FCC Part 27

FCC Part 22H, Part 24E

TEST REPORT

For

Waylens Inc.

2711 Centerville Road - Suite 400, Wilmington, Delaware, United States, 19808

FCC ID: 2AKAF-DOC01

Report Type:	**Product Type:**
Original Report	4G Dock

Report Producer : **Jojo Lin** Jojo Lu

Report Number : **RXZ211001001RF01**

Report Date : **2022-01-12**

Reviewed By: **Andy Shih** Andy. Shih

Prepared By: **Bay Area Compliance Laboratories Corp.**
(New Taipei Laboratory)
70, Lane 169, Sec. 2, Datong Road, Xizhi Dist.,
New Taipei City 22183, Taiwan, R.O.C.
Tel: +886 (2) 2647 6898
Fax: +886 (2) 2647 6895
www.bacl.com.tw

Revision History

Revision	No.	Report Number	Issue Date	Description	Author/ Revised by
0.0	RXZ211001001	RXZ211001001RF01	2022.01.12	Original Report	Jojo Lu

TABLE OF CONTENTS

General Information

Product Description for Equipment under Test (EUT)

Applicant	Waylens Inc.		
	2711 Centerville Road - Suite 400, Wilmington, Delaware, United States, 19808		
Manufacturer	Waylens Inc.		
	2711 Centerville Road - Suite 400, Wilmington, Delaware, United States, 19808		
Brand(Trade) Name	N/A		
Product (Equipment)	4G Dock		
Main Model Name	DOC01		
Series Model Name	N/A		
Model Discrepancy	N/A		
Frequency Range	LTE Band 2: 1850-1910 MHz(TX), 1930-1990MHz(RX) LTE Band 4: 1710-1755 MHz(TX), 2110-2155MHz(RX) LTE Band 5: 824-849 MHz(TX), 869-894 MHz(RX) LTE Band 12: 699-716 MHz(TX), 729-746 MHz(RX)		
Modulation Technique	QPSK, 16QAM		
Antenna Specification	Mode	Type	Gain(dBi)
	LTE Band 2	PIFA	1.9
	LTE Band 4	PIFA	1.9
	LTE Band 5	PIFA	1.2
	LTE Band 12	PIFA	1.2
Output Voltage	☐ AC Type ☐ Adapter Brand Name: ☐ By AC Power Cord ☐ PoE		
	☒ DC Type ☐ Battery: Brand Name: Model: ☒ DC Power Supply 12V ☐ External from USB Cable ☐ External DC Adapter		
Received Date	Nov. 5, 2021		
Date of Test	Nov. 8, 2021 ~ Nov. 24, 2021		

** All measurement and test data in this report was gathered from production sample serial number: RXZ211001001(Assigned by BACL New Taipei Laboratory)*

Objective

This report is prepared on behalf of *Waylens Inc.* in accordance with Part 2, Part 22-Subpart H and Part 24-Subpart E , Part 27 of the Federal Communication Commission's rules.

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

Related Submittal(s)/Grant(s)

N/A

Test Methodology

All tests and measurements indicated in this document were performed in accordance with the Code of Federal Regulations Title 47 Part 2-Subpart J as well as the following parts:

Part 22 Subpart H –Public Mobile Services
Part 24 Subpart E – Personal Communications Services
Part 27 – Miscellaneous wireless communications services
Applicable Standards: ANSI C63.26-2015.
All emissions measurement was performed at Bay Area Compliance Laboratories Corp. The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Statement of Compliance

Decision Rule: No, (The test results do not include MU judgment)

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.
The determination of the test results does not require consideration of the uncertainty of the measurement, unless the assessment is required by customer agreement, regulation or standard document specification.
Bay Area Compliance Laboratories Corp. (New Taipei Laboratory) is not responsible for the authenticity of the information provided by the applicant that affects the test results.

Measurement Uncertainty

Parameter		Uncertainty
RF output power, conducted		+/- 0.9 dBm
Frequency stability		+/- 0.02 MHz
Occupied Bandwidth		+/- 0.35 MHz
Unwanted Emissions, conducted		+/- 2.16 dBm
Emissions, radiated	30 MHz~1GHz	+/- 5.22 dB
	1 GHz~18 GHz	+/- 6.12 dB
	18 GHz~40 GHz	+/- 4.99 dB
Temperature		+/- 1.27 °C
Humidity		+/- 3 %

Environmental Conditions

Test Site	Test Data	Temperature (℃)	Relative Humidity (%)	ATM Pressure (hPa)	Test Engineer
Radiation Spurious Emissions	2021/11/13~2021/11/18	23.4~26	57~67	1010	David Lee
Conducted Spurious Emissions	2021/11/19	24.1	50	1010	Boris Kao
Emission Bandwidth	2021/11/19	24.1	50	1010	
Maximum Output Power	2021/11/19	24.1	50	1010	
PAR	2021/11/19	24.1	50	1010	
Band Edge	2021/11/19~2021/11/24	24.1~24.3	50	1010	
Frequency stability	2021/11/19	24.1	50	1010	

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (New Taipei Laboratory) to collect test data is located on

☒70, Lane 169, Sec. 2, Datong Road, Xizhi Dist., New Taipei City 22183, Taiwan, R.O.C.

Bay Area Compliance Laboratories Corp. (New Taipei Laboratory) is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 3732) and the FCC designation No.TW3732 under the Mutual Recognition Agreement (MRA) in FCC Test.

System Test Configuration

Description of Test Configuration

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

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

Channel List

Mode	Bandwidth (MHz)	Test Frequency (MHz)	
LTE Band 2	1.4	Low	1850.7
		Middle	1880.0
		High	1909.3
	3	Low	1851.5
		Middle	1880.0
		High	1908.5
	5	Low	1852.5
		Middle	1880.0
		High	1907.5
	10	Low	1855.0
		Middle	1880.0
		High	1905.0
	15	Low	1857.5
		Middle	1880.0
		High	1902.5
	20	Low	1860.0
		Middle	1880.0
		High	1900.0

Mode	Bandwidth (MHz)	Test Frequency (MHz)	
LTE Band 4	1.4	Low	1710.7
		Middle	1732.5
		High	1754.3
	3	Low	1711.5
		Middle	1732.5
		High	1753.5
	5	Low	1712.5
		Middle	1732.5
		High	1752.5
	10	Low	1715.0
		Middle	1732.5
		High	1750.0
	15	Low	1717.5
		Middle	1732.5
		High	1747.5
	20	Low	1720.0
		Middle	1732.5
		High	1745.0
Mode	Bandwidth (MHz)	Test Frequency (MHz)	
LTE Band 5	1.4	Low	824.7
		Middle	836.5
		High	848.3
	3	Low	825.5
		Middle	836.5
		High	847.5
	5	Low	826.5
		Middle	836.5
		High	846.5
	10	Low	829.0
		Middle	836.5
		High	844.0

Mode	Bandwidth (MHz)	Test Frequency (MHz)	
LTE Band 12	1.4	Low	699.7
		Middle	707.5
		High	715.3
	3	Low	700.5
		Middle	707.5
		High	714.5
	5	Low	701.5
		Middle	707.5
		High	713.5
	10	Low	704.0
		Middle	707.5
		High	711.0

Equipment Modifications

No modification was made to the EUT.

Test Mode

Full System (Model : DOC01) for all test item.

EUT Exercise Software

N/A.

Support Equipment List and Details

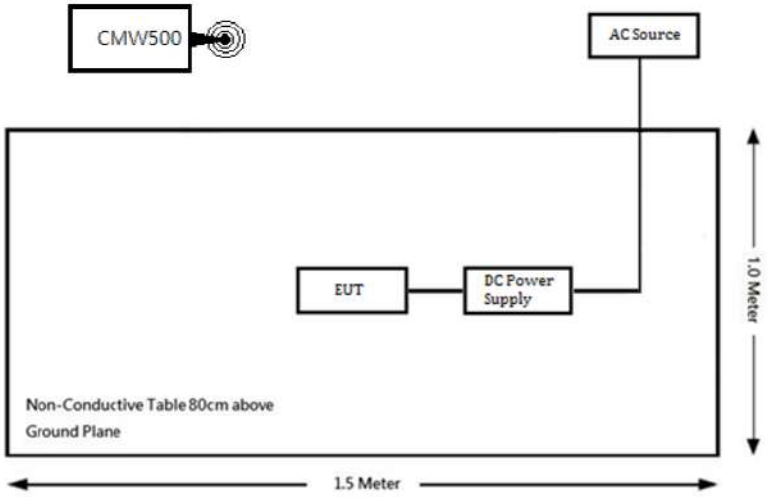
Description	Manufacturer	Model Number	S/N
DC Power Supply	KIKUSUI	PMC35-2	MK002127

Support Equipment List and Details

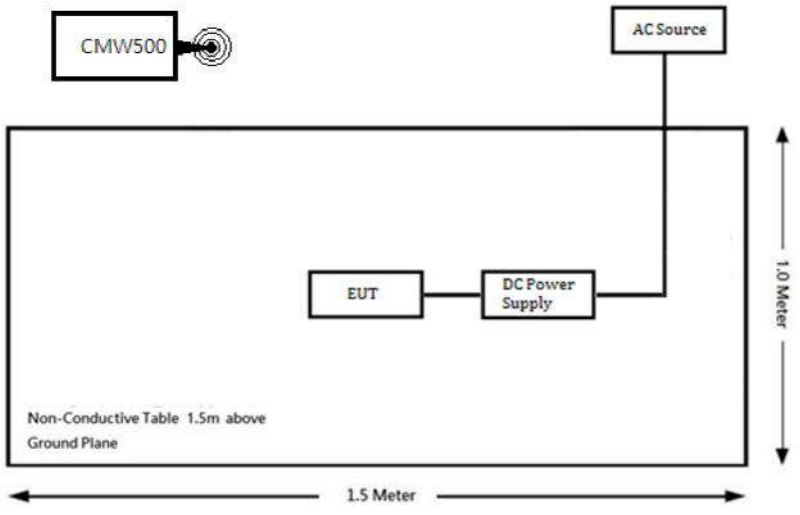
Cable Description	Length (m)	From Port	To
Type-C USB Cable	3	DC Power Supply	EUT

Block Diagram of Test Setup

For Radiated Emissions (Below 1GHz).



For Radiated Emissions (Above 1GHz).



Summary of Test Results

FCC Rules	Description of Test	Result
§1.1310 ,§ 2.1091	Maximum Permissible Exposure (MPE)	Compliance
§2.1046; §22.913 (a); §24.232(c) ;§27.50	RF Output Power	Compliance
§ 2.1047	Modulation Characteristics	Not Applicable
§ 2.1049; §22.905; §22.917; §24.238 ;§27.53	Occupied Bandwidth	Compliance
§ 2.1051; §22.917(a); §24.238(a) ;§27.53	Spurious Emissions at Antenna Terminal	Compliance
§ 2.1053; §22.917(a); §24.238(a) ;§27.53	Field Strength of Spurious Radiation	Compliance
§22.917(a); §24.238(a) ;§27.53	Band Edge	Compliance
§ 2.1055; §22.355; §24.235 ;§27.54	Frequency stability	Compliance

Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due Date
Radiated Room (966-A)					
Bilog Antenna with 6 dB Attenuator	SUNOL SCIENCES & MINI-CIRCUITS	JB6/UNAT-6+	A050115/15542_01	2021/01/19	2022/01/18
Bilog Antenna with 6 dB Attenuator	Sunol Sciences & EMEC	JB3 &EM-ATT18-6-NN	A061204 /ATT-09-003	2021/1/25	2022/1/24
Horn Antenna	EMCO	SAS-571	1983	2021/5/6	2022/5/5
Horn Antenna	EMCO	SAS-571	1020	2021/4/23	2022/4/22
Horn Antenna	ETS-Lindgren	3116	62638	2021/08/11	2022/08/10
Preamplifier	Sonoma	310N	130602	2021/06/08	2022/06/07
Preamplifier	A.H. system Inc.	PAM-0118P	470	2021/03/15	2022/03/14
Microware Preamplifier	EM Electronics Corporation	EM18G40G	060656	2020/12/30	2021/12/29
EMI Test Receiver	Rohde & Schwarz	ESR7	101419	2021/11/09	2022/11/08
Spectrum Analyzer	Rohde & Schwarz	FSV40	101435	2021/01/07	2022/01/06
Sweep Signal Generator	Agilent	MXG N5183A	MY50140407	2020/12/30	2021/12/29
Micro flex Cable	UTIFLEX	UFB197C-1-2362-70U-70U	225757-001	2021/01/26	2022/01/25
Coaxial Cable	COMMATE	PEWC	8Dr	2020/12/25	2021/12/24
Coaxial Cable	UTIFLEX	UFB311A-Q-1440-300300	220490-006	2021/2/1	2022/1/31
Coaxial Cable	JUNFLON	J12J102248-00-B-5	AUG-07-15-044	2020/12/25	2021/12/24
Cable	EMC	EMC105-SM-SM-10000	201003	2021/2/3	2022/2/2
Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	149170	2021/5/5	2022/5/4
Band-stop filter	Chengdu E-Microwave inc.	OBF-ZP-1850-1910-NF	OE01201055	2021/3/12	2022/3/11
Band-stop filter	XBTECHNOLOGY	N/A	200121-3-04	2021/3/12	2022/3/11
Band-stop filter	Chengdu E-Microwave inc.	OBF-ZP-824-849-NF	OE01201052	2021/3/12	2022/3/11
Band-stop filter	XBTECHNOLOGY	N/A	200121-3-23	2021/3/12	2022/3/11

Software	Farad	EZ_EMC	BACL-03A1	N.C.R	N.C.R
Conducted Room					
Spectrum Analyzer	Rohde & Schwarz	FSV40	101140	2021/1/7	2022/1/6
Cable	UTIFLEX	UFA210A	9435	2021/10/05	2022/10/04
Attenuator	MINI-CIRCUITS	BW-S10W5+	1419	2021/01/28	2022/01/27
Power Splitter	Mini-Circuits	ZFRSC-183-S+	S F448201614	2021/6/23	2022/6/22
Temp & Humidity Chamber	BACL	BTH-150	30028	2021/1/18	2022/1/17
Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	149170	2021/5/5	2022/5/4

***Statement of Traceability:** BACL Corp. attests that all of the calibrations on the equipment items listed above were traceable to the SI System of Units via the R.O.C. Center for Measurement Standards of the Electronics Testing Center, Taiwan (ETC) or to another internationally recognized National Metrology Institute (NMI), and were compliant with the current Taiwan Accreditation Foundation (TAF) requirements.*

FCC §1.1310, § 2.1091 - Maximum Permissible Exposure (MPE)

Applicable Standard

According to subpart 1.1310, 2.1091 systems operating under the provisions of this section shall be operated in a manner that ensures the public is not exposed to RF energy level in excess of the communication guidelines.

Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (V/m)**	**Magnetic Field Strength (A/m)**	**Power Density (mW/cm2)**	**Averaging Time (minutes)**
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f²)	30
30-300	27.5	0.073	0.2	30
300-1500	/	f/1500	30	30
1500-100,000	/	1.0	30	30

f = frequency in MHz; * = Plane-wave equivalent power density

Calculated Formulary:

Predication of MPE limit at a given distance

$S = PG/4\pi R^2$ = power density (in appropriate units, e.g. mW/cm^2);

P = power input to the antenna (in appropriate units, e.g., mW);

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

Calculated Data:

Mode	Frequency Range (MHz)	Antenna Gain		Tune-up Output Power		Evaluation Distance (cm)	Power Density (mW/cm2)	MPE Limit (mW/cm2)
		(dBi)	(numeric)	(dBm)	(mW)			
LTE Band 2	1850-1910	1.9	1.549	23.5	223.872	20	0.069	1
LTE Band 4	1710-1755	1.9	1.549	24	251.189	20	0.077	1
LTE Band 5	824-849	1.2	1.318	25	316.228	20	0.082	0.55
LTE Band 12	699-716	1.2	1.318	24.5	281.838	20	0.073	0.47

Result: The device meets MPE at distance **20cm.**

FCC §2.1047 - Modulation Characteristics

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

FCC § 2.1046, § 22.913 (A) & § 24.232 (C) & § 27.50 - RF Output Power

Applicable Standard

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

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

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

According to FCC §2.1046 and §27.50 (d), (4) Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP. Fixed stations operating in the 1710-1755 MHz band are limited to a maximum antenna height of 10 meters above ground. Mobile and portable stations operating in these bandsmust employ a means for limiting power to the minimum necessary for successful communications.

According to §27.50
(b)(10) Portable stations (hand-held devices) transmitting in the 746-757 MHz, 776-788 MHz, and 805-806 MHz bands are limited to 3 watts ERP.

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

(d), (4) Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP. Fixed stations operating in the 1710-1755 MHz band are limited to a maximum antenna height of 10 meters above ground. Mobile and portable stations operating in these bands must employ a means for limiting power to the minimum necessary for successful communications.

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

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

Test Procedure

For Conducted method:

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

For ERP measurement:

ERP can be calculated by below formula from KDB 412172 D01.

$EIRP=P_T + G_T - L_C$

P_T = transmitter output power, in dBm.

G_T = gain of the transmitting antenna, in dBi (EIRP).

L_C = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

ERP = EIRP – 2.15 dB.

Test Results

LTE Band 2

Antenna Gain (dBi):	1.9	Cable Loss (dB):	0.5

Test Bandwidth (MHz)	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
1.4	QPSK	RB1#0	23.15	23.25	22.89	24.84	33
		RB1#3	23.44	23.41	22.95		
		RB1#5	23.26	23.39	22.75		
		RB3#0	23.15	23.20	23.08		
		RB3#3	23.09	23.33	23.07		
		RB6#0	22.16	22.03	21.99		
	16-QAM	RB1#0	21.96	22.14	22.20	24.27	33
		RB1#3	21.91	22.87	22.38		
		RB1#5	21.77	22.34	22.36		
		RB3#0	22.18	22.28	21.92		
		RB3#3	22.20	22.28	21.90		
		RB6#0	20.88	20.77	20.89		
3	QPSK	RB1#0	23.06	23.38	22.87	24.78	33
		RB1#8	22.91	23.17	22.94		
		RB1#14	23.04	23.28	22.96		
		RB6#0	22.09	22.04	22.01		
		RB6#9	22.14	22.12	22.01		
		RB15#0	22.09	22.04	22.01		
	16-QAM	RB1#0	22.32	22.42	21.72	24.09	33
		RB1#8	21.94	22.54	21.57		
		RB1#14	22.21	22.69	21.56		
		RB6#0	20.78	21.37	20.71		
		RB6#9	20.84	21.48	21.06		
		RB15#0	21.00	21.22	20.98		

Note: EIRP=Conducted Power (dBm) - Cable loss (dB) + Antenna Gain (dBi)

Test Bandwidth (MHz)	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
5	QPSK	RB1#0	22.97	22.93	22.90	24.53	33
		RB1#13	23.11	22.97	23.13		
		RB1#24	23.08	23.08	22.99		
		RB15#0	21.99	21.97	21.80		
		RB15#10	21.92	21.96	21.93		
		RB25#0	21.88	22.05	21.92		
	16-QAM	RB1#0	21.53	22.35	21.76	23.85	33
		RB1#13	21.25	22.25	21.61		
		RB1#24	21.36	22.45	21.82		
		RB15#0	20.79	20.74	20.65		
		RB15#10	20.85	20.95	20.96		
		RB25#0	21.00	20.81	20.80		
10	QPSK	RB1#0	23.32	23.38	23.27	24.85	33
		RB1#25	23.00	23.45	23.33		
		RB1#49	23.16	23.34	22.91		
		RB25#0	22.15	22.09	21.98		
		RB25#25	22.04	22.14	22.11		
		RB50#0	22.15	22.02	21.96		
	16-QAM	RB1#0	22.55	22.46	21.58	24.42	33
		RB1#25	21.93	23.02	21.78		
		RB1#49	21.77	22.83	22.14		
		RB25#0	21.12	21.04	20.77		
		RB25#25	20.89	21.21	21.14		
		RB50#0	21.08	21.05	20.90		

Note: EIRP=Conducted Power (dBm) - Cable loss (dB) + Antenna Gain (dBi)

Test Bandwidth (MHz)	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
15	QPSK	RB1#0	23.43	23.23	23.21	24.83	33
		RB1#38	22.93	23.22	23.05		
		RB1#74	22.94	23.14	22.98		
		RB36#0	22.10	22.07	22.09		
		RB36#39	21.85	22.08	22.01		
		RB75#0	22.08	21.95	21.92		
	16-QAM	RB1#0	22.79	22.56	22.29	24.30	33
		RB1#38	22.30	22.48	21.33		
		RB1#74	22.35	22.90	21.48		
		RB36#0	20.96	20.97	21.10		
		RB36#39	20.72	21.03	20.94		
		RB75#0	21.01	20.90	20.79		
20	QPSK	RB1#0	23.21	22.98	23.11	24.79	33
		RB1#50	22.97	23.39	22.92		
		RB1#99	23.25	23.28	23.07		
		RB50#0	22.07	22.16	22.02		
		RB50#50	21.91	22.12	21.97		
		RB100#0	22.05	22.10	22.22		
	16-QAM	RB1#0	22.51	22.16	22.35	24.05	33
		RB1#50	22.38	22.17	22.62		
		RB1#99	22.31	22.19	22.65		
		RB50#0	21.11	21.16	21.10		
		RB50#50	20.95	21.19	20.95		
		RB100#0	21.07	20.97	21.12		

Note: EIRP=Conducted Power (dBm) - Cable loss (dB) + Antenna Gain (dBi)

LTE Band 4

Antenna Gain (dBi):	1.9	Cable Loss (dB):	0.5

Test Bandwidth (MHz)	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
1.4	QPSK	RB1#0	23.46	23.43	23.22	24.93	30
		RB1#3	23.46	23.53	23.31		
		RB1#5	23.27	23.38	23.24		
		RB3#0	23.40	23.46	23.40		
		RB3#3	23.45	23.45	23.49		
		RB6#0	22.42	22.28	22.49		
	16-QAM	RB1#0	22.50	22.72	22.63	24.17	30
		RB1#3	22.77	22.71	22.52		
		RB1#5	22.49	22.65	22.30		
		RB3#0	22.44	22.60	22.65		
		RB3#3	22.46	22.30	22.55		
		RB6#0	21.41	21.47	21.34		
3	QPSK	RB1#0	23.16	23.24	23.30	24.73	30
		RB1#8	23.12	23.30	23.17		
		RB1#14	23.33	23.22	23.31		
		RB6#0	22.25	22.31	22.48		
		RB6#9	22.36	22.35	22.43		
		RB15#0	22.37	22.34	22.48		
	16-QAM	RB1#0	22.59	22.94	22.38	24.34	30
		RB1#8	22.11	22.75	22.13		
		RB1#14	22.27	22.89	22.25		
		RB6#0	21.27	21.20	21.43		
		RB6#9	21.36	21.21	21.38		
		RB15#0	21.48	21.12	21.59		

Note: EIRP=Conducted Power (dBm) - Cable loss (dB) + Antenna Gain (dBi)

Test Bandwidth (MHz)	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
5	QPSK	RB1#0	23.14	23.22	23.51	24.92	30
		RB1#13	23.26	23.06	23.52		
		RB1#24	23.33	23.30	23.30		
		RB15#0	22.33	22.25	22.63		
		RB15#10	22.21	22.32	22.54		
		RB25#0	22.30	22.28	22.67		
	16-QAM	RB1#0	21.66	22.54	22.66	24.11	30
		RB1#13	21.54	22.71	22.20		
		RB1#24	21.95	22.62	22.37		
		RB15#0	21.11	21.13	21.47		
		RB15#10	21.15	21.10	21.60		
		RB25#0	21.40	21.19	21.58		
10	QPSK	RB1#0	23.23	23.36	23.43	25.05	30
		RB1#25	23.34	23.35	23.65		
		RB1#49	23.27	23.12	23.64		
		RB25#0	22.30	22.25	22.63		
		RB25#25	22.39	22.32	22.60		
		RB50#0	22.41	22.34	22.72		
	16-QAM	RB1#0	22.73	22.90	22.48	24.36	30
		RB1#25	22.86	22.88	22.33		
		RB1#49	22.56	22.96	22.09		
		RB25#0	21.18	21.18	21.68		
		RB25#25	21.45	21.43	21.61		
		RB50#0	21.35	21.36	21.61		

Note: EIRP=Conducted Power(dBm) - Cable loss(dB) + Antenna Gain(dBi)

Test Bandwidth (MHz)	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
15	QPSK	RB1#0	23.56	23.35	23.39	25.00	30
		RB1#38	23.32	23.22	23.38		
		RB1#74	23.40	23.24	23.60		
		RB36#0	22.43	22.27	22.62		
		RB36#39	22.38	22.31	22.56		
		RB75#0	22.30	22.28	22.49		
	16-QAM	RB1#0	22.49	21.85	22.69	24.35	30
		RB1#38	22.64	22.80	22.59		
		RB1#74	22.46	22.95	22.10		
		RB36#0	21.43	21.25	21.65		
		RB36#39	21.34	21.54	21.54		
		RB75#0	21.36	21.44	21.56		
20	QPSK	RB1#0	23.48	23.56	23.59	24.99	30
		RB1#50	23.27	23.40	23.59		
		RB1#99	23.29	23.57	23.56		
		RB50#0	22.47	22.27	22.68		
		RB50#50	22.39	22.37	22.66		
		RB100#0	22.48	22.32	22.70		
	16-QAM	RB1#0	22.74	21.93	22.78	24.27	30
		RB1#50	22.84	22.47	22.87		
		RB1#99	22.75	22.54	22.76		
		RB50#0	21.53	21.20	21.51		
		RB50#50	21.41	21.40	21.63		
		RB100#0	21.58	21.38	21.57		

Note: EIRP=Conducted Power (dBm) - Cable loss (dB) + Antenna Gain (dBi)

LTE Band 5

Antenna Gain (dBi):	1.2	Antenna Gain (dBd):	-0.95	Cable Loss (dB):	0.2

Test Bandwidth (MHz)	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)	Maximum ERP (dBm)	ERP Limit (dBm)
1.4	QPSK	RB1#0	23.64	23.96	23.82	23.03	38.45
		RB1#3	23.87	24.18	24.09		
		RB1#5	23.84	23.95	23.93		
		RB3#0	23.72	24.08	23.97		
		RB3#3	23.65	24.05	24.02		
		RB6#0	22.80	23.14	23.02		
	16-QAM	RB1#0	22.84	23.58	23.05	22.81	38.45
		RB1#3	23.10	23.89	23.17		
		RB1#5	22.93	23.96	23.09		
		RB3#0	22.93	23.51	23.04		
		RB3#3	22.84	23.23	22.99		
		RB6#0	21.81	22.27	21.80		
3	QPSK	RB1#0	23.63	23.94	23.85	23.29	38.45
		RB1#8	23.76	24.34	23.74		
		RB1#14	23.72	24.44	23.94		
		RB6#0	22.86	22.96	23.13		
		RB6#9	22.79	23.11	22.91		
		RB15#0	22.81	23.02	23.04		
	16-QAM	RB1#0	23.04	23.19	23.24	22.91	38.45
		RB1#8	23.03	23.90	22.59		
		RB1#14	22.76	24.06	22.55		
		RB6#0	21.83	22.40	22.05		
		RB6#9	21.70	22.28	21.83		
		RB15#0	21.90	21.92	21.99		

Note: ERP=Conducted Power (dBm) - Cable loss (dB) + Antenna Gain (dBd)

Test Bandwidth (MHz)	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)	Maximum ERP (dBm)	ERP Limit (dBm)
5	QPSK	RB1#0	23.66	23.82	23.98	23.37	38.45
		RB1#13	23.76	24.52	23.86		
		RB1#24	23.72	24.14	23.88		
		RB15#0	22.93	23.03	23.13		
		RB15#10	22.86	23.13	22.98		
		RB25#0	22.85	23.01	23.11		
	16-QAM	RB1#0	22.34	22.97	22.86	22.82	38.45
		RB1#13	22.56	23.97	22.58		
		RB1#24	22.04	23.60	22.57		
		RB15#0	21.91	21.67	22.11		
		RB15#10	21.55	21.92	21.93		
		RB25#0	21.83	21.87	21.98		
10	QPSK	RB1#0	23.67	23.09	23.91	23.45	38.45
		RB1#25	23.74	24.60	24.10		
		RB1#49	22.95	24.32	23.37		
		RB25#0	23.40	22.97	23.43		
		RB25#25	22.94	23.19	23.00		
		RB50#0	22.96	23.07	23.14		
	16-QAM	RB1#0	23.18	22.16	23.22	23.05	38.45
		RB1#25	23.18	23.79	23.32		
		RB1#49	22.64	24.20	22.40		
		RB25#0	22.47	22.21	22.62		
		RB25#25	21.96	22.29	22.01		
		RB50#0	21.94	21.96	22.04		

Note: ERP=Conducted Power (dBm) - Cable loss (dB) + Antenna Gain (dBd)

LTE Band 12

Antenna Gain (dBi):	1.2	Antenna Gain (dBd):	-0.95	Cable Loss (dB):	0.2

Test Bandwidth (MHz)	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)	Maximum ERP (dBm)	ERP Limit (dBm)
1.4	QPSK	RB1#0	23.98	23.58	23.20	23.04	34.77
		RB1#3	24.11	23.79	23.49		
		RB1#5	23.97	23.99	23.78		
		RB3#0	24.19	23.47	23.32		
		RB3#3	23.78	23.79	23.58		
		RB6#0	22.96	23.62	23.46		
	16-QAM	RB1#0	23.03	22.49	22.25	21.96	34.77
		RB1#3	23.04	22.89	22.52		
		RB1#5	23.11	23.09	22.73		
		RB3#0	23.03	22.47	22.42		
		RB3#3	22.87	22.81	22.58		
		RB6#0	22.03	22.68	22.39		
3	QPSK	RB1#0	23.76	23.11	23.02	23.14	34.77
		RB1#8	23.59	23.88	23.22		
		RB1#14	23.39	24.29	23.68		
		RB6#0	23.64	22.89	22.91		
		RB6#9	22.82	23.09	23.44		
		RB15#0	23.07	23.00	23.00		
	16-QAM	RB1#0	23.18	22.06	22.14	22.39	34.77
		RB1#8	23.00	23.00	22.23		
		RB1#14	23.05	23.54	22.60		
		RB6#0	22.74	22.27	21.97		
		RB6#9	21.85	23.26	22.42		
		RB15#0	22.11	21.84	22.27		

Note: ERP=Conducted Power (dBm) - Cable loss (dB) + Antenna Gain (dBd)

Test Bandwidth (MHz)	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)	Maximum ERP (dBm)	ERP Limit (dBm)
5	QPSK	RB1#0	23.78	22.63	24.00	23.13	34.77
		RB1#13	23.54	23.93	23.06		
		RB1#24	22.68	24.28	23.41		
		RB15#0	23.54	22.93	23.45		
		RB15#10	23.00	23.13	22.87		
		RB25#0	23.10	23.03	23.04		
	16-QAM	RB1#0	22.68	21.76	23.13	22.38	34.77
		RB1#13	22.40	23.22	22.10		
		RB1#24	21.73	23.53	22.45		
		RB15#0	22.60	21.75	22.30		
		RB15#10	21.73	21.98	21.94		
		RB25#0	22.16	21.84	22.01		
10	QPSK	RB1#0	23.58	22.29	22.43	23.20	34.77
		RB1#25	22.92	23.81	24.35		
		RB1#49	23.61	23.23	22.75		
		RB25#0	23.32	22.76	23.68		
		RB25#25	23.03	23.72	23.04		
		RB50#0	23.21	22.96	23.18		
	16-QAM	RB1#0	23.15	21.41	21.44	22.42	34.77
		RB1#25	22.51	23.00	23.57		
		RB1#49	23.21	22.56	21.79		
		RB25#0	22.43	21.89	22.88		
		RB25#25	22.14	22.83	22.09		
		RB50#0	22.02	21.90	22.06		

Note: ERP=Conducted Power (dBm) - Cable loss (dB) + Antenna Gain (dBd)

Peak-to-average ratio (PAR)

LTE Band 2

Modulation	Bandwidth (MHz)	RB	Low Channel (dB)	Middle Channel (dB)	High Channel (dB)	PAR Limit (dB)
QPSK	10	RB1#0	4.41	4.93	4.72	13
	10	RB50#0	5.07	5.07	4.99	13
16-QAM	10	RB1#0	5.36	6.03	5.71	13
	10	RB50#0	6.12	6.20	6.12	13

LTE Band 4

Modulation	Bandwidth (MHz)	RB	Low Channel (dB)	Middle Channel (dB)	High Channel (dB)	PAR Limit (dB)
QPSK	10	RB1#0	3.86	4.55	3.59	13
	10	RB50#0	4.58	5.13	4.12	13
16-QAM	10	RB1#0	4.52	5.88	4.52	13
	10	RB50#0	5.62	6.29	5.22	13

LTE Band 5

Modulation	Bandwidth (MHz)	RB	Low Channel (dB)	Middle Channel (dB)	High Channel (dB)	PAR Limit (dB)
QPSK	10	RB1#0	4.26	5.13	4.49	13
	10	RB50#0	5.25	5.36	5.07	13
16-QAM	10	RB1#0	4.84	6.26	5.45	13
	10	RB50#0	6.09	6.46	6.20	13

LTE Band 12

Modulation	Bandwidth (MHz)	RB	Low Channel (dB)	Middle Channel (dB)	High Channel (dB)	PAR Limit (dB)
QPSK	10	RB1#0	2.84	4.41	5.07	13
	10	RB50#0	4.78	4.58	4.38	13
16-QAM	10	RB1#0	3.71	5.39	6.14	13
	10	RB50#0	5.80	5.77	5.42	13

FCC §2.1049, §22.917, §22.905 & §24.238 & §27.53 – Occupied Bandwidth

Applicable Standard

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

Test Procedure

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

The resolution bandwidth of the spectrum analyzer was set at 1% to 5% of the anticipated emission bandwidth and the 26 dB & 99% bandwidth was recorded.

Test Results

Test Mode: Transmitting

Test Result: Compliant.

Please refer to the following table and plots.

(Worst case is Resource Block & RB offset : Full RB)

LTE Band 2:

Bandwidth (MHz)	Modulation	Low channel		Middle channel		High channel	
		99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)
1.4	QPSK	1.102	1.290	1.102	1.302	1.102	1.314
	16QAM	1.102	1.302	1.108	1.320	1.096	1.296
3	QPSK	2.695	2.940	2.695	2.940	2.683	2.964
	16QAM	2.695	2.976	2.683	2.952	2.683	2.940
5	QPSK	4.531	5.040	4.511	5.020	4.491	5.000
	16QAM	4.511	5.000	4.531	5.040	4.511	5.000
10	QPSK	8.942	9.840	8.942	9.720	8.942	9.680
	16QAM	8.942	9.640	8.942	9.640	8.942	9.680
15	QPSK	13.413	14.700	13.413	14.580	13.473	14.640
	16QAM	13.413	14.640	13.473	14.640	13.533	14.640
20	QPSK	17.884	19.280	17.804	19.120	17.964	19.600
	16QAM	17.964	19.360	17.884	19.360	17.964	19.600

LTE Band 4:

Bandwidth (MHz)	Modulation	Low channel		Middle channel		High channel	
		99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)
1.4	QPSK	1.102	1.308	1.102	1.314	1.102	1.296
	16QAM	1.108	1.332	1.096	1.302	1.102	1.326
3	QPSK	2.695	2.952	2.695	2.928	2.683	2.964
	16QAM	2.695	2.952	2.683	2.964	2.683	2.952
5	QPSK	4.531	5.040	4.511	5.040	4.511	5.020
	16QAM	4.511	5.000	4.551	5.060	4.531	5.060
10	QPSK	8.942	9.760	8.942	9.640	8.942	9.720
	16QAM	8.942	9.680	8.942	9.720	8.942	9.680
15	QPSK	13.413	14.700	13.413	14.640	13.413	14.580
	16QAM	13.473	14.640	13.473	14.700	13.473	14.640
20	QPSK	17.884	19.360	17.884	19.280	17.884	19.600
	16QAM	17.964	19.280	17.884	19.200	17.884	19.280

LTE Band 5:

Bandwidth (MHz)	Modulation	Low channel		Middle channel		High channel	
		99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)
1.4	QPSK	1.096	1.302	1.108	1.320	1.102	1.266
	16QAM	1.096	1.314	1.096	1.296	1.102	1.308
3	QPSK	2.683	2.940	2.695	2.940	2.683	2.952
	16QAM	2.683	2.952	2.683	2.952	2.683	2.952
5	QPSK	4.531	5.040	4.511	5.020	4.511	5.000
	16QAM	4.491	5.000	4.531	5.060	4.531	5.060
10	QPSK	8.982	9.720	8.982	9.760	8.902	9.680
	16QAM	8.942	9.720	8.982	9.720	8.902	9.600

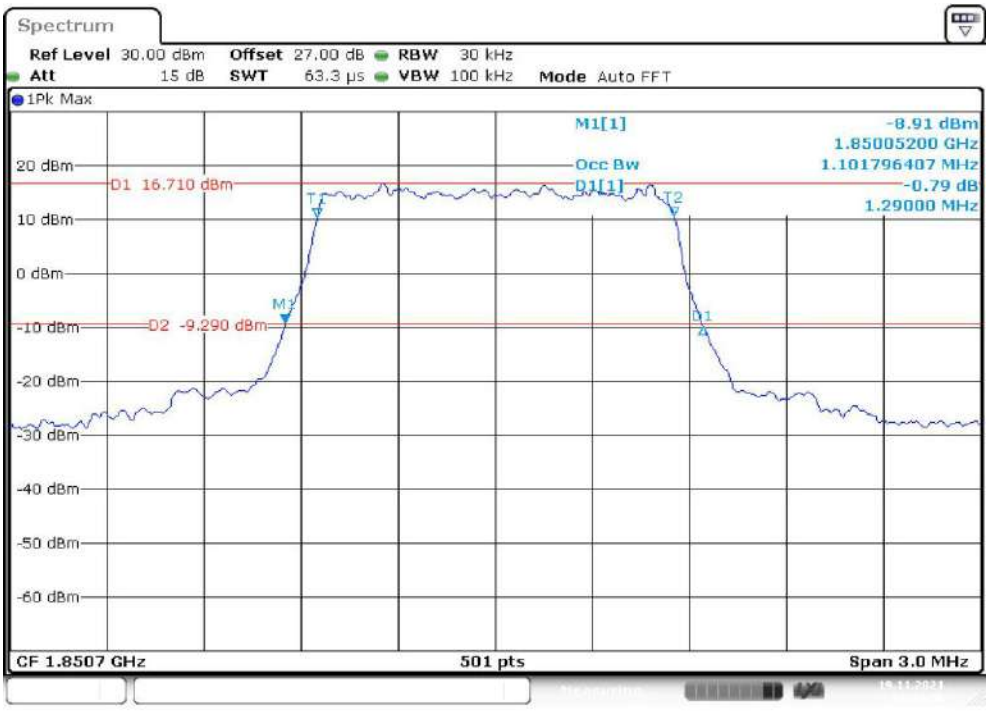
LTE Band 12:

Bandwidth (MHz)	Modulation	Low channel		Middle channel		High channel	
		99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)
1.4 MHz	QPSK	1.108	1.362	1.102	1.314	1.102	1.284
	16QAM	1.108	1.338	1.096	1.296	1.102	1.314
3 MHz	QPSK	2.695	2.964	2.695	2.940	2.683	2.964
	16QAM	2.683	2.976	2.683	2.952	2.683	2.964
5 MHz	QPSK	4.531	5.040	4.531	5.020	4.531	5.080
	16QAM	4.511	5.020	4.531	5.040	4.551	5.060
10 MHz	QPSK	8.982	9.840	8.942	9.640	8.902	9.640
	16QAM	8.942	9.720	8.942	9.720	8.901	9.600

Please refer to the following plots.

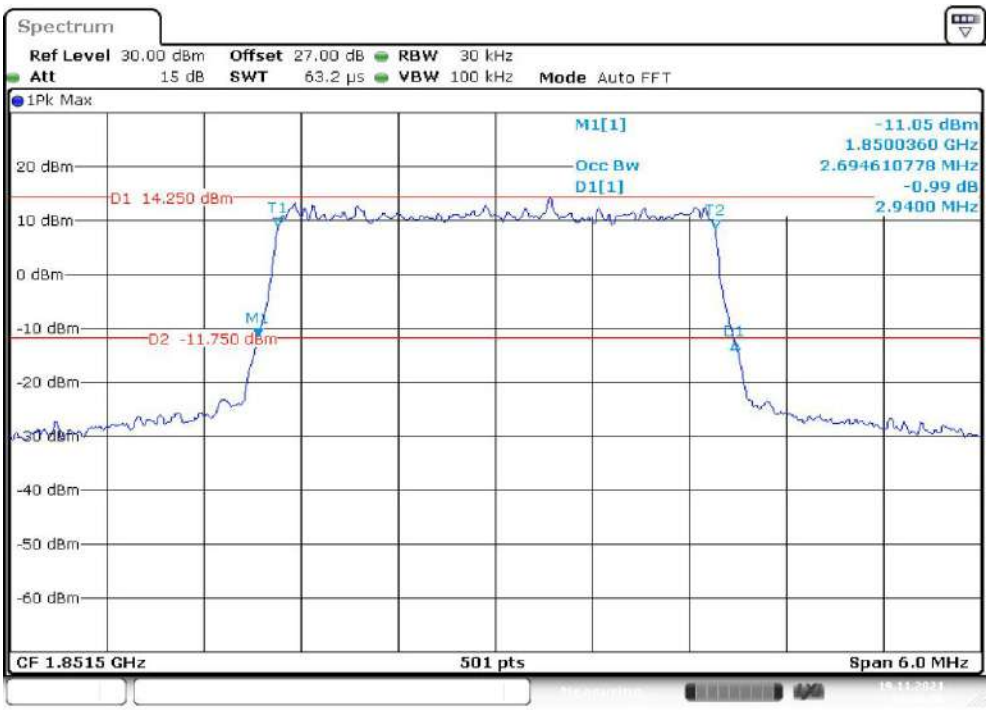
LTE Band 2

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



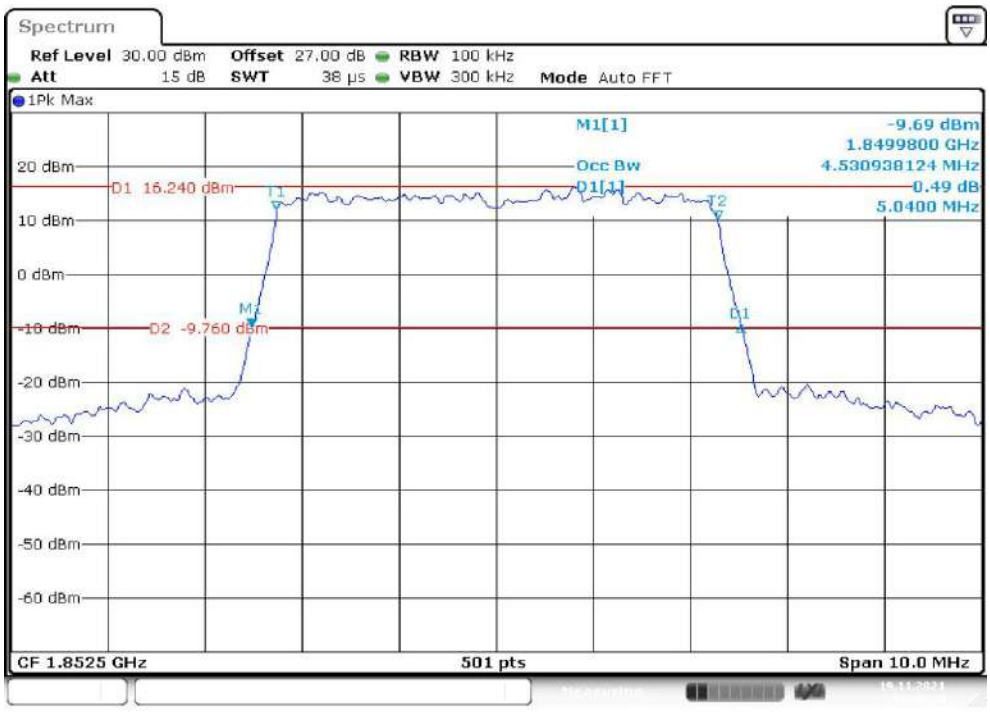
Date: 19.NOV.2021 13:03:09

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



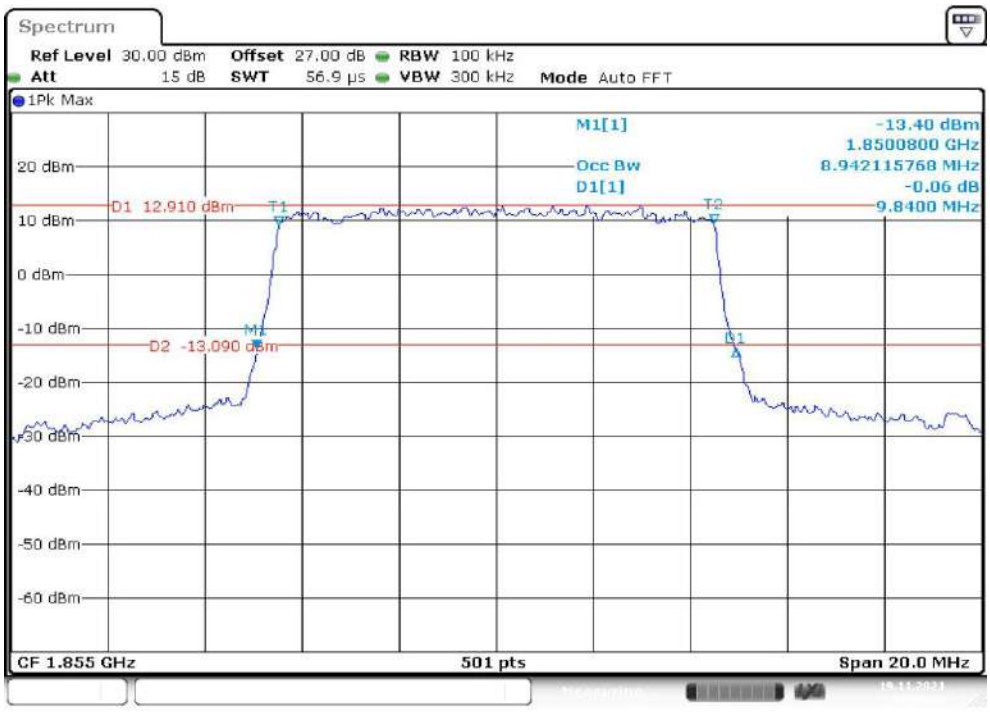
Date: 19.NOV.2021 13:04:48

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



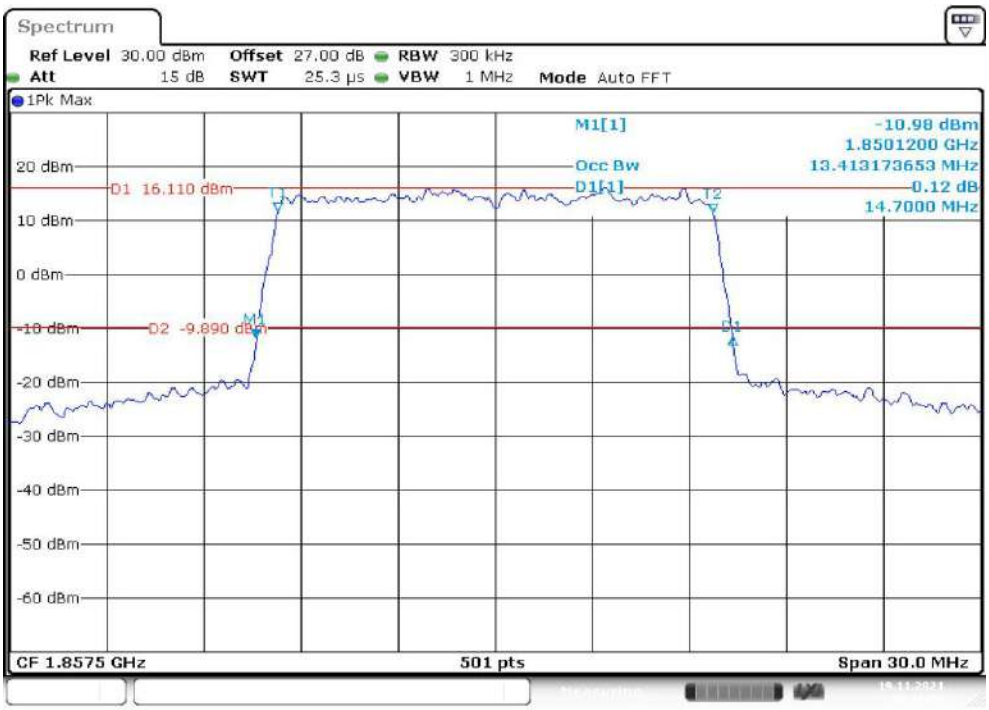
Date: 19.NOV.2021 13:06:34

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



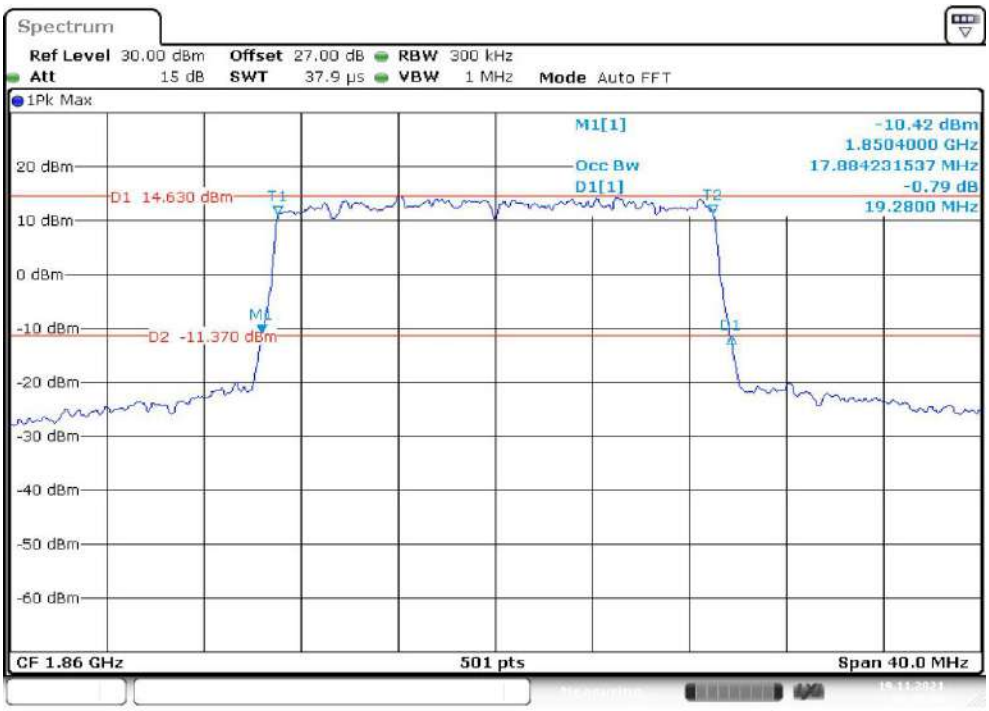
Date: 19.NOV.2021 13:09:02

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



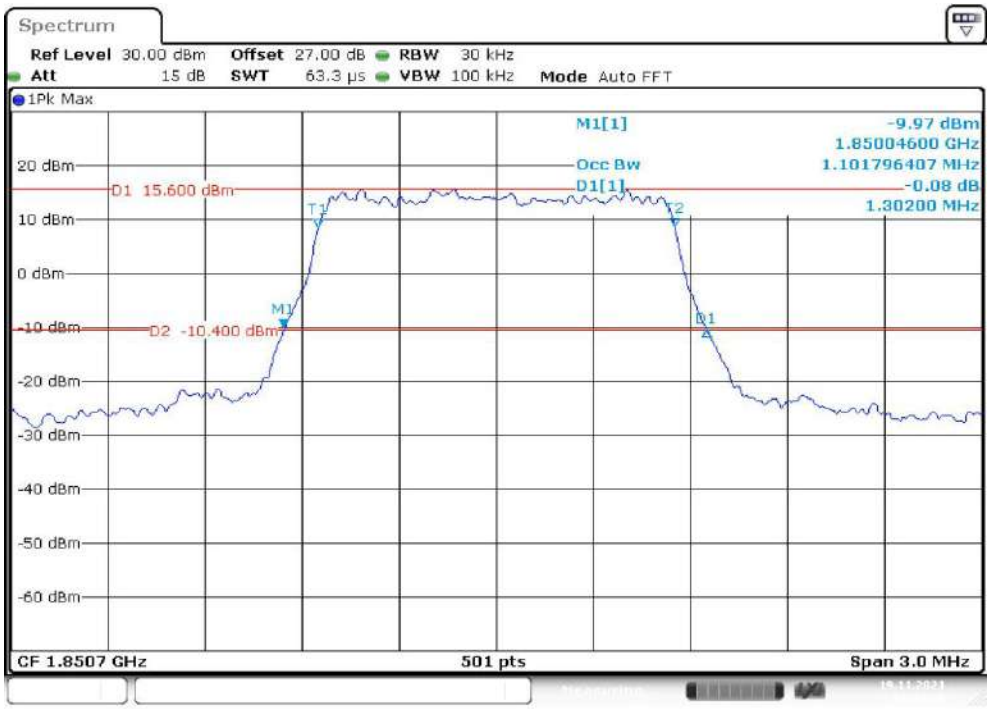
Date: 19.NOV.2021 13:11:59

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

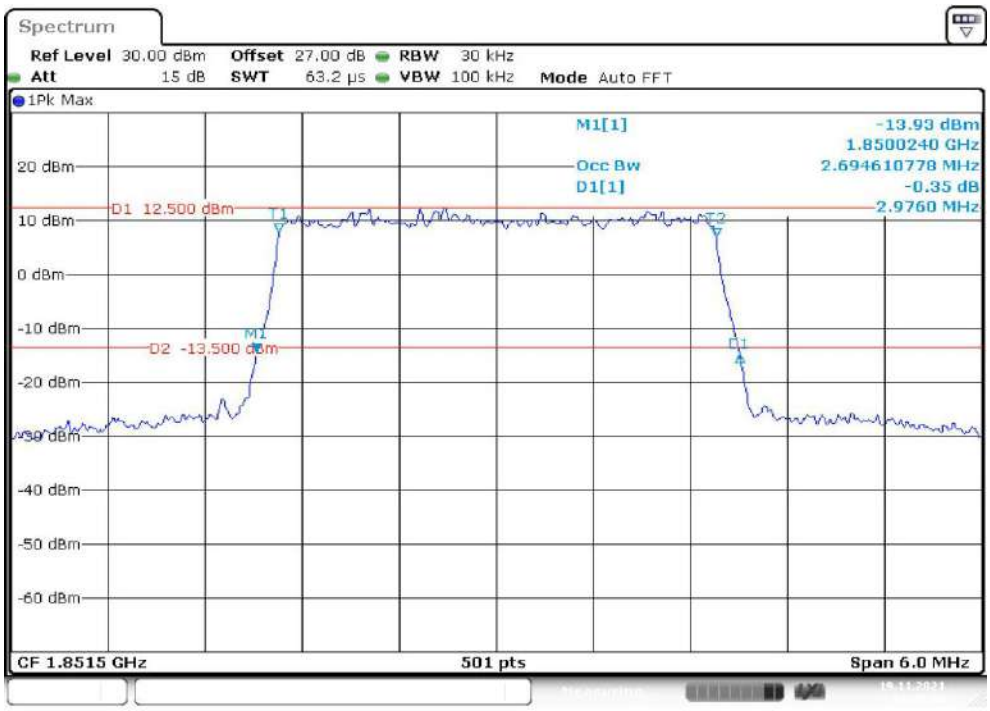


Date: 19.NOV.2021 13:15:05

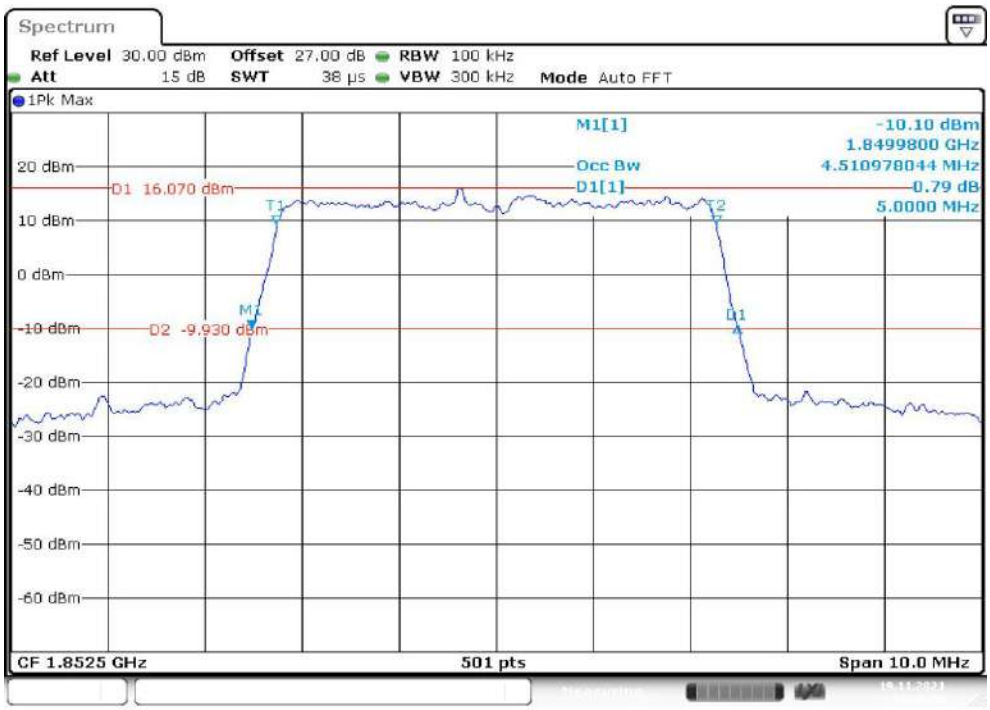
16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



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

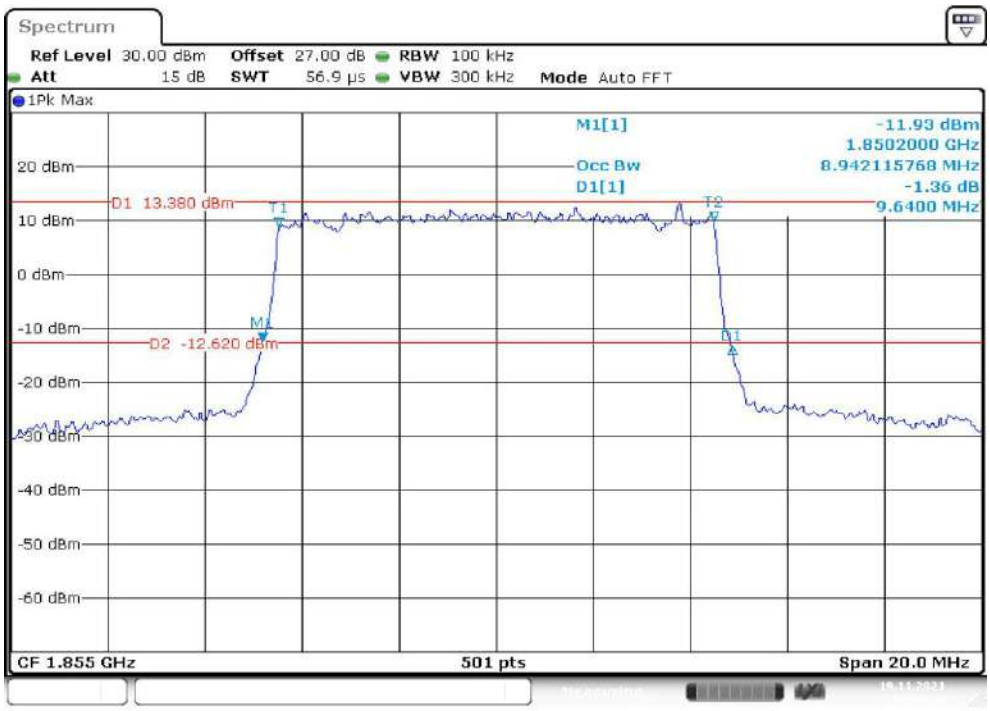


16-QAM (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



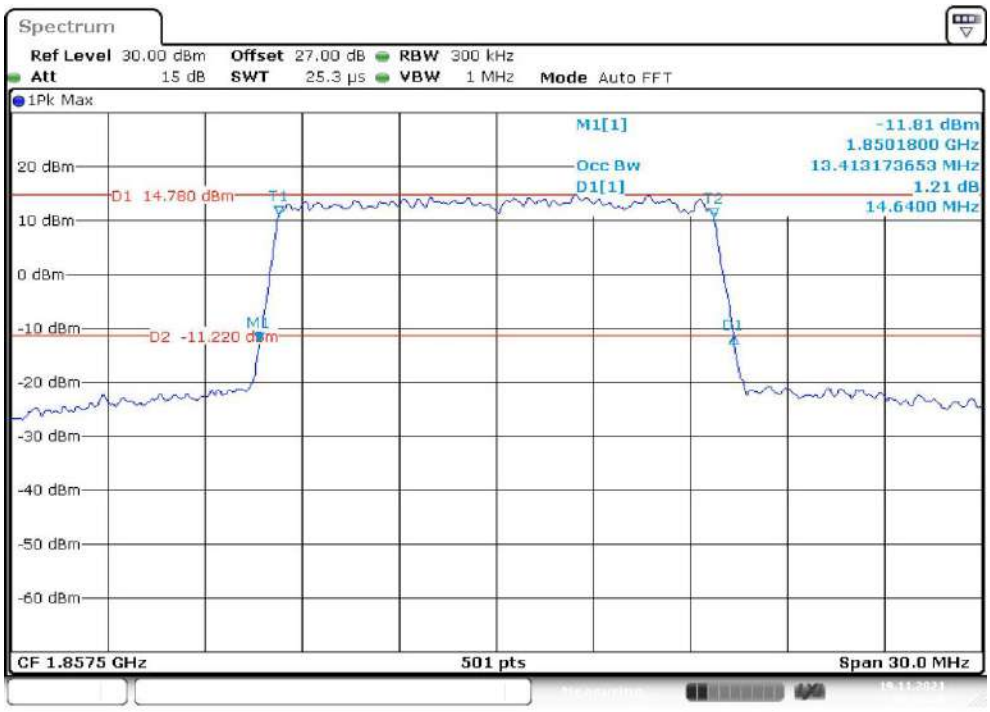
Date: 19.NOV.2021 13:06:54

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



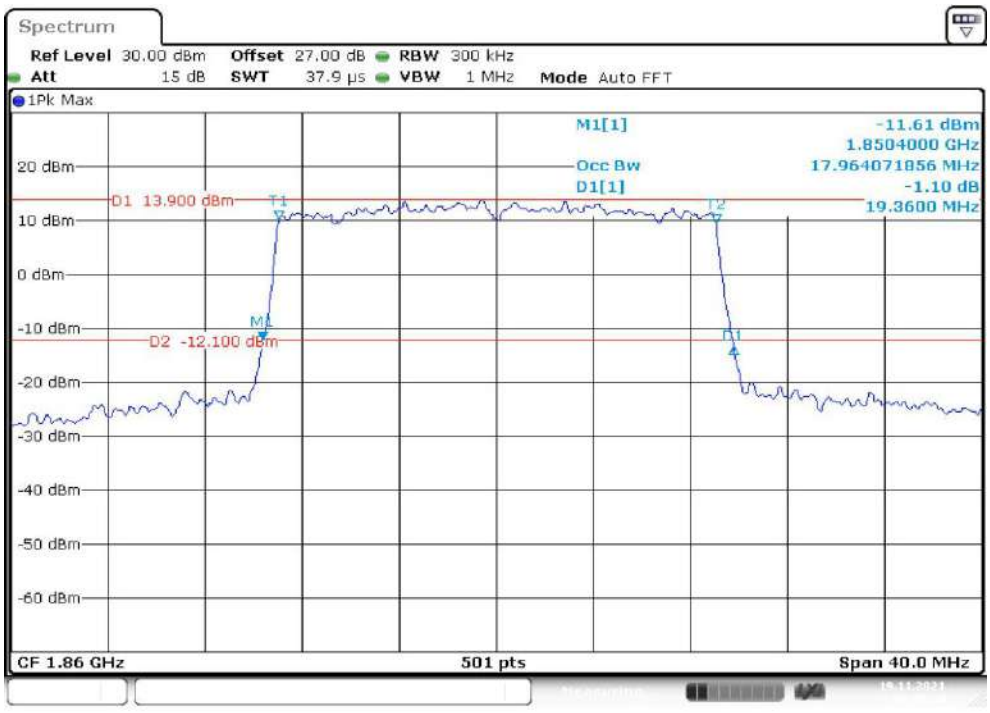
Date: 19.NOV.2021 13:09:33

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



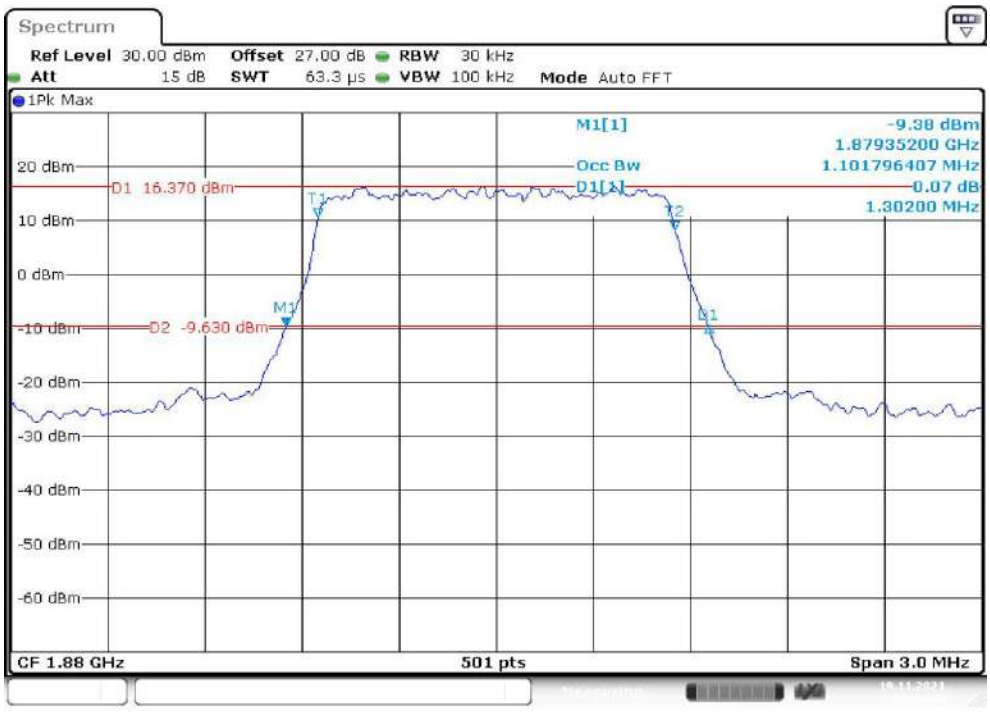
Date: 19.NOV.2021 13:12:26

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



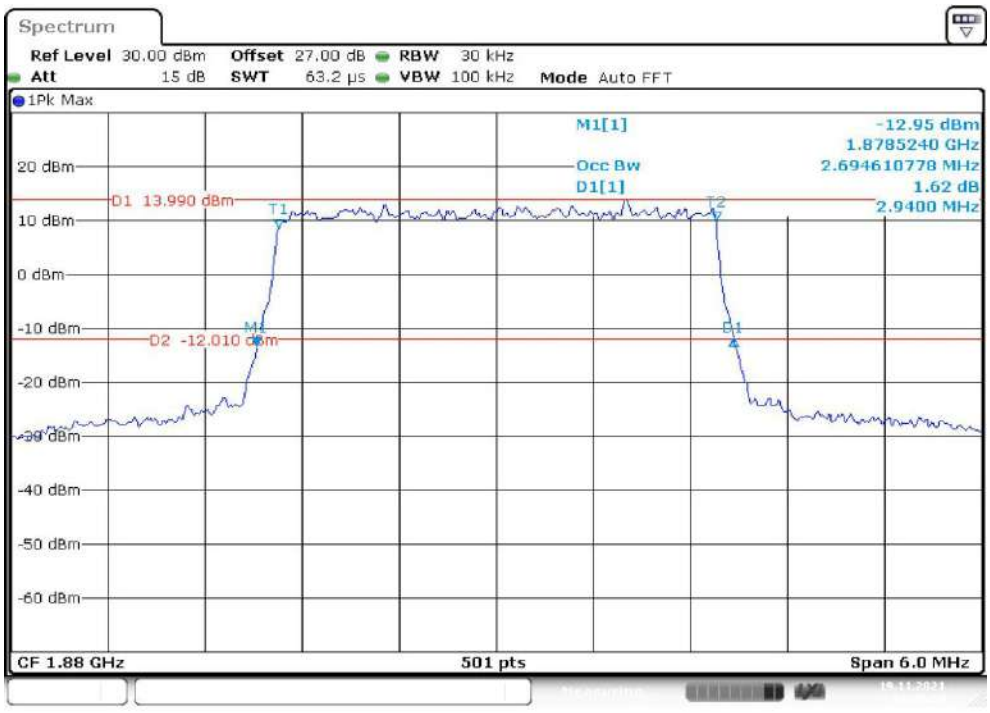
Date: 19.NOV.2021 13:15:35

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



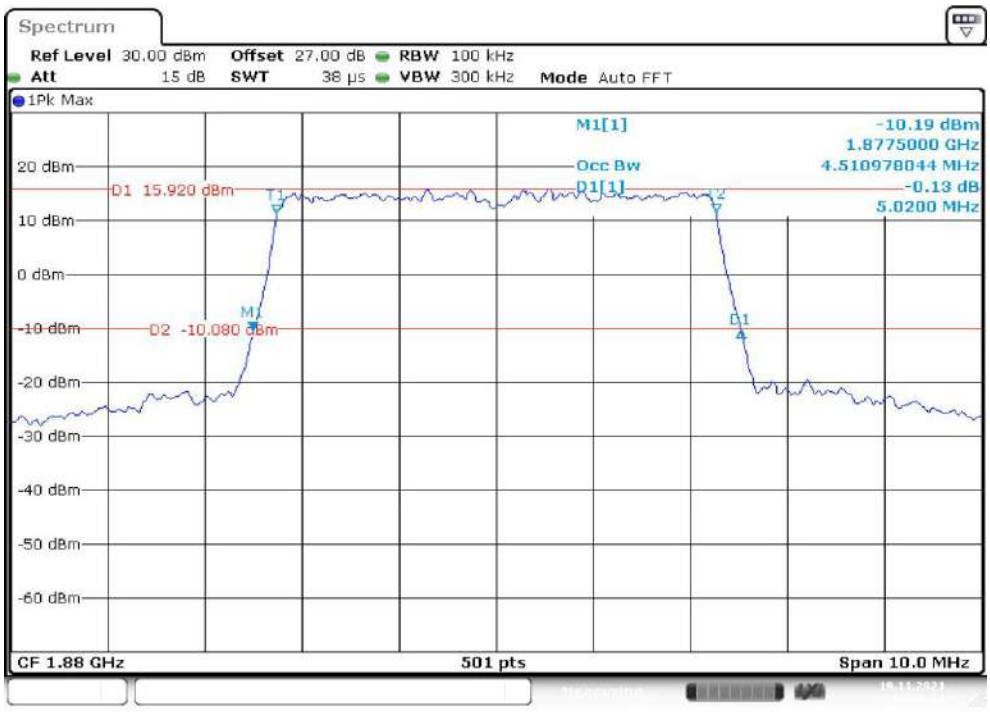
Date: 19.NOV.2021 13:03:44

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



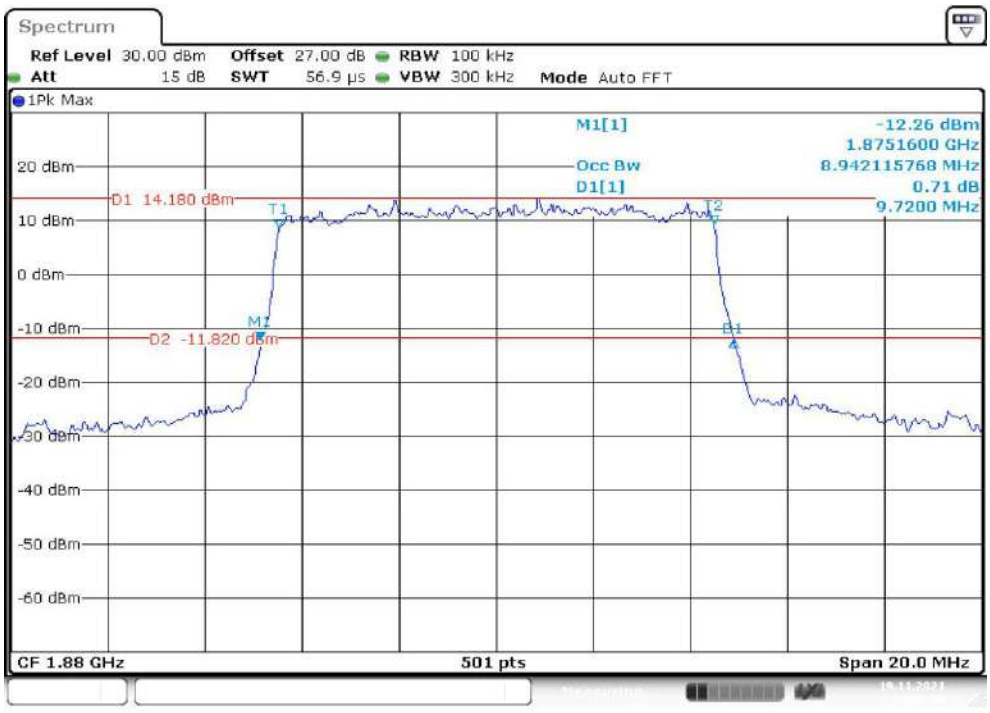
Date: 19.NOV.2021 13:05:24

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



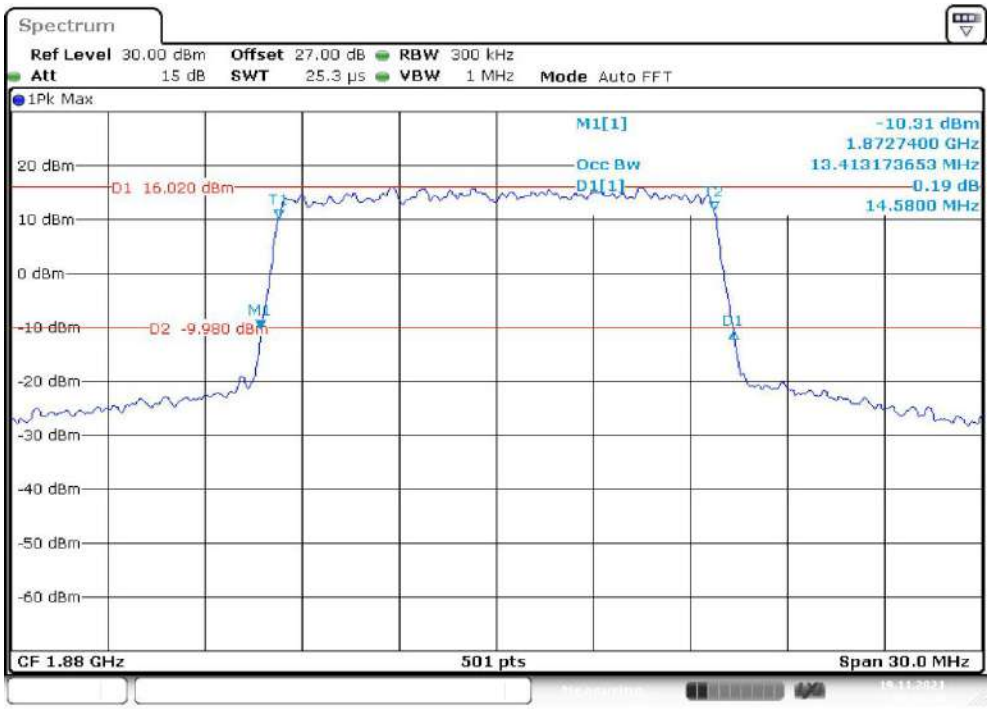
Date: 19.NOV.2021 13:07:22

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



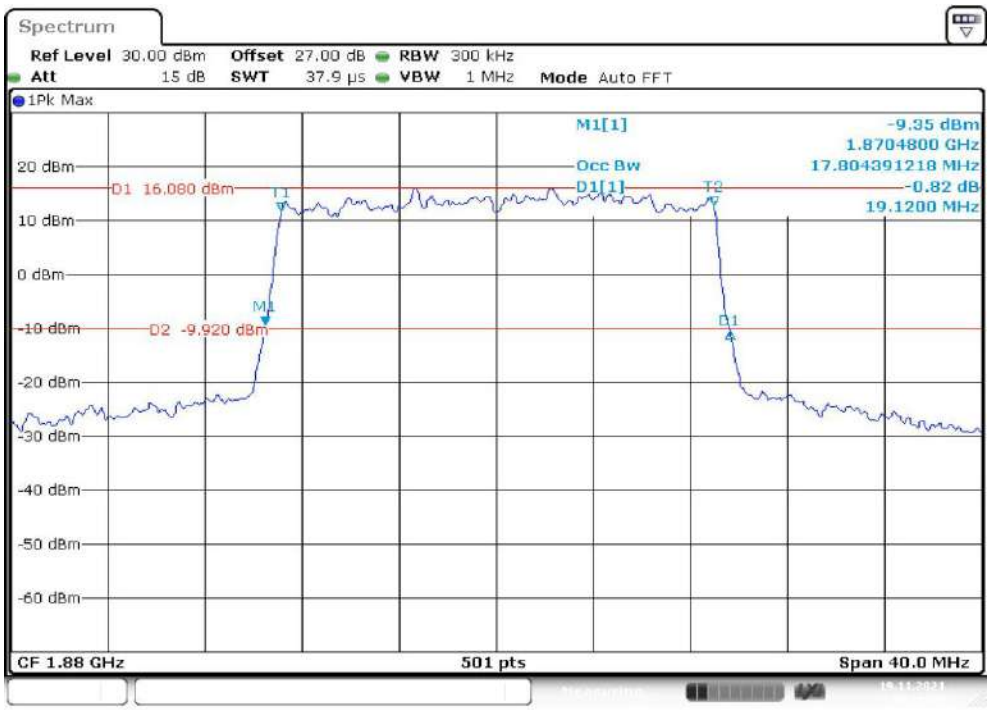
Date: 19.NOV.2021 13:09:58

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



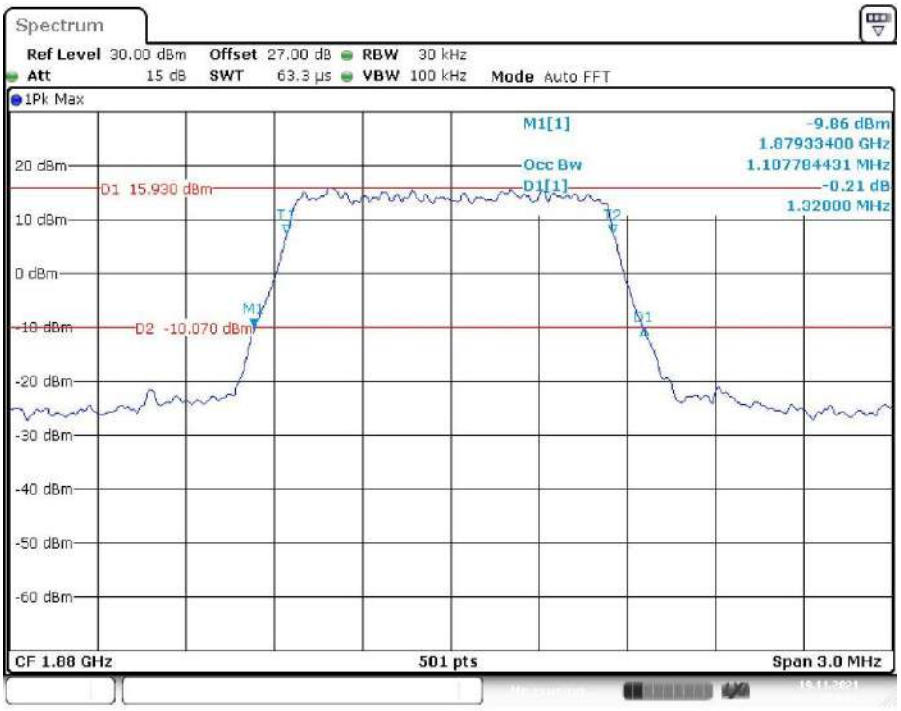
Date: 19.NOV.2021 13:12:54

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



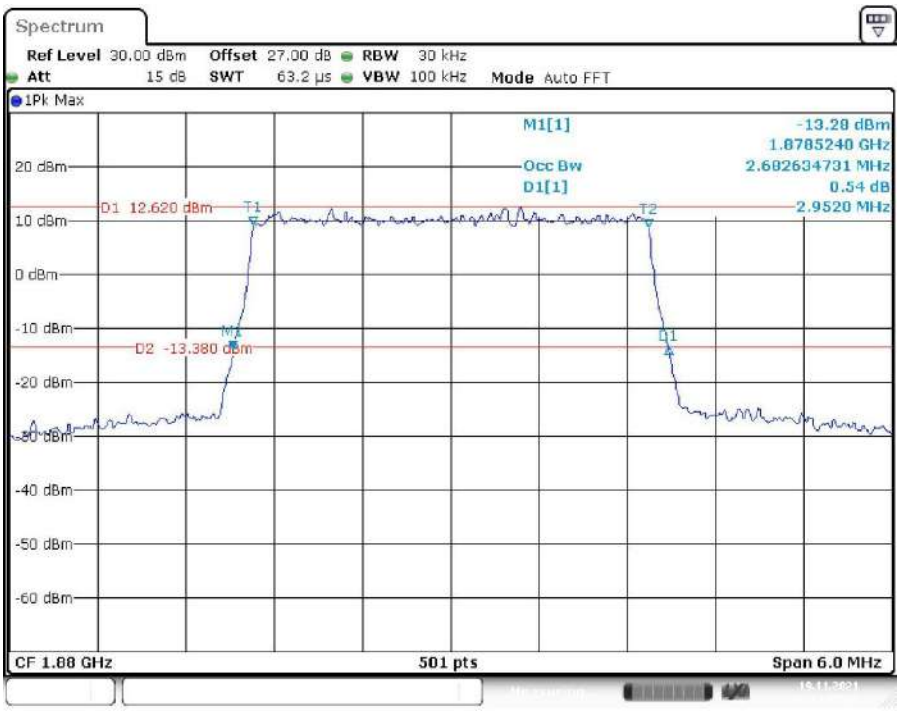
Date: 19.NOV.2021 13:16:09

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



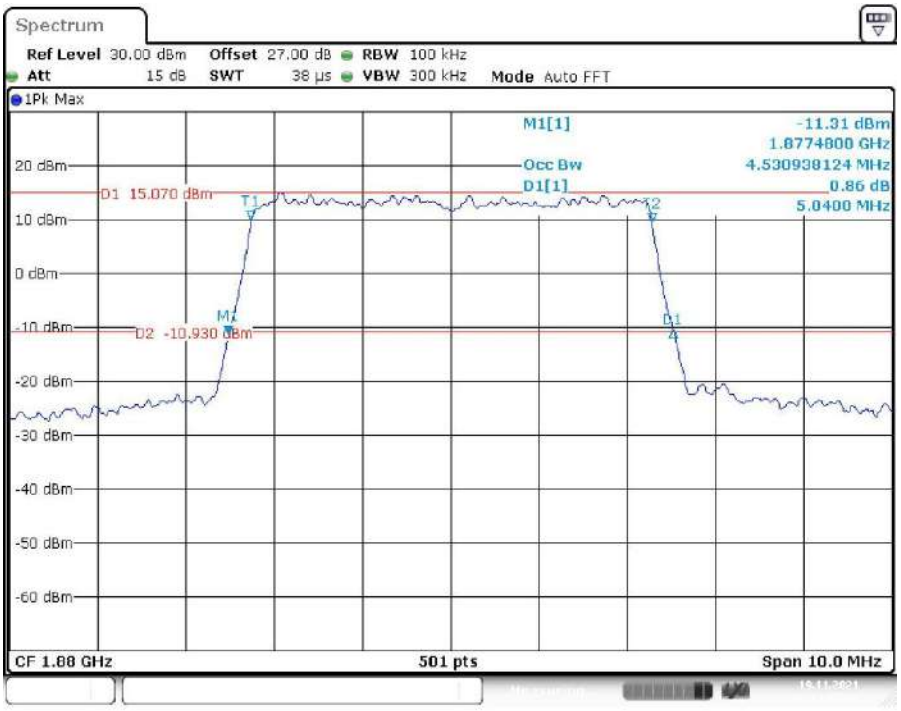
Date: 19.NOV.2021 13:04:01

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



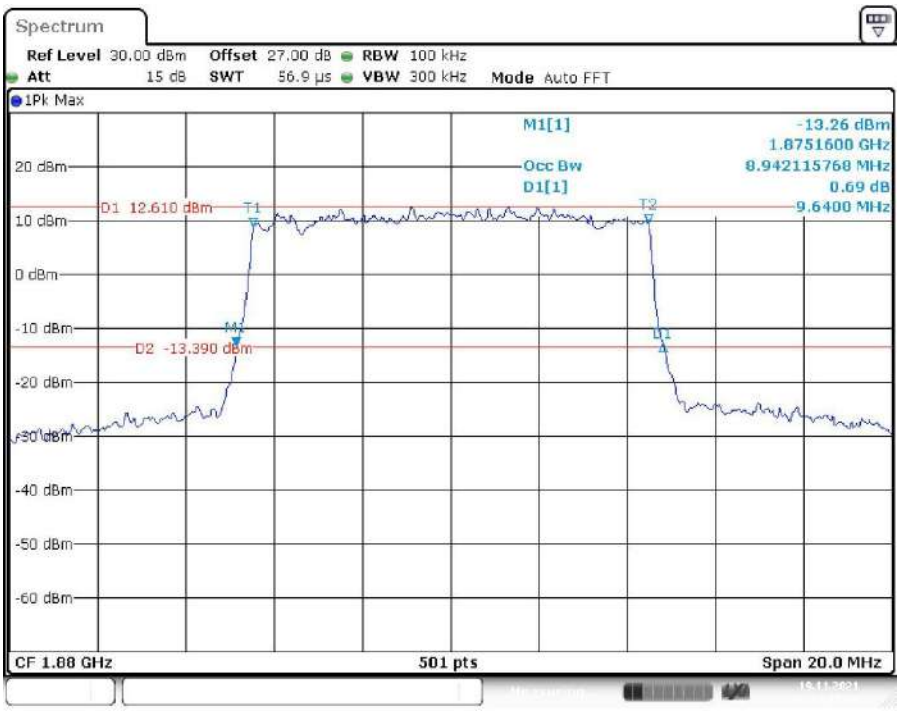
Date: 19.NOV.2021 13:05:38

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



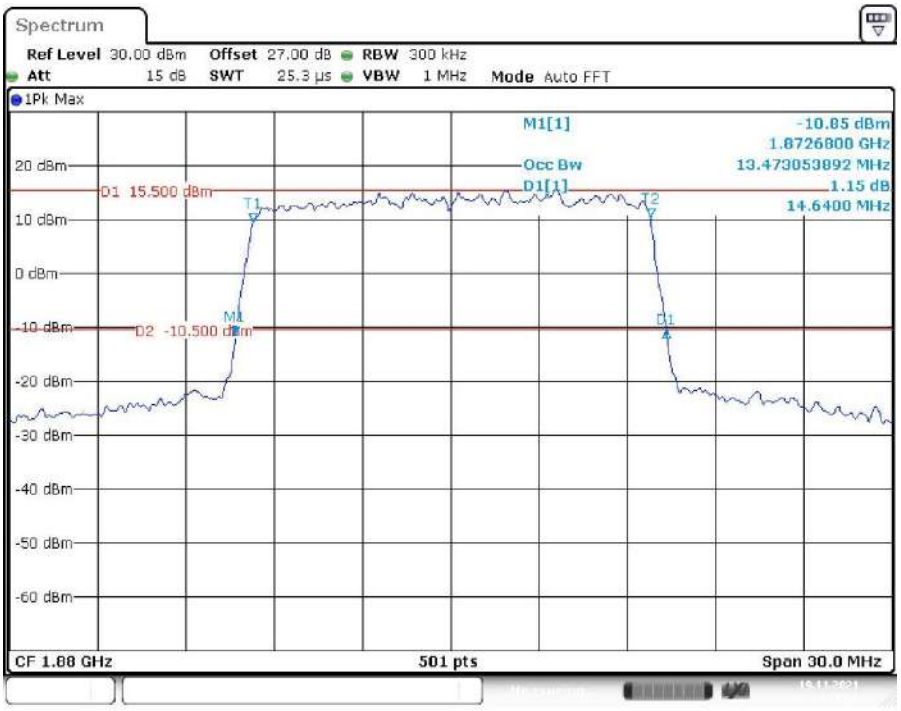
Date: 19.NOV.2021 13:07:42

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



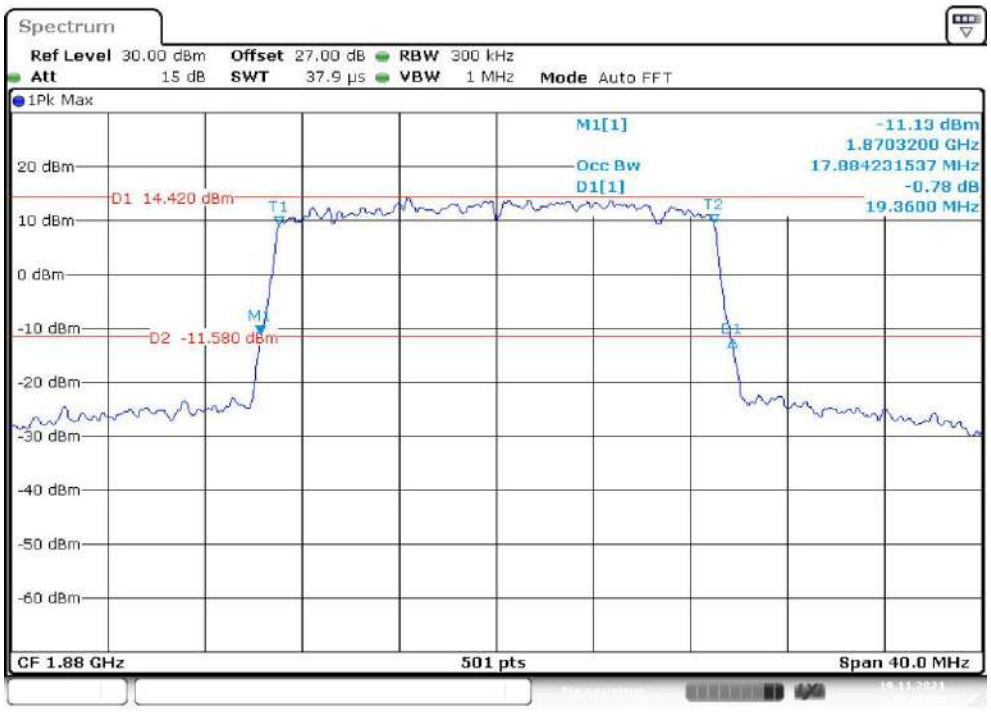
Date: 19.NOV.2021 13:10:23

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



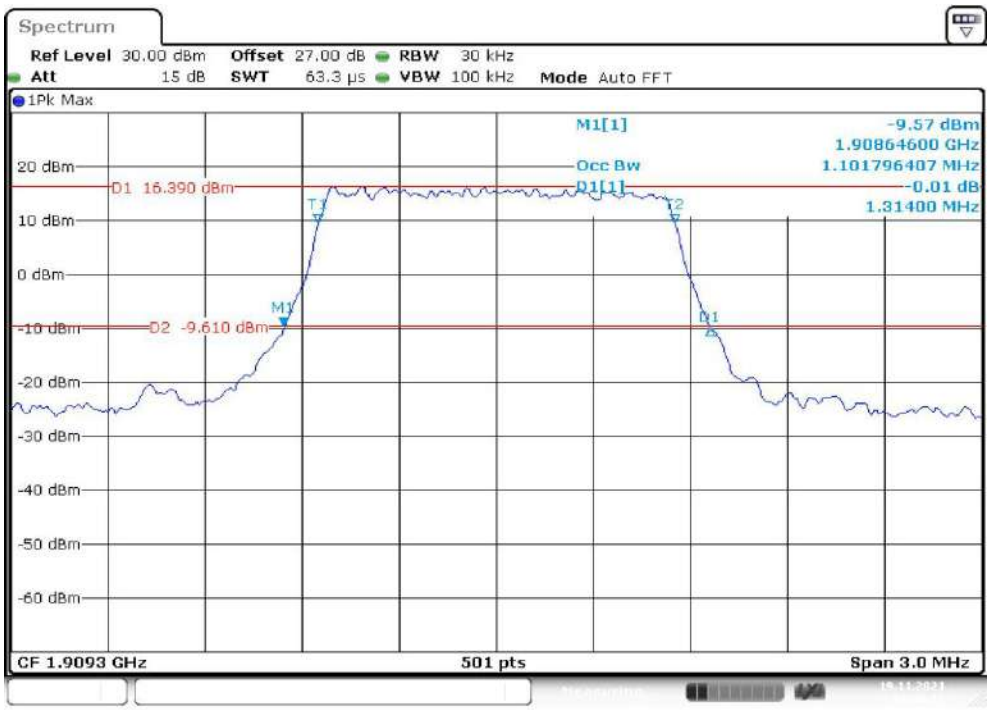
Date: 19.NOV.2021 13:13:27

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



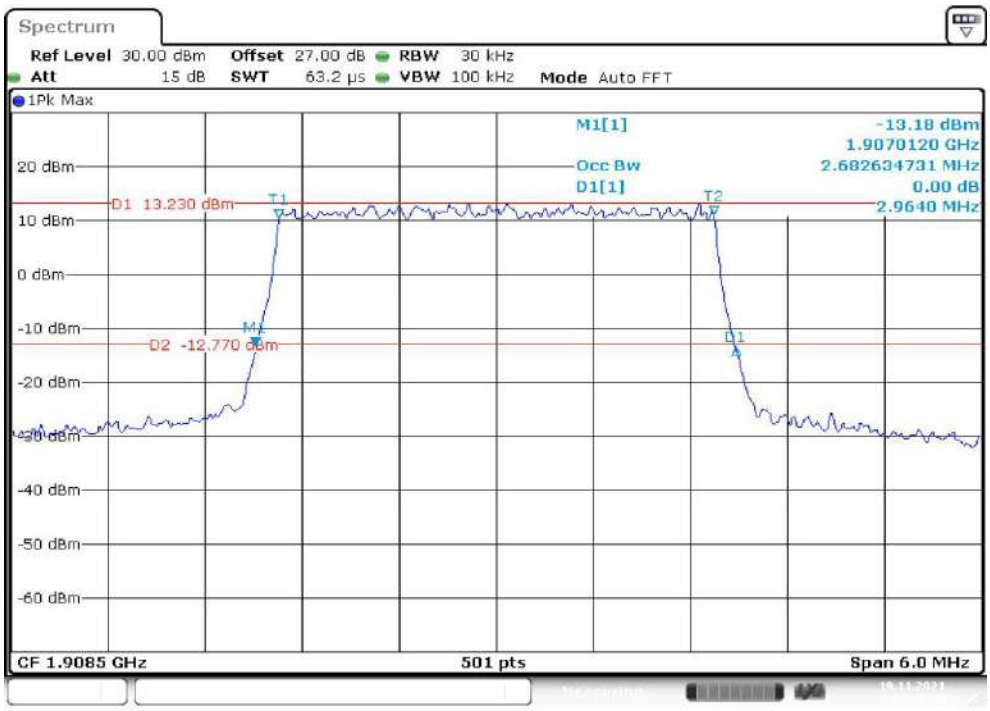
Date: 19.NOV.2021 13:16:45

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



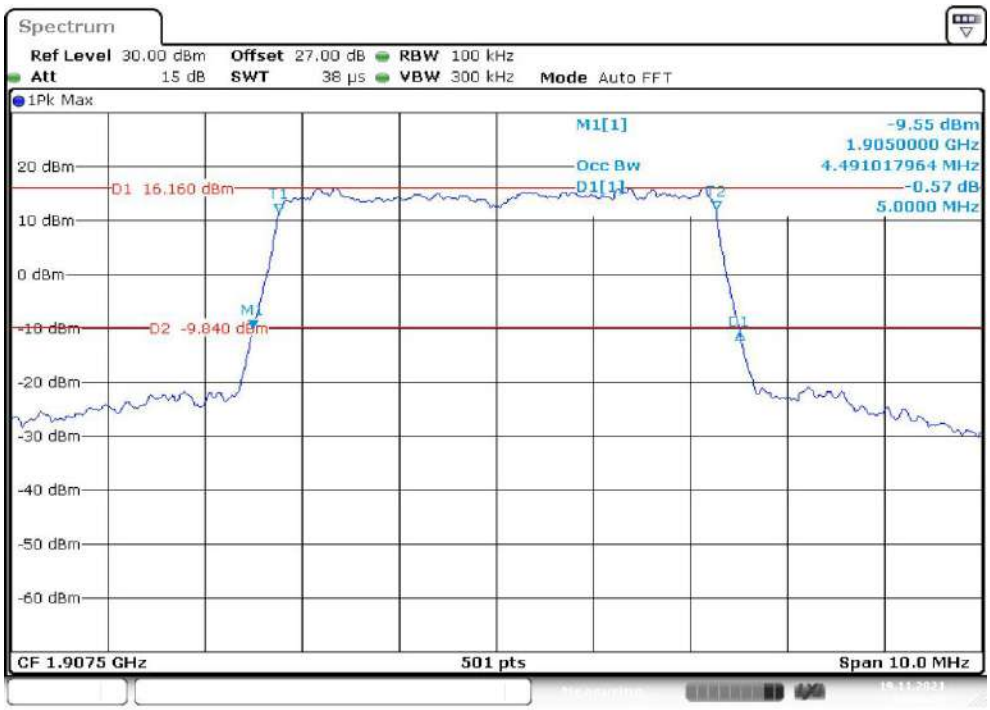
Date: 19.NOV.2021 13:04:16

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



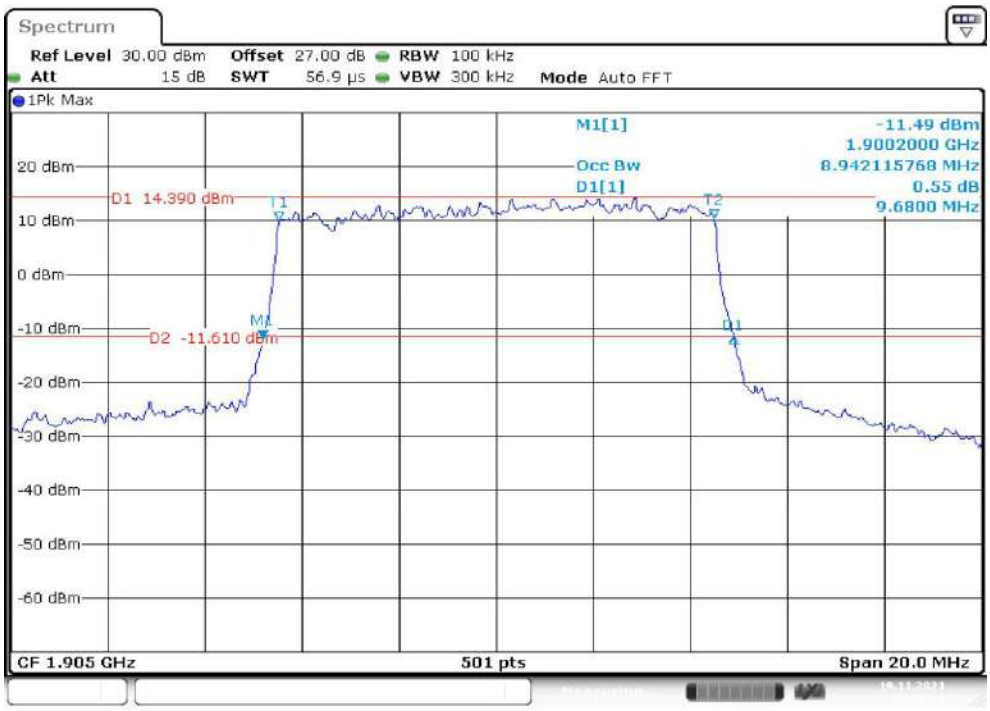
Date: 19.NOV.2021 13:05:56

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



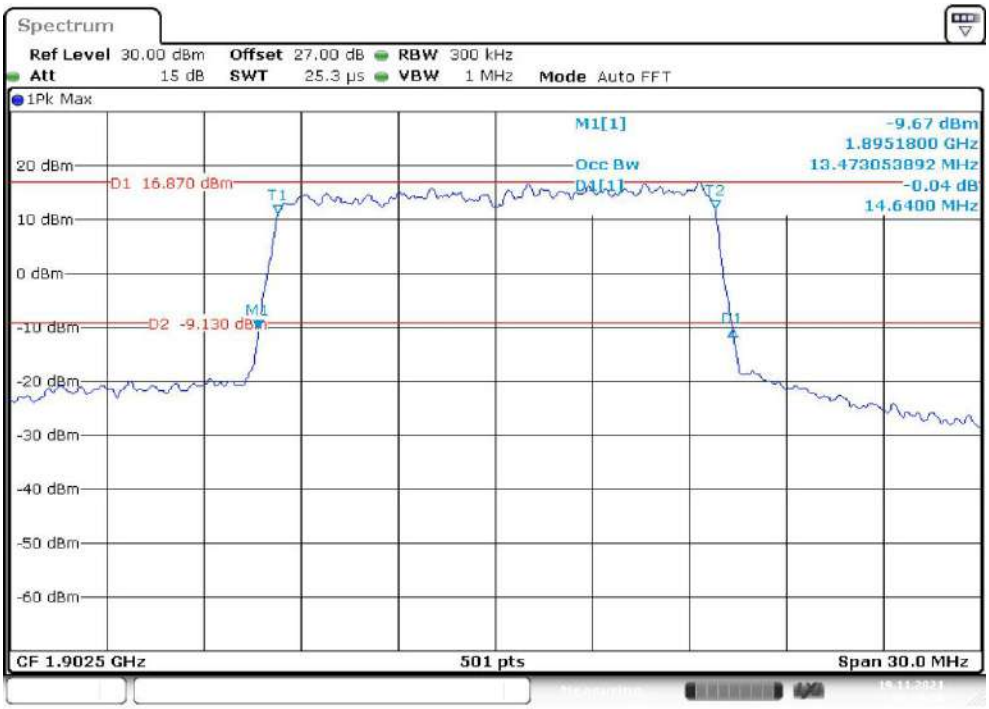
Date: 19.NOV.2021 13:08:03

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



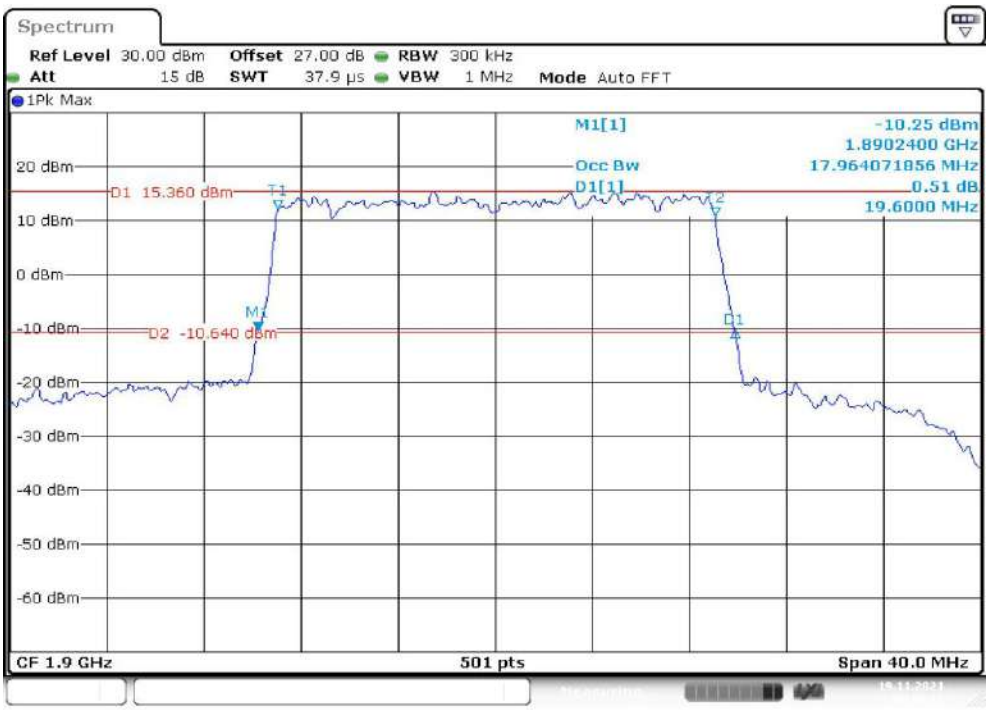
Date: 19.NOV.2021 13:10:52

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



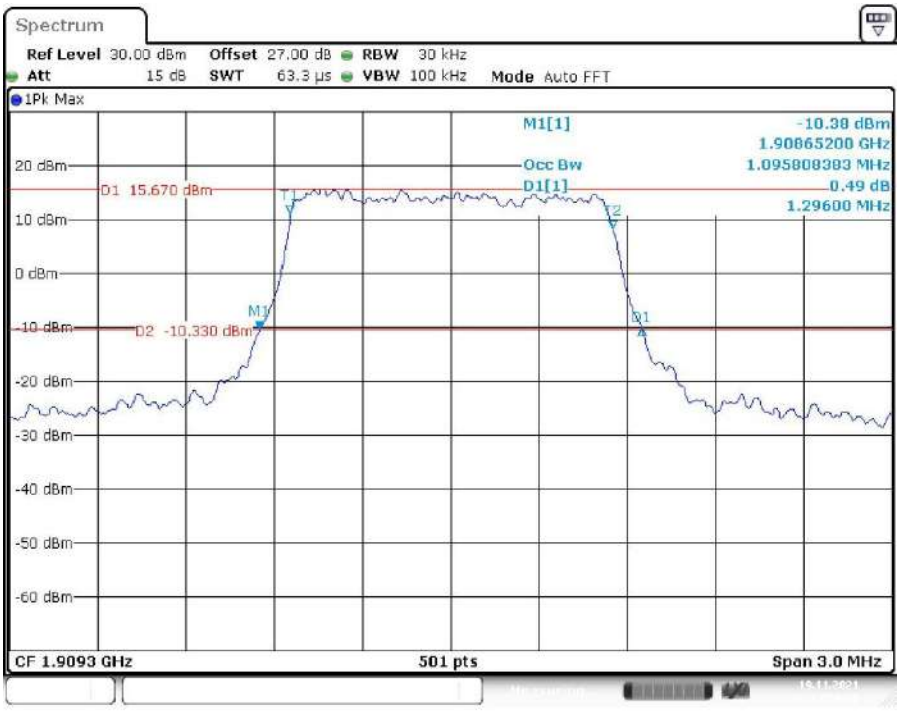
Date: 19.NOV.2021 13:13:58

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



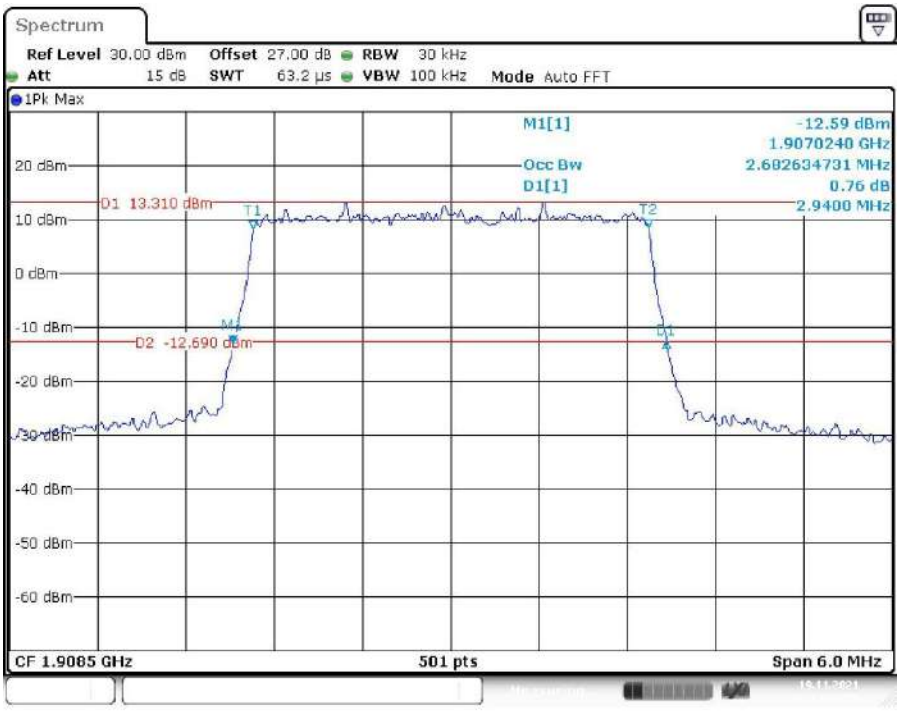
Date: 19.NOV.2021 13:17:16

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



Date: 19.NOV.2021 13:04:30

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

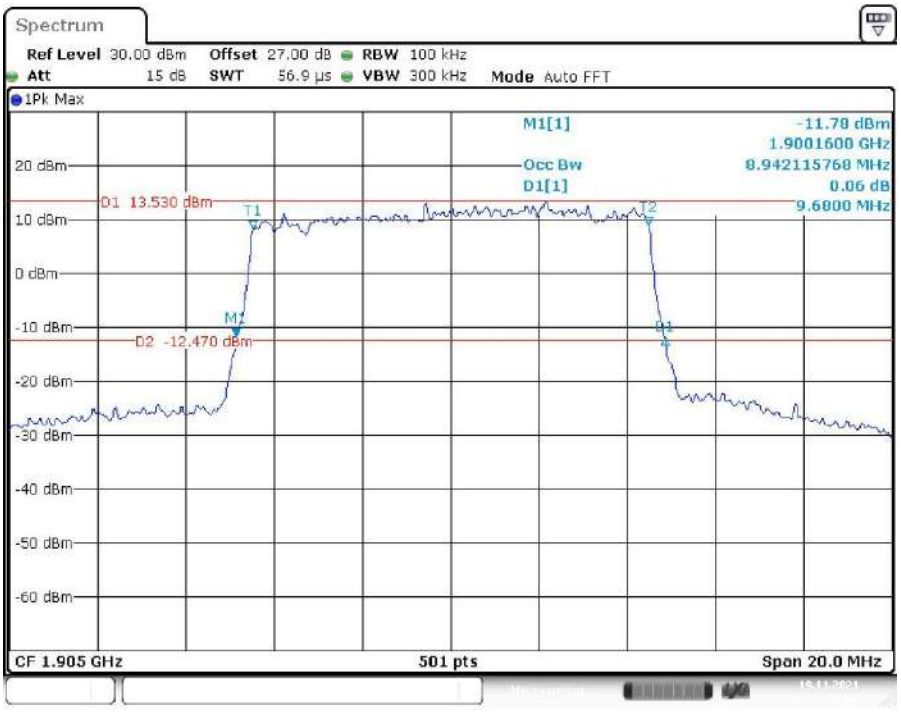


Date: 19.NOV.2021 13:06:10

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

Date: 19.NOV.2021 13:08:24

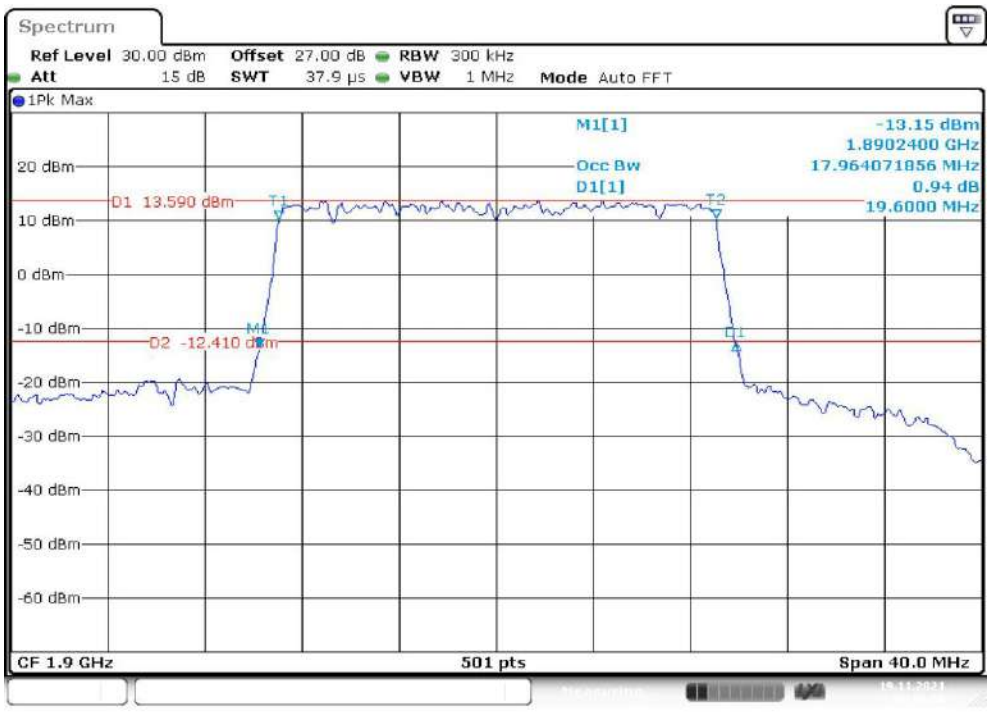
16-QAM (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



Date: 19.NOV.2021 13:11:22

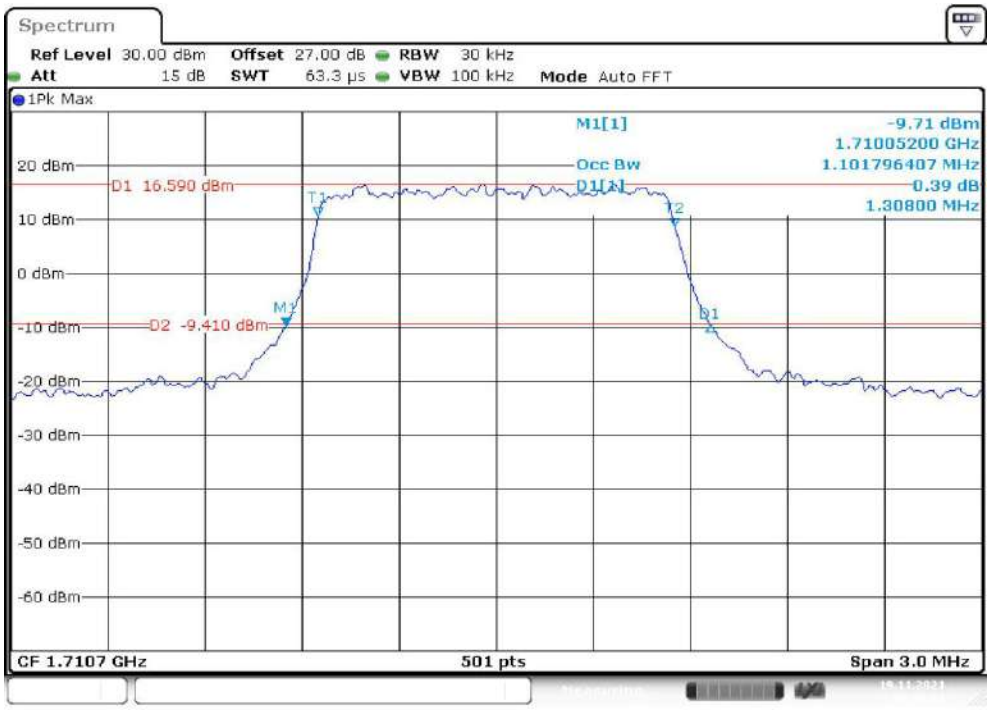
16-QAM (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel

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



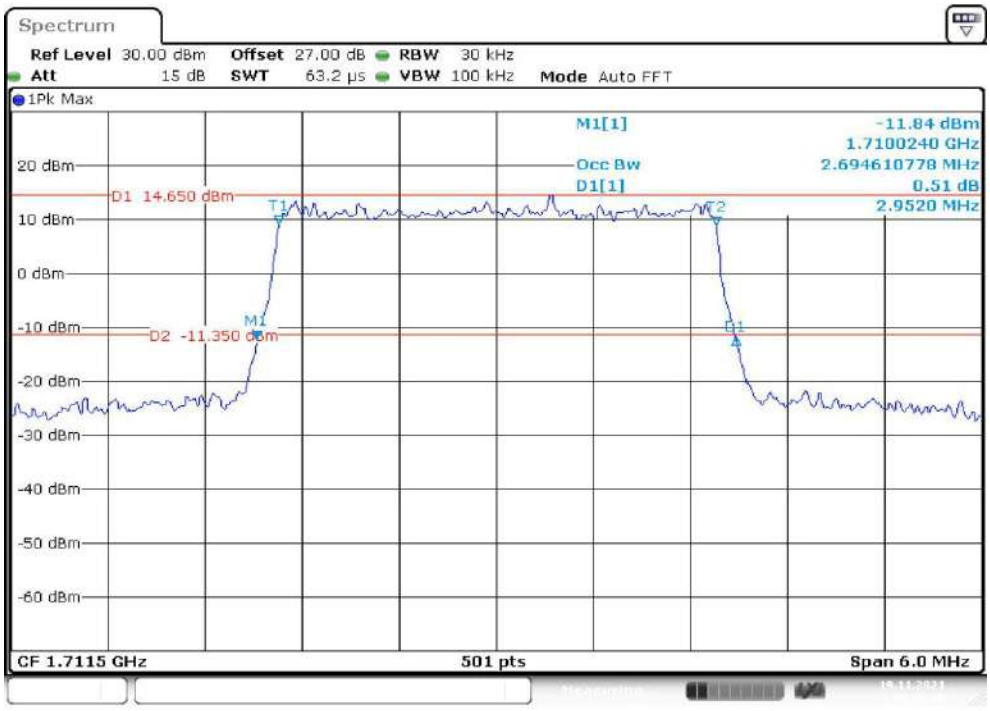
LTE Band 4

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



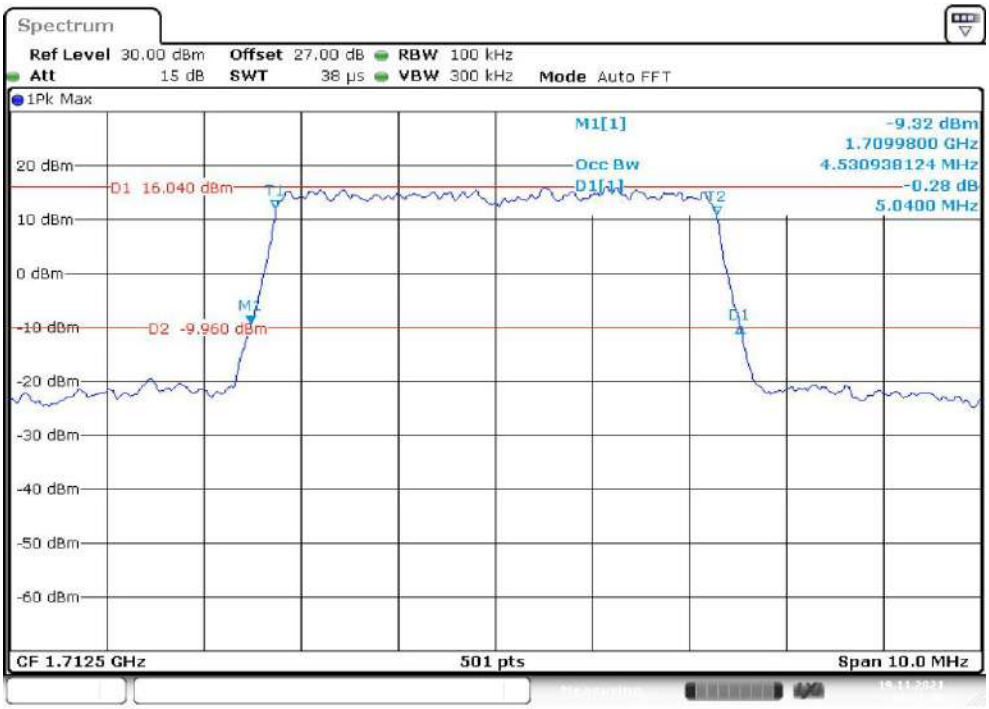
Date: 19.NOV.2021 13:18:22

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



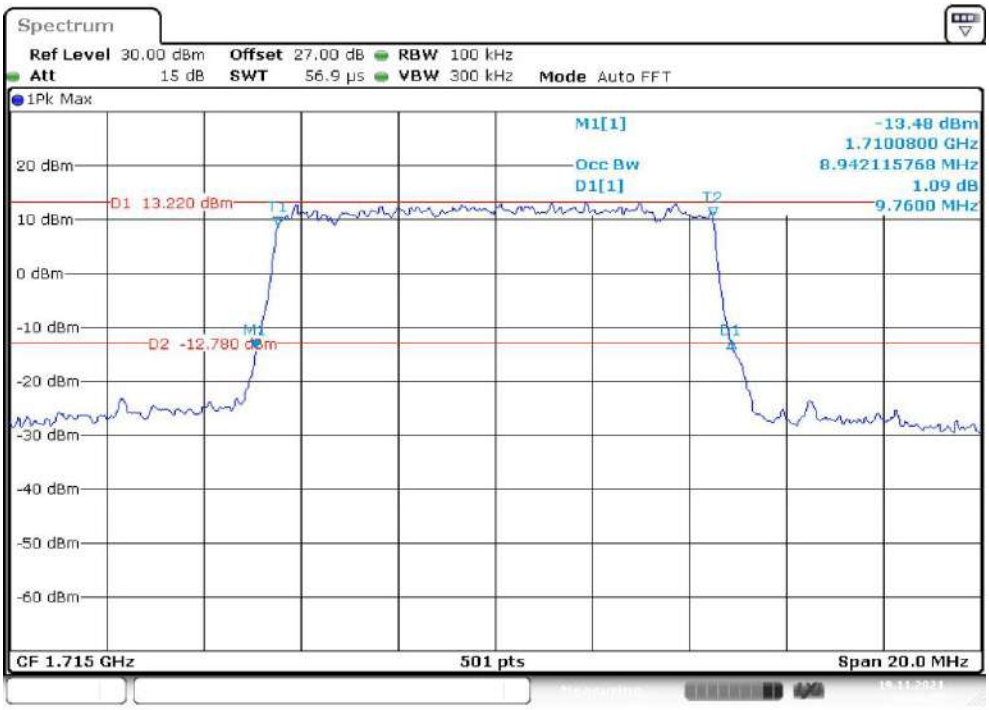
Date: 19.NOV.2021 13:19:58

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



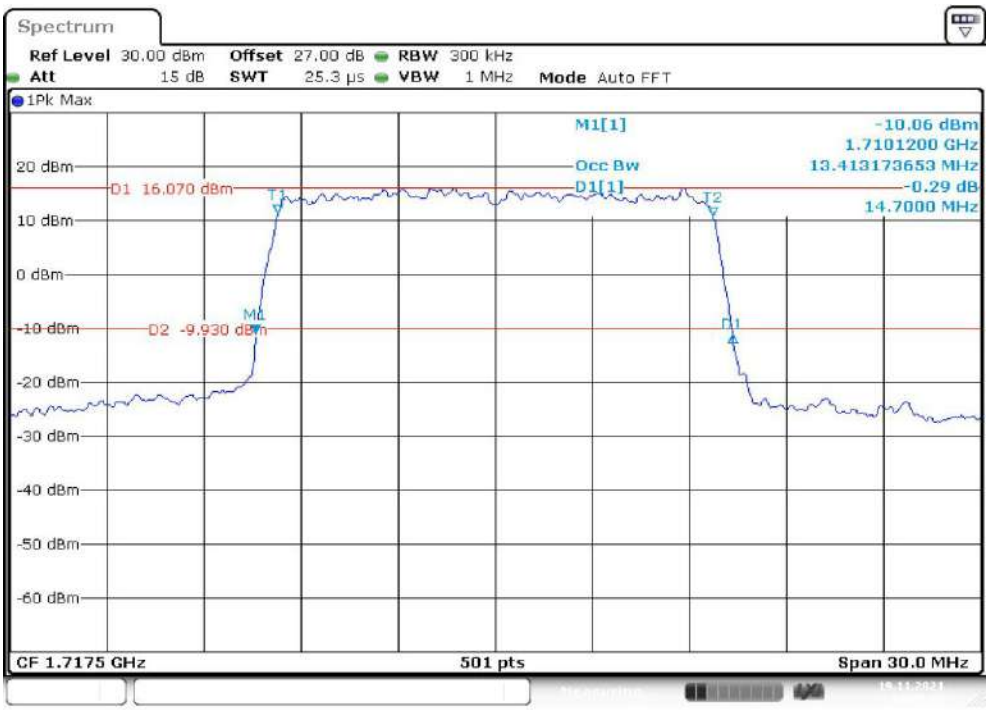
Date: 19.NOV.2021 13:21:41

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



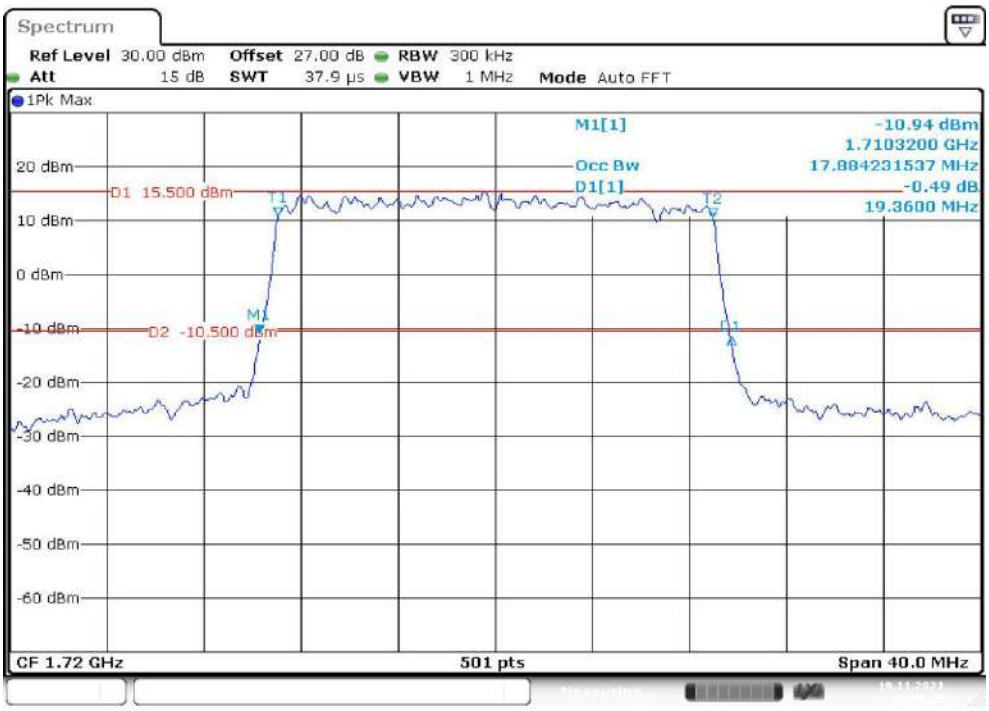
Date: 19.NOV.2021 13:24:27

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



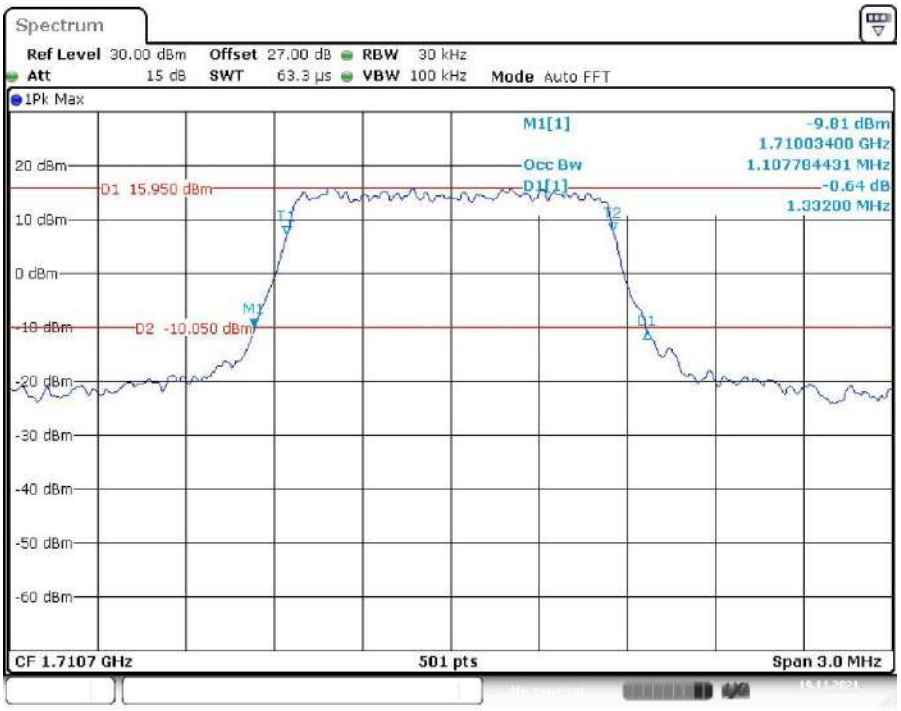
Date: 19.NOV.2021 13:27:37

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

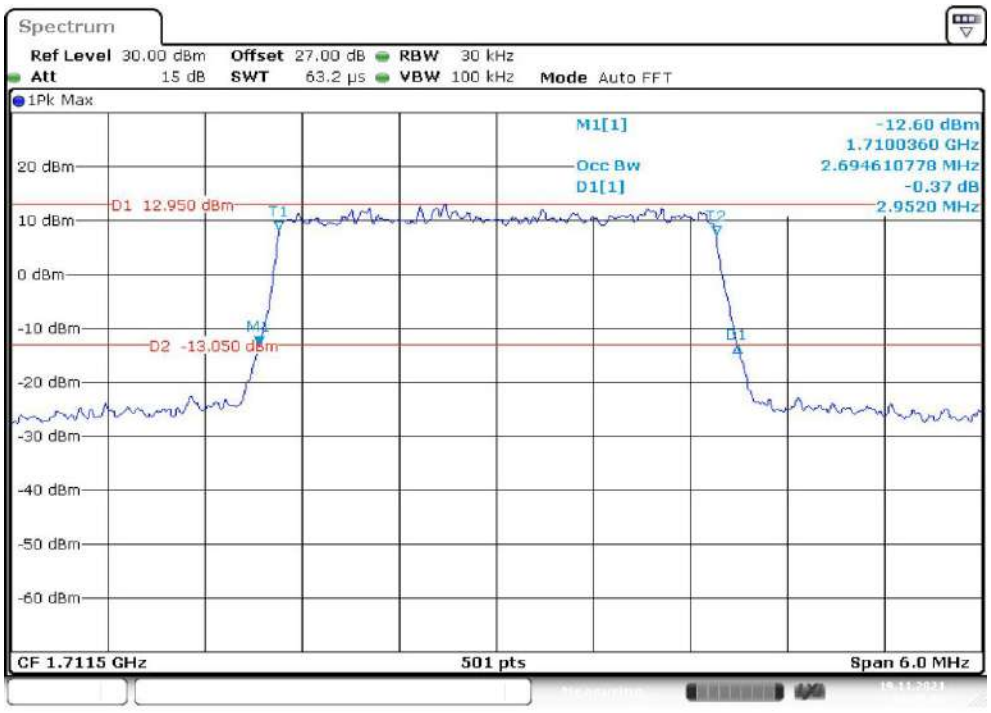


Date: 19.NOV.2021 13:30:55

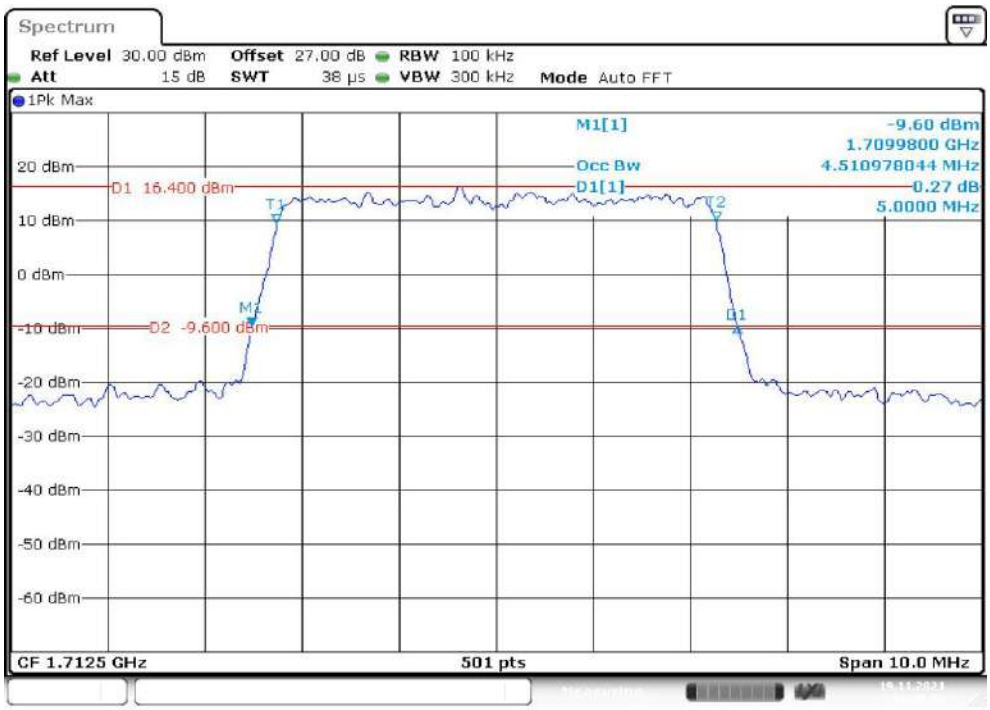
16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



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

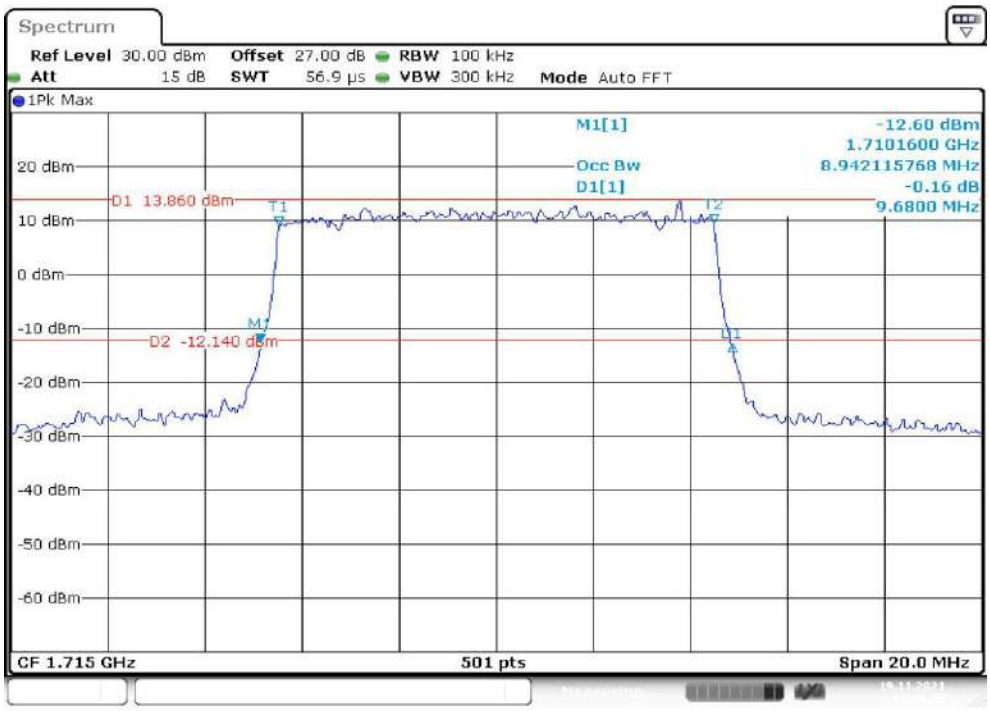


16-QAM (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



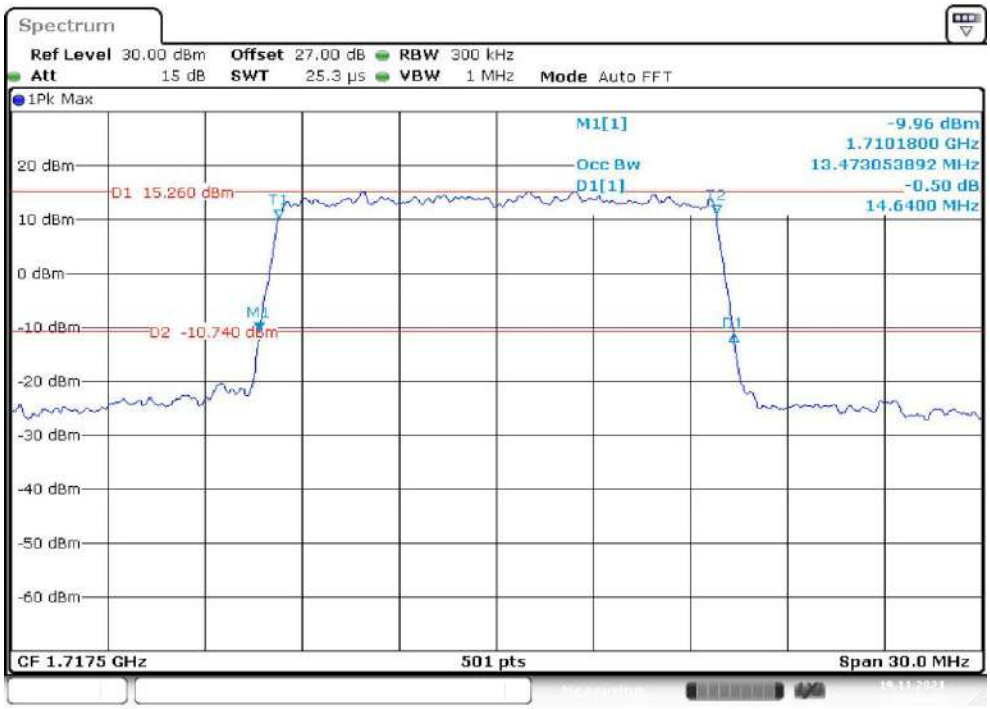
Date: 19.NOV.2021 13:22:14

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



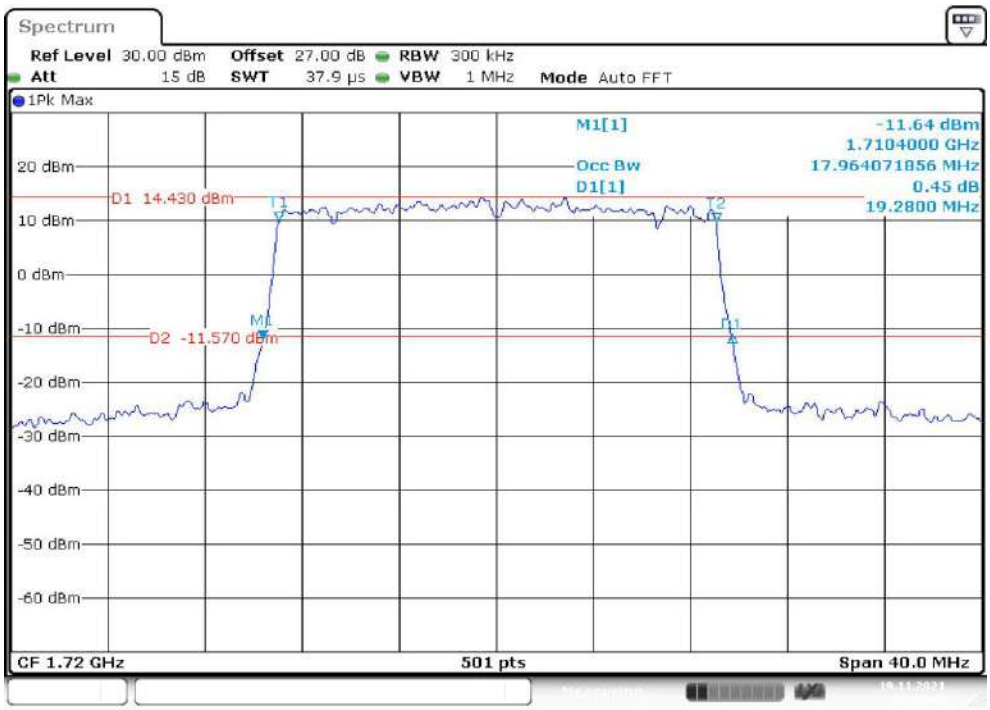
Date: 19.NOV.2021 13:24:55

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



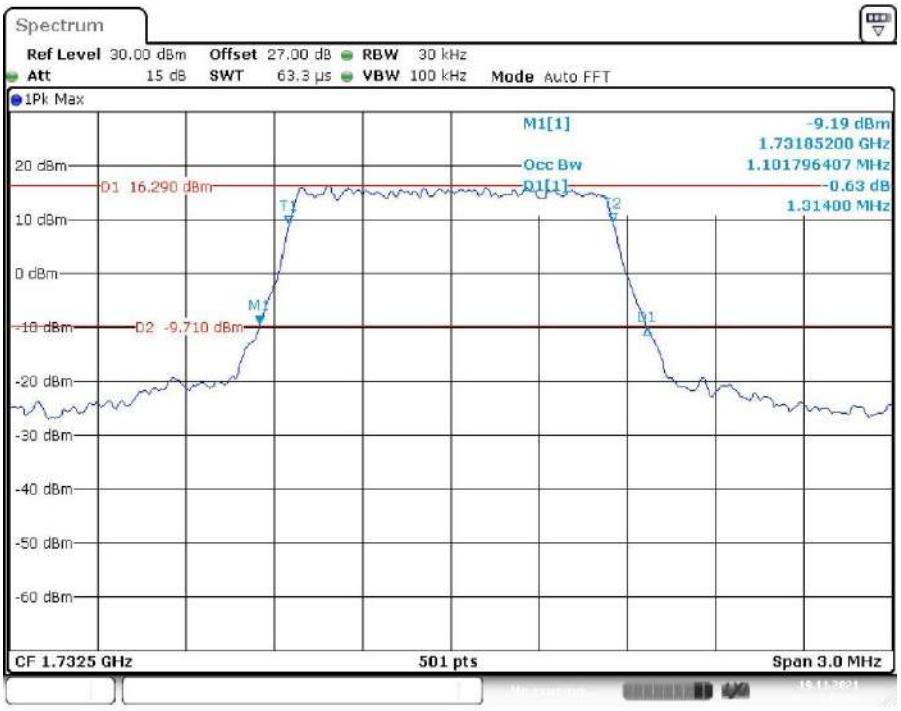
Date: 19.NOV.2021 13:28:07

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

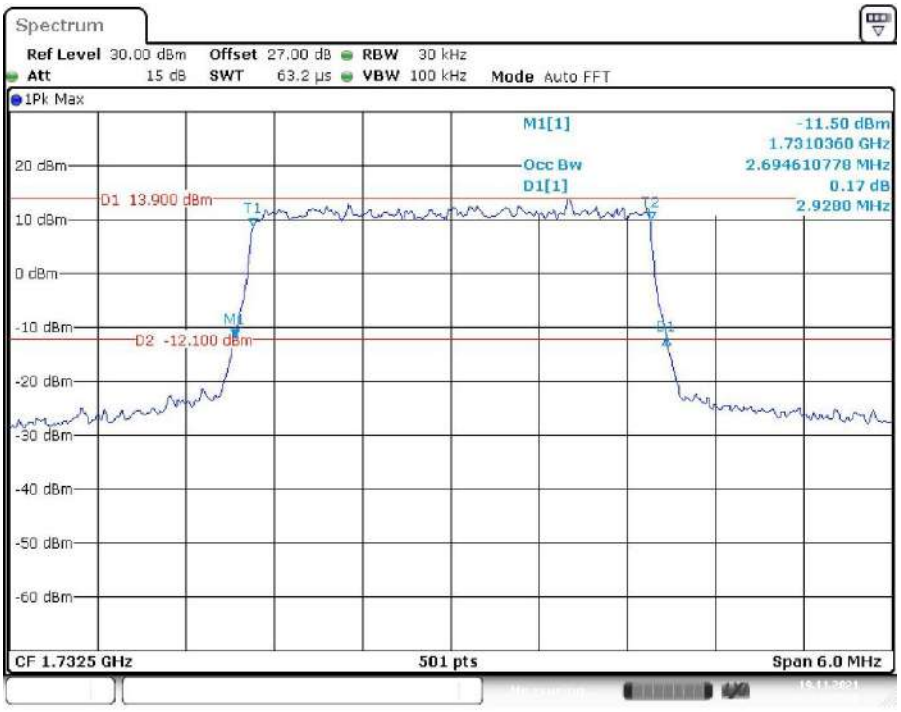


Date: 19.NOV.2021 13:31:25

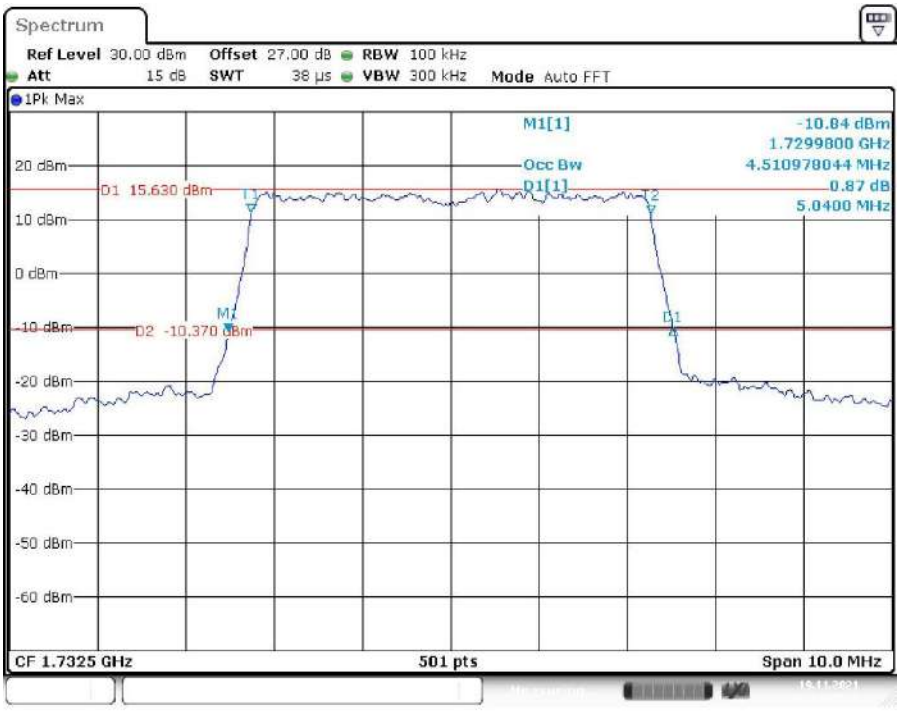
QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



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

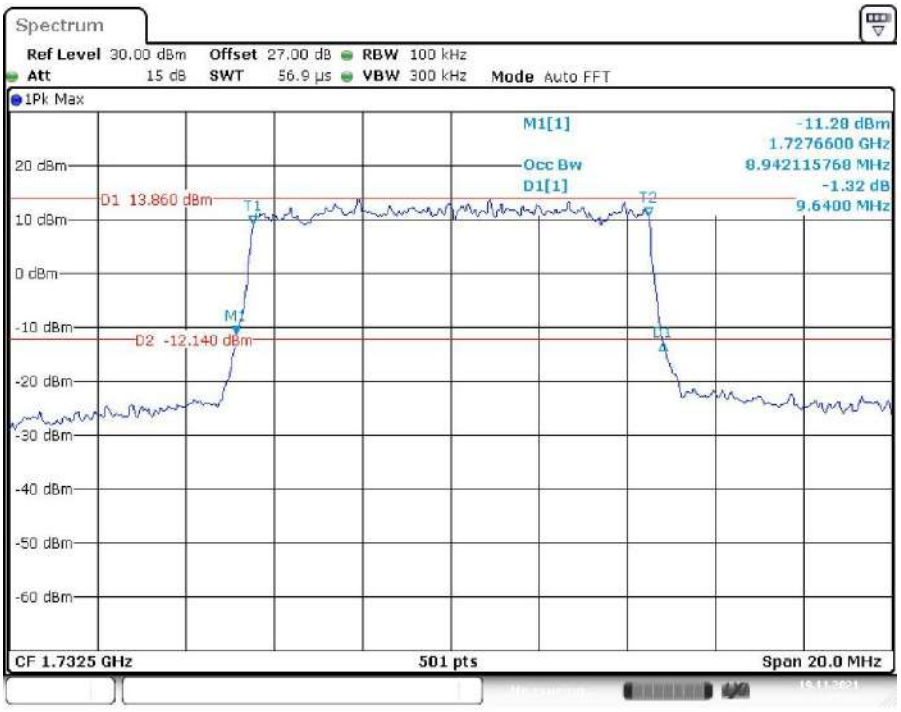


QPSK (5MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



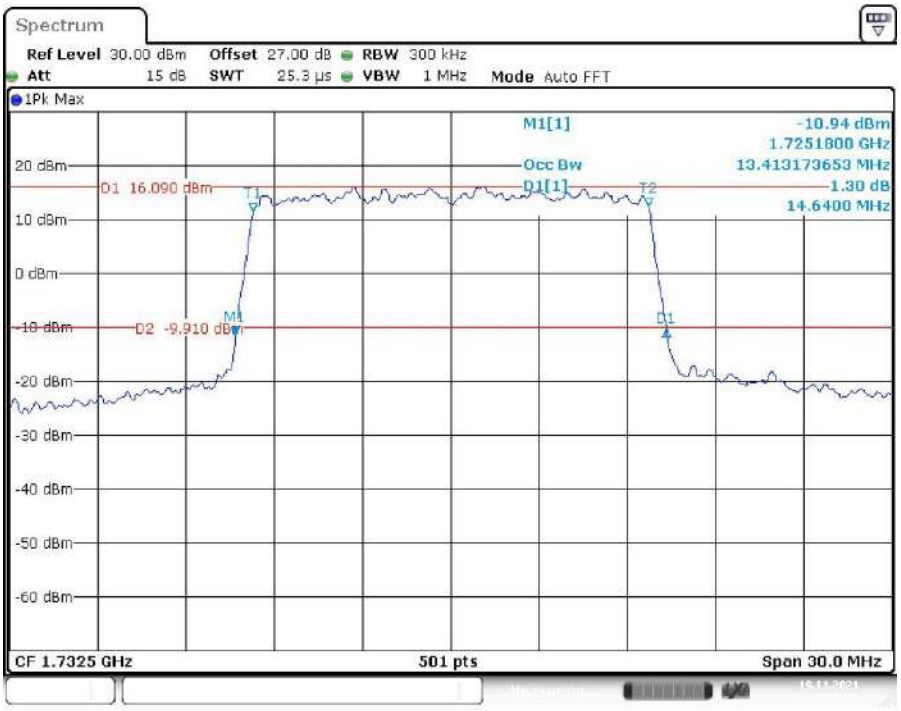
Date: 19.NOV.2021 13:22:38

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



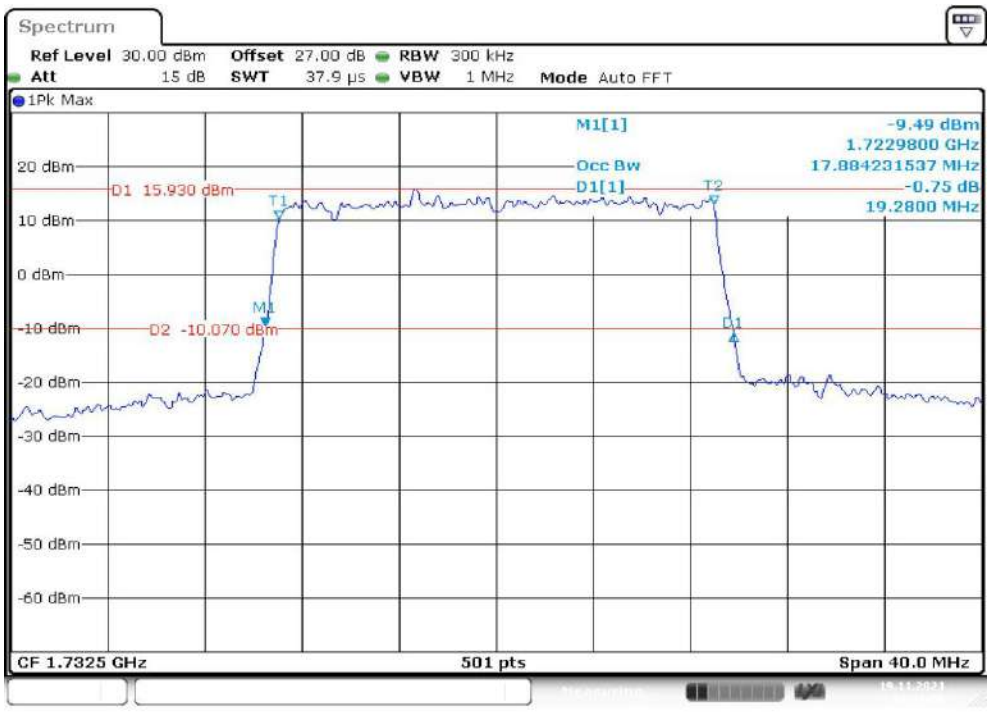
Date: 19.NOV.2021 13:25:23

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



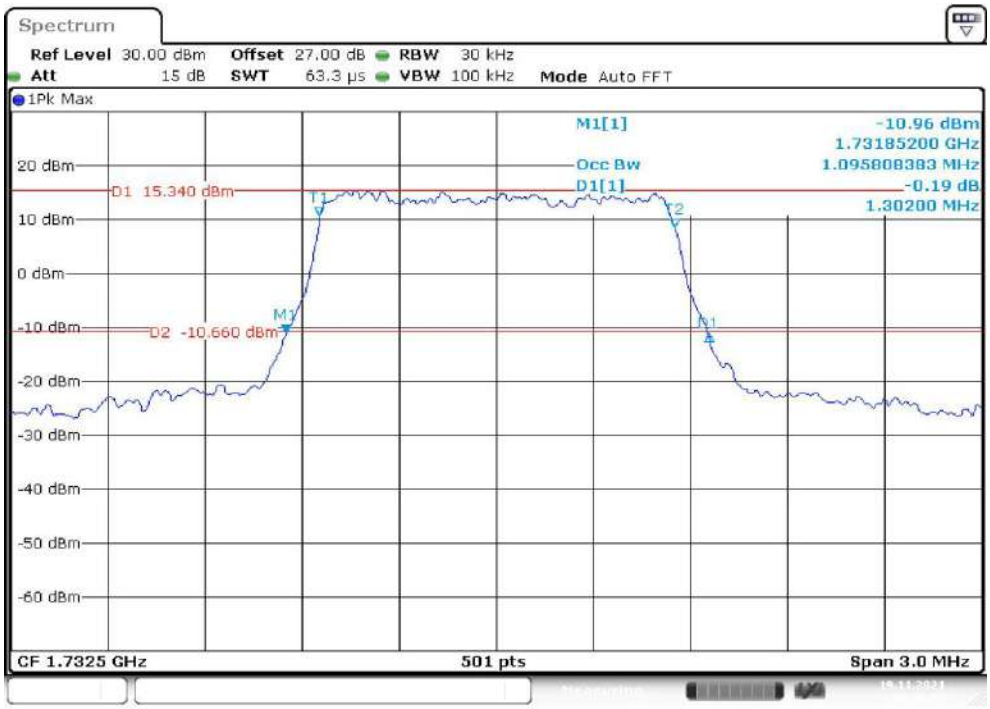
Date: 19.NOV.2021 13:28:38

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



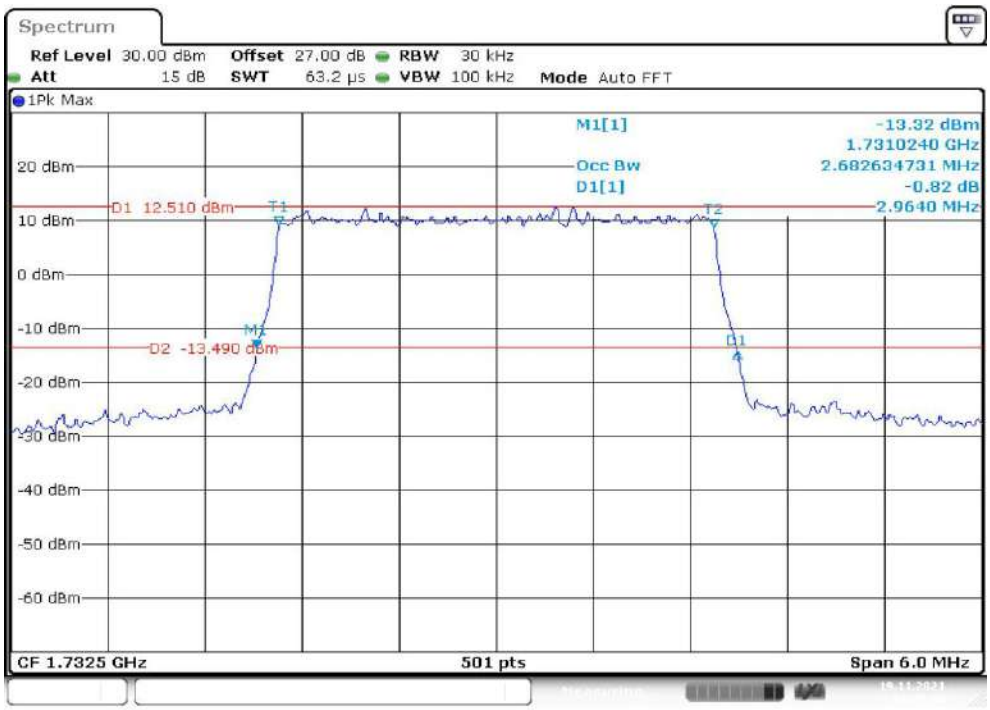
Date: 19.NOV.2021 13:31:56

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



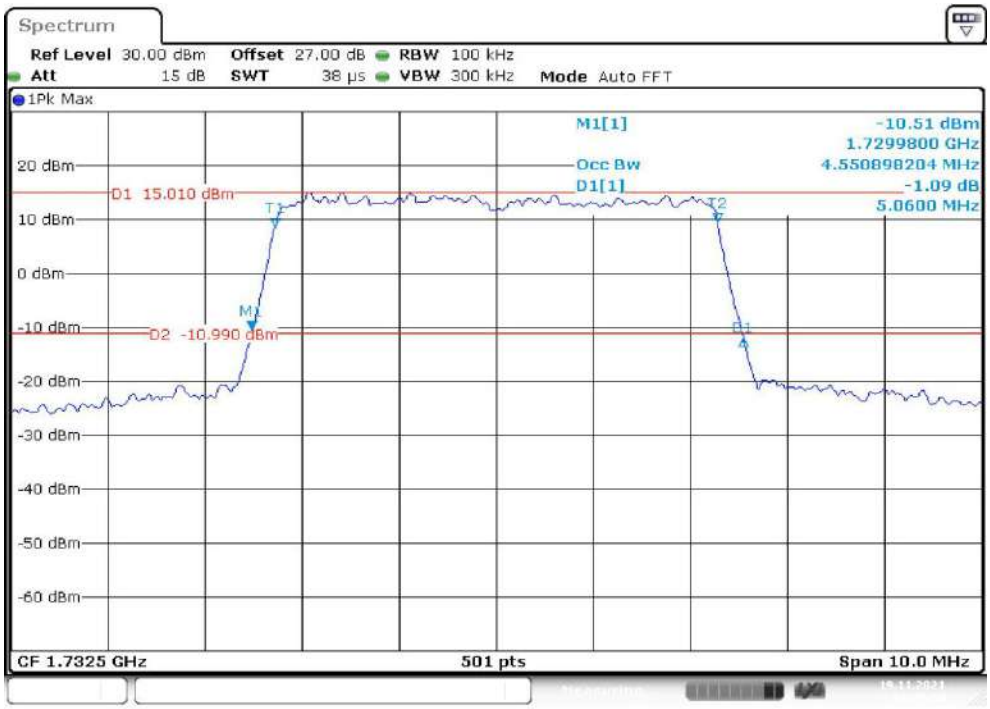
Date: 19.NOV.2021 13:19:08

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

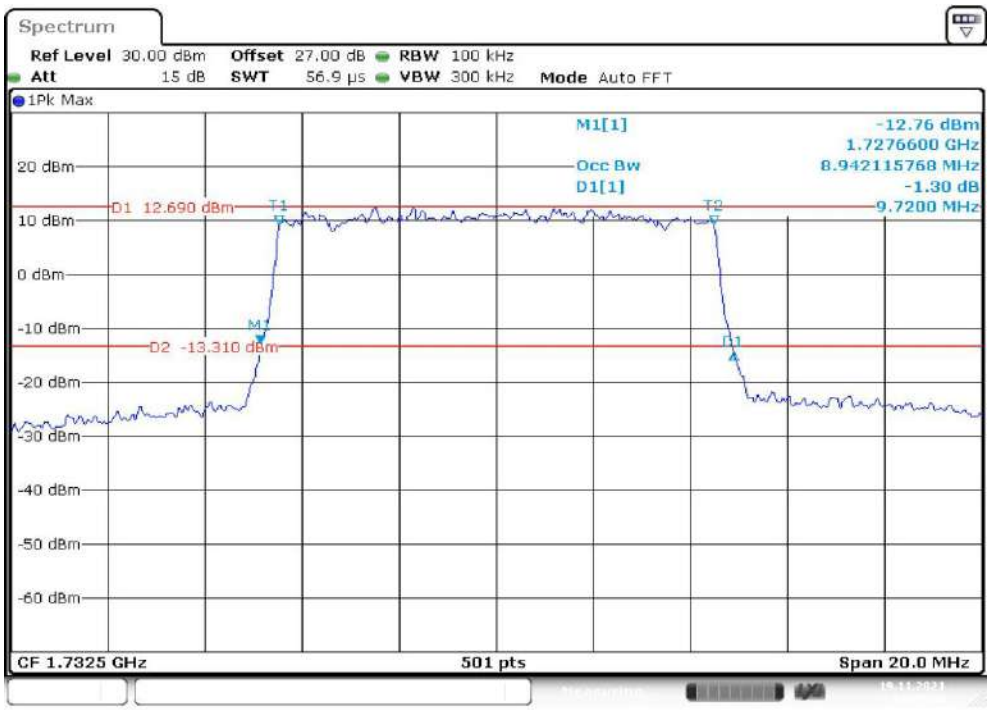


Date: 19.NOV.2021 13:20:44

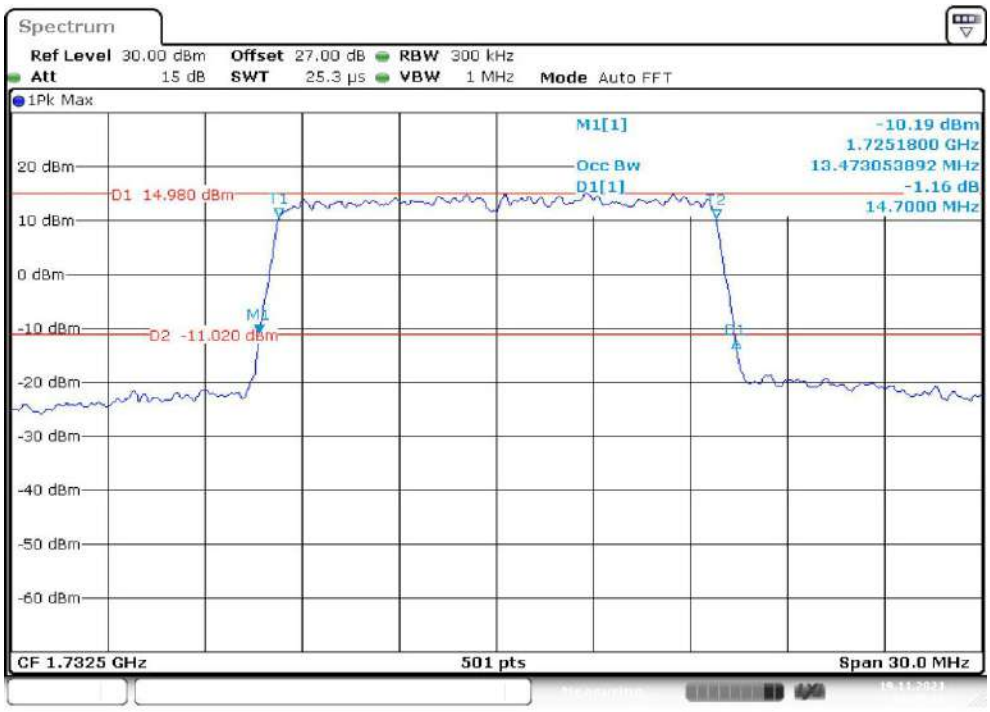
16-QAM (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



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

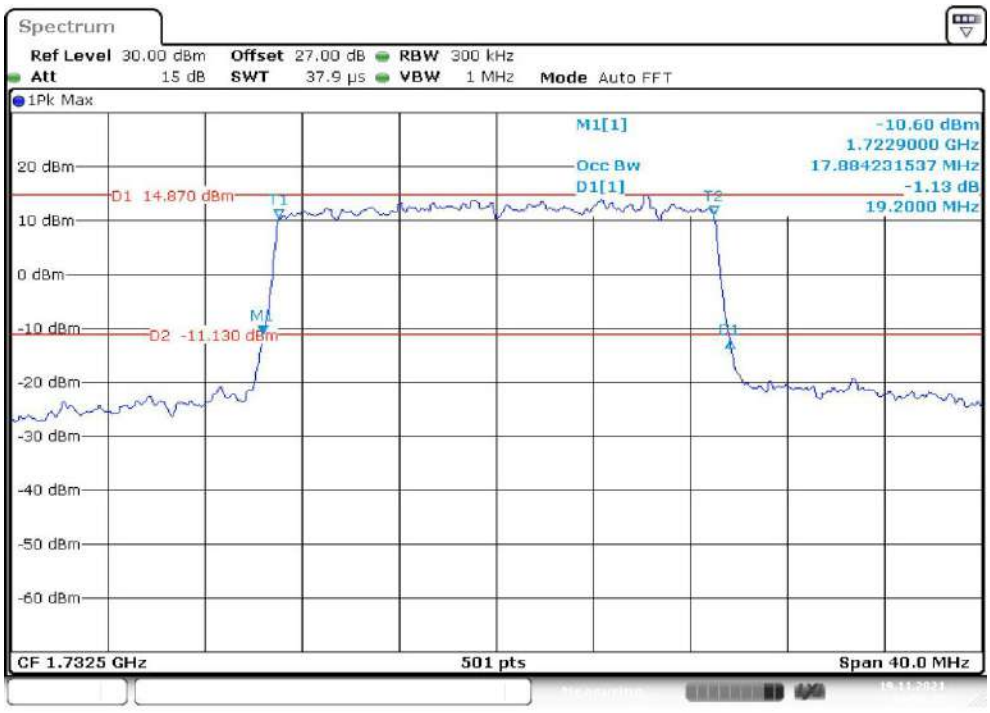


16-QAM (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



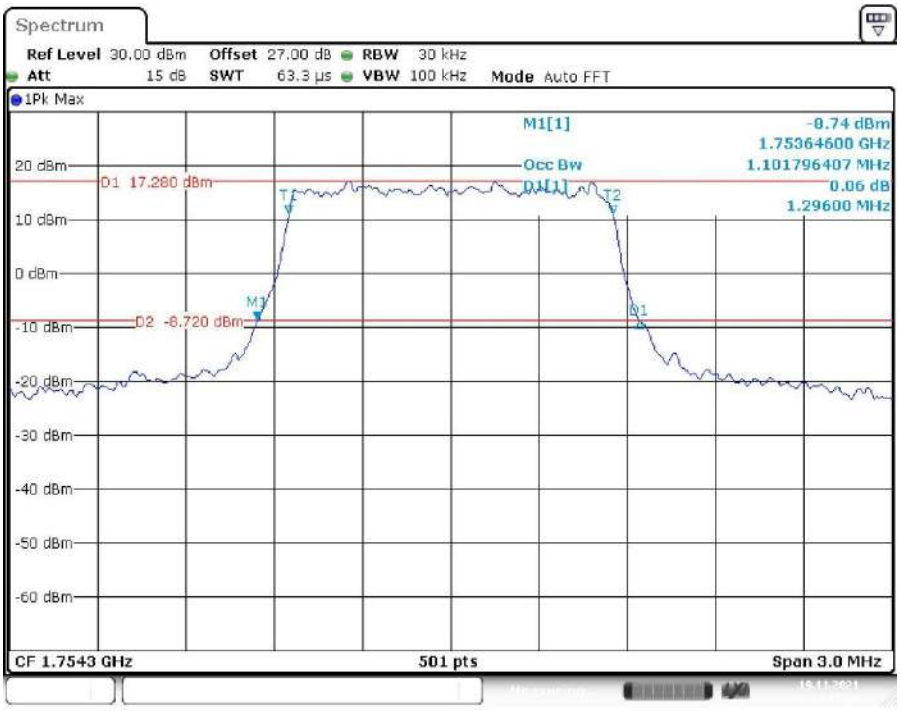
Date: 19.NOV.2021 13:29:11

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

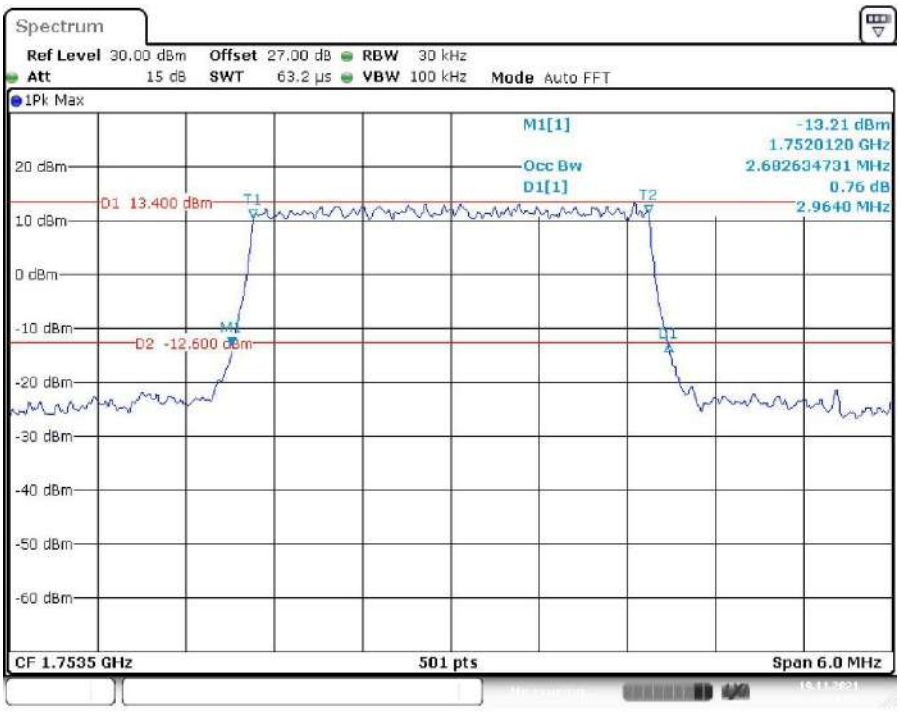


Date: 19.NOV.2021 13:32:35

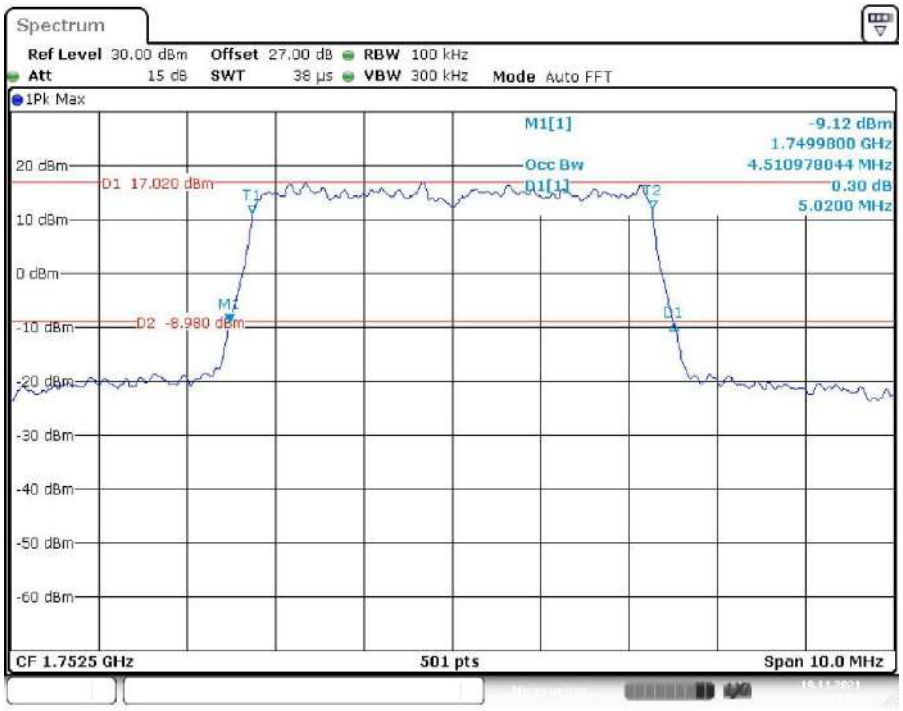
QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



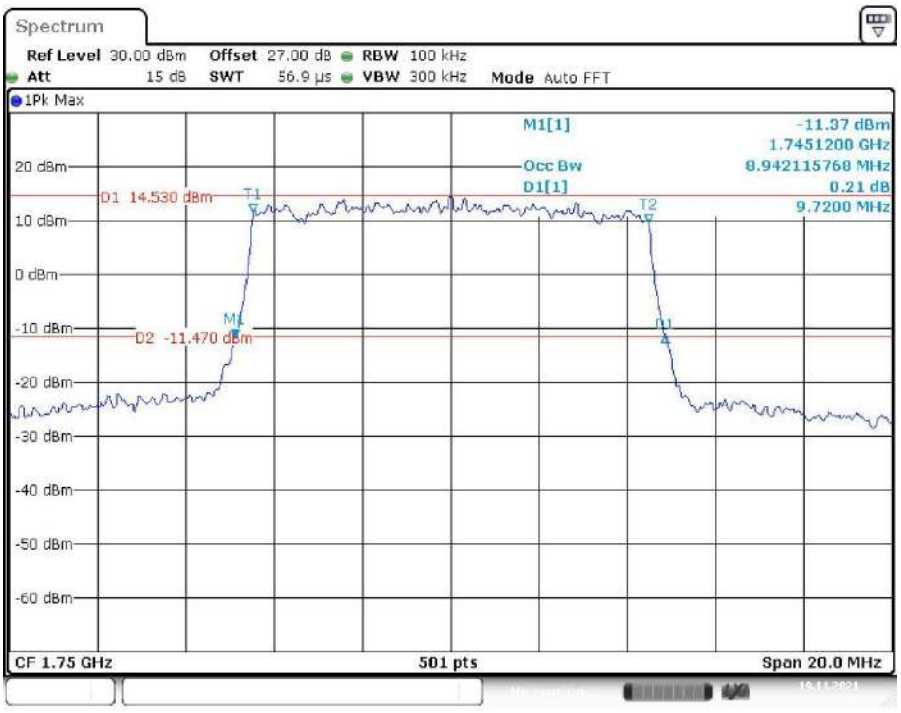
QPSK (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



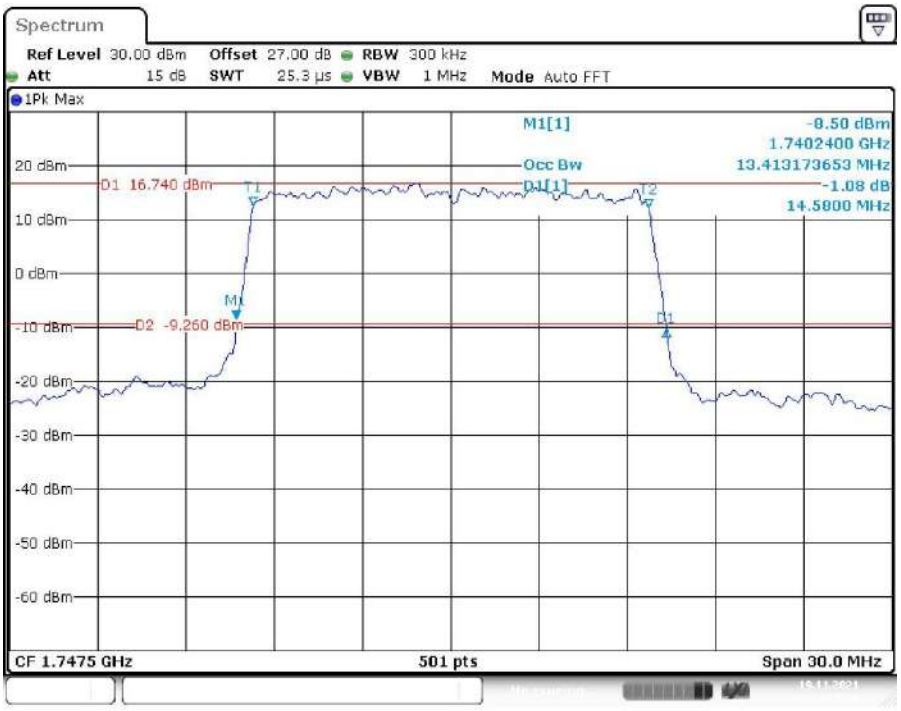
QPSK (5MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



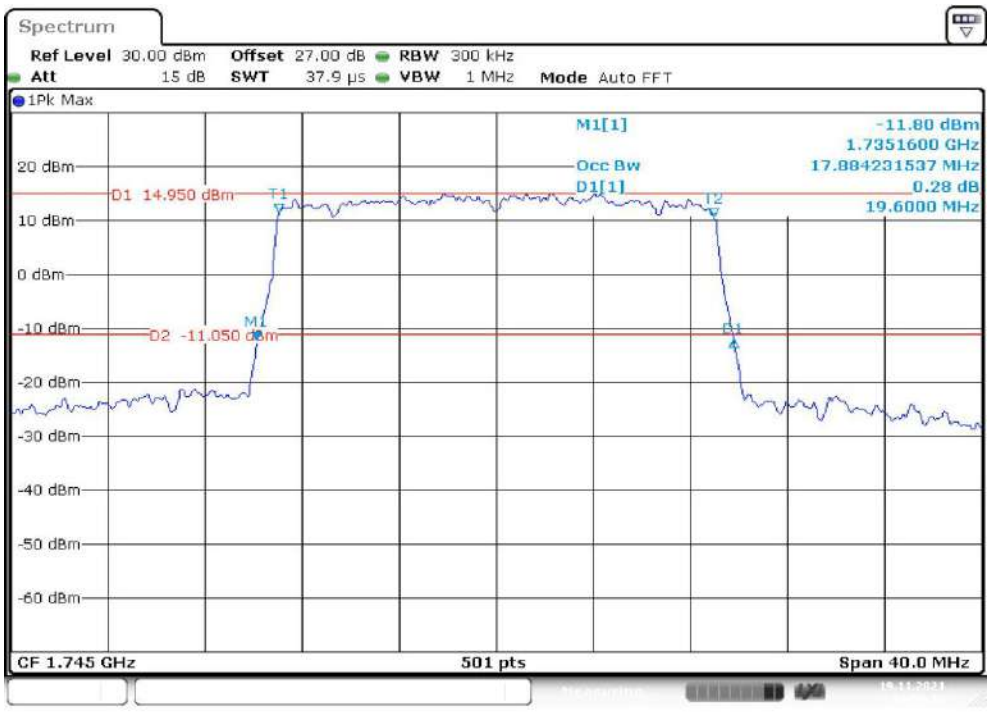
QPSK (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



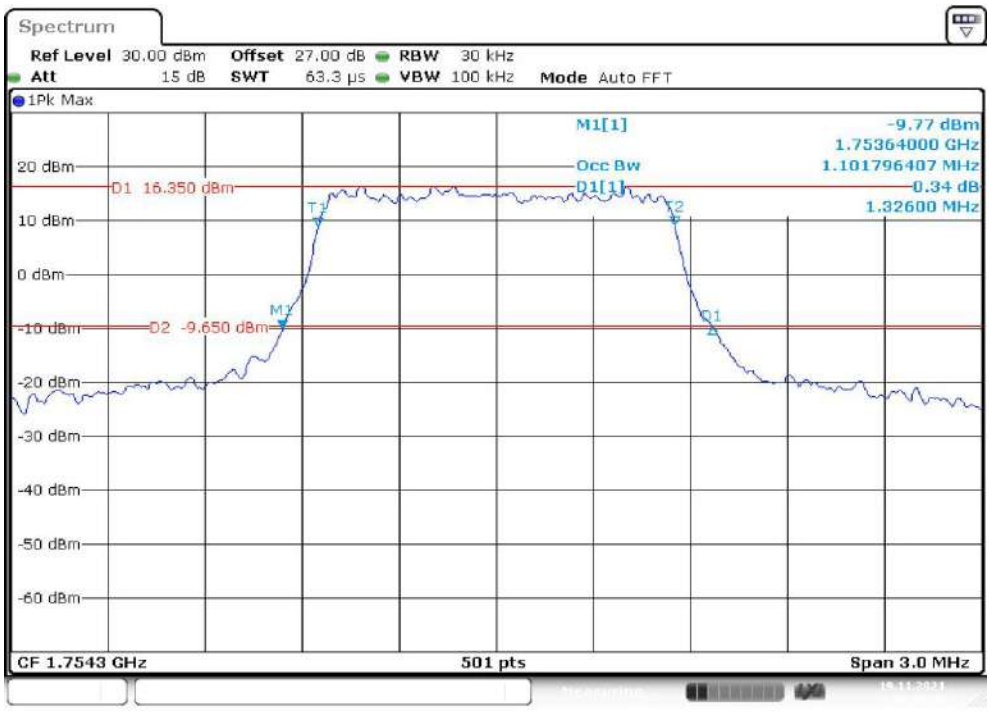
QPSK (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



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

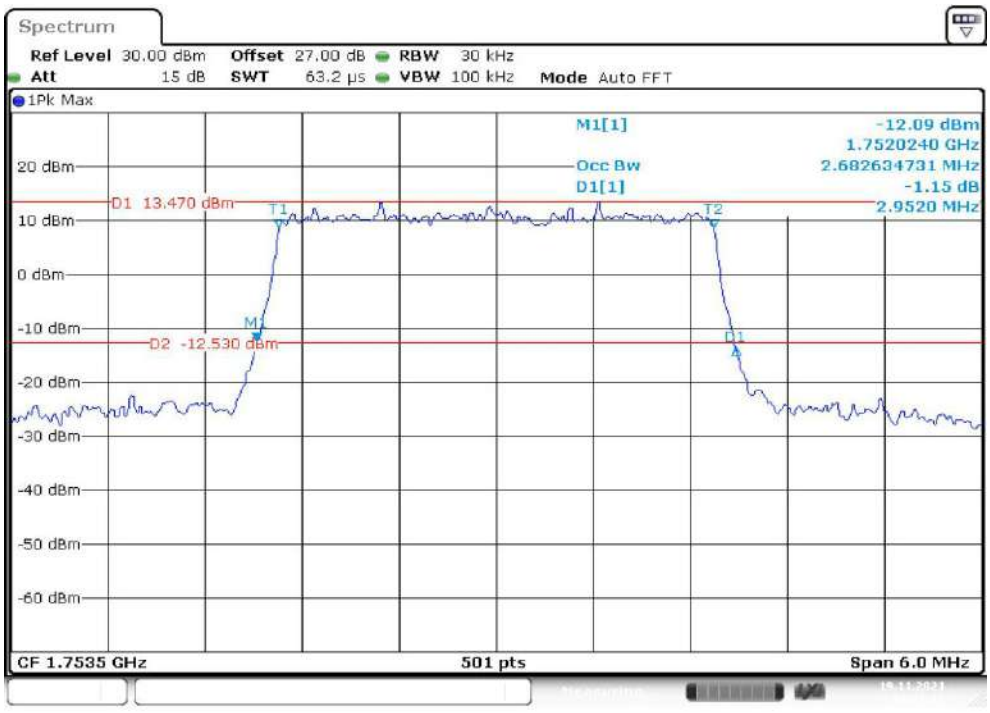


16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



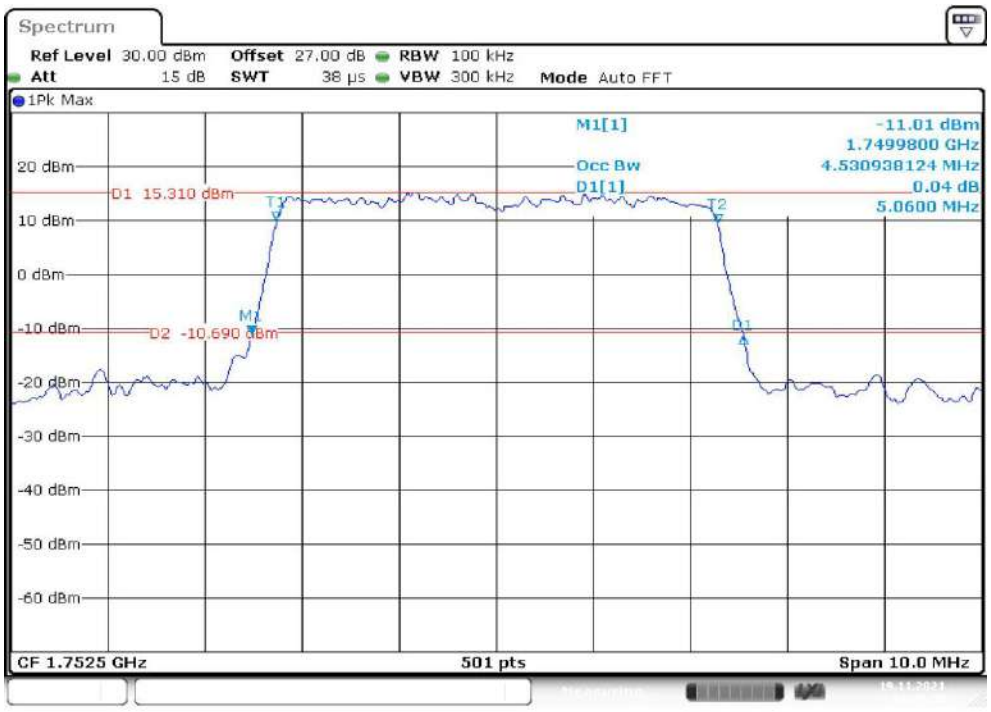
Date: 19.NOV.2021 13:19:40

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

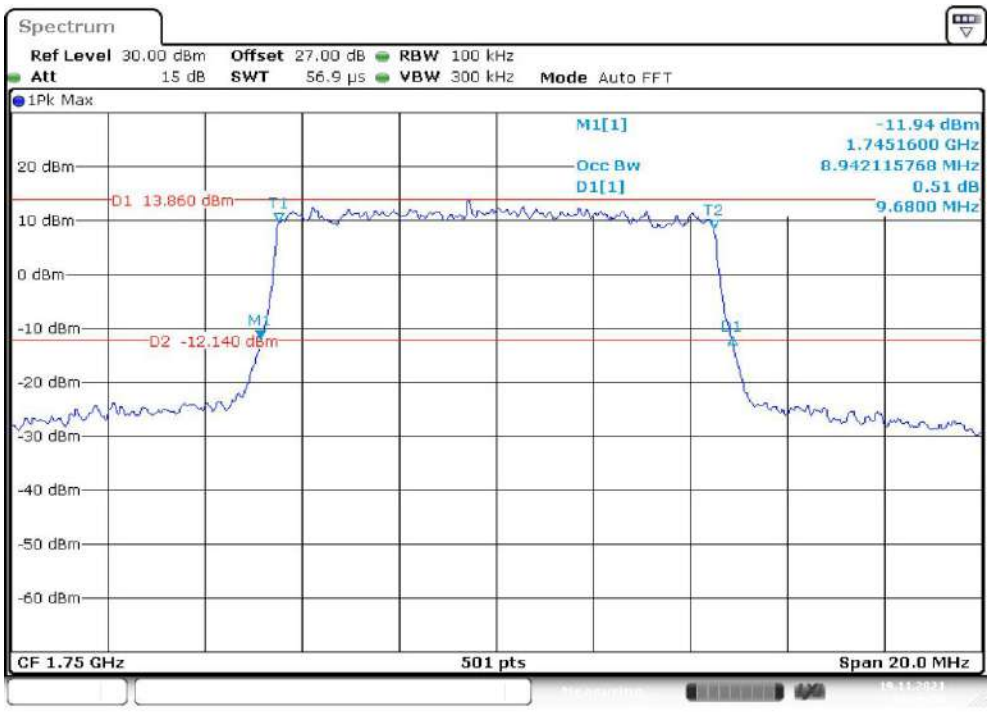


Date: 19.NOV.2021 13:21:17

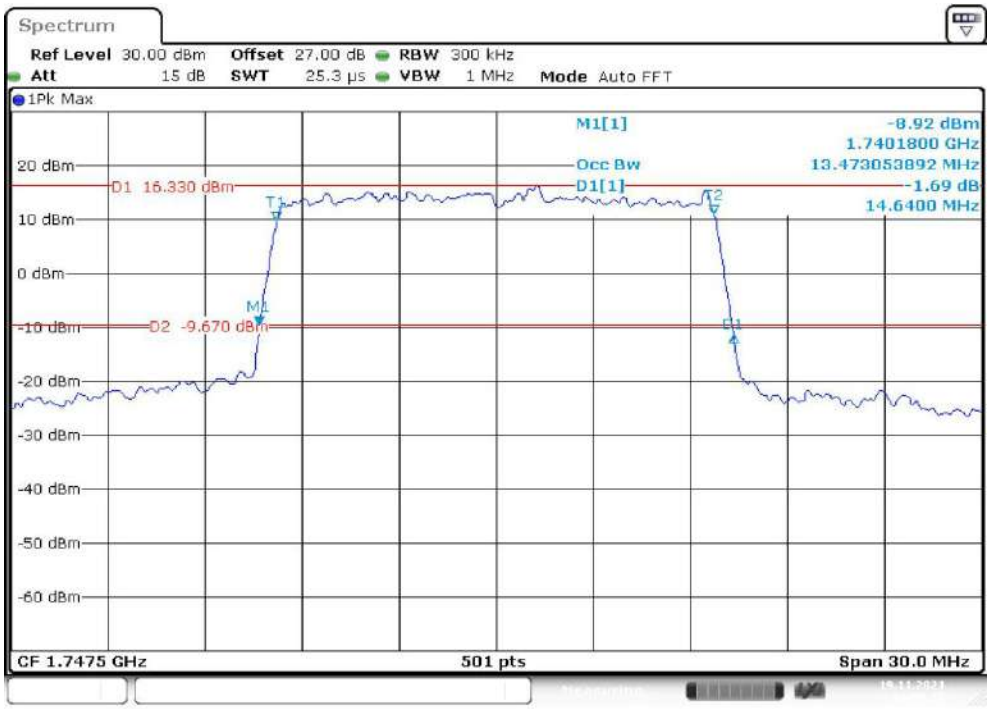
16-QAM (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



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

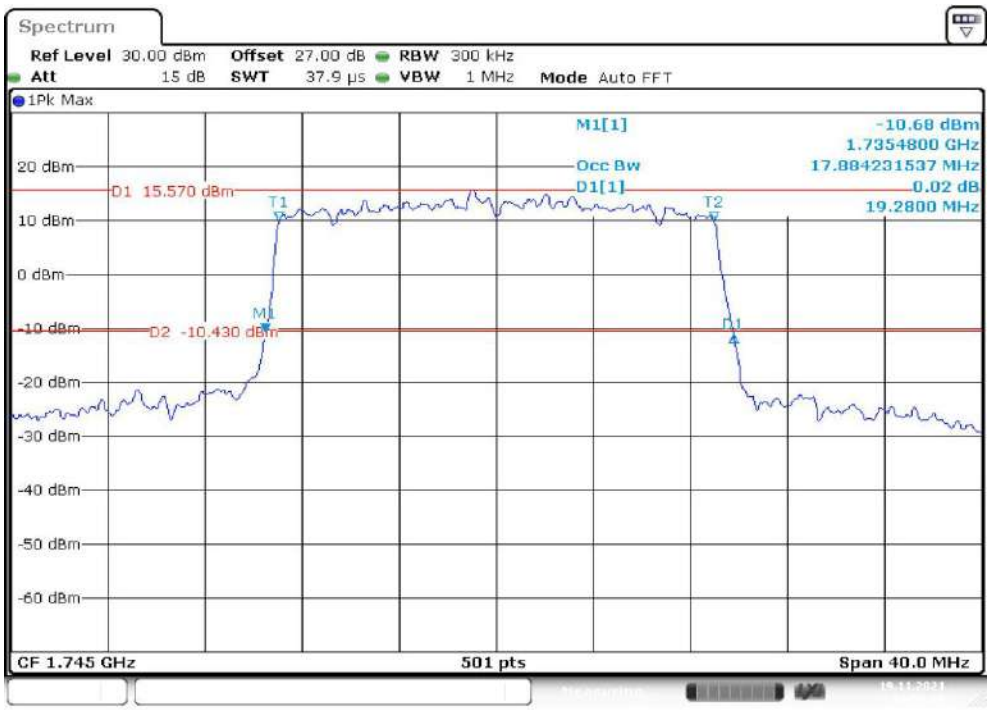


16-QAM (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



Date: 19.NOV.2021 13:30:18

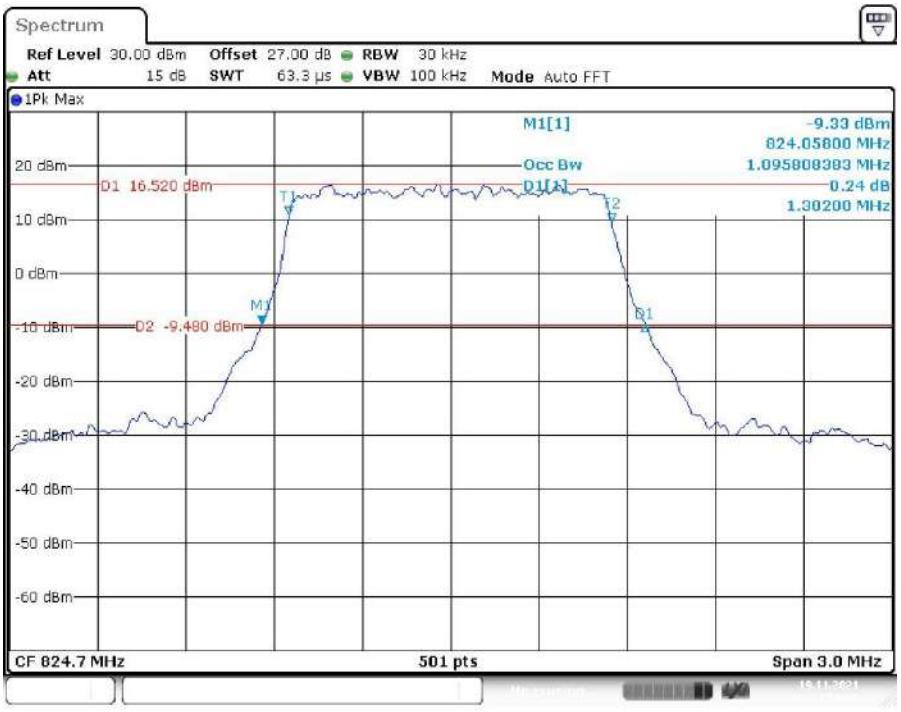
16-QAM (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



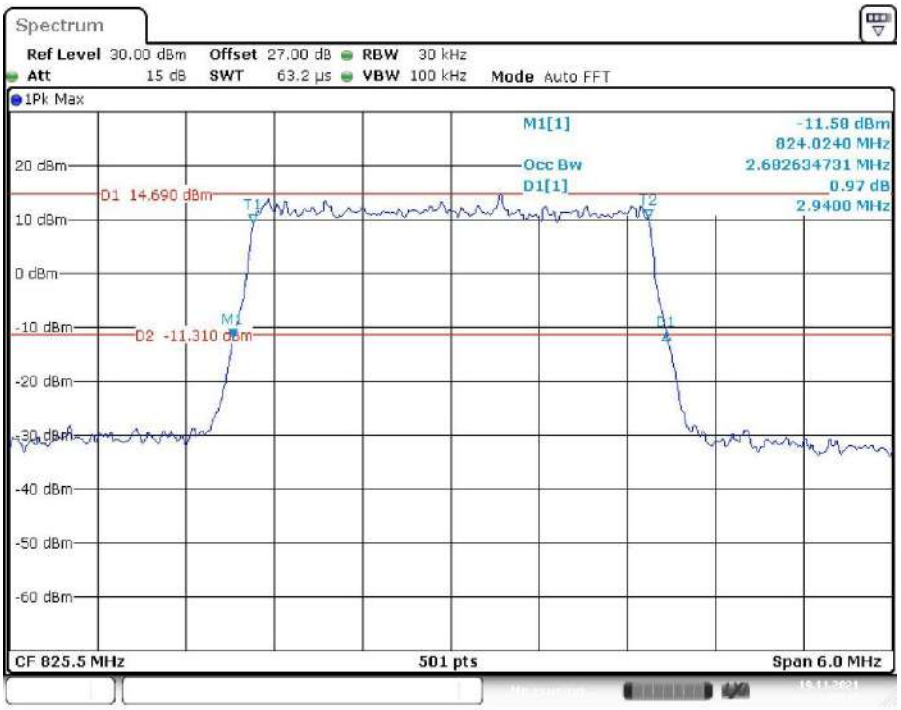
Date: 19.NOV.2021 13:33:39

LTE Band 5

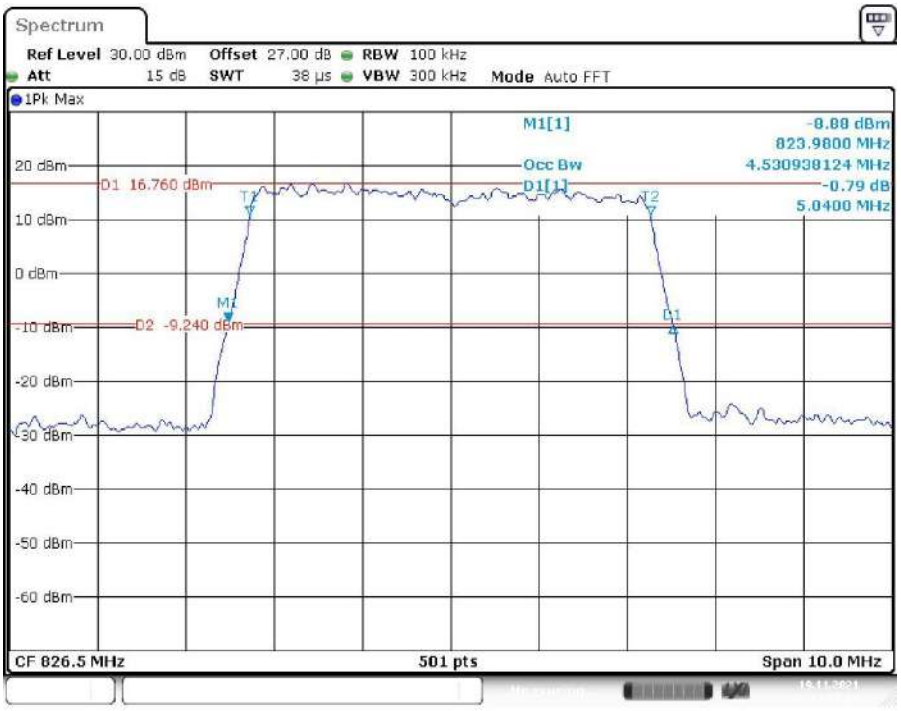
QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



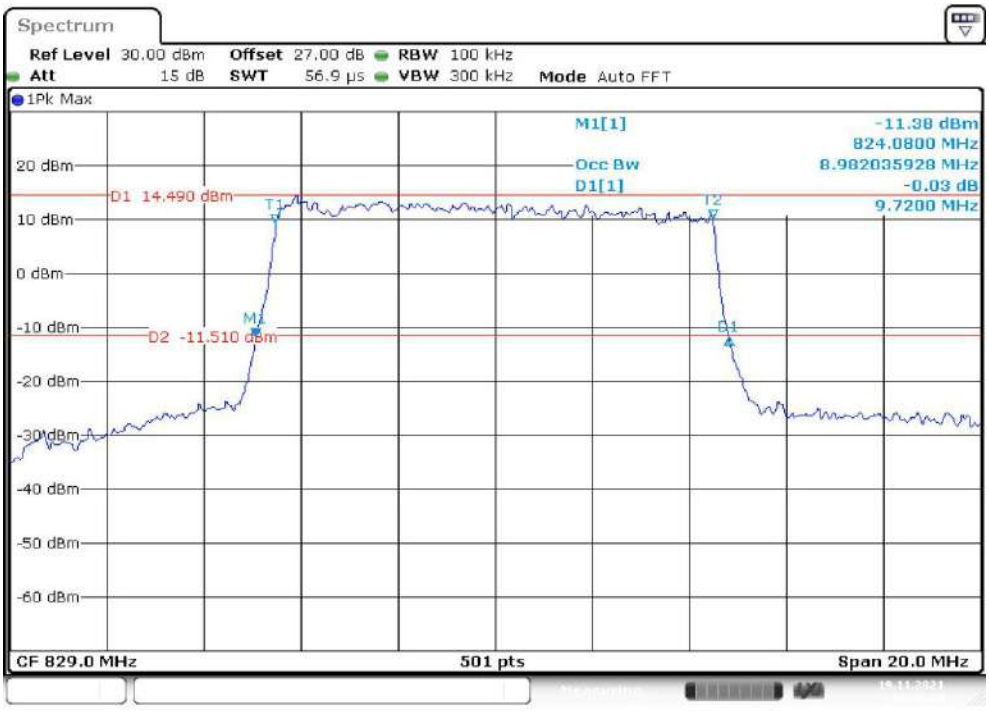
QPSK (3.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



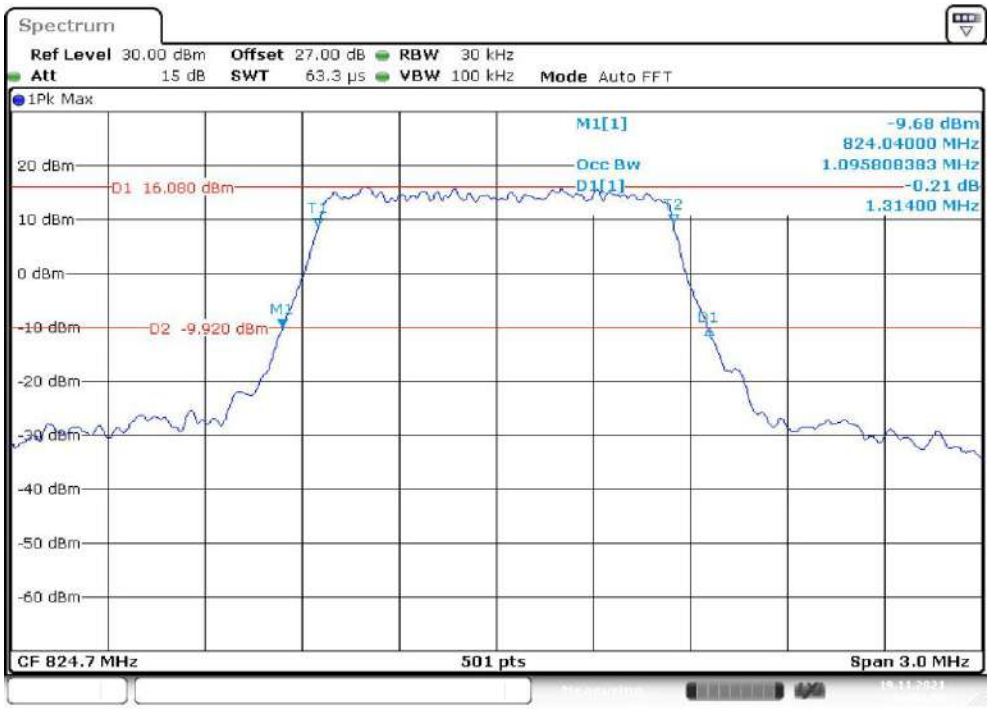
QPSK (5.0MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



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

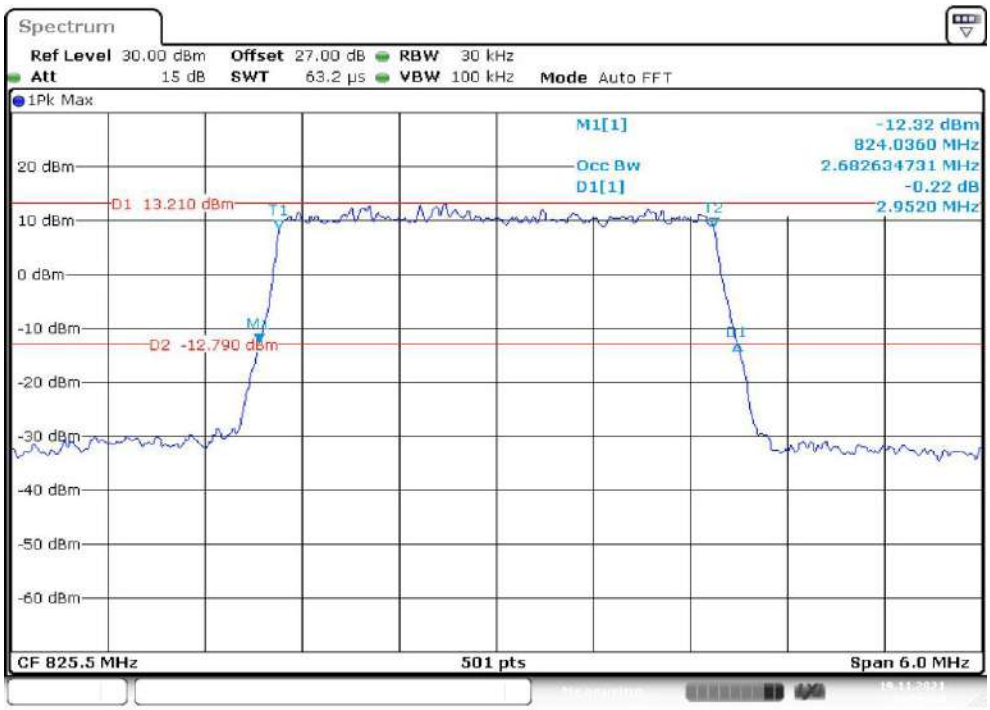


16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



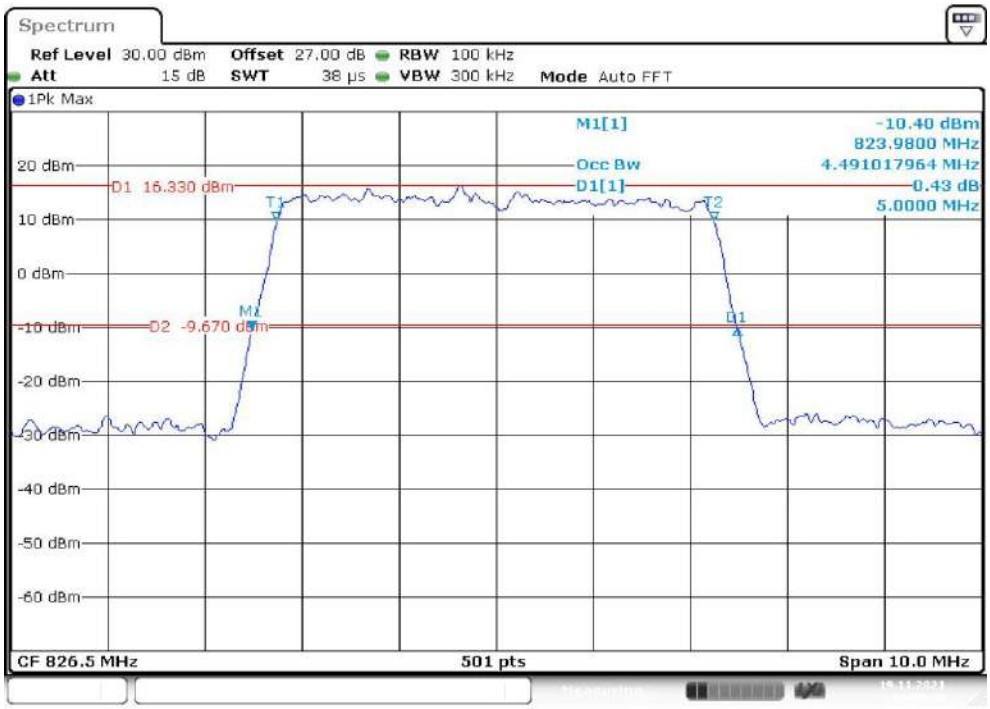
Date: 19.NOV.2021 13:34:25

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



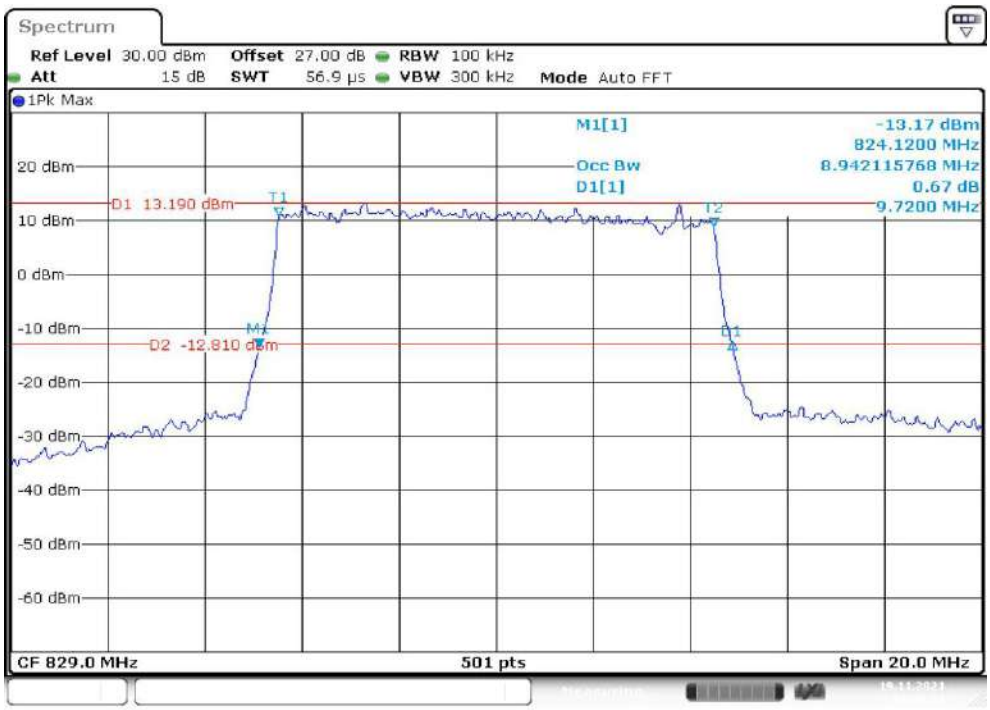
Date: 19.NOV.2021 13:36:04

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



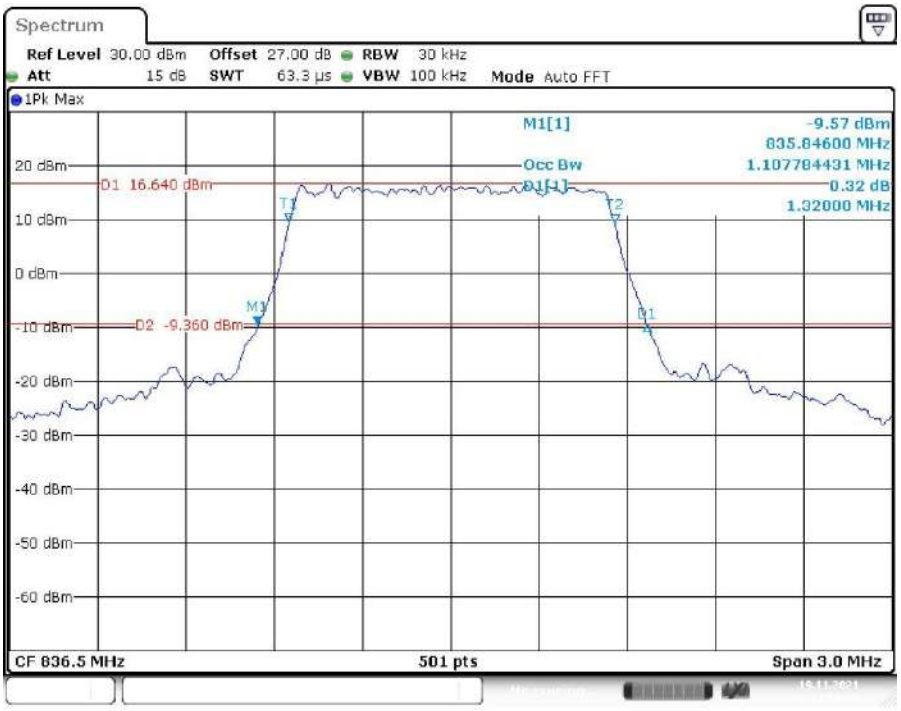
Date: 19.NOV.2021 13:37:55

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



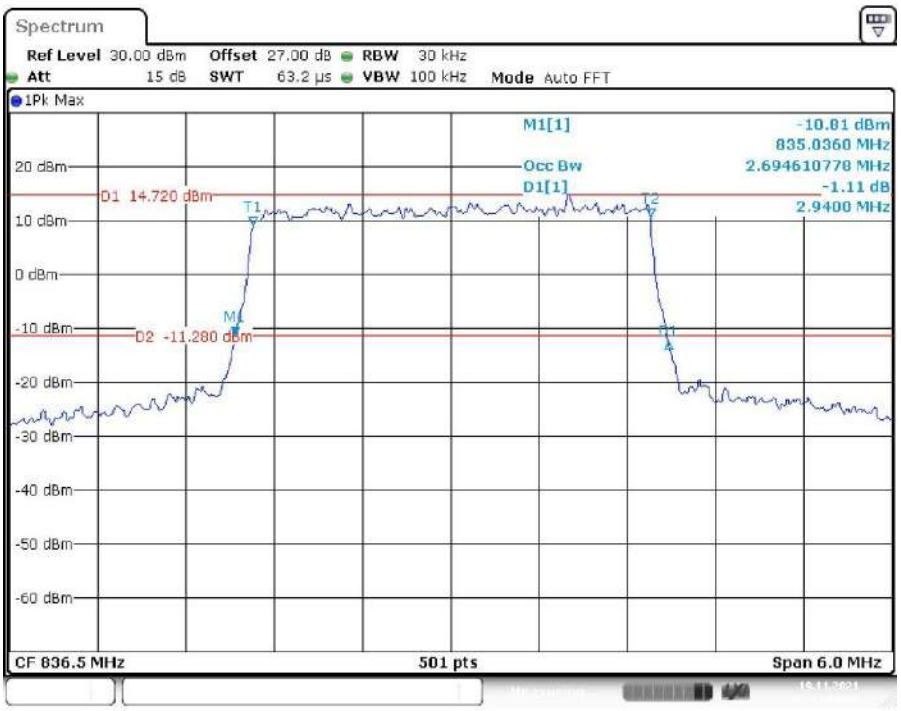
Date: 19.NOV.2021 13:40:52

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



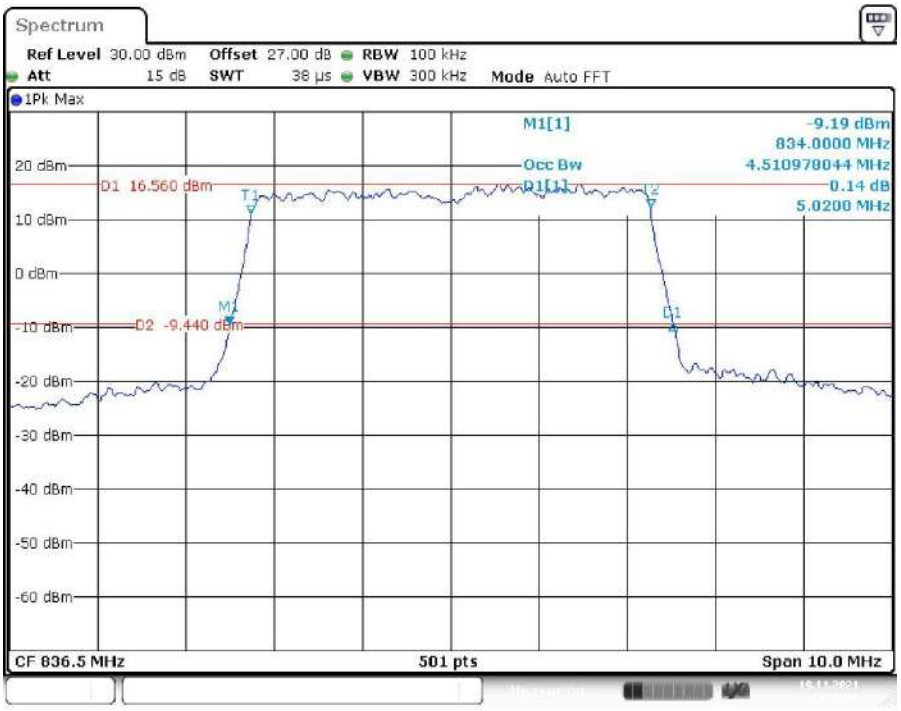
Date: 19.NOV.2021 13:34:40

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

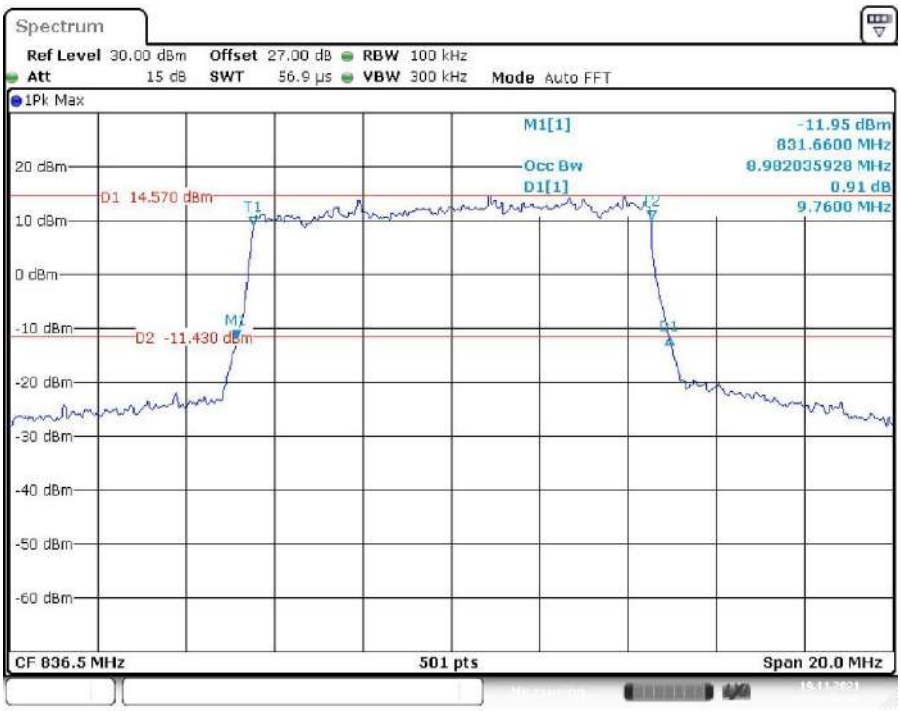


Date: 19.NOV.2021 13:36:19

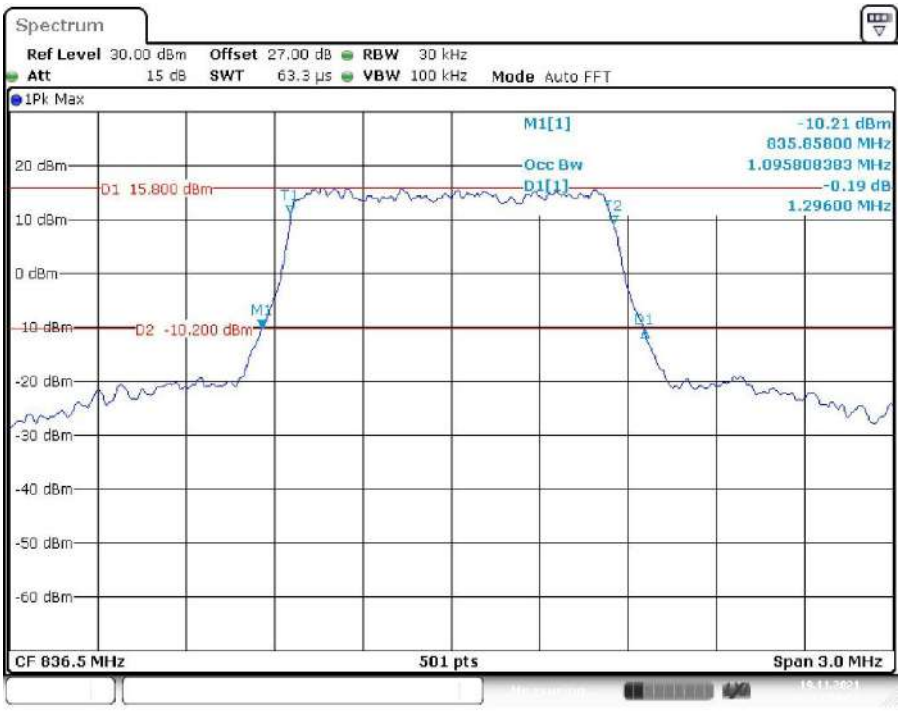
QPSK (5.0MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



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

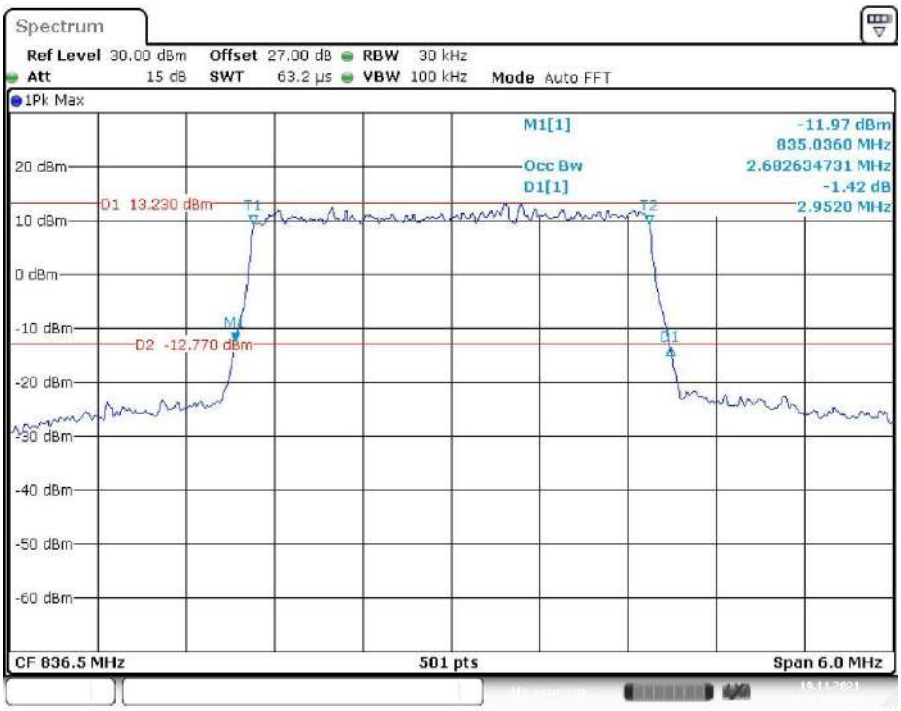


16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



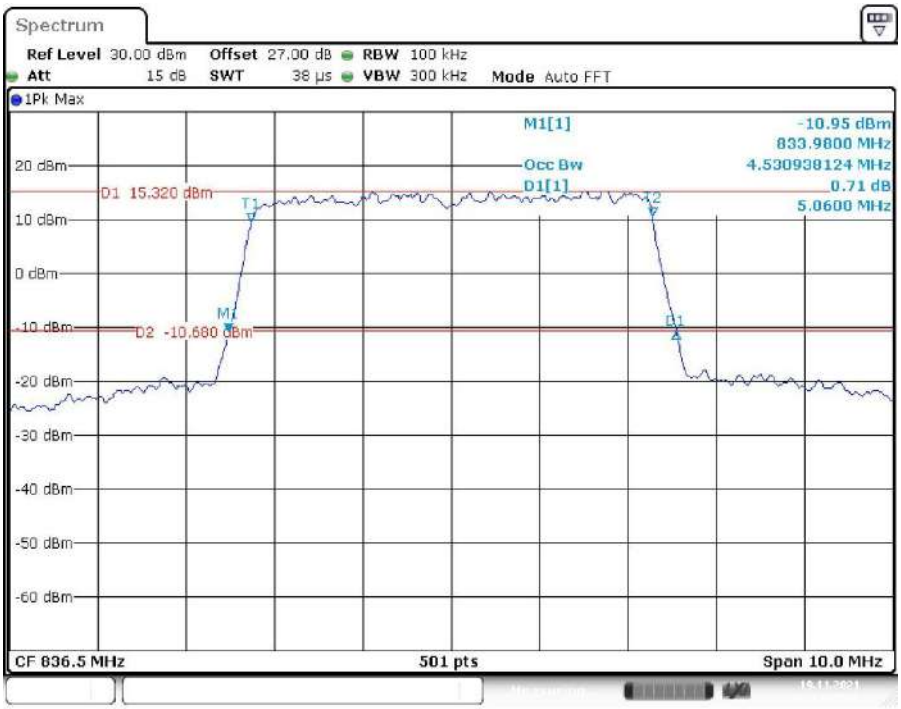
Date: 19.NOV.2021 13:34:54

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



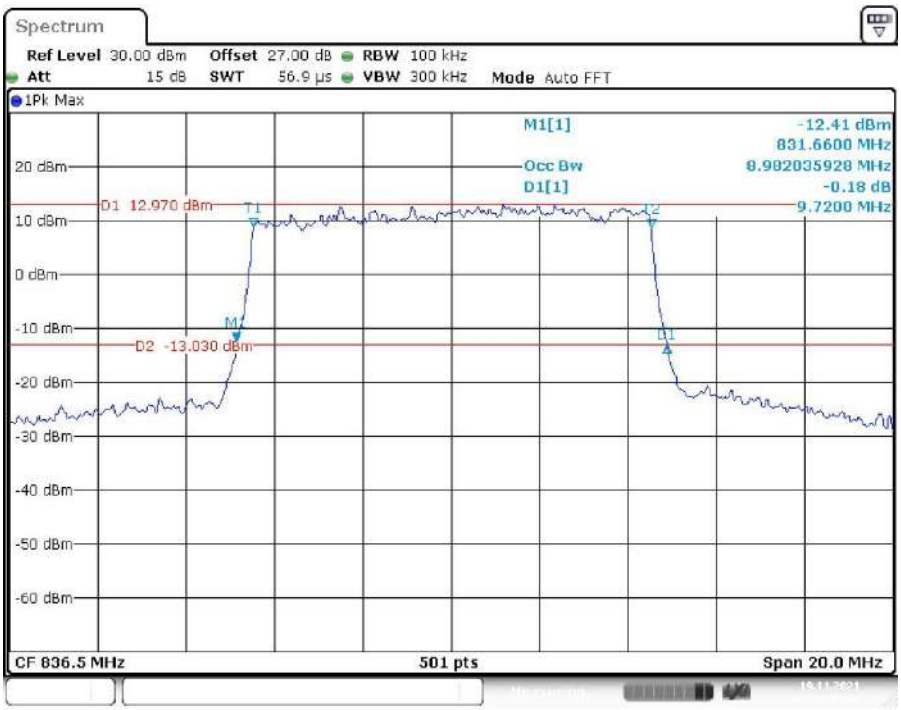
Date: 19.NOV.2021 13:36:33

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



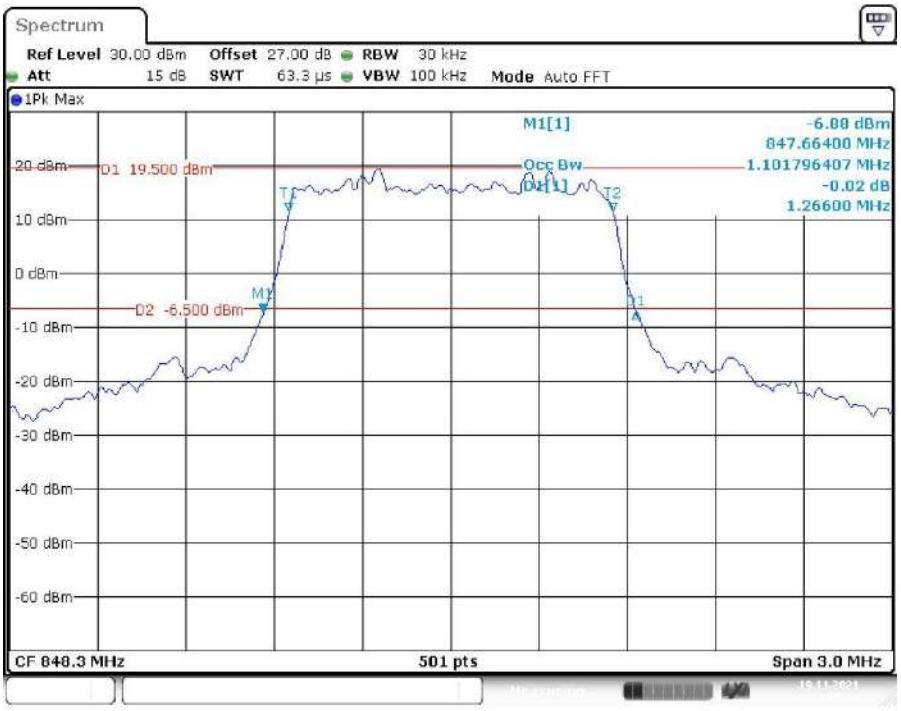
Date: 19.NOV.2021 13:38:55

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



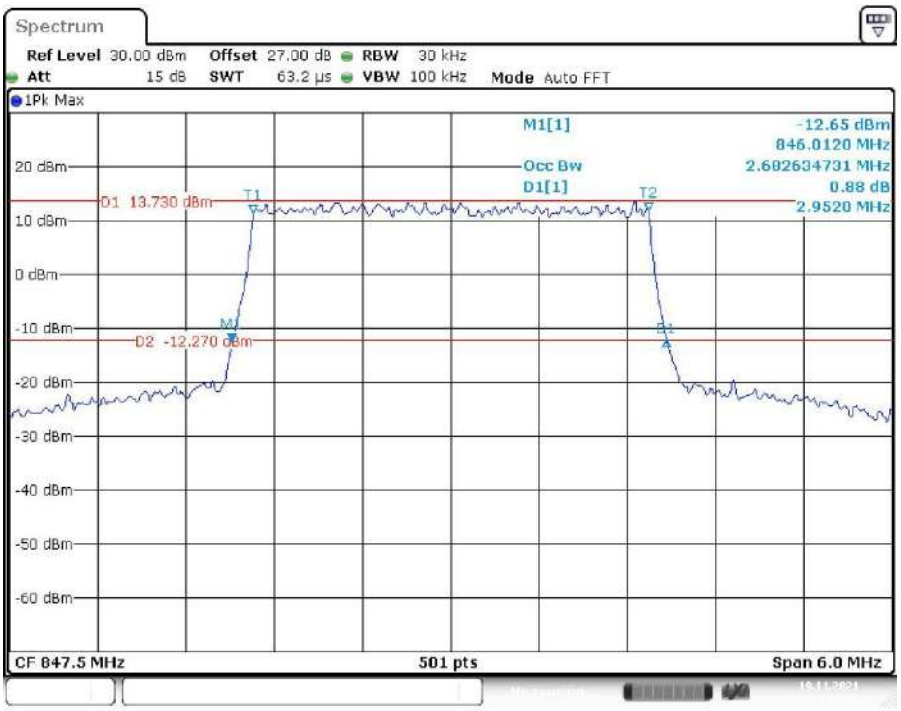
Date: 19.NOV.2021 13:41:42

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



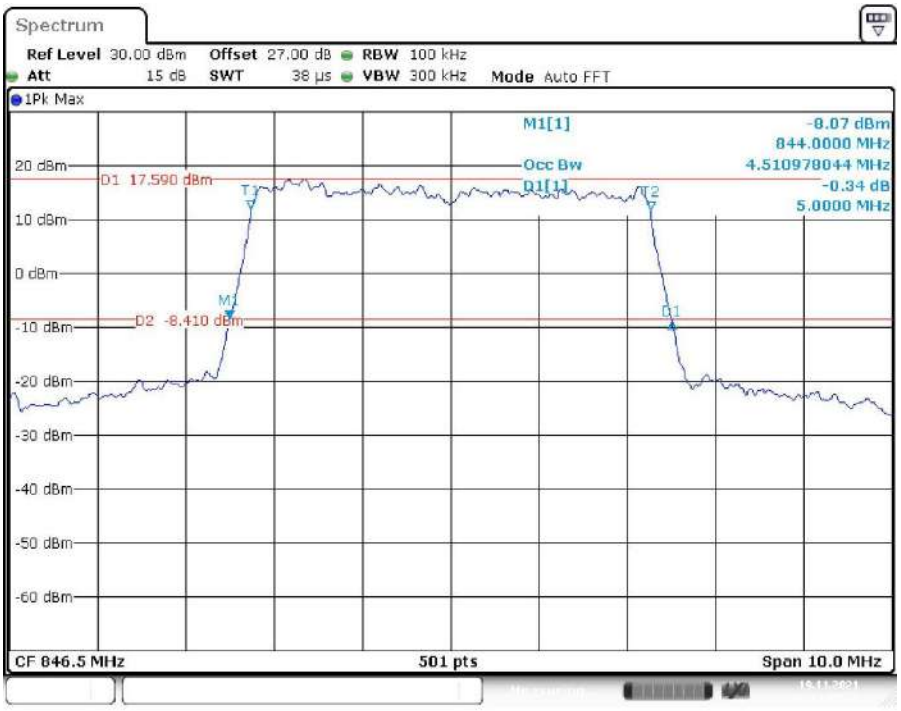
Date: 19.NOV.2021 13:35:12

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

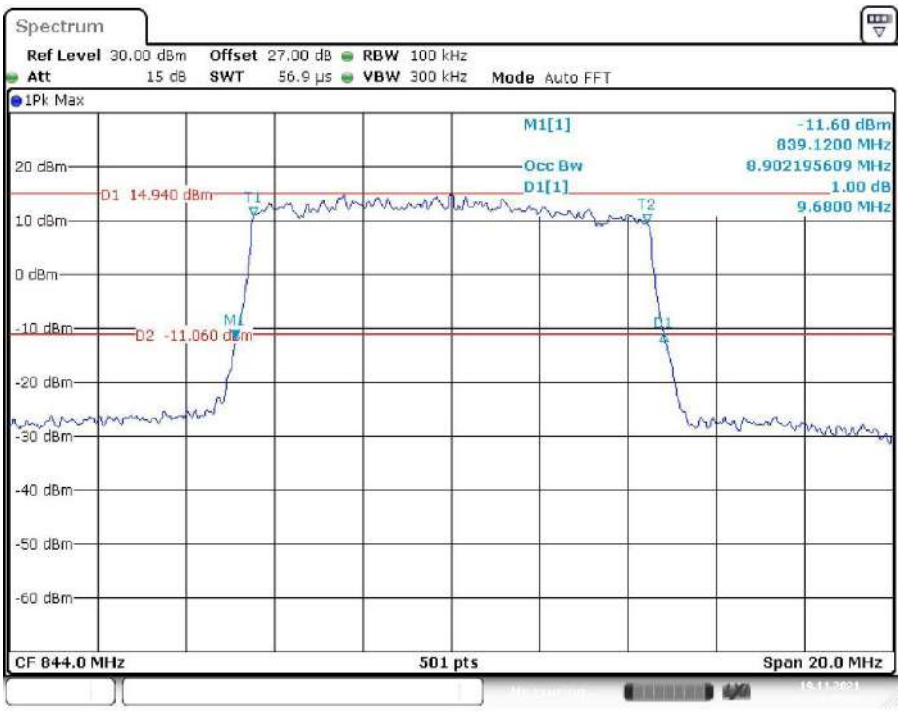


Date: 19.NOV.2021 13:36:48

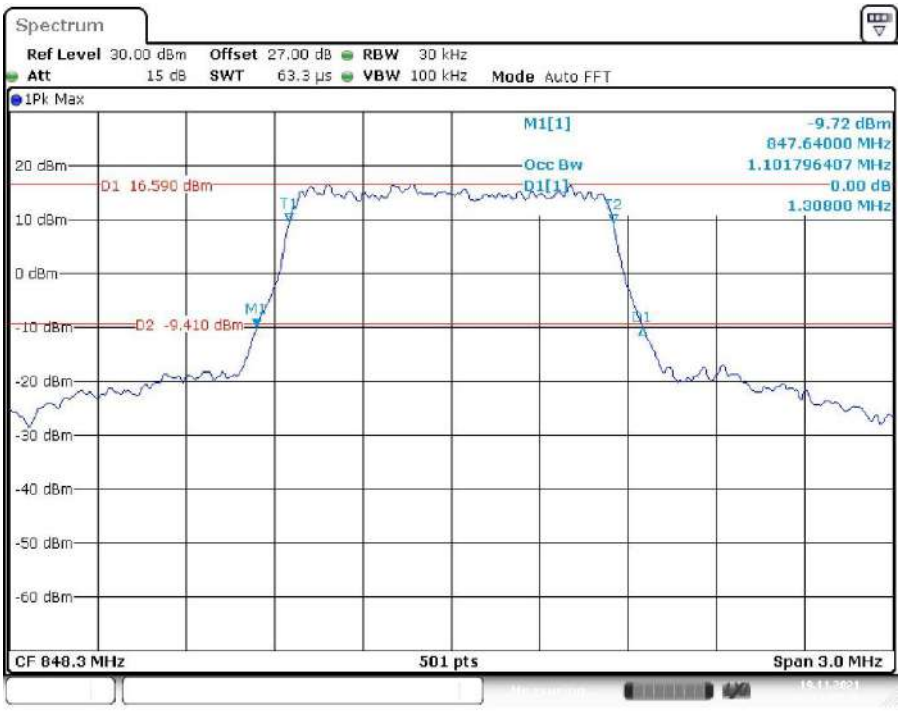
QPSK (5.0MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



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

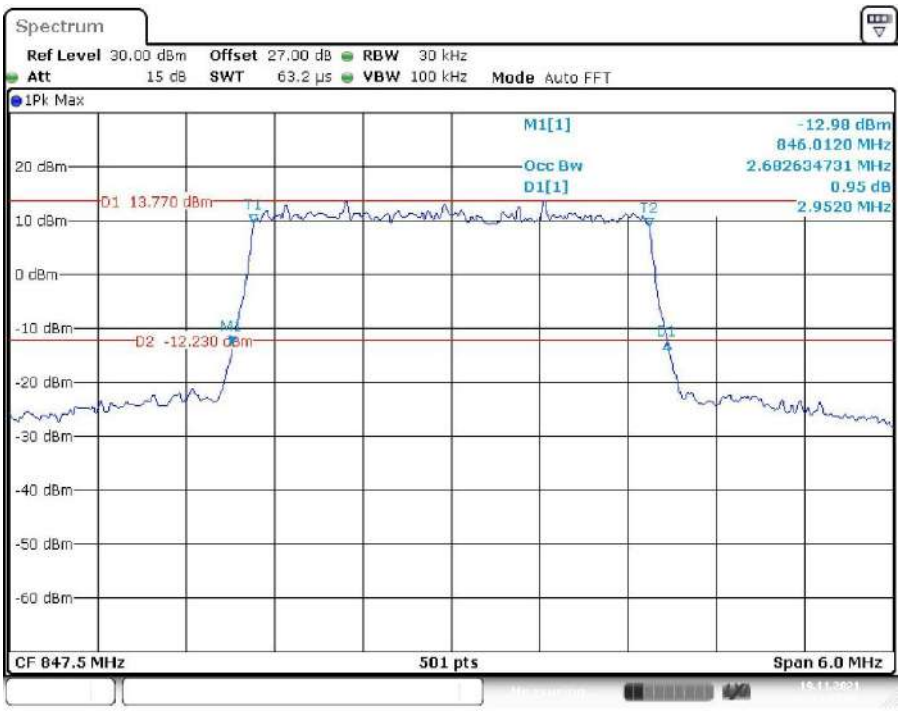


16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



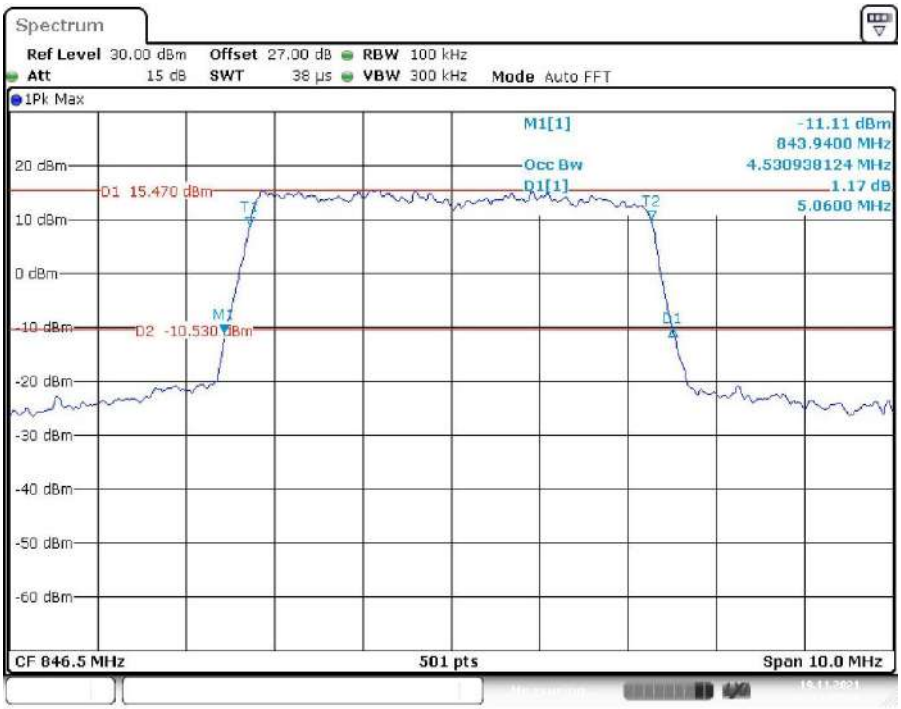
Date: 19.NOV.2021 13:35:26

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



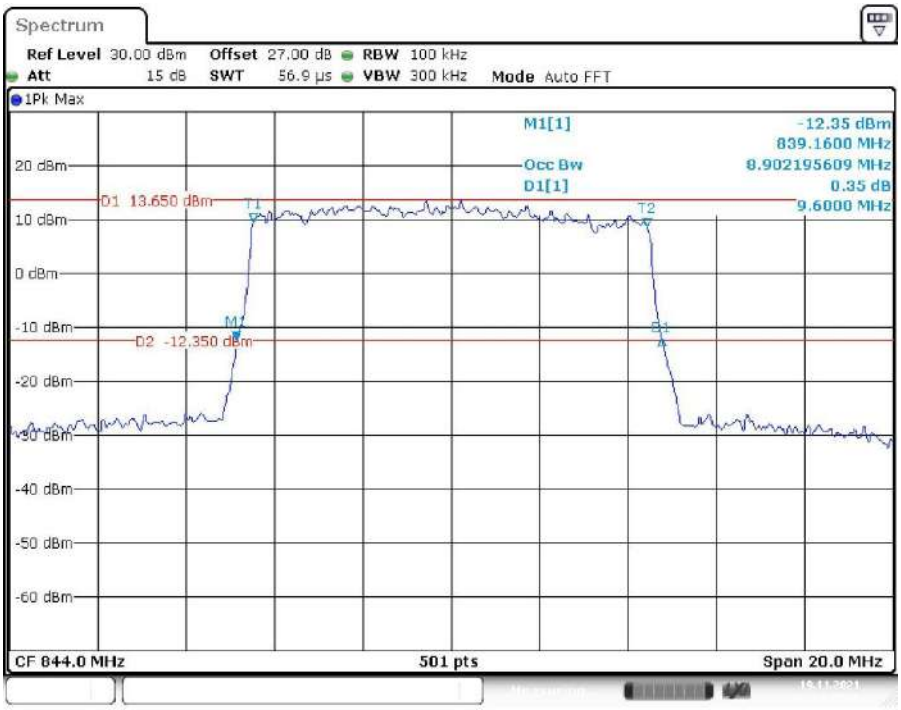
Date: 19.NOV.2021 13:37:06

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



Date: 19.NOV.2021 13:39:46

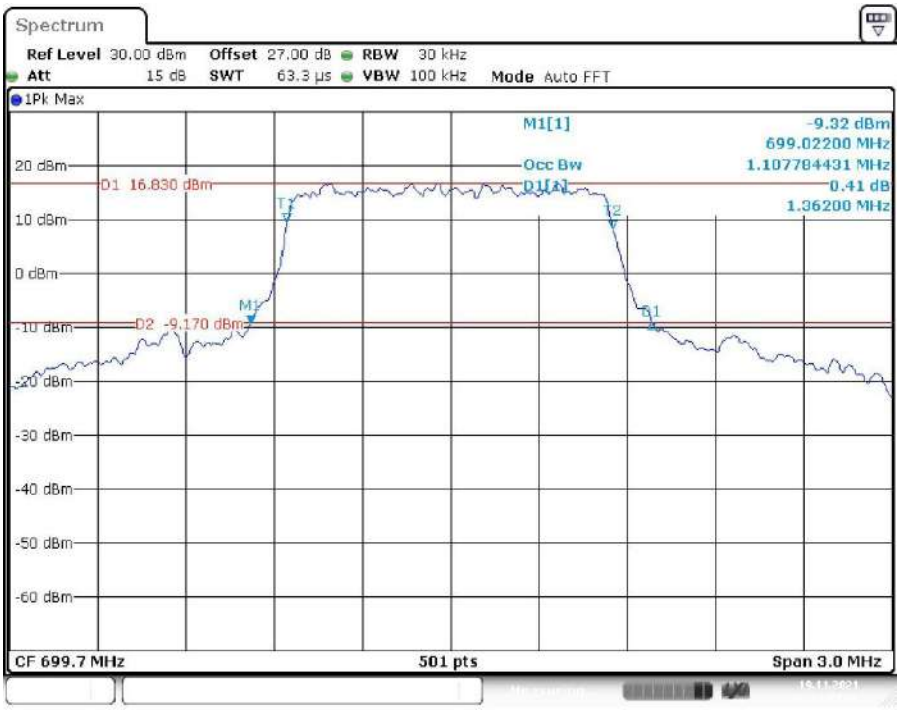
16-QAM (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



Date: 19.NOV.2021 13:42:38

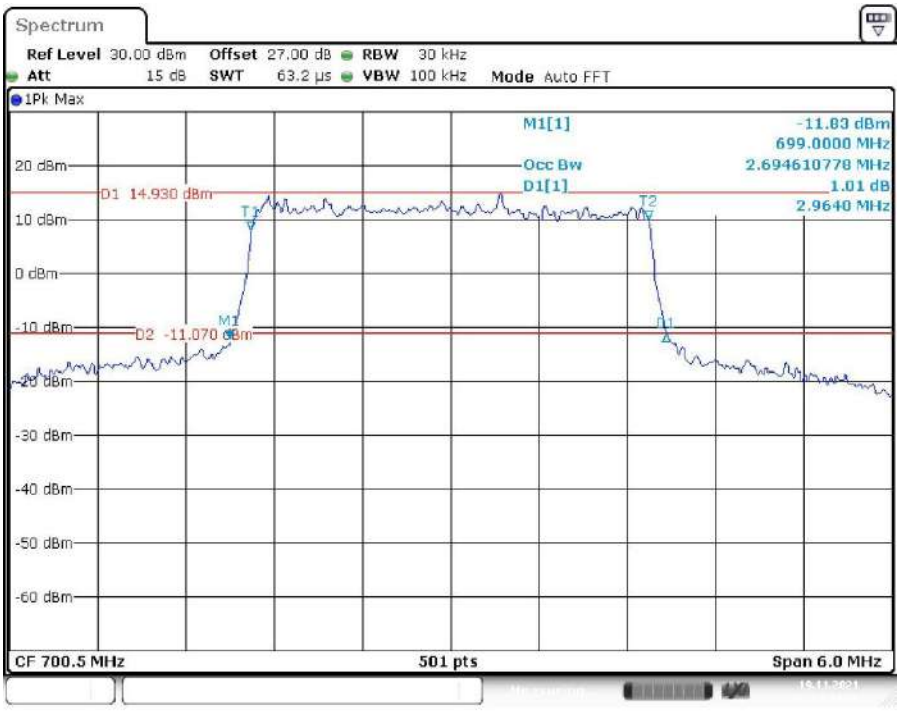
LTE Band 12

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



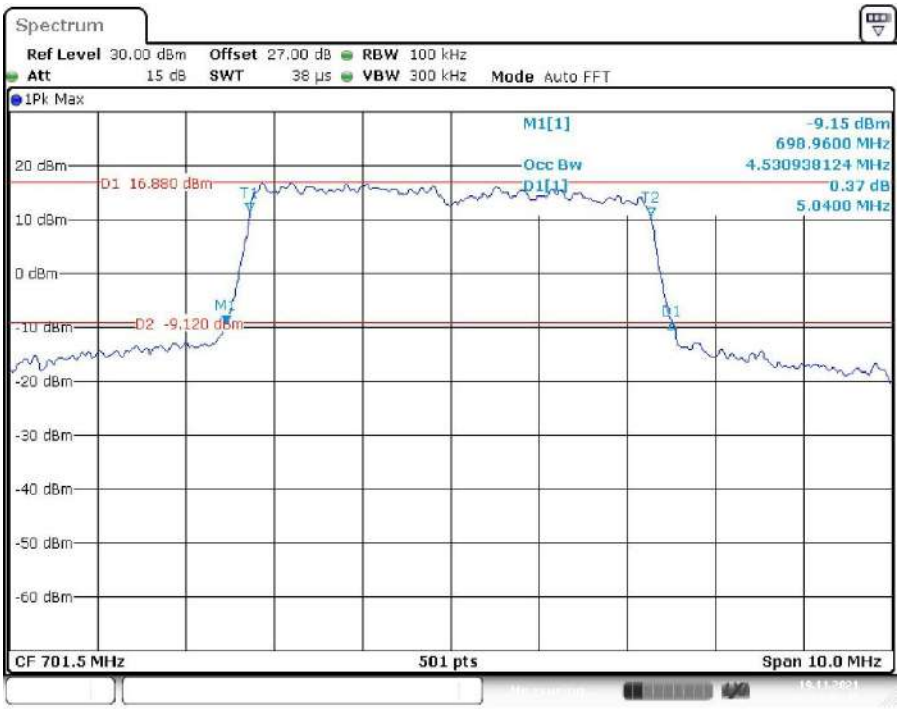
Date: 19.NOV.2021 13:43:02

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



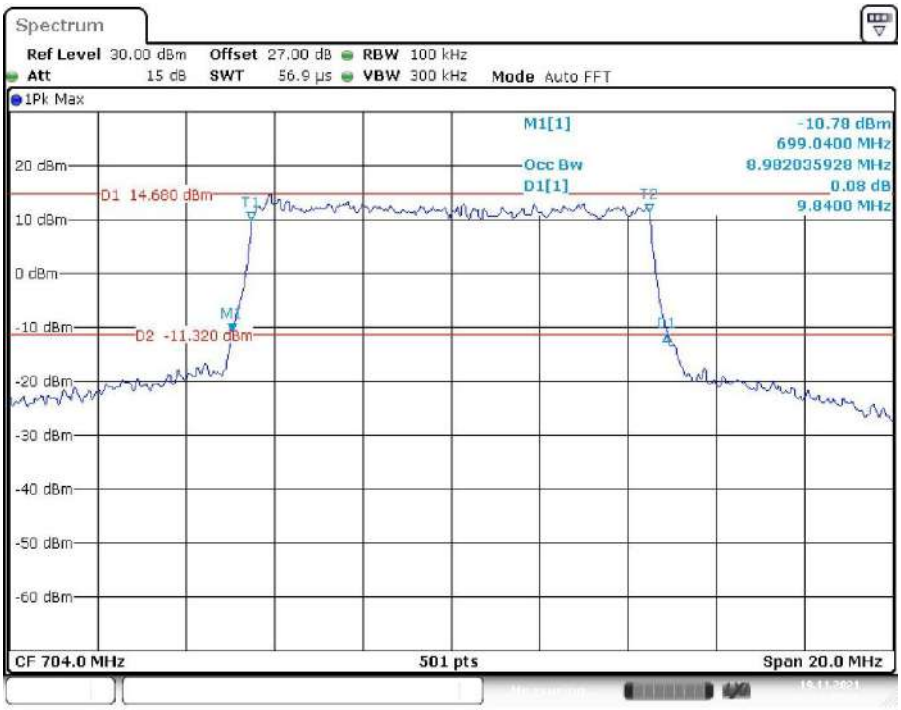
Date: 19.NOV.2021 13:44:31

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



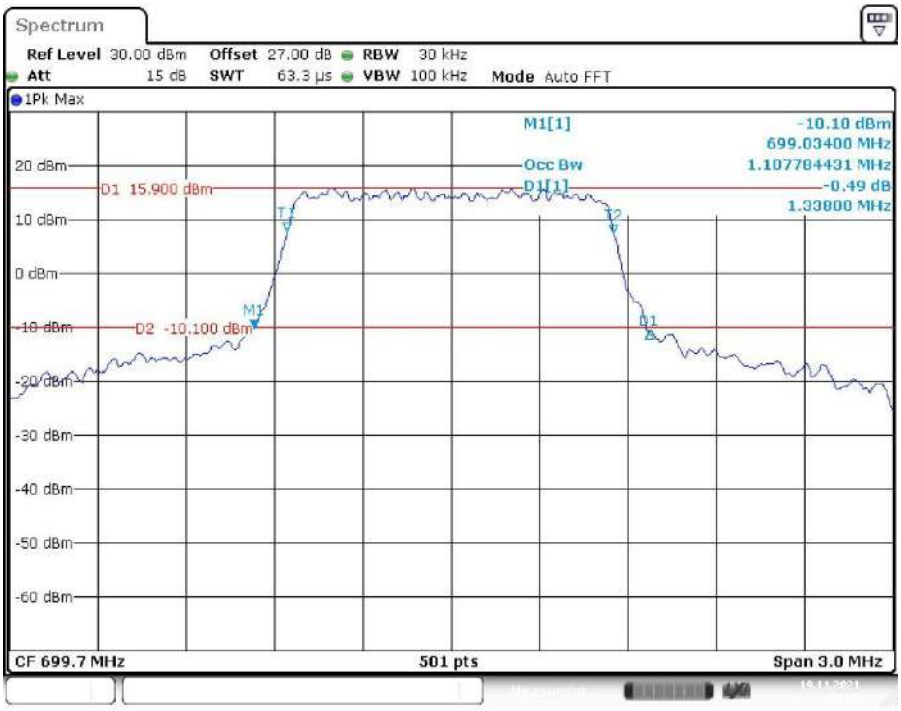
Date: 19.NOV.2021 13:46:17

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



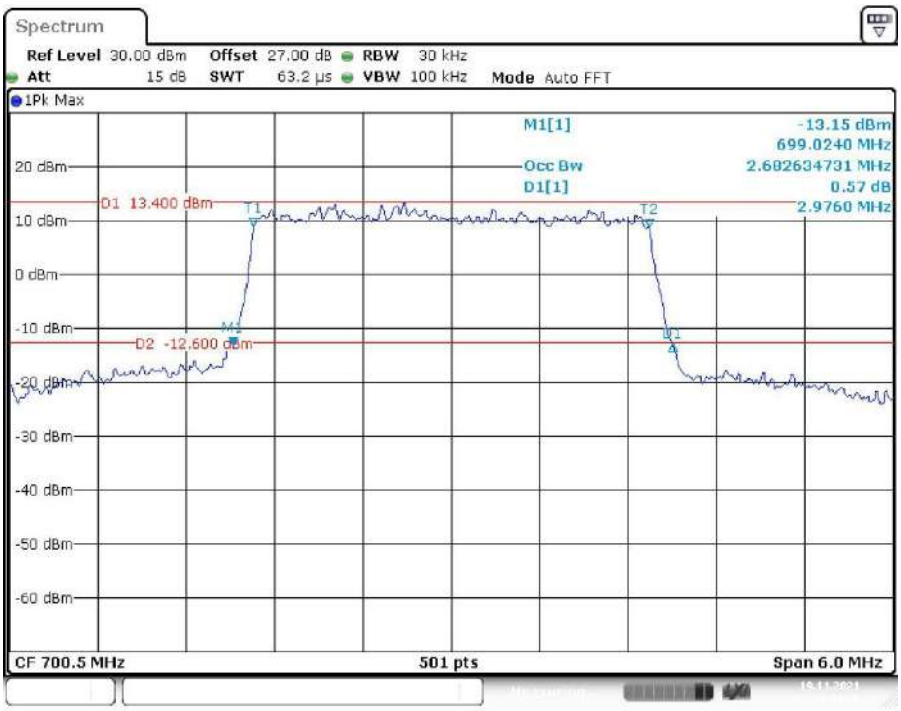
Date: 19.NOV.2021 13:48:38

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



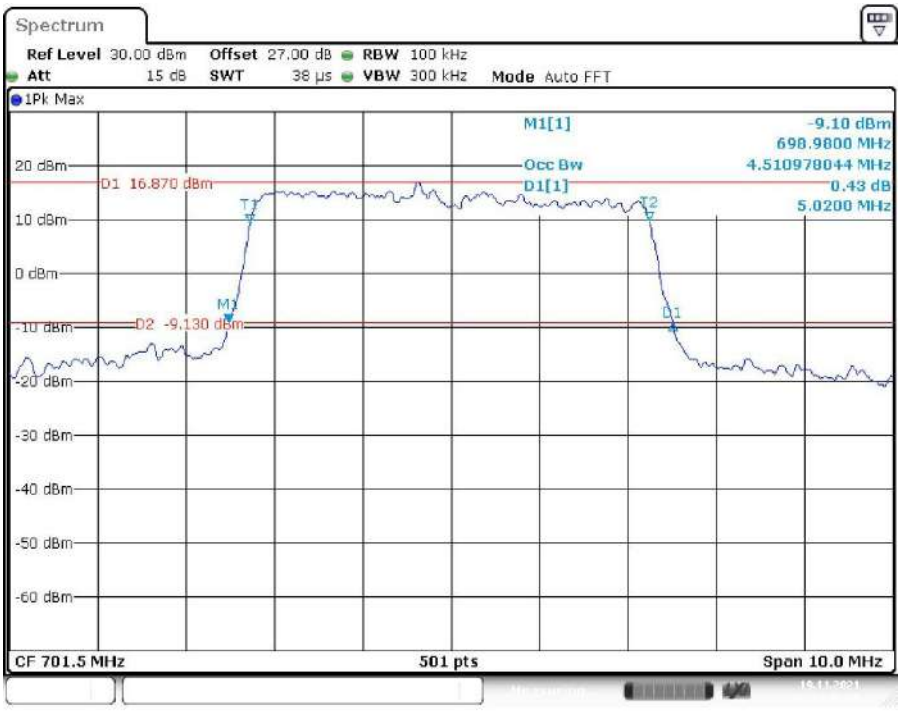
Date: 19.NOV.2021 13:43:16

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



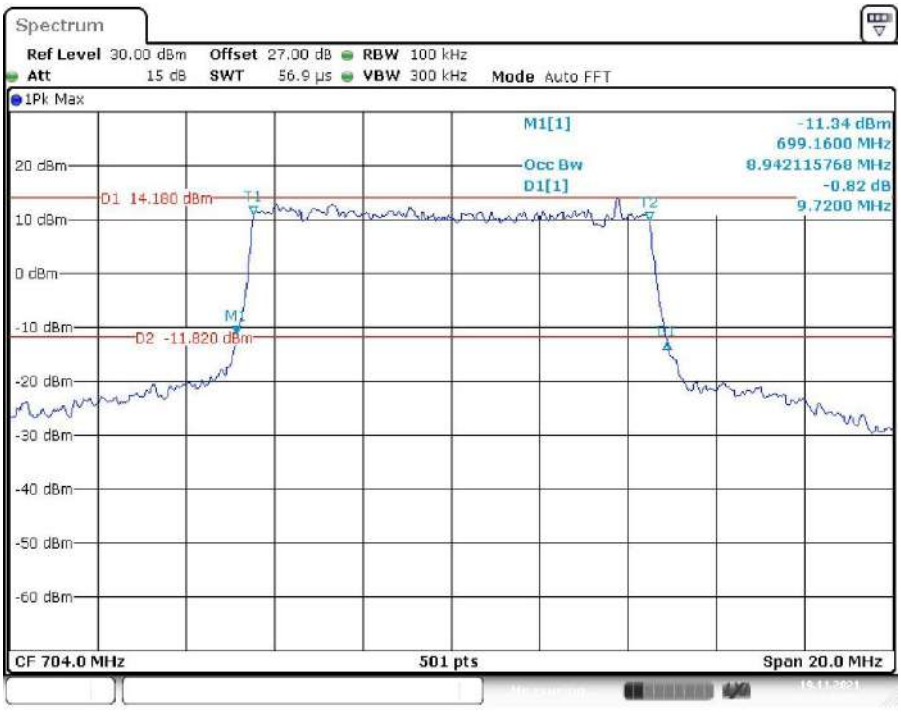
Date: 19.NOV.2021 13:44:49

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



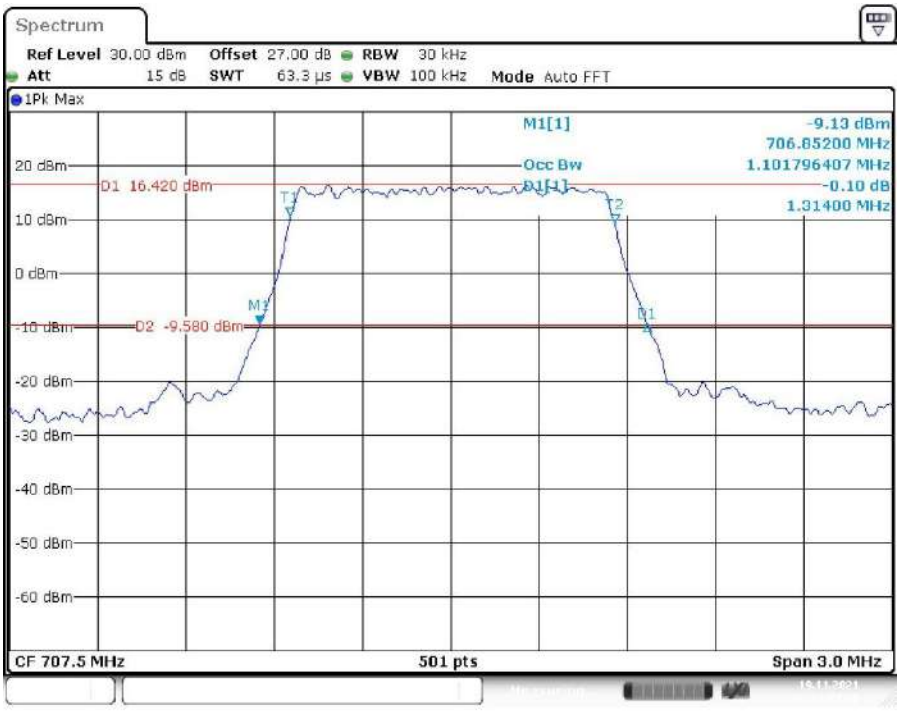
Date: 19.NOV.2021 13:46:40

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



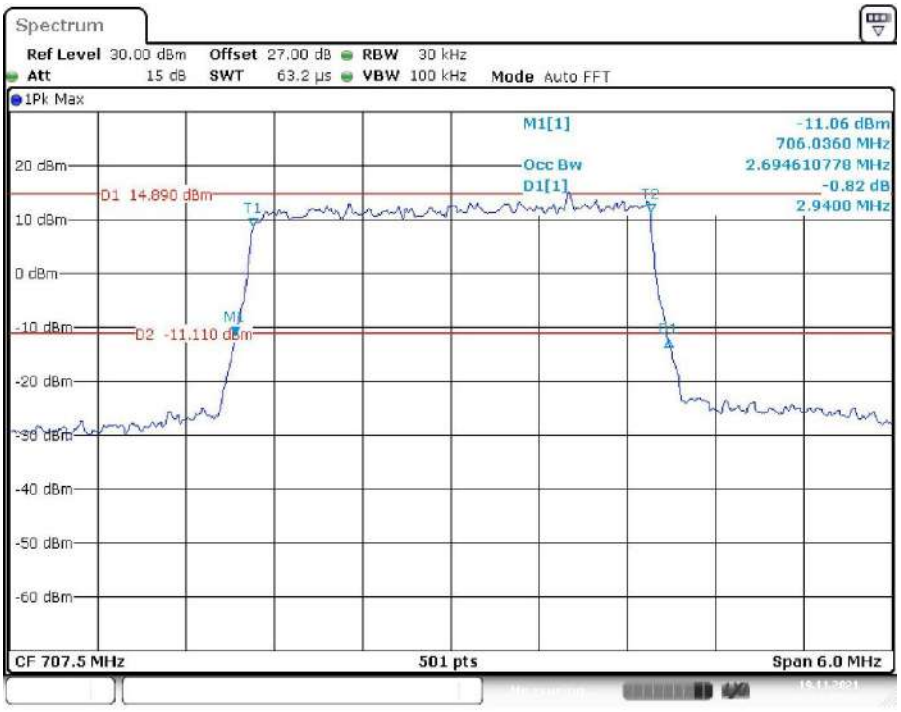
Date: 19.NOV.2021 13:49:03

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



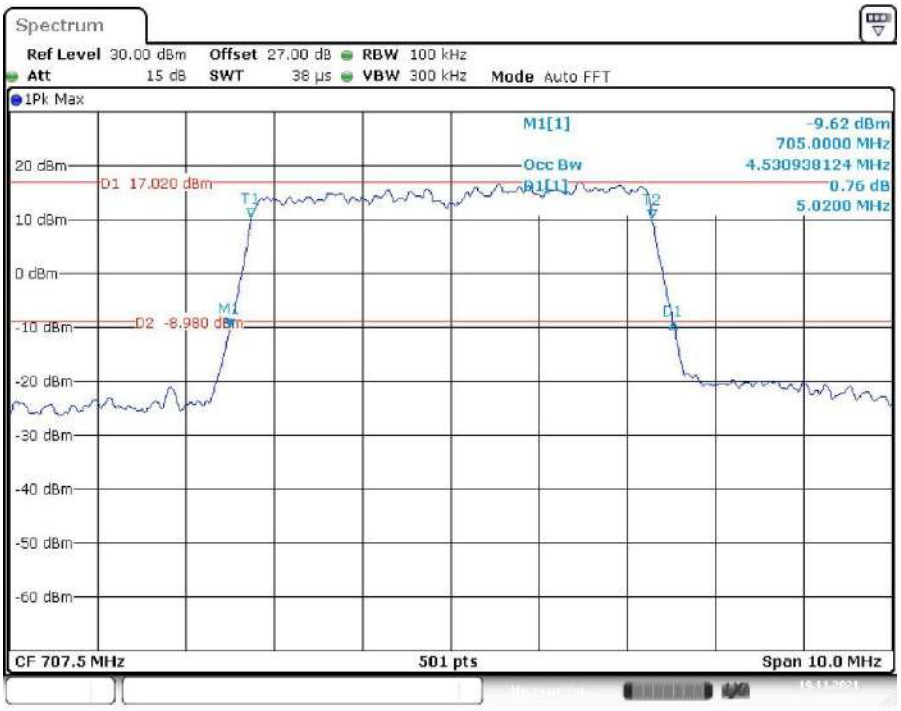
Date: 19.NOV.2021 13:43:30

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



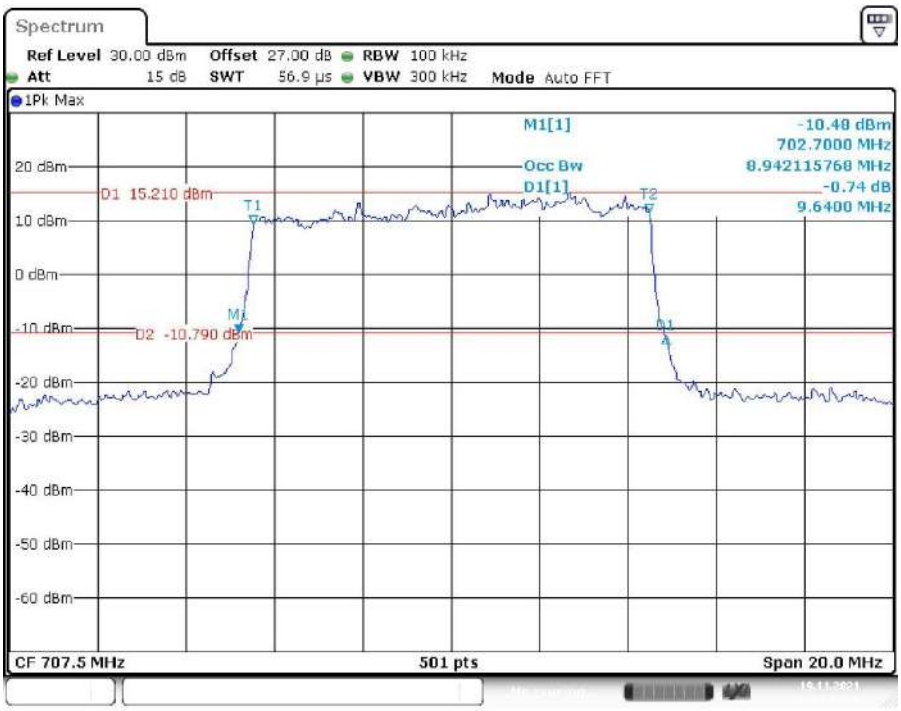
Date: 19.NOV.2021 13:45:03

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



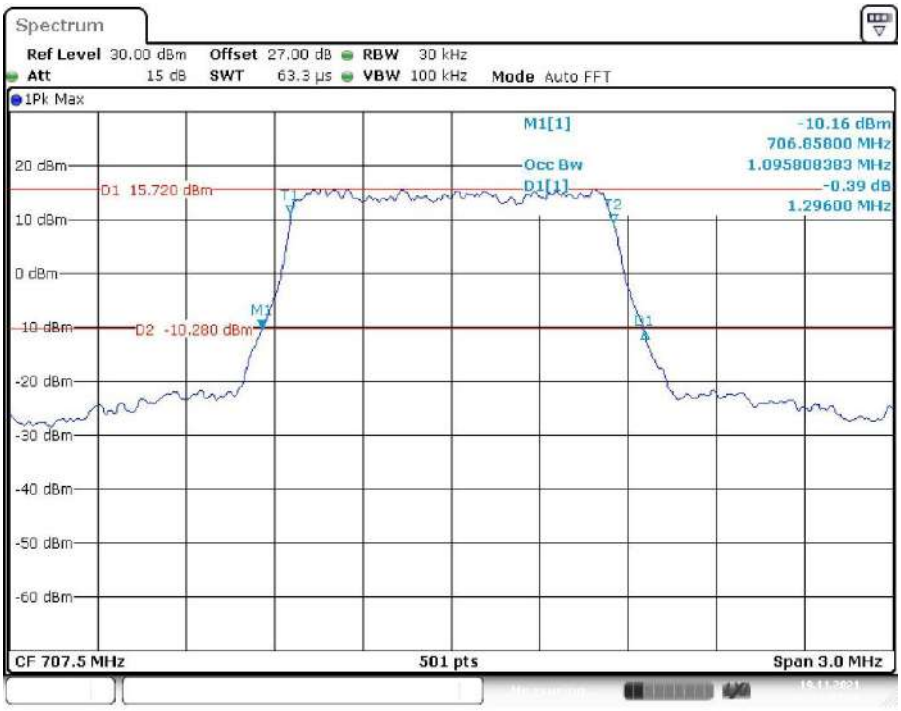
Date: 19.NOV.2021 13:47:01

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



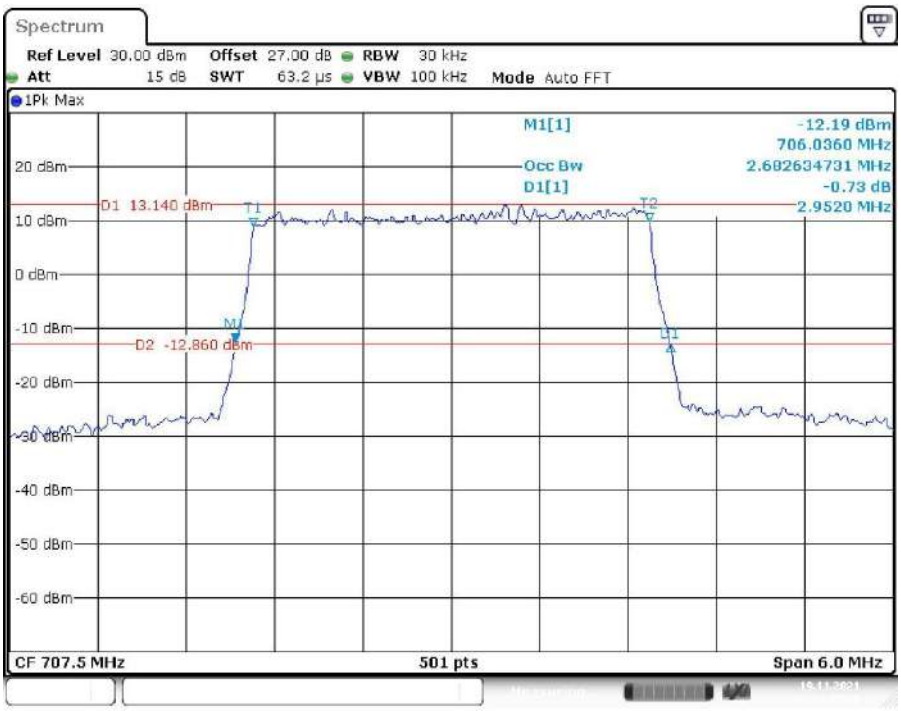
Date: 19.NOV.2021 13:49:31

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



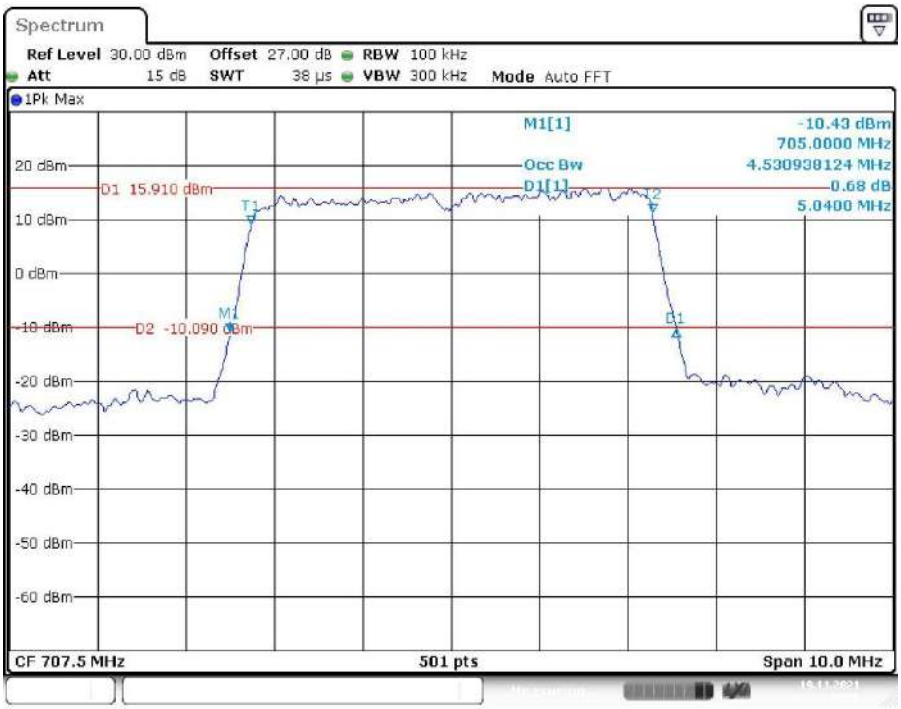
Date: 19.NOV.2021 13:43:45

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



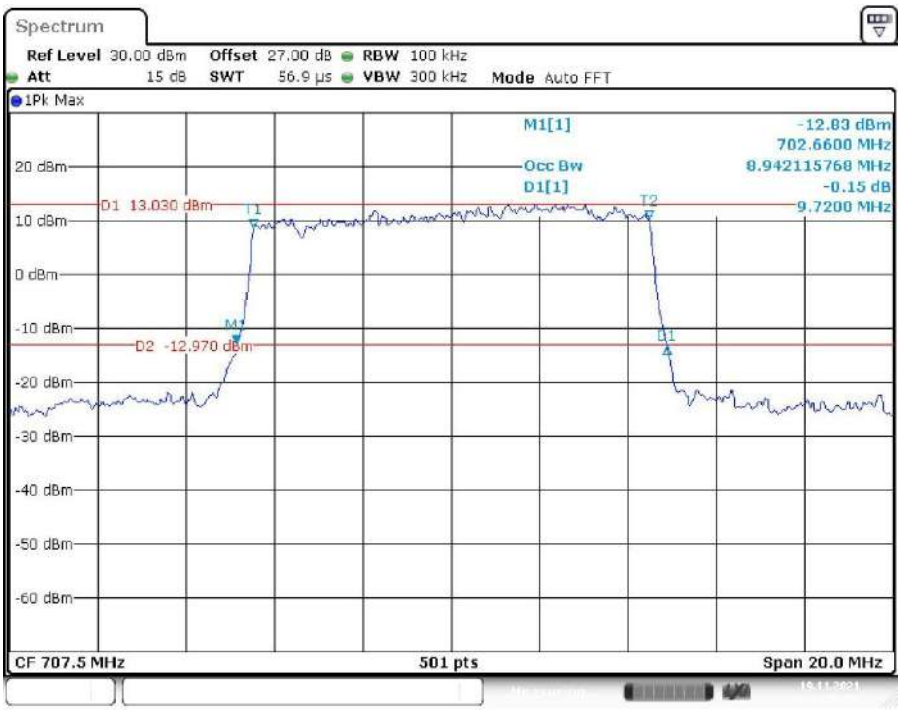
Date: 19.NOV.2021 13:45:21

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



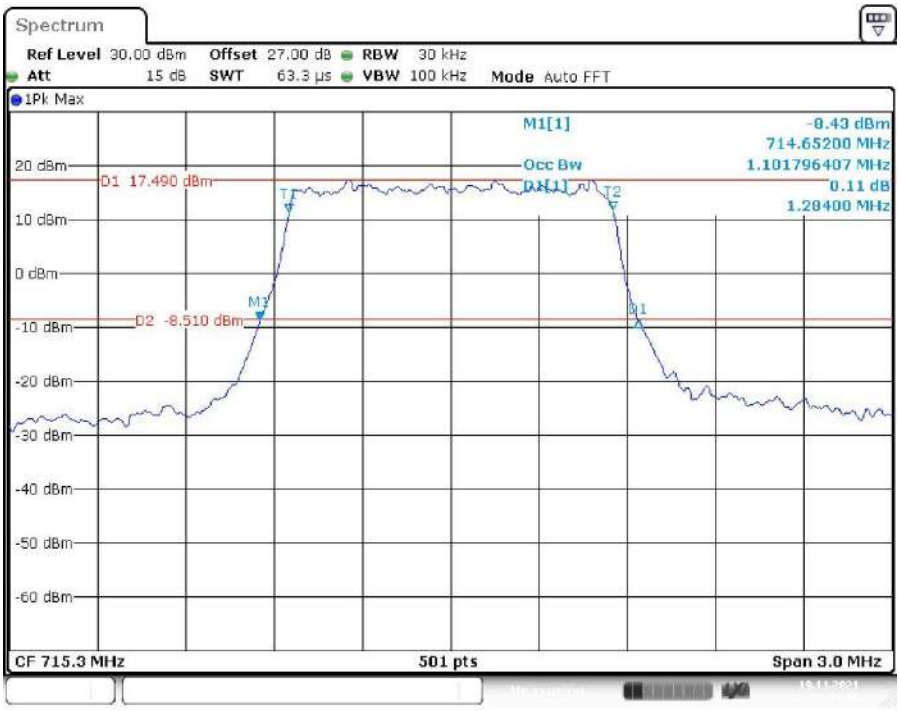
Date: 19.NOV.2021 13:47:28

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

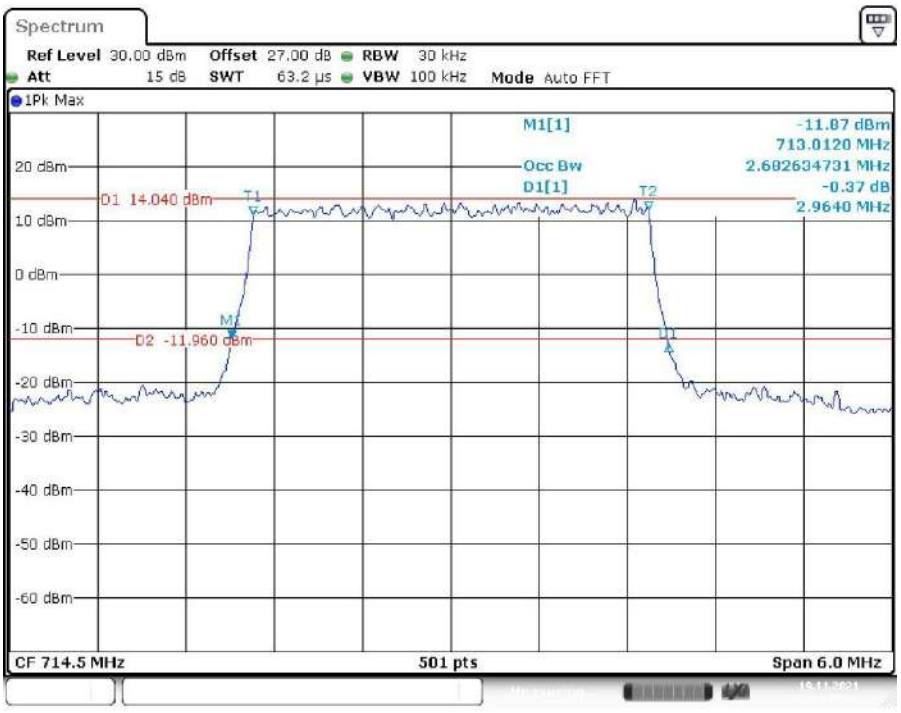


Date: 19.NOV.2021 13:50:02

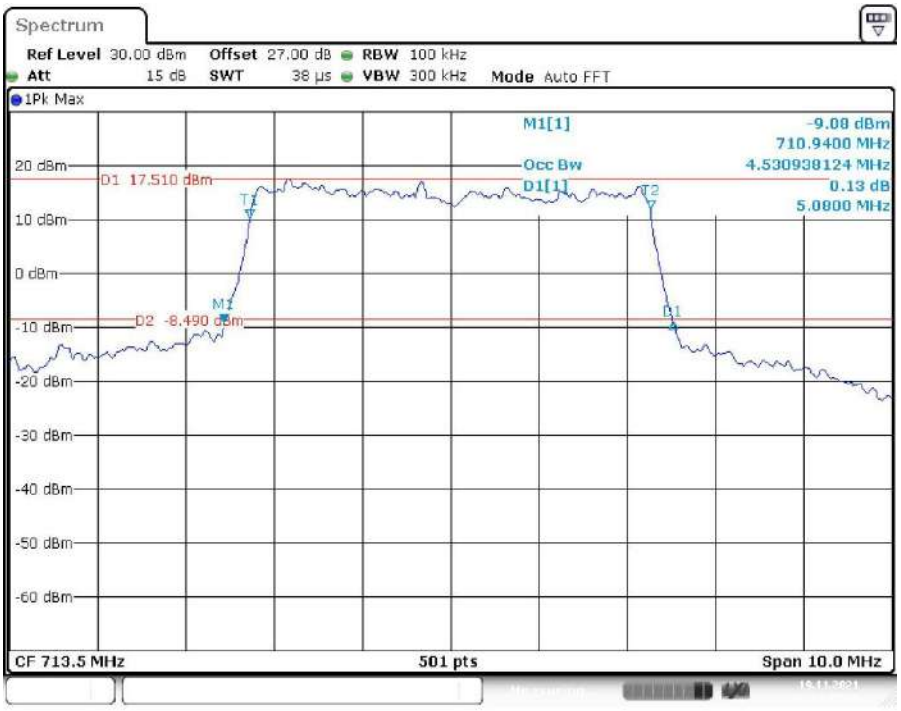
QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



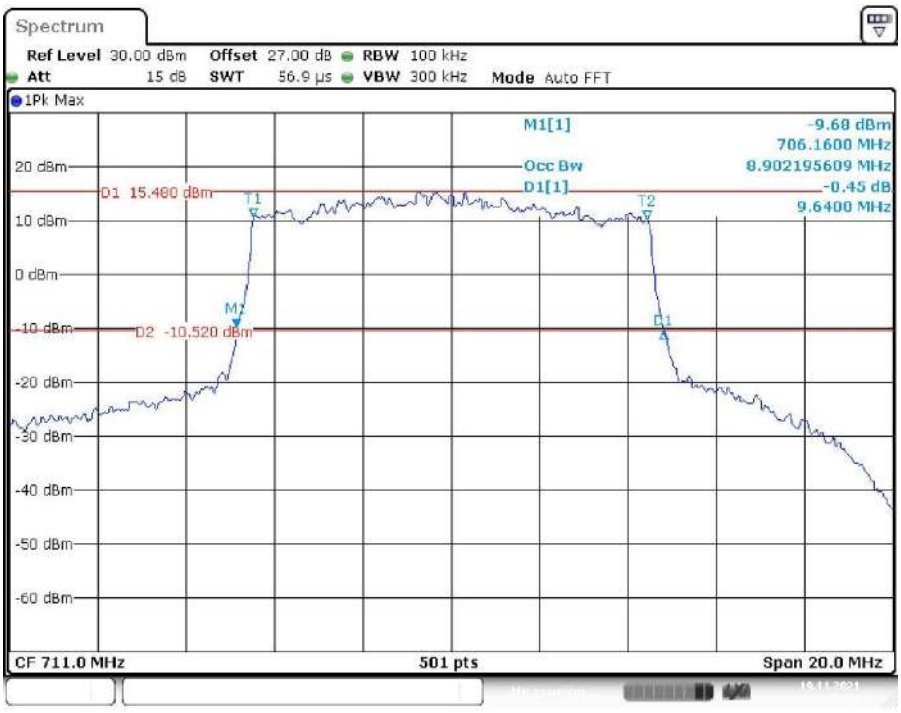
QPSK (3.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



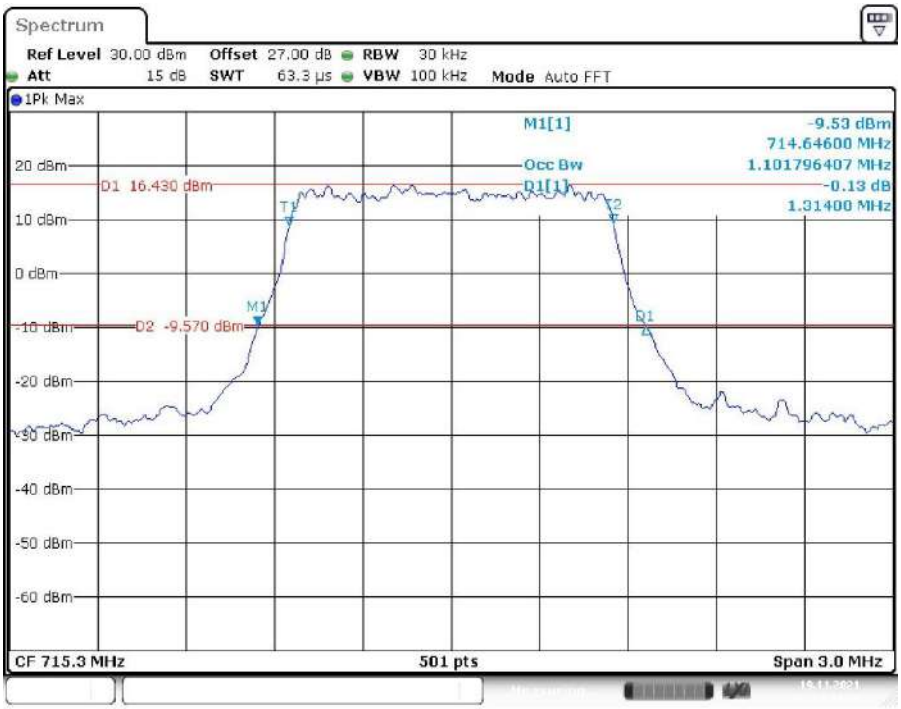
QPSK (5.0MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



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

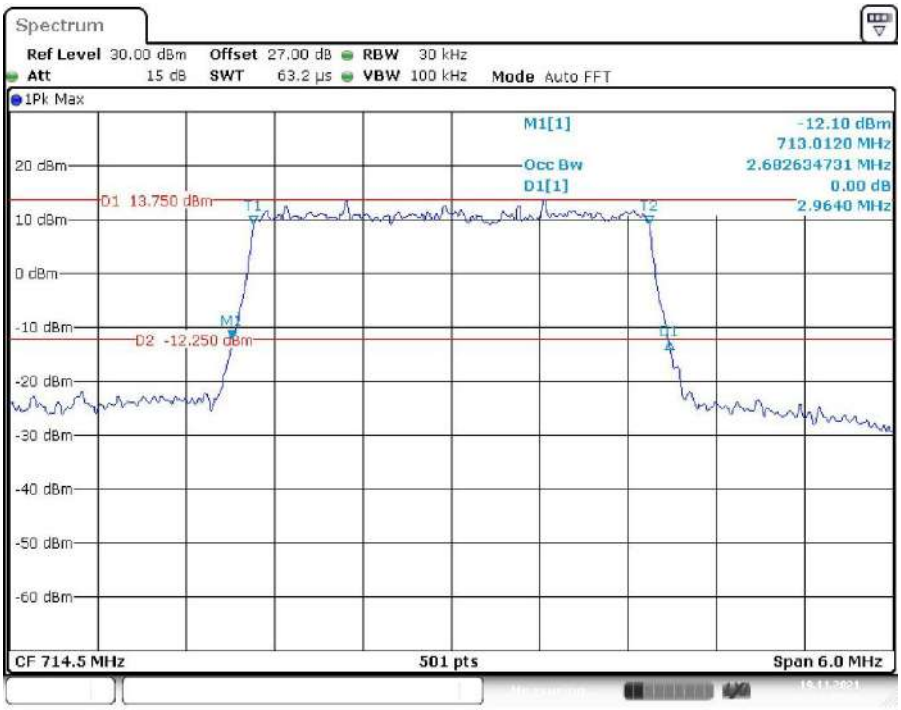


16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



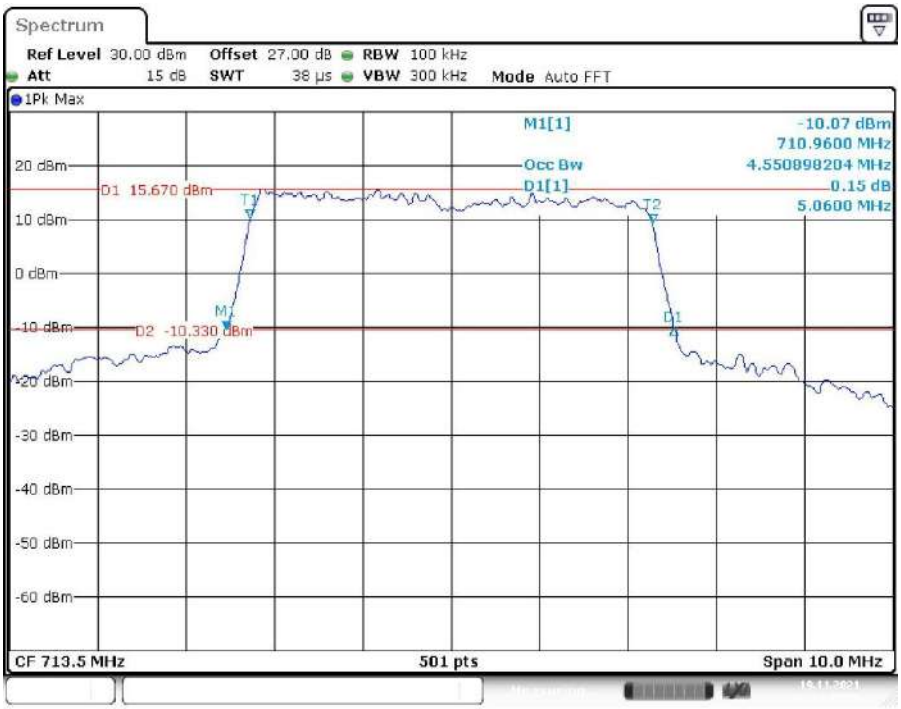
Date: 19.NOV.2021 13:44:13

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



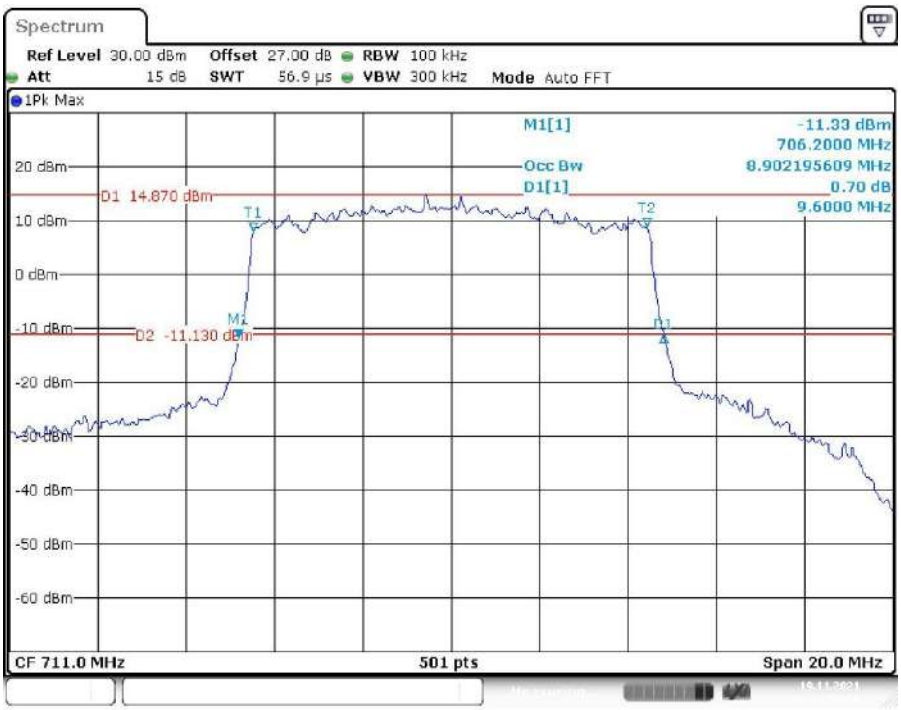
Date: 19.NOV.2021 13:45:49

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



Date: 19.NOV.2021 13:48:09

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



Date: 19.NOV.2021 13:50:55