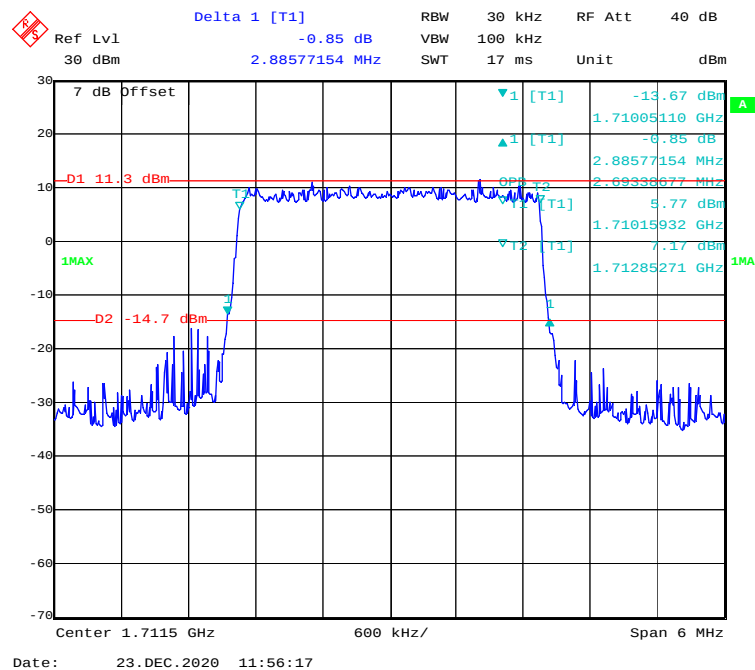
▼T177 [T1] 9.38 dBm

▼T1

LTE Band 4:

Test Modulation	Test Bandwidth	Test Channel	26 dB Bandwidth	99% Occupied Bandwidth
			MHz	MHz
QPSK	1.4M	Low	1.317	1.106
	3M		2.886	2.693
	5M		5.130	4.529
	10M		9.900	8.978
	15M		15.030	13.587
	20M		19.479	17.956
	1.4M	Middle	1.299	1.100
	3M		2.874	2.693
	5M		5.150	4.549
	10M		9.940	8.978
	15M		15.150	13.527
	20M		19.479	17.956
	1.4M	High	1.299	1.100
	3M		2.874	2.693
	5M		5.150	4.549
	10M		9.860	8.978
	15M		14.970	13.467
	20M		19.559	17.956

Test Modulation	Test Bandwidth	Test Channel	26 dB Bandwidth	99% Occupied Bandwidth
			MHz	MHz
16-QAM	1.4M	Low	1.293	1.106
	3M		2.874	2.693
	5M		5.230	4.549
	10M		9.860	8.978
	15M		15.150	13.527
	20M		19.719	17.956
	1.4M	Middle	1.287	1.112
	3M		2.862	2.693
	5M		5.170	4.549
	10M		9.900	8.978
	15M		15.090	13.587
	20M		19.479	18.036
	1.4M	High	1.287	1.100
	3M		2.874	2.681
	5M		5.130	4.529
	10M		9.820	8.978
	15M		15.090	13.527
	20M		19.639	18.036

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

Delta 1 [T1] -0.08 dB
 RBW 100 kHz RF Att 40 dB
 Ref Lvl 30 dBm 5.13026052 MHz SWT 300 kHz Unit dBm
 7 dB Offset
 D1 13.05 dBm
 1MAX
 D2 -12.95 dBm
 1MAX
 Center 1.7125 GHz 1 MHz/ Span 10 MHz
 Date: 23. DEC. 2020 11:59:28

Ref Lvl 30 dBm
 Delta 1 [T1] -1.43 dB
 RBW 100 kHz
 VBW 300 kHz
 RF Att 40 dB
 30 dBm
 9.89979960 MHz
 SWT 5 ms
 Unit dBm

7 dB Offset
 -15.52 dBm
 1.71009018 GHz
 -1.43 dB
 9.89979960 MHz
 8.97795591 MHz
 6.81 dBm
 1.71053106 GHz
 7.47 dBm
 1.71956902 GHz

D1 10.3 dBm
 1MAX
 D2 -15.7 dBm
 1MA

Center 1.715 GHz
 2 MHz/
 Span 20 MHz

Date: 23. DEC. 2020 12:26:18

Delta 1 [T1] -1.59 dB

Ref Lvl 30 dBm

30 dBm

15.03006012 MHz

RBW 300 kHz

1 MHz

SWT 5 ms

RF Att 40 dB

Unit dBm

7 dB Offset

D1 13.84 dBm

1MAX

D2 -12.16 dBm

1 [T1] -16.42 dBm

1.71001503 GHz

1.71073647 GHz

1.72432365 GHz

1MA

Center 1.7175 GHz

3 MHz/

Span 30 MHz

Date: 23. DEC. 2020 13:08:55

Delta 1 [T1] -1.96 dB

Ref Lvl 30 dBm

19.47895792 MHz

RBW 300 kHz

VBW 1 MHz

SWT 5 ms

RF Att 40 dB

Unit dBm

7 dB Offset

D1 13.7 dBm

1MAX

D2 -12.3 dBm

1MAX

▼1 [T1] -16.92 dBm 1.71034068 GHz

▲1 [T1] -1.96 dB 19.47895792 MHz

▼2 [T1] -7.95 dBm 17.95591182 MHz

▼T1 [T1] 7.03 dBm 1.71106212 GHz

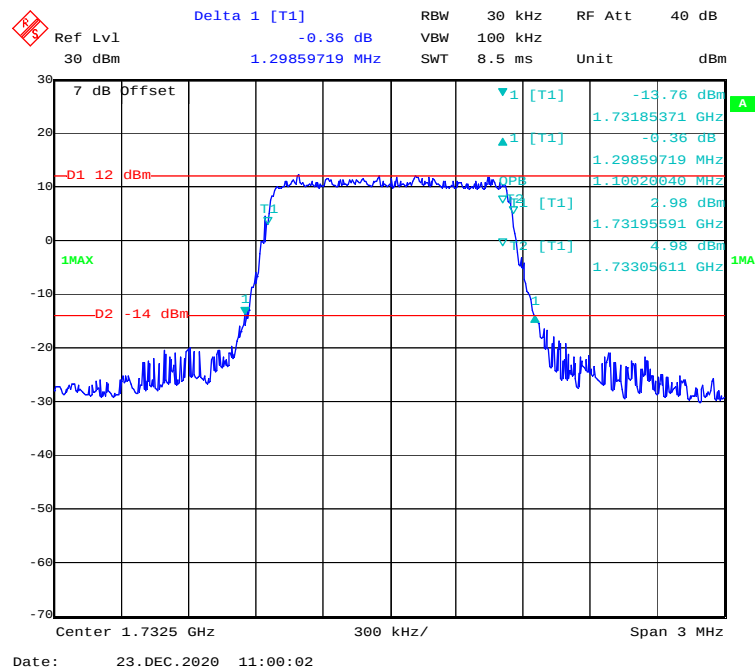
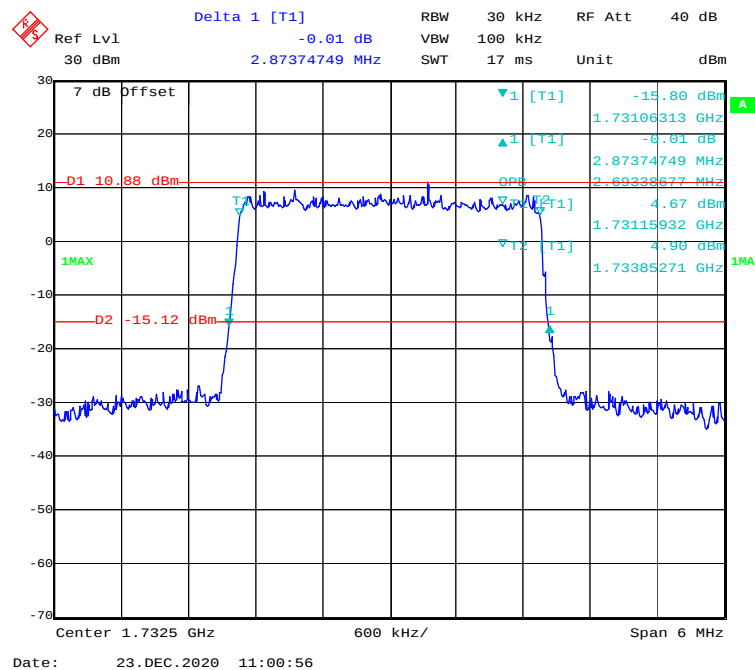
▼T2 [T1] 7.96 dBm 1.72901804 GHz

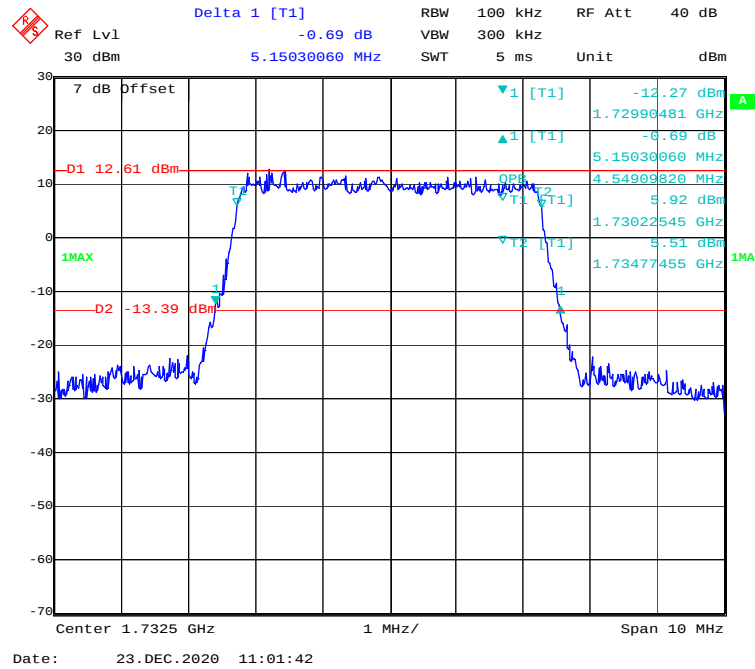
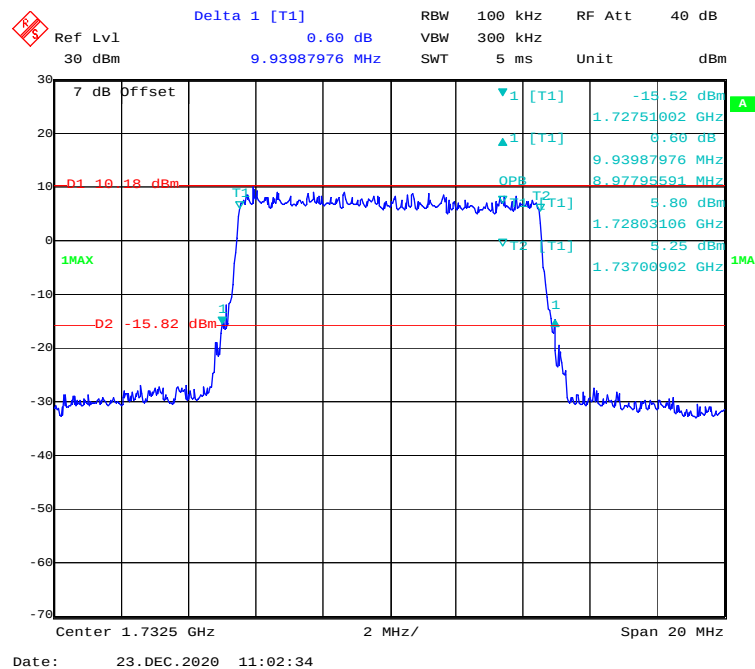
Center 1.72 GHz

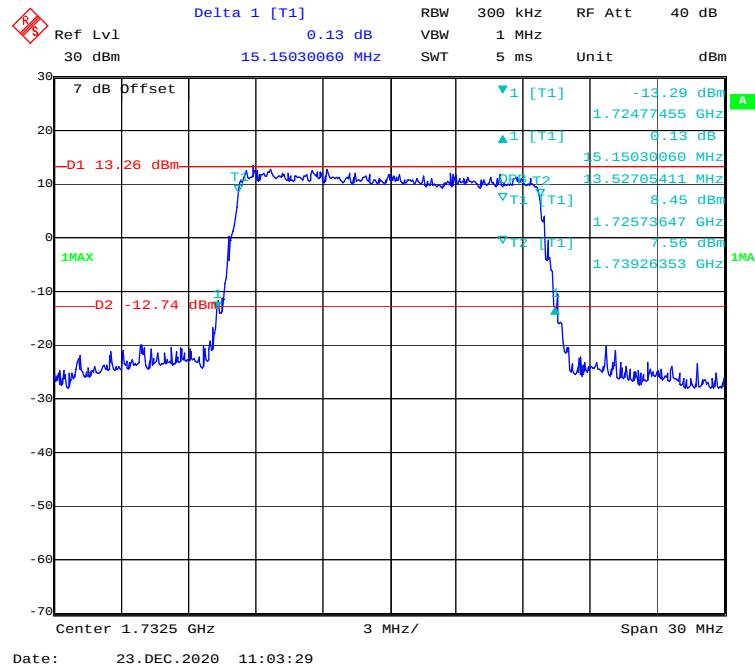
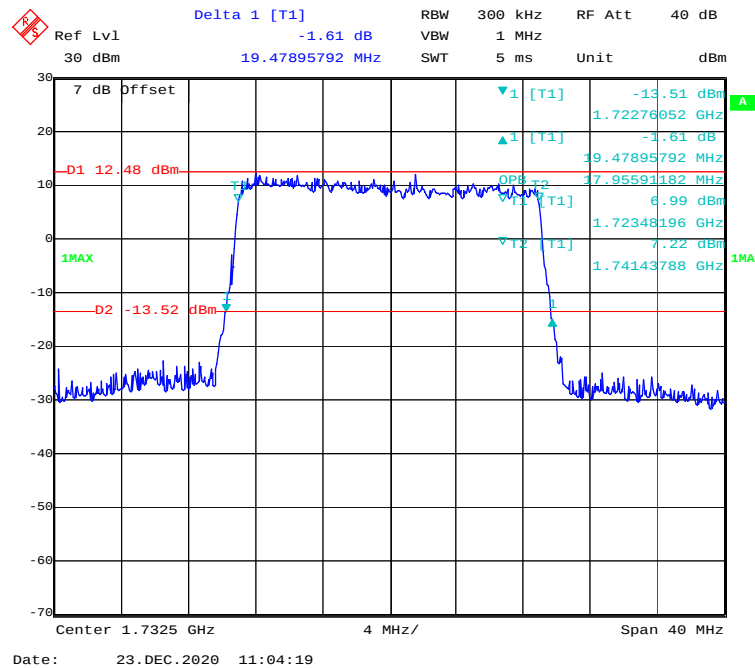
4 MHz/

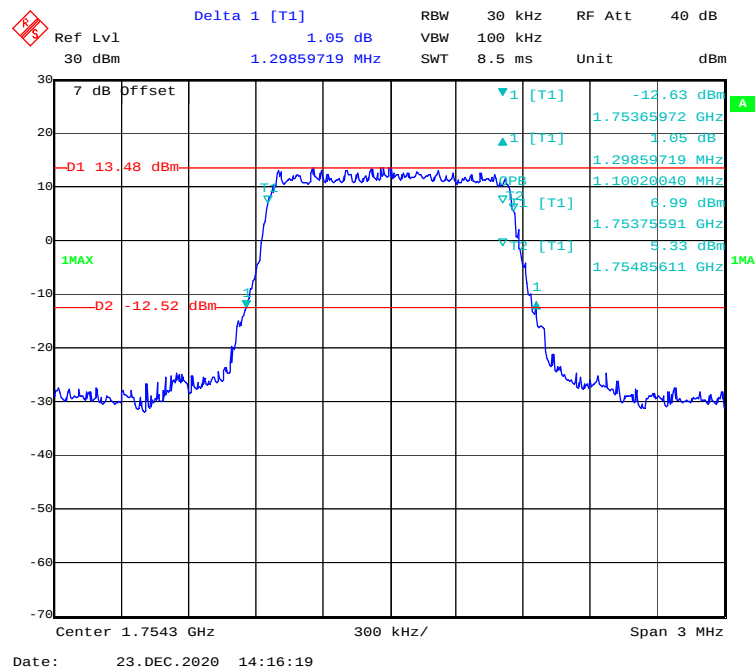
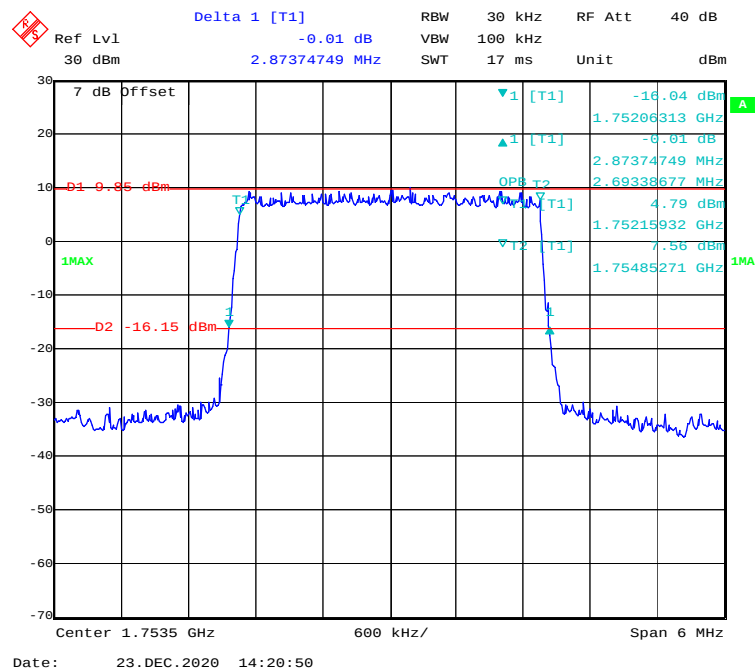
Span 40 MHz

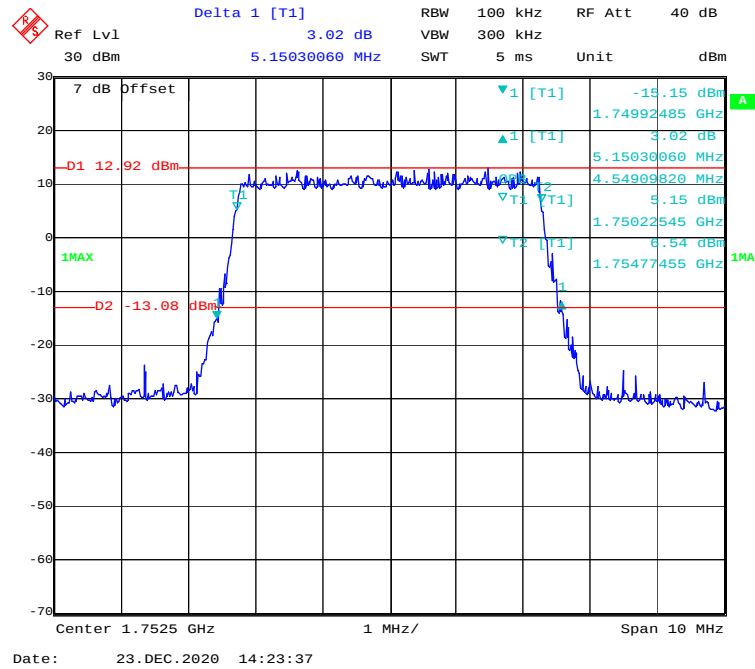
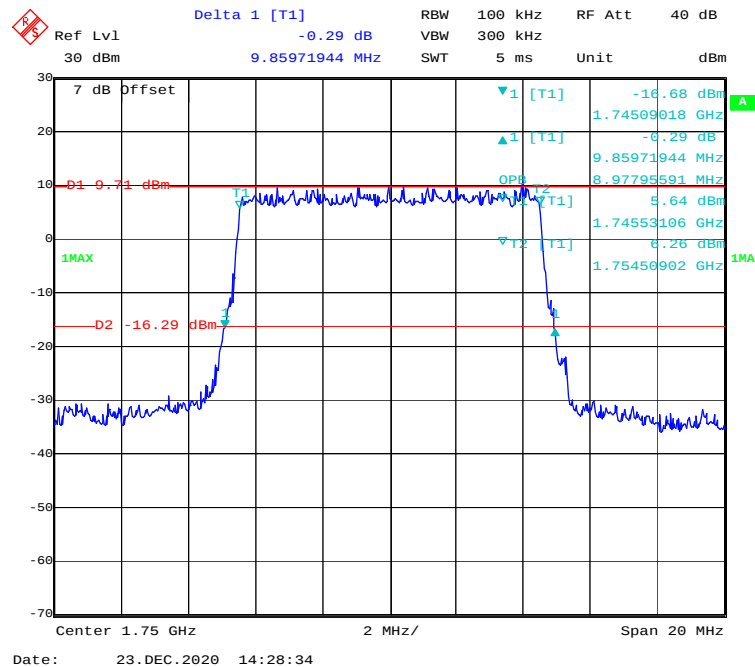
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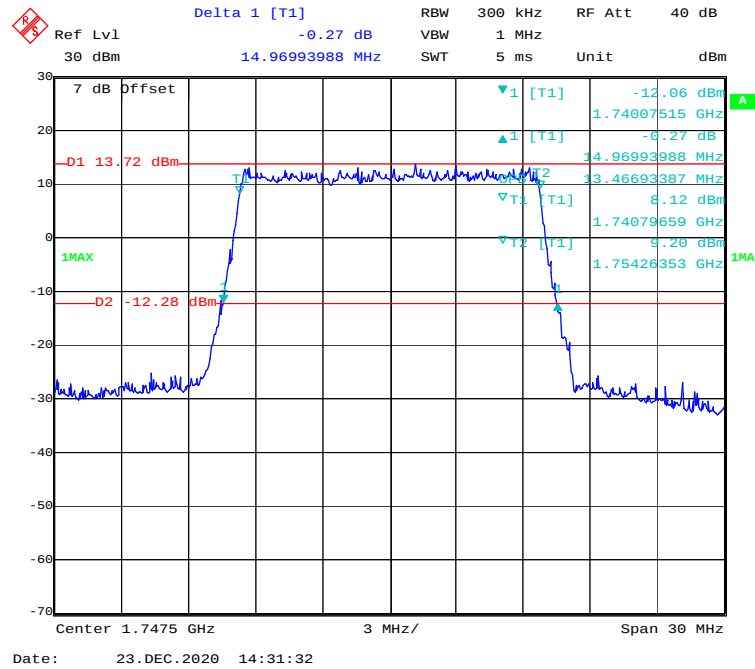
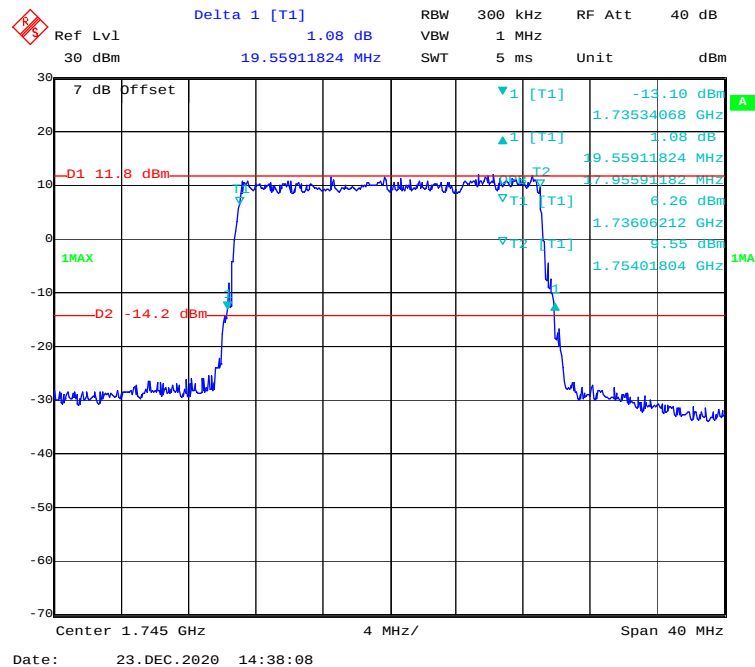
QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**QPSK (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

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

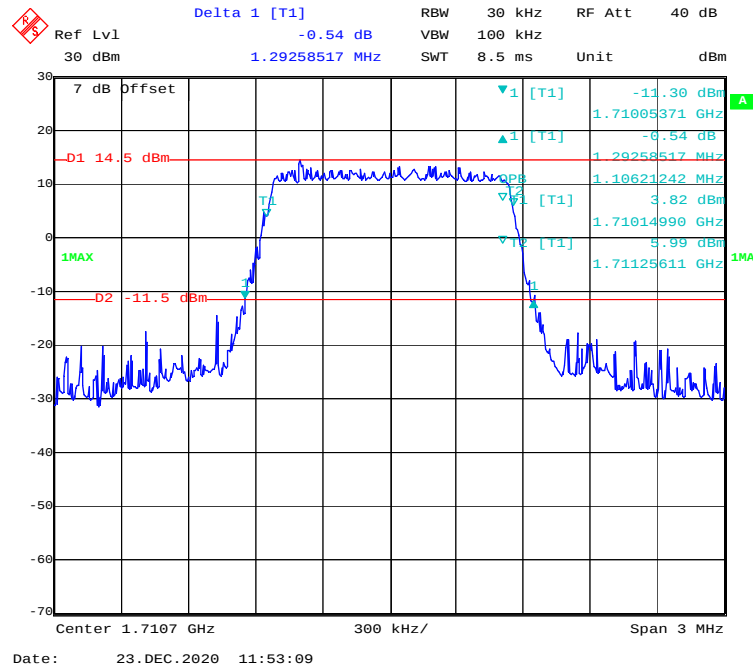
QPSK (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**QPSK (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

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

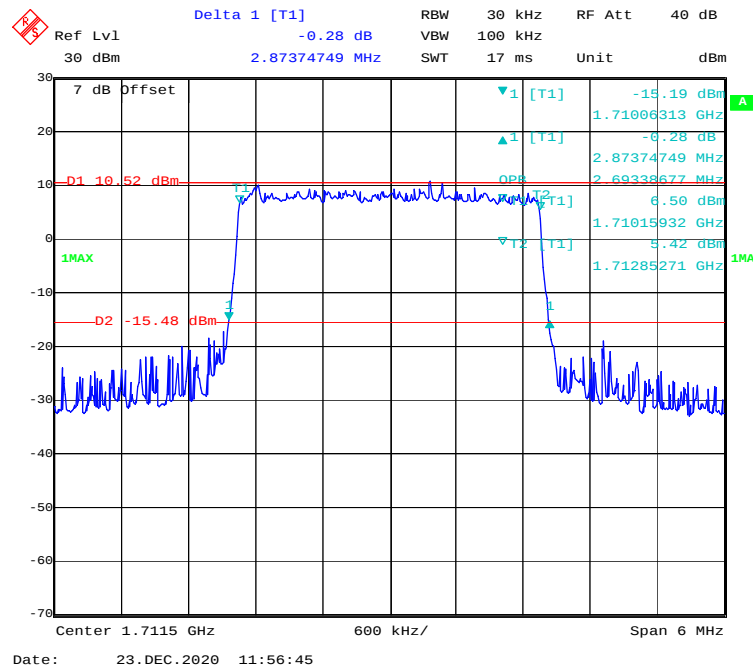
QPSK (5MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**QPSK (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

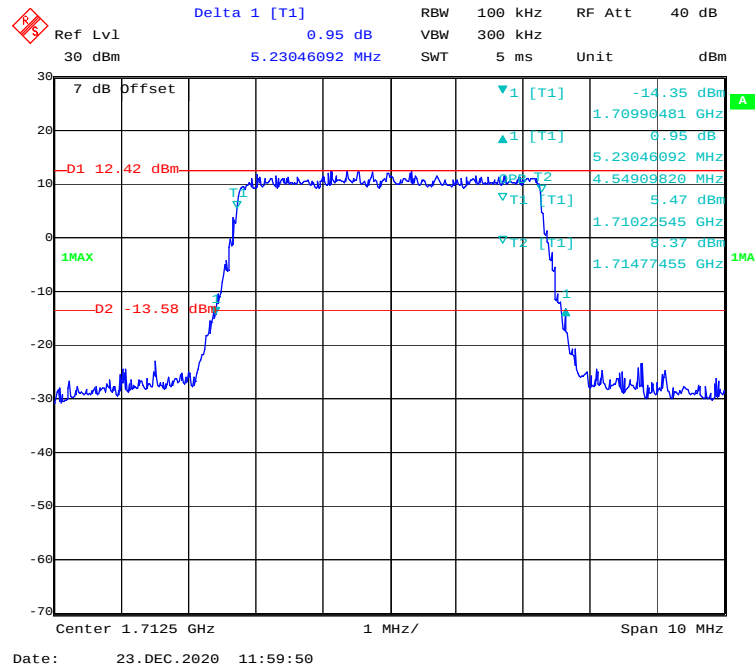
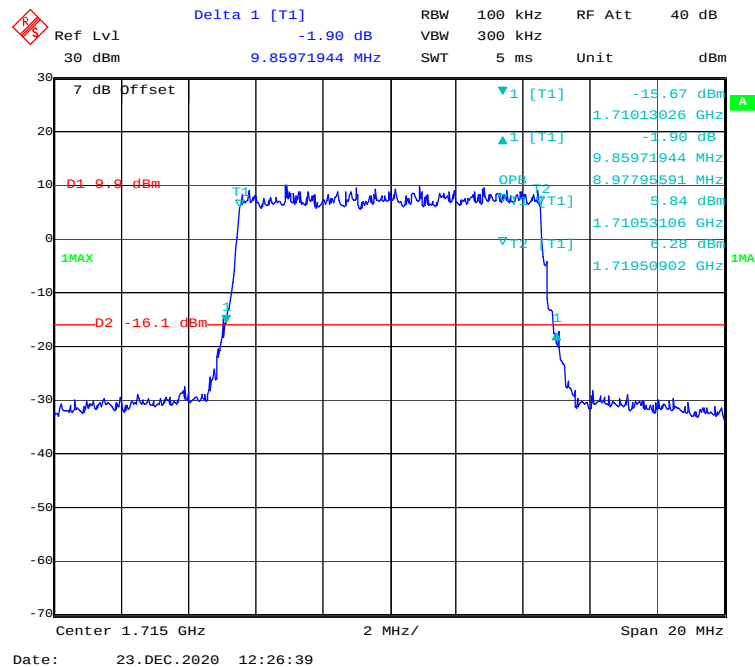
QPSK (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**QPSK (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

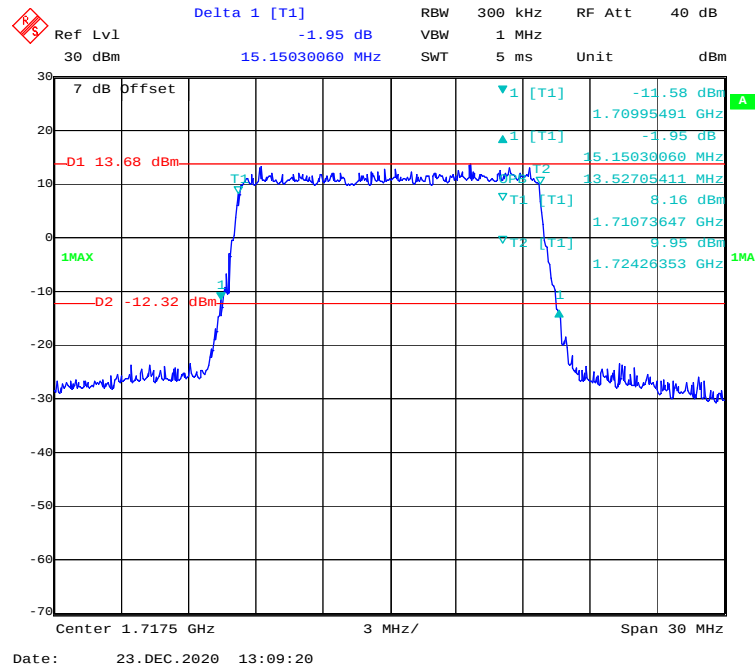
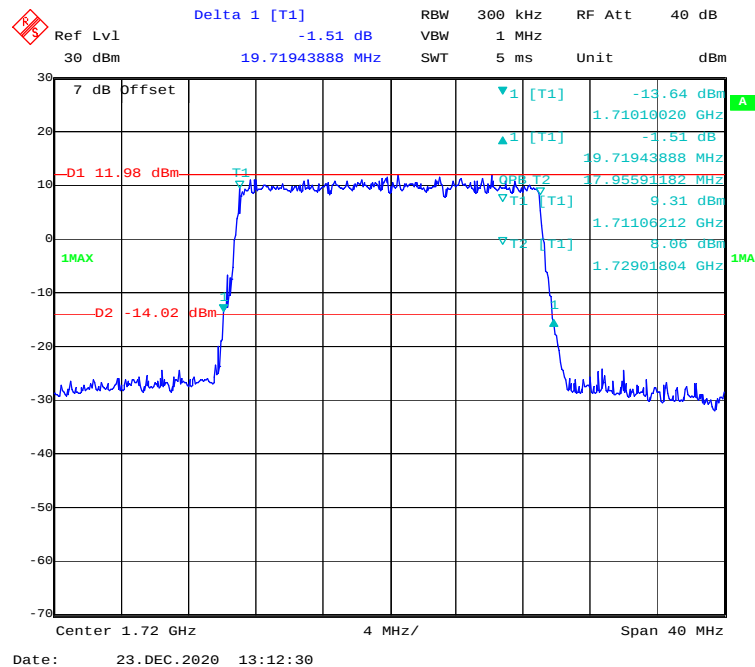
16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel

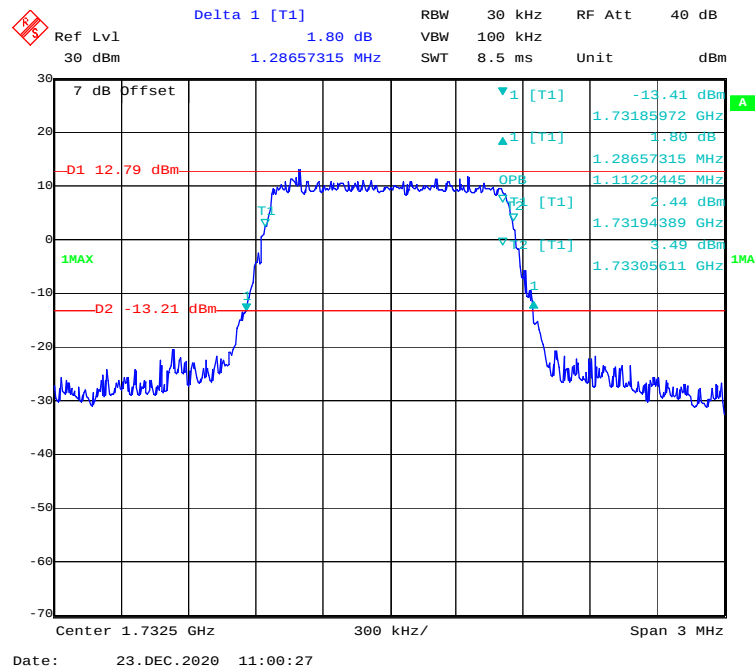
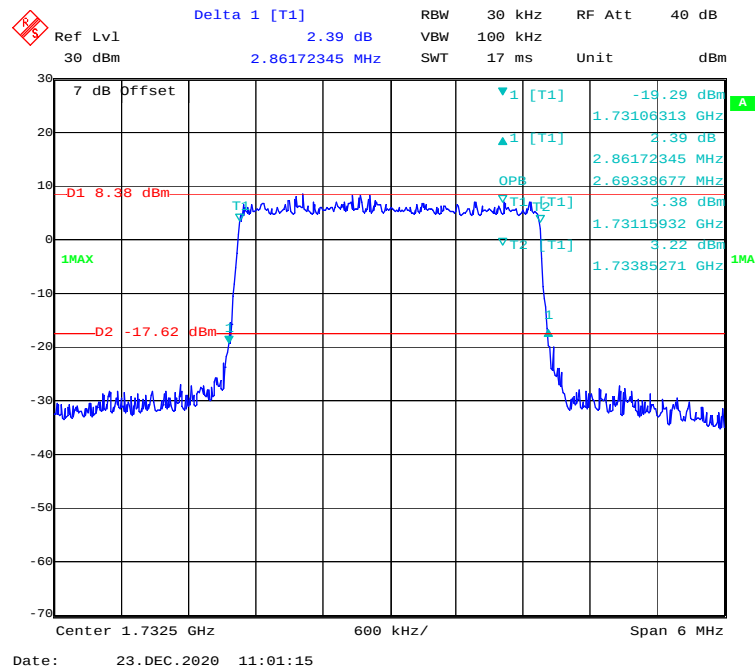


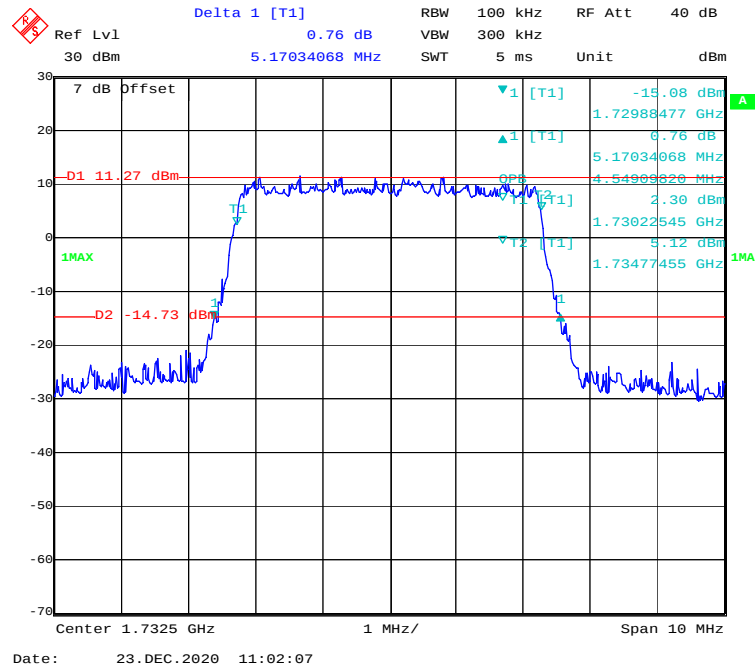
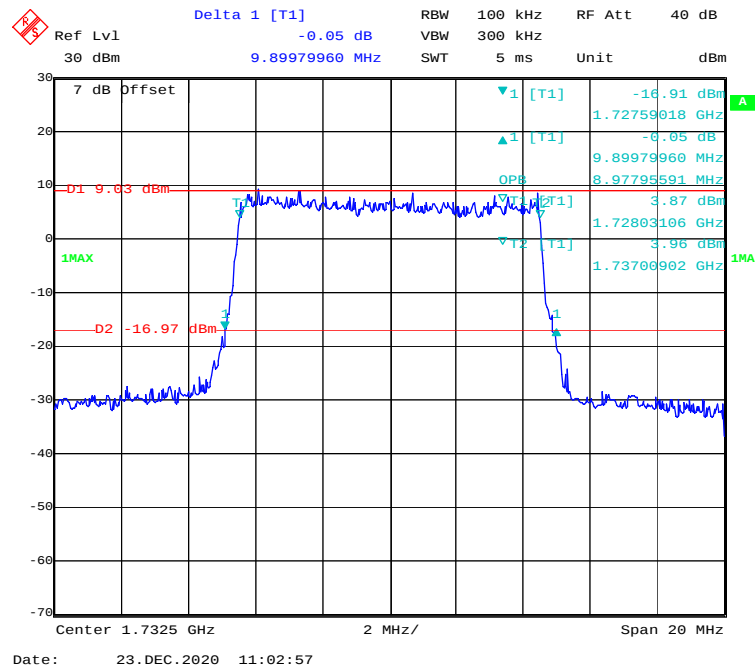
16-QAM (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



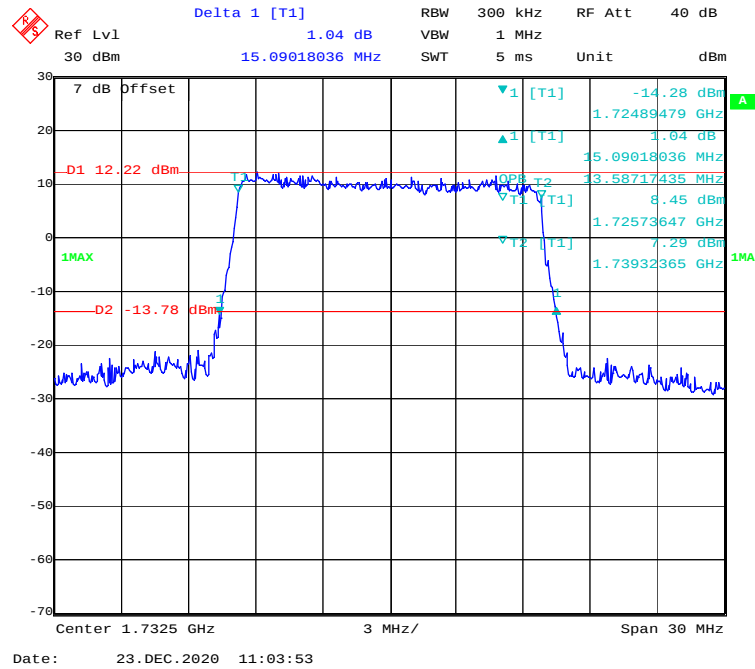
16-QAM (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**16-QAM (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

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

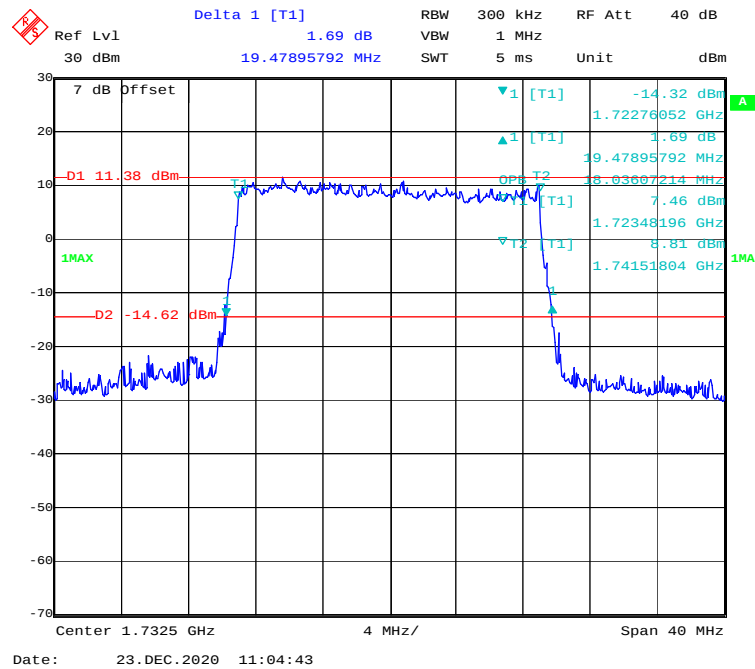
16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**16-QAM (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

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



Delta 1 [T1] -0.23 dB
 RBW 30 kHz RF Att 40 dB
 Ref Lvl 30 dBm 1.28657315 MHz SWT 8.5 ms Unit dBm

7 dB Offset
 D1 12.51 dBm
 1MAX
 D2 -13.49 dBm
 1 [T1] -13.21 dBm
 1.75365972 GHz
 1.28657315 MHz
 1.10026040 MHz
 5.82 dBm
 1.75375591 GHz
 3.77 dBm
 1.75485611 GHz
 1MA

Center 1.7543 GHz 300 kHz/ Span 3 MHz

Date: 23. DEC. 2020 14:16:38

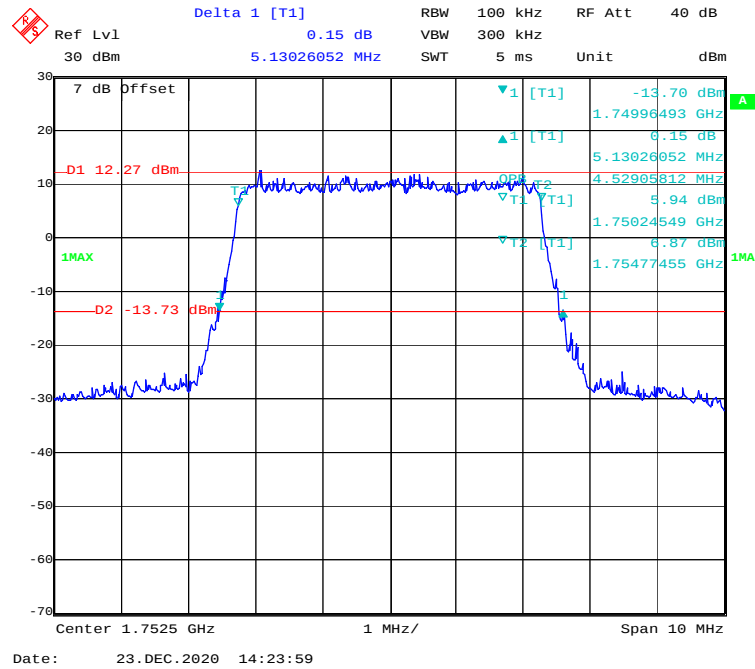
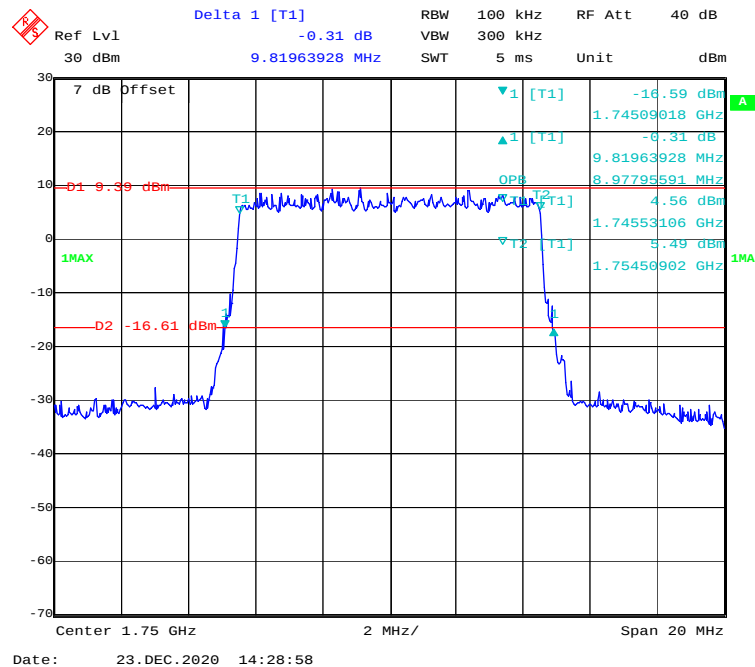
Ref Lvl 30 dBm
 Delta 1 [T1] 3.53 dB
 RBW 30 kHz
 RF Att 40 dB
 30 dBm
 2.87374749 MHz
 SWT 17 ms
 Unit dBm

7 dB Offset
 D1 9.25 dBm
 1MAX
 D2 -16.75 dBm
 1MA

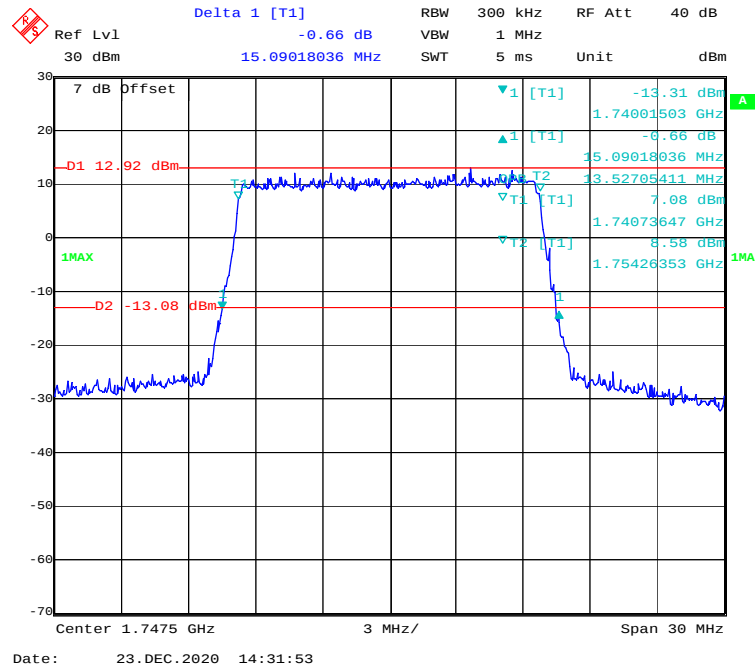
1 [T1] -16.67 dBm
 1.75206313 GHz
 1 [T1] 3.53 dB
 2.87374749 MHz
 OPB
 1 [T1] 4.68 dBm
 1.75215932 GHz
 1 [T1] 5.59 dBm
 1.75484068 GHz

Center 1.7535 GHz
 600 kHz/
 Span 6 MHz

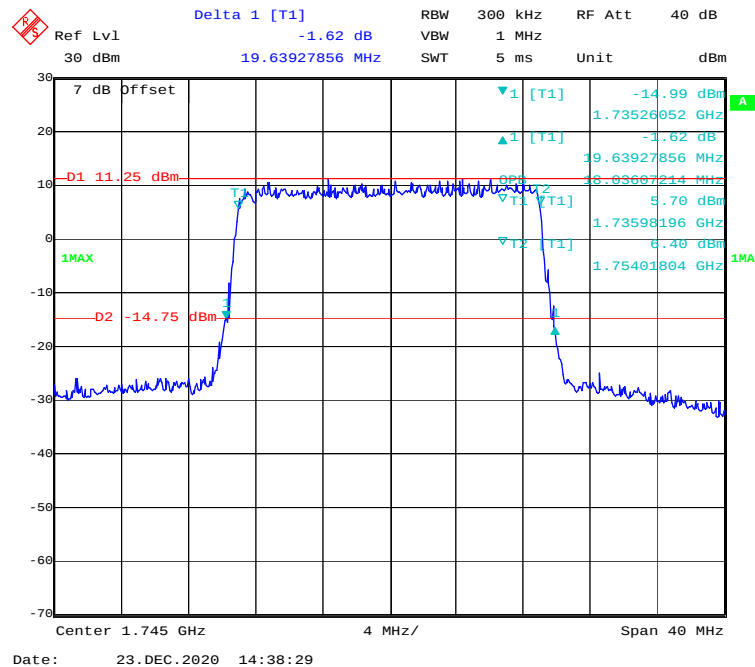
Date: 23. DEC. 2020 14:21:09

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

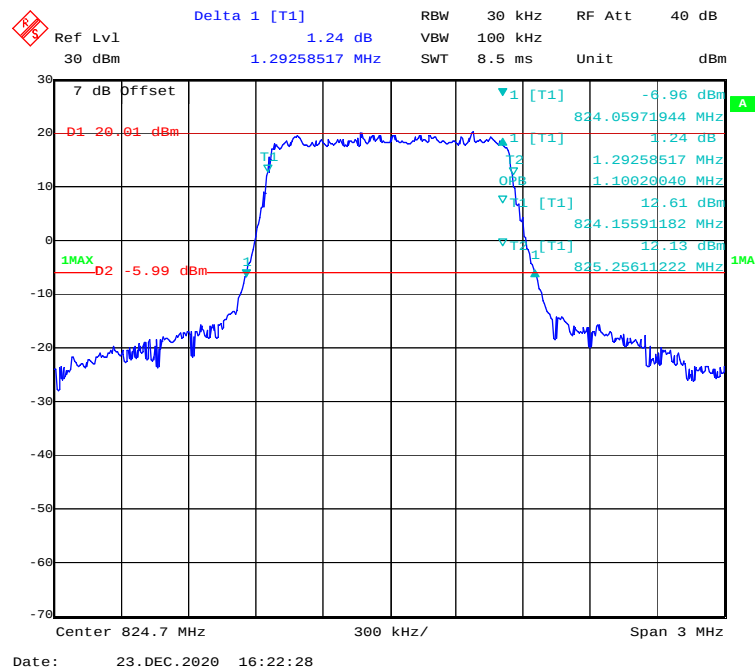
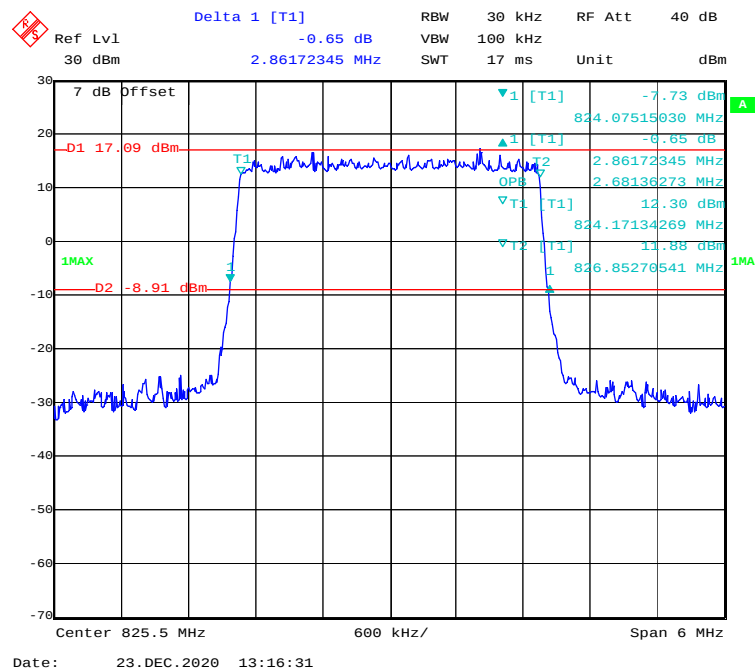


16-QAM (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel

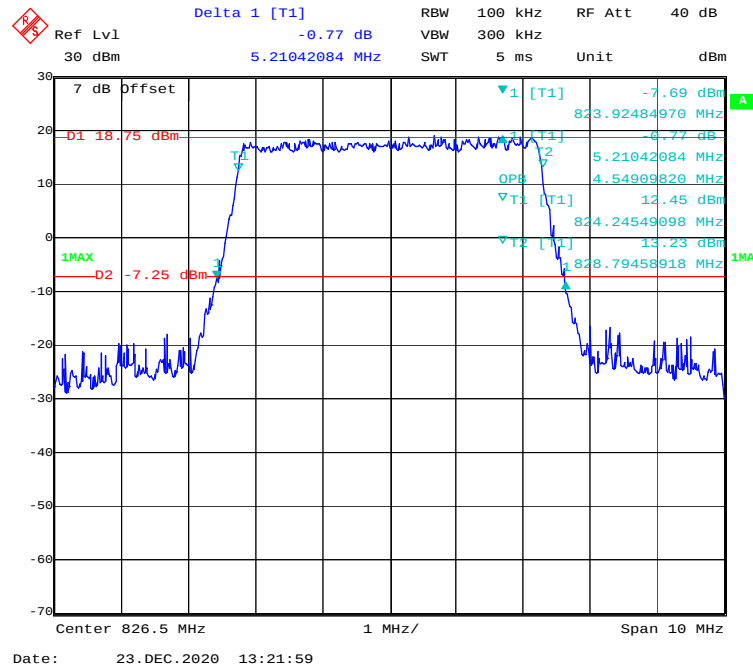


LTE Band 5:

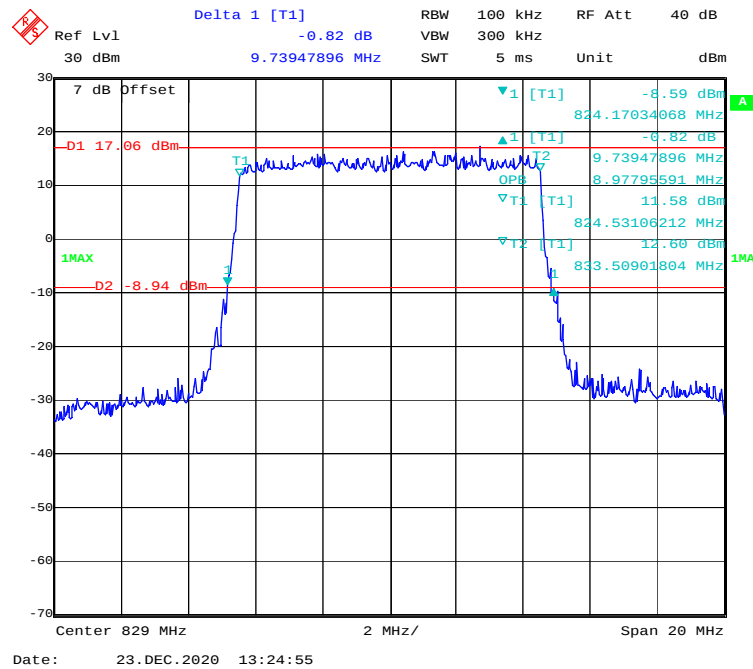
Test Modulation	Test Bandwidth	Test Channel	26 dB Bandwidth	99% Occupied Bandwidth
			MHz	MHz
QPSK	1.4M	Low	1.293	1.100
	3M		2.862	2.681
	5M		5.210	4.549
	10M		9.739	8.978
	1.4M	Middle	1.293	1.088
	3M		2.874	2.693
	5M		5.170	4.549
	10M		9.860	8.978
	1.4M	High	1.299	1.106
	3M		2.874	2.693
	5M		5.170	4.529
	10M		9.900	8.978
16-QAM	1.4M	Low	1.293	1.100
	3M		2.862	2.681
	5M		5.170	4.549
	10M		9.900	8.938
	1.4M	Middle	1.323	1.100
	3M		2.874	2.681
	5M		5.210	4.549
	10M		9.820	8.978
	1.4M	High	1.311	1.112
	3M		2.886	2.681
	5M		5.150	4.549
	10M		9.860	8.978

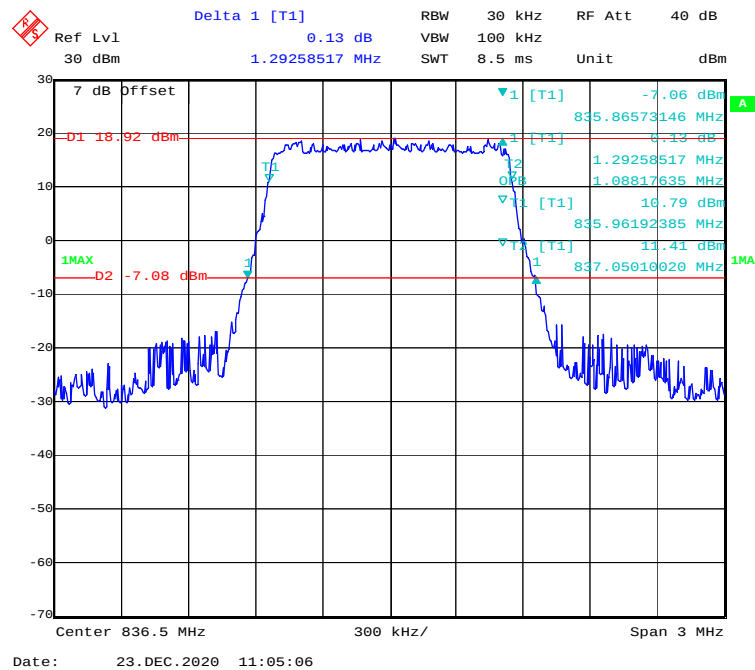
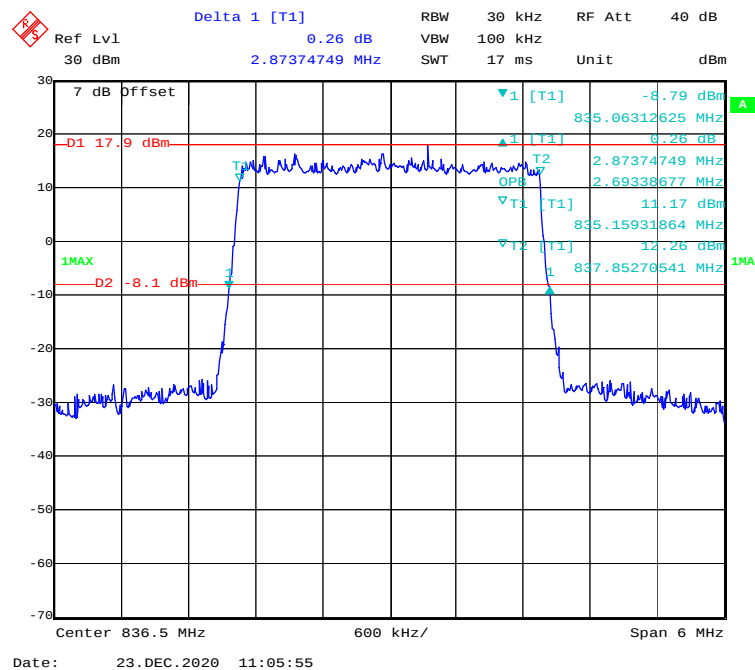
QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**QPSK (3.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

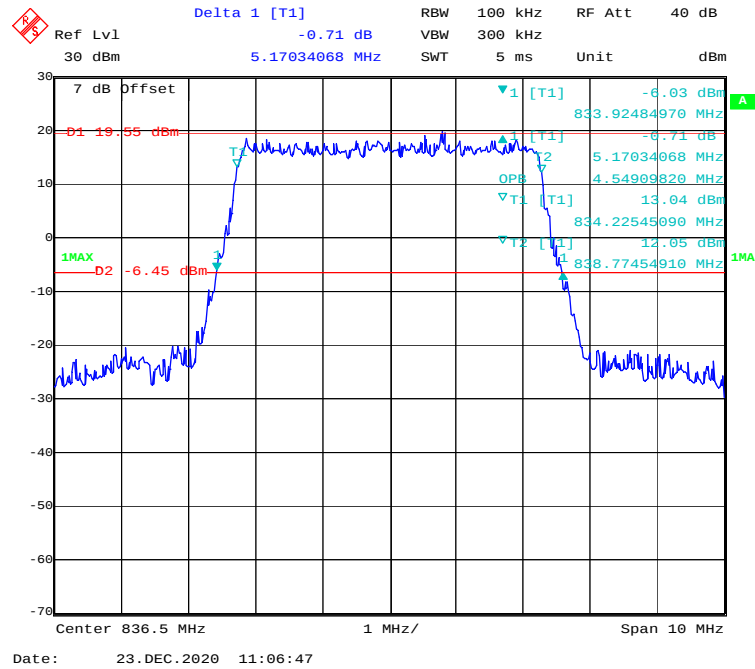
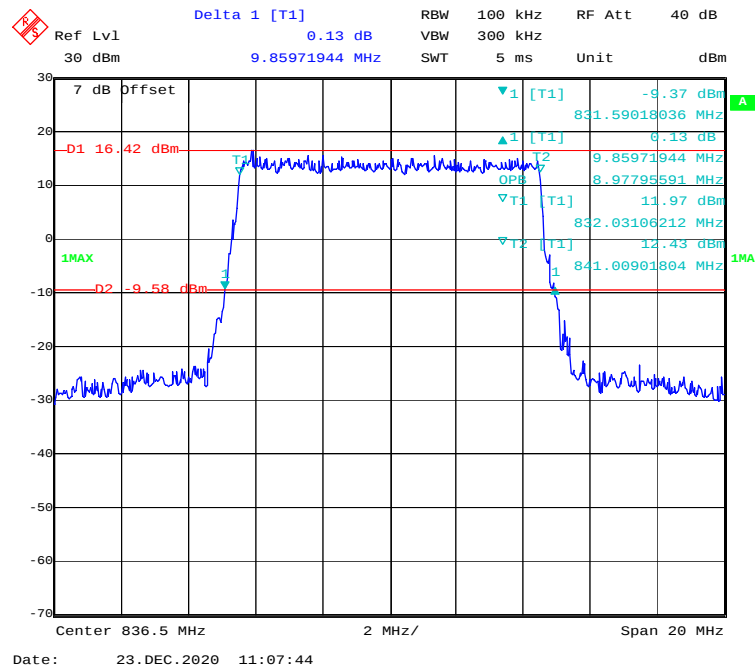
QPSK (5.0MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel

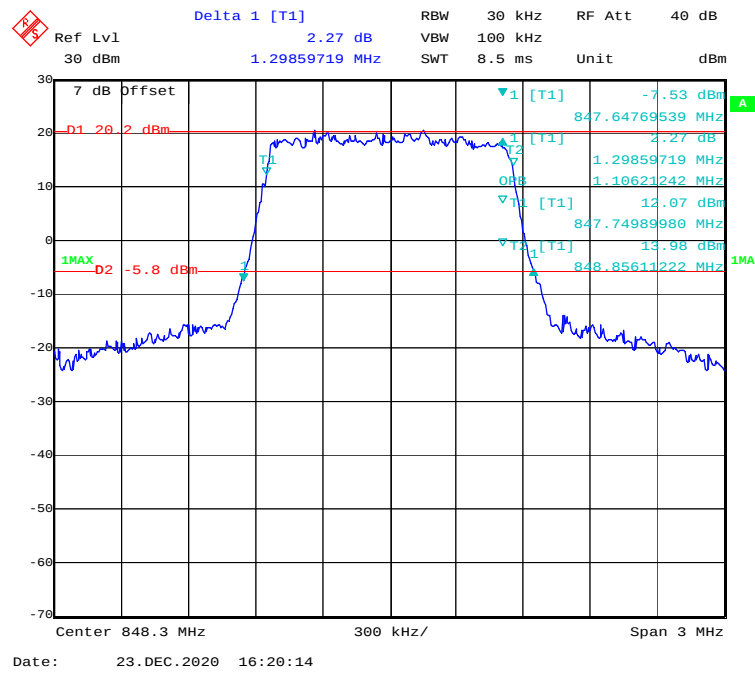
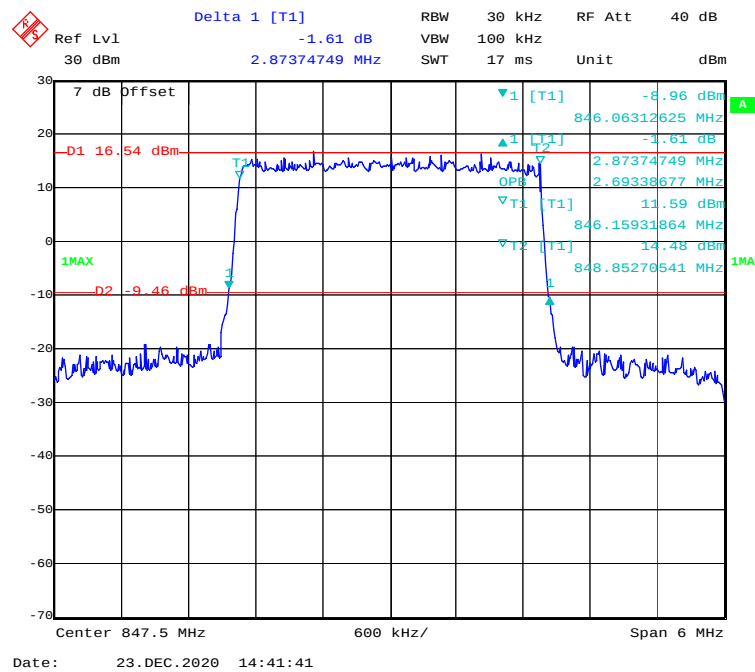


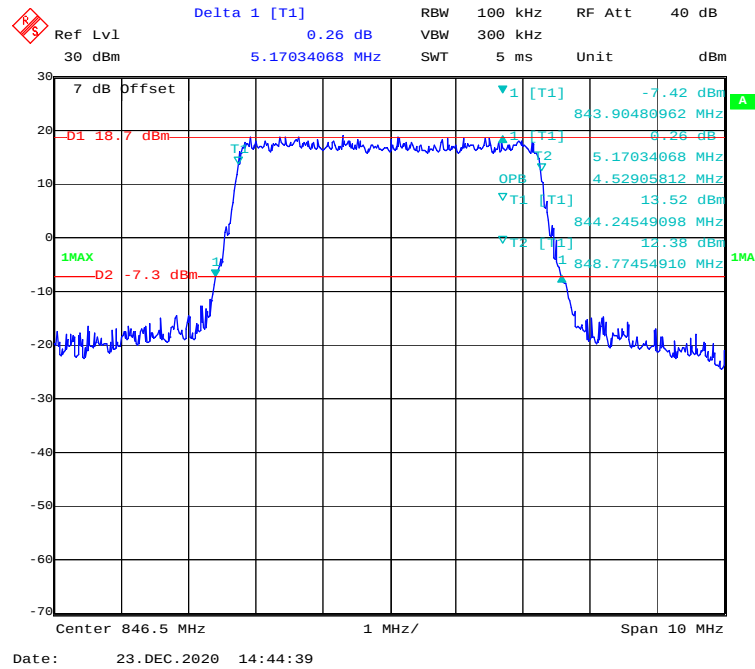
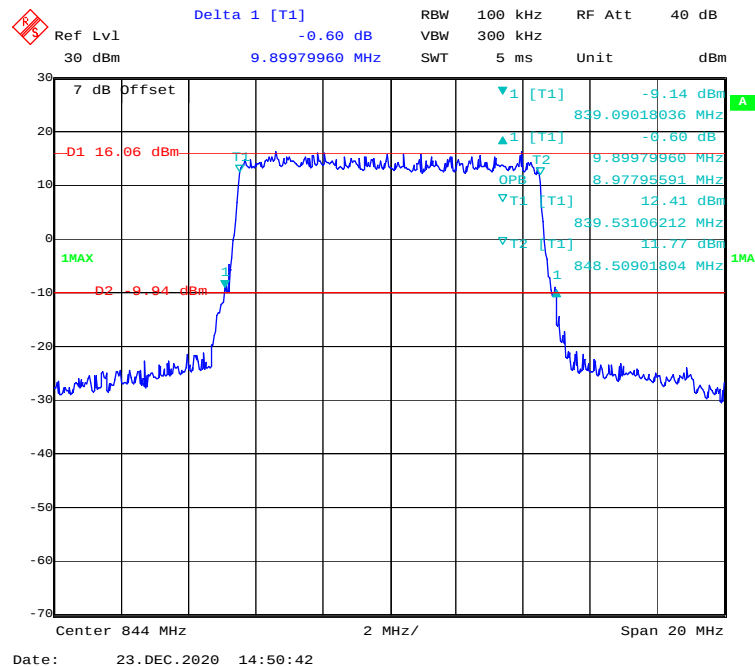
QPSK (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel

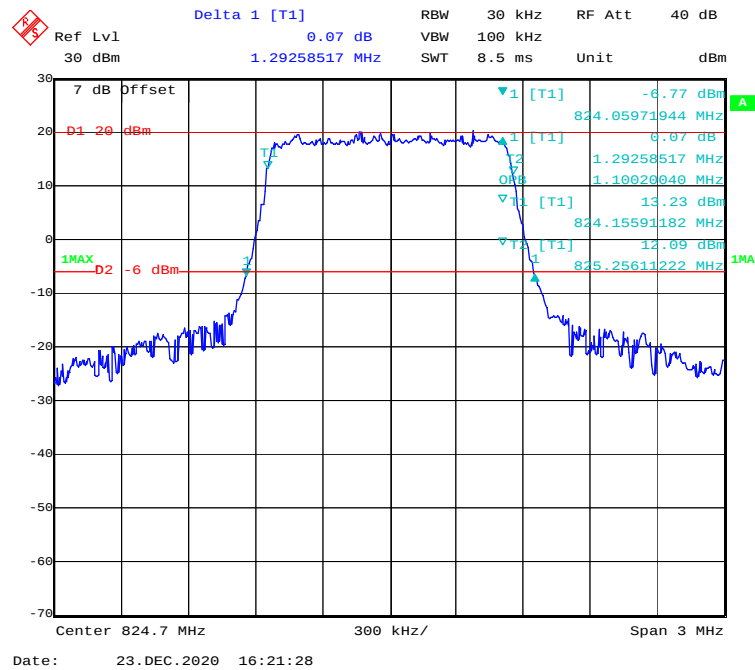
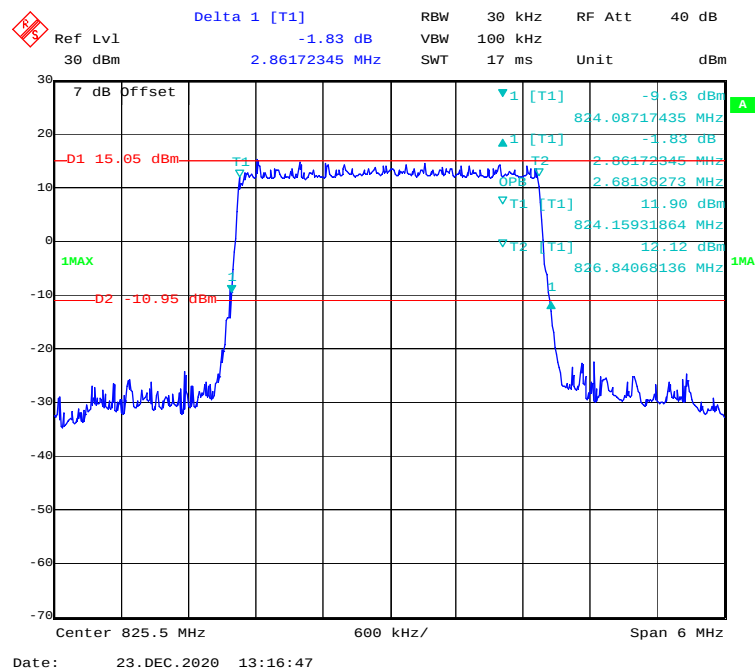


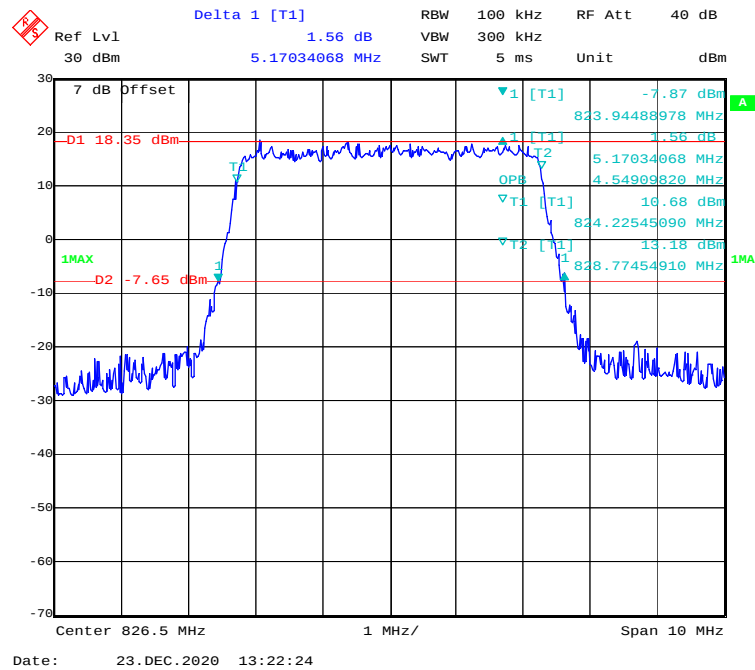
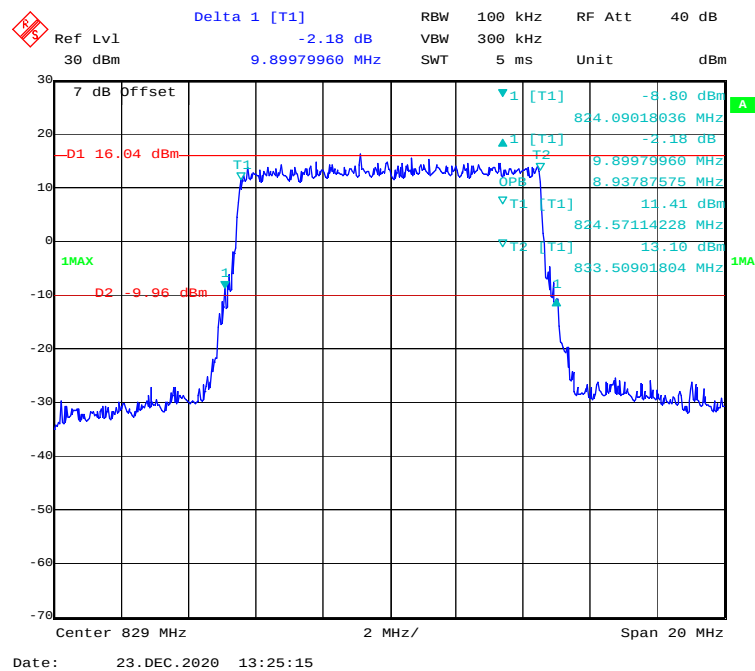
QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**QPSK (3.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

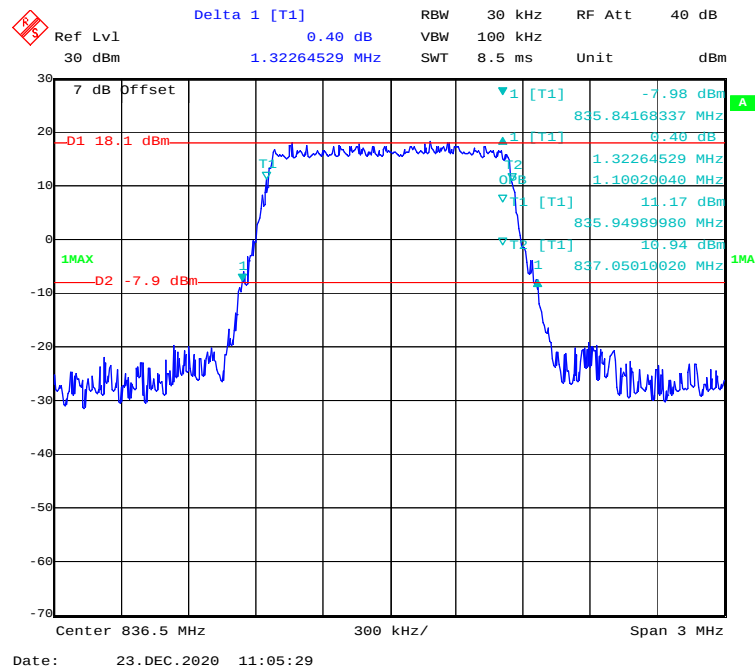
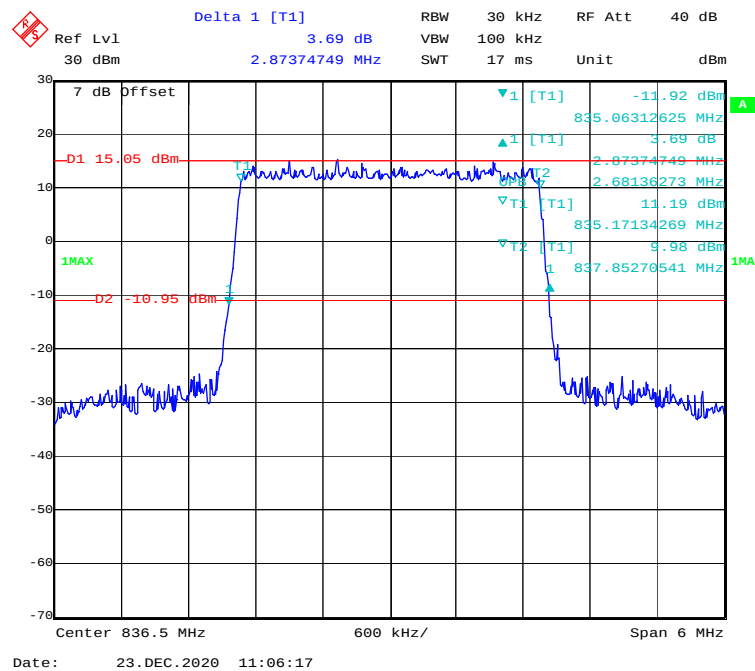
QPSK (5.0MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**QPSK (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

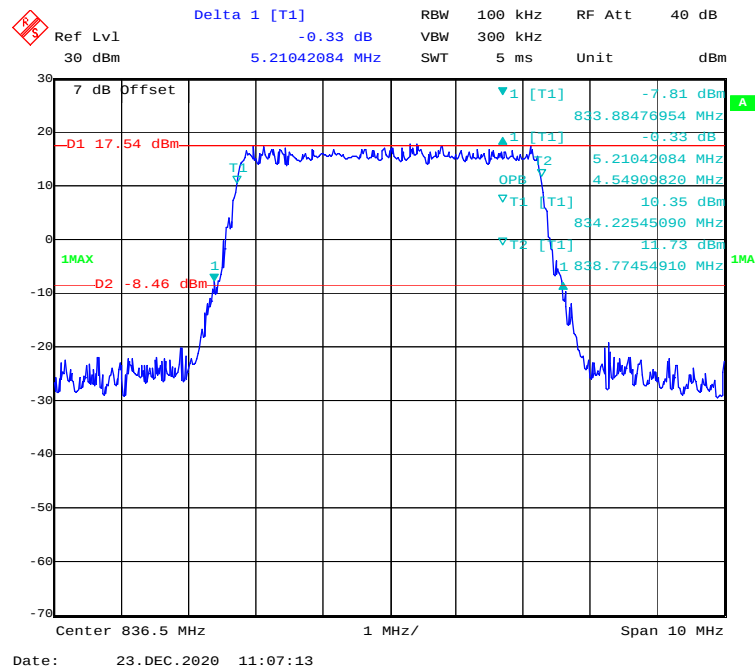
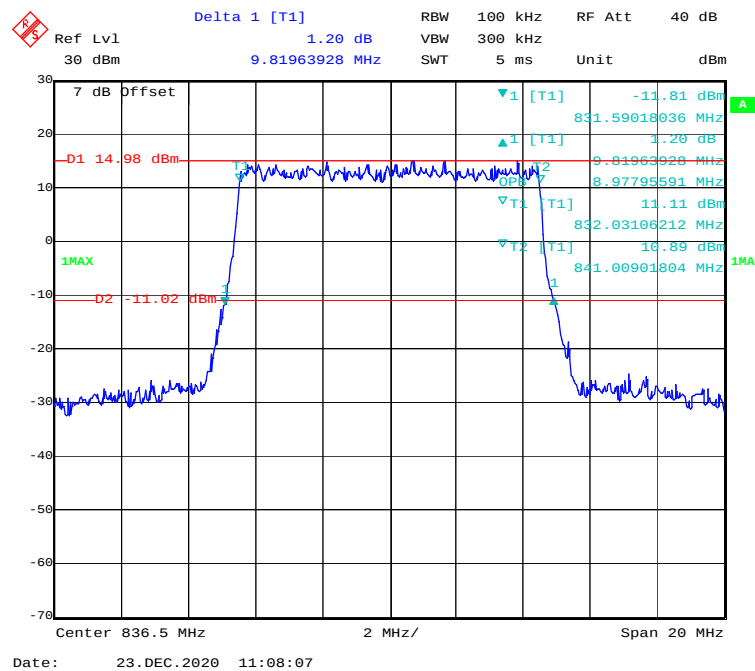
QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**QPSK (3.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

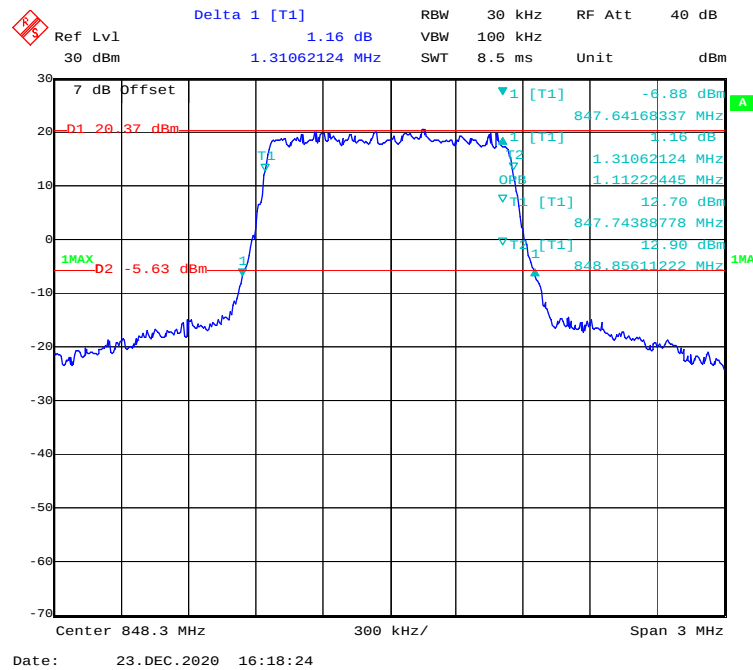
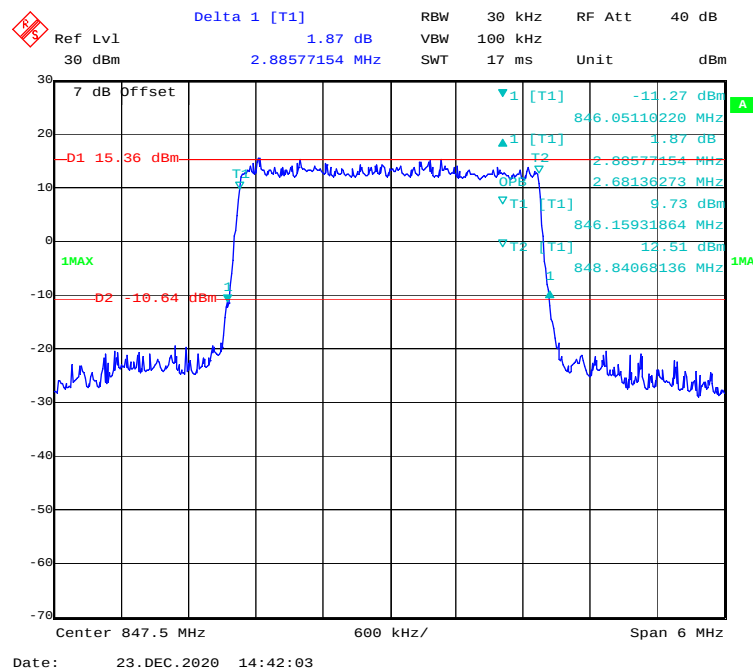
QPSK (5.0MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**QPSK (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

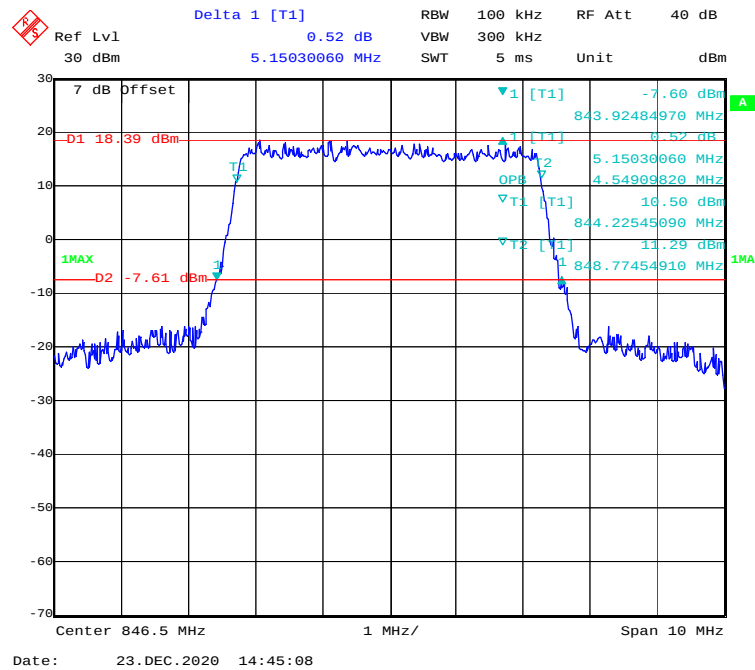
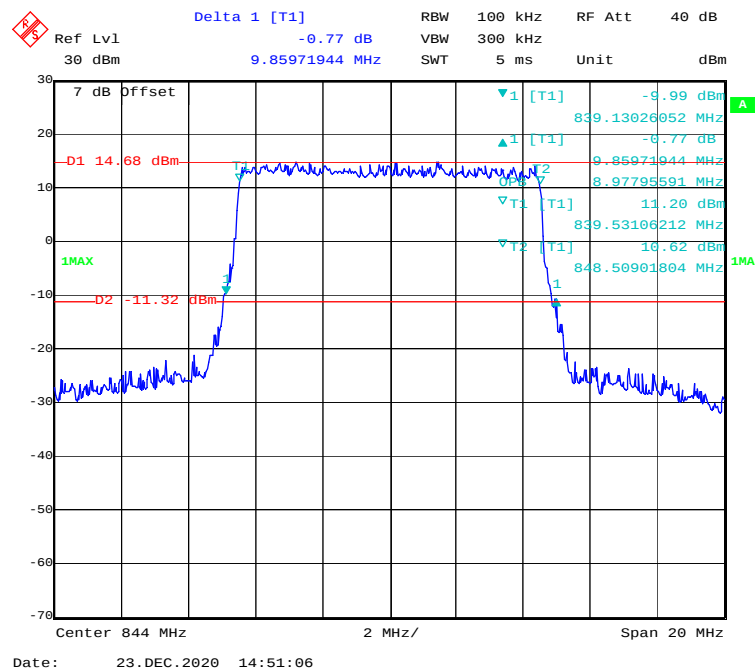
16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**16-QAM (3.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

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**

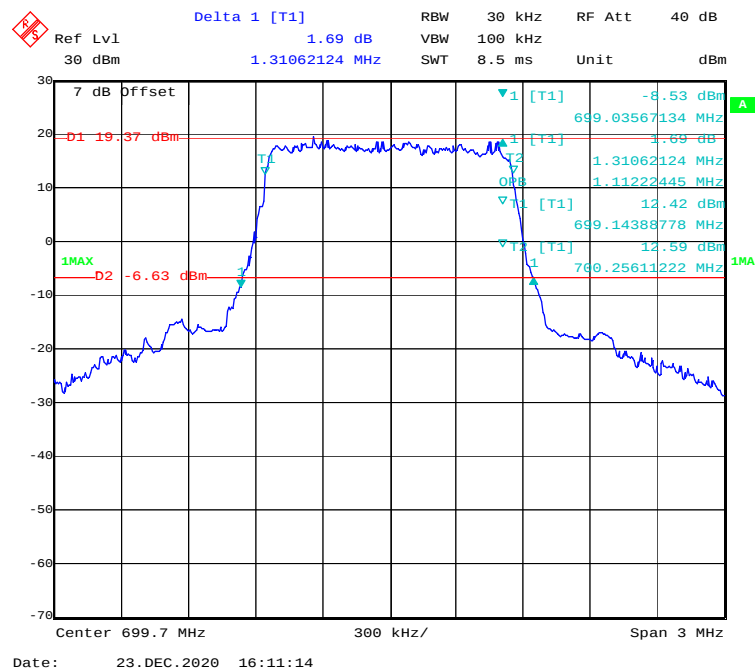
16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**16-QAM (3.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

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**

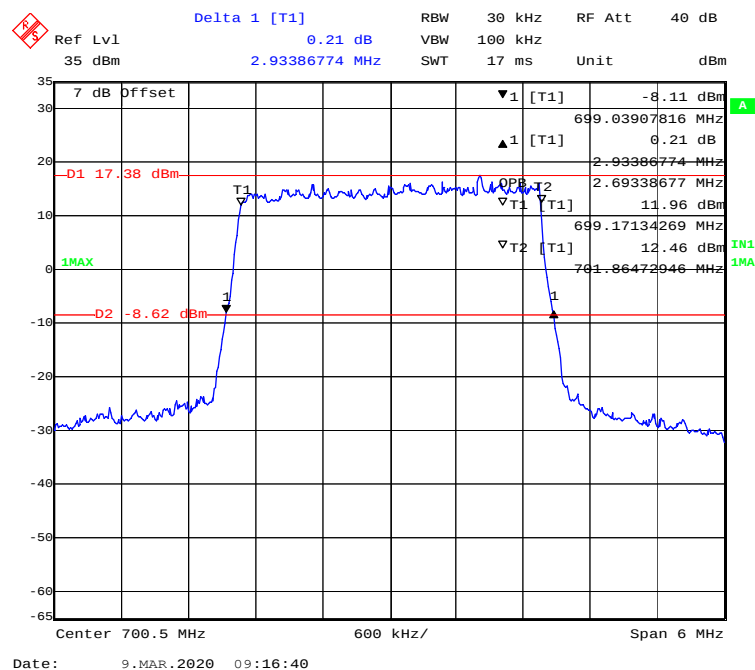
LTE Band 12:

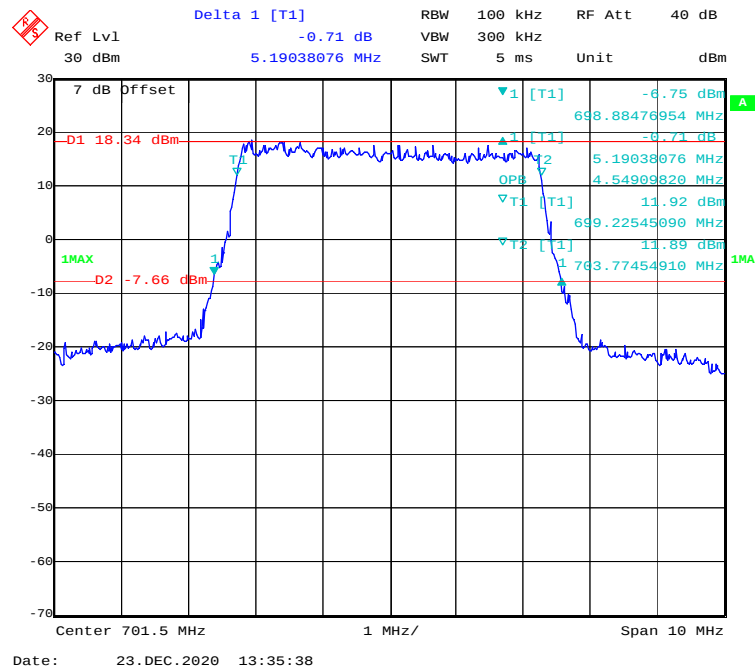
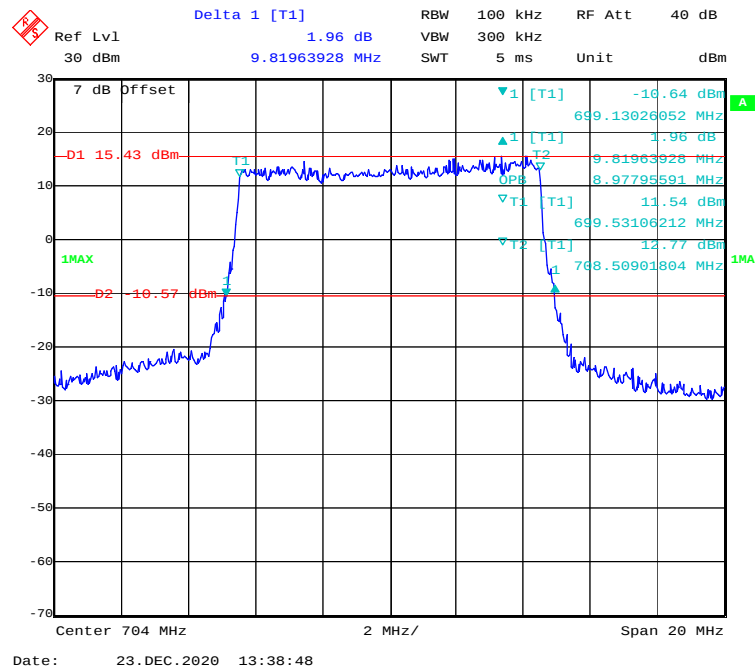
Test Modulation	Test Bandwidth	Test Channel	26 dB Bandwidth	99% Occupied Bandwidth
			MHz	MHz
QPSK	1.4M	Low	1.311	1.112
	3M		2.934	2.693
	5M		5.190	4.549
	10M		9.820	8.978
	1.4M	Middle	1.317	1.100
	3M		2.850	2.669
	5M		5.050	4.529
	10M		9.780	8.938
	1.4M	High	1.335	1.106
	3M		2.874	2.681
	5M		5.210	4.569
	10M		9.579	8.978
16-QAM	1.4M	Low	1.299	1.112
	3M		2.922	2.693
	5M		5.230	4.569
	10M		9.900	8.978
	1.4M	Middle	1.299	1.100
	3M		2.874	2.681
	5M		5.070	4.529
	10M		9.739	8.938
	1.4M	High	1.317	1.106
	3M		2.886	2.693
	5M		5.190	4.549
	10M		9.820	8.978

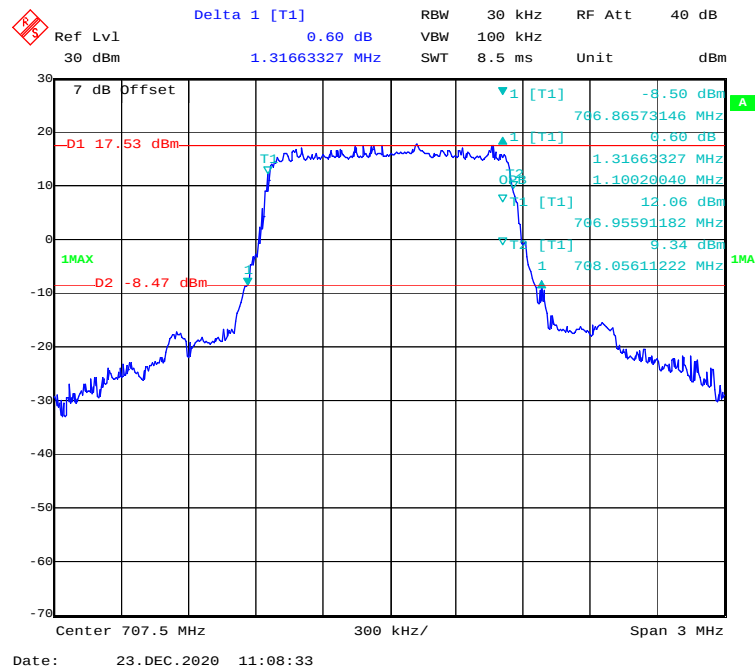
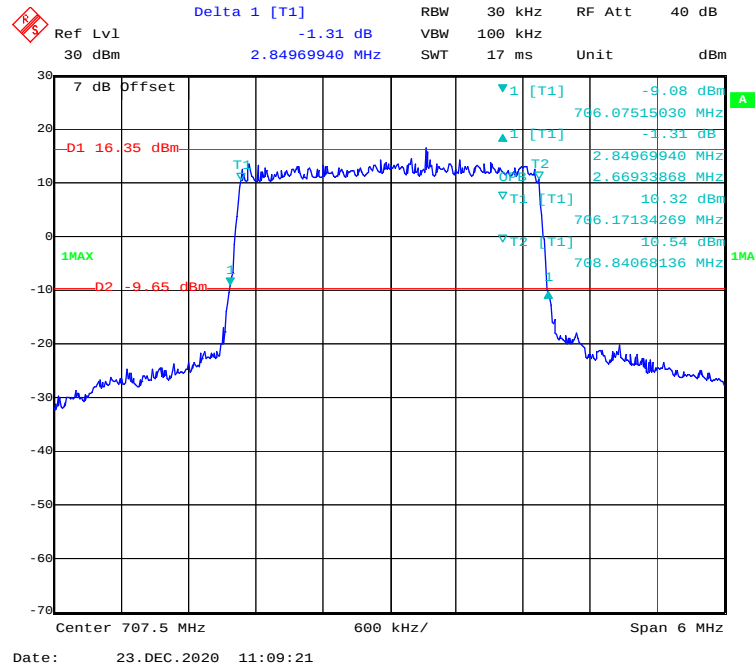
QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



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



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

Delta 1 [T1] 0.69 dB
 RBW 100 kHz RF Att 40 dB
 Ref Lvl 30 dBm 5.05010020 MHz SWT 5 ms Unit dBm

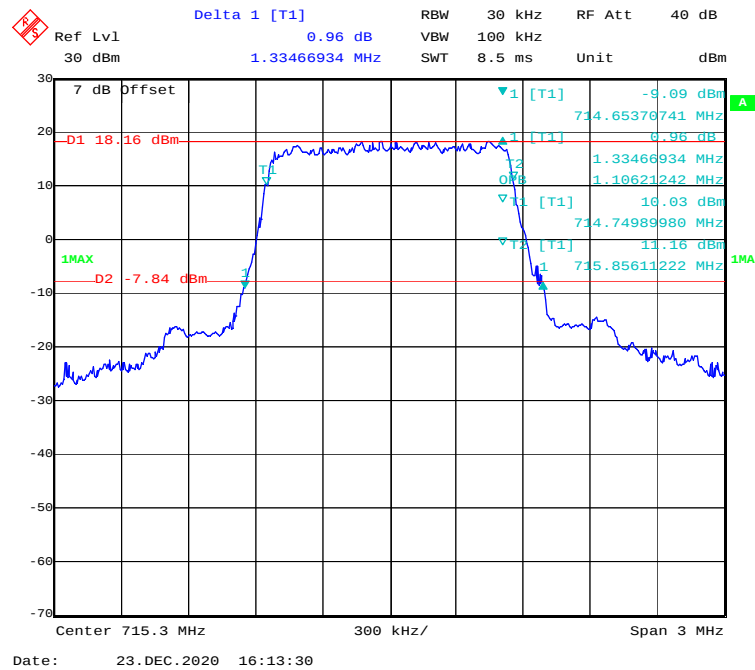
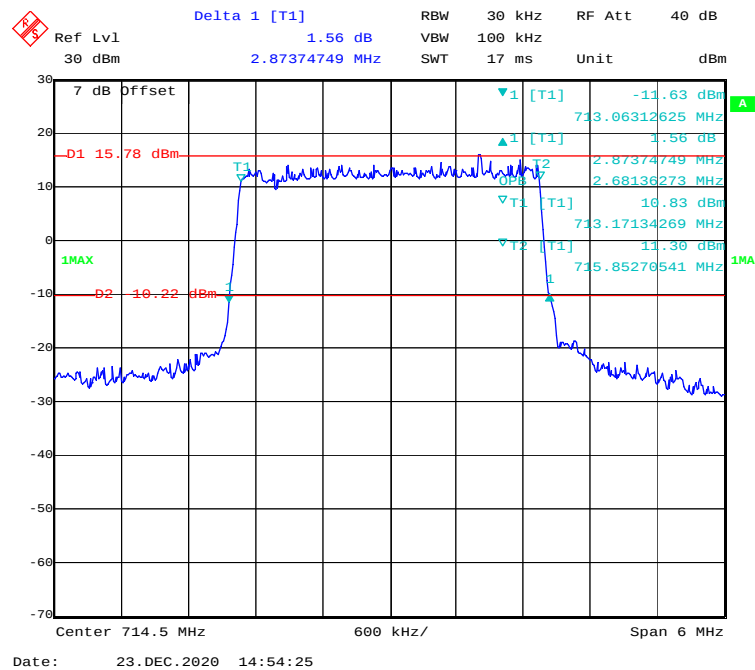
7 dB Offset
 D1 17.78 dBm
 D2 -8.22 dBm
 1MAX
 1MAX

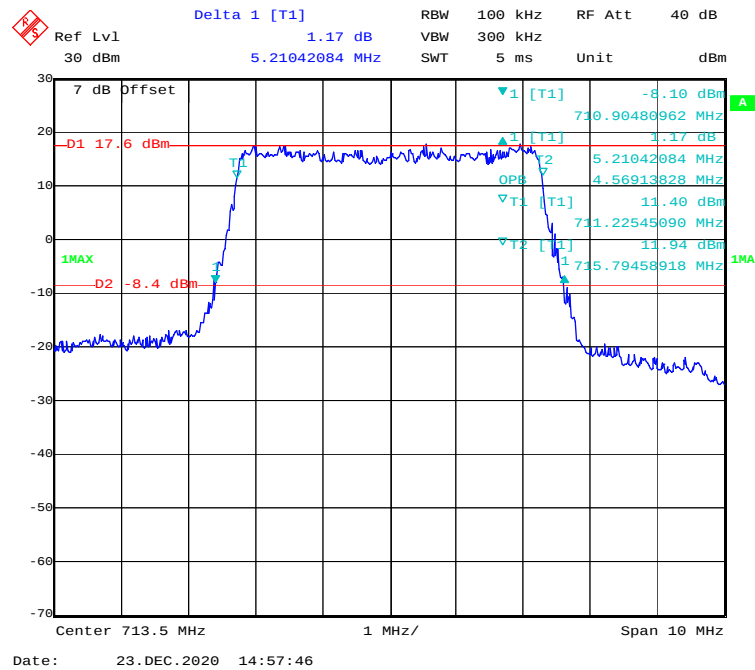
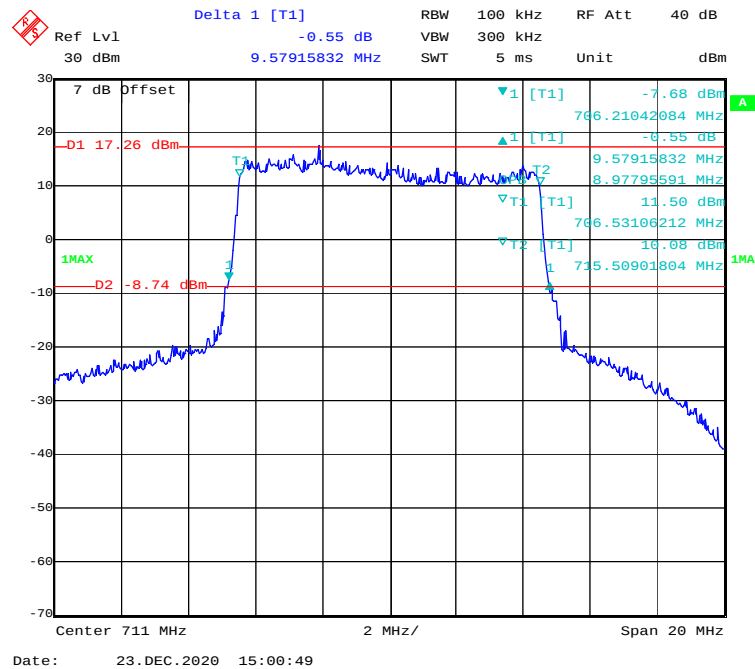
1 [T1] -7.93 dBm
 1 [T1] 0.69 dB
 2 5.05010020 MHz
 OPB 7 4.52905812 MHz
 T1 [T1] 16.48 dBm
 765.24549098 MHz
 T2 [T1] 16.73 dBm
 1 769.77454910 MHz

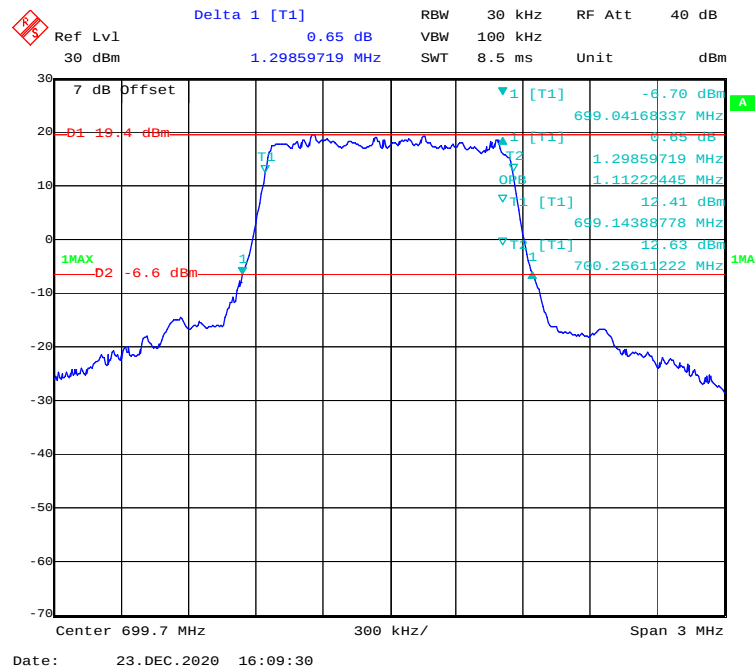
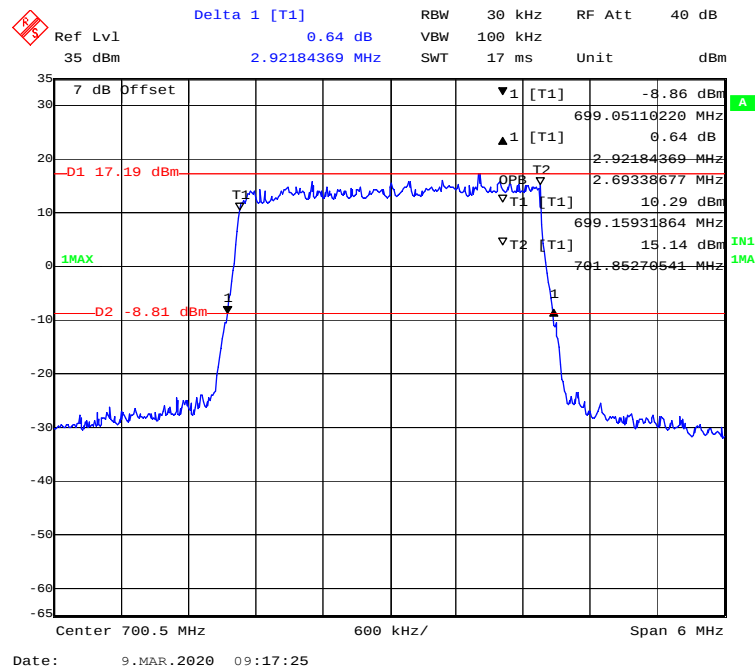
Center 707.5 MHz 1 MHz/ Span 10 MHz

Date: 23. DEC. 2020 11:10:05

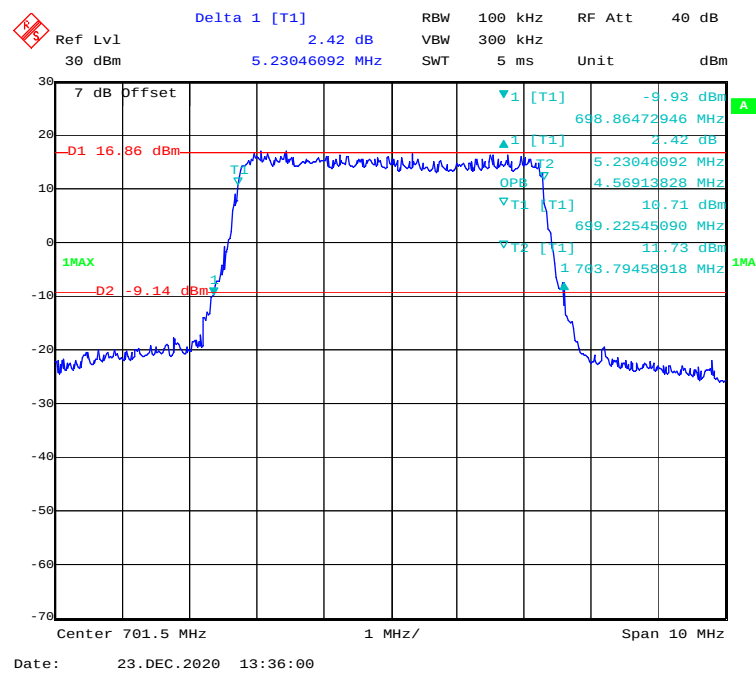
[illegible]

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

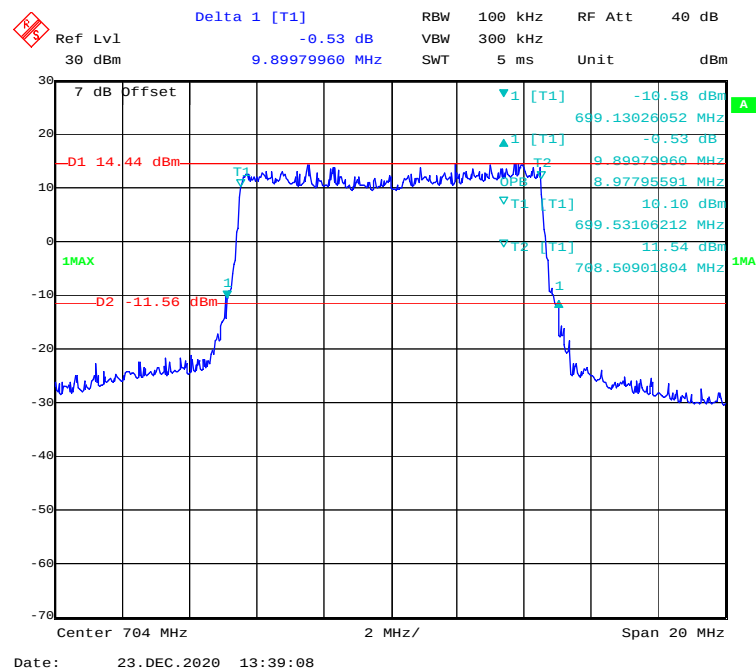
QPSK (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**QPSK (10MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

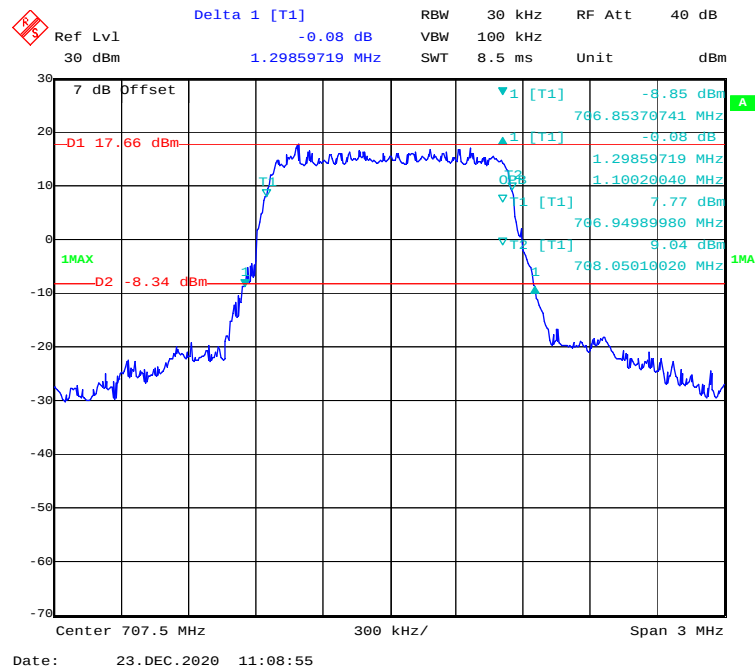
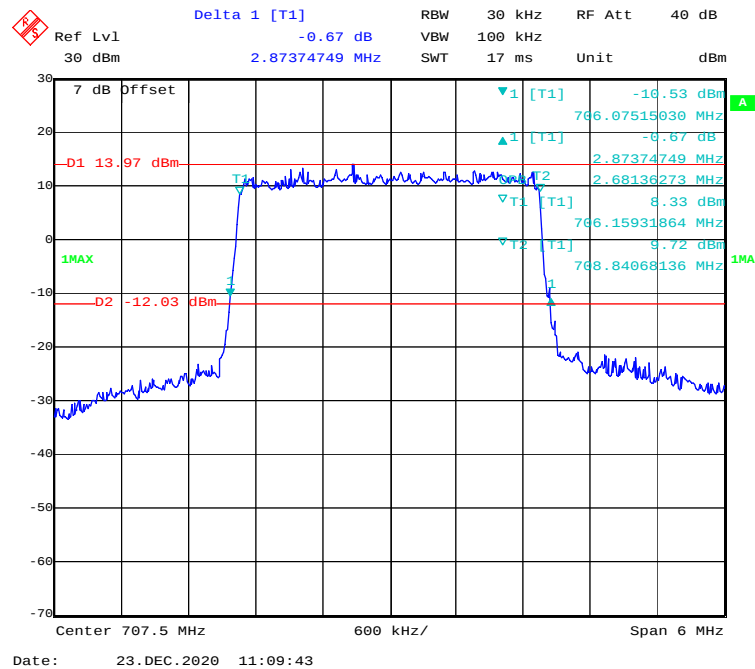
16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**16-QAM (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

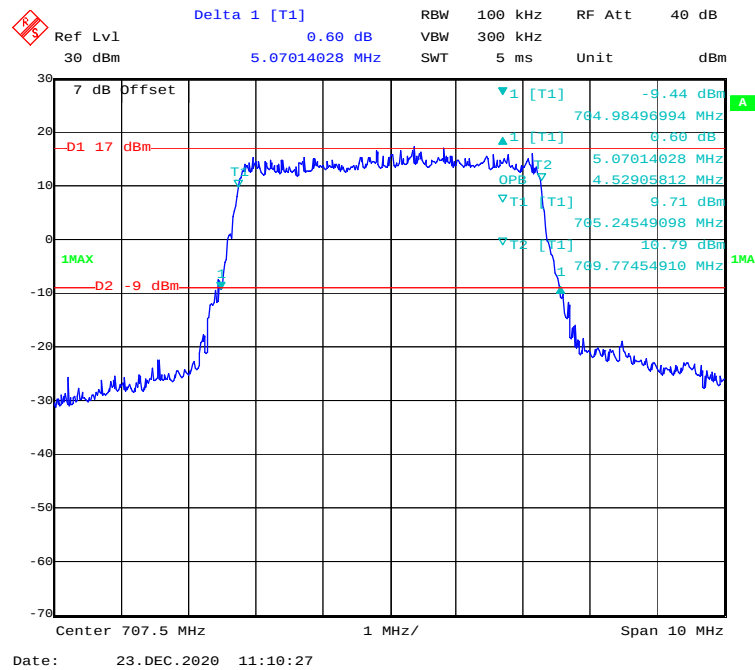
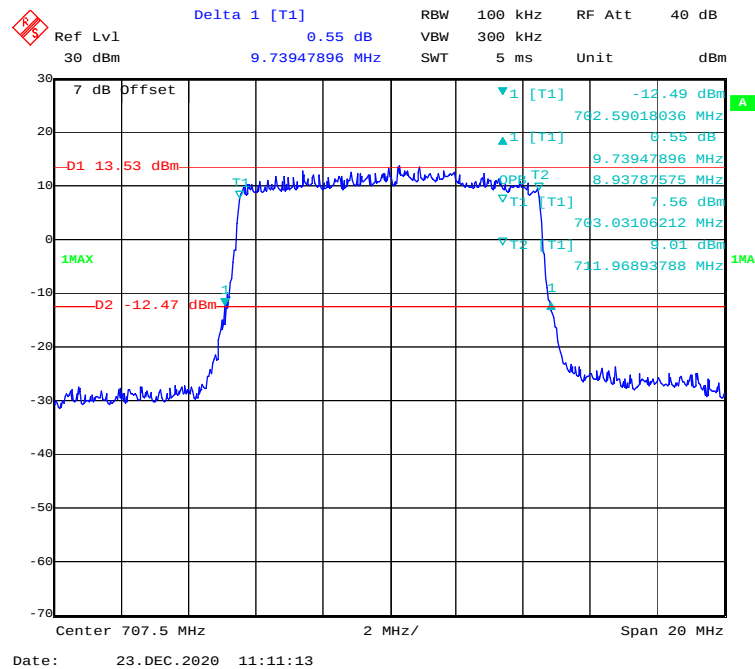
16-QAM (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel

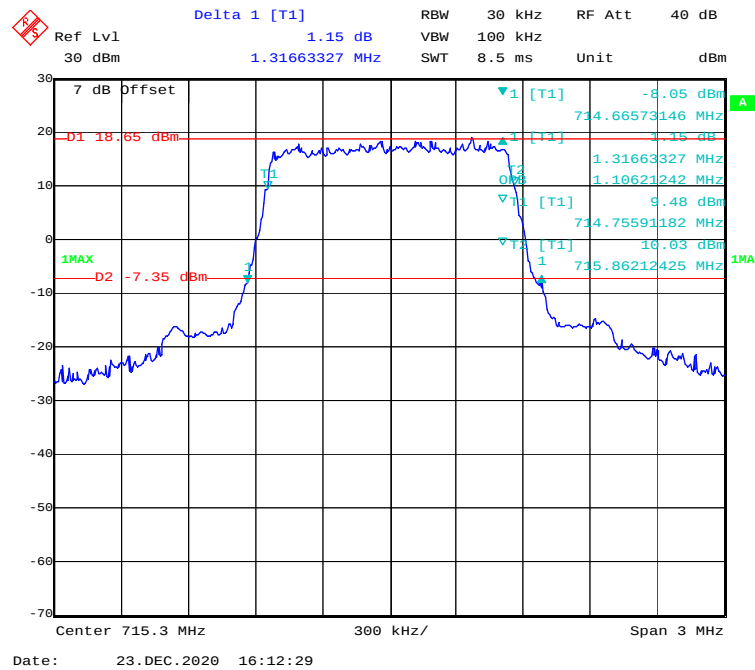
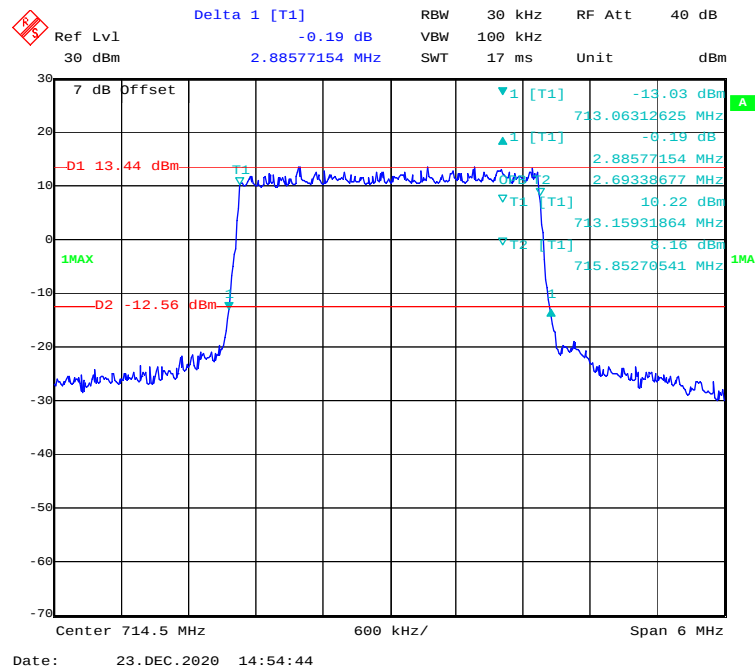


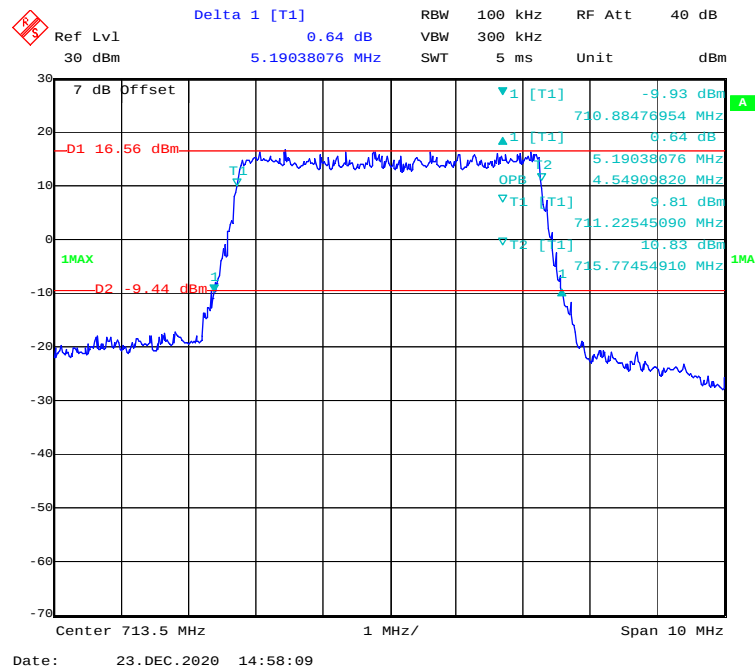
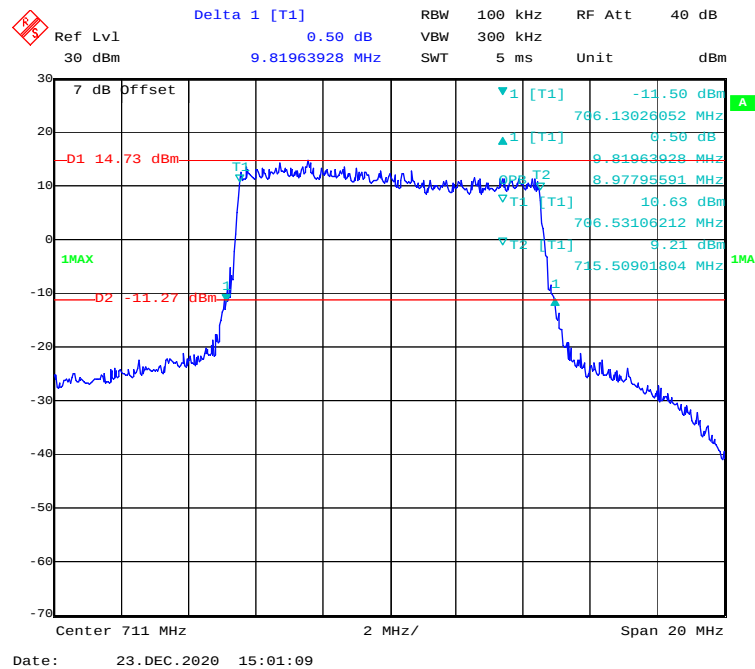
16-QAM (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



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 (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**

LTE Band 17:

Test Modulation	Test Bandwidth	Test Channel	26 dB Bandwidth	99% Occupied Bandwidth
			MHz	MHz
QPSK	5M	Low	5.210	4.549
	10M		9.659	8.978
	5M	Middle	5.110	4.529
	10M		9.820	8.978
	5M	High	5.251	4.549
	10M		9.860	8.978
16-QAM	5M	Low	5.210	4.529
	10M		9.579	8.938
	5M	Middle	5.130	4.529
	10M		9.860	8.978
	5M	High	5.251	4.569
	10M		9.659	8.938

Delta 1 [T1]

Ref Lvl -0.19 dB

30 dBm 5.21042084 MHz

RBW 100 kHz RF Att 40 dB

SWT 5 ms Unit dBm

7 dB Offset

D1 18.04 dBm

1MAX

D2 -7.96 dBm

1

▼1 [T1] -7.94 dBm

763.92484970 MHz

▼1 [T1] -6.19 dBm

5.21042084 MHz

OPB 7 4.54909820 MHz

▼T1 [T1] 11.41 dBm

764.24549098 MHz

▼T2 [T1] 16.91 dBm

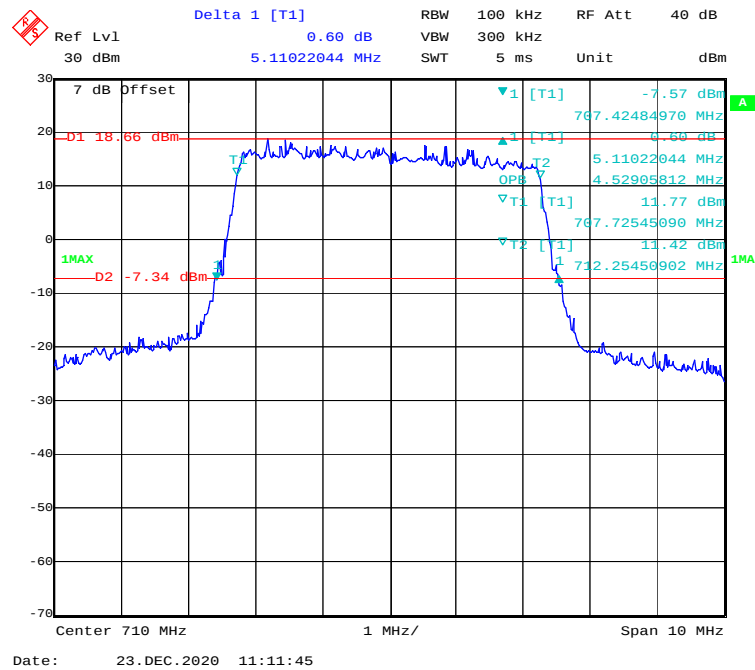
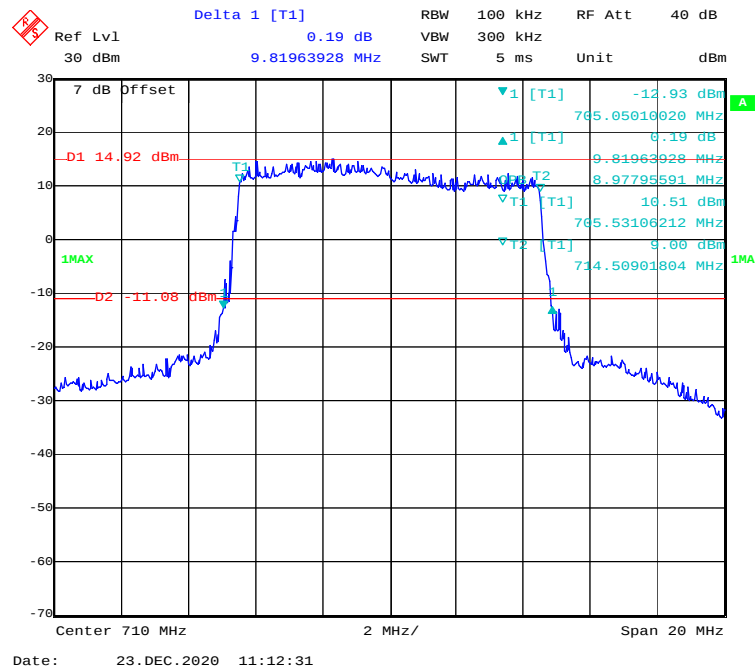
1768.79458918 MHz

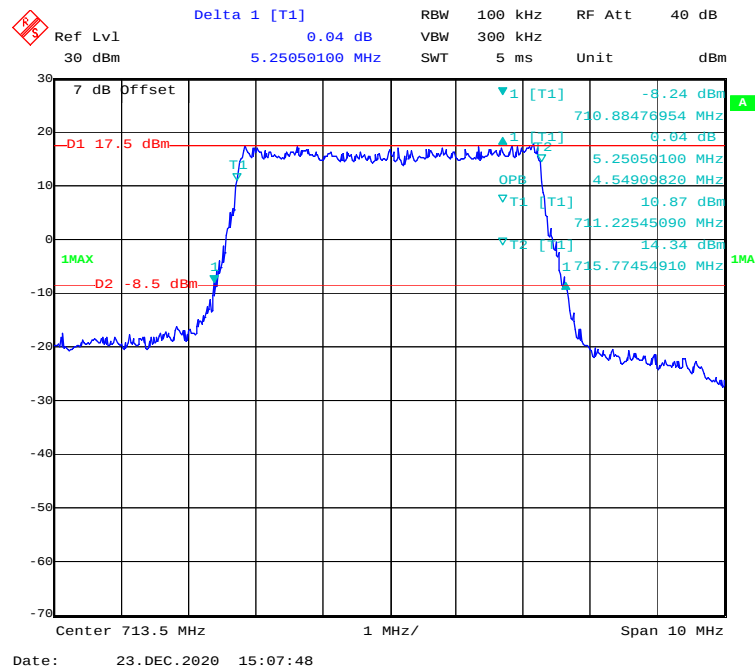
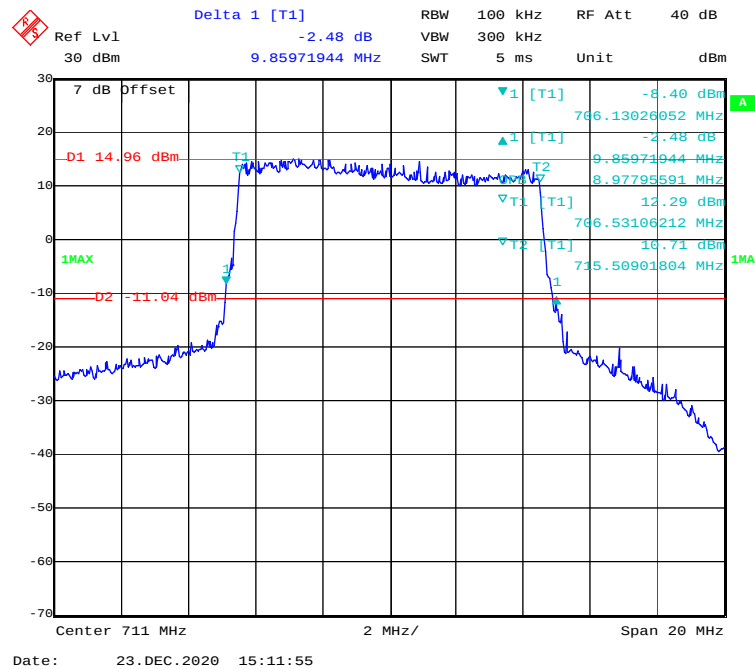
1MAX

Center 706.5 MHz 1 MHz/ Span 10 MHz

Date: 23. DEC. 2020 13:41:49

[illegible]

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

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

Delta 1 [T1] 0.49 dB

Ref Lvl 30 dBm

5.21042084 MHz

RBW 100 kHz

SWT 5 ms

RF Att 40 dB

Unit dBm

7 dB Offset

D1 16.66 dBm

D2 -9.34 dBm

1MAX

1MA

Center 706.5 MHz

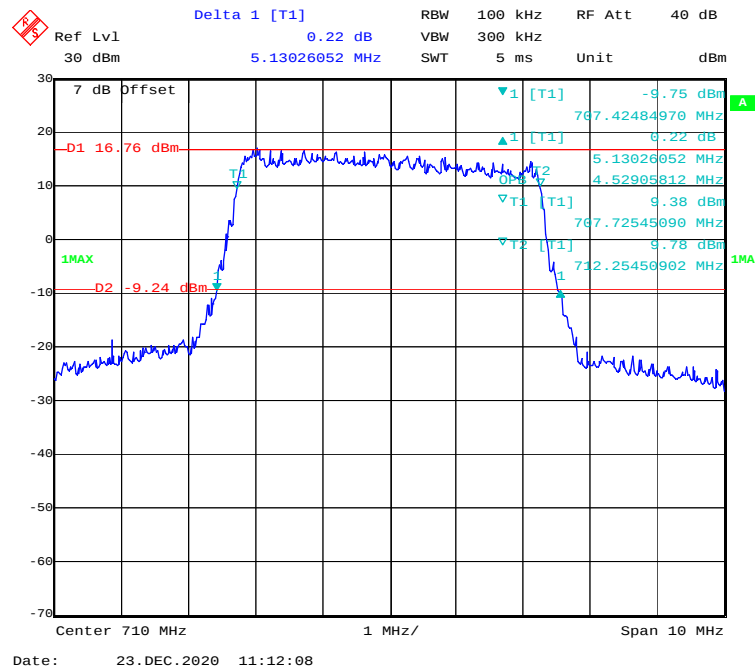
1 MHz/

Span 10 MHz

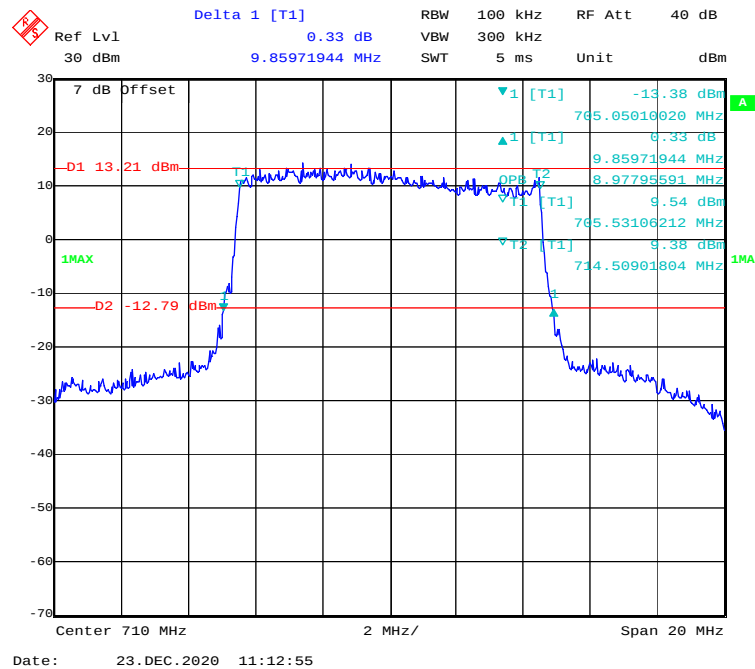
Date: 23. DEC. 2020 13:42:11

[illegible]

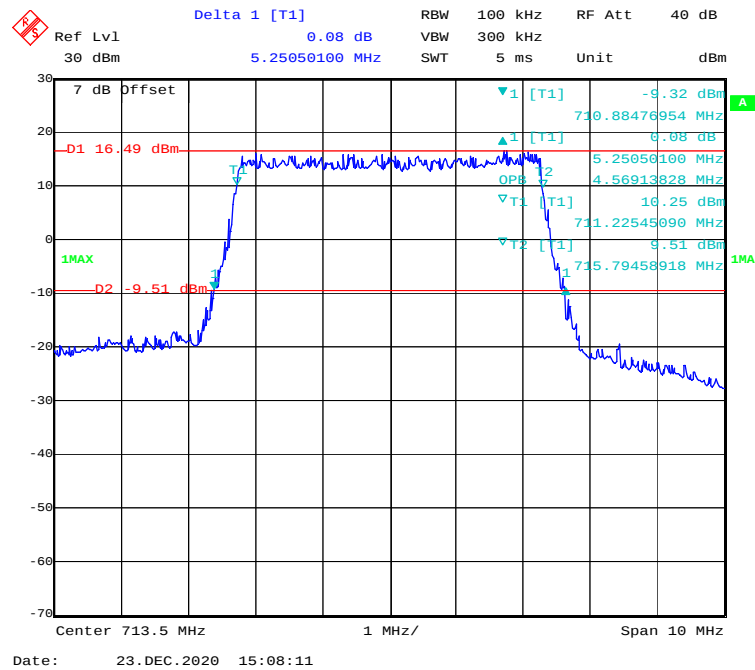
16-QAM (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



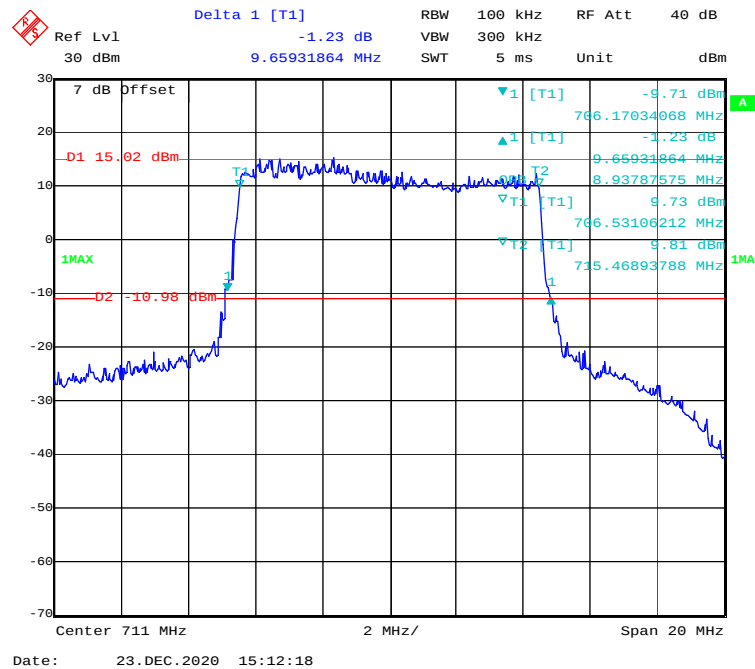
16-QAM (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



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



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



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

Applicable Standards

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

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

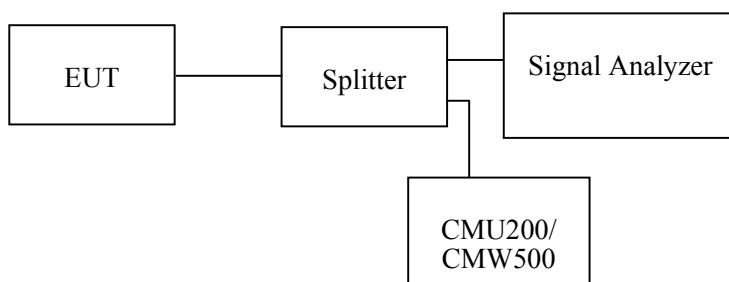
According to §22.917(a),the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

(g) For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log(P)$ dB.

(h) For operations in the 1710-1755 MHz, 1755-1780 MHz, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log(P)$ 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:	23.4~24.1 °C
Relative Humidity:	49~52 %
ATM Pressure:	100.5~102.1 kPa

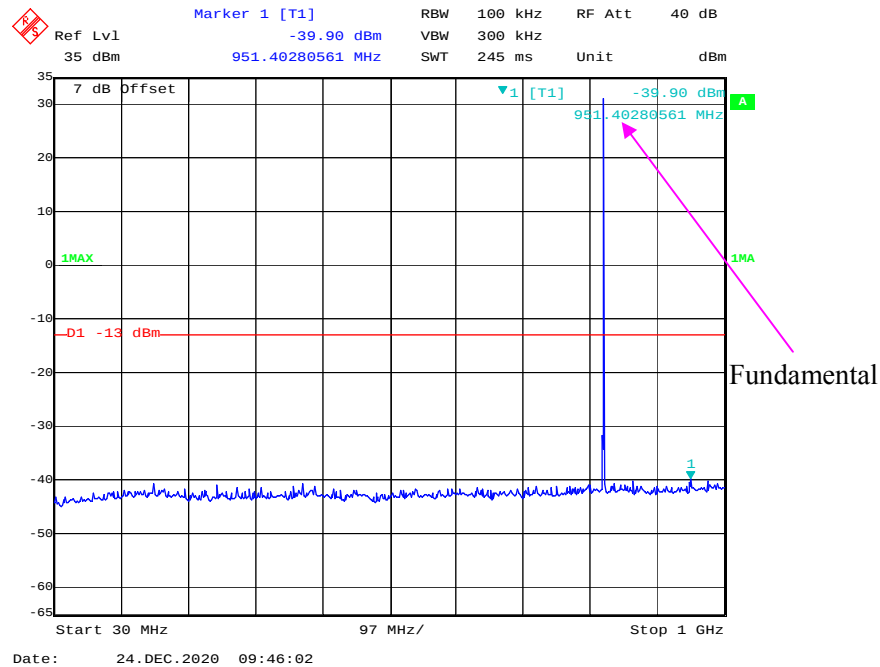
The testing was performed by Jack Jiao from 2020-12-23 to 2020-12-24.

EUT operation mode: Transmitting

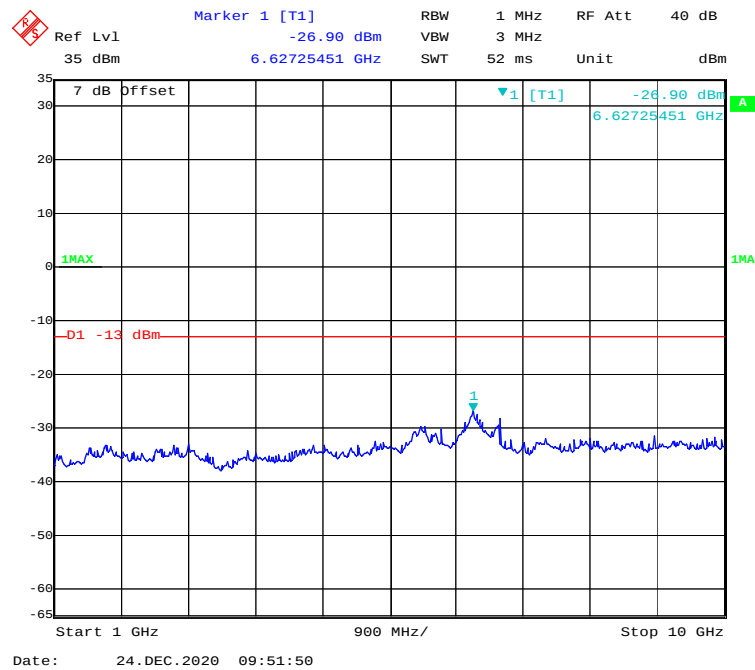
Test Result: Compliance.

GSM 850 Band:

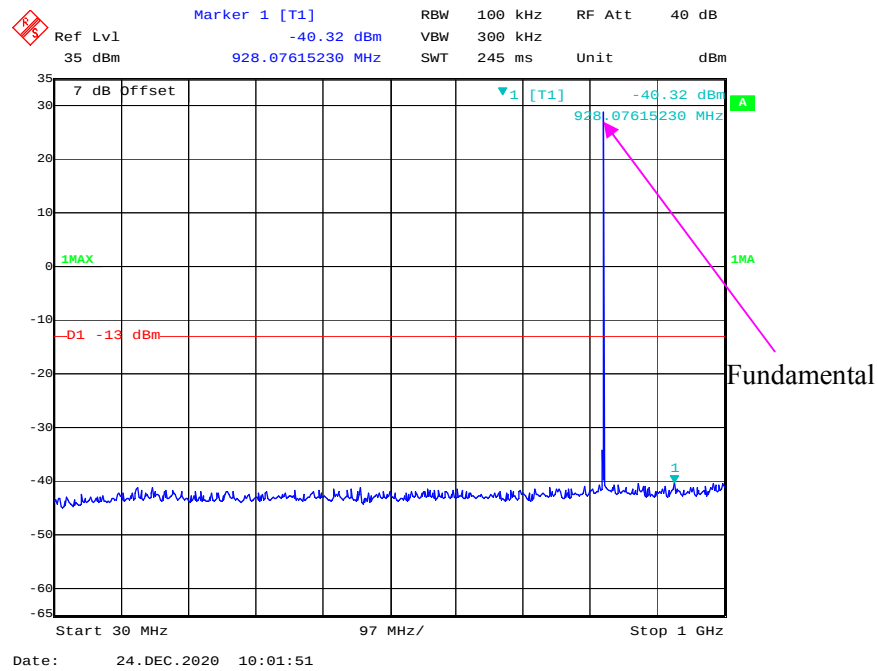
30 MHz – 1GHz(GPRS Mode), Low channel



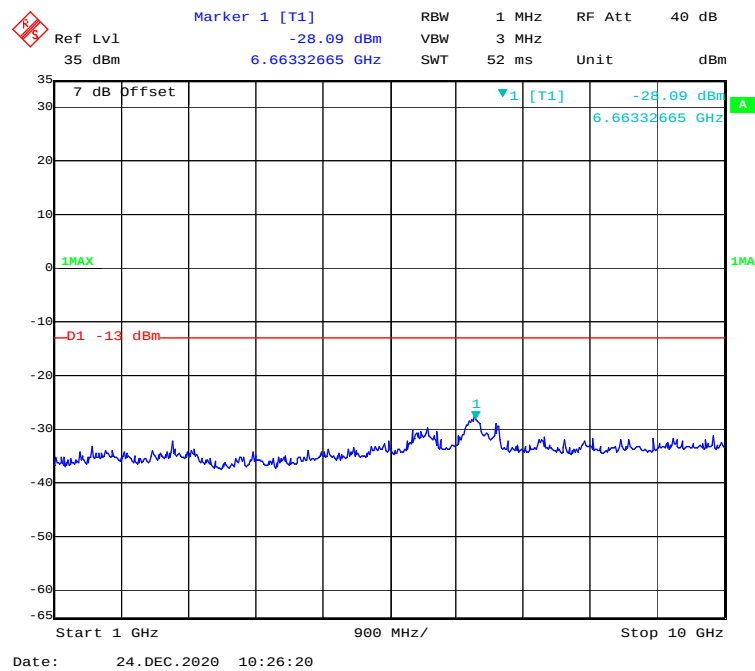
1 GHz – 10 GHz (GPRS Mode), Low channel



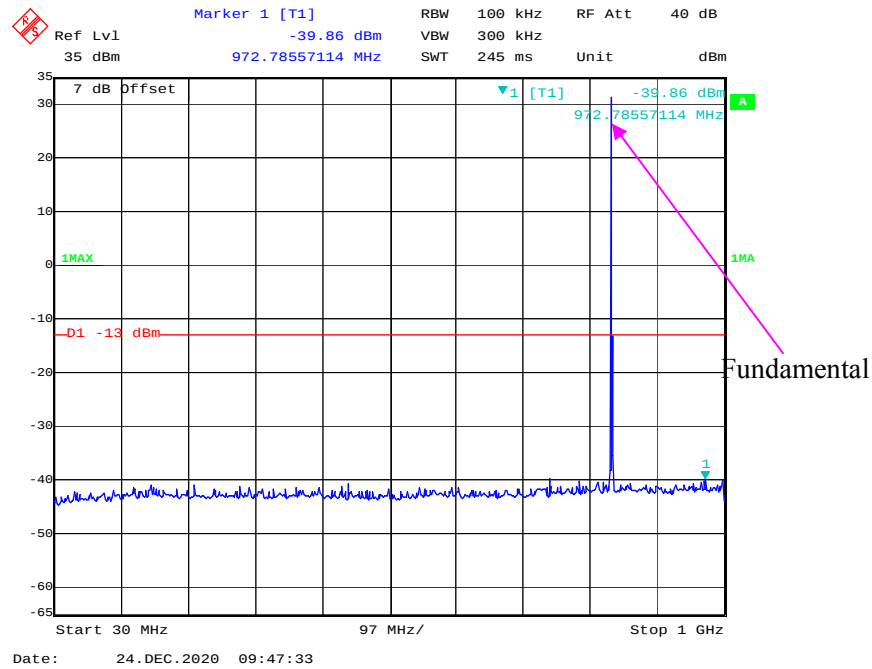
30 MHz – 1GHz(EGPRS Mode)), Low channel



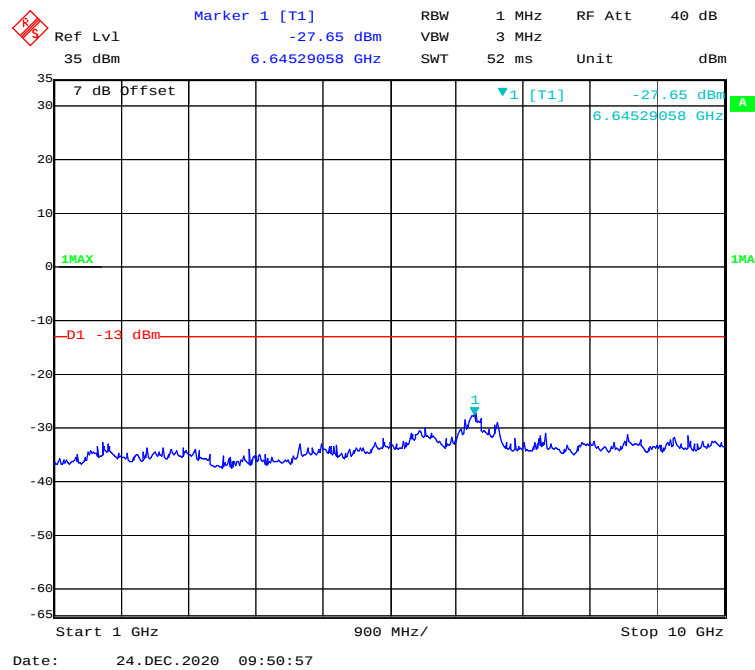
1 GHz – 10 GHz (EGPRS Mode)), Low channel

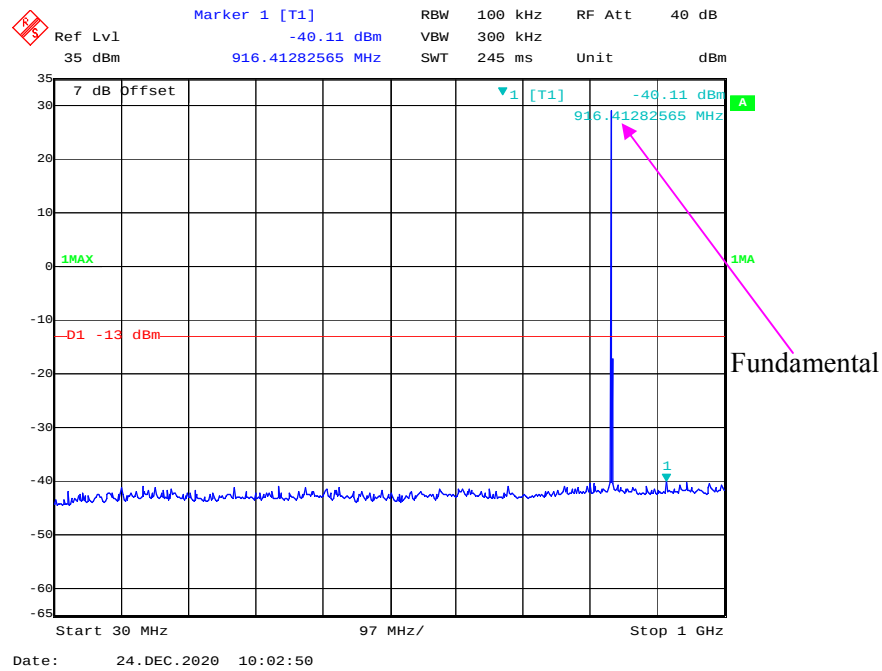
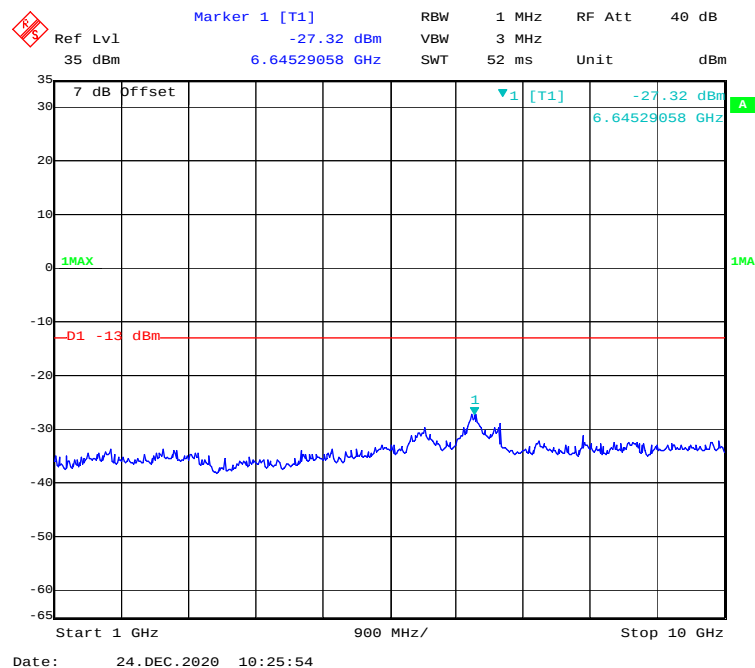


30 MHz – 1GHz(GPRS Mode)), Middle channel

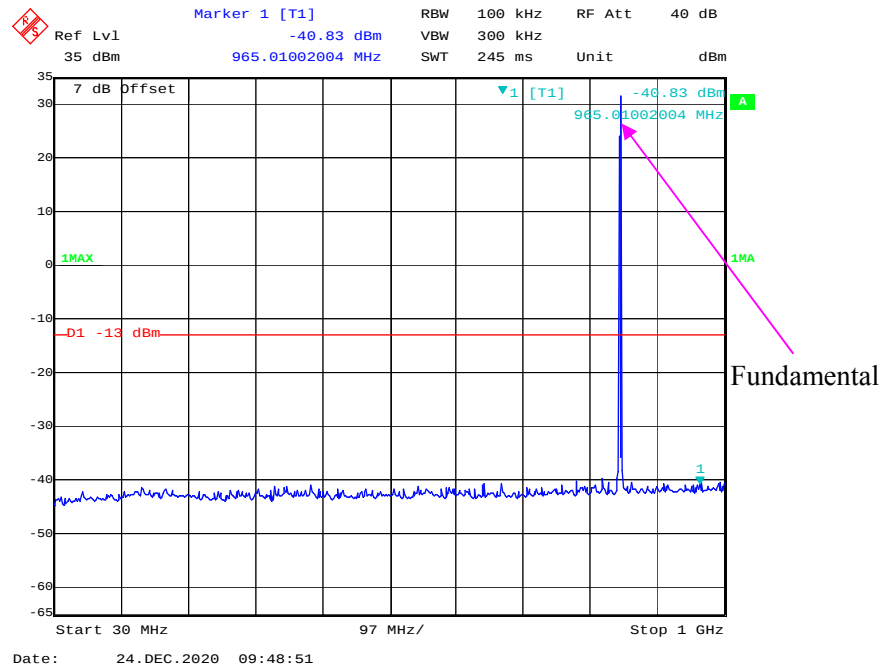


1 GHz – 10 GHz (GPRS Mode)), Middle channel

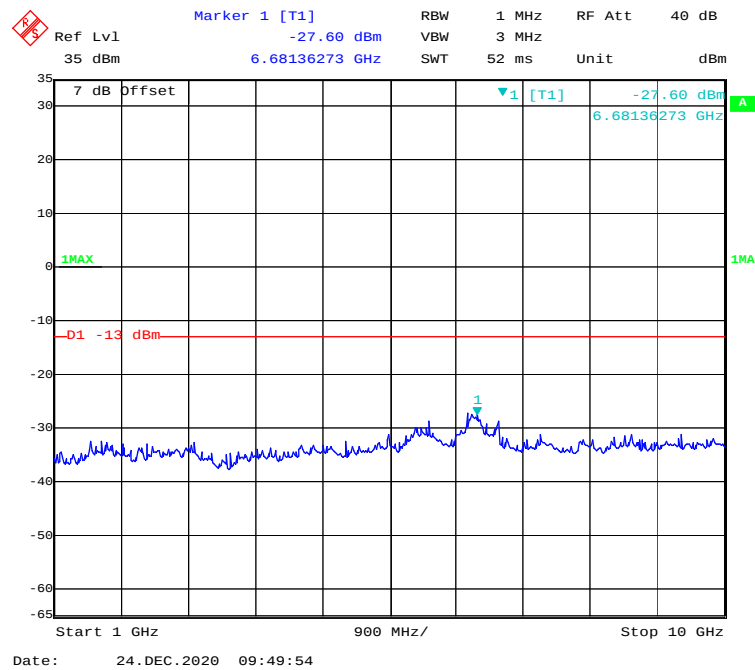


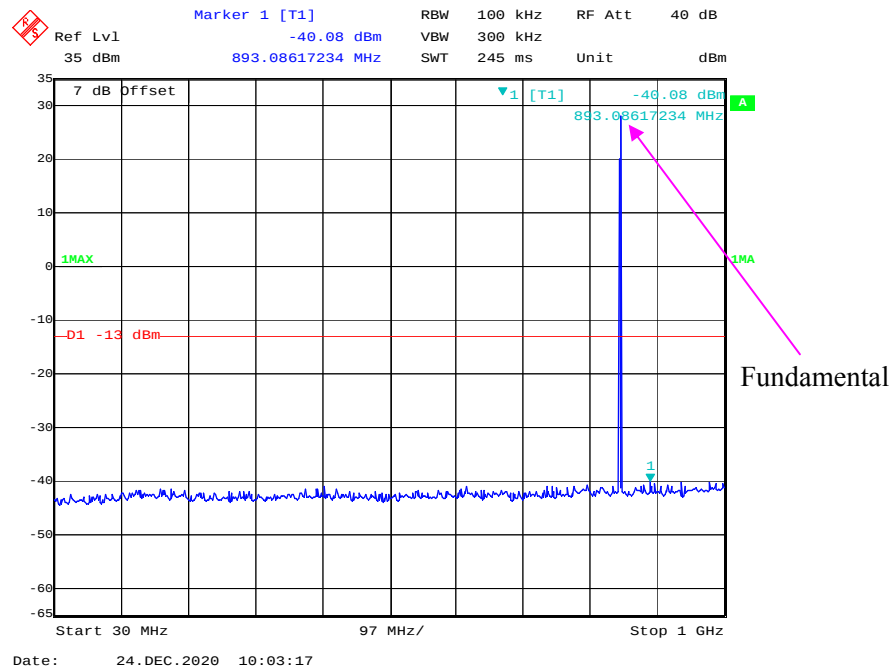
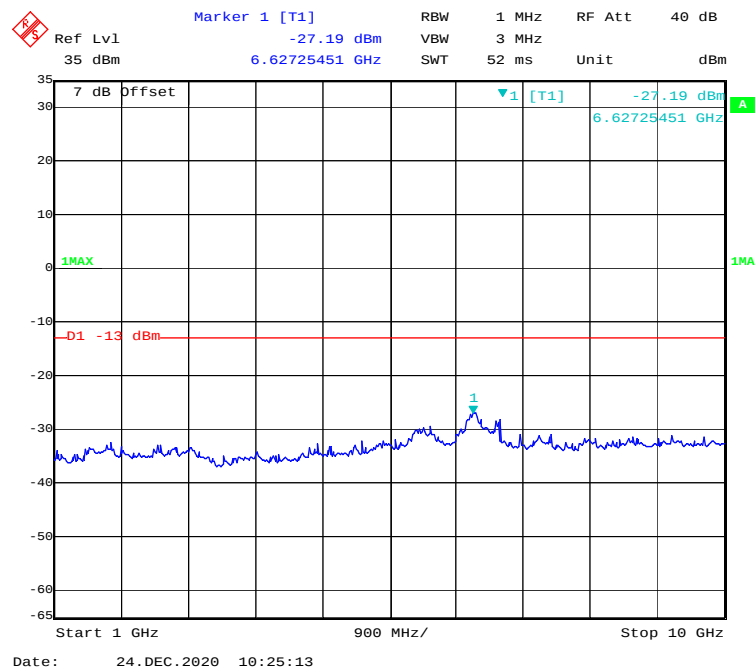
30 MHz – 1GHz(EGPRS Mode) , Middle channel**1 GHz – 10 GHz (EGPRS Mode), Middle channel**

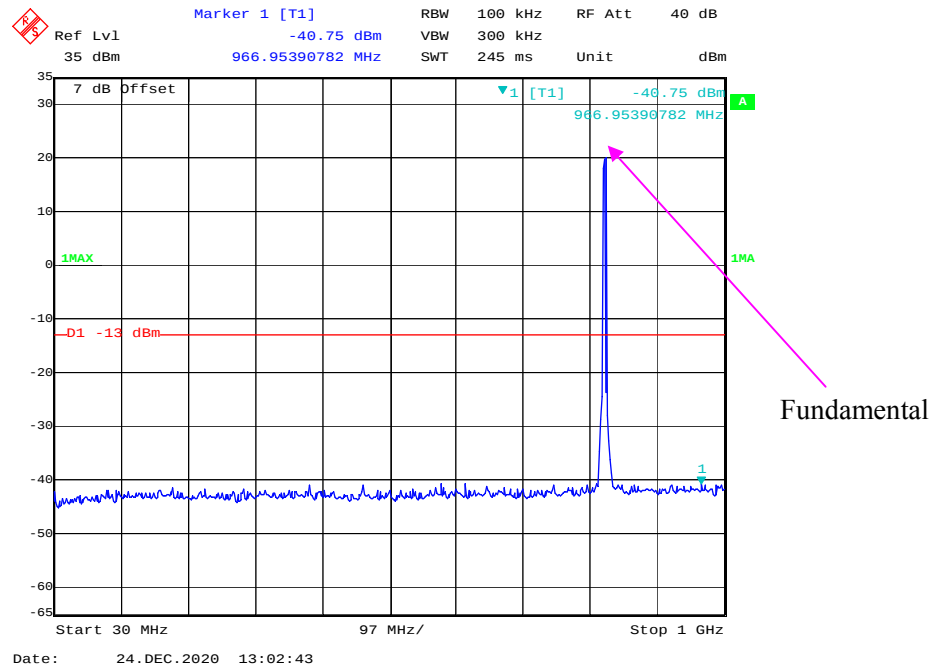
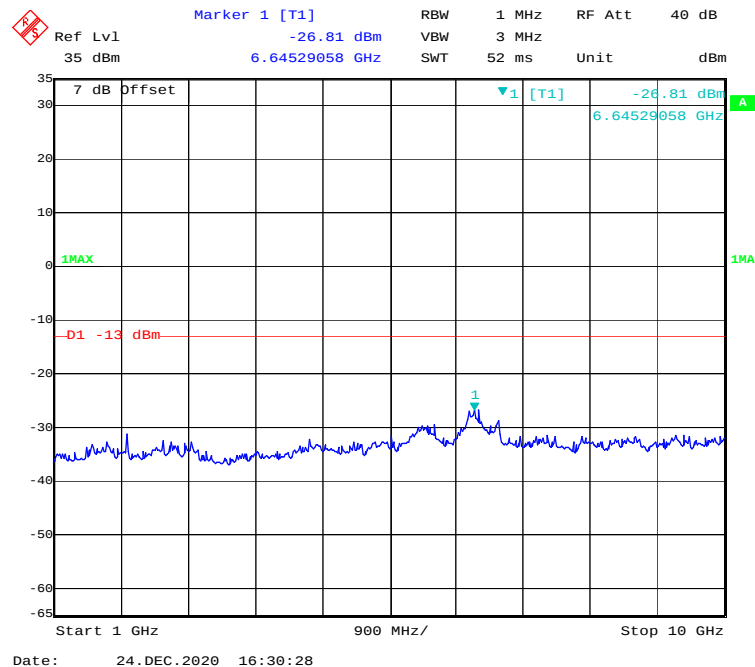
30 MHz – 1GHz(GPRS Mode), High channel



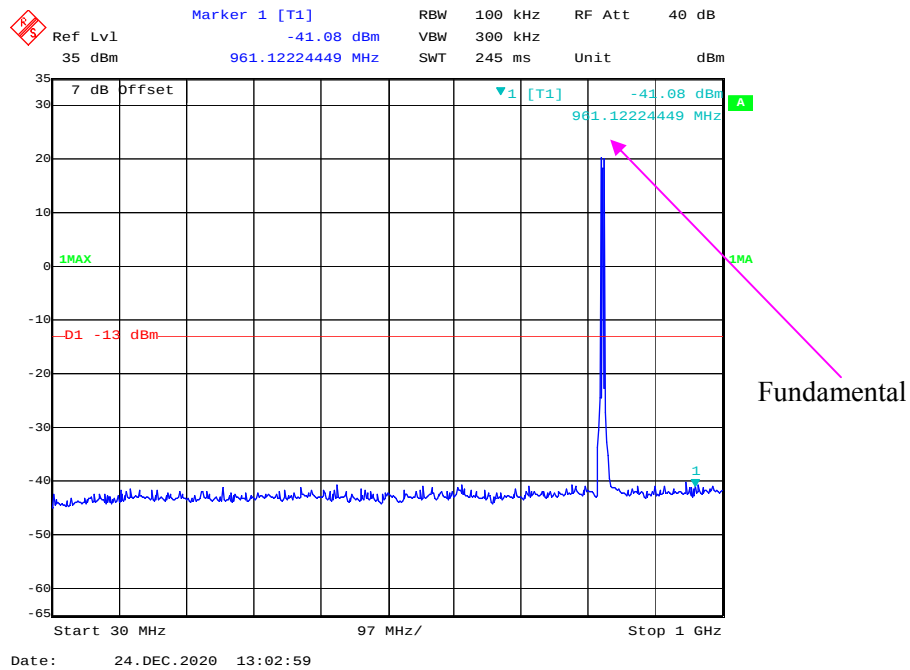
1 GHz – 10 GHz (GPRS Mode), High channel



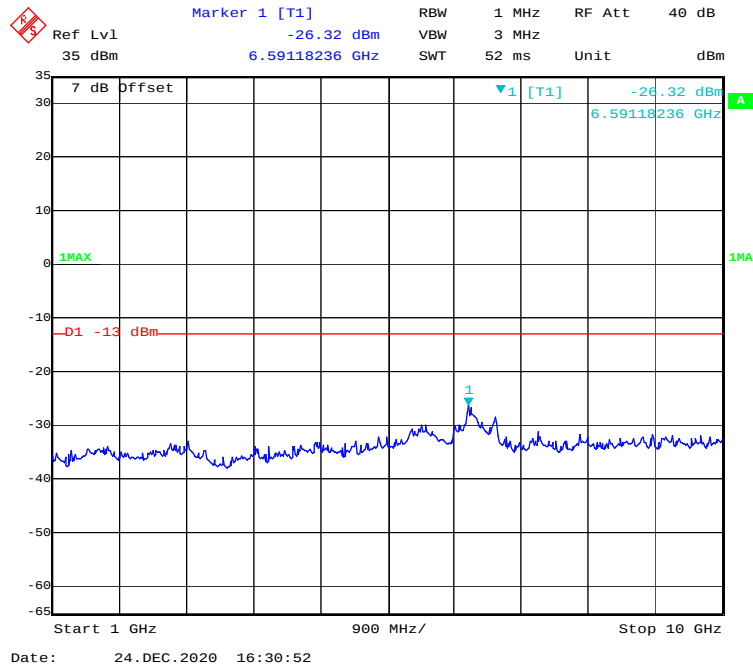
30 MHz – 1GHz(EGPRS Mode), High channel**1 GHz – 10 GHz (EGPRS Mode), High channel**

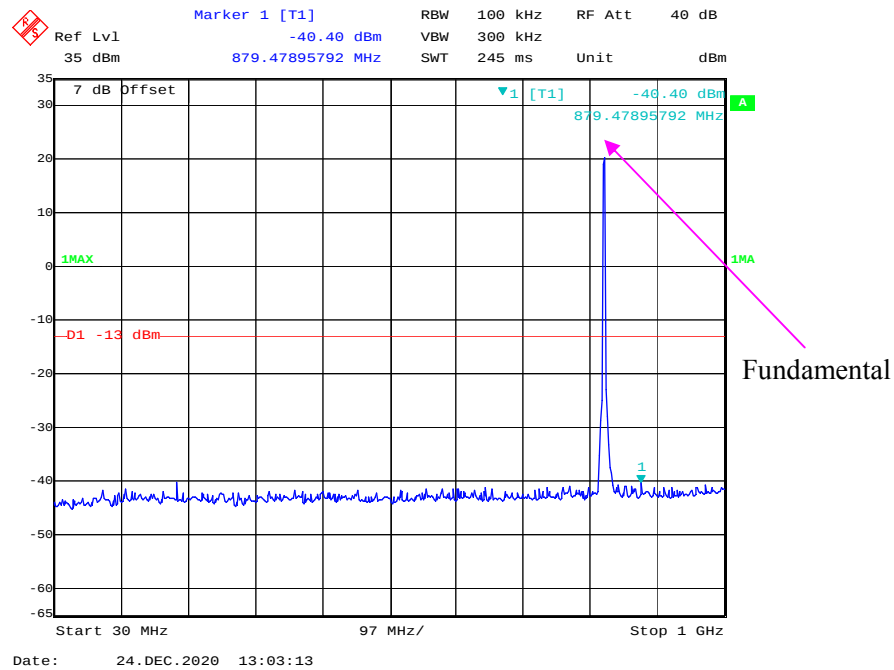
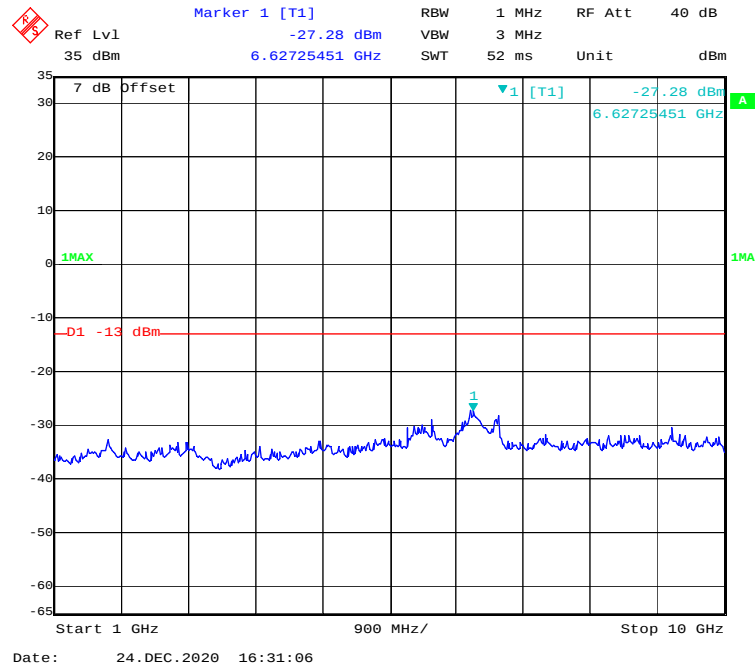
WCDMA Band V:**30 MHz – 1GHz WCDMA (Rel 99) Mode, Low channel****1 GHz – 10 GHz WCDMA (Rel 99) Mode, Low channel**

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

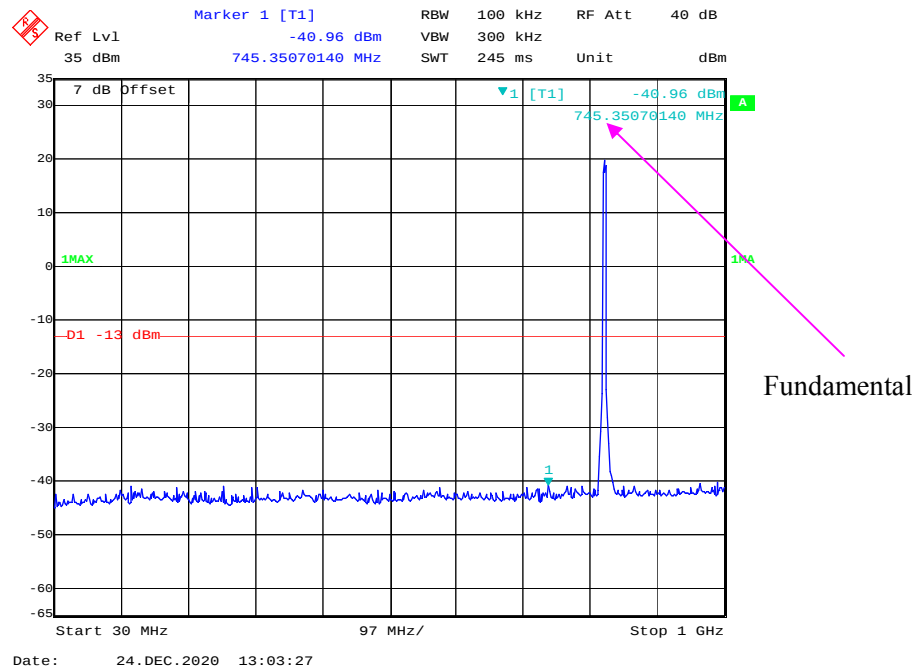


1 GHz – 10 GHz WCDMA (HSDPA) Mode, Low channel

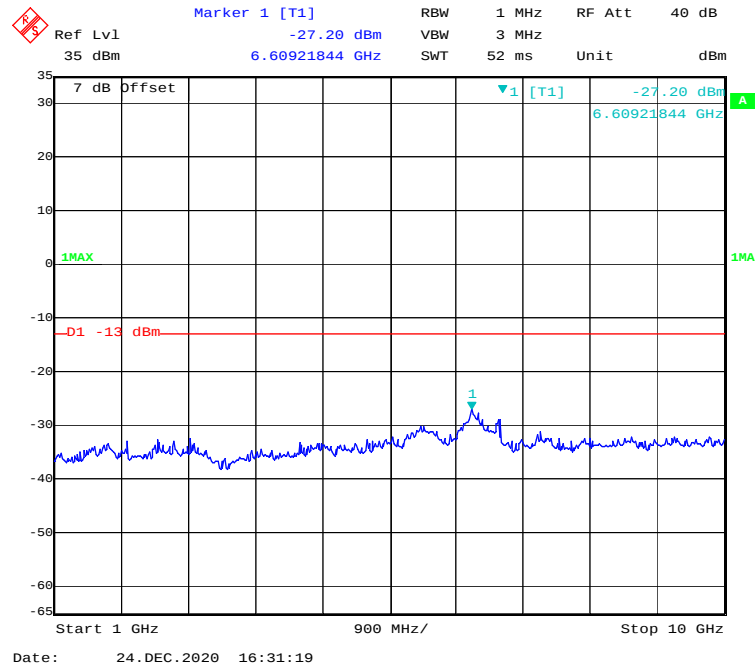


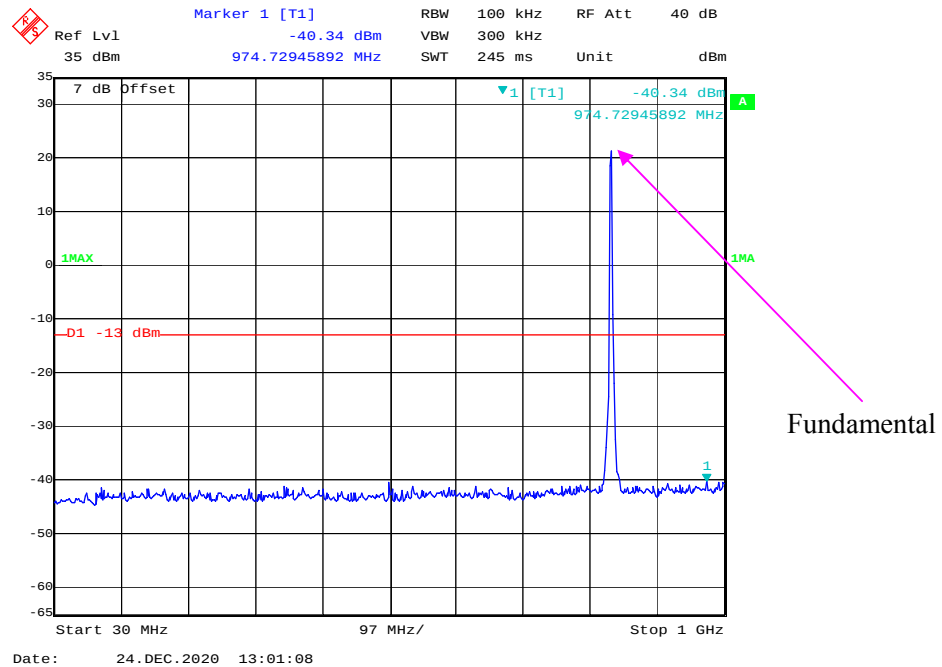
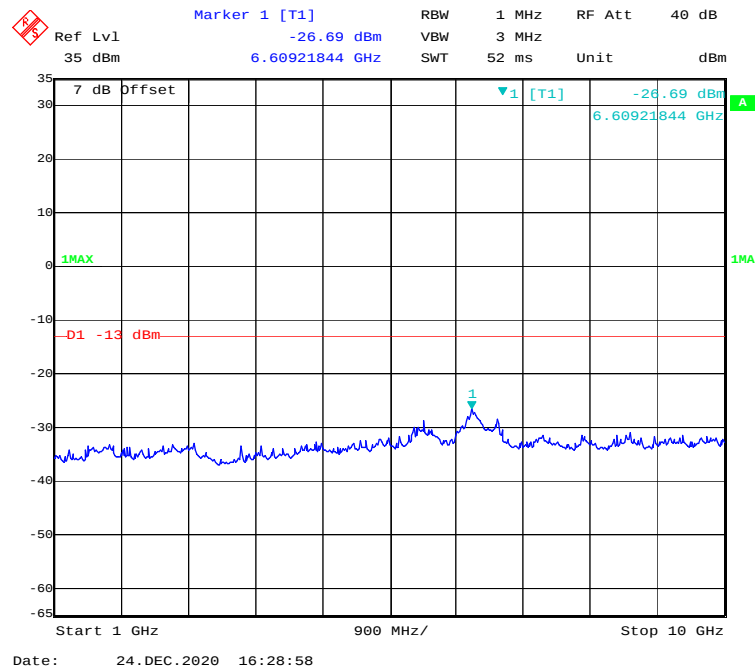
30 MHz – 1GHz WCDMA (HSUPA) Mode, Low channel**1 GHz – 10 GHz WCDMA (HSUPA) Mode, Low channel**

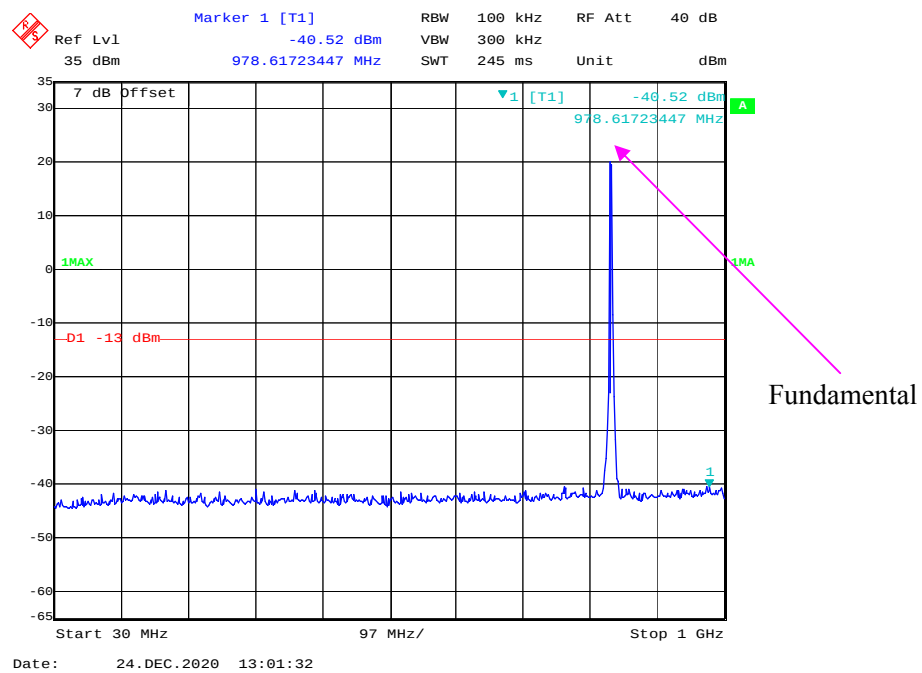
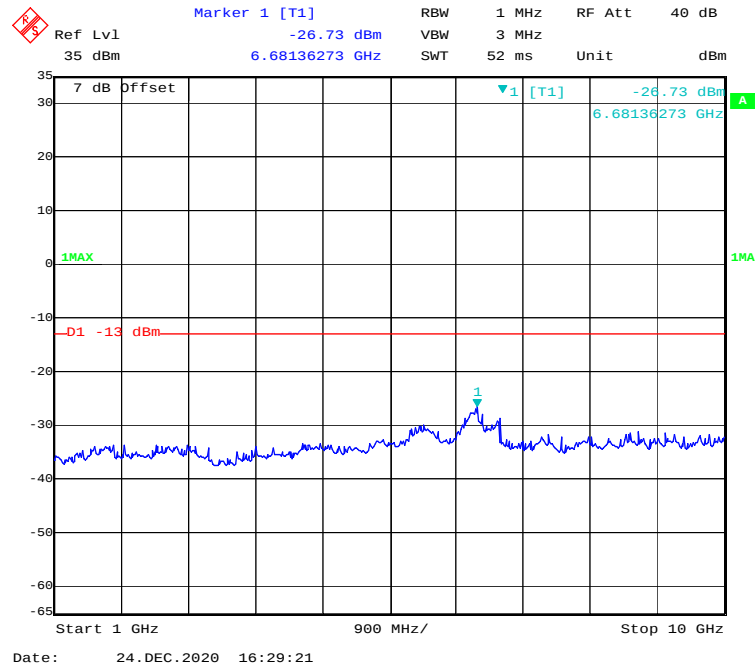
30 MHz – 1GHz WCDMA (HSPA+) Mode, Low channel



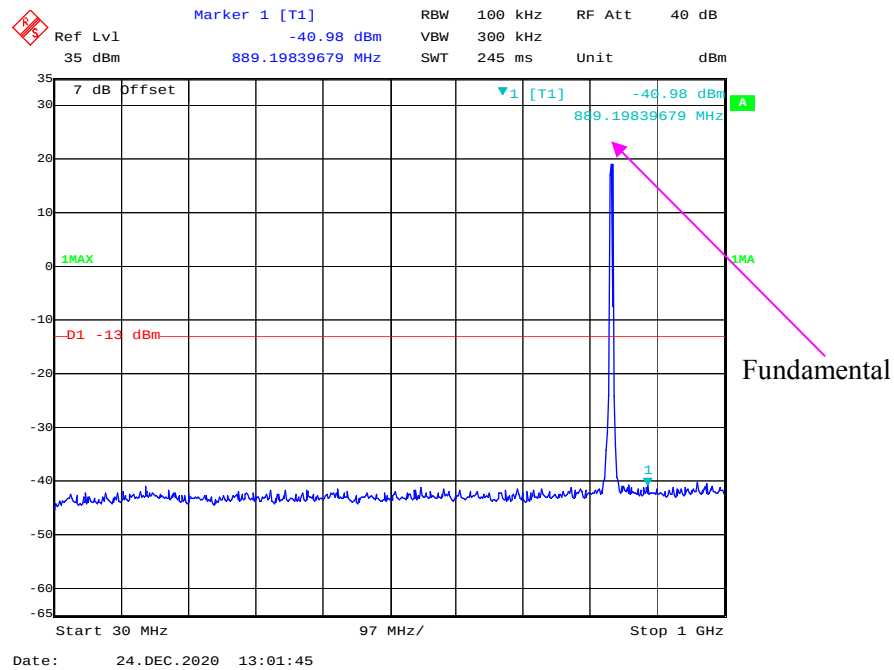
1 GHz – 10 GHz WCDMA (HSPA+) Mode, Low channel



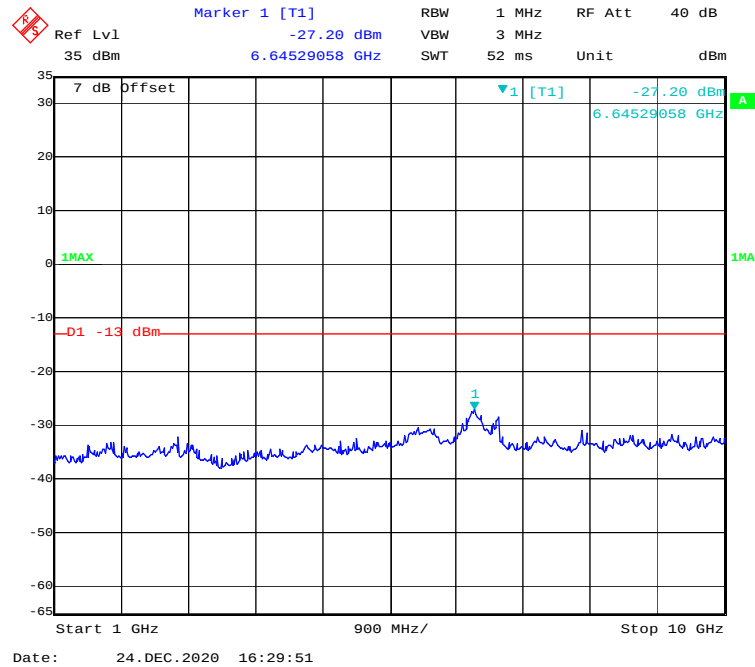
30 MHz – 1GHz WCDMA (Rel 99) Mode, Middle channel**1 GHz – 10 GHz WCDMA (Rel 99) Mode, Middle channel**

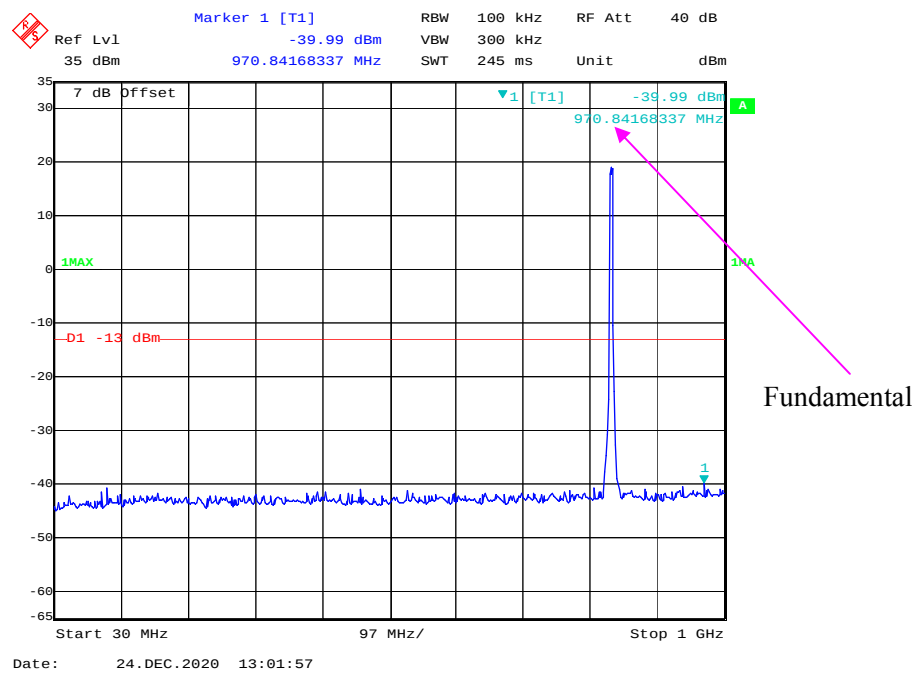
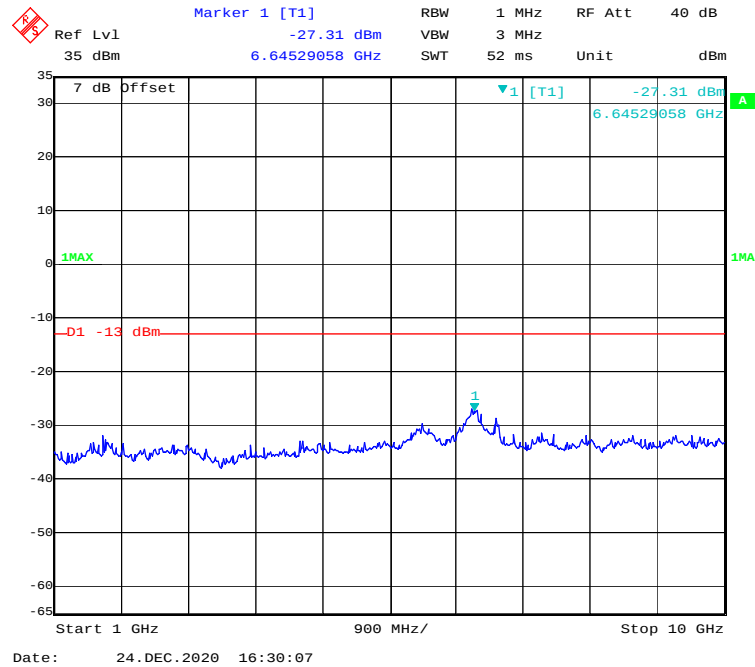
30 MHz – 1GHz WCDMA (HSDPA) Mode, Middle channel**1 GHz – 10 GHz WCDMA (HSDPA) Mode, Middle channel**

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

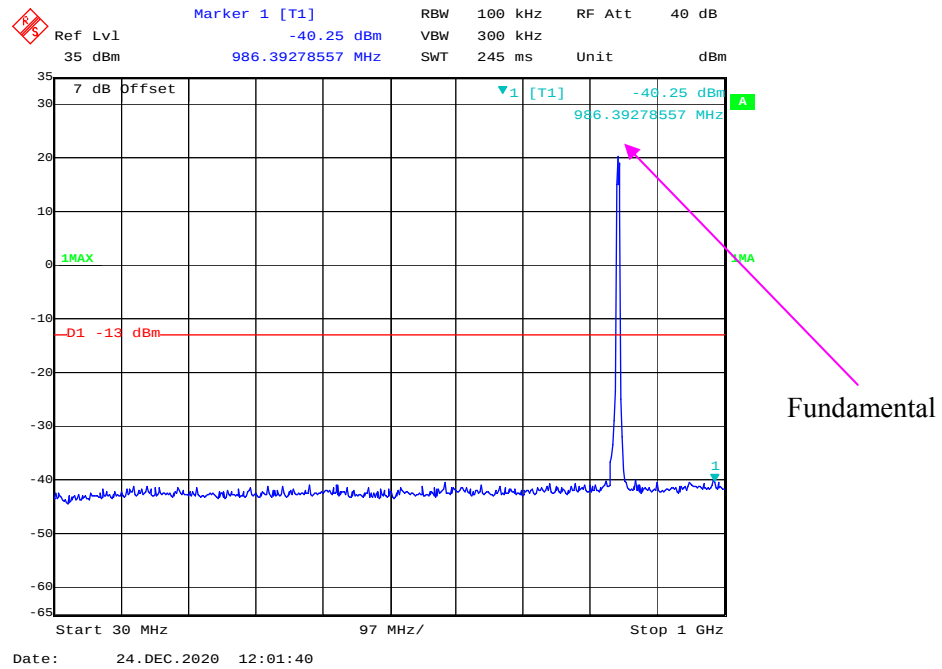


1 GHz – 10 GHz WCDMA (HSUPA) Mode, Middle channel

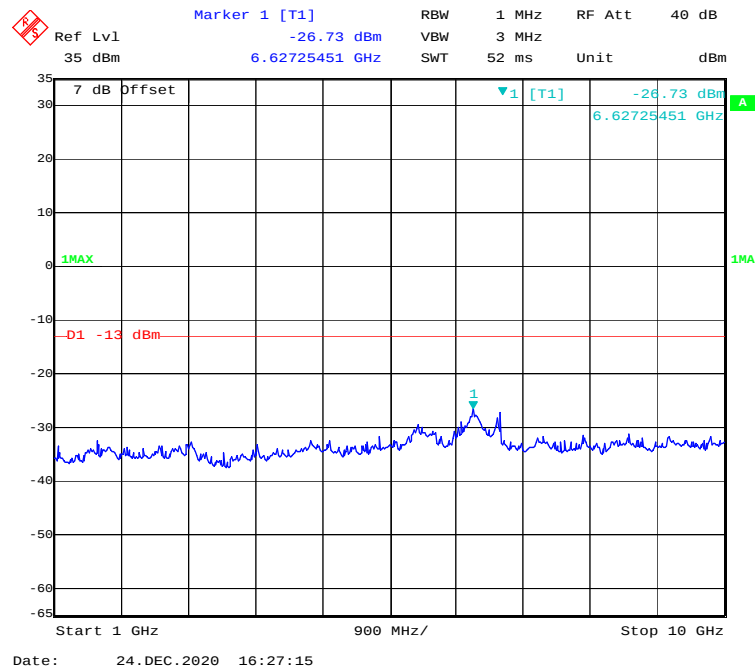


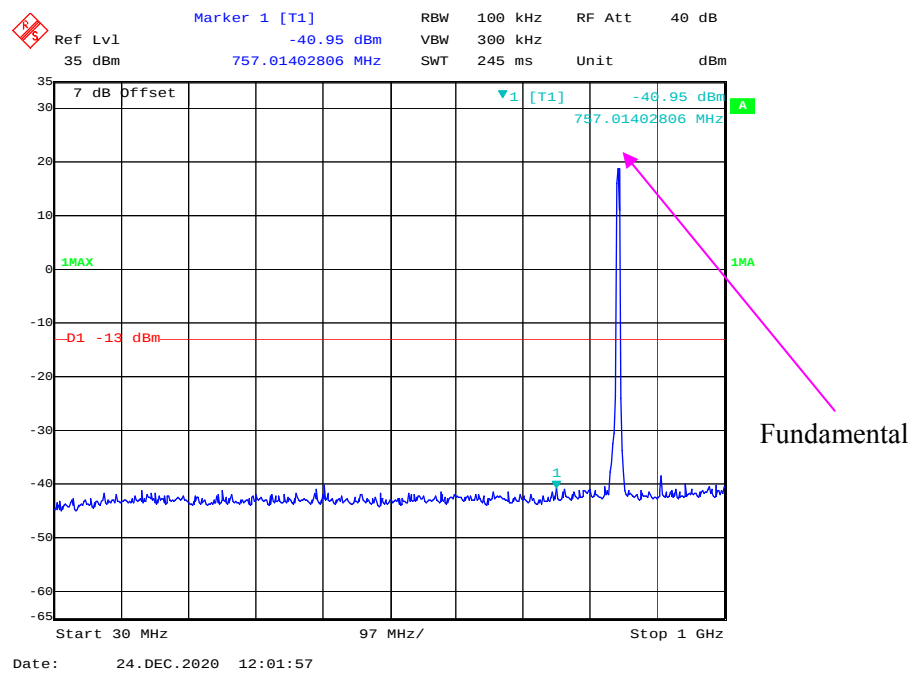
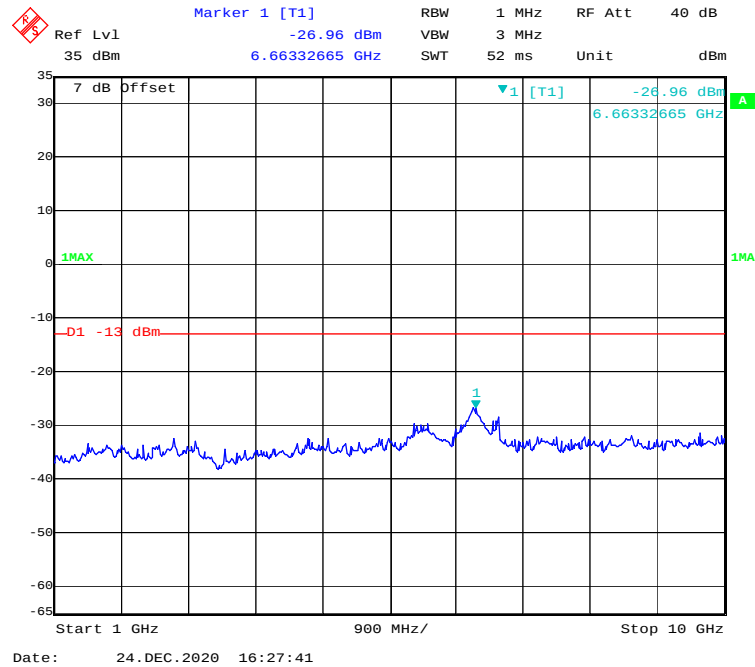
30 MHz – 1GHz WCDMA (HSPA+) Mode, Middle channel**1 GHz – 10 GHz WCDMA (HSPA+) Mode, Middle channel**

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

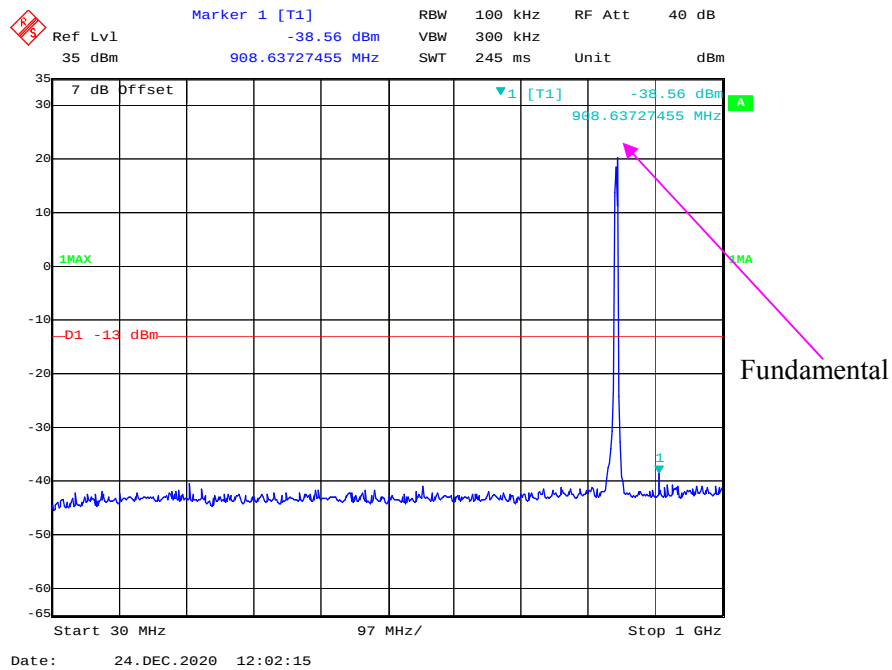


1 GHz – 10 GHz WCDMA (Rel 99) Mode, High channel

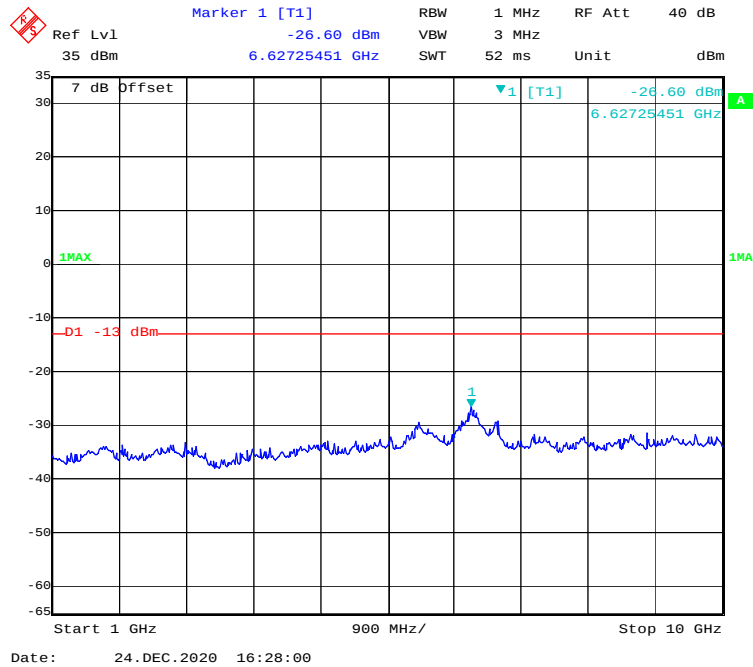


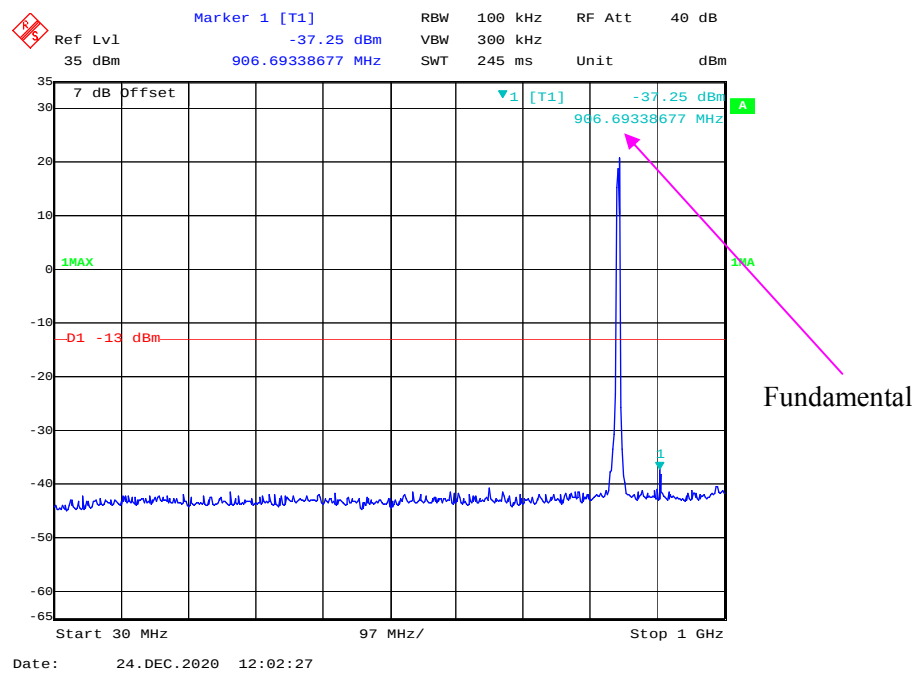
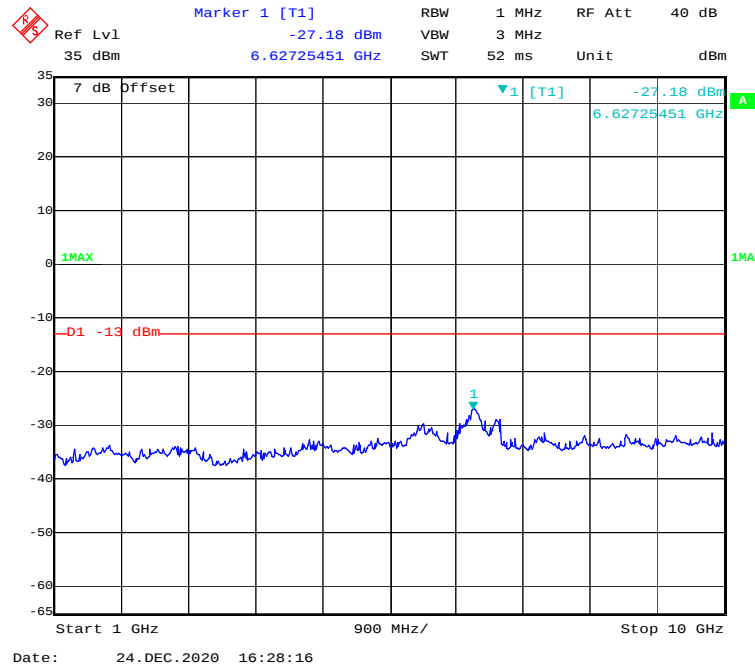
30 MHz – 1GHz WCDMA (HSDPA) Mode, High channel**1 GHz – 10 GHz WCDMA (HSDPA) Mode, High channel**

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



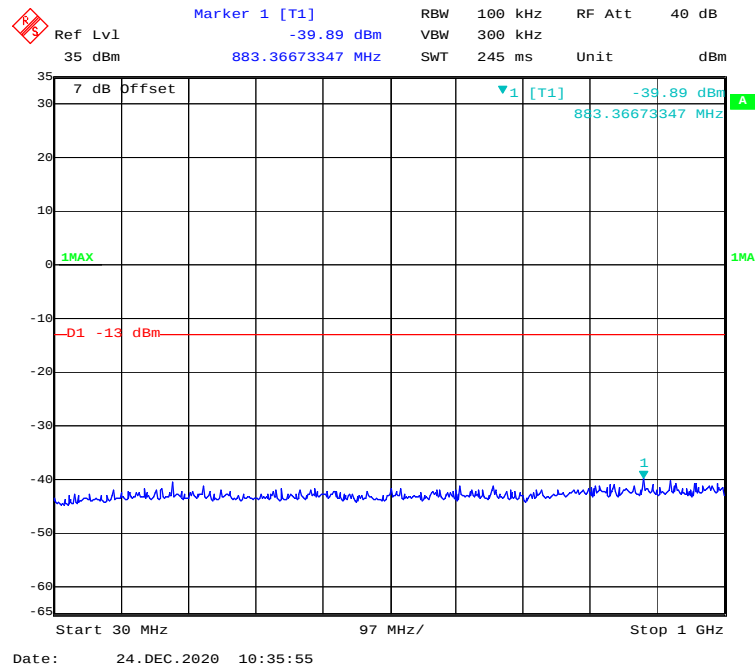
1 GHz – 10 GHz WCDMA (HSUPA) Mode, High channel



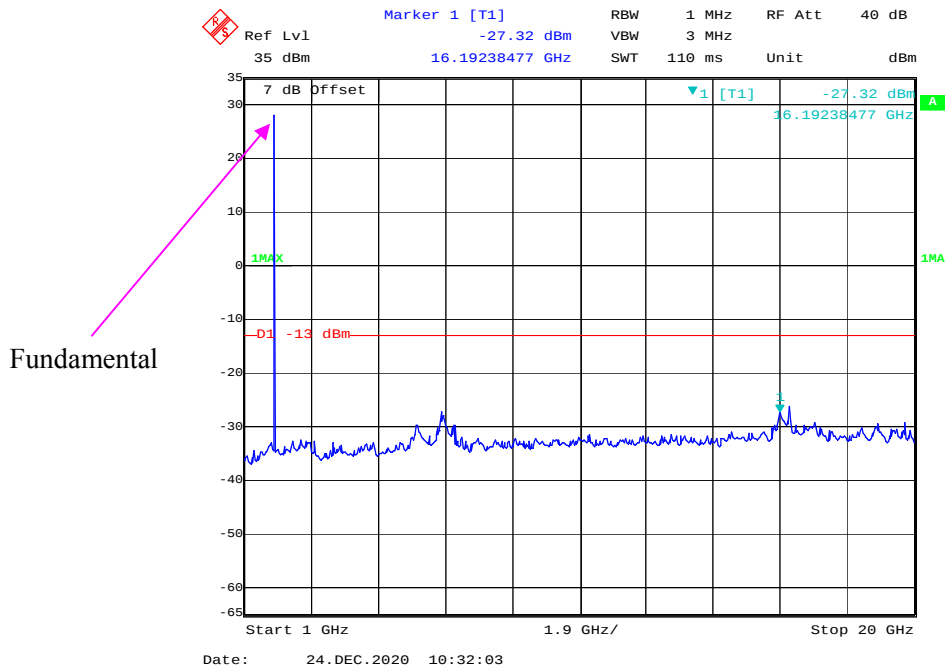
30 MHz – 1GHz WCDMA (HSPA+) Mode, High channel**1 GHz – 10 GHz WCDMA (HSPA+) Mode, High channel**

PCS 1900 Band:

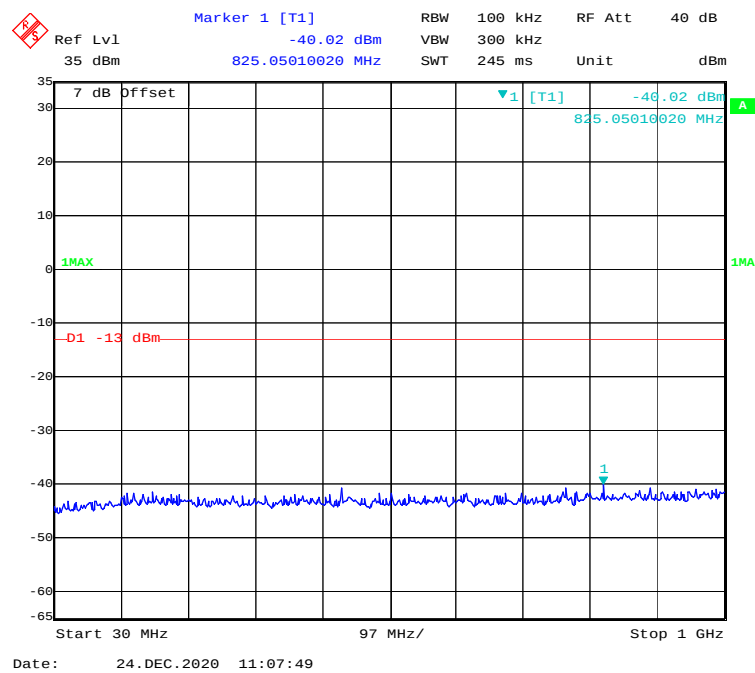
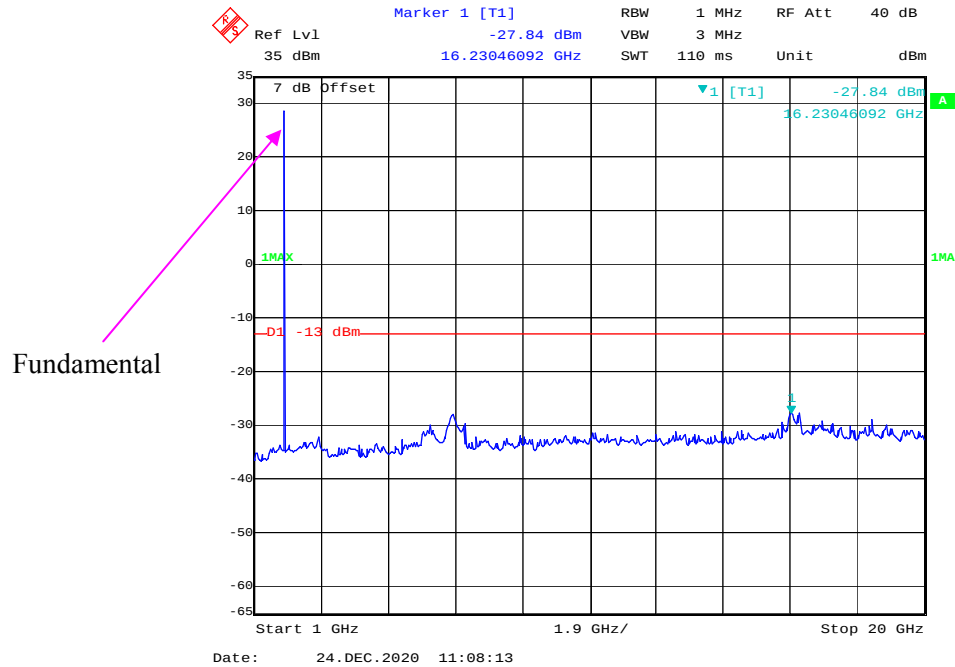
30 MHz – 1GHz(GPRS Mode) , Low channel

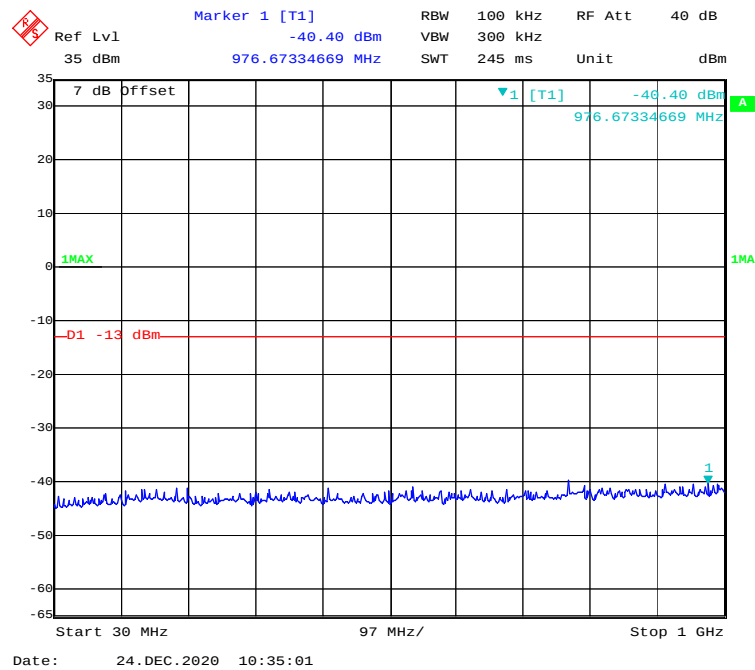
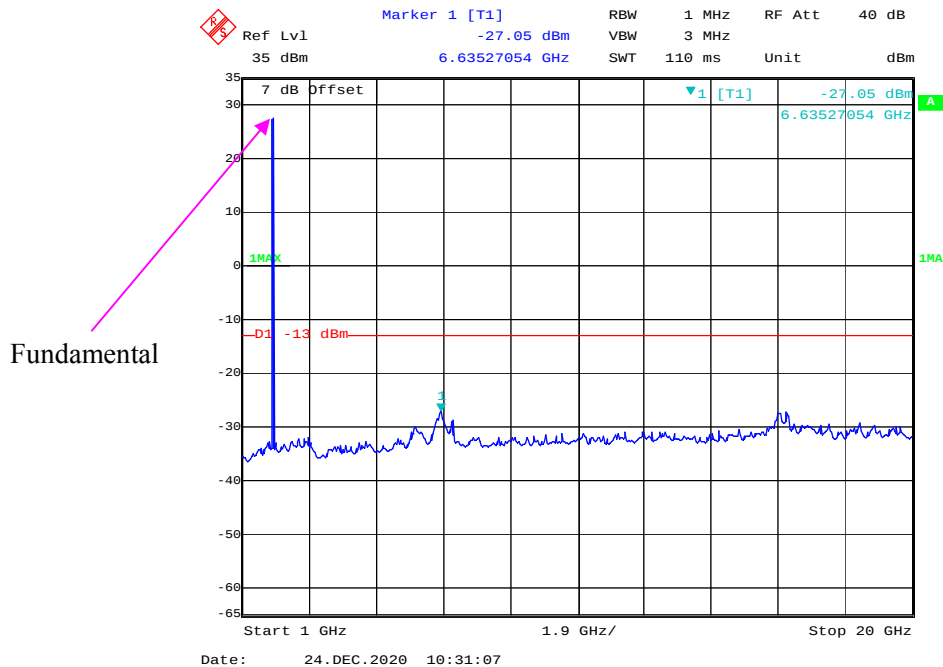


1 GHz – 20 GHz (GPRS Mode) , Low channel

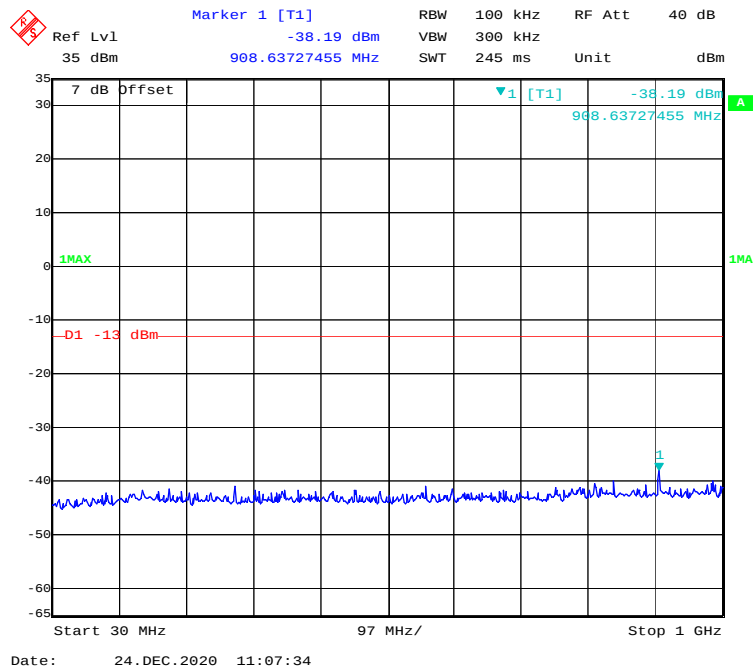


Fundamental

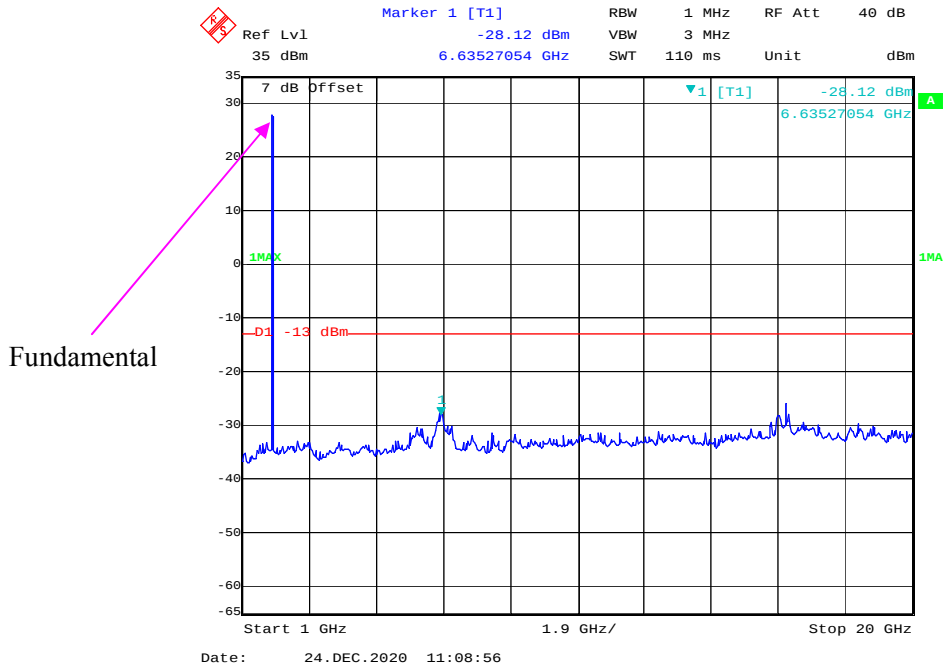
30 MHz – 1GHz(EGPRS Mode) , Low channel**1 GHz – 20 GHz (EGPRS Mode) , Low channel**

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

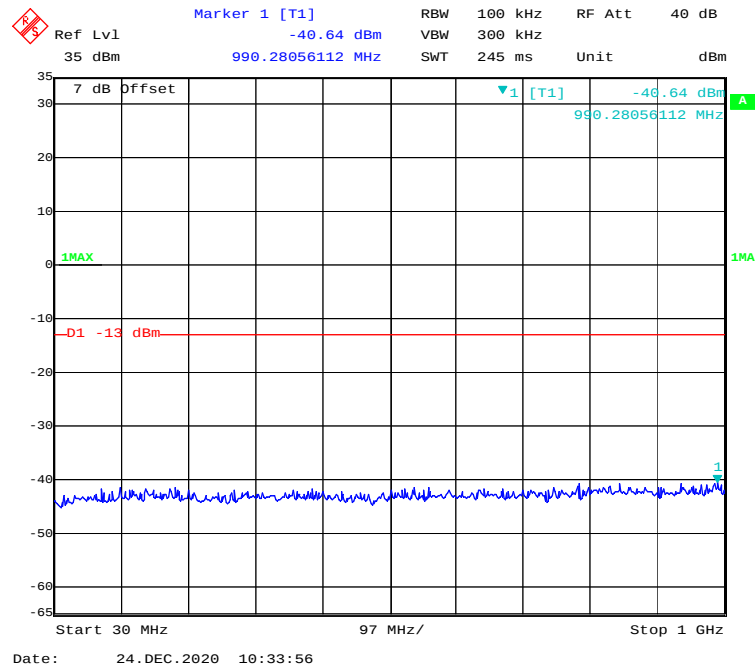
30 MHz – 1GHz(EGPRS Mode) , Middle channel



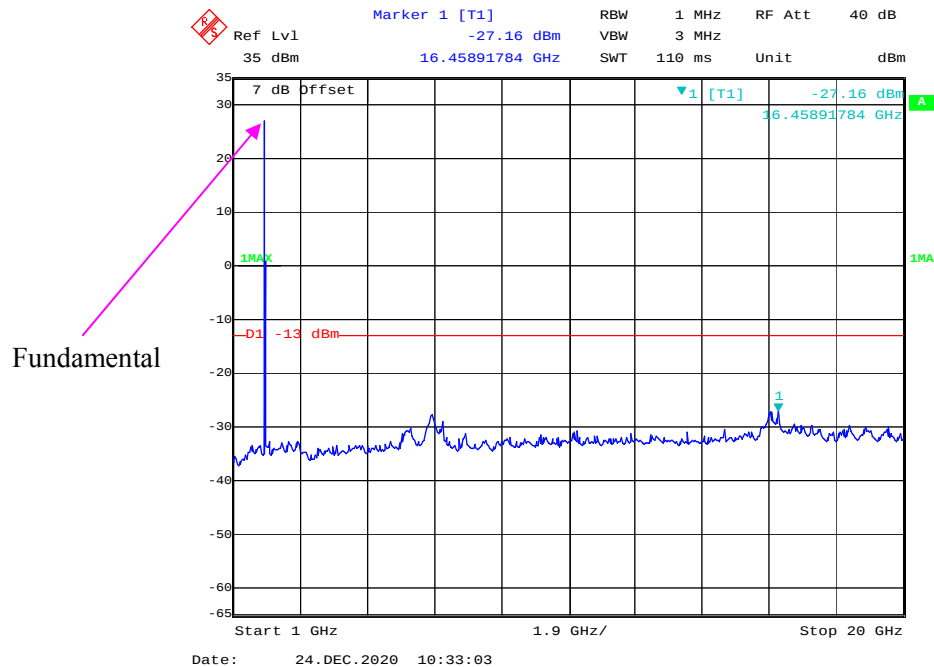
1 GHz – 20 GHz (EGPRS Mode) , Middle channel



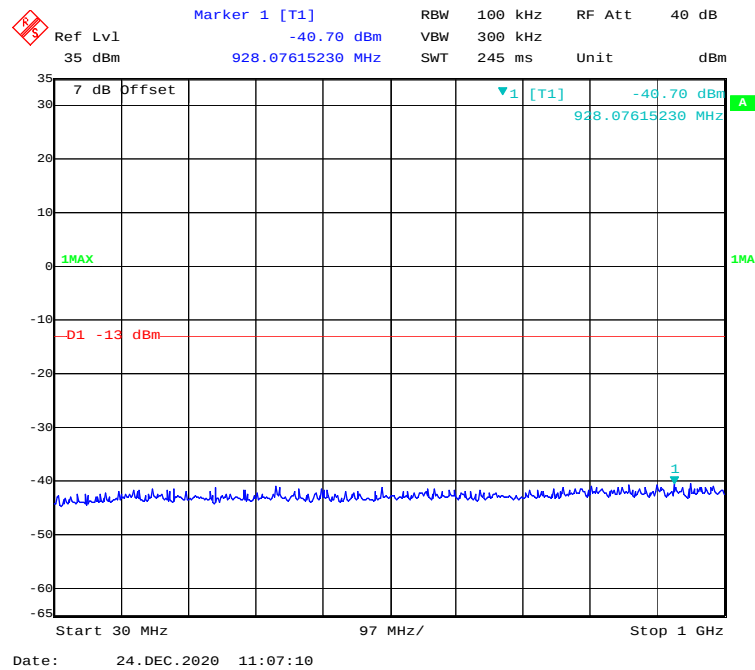
30 MHz – 1GHz(GPRS Mode) , High channel



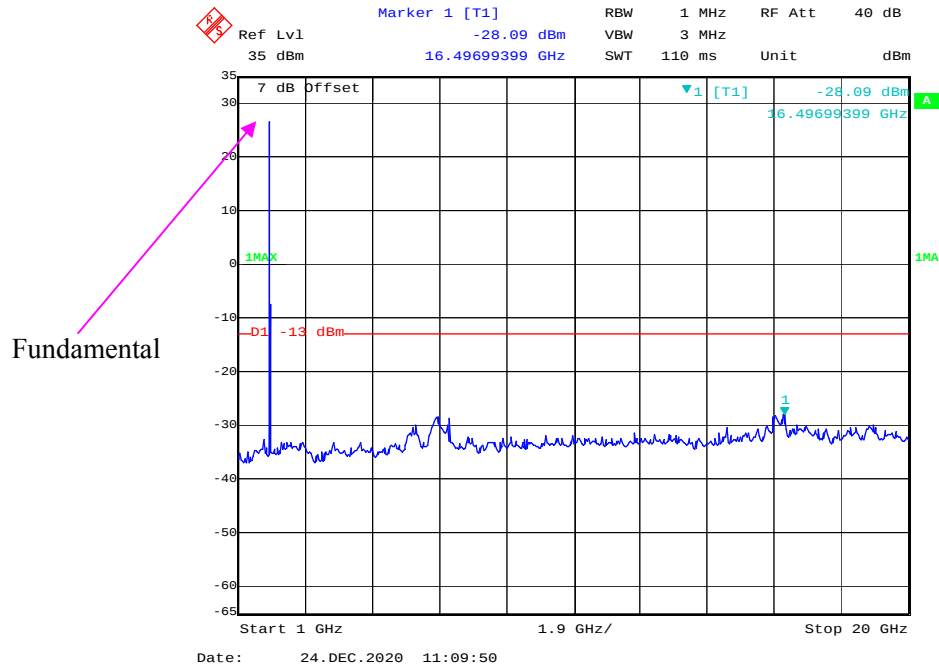
1 GHz – 20 GHz (GPRS Mode) , High channel



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

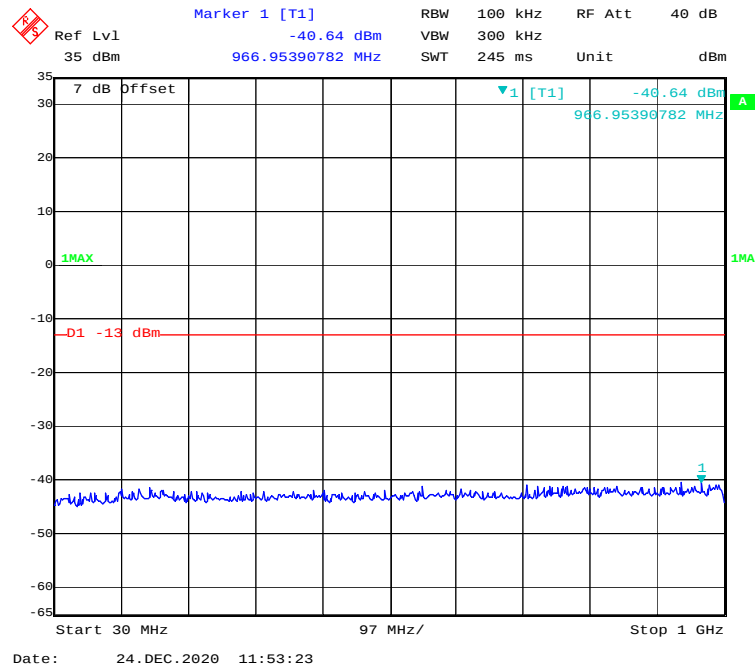


1 GHz – 20 GHz (EGPRS Mode) , High channel

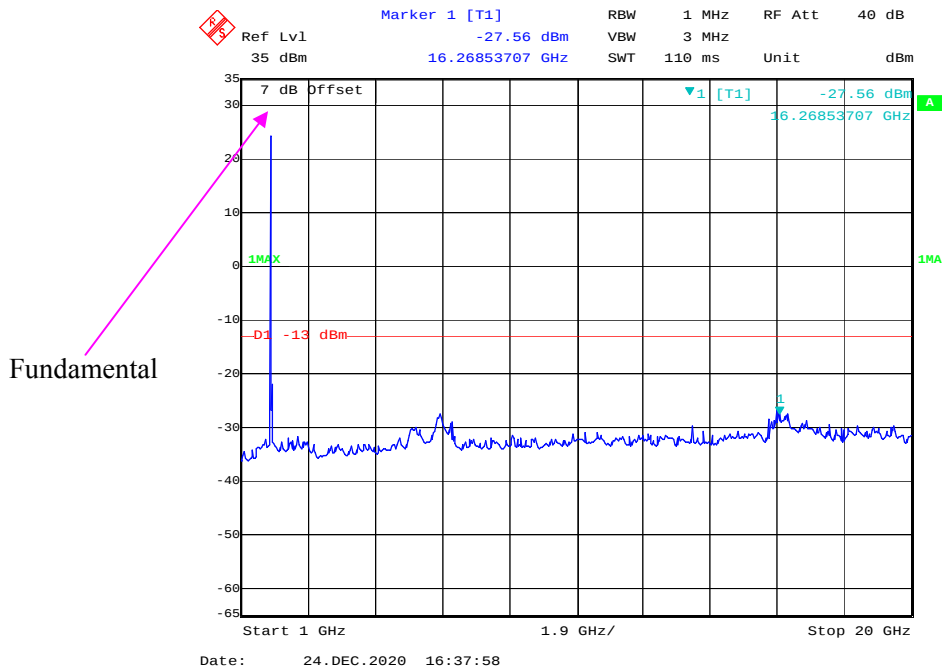


WCDMA Band II:

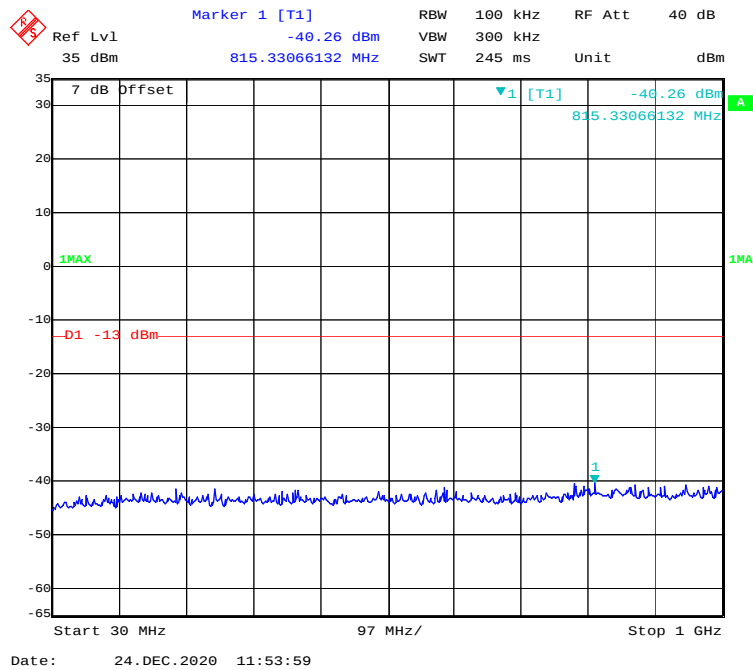
30 MHz – 1GHz WCDMA (Rel 99) Mode , Low channel



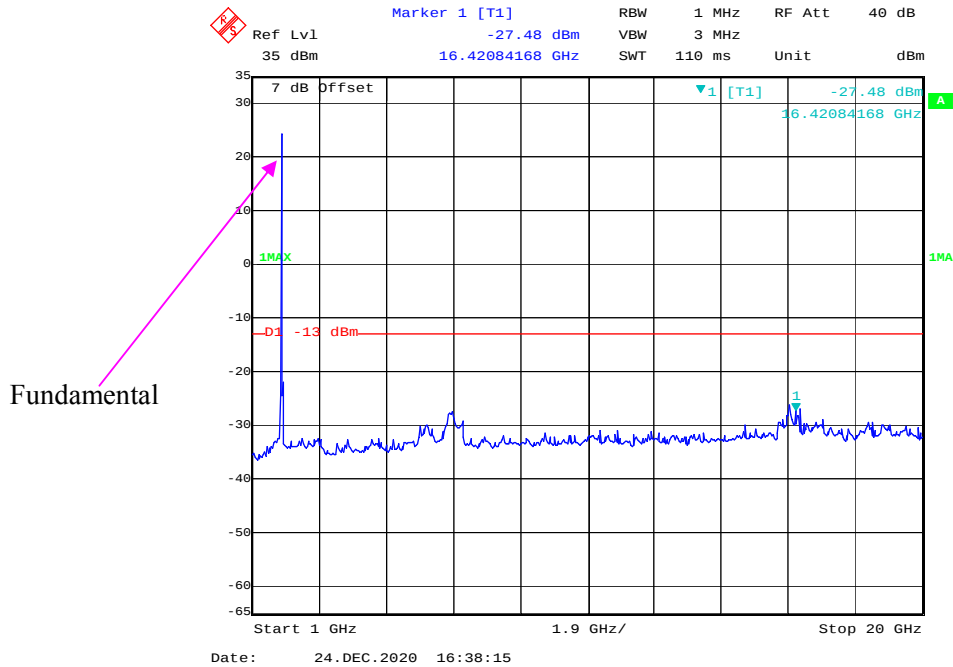
1 GHz – 20 GHz WCDMA (Rel 99) Mode , Low channel



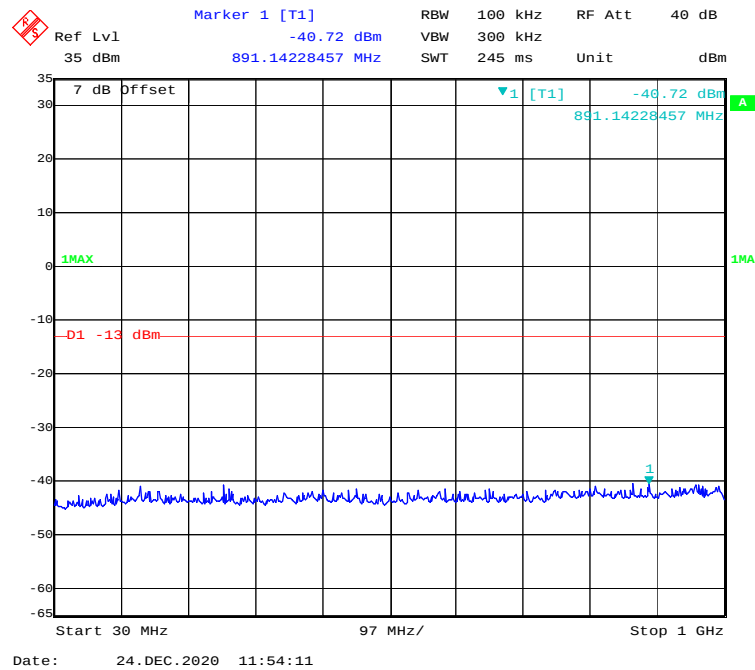
30 MHz – 1GHz WCDMA (HSDPA) Mode , Low channel



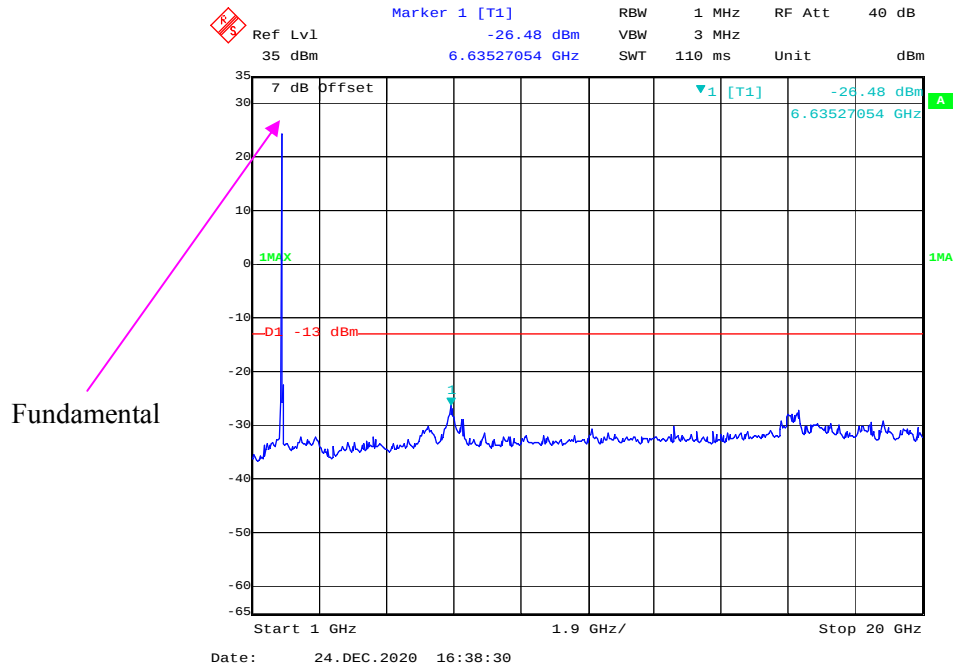
1 GHz – 20 GHz WCDMA (HSDPA) Mode , Low channel



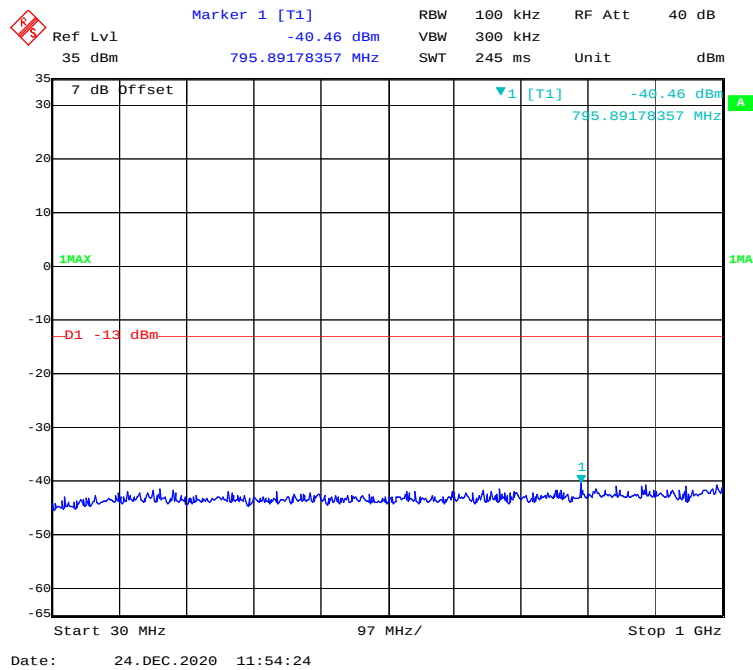
30 MHz – 1GHz WCDMA (HSUPA) Mode , Low channel



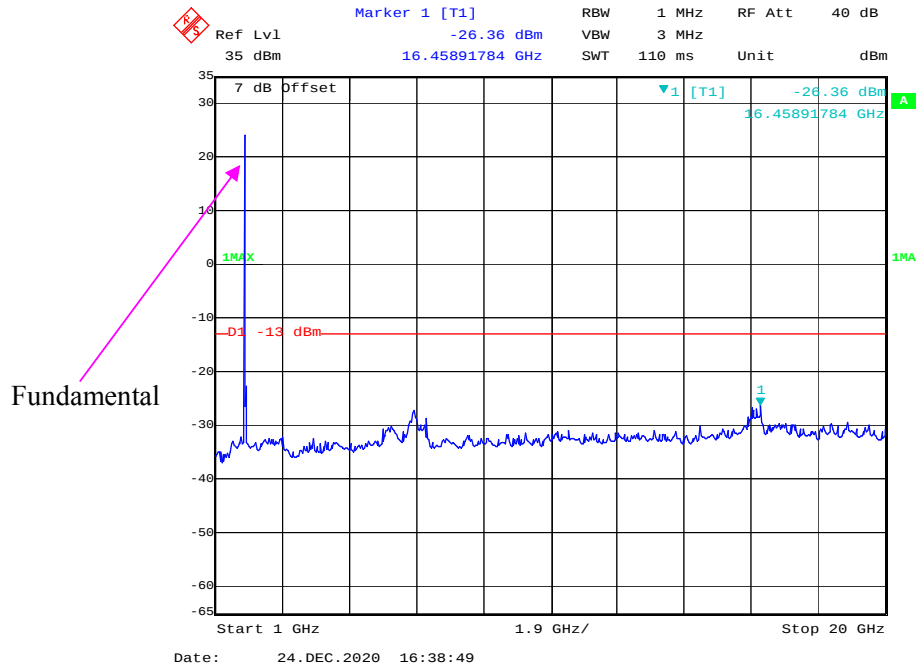
1 GHz – 20 GHz WCDMA (HSUPA) Mode , Low channel



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



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



Marker 1 [T1]
Ref Lvl -46.98 dBm
35 dBm 858.09619238 MHz
RBW 100 kHz RF Att 40 dB
VBW 300 kHz
SWT 245 ms Unit dBm

7 dB Offset
▼1 [T1] -46.98 dBm
858.09619238 MHz
1MAX
-13 dBm
1
Start 30 MHz 97 MHz/ Stop 1 GHz

Date: 24.DEC.2020 11:54:43

Ref Lvl 35 dBm

Marker 1 [T1] -27.30 dBm

RBW 1 MHz RF Att 40 dB

VBW 3 MHz

SWT 110 ms Unit dBm

7 dB Offset

1MAX

-D1 -13 dBm

1 [T1] -27.30 dBm

6.63527054 GHz

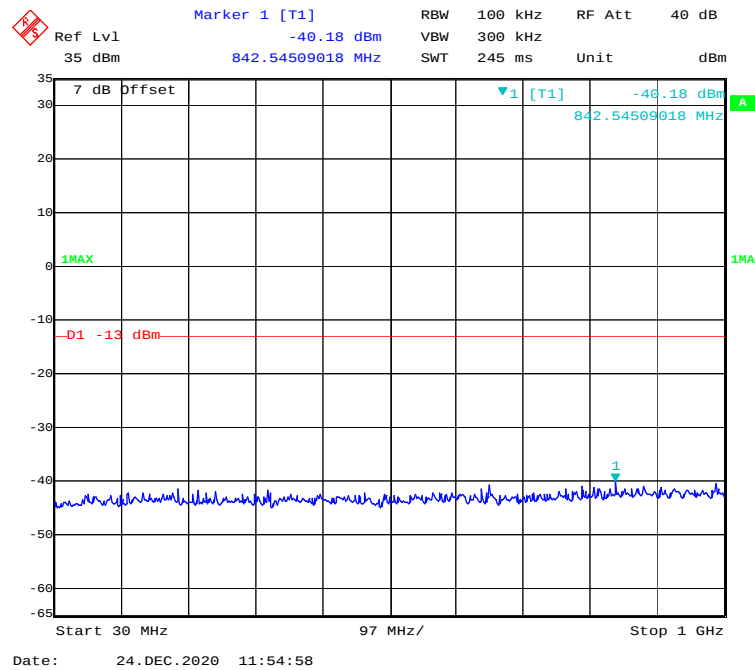
1MAX

Fundamental

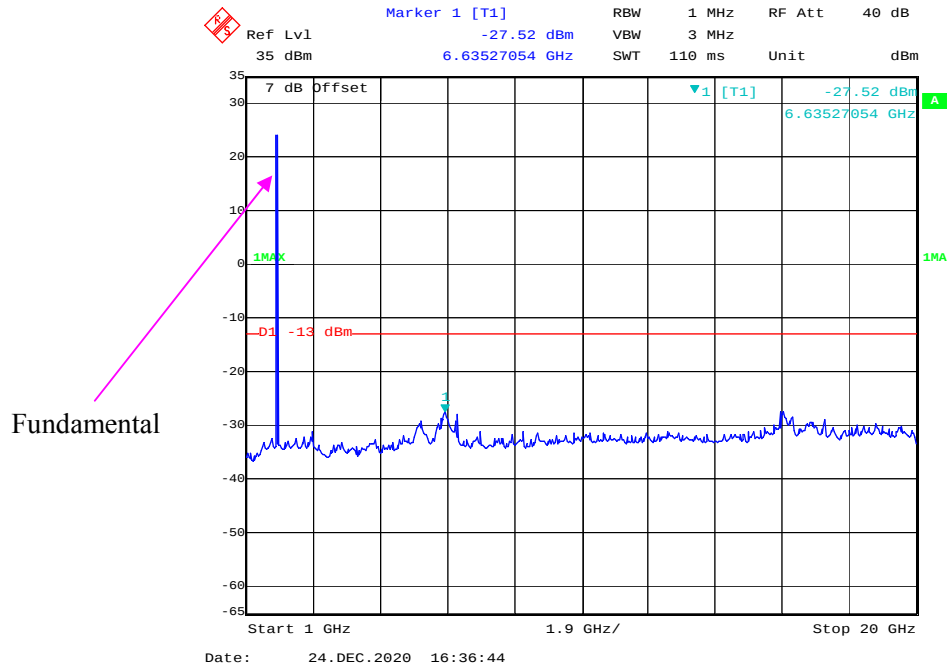
Start 1 GHz 1.9 GHz/ Stop 20 GHz

Date: 24.DEC.2020 16:36:28

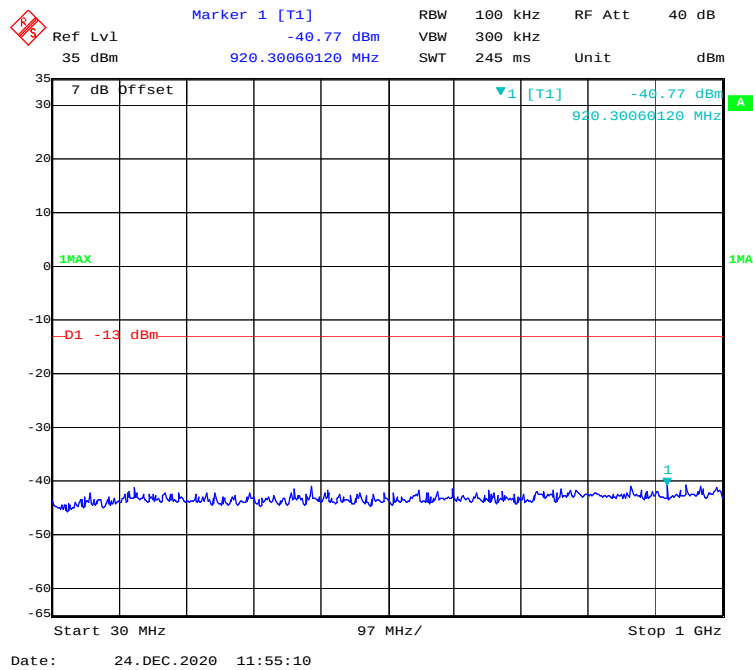
30 MHz – 1GHz WCDMA (HSDPA) Mode , Middle channel



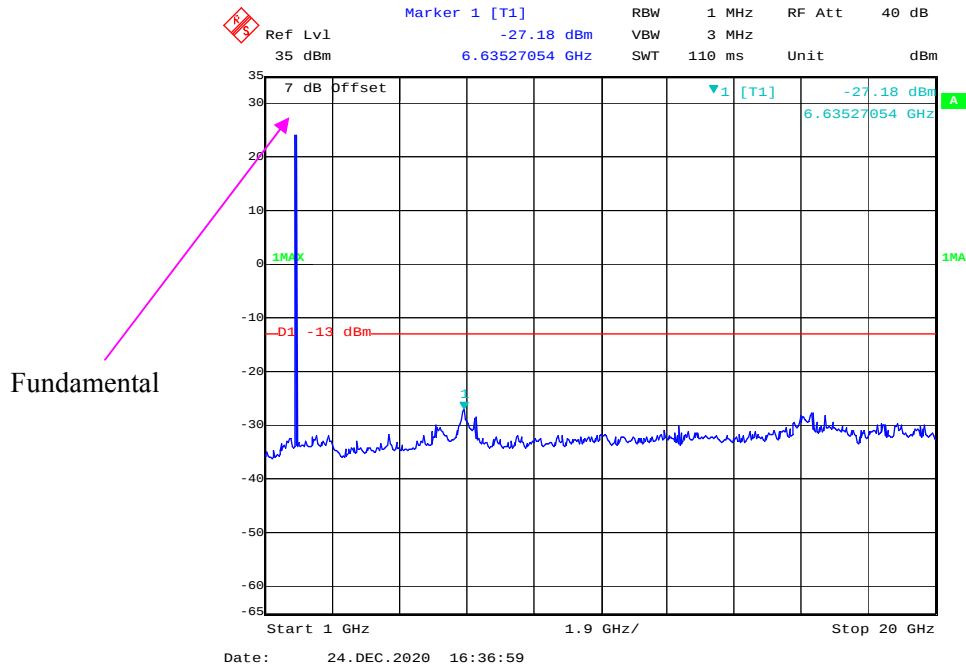
1 GHz – 20 GHz WCDMA (HSDPA) Mode , Middle channel



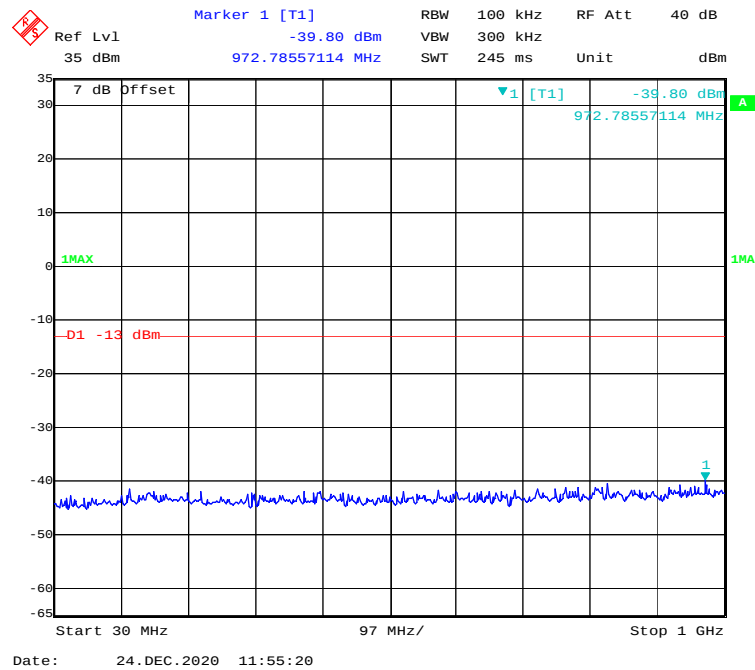
30 MHz – 1GHz WCDMA (HSUPA) Mode , Middle channel



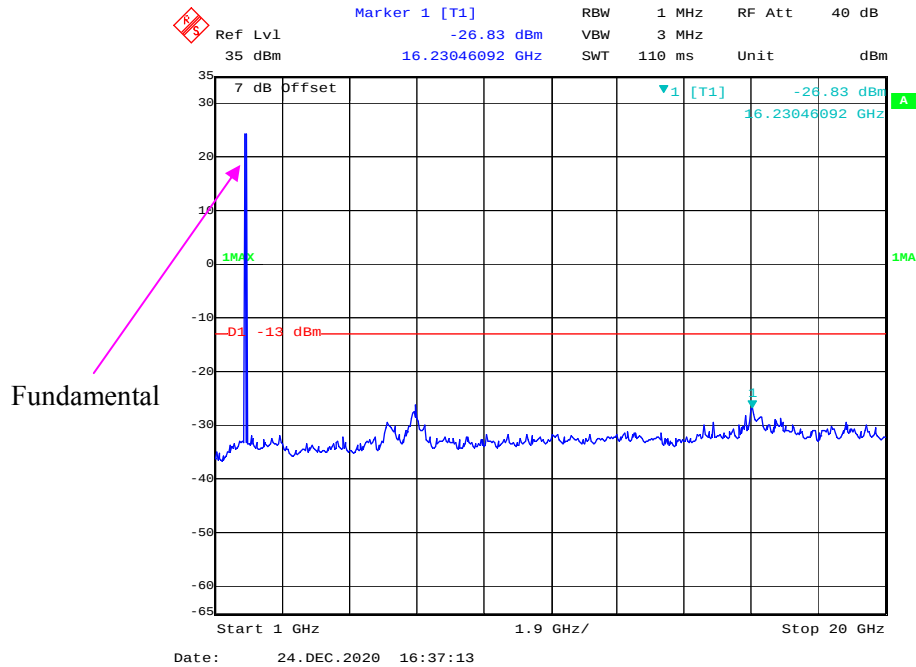
1 GHz – 20 GHz WCDMA (HSUPA) Mode , Middle channel

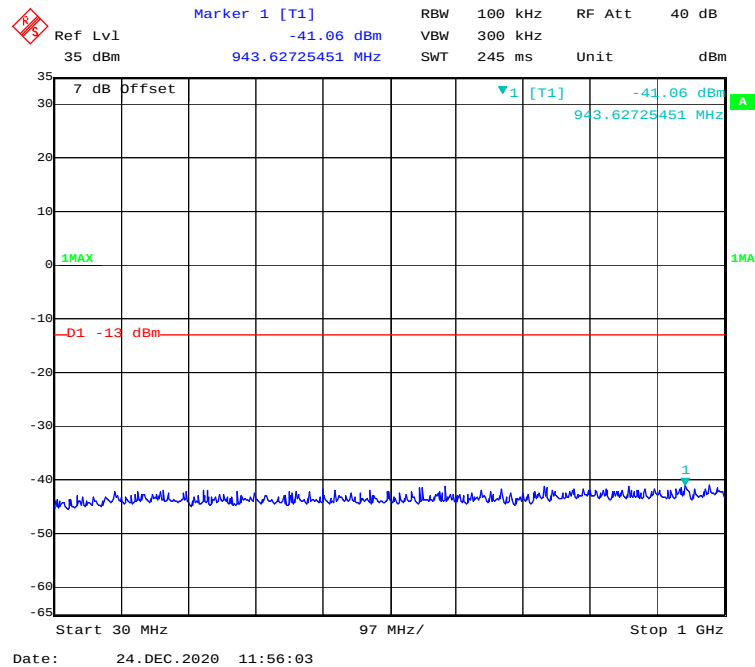
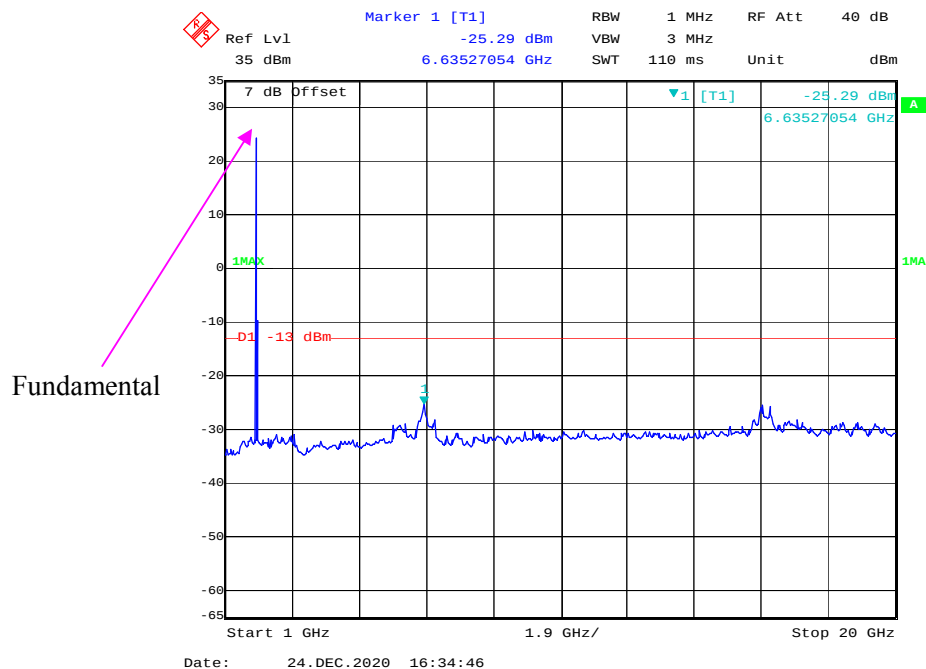


30 MHz – 1GHz WCDMA (HSPA+) Mode , Middle channel

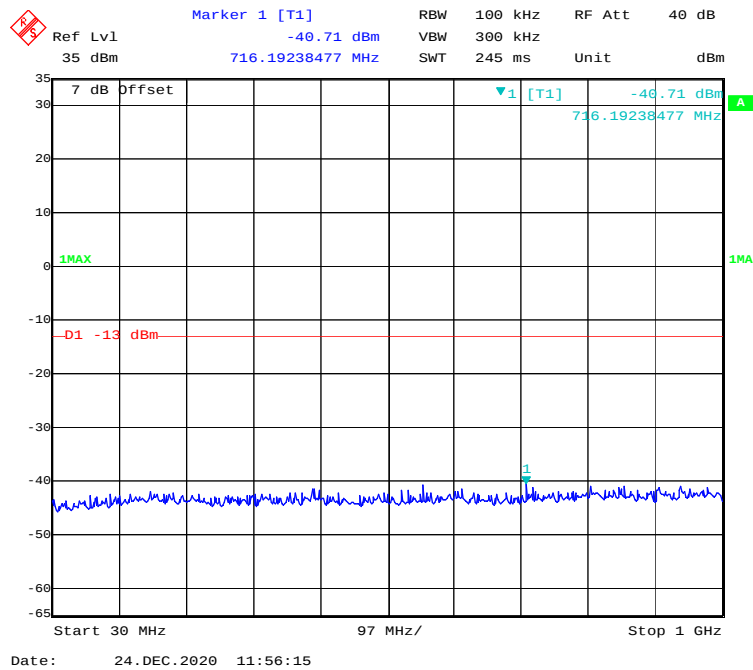


1 GHz – 20 GHz WCDMA (HSPA+) Mode , Middle channel

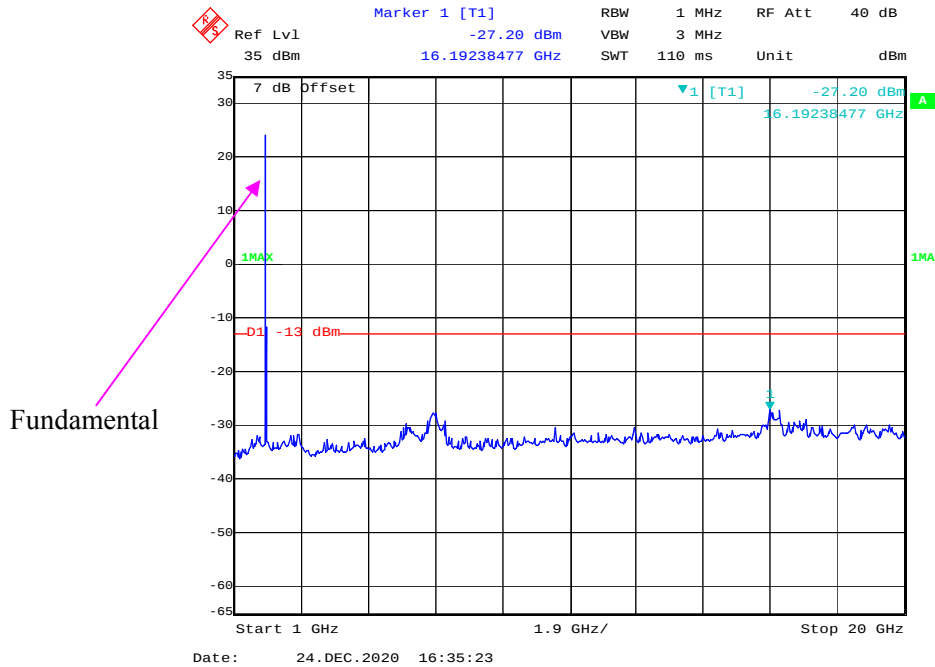


30 MHz – 1GHz WCDMA (Rel 99) Mode , High channel**1 GHz – 20 GHz WCDMA (Rel 99) Mode , High channel**

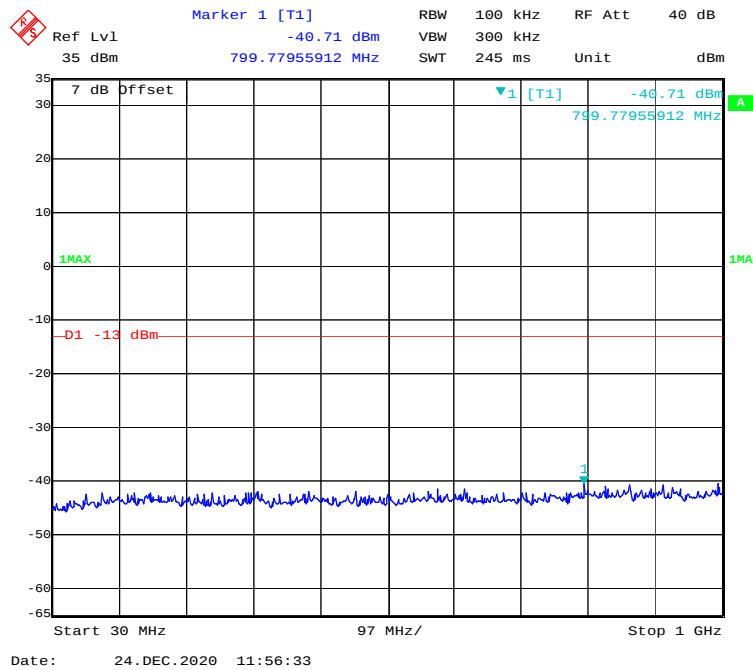
30 MHz – 1GHz WCDMA (HSDPA) Mode , High channel



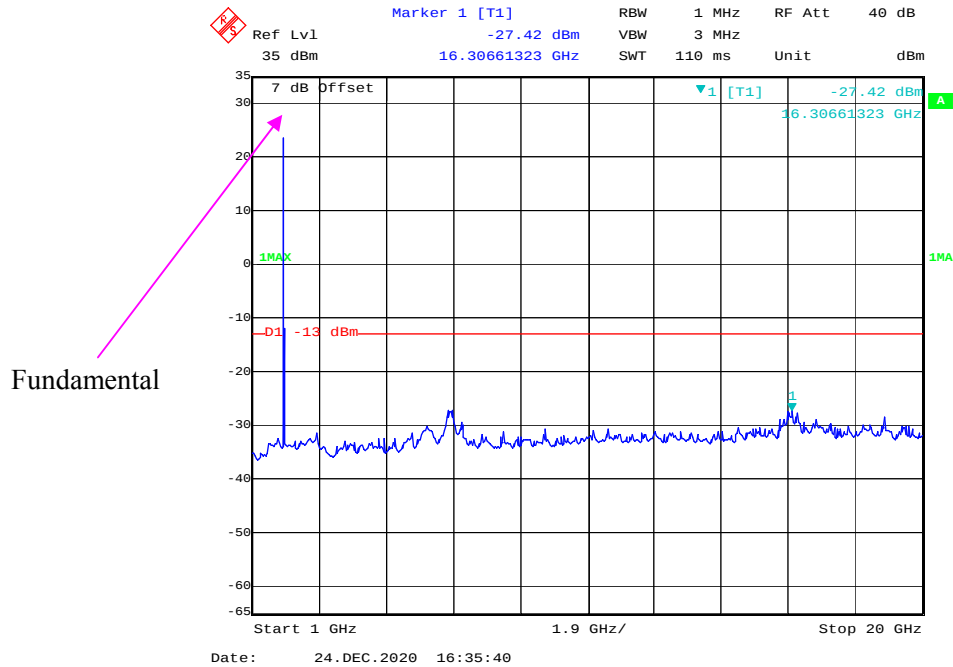
1 GHz – 20 GHz WCDMA (HSDPA) Mode , High channel



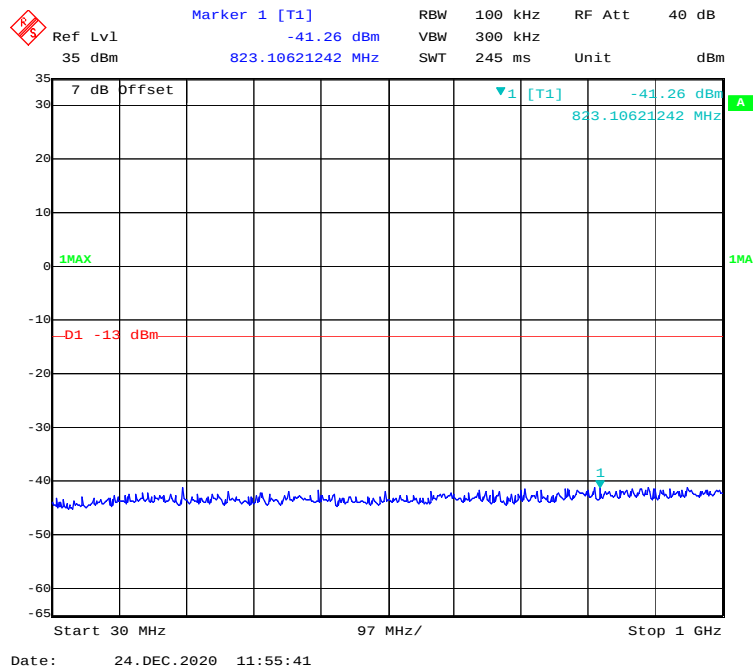
30 MHz – 1GHz WCDMA (HSUPA) Mode , High channel



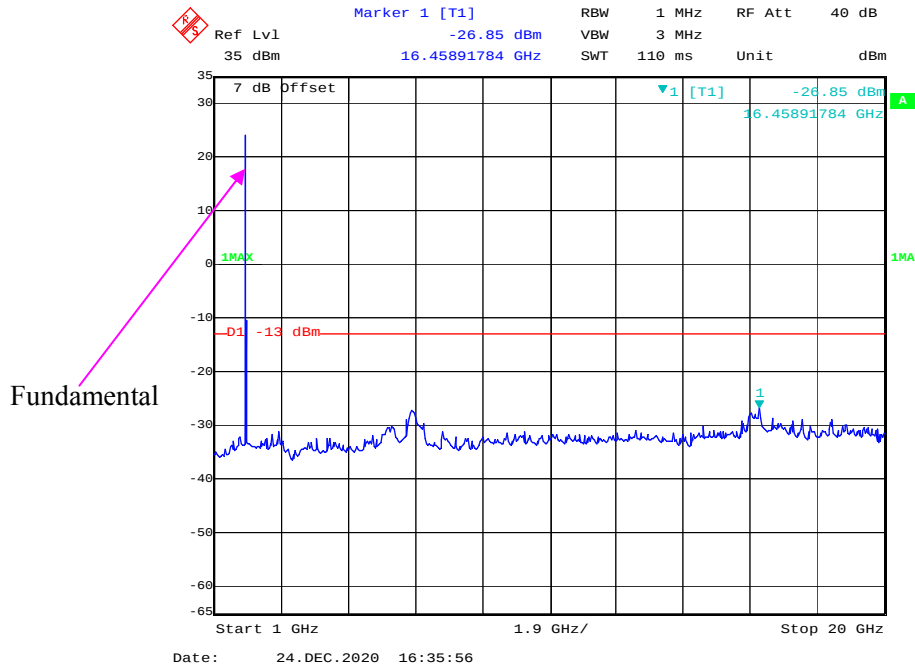
1 GHz – 20 GHz WCDMA (HSUPA) Mode , High channel



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

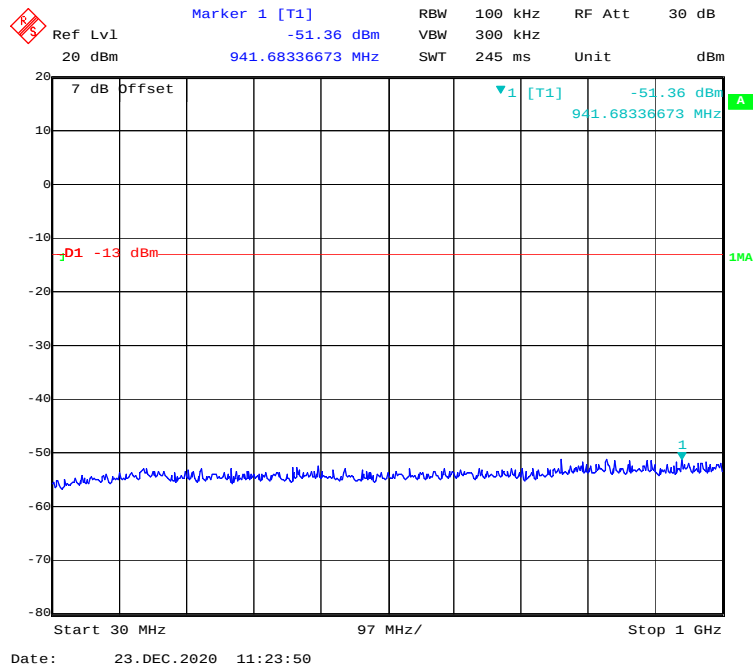


1 GHz – 20 GHz WCDMA (HSPA+) Mode , High channel

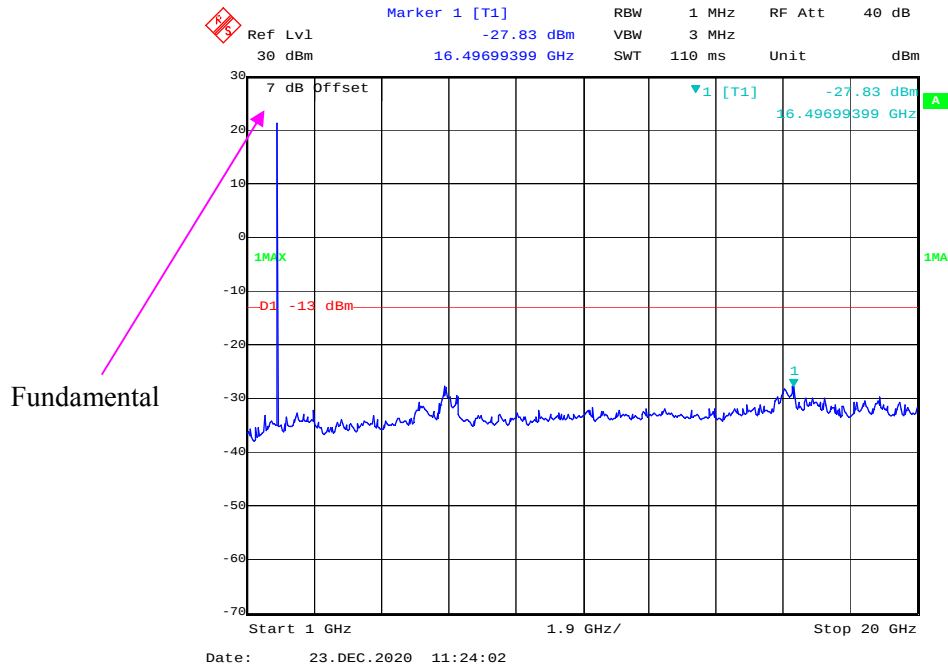


LTE Band 2:

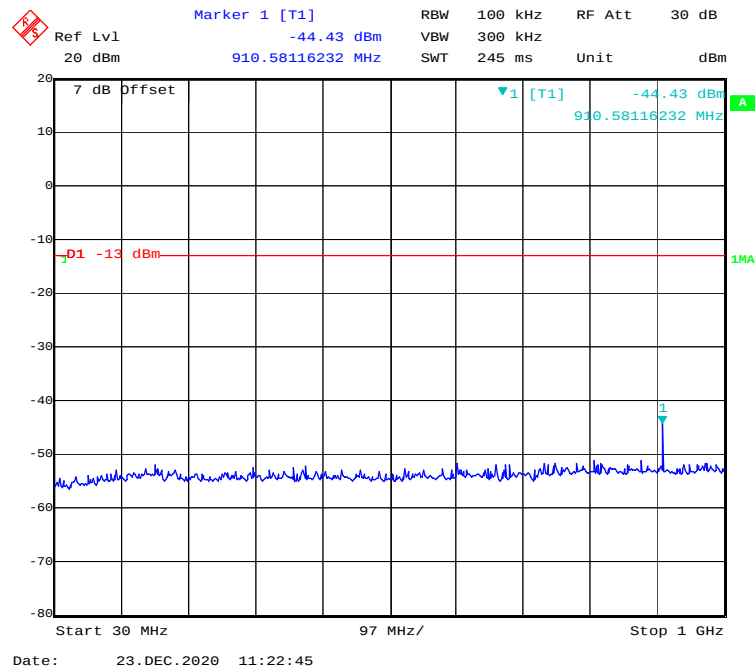
30 MHz - 1 GHz (1.4 MHz, QPSK, Low Channel)



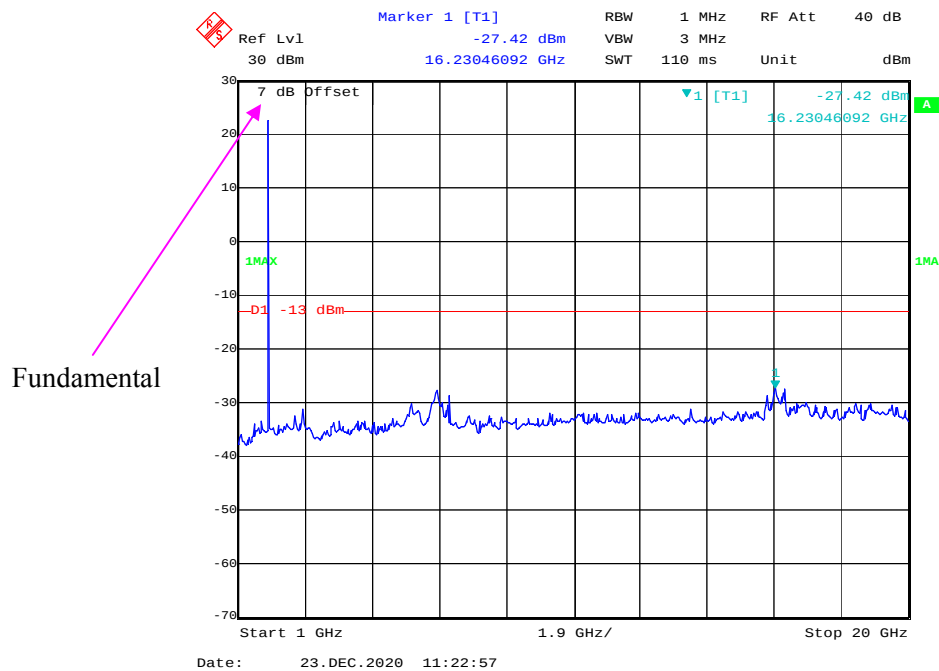
1 GHz – 20 GHz (1.4 MHz, QPSK, Low Channel)



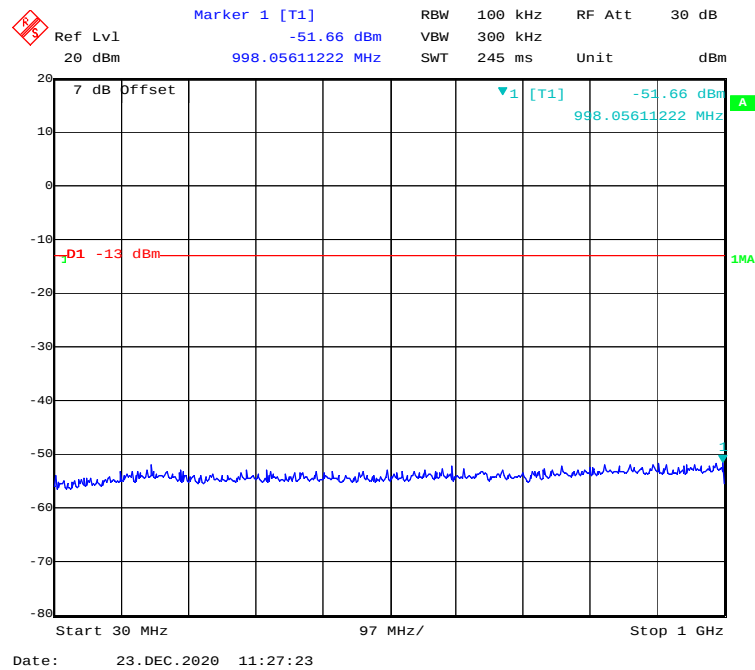
30 MHz - 1 GHz (1.4 MHz, 16-QAM, Low Channel)



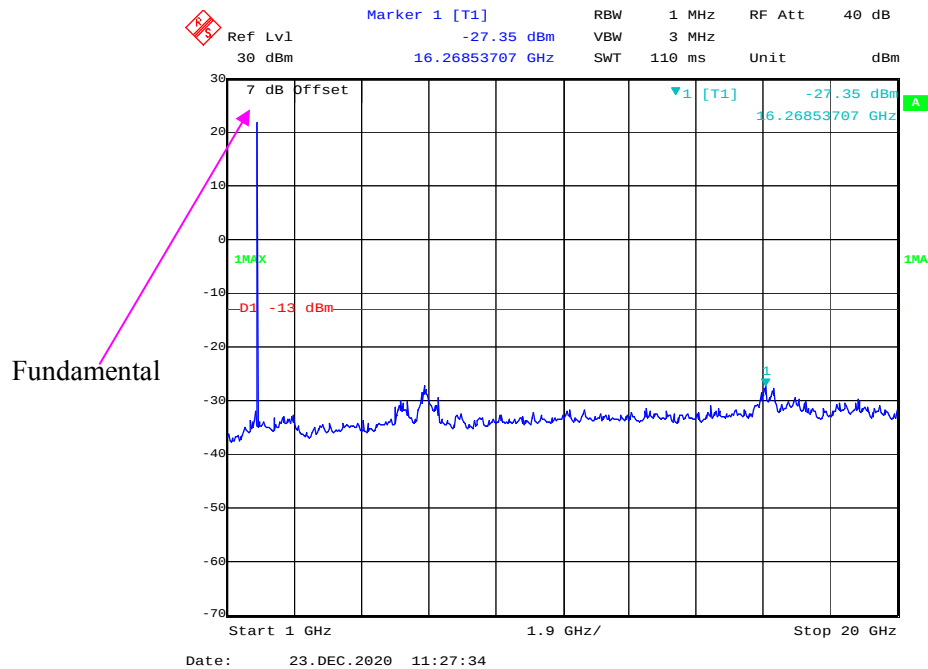
1 GHz – 20 GHz (1.4 MHz, 16-QAM, Low Channel)



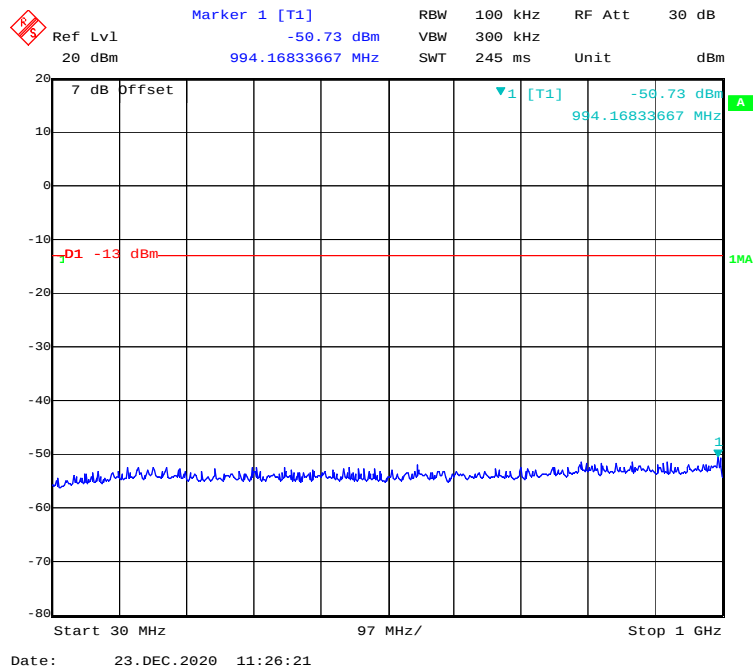
30 MHz - 1 GHz (3 MHz, QPSK, Low Channel)



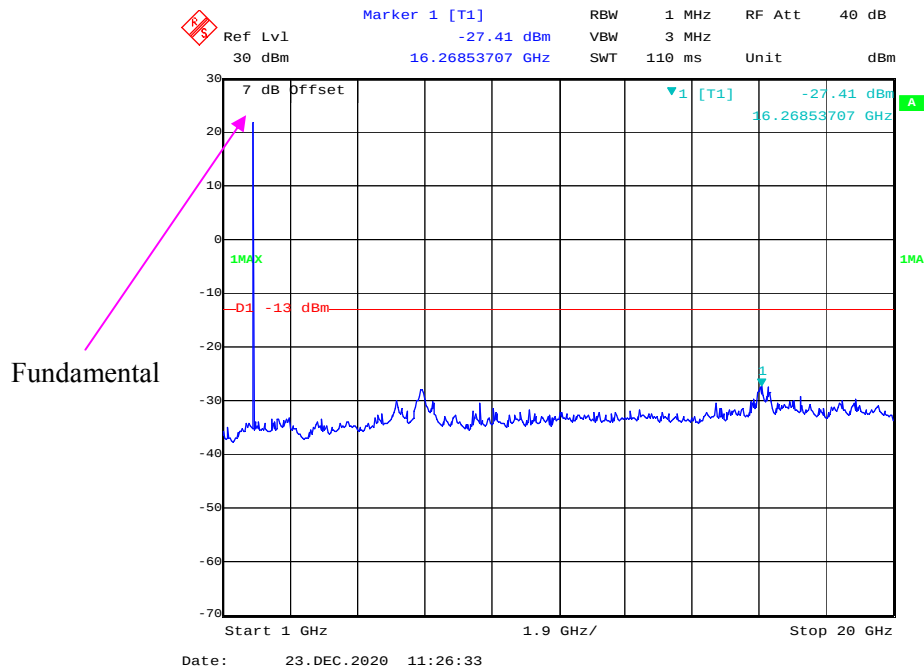
1 GHz – 20 GHz (3 MHz, QPSK, Low Channel)



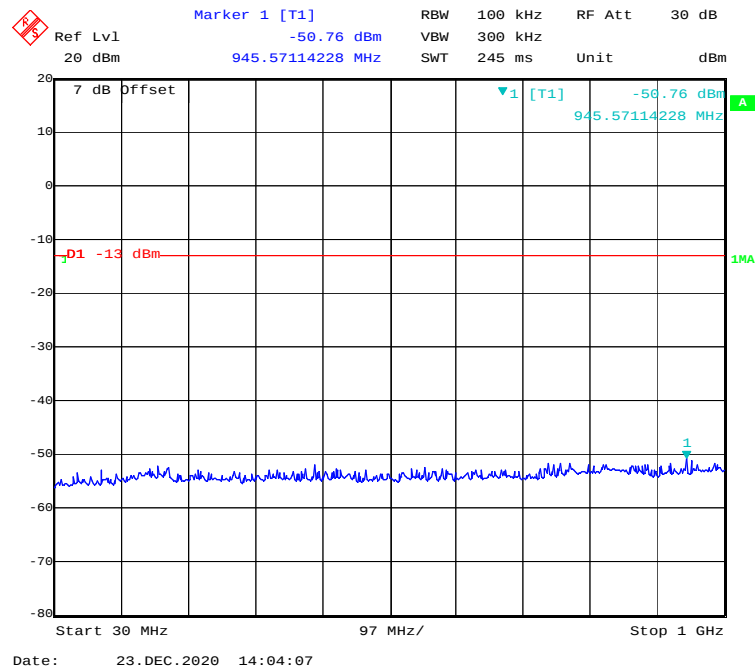
30 MHz - 1 GHz (3 MHz, 16-QAM, Low Channel)



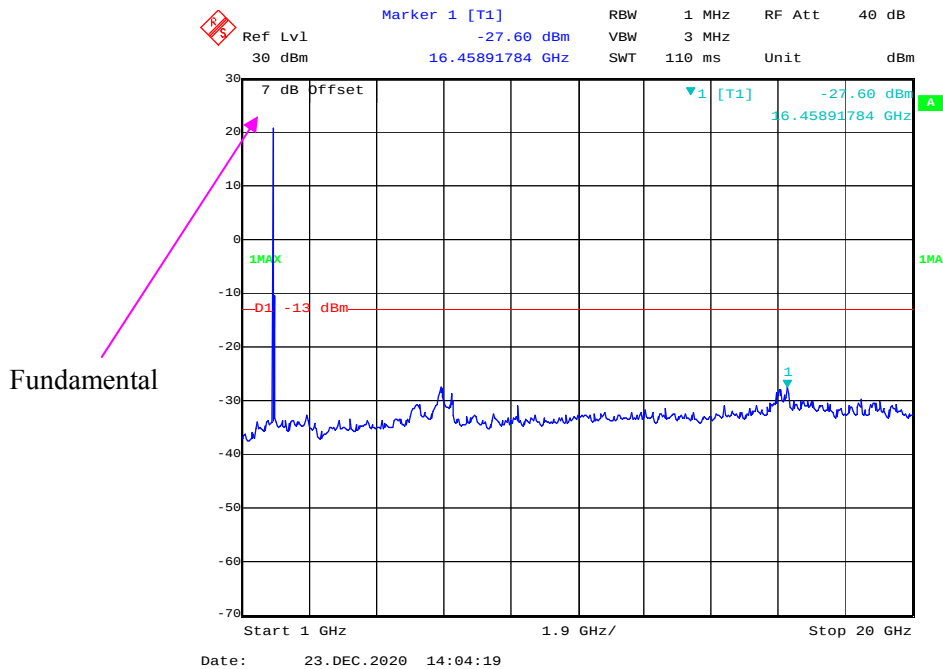
1 GHz - 20 GHz (3 MHz, 16-QAM, Low Channel)



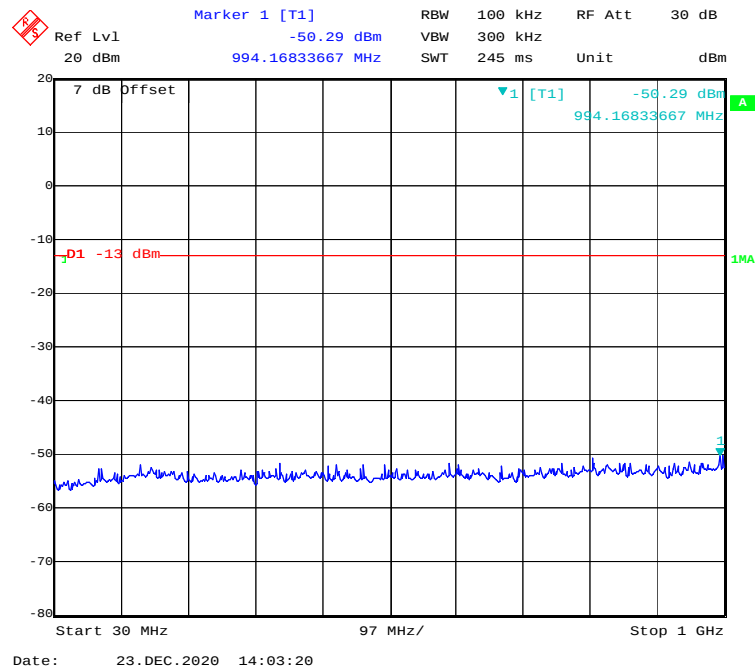
30 MHz - 1 GHz (5 MHz, QPSK, Low Channel)



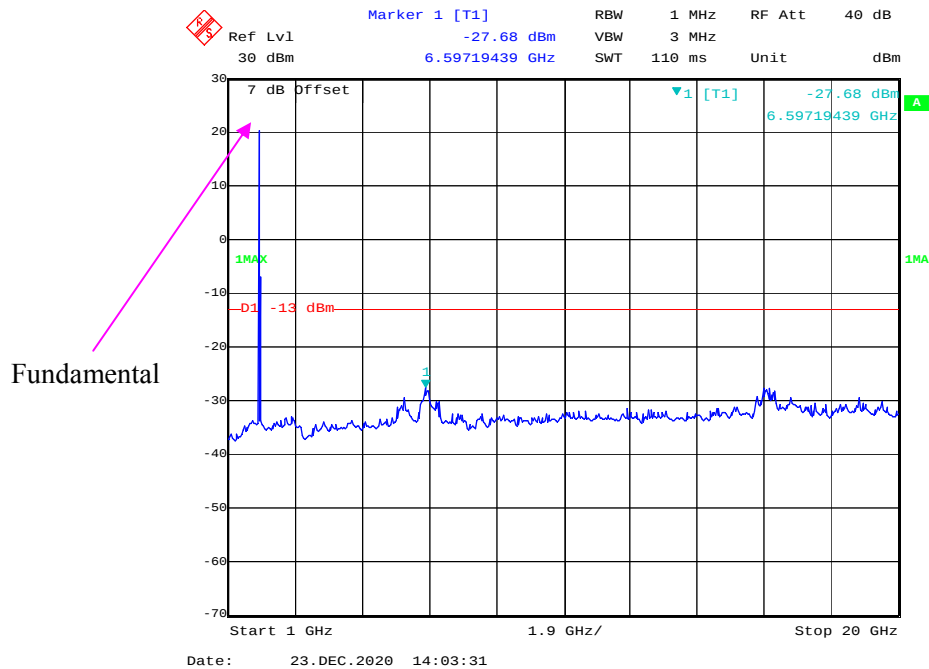
1 GHz – 20 GHz (5 MHz, QPSK, Low Channel)



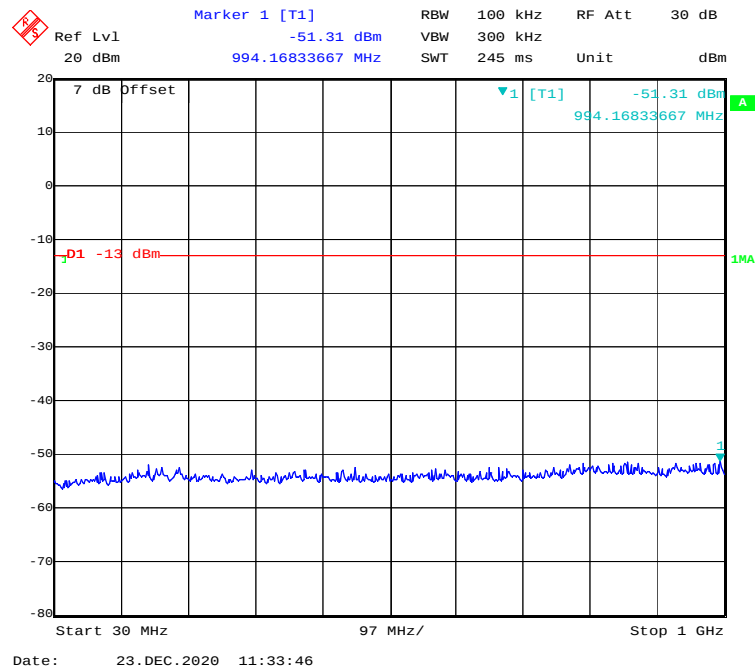
30 MHz - 1 GHz (5 MHz, 16-QAM, Low Channel)



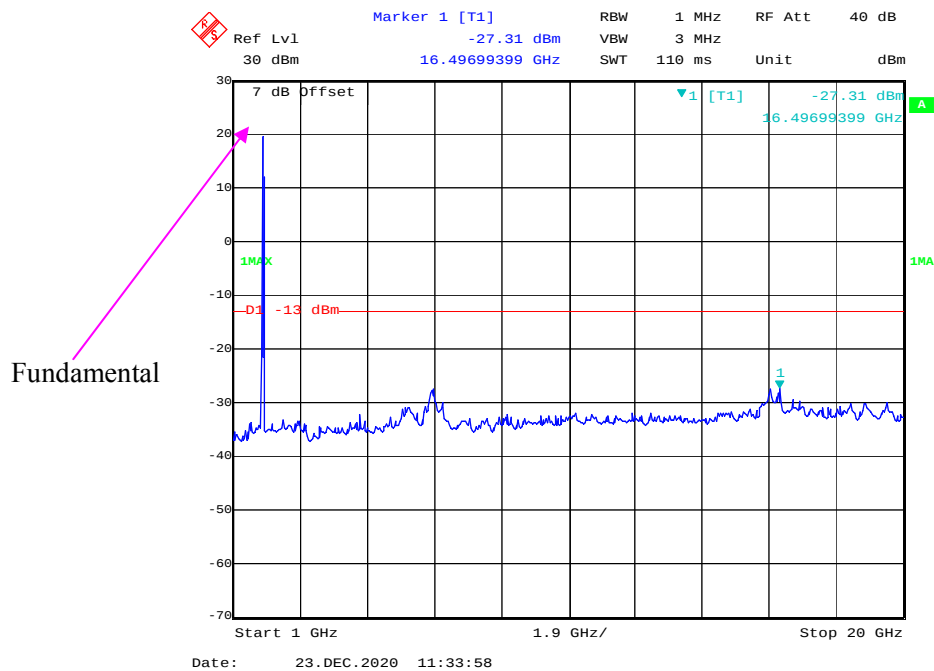
1 GHz – 20 GHz (5 MHz, 16-QAM, Low Channel)



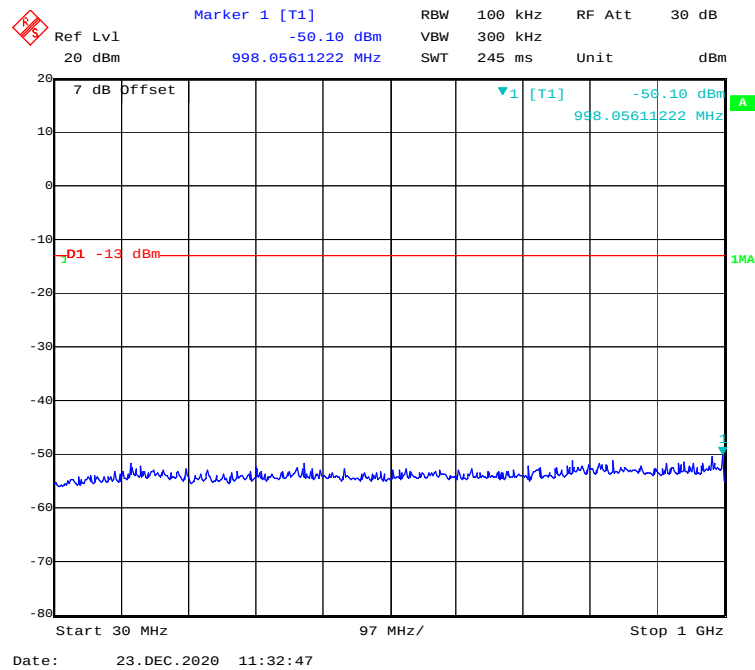
30 MHz - 1 GHz (10 MHz, QPSK, Low Channel)



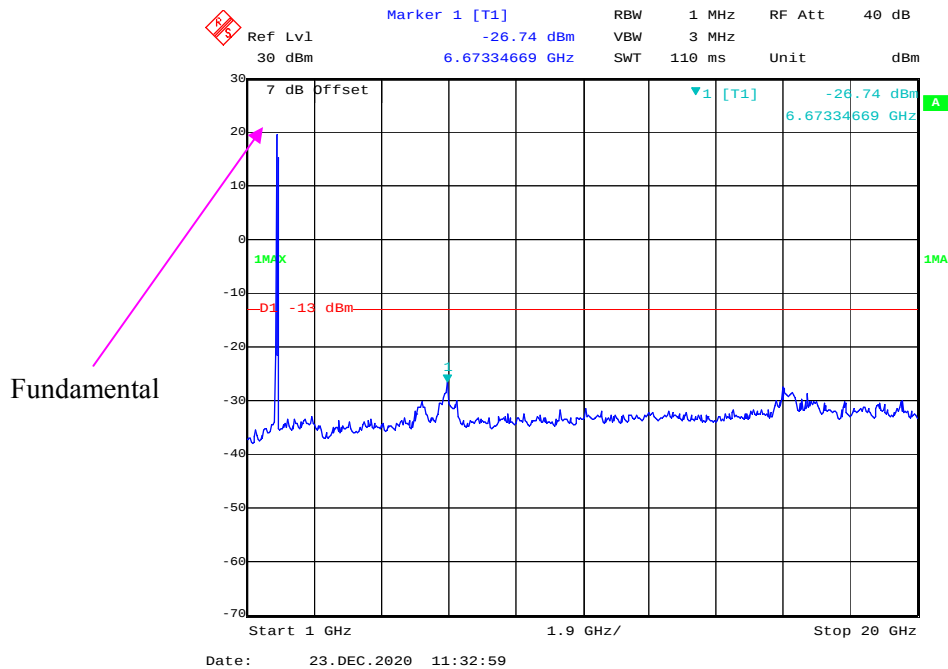
1 GHz – 20 GHz (10 MHz, QPSK, Low Channel)



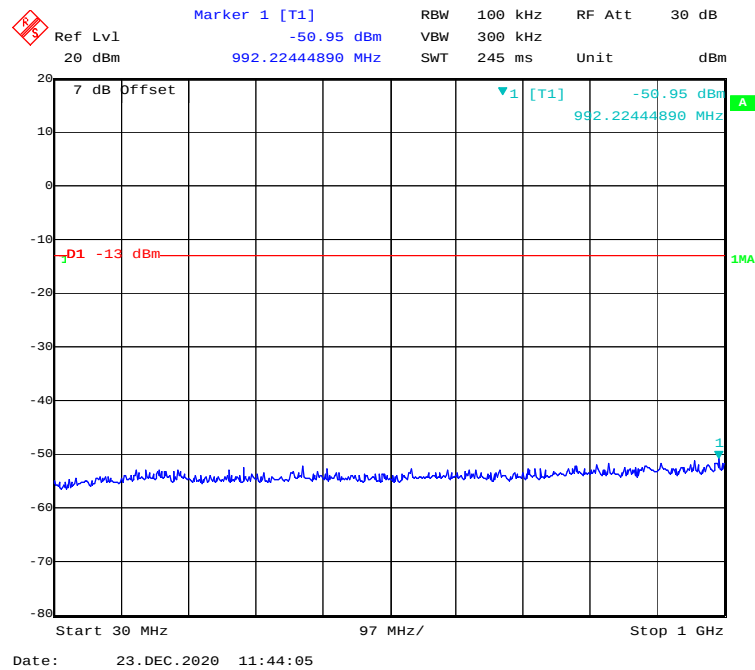
30 MHz - 1 GHz (10 MHz, 16-QAM, Low Channel)



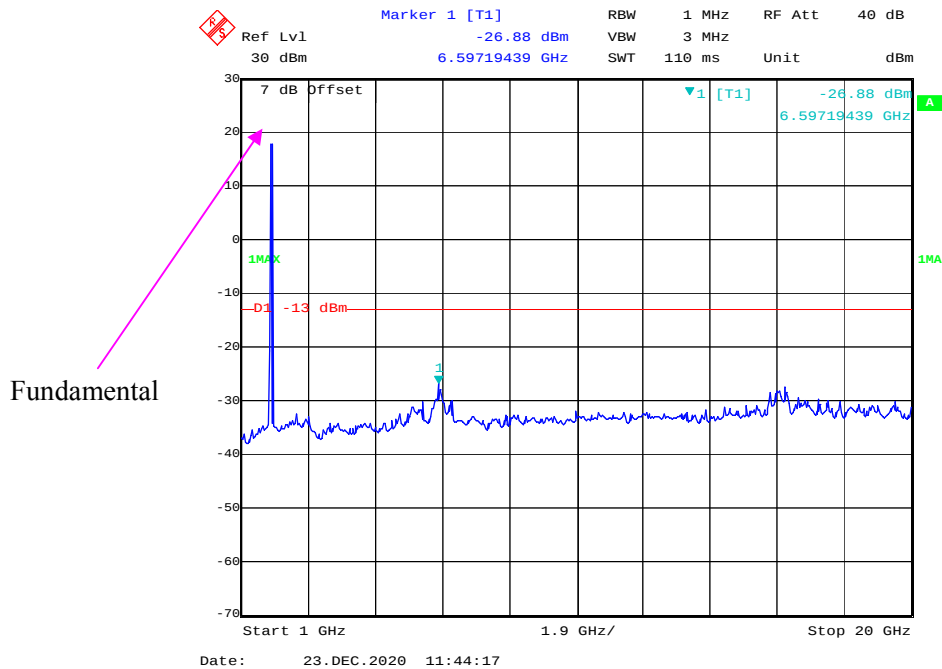
1 GHz - 20 GHz (10 MHz, 16-QAM, Low Channel)



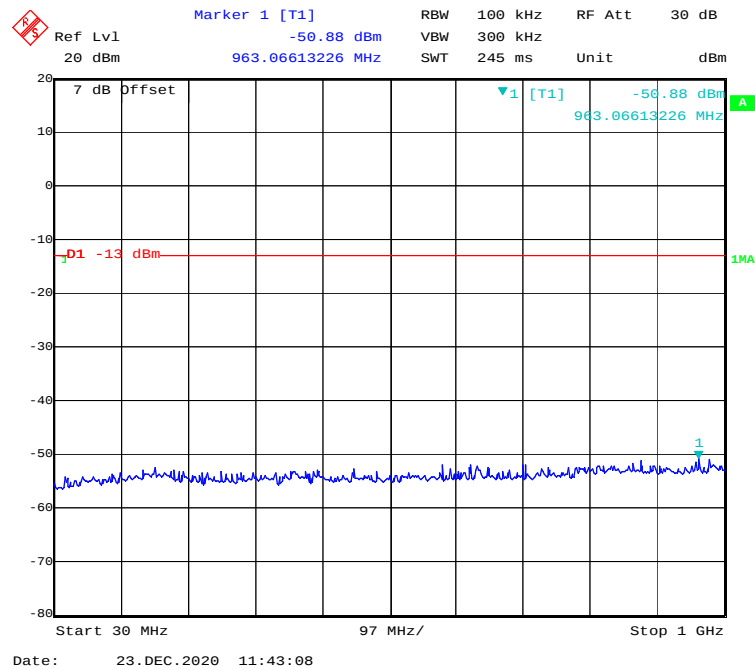
30 MHz - 1 GHz (15 MHz, QPSK, Low Channel)



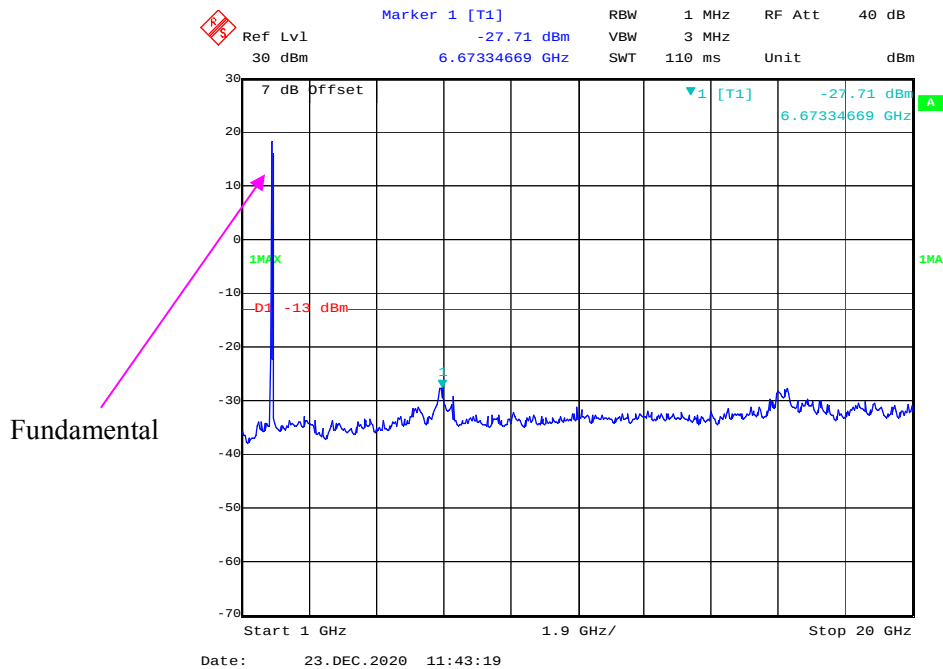
1 GHz – 20 GHz (15 MHz, QPSK, Low Channel)



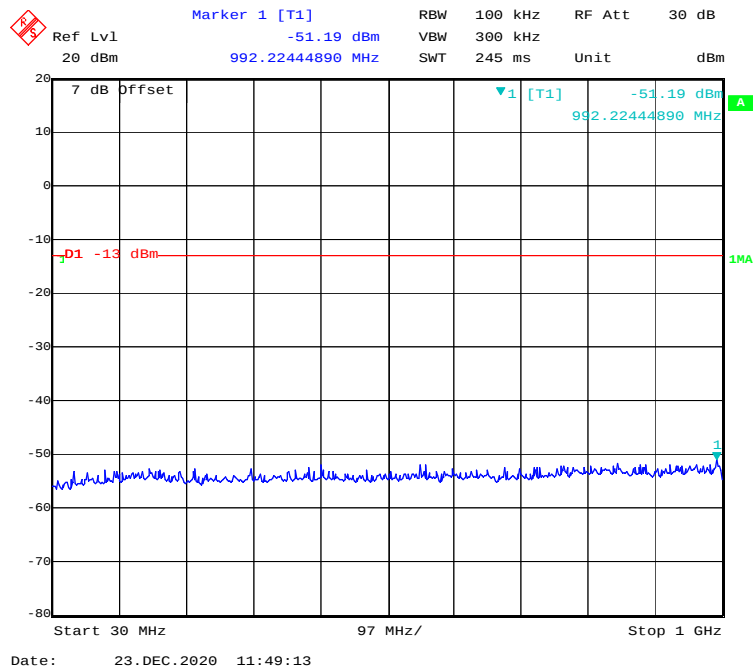
30 MHz - 1 GHz (15 MHz, 16-QAM, Low Channel)



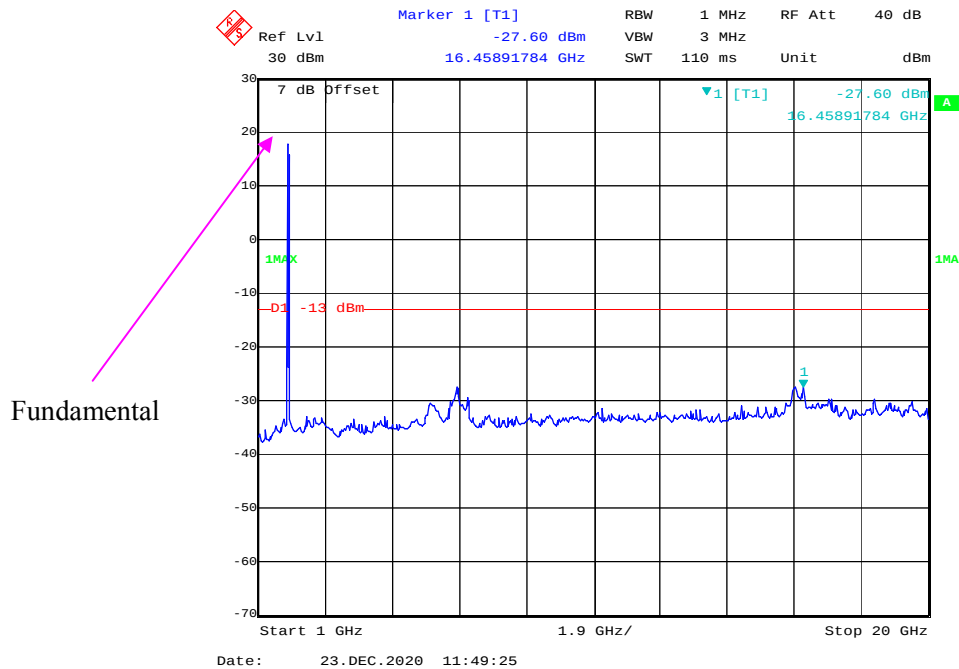
1 GHz – 20 GHz (15 MHz, 16-QAM, Low Channel)



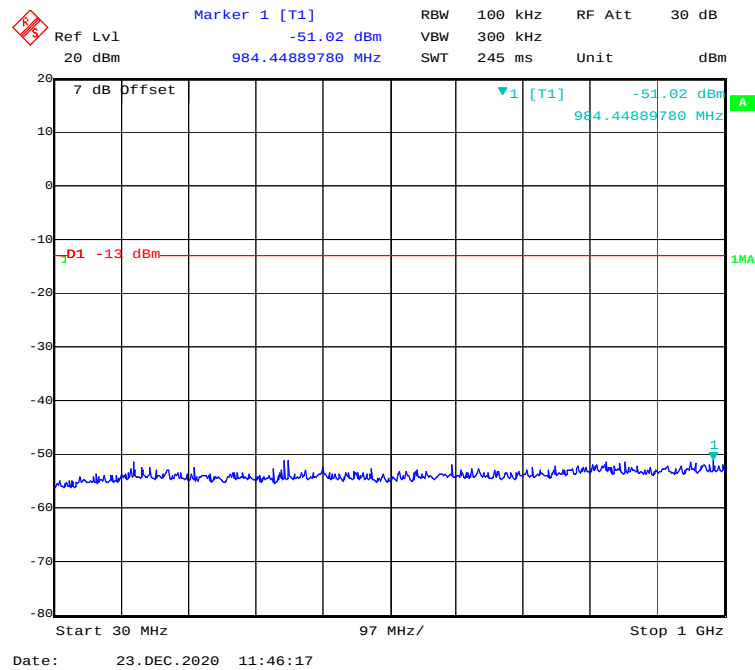
30 MHz - 1 GHz (20 MHz, QPSK, Low Channel)



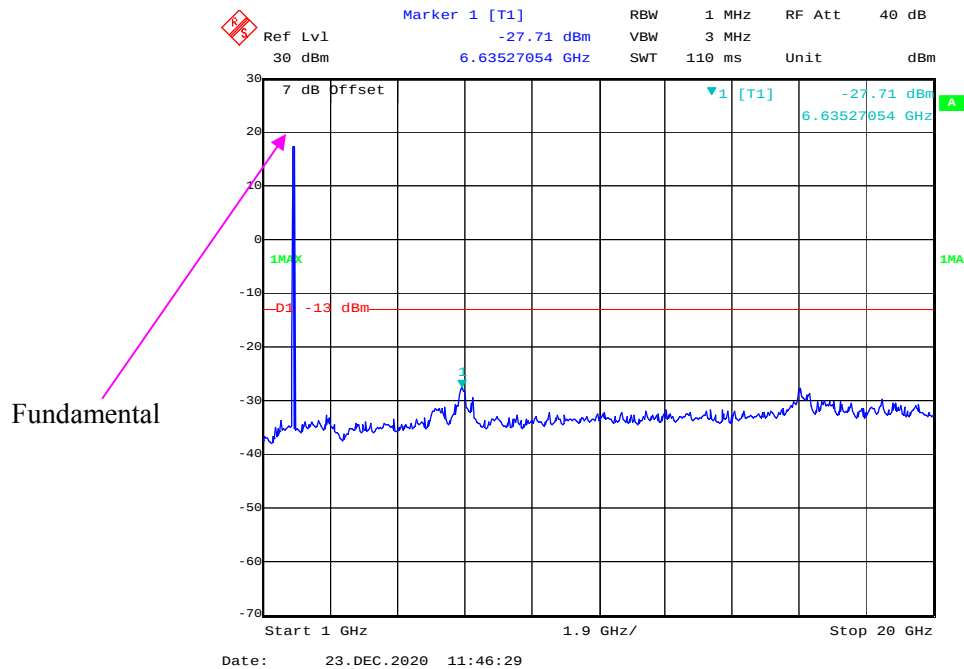
1 GHz – 20 GHz (20 MHz, QPSK, Low Channel)



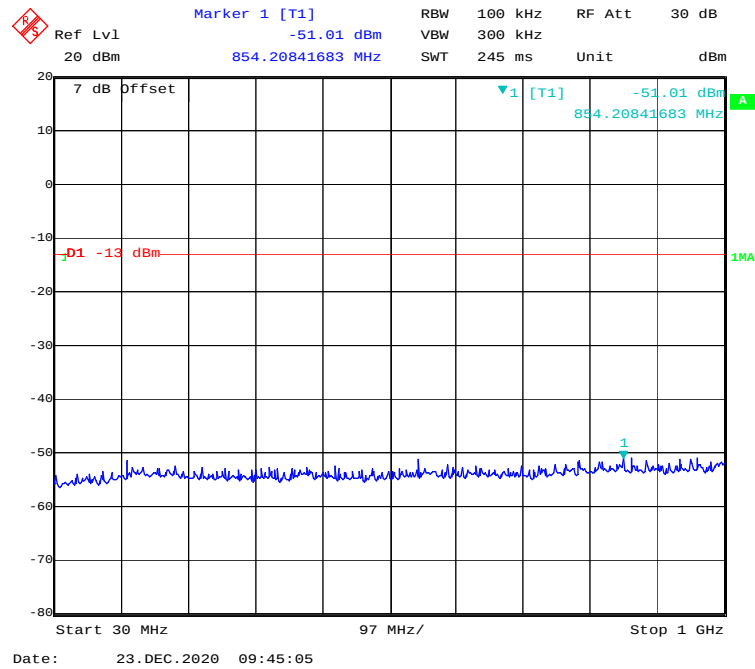
30 MHz - 1 GHz (20 MHz, 16-QAM, Low Channel)



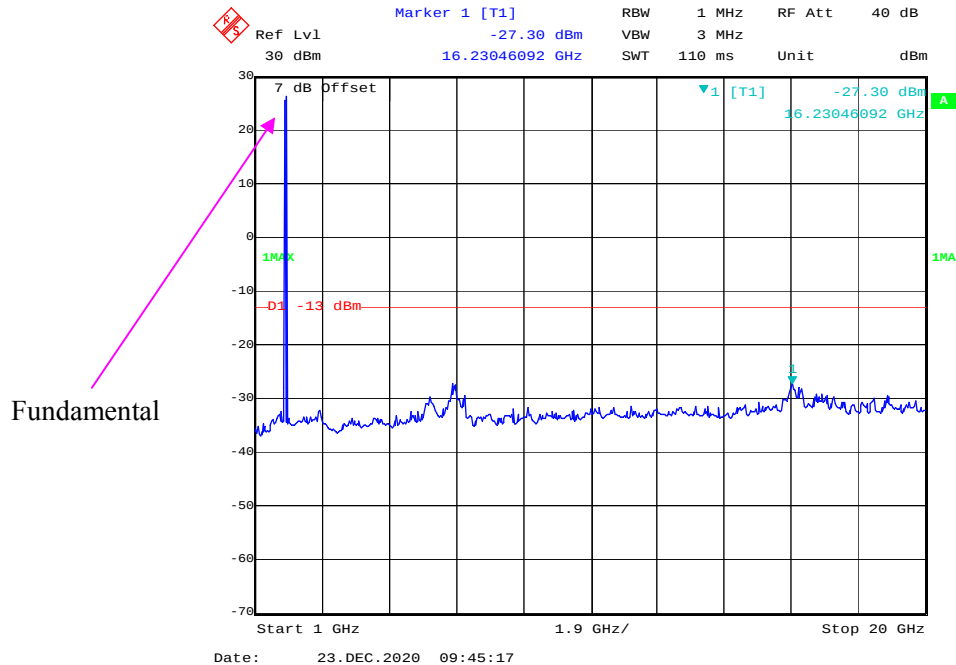
1 GHz – 20 GHz (20 MHz, 16-QAM, Low Channel)



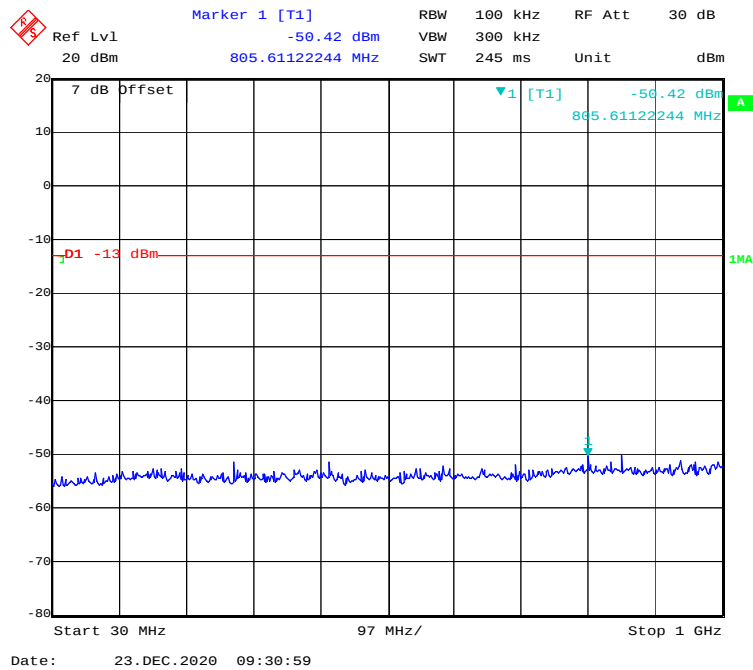
30 MHz - 1 GHz (1.4 MHz, QPSK, Middle Channel)



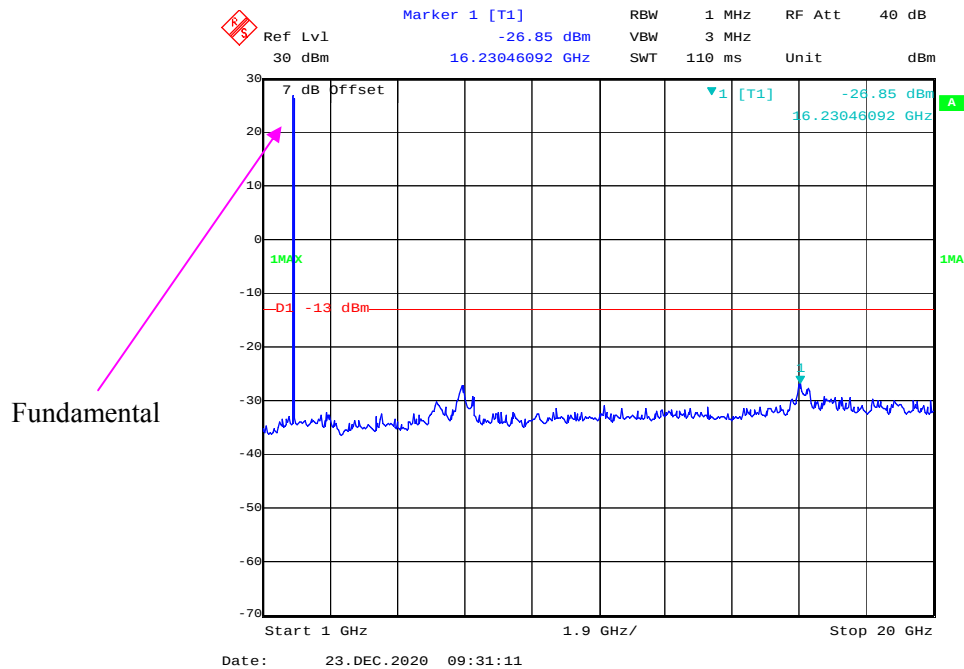
1 GHz – 20 GHz (1.4 MHz, QPSK, Middle Channel)



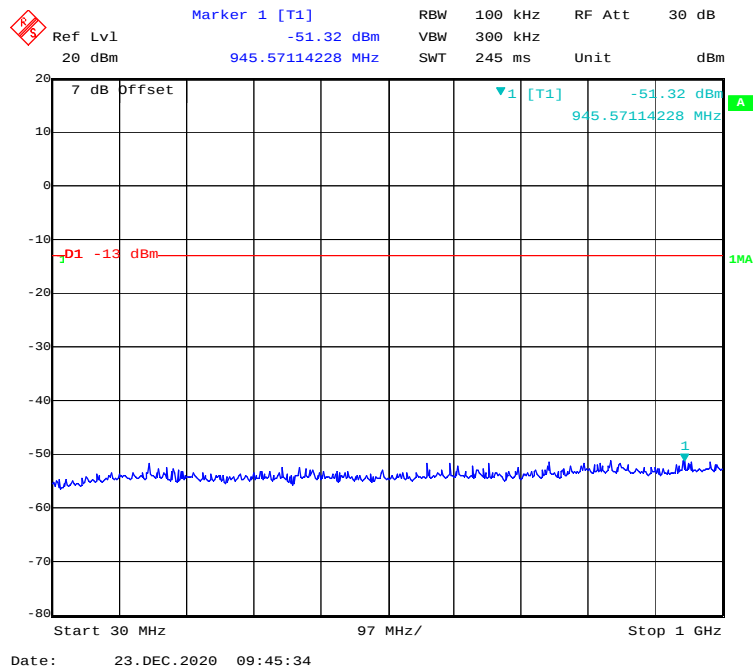
30 MHz - 1 GHz (1.4 MHz, 16-QAM, Middle Channel)



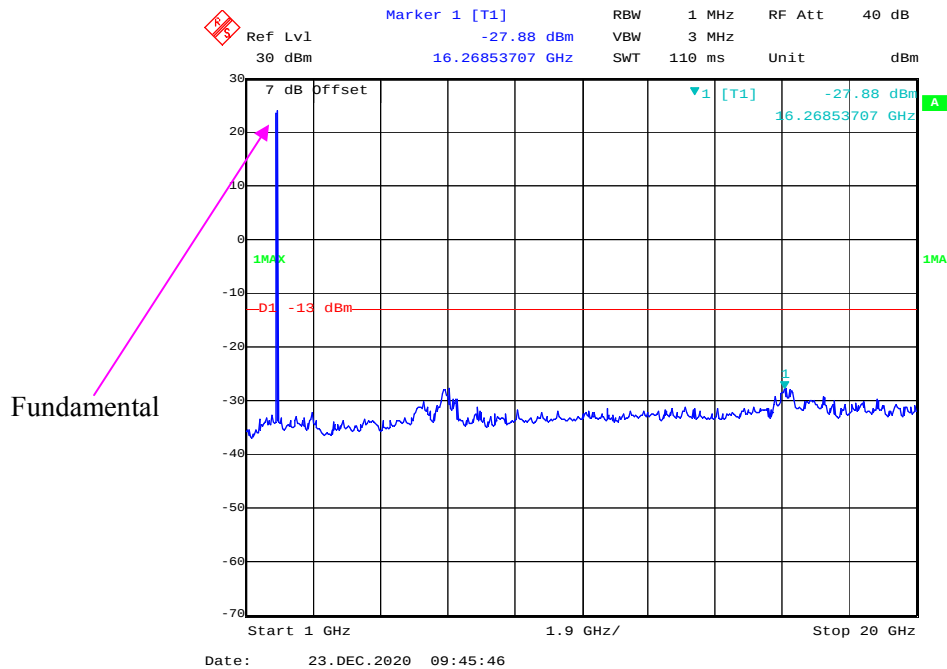
1 GHz – 20 GHz (1.4 MHz, 16-QAM, Middle Channel)



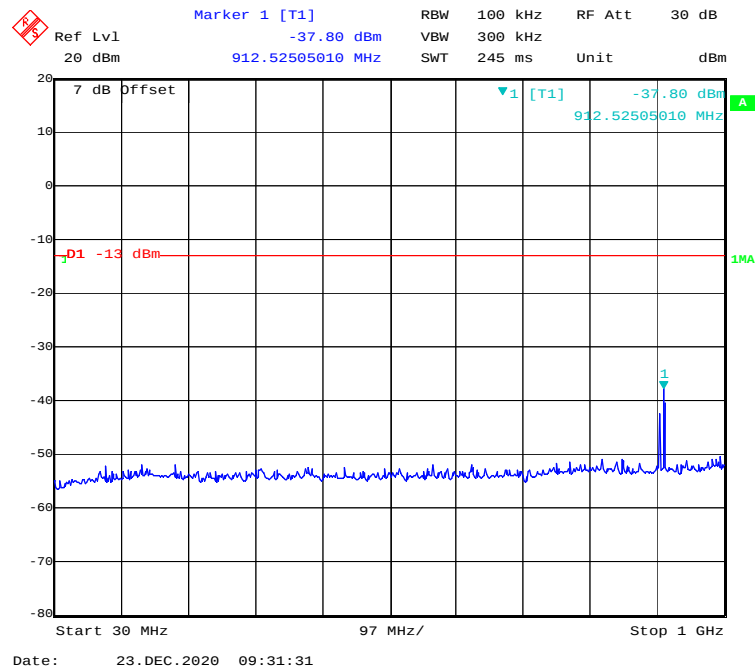
30 MHz - 1 GHz (3 MHz, QPSK, Middle Channel)



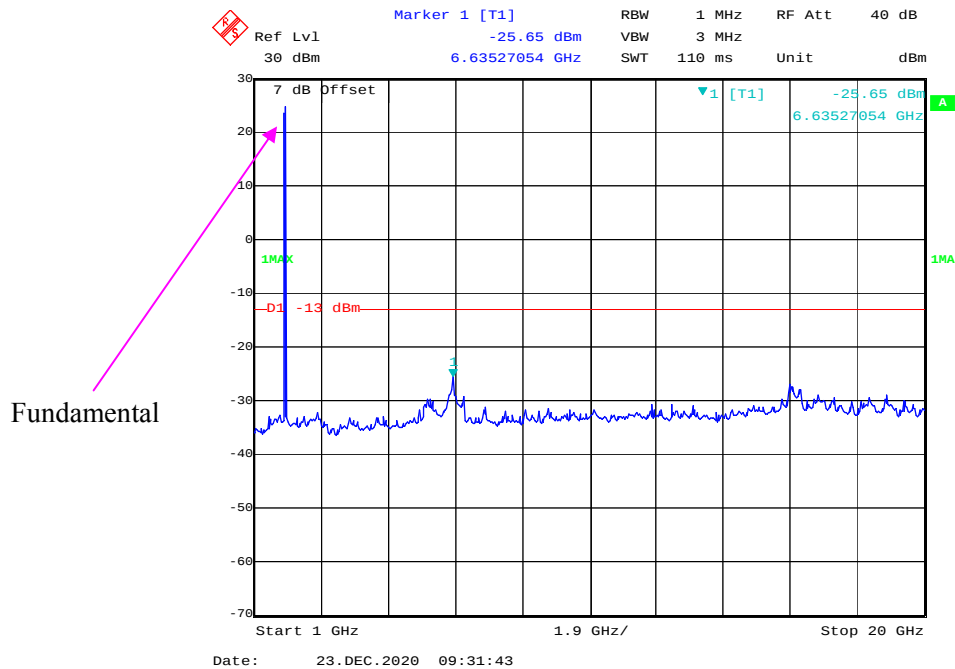
1 GHz – 20 GHz (3 MHz, QPSK, Middle Channel)



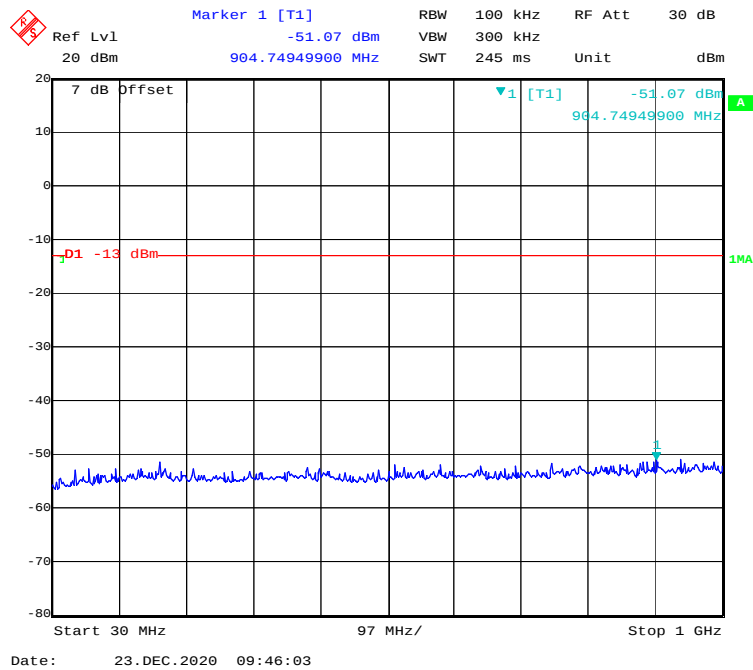
30 MHz - 1 GHz (3 MHz, 16-QAM, Middle Channel)



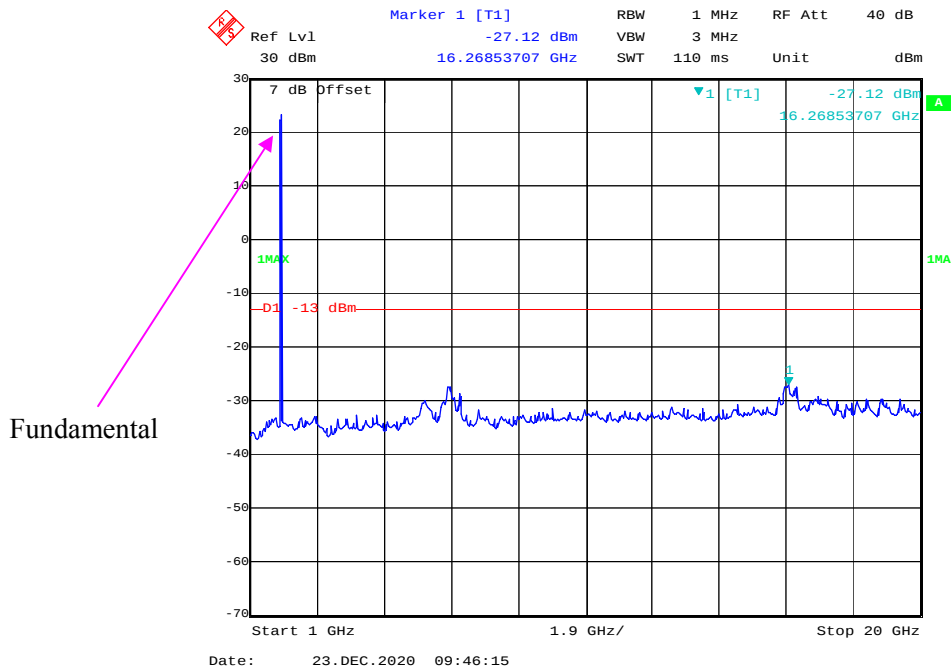
1 GHz – 20 GHz (3 MHz, 16-QAM, Middle Channel)



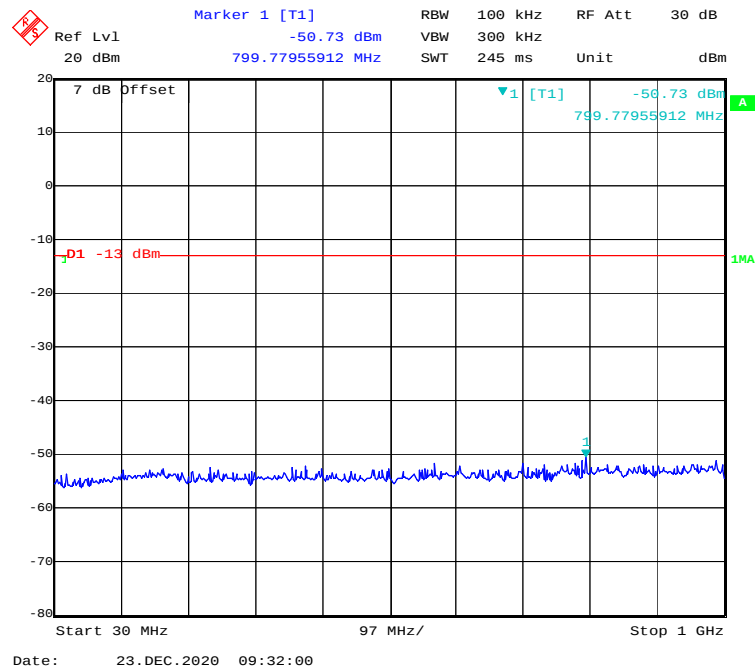
30 MHz - 1 GHz (5 MHz, QPSK, Middle Channel)



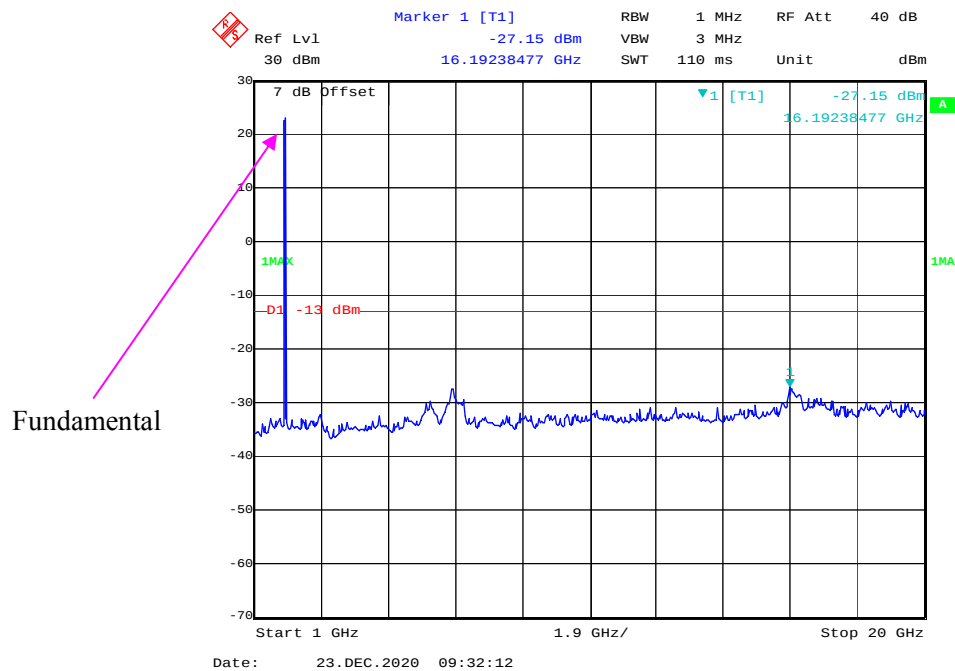
1 GHz – 20 GHz (5 MHz, QPSK, Middle Channel)



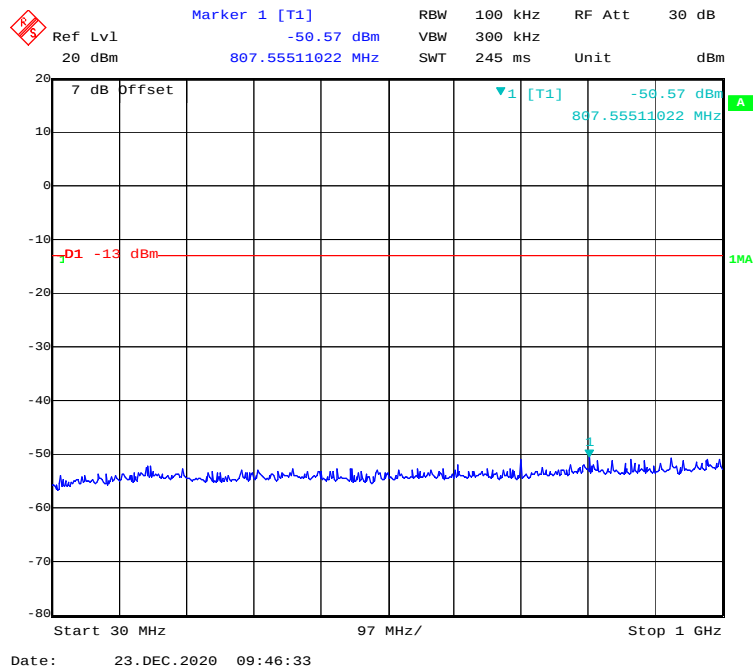
30 MHz - 1 GHz (5 MHz, 16-QAM, Middle Channel)



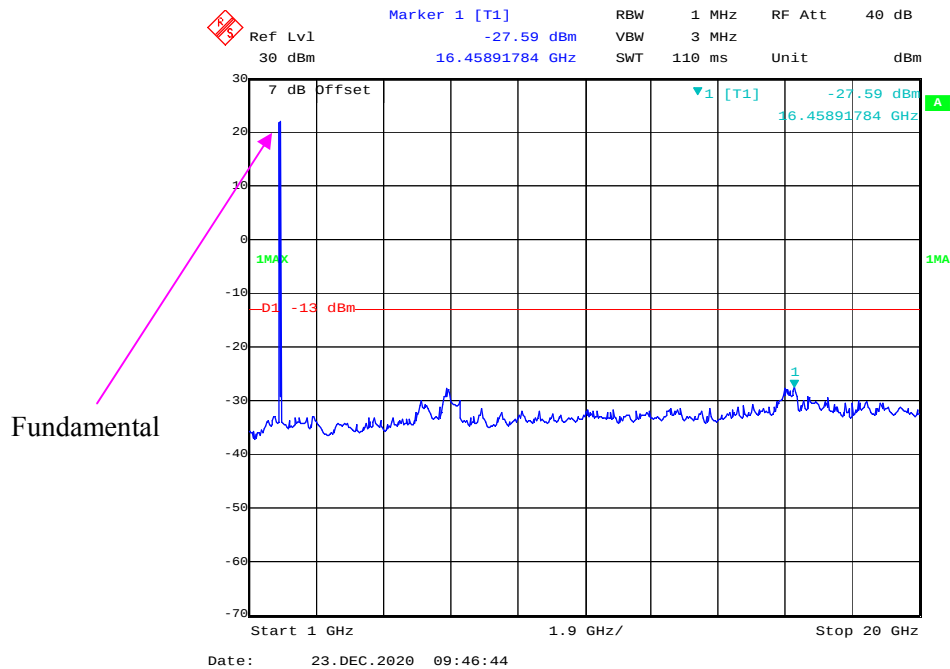
1 GHz – 20 GHz (5 MHz, 16-QAM, Middle Channel)



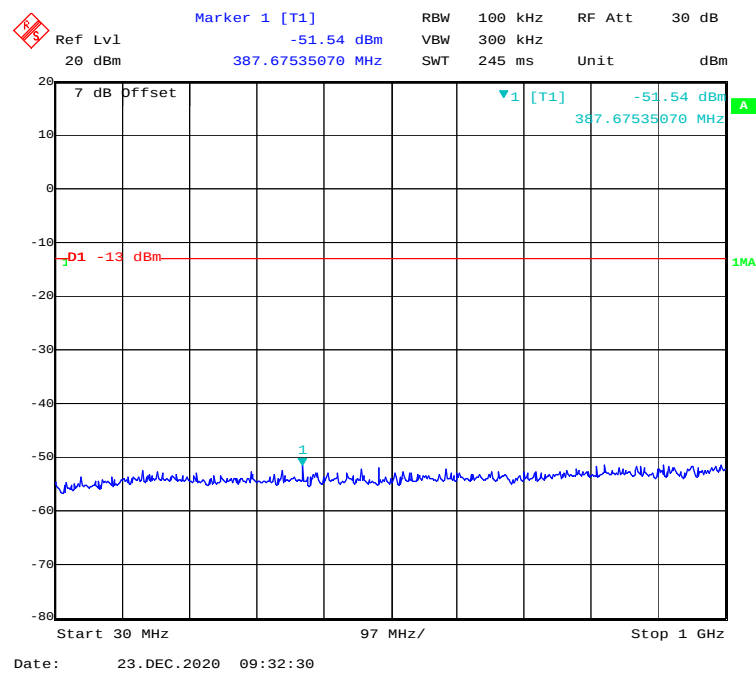
30 MHz - 1 GHz (10 MHz, QPSK, Middle Channel)



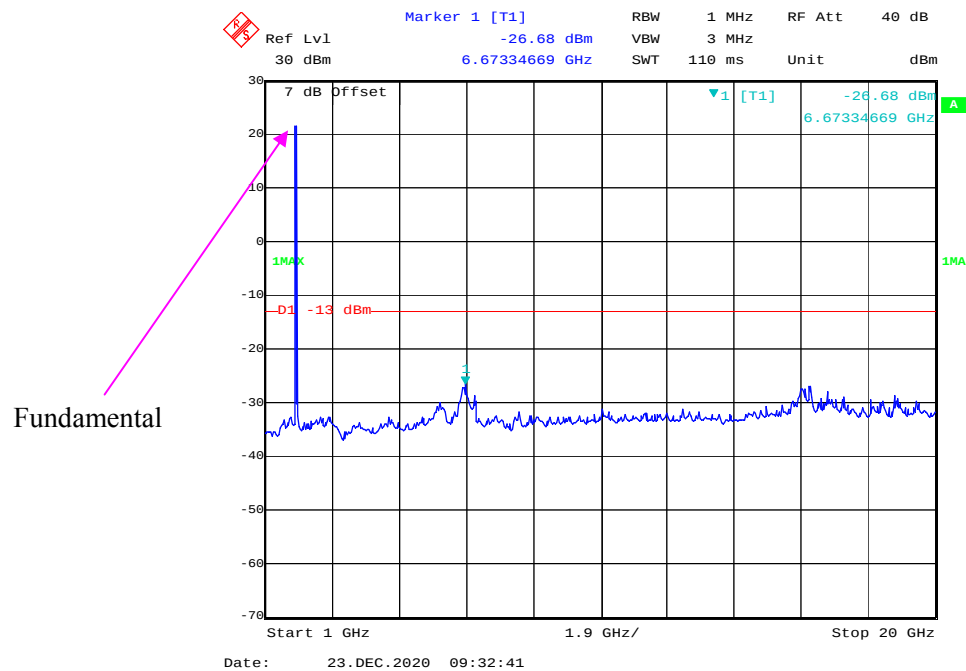
1 GHz – 20 GHz (10 MHz, QPSK, Middle Channel)



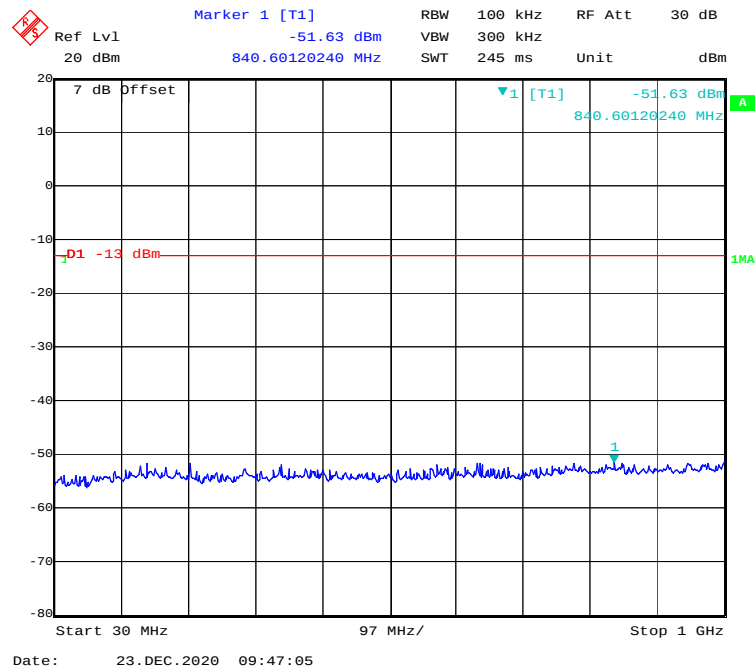
30 MHz - 1 GHz (10 MHz, 16-QAM, Middle Channel)



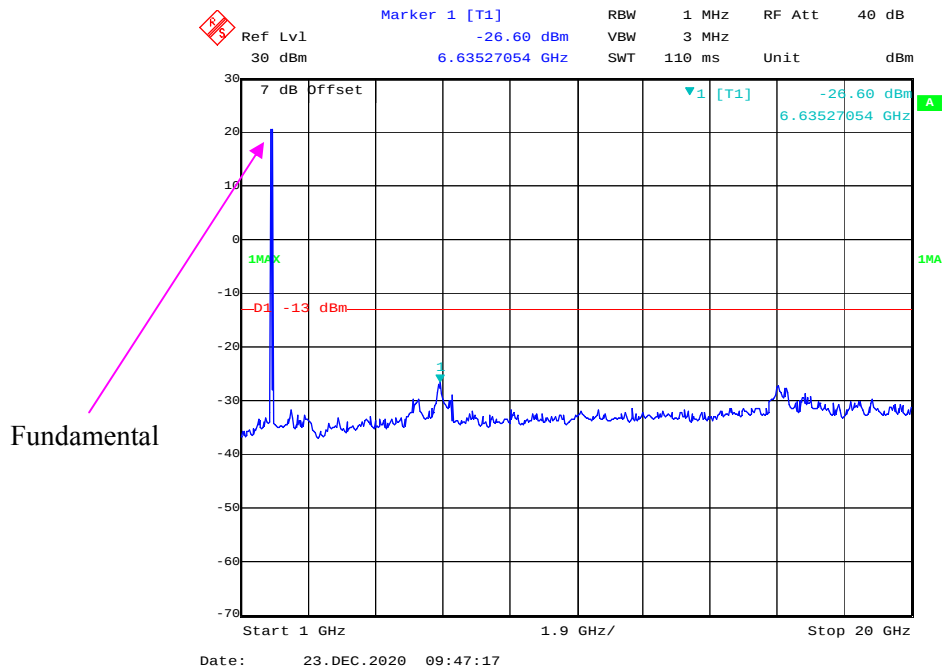
1 GHz – 20 GHz (10 MHz, 16-QAM, Middle Channel)



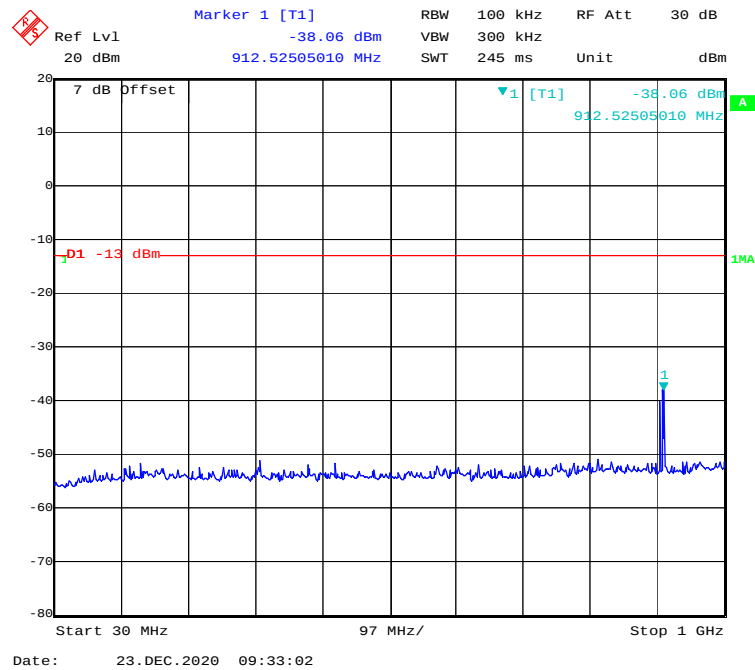
30 MHz - 1 GHz (15 MHz, QPSK, Middle Channel)



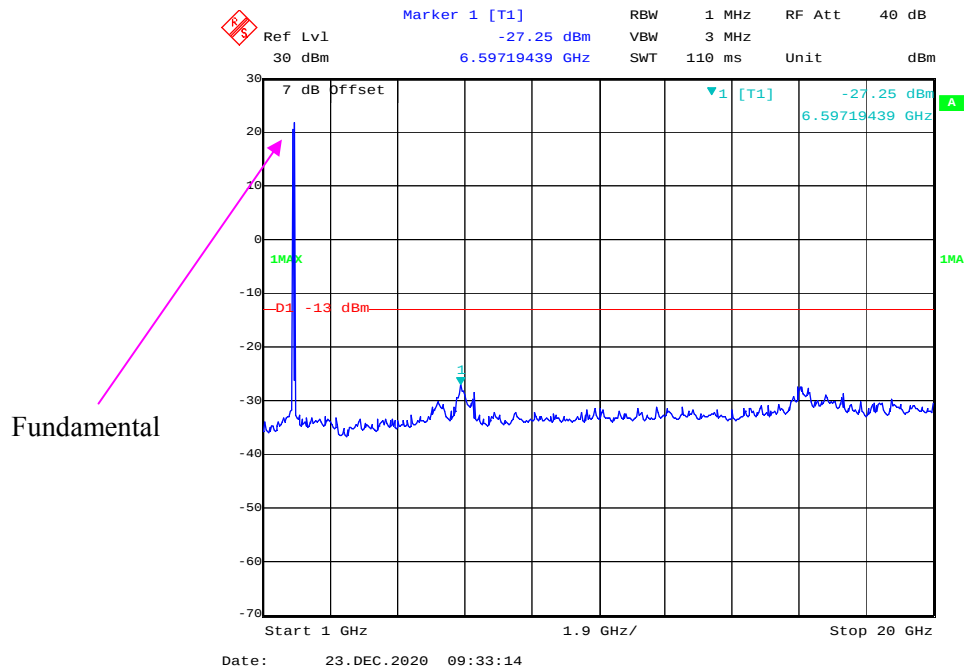
1 GHz – 20 GHz (15 MHz, QPSK, Middle Channel)



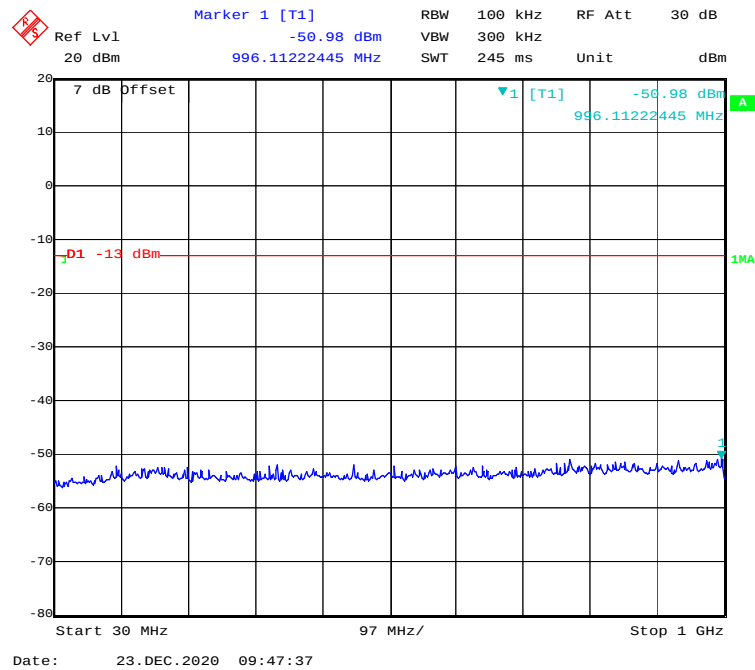
30 MHz - 1 GHz (15 MHz, 16-QAM, Middle Channel)



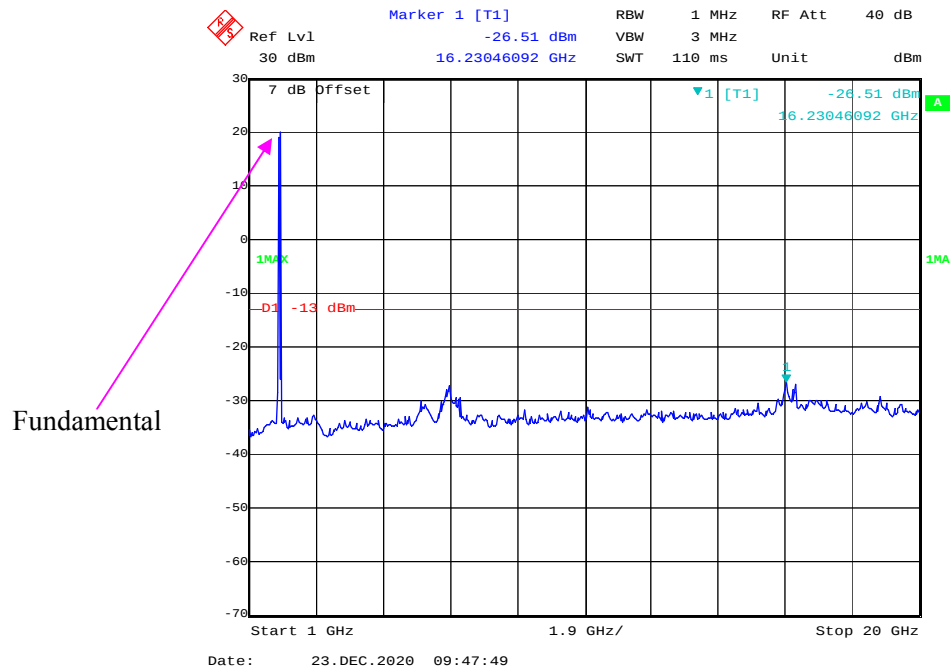
1 GHz – 20 GHz (15 MHz, 16-QAM, Middle Channel)



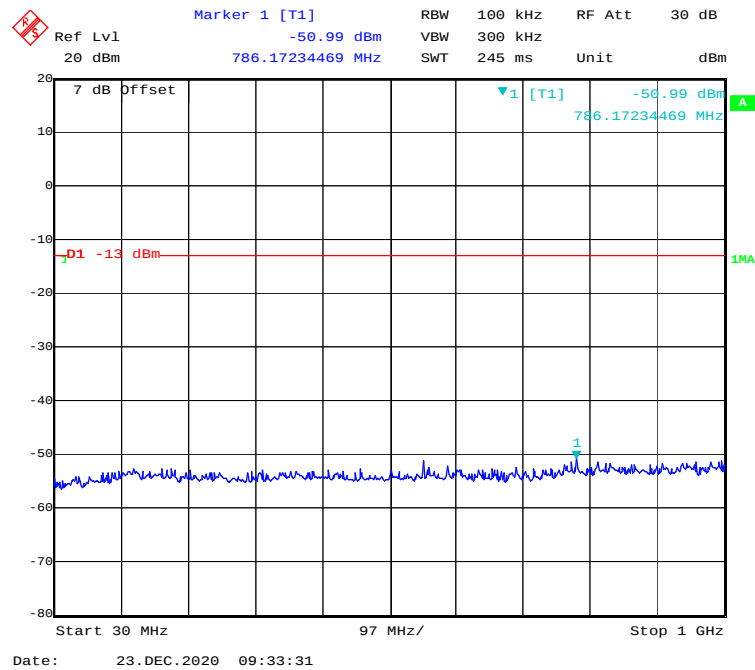
30 MHz - 1 GHz (20 MHz, QPSK, Middle Channel)



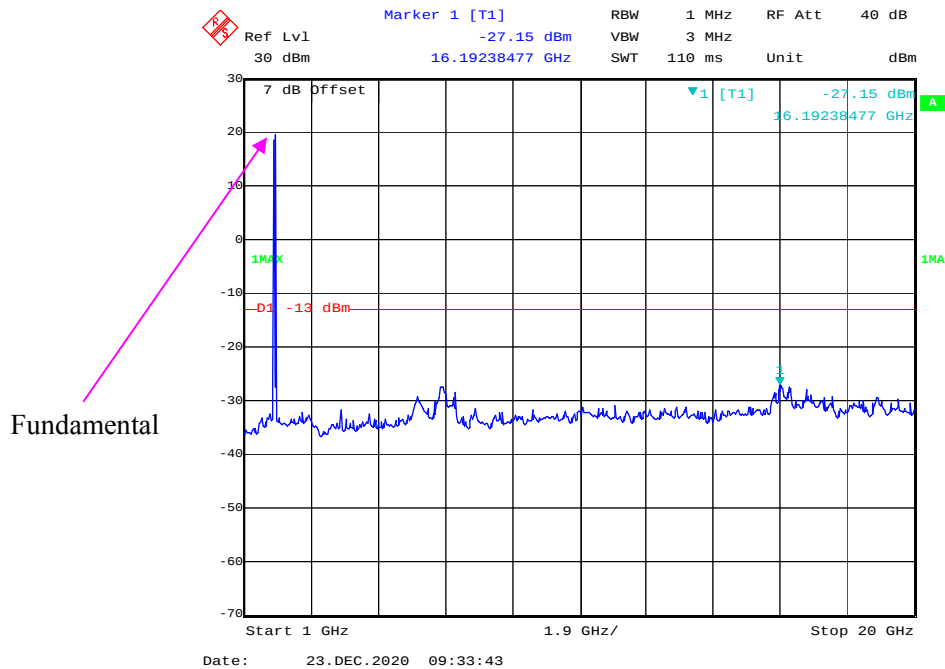
1 GHz – 20 GHz (20 MHz, QPSK, Middle Channel)



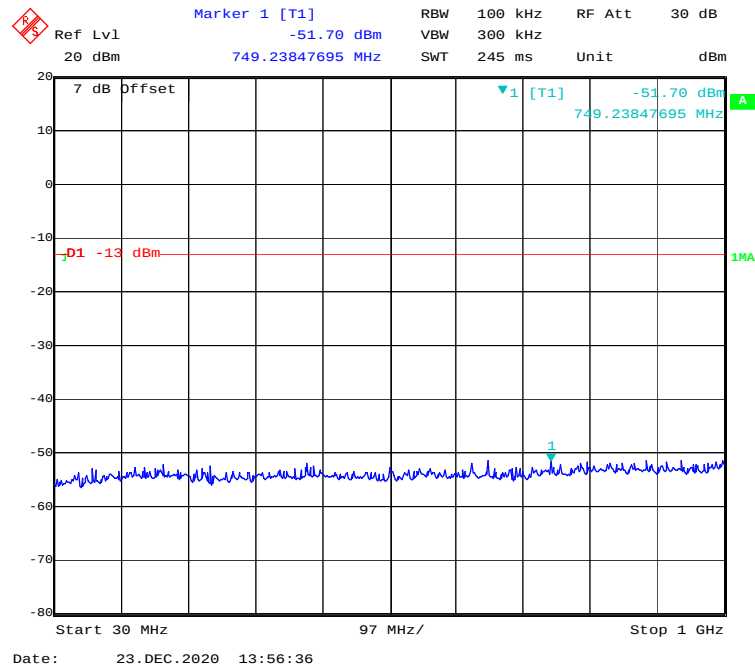
30 MHz - 1 GHz (20 MHz, 16-QAM, Middle Channel)



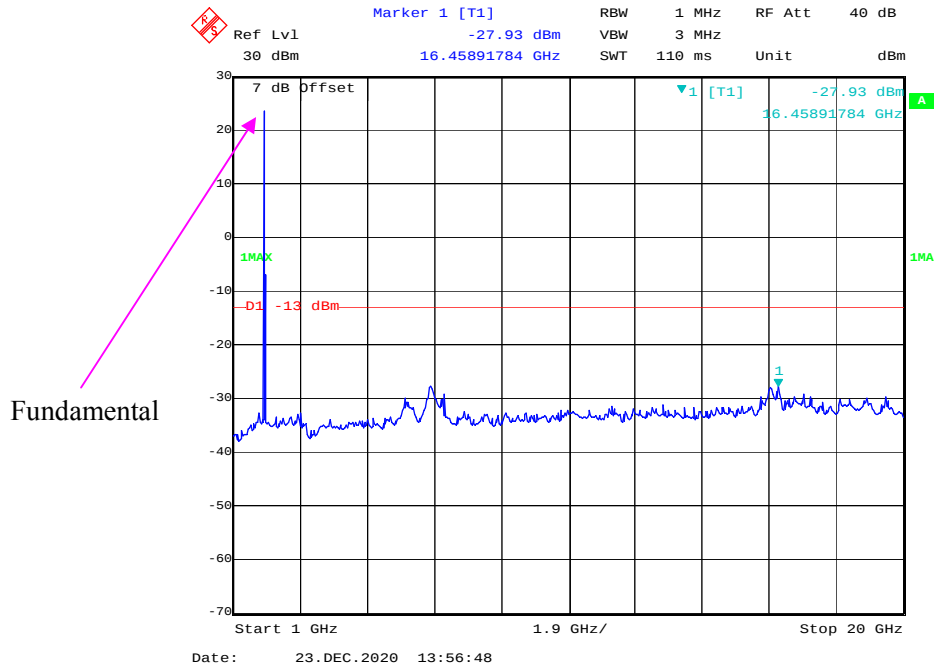
1 GHz – 20 GHz (20 MHz, 16-QAM, Middle Channel)



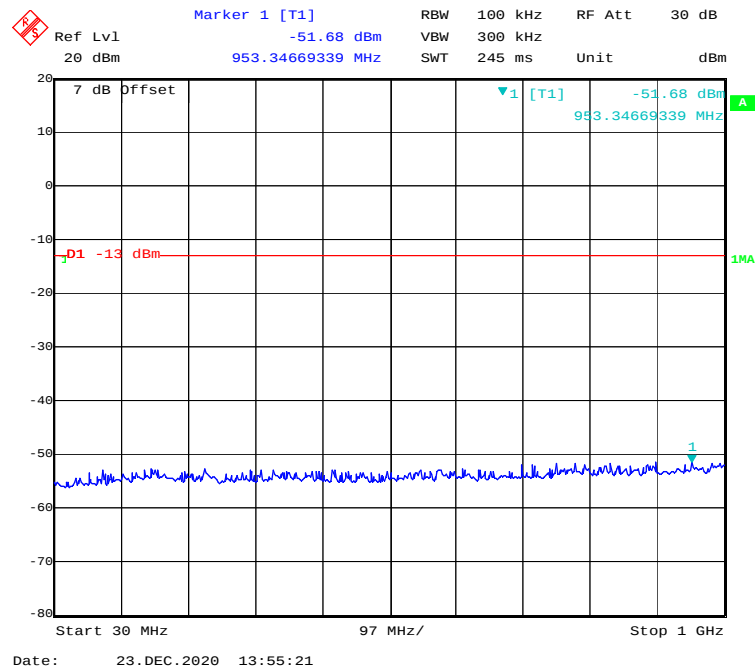
30 MHz - 1 GHz (1.4 MHz, QPSK, High Channel)



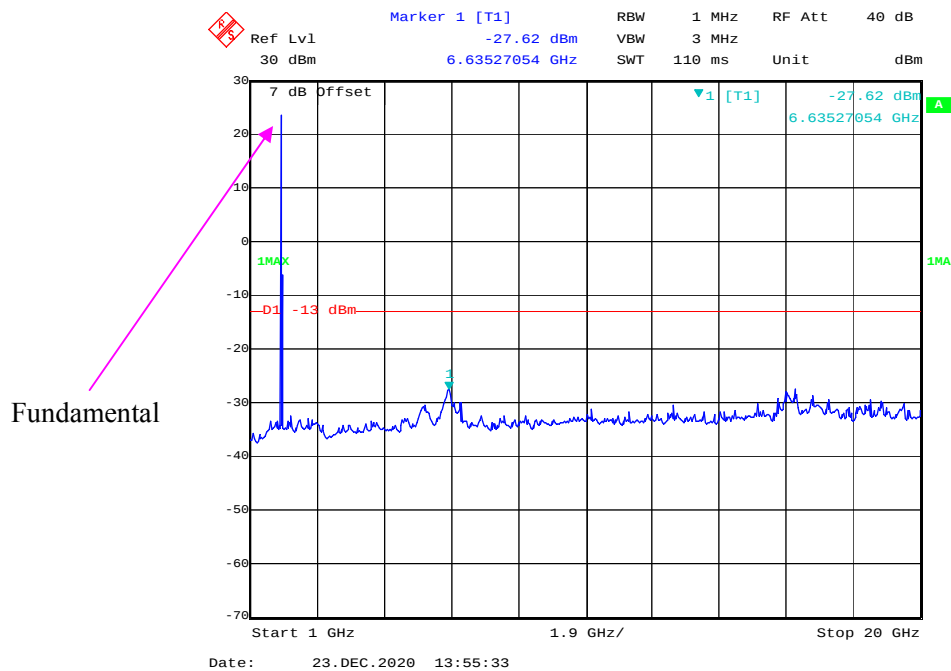
1 GHz – 20 GHz (1.4 MHz, QPSK, High Channel)



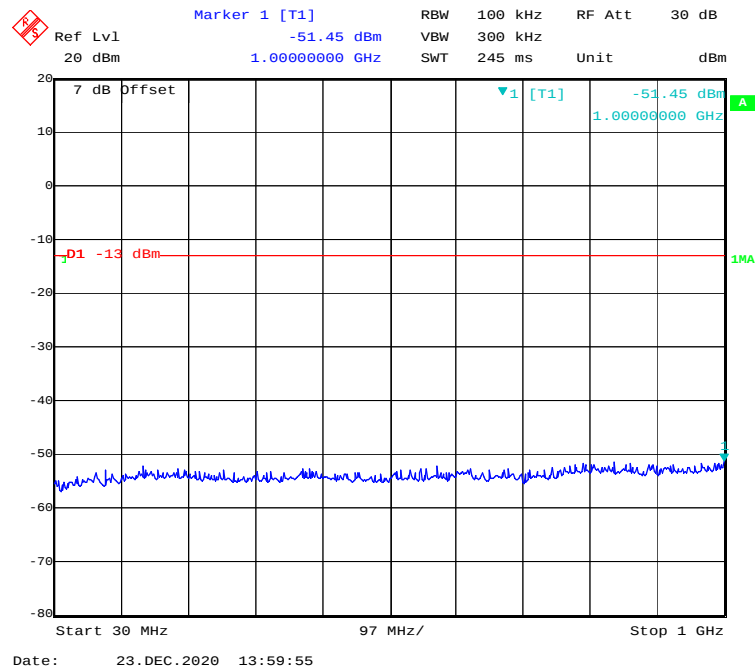
30 MHz - 1 GHz (1.4 MHz, 16-QAM, High Channel)



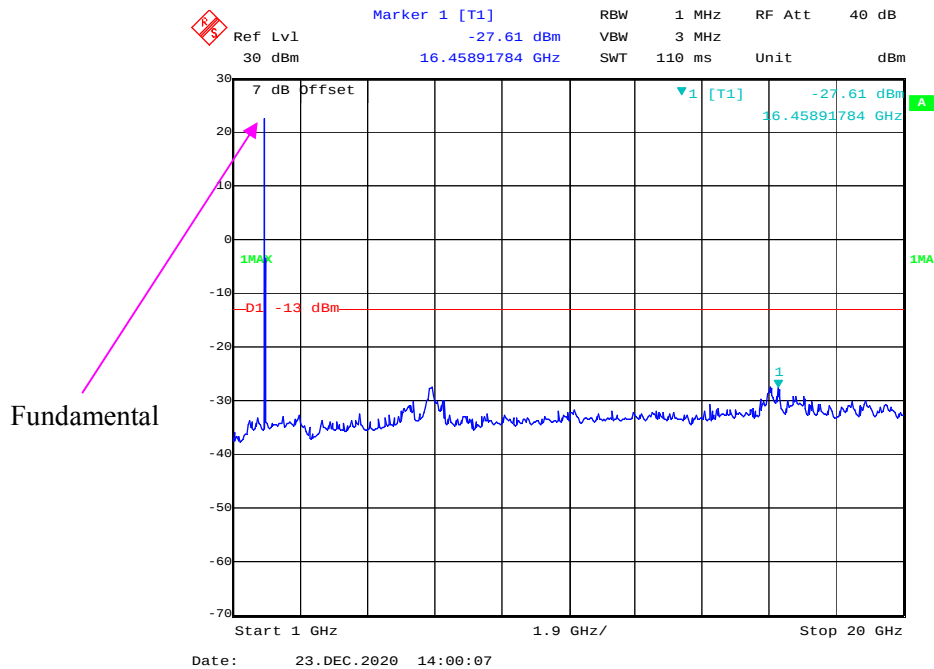
1 GHz – 20 GHz (1.4 MHz, 16-QAM, High Channel)



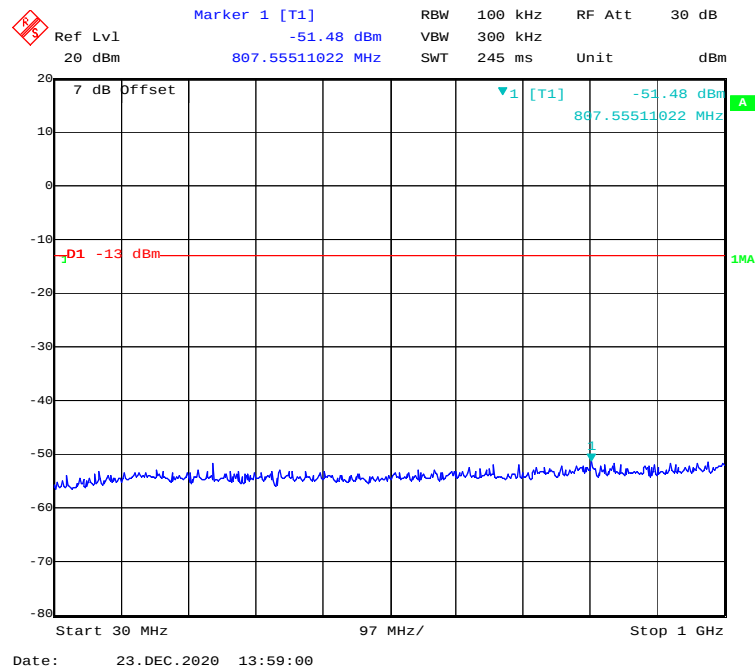
30 MHz - 1 GHz (3 MHz, QPSK, High Channel)



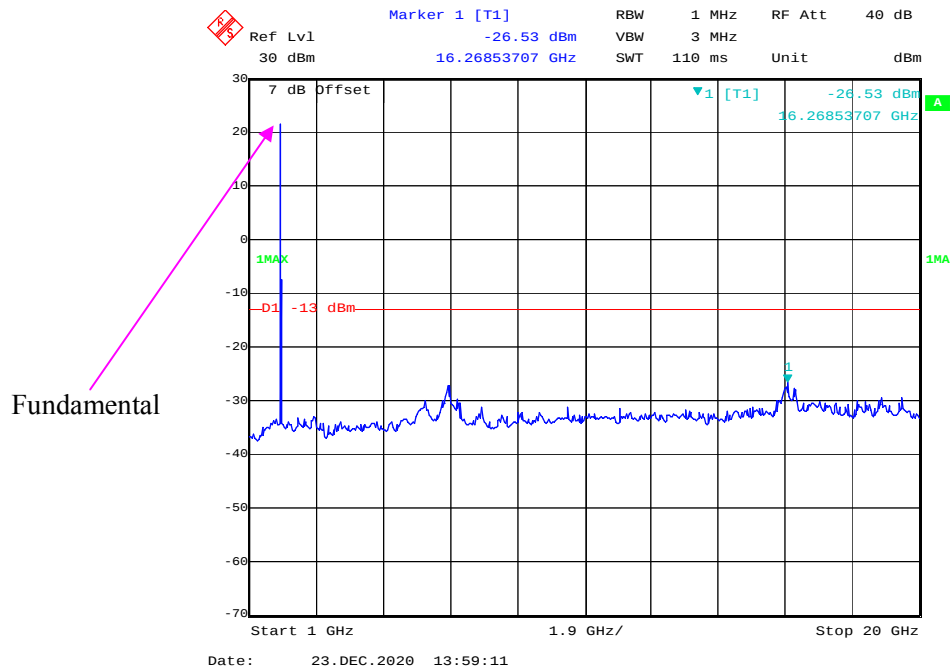
1 GHz – 20 GHz (3 MHz, QPSK, High Channel)



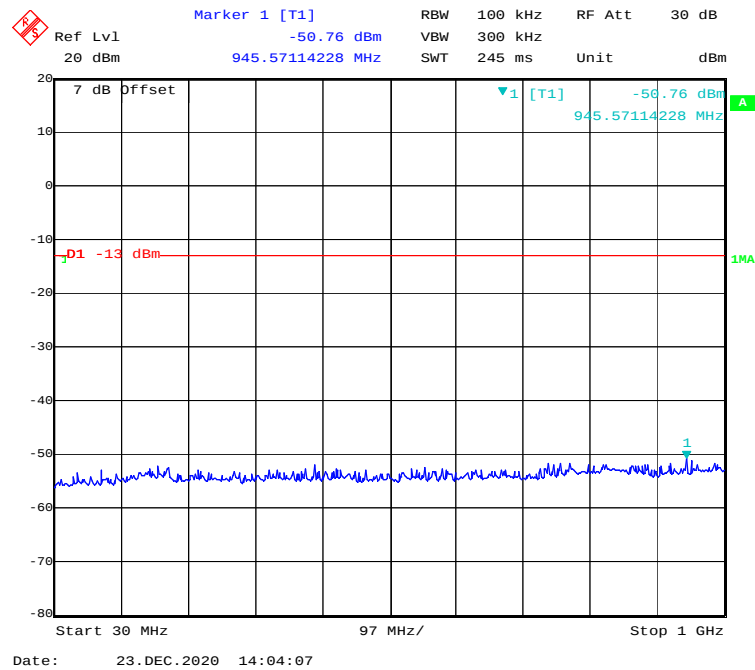
30 MHz - 1 GHz (3 MHz, 16-QAM, High Channel)



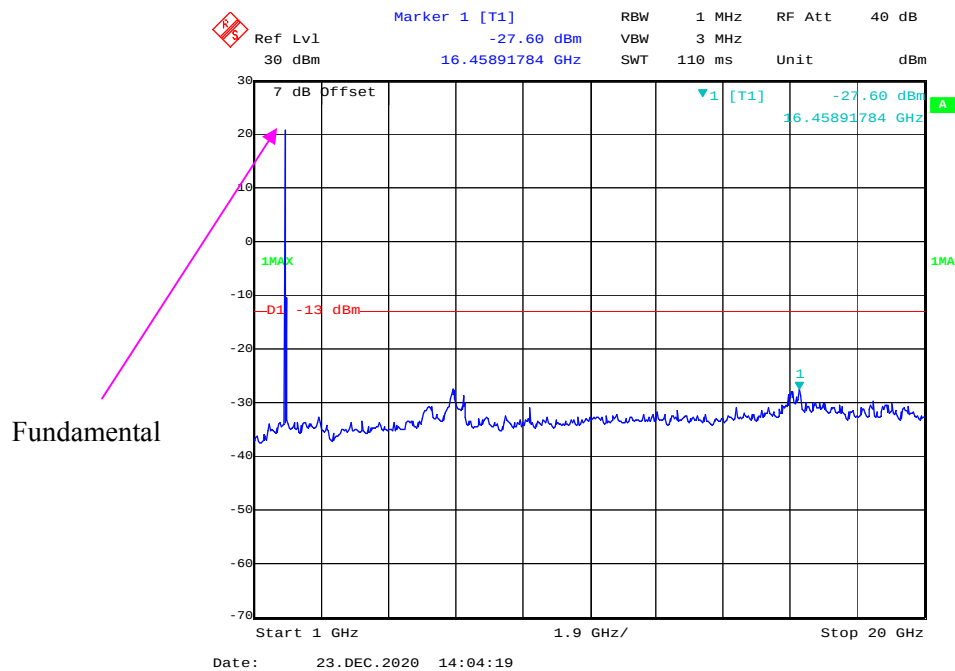
1 GHz – 20 GHz (3 MHz, 16-QAM, High Channel)



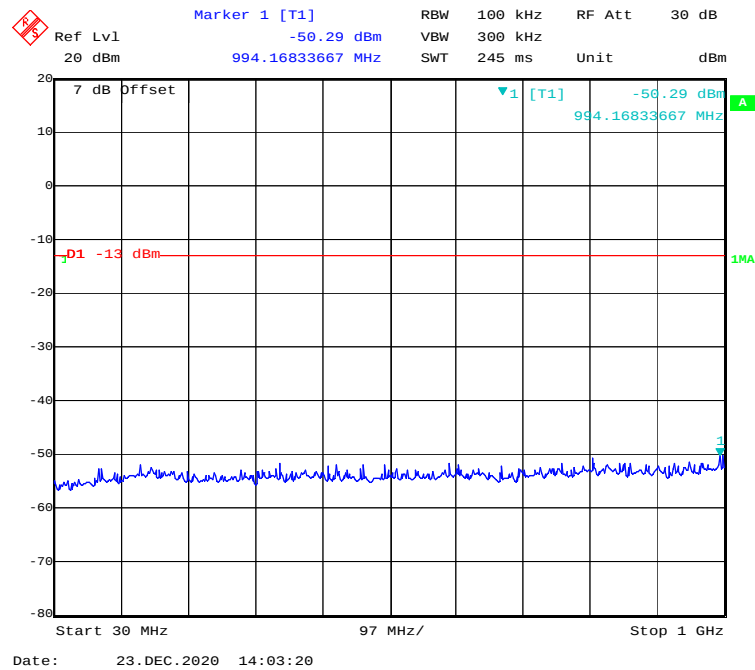
30 MHz - 1 GHz (5 MHz, QPSK, High Channel)



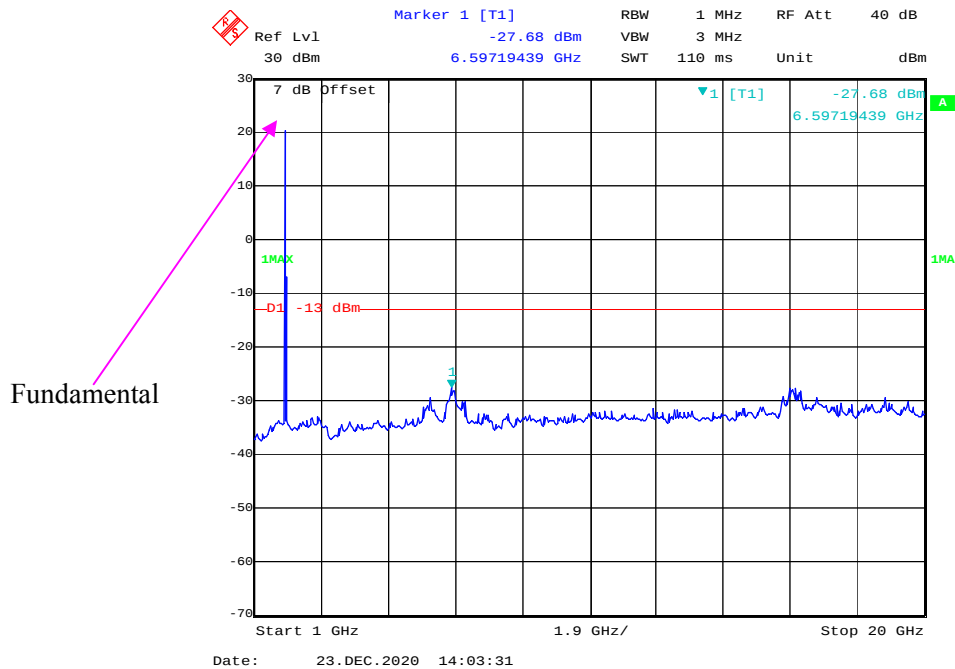
1 GHz - 20 GHz (5 MHz, QPSK, High Channel)



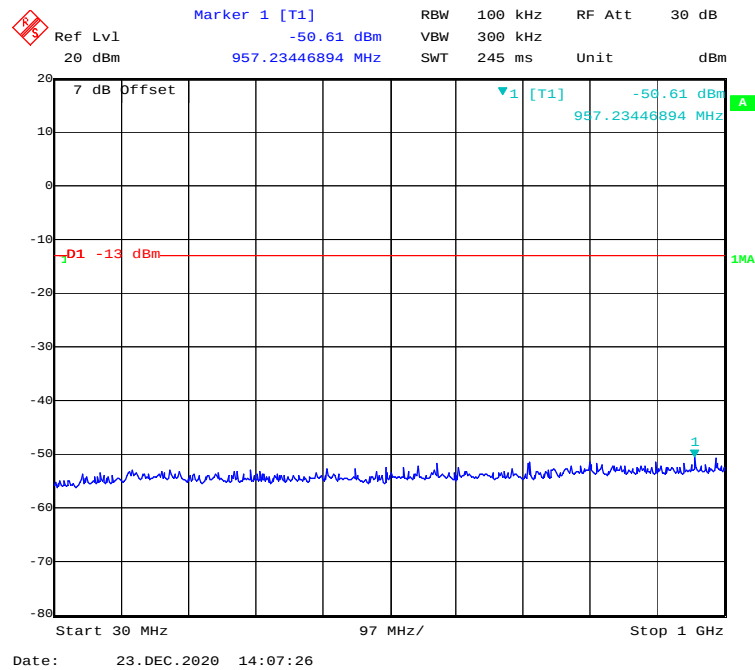
30 MHz - 1 GHz (5 MHz, 16-QAM, High Channel)



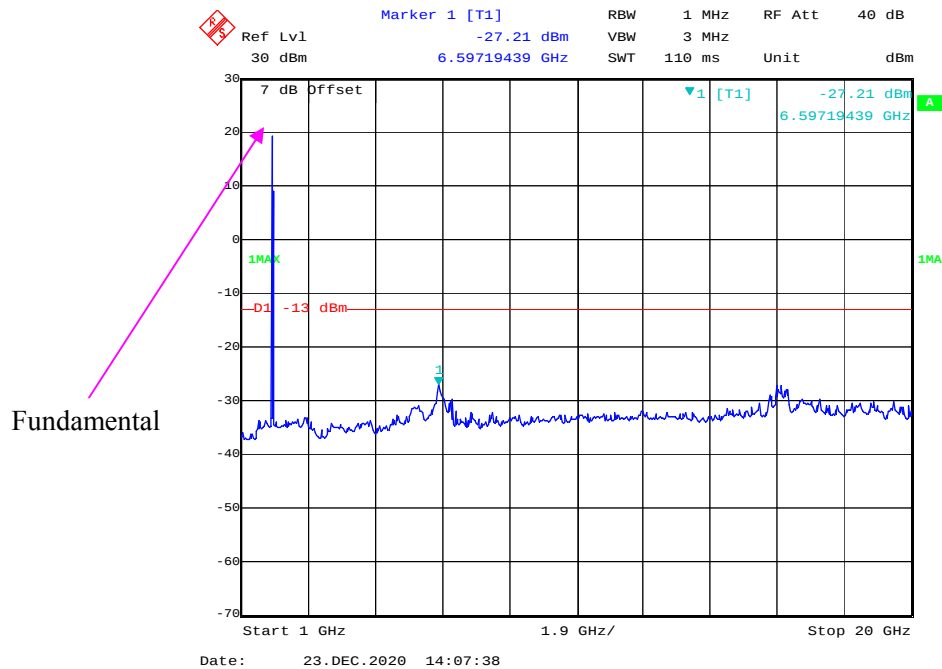
1 GHz – 20 GHz (5 MHz, 16-QAM, High Channel)



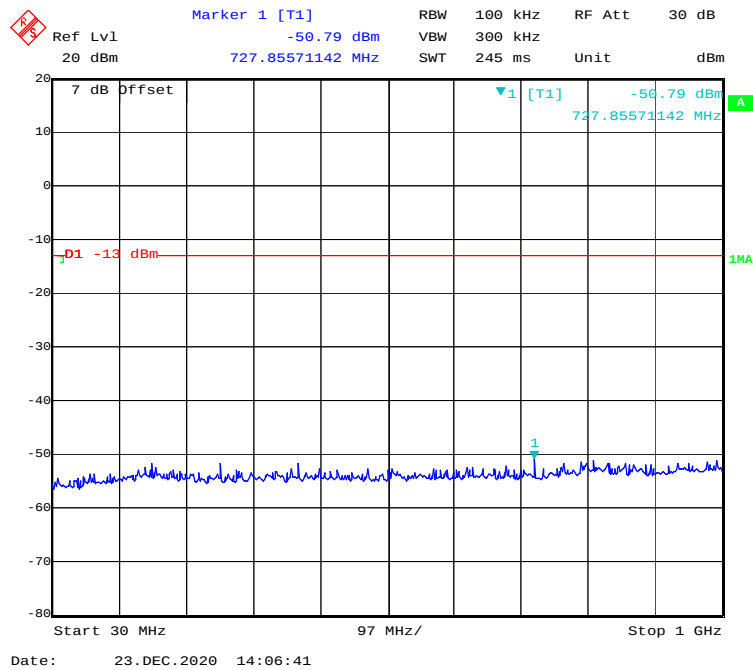
30 MHz - 1 GHz (10 MHz, QPSK, High Channel)



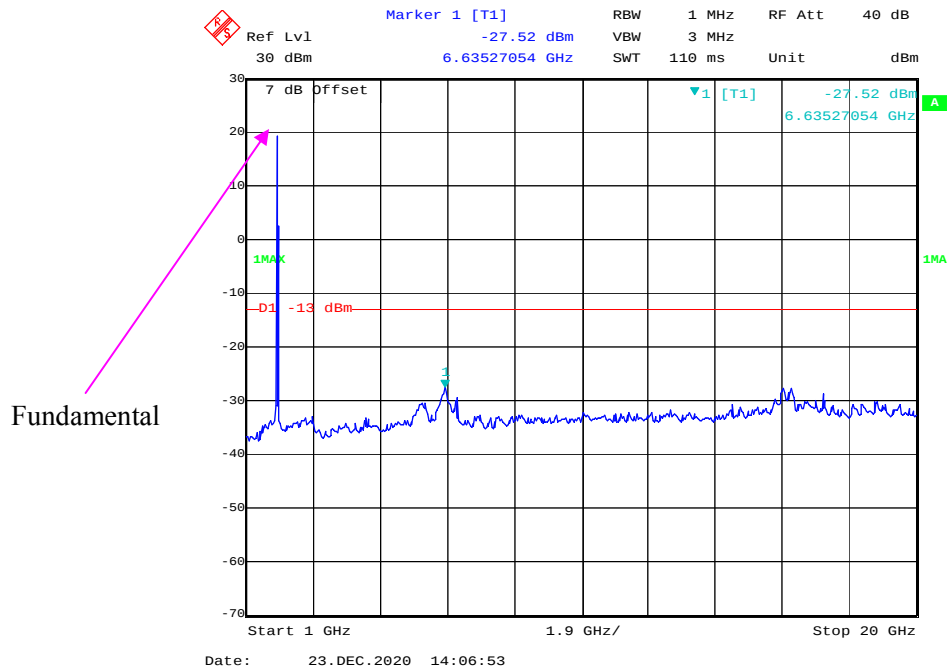
1 GHz – 20 GHz (10 MHz, QPSK, High Channel)



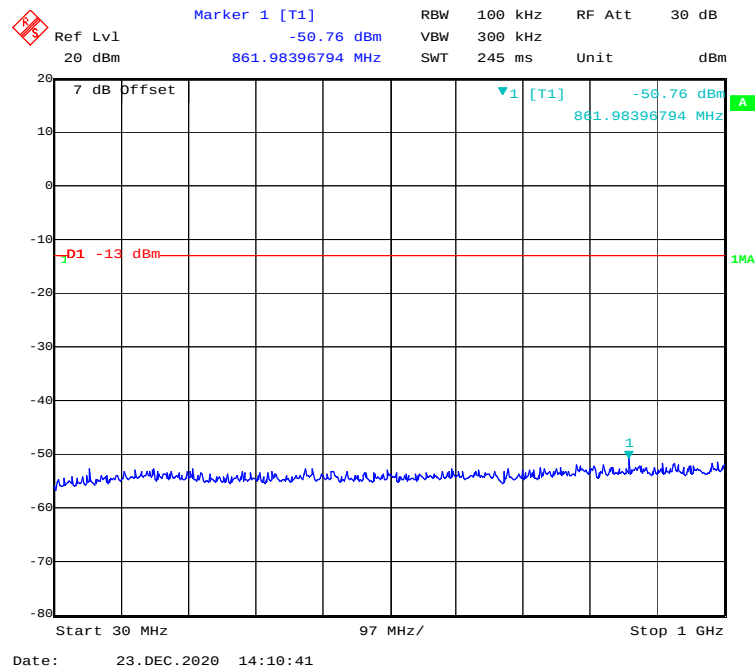
30 MHz - 1 GHz (10 MHz, 16-QAM, High Channel)



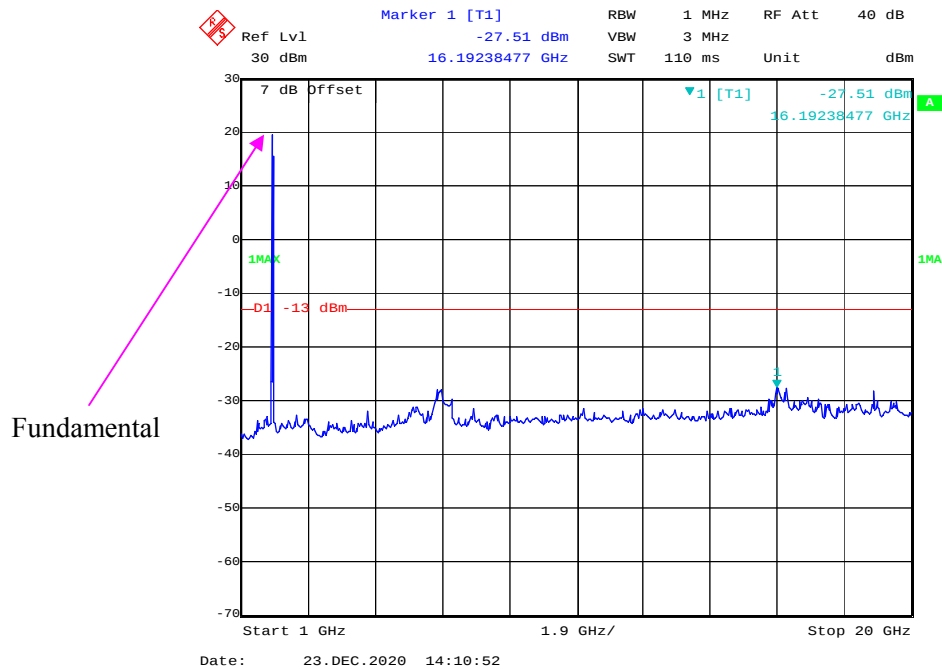
1 GHz – 20 GHz (10 MHz, 16-QAM, High Channel)



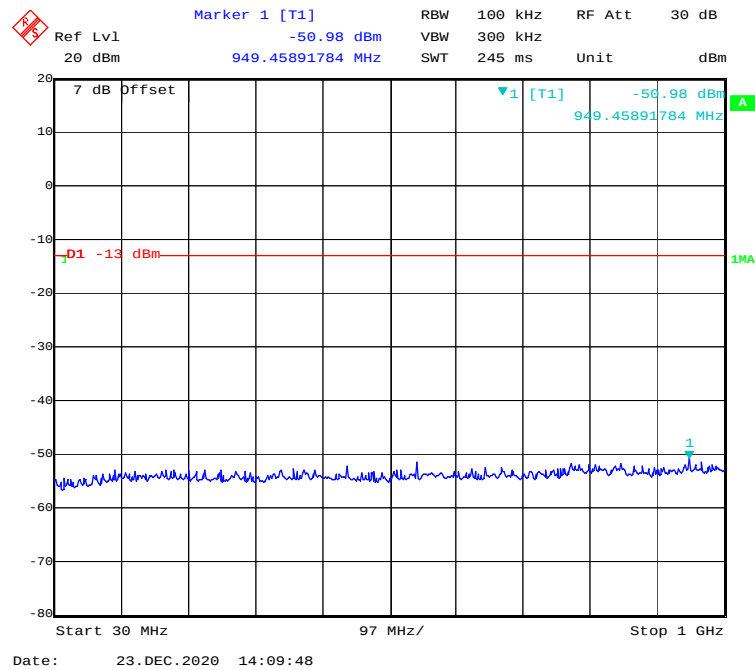
30 MHz - 1 GHz (15 MHz, QPSK, High Channel)



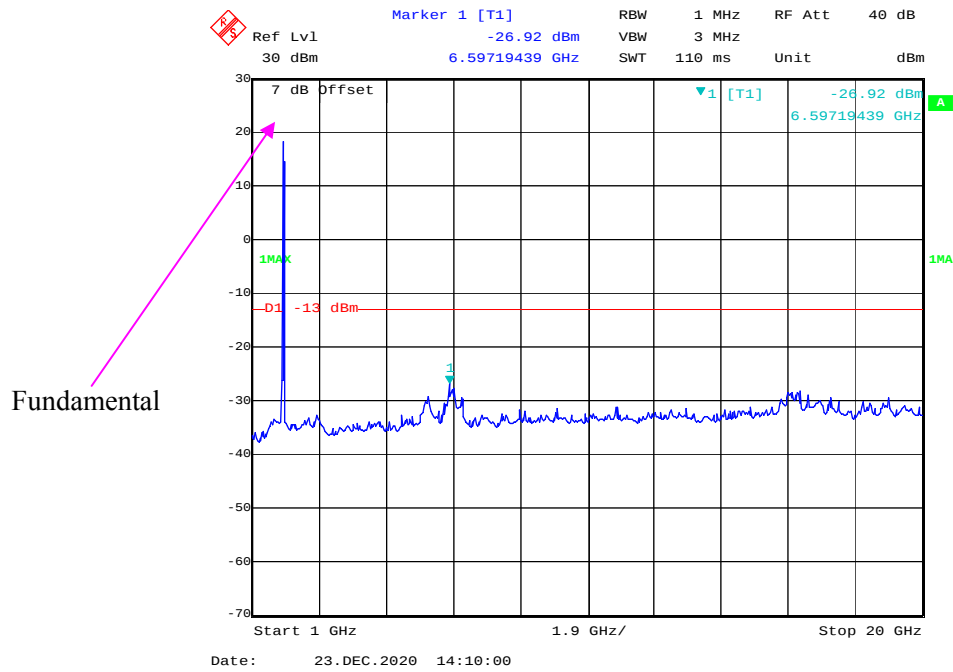
1 GHz – 20 GHz (15 MHz, QPSK, High Channel)



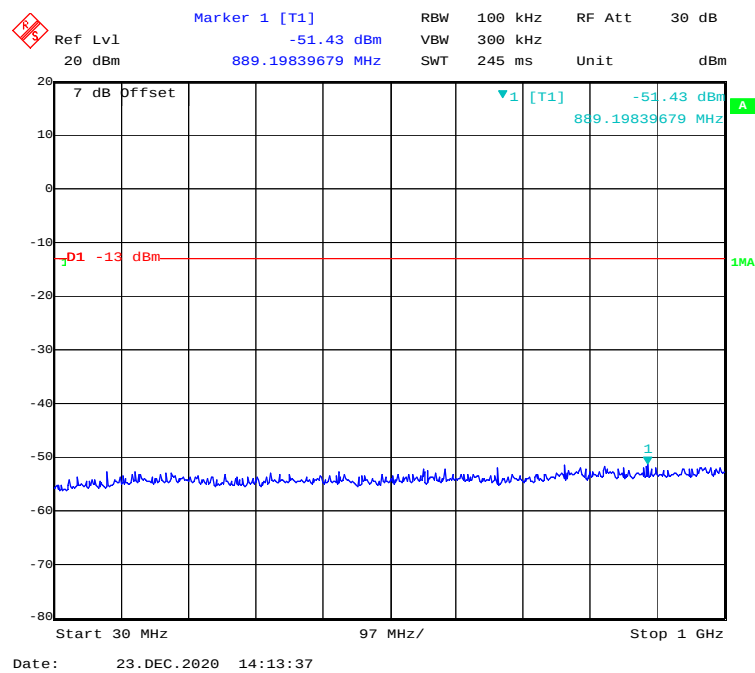
30 MHz - 1 GHz (15 MHz, 16-QAM, High Channel)



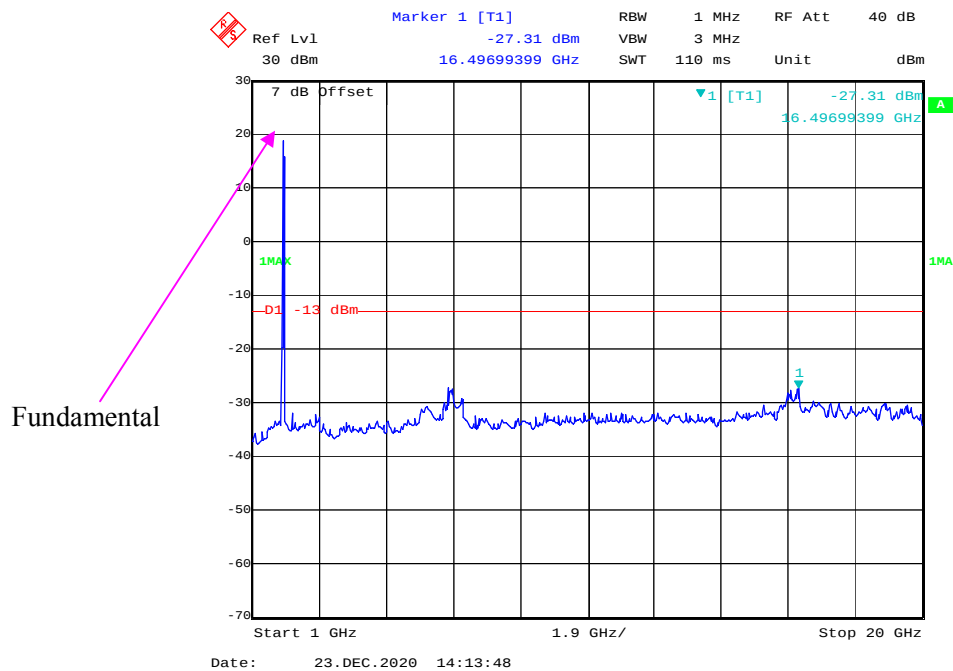
1 GHz – 20 GHz (15 MHz, 16-QAM, High Channel)



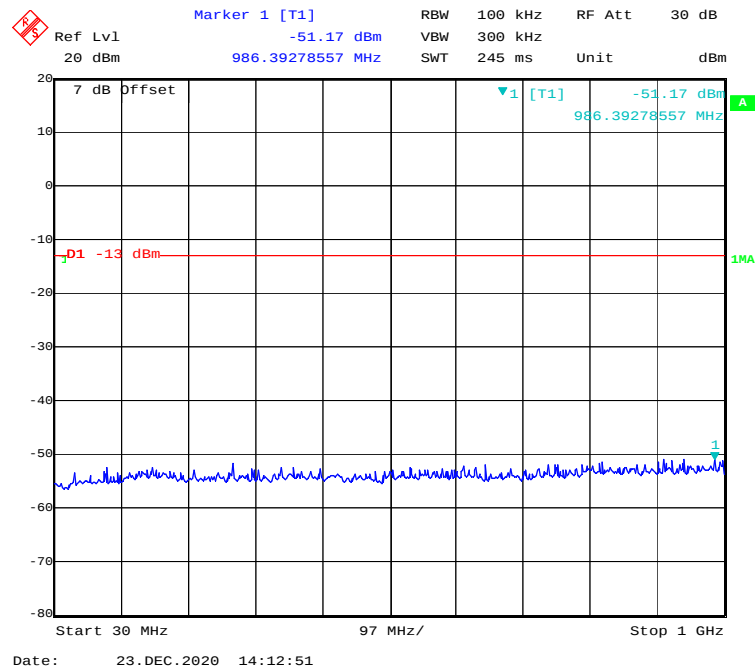
30 MHz - 1 GHz (20 MHz, QPSK, High Channel)



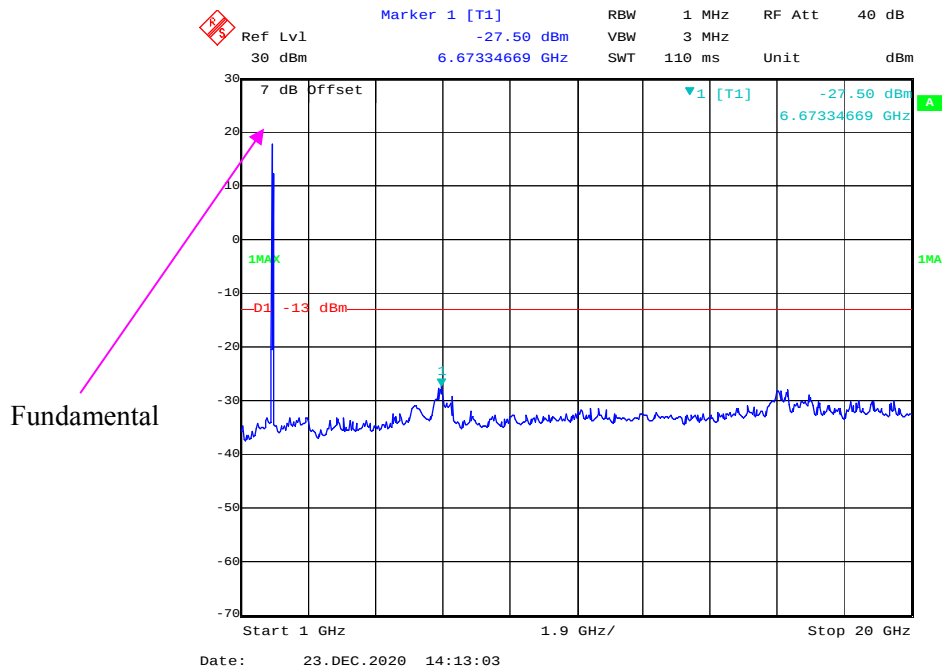
1 GHz – 20 GHz (20 MHz, QPSK, High Channel)

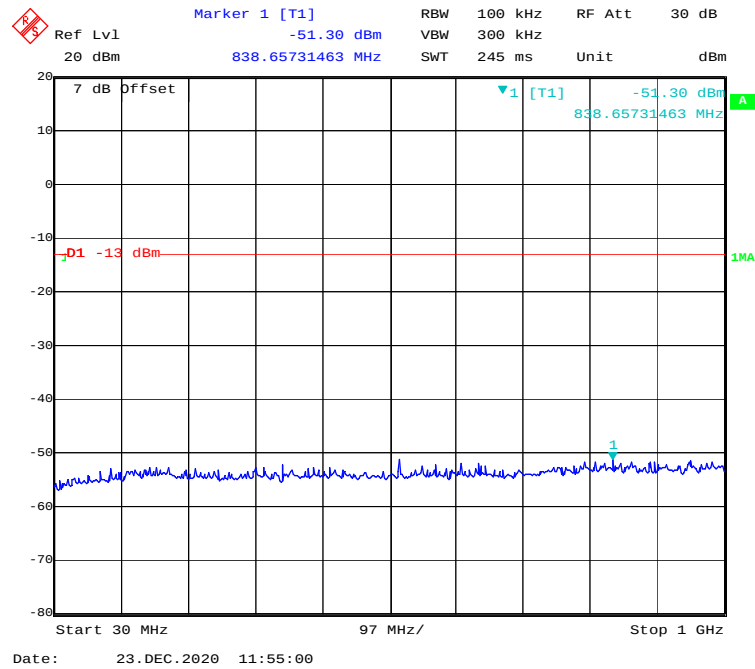
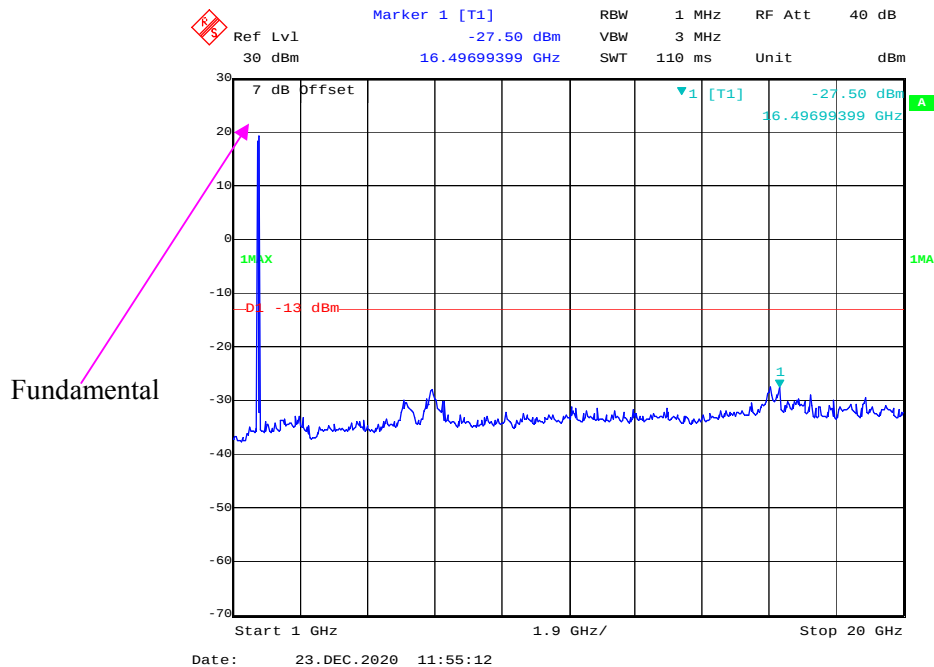


30 MHz - 1 GHz (20 MHz, 16-QAM, High Channel)

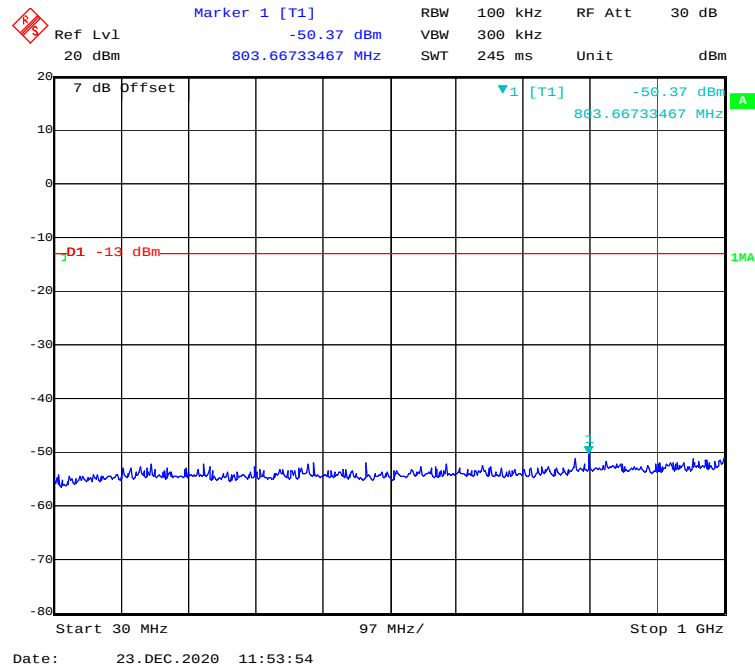


1 GHz – 20 GHz (20 MHz, 16-QAM, High Channel)

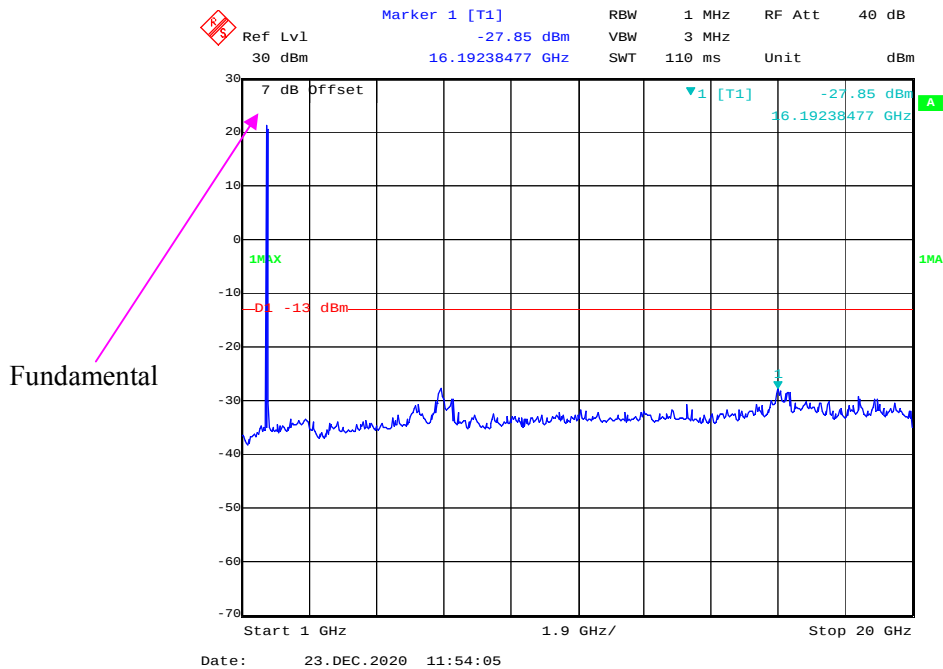


LTE Band 4:**30 MHz - 1 GHz (1.4 MHz, QPSK, Low Channel)****1 GHz – 20 GHz (1.4 MHz, QPSK, Low Channel)**

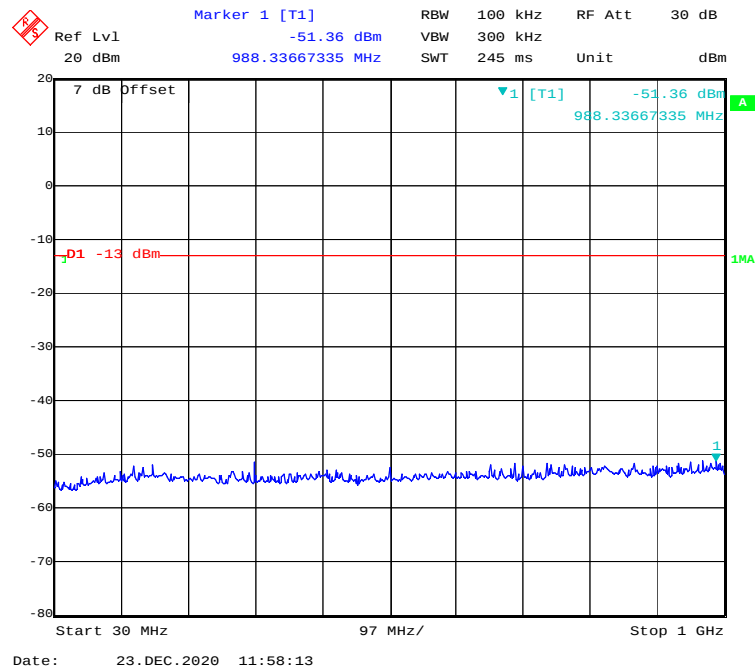
30 MHz - 1 GHz (1.4 MHz, 16-QAM, Low Channel)



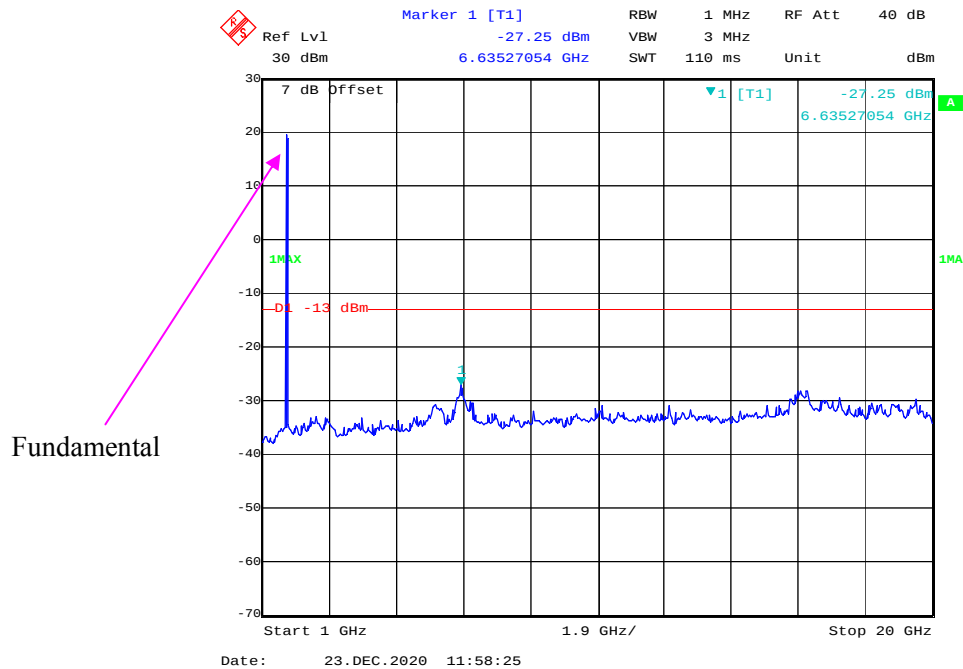
1 GHz – 20 GHz (1.4 MHz, 16-QAM, Low Channel)



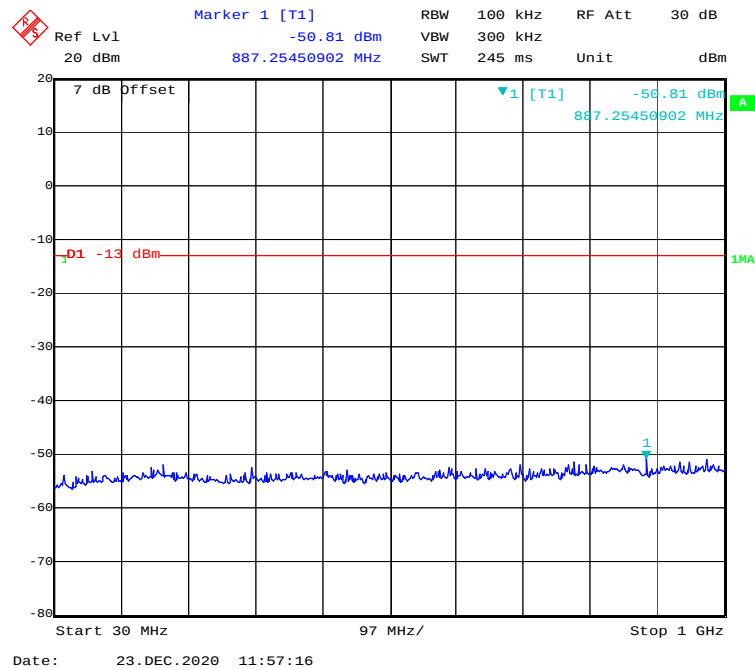
30 MHz - 1 GHz (3 MHz, QPSK, Low Channel)



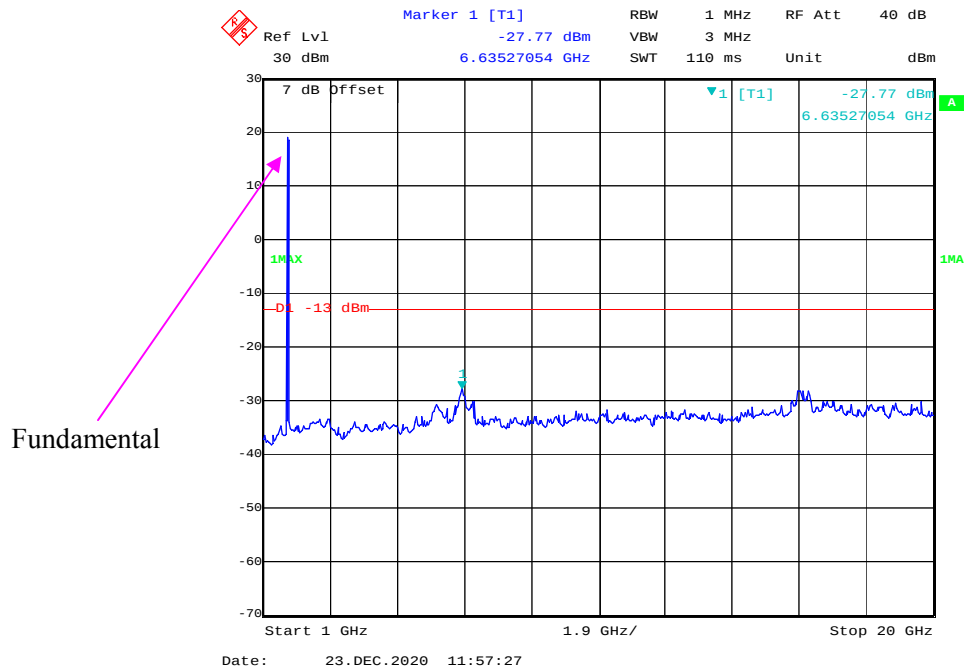
1 GHz – 20 GHz (3 MHz, QPSK, Low Channel)



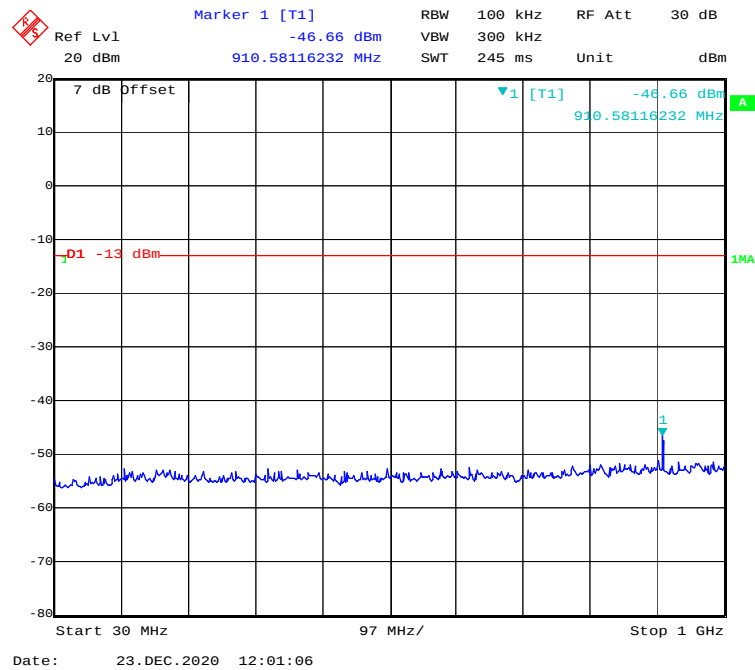
30 MHz - 1 GHz (3 MHz, 16-QAM, Low Channel)



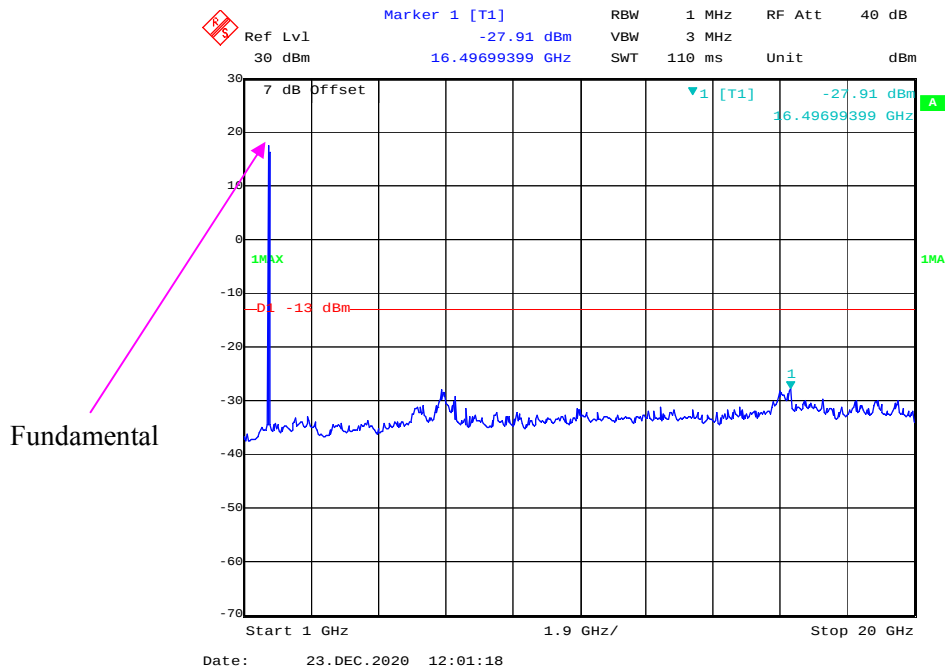
1 GHz – 20 GHz (3 MHz, 16-QAM, Low Channel)



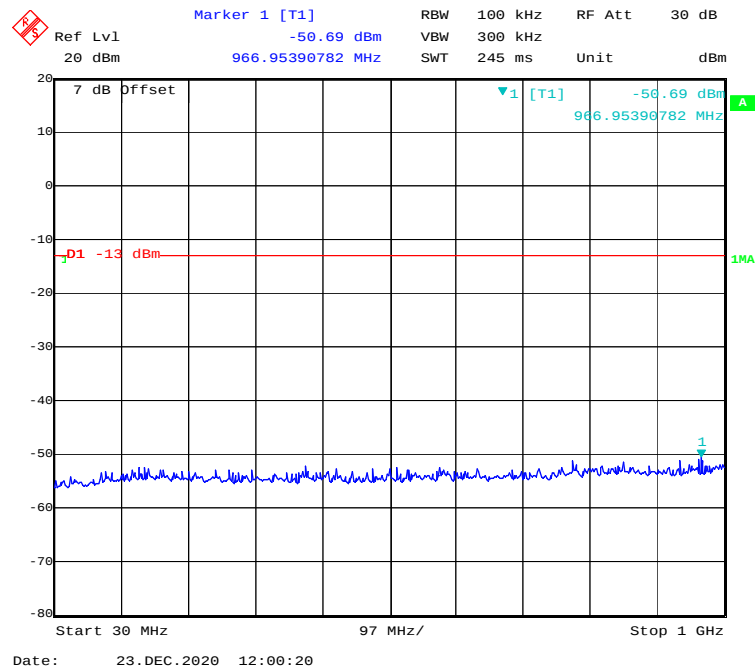
30 MHz - 1 GHz (5 MHz, QPSK, Low Channel)



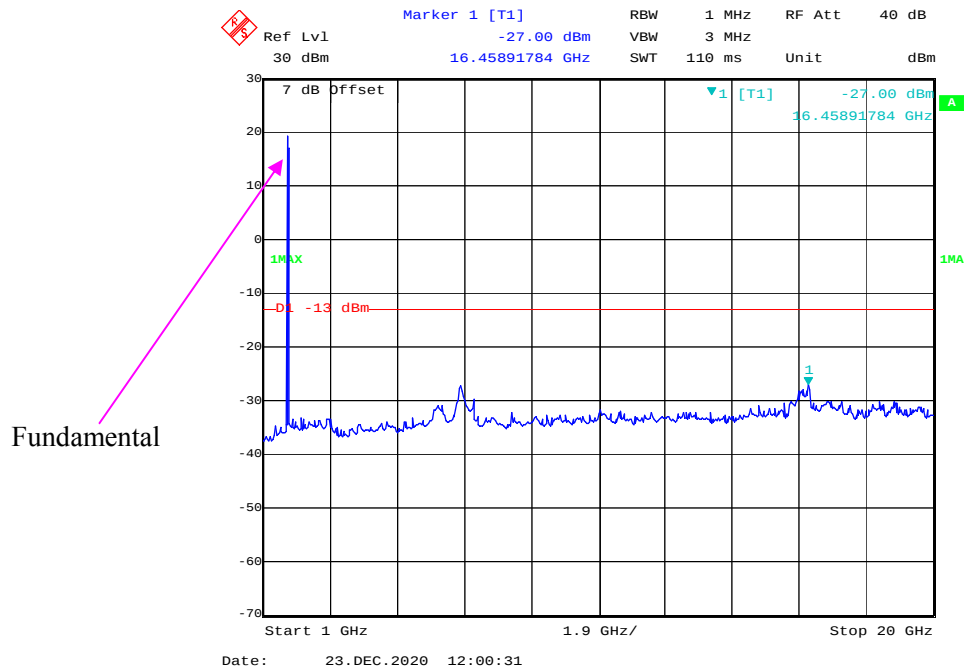
1 GHz – 20 GHz (5 MHz, QPSK, Low Channel)



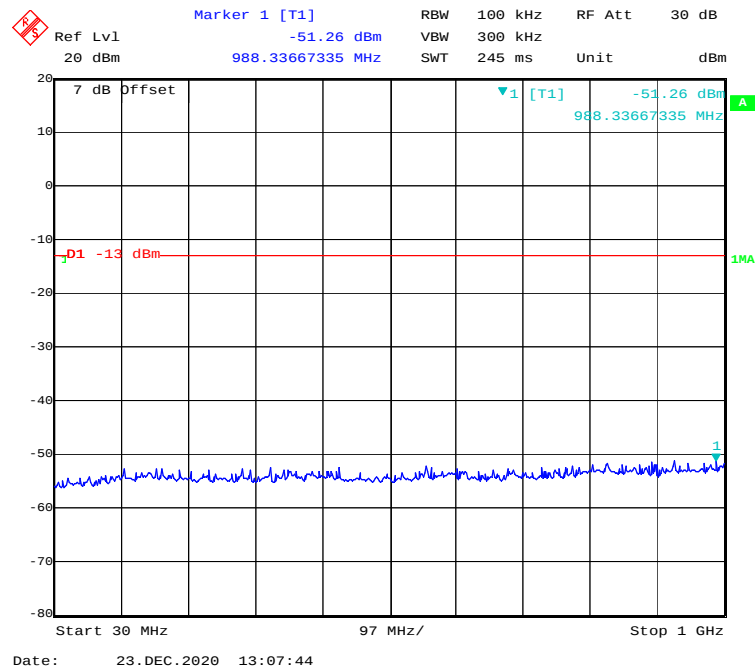
30 MHz - 1 GHz (5 MHz, 16-QAM, Low Channel)



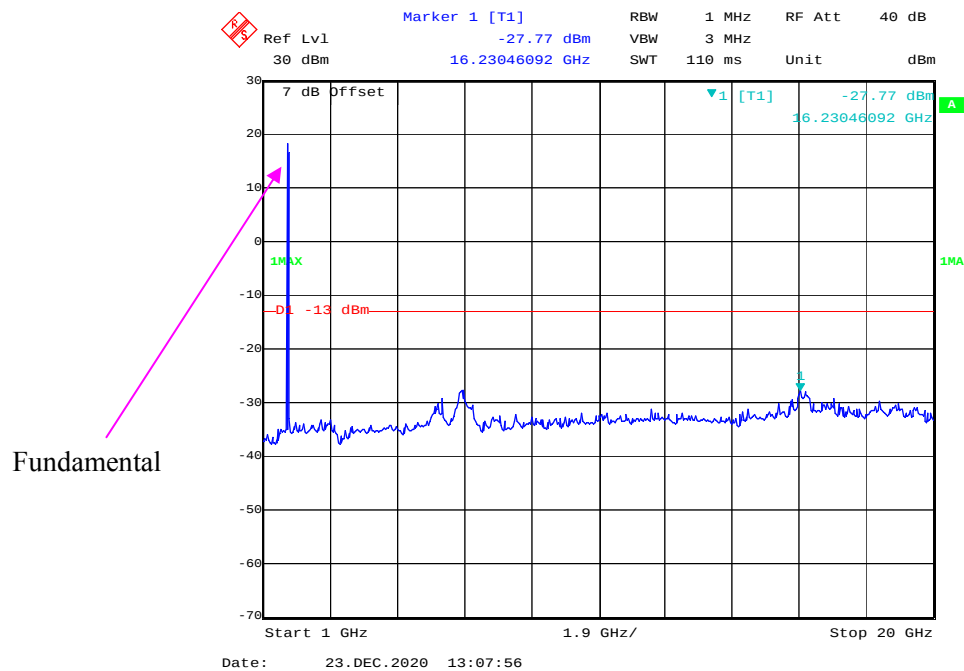
1 GHz – 20 GHz (5 MHz, 16-QAM, Low Channel)



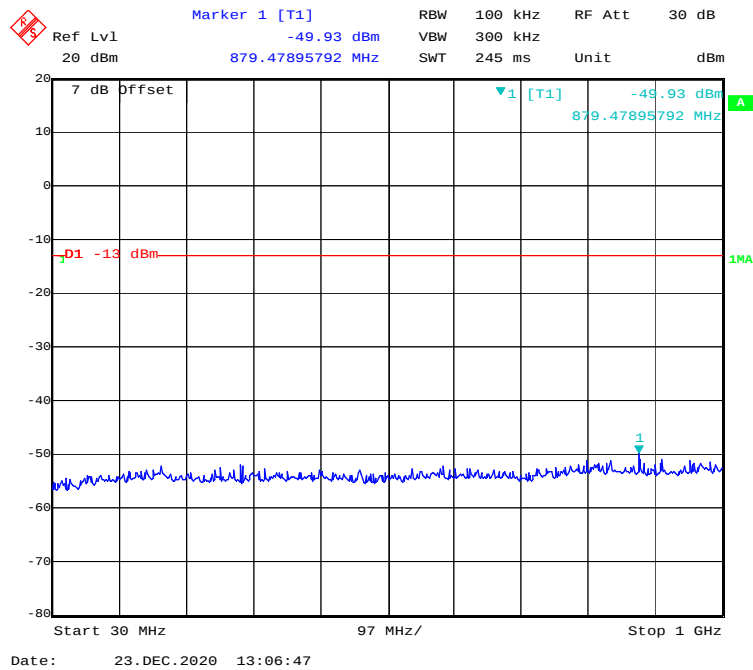
30 MHz - 1 GHz (10 MHz, QPSK, Low Channel)



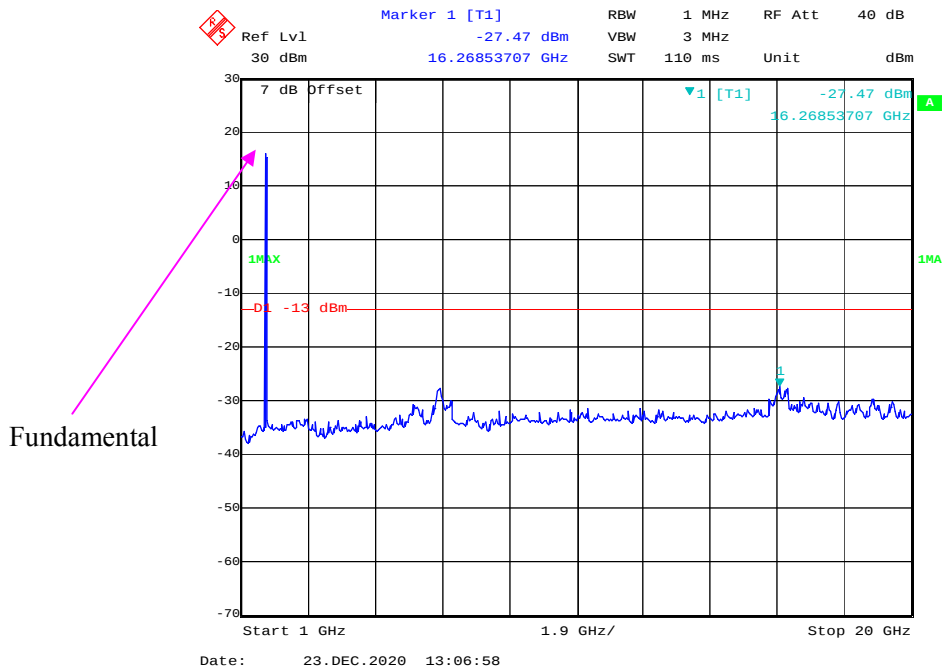
1 GHz – 20 GHz (10 MHz, QPSK, Low Channel)



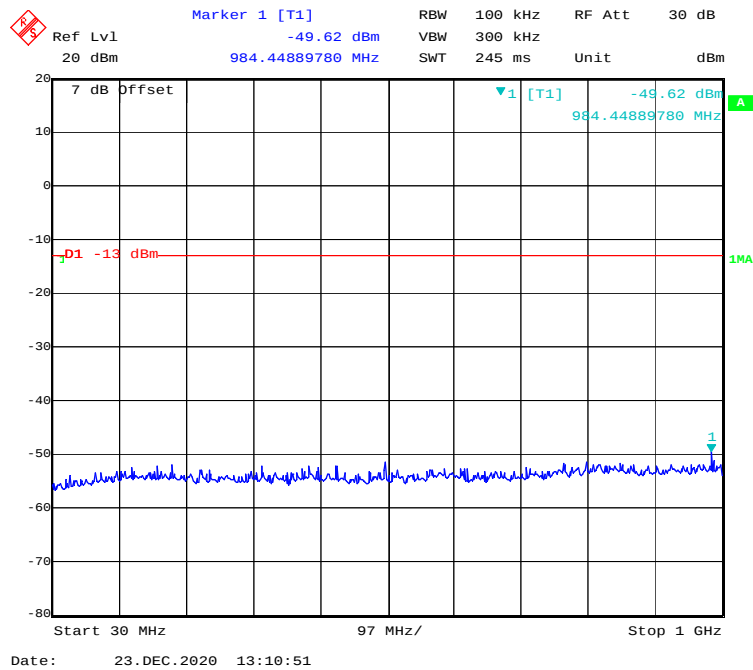
30 MHz - 1 GHz (10 MHz, 16-QAM, Low Channel)



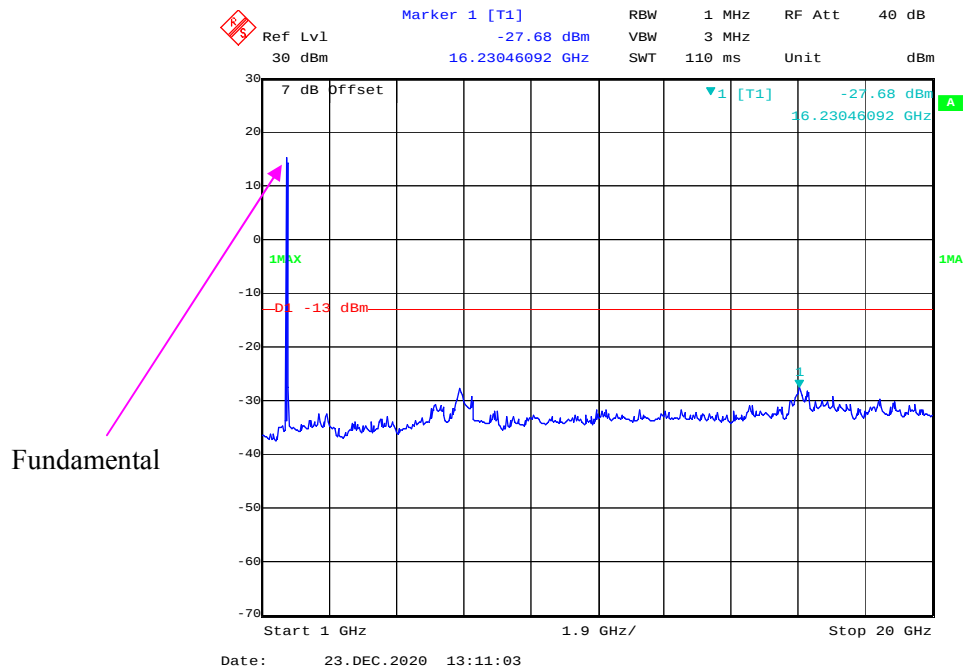
1 GHz – 20 GHz (10 MHz, 16-QAM, Low Channel)



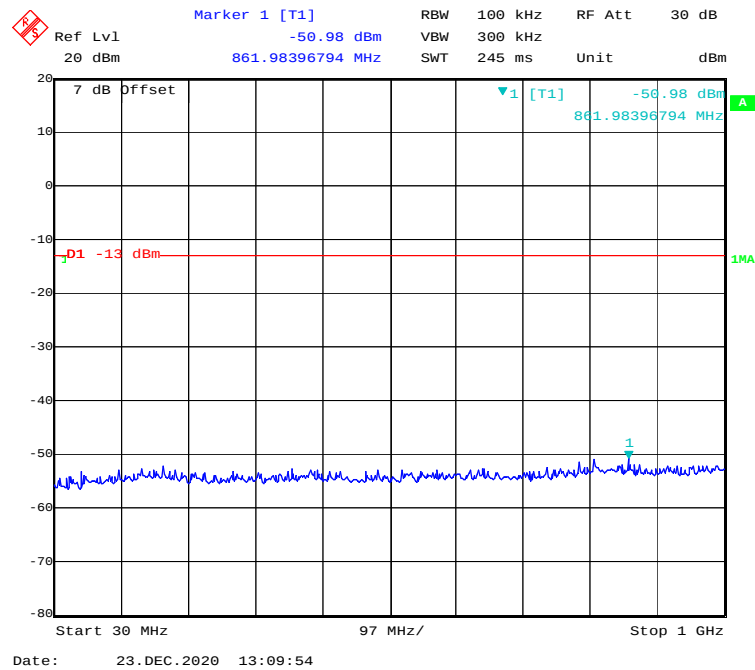
30 MHz - 1 GHz (15 MHz, QPSK, Low Channel)



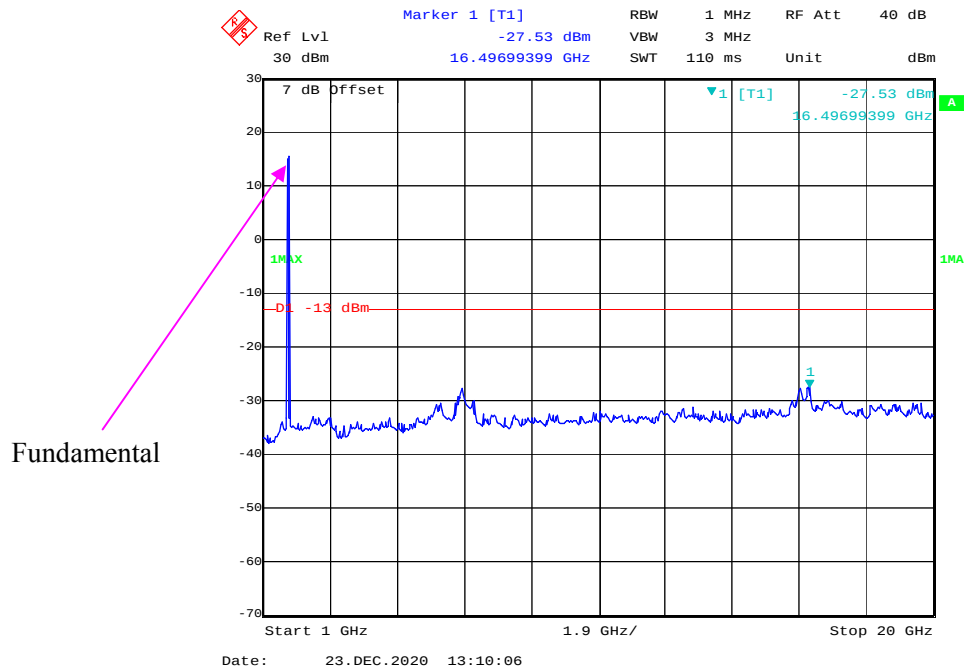
1 GHz – 20 GHz (15 MHz, QPSK, Low Channel)



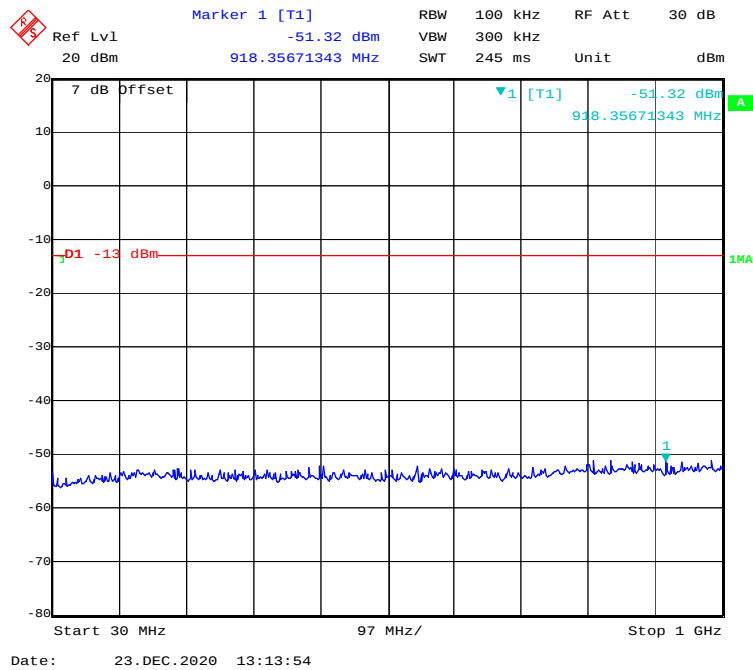
30 MHz - 1 GHz (15 MHz, 16-QAM, Low Channel)



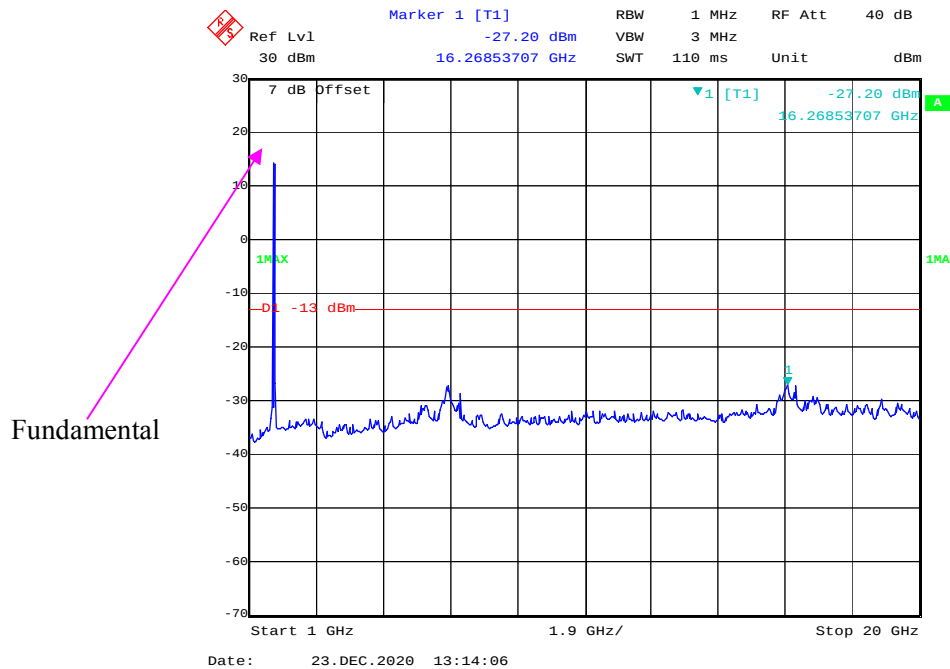
1 GHz – 20 GHz (15 MHz, 16-QAM, Low Channel)



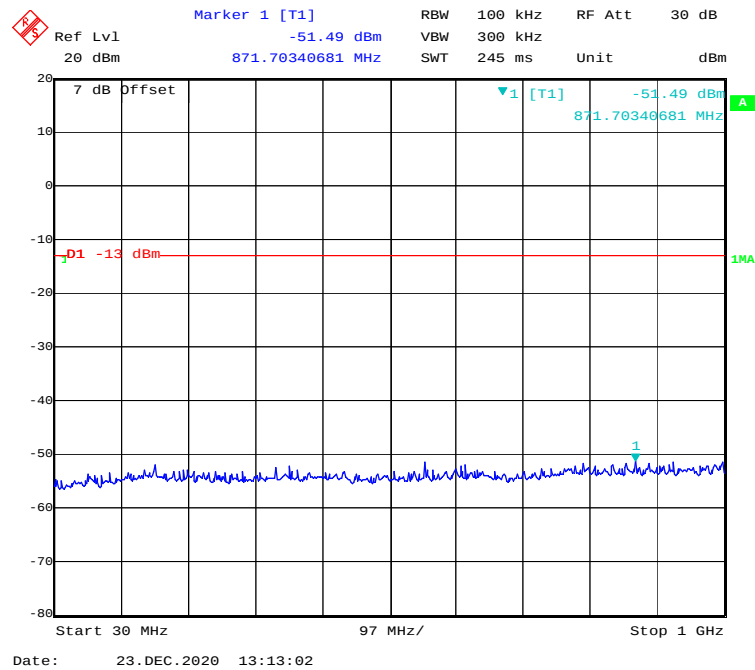
30 MHz - 1 GHz (20 MHz, QPSK, Low Channel)



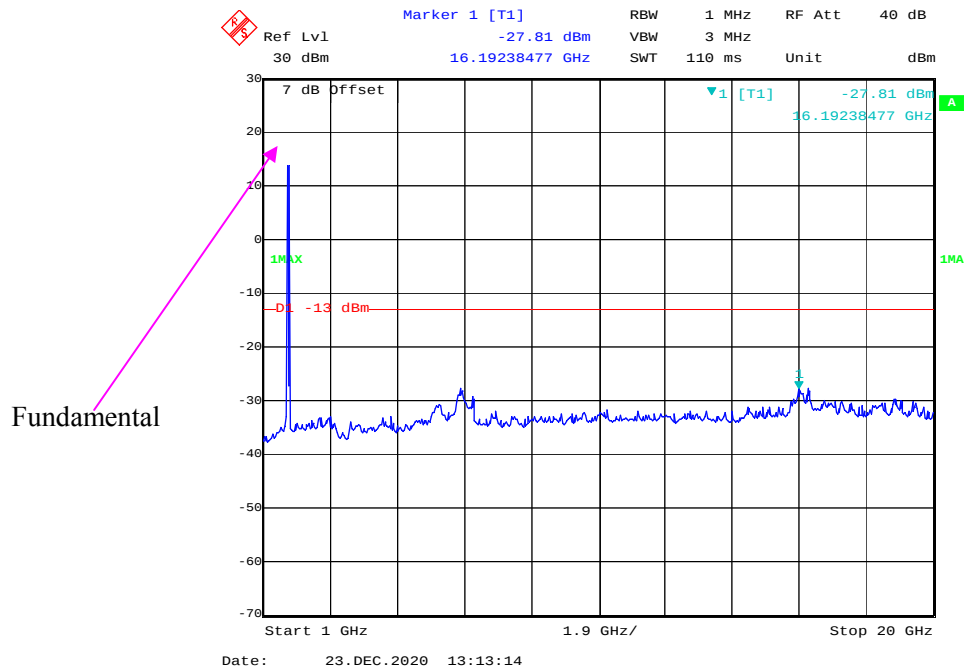
1 GHz – 20 GHz (20 MHz, QPSK, Low Channel)



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



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



RBW 100 kHz RF Att 30 dB
 VBW 300 kHz
 Ref Lvl 20 dBm
 Marker 1 [T1] -51.36 dBm
 825.05010020 MHz
 Unit dBm
 Start 30 MHz 97 MHz/ Stop 1 GHz
 Date: 23.DEC.2020 09:48:10

Ref Lvl 30 dBm

Marker 1 [T1]

-26.54 dBm

16.23046092 GHz

RBW 1 MHz

VBW 3 MHz

SWT 110 ms

RF Att 40 dB

Unit dBm

7 dB Offset

1MAX

-13 dBm

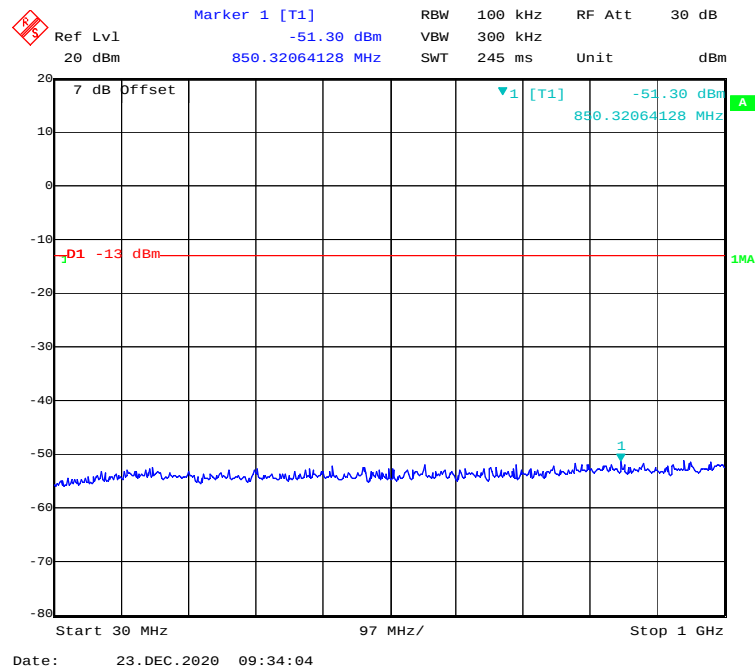
Start 1 GHz

1.9 GHz/

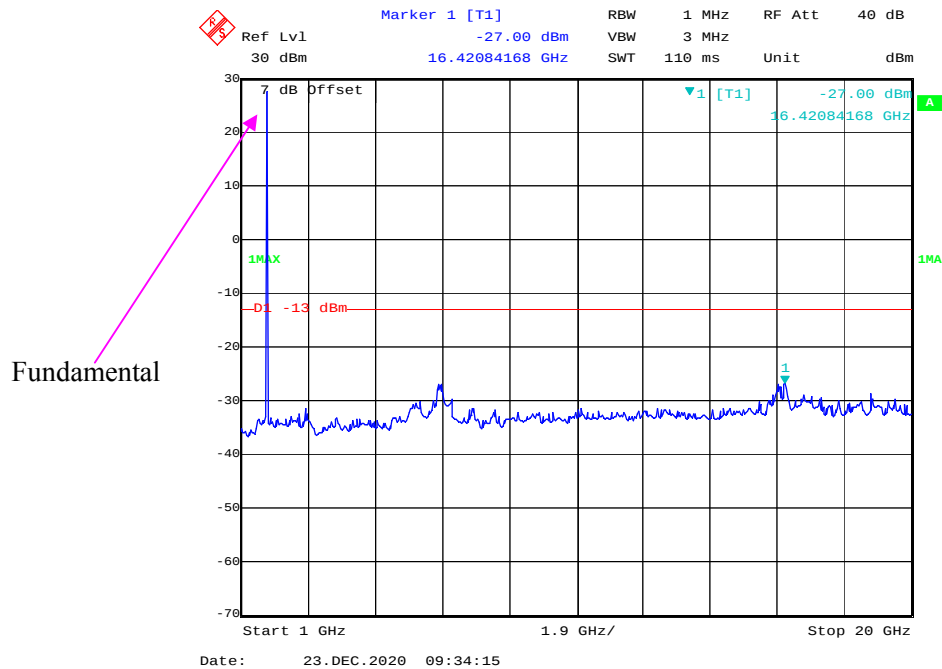
Stop 20 GHz

Date: 23.DEC.2020 09:48:21

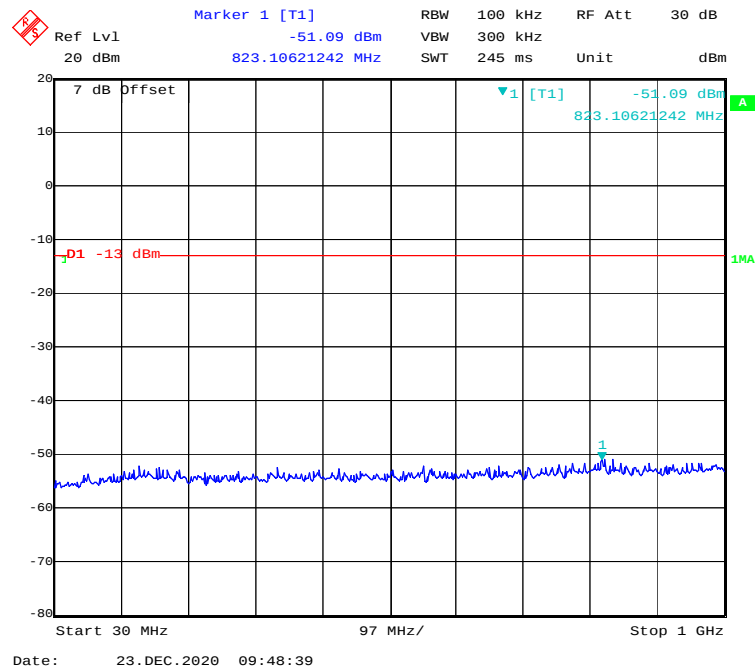
30 MHz - 1 GHz (1.4 MHz, 16-QAM, Middle Channel)



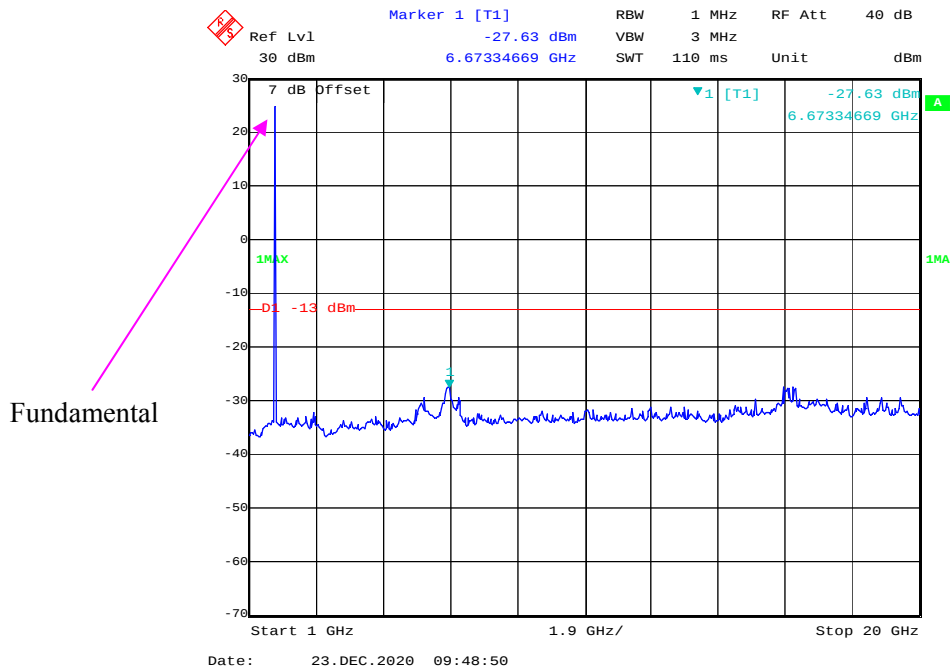
1 GHz – 20 GHz (1.4 MHz, 16-QAM, Middle Channel)



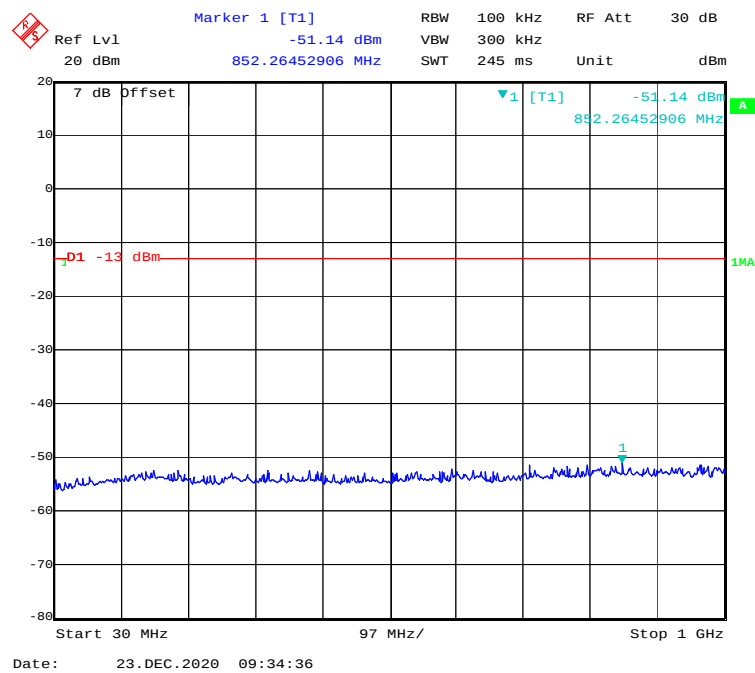
30 MHz - 1 GHz (3 MHz, QPSK, Middle Channel)



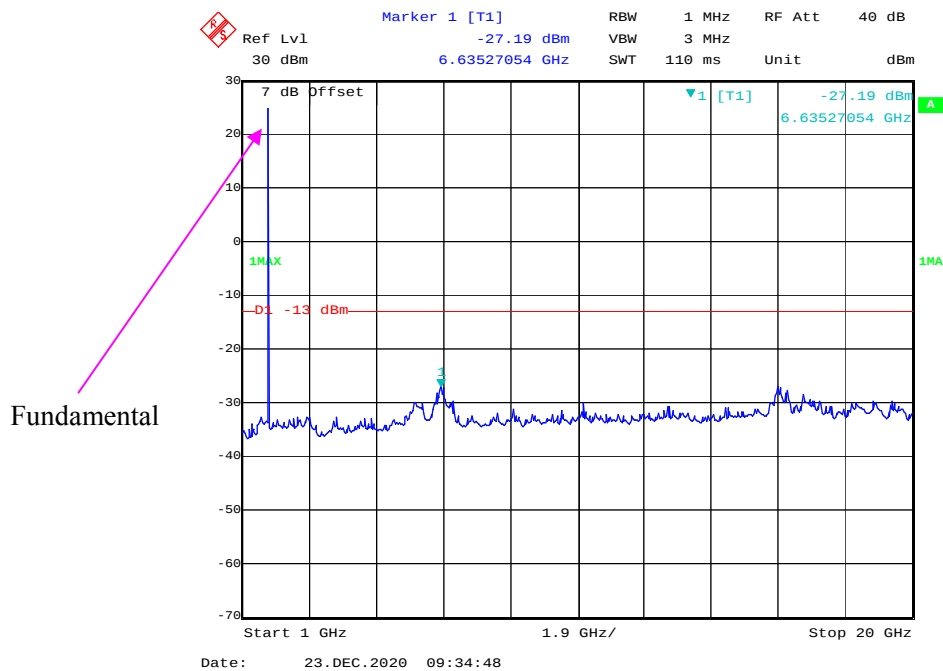
1 GHz – 20 GHz (3 MHz, QPSK, Middle Channel)



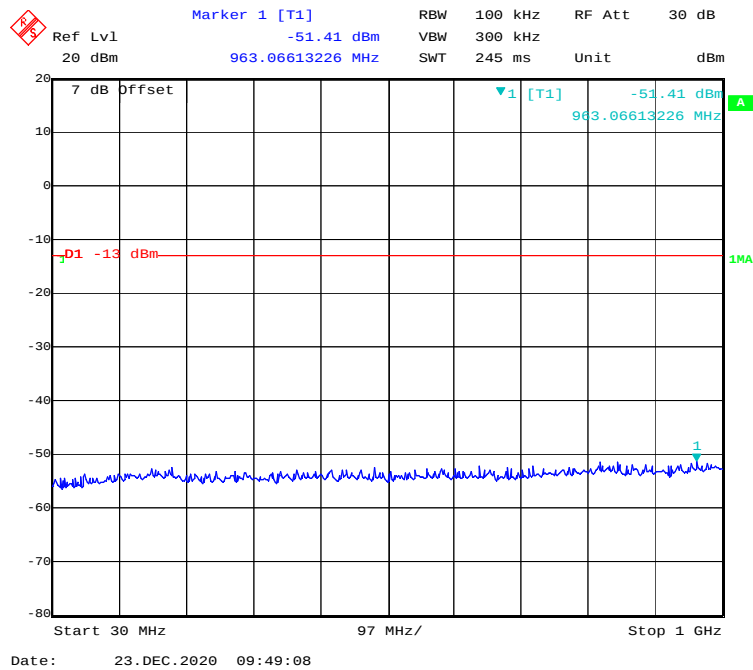
30 MHz - 1 GHz (3 MHz, 16-QAM, Middle Channel)



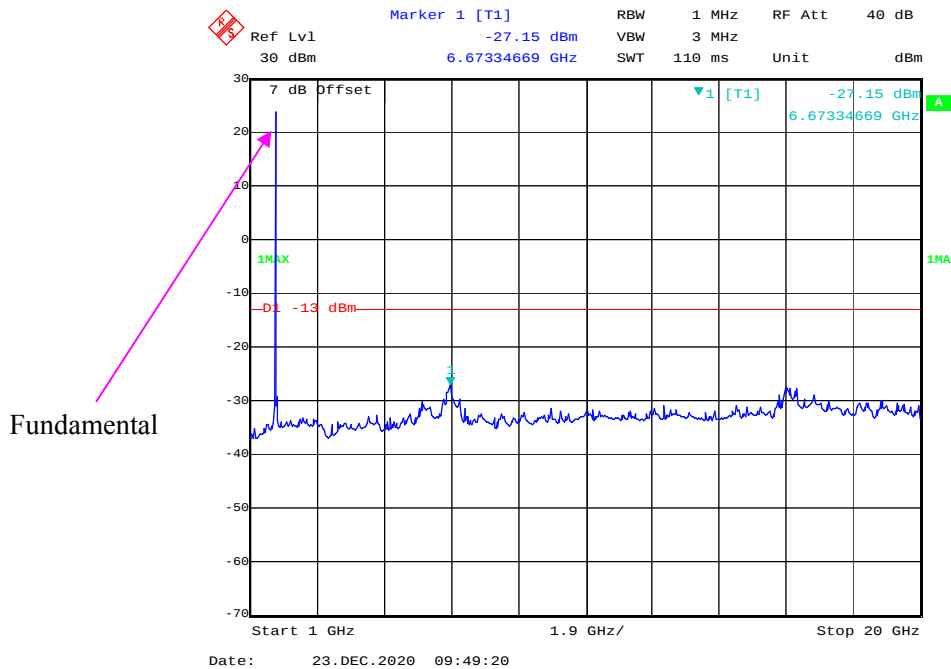
1 GHz – 20 GHz (3 MHz, 16-QAM, Middle Channel)



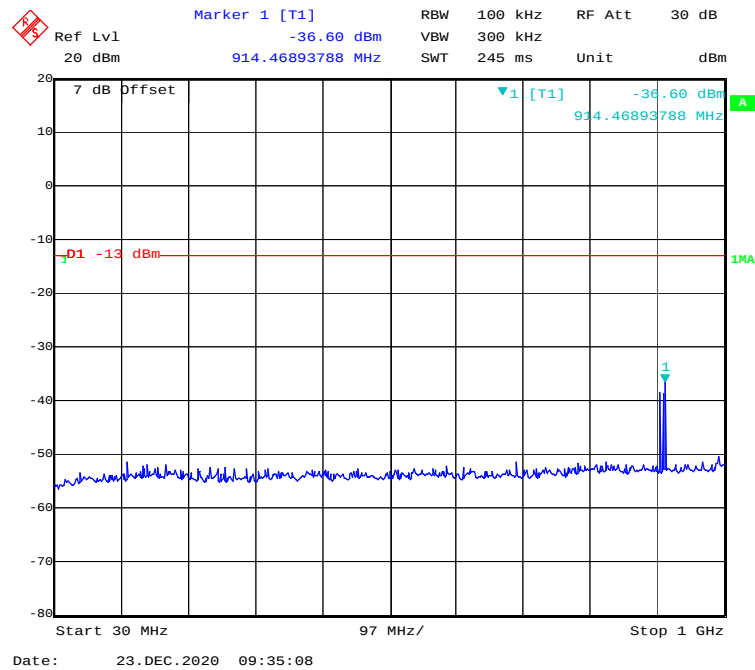
30 MHz - 1 GHz (5 MHz, QPSK, Middle Channel)



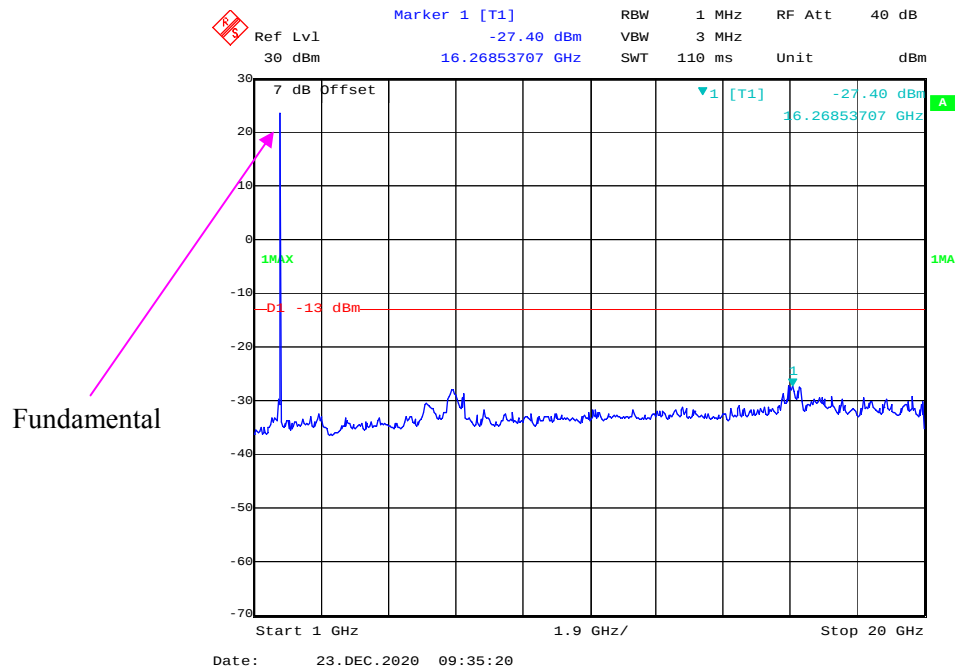
1 GHz – 20 GHz (5 MHz, QPSK, Middle Channel)



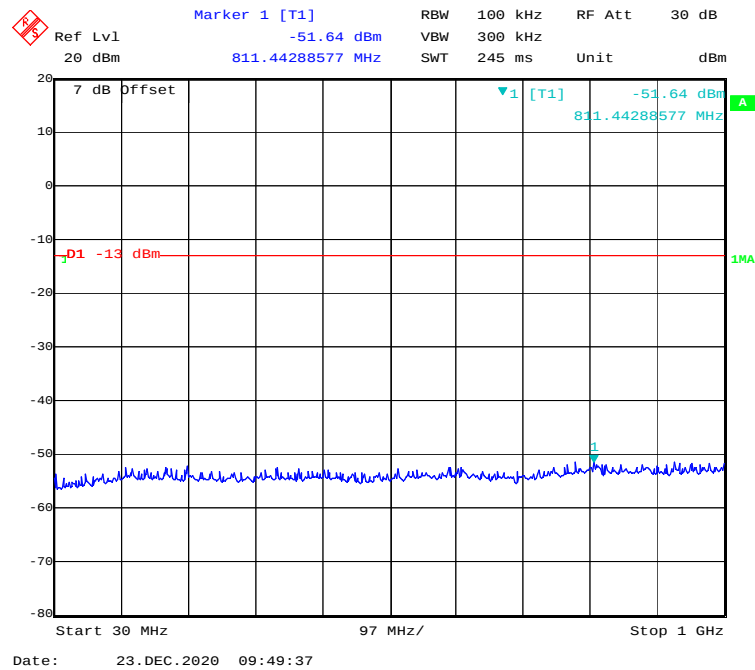
30 MHz - 1 GHz (5 MHz, 16-QAM, Middle Channel)



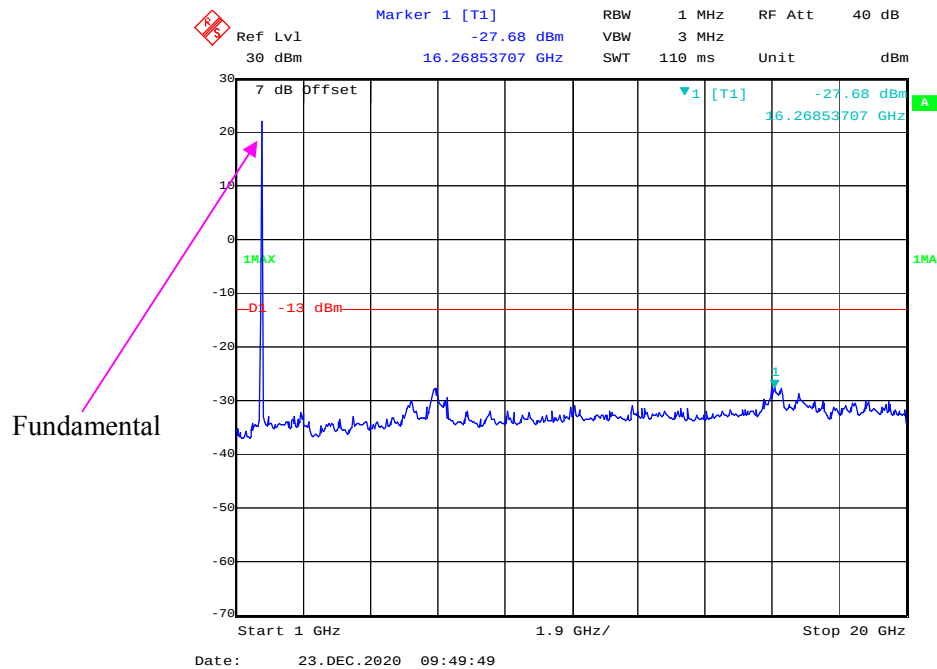
1 GHz – 20 GHz (5 MHz, 16-QAM, Middle Channel)



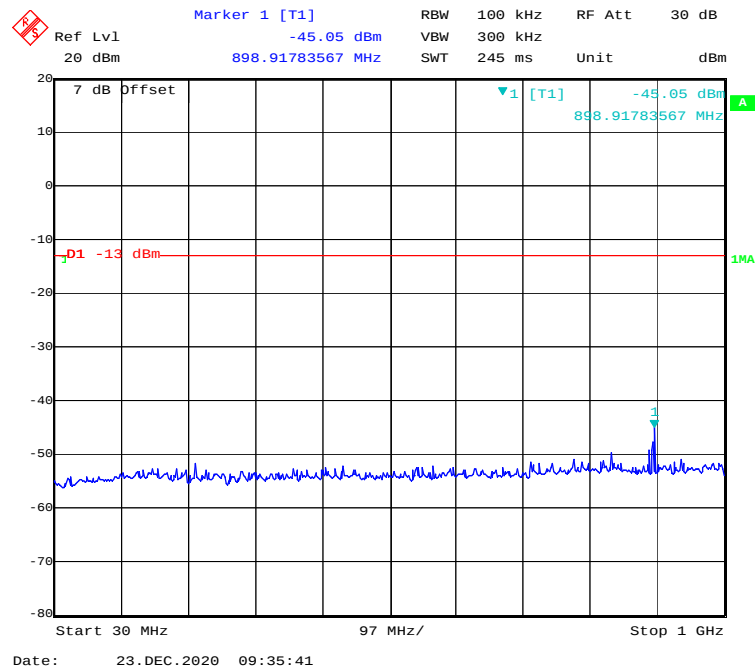
30 MHz - 1 GHz (10 MHz, QPSK, Middle Channel)



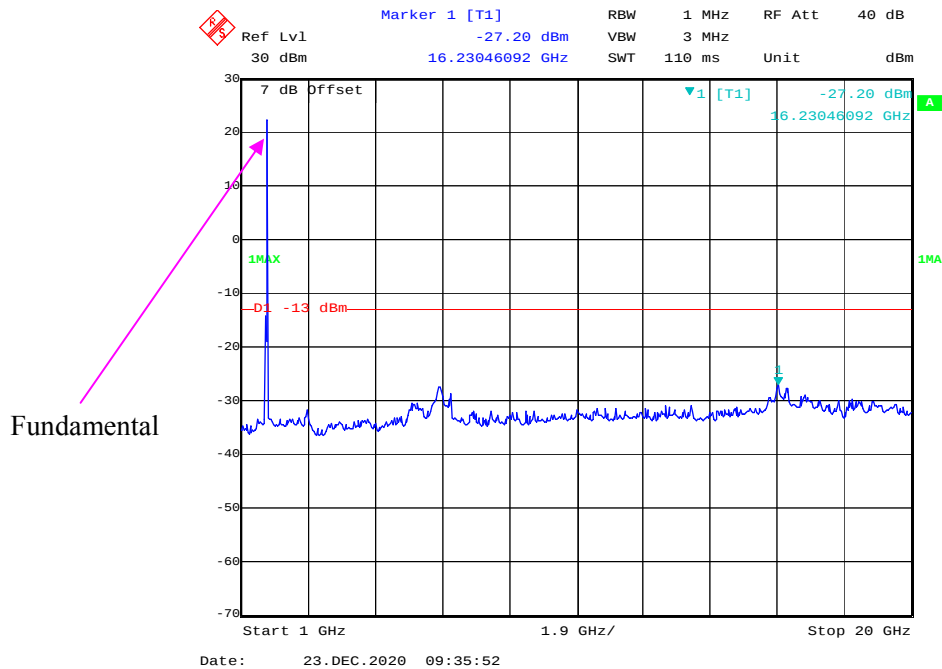
1 GHz – 20 GHz (10 MHz, QPSK, Middle Channel)



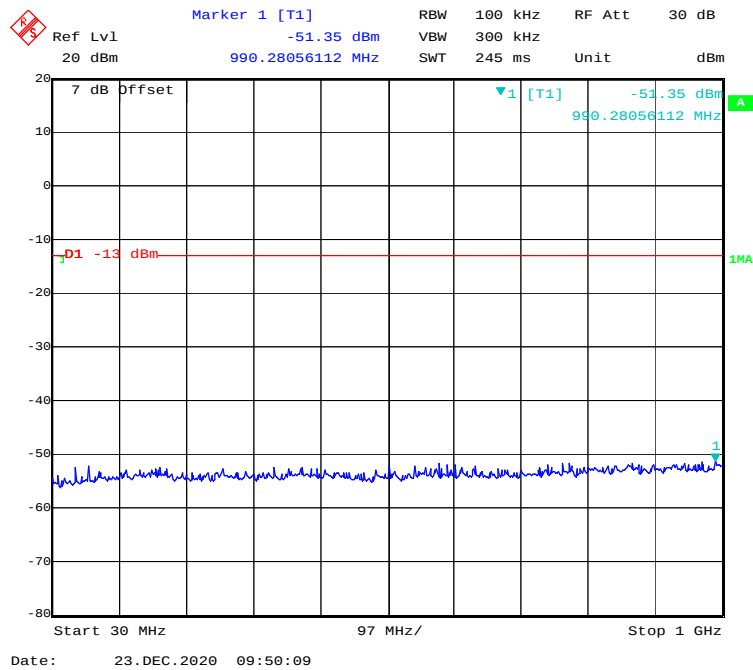
30 MHz - 1 GHz (10 MHz, 16-QAM, Middle Channel)



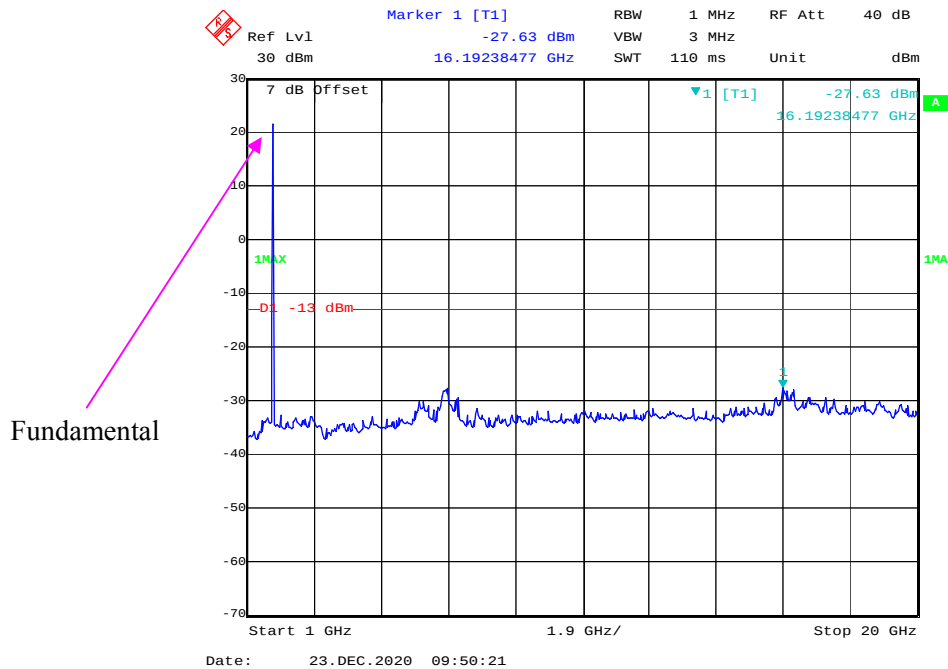
1 GHz – 20 GHz (10 MHz, 16-QAM, Middle Channel)



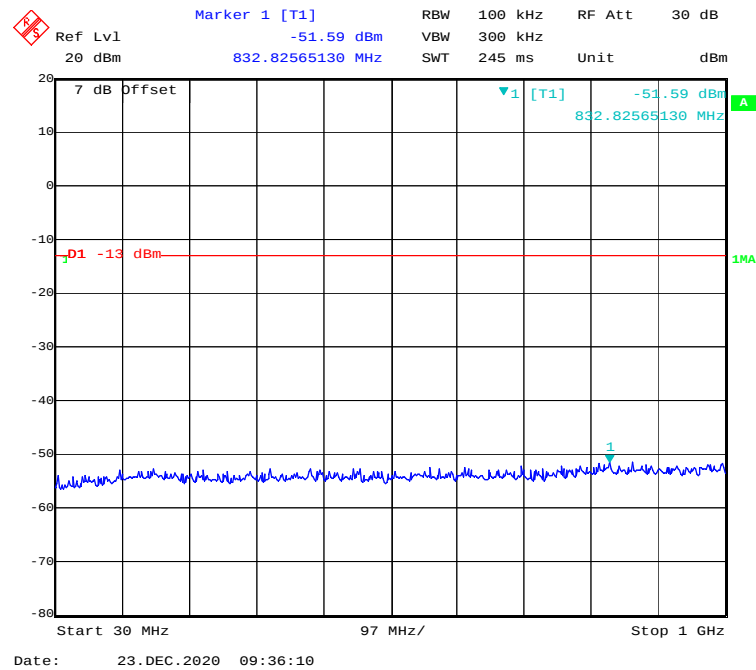
30 MHz - 1 GHz (15 MHz, QPSK, Middle Channel)



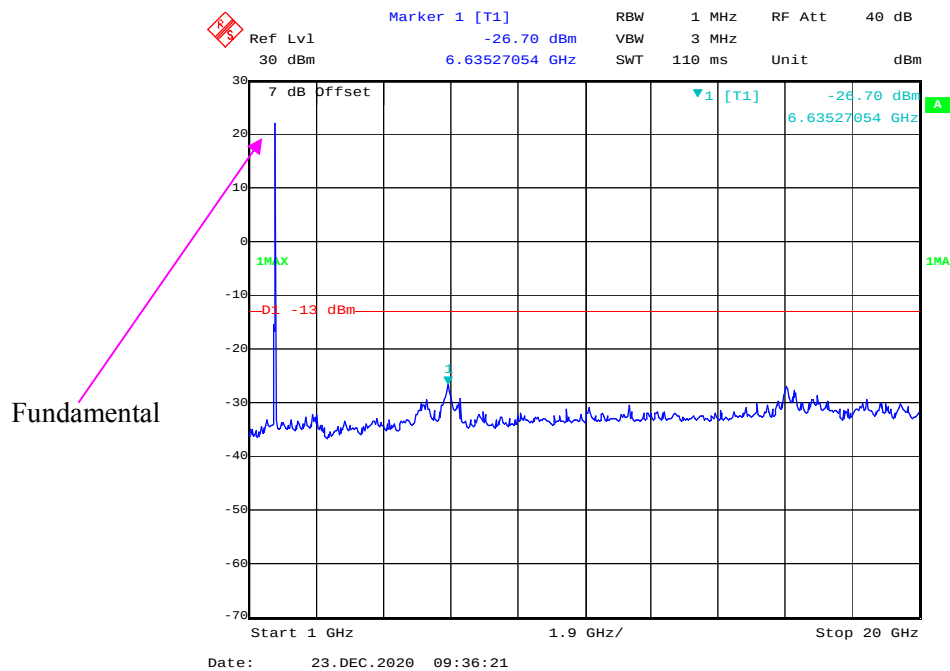
1 GHz – 20 GHz (15 MHz, QPSK, Middle Channel)



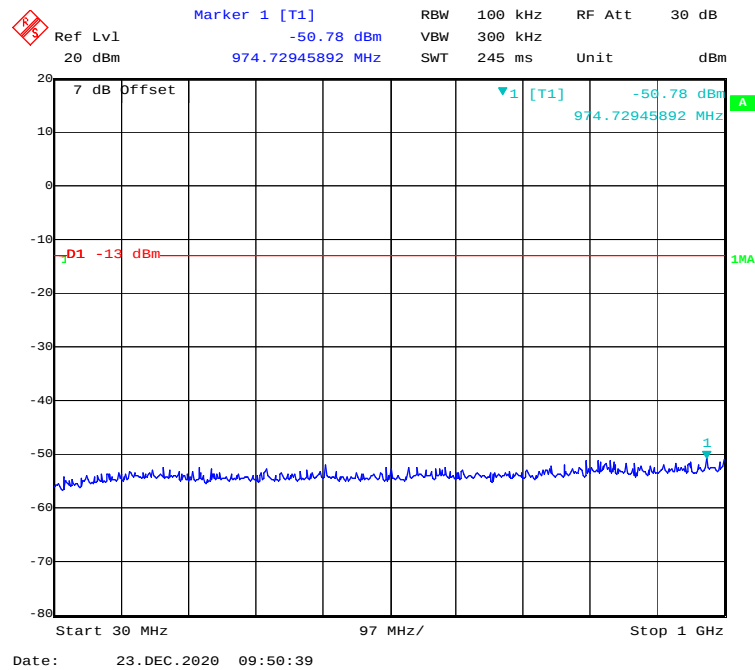
30 MHz - 1 GHz (15 MHz, 16-QAM, Middle Channel)



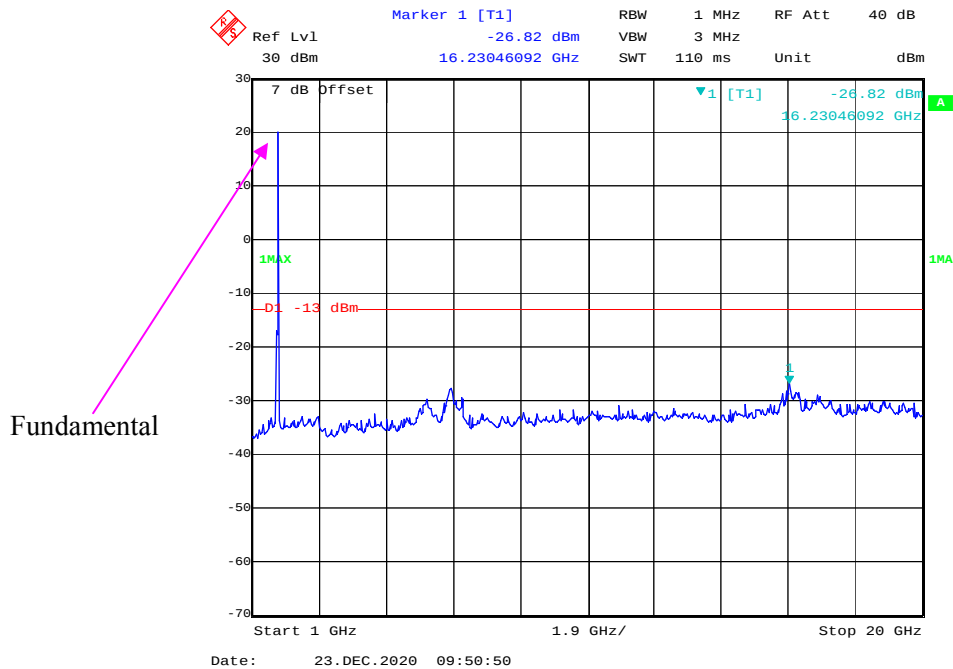
1 GHz – 20 GHz (15 MHz, 16-QAM, Middle Channel)



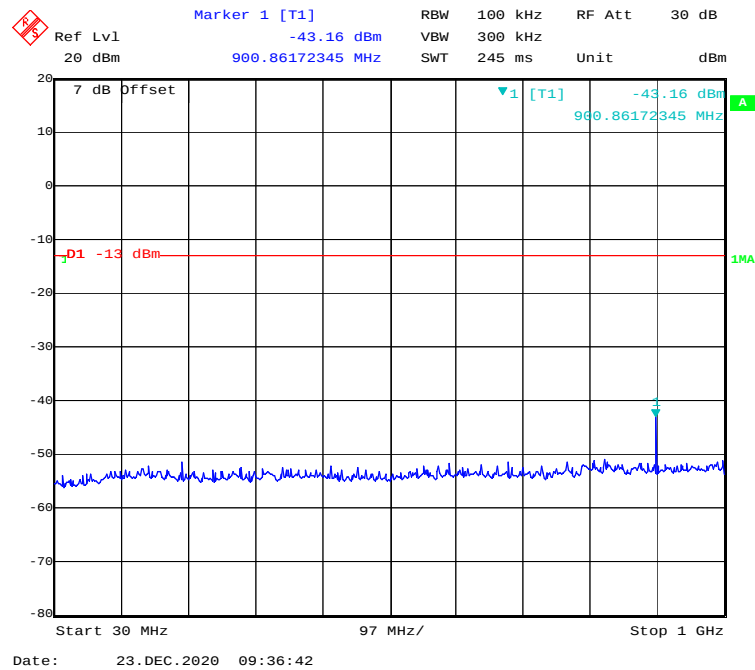
30 MHz - 1 GHz (20 MHz, QPSK, Middle Channel)



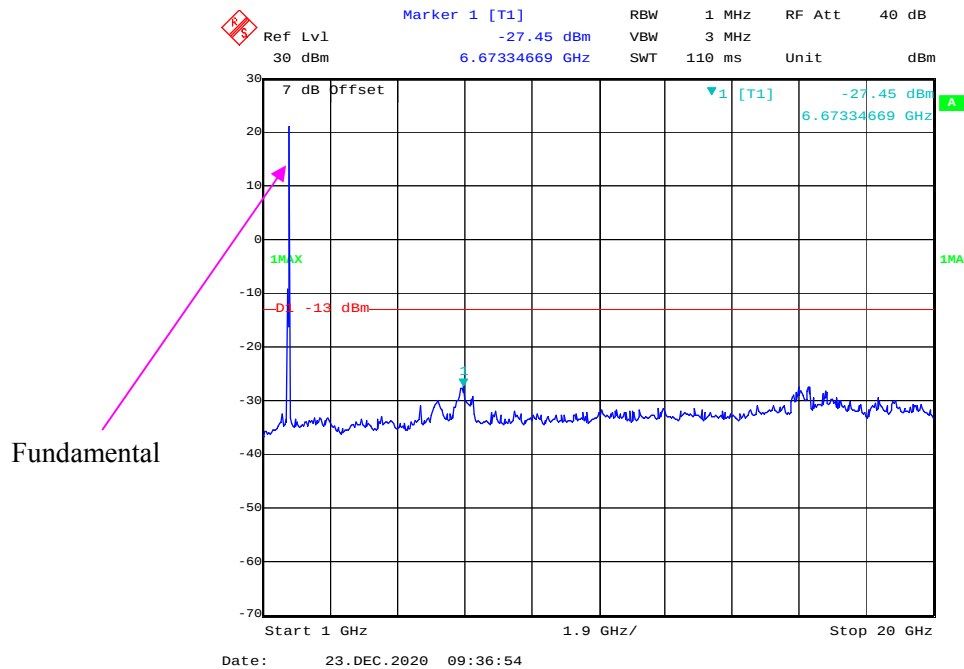
1 GHz – 20 GHz (20 MHz, QPSK, Middle Channel)



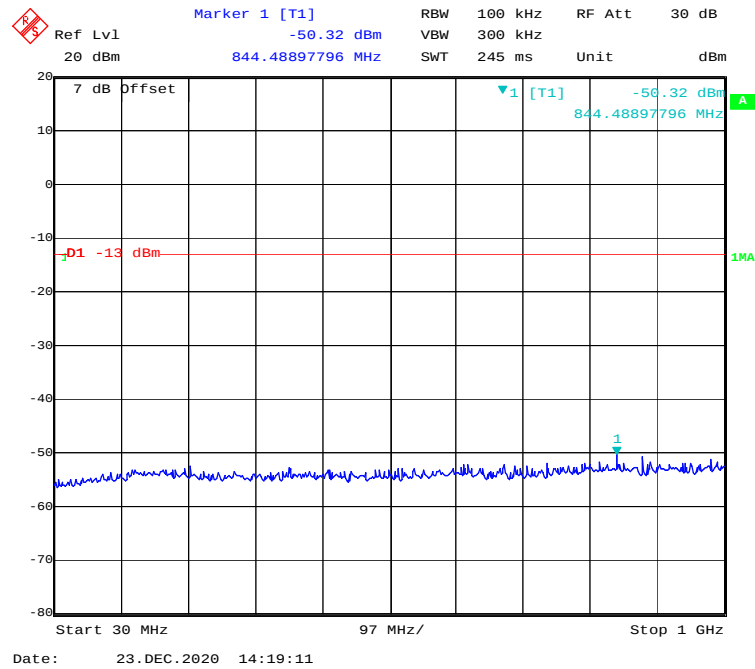
30 MHz - 1 GHz (20 MHz, 16-QAM, Middle Channel)



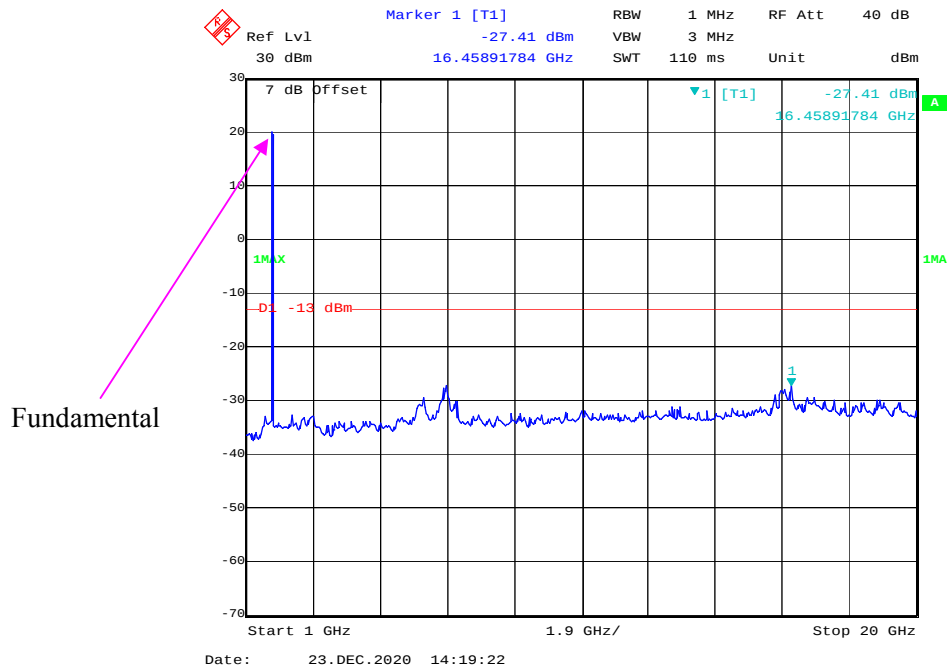
1 GHz – 20 GHz (20 MHz, 16-QAM, Middle Channel)



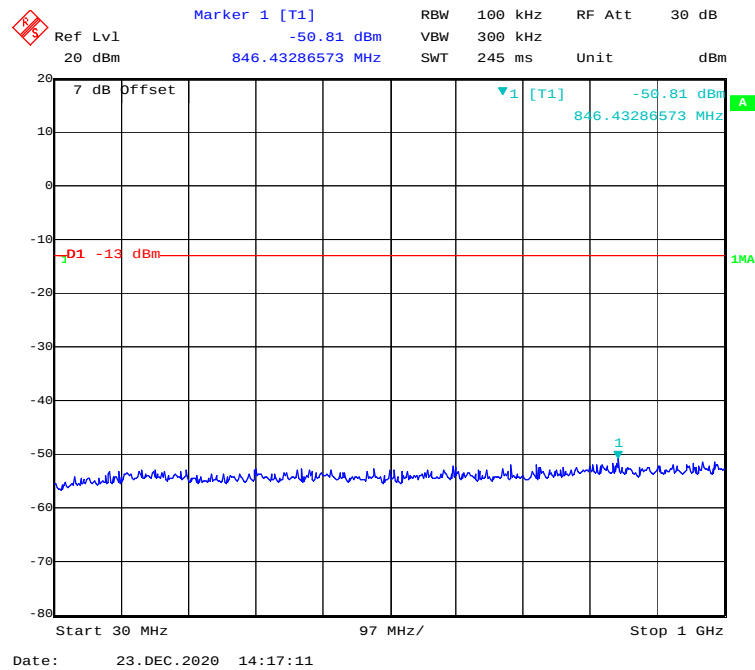
30 MHz - 1 GHz (1.4 MHz, QPSK, High Channel)



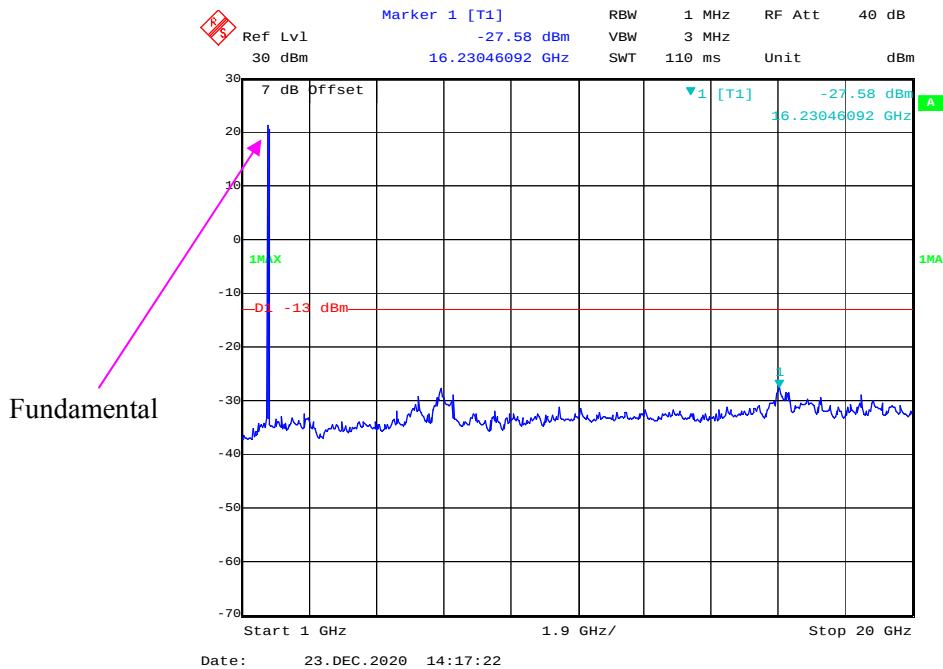
1 GHz – 20 GHz (1.4 MHz, QPSK, High Channel)



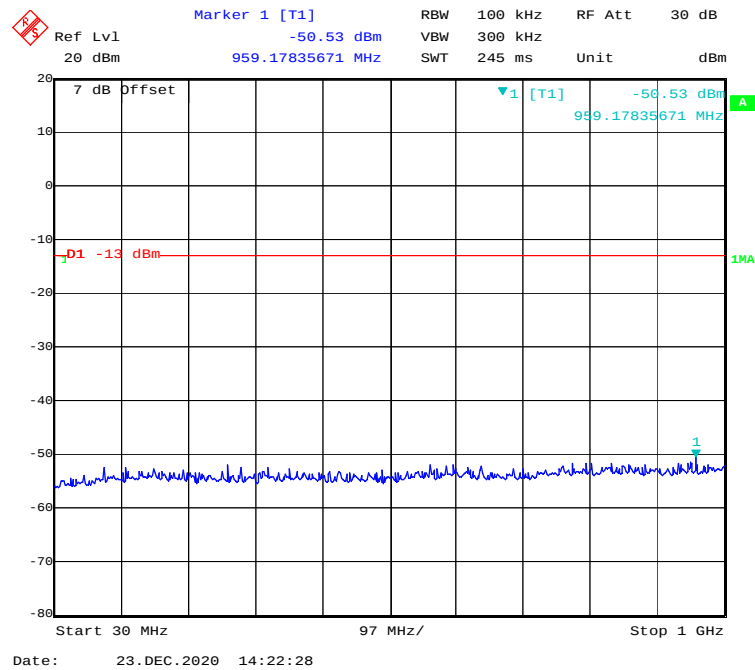
30 MHz - 1 GHz (1.4 MHz, 16-QAM, High Channel)



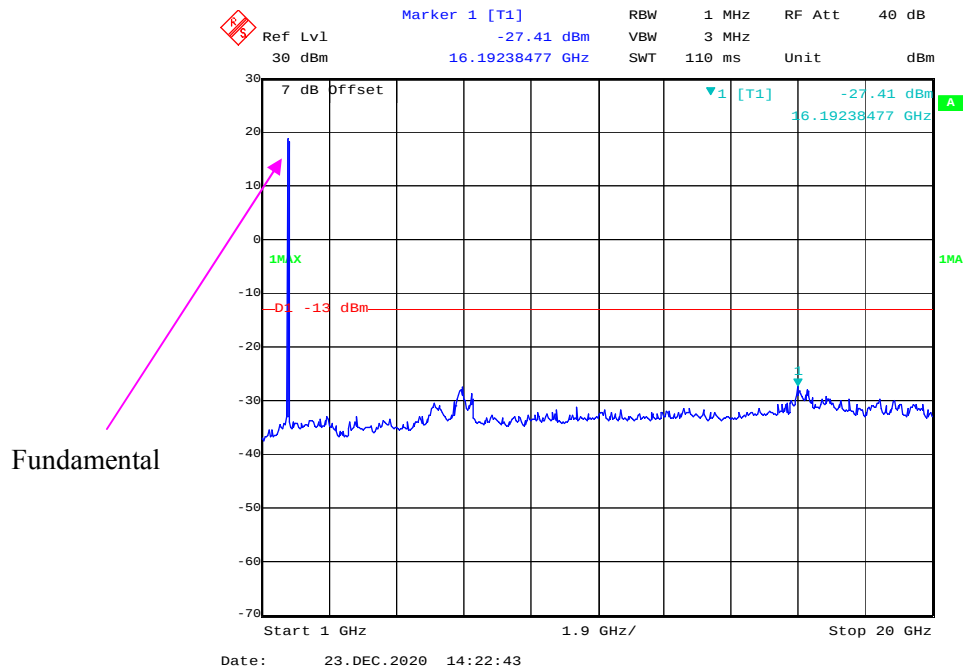
1 GHz – 20 GHz (1.4 MHz, 16-QAM, High Channel)



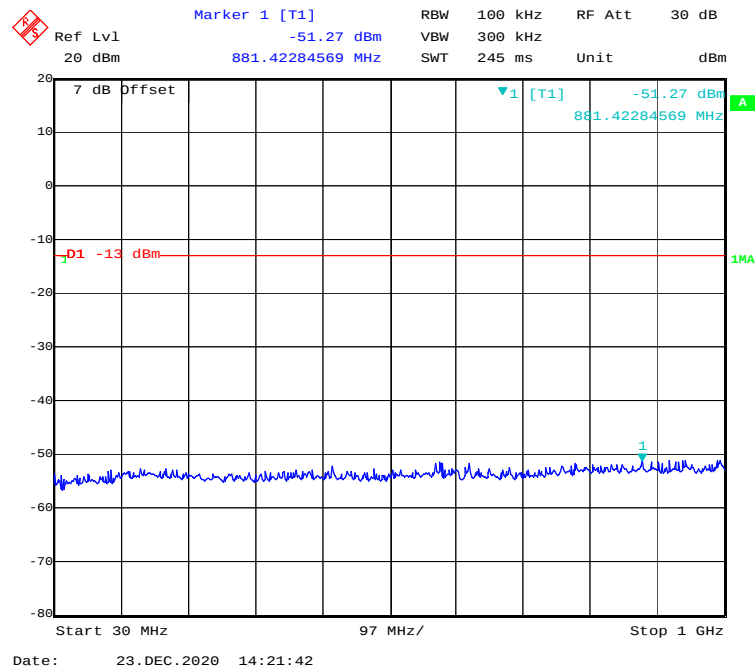
30 MHz - 1 GHz (3 MHz, QPSK, High Channel)



1 GHz – 20 GHz (3 MHz, QPSK, High Channel)

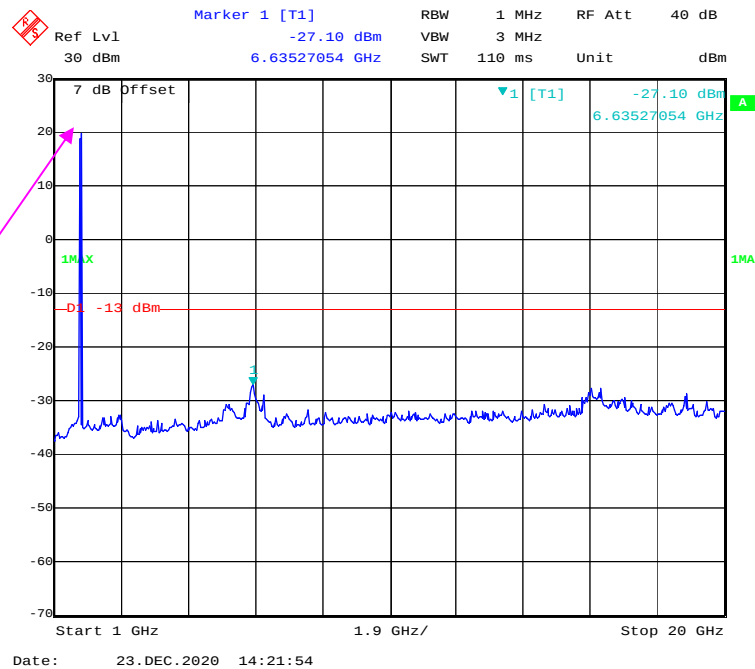


30 MHz - 1 GHz (3 MHz, 16-QAM, High Channel)

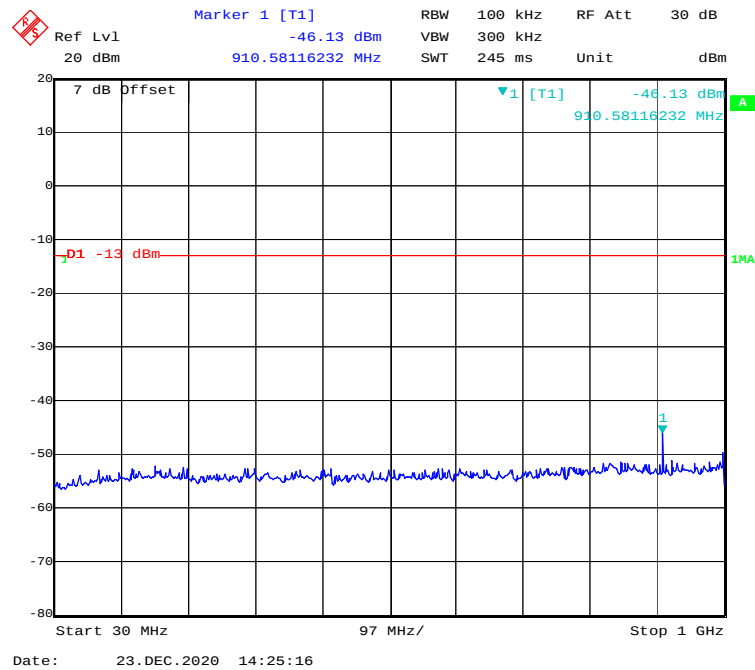


1 GHz – 20 GHz (3 MHz, 16-QAM, High Channel)

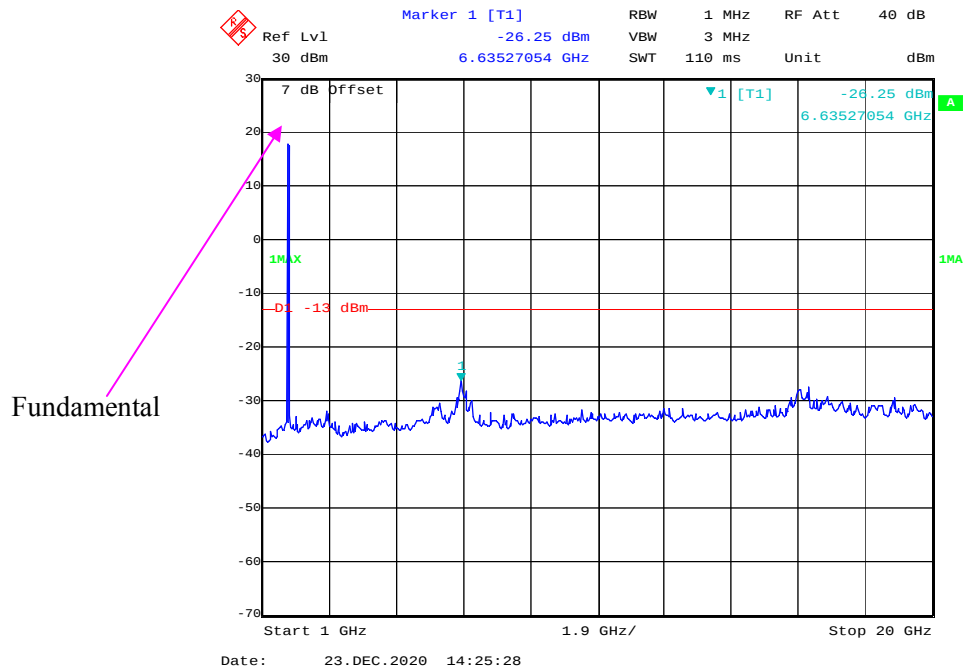
Fundamental



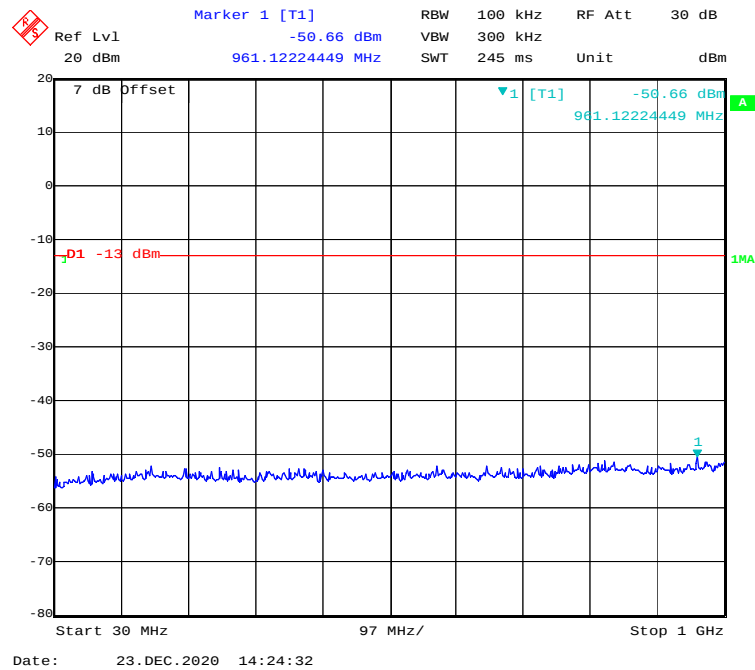
30 MHz - 1 GHz (5 MHz, QPSK, High Channel)



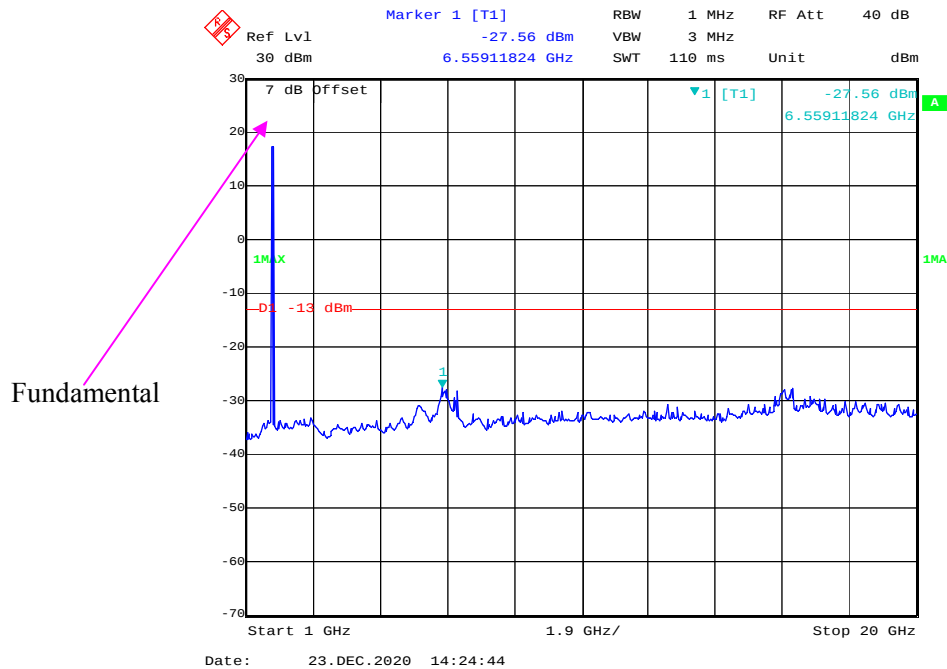
1 GHz – 20 GHz (5 MHz, QPSK, High Channel)



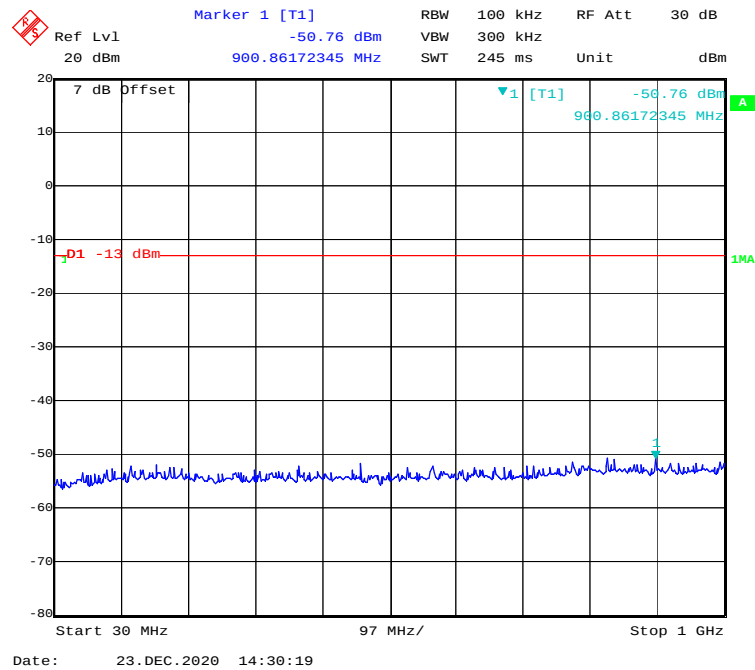
30 MHz - 1 GHz (5 MHz, 16-QAM, High Channel)



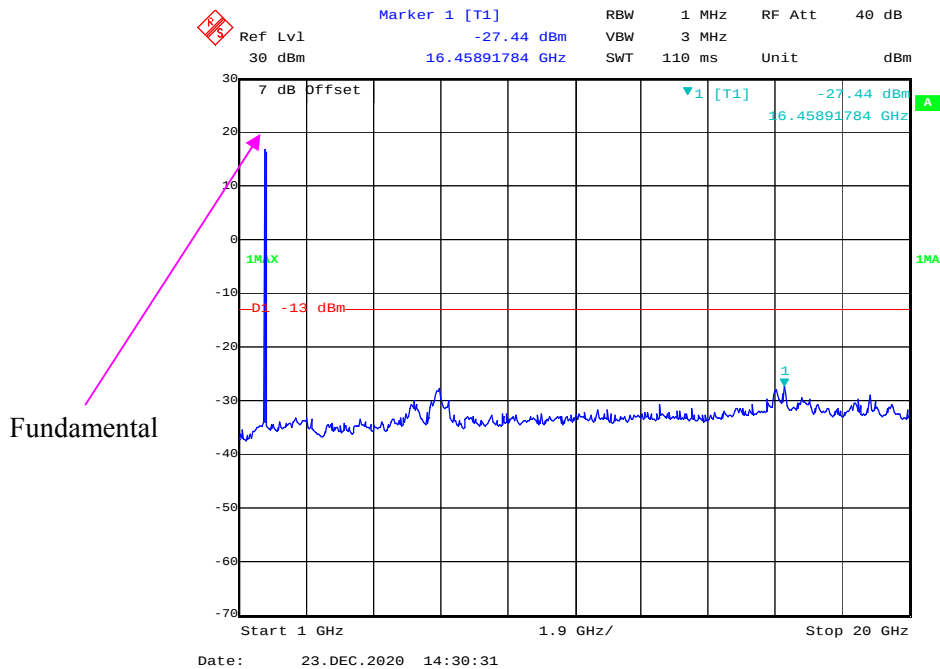
1 GHz – 20 GHz (5 MHz, 16-QAM, High Channel)



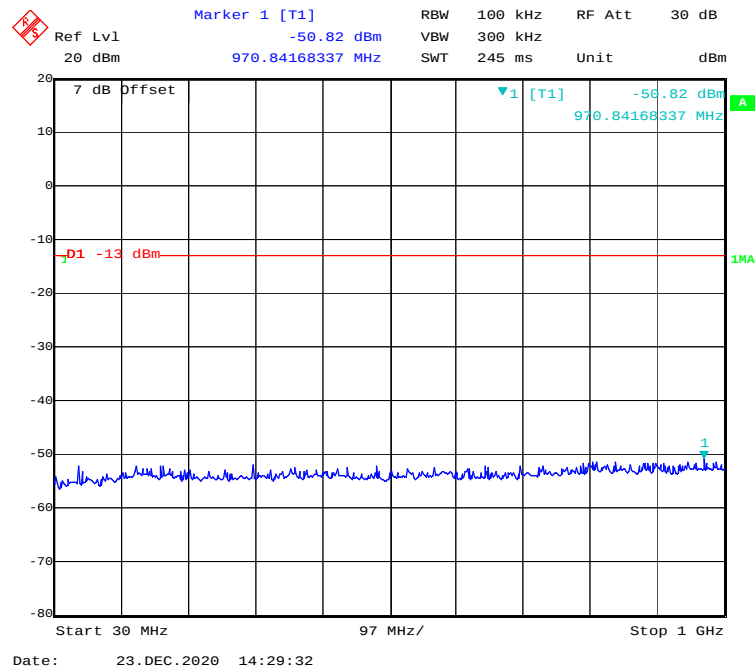
30 MHz - 1 GHz (10 MHz, QPSK, High Channel)



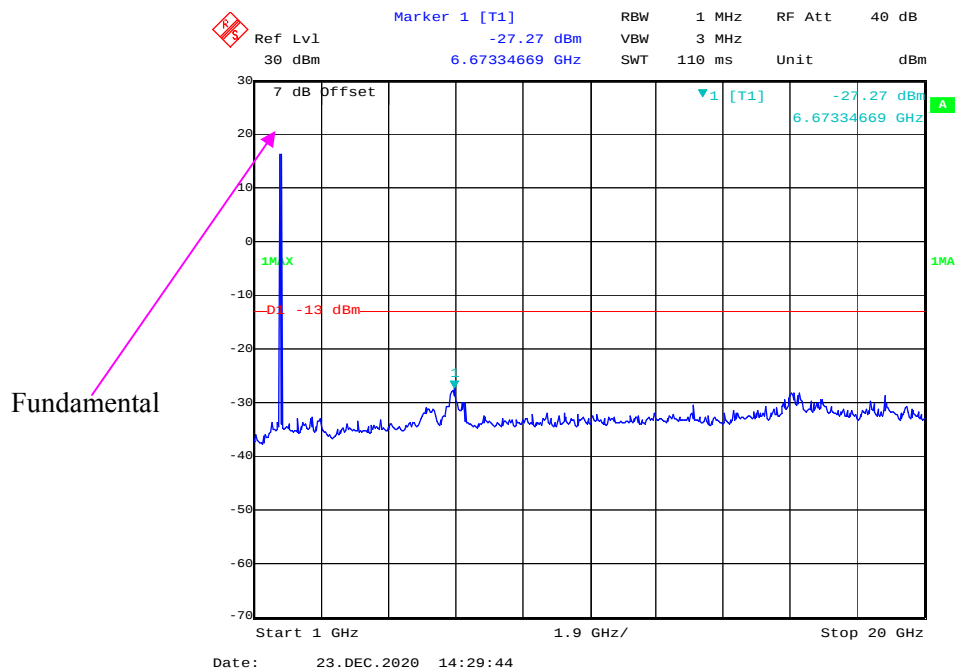
1 GHz – 20 GHz (10 MHz, QPSK, High Channel)



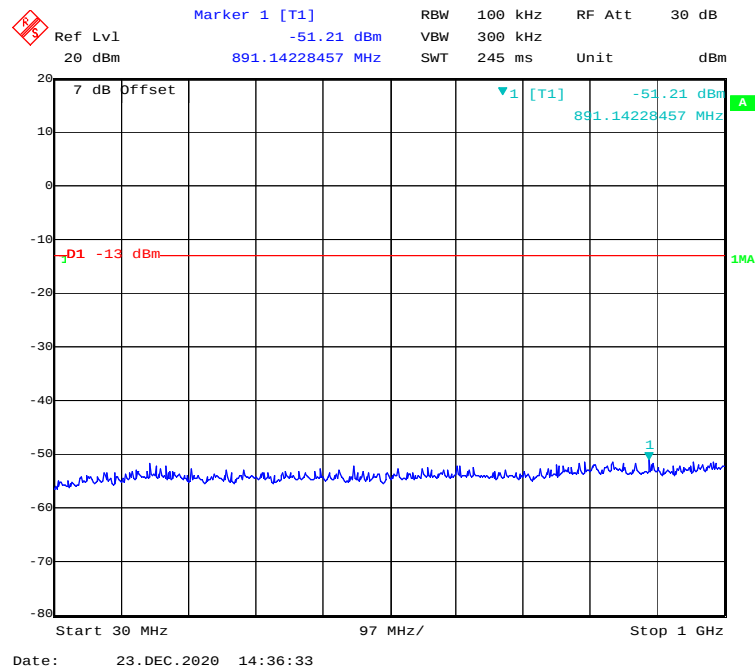
30 MHz - 1 GHz (10 MHz, 16-QAM, High Channel)



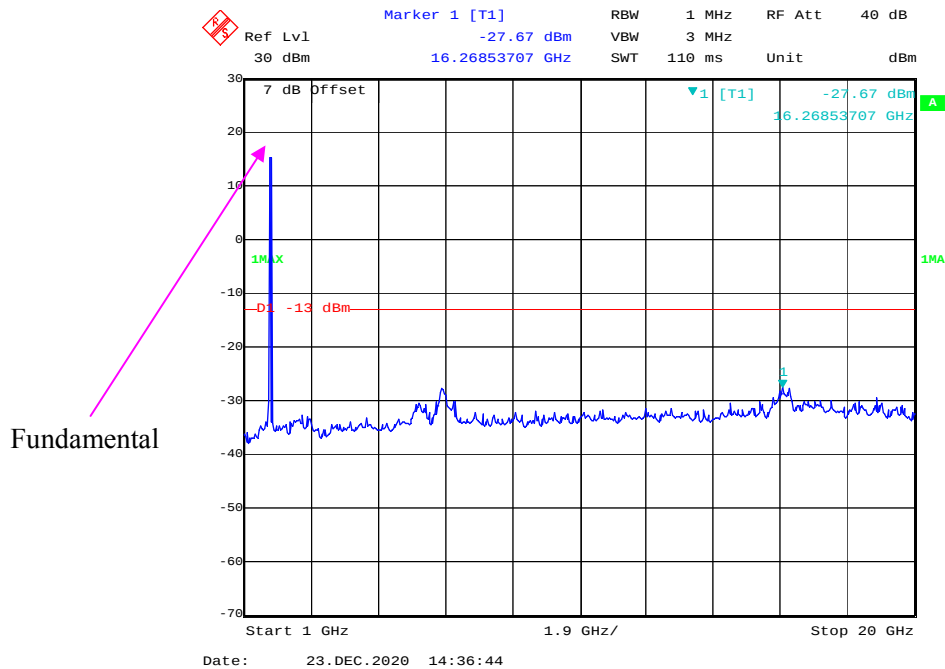
1 GHz – 20 GHz (10 MHz, 16-QAM, High Channel)



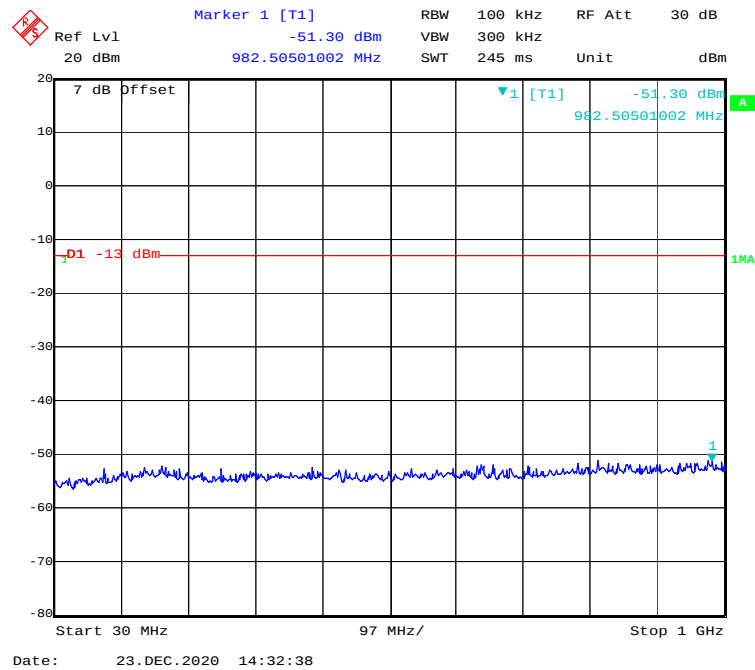
30 MHz - 1 GHz (15 MHz, QPSK, High Channel)



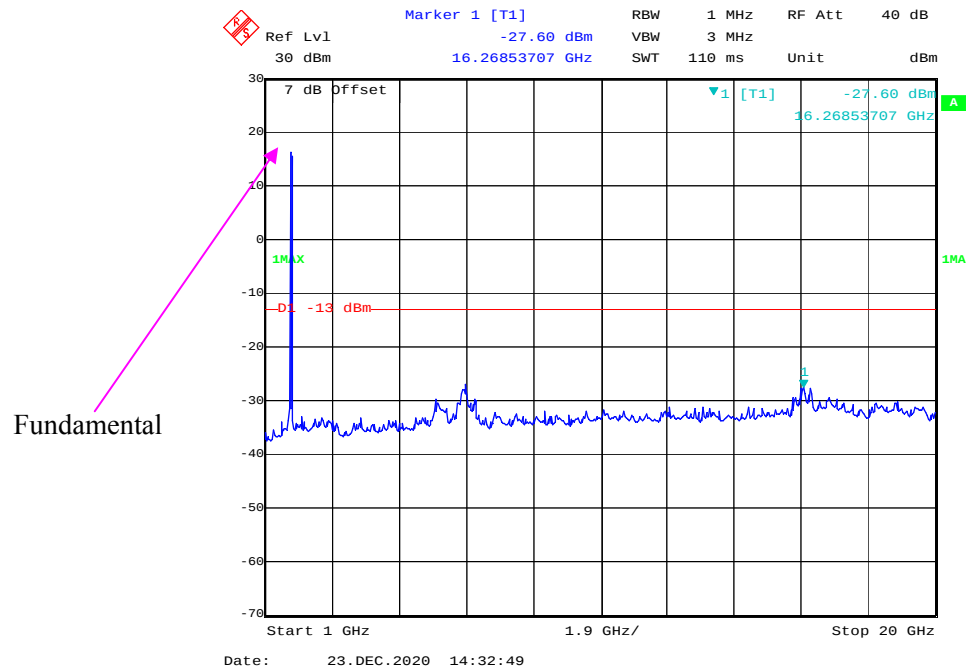
1 GHz – 20 GHz (15 MHz, QPSK, Middle Channel)



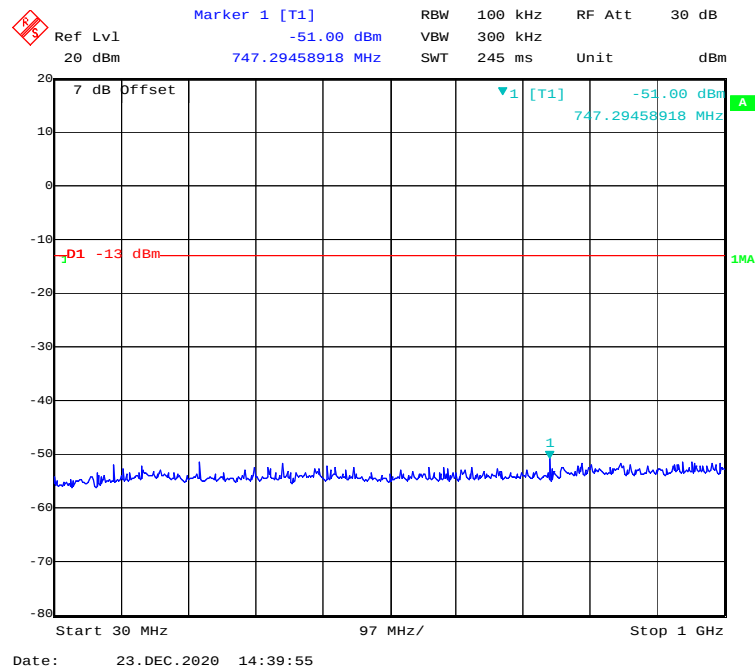
30 MHz - 1 GHz (15 MHz, 16-QAM, High Channel)



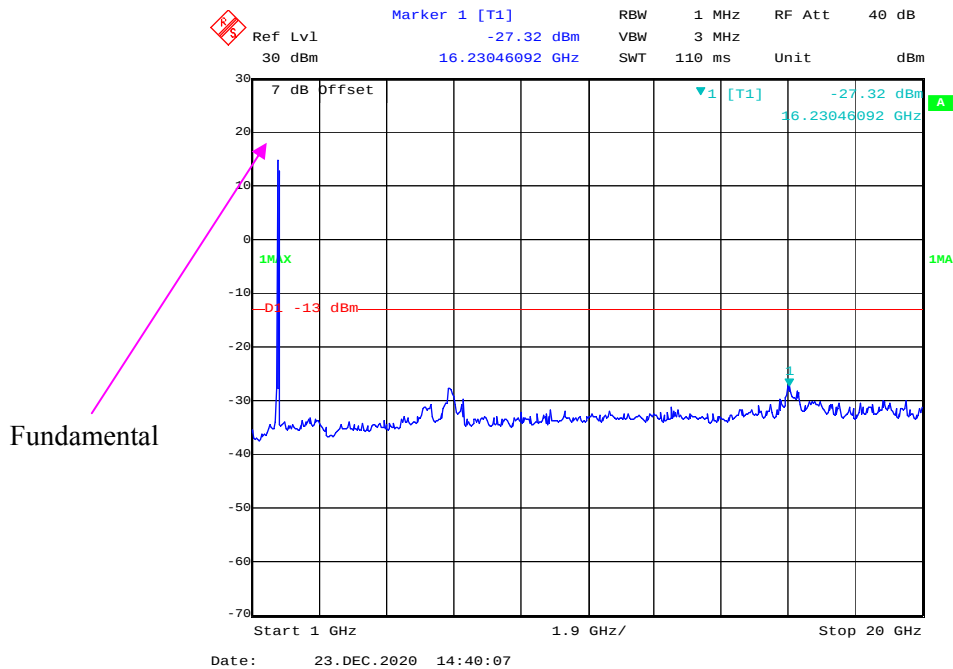
1 GHz – 20 GHz (15 MHz, 16-QAM, High Channel)



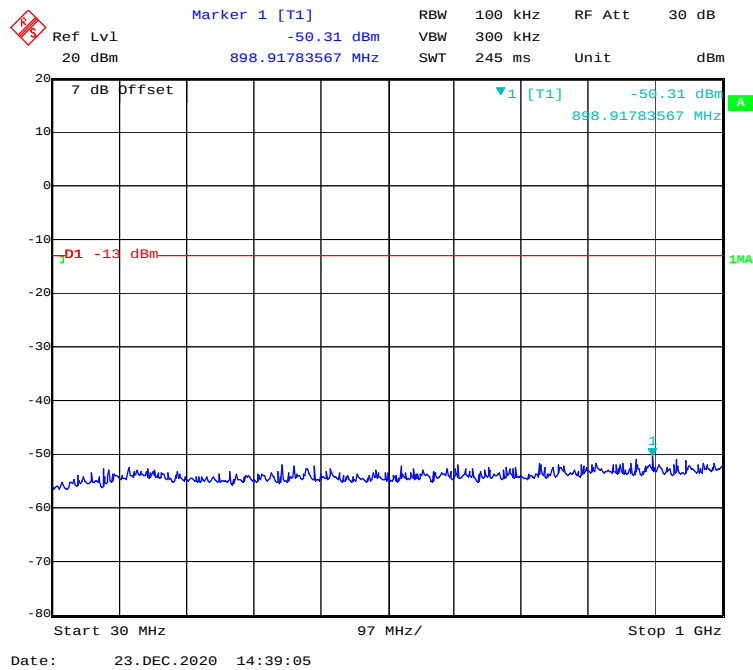
30 MHz - 1 GHz (20 MHz, QPSK, High Channel)



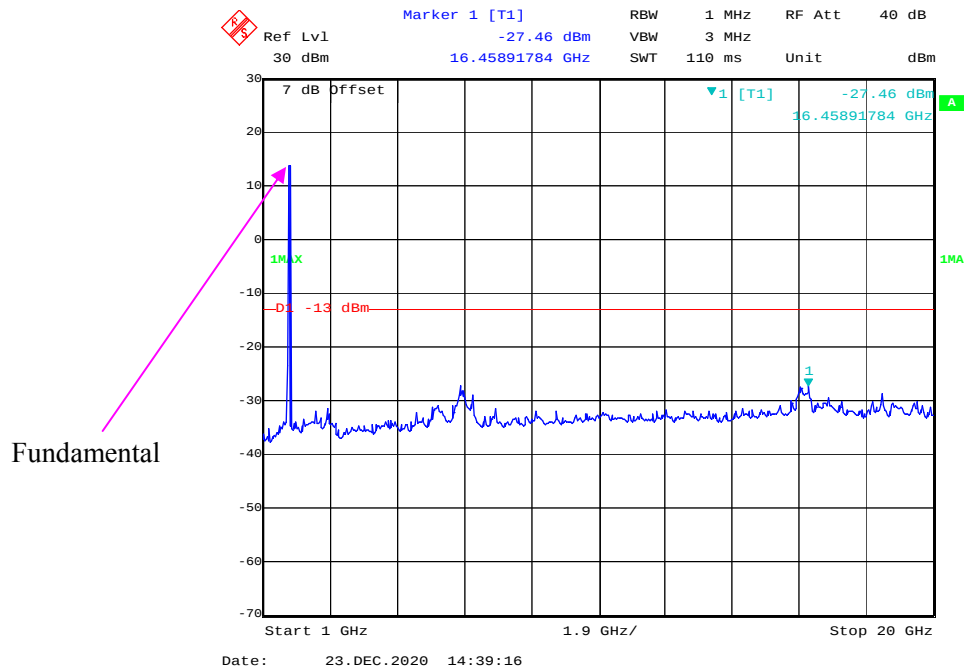
1 GHz – 20 GHz (20 MHz, QPSK, High Channel)



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

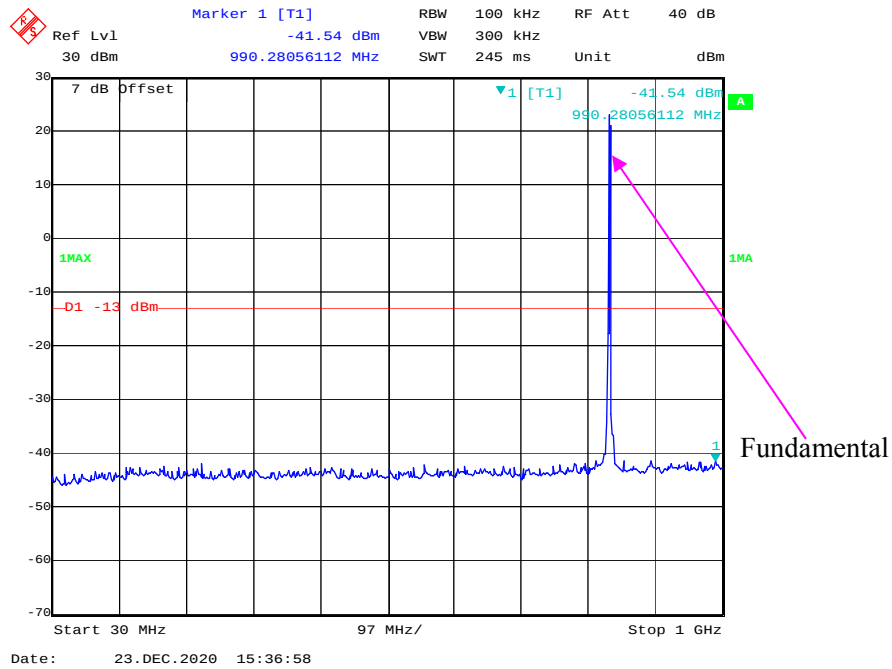


1 GHz – 20 GHz (20 MHz, 16-QAM, High Channel)

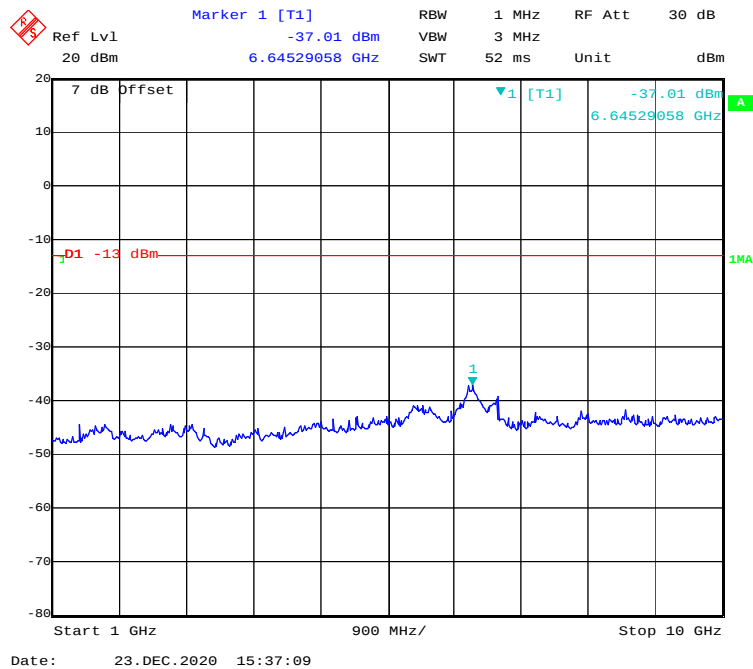


LTE Band 5:

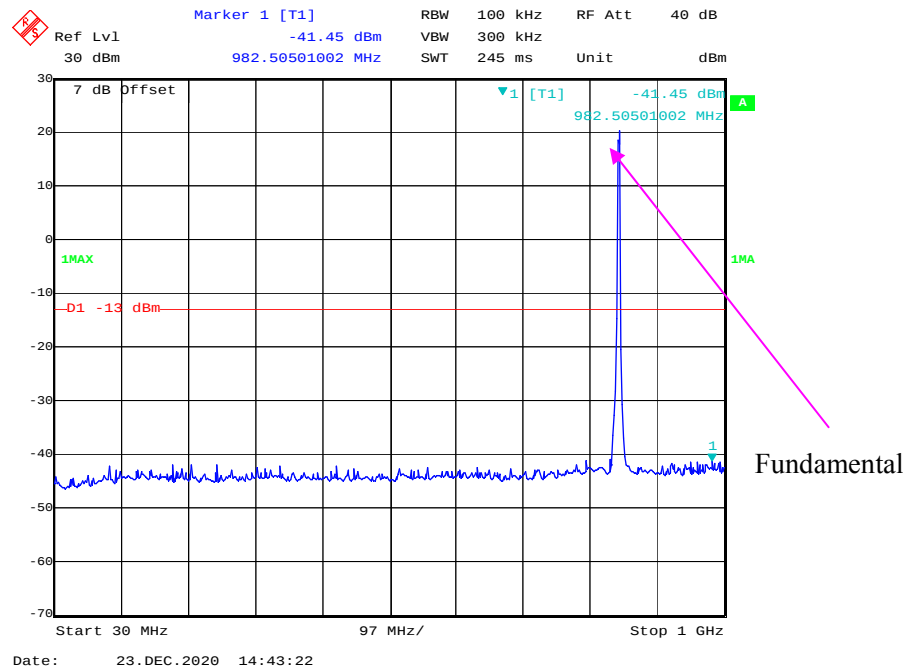
30 MHz - 1 GHz (QPSK, 1.4 MHz, Low Channel)



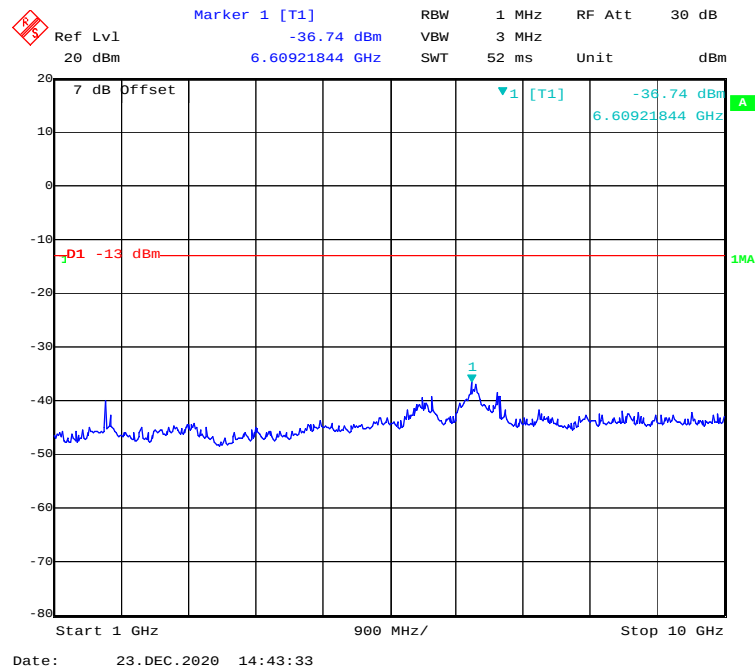
1 GHz – 10 GHz (QPSK, 1.4 MHz, Low Channel)



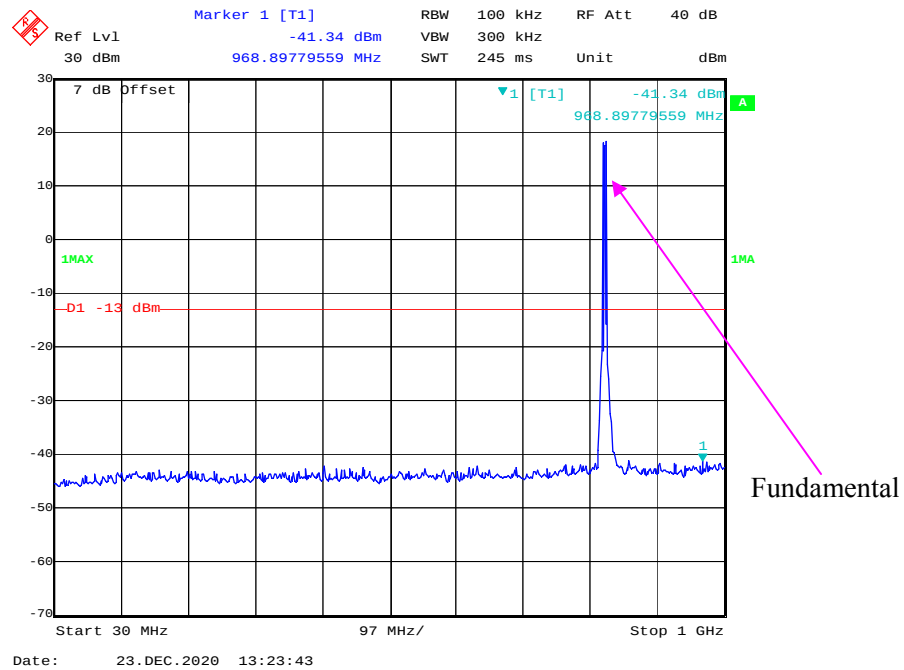
30 MHz - 1 GHz (QPSK, 3.0 MHz, Low Channel)



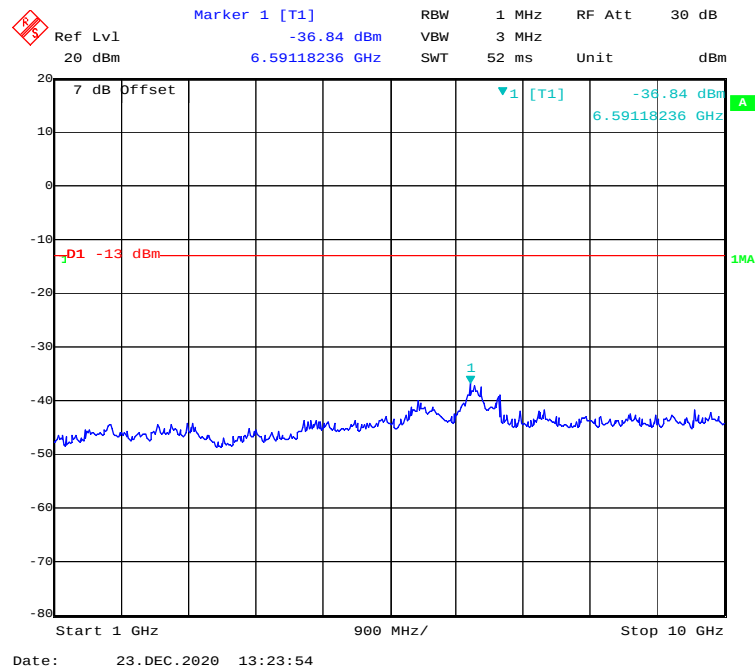
1 GHz – 10 GHz (QPSK, 3.0 MHz, Low Channel)



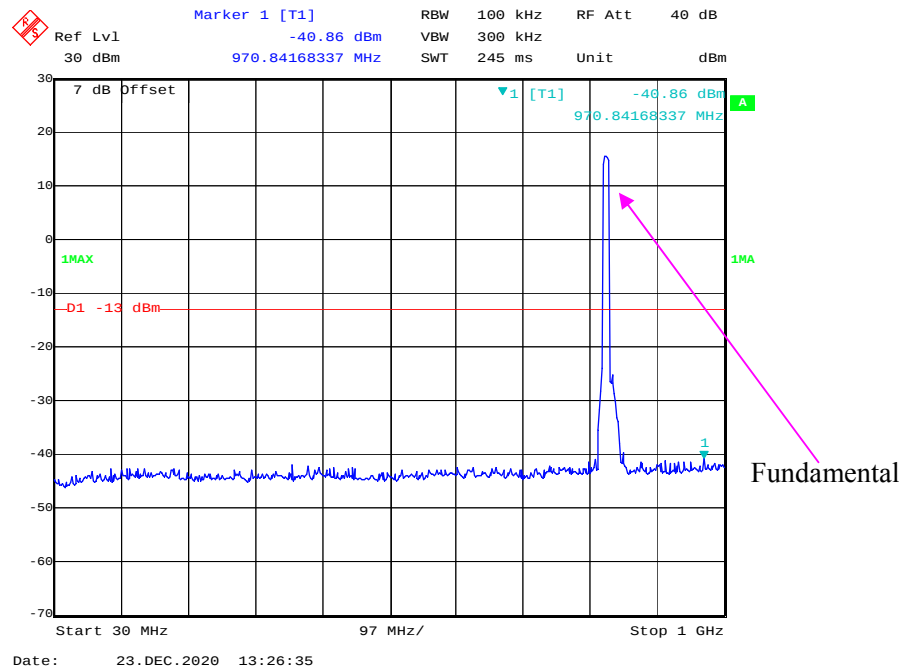
30 MHz - 1 GHz (QPSK, 5.0 MHz, Low Channel)



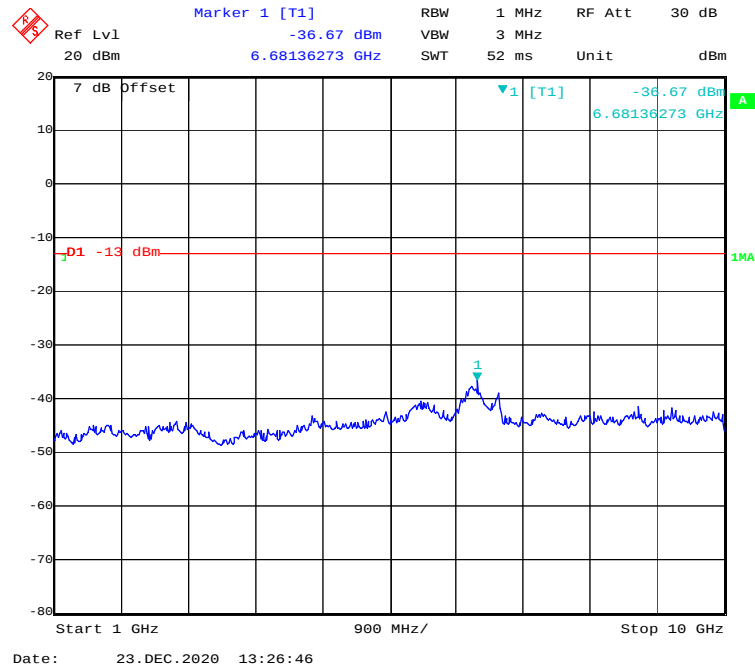
1 GHz – 10 GHz (QPSK, 5.0MHz, Low Channel)

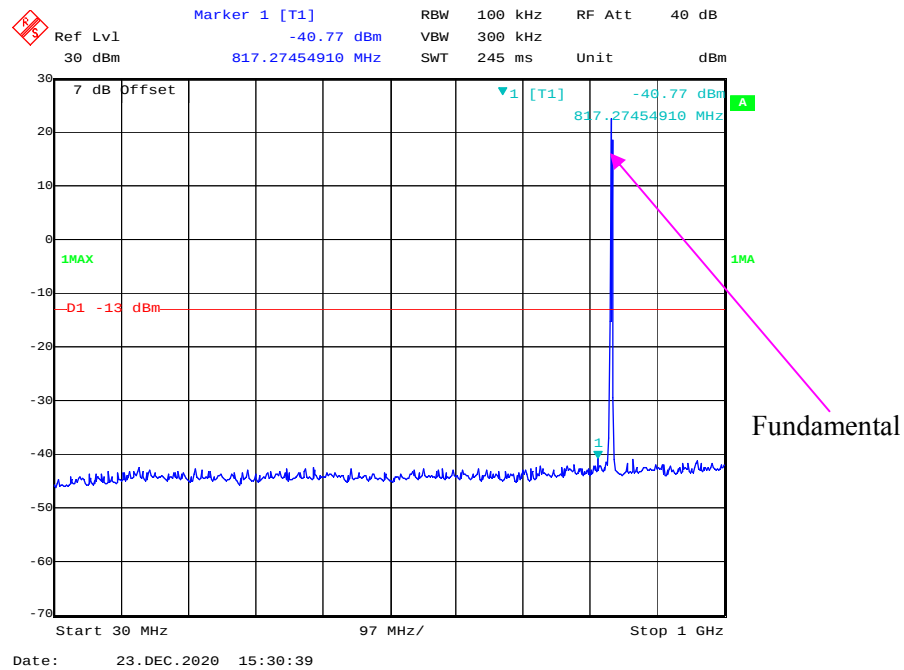
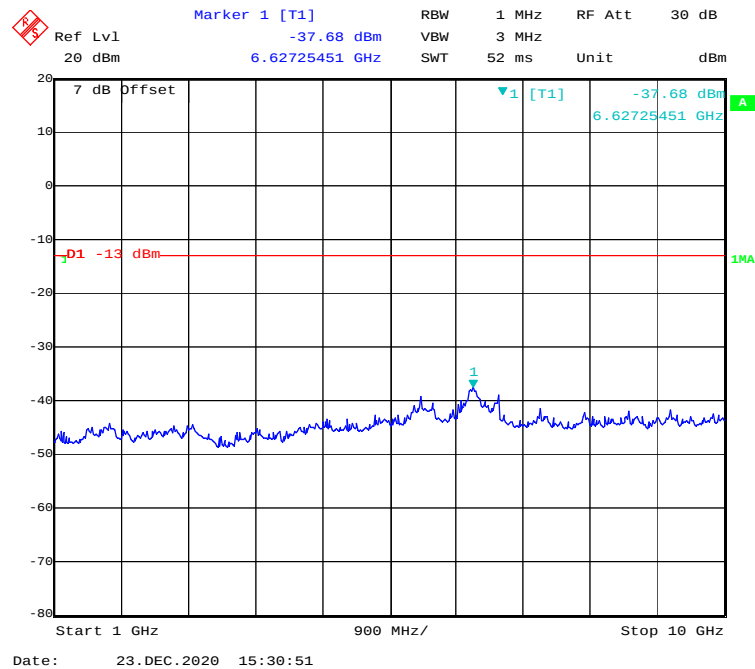


30 MHz - 1 GHz (QPSK, 10.0 MHz, Low Channel)

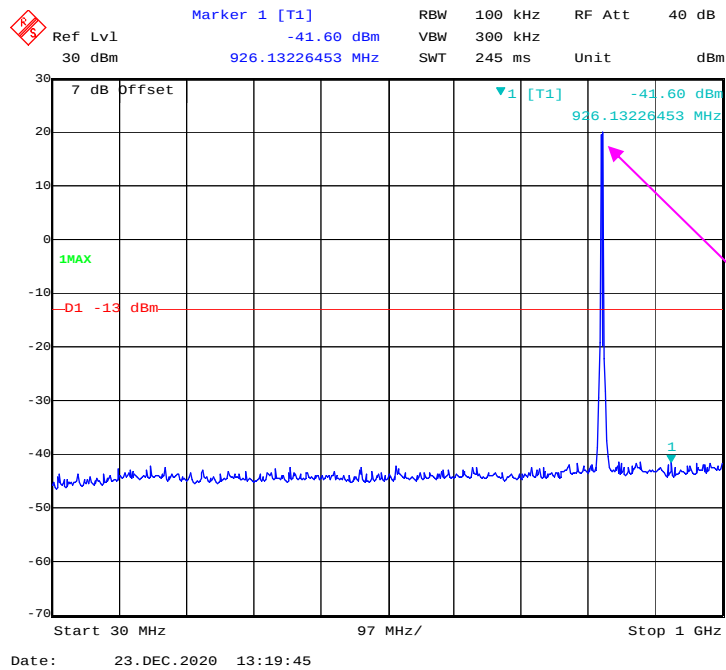


1 GHz – 10 GHz (QPSK, 10.0 MHz, Low Channel)

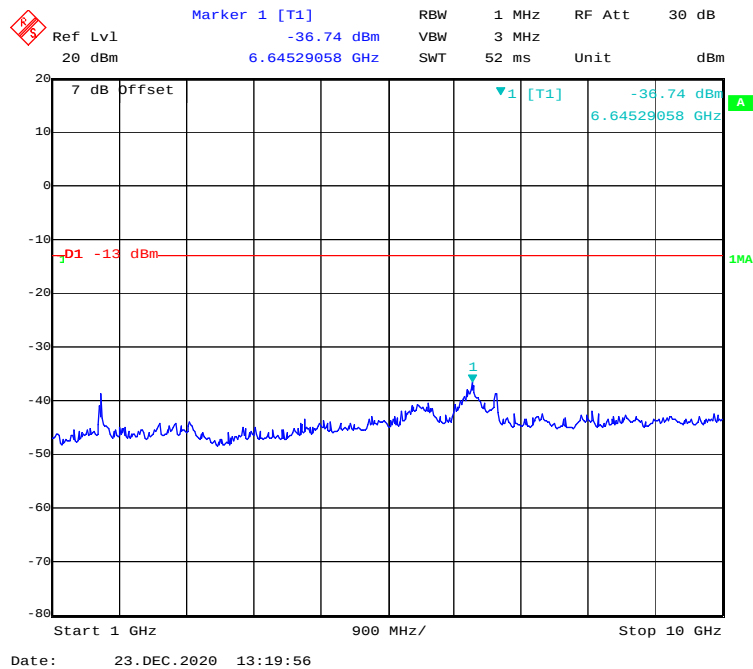


30 MHz - 1 GHz (16QAM, 1.4 MHz, Low Channel)**1 GHz – 10 GHz (16QAM, 1.4 MHz, Low Channel)**

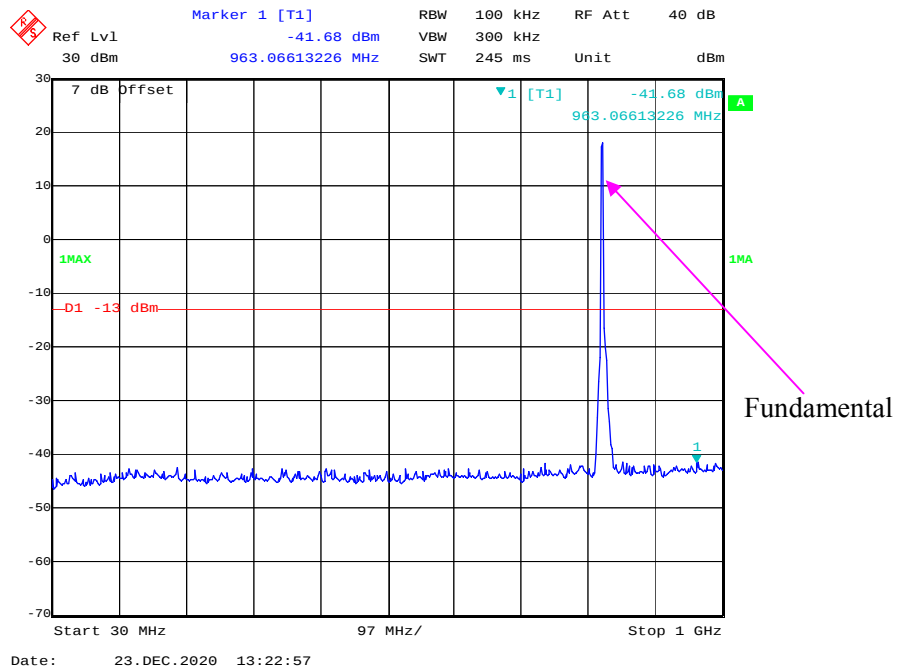
30 MHz - 1 GHz (16QAM, 3.0 MHz, Low Channel)



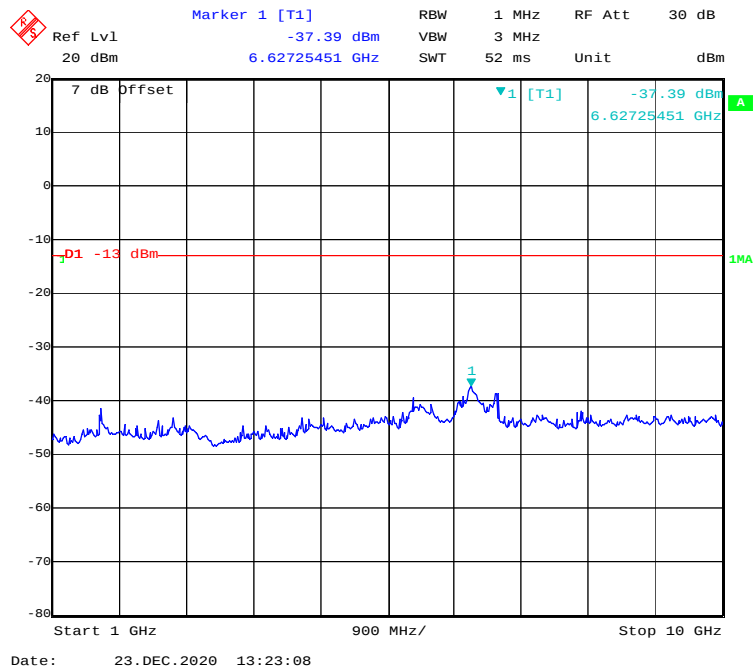
1 GHz – 10 GHz (16QAM, 3.0 MHz, Low Channel)



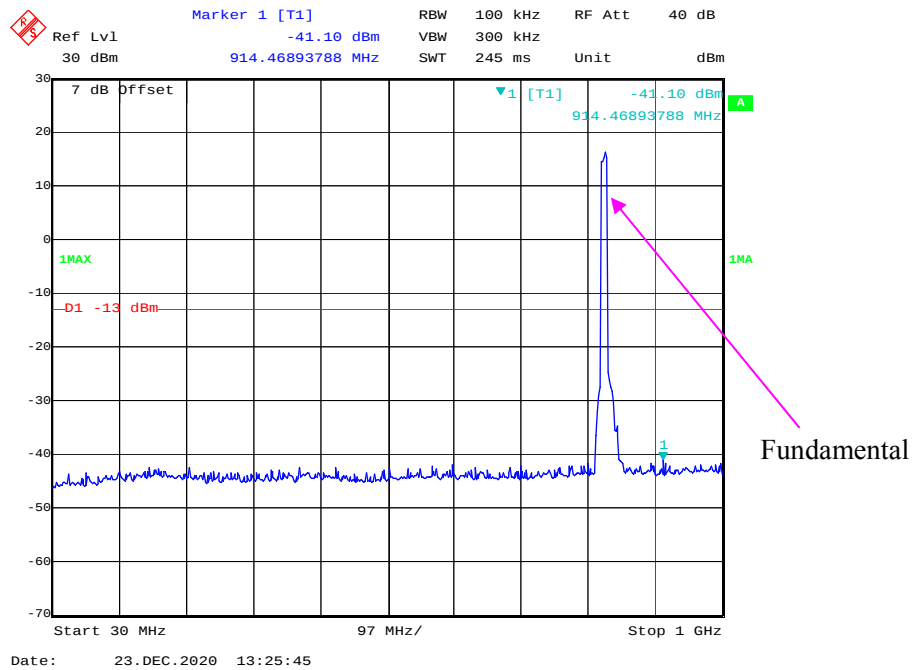
30 MHz - 1 GHz (16QAM, 5.0 MHz, Low Channel)



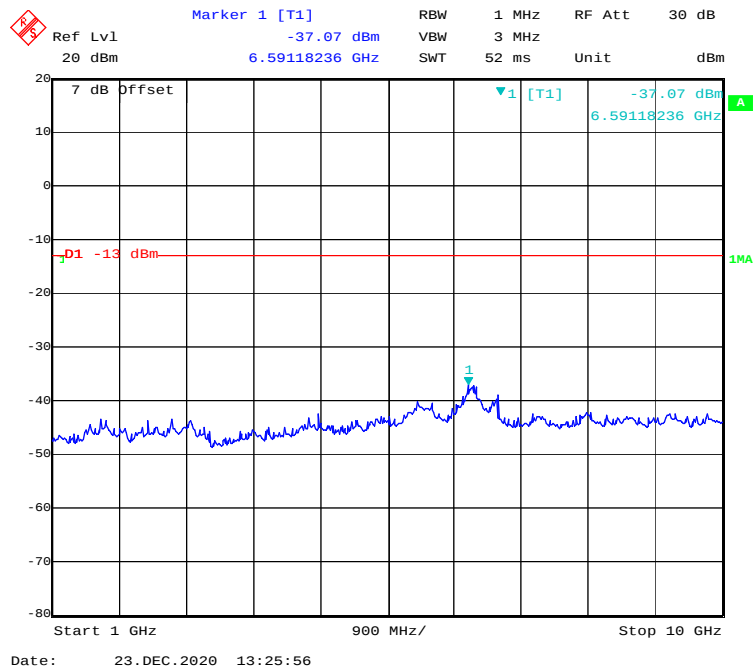
1 GHz – 10 GHz (16QAM, 5.0MHz, Low Channel)



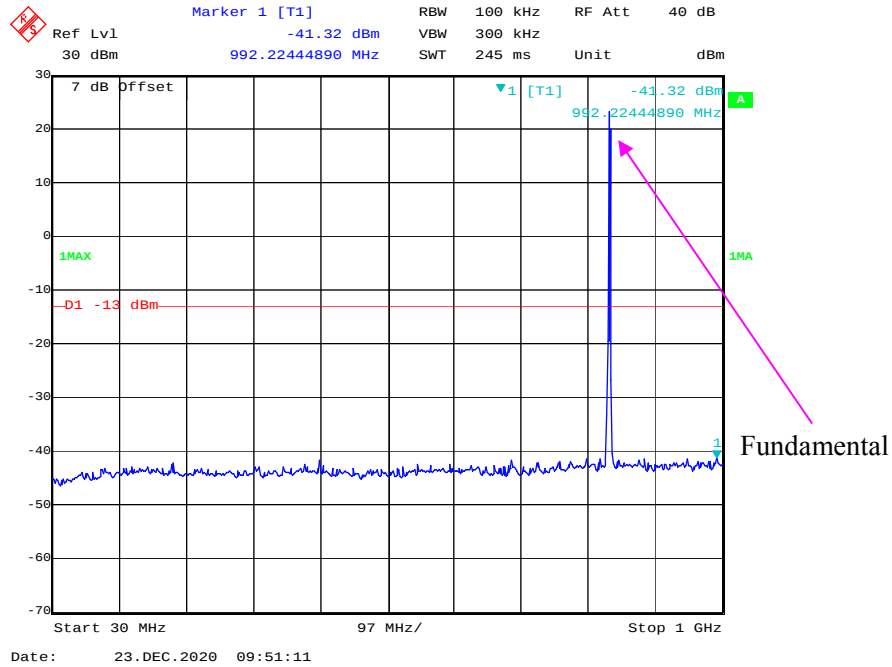
30 MHz - 1 GHz (16QAM, 10.0 MHz, Low Channel)



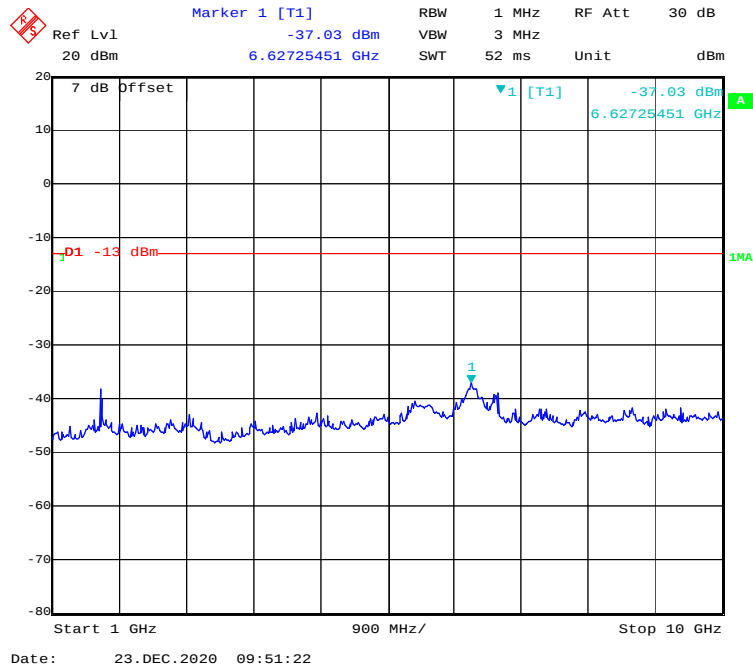
1 GHz – 10 GHz (16QAM, 10.0 MHz, Low Channel)



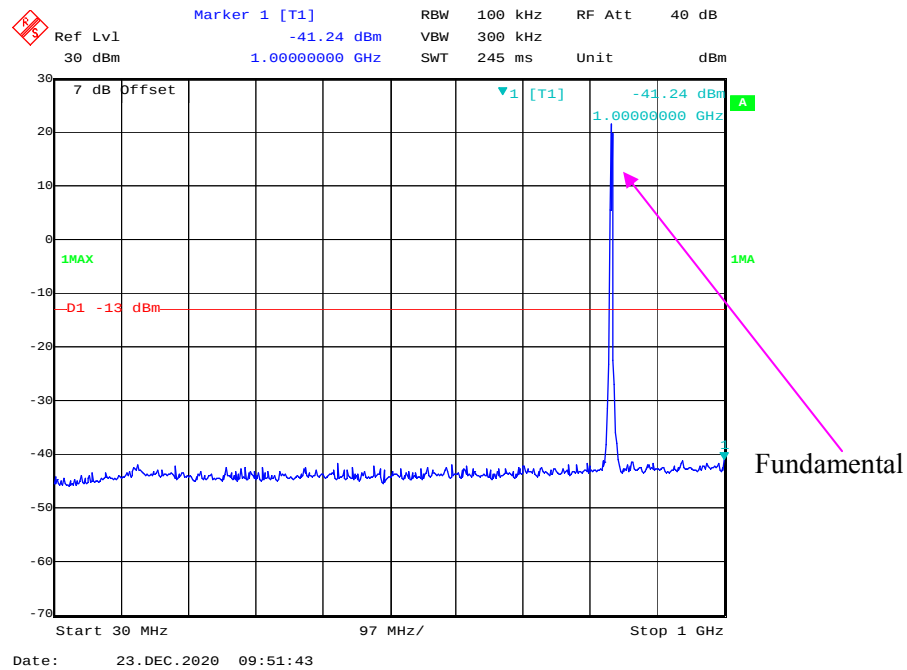
30 MHz - 1 GHz (QPSK, 1.4 MHz, Middle Channel)



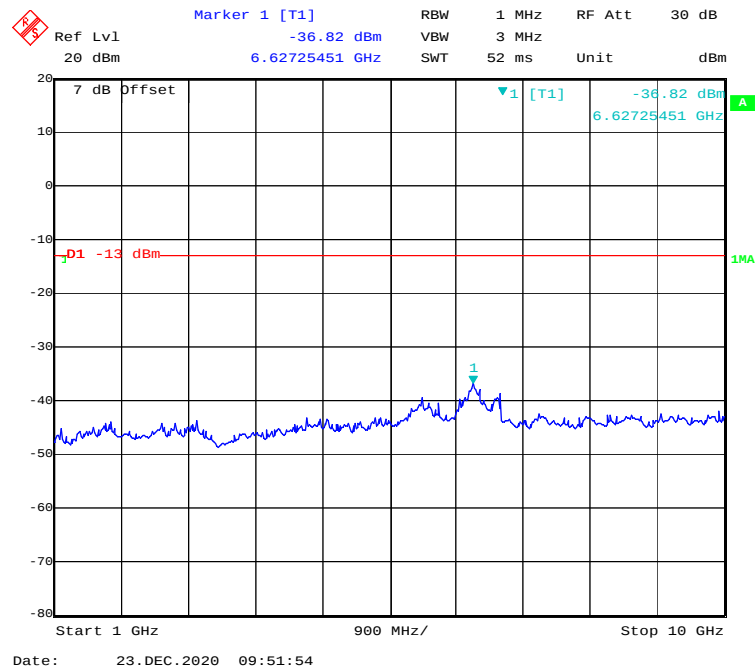
1 GHz – 10 GHz (QPSK, 1.4 MHz, Middle Channel)



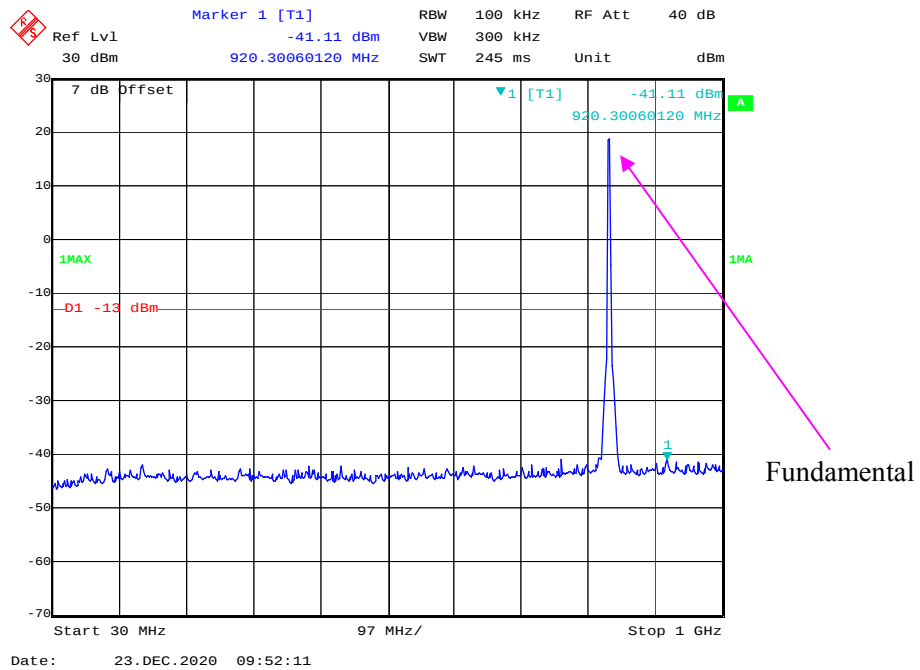
30 MHz - 1 GHz (QPSK, 3.0 MHz, Middle Channel)



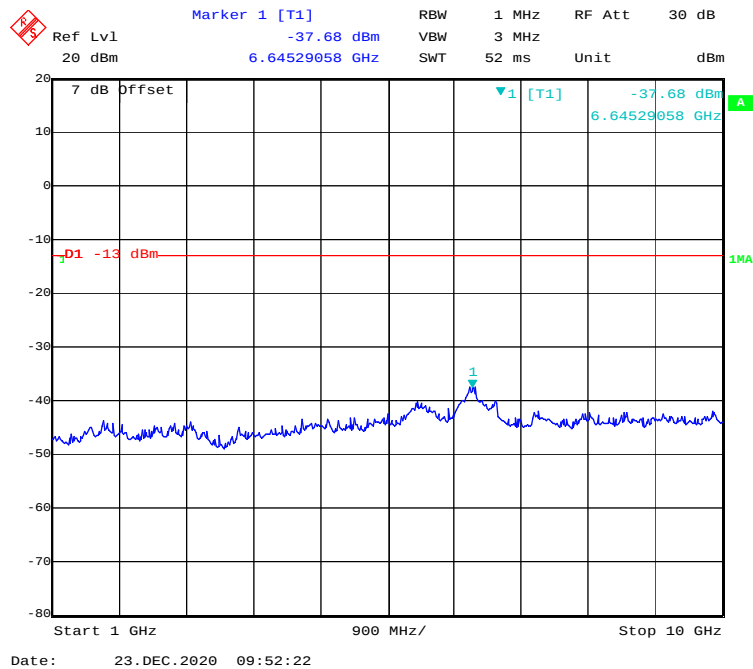
1 GHz – 10 GHz (QPSK, 3.0 MHz, Middle Channel)



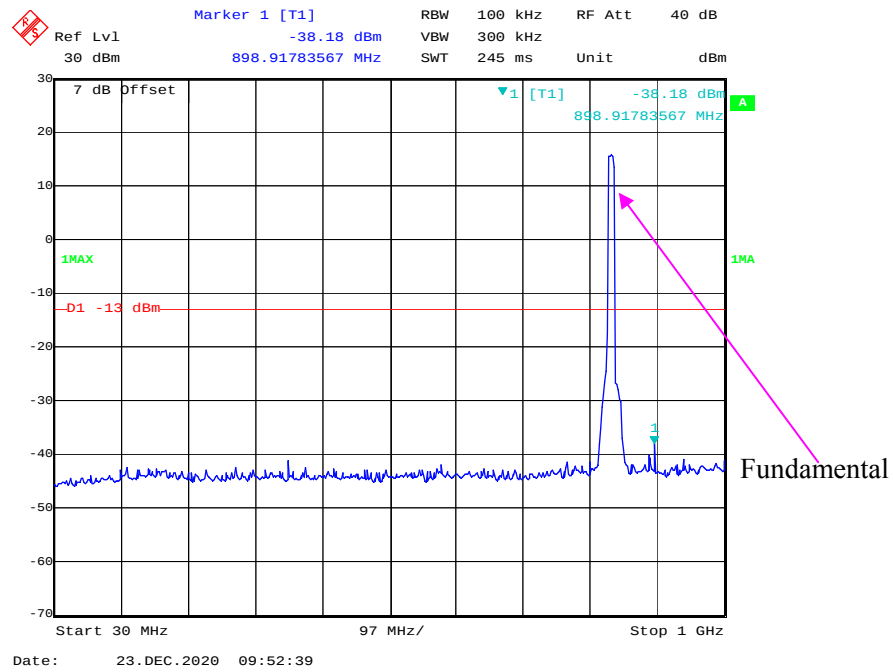
30 MHz - 1 GHz (QPSK, 5.0 MHz, Middle Channel)



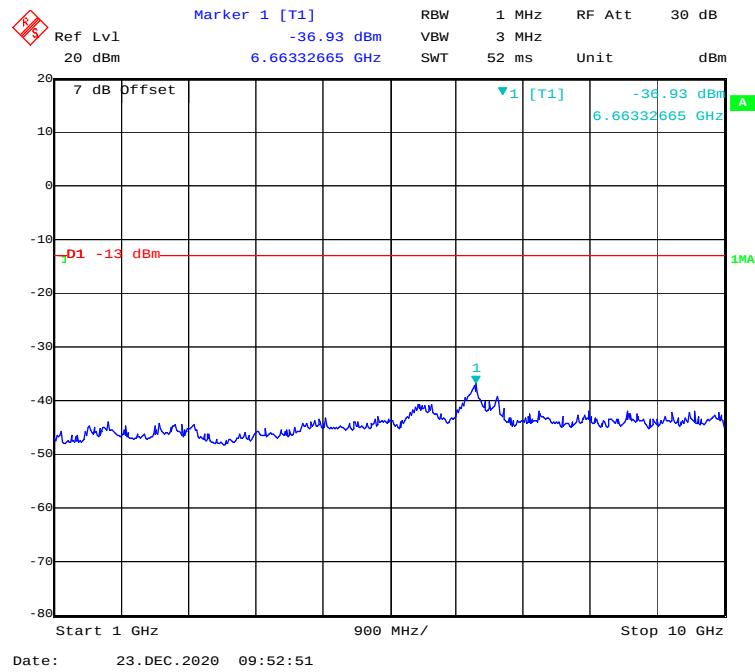
1 GHz – 10 GHz (QPSK, 5.0MHz, Middle Channel)



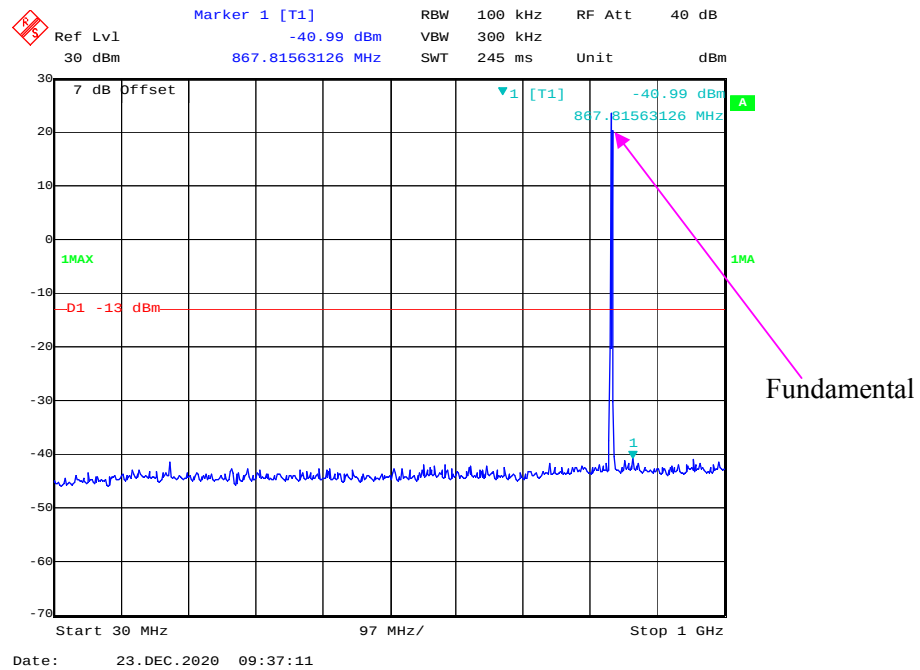
30 MHz - 1 GHz (QPSK, 10.0 MHz, Middle Channel)



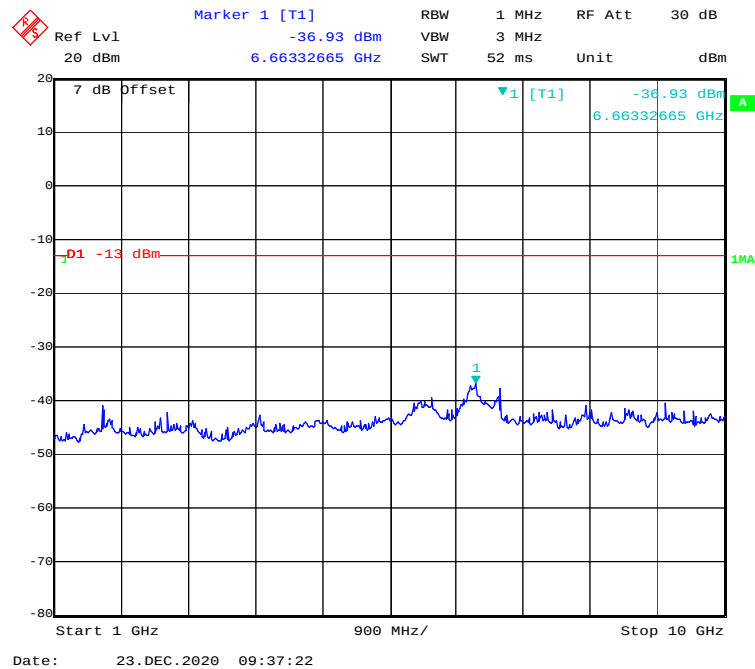
1 GHz – 10 GHz (QPSK, 10.0 MHz, Middle Channel)



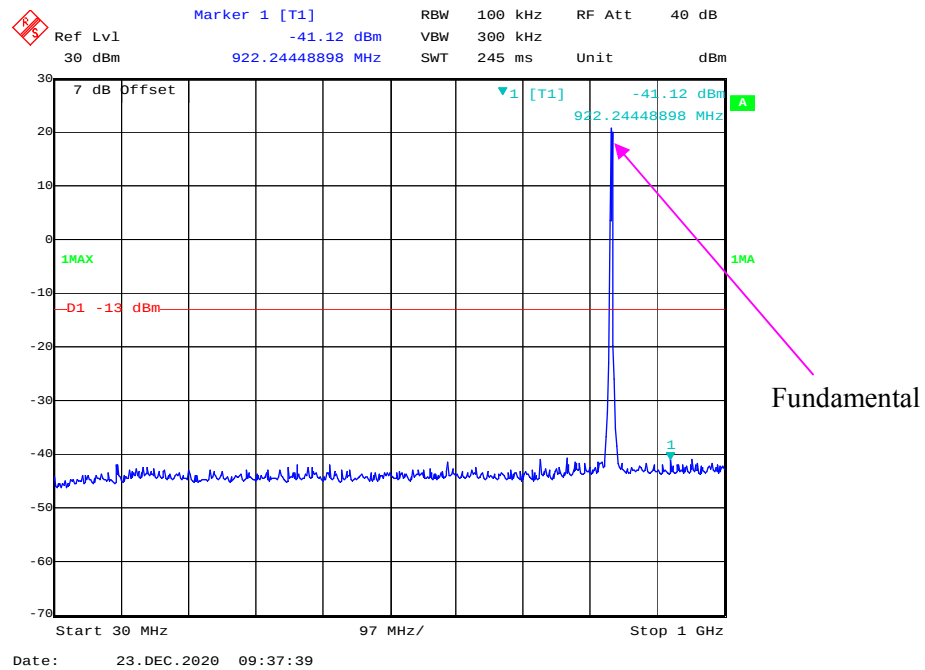
30 MHz - 1 GHz (16QAM, 1.4 MHz, Middle Channel)



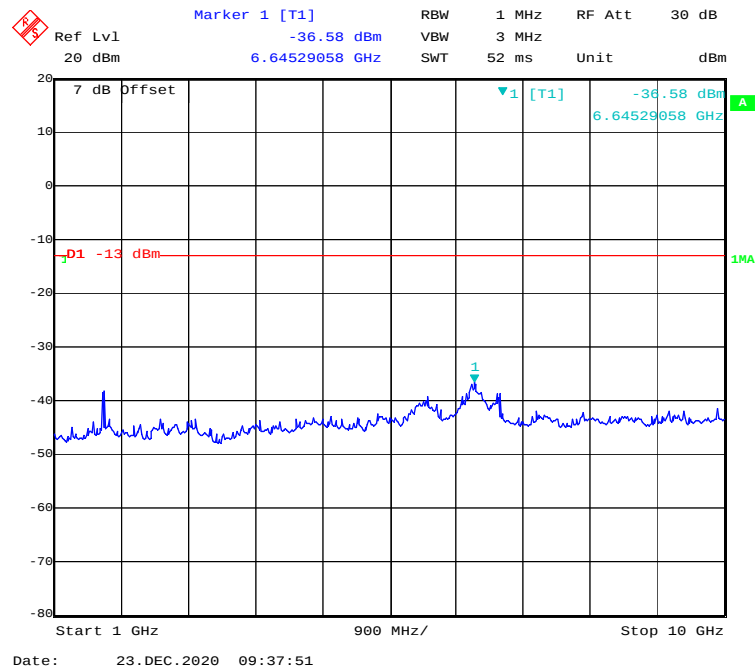
1 GHz – 10 GHz (16QAM, 1.4 MHz, Middle Channel)



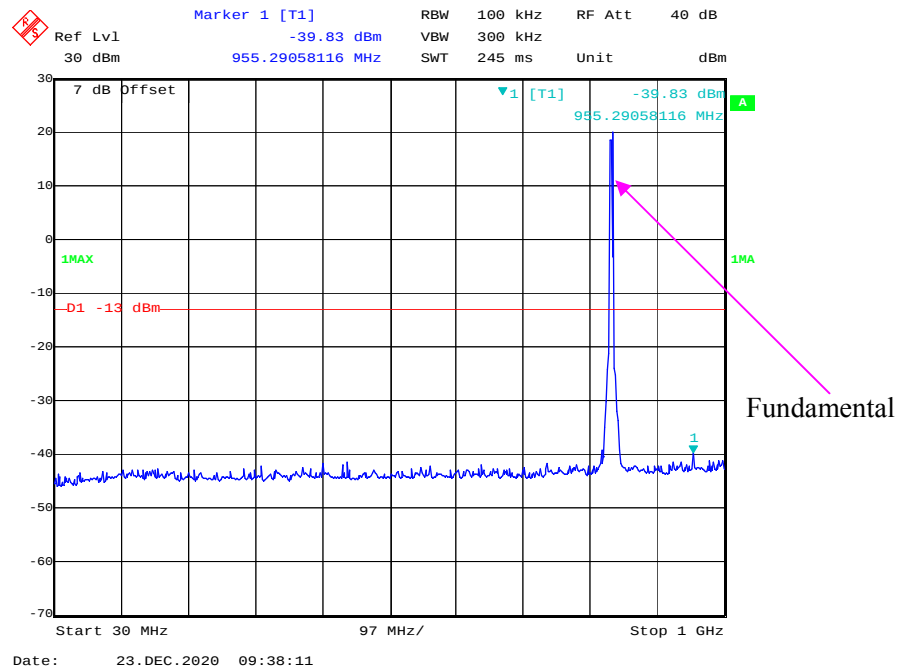
30 MHz - 1 GHz (16QAM, 3.0 MHz, Middle Channel)



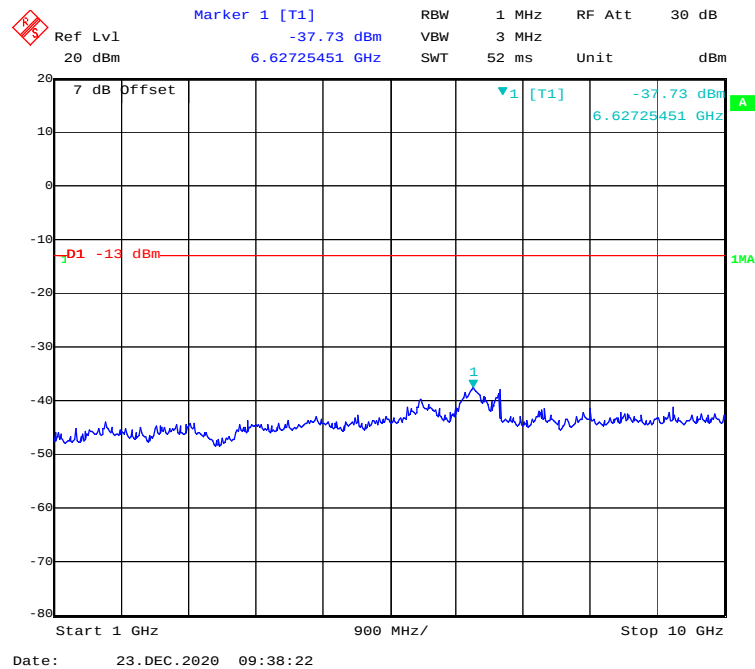
1 GHz – 10 GHz (16QAM, 3.0 MHz, Middle Channel)



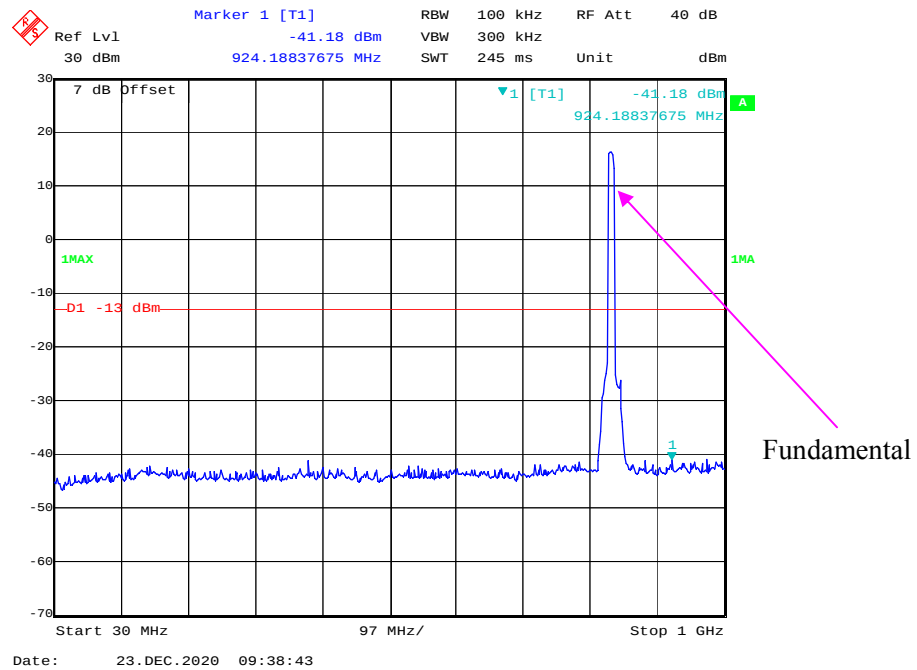
30 MHz - 1 GHz (16QAM, 5.0 MHz, Middle Channel)



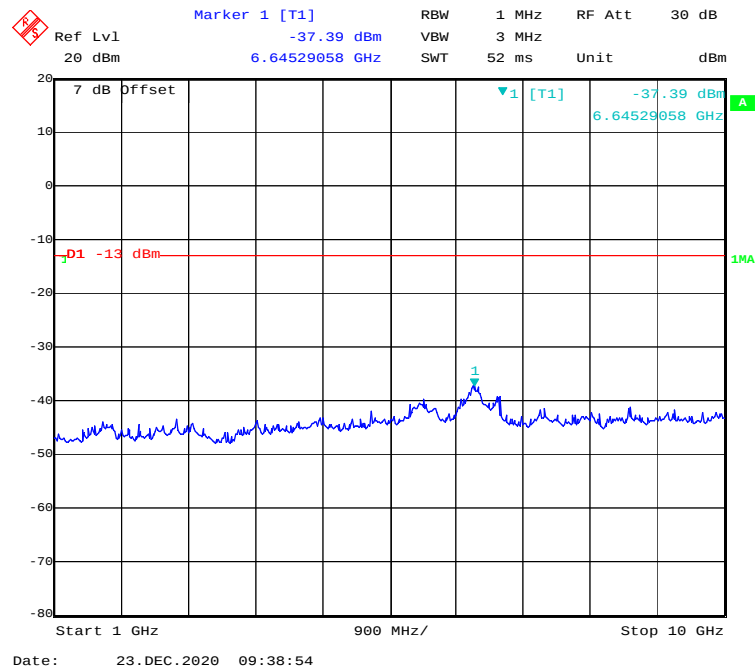
1 GHz – 10 GHz (16QAM, 5.0MHz, Middle Channel)



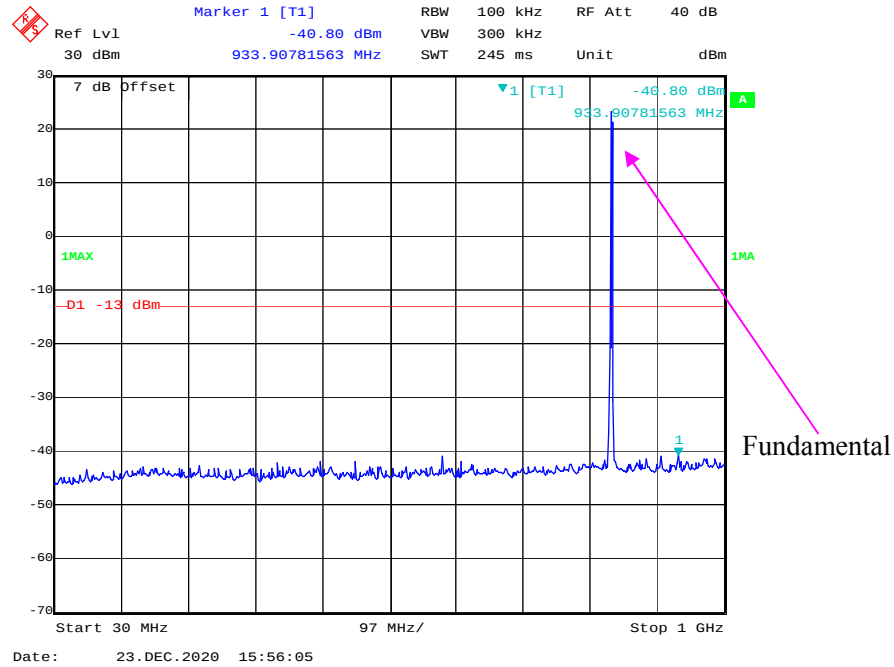
30 MHz - 1 GHz (16QAM, 10.0 MHz, Middle Channel)



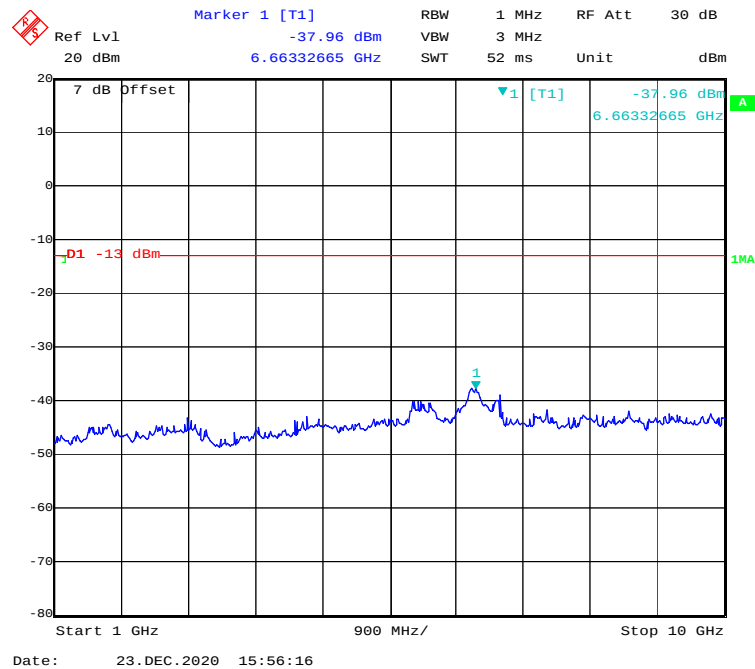
1 GHz – 10 GHz (16QAM, 10.0 MHz, Middle Channel)



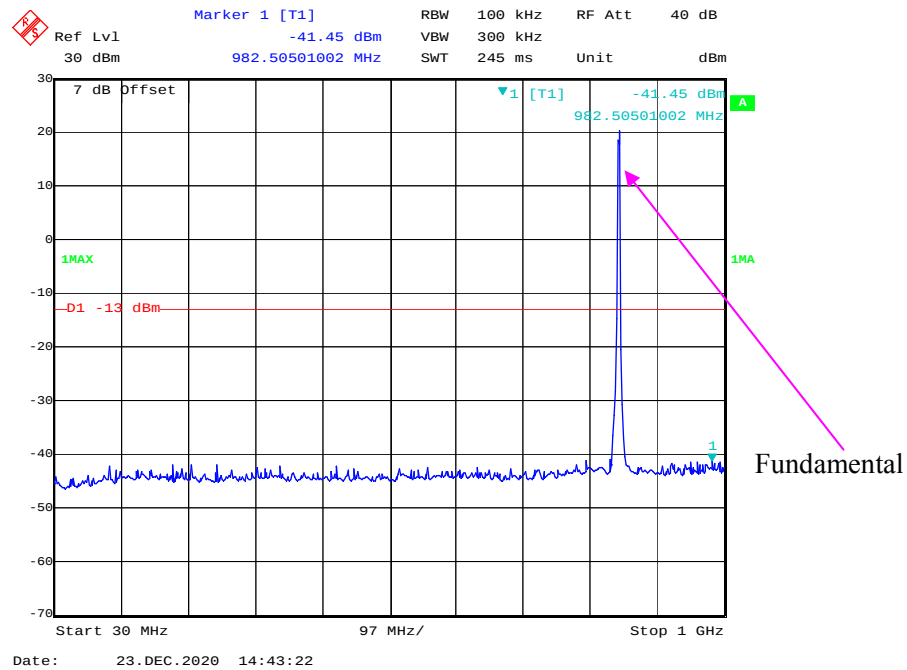
30 MHz - 1 GHz (QPSK, 1.4 MHz, High Channel)



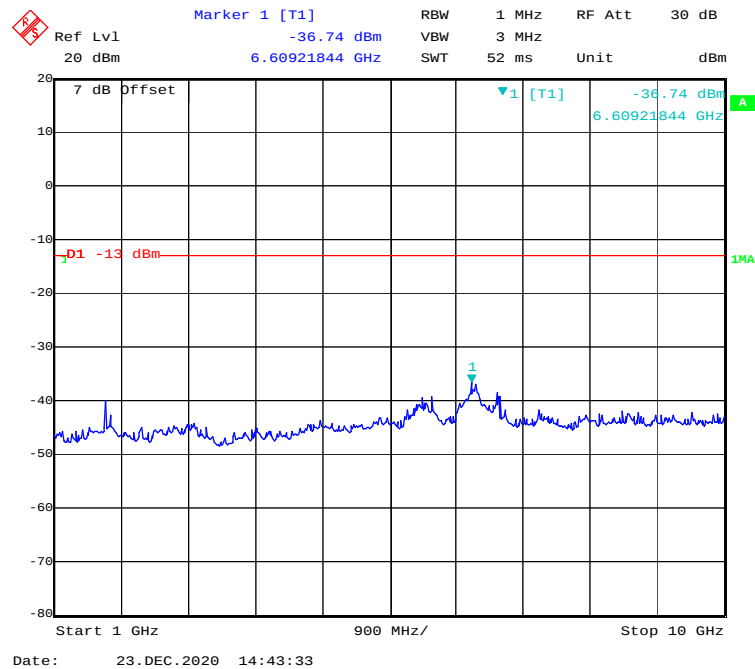
1 GHz – 10 GHz (QPSK, 1.4 MHz, High Channel)



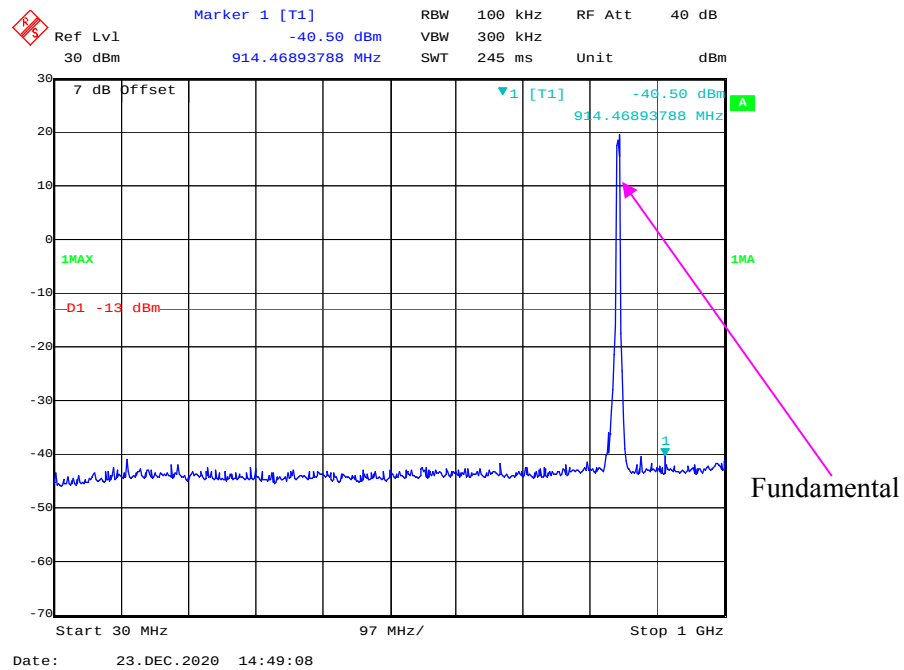
30 MHz - 1 GHz (QPSK, 3.0 MHz, High Channel)



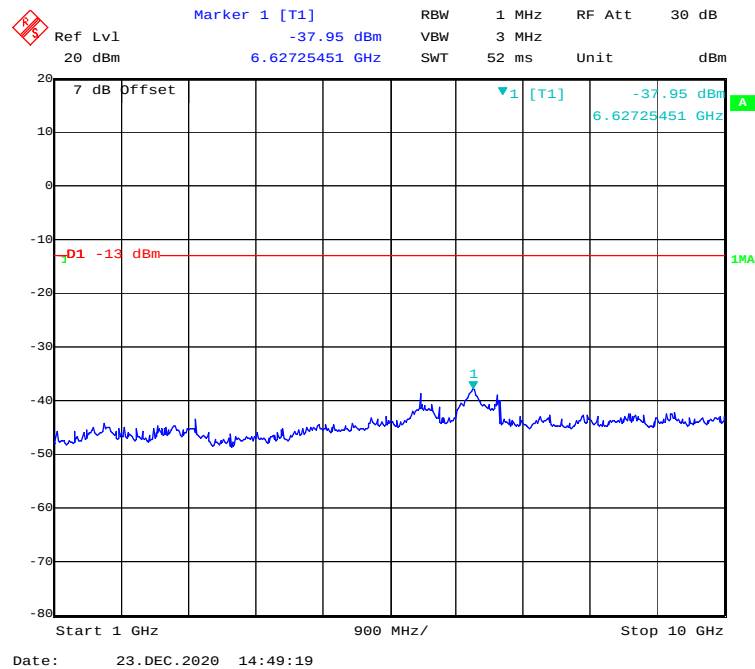
1 GHz – 10 GHz (QPSK, 3.0 MHz, High Channel)



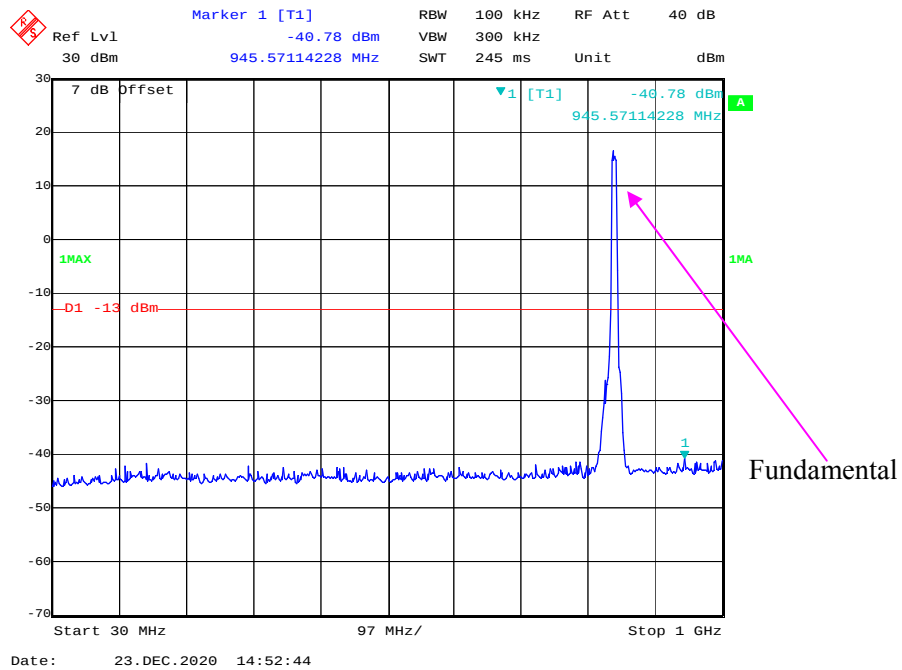
30 MHz - 1 GHz (QPSK, 5.0 MHz, High Channel)



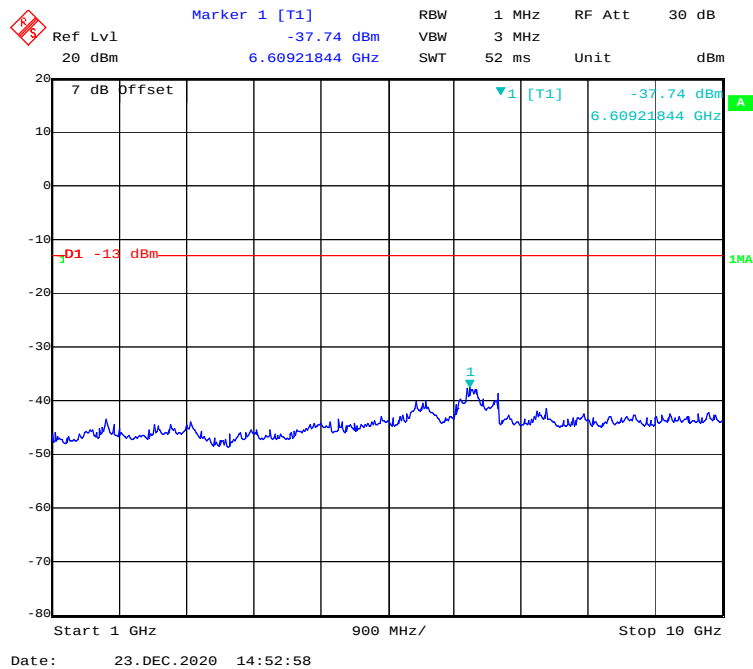
1 GHz – 10 GHz (QPSK, 5.0MHz, High Channel)



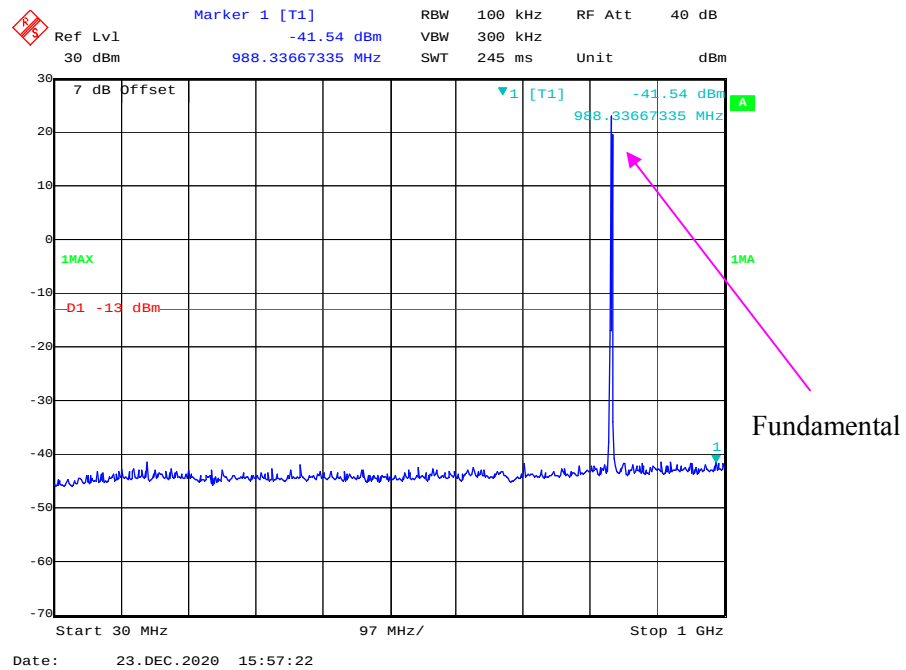
30 MHz - 1 GHz (QPSK, 10.0 MHz, High Channel)



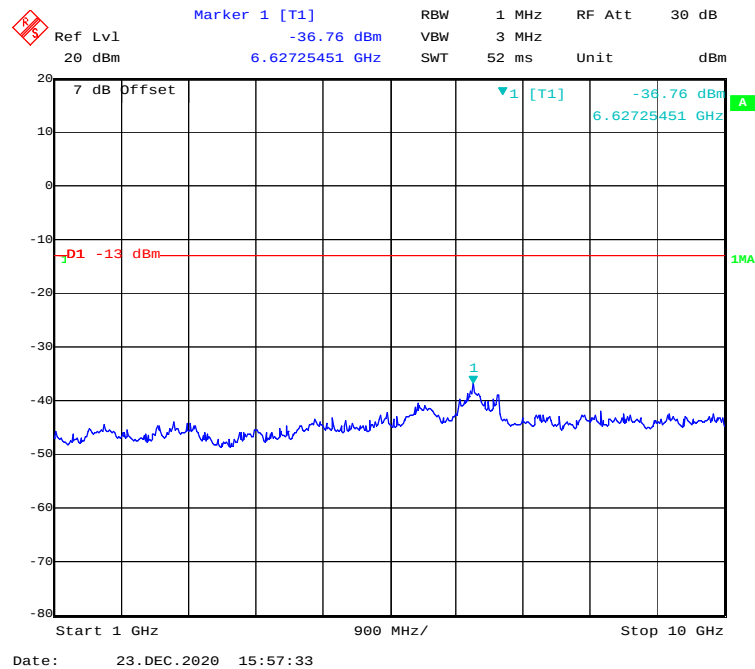
1 GHz – 10 GHz (QPSK, 10.0 MHz, High Channel)



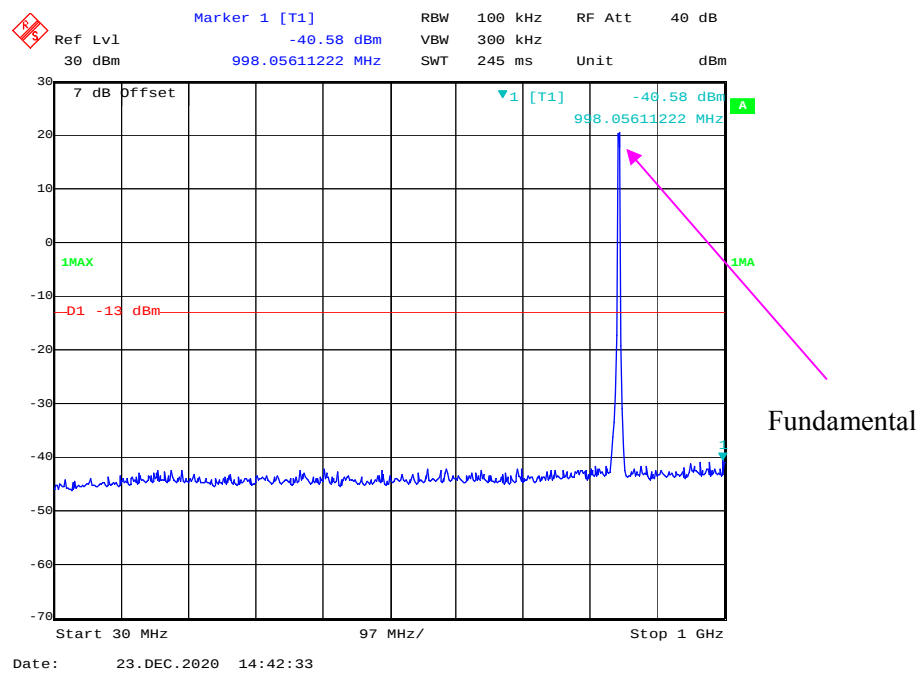
30 MHz - 1 GHz (16QAM, 1.4 MHz, High Channel)



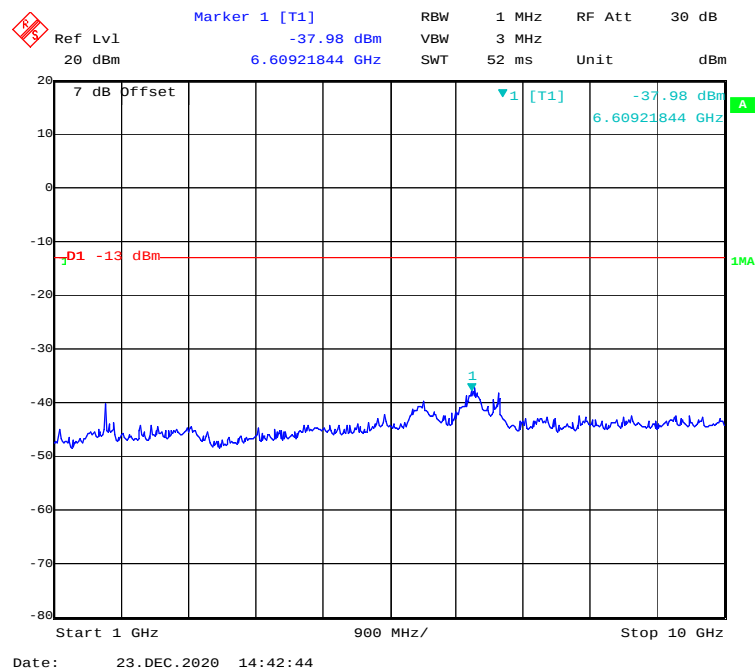
1 GHz – 10 GHz (16QAM, 1.4 MHz, High Channel)



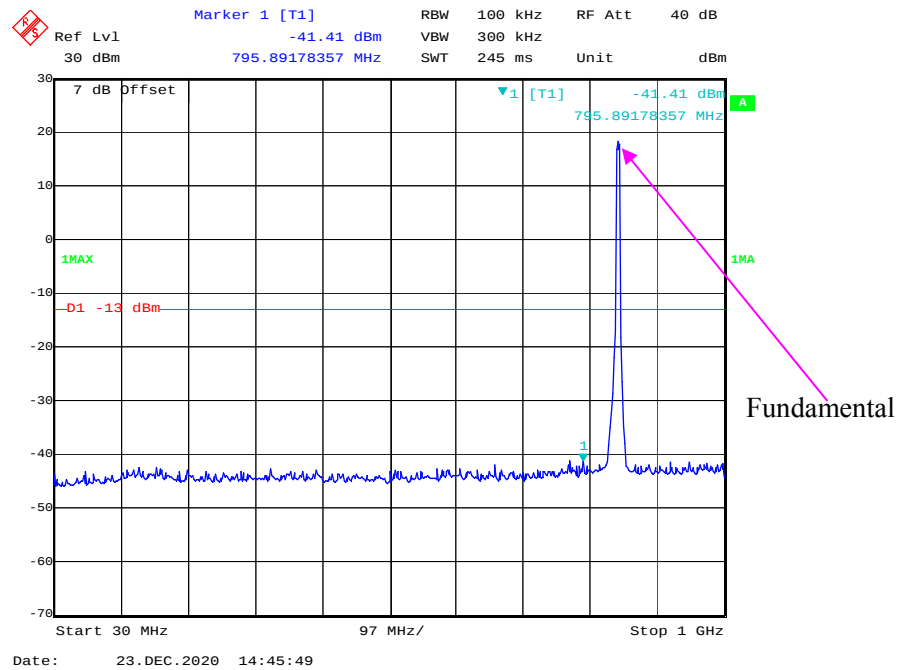
30 MHz - 1 GHz (16QAM, 3.0 MHz, High Channel)



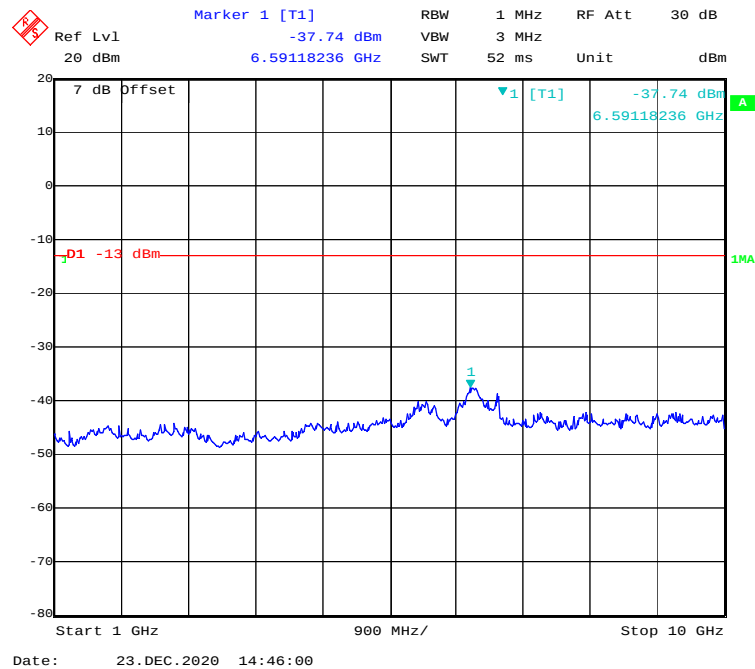
1 GHz – 10 GHz (16QAM, 3.0 MHz, High Channel)



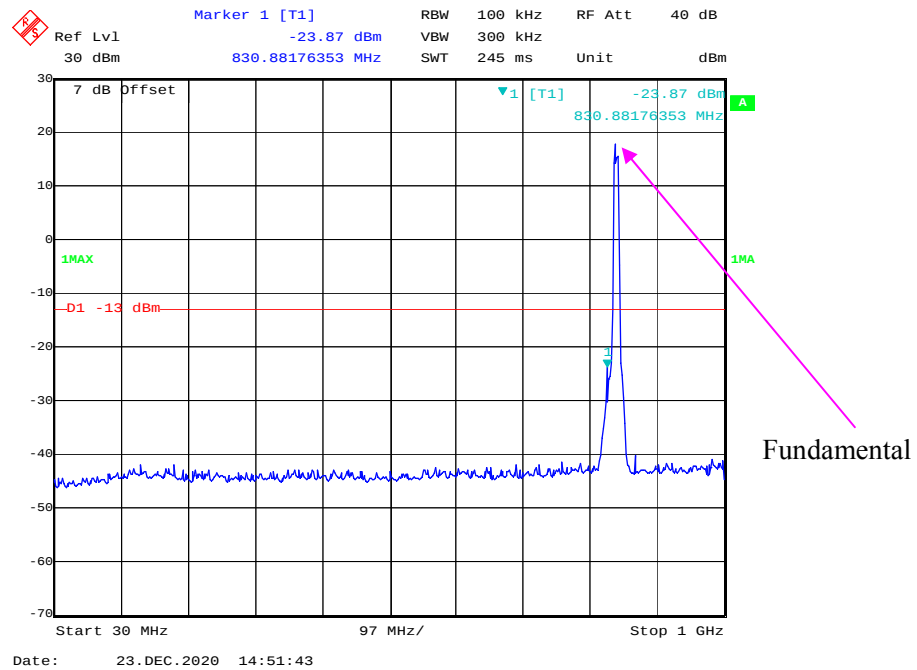
30 MHz - 1 GHz (16QAM, 5.0 MHz, High Channel)



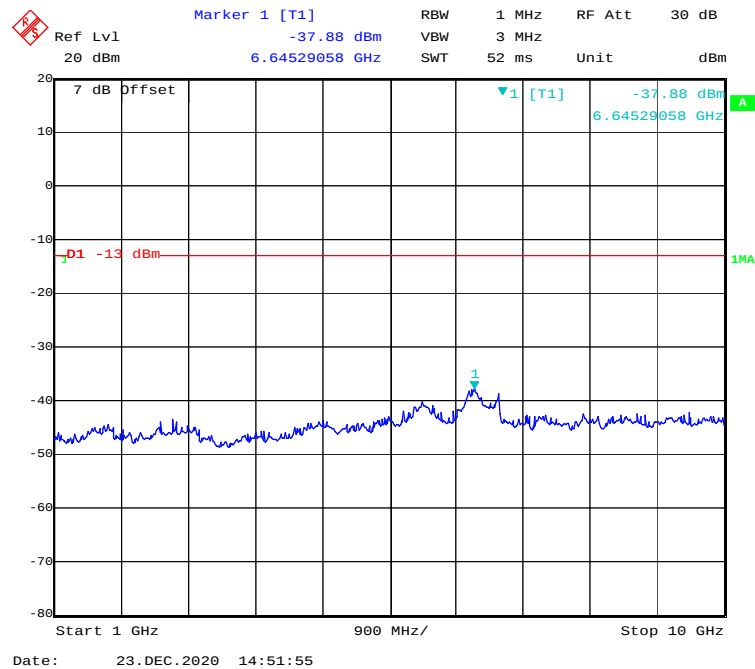
1 GHz – 10 GHz (16QAM, 5.0MHz, High Channel)



30 MHz - 1 GHz (16QAM, 10.0 MHz, High Channel)

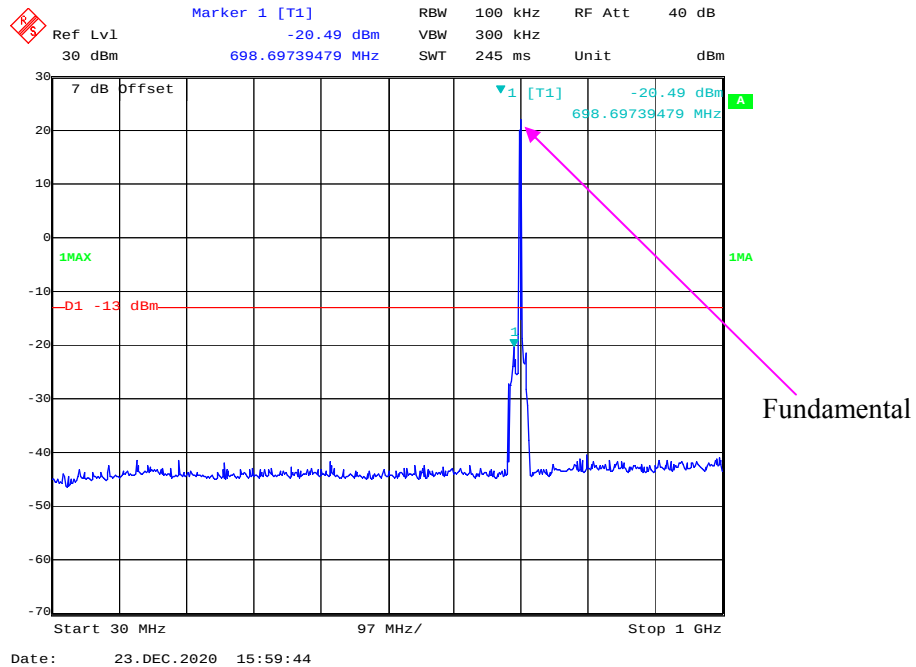


1 GHz – 10 GHz (16QAM, 10.0 MHz, High Channel)

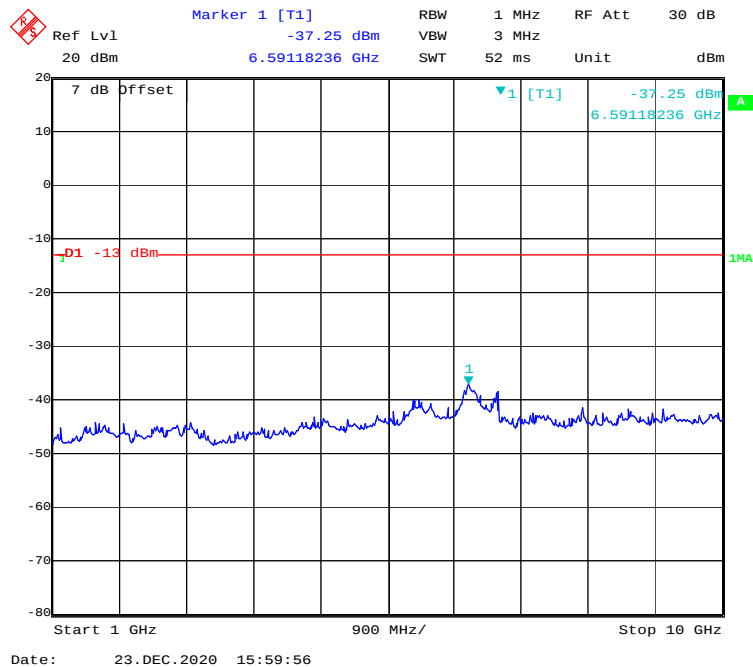


LTE Band 12:

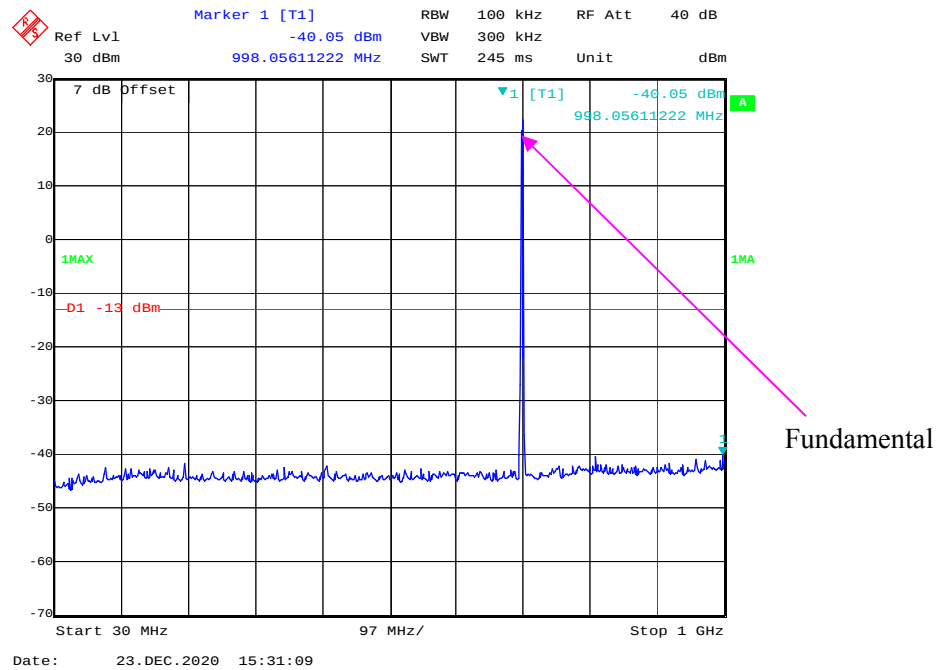
30 MHz - 1 GHz (1.4 MHz, QPSK, Low Channel)



1 GHz – 10 GHz (1.4 MHz, QPSK, Low Channel)



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



1 GHz – 10 GHz (1.4 MHz, 16-QAM, Low Channel)

