

47 CFR PART 22/24/27 SUBPART C TEST REPORT

for

Smart Home Alarm System

Model No.: HSGW_x-xxxxx-xxxxx Series

(x=0~9, A~Z or blank)

FCC ID: GX9HSGWCATM1

of

Applicant: CLIMAX TECHNOLOGY CO., LTD.

**Address: No. 258, Sinhu 2nd Rd., Neihu District, Taipei City 114,
Taiwan (R.O.C.)**

Tested and Prepared

by

Worldwide Testing Services (Taiwan) Co., Ltd.

FCC Registration No.: TW1477, TW1072

Industry Canada filed test laboratory Reg. No.: 20037, 5107A



Report No.: W6M22302-22480-C-247

6F, NO. 58, LANE 188, RUEY-KUANG RD., NEIHU TAIPEI 114, TAIWAN, R.O.C.
TEL: 886-2-66068877 FAX: 886-2-66068879 E-mail: wts@wts-lab.com



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

Certification of Test Report

Applicant : CLIMAX TECHNOLOGY CO., LTD.
No. 258, Sinhu 2nd Rd., Neihu District, Taipei City 114,
Taiwan (R.O.C.)

Manufacturer : CLIMAX TECHNOLOGY CO., LTD.
No. 258, Sinhu 2nd Rd., Neihu District, Taipei City 114,
Taiwan (R.O.C.)

Tested equipment :

Type description	: Smart Home Alarm System
Model number	: HSGWx-xxxxx-xxxxx Series(x=0~9, A~Z or blank)
Brand name	: ./.
Operation frequency	: Please see chapter 2.3.
RF output power	: CAT-M1: Band 2: 25.74 dBm (EIRP) Band 4 21.76 dBm (EIRP) Band 5: 22.18 dBm (ERP) Band 12: 20.56 dBm (ERP) Band 13: 22.13 dBm (ERP) Band 66: 22.28 dBm (EIRP)
Power supply	: Adaptor (I/P: 100-240V~0.4A, 50/60Hz O/P: 12.0V, 1.0A, 12.0W) Battery 7.2Vd.c.

Regulation applied : 47CFR Part 22 (2021-10), Part 24 (2021-10),
Part 27 (2021-10)

Test method : 47CFR Part 2 (2021), TIA/EIA-603E (2016) and
ANSI C63.26 (2015)

I HEREBY CERTIFY THAT: The test results written in this report were derived conscientiously in accordance with the requirements and procedures of 47CFR Part 2 (2021), TIA/EIA-603E (2016), and it was found that the device described above is in compliance with the applicable limits specified in 47CFR Part 22/24/27.

Laboratory disclaimer:

1. The result of this test report is valid only in connection to the sample has been tested at the laboratory of Worldwide Testing Services (Taiwan) Co. Ltd.
2. This test report shall always be duplicated in full pages unless the written approval of the testing laboratory is obtained.
3. Antenna gain is provided by applicant and laboratory issue relevant data and results.



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

Test engineer:

April 17, 2023

Rick Chen

Rick Chen

Date

WTS-Lab.

Name

Signature

Technical responsibility for area of testing:

April 17, 2023

Kevin Wang

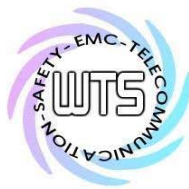
Kevin Wang

Date

WTS

Name

Signature

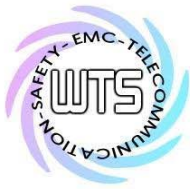


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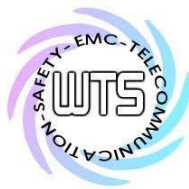


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Registration number: W6M22302-22480-C-247

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1. Summary

1.1 Description of tested equipment

This equipment under tested, HSGWx-xxxxx-xxxxx Series(x=0~9, A~Z or blank), is a Smart Home Alarm System.

This test report only contains test requirements specified in 47CFR Part 22, Part 24 and Part 27 for CAT-M1 function. For other functions; please refer to separate test report with respect to the relevant test standard and specification.

1.2 Date of testing processing

Date of receipt of test item: February 21, 2023

Date of test: from February 22, 2023 to April 14, 2023

Other Information: None

1.3 Modification Information

No modification was made during the all test items been performed.

1.4 Test standards

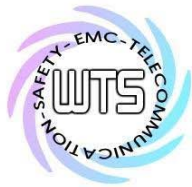
Technical standard: **47CFR Part 22 (2021), Part 24 (2021) and Part 27 (2021)**

Test method: **47 CFR Part 2 (2021), TIA/EIA-603E (2016),
ANSI C63.26 (2015)**

Deviation from test standard: None

Special statement:

1. This test report is valid in connection to the model has been tested, any modification to the product which is different from the test model will avoid the certification of the test report.
2. This test report shall always be duplicated in full pages unless the written approval of the testing.
3. The x in model number is representing different case shape, case colors, led mask color, and control ID.
4. The model number of EUT is HSGW-MAX8-DT32. This model does not contain logo.



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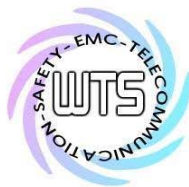
FCC ID: GX9HSGWCATM1

1.5 Summary of test result

Harmonized Standard Requirements and Conformance Test Specifications				
Item	Clause	Test Content	Limit	Test Result
3.2	§22.913 §24.232 §27.50	Effective Radiated Power and Equivalent Isotropic Radiated Power Measurement	ERP < 7 Watts (Band 5) EIRP < 2 Watts (Band 2) ERP < 3 Watts (Band 12, Band 13) EIRP < 1 Watts (Band 4, Band 66)	Pass
5.3	§24.232 §27.50	Peak-to-Average Ratio	< 13 dB	Pass
6.2	§2.1049	Occupied Bandwidth	OBW : No Limit	Pass
7.2	§22.917 §24.238 §27.53	Conducted Spurious Emission Measurement	< 43+10log10(P[Watts])	Pass
8.2	§22.917 §24.238 §27.53	Radiated Spurious Emission Measurement	< 43+10log10(P[Watts])	Pass
8.5	§22.917 §24.238 §27.53	Conducted Band Edge Measurement	< 43+10log10(P[Watts])	Pass
9.2	§2.1055 §22.355 §24.235 §27.54	Frequency stability / Temperature variation Measurement	< 2.5 ppm	Pass

Test item Name	Measurement Uncertainty
Estimation Result of Uncertainty of Radiated Emission(3M)	Expanded Uncertainty : 0.009-30 MHz : 3.48 dB 30-1000 MHz : 3.96 dB 1-18 GHz : 2.46 dB 18-40 GHz : 2.44 dB
Estimation Result of Uncertainty of Conducted Output Power Measurement	Expanded Uncertainty : 1.48 dB
Estimation Result of Uncertainty of Bandwidth Measurement	Expanded Uncertainty : 0.45 kHz
Estimation Result of Uncertainty of Frequency Drift Measurement	Expanded Uncertainty : 6.11 Hz
Estimation Result of Uncertainty of Band Edge Measurement	Expanded Uncertainty : 0.67 dBc

The decision rule is: Measurement uncertainty is not included in the calculation of test results.



Worldwide Testing Services(Taiwan) Co., Ltd.

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2. General Information

2.1 Testing laboratory

2.1.1 Location

10m OATS
No.5-1, Lishui, Shuang Sing Village, Wanli Dist.,
New Taipei City 207, Taiwan (R.O.C.)

3 meter semi-anechoic chamber
No.35, Aly. 21, Ln. 228, Ankang Rd., Neihu Dist.,
Taipei City 114, Taiwan (R.O.C.)
Tel: 886-2-6613-0228

Worldwide Testing Services (Taiwan) Co., Ltd.
6F., No. 58, Ln. 188, Ruiguang Rd., Neihu Dist.,
Taipei City 114, Taiwan (R.O.C.)
Tel: 886-2-6606-8877

2.1.2 Details of accreditation status

Accredited testing laboratory
FCC filed test laboratory Reg. No.: TW1477, TW1072
Industry Canada filed test laboratory Reg. No.: 20037, 5107A

2.1.3 Test location, where different from Worldwide Testing Services (Taiwan) Co., Ltd.

Name: ./.
Accredited number: ./.
Street: ./.
Town: ./.
Country: ./.

2.2 Details of approval holder

Name: CLIMAX TECHNOLOGY CO., LTD.
Street: No. 258, Sinhu 2nd Rd., Neihu District,
Town: Taipei City 114,
Country: Taiwan (R.O.C.)

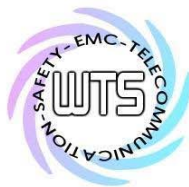
Manufacturer: (if different from applicant)

Name: ./.
Street: ./.
Town: ./.
Country: ./.

2.3 Description of Tested System

The EUT was tested alone without the Accessories or Peripherals.

Equipment	Model No.	Series No.	Software	Cable information	Note
No accessories were used with this EUT.					



Worldwide Testing Services(Taiwan) Co., Ltd.

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Frequencies Selected to be investigated:

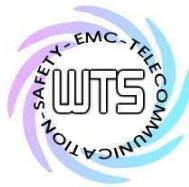
CAT-M1

Band 2

Test Frequency ID	Bandwidth [MHz]	N _{UL}	Frequency of Uplink [MHz]	N _{DL}	Frequency of Downlink [MHz]
Low Range	1.4	18607	1850.7	607	1930.7
	3	18615	1851.5	615	1931.5
	5	18625	1852.5	625	1932.5
	10	18650	1855	650	1935
	15 ^[1]	18675	1857.5	675	1937.5
	20 ^[1]	18700	1860	700	1940
Mid Range	1.4/3/5/10 15 ^[1] /20 ^[1]	18900	1880	900	1960
High Range	1.4	19193	1909.3	1193	1989.3
	3	19185	1908.5	1185	1988.5
	5	19175	1907.5	1175	1987.5
	10	19150	1905	1150	1985
	15 ^[1]	19125	1902.5	1125	1982.5
	20 ^[1]	19100	1900	1100	1980
NOTE 1: Bandwidth for which a relaxation of the specified UE receiver sensitivity requirement (TS 36.101 [27] Clause 7.3) is allowed.					

Band 4

Test Frequency ID	Bandwidth [MHz]	N _{UL}	Frequency of Uplink [MHz]	N _{DL}	Frequency of Downlink [MHz]
Low Range	1.4	19957	1710.7	1957	2110.7
	3	19965	1711.5	1965	2111.5
	5	19975	1712.5	1975	2112.5
	10	20000	1715	2000	2115
	15	20025	1717.5	2025	2117.5
	20	20050	1720	2050	2120
Mid Range	1.4/3/5/10/15/20	20175	1732.5	2175	2132.5
High Range	1.4	20393	1754.3	2393	2154.3
	3	20385	1753.5	2385	2153.5
	5	20375	1752.5	2375	2152.5
	10	20350	1750	2350	2150
	15	20325	1747.5	2325	2147.5
	20	20300	1745	2300	2145



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Band 5

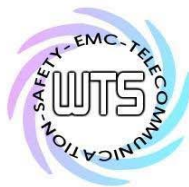
Test Frequency ID	Bandwidth [MHz]	N _{UL}	Frequency of Uplink [MHz]	N _{DL}	Frequency of Downlink [MHz]
Low Range	1.4	20407	824.7	2407	869.7
	3	20415	825.5	2415	870.5
	5	20425	826.5	2425	871.5
	10 ^[1]	20450	829	2450	874
Mid Range	1.4/3/5 10 ^[1]	20525	836.5	2525	881.5
High Range	1.4	20643	848.3	2643	893.3
	3	20635	847.5	2635	892.5
	5	20625	846.5	2625	891.5
	10 ^[1]	20600	844	2600	889
NOTE 1: Bandwidth for which a relaxation of the specified UE receiver sensitivity requirement (TS 36.101 [27] Clause 7.3) is allowed.					

Band 12

Test Frequency ID	Bandwidth [MHz]	N _{UL}	Frequency of Uplink [MHz]	N _{DL}	Frequency of Downlink [MHz]
Low Range	1.4	23017	699.7	5017	729.7
	3	23025	700.5	5025	730.5
	5 ^[1]	23035	701.5	5035	731.5
	10 ^[1]	23060	704	5060	734
Mid Range	1.4/3 5 ^[1] /10 ^[1]	23095	707.5	5095	737.5
High Range	1.4	23173	715.3	5173	745.3
	3	23165	714.5	5165	744.5
	5 ^[1]	23155	713.5	5155	743.5
	10 ^[1]	23130	711	5130	741
NOTE 1: Bandwidth for which a relaxation of the specified UE receiver sensitivity requirement (TS 36.101 [27] Clause 7.3) is allowed.					

Band 13

Test Frequency ID	Bandwidth [MHz]	N _{UL}	Frequency of Uplink [MHz]	N _{DL}	Frequency of Downlink [MHz]
Low Range	5 ^[1]	23205	779.5	5205	748.5
	10 ^[1]	23230	782	5230	751
Mid Range	5 ^[1] /10 ^[1]	23230	782	5230	751
High Range	5 ^[1]	23255	784.5	5255	753.5
	10 ^[1]	23230	782	5230	751
NOTE 1: Bandwidth for which a relaxation of the specified UE receiver sensitivity requirement (TS 36.101 [27] Clause 7.3) is allowed.					



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Band 66

Test Frequency ID	Bandwidth [MHz]	NuL	Frequency of Uplink [MHz]	NdL	Frequency of Downlink [MHz]
Low Range	1.4	131979	1710.7	66443	2110.7
	3	131987	1711.5	66451	2111.5
	5	131997	1712.5	66461	2112.5
	10	132022	1715	66486	2115
	15	132047	1717.5	66511	2117.5
	20	132072	1720	66536	2120
Mid Range Tx ¹	1.4/3/5/10/15/20	132322	1745	66786	2145
Mid Range	1.4/3/5/10/15/20	132422	1755	66886	2155
Paired High Range ²	1.4	132665	1779.3	67129	2179.3
	3	132657	1778.5	67121	2178.5
	5	132647	1777.5	67111	2177.5
	10	132622	1775	67086	2175
	15	132597	1772.5	67061	2172.5
	20	132572	1770	67036	2170
High Range ³	1.4	NA	NA	67329	2199.3
	3	NA	NA	67321	2198.5
	5	NA	NA	67311	2197.5
	10	NA	NA	67286	2195
	15	NA	NA	67261	2192.5
	20	NA	NA	67236	2190
Note 1: Applicable for transmitter testing.					
Note 2: Applicable if UL is configured on the CC.					
Note 3: Applicable if no UL is configured on the CC.					

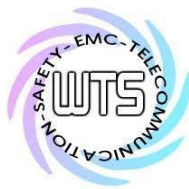
Antenna type: Monopole antenna
Antenna gain: CAT-M1 Band 2: 3.13 dBi
 Band 4: -0.08 dBi
 Band 5: 2.34 dBi
 Band 12: 0.04 dBi
 Band 13: 2.46 dBi
 Band 66: -0.08 dBi

Power supply: Adaptor (I/P: 100-240V~0.4A, 50/60Hz
 O/P: 12.0V, 1.0A, 12.0W)
 Battery 7.2Vd.c.

Sample no.: #01

2.4 Test environment

Temperature: 27 °C
Relative humidity content: 54 %
Air pressure: 86-103 Kpa



Registration number: W6M22302-22480-C-247

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2.5 General Test Requirement

Radiated Emission: For investigated frequency is equal to or below 1GHz, the RBW and VBW of the spectrum analyzer was 100 kHz and 100 kHz respectively with an appropriate sweep speed.

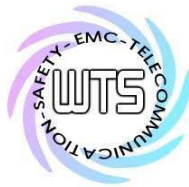
For investigated frequency is above 1GHz, both of RBW and VBW of the spectrum analyzer were 1 MHz with an appropriate sweep speed. The analyzer was calibrated in dB above a microvolt at the output of the antenna.

The table used for radiated measurements is capable of continuous rotation. The spectrum was scanned from 30 MHz to the frequency specified as follows:

- (1) If the intentional radiator operates below 10 GHz: to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.
- (2) If the intentional radiator operates at or above 10 GHz and below 30 GHz: to the fifth harmonic of the highest fundamental frequency or to 100 GHz, whichever is lower.
- (3) If the intentional radiator operates at or above 30 GHz: to the fifth harmonic of the highest fundamental frequency or to 200 GHz, whichever is lower, unless specified otherwise elsewhere in the rules.

For hand-held devices, a exploratory test was performed with three (3) orthogonal planes to determine the highest emissions.

When an emission was found, the table was rotated to produce the maximum signal strength. At this point, the antenna was raised and lowered from 1m to 4m. The antenna was placed in both the horizontal and vertical planes.



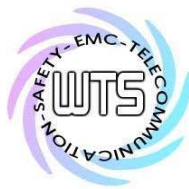
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2.6 Test Equipment List

No.	Test equipment	Type	Serial No.	Manufacturer	Cal. Date	Next Cal. Date
ETSTW-CE 001	EMI TEST RECEIVER	ESHS10	842121/013	R&S	2022/6/22	2023/6/21
ETSTW-CE 003	AC POWER SOURCE	APS-9102	D161137	GW	Function Test	
ETSTW-CE 004	ZWEILEITER-V-NETZNACHBILDUNG TWO-LINE V-NETWORK	ESH3-Z5	840731/011	R&S	2022/10/24	2023/10/23
ETSTW-CE 006	IMPULSBEGRENZER PULSE LIMITER	ESH3-Z2	100226	R&S	2022/10/24	2023/10/23
ETSTW-CE 008	HF-EICHLITUNG RF STEP ATTENUATOR 139dB DPSP	334.6010.02	844581/024	R&S	Function Test	
ETSTW-CE 009	TEMP.&HUMIDITY CHAMBER	GTH-225-40-1P-U	MAA0305-009	GIANT FORCE	2022/8/3	2023/8/2
ETSTW-CE 016	TWO-LINE V-NETWORK	ENV216	100050	R&S	2022/11/9	2023/11/8
ETSTW-CE 028	MXE EMI Receiver	N9038A	MY53220110	Agilent	2022/7/29	2023/7/28
ETSTW-RE 003	EMI TEST RECEIVER	ESI 26	831438/001	R&S	2022/6/21	2023/6/20
ETSTW-RE 004	EMI TEST RECEIVER	ESI 40	832427/004	R&S	2022/10/17	2023/10/16
ETSTW-RE 012	TUNABLE BANDREJECT FILTER	D.C 0309	146	K&L	Function Test	
ETSTW-RE 013	TUNABLE BANDREJECT FILTER	D.C 0336	397	K&L	Function Test	
ETSTW-RE 018	MICROWAVE HORN ANTENNA	AT4560	27212	AR	2022/8/18	2023/8/17
ETSTW-RE 019	MICROWAVE HORN ANTENNA	22240-25	121074	FM	2022/6/13	2023/6/12
ETSTW-RE 027	Passive Loop Antenna	6512	00034563	ETS-Lindgren	2022/6/22	2023/6/21
ETSTW-RE 030	Double-Ridged Guide Horn Antenna	3117	00035224	ETS-Lindgren	2022/5/23	2023/5/22
ETSTW-RE 042	Biconical Antenna	HK116	100172	R&S	2023/3/2	2024/3/1
ETSTW-RE 043	Log-Periodic Dipole Antenna	HL223	100166	R&S	2022/6/28	2023/6/27
ETSTW-RE 044	Log-Periodic Antenna	HL050	100094	R&S	2022/8/1	2023/7/31
ETSTW-RE 045	ESA-E SERIES SPECTRUM ANALYZER	E4404B	MY45111242	Agilent	Pre-test Use	
ETSTW-RE 050	Attenuator 10dB	50HF-010-1	None	JFW	2023/2/17	2024/2/16
ETSTW-RE 051	Attenuator 6dB	50HF-006-1	None	JFW	2023/2/17	2024/2/16
ETSTW-RE 053	Attenuator 3dB	50HF-003-1	None	JFW	2023/2/17	2024/2/16
ETSTW-RE 055	SPECTRUM ANALYZER	FSU 26	200074	R&S	2023/3/22	2024/3/21
ETSTW-RE 060	Attenuator 30dB	5015-30	F651012z-01	ATM	2023/2/17	2024/2/16
ETSTW-RE 062	Amplifier Module	CHC 2	None	KMIC	2023/2/20	2024/2/19
ETSTW-RE 064	Bluetooth Test Set	MT8852B-042	6K00005709	Anritsu	Function Test	
ETSTW-RE 069	Double-Ridged Guide Horn Antenna	3117	00069377	ETS-Lindgren	Function Test	
ETSTW-RE 072	CELL SITE TEST SET	8921A	3339A00375	HP	2022/11/5	2023/11/4
ETSTW-RE 088	SOLID STATE AMPLIFIER	KMA180265A01	99057	KMIC	2022/9/16	2023/9/15
ETSTW-RE 091	Match Pad	MDCS1500	None	WOKEN	2022/6/9	2023/6/8
ETSTW-RE 099	DC Block	50DB-007-1	None	JFW	2023/2/17	2024/2/16
ETSTW-RE 112	AC POWER SOURCE	TFC-1005	T-0A023536	T-Power	Function test	

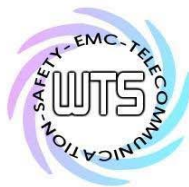


Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

ETSTW-RE 115	2.4GHz Notch Filter	N0124411	473874	MICROWAVE CIRCUITS	2023/1/4	2024/1/3
ETSTW-RE 120	RF Player	MP9200	MP9210-111022	ADIVIC	2022/11/8	2023/11/7
ETSTW-RE 122	SIGNAL GENERATOR	SMF100A	102149	R&S	2022/6/20	2023/6/19
ETSTW-RE 125	5GHz Notch filter	5NSL11-5200/E221.3-O/O	1	K&L Microwave	2022/8/5	2023/8/4
ETSTW-RE 126	5GHz Notch filter	5NSL12-5800/E221.3-O/O	1	K&L Microwave	2022/8/5	2023/8/4
ETSTW-RE 127	RF Switch Box	RFS-01	None	WTS	2023/2/17	2024/2/16
ETSTW-RE 128	5.3GHz Notch filter	N0153001	SN487233	Microwave Circuits	2022/8/5	2023/8/4
ETSTW-RE 129	5.5GHz Notch filter	N0555984	SN487234	Microwave Circuits	2022/8/5	2023/8/4
ETSTW-RE 130	Handheld RF Spectrum Analyzer	N9340A	CN0147000204	Agilent	Pre-test Use	
ETSTW-RE 142	Amplifier	8447D	2805A03378	Agilent	2023/2/20	2024/2/19
ETSTW-RE 146	Preamplifier	JPA-10MIG	15090004	JPT	2022/5/27	2023/5/26
ETSTW-RE 152	Bi-log Hybrid Antenna	MCTD 2786B	BLB20J04029	ETC	2023/1/31	2024/1/30
ETSTW-RE 153	Signal Analyzer	FSV40	101929	R&S	2022/10/3	2023/10/2
ETSTW-RE 159	Bi-log Hybrid Antenna (30M~1000 MHz)	MCTD 2786B	BLB21N04035	ETC	2022/12/22	2023/12/21
ETSTW-RE 177	Bi-log Hybrid Antenna with 6dB Attenuator	VULB 9168&EMCI-N-6-06	01380&AT-06007	SCHWARZBECK&EMC	2022/9/1	2023/8/31
ETSTW-RF 002	Electromagnetic field probe	LF-30	K-0007	STT	2022/7/14	2023/7/13
ETSTW-EMI 011	USB Compact Modulator	SFC-U	101689	R&S	2022/6/10	2023/6/9
ETSTW-GSM 002	Universal Radio Communication Tester	CMU 200	109439	R&S	2023/3/22	2024/3/21
ETSTW-GSM 003	Radio Communication Analyzer	MT8820C	6201342073	Anritsu	2022/5/9	2023/5/8
ETSTW-GSM 004	Wideband Radio Communication Tester	CMW500	128092	R&S	2022/10/24	2023/10/23
ETSTW-GSM 019	Band Reject Filter	WRCTF824/849-822/851-40 /12+9SS	3	WI	2023/1/4	2024/1/3
ETSTW-GSM 020	Band Reject Filter	WRCD1747/1748-1743/1752-32/5SS	1	WI	2023/1/4	2024/1/3
ETSTW-GSM 021	Band Reject Filter	WRCD1879.5/1880.5-1875.5/1884.5-32/5SS	3	WI	2023/1/4	2024/1/3
ETSTW-GSM 022	Band Reject Filter	WRCT901.9/903.1-904.25-50/8SS	1	WI	2023/1/4	2024/1/3
ETSTW-GSM 023	Power Divider	4901.19.A	None	SUHNER	2022/9/2	2023/9/1
ETSTW-GSM 024	Radio Communication Analyzer	MT8821C	None	Anritsu	2022/5/3	2023/5/2
ETSTW-GSM 025	Band Reject Filter	BRM19835	001	Micro-Tronics	2022/8/5	2023/8/4
ETSTW-Cable 016	BNC Cable	Switch Box	B Cable 1	Schwarz beck	2023/2/4	2024/2/3
ETSTW-Cable 017	BNC Cable	X Cable	B Cable 2	Schwarz beck	2023/2/4	2024/2/3
ETSTW-Cable 018	BNC Cable	Y Cable	B Cable 3	Schwarz beck	2023/2/4	2024/2/3
ETSTW-Cable 019	BNC Cable	Z Cable	B Cable 4	Schwarz beck	2023/2/4	2024/2/3
ETSTW-Cable 020	N TYPE Cable	OATS Cable 1	N30N30-L335-15M	JYE BAO CO.,LTD.	2022/6/29	2023/6/28
ETSTW-Cable 027	Microwave Cable	SUCOFLEX 104	279083	HUBER+SUHNER	2022/5/6	2023/5/5
ETSTW-Cable 028	Microwave Cable	FA147A0015M2020	30064-2	UTIFLEX	2022/9/16	2023/9/15
ETSTW-Cable 029	Microwave Cable	FA147A0015M2020	30064-3	UTIFLEX	2022/9/16	2023/9/15
ETSTW-Cable 030	Microwave Cable	SUCOFLEX 104 (S_Cable 9)	279067	HUBER+SUHNER	2023/02/17	2024/2/16



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ETSTW-Cable 058	Microwave Cable	SUCOFLEX 104	none	HUBER+SUHNER	2022/5/27	2023/5/26
ETSTW-Cable 064	Microwave Cable	SUCOFLEX 104	MY28891	HUBER+SUHNER	2023/2/20	2024/2/19
ETSTW-Cable 071	N TYPE CABLE	EMCCFD400-NM-NM-25000	170239	EMCI	2022/5/27	2023/5/26
ETSTW-Cable 072	SMA type cable (8m)	SUCOFLEX 104	805800/4	HUBER+SUHNER	2023/2/20	2024/2/19
ETSTW-Cable 074	SMA type cable (2m)	SUCOFLEX 104	802563/4	HUBER+SUHNER	2023/2/20	2024/2/19
ETSTW-Cable 076	SMA type cable (1m)	N/A	812652/4	HUBER+SUHNER	2023/2/20	2024/2/19
WTSTW-SW 002	EMI TEST SOFTWARE	EZ EMC	None	Farad	Version ETS-03A1 Version EMEC-3A1+	
WTSTW-SW 006	EMI TEST SOFTWARE	e3	None	AUDIX	Version 9.161014	
WTSTW-SW 008	Signal studio	Agilent	None	AUDIX	Version 2.0.0.1	
ETSTW-TH 002	Thermohygrometer	608-H1	45204317	Testo	2022/9/16	2023/9/15
ETSTW-TH 003	Wireless weather station	GAIA	N/A	TFA	2022/10/28	2023/10/27

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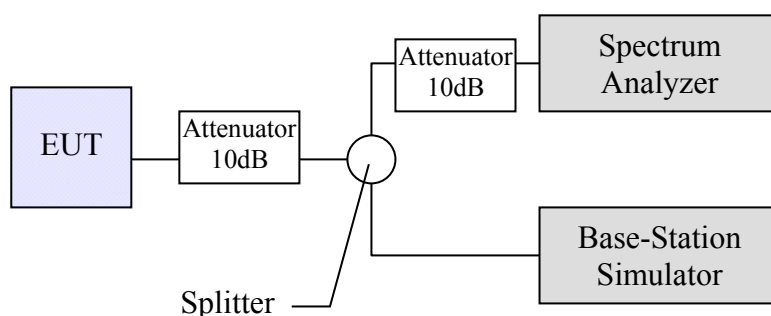
3. RF Power Output

3.1 Test procedure

3.1.1 Conducted Method

Per 47CFR Part 2.1046, the RF power output shall be measured at the RF output terminals and following procedure is employed:

The transmitter output was connected as the following figure:



The whole connection system is calibrated with a standard signal generator. Power on and make a link from simulator to EUT and then set the EUT to maximum output power.

Measure the RF power with the spectrum analyzer in accordance the following settings:

RBW: 300 kHz for Frequency below 1GHz and 1MHz for Frequency equal to and above 1GHz.

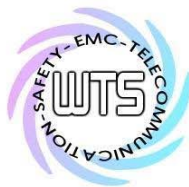
VBW: 300 kHz for Frequency below 1GHz and 1MHz for Frequency equal to and above 1GHz.

Span: 2MHz

Sweep: 3s

The power output at the transmitter antenna terminal is then determined by assign the value of the corrected factor to the spectrum analyzer reading.

Tests were performed at three frequencies (low, middle and high channels) and operation mode selected.



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3.2 Test Results

Test date: April 11, 2023

Temperature: 21.3 °C

Humidity: 58.6 %

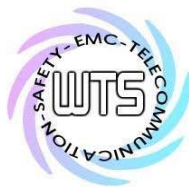
Tester: Rick

CAT-M1

Band 2

QPSK

LTE Band2	Channel/ Frequency(MHz)	Index	RB# Rbstart	Conducted Power (dBm)	EIRP (dBm)
				QPSK	QPSK
1.4MHz	18607/1850.7	0	1#0	21.63	24.76
		0	6#0	19.72	22.85
	18900/1880	0	1#0	21.92	25.05
		0	6#0	19.85	22.98
	19193/1909.3	0	1#5	21.79	24.92
		0	6#0	19.69	22.82
3MHz	18615/1851.5	0	1#0	21.55	24.68
		0	6#0	19.24	22.37
	18900/1880	0	1#0	22.01	25.14
		0	6#0	19.8	22.93
	19185/1908.5	1	1#5	21.81	24.94
		1	6#0	19.57	22.7
5MHz	18625/1852.5	0	1#0	21.44	24.57
		0	6#0	20.54	23.67
	18900/1880	0	1#0	22.09	25.22
		0	6#0	20.98	24.11
	19175/1907.5	0	1#5	21.83	24.96
		3	6#0	20.86	23.99
10MHz	18650/1855	3	1#0	21.94	25.07
		0	4#0	21.43	24.56
	18900/1880	0	1#0	22.01	25.14
		0	4#0	21.77	24.9
	19150/1905	4	1#5	21.55	24.68
		7	4#2	21.74	24.87
15MHz	18675/1857.5	3	1#0	21.55	24.68
		0	6#0	21.57	24.7
	18900/1880	0	1#0	21.74	24.87
		0	6#0	21.75	24.88



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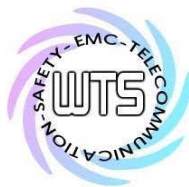
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20MHz	19125/1902.5	8	1#5	21.82	24.95
		11	6#0	21.78	24.91
	18700/1860	3	1#0	21.47	24.6
		0	6#0	21.42	24.55
	18900/1880	0	1#0	21.78	24.91
		0	6#0	21.57	24.7
	19100/1900	12	1#5	21.72	24.85
		15	6#0	21.73	24.86

16QAM

LTE Band2	Channel/ Frequency(MHz)	Index	RB# Rbstart	Conducted Power (dBm)	EIRP (dBm)
				16QAM	16QAM
1.4MHz	18607/1850.7	0	1#0	20.78	23.91
		0	5#1	19.4	22.53
	18900/1880	0	1#0	20.86	23.99
		0	5#1	19.71	22.84
	19193/1909.3	0	1#5	20.68	23.81
		0	5#1	19.81	22.94
3MHz	18615/1851.5	0	1#0	20.44	23.57
		0	5#1	19.49	22.62
	18900/1880	0	1#0	20.8	23.93
		0	5#1	19.81	22.94
	19185/1908.5	1	1#5	20.65	23.78
		1	5#1	19.35	22.48
5MHz	18625/1852.5	0	1#0	21.45	24.58
		0	5#1	20.79	23.92
	18900/1880	0	1#0	22.32	25.45
		0	5#1	20.91	24.04
	19175/1907.5	0	1#5	21.3	24.43
		3	5#1	20.45	23.58
10MHz	18650/1855	3	1#0	21.44	24.57
		0	4#0	21.57	24.7
	18900/1880	0	1#0	21.61	24.74
		0	4#0	21.84	24.97
	19150/1905	4	1#5	21.57	24.7
		7	4#2	21.79	24.92
15MHz	18675/1857.5	3	1#0	22.61	25.74
		0	5#1	21.33	24.46



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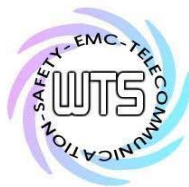
Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

20MHz	18900/1880	0	1#0	21.79	24.92
		0	5#1	21.78	24.91
	19125/1902.5	8	1#5	21.61	24.74
		11	5#1	21.92	25.05
	18700/1860	3	1#0	21.58	24.71
		0	5#1	21.55	24.68
	18900/1880	0	1#0	21.79	24.92
		0	5#1	21.56	24.69
	19100/1900	12	1#5	21.7	24.83
		15	5#1	21.89	25.02

Band 4
QPSK

LTE Band4	Channel/ Frequency(MHz)	Index	RB# Rbstart	Conducted Power (dBm)	EIRP (dBm)
				QPSK	QPSK
1.4MHz	19957/1710.7	0	1#0	21.45	21.37
		0	6#0	19.48	19.4
	20175/1732.5	0	1#0	21.62	21.54
		0	6#0	19.37	19.29
	20393/1754.3	0	1#5	21.1	21.02
		0	6#0	19.14	19.06
3MHz	19965/1711.5	0	1#0	21.46	21.38
		0	6#0	19.38	19.3
	20175/1732.5	0	1#0	21.67	21.59
		0	6#0	19.55	19.47
	20385/1753.5	1	1#5	20.94	20.86
		1	6#0	19.04	18.96
5MHz	19975/1712.5	0	1#0	21.51	21.43
		0	6#0	20.38	20.3
	20175/1732.5	0	1#0	21.52	21.44
		0	6#0	20.38	20.3
	20375/1752.5	3	1#5	21	20.92
		3	6#0	20.01	19.93
10MHz	20000/1715	0	1#0	21.36	21.28
		0	4#0	21.47	21.39
	20175/1732.5	0	1#0	21.51	21.43
		0	4#0	21.47	21.39
	20350/1750	7	1#5	20.95	20.87



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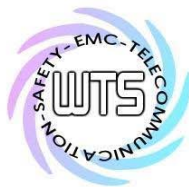
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FCC ID: GX9HSGWCATM1

		7	4#2	21.01	20.93
15MHz	20025/1717.5	0	1#0	21.52	21.44
		0	6#0	21.48	21.4
	20175/1732.5	0	1#0	21.66	21.58
		0	6#0	21.53	21.45
	20325/1747.5	11	1#5	21.02	20.94
		11	6#0	21.06	20.98
20MHz	20050/1720	0	1#0	21.47	21.39
		0	6#0	21.36	21.28
	20175/1732.5	0	1#0	21.48	21.4
		0	6#0	21.42	21.34
	20300/1745	15	1#5	20.93	20.85
		15	6#0	21.05	20.97

16QAM

LTE Band4	Channel/ Frequency(MHz)	Index	RB# Rbstart	Conducted Power (dBm)	EIRP (dBm)
				16QAM	16QAM
1.4MHz	19957/1710.7	0	1#0	20.68	20.6
		0	5#1	19.52	19.44
	20175/1732.5	0	1#0	20.61	20.53
		0	5#1	19.55	19.47
	20393/1754.3	0	1#5	20.03	19.95
		0	5#1	19.15	19.07
3MHz	19965/1711.5	0	1#0	20.31	20.23
		0	5#1	19.33	19.25
	20175/1732.5	0	1#0	20.49	20.41
		0	5#1	19.47	19.39
	20385/1753.5	1	1#5	19.91	19.83
		1	5#1	19.11	19.03
5MHz	19975/1712.5	0	1#0	21.55	21.47
		0	5#1	20.31	20.23
	20175/1732.5	0	1#0	21.84	21.76
		0	5#1	20.37	20.29
	20375/1752.5	3	1#5	21.24	21.16
		3	5#1	20.16	20.08
10MHz	20000/1715	0	1#0	21.41	21.33
		0	4#0	21.41	21.33
	20175/1732.5	0	1#0	21.69	21.61



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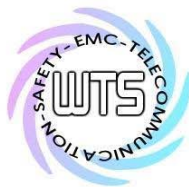
FCC ID: GX9HSGWCATM1

15MHz	20350/1750	0	4#0	21.35	21.27
		7	1#5	21.31	21.23
		7	4#2	21.2	21.12
	20025/1717.5	0	1#0	21.53	21.45
		0	5#1	21.4	21.32
	20175/1732.5	0	1#0	21.75	21.67
		0	5#1	21.57	21.49
	20325/1747.5	11	1#5	21.16	21.08
		11	5#1	21.32	21.24
20MHz	20050/1720	0	1#0	21.66	21.58
		0	5#1	21.42	21.34
	20175/1732.5	0	1#0	21.71	21.63
		0	5#1	21.35	21.27
	20300/1745	15	1#5	21.24	21.16
		15	5#1	21.17	21.09

Band 5

QPSK

LTE Band5	Channel/ Frequency(MHz)	Index	RB# Rbstart	Conducted Power (dBm)	ERP (dBm)
				QPSK	QPSK
1.4MHz	20407/824.7	0	1#0	21.27	21.46
		0	6#0	19.56	19.75
	20525/836.5	0	1#0	21.81	22
		0	6#0	21.14	21.33
	20643/848.3	0	1#5	21.08	21.27
		0	6#0	19.58	19.77
3MHz	20415/825.5	0	1#0	21.31	21.5
		0	6#0	19.29	19.48
	20525/836.5	0	1#0	21.99	22.18
		0	6#0	19.63	19.82
	20635/847.5	1	1#5	21.41	21.6
		1	6#0	19.59	19.78
5MHz	20425/826.5	0	1#0	21.32	21.51
		0	6#0	20.19	20.38
	20525/836.5	0	1#0	21.78	21.97
		0	6#0	20.94	21.13
	20625/846.5	3	1#5	21.22	21.41
		3	6#0	20.22	20.41



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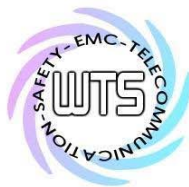
Registration number: W6M22302-22480-C-247

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10MHz	20450/829	0	1#0	21.28	21.47
		0	4#0	21.33	21.52
	20525/836.5	0	1#0	21.68	21.87
		0	4#0	21.51	21.7
	20600/844	7	1#5	21.18	21.37
		7	4#2	21.27	21.46

16QAM

LTE Band5	Channel/ Frequency(MHz)	Index	RB# Rbstart	Conducted Power (dBm)	ERP (dBm)
				16QAM	16QAM
1.4MHz	20407/824.7	0	1#0	20.76	20.95
		0	5#1	19.33	19.52
	20525/836.5	0	1#0	21.12	21.31
		0	5#1	20.14	20.33
	20643/848.3	0	1#5	20.55	20.74
		0	5#1	19.5	19.69
3MHz	20415/825.5	0	1#0	20.47	20.66
		0	5#1	19.39	19.58
	20525/836.5	0	1#0	21.22	21.41
		0	5#1	20.1	20.29
	20635/847.5	1	1#5	20.35	20.54
		1	5#1	19.53	19.72
5MHz	20425/826.5	0	1#0	21.13	21.32
		0	5#1	20.69	20.88
	20525/836.5	0	1#0	21.49	21.68
		0	5#1	21.01	21.2
	20625/846.5	3	1#5	20.91	21.1
		3	5#1	20.64	20.83
10MHz	20450/829	0	1#0	21.05	21.24
		0	4#0	21.8	21.99
	20525/836.5	0	1#0	21.45	21.64
		0	4#0	21.98	22.17
	20600/844	7	1#5	21.05	21.24
		7	4#2	21.68	21.87



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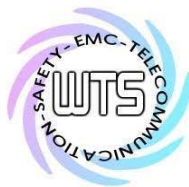
Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

Band 12

QPSK

LTE Band12	Channel/ Frequency(MHz)	Index	RB# Rbstart	Conducted Power (dBm)	ERP (dBm)
				QPSK	QPSK
1.4MHz	23017/699.7	0	1#0	22.39	20.28
		0	6#0	20.28	18.17
	23095/707.5	0	1#0	22.66	20.55
		0	6#0	20.57	18.46
	23173/715.3	0	1#5	22.47	20.36
		0	6#0	20.52	18.41
3MHz	23025/700.5	0	1#0	22.5	20.39
		0	6#0	20.39	18.28
	23095/707.5	0	1#0	22.66	20.55
		0	6#0	20.53	18.42
	23165/714.5	1	1#5	22.49	20.38
		1	6#0	20.62	18.51
5MHz	23035/701.5	3	1#0	22.39	20.28
		0	6#0	21.36	19.25
	23095/707.5	0	1#0	22.53	20.42
		0	6#0	21.48	19.37
	23155/713.5	0	1#5	22.36	20.25
		3	6#0	21.33	19.22
10MHz	23060/704	3	1#0	22.51	20.4
		0	4#0	22.29	20.18
	23095/707.5	0	1#0	22.64	20.53
		0	4#0	22.59	20.48
	23130/711	4	1#5	22.36	20.25
		7	4#2	22.43	20.32



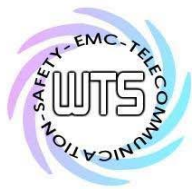
Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

16QAM

LTE Band12	Channel/ Frequency(MHz)	Index	RB# Rbstart	Conducted Power (dBm)	ERP (dBm)
				16QAM	16QAM
1.4MHz	23017/699.7	0	1#0	21.42	19.31
		0	5#1	20.27	18.16
	23095/707.5	0	1#0	21.81	19.7
		0	5#1	20.73	18.62
	23173/715.3	0	1#5	21.56	19.45
		0	5#1	20.55	18.44
3MHz	23025/700.5	0	1#0	21.37	19.26
		0	5#1	20.34	18.23
	23095/707.5	0	1#0	21.62	19.51
		0	5#1	20.73	18.62
	23165/714.5	1	1#5	21.3	19.19
		1	5#1	20.49	18.38
5MHz	23035/701.5	3	1#0	22.43	20.32
		0	5#1	21.42	19.31
	23095/707.5	0	1#0	22.48	20.37
		0	5#1	21.46	19.35
	23155/713.5	0	1#5	22.1	19.99
		3	5#1	21.6	19.49
10MHz	23060/704	3	1#0	22.43	20.32
		0	4#0	22.62	20.51
	23095/707.5	0	1#0	22.34	20.23
		0	4#0	22.67	20.56
	23130/711	4	1#5	22.07	19.96
		7	4#2	22.43	20.32



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

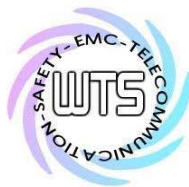
Band 13

QPSK

LTE Band13	Channel/ Frequency(MHz)	Index	RB# Rbstart	Conducted Power (dBm)	ERP (dBm)
				QPSK	QPSK
5MHz	23205/779.5	0	1#0	21.71	22.02
		0	6#0	20.63	20.94
	23230/782	0	1#0	21.64	21.95
		0	6#0	20.5	20.81
	23255/784.5	3	1#5	21.17	21.48
		3	6#0	20.32	20.63
10MHz	23230/782	0	1#0	21.57	21.88
		0	4#0	21.59	21.9

16QAM

LTE Band13	Channel/ Frequency(MHz)	Index	RB# Rbstart	Conducted Power (dBm)	ERP (dBm)
				16QAM	QPSK
5MHz	23205/779.5	0	1#0	21.24	21.55
		0	5#1	20.28	20.59
	23230/782	0	1#0	21.24	21.55
		0	5#1	20.77	21.08
	23255/784.5	3	1#5	20.96	21.27
		3	5#1	20.48	20.79
10MHz	23230/782	0	1#0	21.15	21.46
		0	4#0	21.82	22.13



Worldwide Testing Services(Taiwan) Co., Ltd.

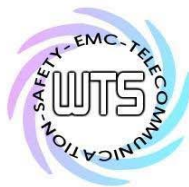
Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

Band 66

QPSK

LTE Band66	Channel/ Frequency(MHz)	Index	RB# Rbstart	Conducted Power (dBm)	EIRP (dBm)
				QPSK	QPSK
1.4MHz	131979/1710.7	0	1#0	21.88	21.8
		0	6#0	19.75	19.67
	132322/1745	0	1#0	21.88	21.8
		0	6#0	19.62	19.54
	132665/1779.3	0	1#5	21.94	21.86
		0	6#0	19.77	19.69
3MHz	131987/1711.5	0	1#0	21.87	21.79
		0	6#0	19.66	19.58
	132322/1745	0	1#0	21.96	21.88
		0	6#0	19.65	19.57
	132657/1778.5	1	1#5	21.79	21.71
		1	6#0	19.63	19.55
5MHz	131997/1712.5	0	1#0	21.75	21.67
		0	6#0	20.71	20.63
	132322/1745	0	1#0	21.99	21.91
		0	6#0	20.76	20.68
	132647/1777.5	0	1#5	21.71	21.63
		3	6#0	20.81	20.73
10MHz	132022/1715	3	1#0	22.11	22.03
		0	4#0	22.12	22.04
	132322/1745	0	1#0	22.05	21.97
		0	4#0	21.97	21.89
	132622/1775	4	1#5	22.03	21.95
		7	4#2	22.01	21.93
15MHz	132047/1717.5	3	1#0	21.83	21.75
		0	6#0	21.71	21.63
	132322/1745	0	1#0	21.79	21.71
		0	6#0	21.84	21.76
	132597/1772.5	8	1#5	21.55	21.47
		11	6#0	21.8	21.72
20MHz	132072/1720	3	1#0	21.86	21.78
		0	6#0	21.76	21.68
	132322/1745	0	1#0	21.72	21.64
		0	6#0	21.74	21.66



Worldwide Testing Services(Taiwan) Co., Ltd.

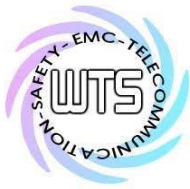
Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

	132572/1770	12	1#5	21.19	21.11
		15	6#0	21.56	21.48

16QAM

LTE Band66	Channel/ Frequency(MHz)	Index	RB# Rbstart	Conducted Power (dBm)	EIRP (dBm)
				16QAM	16QAM
1.4MHz	131979/1710.7	0	1#0	21.02	20.94
		0	5#1	19.82	19.74
	132322/1745	0	1#0	20.99	20.91
		0	5#1	19.65	19.57
	132665/1779.3	0	1#5	20.78	20.7
		0	5#1	19.75	19.67
3MHz	131987/1711.5	0	1#0	20.78	20.7
		0	5#1	19.74	19.66
	132322/1745	0	1#0	20.59	20.51
		0	5#1	19.61	19.53
	132657/1778.5	1	1#5	20.72	20.64
		1	5#1	19.94	19.86
5MHz	131997/1712.5	0	1#0	21.89	21.81
		0	5#1	20.89	20.81
	132322/1745	0	1#0	21.91	21.83
		0	5#1	20.54	20.46
	132647/1777.5	0	1#5	21.64	21.56
		3	5#1	20.85	20.77
10MHz	132022/1715	3	1#0	22.23	22.15
		0	4#0	22.03	21.95
	132322/1745	0	1#0	22.05	21.97
		0	4#0	21.97	21.89
	132622/1775	4	1#5	21.72	21.64
		7	4#2	22.36	22.28
15MHz	132047/1717.5	3	1#0	22.1	22.02
		0	5#1	21.75	21.67
	132322/1745	0	1#0	22.04	21.96
		0	5#1	21.89	21.81
	132597/1772.5	8	1#5	21.85	21.77
		11	5#1	21.65	21.57
20MHz	132072/1720	3	1#0	21.92	21.84
		0	5#1	21.64	21.56



Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

	132322/1745	0	1#0	21.94	21.86
		0	5#1	21.7	21.62
	132572/1770	12	1#5	21.09	21.01
		15	5#1	21.64	21.56

Note:

EIRP = Conducted power + antenna gain

ERP = EIRP -2.15

Test equipment: ETSTW-GSM 002, ETSTW-GSM 004

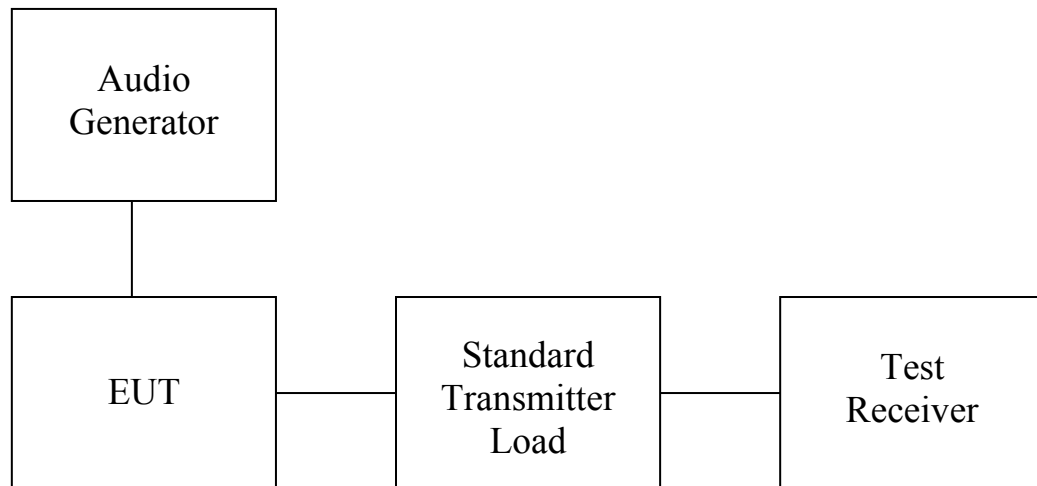
Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

4. Modulation Characteristics

4.1 Test procedure

- ☐ A curve or equivalent data showing the frequency response of the audio modulating circuit over a range of 100 to 5000 Hz shall be submitted.
The audio signal generator is connected to the audio input of the EUT with its full rating. The modulation response is measured at certain modulation frequencies, related to 1000Hz reference signal. Tests are performed for positive and negative modulation.
- ☐ Equipment which employs modulation Limiting: A curve or family of curves showing the percentage of modulation versus the modulation input voltage shall be supplied. The audio signal generator is connected to the audio input of the EUT with its full rating. The modulation limiting is measured at certain modulation frequencies from 100Hz to 15kHz.



4.2 Test Results

For digital modulation employed, this test item is not applicable.

Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

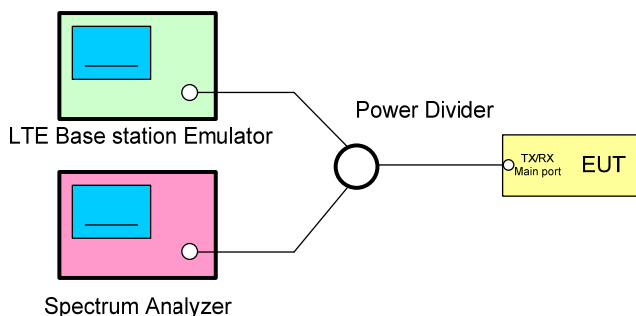
5. Peak-to-Average Ratio

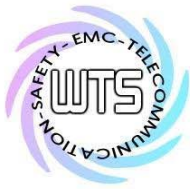
The peak-to-average power ratio (PAPR) of the transmitter output power must not exceed 13 dB. The PAPR measurements should be made using either an instrument with complementary cumulative distribution function (CCDF) capabilities to determine that PAPR will not exceed 13 dB for more than 0.1 percent of the time or other Commission approved procedure. The measurement must be performed using a signal corresponding to the highest PAPR expected during periods of continuous transmission.

5.1 Test procedure

1. The EUT main port was connected to the LTE emulator and spectrum analyzer via power divider
2. For Spectrum Analyzer setting :
3. Set the CCDF function in spectrum analyzer.
4. Set RBW $\geq$ signal's occupied bandwidth.
5. Set the number of counts to a value that stabilizes the measured CCDF curve.
6. Set the measurement interval (sweep time) to 1ms.
7. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1%
8. Record the deviation as Peak to Average Ratio.

5.2 Test Set up





Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

5.3 Test Results

Test date: March 30, 2023-March 31, 2023

Temperature: 23.2 °C

Humidity: 58.4 %

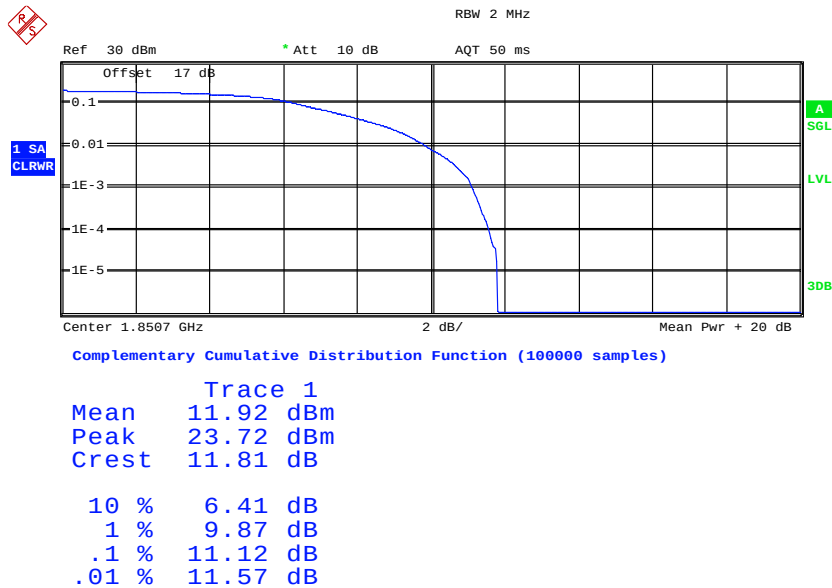
Tester: Rick

CAT-M1

Band 2

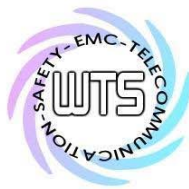
QPSK

1.4 MHz



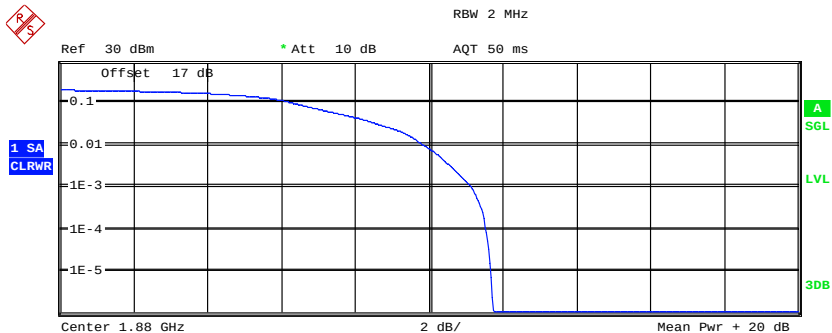
PEAK TO AVERAGE RATIO BAND2 QPSK FRB 1.4MHZ CH18607

Date: 30.MAR.2023 18:01:01



Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1



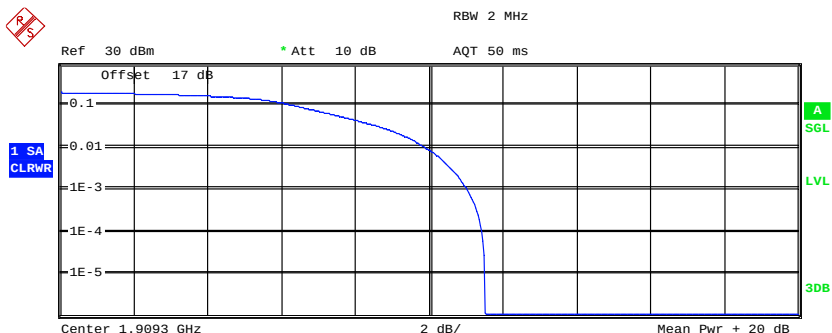
Complementary Cumulative Distribution Function (100000 samples)

Trace 1
Mean 12.00 dBm
Peak 23.72 dBm
Crest 11.73 dB

10 % 6.38 dB
1 % 9.84 dB
.1 % 11.15 dB
.01 % 11.54 dB

PEAK TO AVERAGE RATIO BAND2 QPSK FRB 1.4MHZ CH18900

Date: 30.MAR.2023 18:02:36



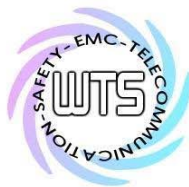
Complementary Cumulative Distribution Function (100000 samples)

Trace 1
Mean 12.35 dBm
Peak 23.87 dBm
Crest 11.52 dB

10 % 6.38 dB
1 % 9.90 dB
.1 % 11.03 dB
.01 % 11.44 dB

PEAK TO AVERAGE RATIO BAND2 QPSK FRB 1.4MHZ CH19193

Date: 30.MAR.2023 18:03:42



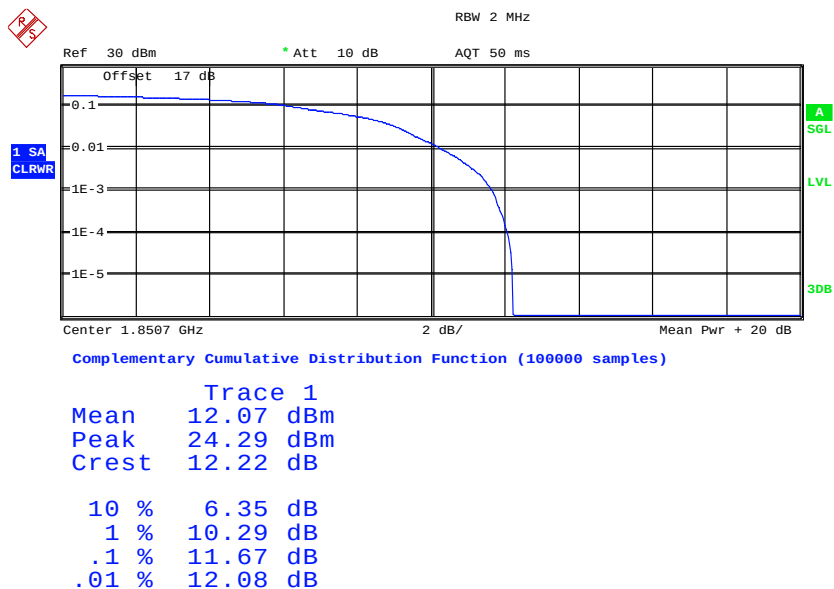
Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

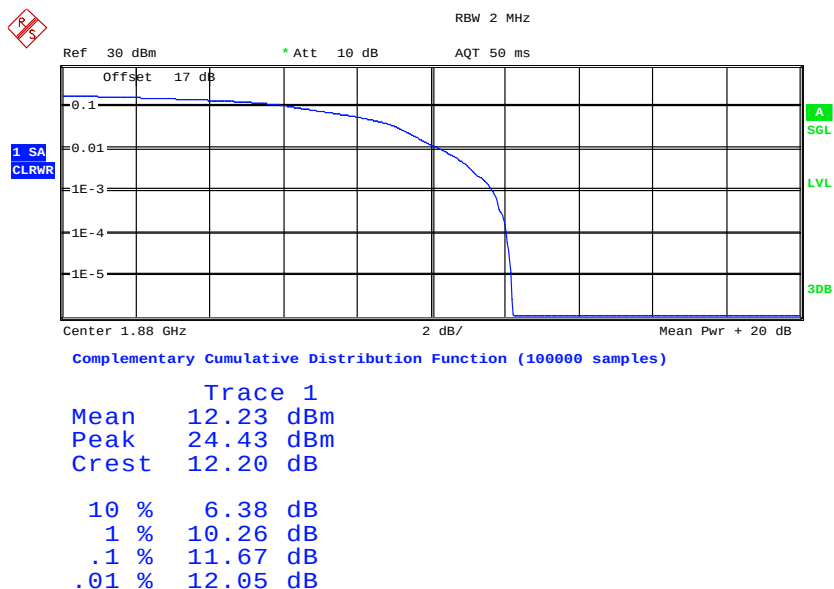
16QAM

1.4 MHz



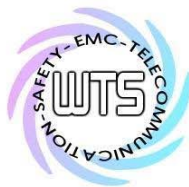
PEAK TO AVERAGE RATIO BAND2 16QAM FRB 1.4MHZ CH18607

Date: 30.MAR.2023 19:39:12



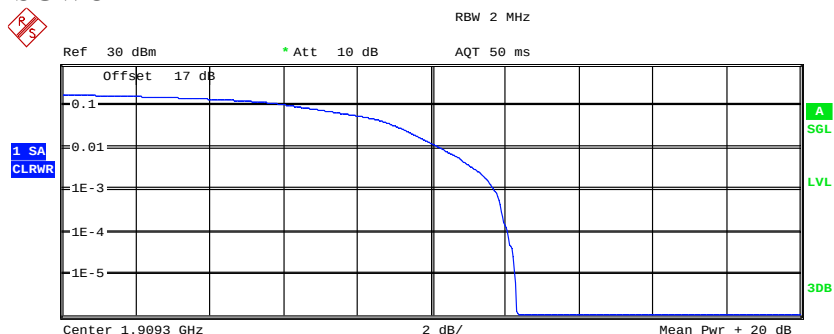
PEAK TO AVERAGE RATIO BAND2 16QAM FRB 1.4MHZ CH18900

Date: 30.MAR.2023 19:32:09



Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1



Complementary Cumulative Distribution Function (100000 samples)

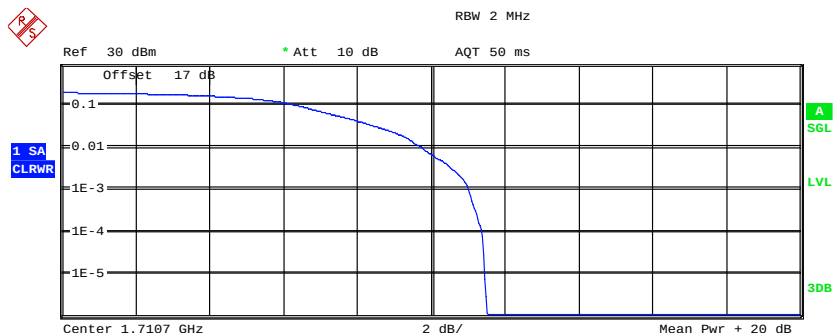
Trace 1
Mean 12.52 dBm
Peak 24.85 dBm
Crest 12.33 dB

10 % 6.38 dB
1 % 10.26 dB
.1 % 11.73 dB
.01 % 12.08 dB

PEAK TO AVERAGE RATIO BAND2 16QAM FRB 1.4MHZ CH19193

Date: 30.MAR.2023 19:33:00

Band 4
QPSK
1.4 MHz



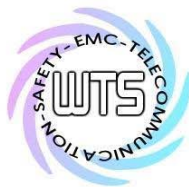
Complementary Cumulative Distribution Function (100000 samples)

Trace 1
Mean 11.72 dBm
Peak 23.23 dBm
Crest 11.51 dB

10 % 6.44 dB
1 % 9.78 dB
.1 % 11.03 dB
.01 % 11.38 dB

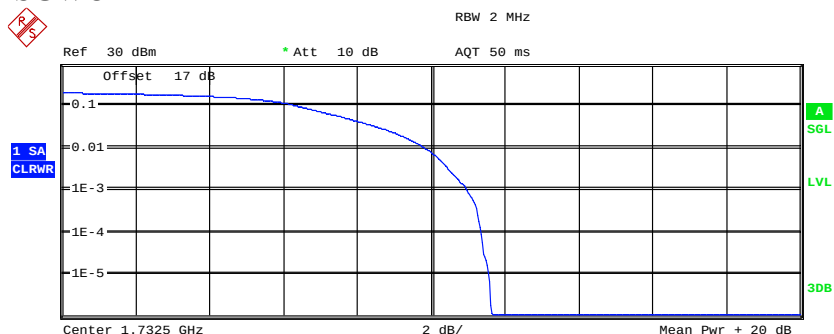
PEAK TO AVERAGE RATIO BAND4 QPSK FRB 1.4MHZ CH19957

Date: 30.MAR.2023 19:47:41



Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1



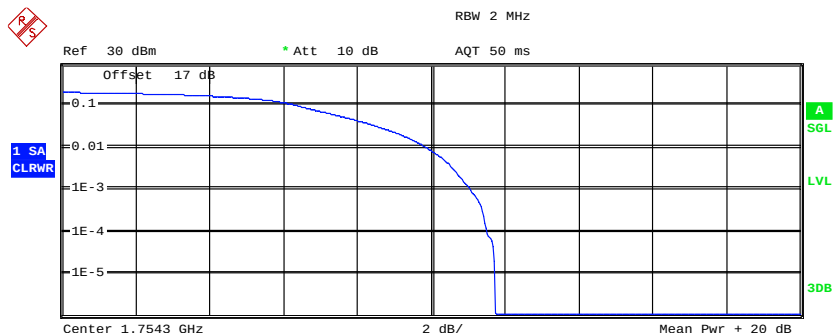
Complementary Cumulative Distribution Function (100000 samples)

Trace 1
Mean 11.95 dBm
Peak 23.58 dBm
Crest 11.63 dB

10 % 6.44 dB
1 % 9.84 dB
.1 % 10.99 dB
.01 % 11.38 dB

PEAK TO AVERAGE RATIO BAND4 QPSK FRB 1.4MHZ CH20175

Date: 30.MAR.2023 19:46:41



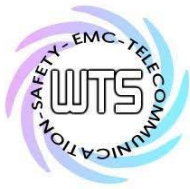
Complementary Cumulative Distribution Function (100000 samples)

Trace 1
Mean 11.63 dBm
Peak 23.37 dBm
Crest 11.74 dB

10 % 6.41 dB
1 % 9.87 dB
.1 % 11.06 dB
.01 % 11.54 dB

PEAK TO AVERAGE RATIO BAND4 QPSK FRB 1.4MHZ CH20393

Date: 30.MAR.2023 19:45:37

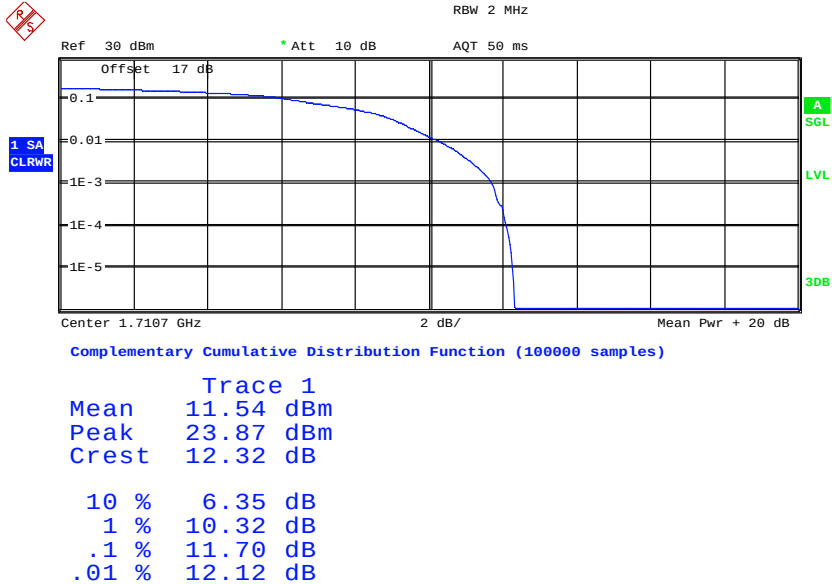


Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

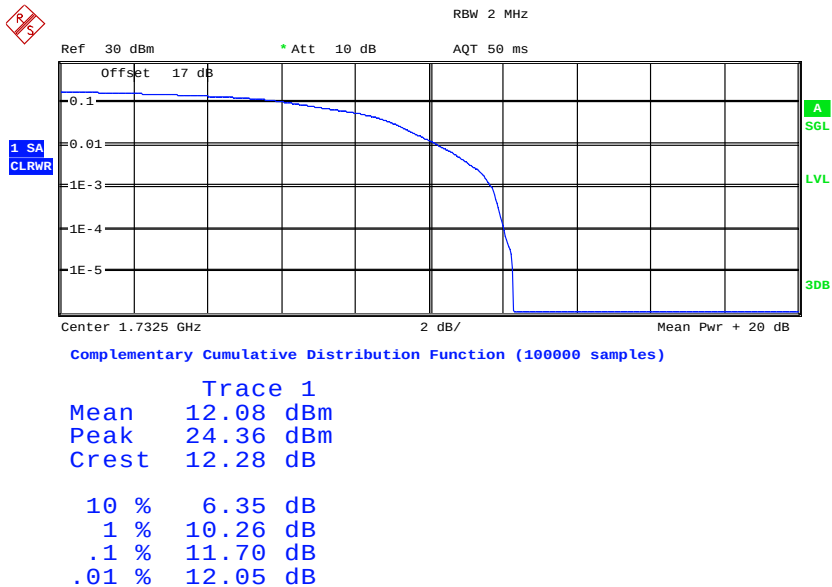
16QAM

1.4 MHz



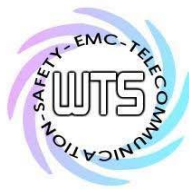
PEAK TO AVERAGE RATIO BAND4 16QAM FRB 1.4MHZ CH19957

Date: 30.MAR.2023 19:42:35



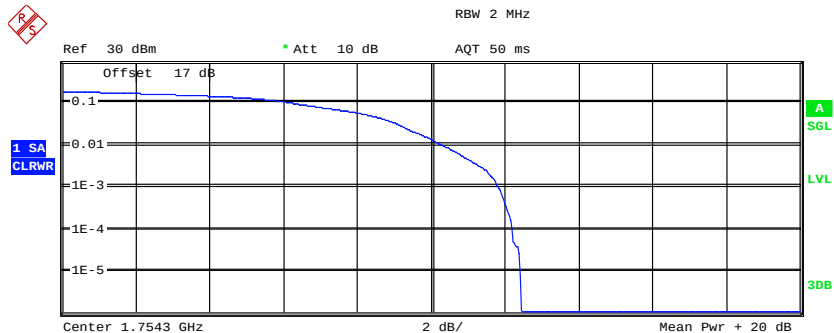
PEAK TO AVERAGE RATIO BAND4 16QAM FRB 1.4MHZ CH20175

Date: 30.MAR.2023 19:41:16



Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1



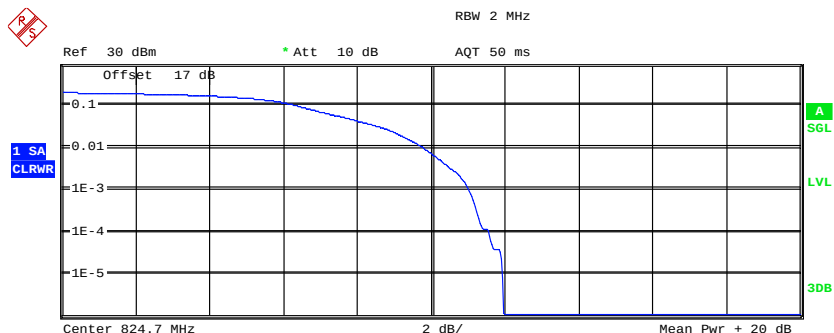
Trace 1
Mean 11.72 dBm
Peak 24.15 dBm
Crest 12.43 dB

10 % 6.31 dB
1 % 10.32 dB
.1 % 11.83 dB
.01 % 12.21 dB

PEAK TO AVERAGE RATIO BAND4 16QAM FRB 1.4MHZ CH20393

Date: 30.MAR.2023 19:44:43

Band 5
QPSK
1.4 MHz



Trace 1
Mean 11.98 dBm
Peak 23.94 dBm
Crest 11.95 dB

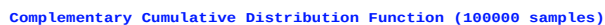
10 % 6.41 dB
1 % 9.78 dB
.1 % 11.03 dB
.01 % 11.57 dB

PEAK TO AVERAGE RATIO BAND5 QPSK FRB 1.4MHZ CH20407

Date: 30.MAR.2023 19:49:50

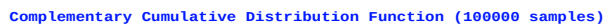


FCC ID: GX9HSGWCATM1



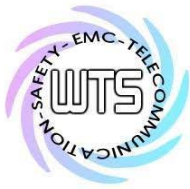
10 %	6.70 dB
1 %	10.13 dB
.1 %	11.38 dB
.01 %	11.89 dB

Date: 30.MAR.2023 19:48:58



10 %	6.44 dB
1 %	9.68 dB
.1 %	11.03 dB
.01 %	11.47 dB

Date: 30.MAR.2023 19:50:45

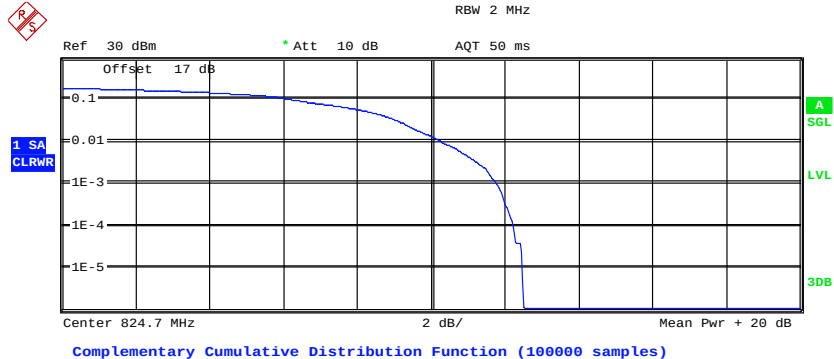


Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

16QAM

1.4 MHz

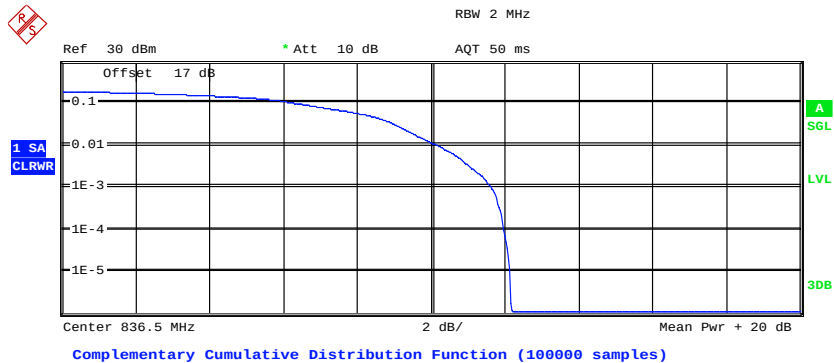


Trace 1

Mean	11.94 dBm
Peak	24.43 dBm
Crest	12.49 dB
10 %	6.31 dB
1 %	10.29 dB
.1 %	11.79 dB
.01 %	12.24 dB

PEAK TO AVERAGE RATIO BAND5 16QAM FRB 1.4MHZ CH20407

Date: 30.MAR.2023 19:54:14

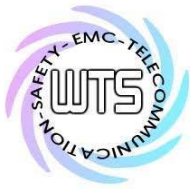


Trace 1

Mean	12.97 dBm
Peak	25.14 dBm
Crest	12.17 dB
10 %	6.38 dB
1 %	10.16 dB
.1 %	11.63 dB
.01 %	11.99 dB

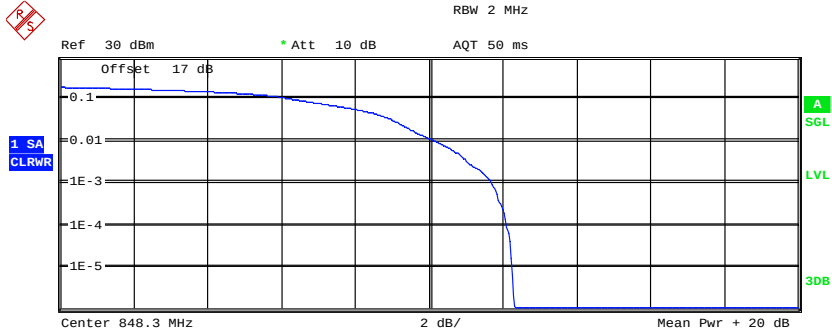
PEAK TO AVERAGE RATIO BAND5 16QAM FRB 1.4MHZ CH20525

Date: 30.MAR.2023 19:53:13



Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1



Complementary Cumulative Distribution Function (100000 samples)

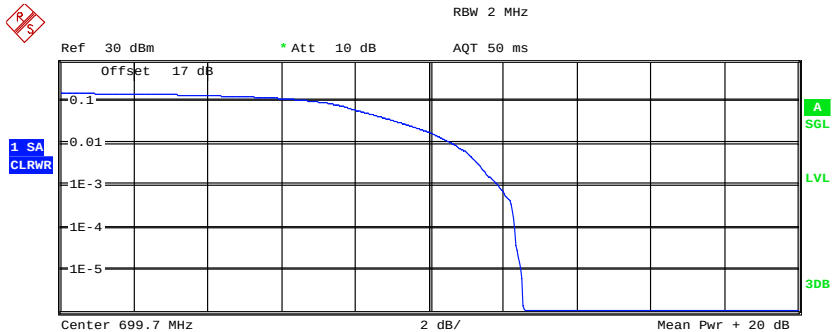
Trace 1
Mean 12.20 dBm
Peak 24.50 dBm
Crest 12.30 dB

10 % 6.38 dB
1 % 10.19 dB
.1 % 11.70 dB
.01 % 12.12 dB

PEAK TO AVERAGE RATIO BAND5 16QAM FRB 1.4MHZ CH20643

Date: 30.MAR.2023 19:51:48

Band 12
QPSK
1.4 MHz



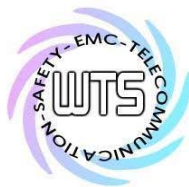
Complementary Cumulative Distribution Function (100000 samples)

Trace 1
Mean 11.59 dBm
Peak 24.15 dBm
Crest 12.55 dB

10 % 7.12 dB
1 % 10.67 dB
.1 % 11.89 dB
.01 % 12.34 dB

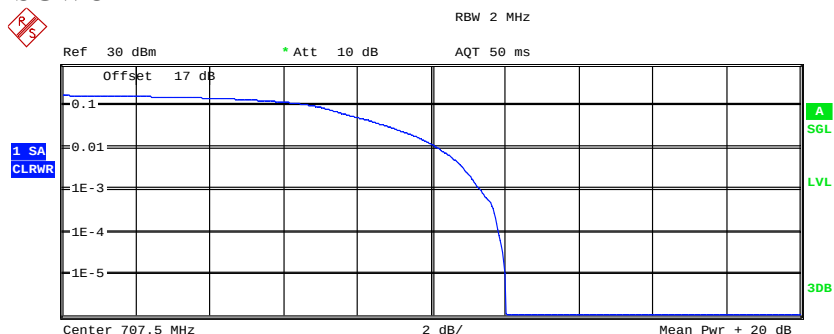
PEAK TO AVERAGE RATIO BAND12 QPSK FRB 1.4MHZ CH23017

Date: 30.MAR.2023 20:04:48



Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1



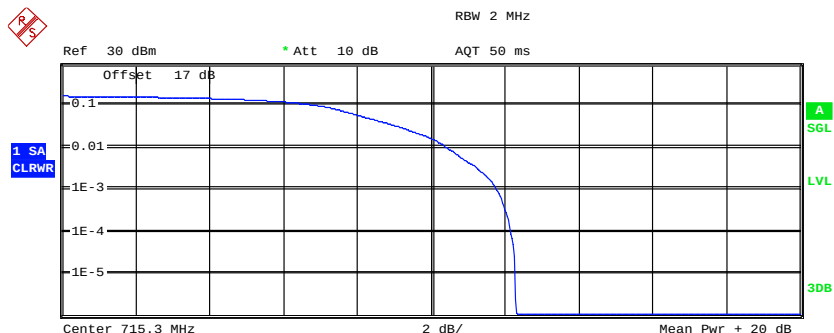
Complementary Cumulative Distribution Function (100000 samples)

Trace 1
Mean 12.32 dBm
Peak 24.36 dBm
Crest 12.03 dB

10 % 6.92 dB
1 % 10.19 dB
.1 % 11.35 dB
.01 % 11.83 dB

PEAK TO AVERAGE RATIO BAND12 QPSK FRB 1.4MHZ CH23095

Date: 30.MAR.2023 20:03:54



Complementary Cumulative Distribution Function (100000 samples)

Trace 1
Mean 11.86 dBm
Peak 24.15 dBm
Crest 12.29 dB

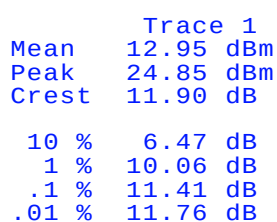
10 % 7.02 dB
1 % 10.42 dB
.1 % 11.79 dB
.01 % 12.18 dB

PEAK TO AVERAGE RATIO BAND12 QPSK FRB 1.4MHZ CH23173

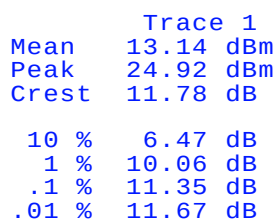
Date: 30.MAR.2023 20:02:33



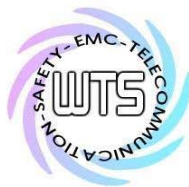
1.4 MHz



Date: 30.MAR.2023 19:58:17

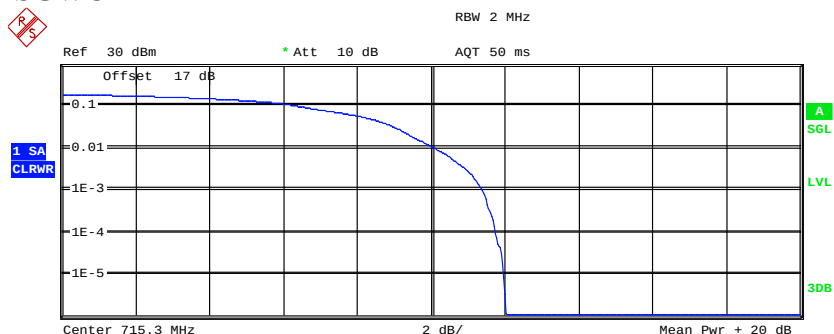


Date: 30.MAR.2023 19:56:27



Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1



Complementary Cumulative Distribution Function (100000 samples)

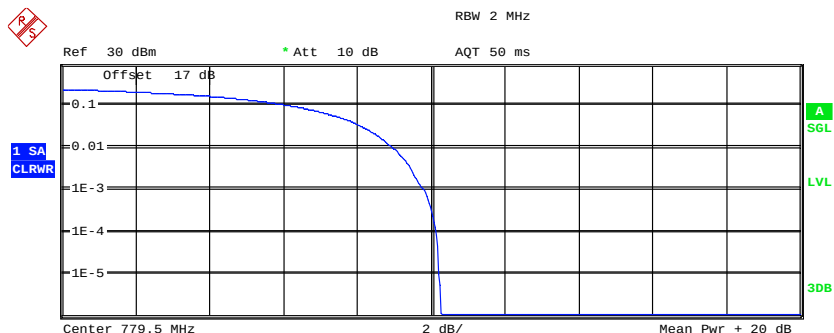
Trace 1
Mean 13.04 dBm
Peak 25.06 dBm
Crest 12.02 dB

10 % 6.44 dB
1 % 10.10 dB
.1 % 11.38 dB
.01 % 11.76 dB

PEAK TO AVERAGE RATIO BAND12 16QAM FRB 1.4MHZ CH23173

Date: 30.MAR.2023 20:01:35

Band 13
QPSK
5 MHz



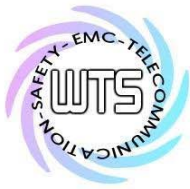
Complementary Cumulative Distribution Function (100000 samples)

Trace 1
Mean 12.04 dBm
Peak 22.31 dBm
Crest 10.28 dB

10 % 6.28 dB
1 % 8.97 dB
.1 % 9.81 dB
.01 % 10.16 dB

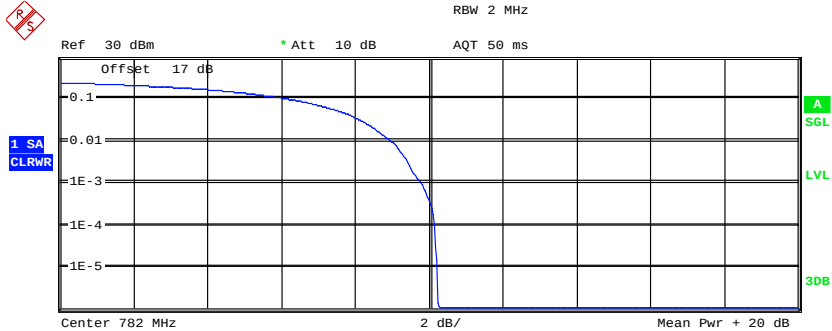
PEAK TO AVERAGE RATIO BAND13 QPSK FRB 5MHZ CH23205

Date: 31.MAR.2023 13:46:38



Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1



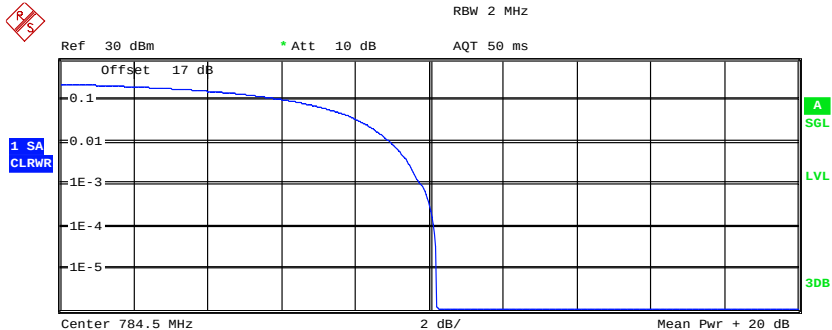
Complementary Cumulative Distribution Function (100000 samples)

Trace 1
Mean 12.21 dBm
Peak 22.45 dBm
Crest 10.24 dB

10 % 6.28 dB
1 % 8.97 dB
.1 % 9.81 dB
.01 % 10.16 dB

PEAK TO AVERAGE RATIO BAND13 QPSK FRB 5MHZ CH23230

Date: 31.MAR.2023 13:44:12



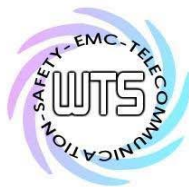
Complementary Cumulative Distribution Function (100000 samples)

Trace 1
Mean 12.03 dBm
Peak 22.24 dBm
Crest 10.21 dB

10 % 6.28 dB
1 % 8.97 dB
.1 % 9.78 dB
.01 % 10.13 dB

PEAK TO AVERAGE RATIO BAND13 QPSK FRB 5MHZ CH23255

Date: 31.MAR.2023 13:47:36



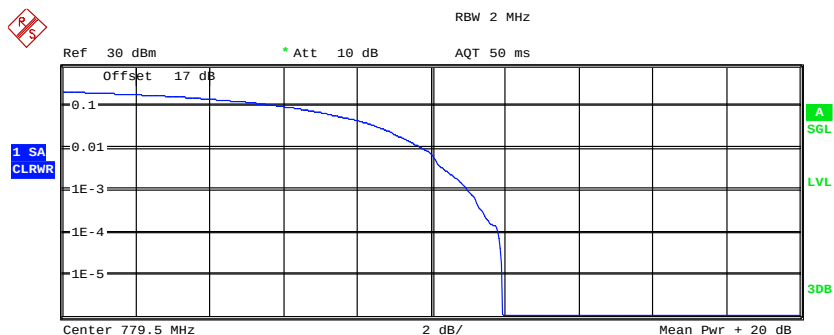
Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

16QAM

5 MHz



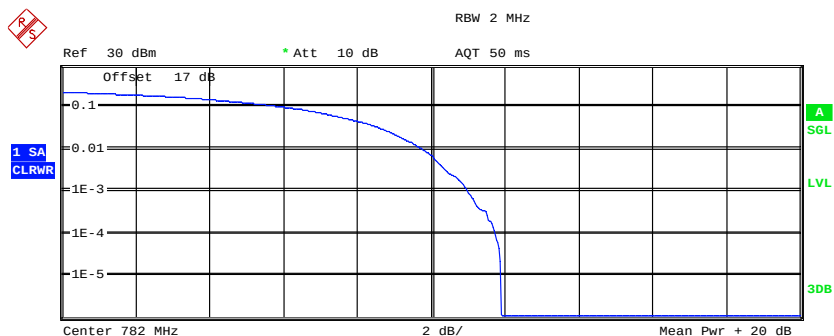
Complementary Cumulative Distribution Function (100000 samples)

Trace 1
Mean 12.01 dBm
Peak 23.94 dBm
Crest 11.93 dB

10 % 6.12 dB
1 % 9.78 dB
.1 % 10.99 dB
.01 % 11.83 dB

PEAK TO AVERAGE RATIO BAND13 16QAM FRB 5MHZ CH23205

Date: 31.MAR.2023 13:50:22



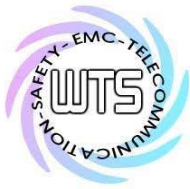
Complementary Cumulative Distribution Function (100000 samples)

Trace 1
Mean 11.75 dBm
Peak 23.65 dBm
Crest 11.90 dB

10 % 6.12 dB
1 % 9.78 dB
.1 % 10.99 dB
.01 % 11.73 dB

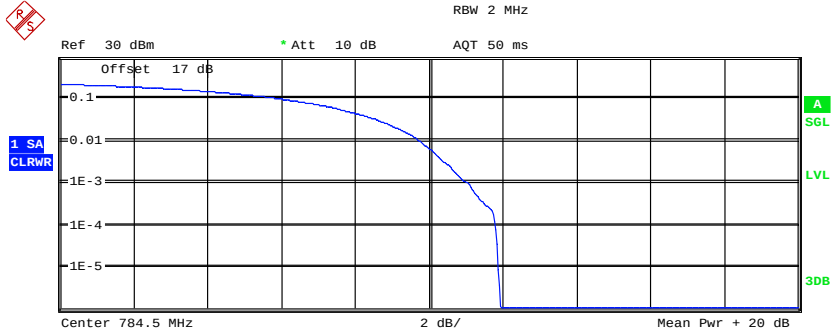
PEAK TO AVERAGE RATIO BAND13 16QAM FRB 5MHZ CH23230

Date: 31.MAR.2023 13:49:21



Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1



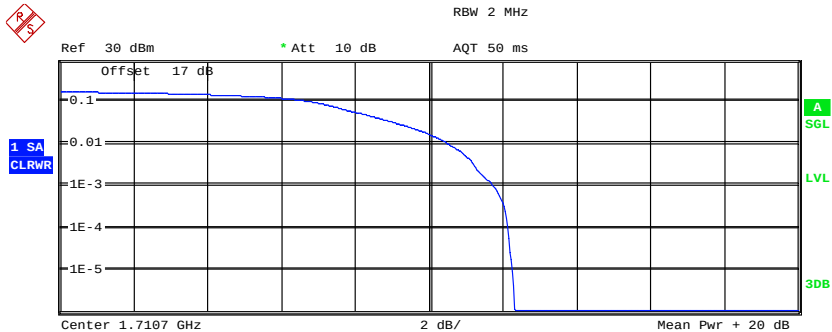
Trace 1
Mean 11.72 dBm
Peak 23.65 dBm
Crest 11.93 dB

10 % 6.12 dB
1 % 9.74 dB
.1 % 11.06 dB
.01 % 11.79 dB

PEAK TO AVERAGE RATIO BAND13 16QAM FRB 5MHZ CH23255

Date: 31.MAR.2023 13:48:34

Band 66
QPSK
1.4 MHz

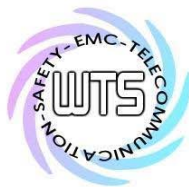


Trace 1
Mean 11.20 dBm
Peak 23.51 dBm
Crest 12.32 dB

10 % 6.89 dB
1 % 10.51 dB
.1 % 11.73 dB
.01 % 12.15 dB

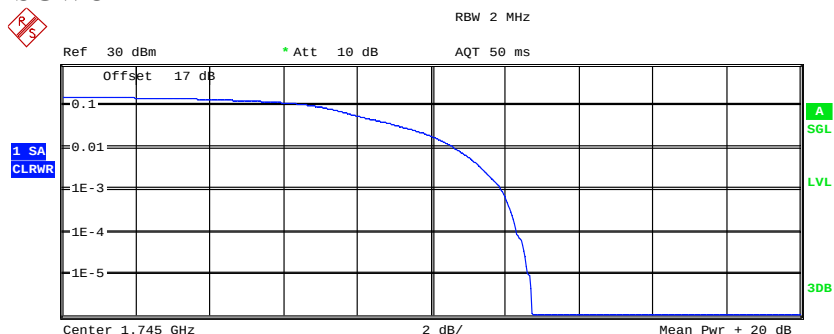
PEAK TO AVERAGE RATIO BAND66 QPSK FRB 1.4MHZ CH131979

Date: 30.MAR.2023 20:55:50



Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1



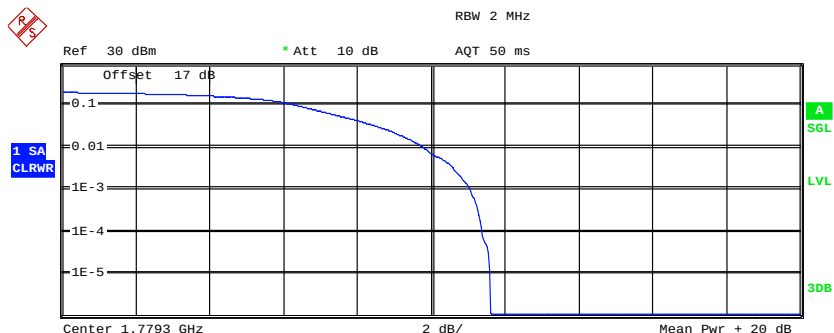
Complementary Cumulative Distribution Function (100000 samples)

Trace 1
Mean 11.34 dBm
Peak 24.08 dBm
Crest 12.74 dB

10 % 6.96 dB
1 % 10.64 dB
.1 % 11.89 dB
.01 % 12.34 dB

PEAK TO AVERAGE RATIO BAND66 QPSK FRB 1.4MHZ CH132322

Date: 30.MAR.2023 20:52:24



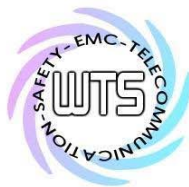
Complementary Cumulative Distribution Function (100000 samples)

Trace 1
Mean 12.26 dBm
Peak 23.87 dBm
Crest 11.61 dB

10 % 6.44 dB
1 % 9.81 dB
.1 % 11.06 dB
.01 % 11.38 dB

PEAK TO AVERAGE RATIO BAND66 QPSK FRB 1.4MHZ CH132665

Date: 30.MAR.2023 20:50:17

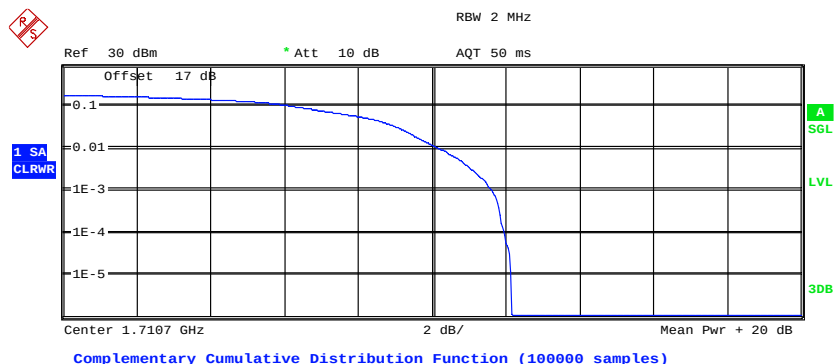


Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

16QAM

1.4 MHz

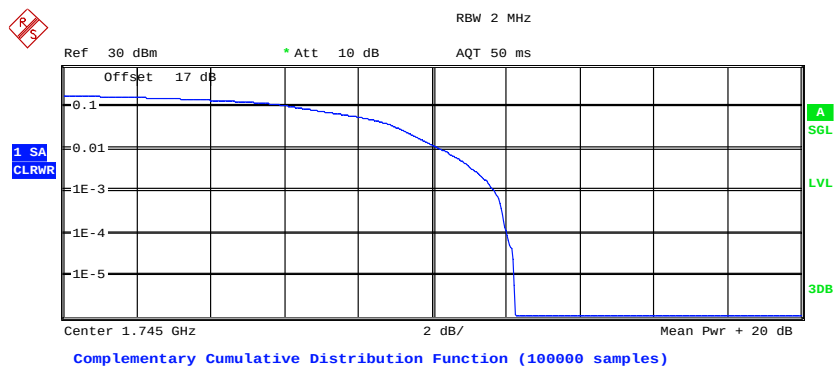


Trace 1

Mean	12.07 dBm
Peak	24.22 dBm
Crest	12.15 dB
10 %	6.38 dB
1 %	10.22 dB
.1 %	11.63 dB
.01 %	11.96 dB

PEAK TO AVERAGE RATIO BAND66 16QAM FRB 1.4MHZ CH131979

Date: 30.MAR.2023 20:47:25

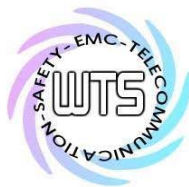


Trace 1

Mean	12.34 dBm
Peak	24.57 dBm
Crest	12.23 dB
10 %	6.38 dB
1 %	10.26 dB
.1 %	11.70 dB
.01 %	12.02 dB

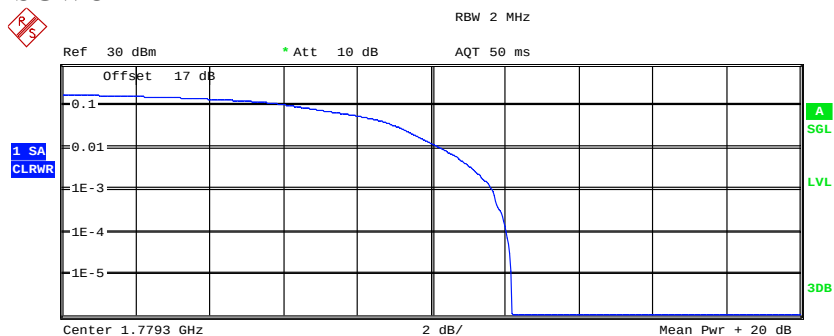
PEAK TO AVERAGE RATIO BAND66 16QAM FRB 1.4MHZ CH132322

Date: 30.MAR.2023 20:46:01



Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1



Complementary Cumulative Distribution Function (100000 samples)

Trace 1
Mean 12.32 dBm
Peak 24.50 dBm
Crest 12.18 dB

10 % 6.38 dB
1 % 10.29 dB
.1 % 11.67 dB
.01 % 12.05 dB

PEAK TO AVERAGE RATIO BAND66 16QAM FRB 1.4MHZ CH132665

Date: 30.MAR.2023 20:48:47

Limit according to FCC §24.232 and §27.50, The peak-to-average ratio(PAR) of the transmission may not exceed 13dB.

Test equipment: ETSTW-RE 055, ETSTW-GSM 002, ETSTW-GSM 023, ETSTW-GSM 004

Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

6. Occupied Bandwidth

The occupied bandwidth (OBW) is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to a specified percentage 0.5% of the total mean transmitted power.

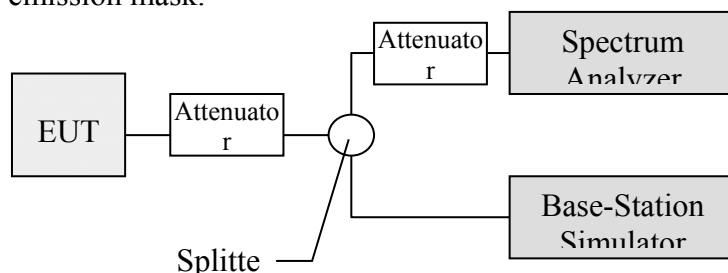
The 26 dB occupied bandwidth is the width of a frequency band such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal 26 dB.

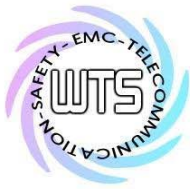
The 26 dB emission bandwidth is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated 26 dB below the maximum in-band spectral density of the modulated signal. Spectral density (power per unit bandwidth) is to be measured with a detector of resolution bandwidth equal to approximately 1.0% of the emission bandwidth.

6.1 Test procedure

The RF output of the transceiver was connected as the following figure.

Occupied Bandwidth was measured with a occupied bandwidth function of the analyzer at 99% power was occupied. Then set the spectrum analyzer to cover the upper and lower band edges to measure emission mask.





Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

6.2 Test Results

Occupied Channel Bandwidth

Test date: March 28, 2023-March 29, 2023

Temperature: 22.8 °C

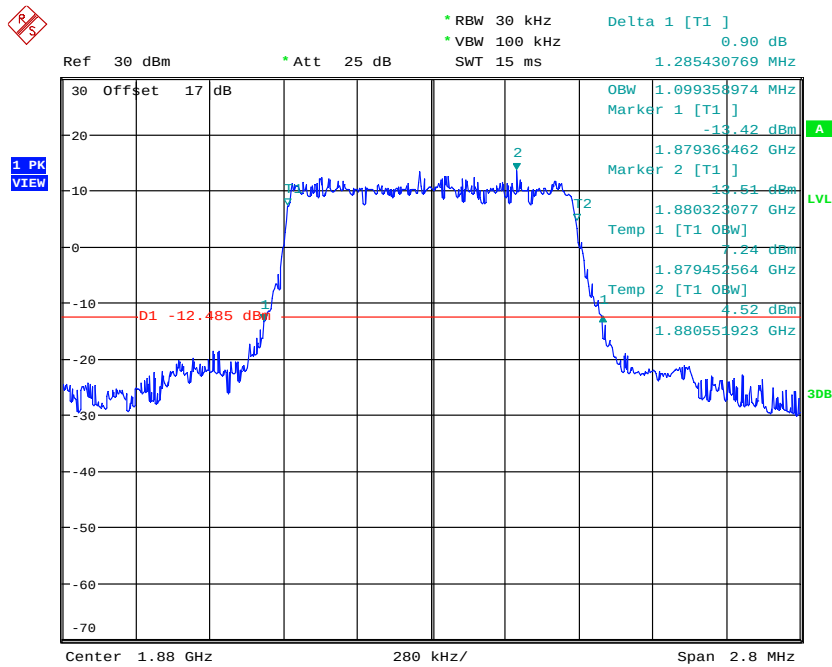
Humidity: 58.3 %

Tester: Rick

Band 2

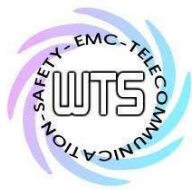
QPSK

1.4 MHz



99% OBW & 26DB BW BAND2_QPSK_1_4MHz_CH18900

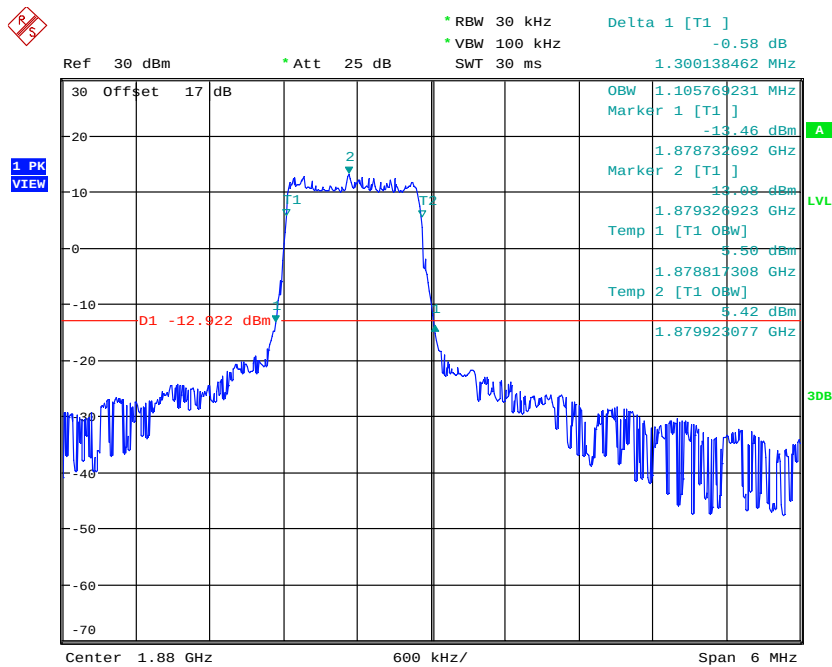
Date: 28.MAR.2023 15:43:27



Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

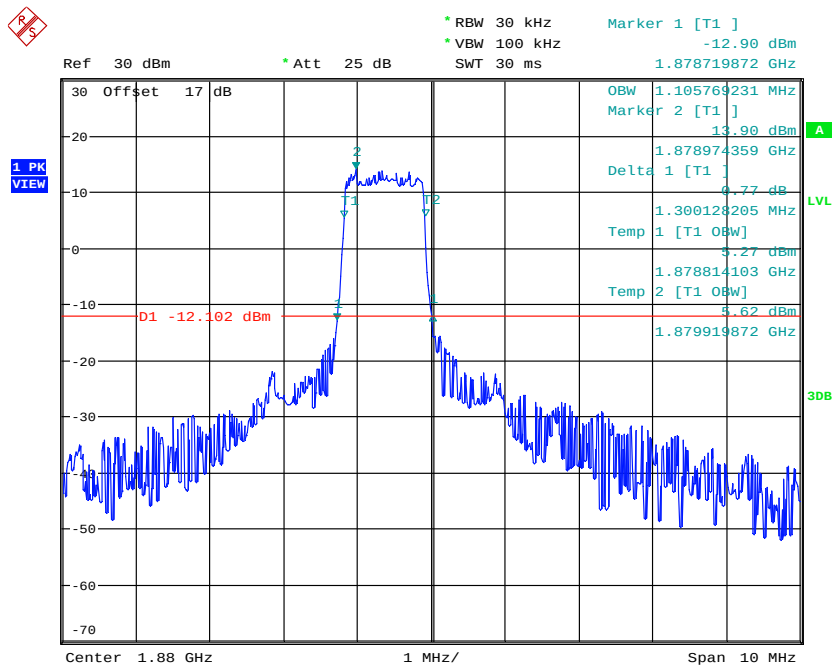
3 MHz



99% OBW & 26DB BW BAND2_QPSK_3MHz_CH18900

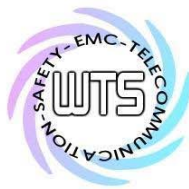
Date: 28.MAR.2023 15:52:20

5 MHz



99% OBW & 26DB BW BAND2_QPSK_5MHz_CH18900

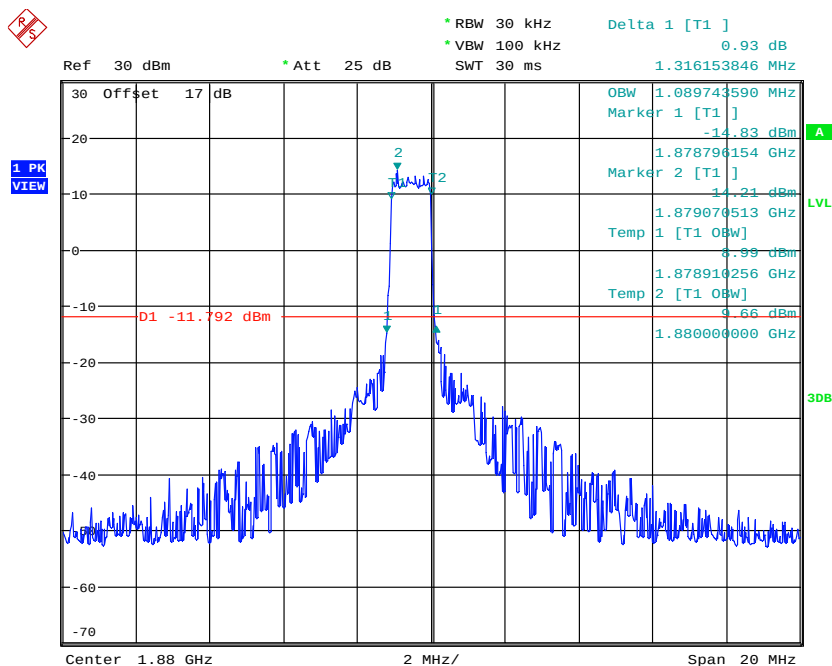
Date: 28.MAR.2023 16:10:19



Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

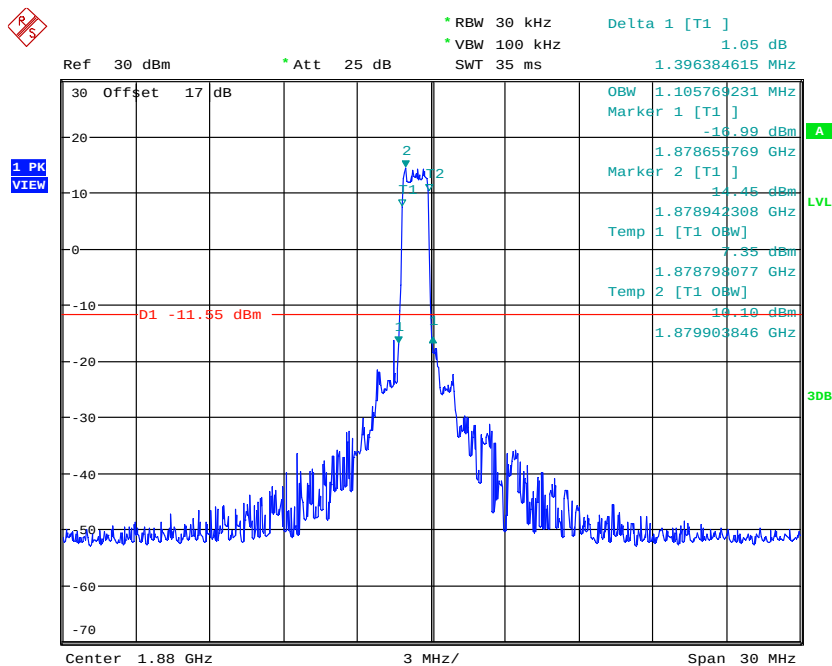
10 MHz



99% OBW &26DB BW BAND2_QPSK_10MHz_CH18900

Date: 28.MAR.2023 16:13:11

15 MHz

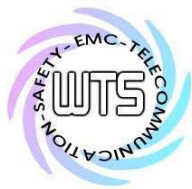


99% OBW &26DB BW BAND2_QPSK_15MHz_CH18900

Date: 28.MAR.2023 16:16:20



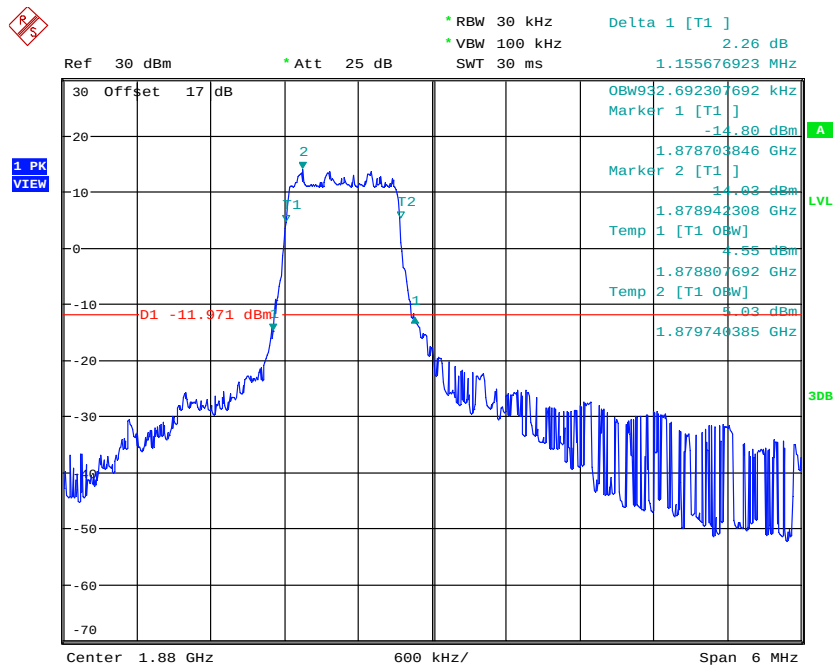
20 MHz



Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

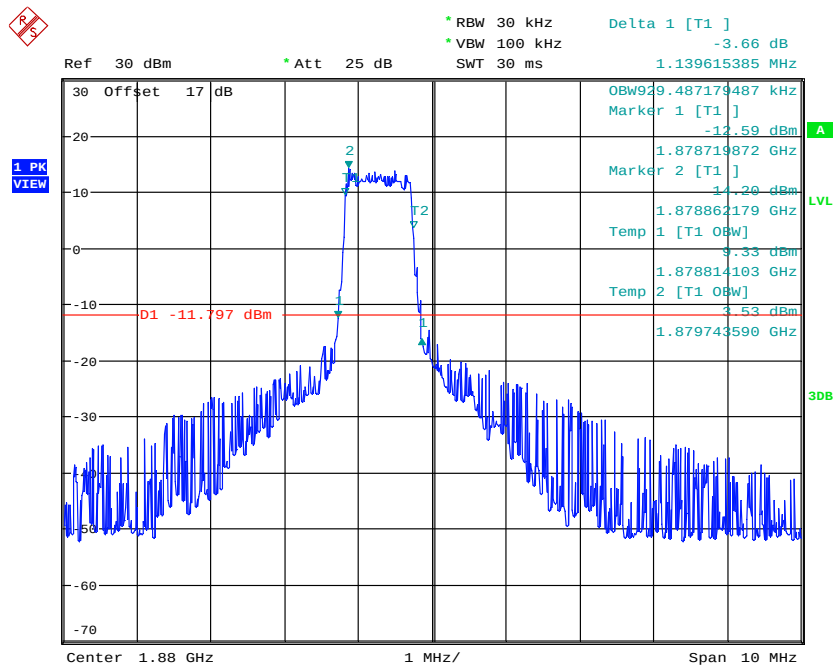
3 MHz



99% 0BW &26DB BW BAND2_16QAM_3MHz_CH18900

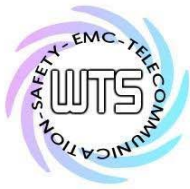
Date: 28.MAR.2023 17:45:55

5 MHz



99% 0BW &26DB BW BAND2_16QAM_5MHz_CH18900

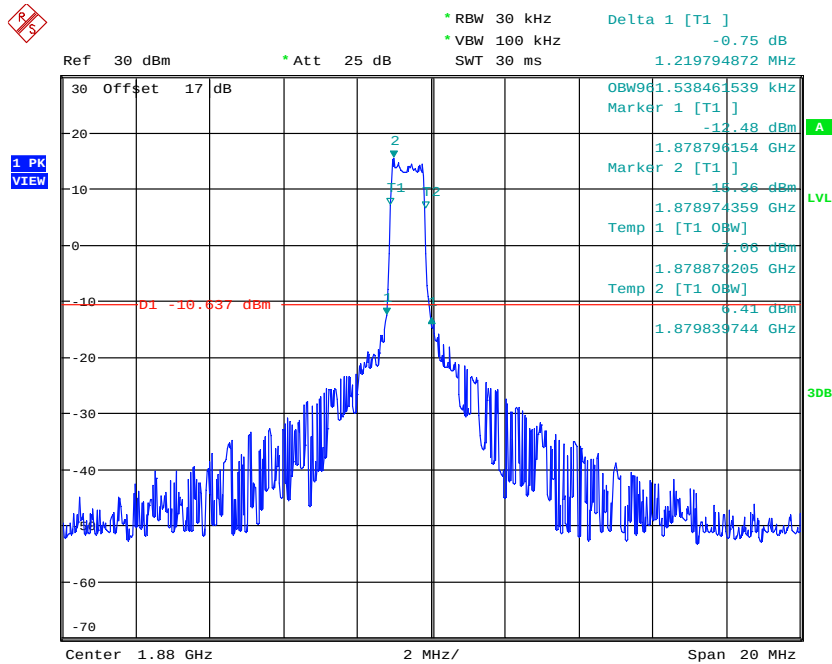
Date: 28.MAR.2023 17:12:13



Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

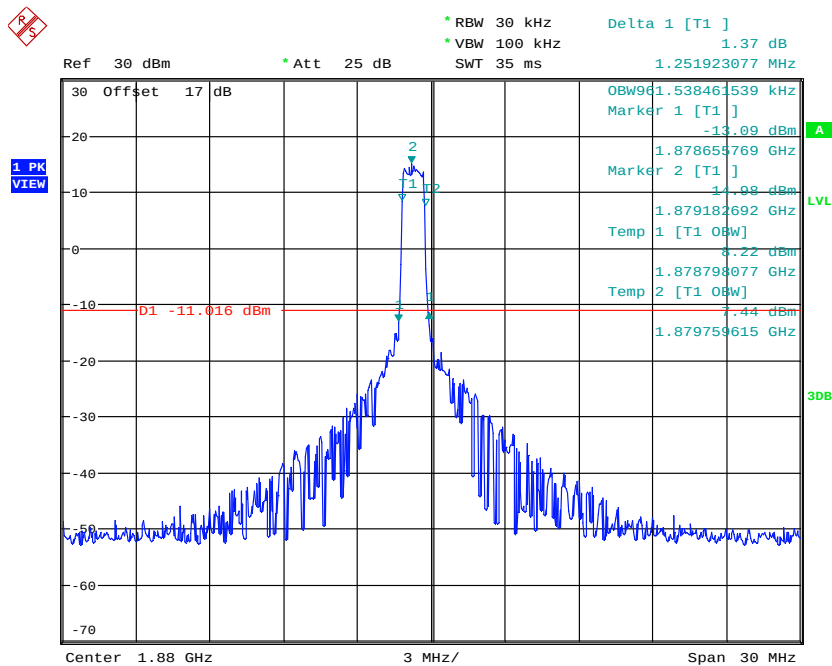
10 MHz



99% 0BW &26DB BW BAND2_16QAM_10MHz_CH18900

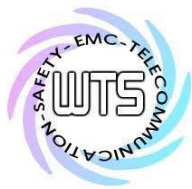
Date: 28.MAR.2023 17:14:05

15 MHz



99% 0BW &26DB BW BAND2_16QAM_15MHz_CH18900

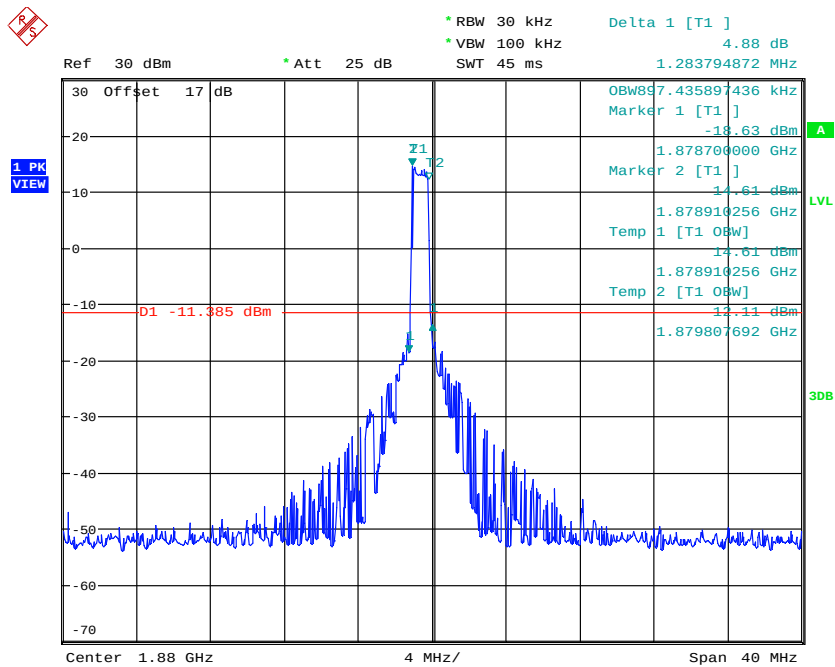
Date: 28.MAR.2023 17:16:05



Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

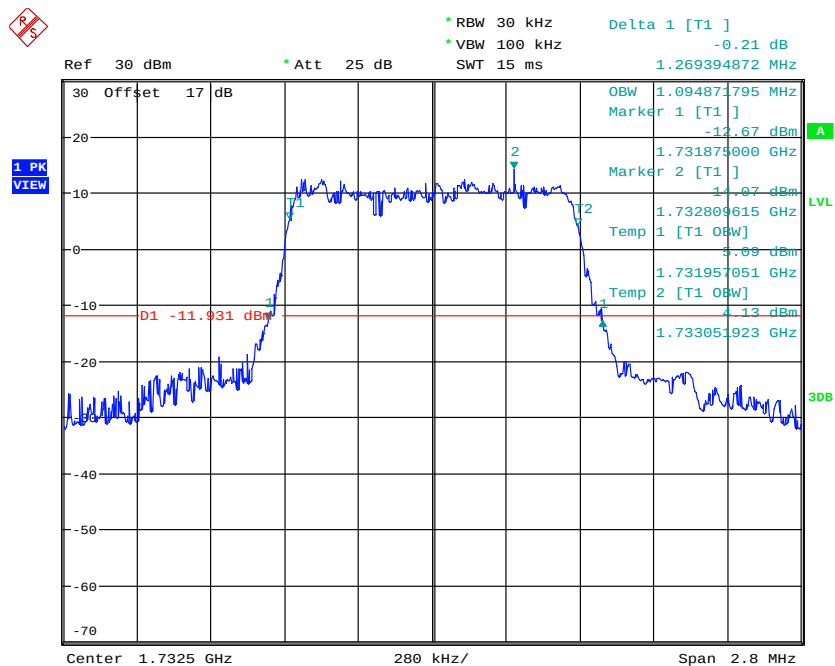
20 MHz



99% OBW &26DB BW BAND2_16QAM_20MHz_CH18900

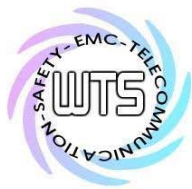
Date: 28.MAR.2023 17:43:36

Band 4
QPSK
1.4 MHz



99% OBW &26DB BW BAND4_QPSK_1_4MHz_CH20175

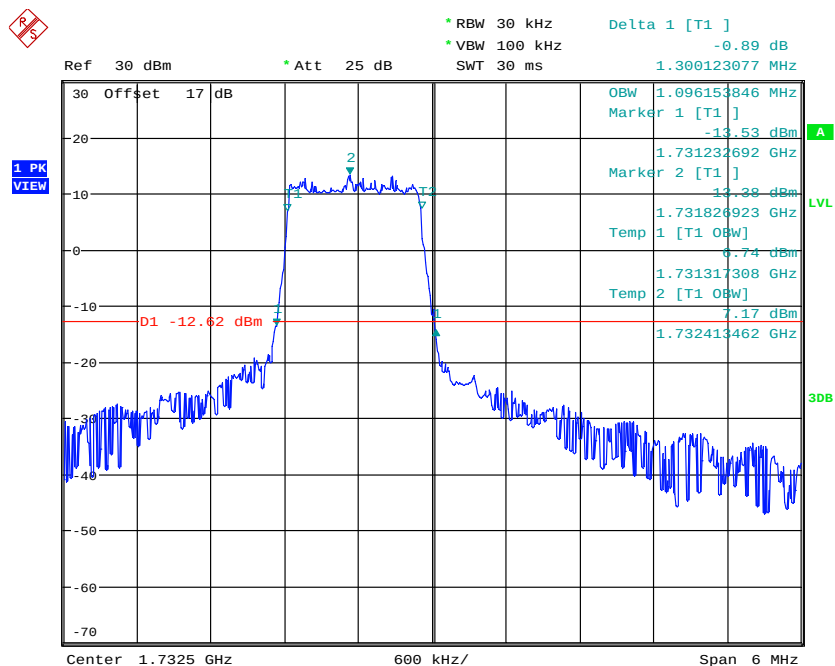
Date: 28.MAR.2023 19:51:17



Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

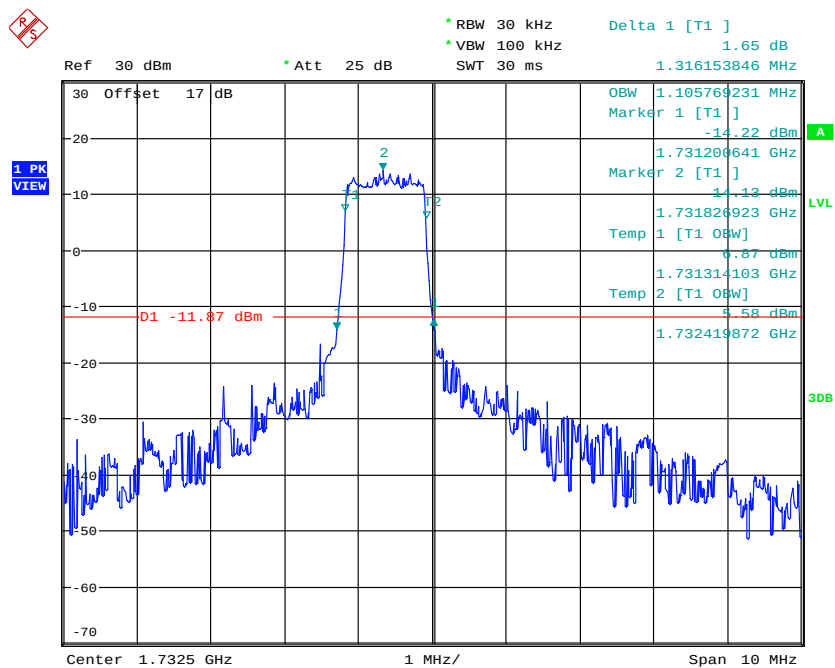
3 MHz



99% OBW &26DB BW BAND4_QPSK_3MHz_CH20175

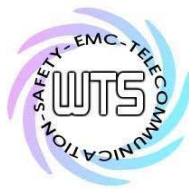
Date: 28.MAR.2023 19:49:36

5 MHz



99% OBW &26DB BW BAND4_QPSK_5MHz_CH20175

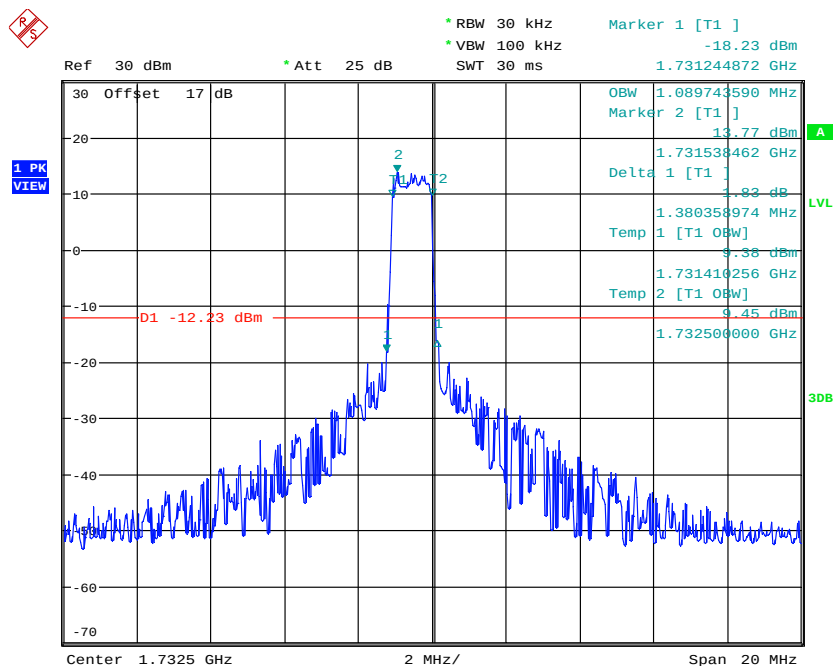
Date: 28.MAR.2023 19:47:40



Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

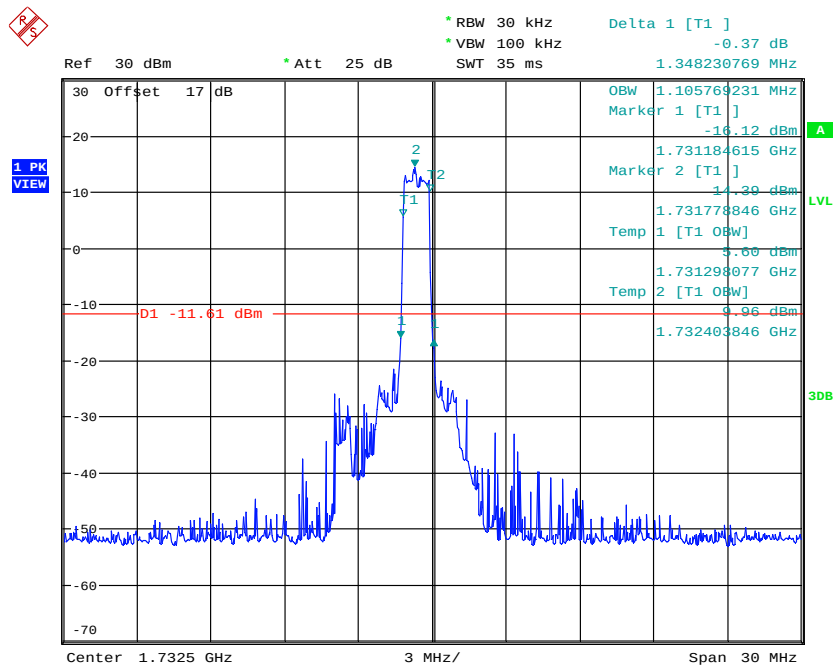
10 MHz



99% 0BW &26DB BW BAND4_QPSK_10MHz_CH20175

Date: 28.MAR.2023 19:40:01

15 MHz



99% 0BW &26DB BW BAND4_QPSK_15MHz_CH20175

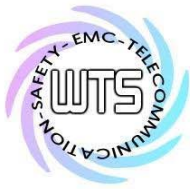
Date: 28.MAR.2023 19:38:14



20 MHz

Date: 28.MAR.2023 19:35:27

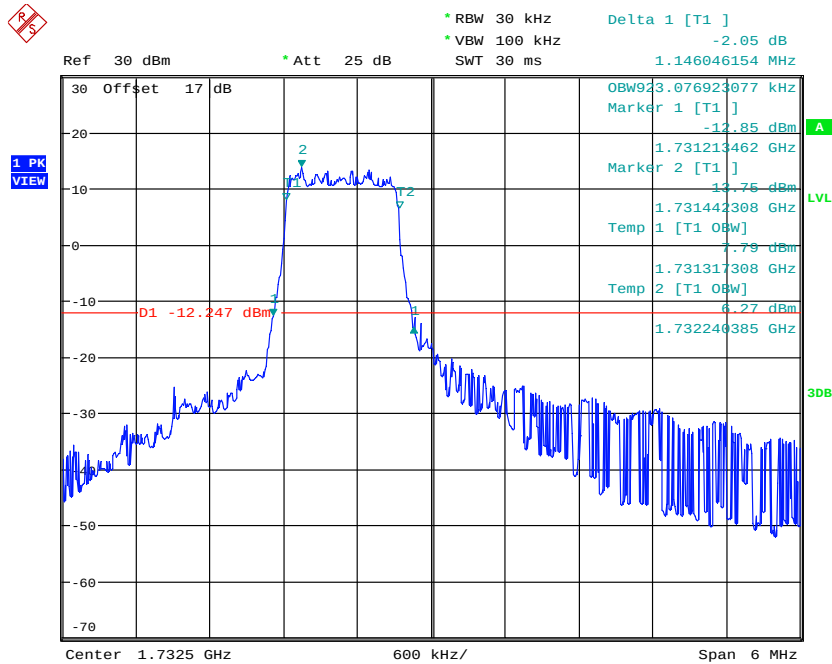
Date: 28.MAR.2023 17:56:57



Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

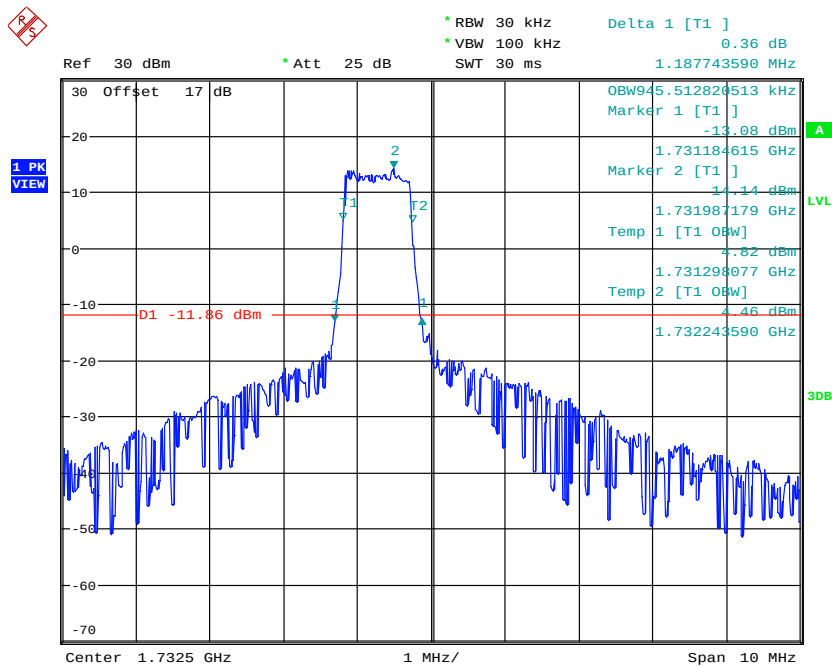
3 MHz



99% OBW &26DB BW BAND4_16QAM_3MHz_CH20175

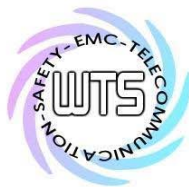
Date: 28.MAR.2023 19:13:16

5 MHz



99% OBW &26DB BW BAND4_16QAM_5MHz_CH20175

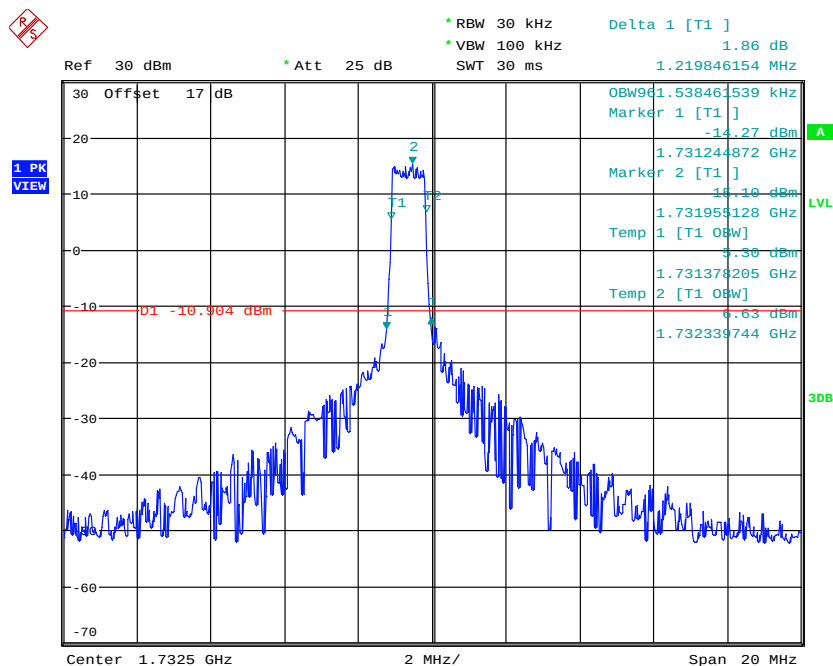
Date: 28.MAR.2023 19:15:06



Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

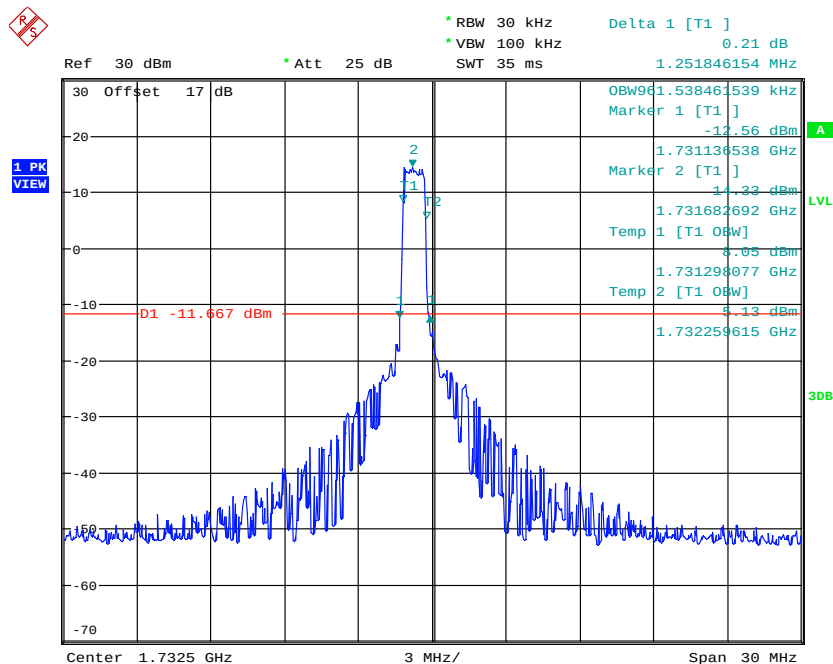
10 MHz



99% OBW &26DB BW BAND4_16QAM_10MHz_CH20175

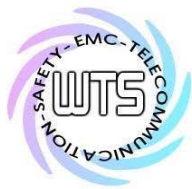
Date: 28.MAR.2023 19:20:31

15 MHz



99% OBW &26DB BW BAND4_16QAM_15MHz_CH20175

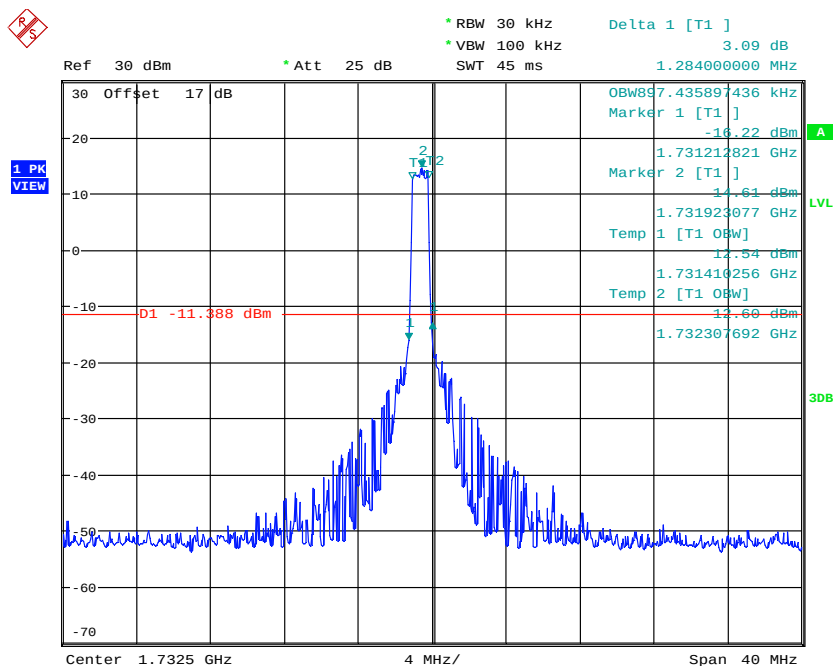
Date: 28.MAR.2023 19:22:06



Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

20 MHz



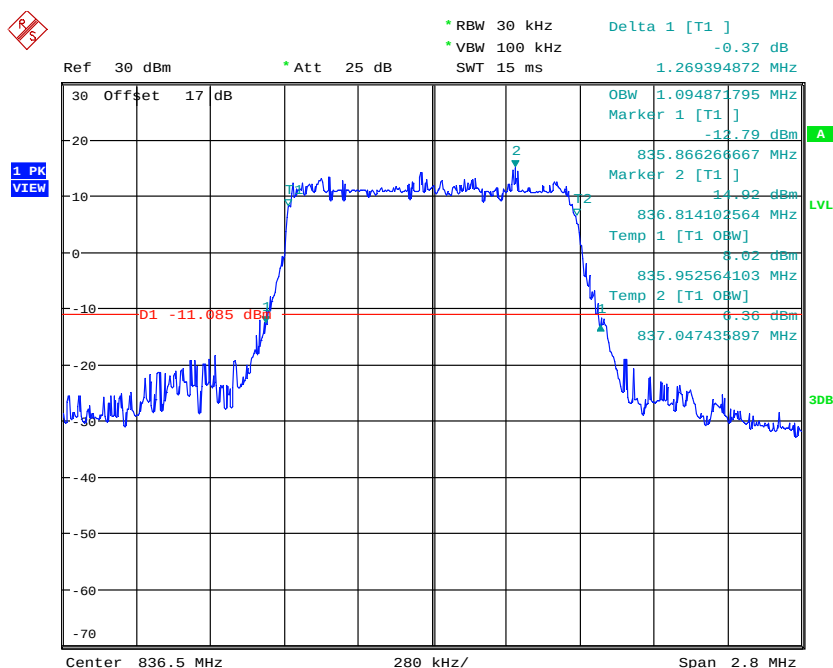
99% OBW &26DB BW BAND4_16QAM_20MHz_CH20175

Date: 28.MAR.2023 19:33:49

Band 5

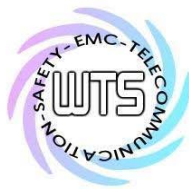
QPSK

1.4 MHz



99% OBW &26DB BW BAND5_QPSK_1_4MHz_CH20525

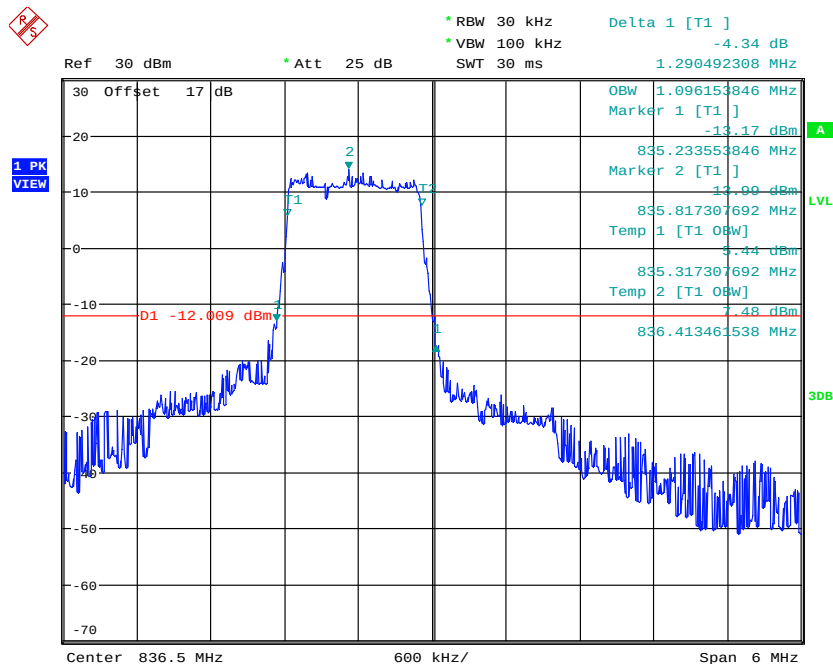
Date: 28.MAR.2023 20:13:23



Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

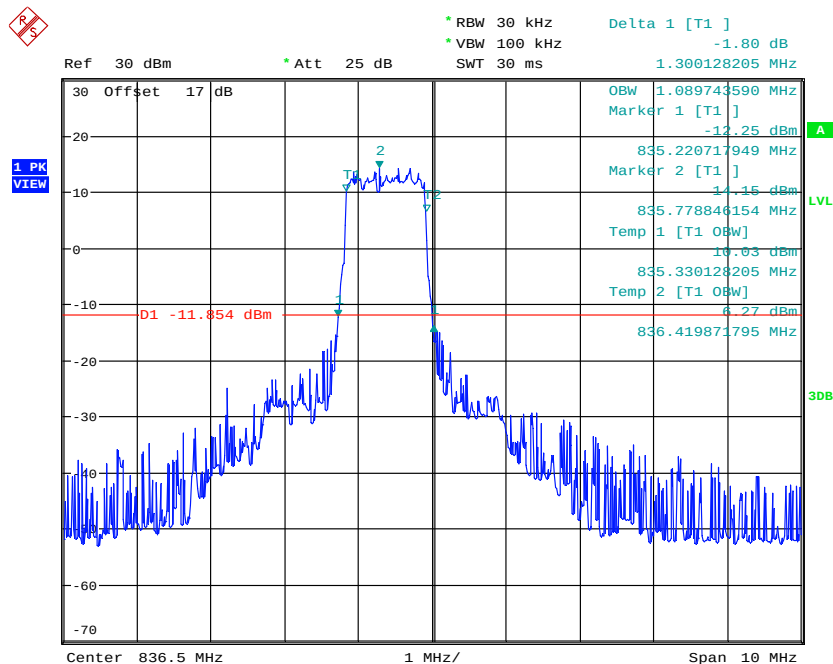
3 MHz



99% OBW &26DB BW BAND5_QPSK_3MHz_CH20525

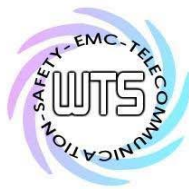
Date: 28.MAR.2023 20:15:19

5 MHz



99% OBW &26DB BW BAND5_QPSK_5MHz_CH20525

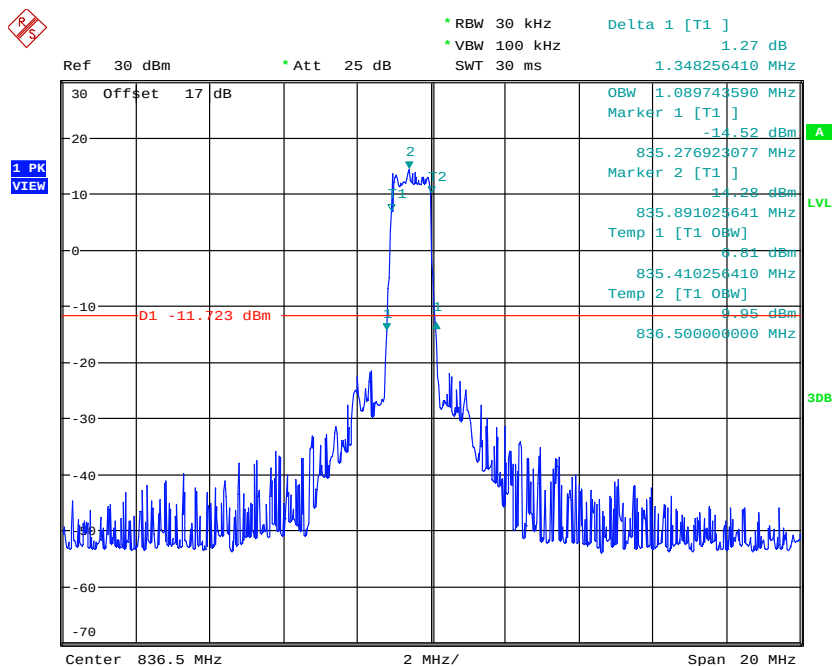
Date: 28.MAR.2023 20:17:18



Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

10 MHz

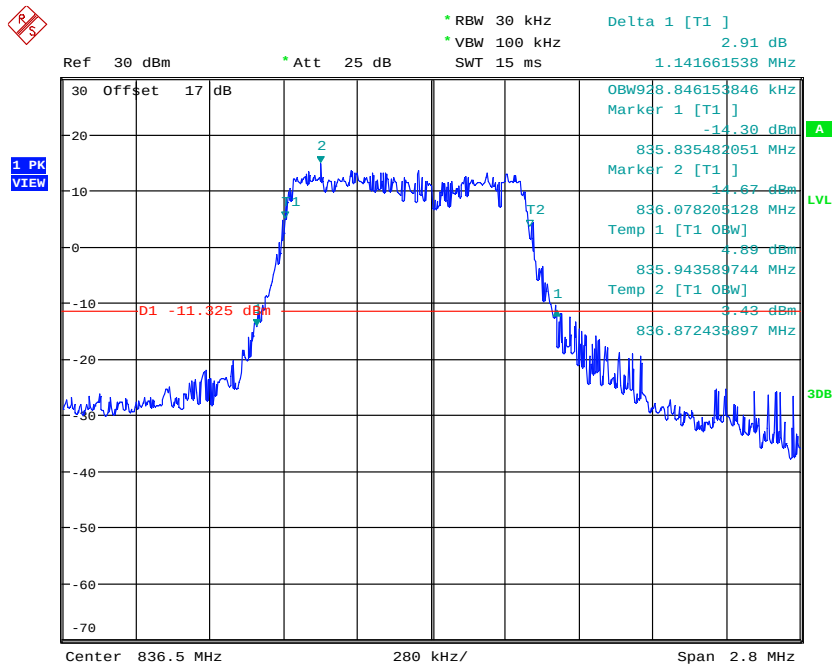


99% OBW &26DB BW BAND5_QPSK_10MHz_CH20525

Date: 28.MAR.2023 20:18:56

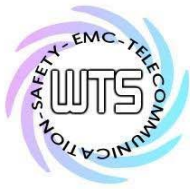
16QAM

1.4 MHz



99% OBW &26DB BW BAND5_16QAM_1.4MHz_CH20525

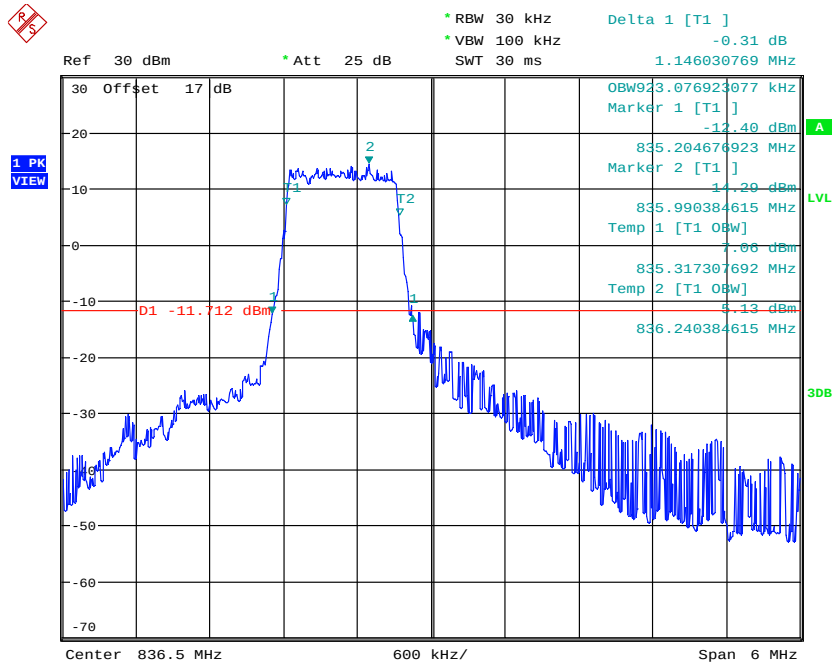
Date: 28.MAR.2023 20:25:51



Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

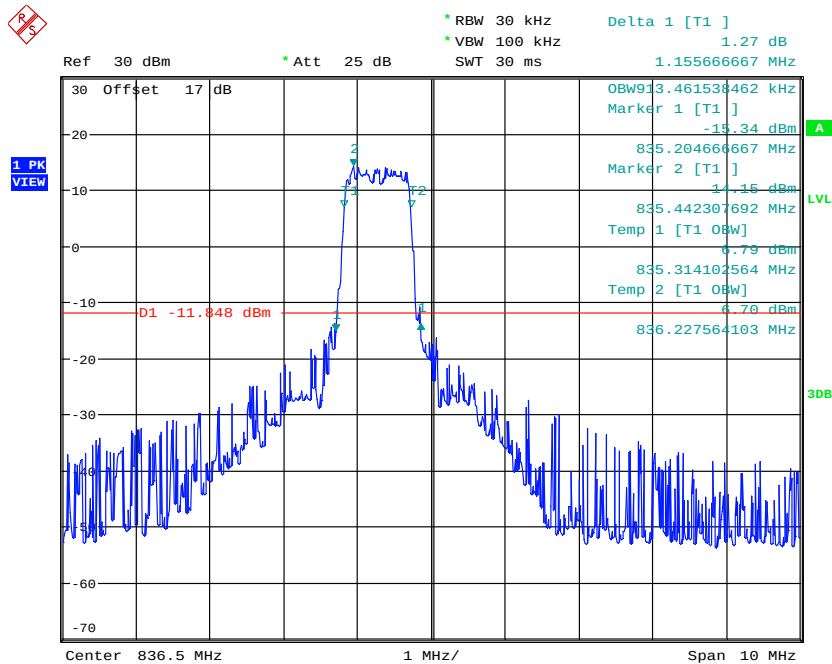
3 MHz



99% 0BW &26DB BW BAND5_16QAM_3MHz_CH20525

Date: 28.MAR.2023 20:24:20

5 MHz

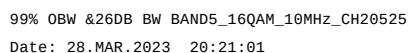


99% 0BW &26DB BW BAND5_16QAM_5MHz_CH20525

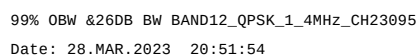
Date: 28.MAR.2023 20:22:55

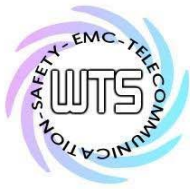


10 MHz



Band 12
QPSK
1.4 MHz

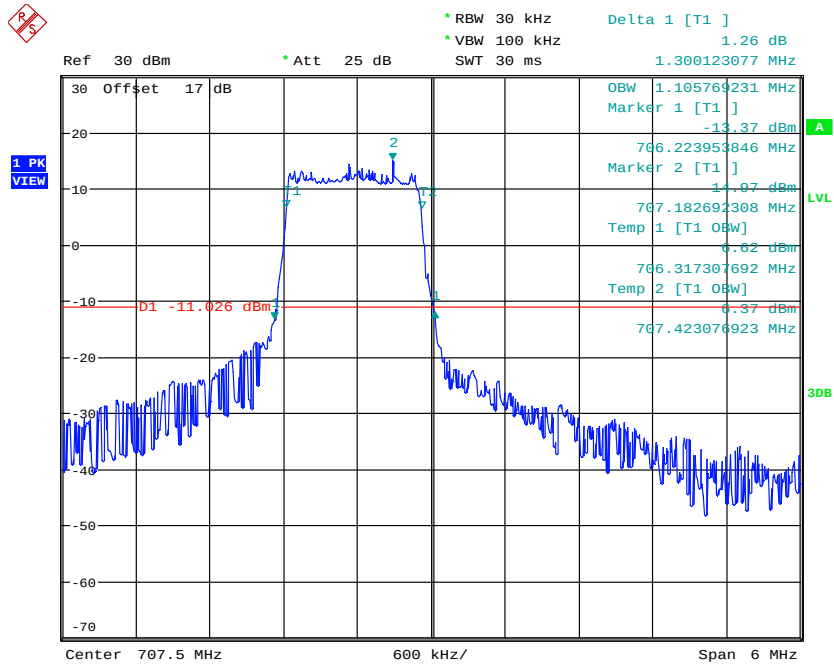




Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

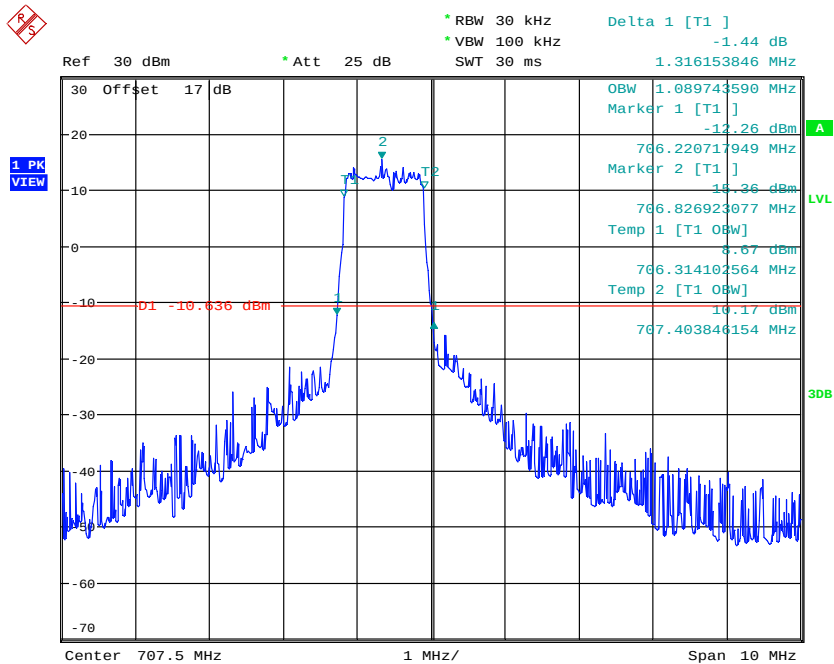
3 MHz



99% OBW &26DB BW BAND12_QPSK_3MHz_CH23095

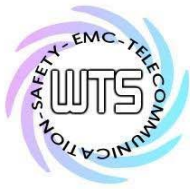
Date: 28.MAR.2023 20:53:53

5 MHz



99% OBW &26DB BW BAND12_QPSK_5MHz_CH23095

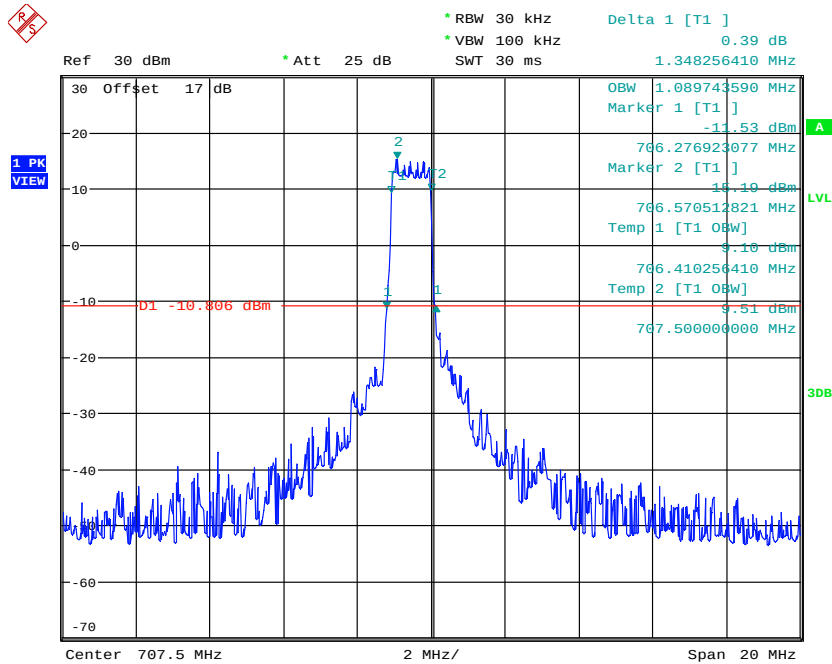
Date: 28.MAR.2023 20:58:57



Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

10 MHz

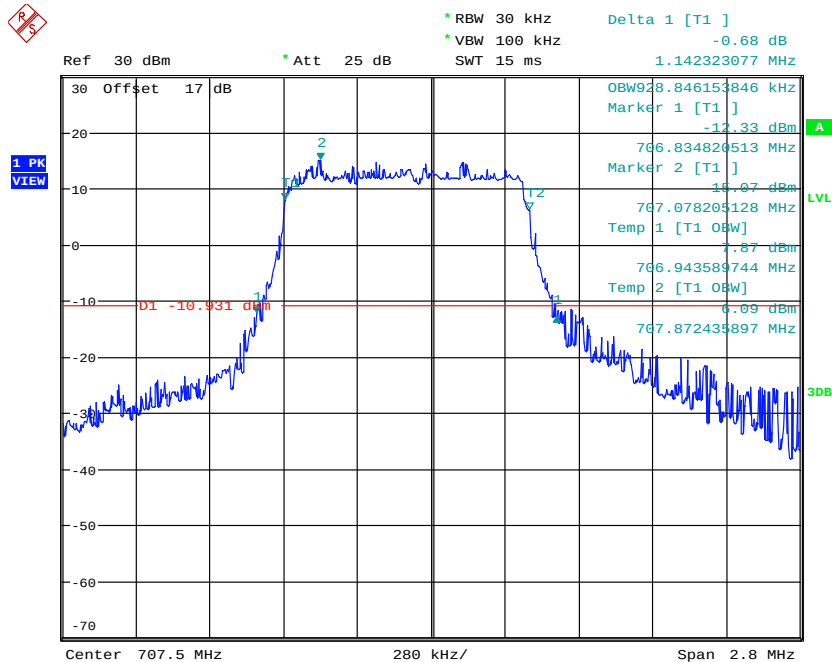


99% OBW &26DB BW BAND12_QPSK_10MHz_CH23095

Date: 28.MAR.2023 21:01:05

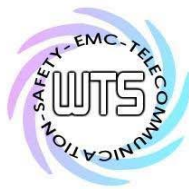
16QAM

1.4 MHz



99% OBW &26DB BW BAND12_16QAM_1.4MHz_CH23095

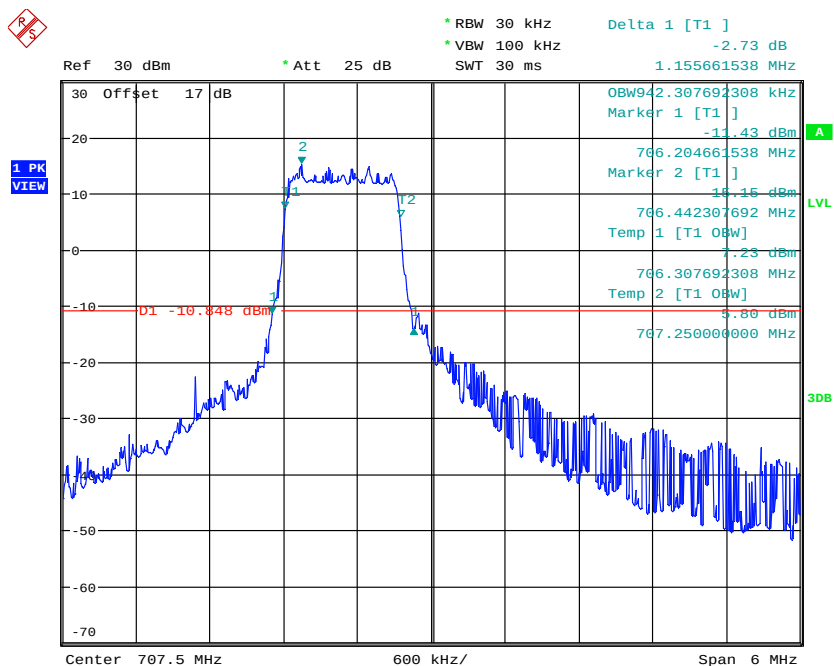
Date: 28.MAR.2023 20:45:35



Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

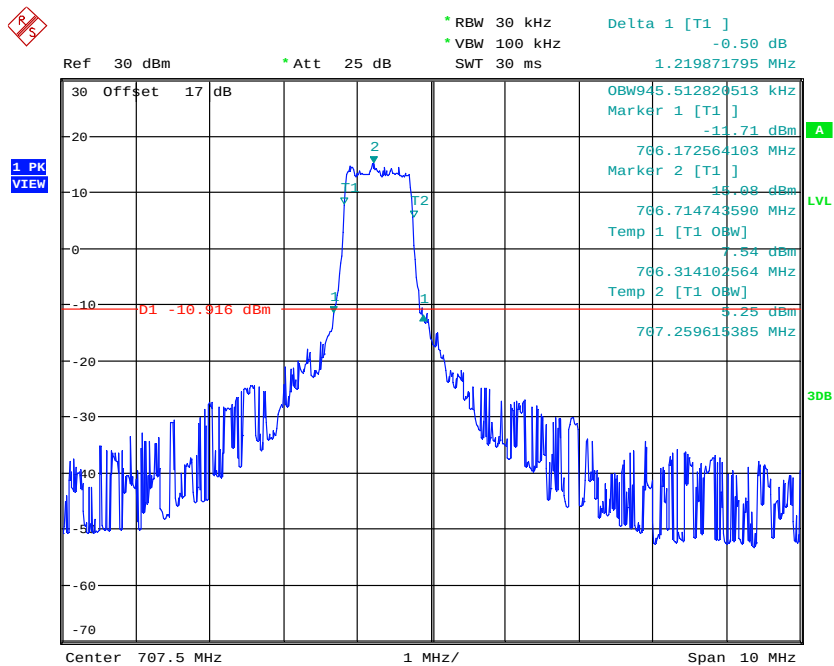
3 MHz



99% BW &26DB BW BAND12_16QAM_3MHz_CH23095

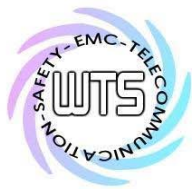
Date: 28.MAR.2023 20:55:21

5 MHz



99% BW &26DB BW BAND12_16QAM_5MHz_CH23095

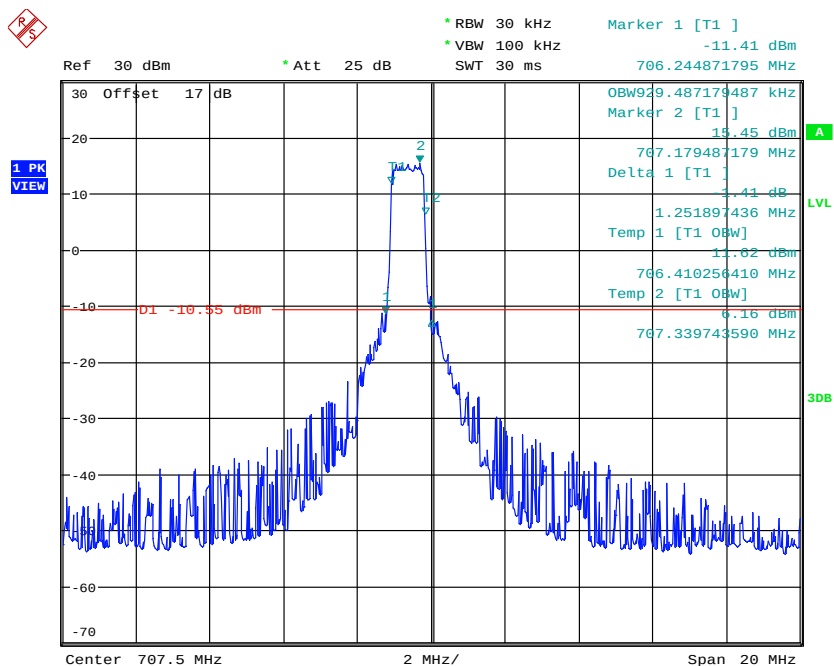
Date: 28.MAR.2023 20:56:58



Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

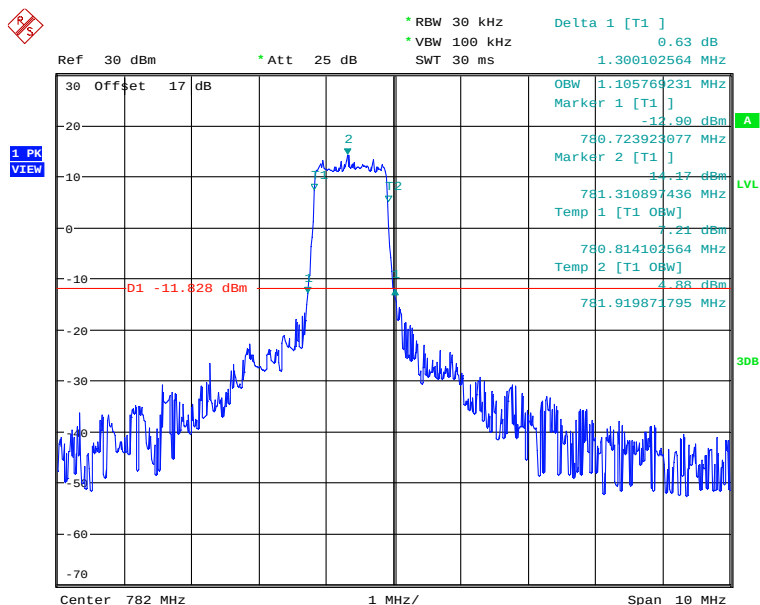
10 MHz



99% OBW &26DB BW BAND12_16QAM_10MHZ_CH23095

Date: 28.MAR.2023 21:03:05

Band 13
QPSK
5 MHz

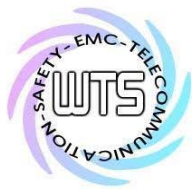


99% OBW &26DB BW BAND13_QPSK_5MHZ_CH23230

Date: 28.MAR.2023 21:29:54



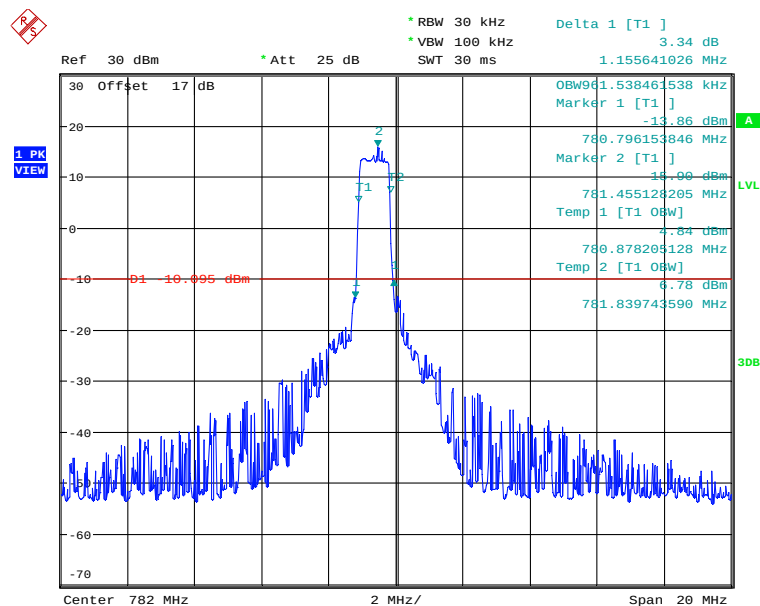
10 MHz



Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

10 MHz

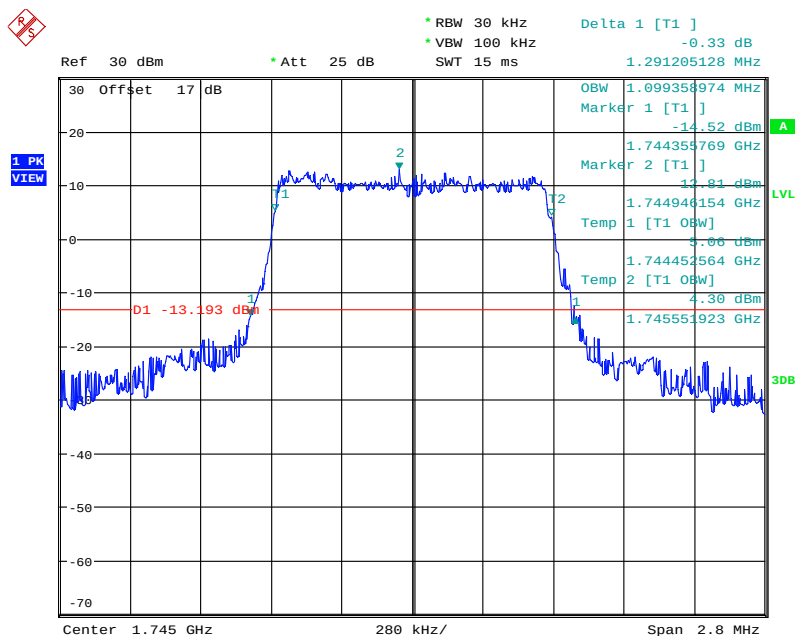


99% OBW &26DB BW BAND13_16QAM_10MHz_CH23230
Date: 28.MAR.2023 21:33:06

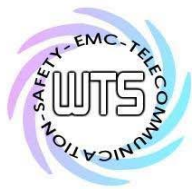
Band 66

QPSK

1.4 MHz



99% OBW &26DB BW BAND66_QPSK_1_4MHz_CH132322
Date: 29.MAR.2023 15:12:48

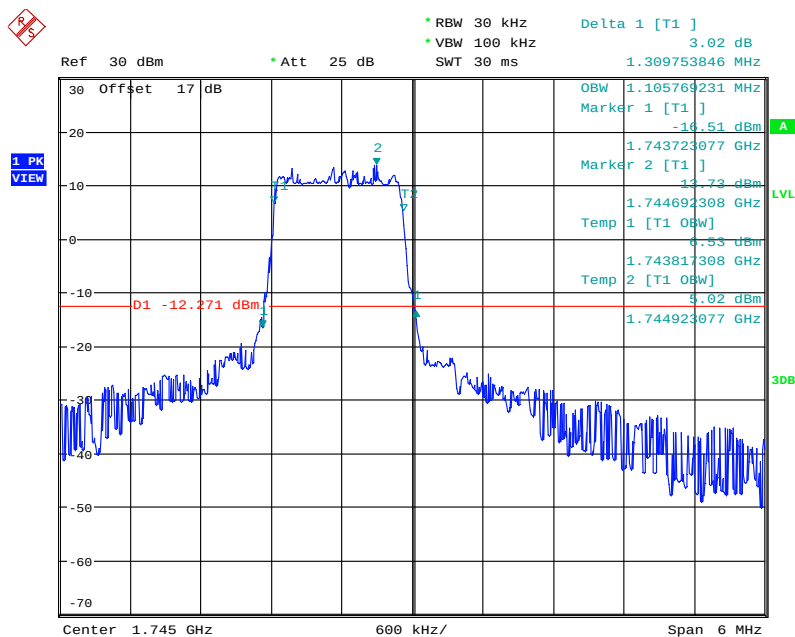


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Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

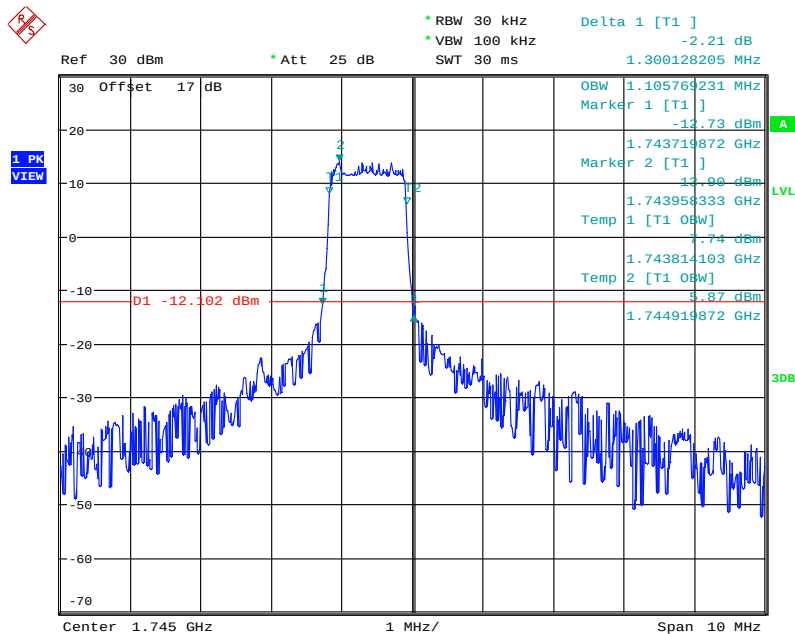
3 MHz



99% OBW &26DB BW BAND66_QPSK_3MHZ_CH132322

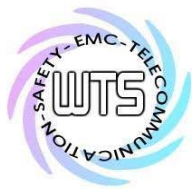
Date: 29.MAR.2023 15:07:10

5 MHz



99% OBW &26DB BW BAND66_QPSK_5MHZ_CH132322

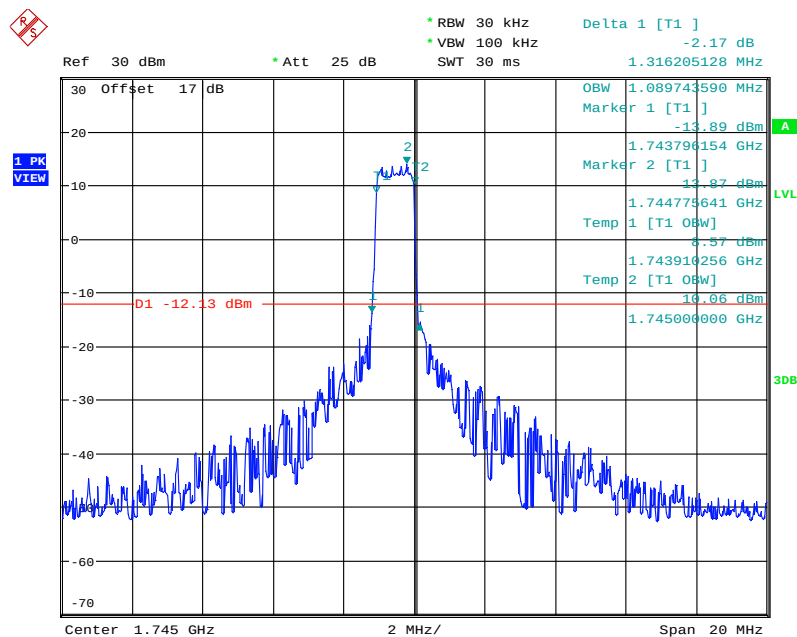
Date: 29.MAR.2023 15:04:48



Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

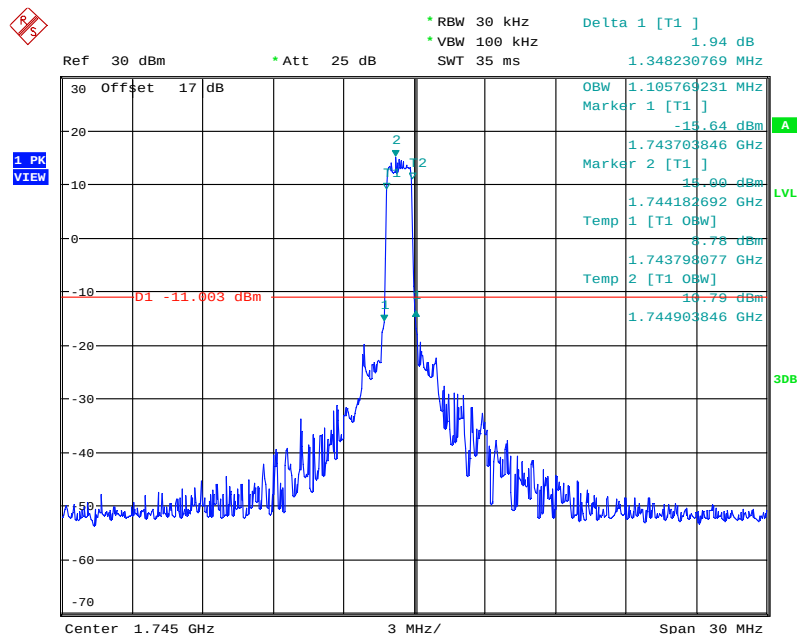
10 MHz



99% OBW &26DB BW BAND66_QPSK_10MHz_CH132322

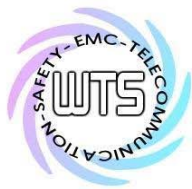
Date: 29.MAR.2023 14:57:23

15 MHz



99% OBW &26DB BW BAND66_QPSK_15MHz_CH132322

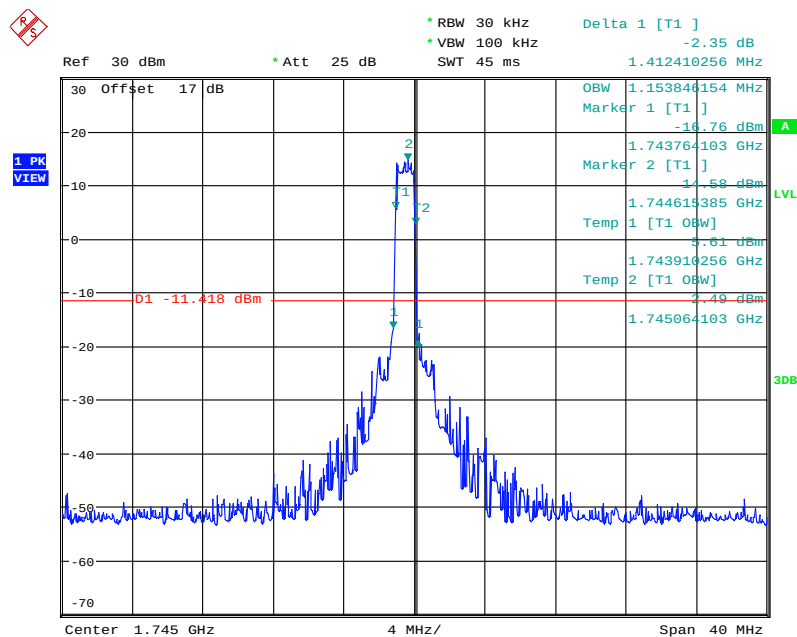
Date: 29.MAR.2023 15:16:41



Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

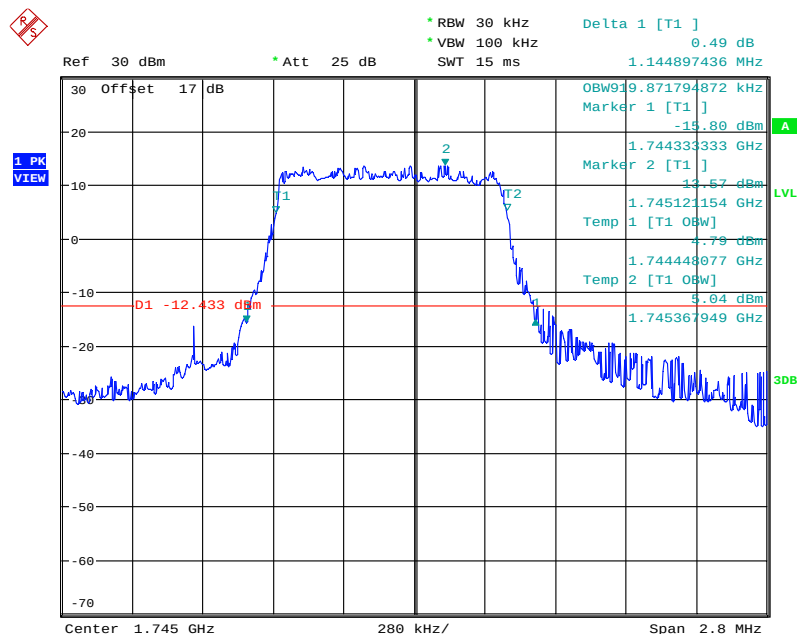
20 MHz



99% OBW &26DB BW BAND66_QPSK_20MHz_CH132322

Date: 29.MAR.2023 15:21:14

16QAM
1.4 MHz



99% OBW &26DB BW BAND66_16QAM_1.4MHz_CH132322

Date: 29.MAR.2023 15:11:25

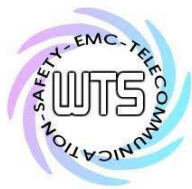


3 MHz

Date: 29.MAR.2023 15:08:51

5 MHz

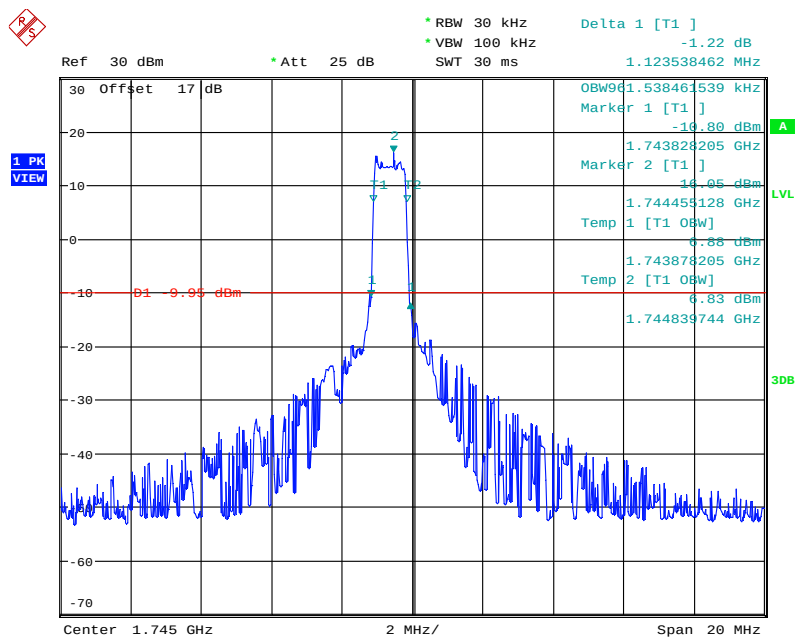
Date: 29.MAR.2023 15:03:22



Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

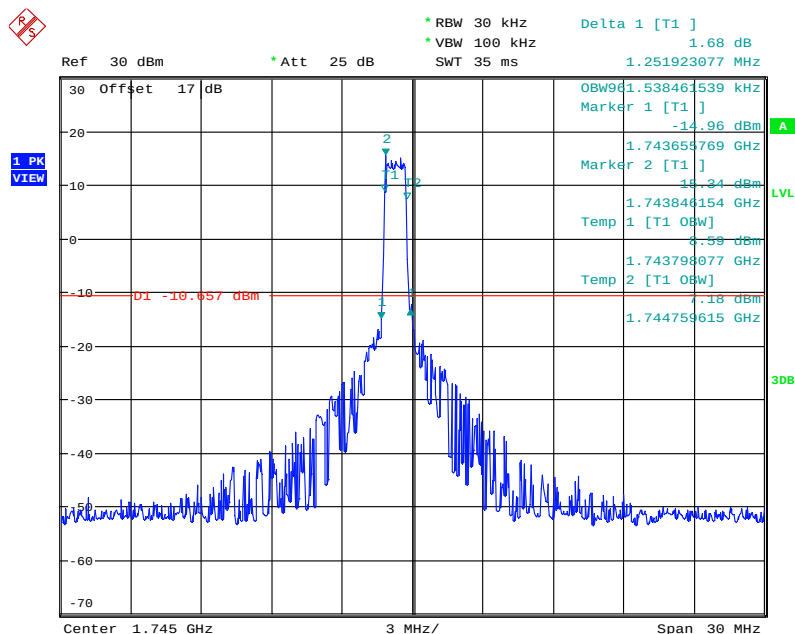
10 MHz



99% OBW &26DB BW BAND66_16QAM_10MHz_CH132322

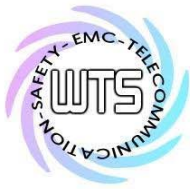
Date: 29.MAR.2023 14:58:37

15 MHz



99% OBW &26DB BW BAND66_16QAM_15MHz_CH132322

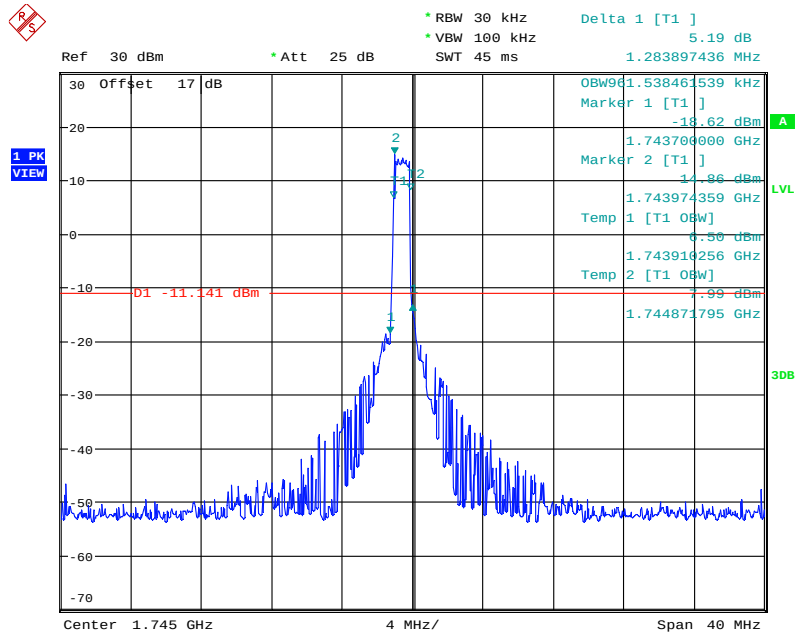
Date: 29.MAR.2023 15:17:58



Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

20 MHz



99% OBW &26DB BW BAND66_16QAM_20MHz_CH132322

Date: 29.MAR.2023 15:19:47

Test equipment: ETSTW-RE 055, ETSTW-GSM 002, ETSTW-GSM 023, ETSTW-GSM 004

Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

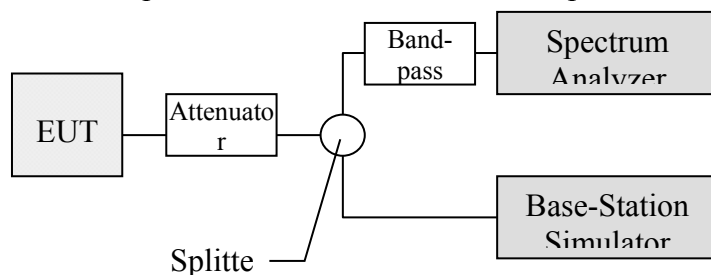
7. Spurious Emissions at Antenna Terminals

7.1 Test procedure

This transmitter output was connected to a calibrated coaxial attenuator, the other end of which was connected to a spectrum analyzer via a three-port splitter. Please refer to the following figure. Transmitter output was derived with the spectrum analyzer in dBm.

The Spurious Emissions at Antenna Terminals was measured by the spectrum analyzer with a suitable notch filter and/or Band-pass filter.

Tests were performed with an unmodulated carrier at three frequencies (low, middle and high channels) and on all power levels, which can be set-up on the transmitters.



7.2 Test Results

Test date: March 30, 2023

Temperature: 23.0 °C

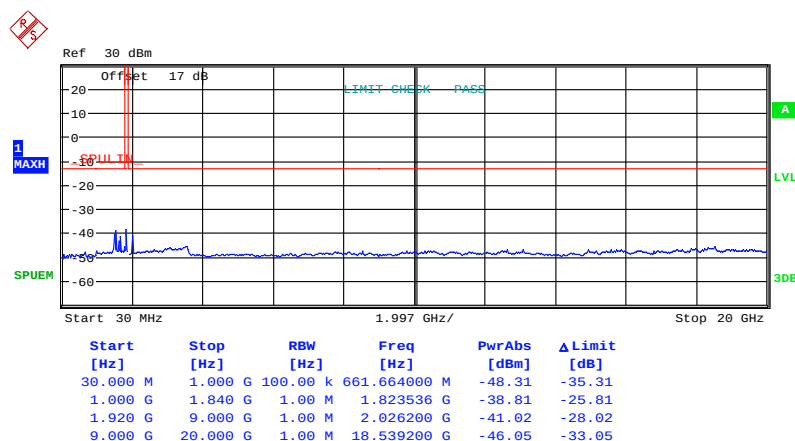
Humidity: 58.7 %

Tester: Rick

Band 2

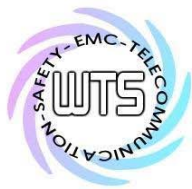
QPSK

1.4 MHz



CONDUCTED SPURIOUS EMISSION BAND2 OPSK 1RB 1.4MHZ CH18607

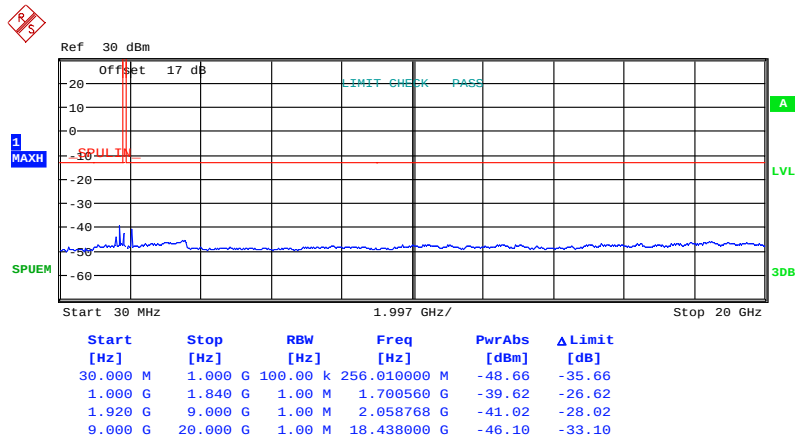
Date: 30.MAR.2023 14:31:35



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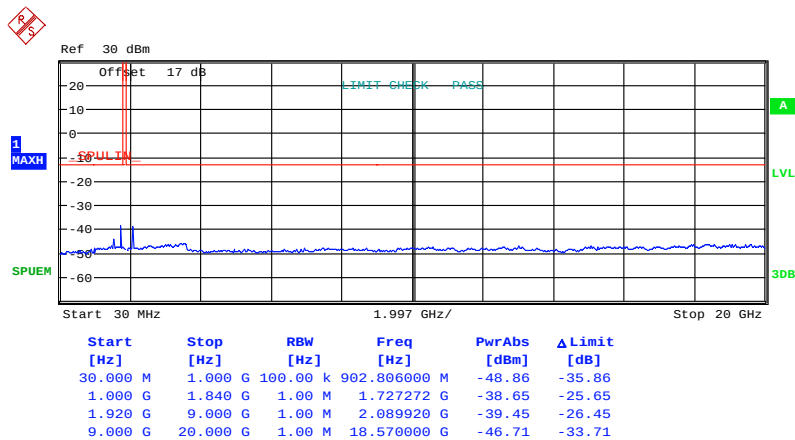
Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1



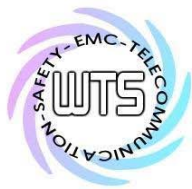
CONDUCTED SPURIOUS EMISSION BAND2 QPSK 1RB 1.4MHZ CH18900

Date: 30.MAR.2023 14:32:57



CONDUCTED SPURIOUS EMISSION BAND2 QPSK 1RB 1.4MHZ CH19193

Date: 30.MAR.2023 14:34:12



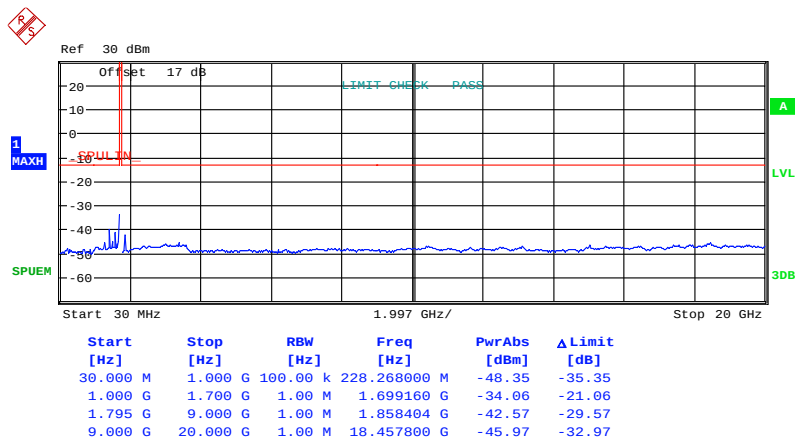
Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

Band 4

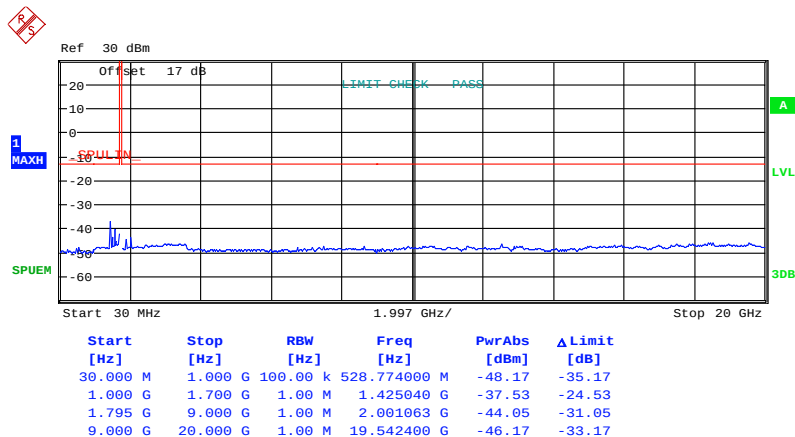
QPSK

1.4 MHz



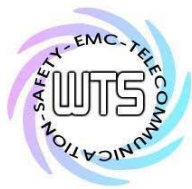
CONDUCTED SPURIOUS EMISSION BAND4 QPSK 1RB 1.4MHZ CH19957

Date: 30.MAR.2023 14:41:43



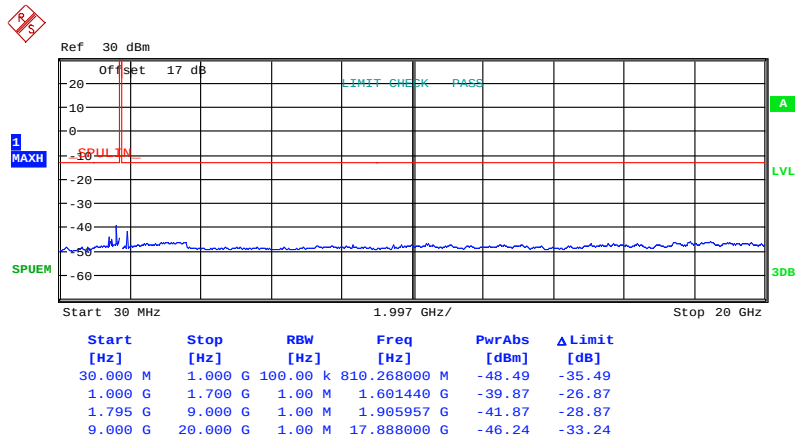
CONDUCTED SPURIOUS EMISSION BAND4 QPSK 1RB 1.4MHZ CH20175

Date: 30.MAR.2023 14:40:00



Registration number: W6M22302-22480-C-247

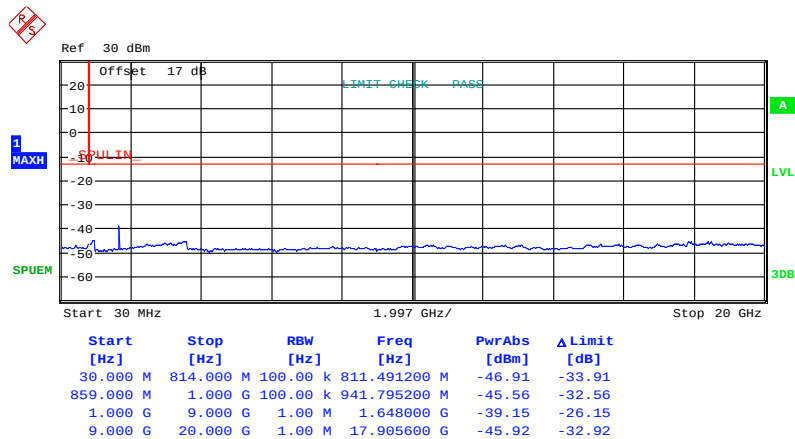
FCC ID: GX9HSGWCATM1



CONDUCTED SPURIOUS EMISSION BAND4 QPSK 1RB 1.4MHZ CH20393

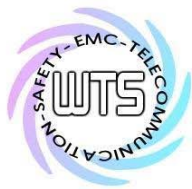
Date: 30.MAR.2023 14:48:32

Band 5
QPSK
1.4 MHz



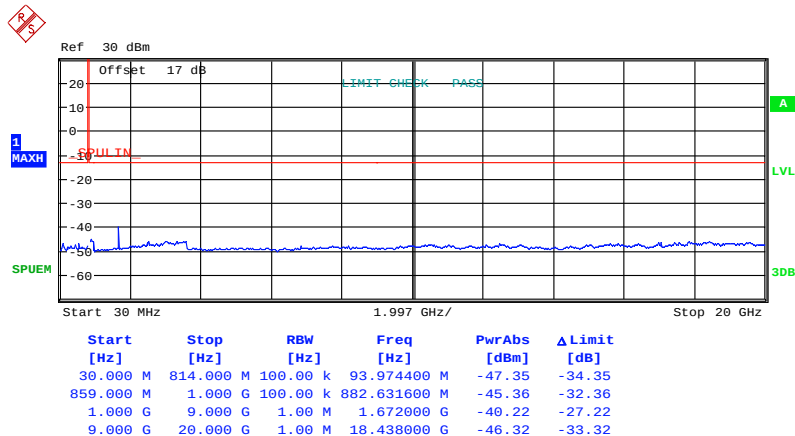
CONDUCTED SPURIOUS EMISSION BAND5 QPSK 1RB 1.4MHZ CH20407

Date: 30.MAR.2023 15:28:35



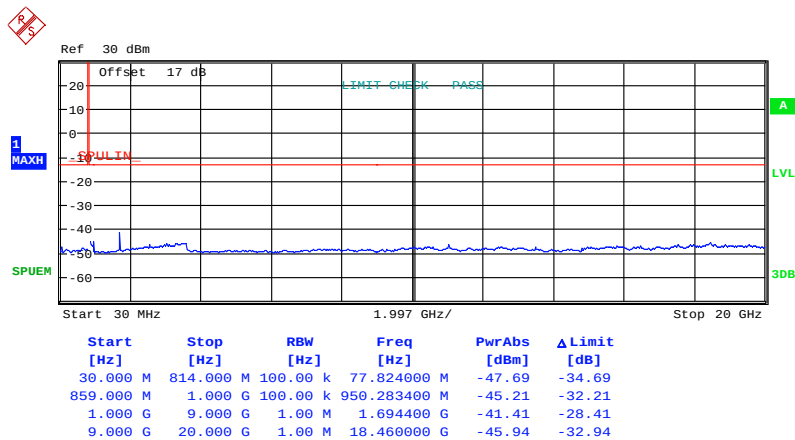
Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1



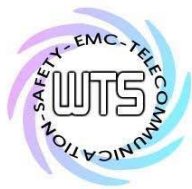
CONDUCTED SPURIOUS EMISSION BAND5 QPSK 1RB 1.4MHZ CH20525

Date: 30.MAR.2023 15:24:27



CONDUCTED SPURIOUS EMISSION BAND5 QPSK 1RB 1.4MHZ CH20643

Date: 30.MAR.2023 15:37:40



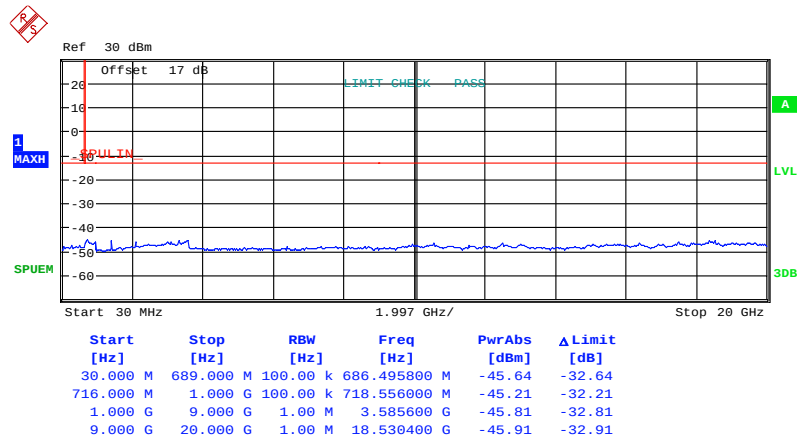
Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

Band 12

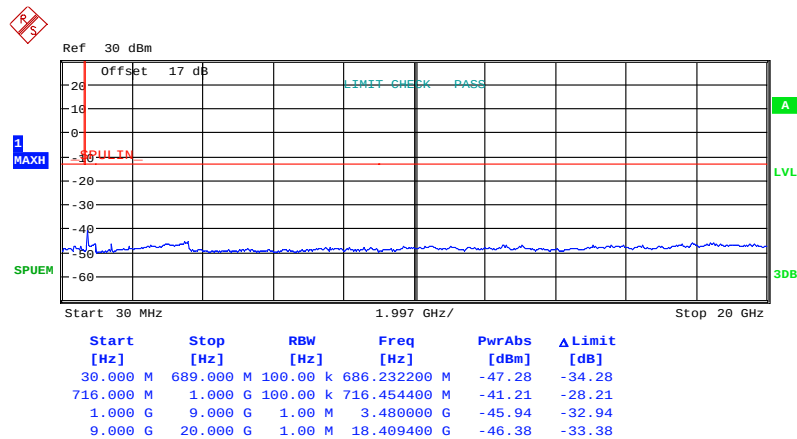
QPSK

1.4 MHz



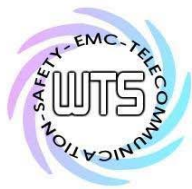
CONDUCTED SPURIOUS EMISSION BAND12 QPSK 1RB 1.4MHZ CH23017

Date: 30.MAR.2023 15:41:36



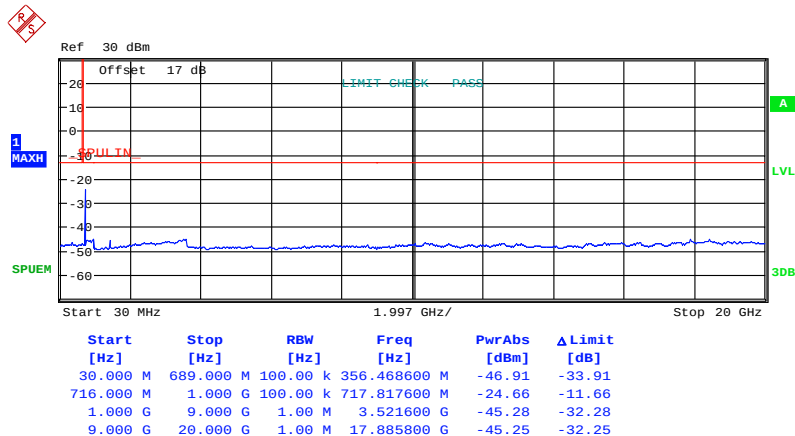
CONDUCTED SPURIOUS EMISSION BAND12 QPSK 1RB 1.4MHZ CH23095

Date: 30.MAR.2023 15:39:22



Registration number: W6M22302-22480-C-247

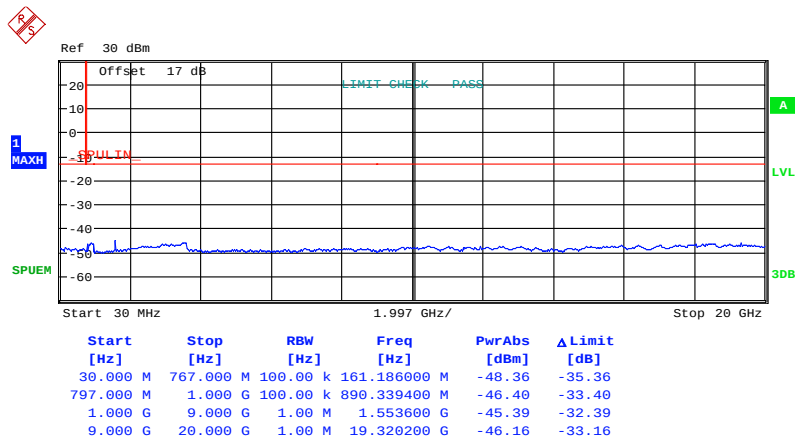
FCC ID: GX9HSGWCATM1



CONDUCTED SPURIOUS EMISSION BAND12 QPSK 1RB 1.4MHZ CH23173

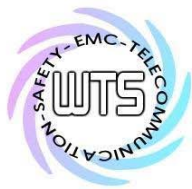
Date: 30.MAR.2023 16:11:53

Band 13
QPSK
5 MHz



CONDUCTED SPURIOUS EMISSION BAND13 QPSK 1RB 5MHZ CH23205

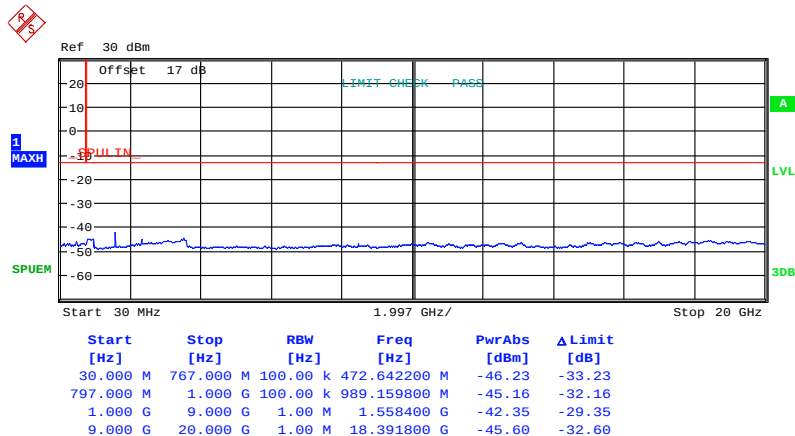
Date: 30.MAR.2023 16:27:53



Worldwide Testing Services(Taiwan) Co., Ltd.

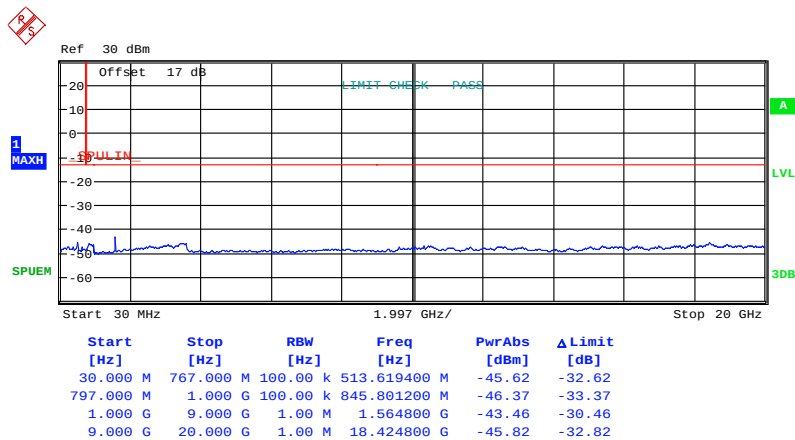
Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1



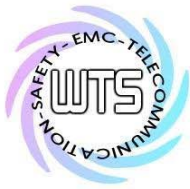
CONDUCTED SPURIOUS EMISSION BAND13 QPSK 1RB 5MHZ CH23230

Date: 30.MAR.2023 16:26:33



CONDUCTED SPURIOUS EMISSION BAND13 QPSK 1RB 5MHZ CH23255

Date: 30.MAR.2023 16:28:49



Worldwide Testing Services(Taiwan) Co., Ltd.

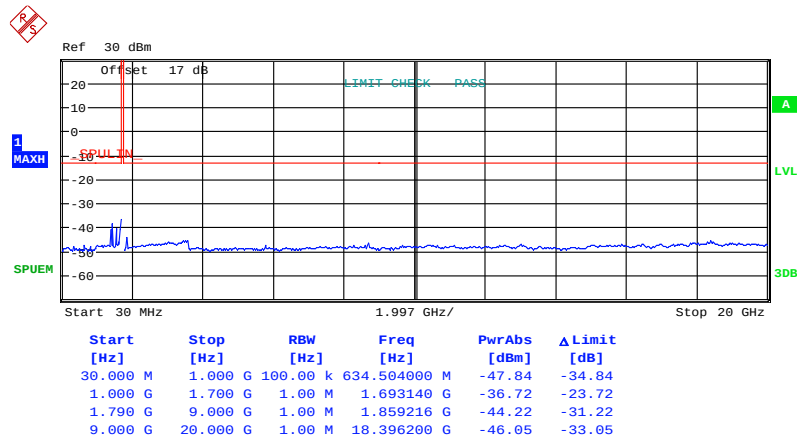
Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

Band 66

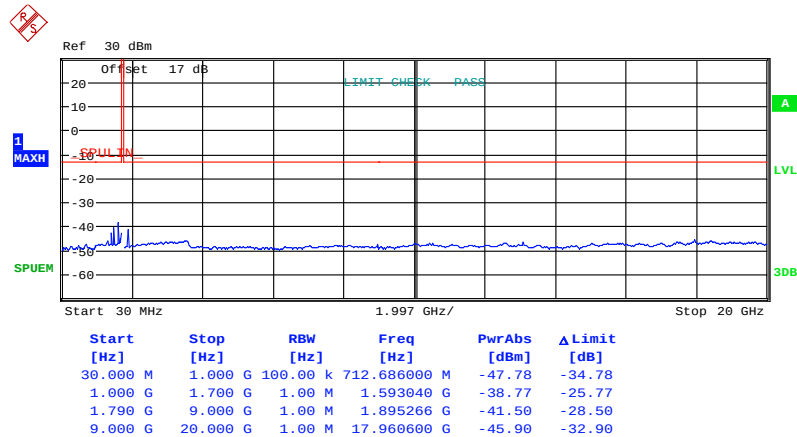
QPSK

1.4 MHz



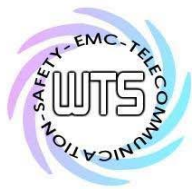
CONDUCTED SPURIOUS EMISSION BAND66 QPSK 1RB 1.4MHZ CH131979

Date: 30.MAR.2023 16:37:13



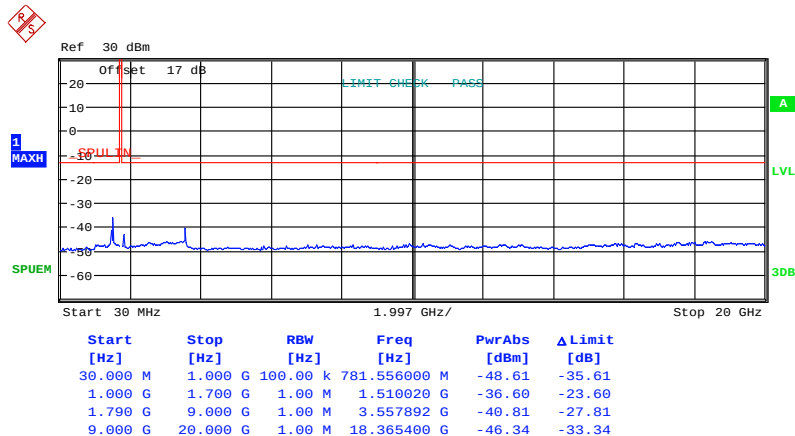
CONDUCTED SPURIOUS EMISSION BAND66 QPSK 1RB 1.4MHZ CH132322

Date: 30.MAR.2023 16:35:20



Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1



CONDUCTED SPURIOUS EMISSION BAND66 QPSK 1RB 1.4MHZ CH132665
Date: 30.MAR.2023 16:39:02

Test equipment: ETSTW-RE 055, ETSTW-GSM 002, ETSTW-GSM 023, ETSTW-GSM 004

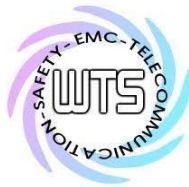
7.3 Explanation of test result

All factors like cable loss and external attenuation etc. are already included in the provided measurement results. This is done by using validated test software and calibrated test system according the accreditation requirements.

7.4 Calculation of Limit for Spurious at Antenna Terminals

Compliance with § 22.917, §24.238, §27.53 requires that any emission be attenuated below the transmitter power at least $43 + 10 \log P$ (P = transmitter power in Watts).

Limit for Spurious Emissions at Antenna Terminals: $L=P-A=-13\text{dBm}$



Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

8. Field Strength of Spurious Radiation

8.1 Test procedure

The test procedure for filed strength measurement is same as radiated power except for a notch filter or band pass filter is used to avoid the influence of fundamental to the pre-amplifier.

The measurements below 1GHz were performed with a measurement bandwidth of 100kHz, above 1GHz with a bandwidth of 1 MHz.

8.2 Test Results

The measurements of the spurious emission are at the upper, center and lower channel.

Model: HSGWx-xxxxx-xxxxx Series

Date:

(x=0~9, A~Z or blank)

Mode: --

Temperature: -- °C Engineer: --

Polarization: Horizontal

Humidity: -- %

Frequency (MHz)	Reading (dBm) Peak	Factor (dB) Corr.	Result (dBm)	Limit (dBm)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--

Polarization: Vertical

Frequency (MHz)	Reading (dBm) Peak	Factor (dB) Corr.	Result (dBm)	Limit (dBm)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--

- Note**
1. **Correction Factor = Antenna factor + Cable loss - Preamplifier**
 2. **The formula of measured value as: Test Result = Reading + Correction Factor**
 3. **Detector function in the form: PK = Peak, QP = Quasi Peak, AV = Average**
 4. **All not in the table noted test results are more than 20 dB below the relevant limits.**
 5. **See attached diagrams in appendix.**

8.3 Explanation of test result

Result Level = Reading Level + Corrected Factor

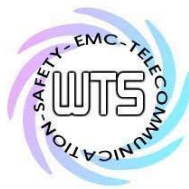
Corrected Factor = SG level – Received level-Cable loss + substitution antenna gain

8.4 Calculation of Limit for Field Strength of Spurious

Compliance with § 22.917, § 24.238, § 27.53 requires that any emission be attenuated below the transmitter power at least $43 + 10 \log P$ (P = transmitter power in Watts).

Limit for Spurious Emissions at Antenna Terminals: $L=P-A=-13\text{dBm}$

Test equipment: ETSTW-RE 004, ETSTW-RE 018, ETSTW-RE 030, ETSTW-RE 062,
ETSTW-RE 142, ETSTW-RE 152, ETSTW-GSM 004



Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1

8.5 Test result of band edge emissions

Test date: March 31, 2023-April 07, 2023

Temperature: 21.0 °C

Humidity: 58.9 %

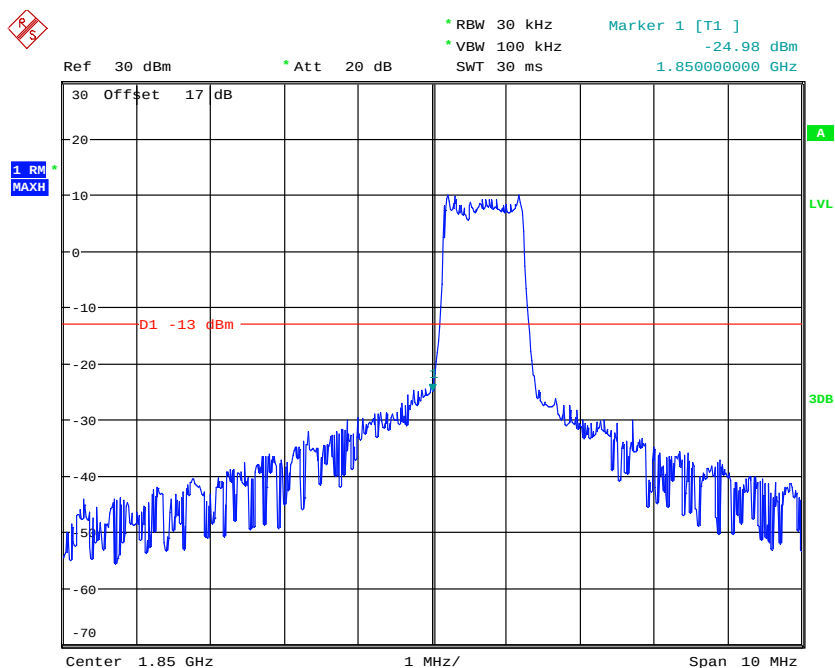
Tester: Rick

Band 2

QPSK

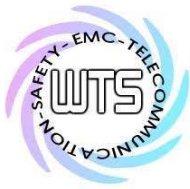
1.4 MHz

FRB



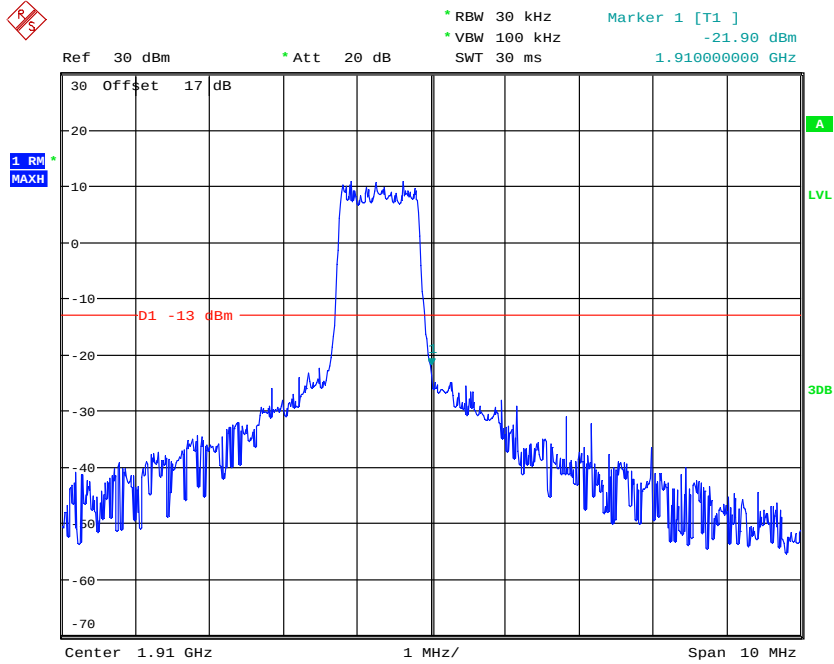
BANDEDGE BAND2 QPSK FRB 1.4MHZ CH18607

Date: 31.MAR.2023 19:54:54



Registration number: W6M22302-22480-C-247

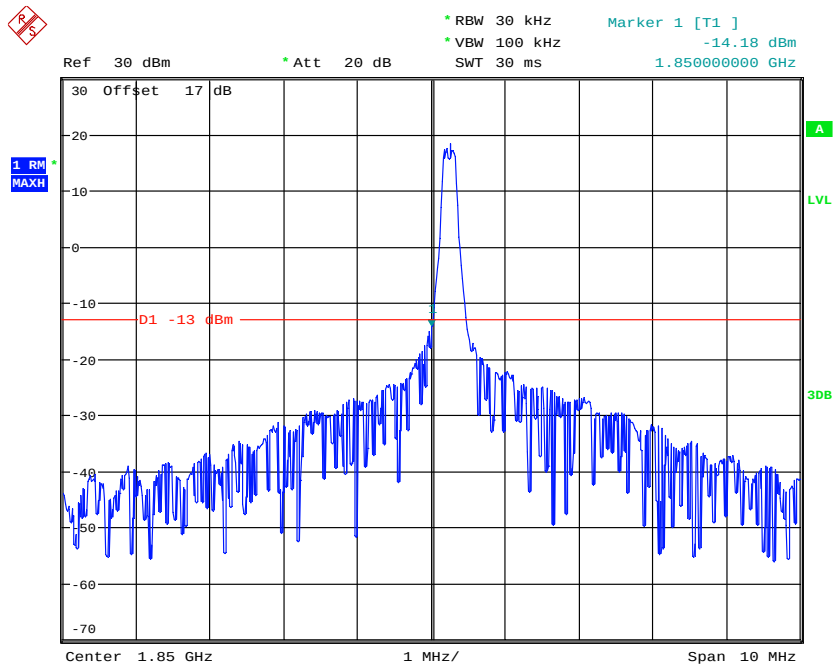
FCC ID: GX9HSGWCATM1



BANDEDGE BAND2 QPSK FRB 1.4MHZ CH19193

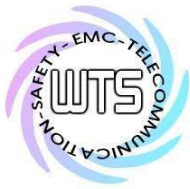
Date: 31.MAR.2023 19:56:34

1RB



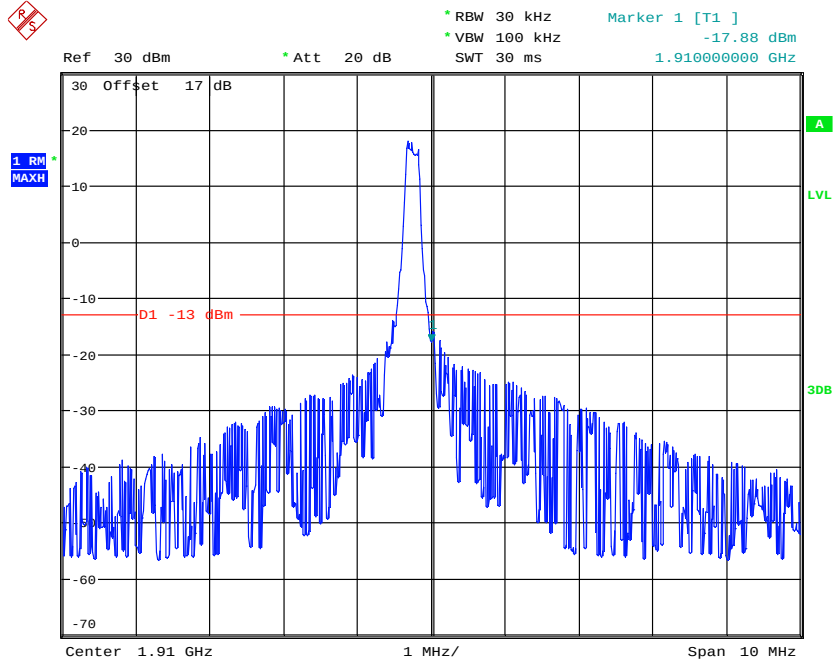
BANDEDGE BAND2 QPSK 1RB 1.4MHZ CH18607

Date: 31.MAR.2023 19:54:15



Registration number: W6M22302-22480-C-247

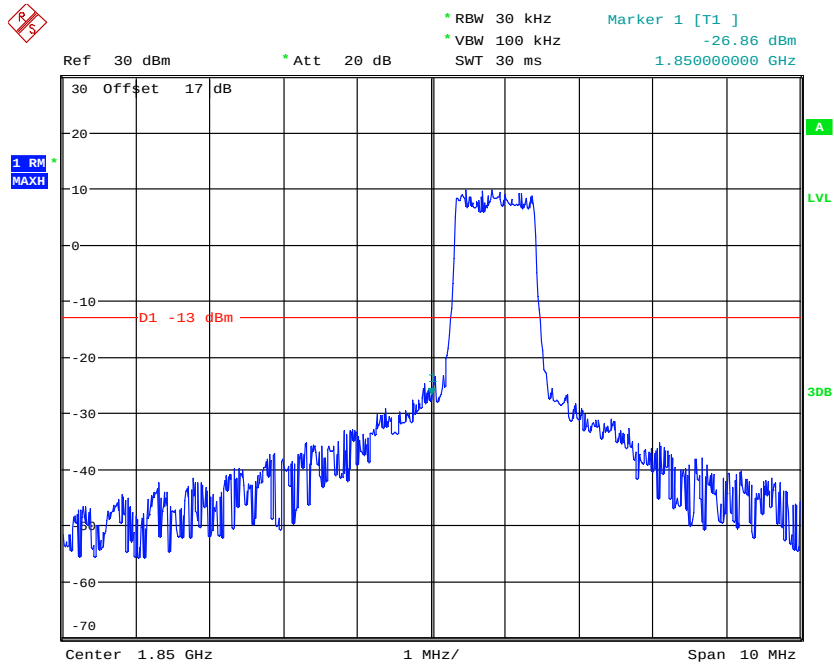
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BANDEDGE BAND2 QPSK 1RB 1.4MHZ CH19193

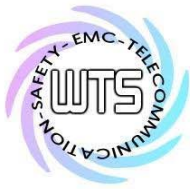
Date: 31.MAR.2023 19:57:36

3 MHz
FRB



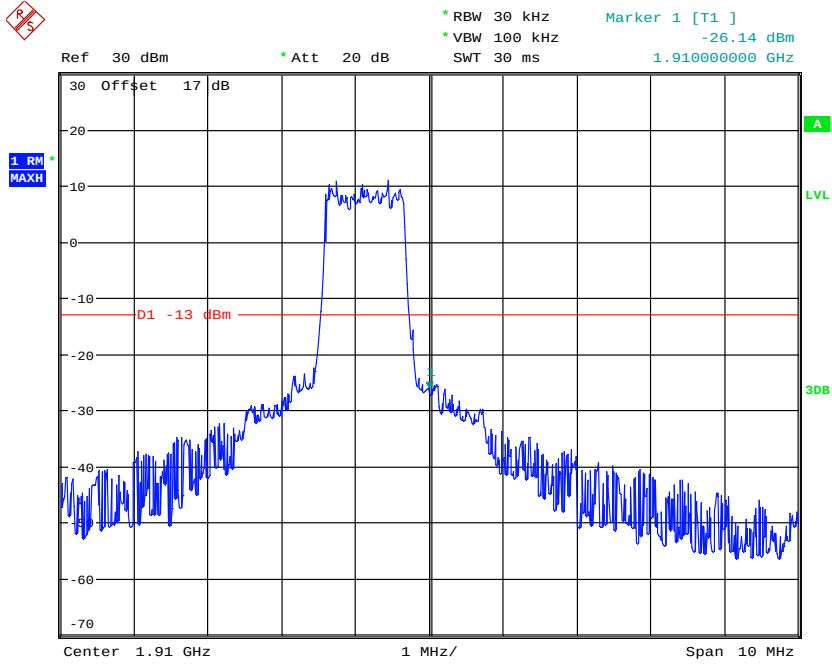
BANDEDGE BAND2 QPSK FRB 3MHZ CH18615

Date: 31.MAR.2023 20:09:35



Registration number: W6M22302-22480-C-247

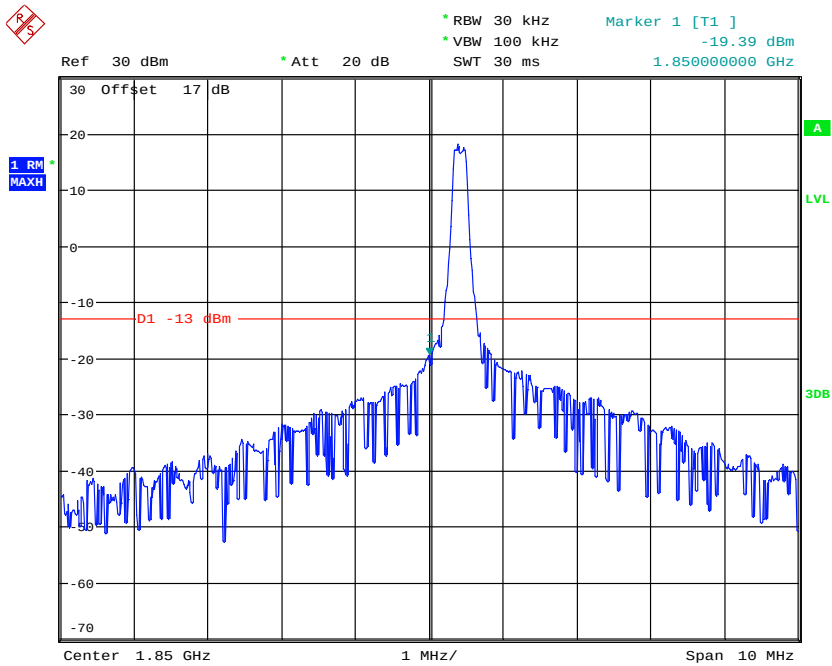
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BANDEDGE BAND2 QPSK FRB 3MHZ CH19185

Date: 31.MAR.2023 20:11:31

1RB

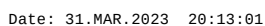
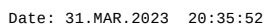


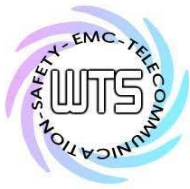
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Date: 31.MAR.2023 20:09:03



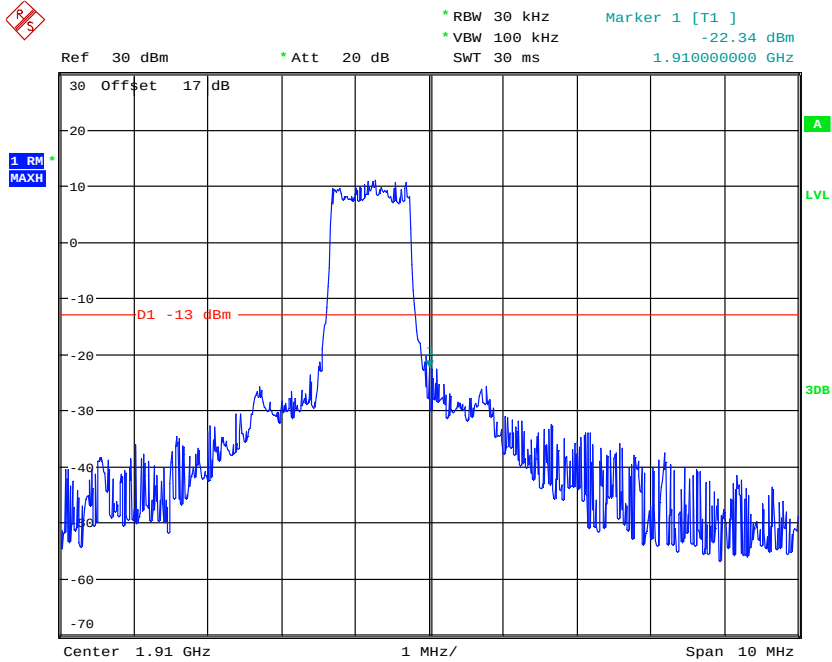
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5 MHz
FRB



Registration number: W6M22302-22480-C-247

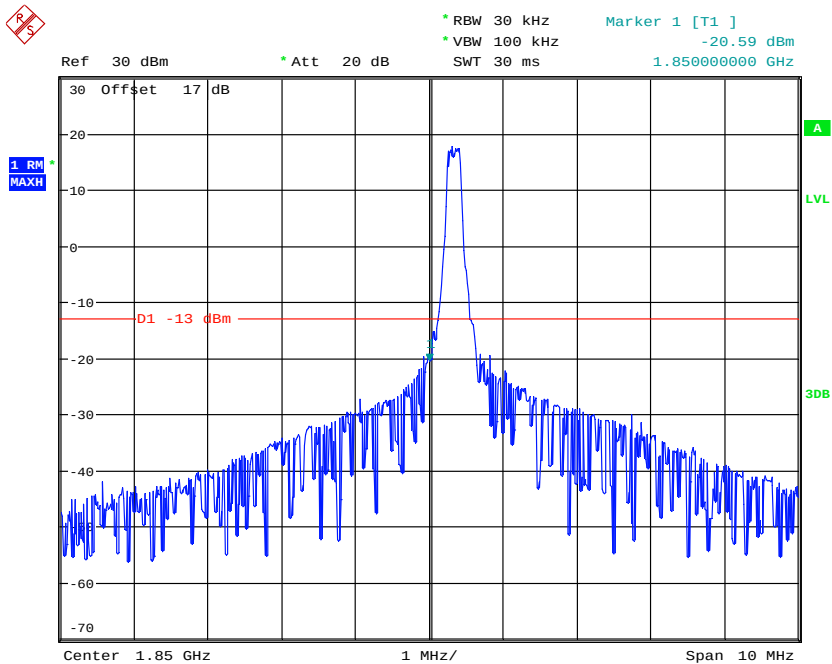
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BANDEDGE BAND2 QPSK FRB 5MHZ CH19175

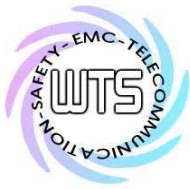
Date: 31.MAR.2023 20:33:41

1RB



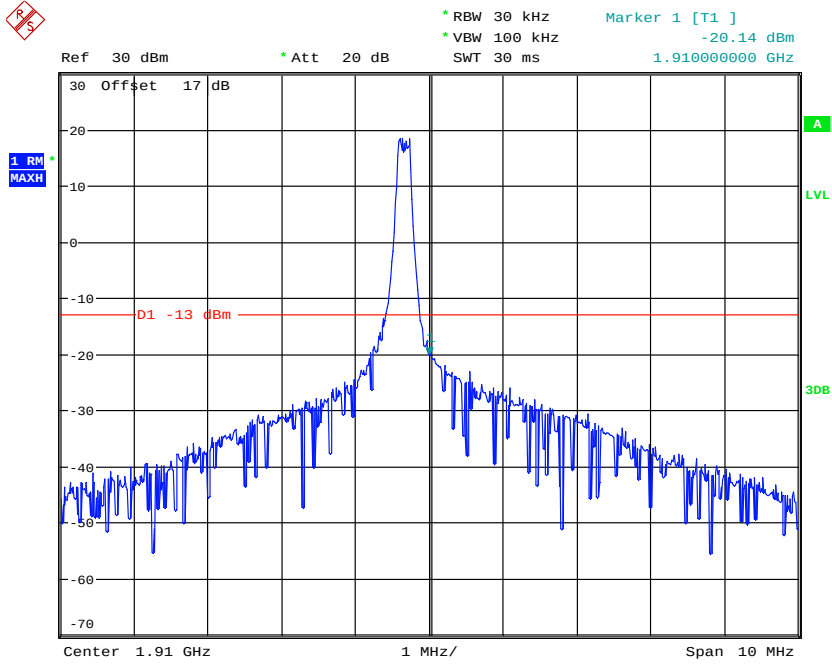
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Date: 31.MAR.2023 20:36:46

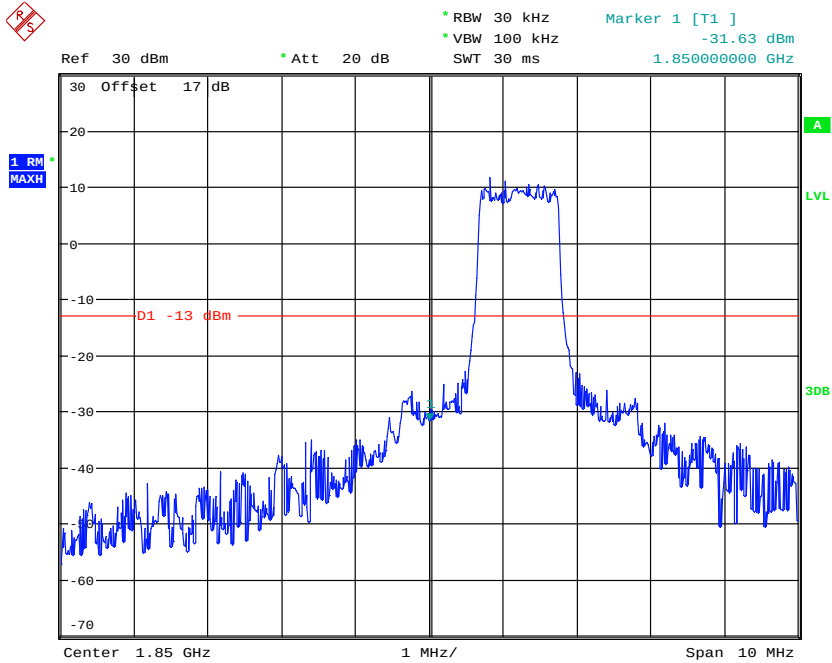


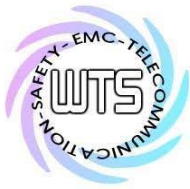
Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1



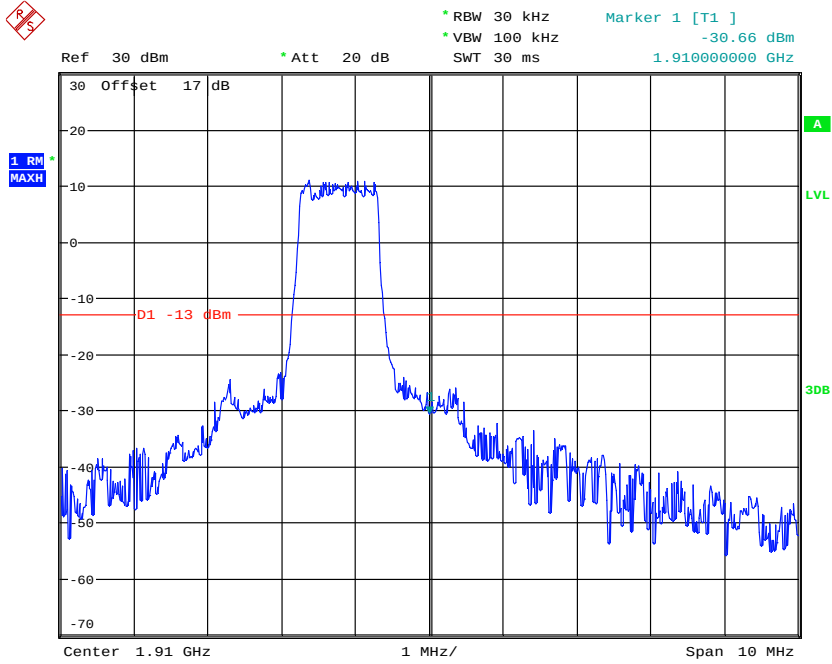
10 MHz
FRB





Registration number: W6M22302-22480-C-247

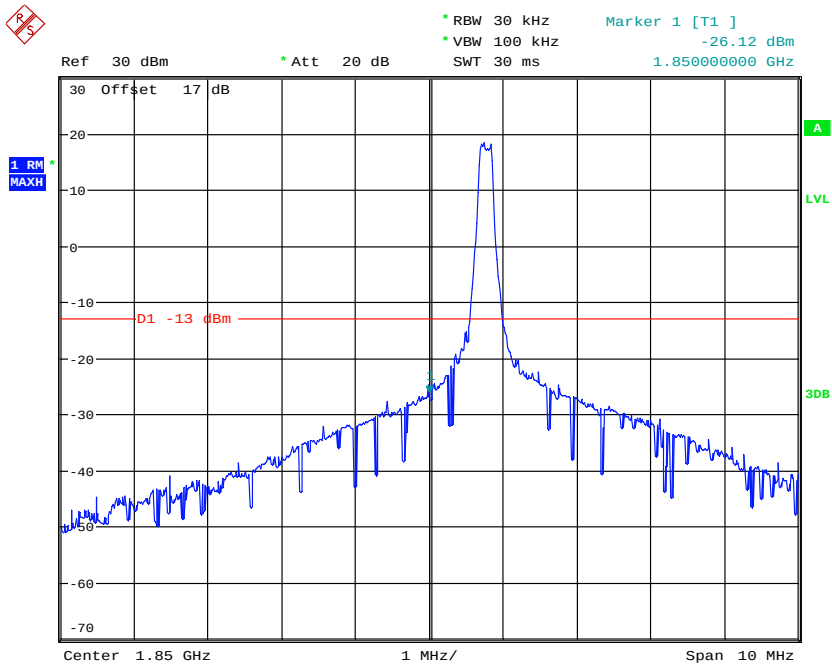
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BANDEDGE BAND2 QPSK FRB 10MHZ CH19150

Date: 31.MAR.2023 21:11:02

1RB

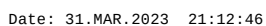


BANDEDGE BAND2 QPSK 1RB 10MHZ CH18650

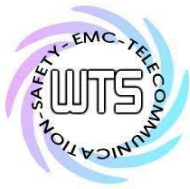
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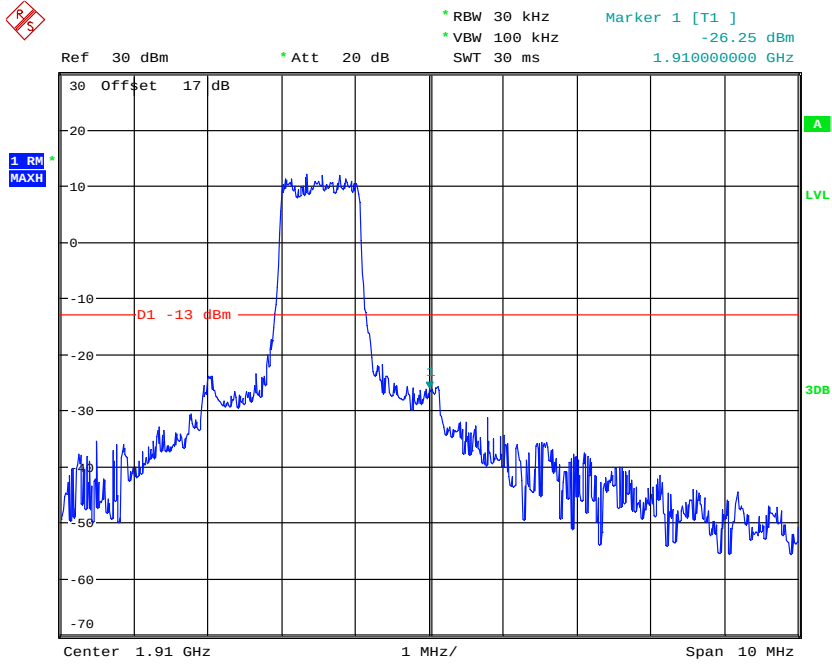


Date: 31.MAR.2023 21:23:01



Registration number: W6M22302-22480-C-247

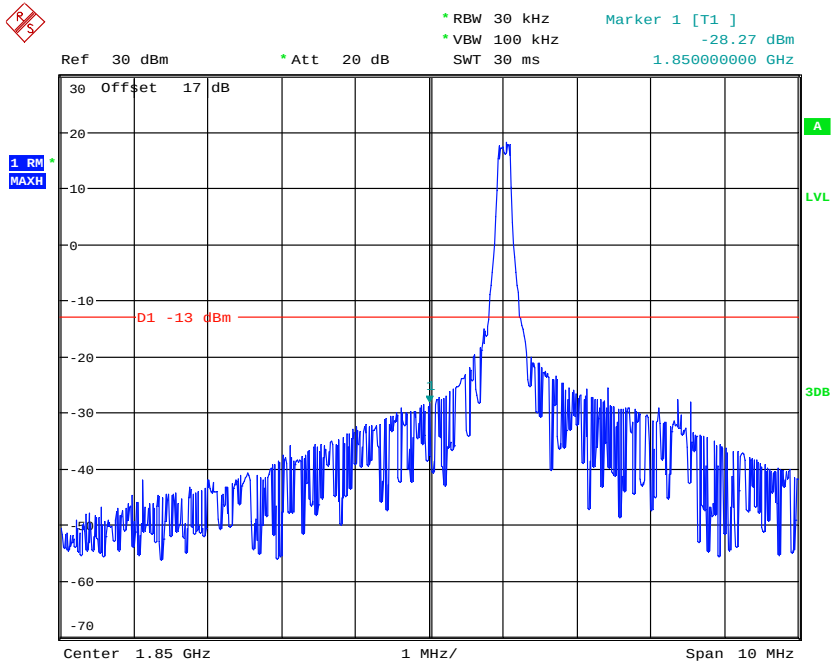
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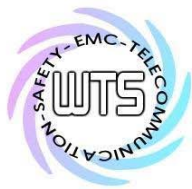
Date: 31.MAR.2023 21:20:04

1RB



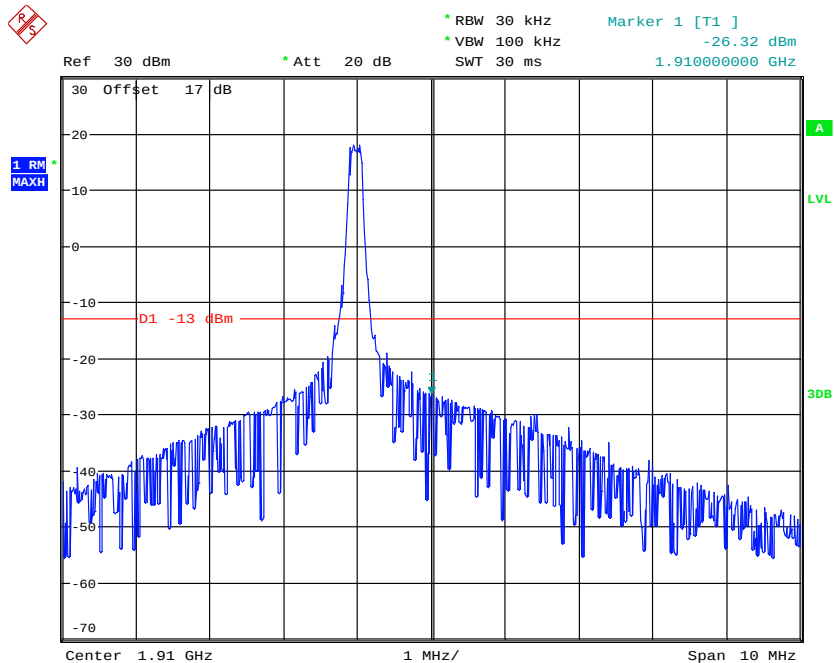
BANDEDGE BAND2 QPSK 1RB 15MHZ CH18675

Date: 31.MAR.2023 21:23:22



Registration number: W6M22302-22480-C-247

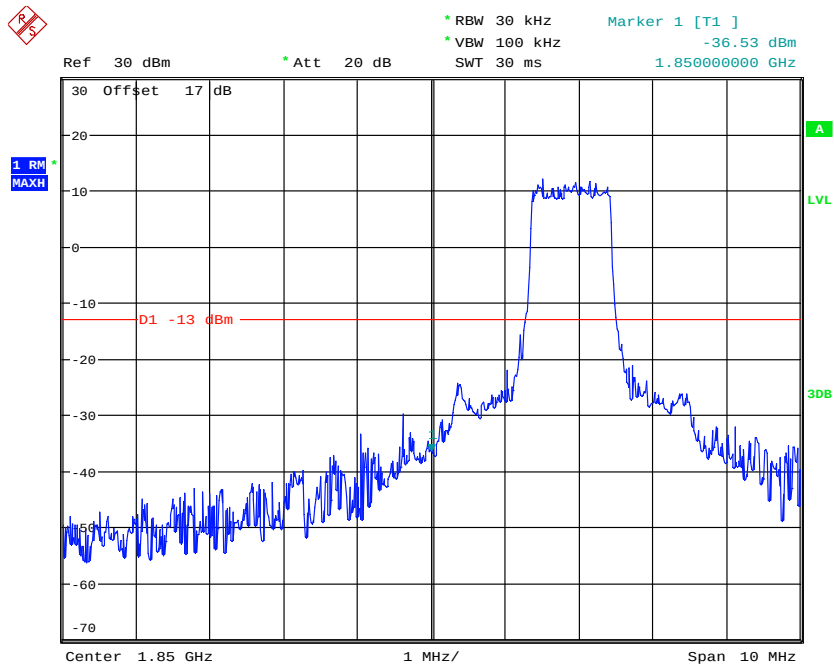
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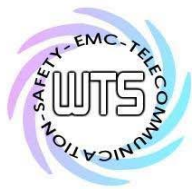
Date: 31.MAR.2023 21:19:26

20 MHz
FRB



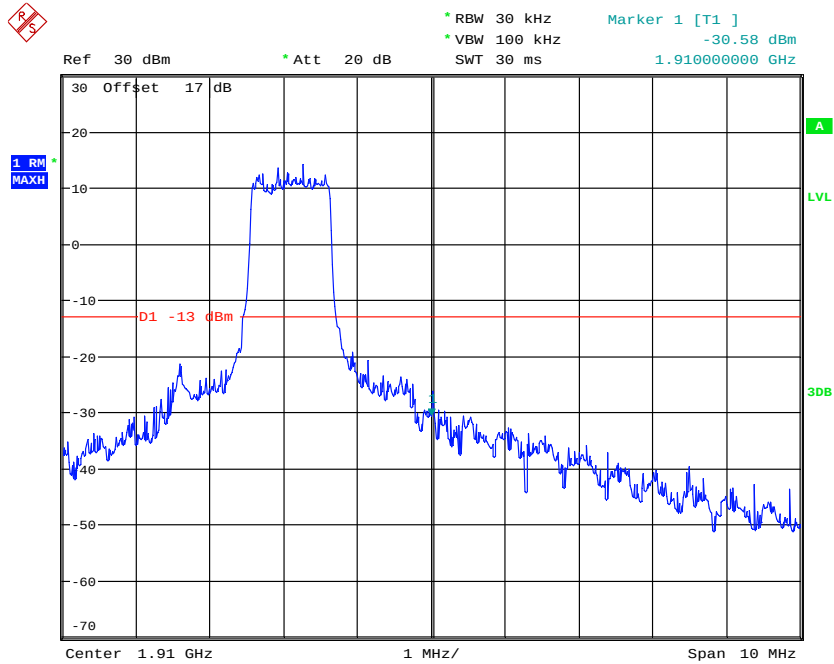
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Date: 31.MAR.2023 21:38:28



Registration number: W6M22302-22480-C-247

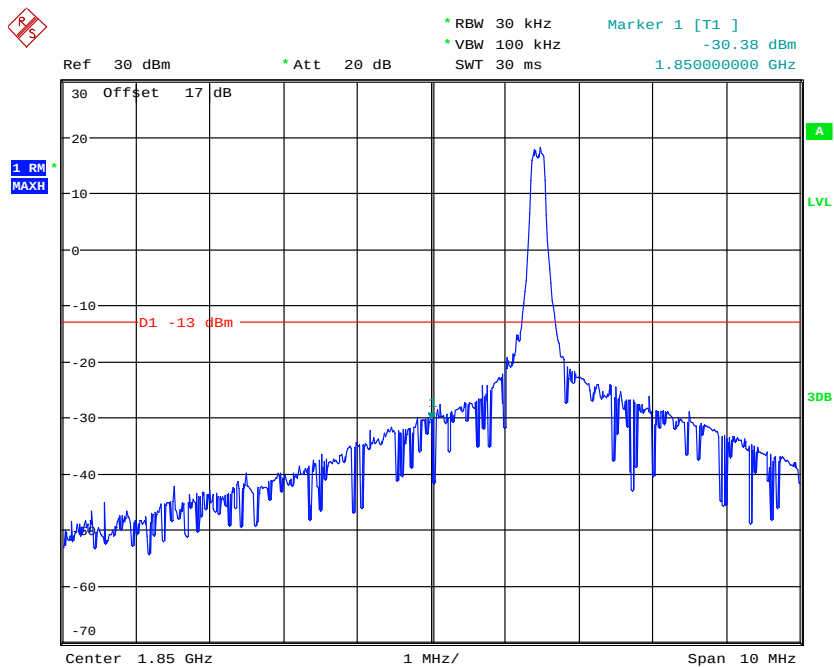
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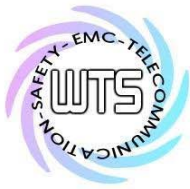
Date: 31.MAR.2023 21:40:51

1RB



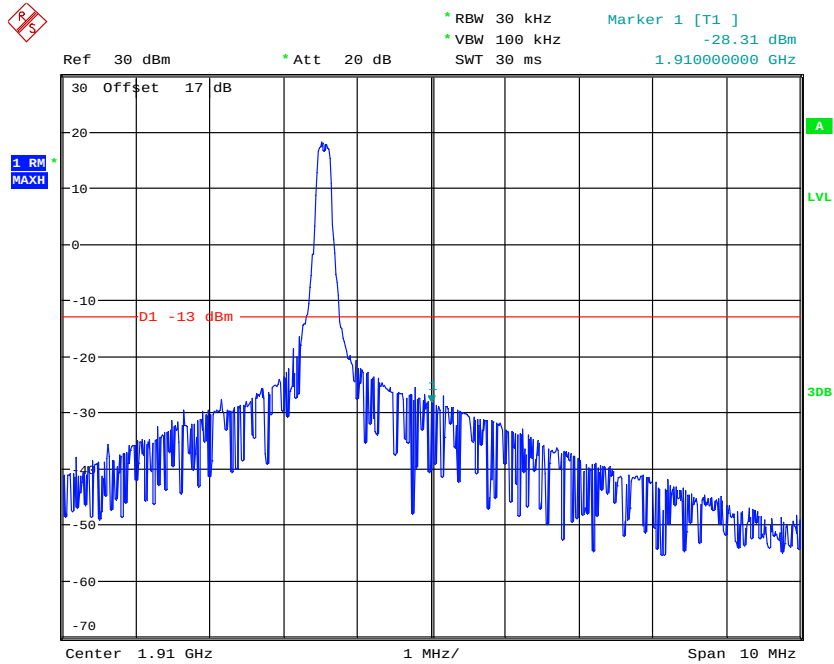
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Date: 31.MAR.2023 21:38:00



Registration number: W6M22302-22480-C-247

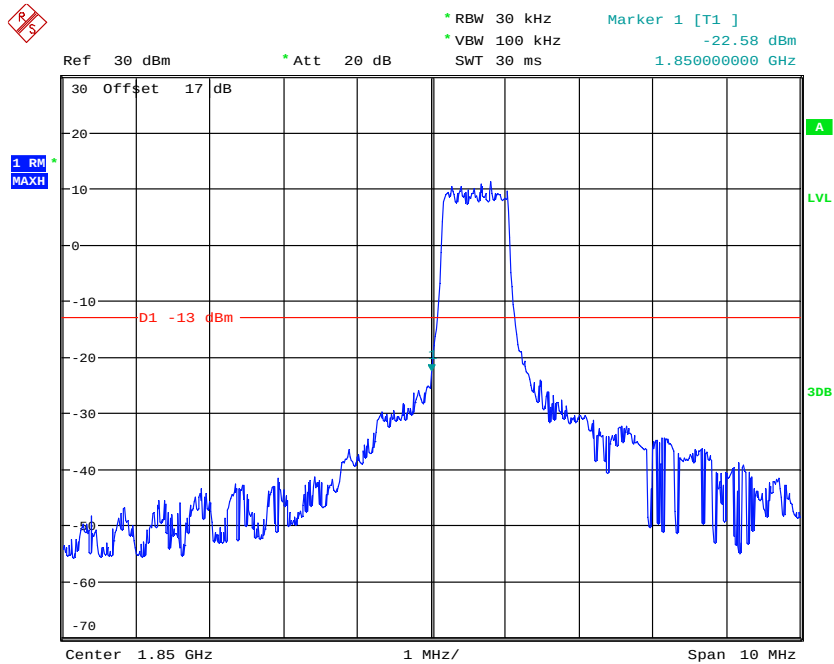
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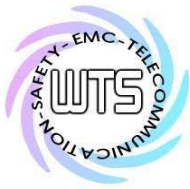
Date: 31.MAR.2023 21:41:39

16QAM
1.4 MHz
FRB



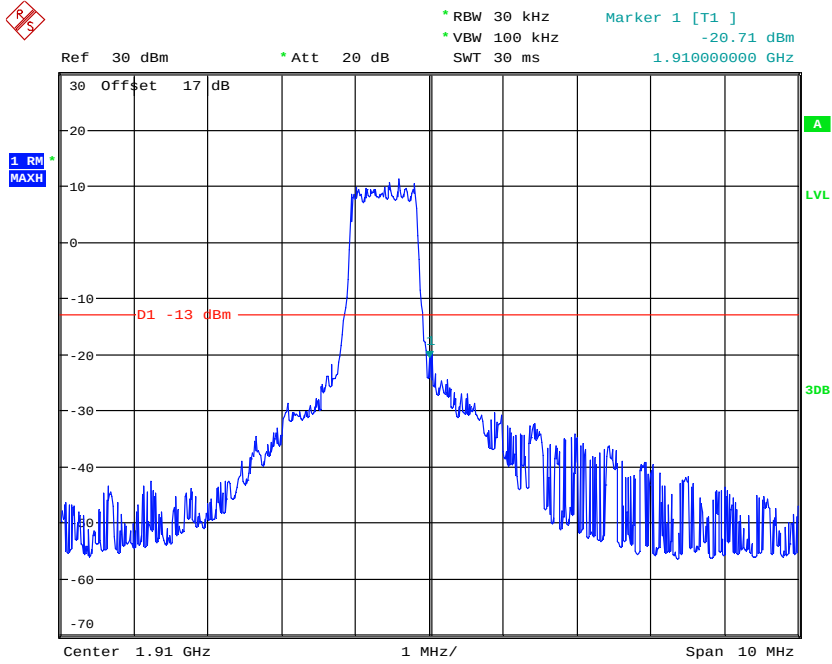
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Date: 31.MAR.2023 19:52:46



Registration number: W6M22302-22480-C-247

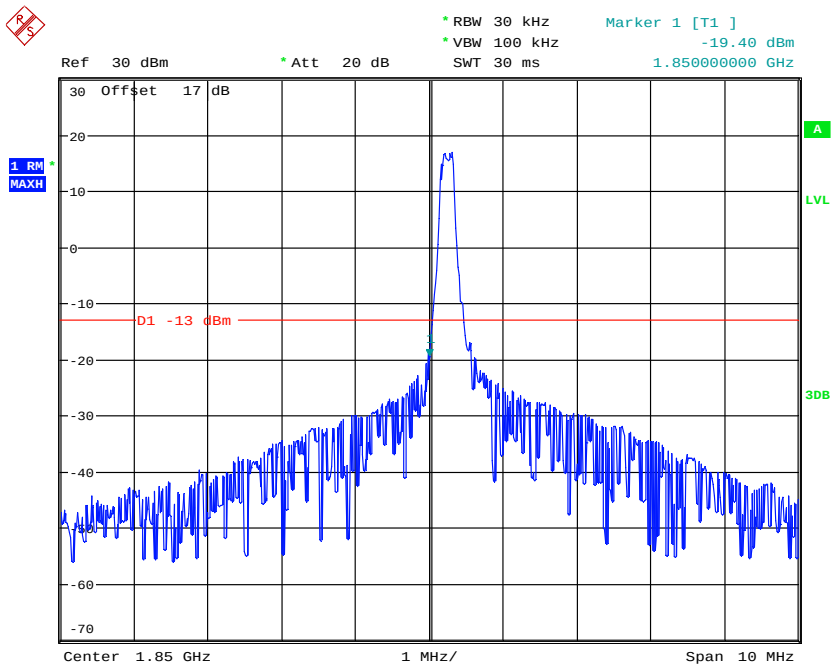
FCC ID: GX9HSGWCATM1



BANDEDGE BAND2 16QAM FRB 1.4MHZ CH19193

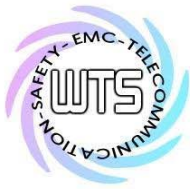
Date: 31.MAR.2023 19:59:11

1RB



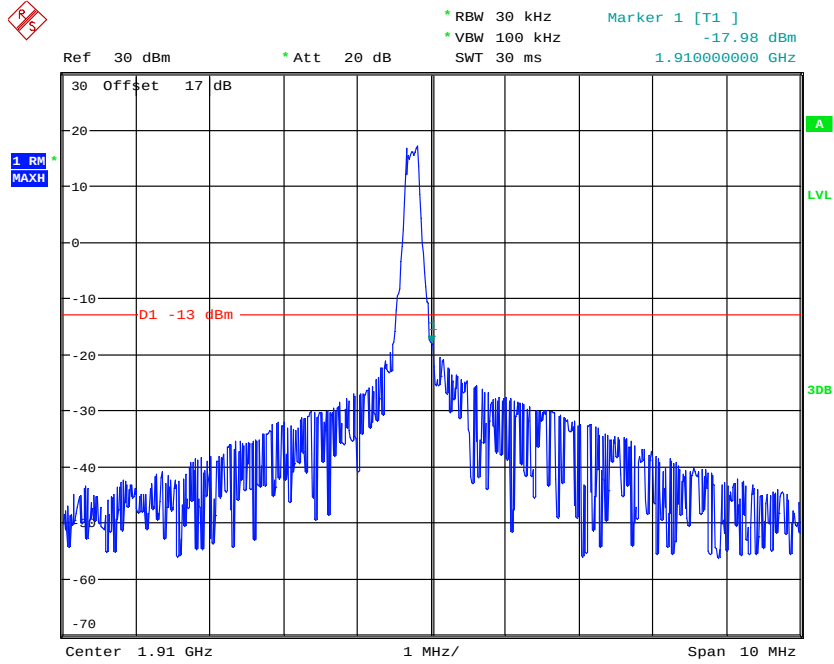
BANDEDGE BAND2 16QAM 1RB 1.4MHZ CH18607

Date: 31.MAR.2023 19:53:35



Registration number: W6M22302-22480-C-247

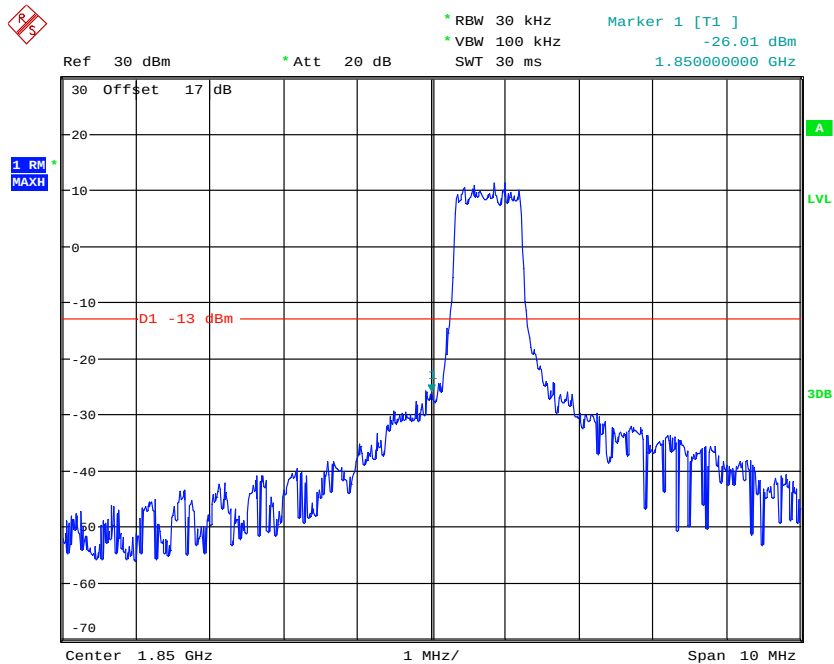
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BANDEDGE BAND2 16QAM 1RB 1.4MHZ CH19193

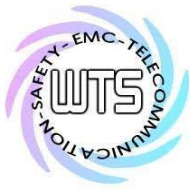
Date: 31.MAR.2023 19:58:35

3 MHz
FRB



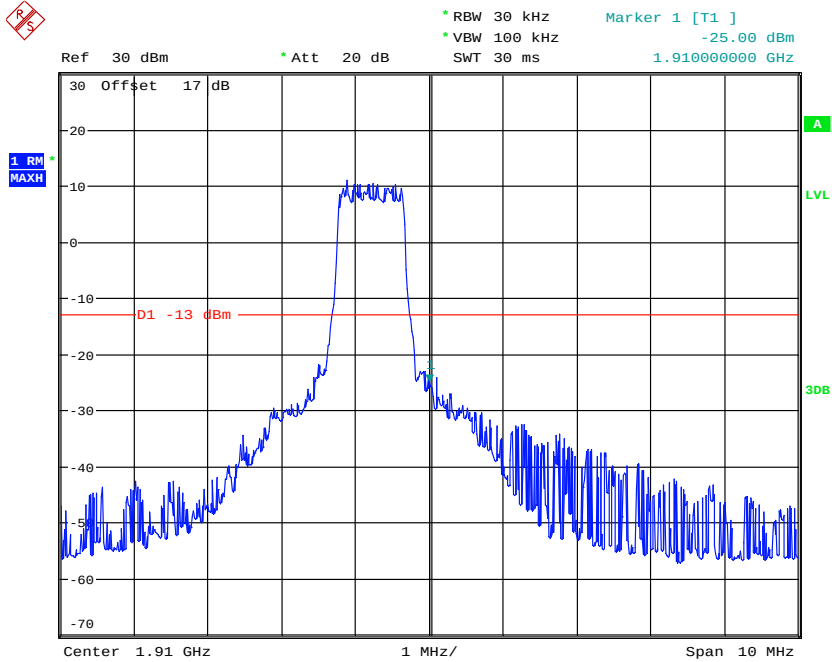
BANDEDGE BAND2 16QAM FRB 3MHZ CH18615

Date: 31.MAR.2023 20:07:36



Registration number: W6M22302-22480-C-247

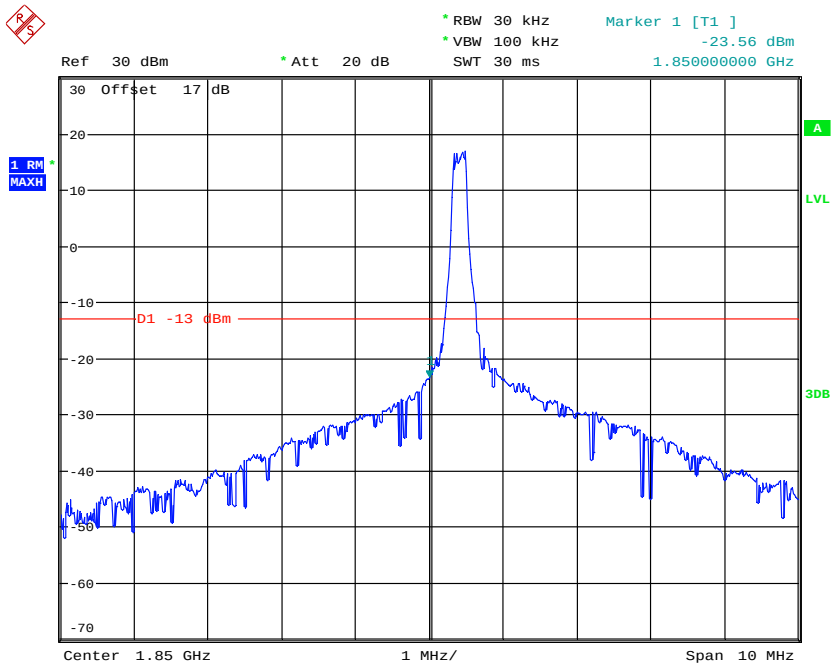
FCC ID: GX9HSGWCATM1



BANDEDGE BAND2 16QAM FRB 3MHZ CH19185

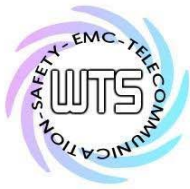
Date: 31.MAR.2023 20:15:57

1RB



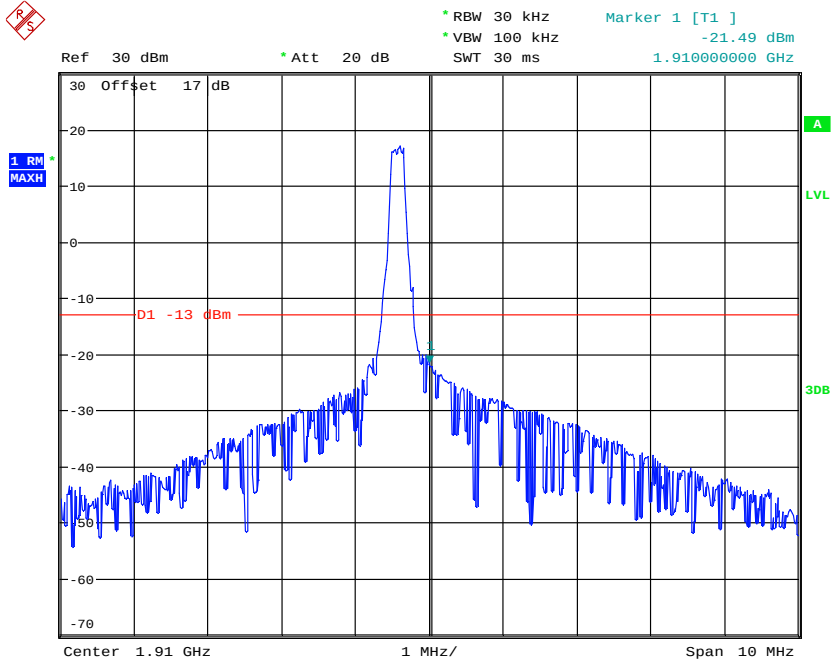
BANDEDGE BAND2 16QAM 1RB 3MHZ CH18615

Date: 31.MAR.2023 20:08:22



Registration number: W6M22302-22480-C-247

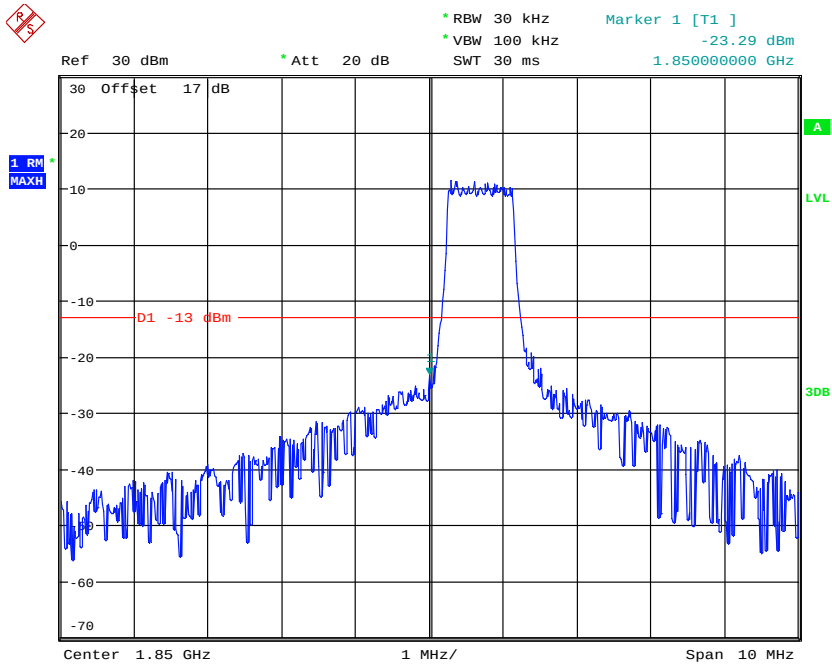
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BANDEDGE BAND2 16QAM 1RB 3MHZ CH19185

Date: 31.MAR.2023 20:14:48

5 MHz
FRB

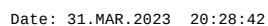


BANDEDGE BAND2 16QAM FRB 5MHZ CH18625

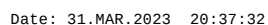
Date: 31.MAR.2023 20:38:05

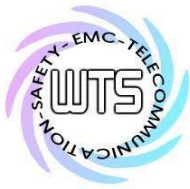


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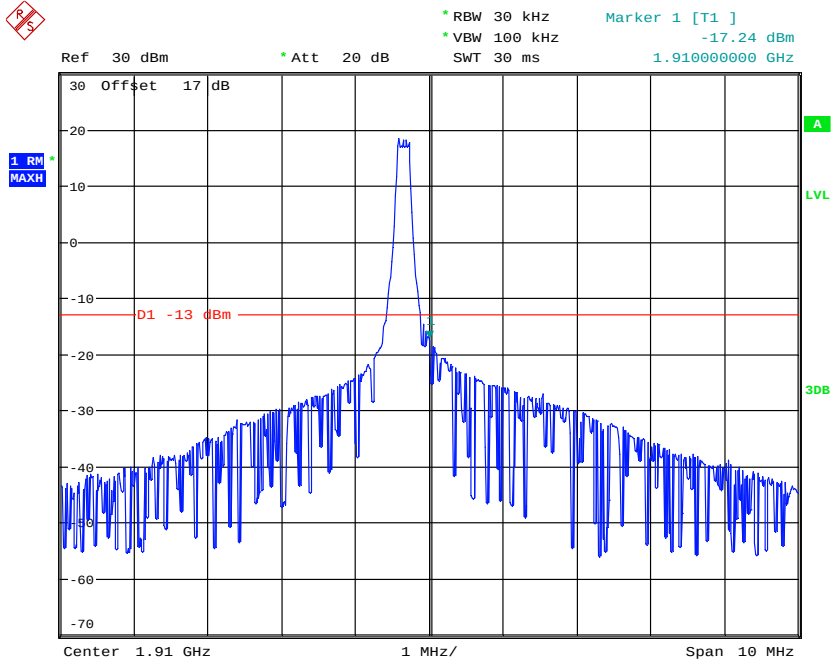
1RB





Registration number: W6M22302-22480-C-247

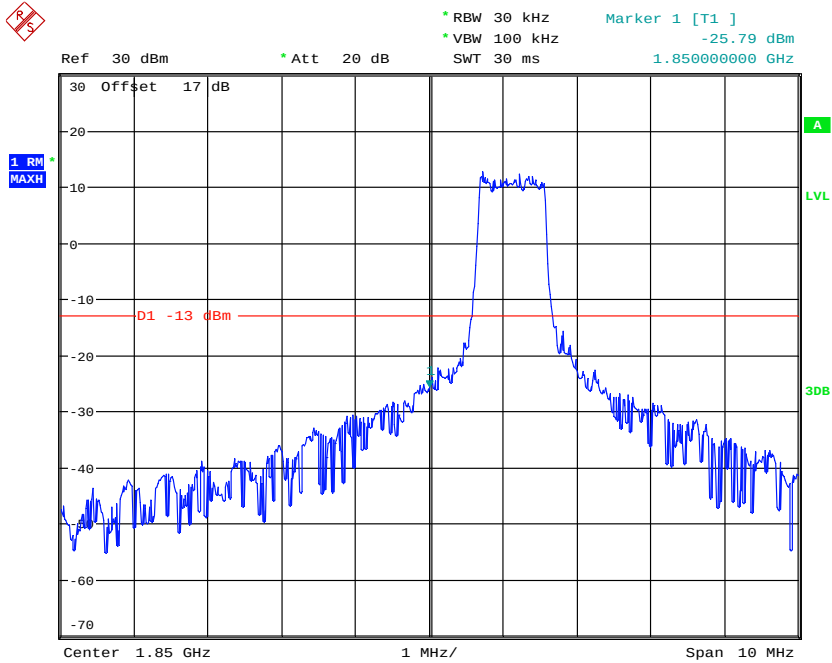
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BANDEDGE BAND2 16QAM 1RB 5MHZ CH19175

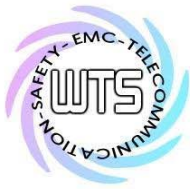
Date: 31.MAR.2023 20:30:15

10 MHz
FRB



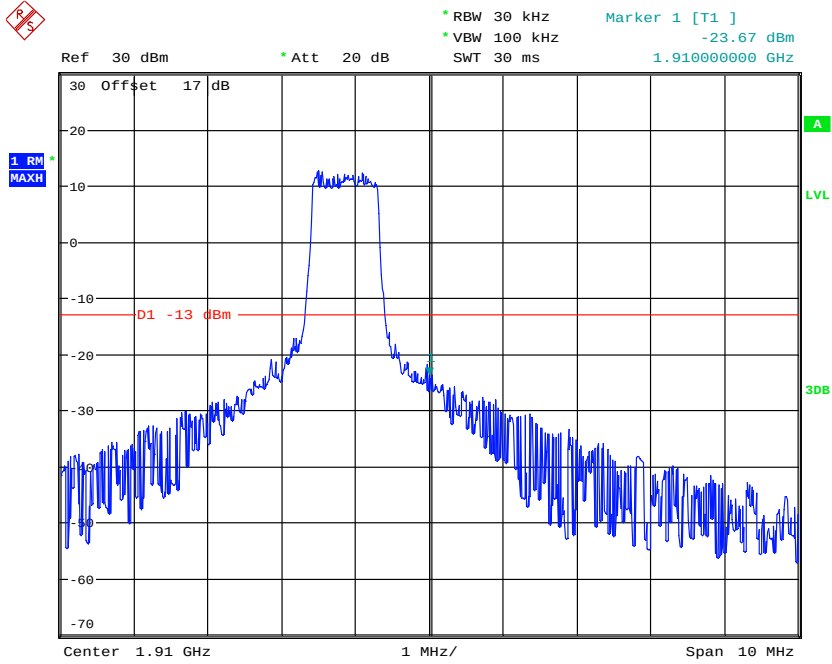
BANDEDGE BAND2 16QAM FRB 10MHZ CH18650

Date: 31.MAR.2023 21:07:20



Registration number: W6M22302-22480-C-247

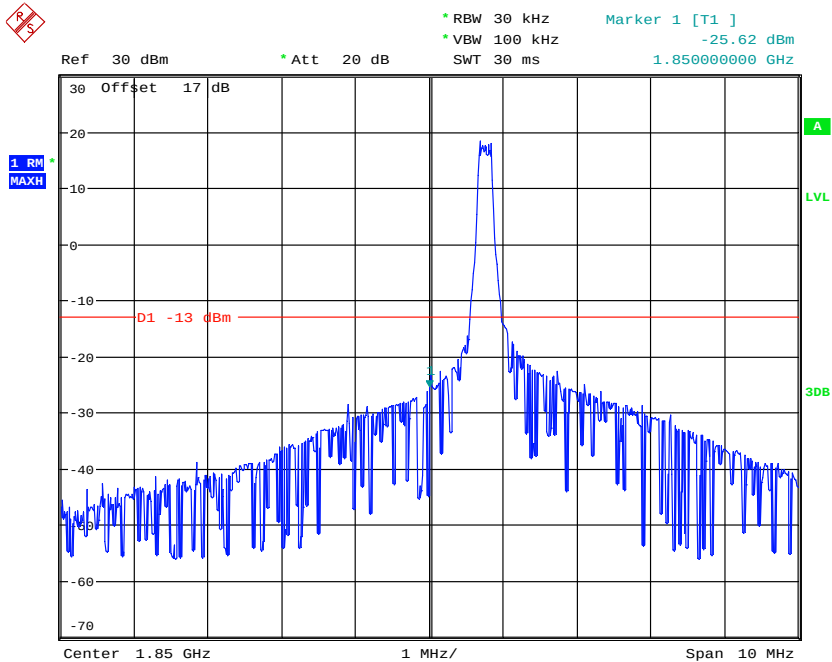
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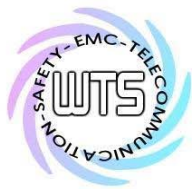
Date: 31.MAR.2023 21:13:52

1RB



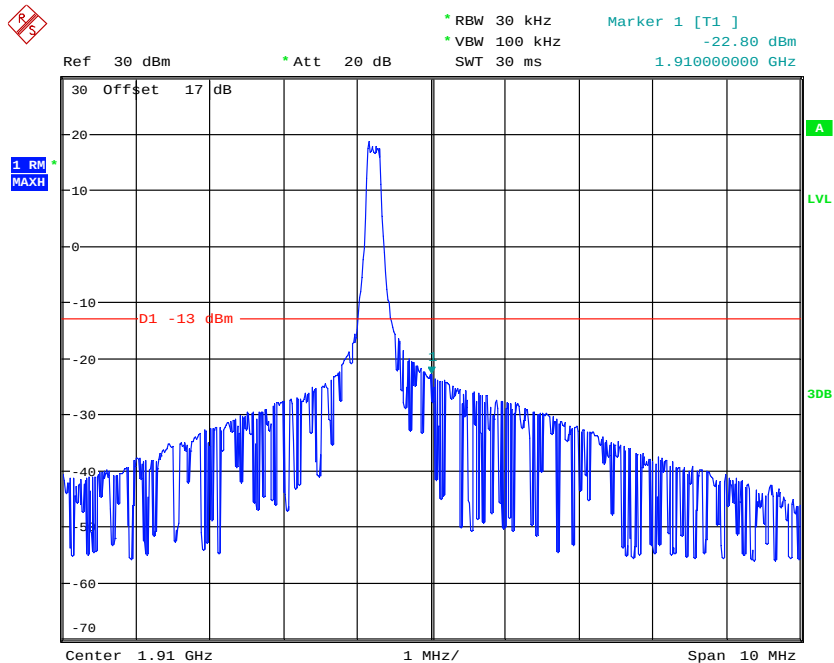
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Date: 31.MAR.2023 21:08:04



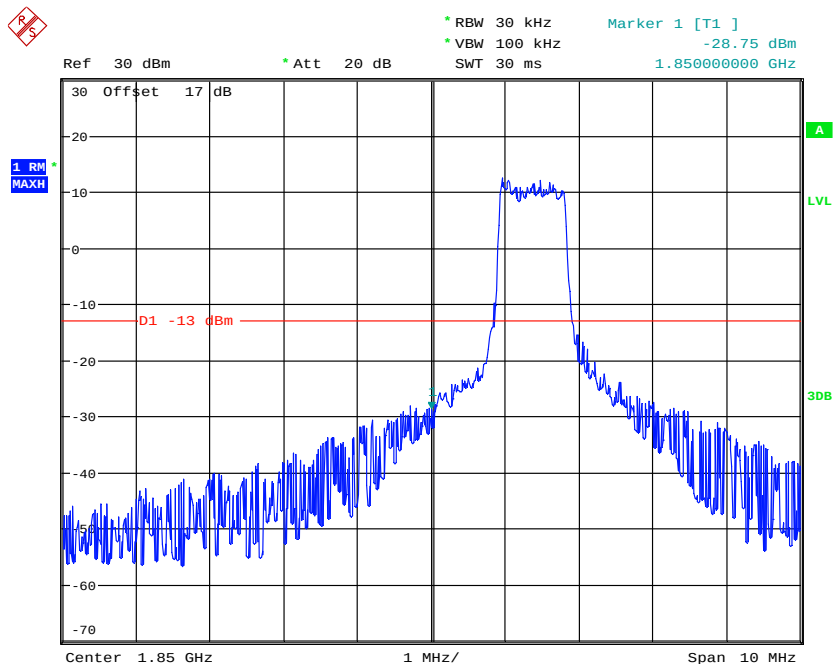
Registration number: W6M22302-22480-C-247

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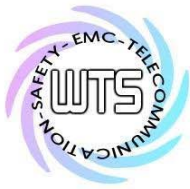


Date: 31.MAR.2023 21:13:20

15 MHz
FRB

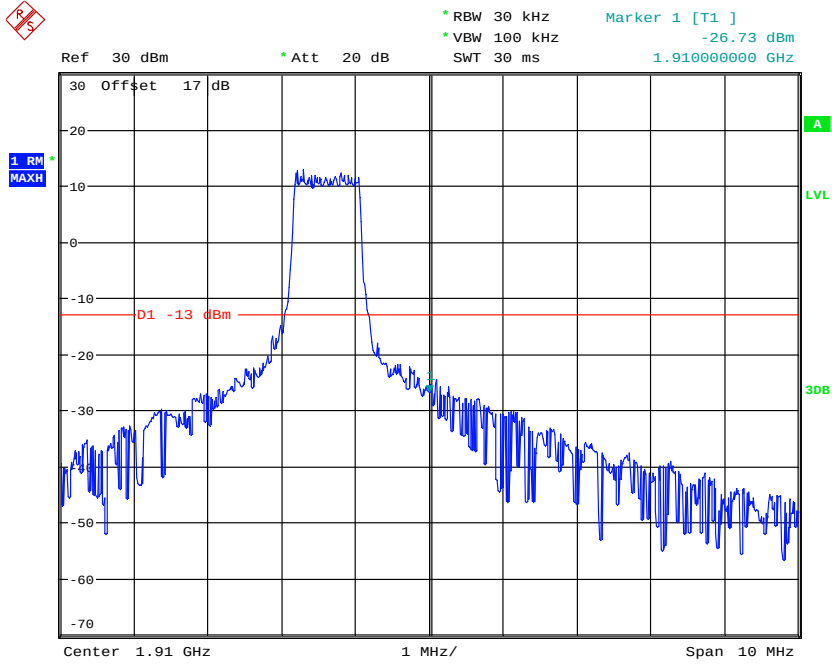


Date: 31.MAR.2023 21:29:06



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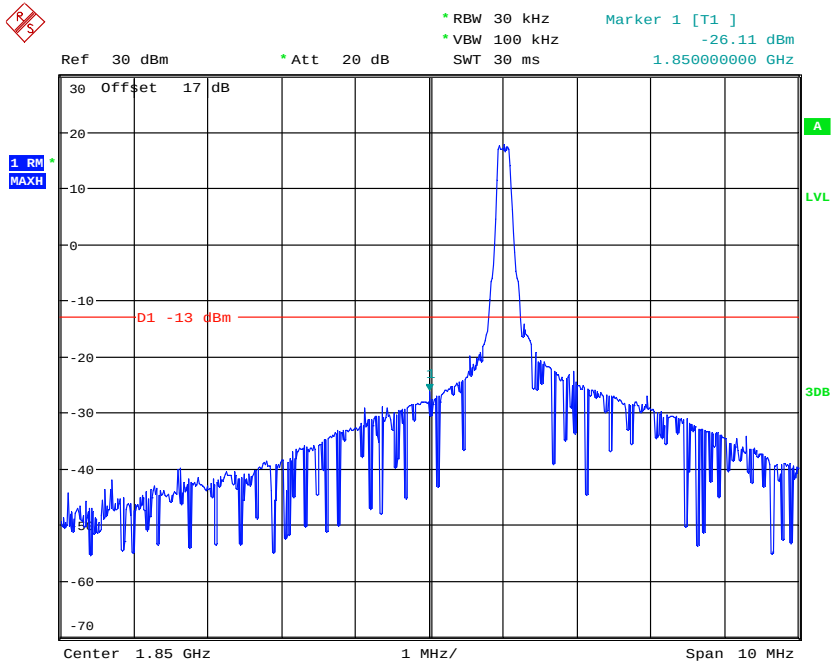
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BANDEDGE BAND2 16QAM FRB 15MHZ CH19125

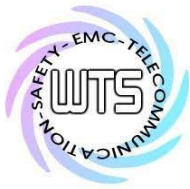
Date: 31.MAR.2023 21:17:50

1RB



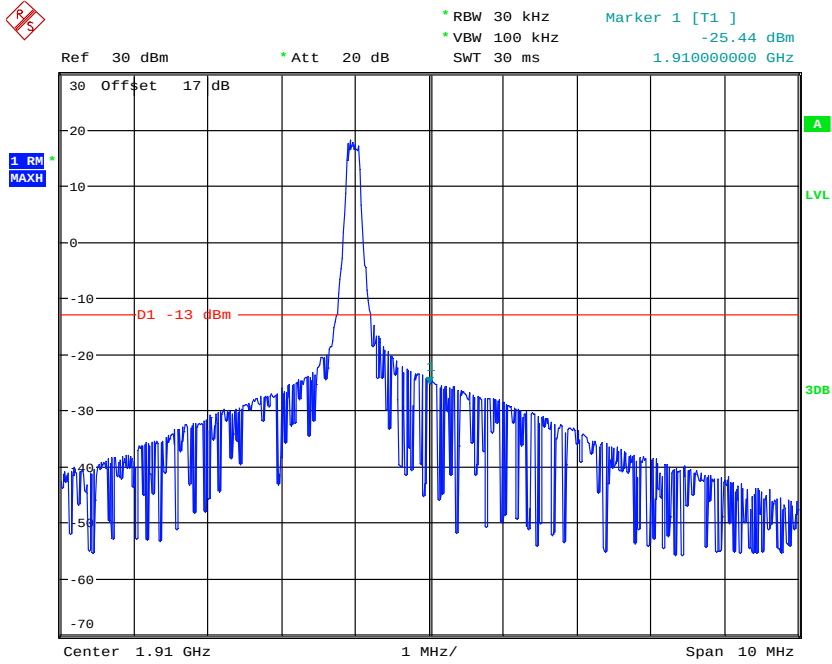
BANDEDGE BAND2 16QAM 1RB 15MHZ CH18675

Date: 31.MAR.2023 21:26:05



Registration number: W6M22302-22480-C-247

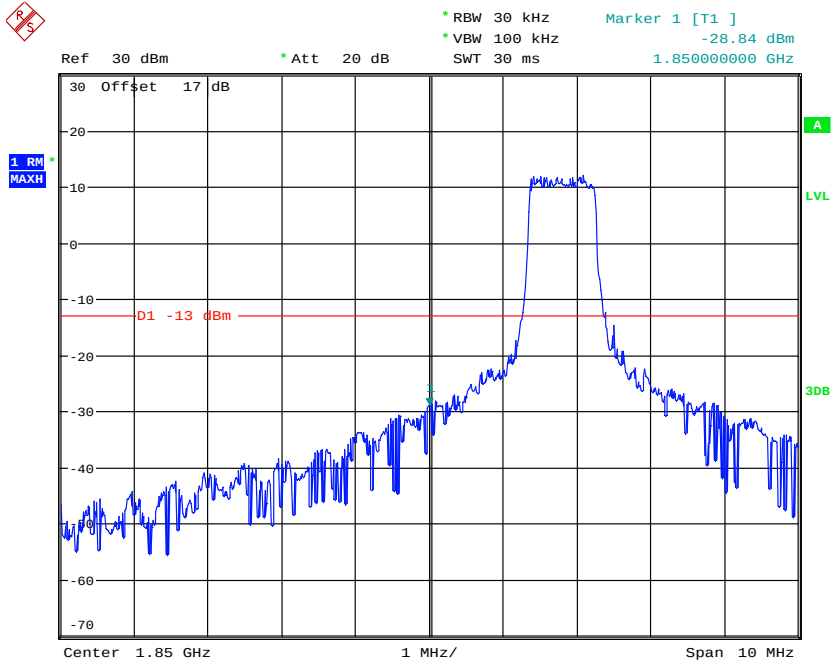
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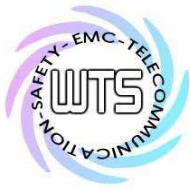
Date: 31.MAR.2023 21:18:34

20 MHz
FRB



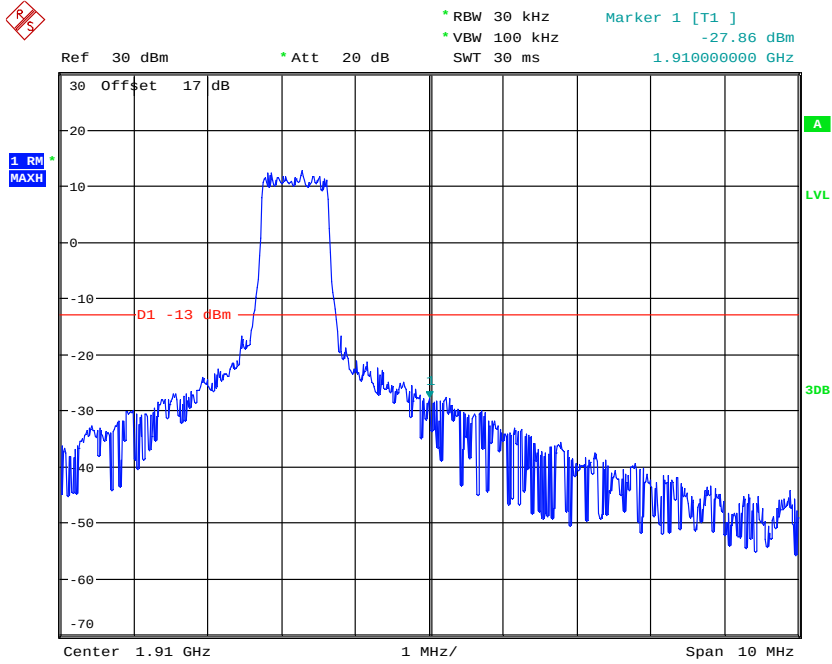
BANDEDGE BAND2 16QAM FRB 20MHZ CH18700

Date: 31.MAR.2023 21:36:17



Registration number: W6M22302-22480-C-247

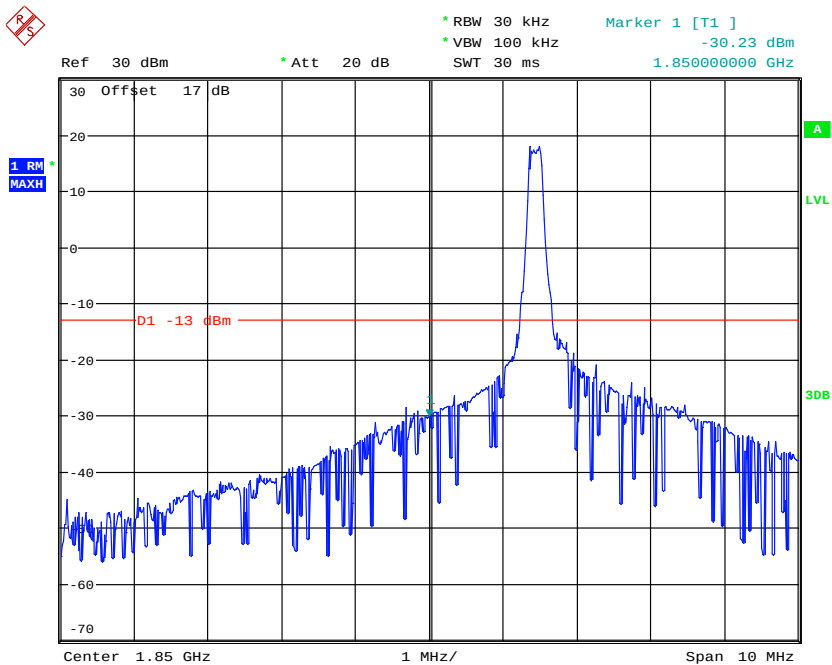
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BANDEDGE BAND2 16QAM FRB 20MHZ CH19100

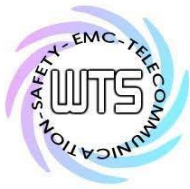
Date: 31.MAR.2023 21:43:13

1RB



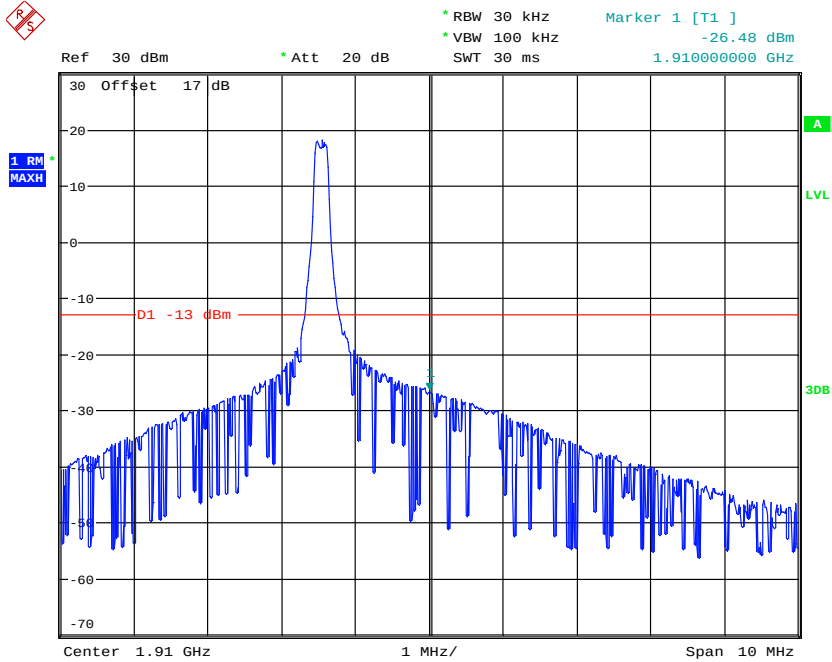
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Date: 31.MAR.2023 21:36:55



Registration number: W6M22302-22480-C-247

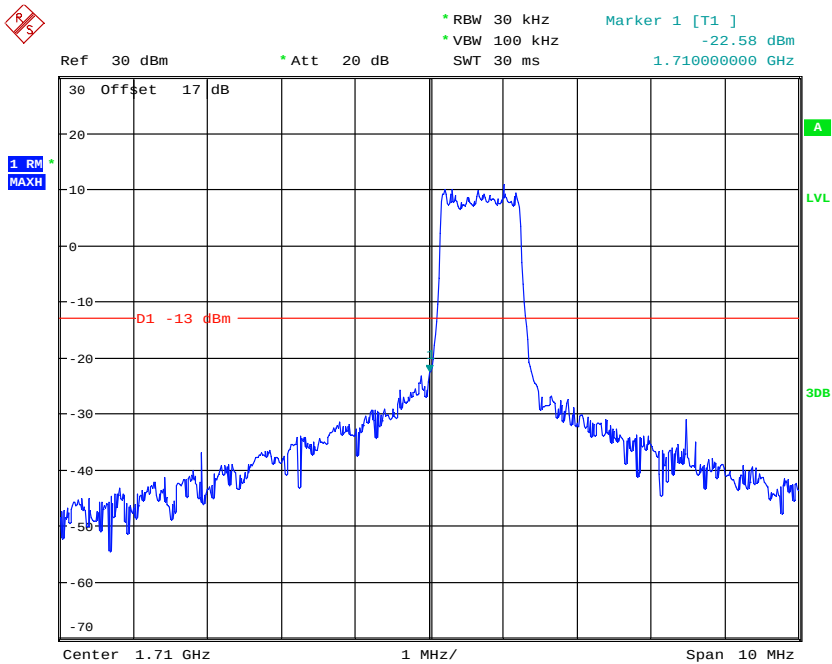
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BANDEDGE BAND2 16QAM 1RB 20MHz CH19100

Date: 31.MAR.2023 21:42:28

Band 4
QPSK
1.4 MHz
FRB

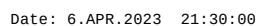


BANDEDGE BAND4 QPSK FRB 1.4MHz CH19957

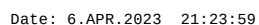
Date: 6.APR.2023 21:23:24

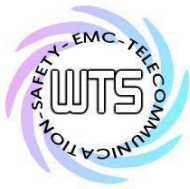


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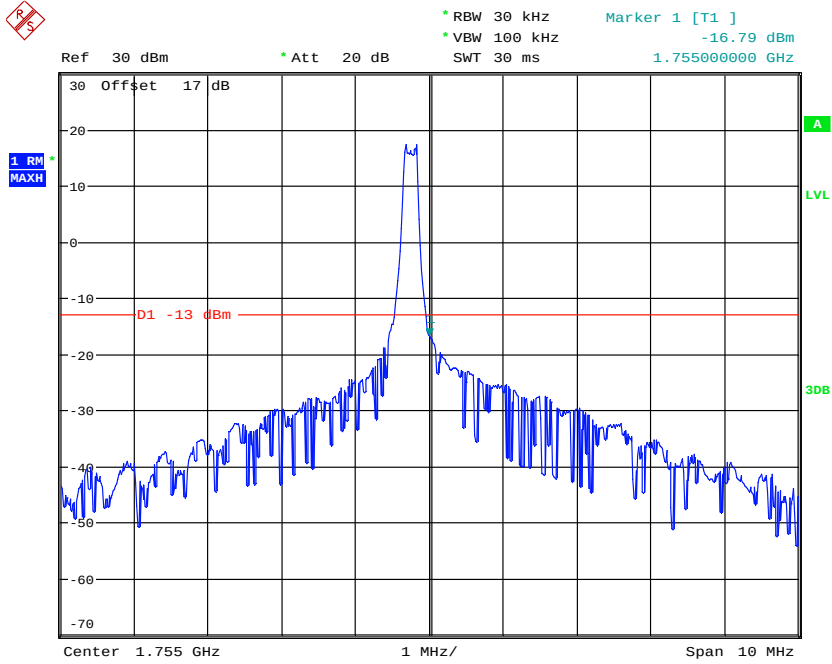
1RB





Registration number: W6M22302-22480-C-247

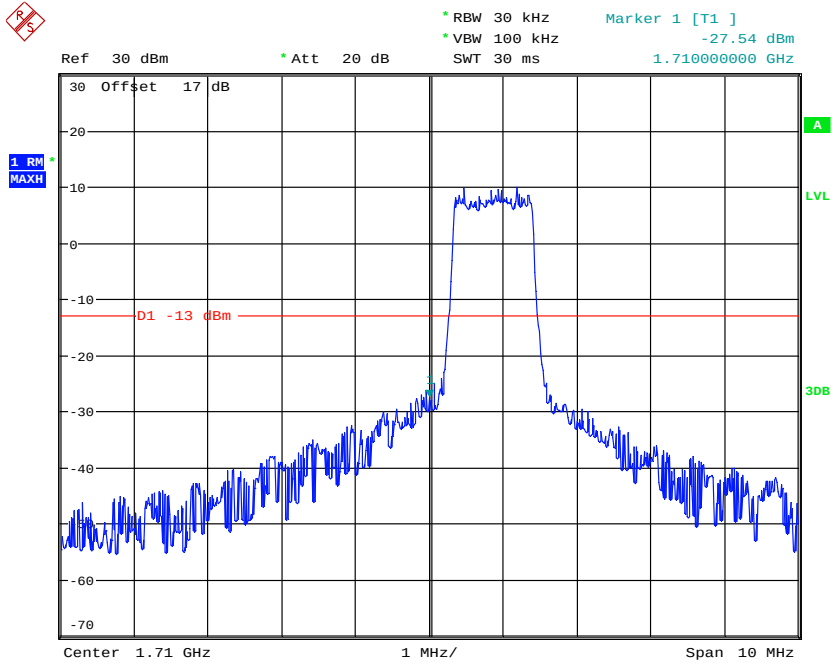
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BANDEDGE BAND4 QPSK 1RB 1.4MHz CH20393

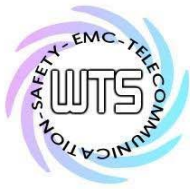
Date: 6.APR.2023 21:29:23

3 MHz
FRB



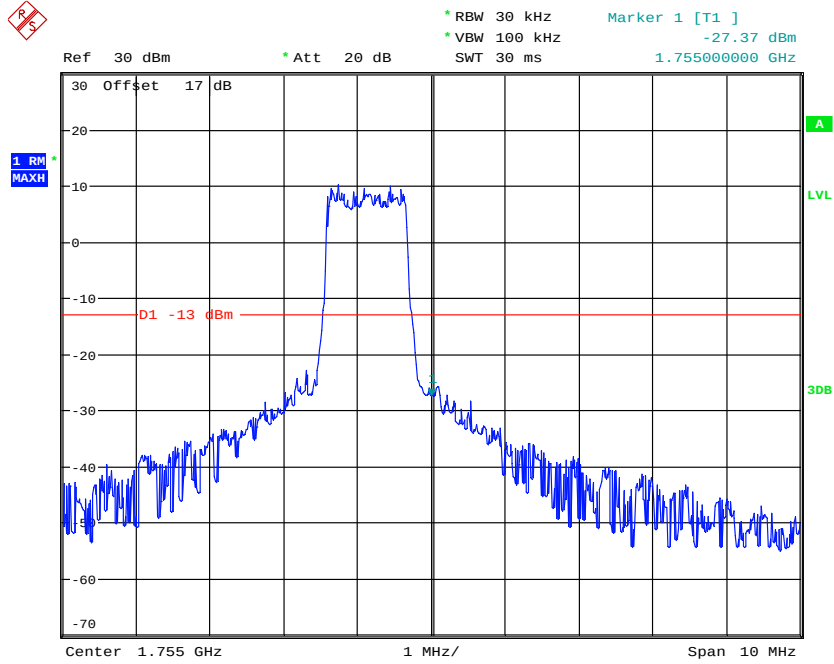
BANDEDGE BAND4 QPSK FRB 3MHz CH19965

Date: 6.APR.2023 21:41:58



Registration number: W6M22302-22480-C-247

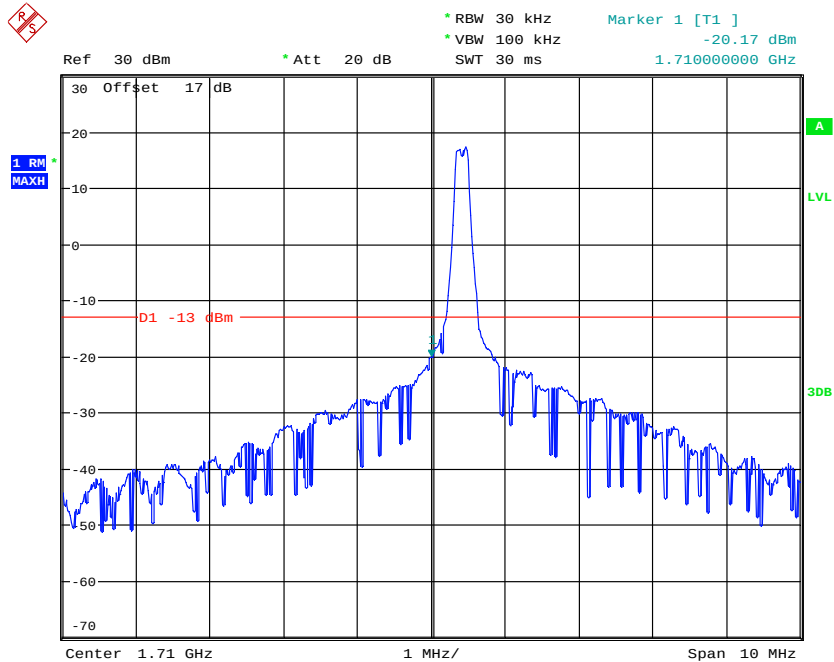
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BANDEDGE BAND4 QPSK FRB 3MHz CH20385

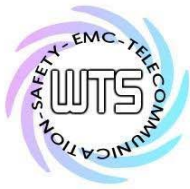
Date: 6.APR.2023 21:36:26

1RB



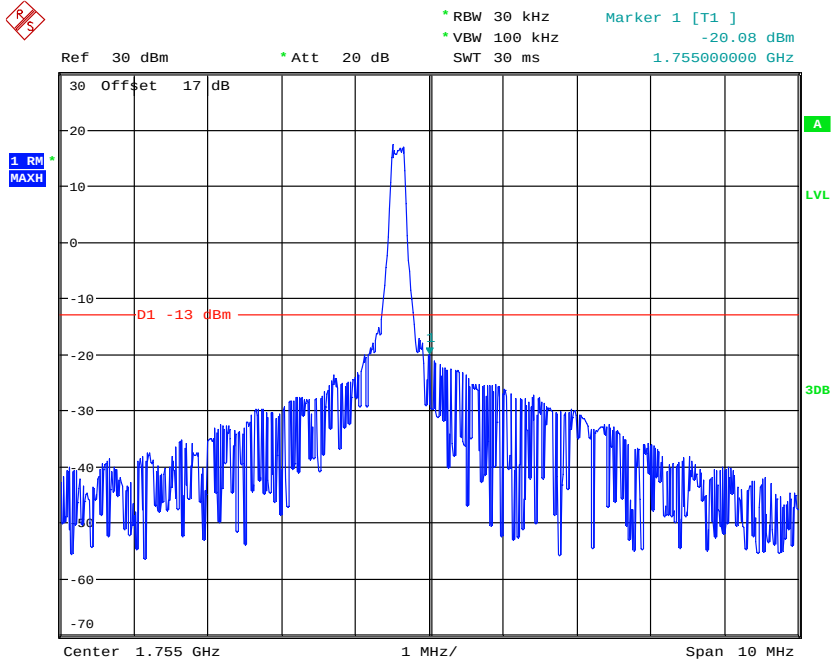
BANDEDGE BAND4 QPSK 1RB 3MHz CH19965

Date: 6.APR.2023 21:41:24



Registration number: W6M22302-22480-C-247

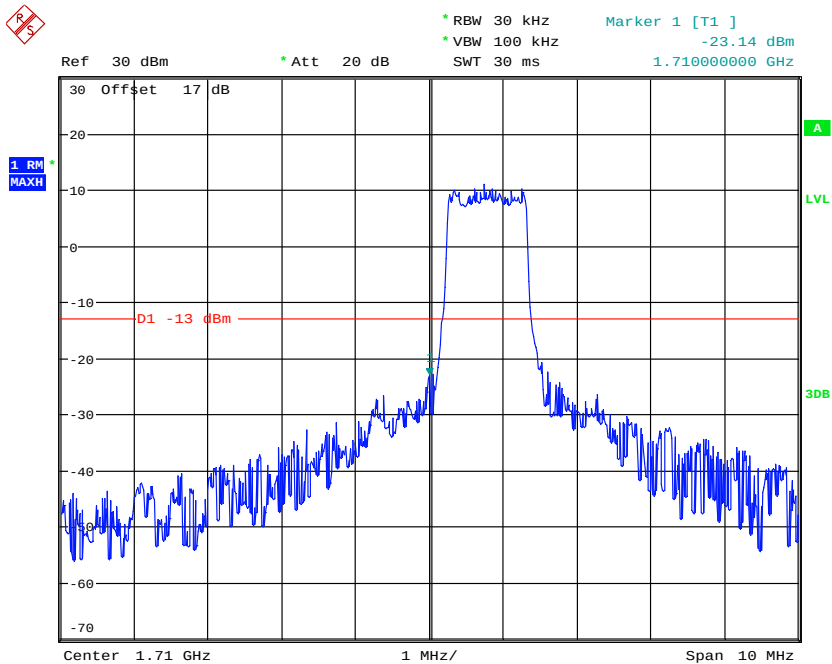
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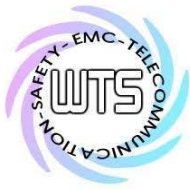
Date: 6.APR.2023 21:36:58

5 MHz
FRB



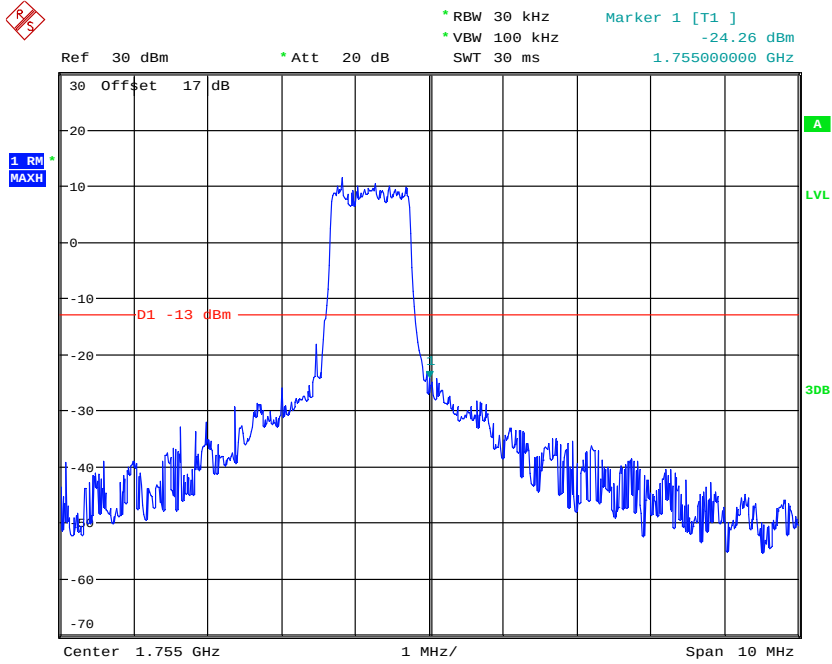
BANDEDGE BAND4 QPSK FRB 5MHz CH19975

Date: 7.APR.2023 19:25:33



Registration number: W6M22302-22480-C-247

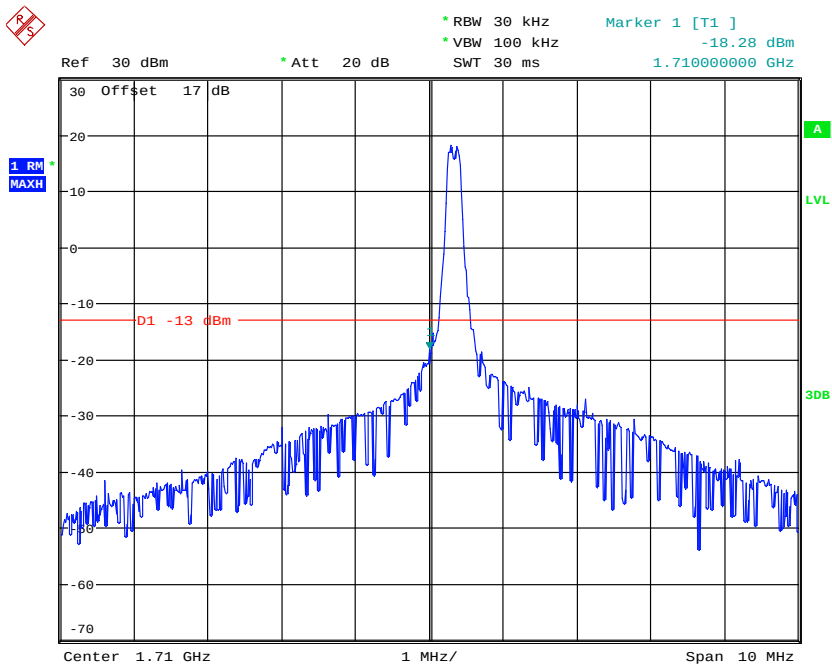
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BANDEDGE BAND4 QPSK FRB 5MHz CH20375

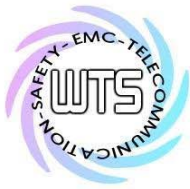
Date: 7.APR.2023 19:27:30

1RB



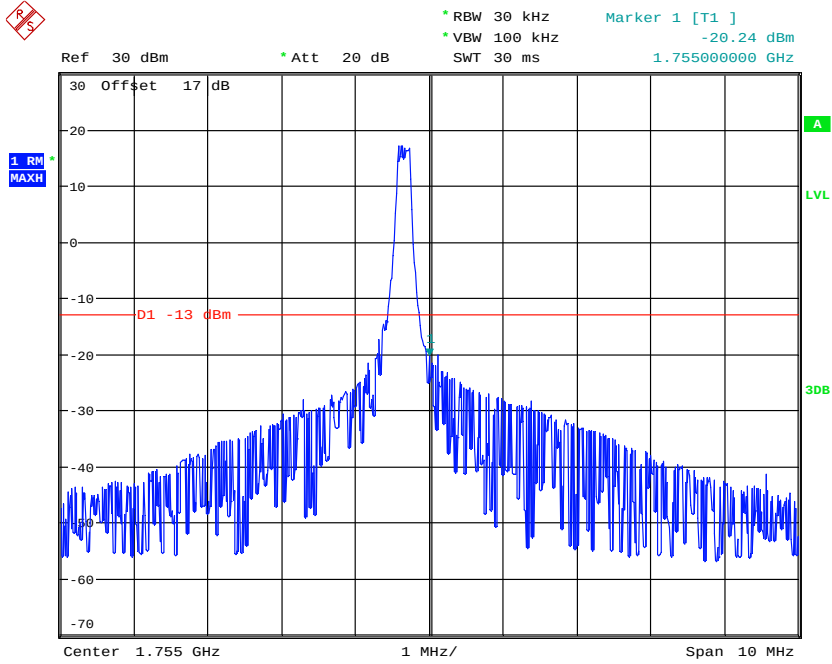
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Date: 7.APR.2023 19:25:01



Registration number: W6M22302-22480-C-247

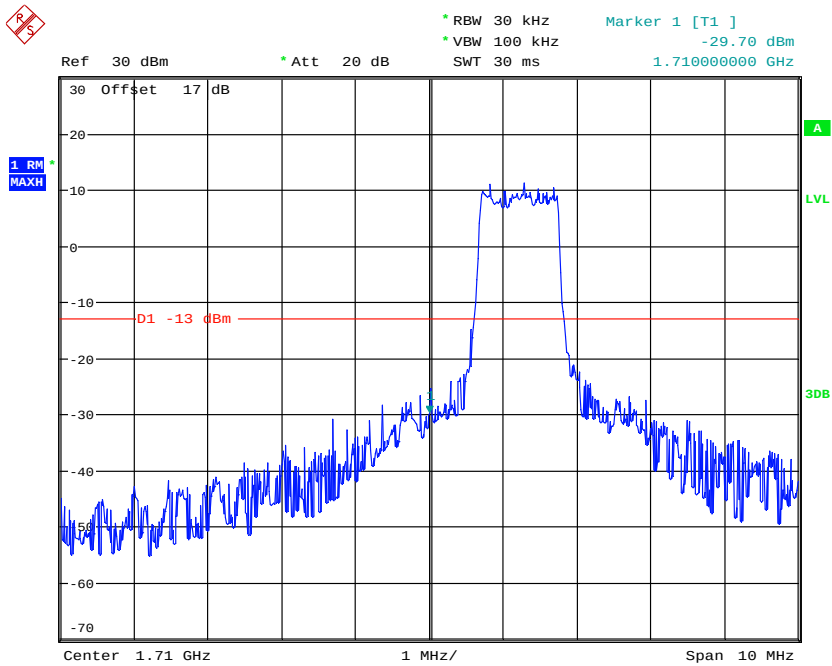
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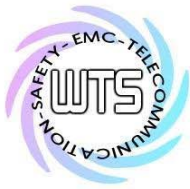
Date: 7.APR.2023 19:28:00

10 MHz
FRB



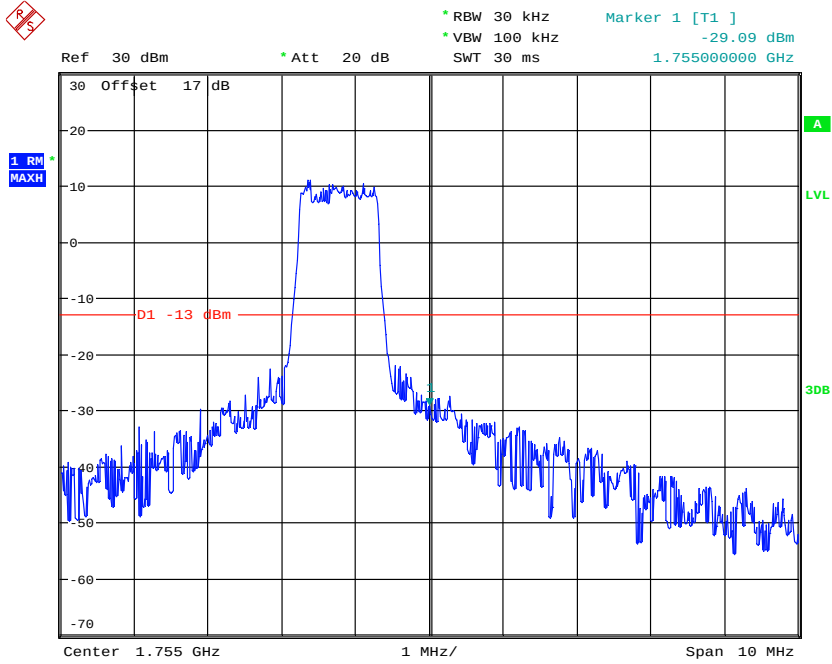
BANDEDGE BAND4 QPSK FRB 10MHz CH20000

Date: 7.APR.2023 19:38:43



Registration number: W6M22302-22480-C-247

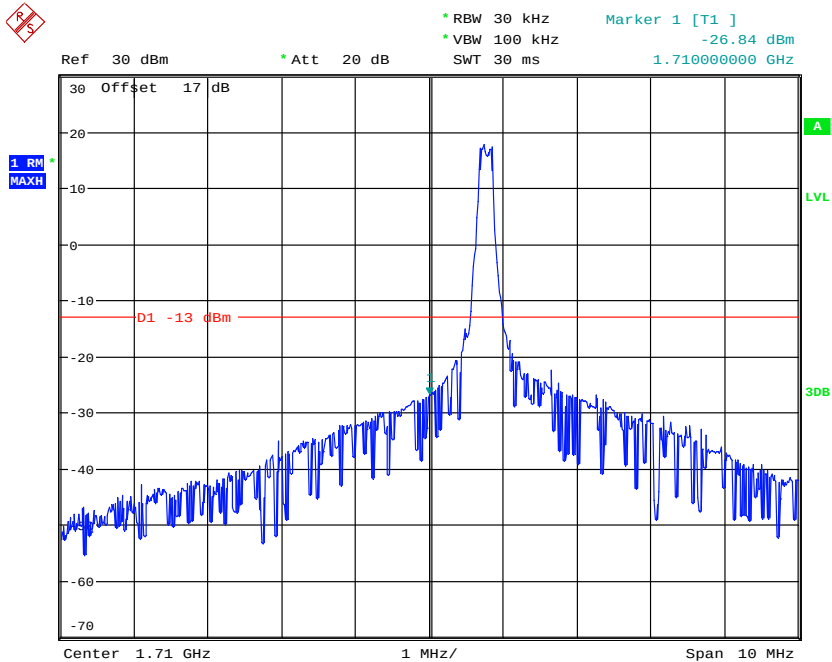
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BANDEDGE BAND4 QPSK FRB 10MHz CH20350

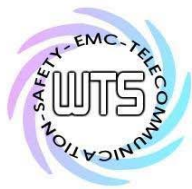
Date: 7.APR.2023 19:37:23

1RB



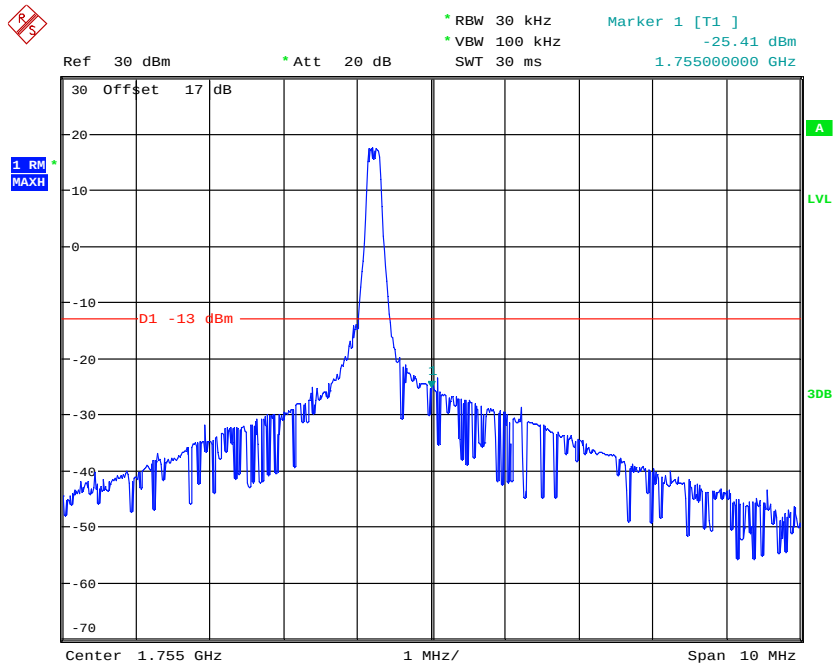
BANDEDGE BAND4 QPSK 1RB 10MHz CH20000

Date: 7.APR.2023 19:39:25



Registration number: W6M22302-22480-C-247

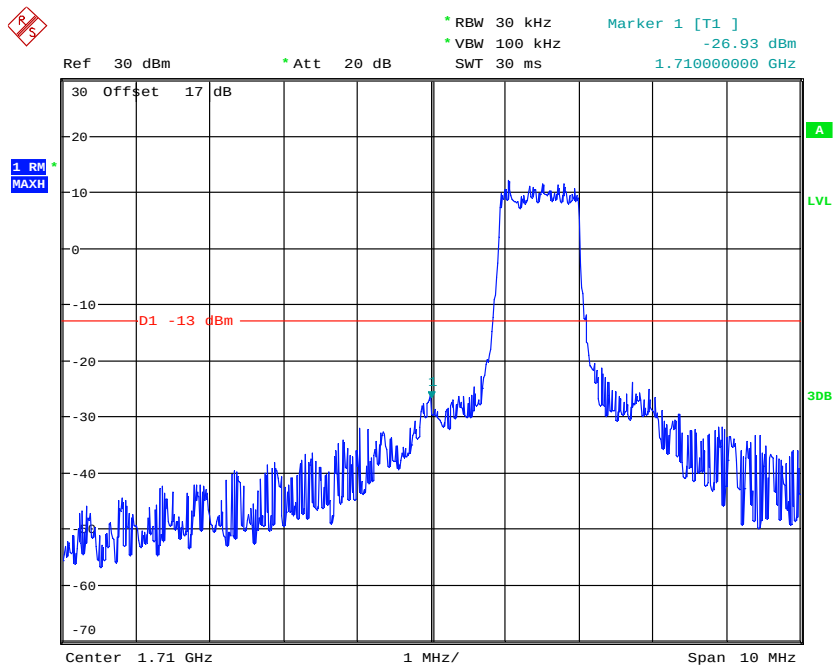
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BANDEDGE BAND4 QPSK 1RB 10MHz CH20350

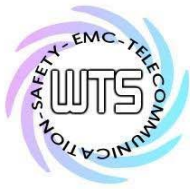
Date: 7.APR.2023 19:36:48

15 MHz
FRB



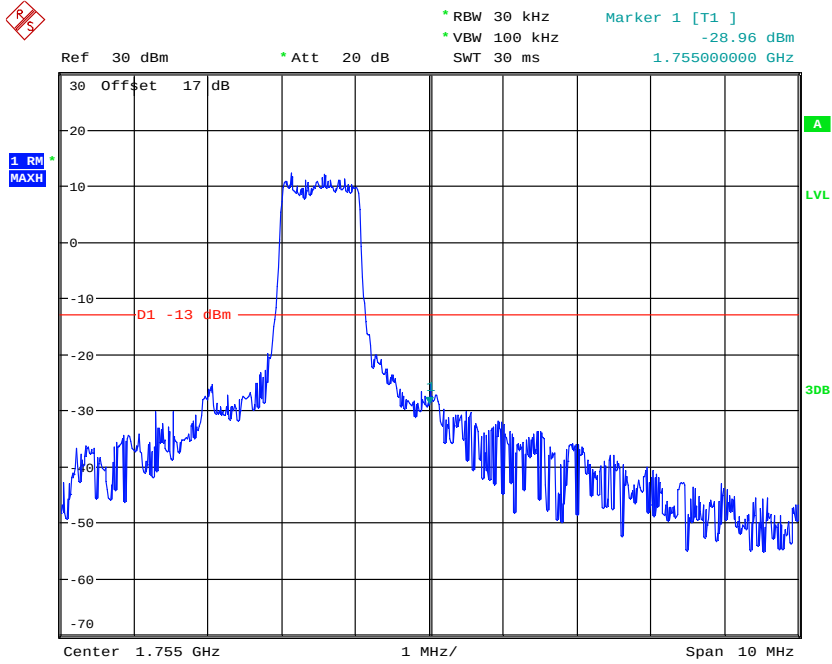
BANDEDGE BAND4 QPRK FRB 15MHz CH20025

Date: 7.APR.2023 19:48:41



Registration number: W6M22302-22480-C-247

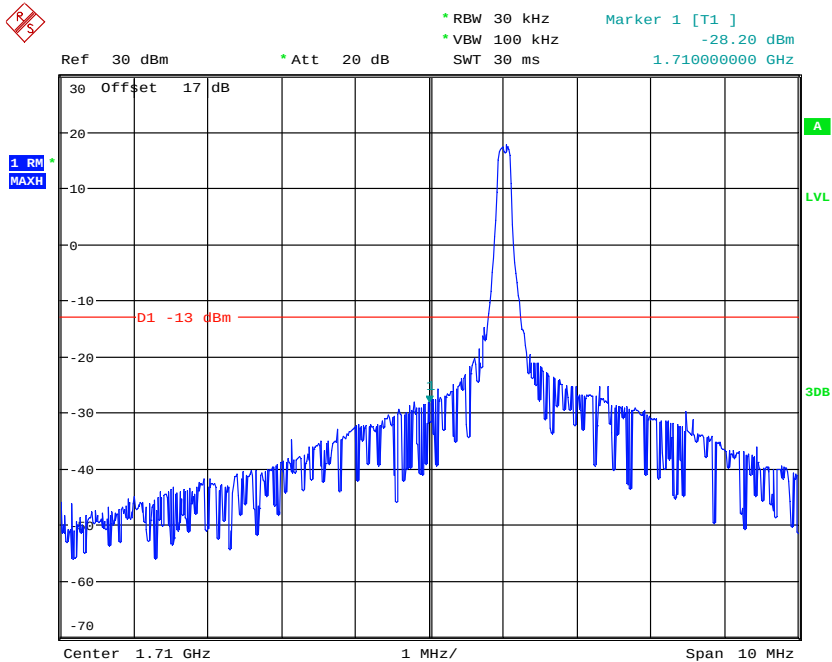
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BANDEDGE BAND4 QPRK FRB 15MHz CH20325

Date: 7.APR.2023 19:49:51

1RB



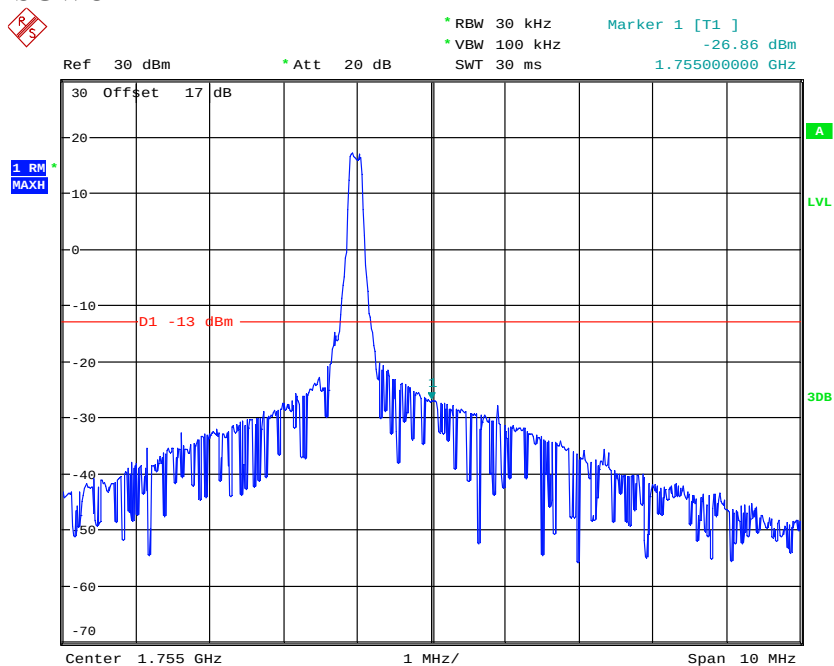
BANDEDGE BAND4 QPRK 1RB 15MHz CH20025

Date: 7.APR.2023 19:48:02



Registration number: W6M22302-22480-C-247

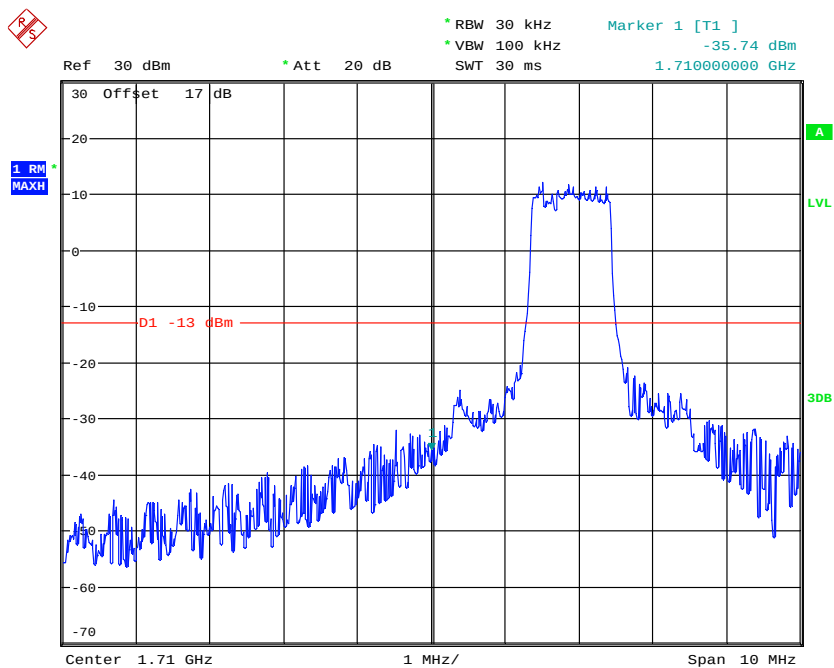
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BANDEDGE BAND4 QPRK 1RB 15MHz CH20325

Date: 7.APR.2023 19:50:26

20 MHz
FRB

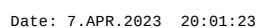


BANDEDGE BAND4 QPSK FRB 20MHz CH20050

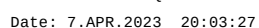
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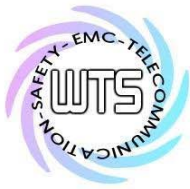


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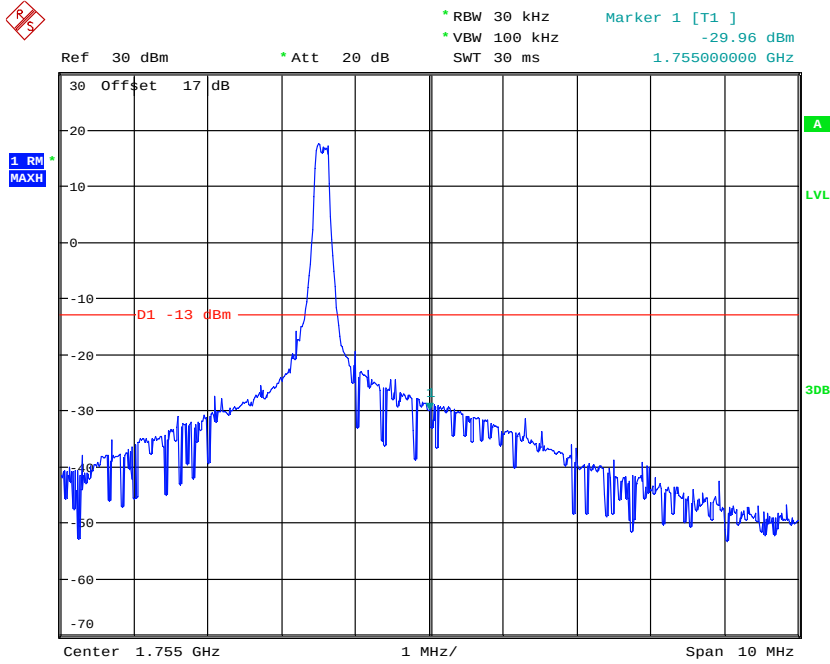
1RB





Registration number: W6M22302-22480-C-247

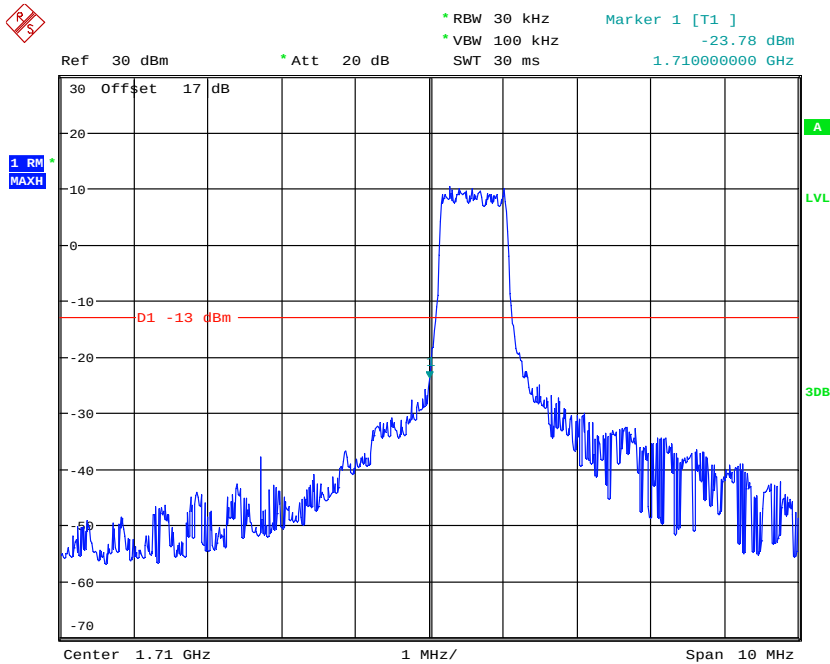
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BANDEDGE BAND4 QPSK 1RB 20MHz CH20300

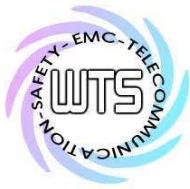
Date: 7.APR.2023 20:00:51

16QAM
1.4 MHz
FRB



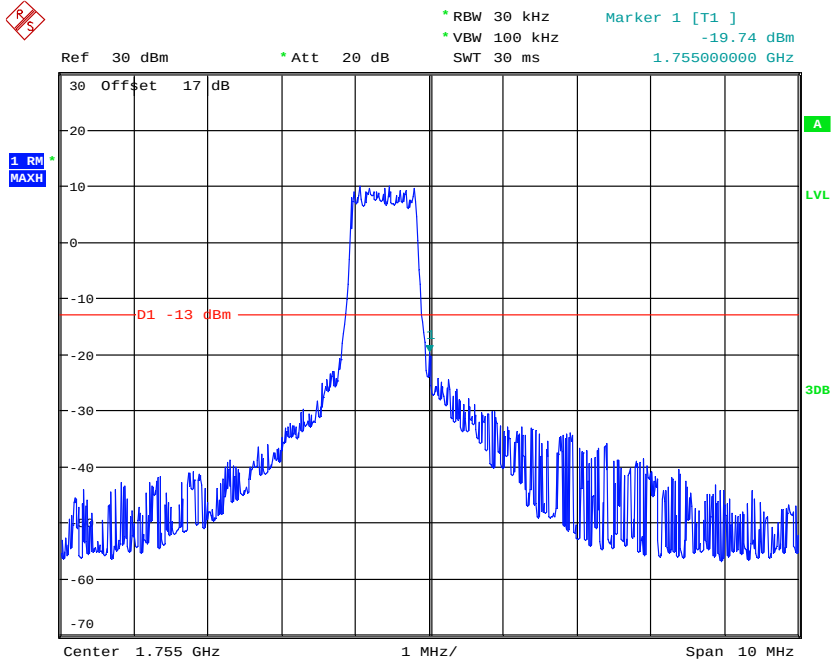
BANDEDGE BAND4 16QAM FRB 1.4MHz CH19957

Date: 6.APR.2023 21:25:29



Registration number: W6M22302-22480-C-247

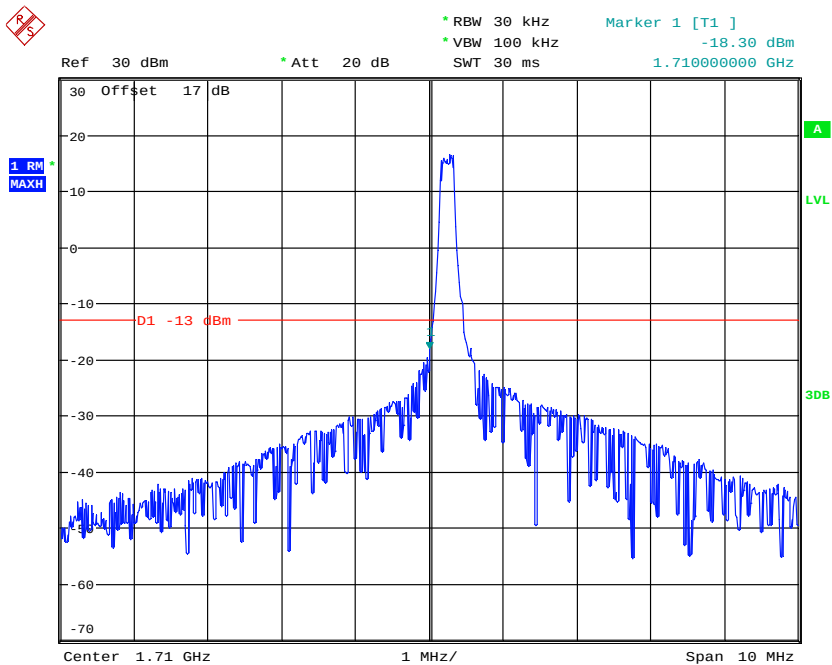
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BANDEDGE BAND4 16QAM FRB 1.4MHz CH20393

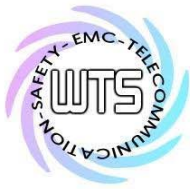
Date: 6.APR.2023 21:27:42

1RB



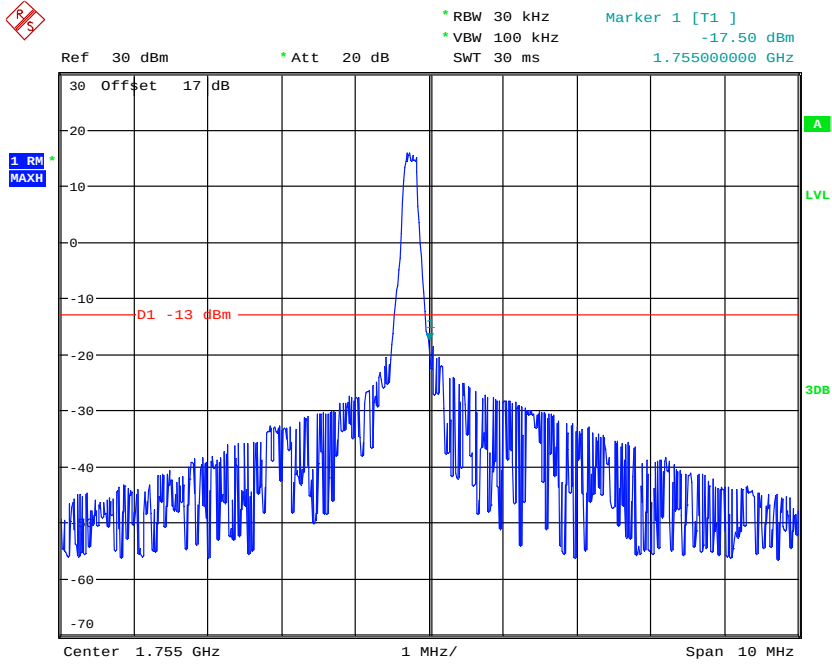
BANDEDGE BAND4 16QAM 1RB 1.4MHz CH19957

Date: 6.APR.2023 21:24:46



Registration number: W6M22302-22480-C-247

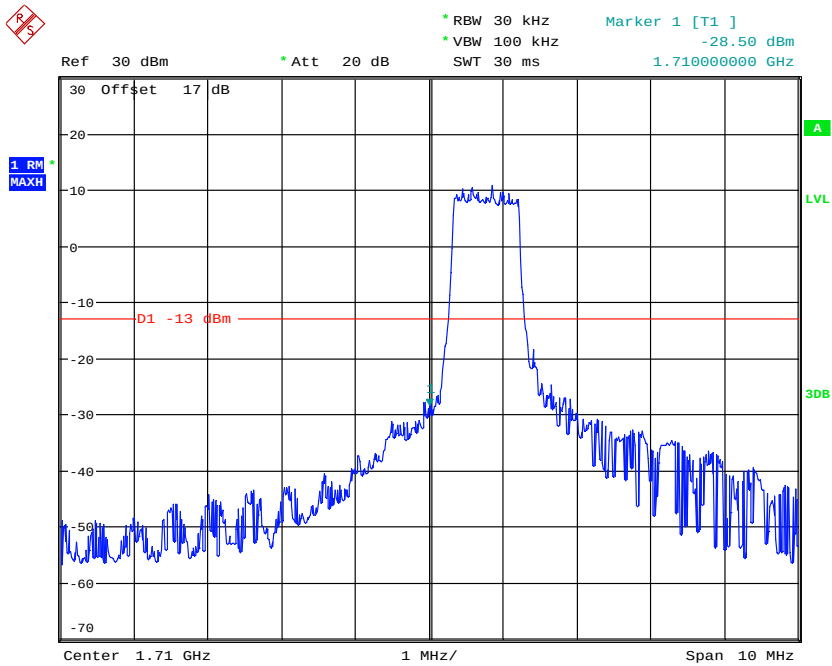
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BANDEDGE BAND4 16QAM 1RB 1.4MHz CH20393

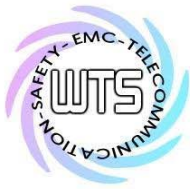
Date: 6.APR.2023 21:28:25

3 MHz
FRB



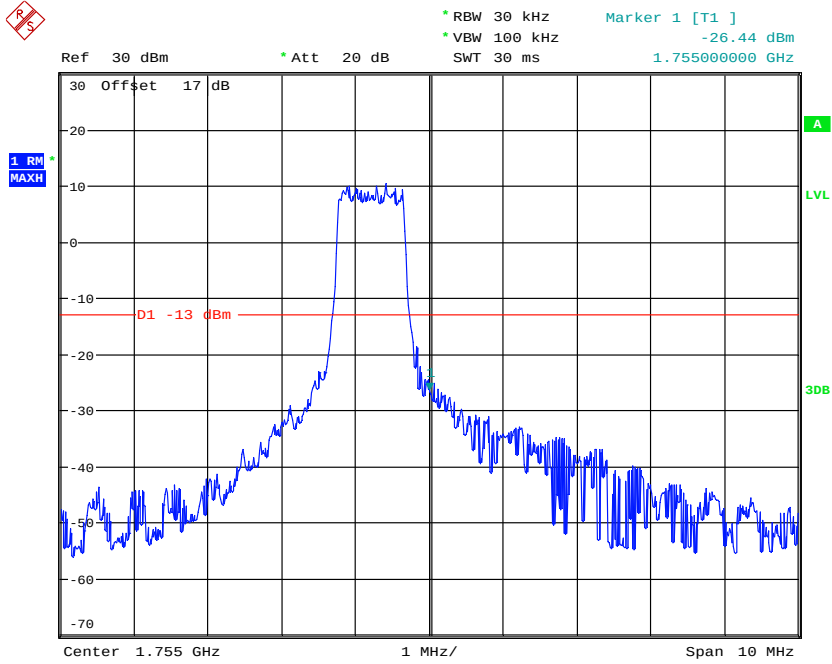
BANDEDGE BAND4 16QAM FRB 3MHz CH19965

Date: 6.APR.2023 21:40:07



Registration number: W6M22302-22480-C-247

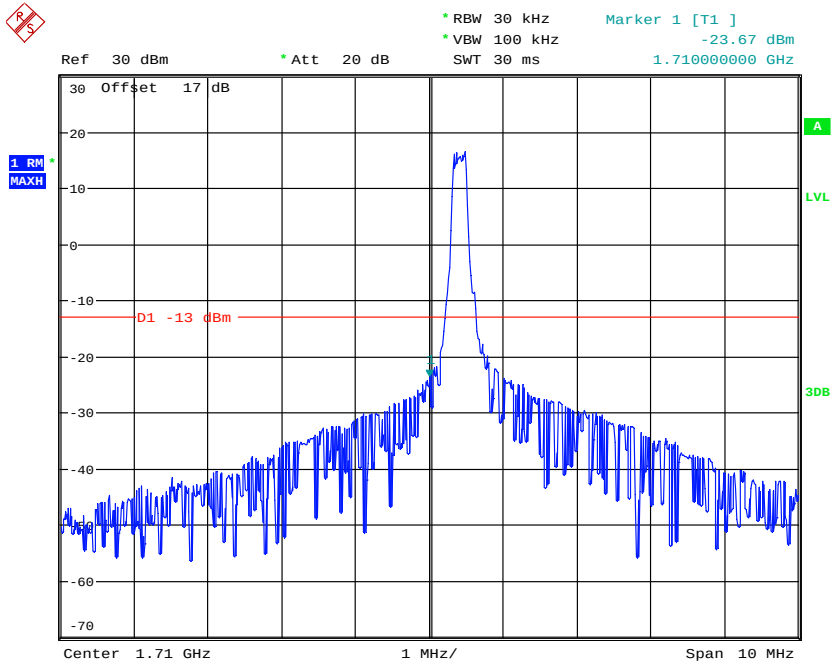
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BANDEDGE BAND4 16QAM FRB 3MHz CH20385

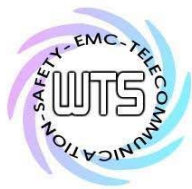
Date: 6.APR.2023 21:38:25

1RB



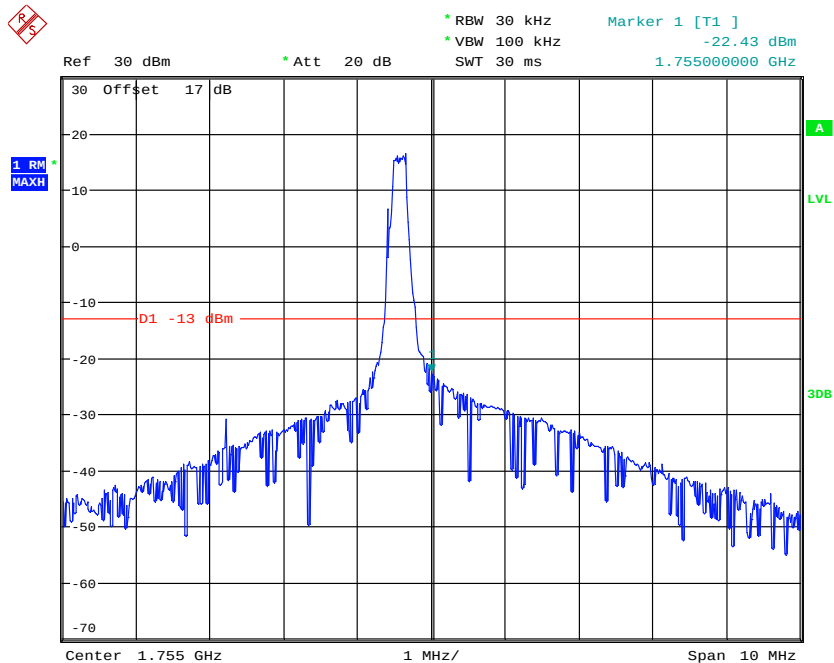
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Date: 6.APR.2023 21:40:38



Registration number: W6M22302-22480-C-247

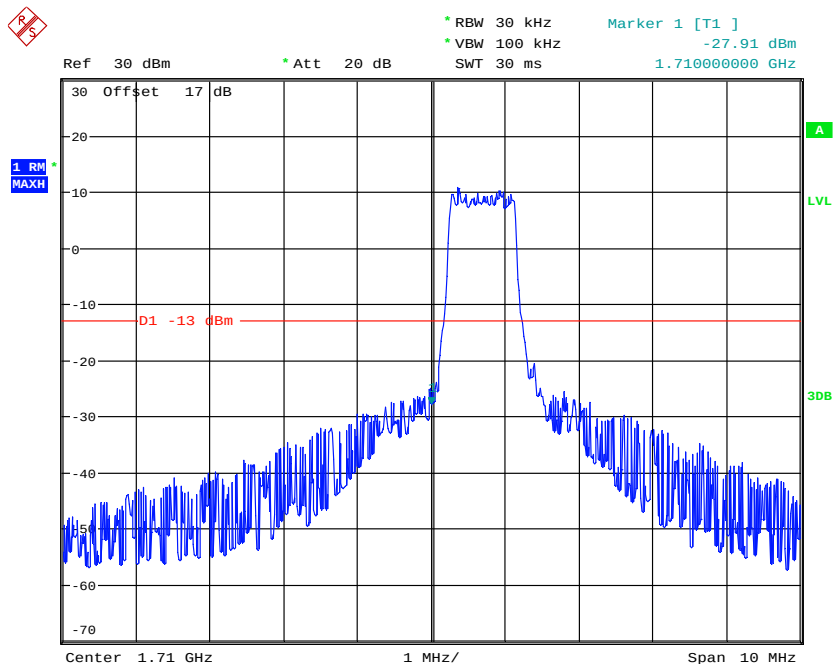
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BANDEDGE BAND4 16QAM 1RB 3MHz CH20385

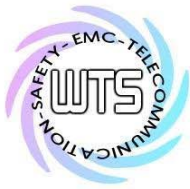
Date: 6.APR.2023 21:37:48

5 MHz
FRB



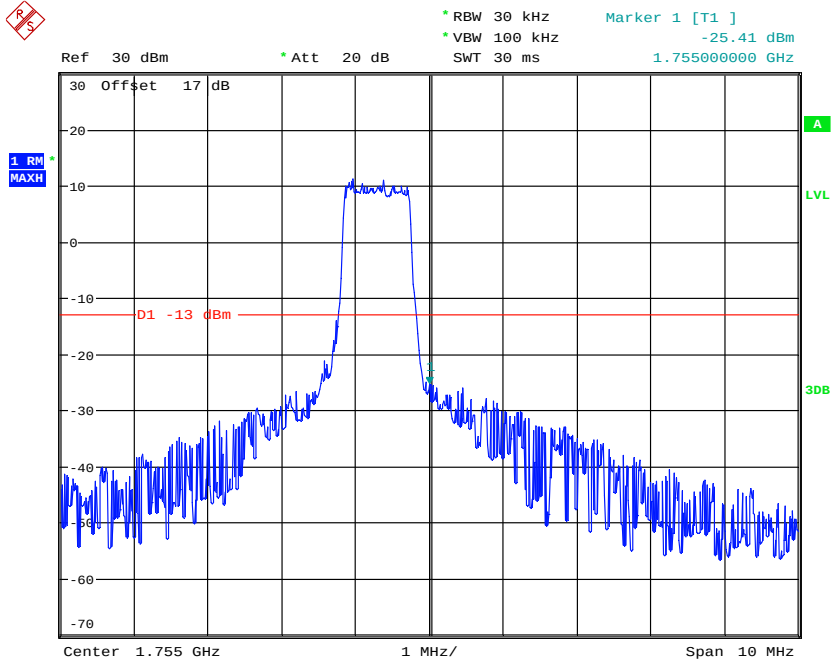
BANDEDGE BAND4 16QAM FRB 5MHz CH19975

Date: 7.APR.2023 19:24:01



Registration number: W6M22302-22480-C-247

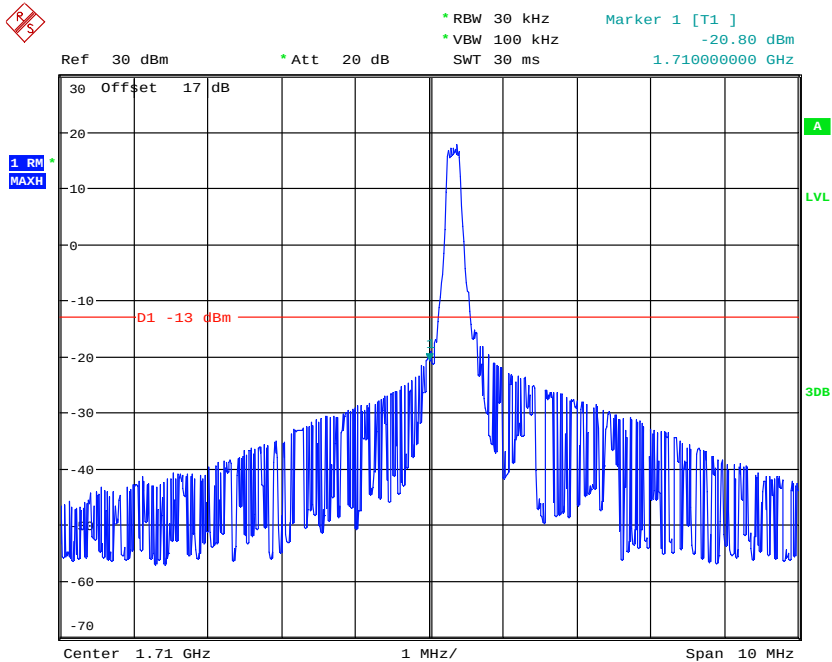
FCC ID: GX9HSGWCATM1



BANDEDGE BAND4 16QAM FRB 5MHz CH20375

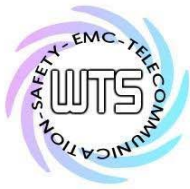
Date: 7.APR.2023 19:31:40

1RB



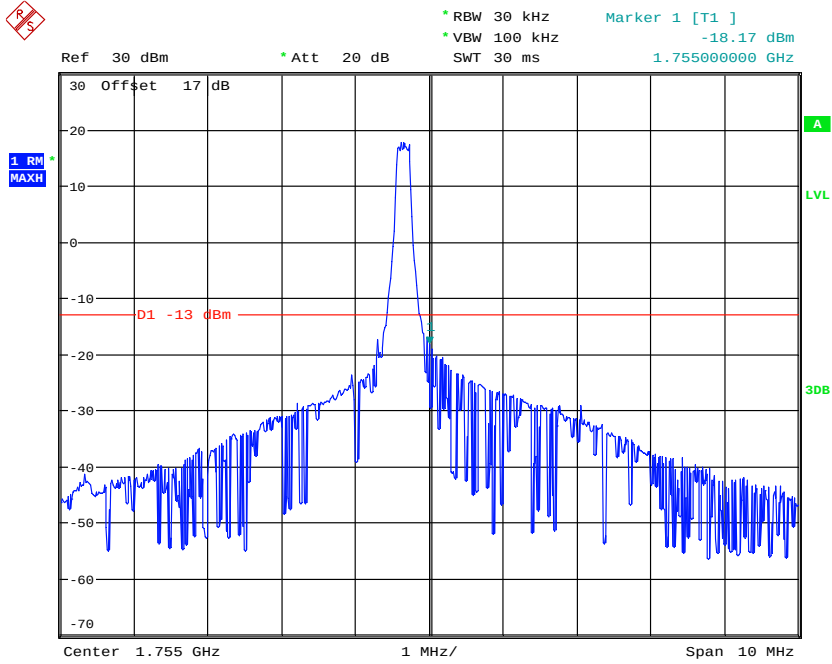
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Date: 7.APR.2023 19:24:21



Registration number: W6M22302-22480-C-247

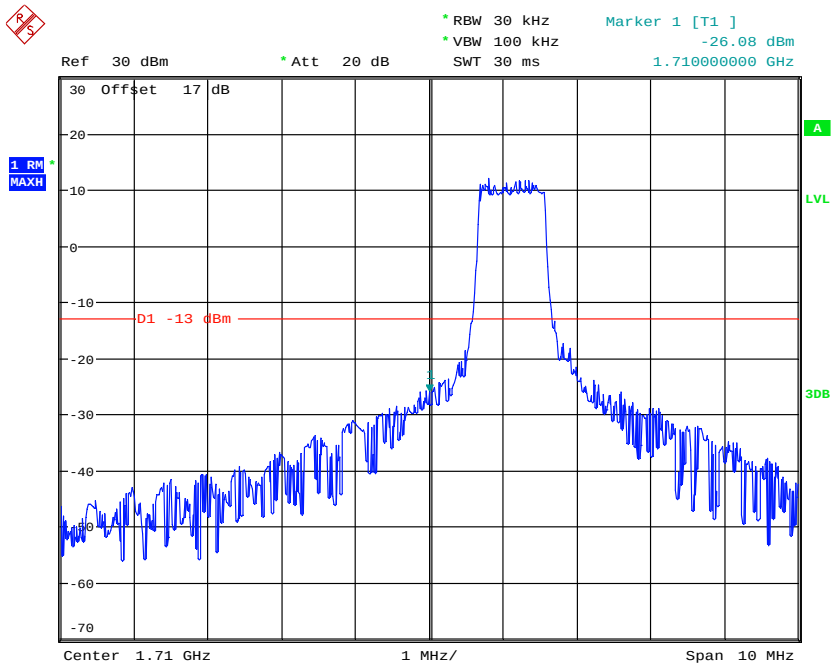
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BANDEDGE BAND4 16QAM 1RB 5MHz CH20375

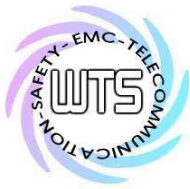
Date: 7.APR.2023 19:31:01

10 MHz
FRB



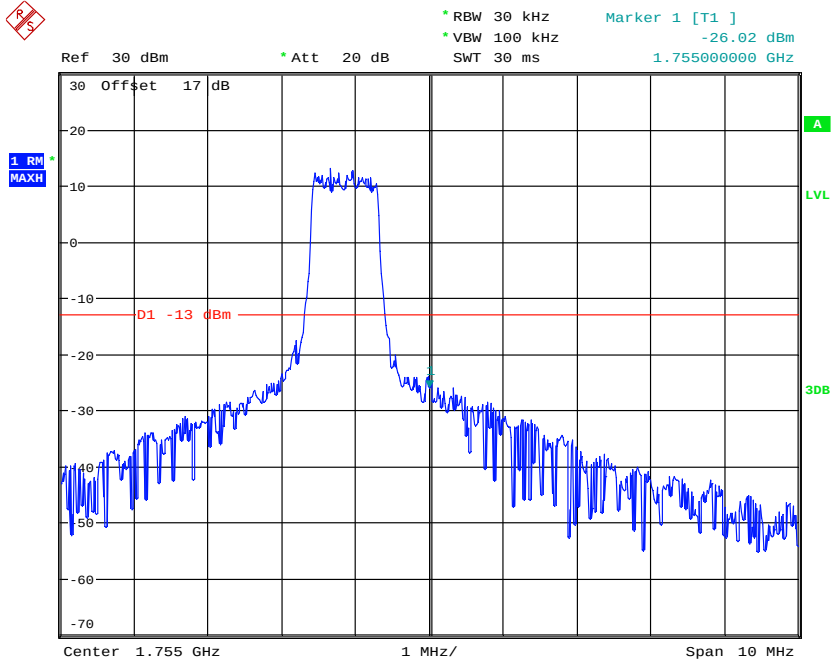
BANDEDGE BAND4 16QAM FRB 10MHz CH20000

Date: 7.APR.2023 19:41:26



Registration number: W6M22302-22480-C-247

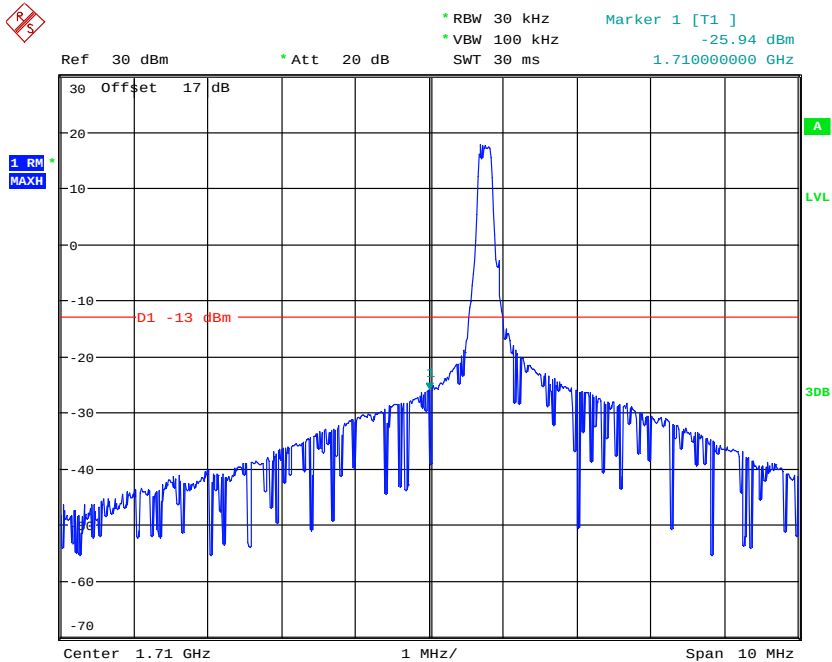
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BANDEDGE BAND4 16QAM FRB 10MHz CH20350

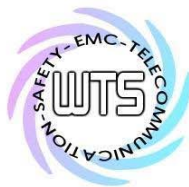
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1RB



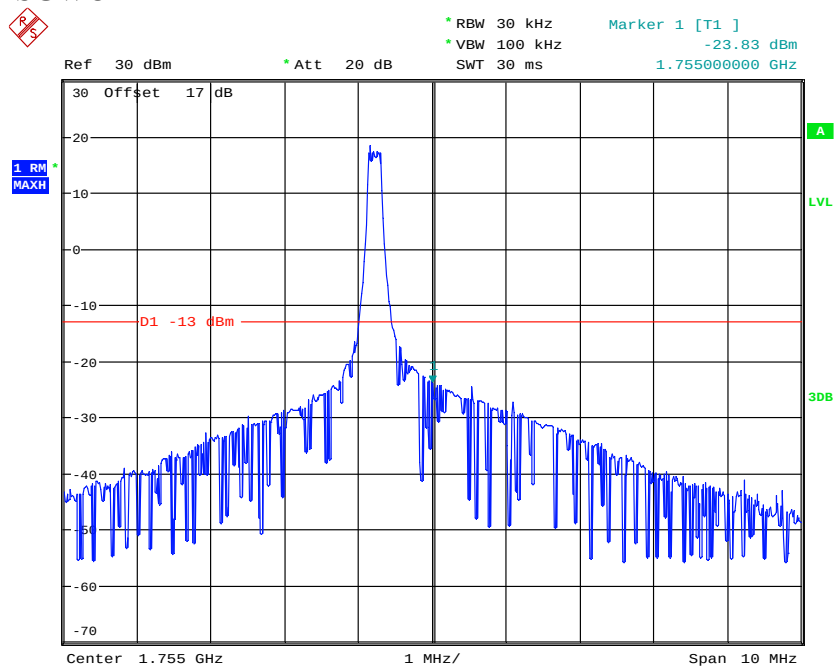
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Date: 7.APR.2023 19:40:53



Registration number: W6M22302-22480-C-247

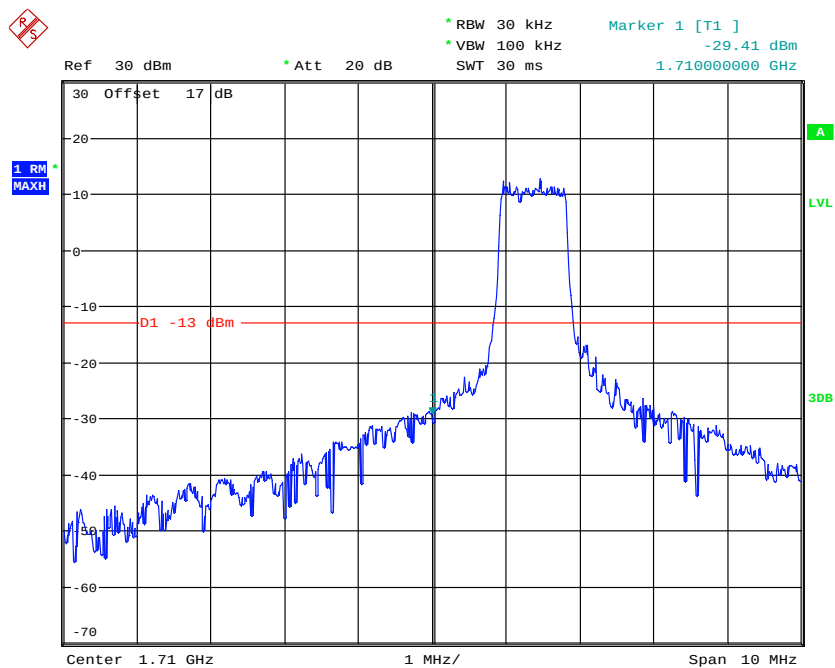
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BANDEDGE BAND4 16QAM 1RB 10MHz CH20350

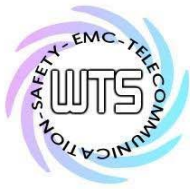
Date: 7.APR.2023 19:36:07

15 MHz
FRB



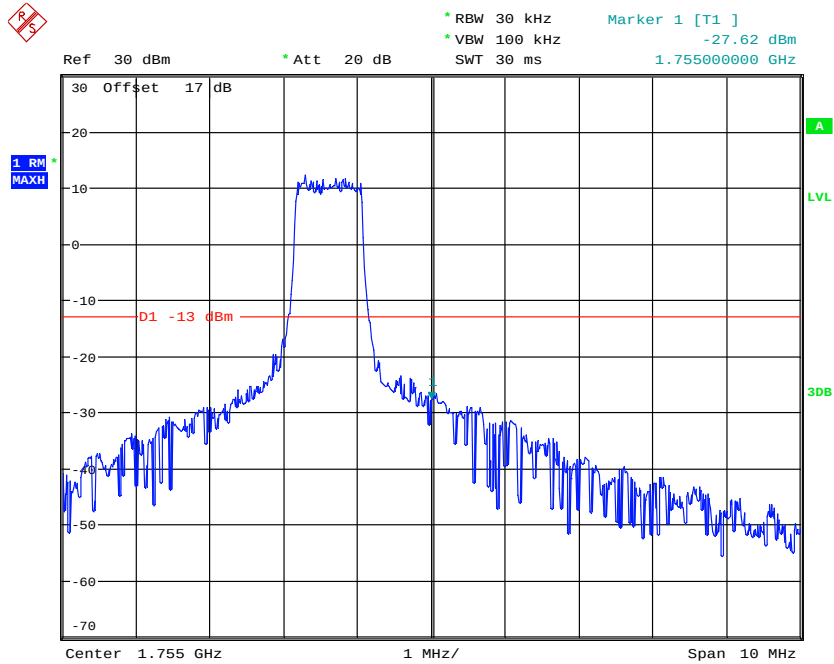
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Date: 7.APR.2023 19:45:27



Registration number: W6M22302-22480-C-247

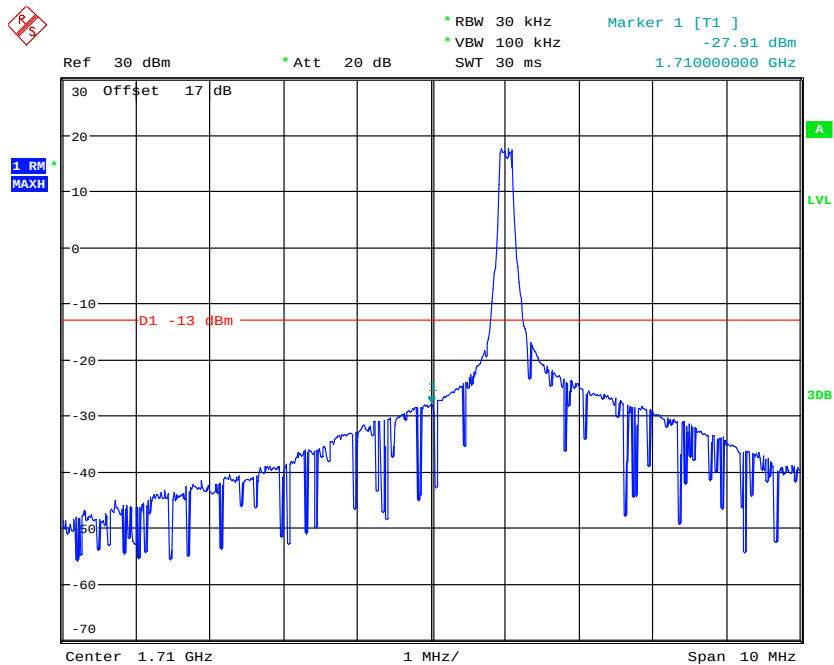
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BANDEDGE BAND4 16QAM FRB 15MHz CH20325

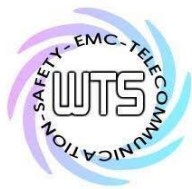
Date: 7.APR.2023 19:51:48

1RB



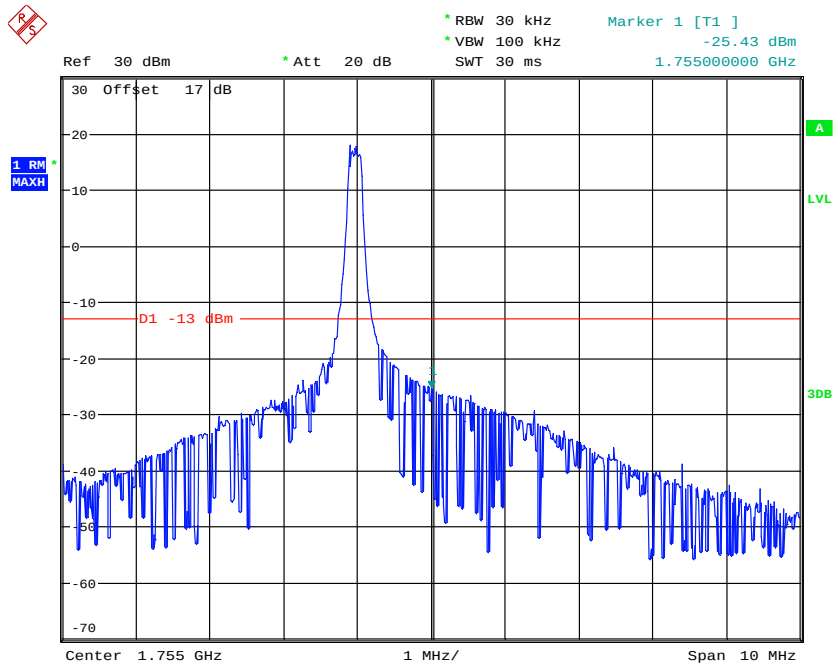
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Date: 7.APR.2023 19:46:47



Registration number: W6M22302-22480-C-247

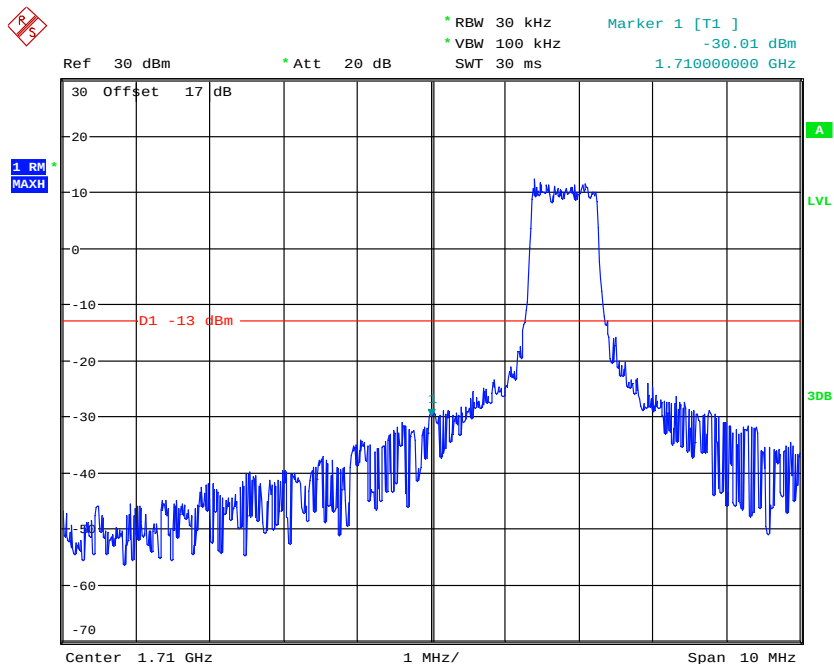
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BANDEDGE BAND4 16QAM 1RB 15MHz CH20325

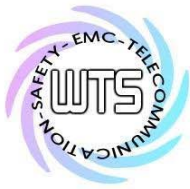
Date: 7.APR.2023 19:51:04

20 MHz
FRB



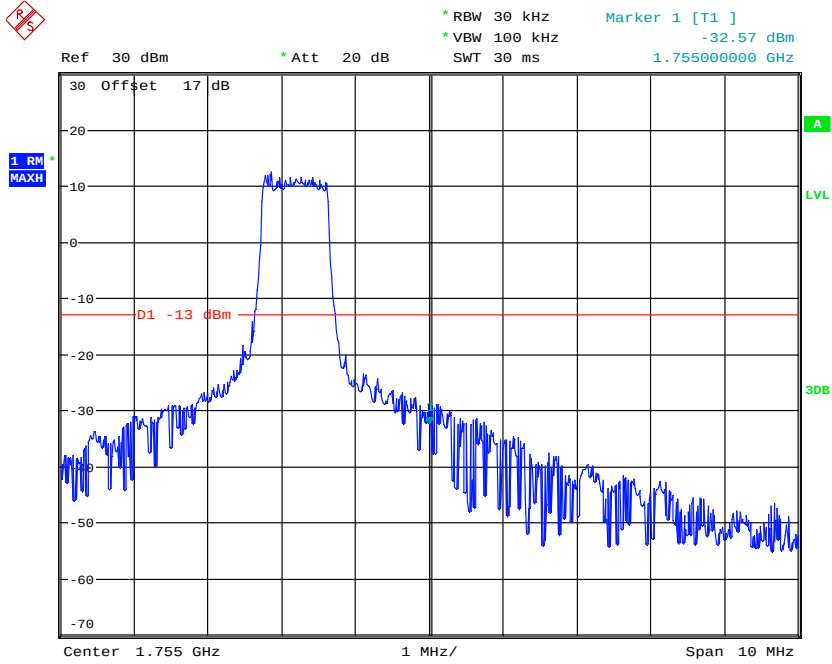
BANDEDGE BAND4 16QAM FRB 20MHz CH20050

Date: 7.APR.2023 20:10:24



Registration number: W6M22302-22480-C-247

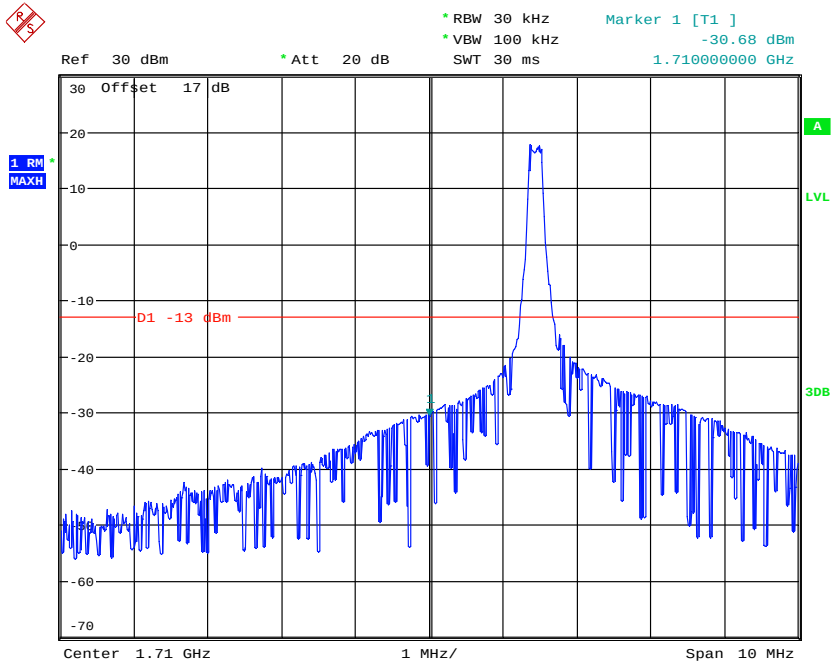
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BANDEDGE BAND4 16QAM FRB 20MHz CH20300

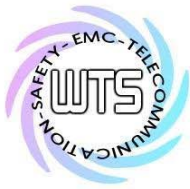
Date: 7.APR.2023 19:58:29

1RB



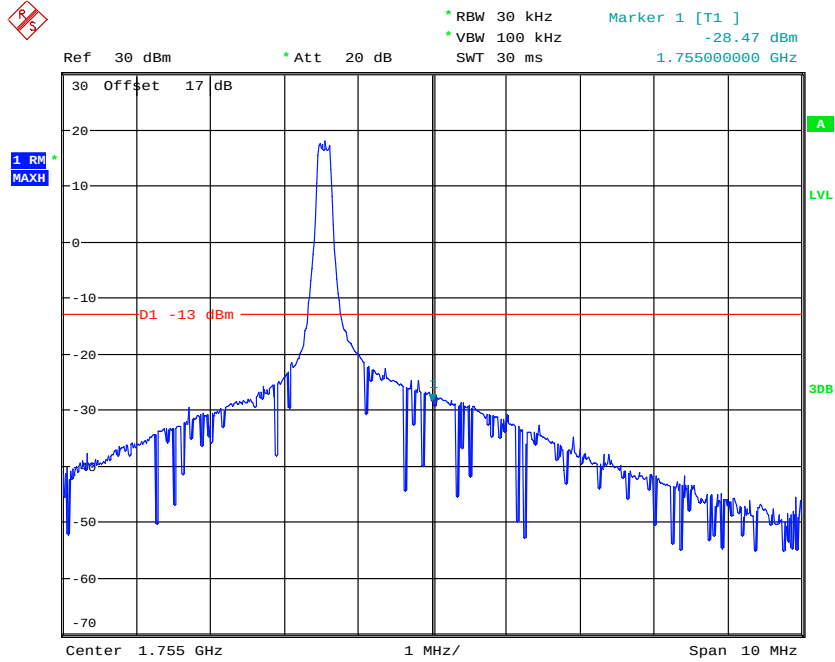
BANDEDGE BAND4 16QAM 1RB 20MHz CH20050

Date: 7.APR.2023 20:05:06



Registration number: W6M22302-22480-C-247

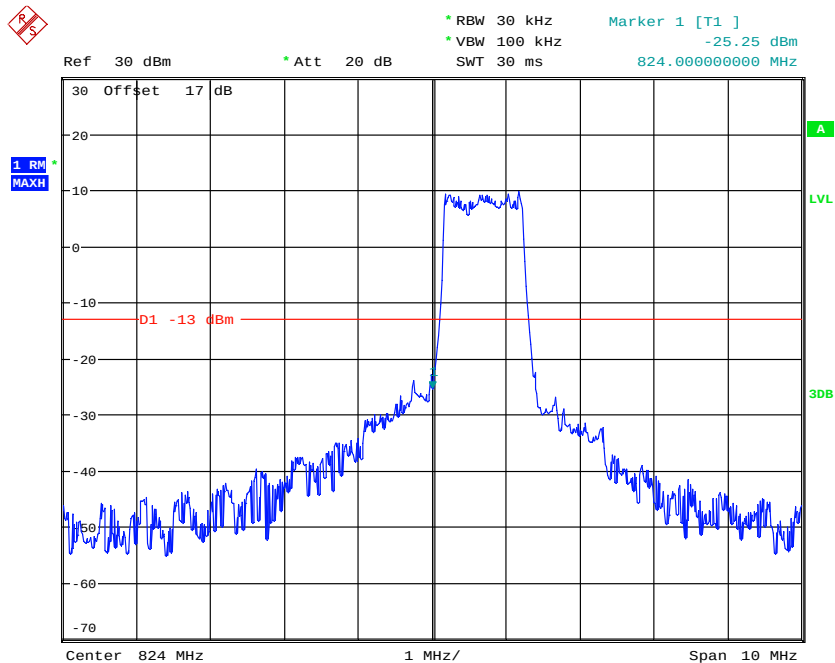
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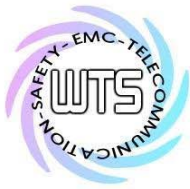
Date: 7.APR.2023 19:59:23

Band 5
QPSK
1.4 MHz
FRB



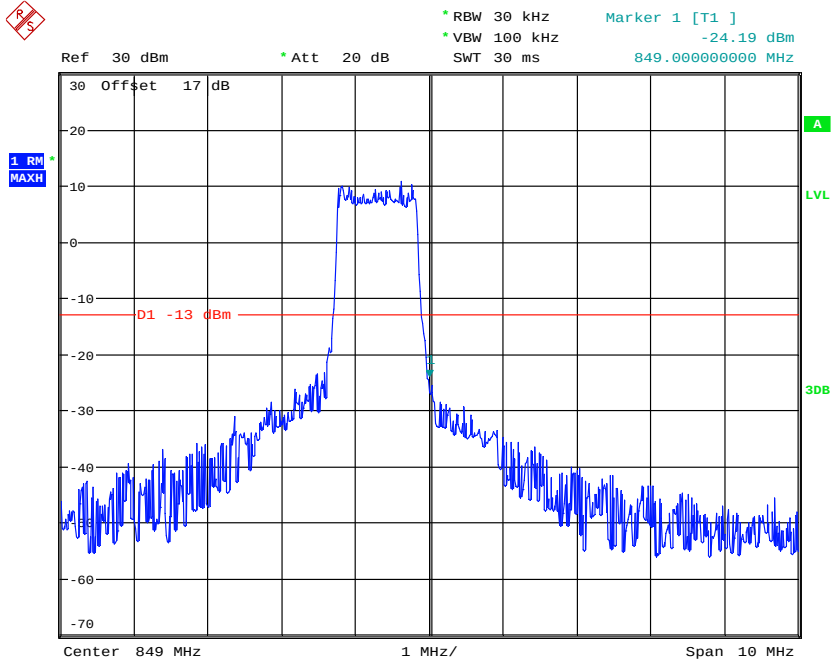
BANDEDGE BAND5 QPSK FRB 1.4MHz CH20407

Date: 6.APR.2023 19:27:30



Registration number: W6M22302-22480-C-247

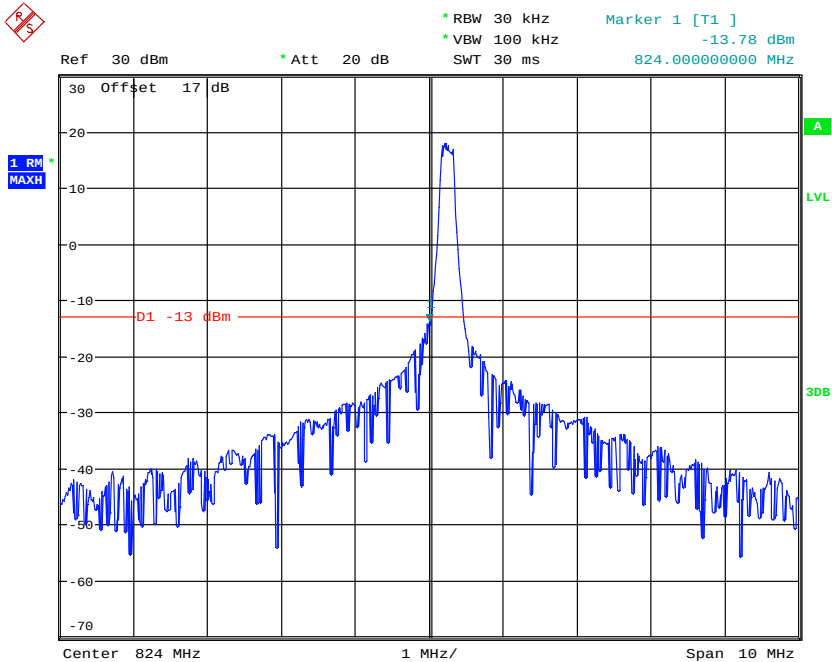
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BANDEDGE BAND5 QPSK FRB 1.4MHz CH20643

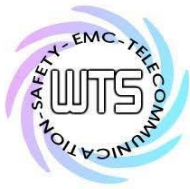
Date: 6.APR.2023 19:18:08

1RB



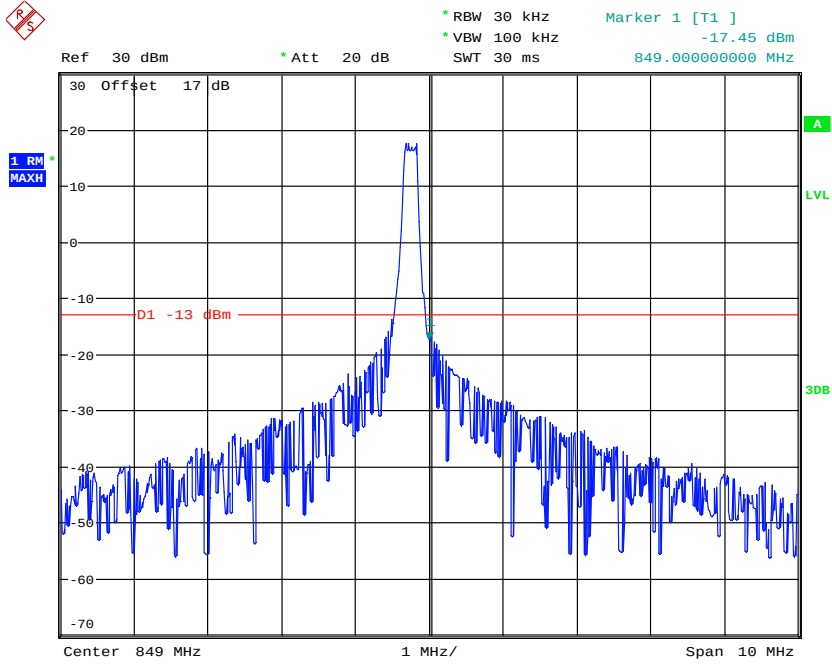
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Date: 6.APR.2023 19:26:51

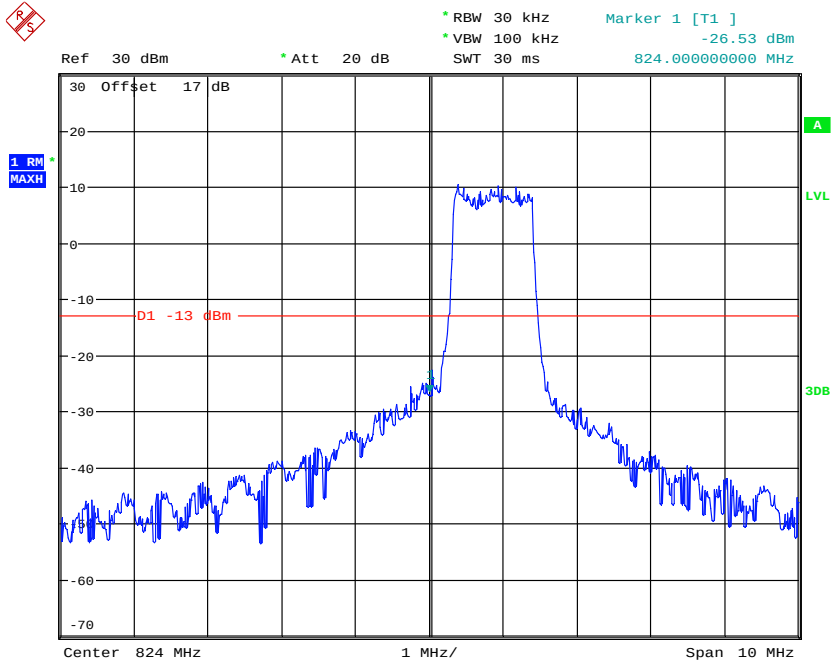


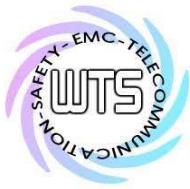
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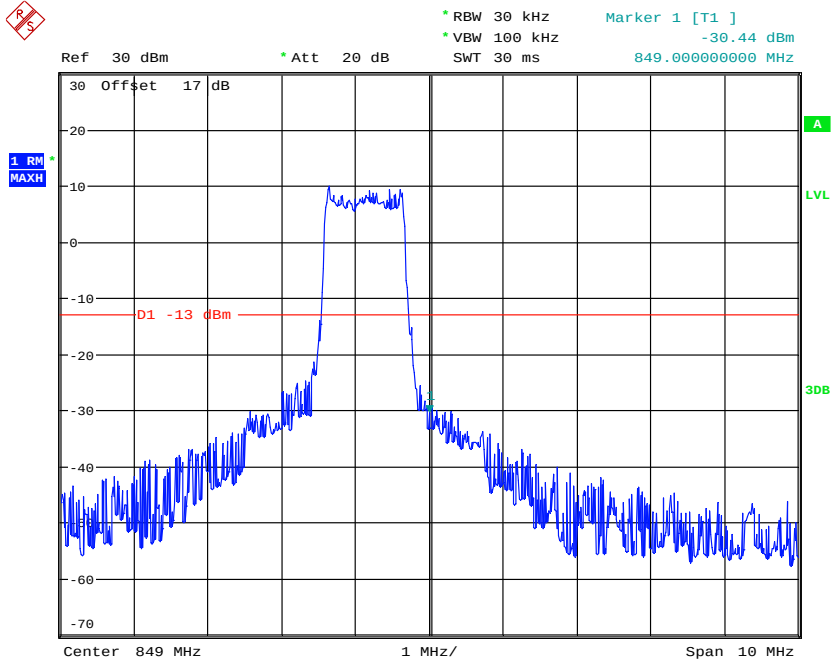
3 MHz
FRB





Registration number: W6M22302-22480-C-247

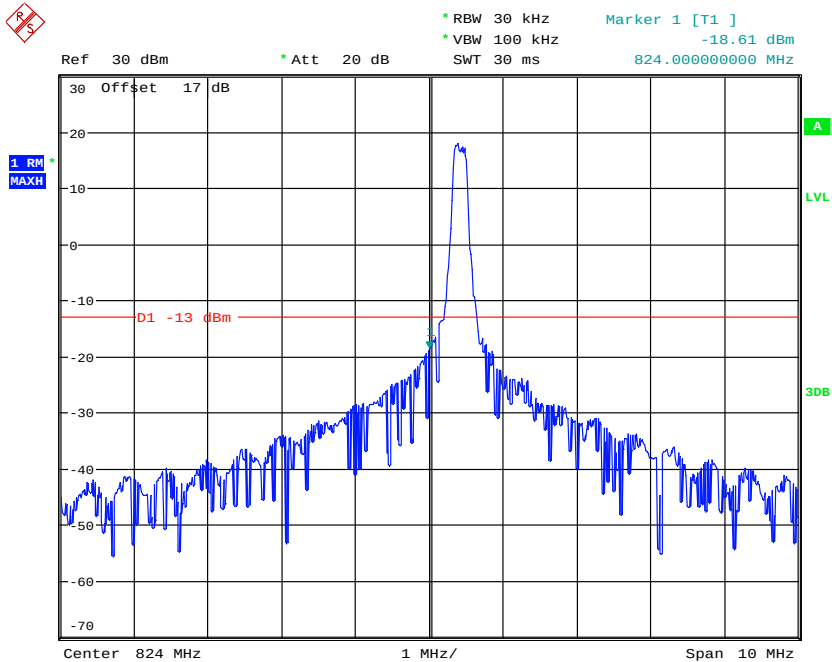
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BANDEDGE BAND5 QPSK FRB 3MHz CH20635

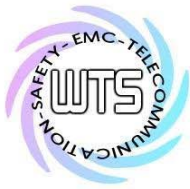
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1RB



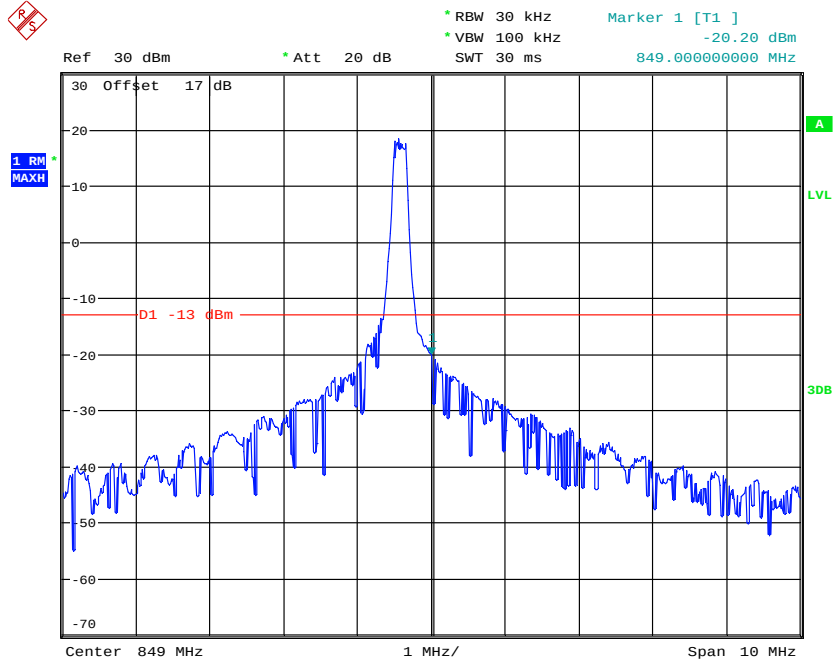
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Date: 6.APR.2023 19:29:59

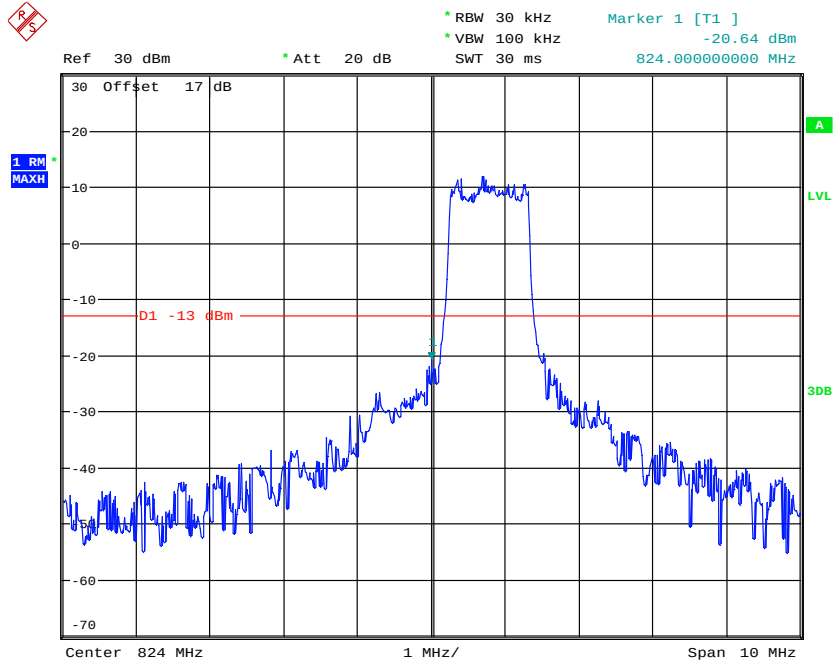


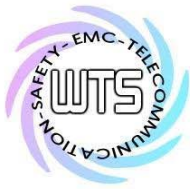
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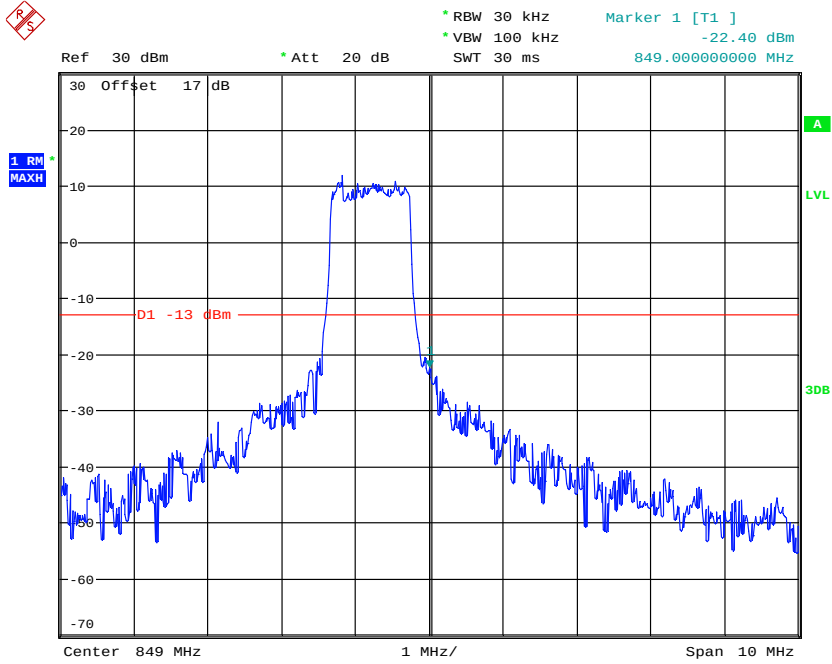
5 MHz
FRB





Registration number: W6M22302-22480-C-247

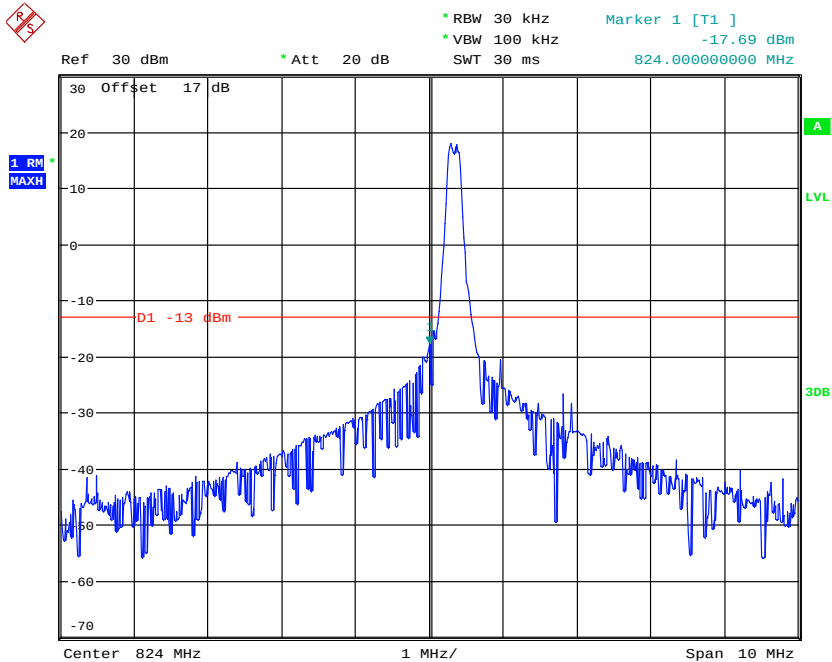
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BANDEDGE BAND5 QPSK FRB 5MHz CH20625

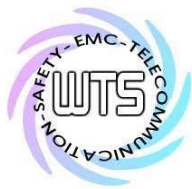
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1RB



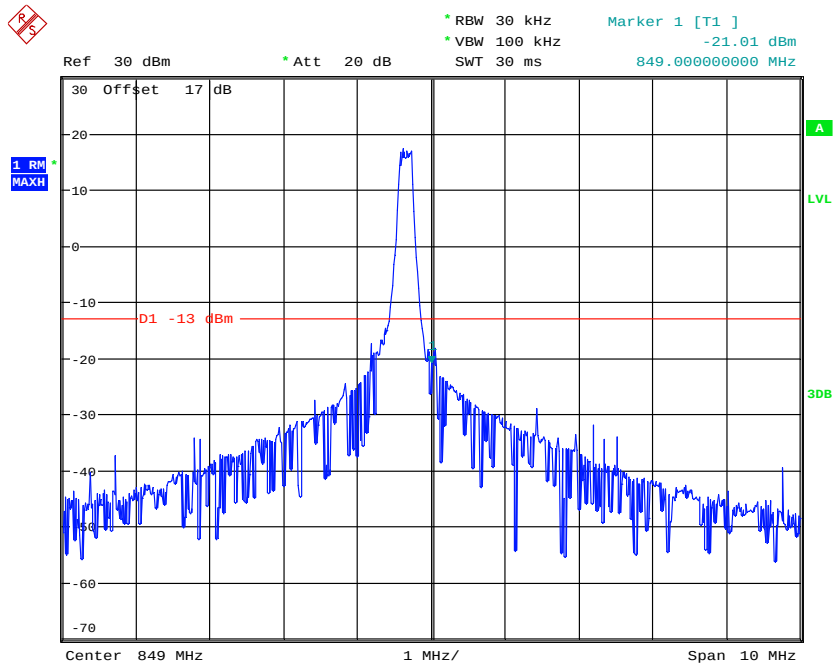
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Date: 6.APR.2023 19:48:29

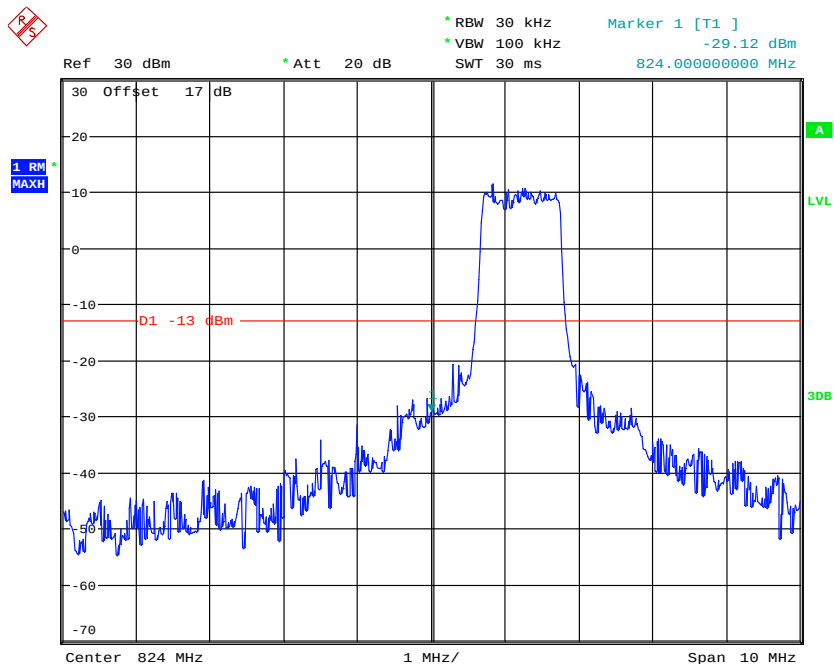


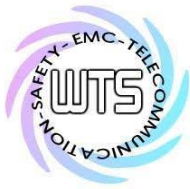
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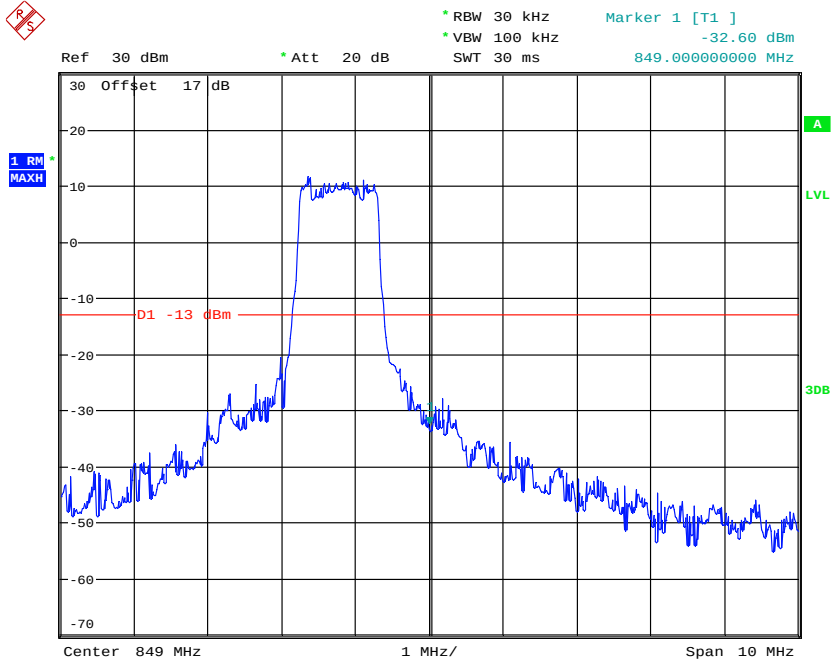
10 MHz
FRB





Registration number: W6M22302-22480-C-247

FCC ID: GX9HSGWCATM1



BANDEDGE BAND5 QPSK FRB 10MHz CH20600

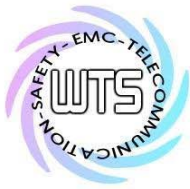
Date: 6.APR.2023 20:16:24

1RB



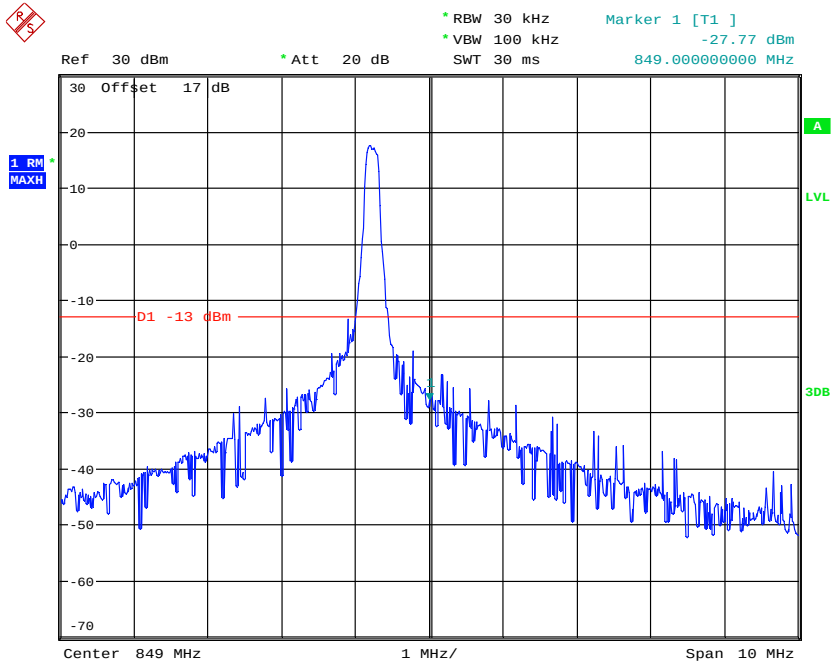
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Date: 6.APR.2023 20:32:06



Registration number: W6M22302-22480-C-247

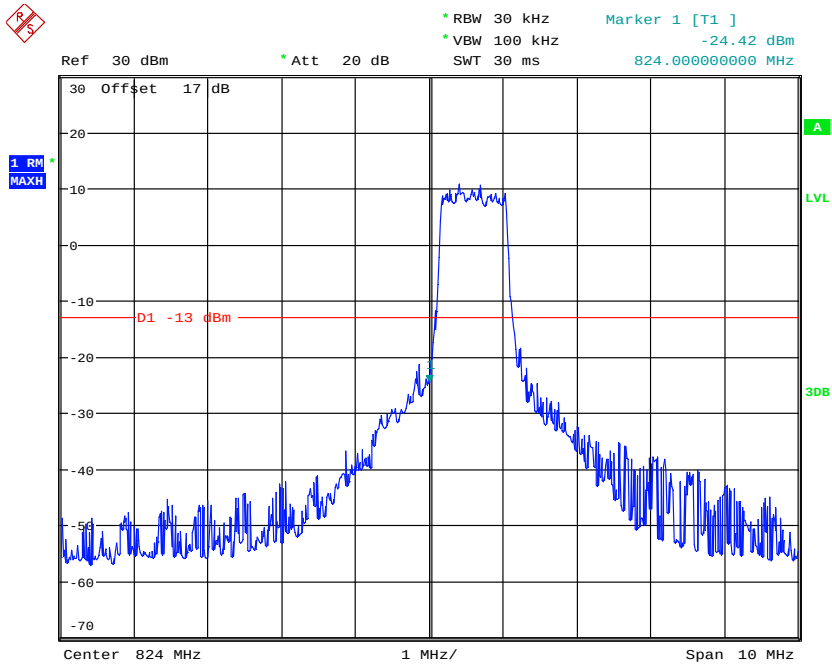
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BANDEDGE BAND5 QPSK 1RB 10MHz CH20600

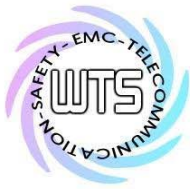
Date: 6.APR.2023 20:17:46

16QAM
1.4 MHz
FRB



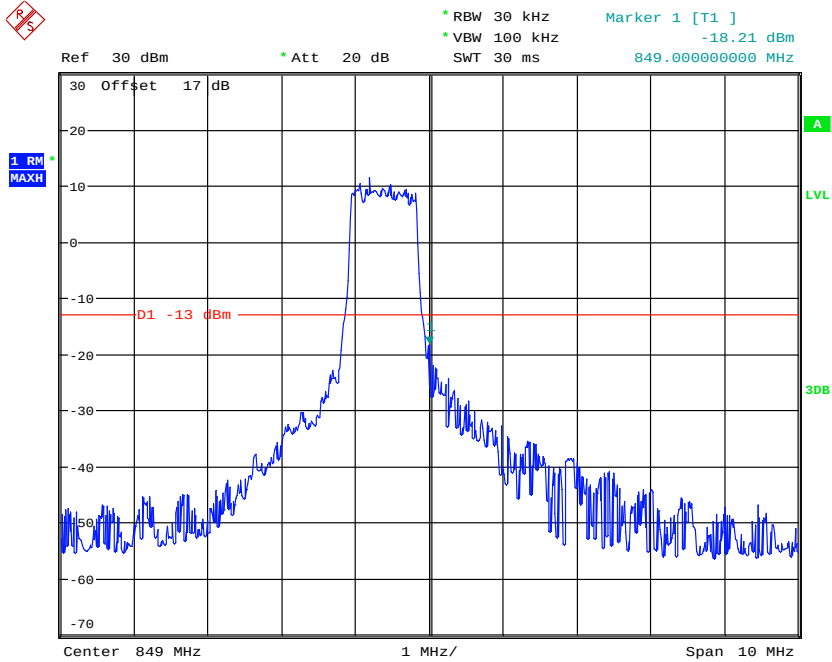
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Date: 6.APR.2023 19:12:24



Registration number: W6M22302-22480-C-247

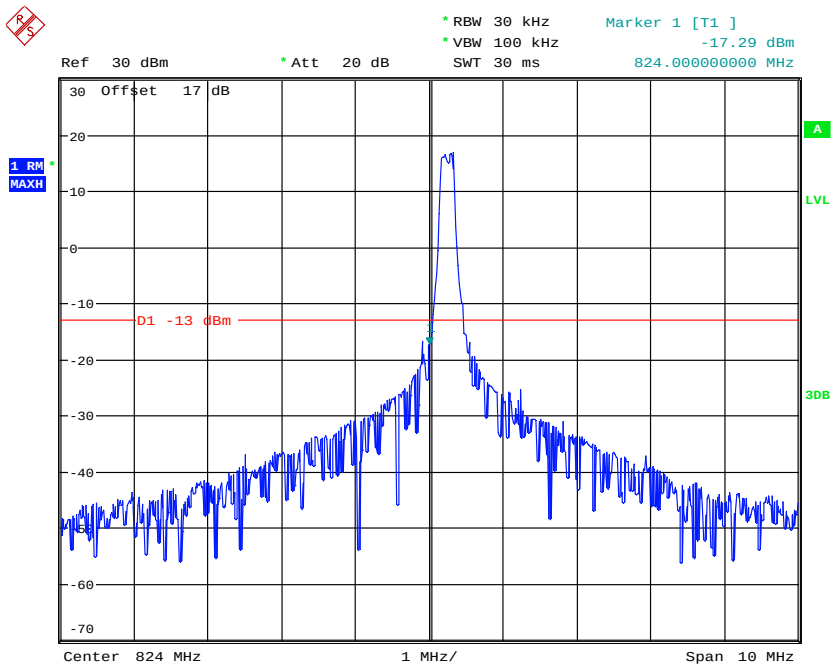
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BANDEDGE BAND5 16QAM FRB 1.4MHz CH20643

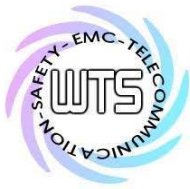
Date: 6.APR.2023 19:16:39

1RB



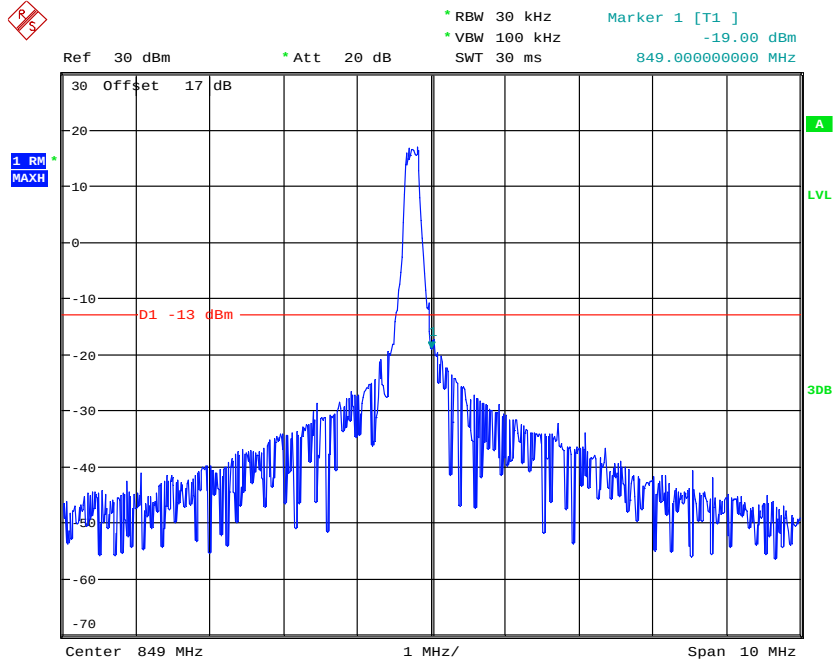
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Date: 6.APR.2023 19:13:52

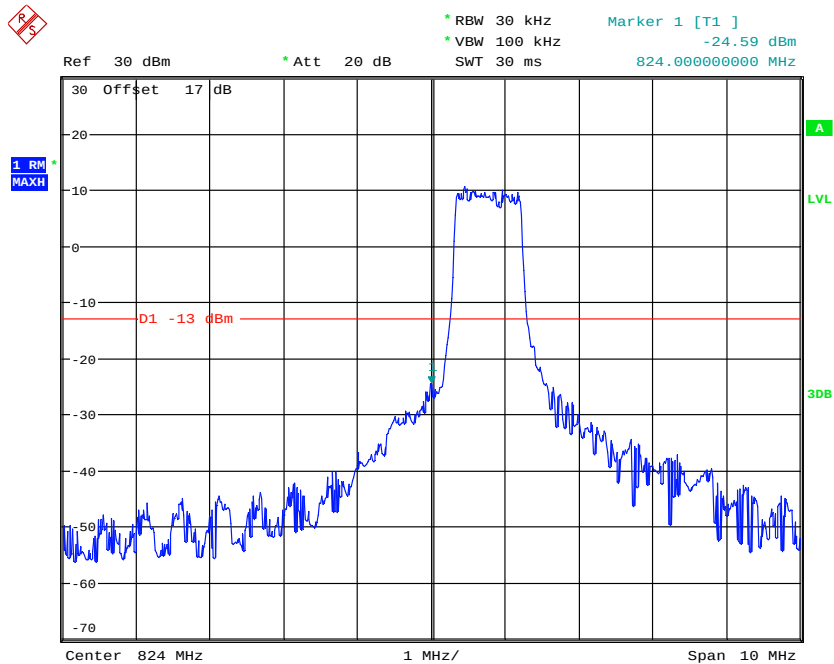


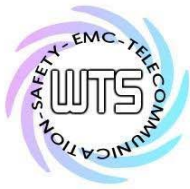
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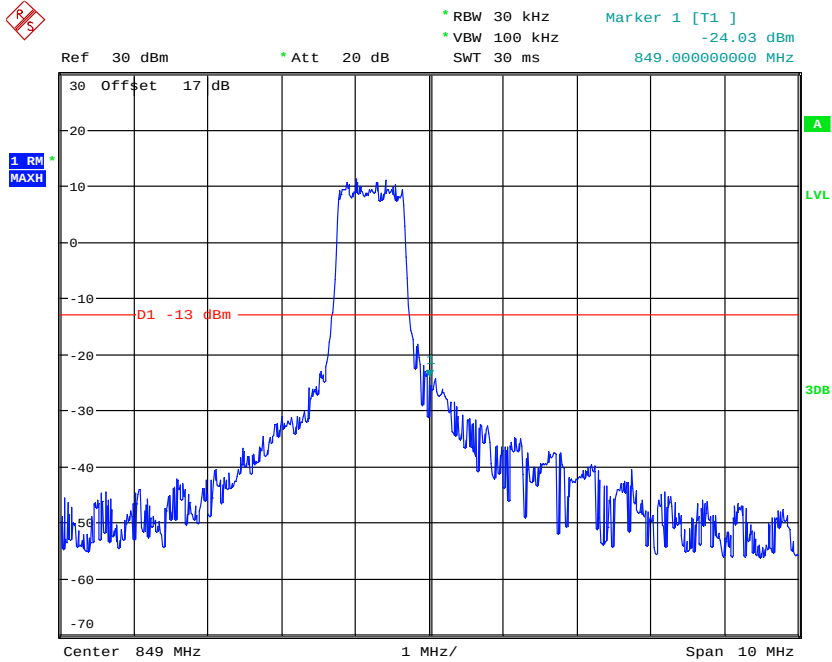
3 MHz
FRB





Registration number: W6M22302-22480-C-247

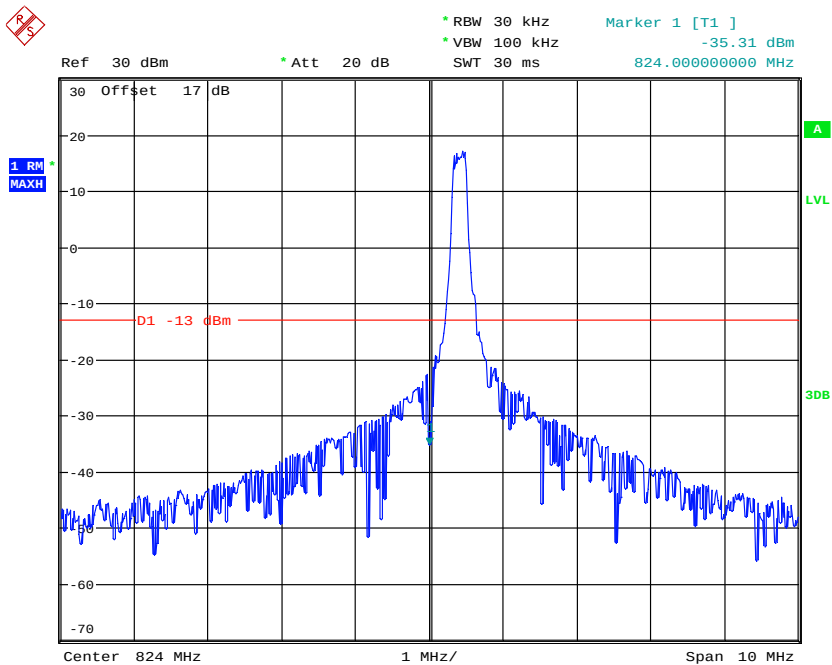
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BANDEDGE BAND5 16QAM FRB 3MHz CH20635

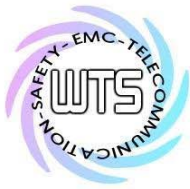
Date: 6.APR.2023 19:33:41

1RB



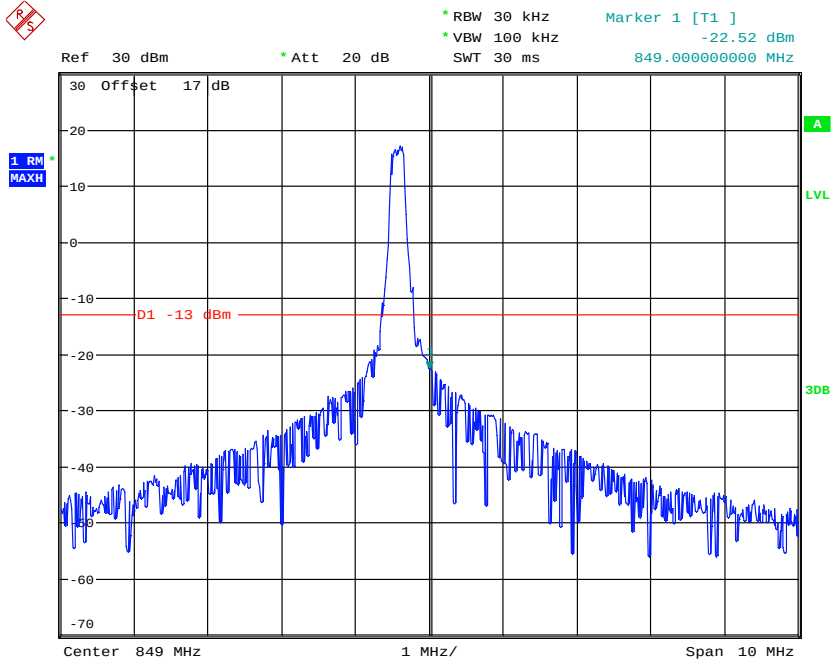
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Date: 6.APR.2023 20:04:40



Registration number: W6M22302-22480-C-247

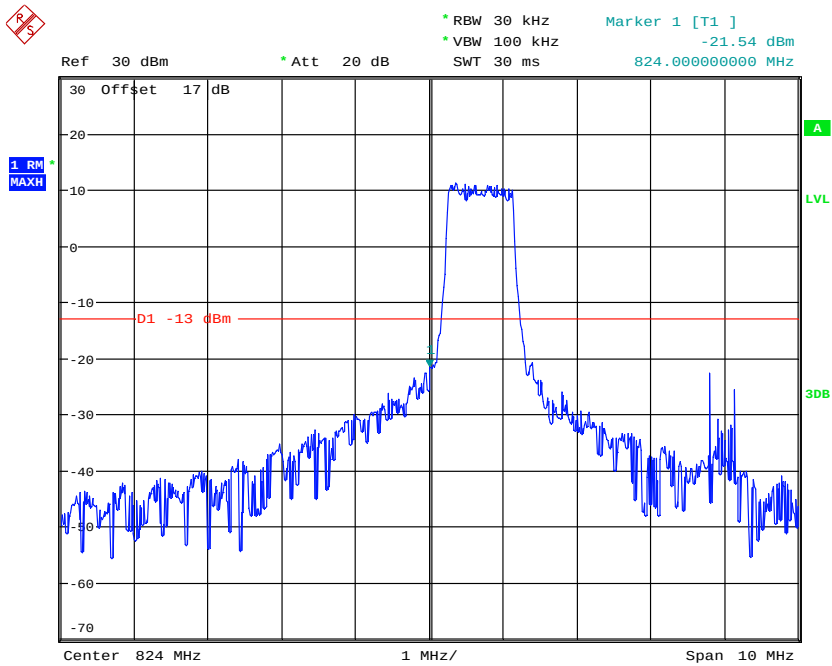
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BANDEDGE BAND5 16QAM 1RB 3MHz CH20635

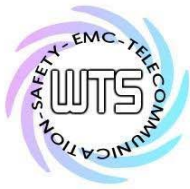
Date: 6.APR.2023 19:34:19

5 MHz
FRB



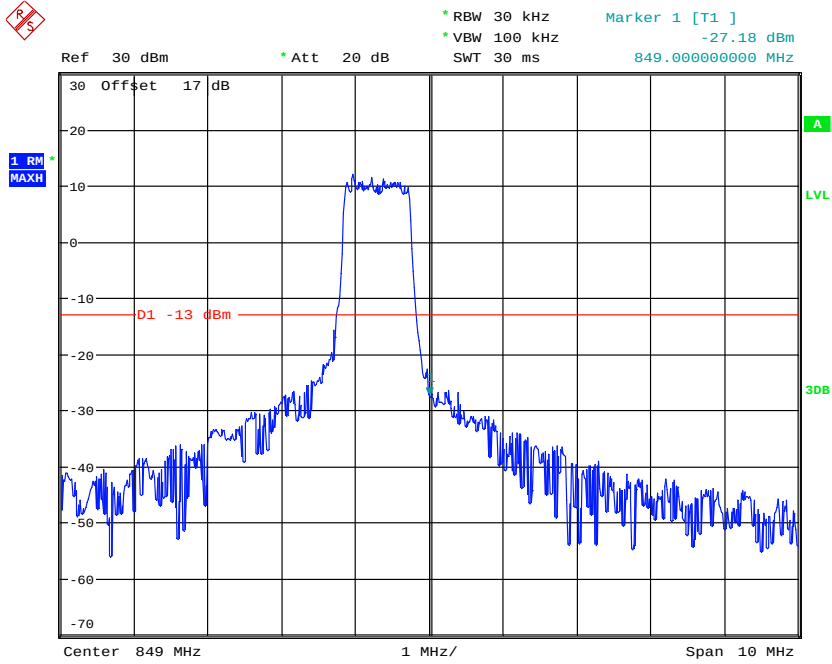
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Date: 6.APR.2023 19:45:39



Registration number: W6M22302-22480-C-247

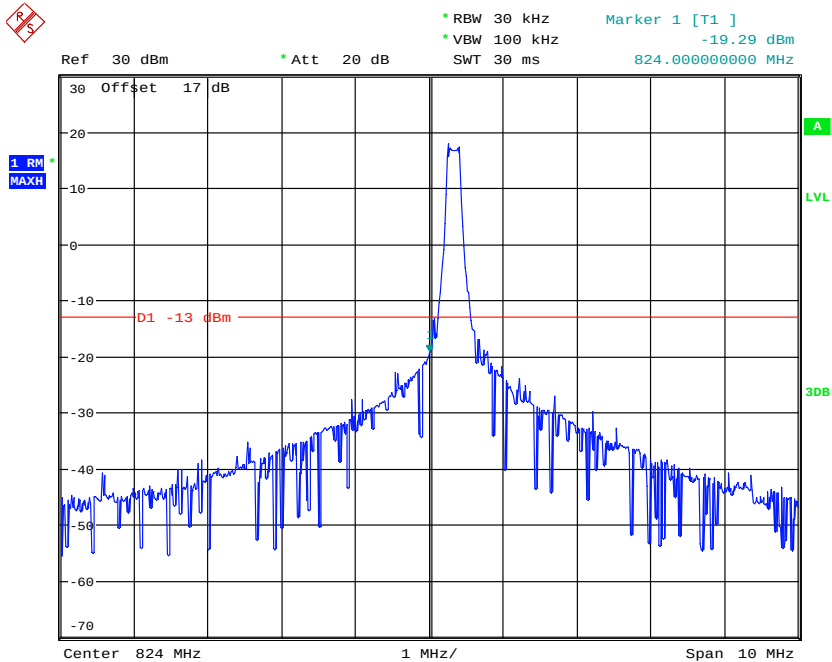
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BANDEDGE BAND5 16QAM FRB 5MHz CH20625

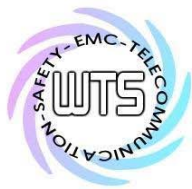
Date: 6.APR.2023 19:43:21

1RB



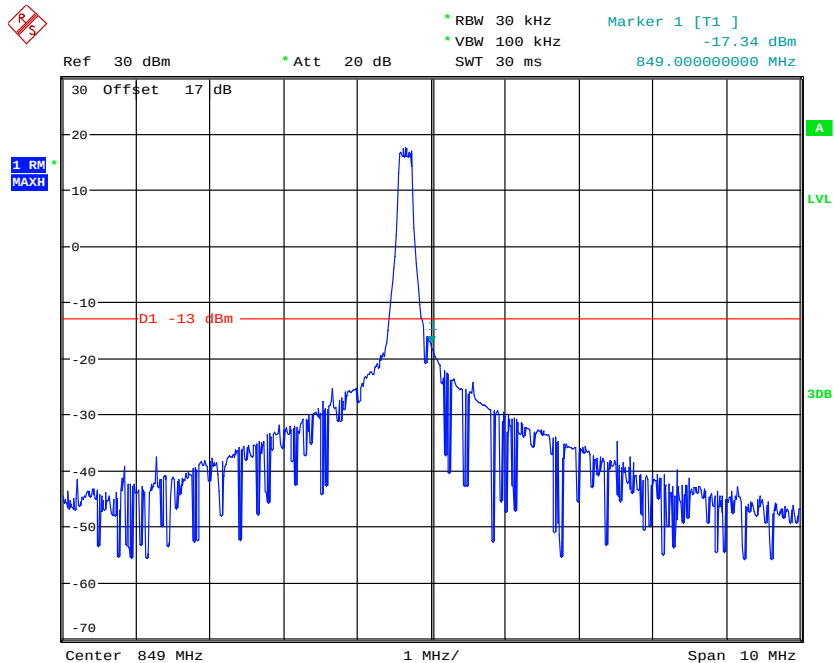
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Date: 6.APR.2023 19:46:26



Registration number: W6M22302-22480-C-247

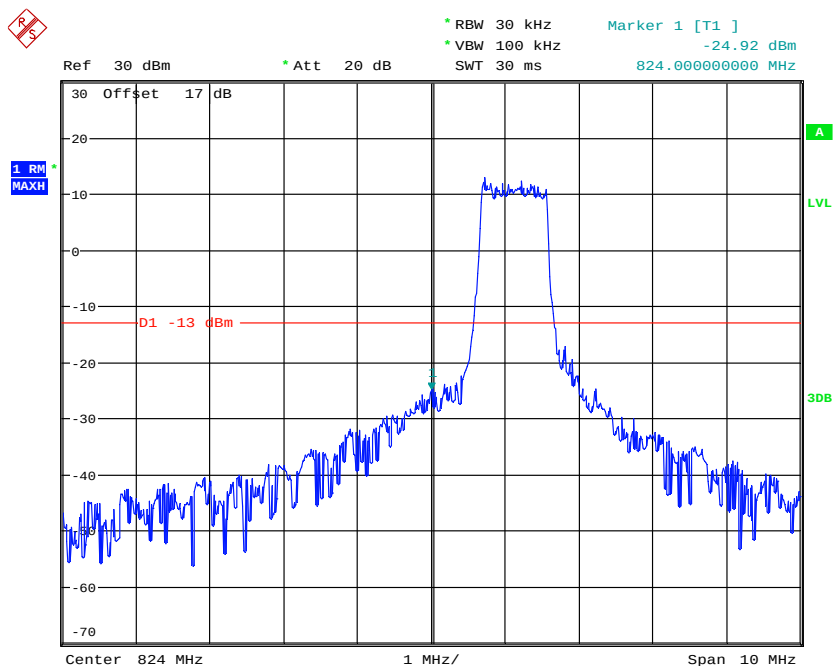
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BANDEDGE BAND5 16QAM 1RB 5MHz CH20625

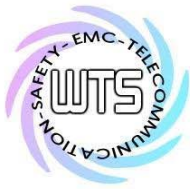
Date: 6.APR.2023 19:42:39

10 MHz
FRB



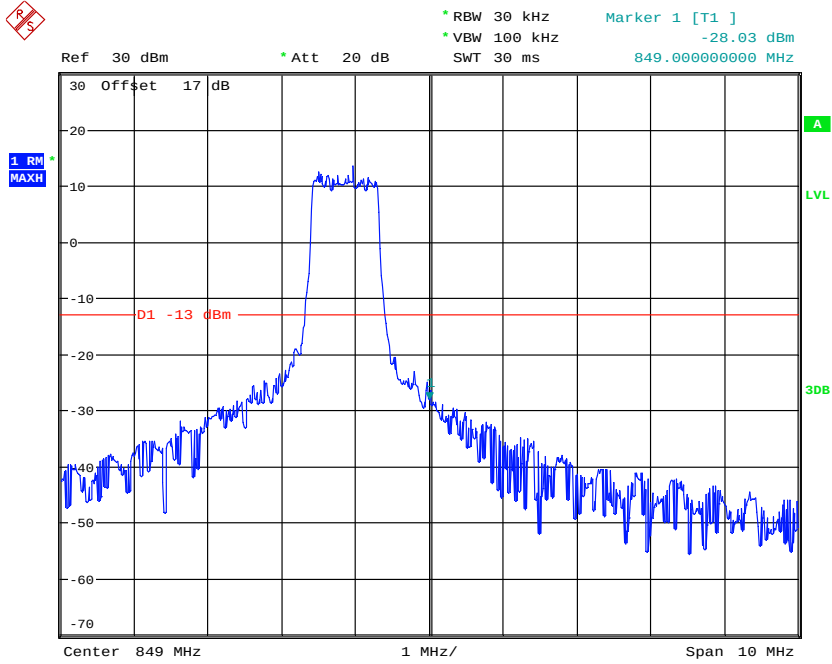
BANDEDGE BAND5 16QAM FRB 10MHz CH20450

Date: 6.APR.2023 20:25:59



Registration number: W6M22302-22480-C-247

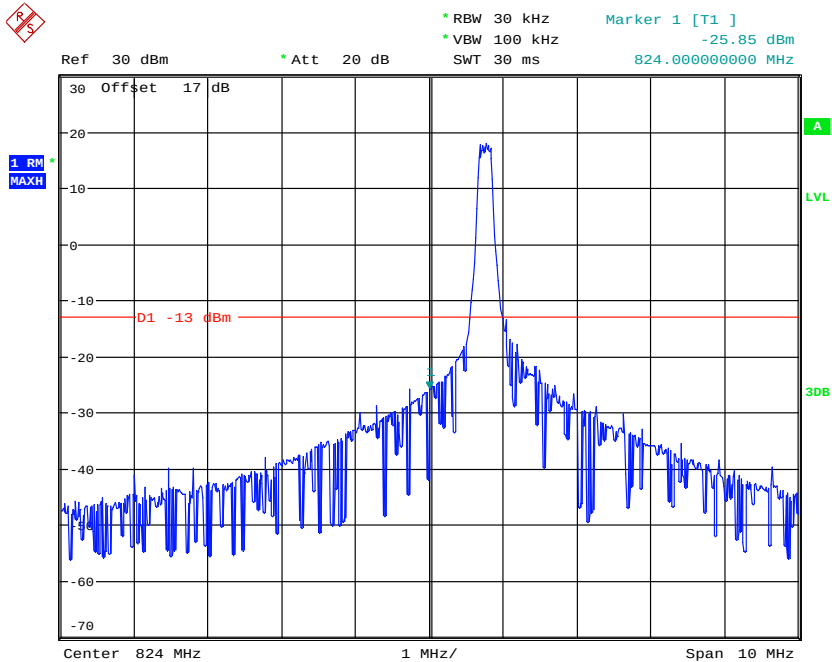
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BANDEDGE BAND5 16QAM FRB 10MHz CH20600

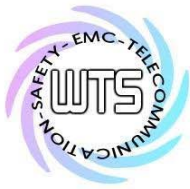
Date: 6.APR.2023 20:19:52

1RB



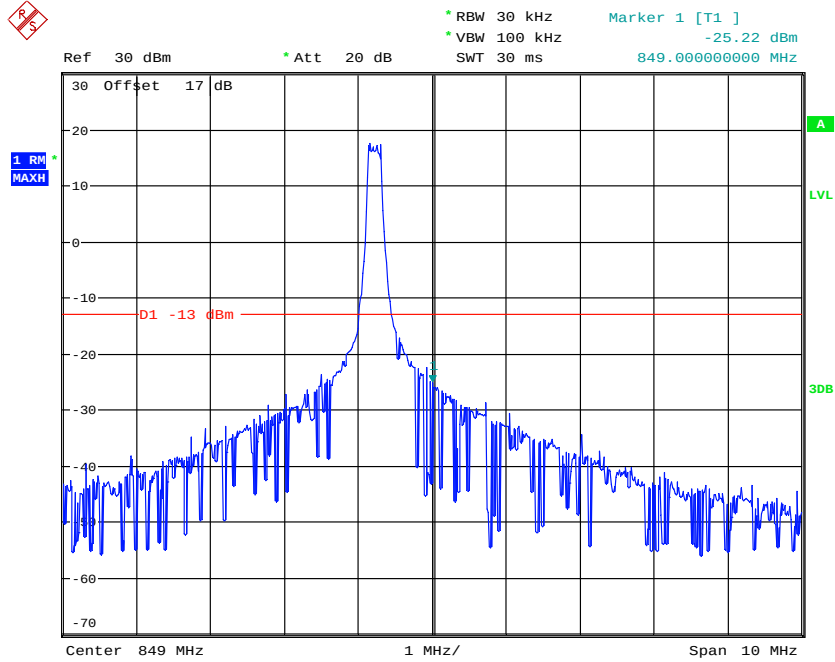
BANDEDGE BAND5 16QAM 1RB 10MHz CH20450

Date: 6.APR.2023 20:23:09



Registration number: W6M22302-22480-C-247

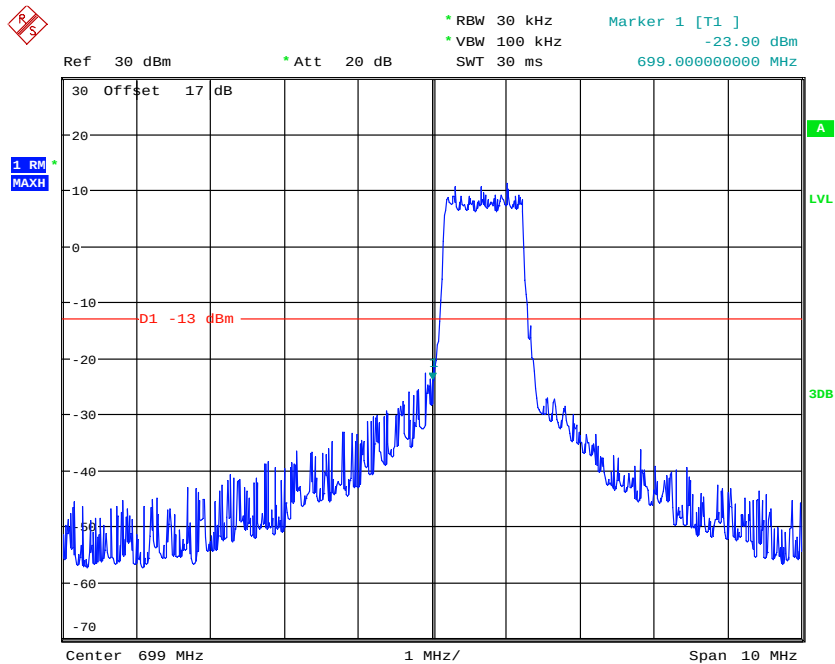
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BANDEDGE BAND5 16QAM 1RB 10MHZ CH20600

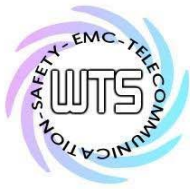
Date: 6.APR.2023 20:19:06

Band 12
QPSK
1.4 MHz
FRB



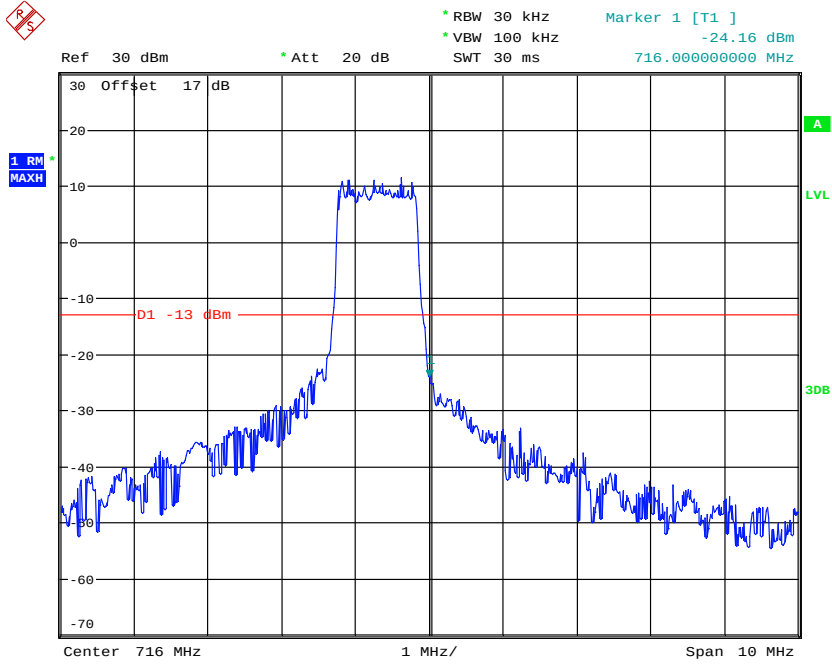
BANDEDGE BAND12 QPSK FRB 1.4MHZ CH23017

Date: 31.MAR.2023 16:30:31



Registration number: W6M22302-22480-C-247

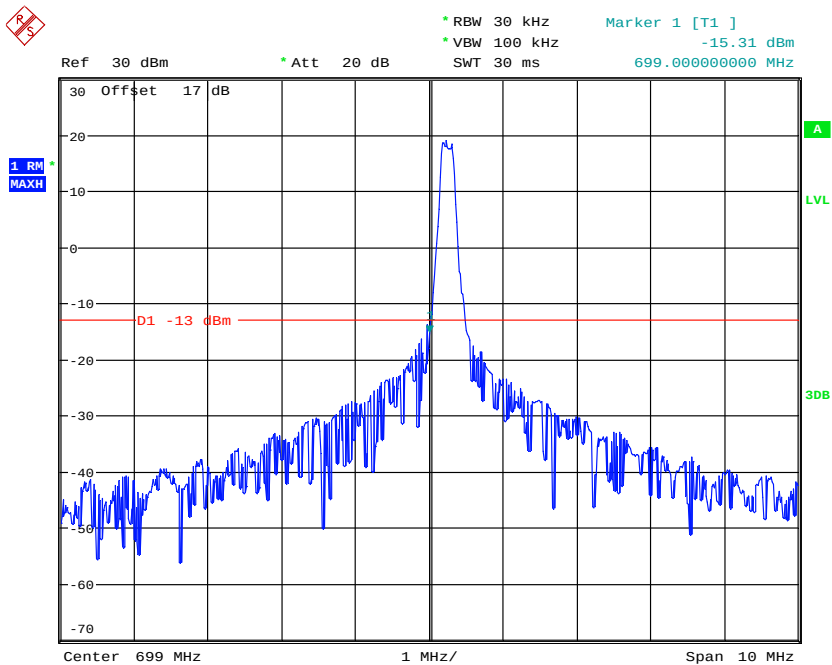
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BANDEDGE BAND12 QPSK FRB 1.4MHZ CH23173

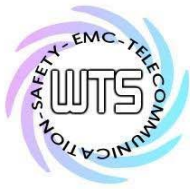
Date: 31.MAR.2023 16:44:02

1RB



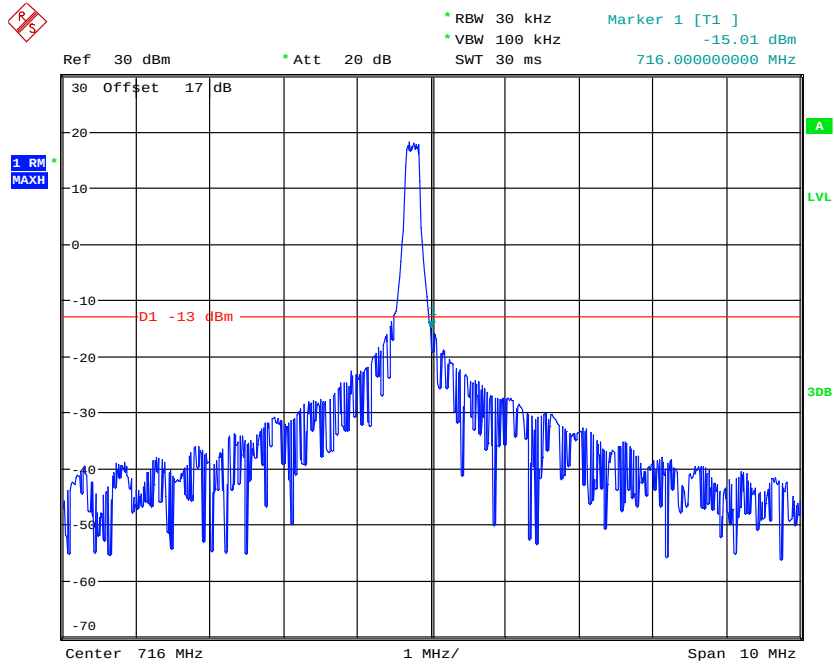
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Date: 31.MAR.2023 16:31:41



Registration number: W6M22302-22480-C-247

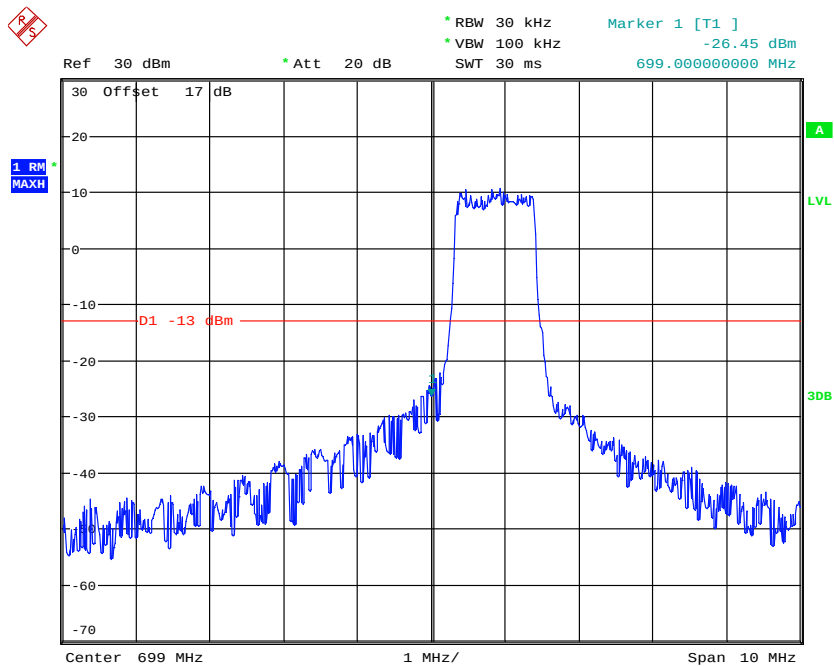
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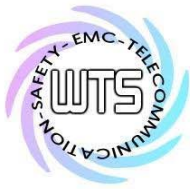
Date: 31.MAR.2023 16:43:06

3 MHz
FRB



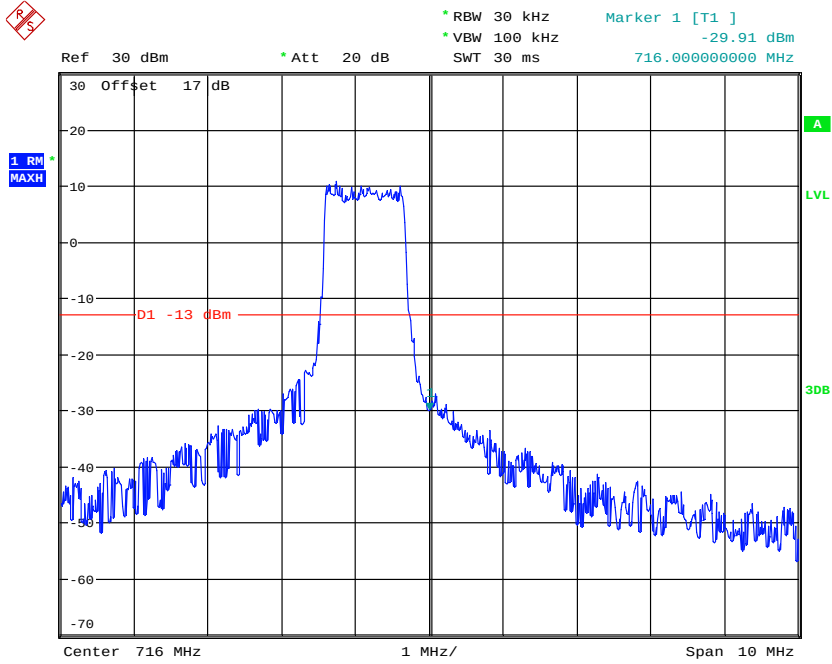
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Date: 31.MAR.2023 16:48:51



Registration number: W6M22302-22480-C-247

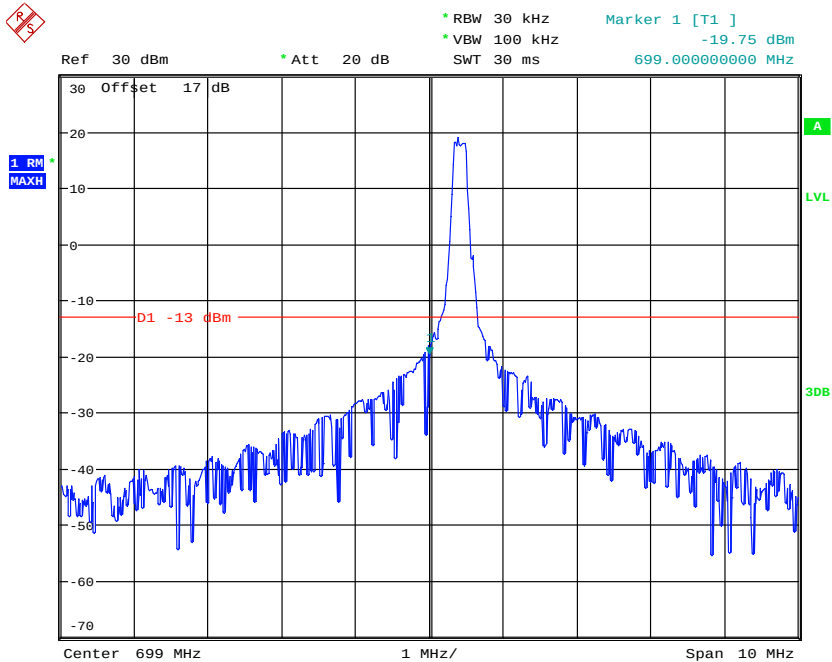
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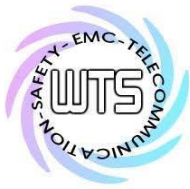
Date: 31.MAR.2023 17:41:40

1RB



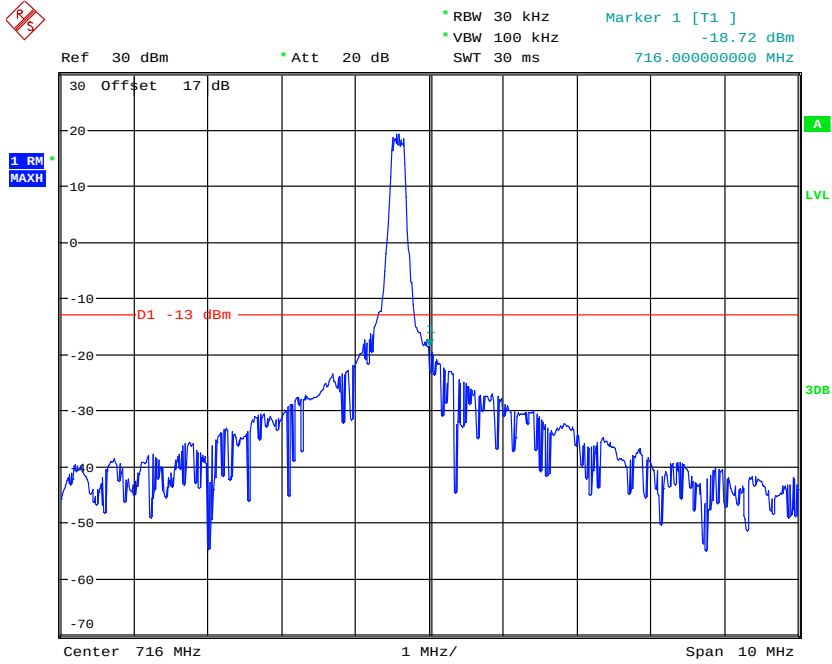
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Date: 31.MAR.2023 16:54:06



Registration number: W6M22302-22480-C-247

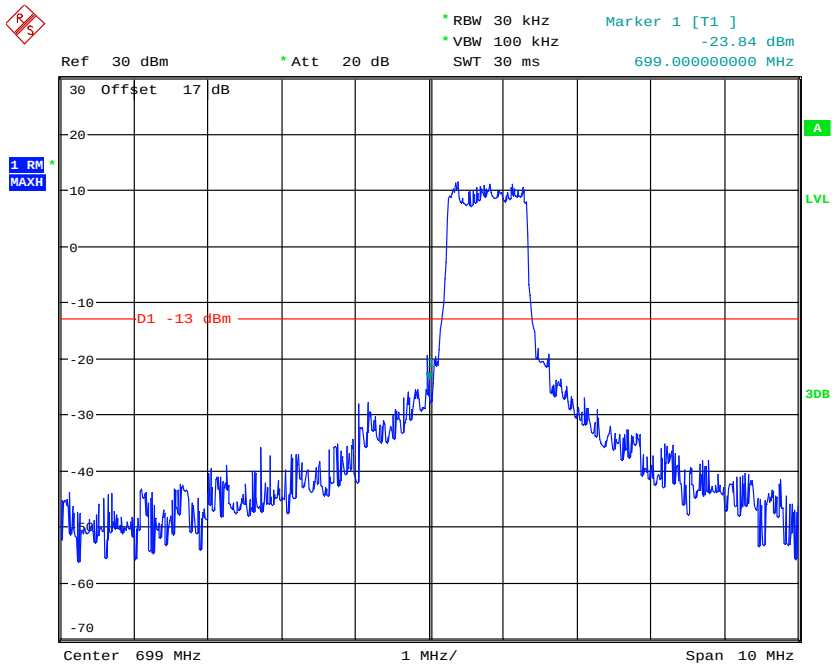
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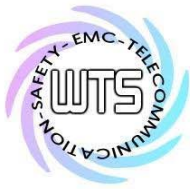
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5 MHz
FRB



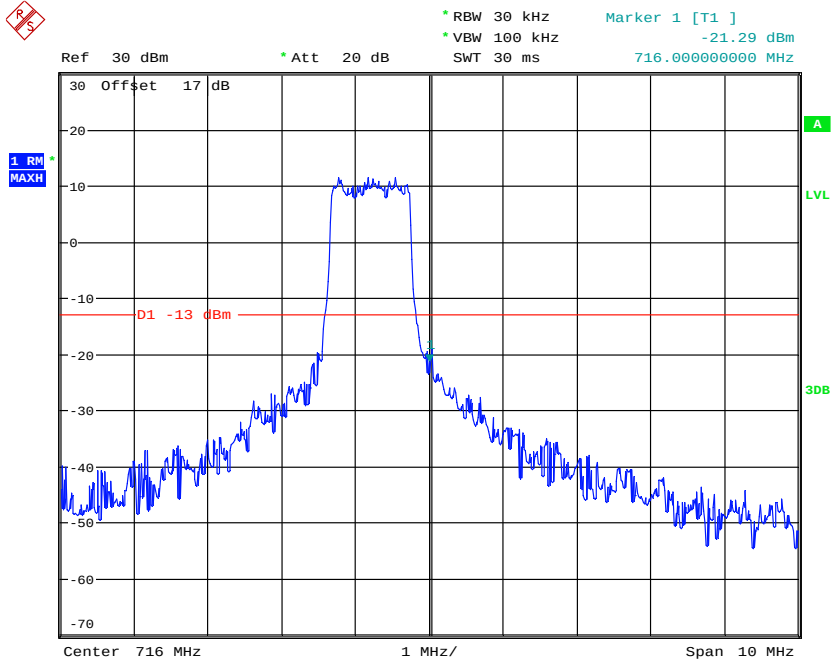
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Date: 31.MAR.2023 19:22:26



Registration number: W6M22302-22480-C-247

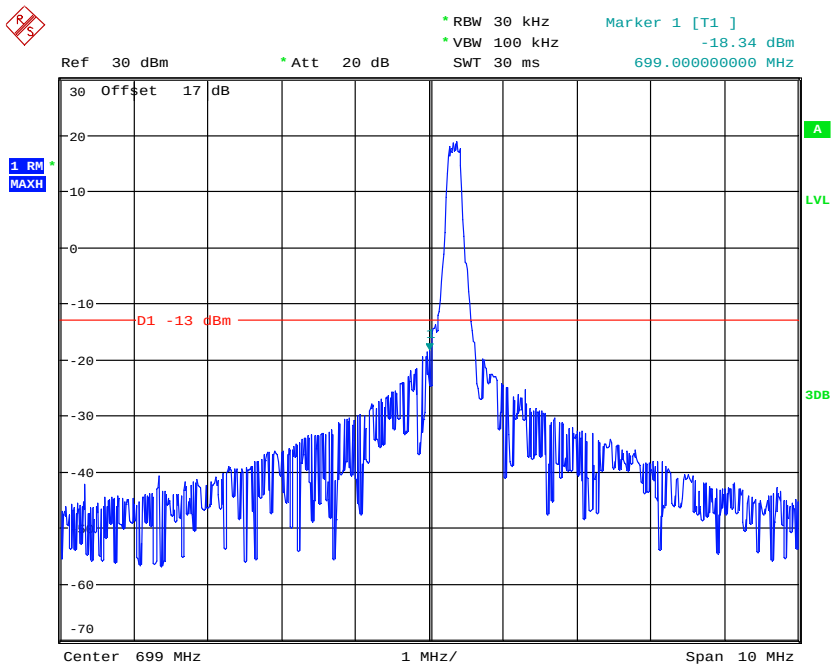
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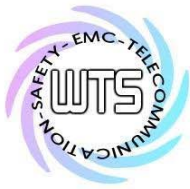
Date: 31.MAR.2023 17:52:41

1RB



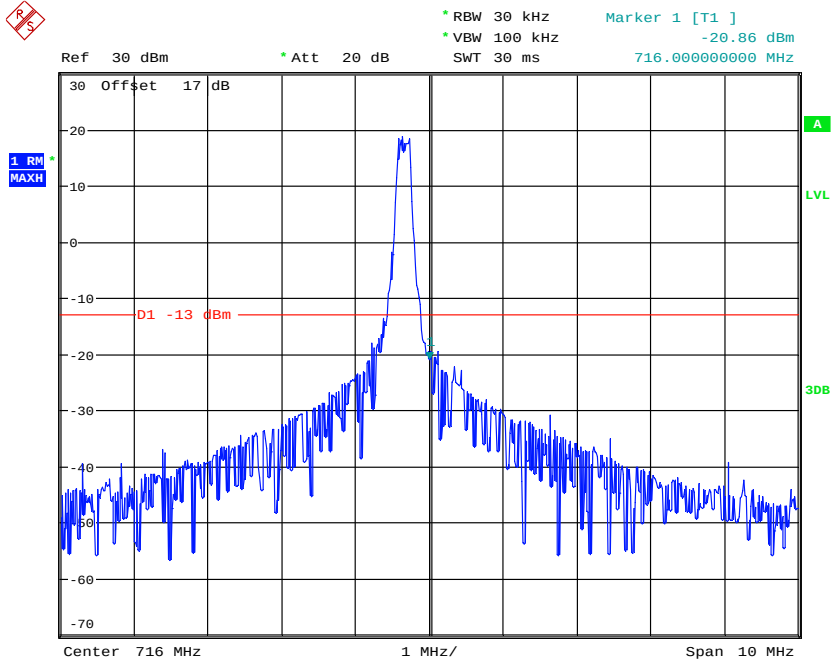
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Date: 31.MAR.2023 19:21:46



Registration number: W6M22302-22480-C-247

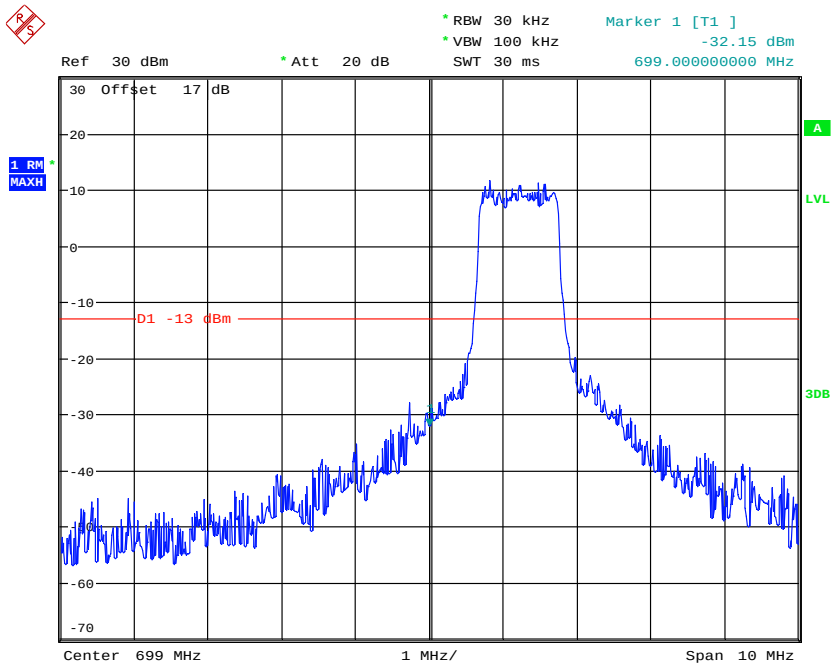
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Date: 31.MAR.2023 17:53:14

10 MHz
FRB

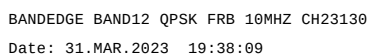


BANDEDGE BAND12 QPSK FRB 10MHZ CH23060

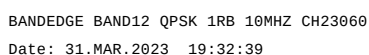
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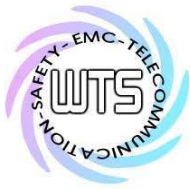


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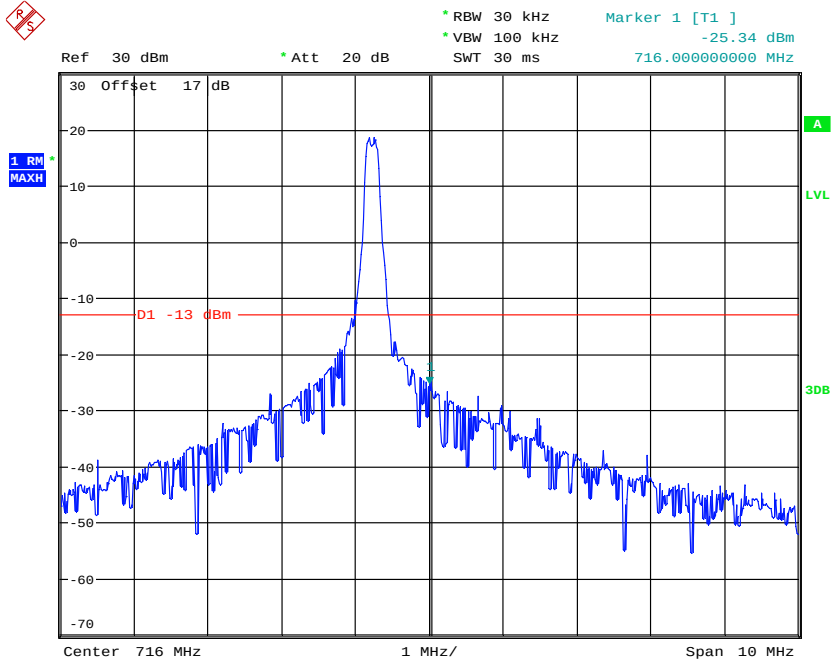
1RB



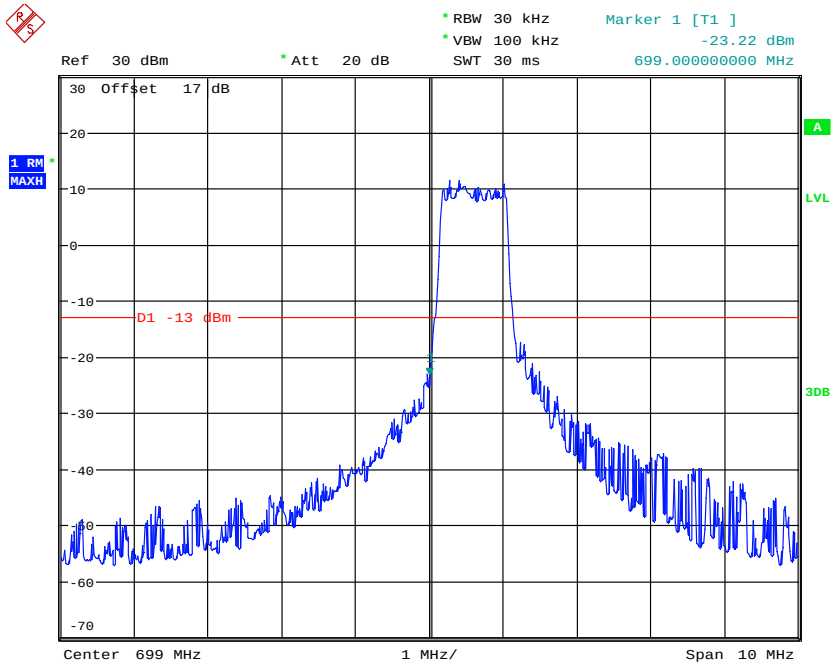


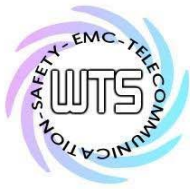
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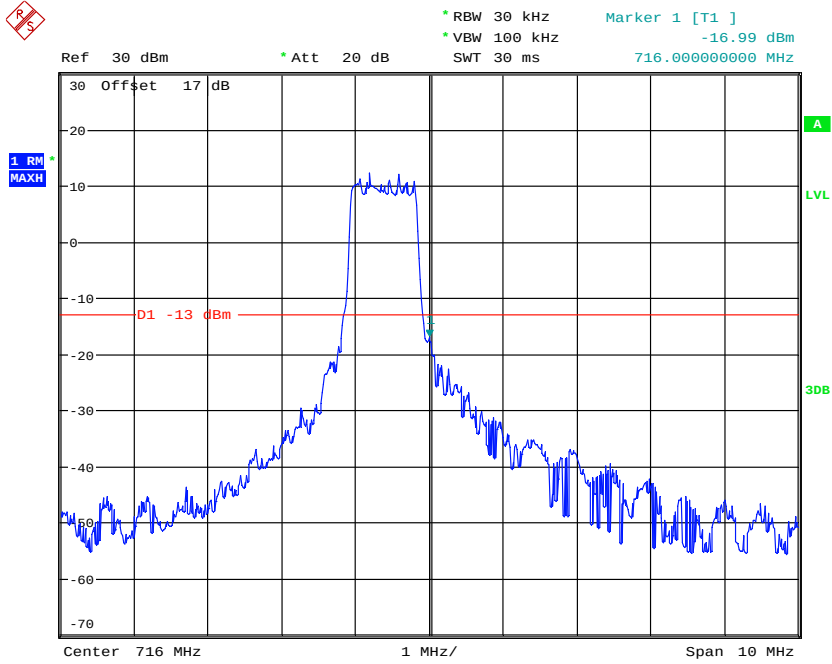
16QAM
1.4 MHz
FRB





Registration number: W6M22302-22480-C-247

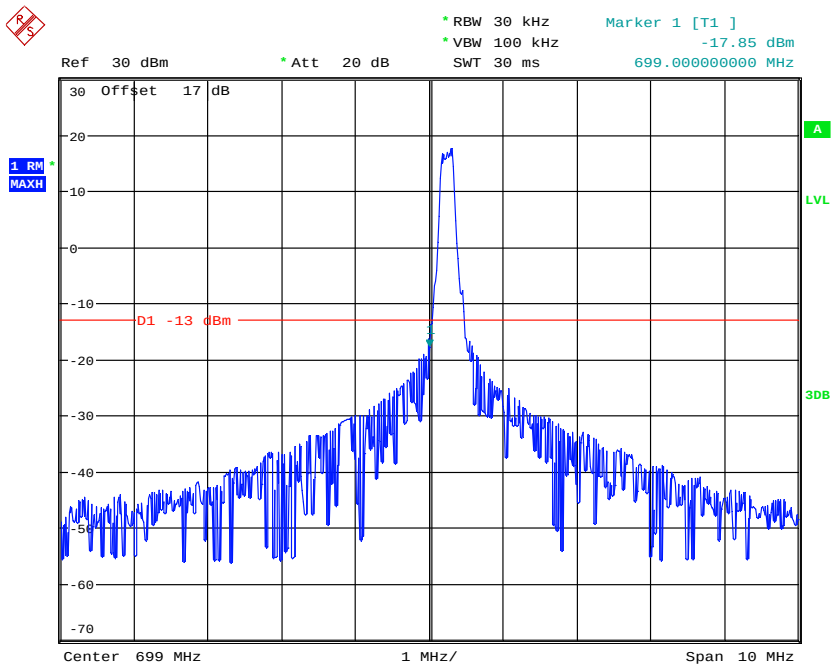
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BANDEDGE BAND12 16QAM FRB 1.4MHZ CH23173

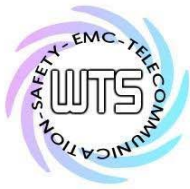
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1RB



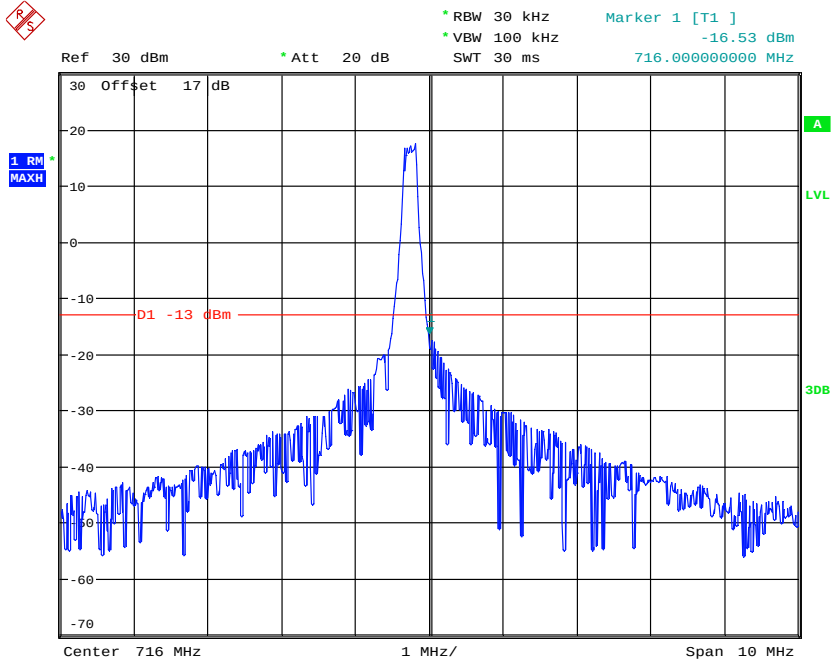
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Date: 31.MAR.2023 16:32:46



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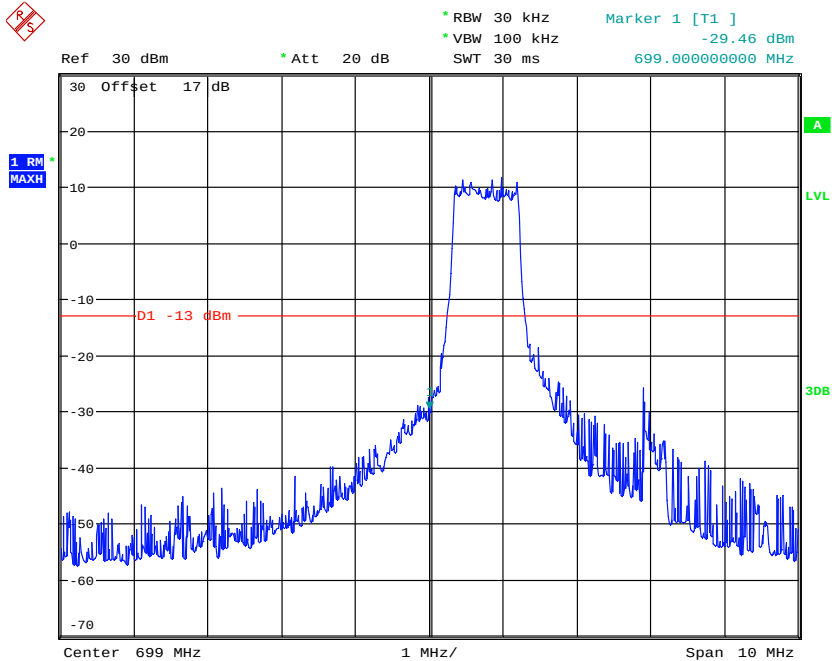
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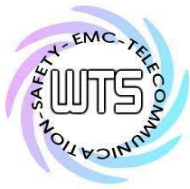
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3 MHz
FRB



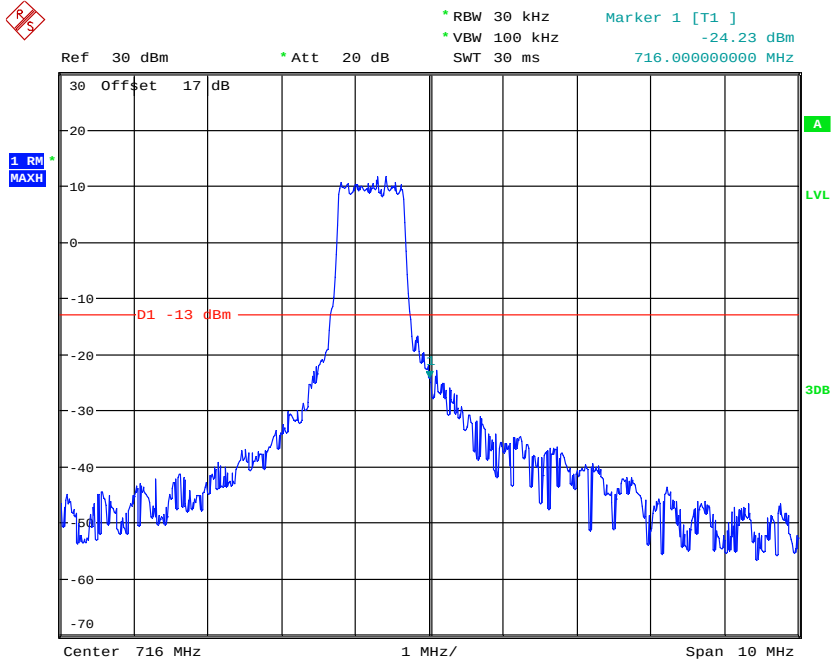
BANDEDGE BAND12 16QAM FRB 3MHz CH23025

Date: 31.MAR.2023 19:47:55



Registration number: W6M22302-22480-C-247

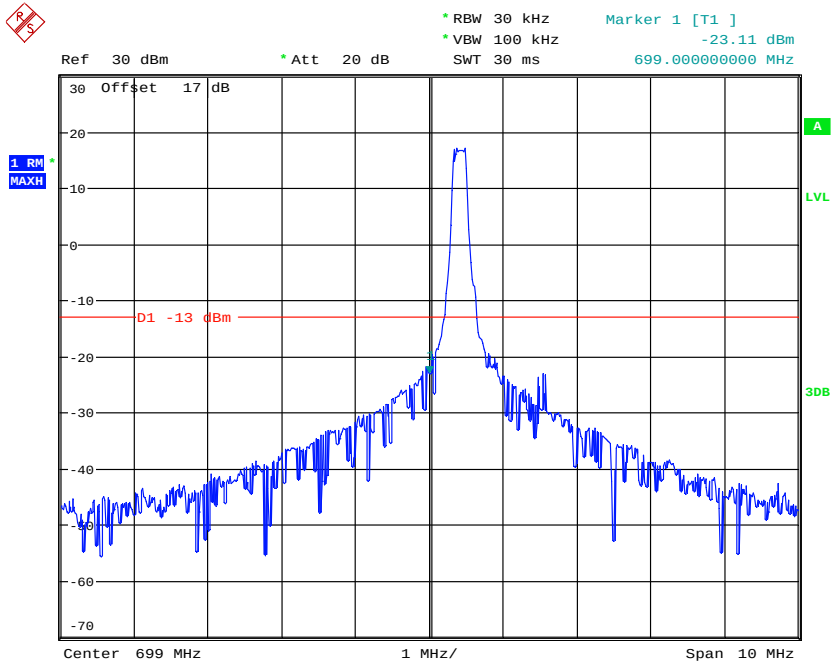
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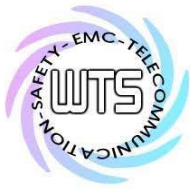
Date: 31.MAR.2023 17:20:58

1RB



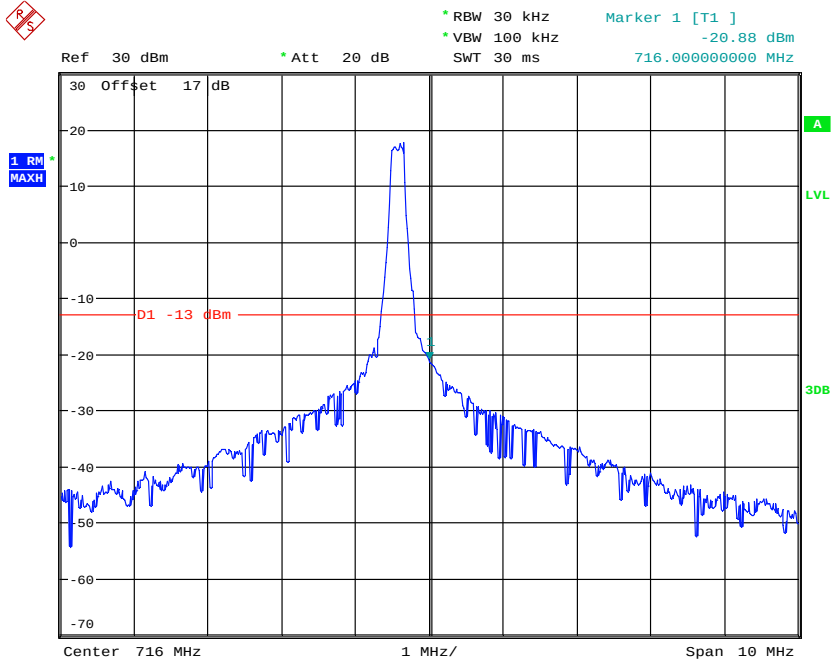
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Date: 31.MAR.2023 16:55:29



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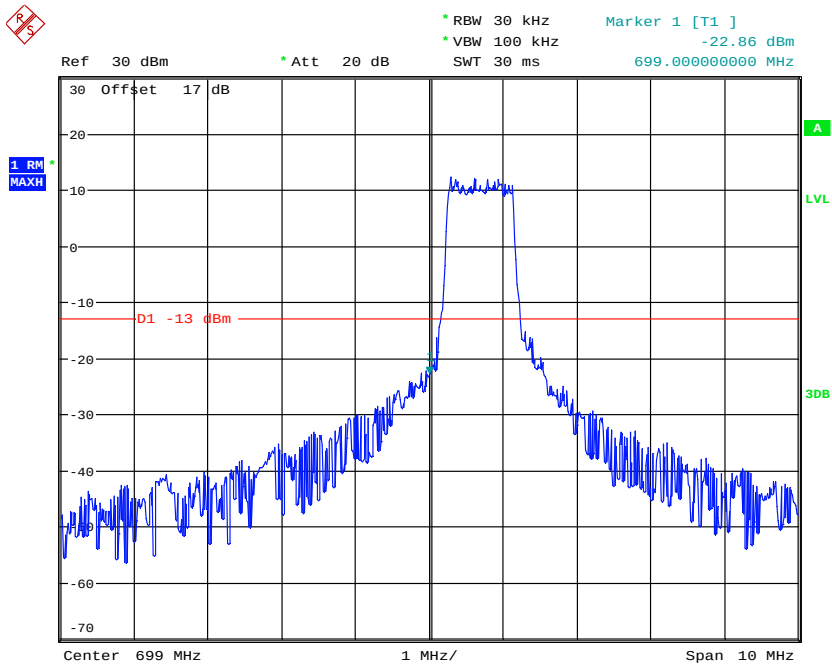
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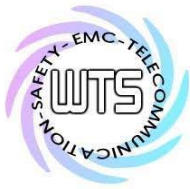
Date: 31.MAR.2023 17:39:31

5 MHz
FRB



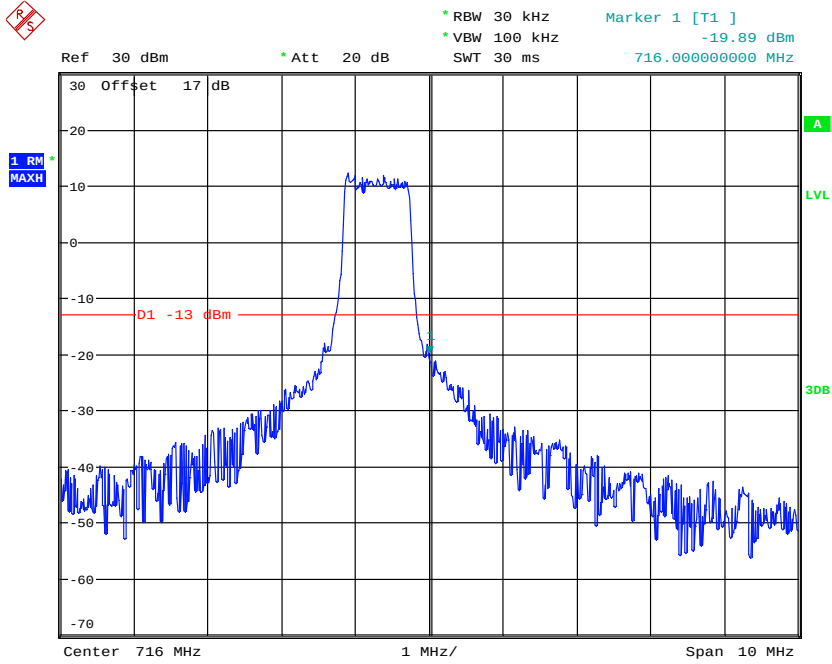
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Date: 31.MAR.2023 19:20:29



Registration number: W6M22302-22480-C-247

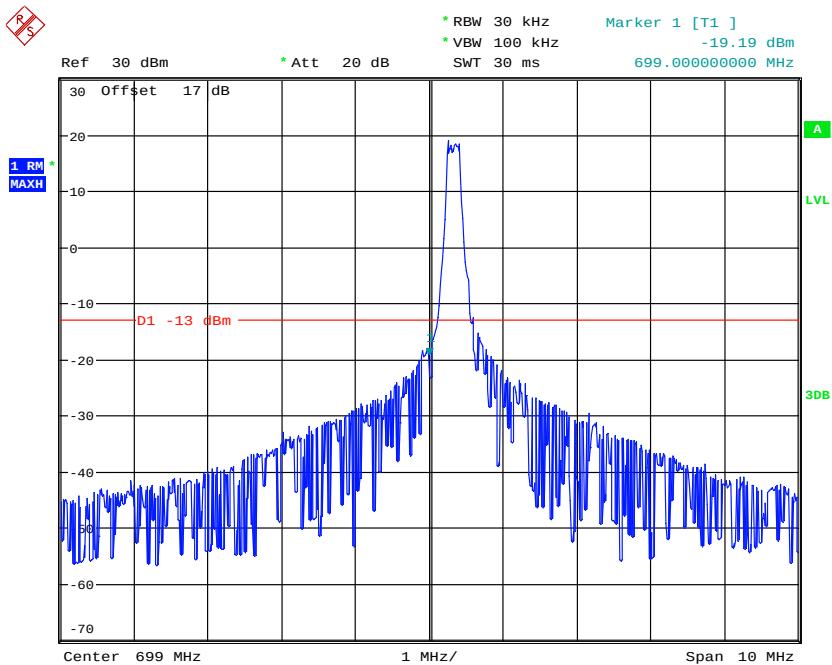
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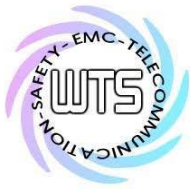
Date: 31.MAR.2023 17:54:56

1RB



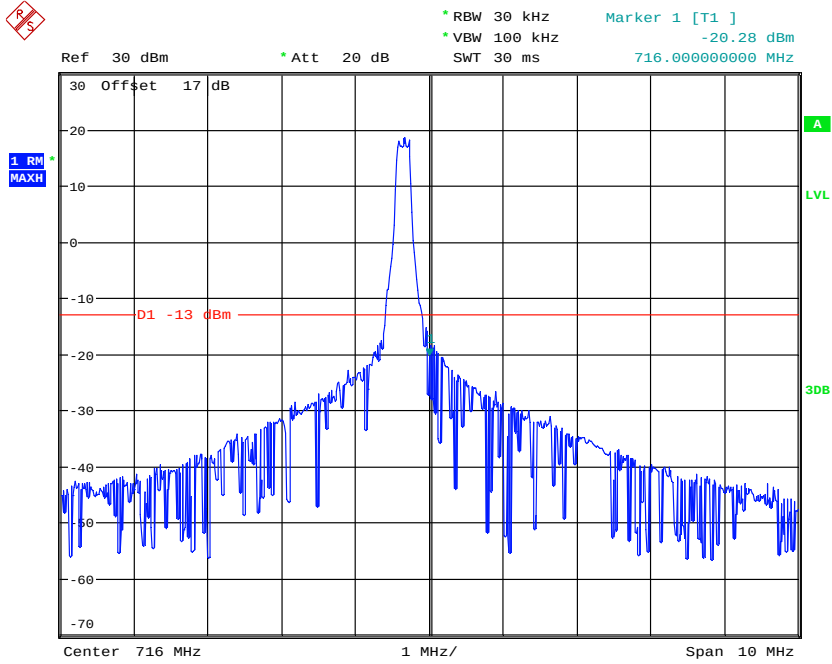
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Date: 31.MAR.2023 19:21:07



Registration number: W6M22302-22480-C-247

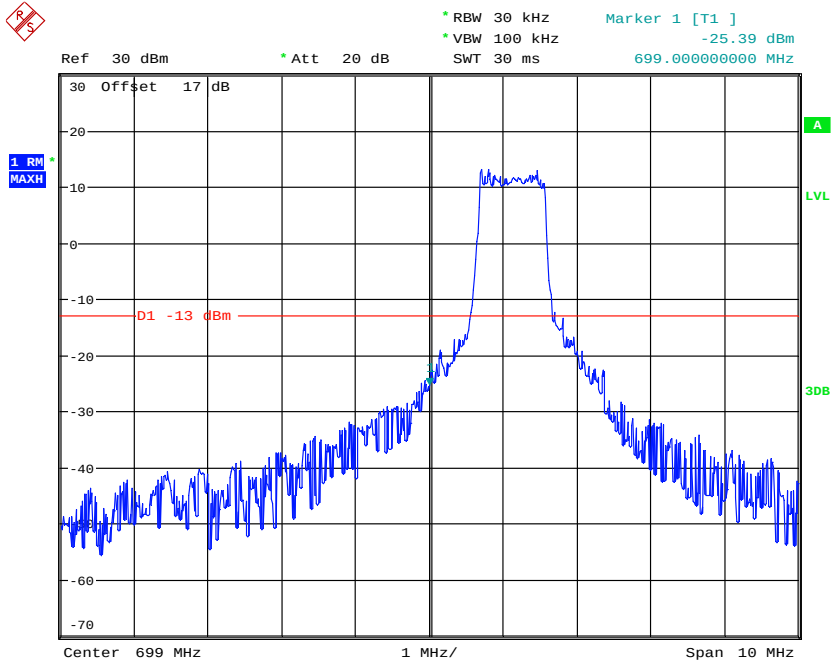
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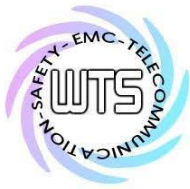
Date: 31.MAR.2023 17:54:12

10 MHz
FRB



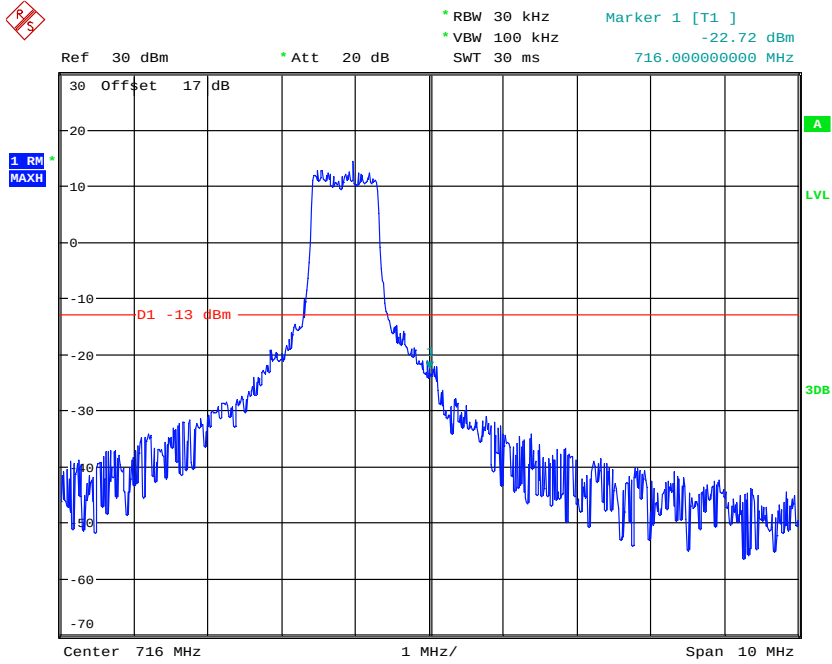
BANDEDGE BAND12 16QAM FRB 10MHZ CH23060

Date: 31.MAR.2023 19:33:52



Registration number: W6M22302-22480-C-247

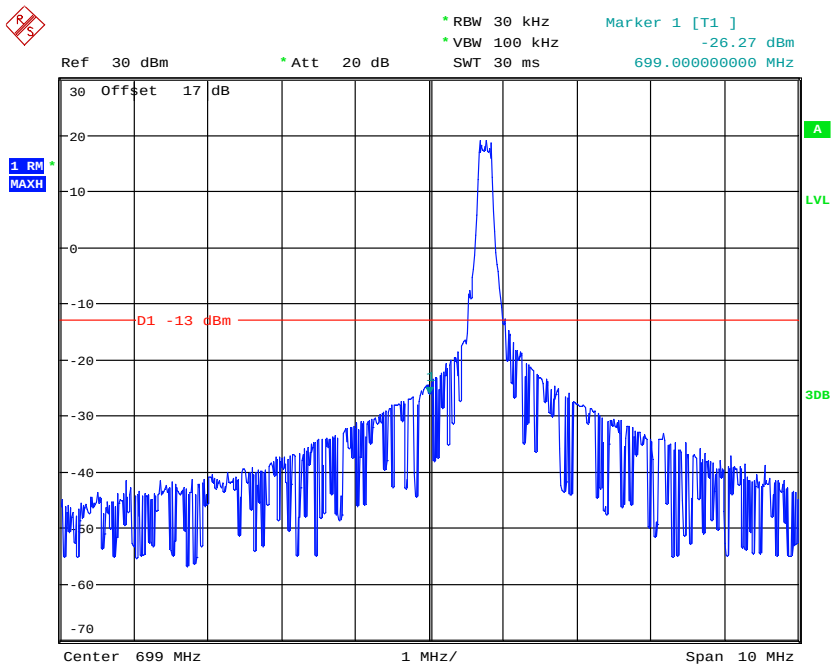
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BANDEDGE BAND12 16QAM FRB 10MHZ CH23130

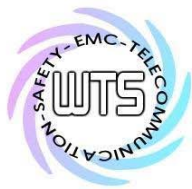
Date: 31.MAR.2023 19:37:19

1RB



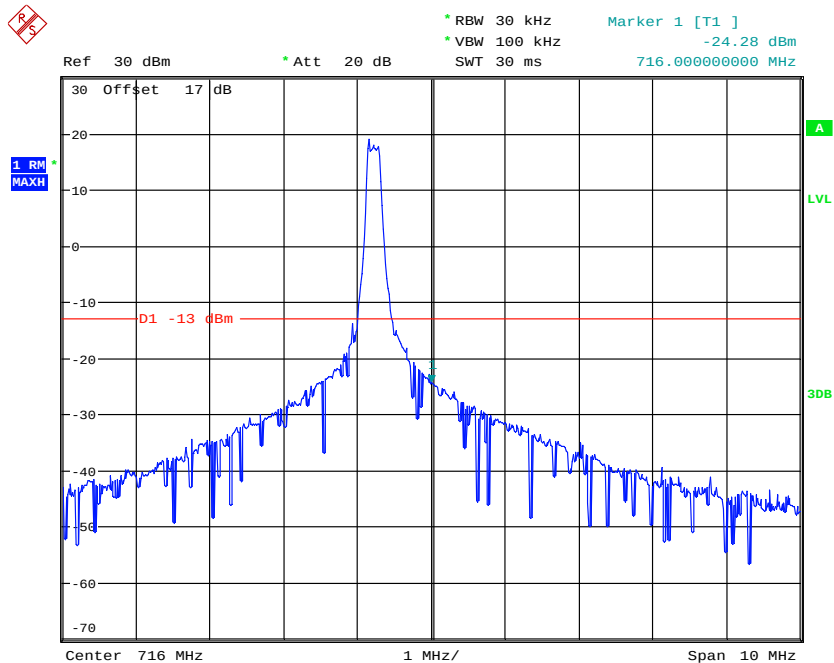
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Date: 31.MAR.2023 19:34:39



Registration number: W6M22302-22480-C-247

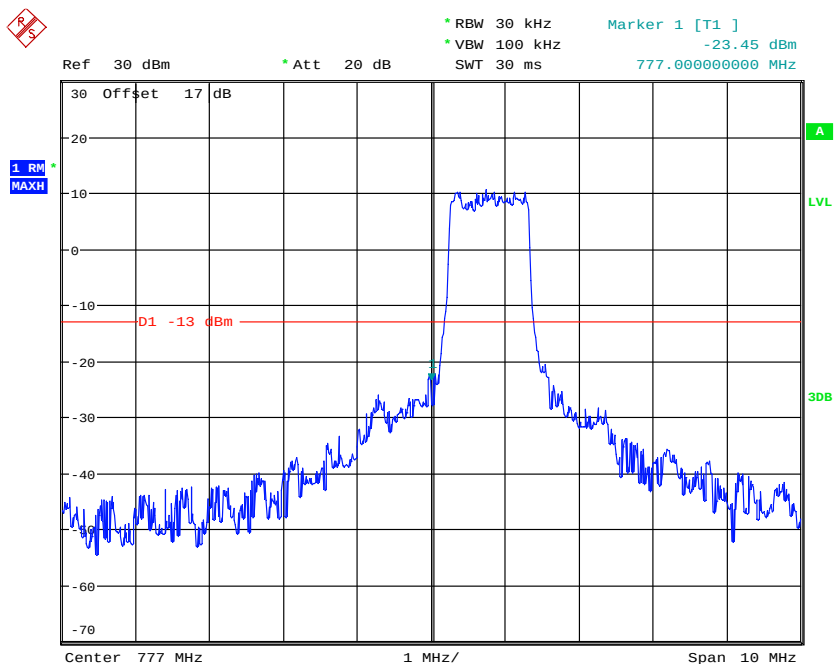
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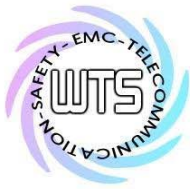
Date: 31.MAR.2023 19:36:44

Band 13
QPSK
5 MHz
FRB



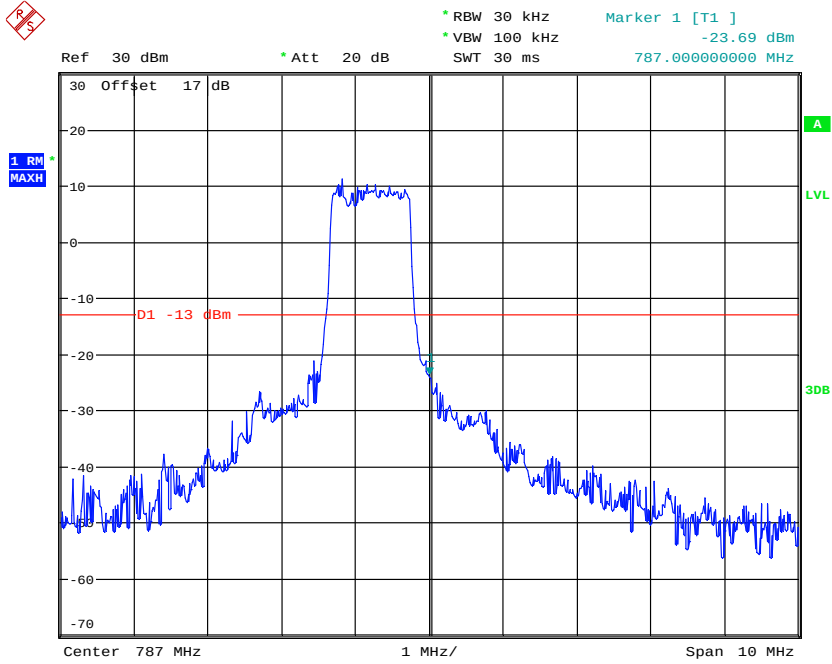
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Date: 31.MAR.2023 15:51:19



Registration number: W6M22302-22480-C-247

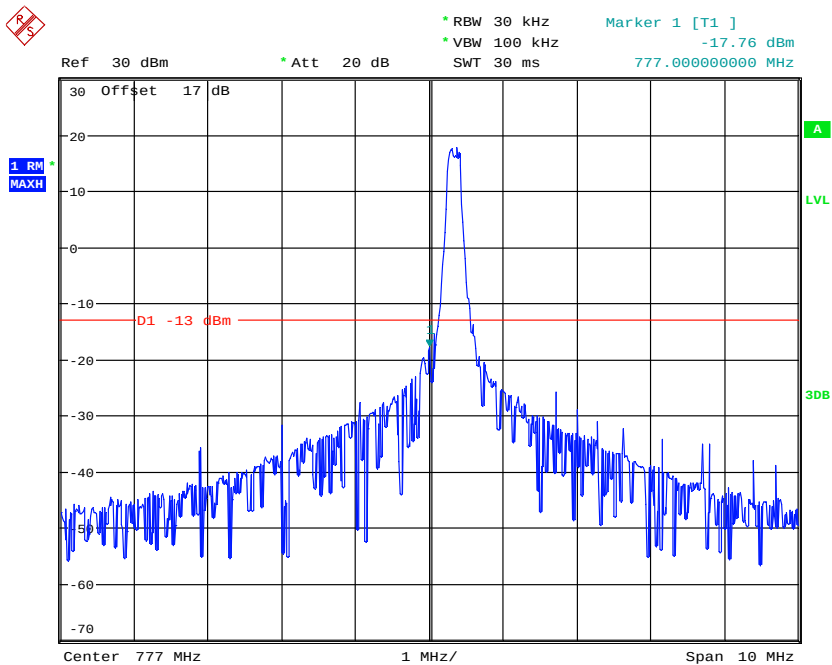
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BANDEDGE BAND13 QPSK FRB 5MHZ CH23255

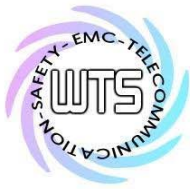
Date: 31.MAR.2023 15:58:15

1RB



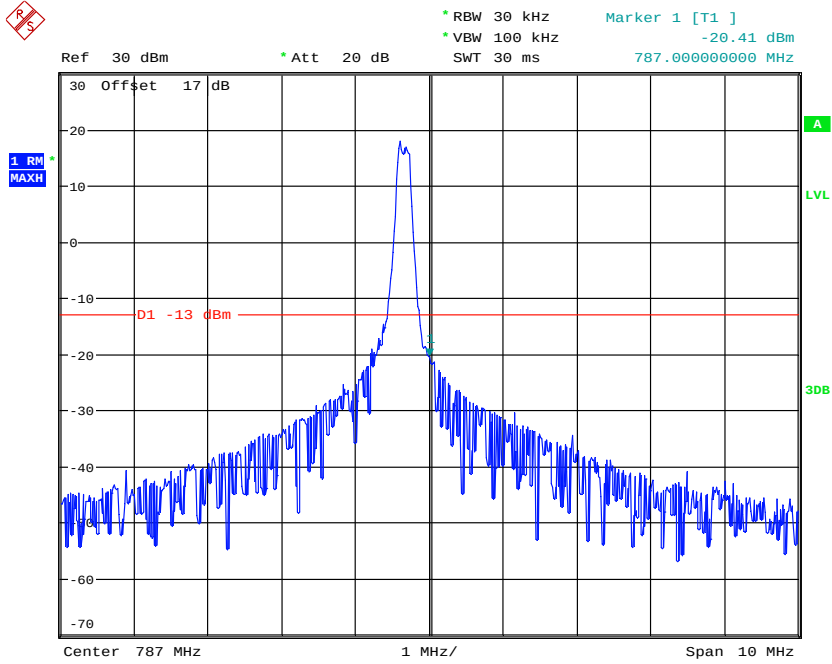
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Date: 31.MAR.2023 15:50:36



Registration number: W6M22302-22480-C-247

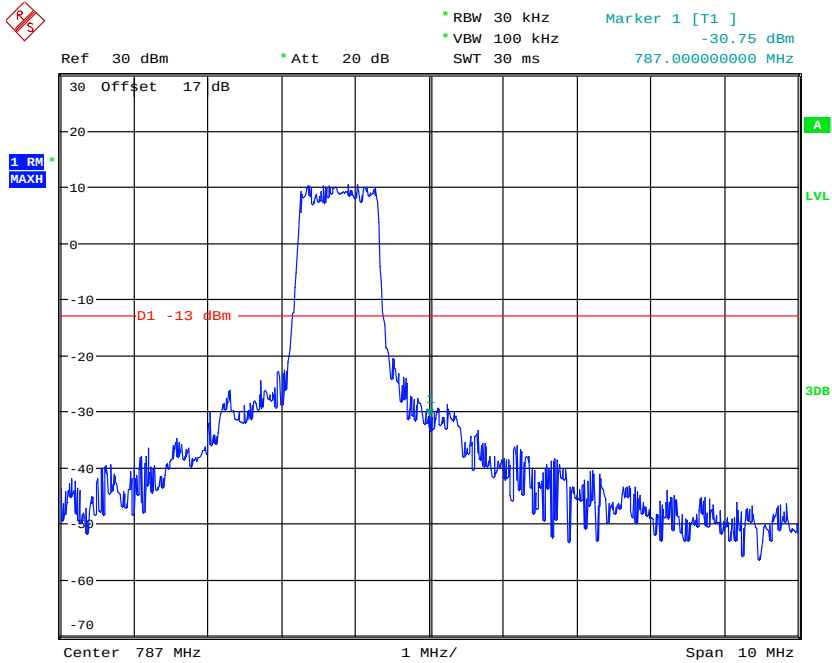
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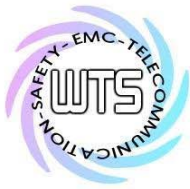
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10 MHz
FRB



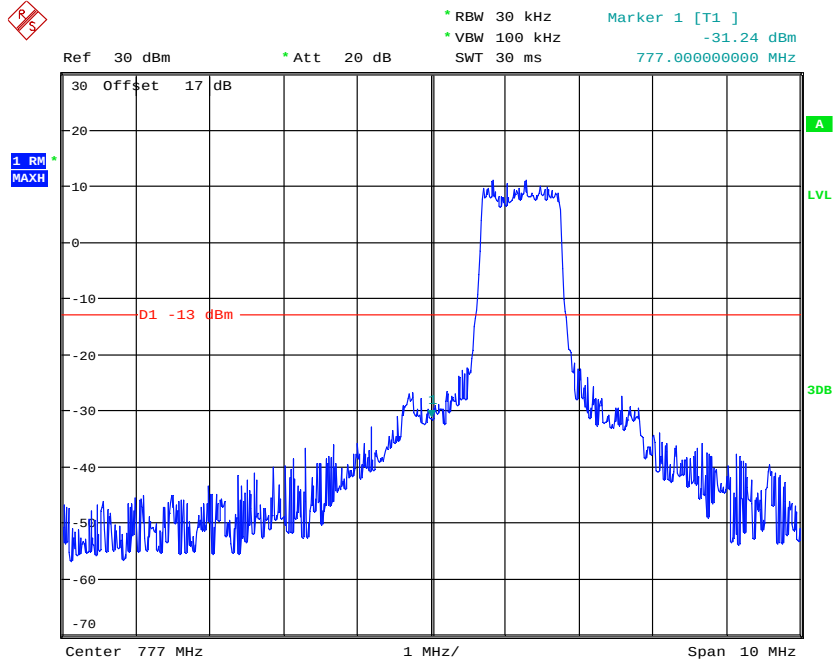
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Date: 31.MAR.2023 16:03:58



Registration number: W6M22302-22480-C-247

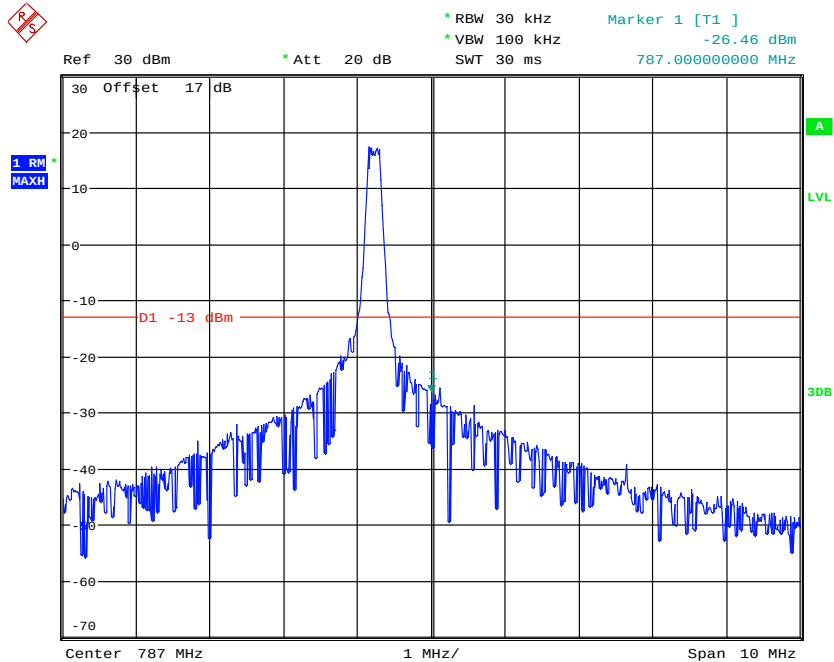
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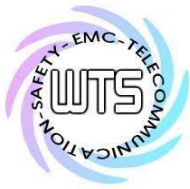
Date: 31.MAR.2023 16:21:32

1RB



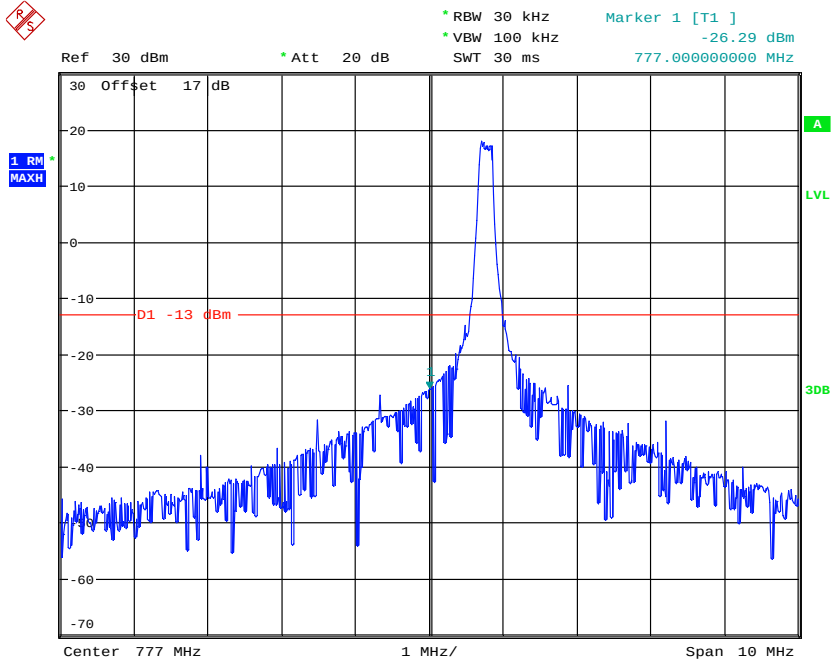
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Date: 31.MAR.2023 16:04:47



Registration number: W6M22302-22480-C-247

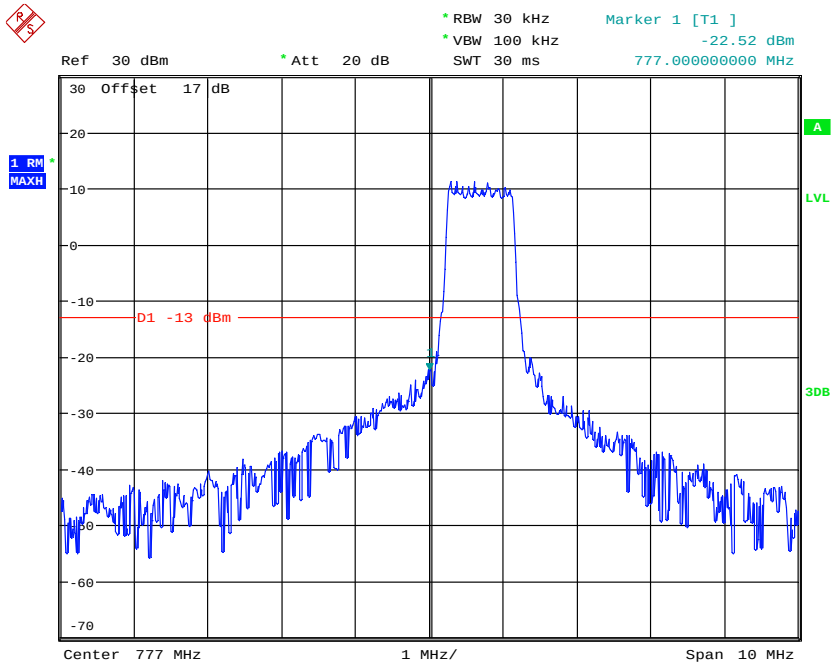
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BANDEDGE BAND13 QPSK 1RB 10MHZ CH23230

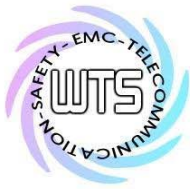
Date: 31.MAR.2023 16:17:32

16QAM
5 MHz
FRB



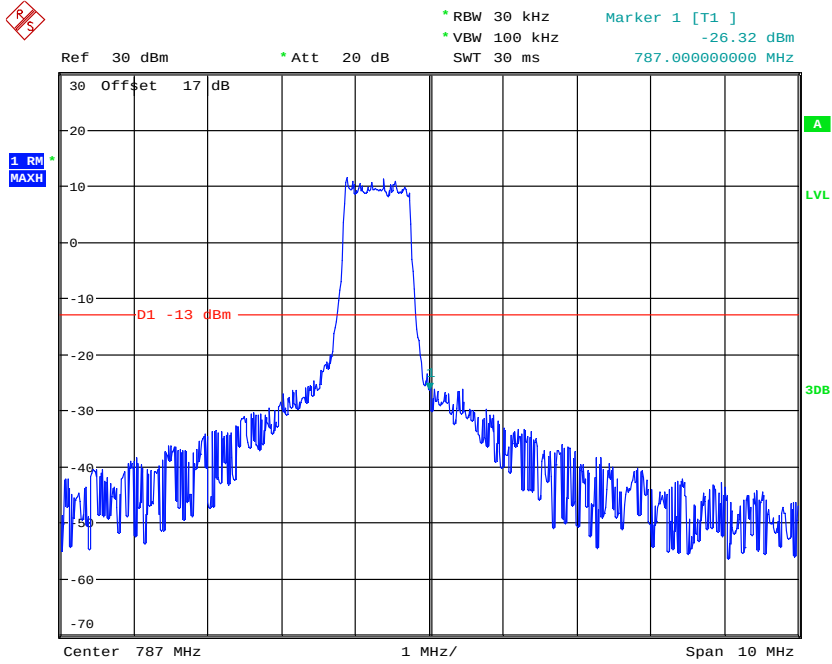
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Date: 31.MAR.2023 15:52:08



Registration number: W6M22302-22480-C-247

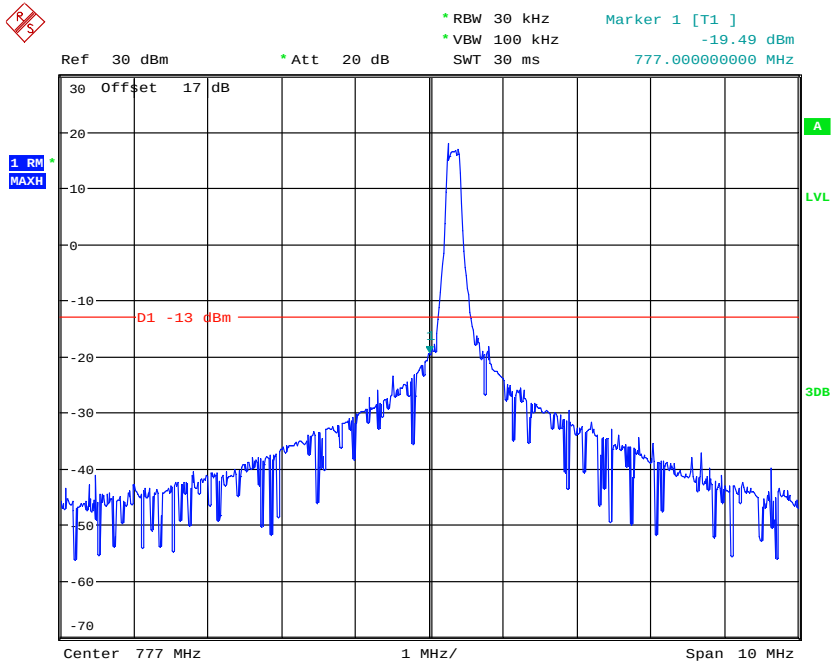
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BANDEDGE BAND13 16QAM FRB 5MHZ CH23255

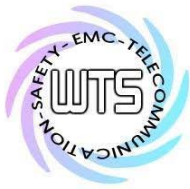
Date: 31.MAR.2023 15:55:50

1RB



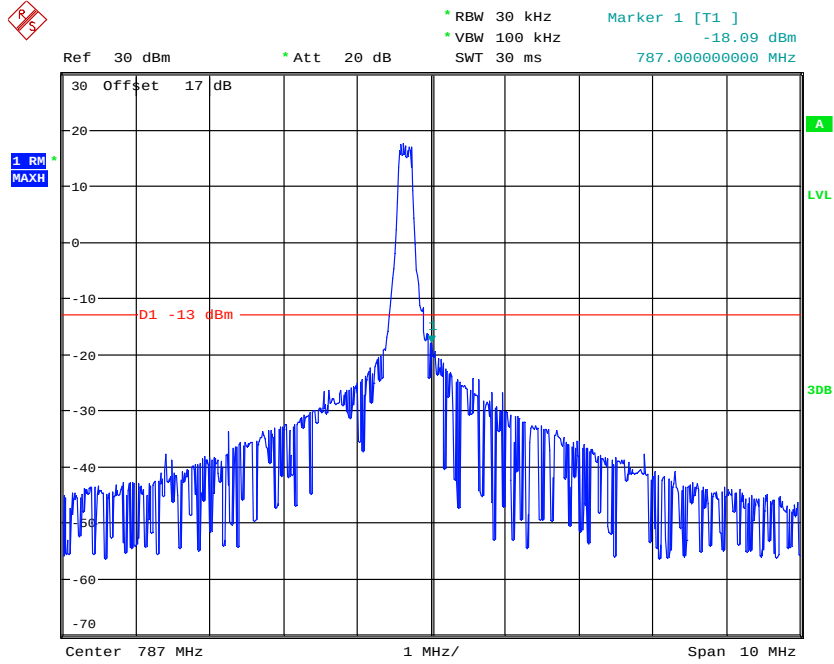
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Date: 31.MAR.2023 15:52:52



Registration number: W6M22302-22480-C-247

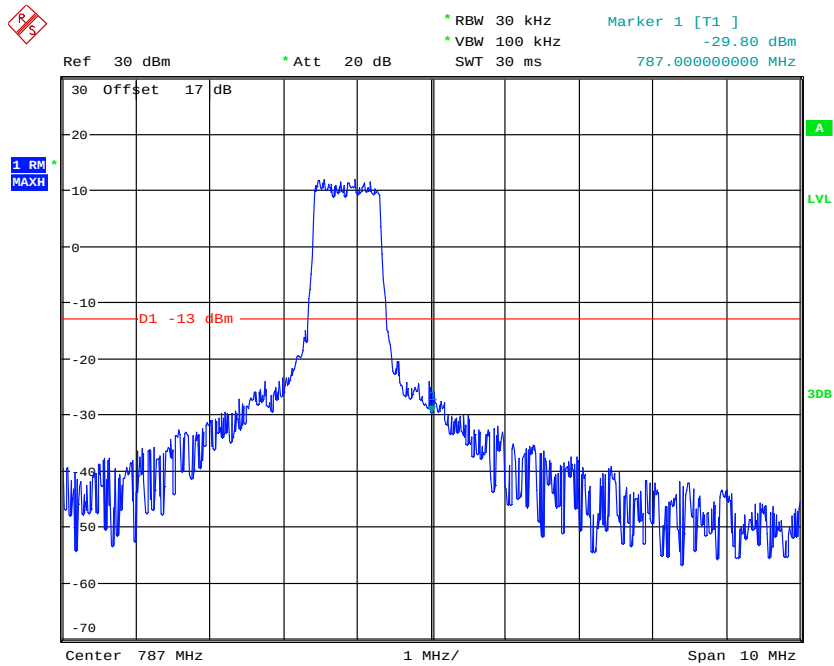
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BANDEDGE BAND13 16QAM 1RB 5MHZ CH23255

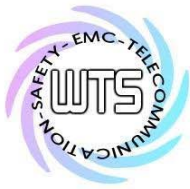
Date: 31.MAR.2023 15:55:08

10 MHz
FRB



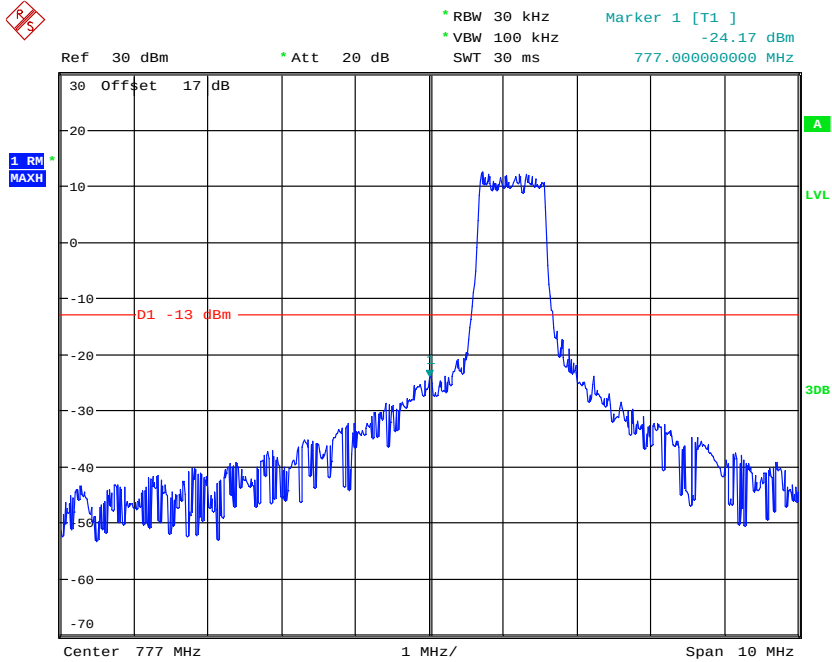
BANDEDGE BAND13 16QAM FRB 10MHZ CH23230

Date: 31.MAR.2023 16:07:47



Registration number: W6M22302-22480-C-247

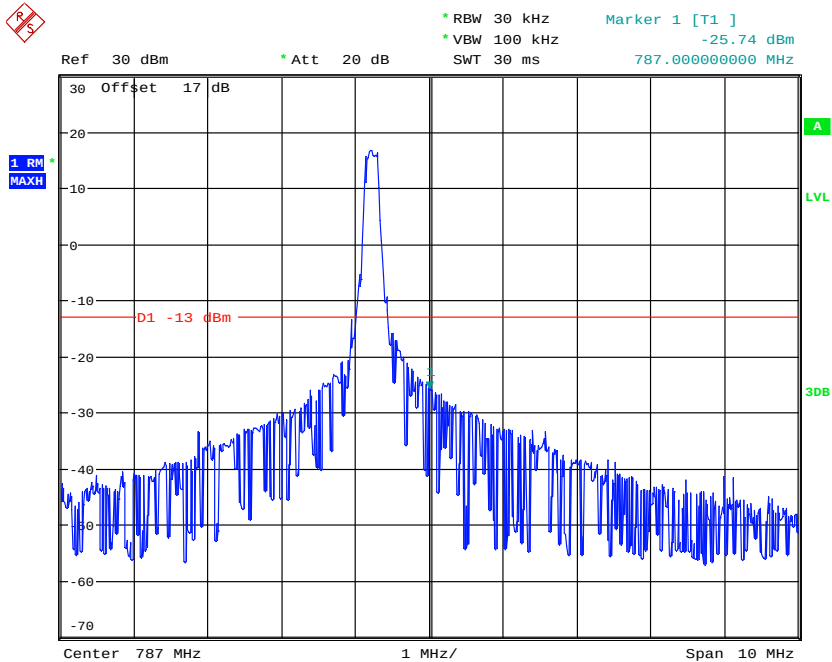
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BANDEDGE BAND13 16QAM FRB 10MHZ CH23230

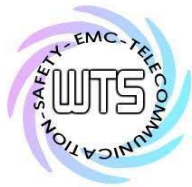
Date: 31.MAR.2023 16:08:37

1RB



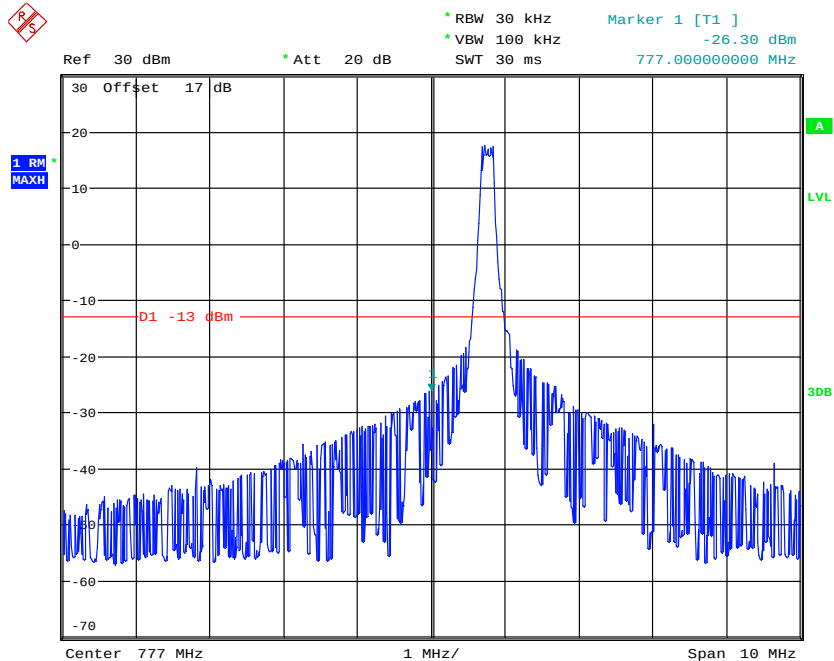
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Date: 31.MAR.2023 16:07:07



Registration number: W6M22302-22480-C-247

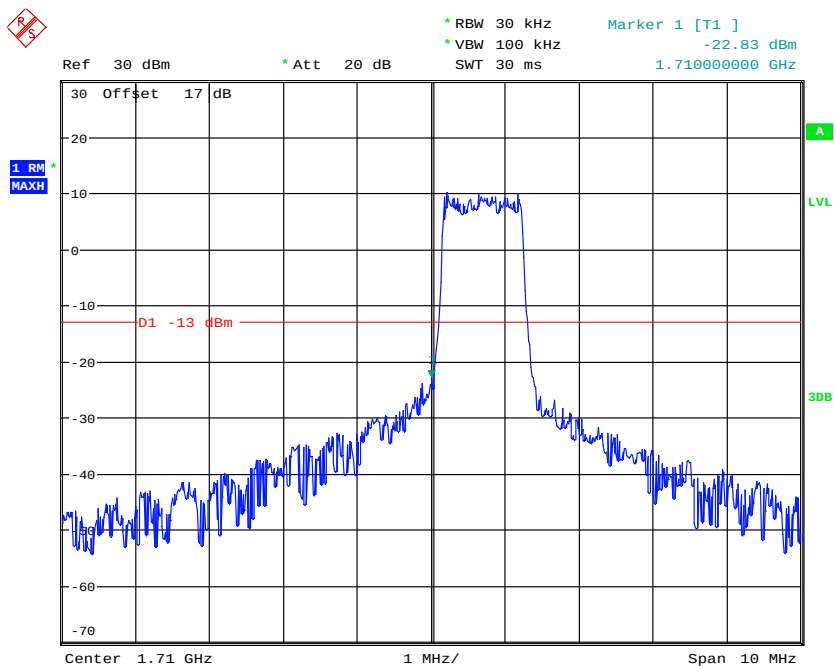
FCC ID: GX9HSGWCATM1



BANDEDGE BAND13 16QAM 1RB 10MHZ CH23230

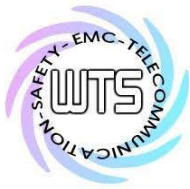
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Band 66
QPSK
1.4 MHz
FRB



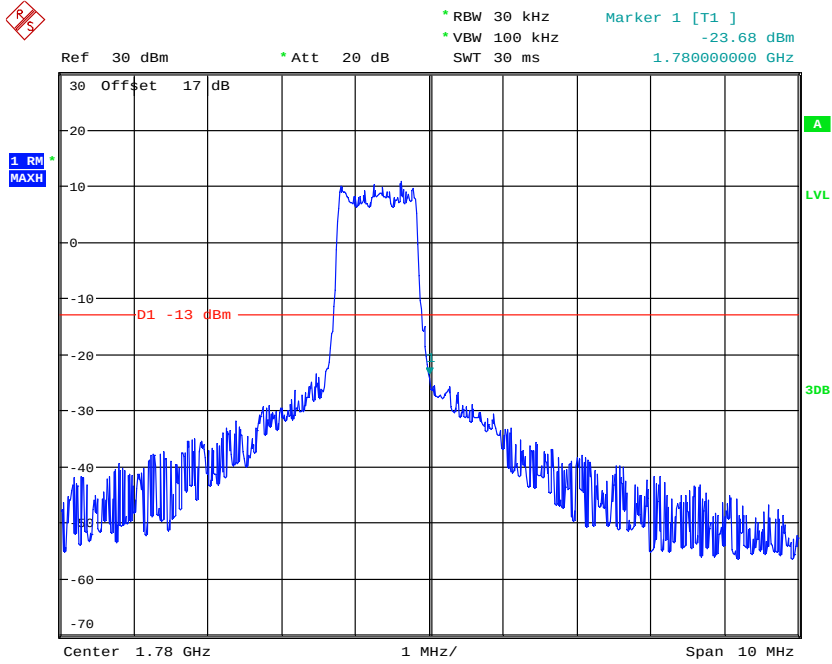
BANDEDGE BAND66 QPSK FRB 1.4MHZ CH131979

Date: 7.APR.2023 17:56:53



Registration number: W6M22302-22480-C-247

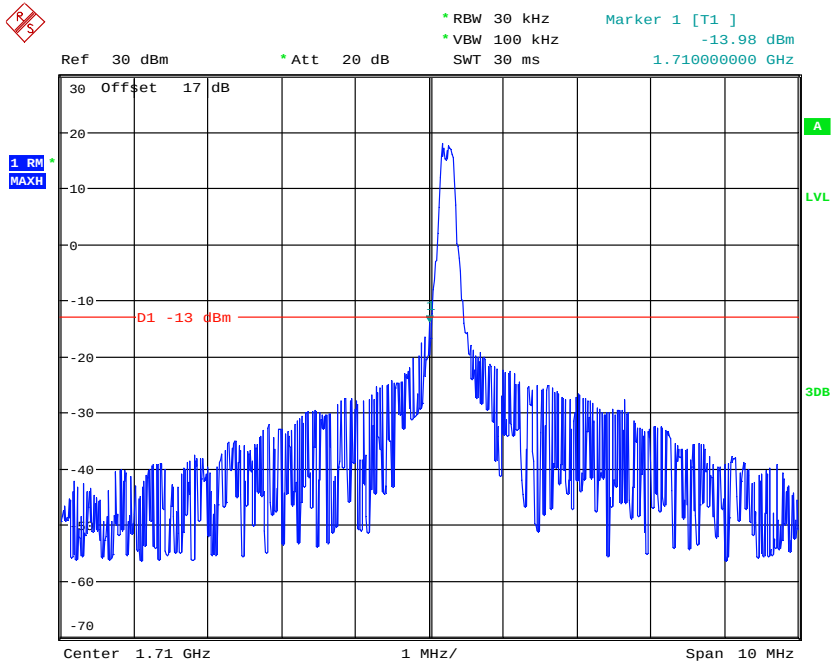
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BANDEDGE BAND66 QPSK FRB 1.4MHz CH132665

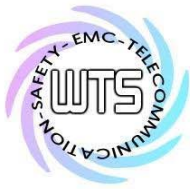
Date: 7.APR.2023 17:55:39

1RB



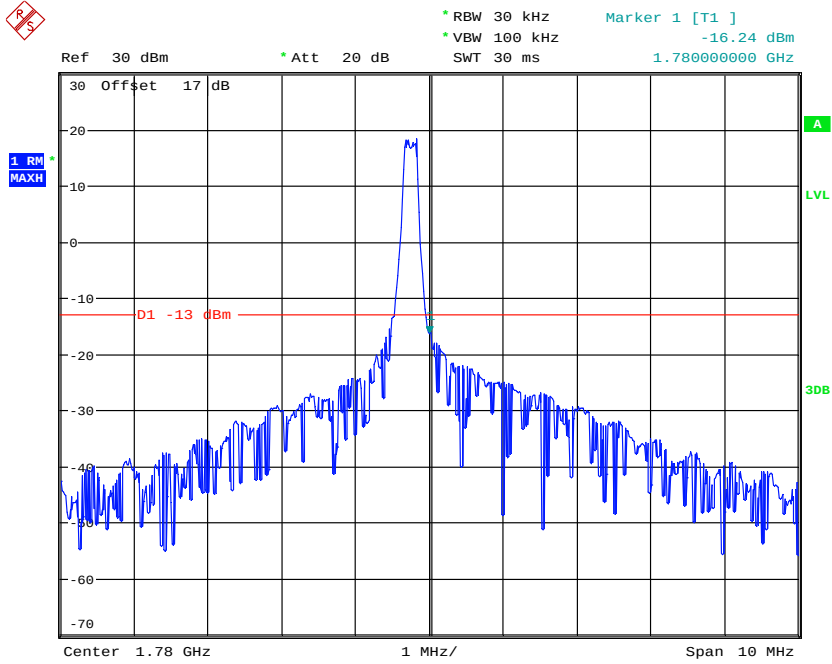
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Date: 7.APR.2023 17:57:18



Registration number: W6M22302-22480-C-247

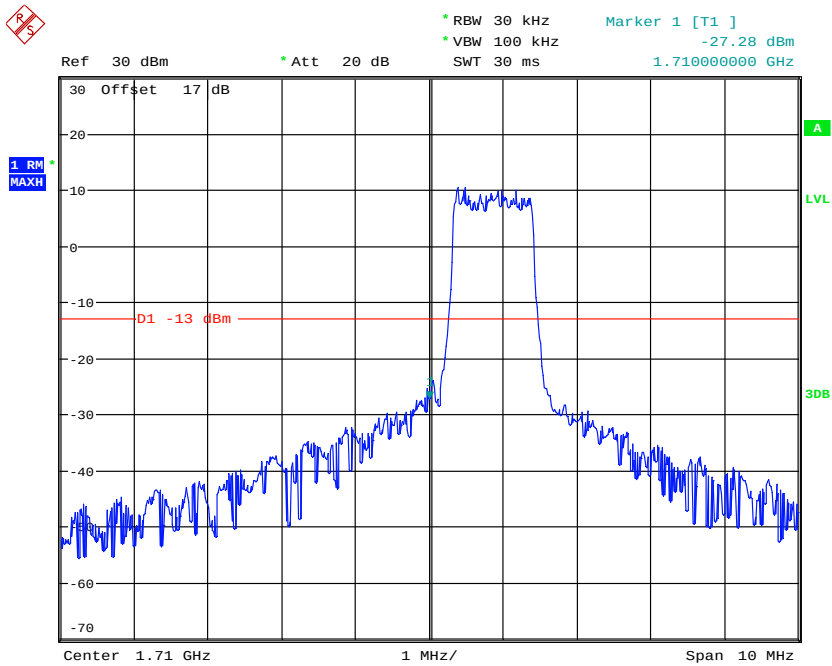
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BANDEDGE BAND66 QPSK 1RB 1.4MHz CH132665

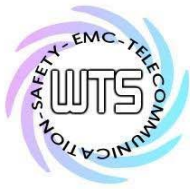
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3 MHz
FRB



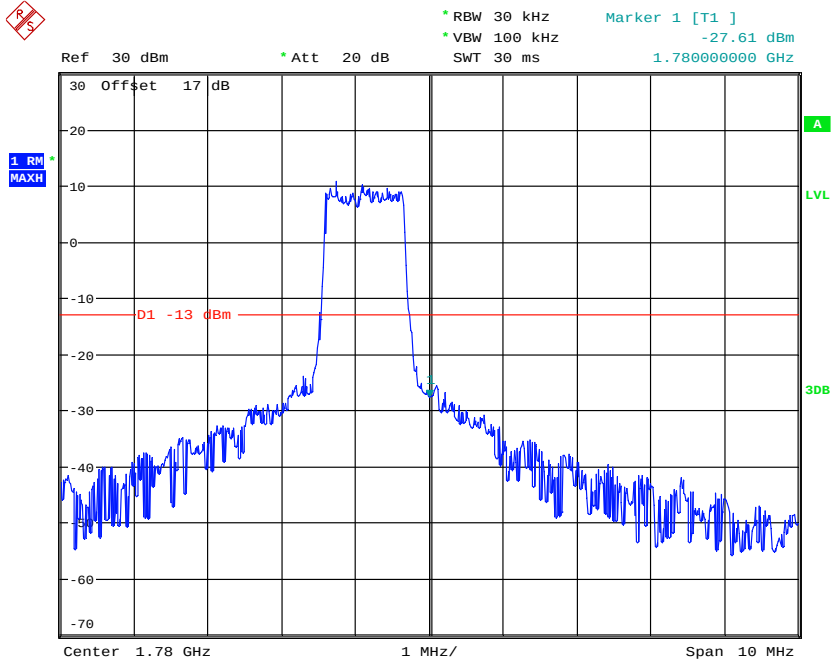
BANDEDGE BAND66 QPSK FRB 3MHz CH131987

Date: 7.APR.2023 17:22:57



Registration number: W6M22302-22480-C-247

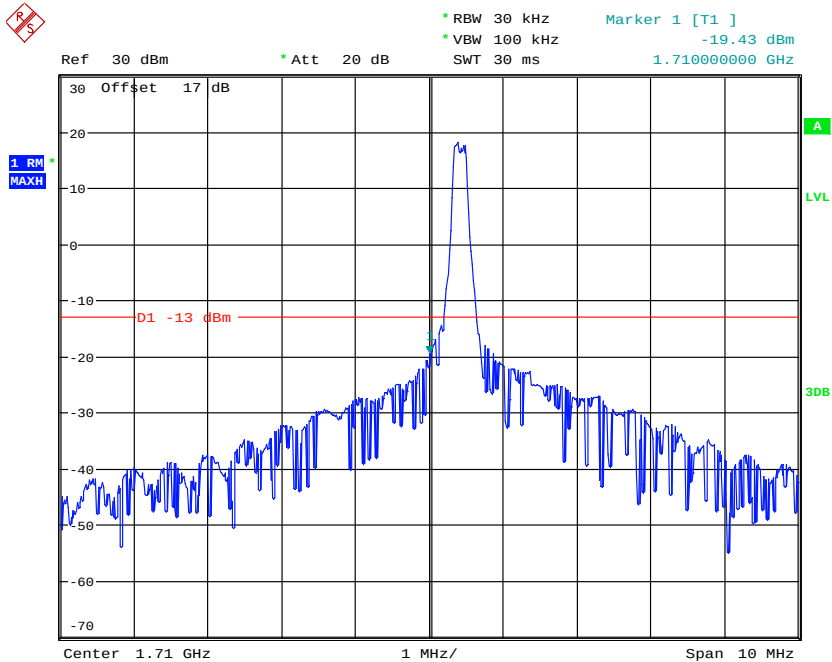
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BANDEDGE BAND66 QPSK FRB 3MHz CH132657

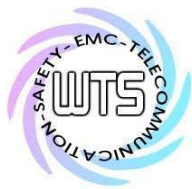
Date: 7.APR.2023 17:46:19

1RB



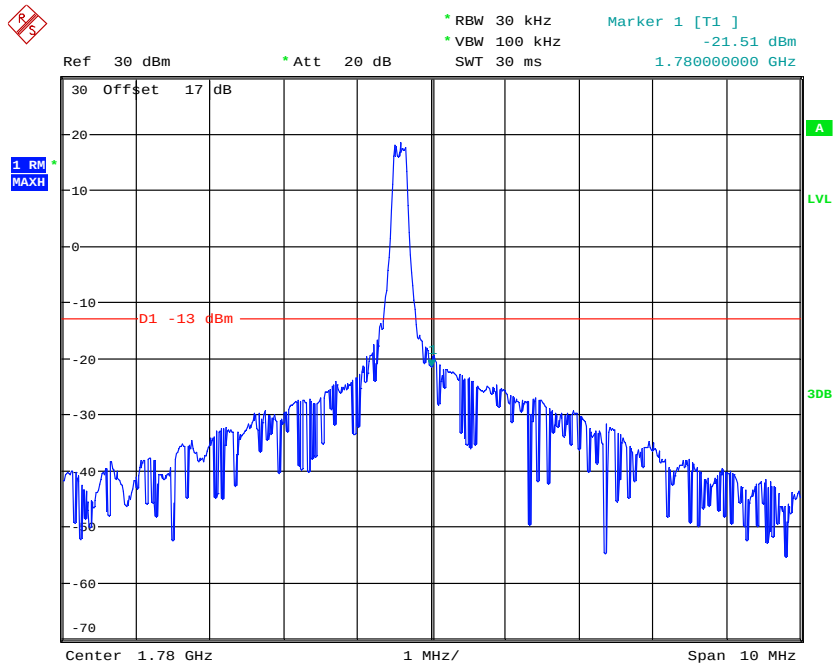
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Date: 7.APR.2023 17:22:12



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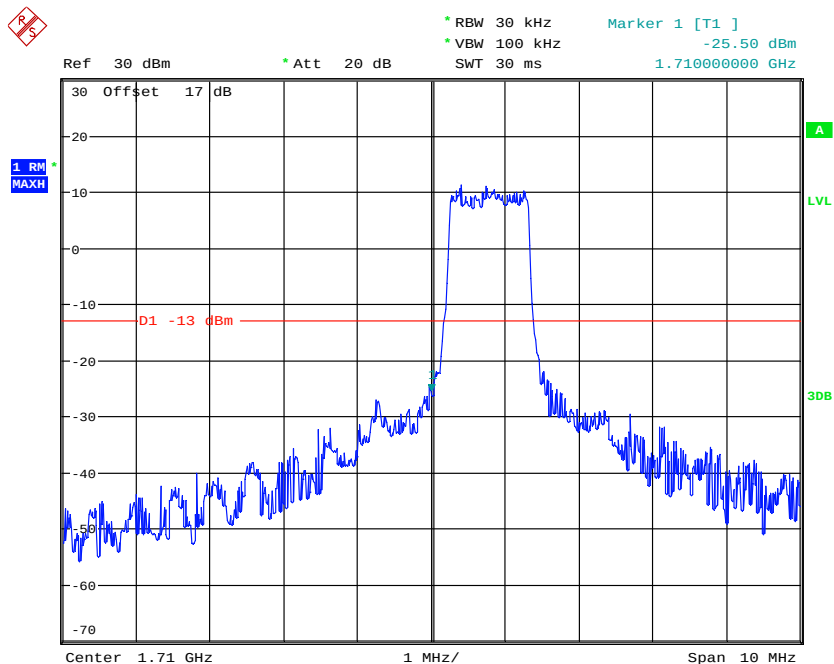
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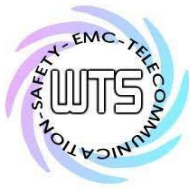
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5 MHz
FRB



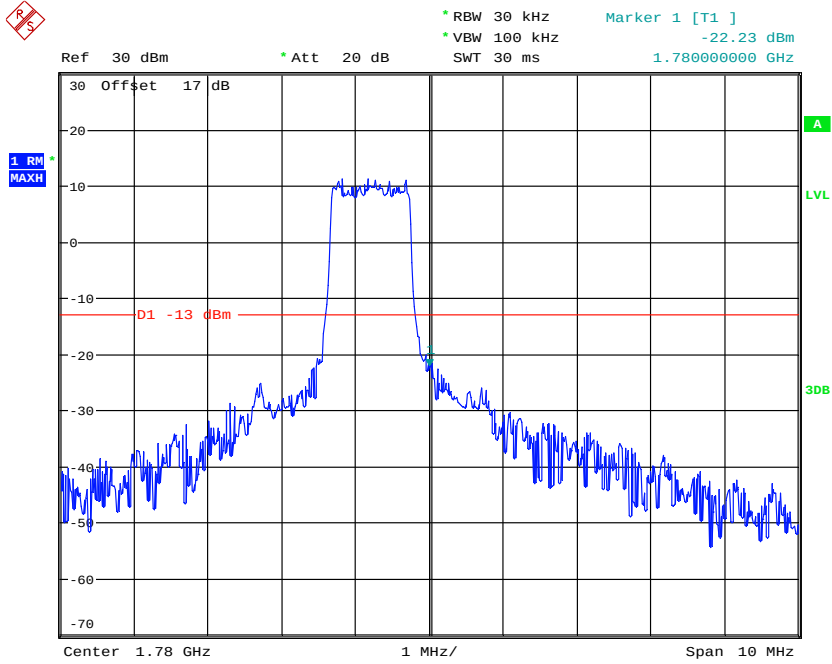
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Date: 7.APR.2023 17:10:41



Registration number: W6M22302-22480-C-247

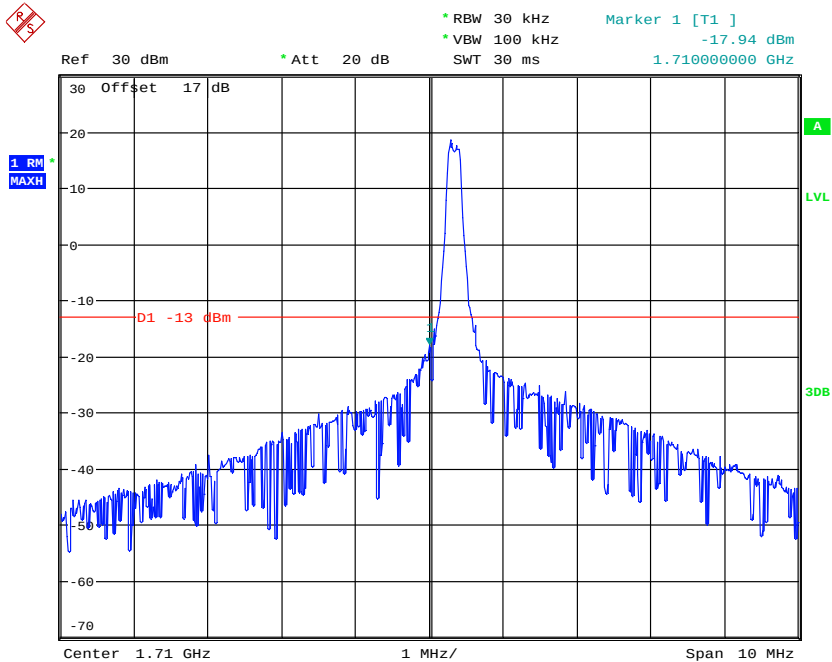
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BANDEDGE BAND66 QPSK FRB 5MHz CH132647

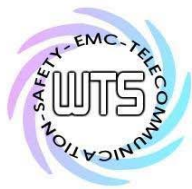
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1RB



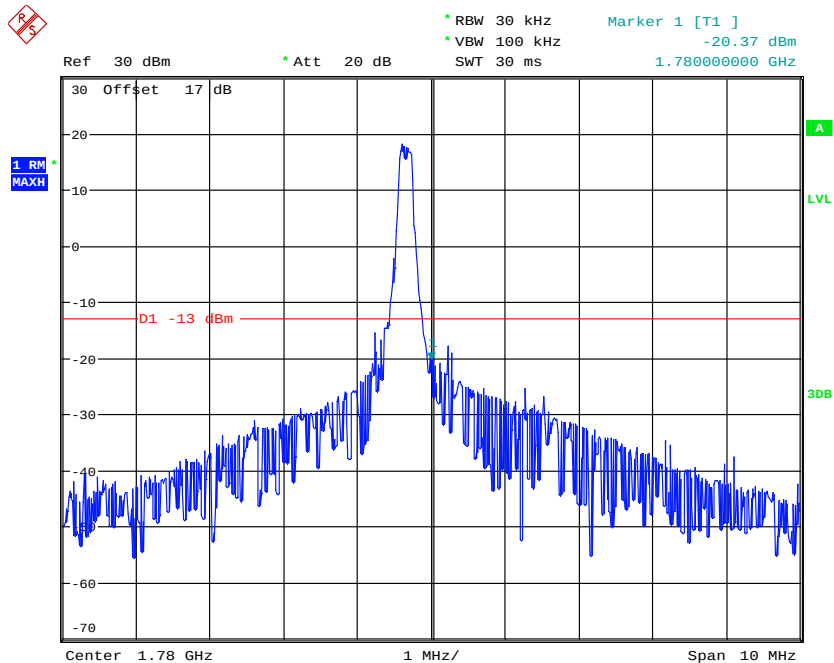
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Date: 7.APR.2023 17:11:19



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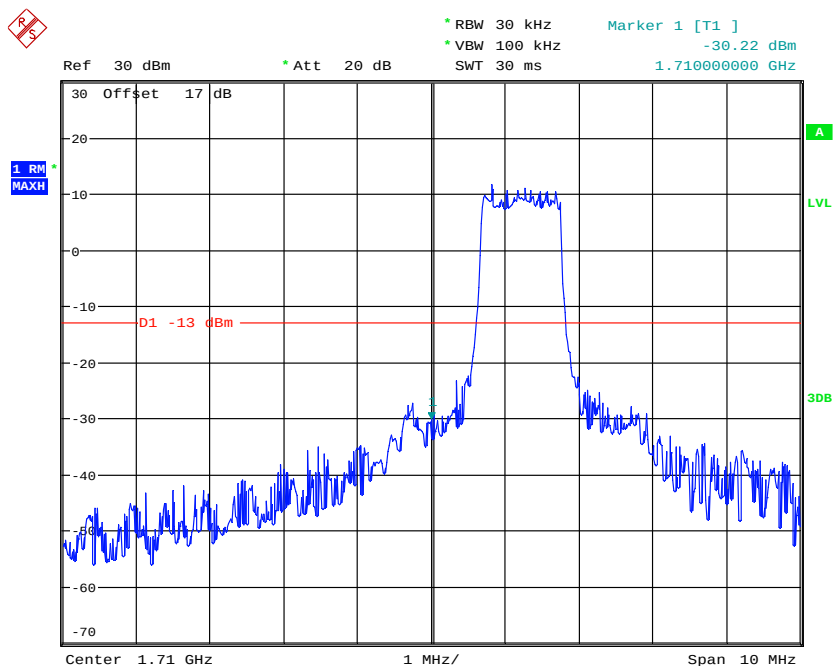
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BANDEDGE BAND66 QPSK 1RB 5MHz CH132647

Date: 7.APR.2023 17:07:52

10 MHz
FRB



BANDEDGE BAND66 QPSK FRB 10MHz CH132022

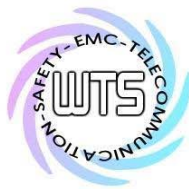
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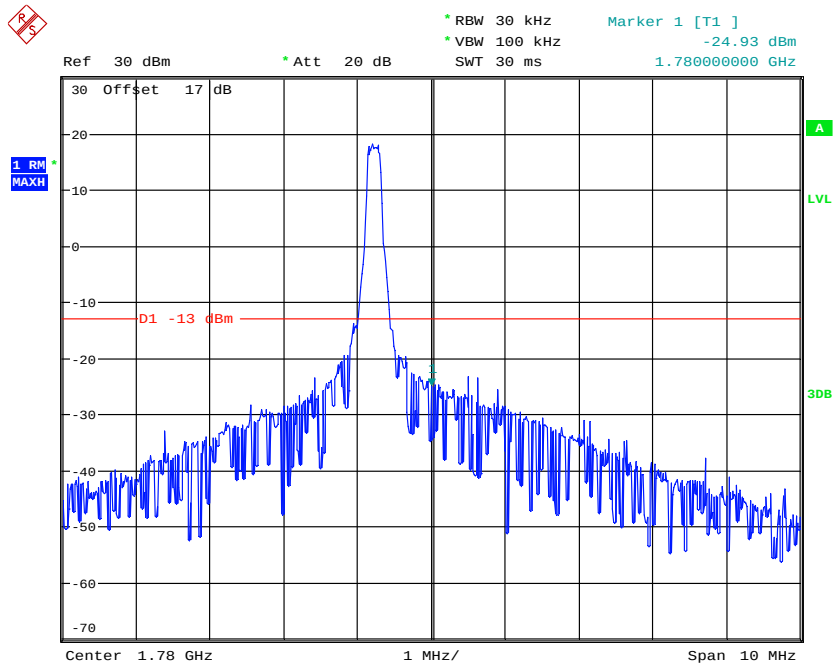
1RB

Date: 7.APR.2023 16:48:40



Registration number: W6M22302-22480-C-247

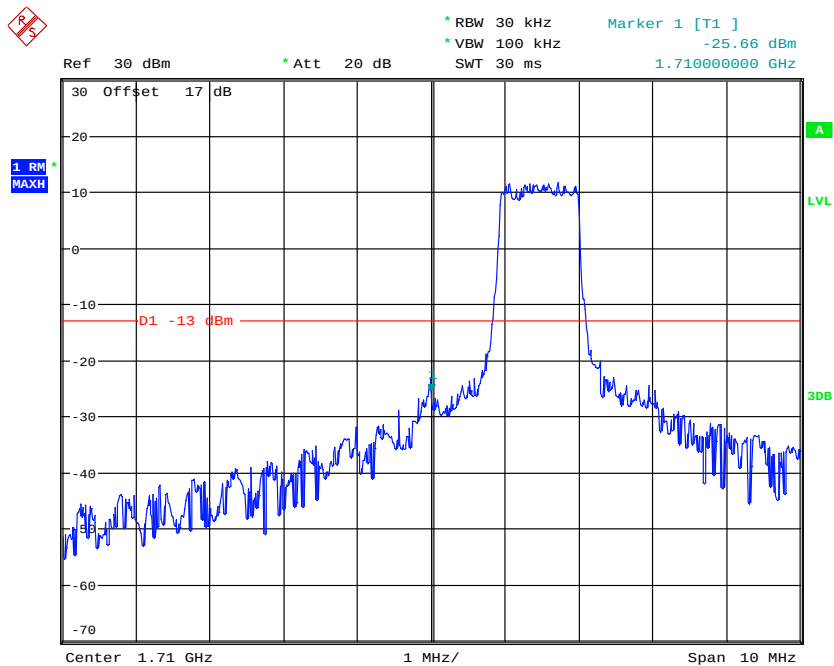
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BANDEDGE BAND66 QPSK 1RB 10MHz CH132622

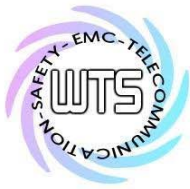
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15 MHz
FRB



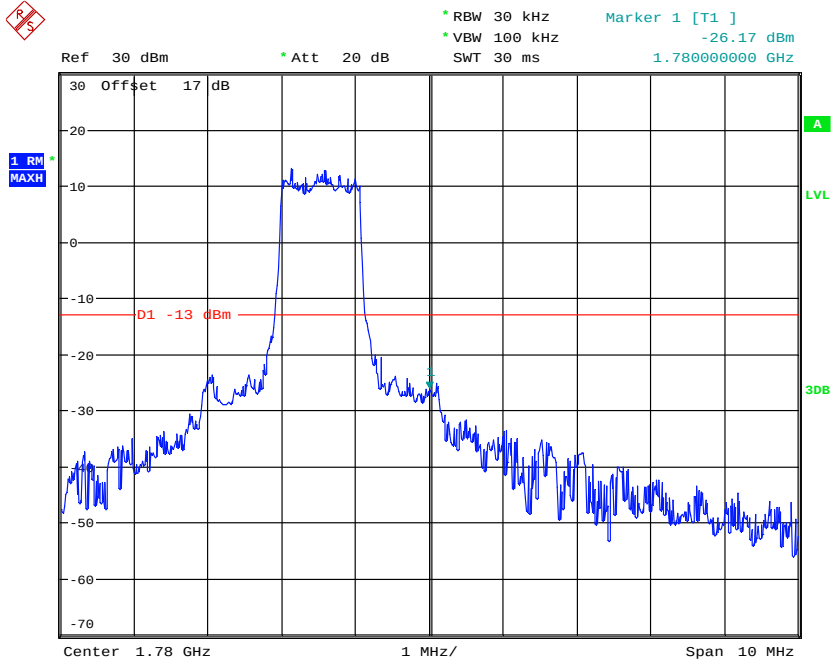
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Date: 7.APR.2023 16:34:17



Registration number: W6M22302-22480-C-247

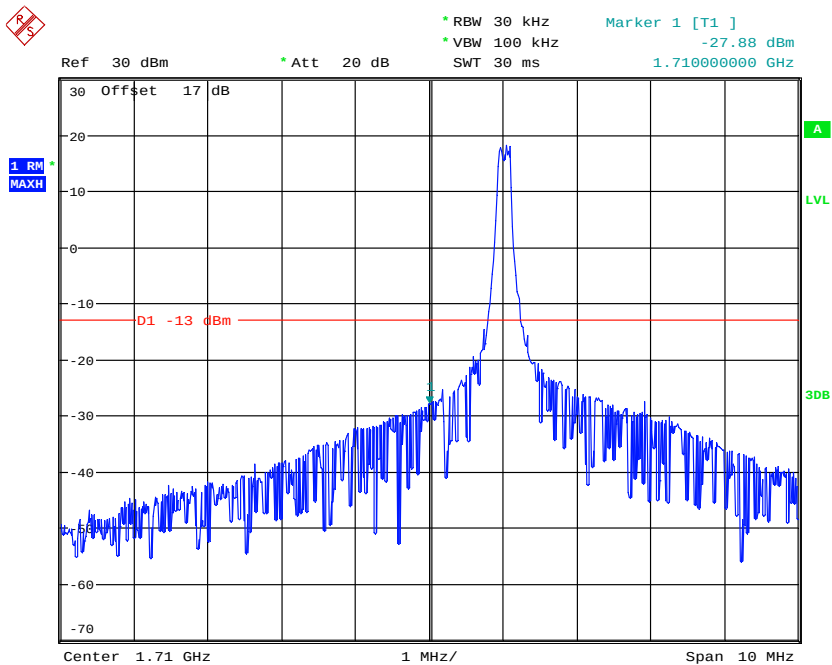
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BANDEDGE BAND66 QPSK FRB 15MHz CH132597

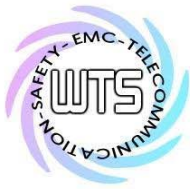
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1RB



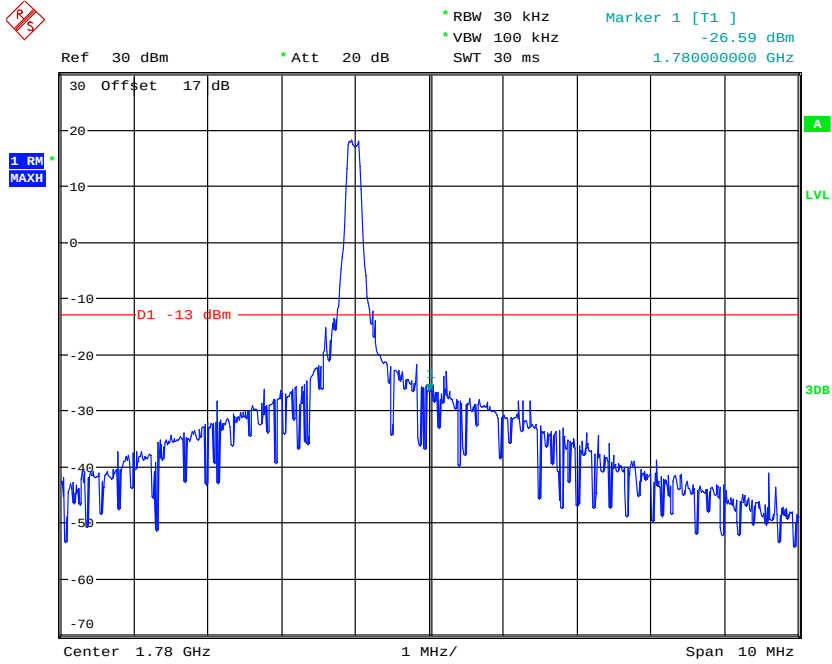
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Date: 7.APR.2023 16:35:26



Registration number: W6M22302-22480-C-247

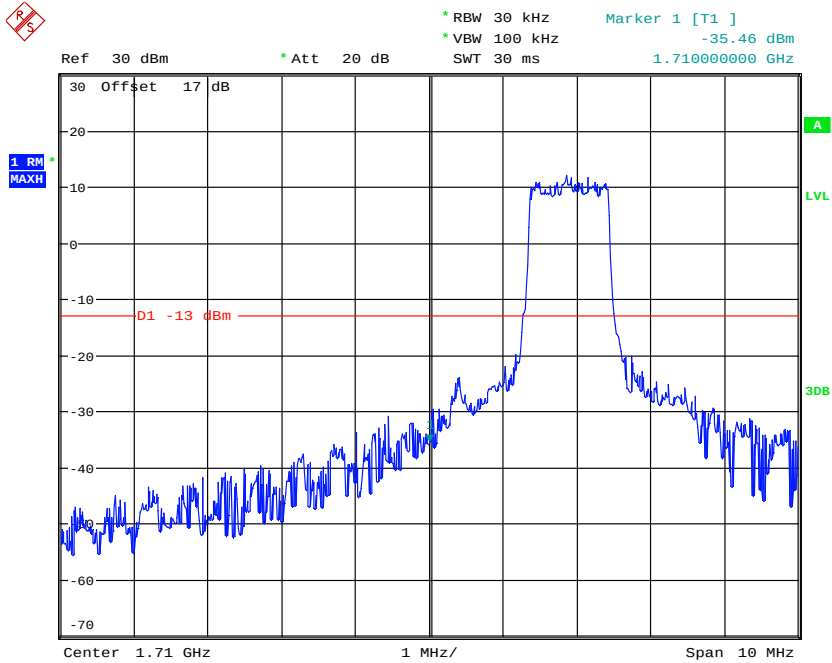
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BANDEDGE BAND66 QPSK 1RB 15MHz CH132597

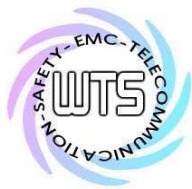
Date: 7.APR.2023 16:31:50

20 MHz
FRB



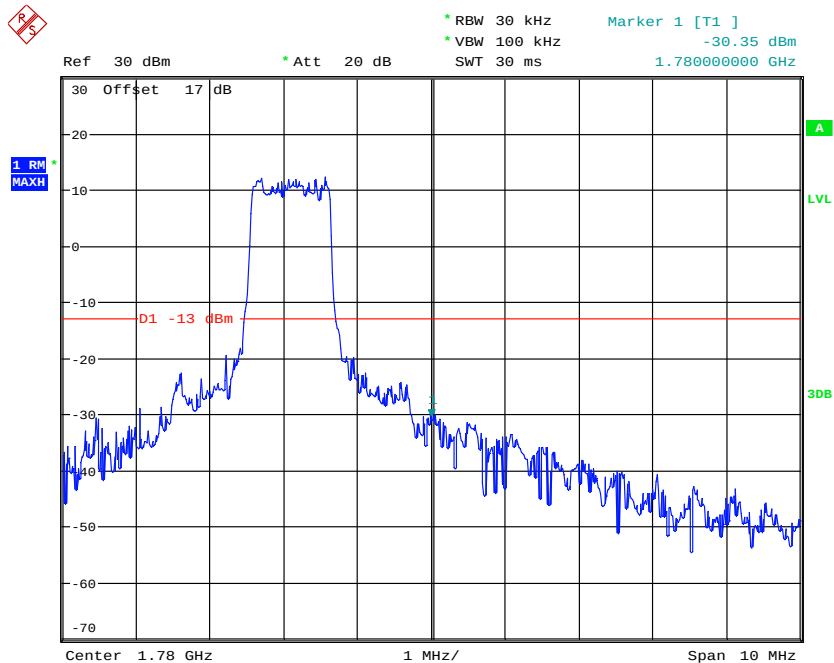
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Date: 7.APR.2023 16:13:12



Registration number: W6M22302-22480-C-247

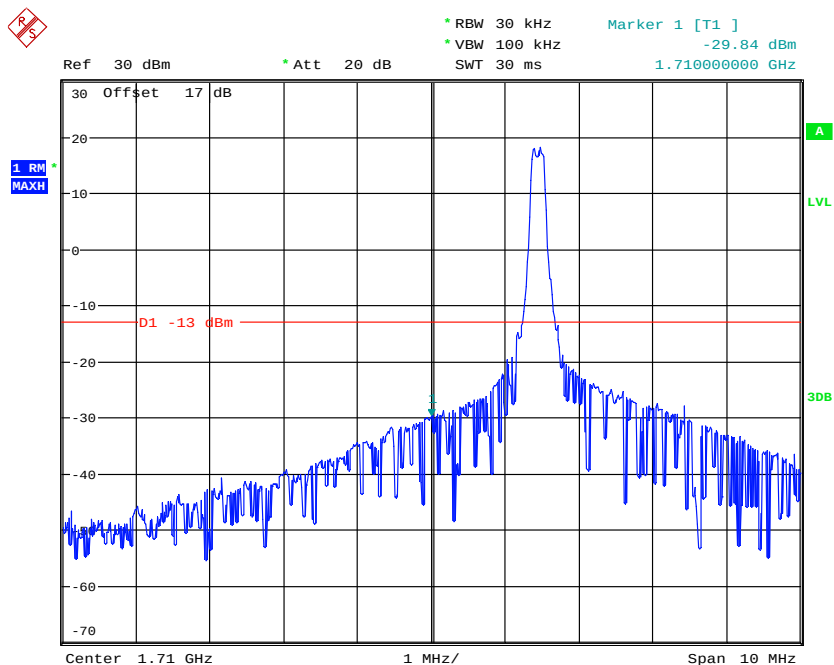
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BANDEDGE BAND66 QPSK FRB 20MHz CH132572

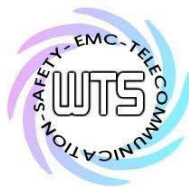
Date: 7.APR.2023 16:15:12

1RB



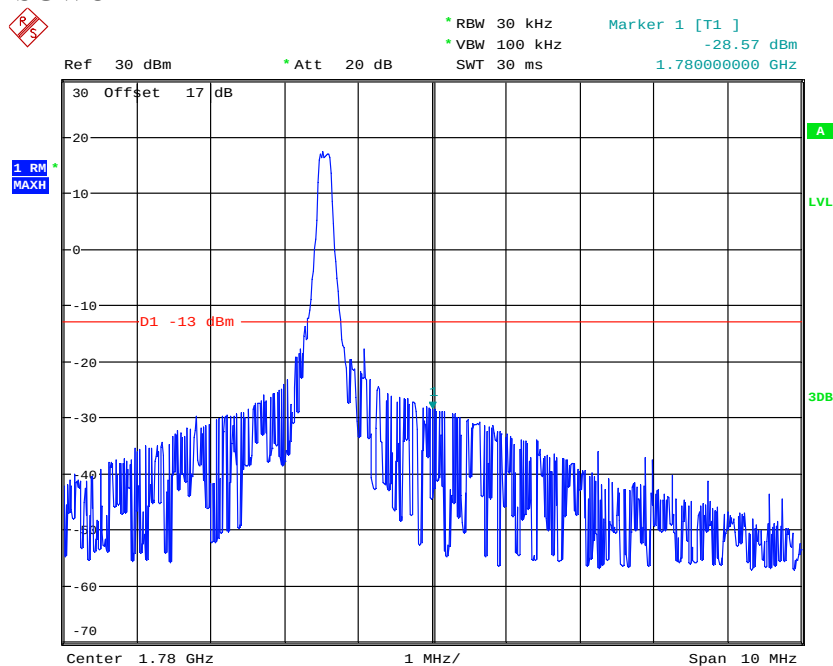
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Date: 7.APR.2023 16:12:39



Registration number: W6M22302-22480-C-247

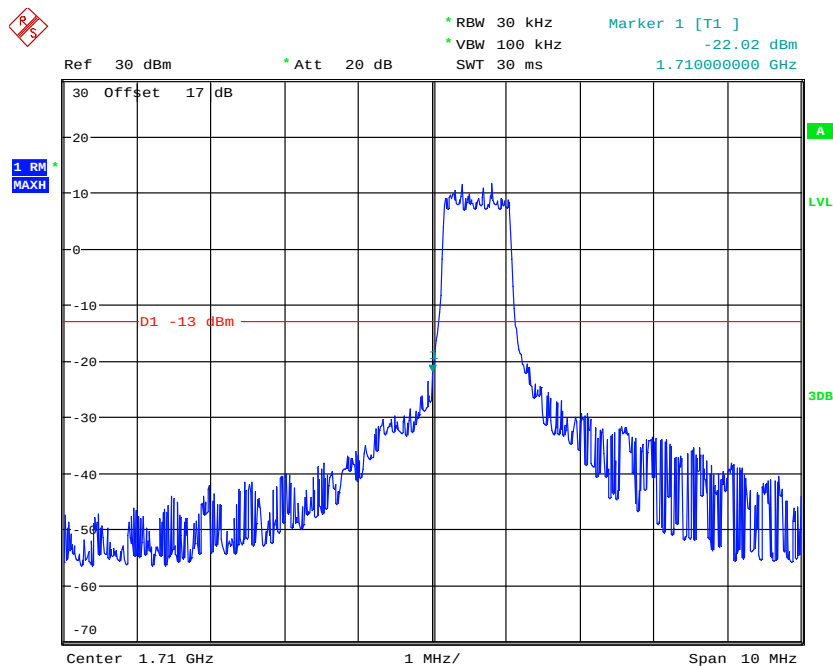
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BANDEDGE BAND66 QPSK 1RB 20MHz CH132572

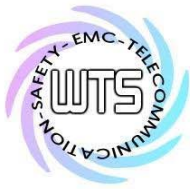
Date: 7.APR.2023 16:15:54

16QAM
1.4 MHz
FRB



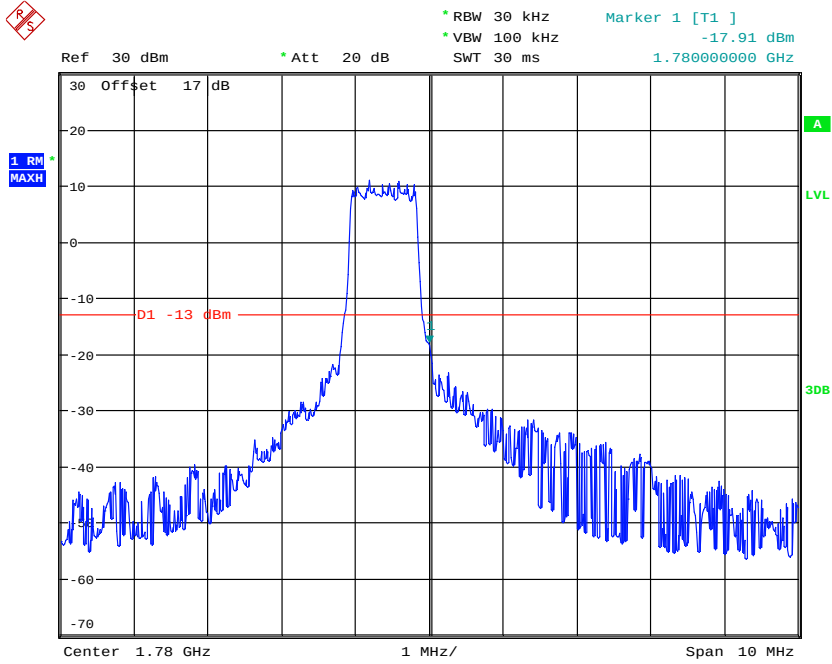
BANDEDGE BAND66 16QAM FRB 1.4MHz CH131979

Date: 7.APR.2023 17:59:08



Registration number: W6M22302-22480-C-247

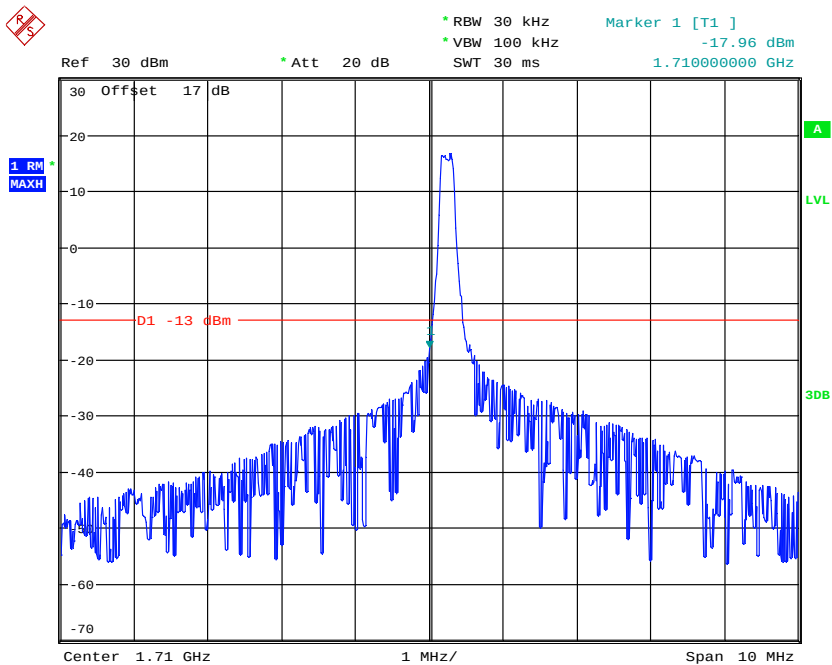
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BANDEDGE BAND66 16QAM FRB 1.4MHz CH132665

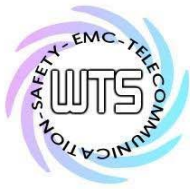
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1RB



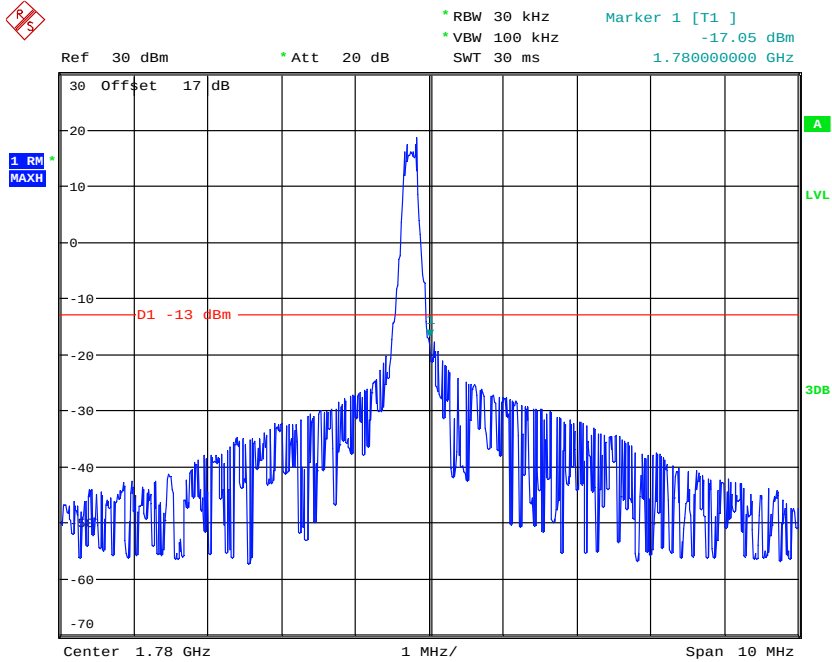
BANDEDGE BAND66 16QAM 1RB 1.4MHz CH131979

Date: 7.APR.2023 17:58:30



Registration number: W6M22302-22480-C-247

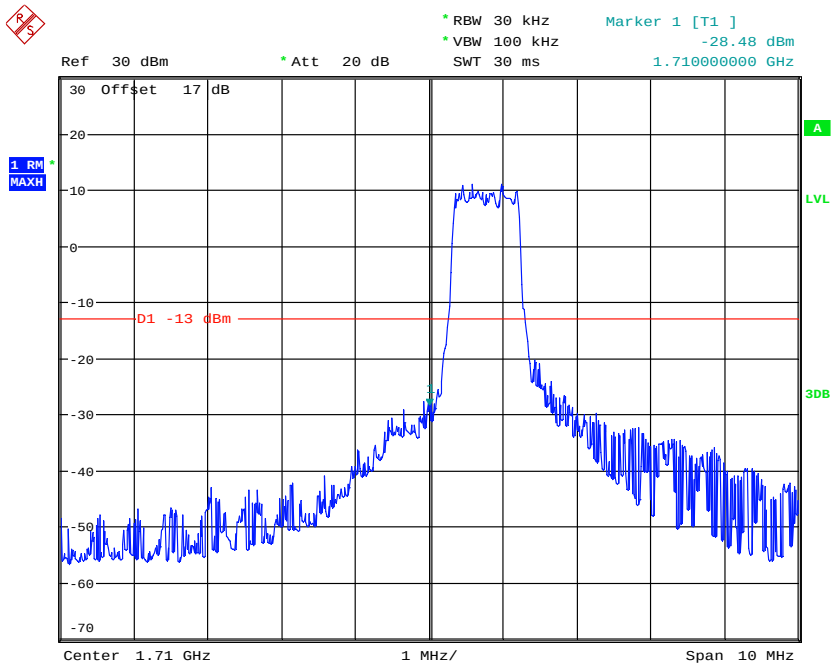
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BANDEDGE BAND66 16QAM 1RB 1.4MHz CH132665

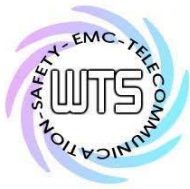
Date: 7.APR.2023 17:54:19

3 MHz
FRB



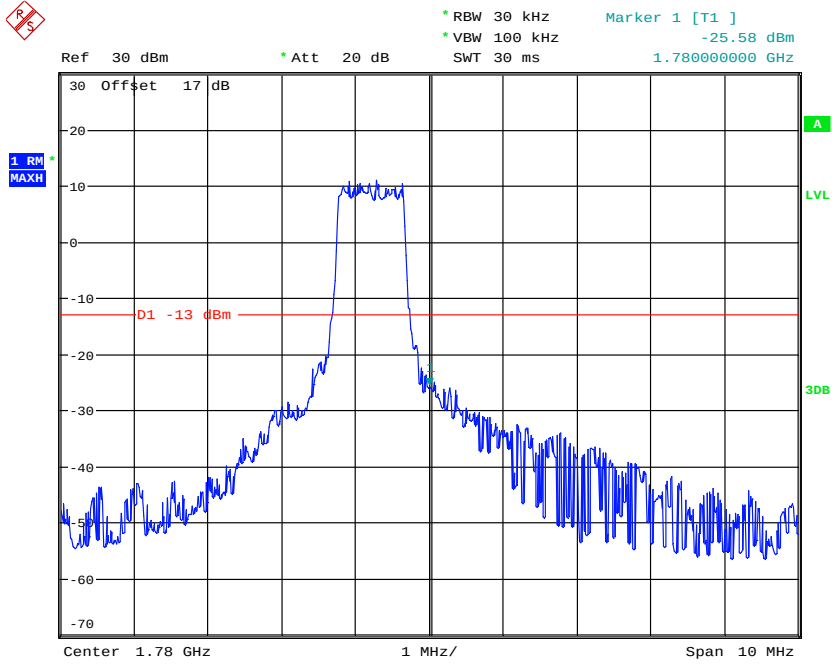
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Date: 7.APR.2023 17:19:15



Registration number: W6M22302-22480-C-247

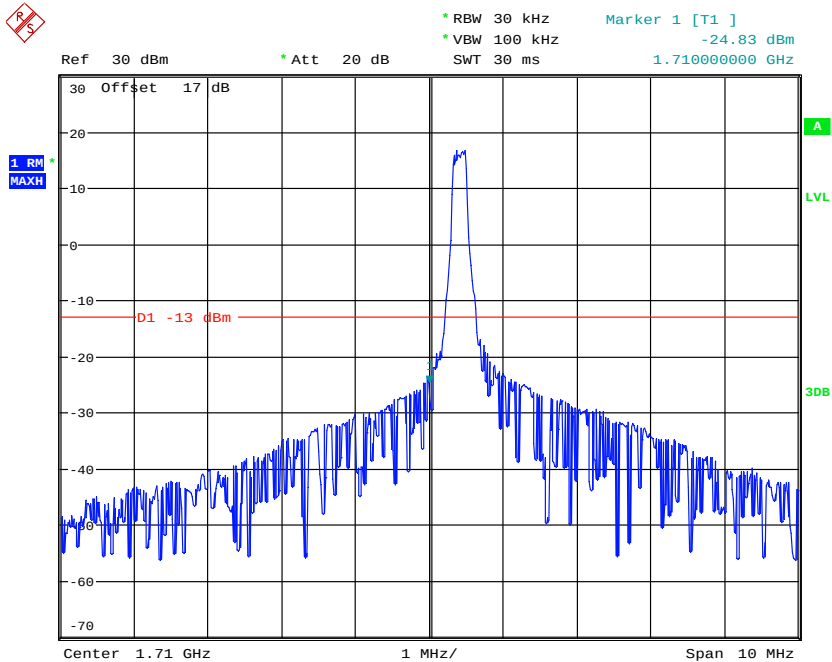
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BANDEDGE BAND66 16QAM FRB 3MHz CH132657

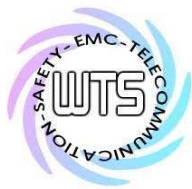
Date: 7.APR.2023 17:49:08

1RB



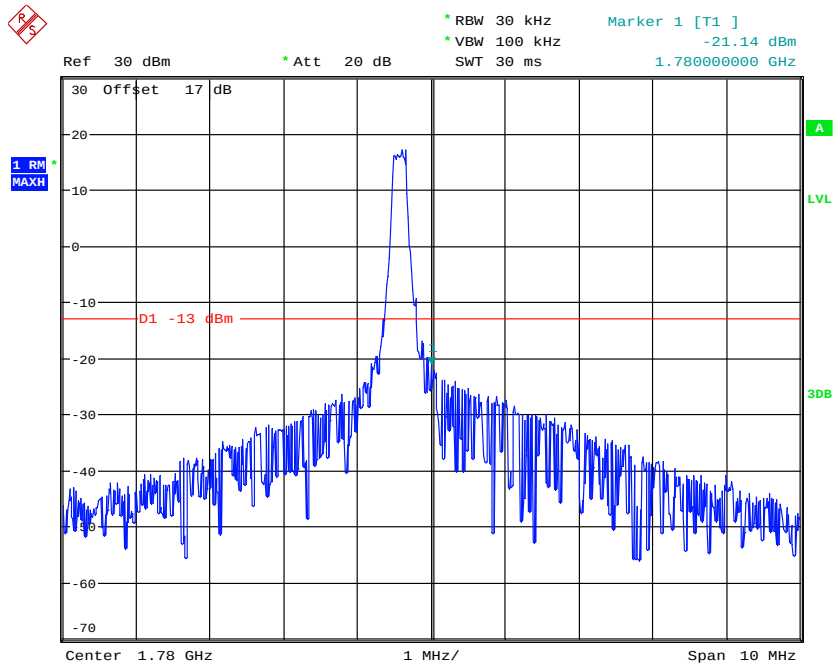
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Date: 7.APR.2023 17:20:40



Registration number: W6M22302-22480-C-247

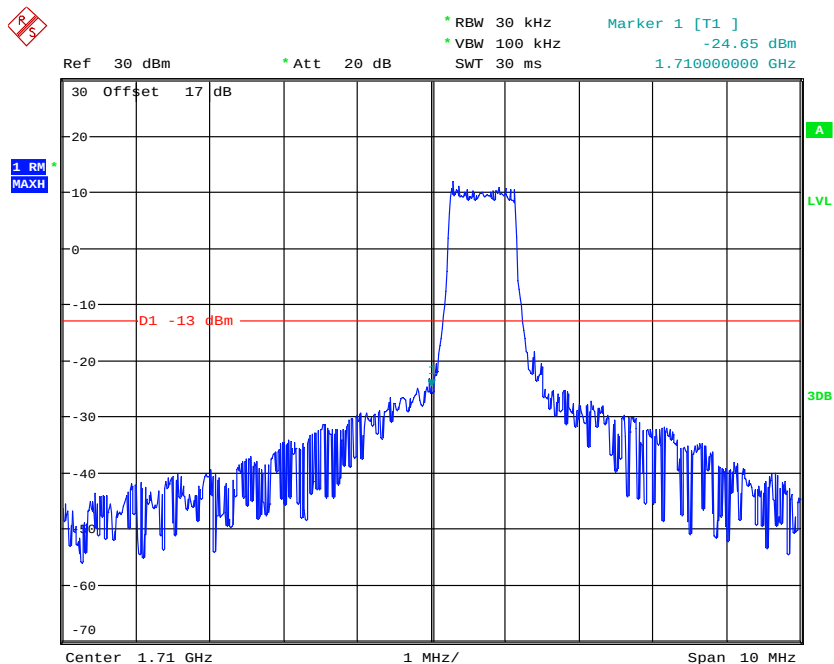
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BANDEDGE BAND66 16QAM 1RB 3MHz CH132657

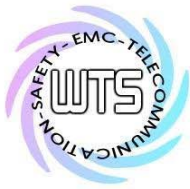
Date: 7.APR.2023 17:48:22

5 MHz
FRB



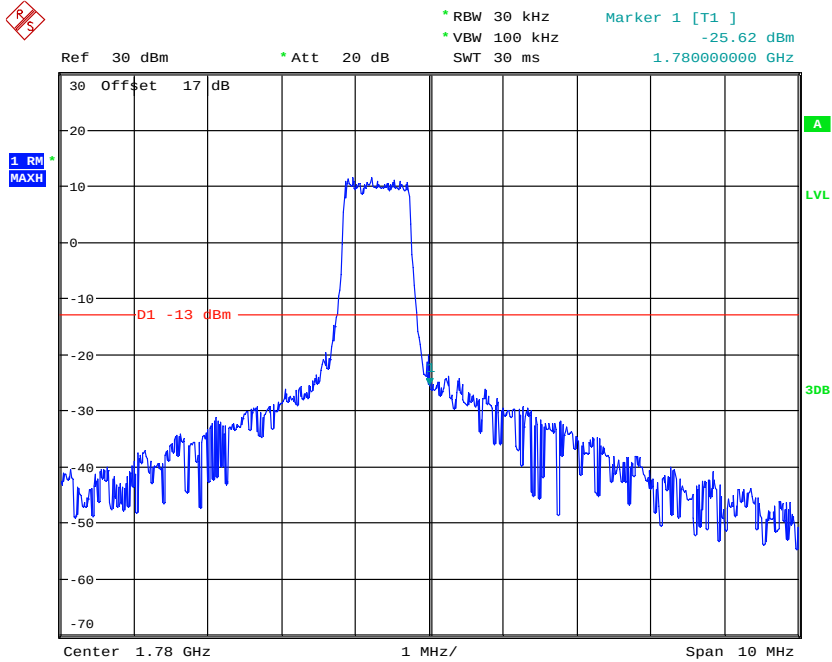
BANDEDGE BAND66 16QAM FRB 5MHz CH131997

Date: 7.APR.2023 17:12:49



Registration number: W6M22302-22480-C-247

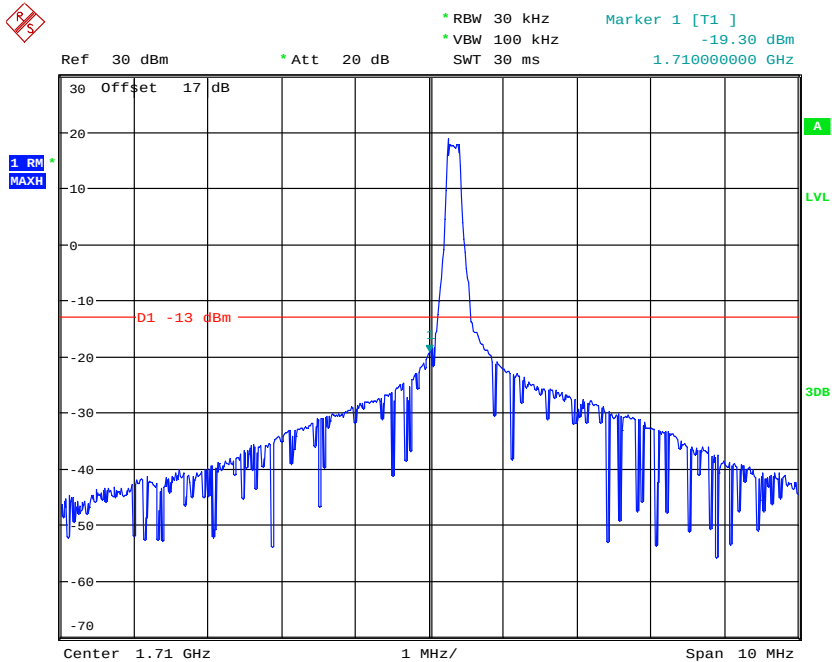
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BANDEDGE BAND66 16QAM FRB 5MHz CH132647

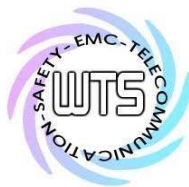
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1RB



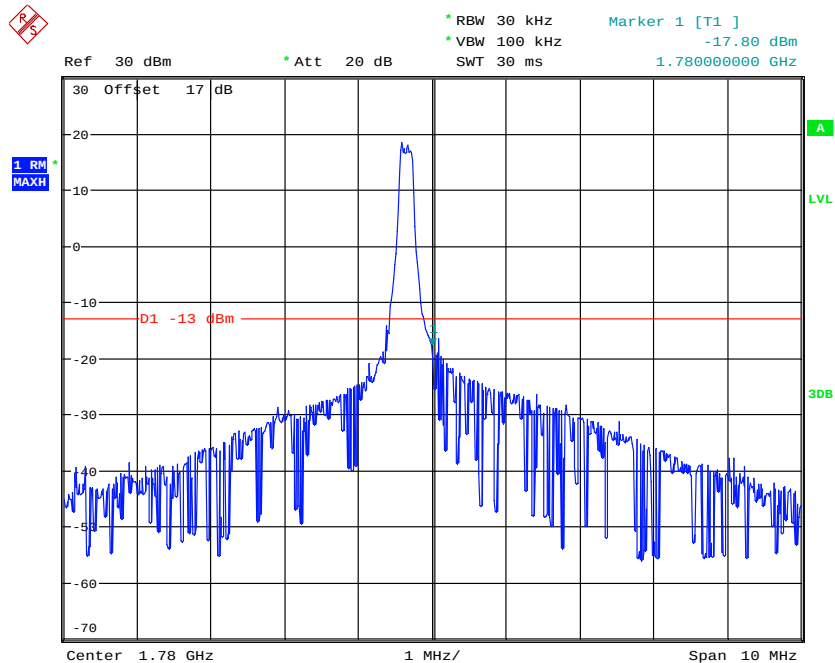
BANDEDGE BAND66 16QAM 1RB 5MHz CH131997

Date: 7.APR.2023 17:12:11



Registration number: W6M22302-22480-C-247

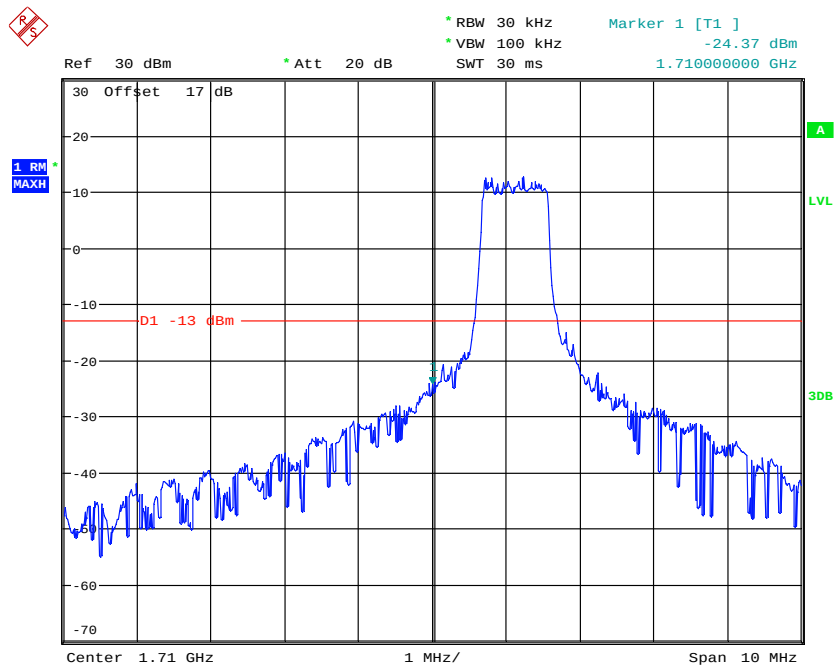
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BANDEDGE BAND66 16QAM 1RB 5MHz CH132647

Date: 7.APR.2023 17:05:56

10 MHz
FRB

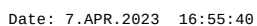


BANDEDGE BAND66 16QAM FRB 10MHz CH132022

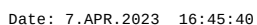
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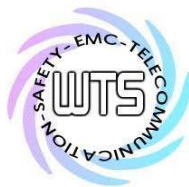


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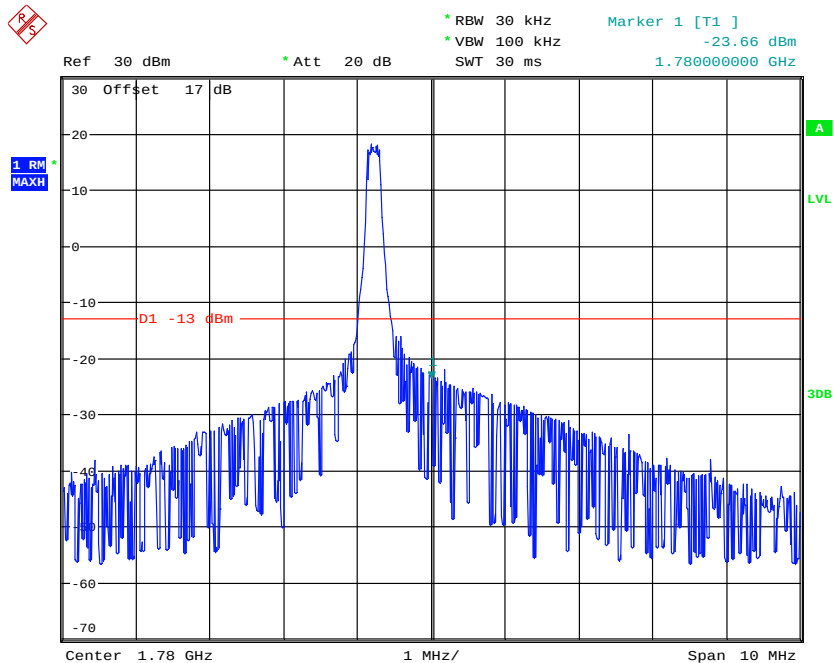
1RB





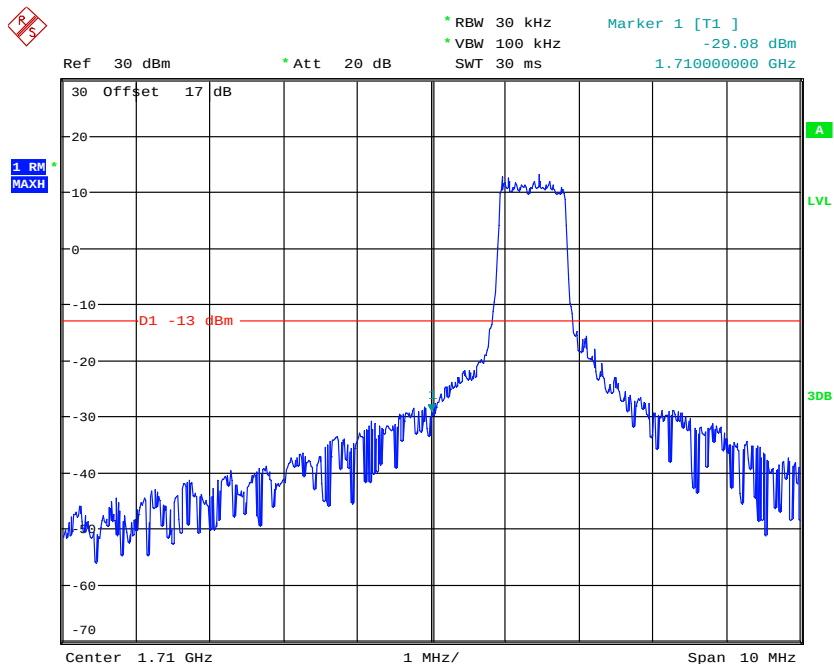
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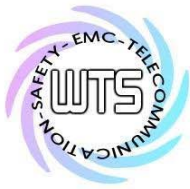


Date: 7.APR.2023 16:56:25

15 MHz
FRB

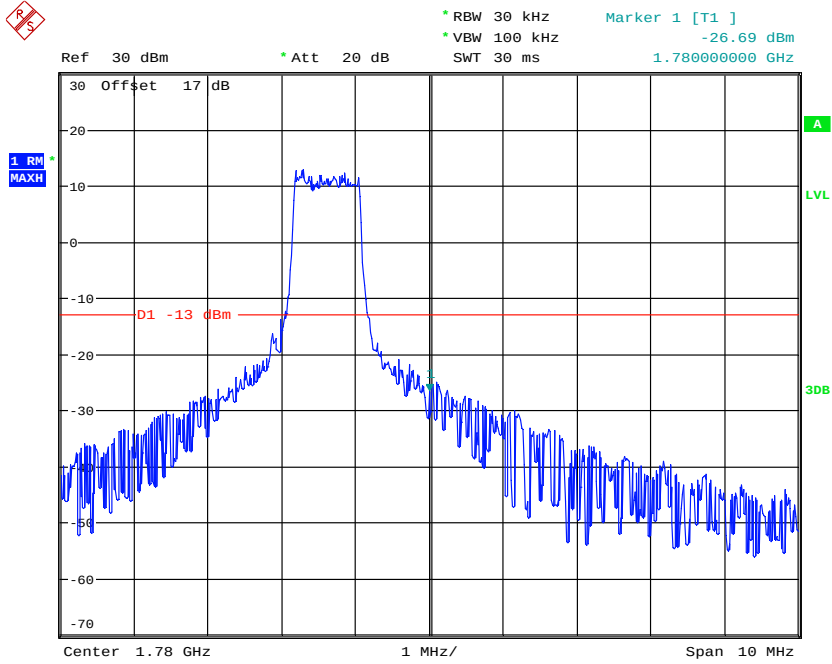


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Registration number: W6M22302-22480-C-247

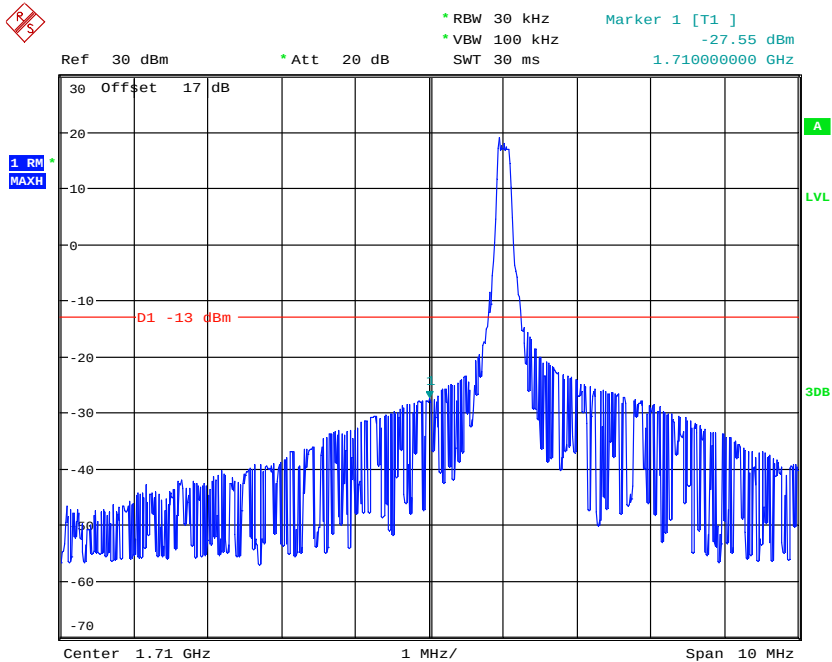
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BANDEDGE BAND66 16QAM FRB 15MHz CH132597

Date: 7.APR.2023 16:28:53

1RB



BANDEDGE BAND66 16QAM 1RB 15MHz CH132047

Date: 7.APR.2023 16:36:54