



TESTING LABORATORY  
CERTIFICATE#4323.01



FCC PART 27  
FCC PART 22H, PART 24E, PART 90  
TEST REPORT

For

**Shanghai Sunmi Technology Co.,Ltd.**

Room 505, KIC Plaza, No.388 Song Hu Road, Yang Pu District, Shanghai, China

**FCC ID: 2AH25T5941**

<b>Report Type:</b> Original Report	<b>Product Type:</b> Wireless data POS System
<b>Project Engineer:</b>	Miller Xie <i>Miller Xie</i>
<b>Report Number:</b>	RKSA210422005-00D
<b>Report Date:</b>	2021-06-24
<b>Reviewed By:</b>	Oscar Ye EMC Manager <i>Oscar Ye</i>
<b>Prepared By:</b>	Bay Area Compliance Laboratories Corp. (Kunshan) No.248 Chenghu Road, Kunshan, Jiangsu province, China Tel: +86-0512-86175000 Fax: +86-0512-88934268 <a href="http://www.baclcorp.com.cn">www.baclcorp.com.cn</a>

**TABLE OF CONTENTS**

**GENERAL INFORMATION.....3**

    PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT) ..... 3

    OBJECTIVE ..... 5

    RELATED SUBMITTAL(S)/GRANT(S)..... 5

    TEST METHODOLOGY ..... 5

    MEASUREMENT UNCERTAINTY ..... 6

    TEST FACILITY ..... 6

**SYSTEM TEST CONFIGURATION .....7**

    JUSTIFICATION ..... 7

    CHANNEL LIST ..... 7

    EQUIPMENT MODIFICATIONS ..... 12

    SUPPORT EQUIPMENT LIST AND DETAILS ..... 12

    EXTERNAL I/O CABLE ..... 12

    BLOCK DIAGRAM OF TEST SETUP ..... 12

**SUMMARY OF TEST RESULTS .....14**

**TEST EQUIPMENT LIST .....15**

**FCC §1.1307(B) & §2.1093 - RF EXPOSURE INFORMATION.....17**

    TEST RESULT ..... 17

**FCC §2.1047 - MODULATION CHARACTERISTIC .....18**

**FCC §2.1046; § 22.913 (A); §24.232 (C); §27.50 (A)(3) (C)(D) (H)(2); § 90.635(B) - RF OUTPUT POWER .....19**

    APPLICABLE STANDARDS ..... 19

    TEST PROCEDURE ..... 19

    TEST DATA ..... 26

**FCC §2.1049, §22.917, §22.905 & §24.238, §27.53, §90.209- OCCUPIED BANDWIDTH .....119**

    APPLICABLE STANDARDS ..... 119

    TEST PROCEDURE ..... 119

    TEST DATA ..... 119

**FCC § 2.1051; § 22.917 (A); § 24.238 (A); §27.53 (A) (G) (H) (M); § 90.691 - SPURIOUS EMISSIONS AT ANTENNA TERMINALS .....307**

    APPLICABLE STANDARDS ..... 307

    TEST PROCEDURE ..... 307

    TEST DATA ..... 307

**FCC § 2.1053; § 22.917 (A); § 24.238 (A)& §27.53 (A) (G) (H) (M); § 90.691 - SPURIOUS RADIATED EMISSIONS .....654**

    APPLICABLE STANDARDS ..... 654

    TEST PROCEDURE ..... 654

    TEST DATA ..... 655

**FCC § 22.917 (A); § 24.238 (A); §27.53 (A) (G) (H) (M); § 90.691 - BAND EDGES .....684**

    APPLICABLE STANDARDS ..... 684

    TEST PROCEDURE ..... 684

    TEST DATA ..... 685

**FCC § 2.1055; § 22.355; § 24.235; §27.54; §90.213- FREQUENCY STABILITY .....802**

    APPLICABLE STANDARDS ..... 802

    TEST PROCEDURE ..... 802

    TEST DATA ..... 803

**GENERAL INFORMATION****Product Description for Equipment under Test (EUT)**

Applicant:	Shanghai Sunmi Technology Co.,Ltd.
Tested Model:	Wireless data POS System
Product Type:	T5941
Power Supply:	DC 7.7V from battery and DC 5V from Adapter
RF Function:	GPRS/EGPRS, WCDMA, LTE
Maximum Output Power:	GSM850: 33.94dBm PCS1900: 29.93dBm WCDMA Band II: 22.39dBm WCDMA Band IV: 22.36dBm WCDMA Band V: 22.58dBm LTE Band 2: 22.26dBm LTE Band 4: 22.22dBm LTE Band 5: 22.25dBm LTE Band 7: 22.26dBm LTE Band 12: 22.22dBm LTE Band 17: 22.25dBm LTE Band 25: 22.28dBm LTE Band 26: 22.29dBm LTE Band 40 Lower:22.20dBm LTE Band 40 Upper:22.16dBm LTE Band 41: 22.31dBm LTE Band 66: 22.25dBm
Operating Band/Frequency:	GSM850: 824-849 MHz(TX), 869-894 MHz(RX) PCS1900: 1850-1910MHz(TX), 1930-1990MHz(RX) WCDMA Band II: 1850-1910 MHz MHz(TX), 1930-1990 MHz(RX) WCDMA Band IV: 1710-1755MHz(TX), 2110-2155MHz(RX) WCDMA Band V: 824-849 MHz(TX), 869-894 MHz(RX) 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 7: 2500-2570 MHz(TX), 2620-2690 MHz(RX) LTE Band 12: 699-716 MHz(TX), 729-746 MHz(RX) LTE Band 17: 704-716 MHz(TX), 734-746 MHz(RX) LTE Band 25: 1850-1915 MHz(TX), 1930-1995 MHz(RX) LTE Band 26: 814-849 MHz(TX), 859-894 MHz(RX) LTE Band 40 Lower: 2305-2315 MHz(TX), 2305-2315 MHz(RX) LTE Band 40 Upper: 2350-2360 MHz(TX), 2350-2360 MHz(RX) LTE Band 41: 2555-2655 MHz(TX), 2555-2655 MHz(RX) LTE Band 66: 1710-1780 MHz(TX), 2110-2200 MHz(RX)
Modulation Type:	GPRS/EGPRS: GMSK,8PSK; WCDMA: BPSK,QPSK,16QAM LTE: QPSK,16QAM
Antenna Type:	FPC Antenna
*Maximum Antenna Gain:	GSM850: -1.5 dBi PCS1900: 1.2 dBi WCDMA Band II: 1.2 dBi WCDMA Band IV: 0.3 dBi WCDMA Band V: -1.5 dBi

	LTE Band 2: 1.2 dBi
	LTE Band 4: 0.3 dBi
	LTE Band 5: -1.5 dBi
	LTE Band 7: 1.5 dBi
	LTE Band 12: -3.5 dBi
	LTE Band 17: -3.3 dBi
	LTE Band 25: 1.2 dBi
	LTE Band 26: -1.5 dBi
	LTE Band 40: 1.5 dBi
	LTE Band 41: 1.5 dBi
	LTE Band 66: 0.3 dBi

*Note1: The Maximum Antenna Gain was declared by the manufacturer.*

*Note2: This product model (T5941) has two different configurations, only the worst case configuration With Scan code (Version: B-A) data was in report .*

*\*All measurement and test data in this report was gathered from production sample serial number: RKSA210422005-1(Assigned by the BACL. The EUT supplied by the applicant was received on 2021-04-22.)*

**Objective**

This type approval report is prepared on behalf of *Shanghai Sunmi Technology Co.,Ltd.* in accordance with Part 2, Part 22-Subpart H and Part 24-Subpart E , Part 27 and Part 90 of the Federal Communication Commission's rules.

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

**Related Submittal(s)/Grant(s)**

FCC Part 15.247 DTS submissions with FCC ID: 2AH25T5941  
FCC Part 15.247 DSS submissions with FCC ID: 2AH25T5941  
FCC Part 15.407 NII submissions with FCC ID: 2AH25T5941  
FCC Part 15.225 DXX submissions with FCC ID: 2AH25T5941  
FCC Part 15B JBP submissions with FCC ID: 2AH25T5941

**Test Methodology**

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

Part 22 Subpart H - Public Mobile Services  
Part 24 Subpart E - Personal Communication Services  
Part 27 – Miscellaneous wireless communications services  
Part 90 – Private Land Mobile Radio Service

Applicable Standards: ANSI C63.26-2015.

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

**Measurement Uncertainty**

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

**Test Facility**

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

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

## SYSTEM TEST CONFIGURATION

### Justification

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

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

### Channel List

Mode		Channel		Frequency (MHz)
GPRS/EGPRS 850	Low	128		824.2
	Middle	190		836.6
	High	251		848.8
GPRS/EGPRS 1900	Low	512		1850.2
	Middle	661		1880.0
	High	810		1909.8
WCDMA Band V	Low	4132		826.4
	Middle	4183		836.6
	High	4233		846.6
WCDMA Band II	Low	9262		1852.4
	Middle	9400		1880.0
	High	9538		1907.6
WCDMA Band IV	Low	1312		1712.4
	Middle	1413		1732.6
	High	1513		1752.6
LTE Band 2	1.4M	Low	18607	1850.7
		Middle	18900	1880.0
		High	19193	1909.3
	3M	Low	18615	1851.5
		Middle	18900	1880.0
		High	19185	1908.5
	5M	Low	18625	1852.5
		Middle	18900	1880.0
		High	19175	1907.5
	10M	Low	18650	1855.0
		Middle	18900	1880.0
		High	19150	1905.0
	15M	Low	18675	1857.5
		Middle	18900	1880.0
		High	19125	1902.5
	20M	Low	18700	1860.0
		Middle	18900	1880.0
		High	19100	1900.0

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



Mode		Channel		Frequency (MHz)
LTE Band 12	1.4M	Low	23017	699.7
		Middle	23095	707.5
		High	23173	715.3
	3M	Low	23025	700.5
		Middle	23095	707.5
		High	23165	714.5
	5M	Low	23035	701.5
		Middle	23095	707.5
		High	23155	713.5
	10M	Low	23060	704.0
		Middle	23095	707.5
		High	23130	711.0
LTE Band 17	5M	Low	23755	706.5
		Middle	23790	710.0
		High	23825	713.5
	10M	Low	23780	709.0
		Middle	23790	710.0
		High	23800	711.0
LTE Band 25	1.4M	Low	26047	1850.7
		Middle	26365	1882.5
		High	26683	1914.3
	3M	Low	26055	1851.5
		Middle	26683	1882.5
		High	26675	1913.5
	5M	Low	26065	1852.5
		Middle	26683	1882.5
		High	26665	1912.5
	10M	Low	26090	1855.0
		Middle	26683	1882.5
		High	26640	1910.0
	15M	Low	26115	1857.5
		Middle	26683	1882.5
		High	26615	1907.5
	20M	Low	26140	1860.0
		Middle	26683	1882.5
		High	26590	1905.0

Mode		Channel		Frequency (MHz)
LTE Band 26	1.4M	Low	26697	814.7
		Middle	26915	831.5
		High	27033	848.3
	3M	Low	26705	815.5
		Middle	26915	831.5
		High	27025	847.5
	5M	Low	26715	816.5
		Middle	26915	831.5
		High	27015	846.5
	10M	Low	26740	819.0
		Middle	26915	831.5
		High	26990	844.0
	15M	Low	26765	821.5
		Middle	26915	831.5
		High	26965	841.5
LTE Band 40 Lower 2305-2315MHz	5M	Low	38725	2307.5
		Middle	38750	2310.0
		High	38775	2312.5
	10M	/	38750	2310.0
LTE Band 40 Upper 2350-2360MHz	5M	Low	39175	2352.5
		Middle	39200	2355.0
		High	39225	2357.5
	10M	/	39200	2355.0

Mode		Channel		Frequency (MHz)
LTE Band 41	5M	Low	40265	2557.5
		Middle	40740	2605.0
		High	41215	2652.5
	10M	Low	40290	2560.0
		Middle	40740	2605.0
		High	41190	2650.0
	15M	Low	40315	2562.5
		Middle	40740	2605.0
		High	41165	2647.5
	20M	Low	40340	2565.0
		Middle	40740	2605.0
		High	41140	2645.0
LTE Band 66	1.4M	Low	131979	1710.7
		Middle	132322	1745.0
		High	132665	1779.3
	3M	Low	131987	1711.5
		Middle	132322	1745.0
		High	132657	1778.5
	5M	Low	131997	1712.5
		Middle	132333	1745.0
		High	132647	1777.5
	10M	Low	132022	1715.0
		Middle	132322	1745.0
		High	132622	1775.0
	15M	Low	132047	1717.5
		Middle	132300	1745.0
		High	132579	1772.5
	20M	Low	132072	1720.0
		Middle	132322	1745.0
		High	132572	1770.0

**Equipment Modifications**

No modifications were made to the EUT.

**Support Equipment List and Details**

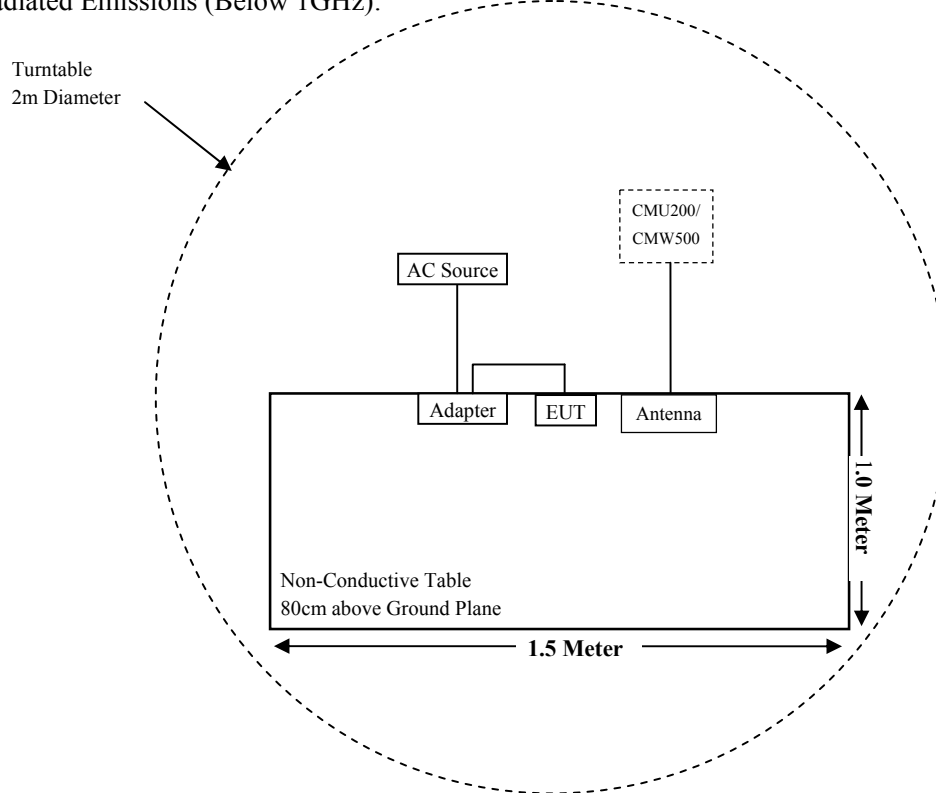
Manufacturer	Description	Model	Serial Number
Aihuaxin technology	Antenna	/	/
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	110605
Rohde & Schwarz	Wideband Radio Communication Tester	CMW500	104478

**External I/O Cable**

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

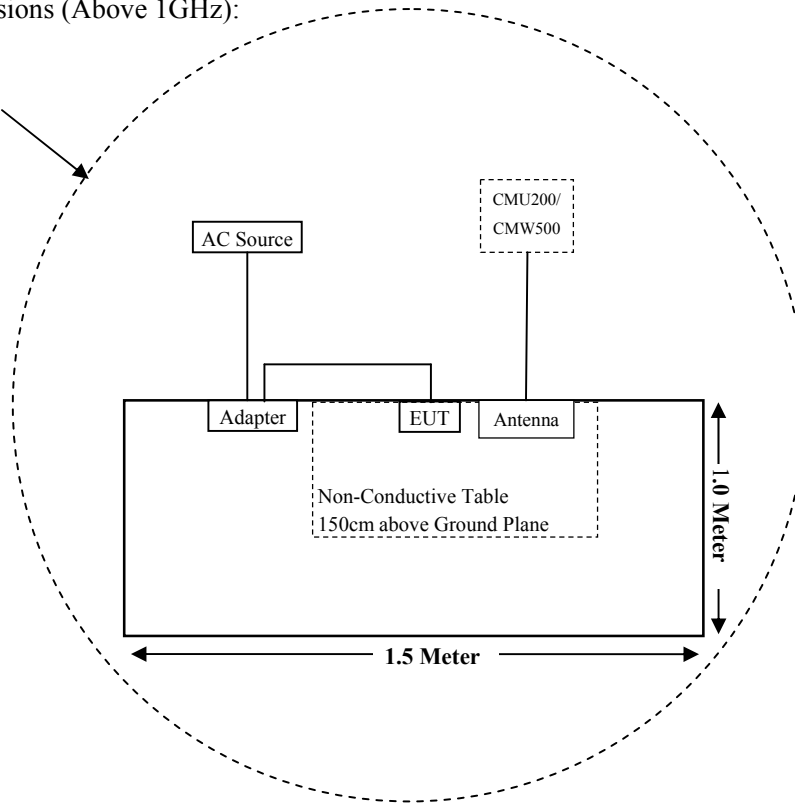
**Block Diagram of Test Setup**

For Radiated Emissions (Below 1GHz):



For Radiated Emissions (Above 1GHz):

Turntable  
2m Diameter



**SUMMARY OF TEST RESULTS**

<b>FCC Rules</b>	<b>Description of Test</b>	<b>Result</b>
§1.1307(b)(1) & §2.1093	RF Exposure Information	Compliant
§2.1046; § 22.913 (a); §24.232 (c); §27.50 (a)(3) (c)(d) (h)(2) ;§ 90.635(b);	RF Output Power	Compliant
§2.1047	Modulation Characteristics	Not Applicable
§2.1049; §22.905;§22.917; §24.238; §27.53; §90.209	Occupied Bandwidth	Compliant
§2.1051; §22.917 (a); §24.238 (a); §27.53 (a) (g) (h) (m); §90.691	Spurious Emissions at Antenna Terminal	Compliant
§2.1053; §22.917 (a) §24.238 (a); §27.53 (a) (g) (h) (m); §90.691	Spurious Radiated Emissions	Compliant
§22.917 (a); §24.238 (a); §27.53 (a) (g) (h) (m); §90.691	Band Edge	Compliant
§2.1055; §22.355; §24.235;§27.54; §90.213	Frequency stability	Compliant

**TEST EQUIPMENT LIST**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
<b>Radiated Emission Test (Chamber 1#)</b>					
Rohde & Schwarz	EMI Test Receiver	ESCI	100195	2020-11-27	2021-11-26
HP	Signal Generator	HP 8341B	2624A00116	2020-11-30	2021-11-29
Sunol Sciences	Hybrid Antenna	JB3	A090314-1	2020-08-05	2023-08-04
Sunol Sciences	Bilog antenna	JB3	A060217	2020-08-04	2023-08-03
Sonoma Instrument	Pre-amplifier	310N	171205	2020-08-14	2021-08-13
Rohde & Schwarz	Auto test Software	EMC32	100361	N/A	N/A
MICRO-COAX	Coaxial Cable	Cable-8	008	2020-08-15	2021-08-14
MICRO-COAX	Coaxial Cable	Cable-9	009	2020-08-15	2021-08-14
MICRO-COAX	Coaxial Cable	Cable-10	010	2020-08-15	2021-08-14
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	110605	2021-04-01	2022-03-31
Rohde & Schwarz	Wideband Radio Communication Tester	CMW500	104478	2020-07-28	2021-07-27
<b>Radiated Emission Test (Chamber 2#)</b>					
HP	Signal Generator	HP 8341B	2624A00116	2020-11-30	2021-11-29
Rohde & Schwarz	EMI Test Receiver	ESU40	100207	2021-03-16	2022-03-15
ETS-LINDGREN	Horn Antenna	3115	9311-4159	2020-07-15	2023-07-14
ETS-LINDGREN	Horn Antenna	3115	6229	2020-01-07	2023-01-06
ETS-LINDGREN	Horn Antenna	3116	84159	2019-12-12	2022-12-11
ETS-LINDGREN	Horn Antenna	3116	2516	2020-01-07	2023-01-06
A.H.Systems,inc	Amplifier	PAM-0118P	512	2021-02-20	2022-02-19
EM Electronics Corporation	Amplifier	EM18G40G	060726	2021-03-22	2022-03-21
Rohde & Schwarz	Auto test Software	EMC32	100361	N/A	N/A
MICRO-COAX	Coaxial Cable	Cable-6	006	2020-08-15	2021-08-14
MICRO-COAX	Coaxial Cable	Cable-11	011	2020-08-15	2021-08-14
MICRO-COAX	Coaxial Cable	Cable-12	012	2020-08-15	2021-08-14
MICRO-COAX	Coaxial Cable	Cable-13	013	2020-08-15	2021-08-14
MICRO-COAX	Coaxial Cable	Cable-16	016	2020-08-15	2021-08-14
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	110605	2021-04-01	2022-03-31
Rohde & Schwarz	Wideband Radio Communication Tester	CMW500	104478	2020-07-28	2021-07-27

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
<b>RF Conducted Test</b>					
Rohde & Schwarz	Signal Analyzer	FSIQ26	836131/009	2020-11-27	2021-11-26
Rohde & Schwarz	EMI Test Receiver	ESIB26	100146	2020-11-27	2021-11-26
Narda	Attenuator	6dB	006	2020-08-15	2021-08-14
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	110605	2021-04-01	2022-03-31
Rohde & Schwarz	Wideband Radio Communication Tester	CMW500	104478	2020-07-28	2021-07-27
Mini-Circuits	Power splitter	ZFRSC-14-S+	SF019411452	2021-11-10	2022-11-09
BACL	Temperature & Humidity Chamber	BTH-150	30023	2020-12-20	2021-12-19
EAST	Regulated DC Power Supply	MCH-303D-II	14070562	2020-10-10	2021-10-09
Sunmi	RF Cable	Sunmi C01	C01	Each Time	N/A

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



---

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

---

### **Applicable Standard**

FCC§1.1307, §2.1093.

### **Test Result**

Compliance, please refer to the SAR report: RKSA210422005-20A

---

## **FCC §2.1047 - MODULATION CHARACTERISTIC**

---

According to FCC § 2.1047(d), Part 22H & 24E, Part 27, Part 90 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 (a)(3) (c)(d) (h)(2); § 90.635(b) - RF OUTPUT POWER**

**Applicable Standards**

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

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

According to §27.50(a) (3), Mobile and portable stations.(i) For mobile and portable stations transmitting in the 2305-2315 MHz band or the 2350-2360 MHz band, the average EIRP must not exceed 50 milliwatts within any 1 megahertz of authorized bandwidth, except that for mobile and portable stations compliant with 3GPP LTE standards or another advanced mobile broadband protocol that avoids concentrating energy at the edge of the operating band the average EIRP must not exceed 250 milliwatts within any 5 megahertz of authorized bandwidth but may exceed 50 milliwatts within any 1 megahertz of authorized bandwidth. For mobile and portable stations using time division duplexing (TDD) technology, the duty cycle must not exceed 38 percent in the 2305-2315 MHz and 2350-2360 MHz bands. Mobile and portable stations using FDD technology are restricted to transmitting in the 2305-2315 MHz band. Power averaging shall not include intervals in which the transmitter is off.

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

According to §27.50(d), the maximum EIRP must not exceed 1Watts (30dBm) for 1710-1780MHz.

According to §27.50(h) (2), Mobile and other user stations. Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

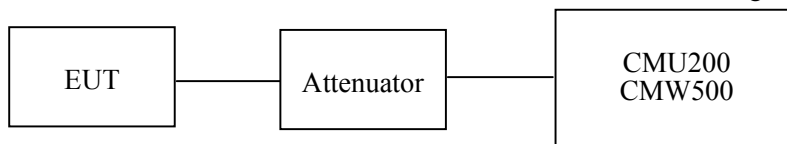
According to FCC §2.1046 and §90.635 (b), The maximum output power of the transmitter for mobile stations is 100 watts (20 dBw)

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

**Test Procedure**

**Conducted method:**

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



***Radiated Output Power:***

The measurements procedures specified in TIA-603-E were applied.

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

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

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

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

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

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

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

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

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

**Radio Configuration**

The power measurement was configured by the Wireless Communication Test Set.

**GPRS/EGPRS**

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

BS Signal Enter the same channel number for TCH channel (test channel) and BCCH channel  
 Frequency Offset > + 0 Hz  
 Mode > BCCH and TCH  
 BCCH Level > -85 dBm (May need to adjust if link is not stable)  
 BCCH Channel > choose desire test channel [Enter the same channel number for TCH channel (test channel) and BCCH channel]

Channel Type > Off  
 P0 > 4 dB  
 Slot Config > Unchanged (if already set under MS signal)  
 TCH > choose desired test channel  
 Hopping > Off

Main Timeslot > 3  
 Network Coding Scheme > CS4 (GPRS) and MCS5 (EGPRS)  
 Bit Stream > 2E9-1 PSR Bit Stream  
 AF/RF Enter appropriate offsets for Ext. Att. Output and Ext. Att. Input  
 Connection Press Signal on to turn on the signal and change settings

**WCDMA Release 99**

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

<b>WCDMA General Settings</b>	Loopback Mode	Test Mode 1
	Rel99 RMC	12.2kbps RMC
	Power Control Algorithm	Algorithm2
	$\beta_c/\beta_d$	8/15

**HSDPA**

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

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

**HSUPA**

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

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

**HSPA+**

Sub-test	$\beta_c$ (Note3)	$\beta_d$	$\beta_{HS}$ (Note1)	$\beta_{ec}$	$\beta_{ed}$ (2xSF2) (Note 4)	$\beta_{ed}$ (2xSF4) (Note 4)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 4)	E-TFCI (Note 5)	E-TFCI (boost)
1	1	0	30/15	30/15	$\beta_{ed1}$ : 30/15 $\beta_{ed2}$ : 30/15	$\beta_{ed3}$ : 24/15 $\beta_{ed4}$ : 24/15	3.5	2.5	14	105	105

Note 1:  $\Delta_{ACK}, \Delta_{NACK}$  and  $\Delta_{CQI} = 30/15$  with  $\beta_{hs} = 30/15 * \beta_c$ .

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

Note 3: DPDCH is not configured, therefore the  $\beta_c$  is set to 1 and  $\beta_d = 0$  by default.

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

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

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

**LTE**

For UE Power Class 1 and 3, the allowed Maximum Power Reduction (MPR) for the maximum output power in Table 6.2.2-1 due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-1.

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

Modulation	Channel bandwidth / Transmission bandwidth ( $N_{RB}$ )						MPR (dB)
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	$\leq 1$
16 QAM	$\leq 5$	$\leq 4$	$\leq 8$	$\leq 12$	$\leq 16$	$\leq 18$	$\leq 1$
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	$\leq 2$

For UE Power Class 1 and 3 the specific requirements and identified sub clauses are specified in Table 6.2.4-1 along with the allowed A-MPR values that may be used to meet these requirements. The allowed A-MPR values specified below in Table 6.2.4.-1 to 6.2.4-15 are in addition to the allowed MPR requirements specified in sub clause 6.2.3.



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

Network Signalling value	Requirements (subclause)	E-UTRA Band	Channel bandwidth (MHz)	Resources Blocks ( $N_{RB}$ )	A-MPR (dB)
NS_01	6.6.2.1.1	Table 5.5-1	1.4, 3, 5, 10, 15, 20	Table 5.6-1	N/A
NS_03	6.6.2.2.1	2, 4, 10, 23, 25, 35, 36	3	>5	≤ 1
			5	>6	≤ 1
			10	>6	≤ 1
			15	>8	≤ 1
			20	>10	≤ 1
NS_04	6.6.2.2.2	41	5	>6	≤ 1
			10, 15, 20	Table 6.2.4-4	
NS_05	6.6.3.3.1	1	10, 15, 20	≥ 50	≤ 1
NS_06	6.6.2.2.3	12, 13, 14, 17	1.4, 3, 5, 10	Table 5.6-1	N/A
NS_07	6.6.2.2.3 6.6.3.3.2	13	10	Table 6.2.4-2	
NS_08	6.6.3.3.3	19	10, 15	> 44	≤ 3
NS_09	6.6.3.3.4	21	10, 15	> 40	≤ 1
				> 55	≤ 2
NS_10		20	15, 20	Table 6.2.4-3	
NS_11	6.6.2.2.1	23	1.4, 3, 5, 10, 15, 20	Table 6.2.4-5	
NS_12	6.6.3.3.5	26	1.4, 3, 5	Table 6.2.4-6	
NS_13	6.6.3.3.6	26	5	Table 6.2.4-7	
NS_14	6.6.3.3.7	26	10, 15	Table 6.2.4-8	
NS_15	6.6.3.3.8	26	1.4, 3, 5, 10, 15	Table 6.2.4-9 Table 6.2.4-10	
NS_16	6.6.3.3.9	27	3, 5, 10	Table 6.2.4-11, Table 6.2.4-12, Table 6.2.4-13	
NS_17	6.6.3.3.10	28	5, 10	Table 5.6-1	N/A
NS_18	6.6.3.3.11	28	5	≥ 2	≤ 1
			10, 15, 20	≥ 1	≤ 4
NS_19	6.6.3.3.12	44	10, 15, 20	Table 6.2.4-14	
NS_20	6.2.2	23	5, 10, 15, 20	Table 6.2.4-15	
	6.6.2.2.1 6.6.3.2				
...					
NS_32	-	-	-	-	-

**Test Data**

**Environmental Conditions**

<b>Temperature:</b>	23.5-25°C
<b>Relative Humidity:</b>	48-49 %
<b>ATM Pressure:</b>	100.8-101.4 kPa

The testing was performed by Miller Xie from 2021-05-18 to 2021-06-11.

**Conducted Power:**

**GPRS 850 Band**

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)				Limit (dBm)
			1 slot	2 slots	3 slots	4 slots	
GPRS	128	824.2	33.02	31.93	30.99	29.32	38.45
	190	836.6	33.33	31.98	30.52	29.45	38.45
	251	848.8	33.94	31.31	30.04	29.29	38.45

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)				Limit (dBm)
			1 slot	2 slots	3 slots	4 slots	
EGPRS	128	824.2	27.93	26.86	25.52	24.18	38.45
	190	836.6	27.01	26.64	25.93	24.16	38.45
	251	848.8	27.14	26.40	25.45	24.04	38.45

**WCDMA Band V**

Mode	Test Condition	Test Mode	3GPP Sub Test	Average Output Power (dBm)		
				Low Frequency	Middle Frequency	High Frequency
WCDMA (Band V)	Normal	RMC12.2Kbps	1	22.48	22.58	22.39
		HSDPA	1	22.18	22.1	22.19
			2	22.15	22.15	22.24
			3	22.01	22.13	22.11
			4	22.08	22.01	22.13
		HSUPA	1	22.09	22.1	22.27
			2	22.04	22.1	22.16
			3	22.17	22.11	22.17
			4	21.96	22.12	22.03
		5	22.07	21.99	22.18	
		HSPA+	1	21.93	22.07	22.27

**PCS 1900 Band**

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)				Limit (dBm)
			1 slot	2 slots	3 slots	4 slots	
GPRS	512	1850.2	29.19	28.33	27.78	26.74	33
	661	1880	29.93	28.64	27.47	26.95	33
	810	1909.8	29.10	28.59	27.68	26.82	33

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)				Limit (dBm)
			1 slot	2 slots	3 slots	4 slots	
EGPRS	512	1850.2	25.99	24.47	23.25	22.01	33
	661	1880	25.51	24.96	23.87	22.50	33
	810	1909.8	25.03	24.60	23.27	22.65	33

**WCDMA Band II**

Mode	Test Condition	Test Mode	3GPP Sub Test	Average Output Power (dBm)		
				Low Frequency	Middle Frequency	High Frequency
WCDMA (Band II)	Normal	RMC12.2Kbps	1	22.36	22.39	22.22
		HSDPA	1	22.19	21.93	22.18
			2	22.31	22.07	22.13
			3	22.11	22.02	22.17
			4	22.28	22.07	22.26
		HSUPA	1	22.25	21.98	22.13
			2	22.29	22.06	22.17
			3	22.23	22.07	22.16
			4	22.18	22.14	22.24
		5	22.26	21.99	22.13	
		HSPA+	1	22.22	22.17	22.03

**WCDMA Band IV**

Mode	Test Condition	Test Mode	3GPP Sub Test	Average Output Power (dBm)		
				Low Frequency	Middle Frequency	High Frequency
WCDMA (Band IV)	Normal	RMC12.2Kbps	1	22.35	22.36	22.31
		HSDPA	1	22.28	22.07	22.14
			2	22.22	22.07	22.16
			3	22.32	22.05	22.08
			4	22.24	22.09	22.26
		HSUPA	1	22.32	22.13	22.11
			2	22.29	22.04	22.06
			3	22.31	22.08	22.22
			4	22.19	21.96	22.21
		5	22.26	21.99	22.21	
		HSPA+	1	22.31	22.00	22.13

**Maximum Output Power:**

**LTE Band 2**

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	1#0	21.97	21.12	21.94
		1#3	21.55	22.05	21.49
		1#5	21.95	21.38	21.42
		3#0	21.43	21.16	21.79
		3#1	22.09	22.02	21.95
		3#3	22.24	21.38	21.09
		6#0	21.30	21.78	21.60
	16-QAM	1#0	21.51	21.69	21.51
		1#3	21.43	22.06	21.16
		1#5	21.59	21.44	21.24
		3#0	22.02	21.73	21.12
		3#1	21.26	21.49	21.24
		3#3	22.15	21.69	21.55
		6#0	21.44	21.53	21.62
3M	QPSK	1#0	22.15	21.79	21.67
		1#7	21.72	22.07	21.24
		1#14	21.95	21.75	21.46
		8#0	21.59	21.28	21.68
		8#4	21.73	21.81	21.63
		8#7	21.91	21.38	21.39
		15#0	21.34	22.01	21.60
	16-QAM	1#0	21.85	21.73	21.93
		1#7	21.89	21.60	21.61
		1#14	21.59	22.02	21.19
		8#0	21.88	21.78	21.45
		8#4	21.78	21.57	21.39
		8#7	21.36	22.02	21.46
		15#0	21.39	21.61	21.91

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	21.74	21.23	21.30
		1#12	22.15	21.45	21.68
		1#24	21.66	21.91	21.77
		12#0	21.29	21.42	21.68
		12#6	22.10	21.30	21.13
		12#11	21.37	21.33	21.03
		25#0	22.18	21.89	21.43
	16-QAM	1#0	21.62	21.95	21.93
		1#12	21.91	21.67	21.49
		1#24	21.59	21.30	21.68
		12#0	22.04	21.67	22.00
		12#6	21.61	21.14	21.63
		12#11	22.25	21.87	21.73
		25#0	21.85	21.85	21.71
10M	QPSK	1#0	21.31	21.87	21.36
		1#24	21.93	21.89	21.24
		1#49	21.61	21.51	21.39
		25#0	21.95	21.53	21.63
		25#12	21.27	22.09	21.70
		25#24	21.46	21.31	21.55
		50#0	21.85	21.48	21.95
	16-QAM	1#0	22.26	21.15	21.23
		1#24	21.68	21.50	21.11
		1#49	21.52	21.55	21.86
		25#0	21.93	21.48	21.05
		25#12	21.57	21.59	21.28
		25#24	21.46	21.65	21.24
		50#0	21.78	21.27	21.46

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
15M	QPSK	1#0	21.74	21.27	21.26
		1#37	21.41	21.79	21.12
		1#74	22.06	21.18	21.49
		36#0	21.33	21.51	21.33
		36#17	21.31	21.22	21.70
		36#35	21.48	22.00	21.39
		75#0	21.74	21.56	21.23
	16-QAM	1#0	21.48	21.33	21.80
		1#37	21.38	21.49	21.96
		1#74	22.13	21.83	21.40
		36#0	21.41	21.24	21.39
		36#17	21.45	21.41	21.36
		36#35	21.52	22.11	21.88
		75#0	21.40	21.61	21.28
20M	QPSK	1#0	21.70	21.78	21.97
		1#49	21.84	21.19	21.52
		1#99	21.47	21.46	21.91
		50#0	21.95	21.36	21.90
		50#24	21.32	21.18	21.61
		50#49	22.08	22.10	21.35
		100#0	21.42	21.32	21.31
	16-QAM	1#0	21.39	21.96	21.52
		1#49	22.10	21.54	21.63
		1#99	22.22	22.06	21.41
		50#0	21.73	21.44	21.83
		50#24	22.03	22.02	21.61
		50#49	22.10	22.00	21.65
		100#0	21.82	21.19	21.49

**LTE Band 4**

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	1#0	21.62	21.97	21.54
		1#3	21.84	21.86	21.77
		1#5	21.74	21.68	21.76
		3#0	21.56	21.56	21.98
		3#1	21.37	21.62	21.12
		3#3	21.56	21.98	21.28
		6#0	22.22	21.98	21.07
	16-QAM	1#0	21.83	22.11	21.23
		1#3	22.09	21.12	21.82
		1#5	22.17	21.32	21.24
		3#0	22.01	21.28	21.90
		3#1	21.66	21.65	21.45
		3#3	21.44	21.91	21.48
		6#0	21.79	21.92	22.00
3M	QPSK	1#0	22.00	21.38	21.11
		1#7	22.08	21.75	21.66
		1#14	21.31	21.75	21.51
		8#0	21.41	21.22	21.68
		8#4	21.88	21.32	21.03
		8#7	22.16	21.26	21.14
		15#0	22.20	21.61	21.76
	16-QAM	1#0	21.43	21.40	21.56
		1#7	21.95	21.57	22.00
		1#14	21.70	21.19	21.10
		8#0	22.02	21.13	21.69
		8#4	21.44	21.76	21.19
		8#7	21.41	21.25	21.95
		15#0	21.42	21.43	22.01



Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	21.39	21.21	21.60
		1#12	22.17	21.87	21.21
		1#24	21.31	21.65	21.59
		12#0	21.60	21.18	22.00
		12#6	21.56	22.00	21.86
		12#11	21.57	21.58	21.42
		25#0	21.50	21.61	21.66
	16-QAM	1#0	21.84	21.44	22.01
		1#12	21.66	21.17	21.48
		1#24	21.69	21.42	21.08
		12#0	21.78	21.86	21.11
		12#6	22.18	21.53	22.01
		12#11	21.98	21.85	21.65
		25#0	21.40	21.19	21.98
10M	QPSK	1#0	21.79	21.80	21.11
		1#24	21.91	21.13	21.79
		1#49	21.45	21.17	21.02
		25#0	21.94	21.66	21.84
		25#12	21.57	21.14	21.32
		25#24	21.45	21.92	21.24
		50#0	21.63	21.58	21.10
	16-QAM	1#0	21.87	21.46	21.48
		1#24	21.77	21.79	21.71
		1#49	21.28	21.88	21.38
		25#0	22.07	21.92	21.24
		25#12	21.38	21.48	21.68
		25#24	21.66	21.96	21.60
		50#0	21.32	21.69	21.12

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
15M	QPSK	1#0	22.10	21.37	21.17
		1#37	21.76	21.36	21.69
		1#74	22.17	21.86	21.85
		36#0	21.79	21.93	21.26
		36#17	21.33	21.49	21.06
		36#35	22.04	22.11	21.86
		75#0	21.63	21.33	21.67
	16-QAM	1#0	22.03	22.07	21.96
		1#37	21.33	21.29	21.81
		1#74	21.60	22.03	21.03
		36#0	22.10	21.40	21.54
		36#17	21.45	21.85	21.29
		36#35	22.02	21.38	21.89
		75#0	22.04	22.04	21.24
20M	QPSK	1#0	21.82	21.82	21.47
		1#49	22.09	21.79	21.16
		1#99	21.79	22.10	21.72
		50#0	21.46	21.39	21.26
		50#24	21.43	22.05	21.10
		50#49	21.76	21.92	21.90
		100#0	21.73	21.47	21.56
	16-QAM	1#0	22.17	21.45	21.91
		1#49	21.91	21.88	21.25
		1#99	21.45	21.57	21.61
		50#0	21.33	21.39	21.09
		50#24	21.66	21.80	21.59
		50#49	22.20	21.35	21.40
		100#0	21.99	21.47	21.18

**LTE Band 5**

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	1#0	21.80	21.84	21.75
		1#3	21.52	21.14	21.94
		1#5	22.14	21.68	21.97
		3#0	21.45	21.87	21.05
		3#1	21.75	21.75	21.58
		3#3	21.37	21.68	21.66
		6#0	22.20	21.91	21.74
	16-QAM	1#0	21.95	21.19	21.99
		1#3	21.40	21.94	21.82
		1#5	21.36	21.73	21.20
		3#0	21.29	21.33	21.41
		3#1	21.32	21.99	22.01
		3#3	22.10	21.99	21.66
		6#0	21.88	21.96	21.81
3M	QPSK	1#0	21.37	21.76	21.74
		1#7	21.65	21.65	21.19
		1#14	21.69	21.23	21.97
		8#0	21.64	21.75	21.60
		8#4	21.57	21.43	21.76
		8#7	21.50	21.36	21.24
		15#0	21.60	21.94	21.56
	16-QAM	1#0	22.23	21.89	21.48
		1#7	22.12	22.08	21.77
		1#14	22.21	21.42	21.06
		8#0	21.65	21.20	21.19
		8#4	21.71	21.61	21.47
		8#7	21.62	21.93	21.37
		15#0	21.35	21.89	21.20

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	21.71	21.24	21.78
		1#12	21.76	22.09	21.50
		1#24	21.95	21.68	21.86
		12#0	21.84	21.37	21.23
		12#6	21.68	21.57	21.50
		12#11	21.67	21.94	21.31
		25#0	21.41	21.67	21.29
	16-QAM	1#0	22.22	21.88	21.27
		1#12	21.44	21.39	21.23
		1#24	21.50	21.40	21.85
		12#0	21.98	21.77	21.60
		12#6	21.43	21.68	21.50
		12#11	21.86	21.33	21.78
		25#0	22.02	21.15	21.37
10M	QPSK	1#0	22.29	22.25	22.22
		1#24	21.70	21.92	21.28
		1#49	22.15	21.23	21.43
		25#0	21.76	22.00	21.96
		25#12	21.63	21.59	21.20
		25#24	22.19	21.33	21.79
		50#0	21.46	21.80	21.84
	16-QAM	1#0	22.02	21.68	21.98
		1#24	22.18	21.16	21.15
		1#49	21.77	22.03	21.80
		25#0	22.25	21.79	21.53
		25#12	21.41	21.93	21.17
		25#24	22.02	21.93	21.06
		50#0	21.44	21.21	21.09

**LTE Band 7**

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	22.09	21.18	21.44
		1#12	22.02	21.36	21.34
		1#24	21.60	21.15	21.38
		12#0	21.97	21.38	21.35
		12#6	22.04	21.99	21.50
		12#11	21.73	21.22	21.98
		25#0	21.70	21.30	21.19
	16-QAM	1#0	22.16	21.77	21.36
		1#12	21.63	21.79	21.60
		1#24	21.42	21.99	21.86
		12#0	21.66	21.88	21.49
		12#6	22.04	21.58	21.16
		12#11	22.03	22.10	21.30
		25#0	22.04	21.90	21.28
10M	QPSK	1#0	21.79	21.31	21.24
		1#24	21.85	21.71	21.70
		1#49	21.64	22.02	21.88
		25#0	21.43	21.23	21.50
		25#12	21.92	21.71	21.67
		25#24	22.04	22.01	21.79
		50#0	21.56	21.96	21.93
	16-QAM	1#0	21.57	21.59	22.01
		1#24	22.25	21.15	21.50
		1#49	21.74	21.67	21.60
		25#0	21.55	21.20	21.81
		25#12	21.94	21.16	21.82
		25#24	21.81	21.26	21.46
		50#0	21.64	21.11	21.42

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
15M	QPSK	1#0	21.30	21.53	21.67
		1#37	21.35	22.08	21.73
		1#74	21.55	21.85	21.45
		36#0	21.95	21.28	21.67
		36#17	21.70	21.28	21.80
		36#35	21.81	21.37	21.95
		75#0	22.02	21.60	21.63
	16-QAM	1#0	21.53	22.00	21.92
		1#37	21.93	21.98	21.33
		1#74	22.26	21.92	21.43
		36#0	21.85	21.13	21.07
		36#17	21.83	21.25	21.91
		36#35	21.95	21.47	21.13
		75#0	21.68	21.76	21.85
20M	QPSK	1#0	22.18	22.26	22.19
		1#49	21.96	21.98	21.19
		1#99	21.94	21.36	21.09
		50#0	21.90	22.09	21.32
		50#24	22.15	21.74	21.92
		50#49	21.55	21.77	21.93
		100#0	21.62	21.45	21.77
	16-QAM	1#0	21.61	21.83	21.64
		1#49	22.23	21.65	21.67
		1#99	21.42	22.07	21.40
		50#0	21.60	21.48	21.99
		50#24	21.98	21.81	21.73
		50#49	21.80	21.85	21.22
		100#0	21.60	21.90	21.29

**LTE Band 12**

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	1#0	21.80	21.61	21.99
		1#3	22.02	21.54	21.76
		1#5	22.17	21.62	21.40
		3#0	22.07	22.06	21.85
		3#1	21.94	21.31	21.20
		3#3	21.26	21.29	21.75
		6#0	21.81	21.98	21.58
	16-QAM	1#0	21.61	21.45	21.64
		1#3	22.17	21.28	21.45
		1#5	21.94	21.44	21.96
		3#0	21.30	21.31	21.30
		3#1	21.76	21.68	21.75
		3#3	22.01	22.00	21.18
		6#0	21.83	21.35	21.92
3M	QPSK	1#0	22.03	21.29	21.54
		1#7	21.91	21.41	21.77
		1#14	21.62	21.52	21.72
		8#0	21.41	22.00	21.04
		8#4	21.31	21.71	21.47
		8#7	22.02	21.54	21.60
		15#0	22.19	21.95	21.79
	16-QAM	1#0	21.69	21.21	21.07
		1#7	22.02	21.98	21.77
		1#14	21.86	21.54	21.15
		8#0	21.74	21.44	21.43
		8#4	21.72	22.00	21.57
		8#7	22.18	21.94	22.02
		15#0	22.11	21.66	21.72

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	22.07	21.19	21.58
		1#12	21.59	21.69	21.32
		1#24	22.21	21.65	21.53
		12#0	21.30	22.02	21.15
		12#6	21.94	21.94	22.02
		12#11	21.49	22.07	21.57
		25#0	21.49	21.51	21.56
	16-QAM	1#0	21.39	21.77	21.88
		1#12	21.59	21.33	21.68
		1#24	21.39	21.24	21.50
		12#0	21.88	21.16	21.72
		12#6	21.43	22.02	21.70
		12#11	21.70	21.86	21.33
		25#0	21.69	21.39	21.70
10M	QPSK	1#0	22.10	22.22	22.06
		1#24	22.11	21.96	21.89
		1#49	21.88	21.31	21.22
		25#0	21.80	22.15	21.12
		25#12	22.18	21.50	21.13
		25#24	21.40	21.31	21.48
		50#0	22.12	21.13	21.99
	16-QAM	1#0	22.07	21.24	21.44
		1#24	21.32	21.19	21.04
		1#49	21.71	22.02	21.90
		25#0	22.21	21.55	21.35
		25#12	21.94	21.40	21.09
		25#24	21.54	21.71	21.15
		50#0	21.27	21.70	21.20



LTE Band 17

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	21.53	22.11	21.76
		1#12	21.27	21.30	21.13
		1#24	21.59	21.57	21.08
		12#0	21.32	21.28	21.04
		12#6	21.43	21.17	21.39
		12#11	22.18	22.01	21.59
		25#0	21.87	21.76	21.11
	16-QAM	1#0	21.80	21.25	21.44
		1#12	22.23	22.04	21.77
		1#24	21.96	21.83	21.70
		12#0	21.55	22.09	21.97
		12#6	22.25	21.92	21.02
		12#11	21.40	21.12	21.83
		25#0	21.27	21.23	21.79
10M	QPSK	1#0	21.98	21.78	21.55
		1#24	21.83	22.05	21.13
		1#49	21.54	21.95	21.87
		25#0	22.06	21.94	21.29
		25#12	22.01	21.37	21.95
		25#24	22.11	21.62	21.96
		50#0	21.51	21.31	21.04
	16-QAM	1#0	21.95	21.55	21.39
		1#24	21.96	22.07	21.40
		1#49	22.05	21.88	21.27
		25#0	21.64	21.41	21.96
		25#12	21.86	21.52	21.77
		25#24	21.87	21.63	21.23
		50#0	21.90	21.94	21.99

**LTE Band 25**

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	1#0	21.82	21.89	21.70
		1#3	22.11	22.06	21.46
		1#5	21.61	21.41	21.05
		3#0	21.60	22.06	21.80
		3#1	21.91	21.77	21.59
		3#3	21.93	21.23	21.91
		6#0	21.57	21.57	21.93
	16-QAM	1#0	21.40	21.23	22.02
		1#3	21.33	21.55	21.64
		1#5	21.67	22.09	21.47
		3#0	22.06	21.85	21.82
		3#1	21.47	21.97	21.59
		3#3	22.00	21.49	21.90
		6#0	21.91	21.91	21.74
3M	QPSK	1#0	21.57	21.24	21.22
		1#7	21.46	22.09	21.36
		1#14	22.20	21.20	21.80
		8#0	22.21	21.14	21.64
		8#4	21.51	21.98	21.70
		8#7	22.12	22.00	21.73
		15#0	21.42	21.15	21.75
	16-QAM	1#0	22.12	21.56	21.52
		1#7	21.35	21.78	21.69
		1#14	21.52	22.00	21.09
		8#0	22.24	21.29	21.90
		8#4	21.53	21.20	21.28
		8#7	21.28	21.39	21.70
		15#0	22.10	21.50	21.19

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	21.62	21.86	21.32
		1#12	22.12	21.35	21.05
		1#24	21.98	21.72	21.85
		12#0	21.84	21.36	21.27
		12#6	21.43	21.99	21.50
		12#11	21.57	21.80	21.44
		25#0	21.57	22.04	21.87
	16-QAM	1#0	21.85	21.17	21.43
		1#12	21.67	21.41	21.41
		1#24	22.11	21.45	21.35
		12#0	22.25	21.61	21.05
		12#6	21.68	21.49	21.39
		12#11	22.14	21.70	21.33
		25#0	22.15	21.88	21.39
10M	QPSK	1#0	21.88	21.21	21.55
		1#24	21.85	21.34	21.51
		1#49	22.05	22.05	21.26
		25#0	22.21	21.88	21.15
		25#12	22.06	21.25	21.25
		25#24	21.53	21.42	21.85
		50#0	21.61	21.59	21.31
	16-QAM	1#0	22.13	21.13	21.02
		1#24	21.33	22.02	21.27
		1#49	22.10	21.50	21.02
		25#0	21.59	21.89	21.99
		25#12	21.77	21.22	21.15
		25#24	22.17	21.85	21.87
		50#0	21.84	21.53	21.06

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
15M	QPSK	1#0	21.49	21.46	21.44
		1#37	21.86	21.55	21.87
		1#74	21.41	21.15	21.17
		36#0	21.61	21.84	21.47
		36#17	22.12	21.24	21.85
		36#35	22.04	21.69	21.20
		75#0	21.30	22.04	21.12
	16-QAM	1#0	22.06	21.90	22.02
		1#37	21.59	21.81	21.96
		1#74	22.12	21.75	21.50
		36#0	21.45	21.52	21.21
		36#17	21.63	21.55	21.09
		36#35	21.33	21.51	21.27
		75#0	21.71	21.28	21.57
20M	QPSK	1#0	22.19	22.28	22.26
		1#49	21.93	21.42	21.49
		1#99	22.02	22.03	21.29
		50#0	21.63	22.14	21.20
		50#24	21.48	21.35	21.25
		50#49	22.22	22.00	21.61
		100#0	21.83	22.02	21.79
	16-QAM	1#0	21.92	21.76	21.17
		1#49	21.28	21.42	21.15
		1#99	21.61	21.15	21.87
		50#0	21.50	21.98	21.49
		50#24	21.48	21.82	21.72
		50#49	22.05	21.77	21.32
		100#0	21.85	22.05	21.11

LTE Band 26

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	1#0	22.14	21.77	21.07
		1#3	21.78	21.32	21.58
		1#5	21.57	22.04	21.76
		3#0	21.41	21.25	21.11
		3#1	21.38	21.38	21.63
		3#3	22.14	21.76	21.25
		6#0	21.88	22.08	21.77
	16-QAM	1#0	21.51	21.26	21.35
		1#3	22.17	21.29	21.90
		1#5	22.00	21.81	21.22
		3#0	22.14	21.66	21.63
		3#1	22.16	21.91	21.15
		3#3	22.13	21.53	21.23
		6#0	21.58	21.36	21.27
3M	QPSK	1#0	21.36	21.24	21.61
		1#7	21.55	21.28	21.71
		1#14	21.66	21.28	21.47
		8#0	21.74	21.99	21.39
		8#4	22.12	22.01	21.65
		8#7	22.00	21.97	21.07
		15#0	21.40	21.19	21.82
	16-QAM	1#0	21.80	21.95	21.30
		1#7	21.94	21.94	21.94
		1#14	22.25	21.86	21.77
		8#0	21.71	21.68	21.53
		8#4	21.62	21.15	21.24
		8#7	22.13	21.66	21.59
		15#0	22.19	21.47	21.69

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	21.95	21.75	22.01
		1#12	22.02	21.44	21.94
		1#24	21.28	21.28	21.15
		12#0	21.61	21.32	21.38
		12#6	21.60	22.02	21.11
		12#11	22.13	21.99	21.94
		25#0	21.95	21.70	21.43
	16-QAM	1#0	22.17	21.24	21.62
		1#12	21.60	21.31	21.09
		1#24	21.45	21.98	21.54
		12#0	21.74	21.35	21.04
		12#6	21.93	21.27	21.02
		12#11	21.56	21.90	21.02
		25#0	22.00	21.83	21.27
10M	QPSK	1#0	21.57	21.79	21.24
		1#24	22.10	21.54	21.43
		1#49	21.88	21.82	21.19
		25#0	21.34	21.29	21.64
		25#12	22.02	21.13	21.51
		25#24	22.15	22.05	21.66
		50#0	21.68	21.86	21.05
	16-QAM	1#0	21.65	21.89	21.76
		1#24	21.87	22.09	21.94
		1#49	21.79	21.55	21.46
		25#0	21.61	21.43	21.66
		25#12	21.90	21.16	22.00
		25#24	21.26	21.64	21.48
		50#0	22.02	21.29	21.43

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
15M	QPSK	1#0	22.18	22.29	22.17
		1#37	21.57	21.29	21.74
		1#74	21.59	21.62	21.41
		36#0	21.86	22.06	21.94
		36#17	21.92	21.20	21.36
		36#35	21.16	21.10	22.16
		75#0	21.13	21.40	22.01
	16-QAM	1#0	21.87	21.63	21.57
		1#37	21.41	21.85	22.04
		1#74	21.23	21.10	21.62
		36#0	21.35	21.92	21.72
		36#17	21.47	21.97	21.67
		36#35	21.68	22.01	21.59
		75#0	21.70	21.60	22.22

**LTE Band 40 Lower**

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	21.86	21.30	21.05
		1#12	21.95	22.01	21.89
		1#24	21.31	21.57	21.07
		12#0	21.33	21.34	21.39
		12#6	21.57	21.26	21.34
		12#11	21.63	21.89	21.06
		25#0	21.27	21.78	21.34
	16-QAM	1#0	21.43	21.92	21.05
		1#12	21.96	21.12	21.81
		1#24	22.06	21.95	21.12
		12#0	22.15	21.52	21.14
		12#6	22.05	21.45	21.99
		12#11	21.70	21.93	21.31
		25#0	22.20	21.43	21.90
10M	QPSK	1#0	\	22.04	\
		1#24	\	21.19	\
		1#49	\	21.72	\
		25#0	\	21.92	\
		25#12	\	22.08	\
		25#24	\	21.71	\
		50#0	\	21.74	\
	16-QAM	1#0	\	21.19	\
		1#24	\	21.46	\
		1#49	\	21.52	\
		25#0	\	21.77	\
		25#12	\	21.85	\
		25#24	\	21.91	\
		50#0	\	21.81	\



**LTE Band 40 Upper**

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	22.03	21.85	21.23
		1#12	22.01	21.46	21.41
		1#24	22.10	21.39	21.21
		12#0	21.76	21.97	21.87
		12#6	21.39	21.36	21.55
		12#11	21.59	21.25	21.74
		25#0	21.44	21.30	21.94
	16-QAM	1#0	22.03	21.16	21.41
		1#12	21.69	22.06	21.59
		1#24	21.71	21.93	21.82
		12#0	22.11	22.02	21.51
		12#6	21.60	21.15	21.05
		12#11	21.64	22.11	21.47
		25#0	21.78	21.45	21.51
10M	QPSK	1#0	\	22.16	\
		1#24	\	22.05	\
		1#49	\	21.20	\
		25#0	\	22.11	\
		25#12	\	21.50	\
		25#24	\	21.80	\
		50#0	\	22.09	\
	16-QAM	1#0	\	21.23	\
		1#24	\	21.62	\
		1#49	\	21.54	\
		25#0	\	21.60	\
		25#12	\	21.93	\
		25#24	\	21.37	\
		50#0	\	22.10	\

LTE Band 41

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	22.20	21.65	21.94
		1#12	22.18	21.11	21.05
		1#24	22.02	22.08	21.19
		12#0	21.39	21.89	21.32
		12#6	22.24	21.52	21.26
		12#11	22.01	21.24	21.94
		25#0	21.36	21.33	21.52
	16-QAM	1#0	21.34	21.63	21.21
		1#12	21.46	21.30	21.23
		1#24	21.87	21.23	21.16
		12#0	21.65	21.56	21.12
		12#6	21.99	21.87	21.84
		12#11	22.07	22.03	21.36
		25#0	21.99	21.67	21.24
10M	QPSK	1#0	22.19	21.69	21.11
		1#24	22.00	21.41	21.90
		1#49	21.95	21.58	21.08
		25#0	21.77	21.58	21.03
		25#12	21.29	21.70	21.35
		25#24	22.08	21.43	21.12
		50#0	22.09	21.56	21.25
	16-QAM	1#0	21.56	21.38	21.27
		1#24	21.26	21.95	21.82
		1#49	21.28	22.02	21.17
		25#0	21.31	21.27	21.51
		25#12	21.45	22.10	21.73
		25#24	22.12	22.08	21.04
		50#0	21.61	21.68	21.19

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
15M	QPSK	1#0	21.30	21.50	21.71
		1#37	21.49	21.42	21.02
		1#74	21.39	21.19	21.05
		36#0	21.81	21.61	21.35
		36#17	21.91	21.49	21.52
		36#35	21.73	21.21	21.39
		75#0	21.78	21.49	21.48
	16-QAM	1#0	21.79	21.97	21.16
		1#37	22.08	21.21	21.41
		1#74	22.00	21.18	21.17
		36#0	21.85	21.88	21.41
		36#17	21.35	21.19	21.88
		36#35	21.39	21.12	21.30
		75#0	22.01	21.42	21.12
20M	QPSK	1#0	22.19	22.31	22.14
		1#49	21.81	21.47	21.57
		1#99	22.12	21.67	21.64
		50#0	21.76	21.99	21.89
		50#24	22.24	21.27	21.83
		50#49	21.29	21.82	21.29
		100#0	21.57	21.46	21.50
	16-QAM	1#0	21.71	21.63	21.16
		1#49	21.50	21.87	21.33
		1#99	22.01	21.85	21.57
		50#0	21.43	21.69	21.19
		50#24	21.89	21.14	21.17
		50#49	21.99	21.84	21.53
		100#0	21.34	21.28	21.04

LTE Band 66

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	1#0	22.23	21.61	21.13
		1#3	22.11	21.84	21.29
		1#5	21.65	21.56	21.68
		3#0	22.23	21.49	21.08
		3#1	21.94	21.55	22.00
		3#3	22.19	22.04	21.26
		6#0	21.33	21.62	21.04
	16-QAM	1#0	21.41	21.94	21.45
		1#3	21.39	21.39	21.48
		1#5	21.29	22.06	21.52
		3#0	21.42	21.26	21.70
		3#1	21.66	21.65	21.18
		3#3	21.30	21.35	21.49
		6#0	21.52	21.91	21.63
3M	QPSK	1#0	21.59	21.94	21.17
		1#7	21.95	21.68	21.40
		1#14	21.81	21.87	21.12
		8#0	21.43	21.92	21.09
		8#4	21.56	21.51	21.69
		8#7	21.55	21.49	21.22
		15#0	21.59	21.36	21.08
	16-QAM	1#0	21.85	21.32	21.71
		1#7	21.29	21.63	21.15
		1#14	21.48	21.88	21.07
		8#0	22.05	21.71	21.91
		8#4	21.60	21.22	21.65
		8#7	22.19	21.46	21.78
		15#0	21.61	21.96	21.71

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	21.46	22.07	21.85
		1#12	21.98	21.67	21.09
		1#24	21.76	21.58	21.08
		12#0	22.14	21.88	21.26
		12#6	21.48	21.90	21.85
		12#11	22.25	21.19	21.95
		25#0	22.10	22.08	21.55
	16-QAM	1#0	21.28	21.31	21.51
		1#12	22.02	21.44	21.06
		1#24	21.79	21.46	21.13
		12#0	21.76	21.33	21.97
		12#6	21.52	21.53	21.65
		12#11	21.84	21.40	21.43
		25#0	21.72	21.73	21.61
10M	QPSK	1#0	21.88	21.20	21.60
		1#24	22.20	21.49	21.42
		1#49	21.66	21.34	21.08
		25#0	22.00	21.26	21.26
		25#12	21.80	21.67	21.29
		25#24	21.47	22.00	21.79
		50#0	21.84	21.96	21.84
	16-QAM	1#0	21.79	21.17	21.94
		1#24	22.19	21.73	22.00
		1#49	21.72	21.87	21.94
		25#0	21.65	21.35	21.67
		25#12	22.24	21.84	21.21
		25#24	21.46	21.25	21.09
		50#0	21.70	21.44	21.98

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
15M	QPSK	1#0	21.61	21.81	21.90
		1#37	22.13	21.26	21.08
		1#74	22.16	21.95	21.04
		36#0	21.40	22.05	21.98
		36#17	21.74	22.09	21.58
		36#35	21.56	21.41	21.75
		75#0	22.09	21.96	21.65
	16-QAM	1#0	21.35	21.87	21.03
		1#37	21.62	21.37	21.25
		1#74	21.59	22.05	21.93
		36#0	21.32	22.04	21.29
		36#17	21.41	21.36	21.32
		36#35	21.43	21.22	21.83
		75#0	22.07	21.40	21.14
20M	QPSK	1#0	22.07	22.25	22.19
		1#49	21.33	21.23	21.89
		1#99	21.34	21.47	21.48
		50#0	22.16	22.16	21.95
		50#24	21.72	21.47	21.14
		50#49	22.05	21.85	21.40
		100#0	22.17	21.78	21.50
	16-QAM	1#0	21.47	21.55	21.82
		1#49	22.07	21.33	21.73
		1#99	22.13	21.38	21.81
		50#0	21.70	21.22	21.34
		50#24	21.75	21.26	21.15
		50#49	21.44	21.67	21.17
		100#0	21.61	21.96	21.09

**Peak-to-average ratio (PAR):**

**GRPS/EGPRS 850 Band**

Mode	Channel	PAR (dB)	Limit (dB)
GPRS	Low	1.98	≤ 13
	Middle	2.12	≤ 13
	High	2.14	≤ 13

Mode	Channel	PAR (dB)	Limit (dB)
EGPRS	Low	2.19	≤ 13
	Middle	2.16	≤ 13
	High	2.03	≤ 13

**WCDMA Band V**

Mode	Channel	PAR (dB)	Limit (dB)
WCDMA	Low	2.01	≤ 13
	Middle	2.04	≤ 13
	High	2.13	≤ 13
HSDPA	Low	2.17	≤ 13
	Middle	2.04	≤ 13
	High	1.94	≤ 13
HSUPA	Low	2.16	≤ 13
	Middle	2.24	≤ 13
	High	2.13	≤ 13
HSPA+	Low	1.92	≤ 13
	Middle	1.94	≤ 13
	High	2.01	≤ 13

**PCS 1900**

Mode	Channel	PAR (dB)	Limit (dB)
GPRS	Low	2.14	≤ 13
	Middle	2.14	≤ 13
	High	2.27	≤ 13

Mode	Channel	PAR (dB)	Limit (dB)
EGPRS	Low	2.25	≤ 13
	Middle	1.96	≤ 13
	High	2.20	≤ 13

**WCDMA Band II**

Mode	Channel	PAR (dB)	Limit (dB)
WCDMA	Low	2.08	≤ 13
	Middle	2.15	≤ 13
	High	2.2	≤ 13
HSDPA	Low	2.13	≤ 13
	Middle	2.04	≤ 13
	High	2.06	≤ 13
HSUPA	Low	2.12	≤ 13
	Middle	2.18	≤ 13
	High	2.21	≤ 13
HSPA+	Low	2.13	≤ 13
	Middle	2.04	≤ 13
	High	2.03	≤ 13

**WCDMA Band IV**

Mode	Channel	PAR (dB)	Limit (dB)
WCDMA	Low	2.22	≤ 13
	Middle	2.14	≤ 13
	High	2.06	≤ 13
HSDPA	Low	1.94	≤ 13
	Middle	2	≤ 13
	High	1.96	≤ 13
HSUPA	Low	1.97	≤ 13
	Middle	2.11	≤ 13
	High	2.2	≤ 13
HSPA+	Low	1.99	≤ 13
	Middle	2.09	≤ 13
	High	1.97	≤ 13



**LTE Band 2**

Test Modulation		Test Bandwidth	Low Channel (dB)	Middle Channel (dB)	High Channel (dB)	Limit (dB)
QPSK	1 RB	20M	3.20	3.11	3.06	13
	100 RB		5.17	5.07	5.09	13
16-QAM	1 RB	20M	4.08	4.04	4.07	13
	100 RB		6.06	6.03	6.09	13

**LTE Band 4**

Test Modulation		Test Bandwidth	Low Channel (dB)	Middle Channel (dB)	High Channel (dB)	Limit(dB)
QPSK	1 RB	20M	3.07	3.18	3.13	13
	100 RB		5.14	5.16	5.05	13
16-QAM	1 RB	20M	4.12	4.04	4.20	13
	100 RB		6.14	6.08	6.16	13

**LTE Band 5**

Test Modulation		Test Bandwidth	Low Channel (dB)	Middle Channel (dB)	High Channel (dB)	Limit(dB)
QPSK	1 RB	10M	3.20	3.11	3.08	≤ 13
	50 RB		5.18	5.20	5.04	≤ 13
16-QAM	1 RB	10M	4.04	4.20	4.03	≤ 13
	50 RB		6.10	6.05	6.02	≤ 13

**LTE Band 7**

Test Modulation		Test Bandwidth	Low Channel (dB)	Middle Channel (dB)	High Channel (dB)	Limit(dB)
QPSK	1 RB	20M	3.01	3.10	3.01	≤ 13
	100 RB		5.09	5.16	5.20	≤ 13
16-QAM	1 RB	20M	4.05	4.10	4.18	≤ 13
	100 RB		6.14	6.11	6.08	≤ 13

**LTE Band 12**

Test Modulation		Test Bandwidth	Low Channel (dB)	Middle Channel (dB)	High Channel (dB)	Limit(dB)
QPSK	1 RB	10M	3.11	3.02	3.15	≤ 13
	50 RB		5.04	5.05	5.14	≤ 13
16-QAM	1 RB	10M	4.19	4.18	4.07	≤ 13
	50 RB		6.05	6.08	6.17	≤ 13

**LTE Band 17**

Test Modulation		Test Bandwidth	Low Channel (dB)	Middle Channel (dB)	High Channel (dB)	Limit(dB)
QPSK	1 RB	10M	3.16	3.17	3.07	≤ 13
	50 RB		5.18	5.04	5.07	≤ 13
16-QAM	1 RB	10M	4.18	4.14	4.16	≤ 13
	50 RB		6.13	6.16	6.06	≤ 13

**LTE Band 25**

Test Modulation		Test Bandwidth	Low Channel (dB)	Middle Channel (dB)	High Channel (dB)	Limit(dB)
QPSK	1 RB	20M	3.10	3.17	3.02	≤ 13
	100 RB		5.12	5.06	5.01	≤ 13
16-QAM	1 RB	20M	4.00	4.01	4.05	≤ 13
	100 RB		6.09	6.07	6.07	≤ 13

**LTE Band 26**

Test Modulation		Test Bandwidth	Low Channel (dB)	Middle Channel (dB)	High Channel (dB)	Limit(dB)
QPSK	1 RB	15M	3.08	3.16	3.12	≤ 13
	75 RB		5.08	5.12	5.09	≤ 13
16-QAM	1 RB	15M	4.19	4.13	4.11	≤ 13
	75 RB		6.14	6.09	6.17	≤ 13

**LTE Band 40(2305MHz-2315MHz)**

Test Modulation		Test Bandwidth	Low Channel (dB)	Middle Channel (dB)	High Channel (dB)	Limit(dB)
QPSK	1 RB	10M	\	3.00	\	13
	50 RB		\	5.13	\	13
16-QAM	1 RB	10M	\	4.15	\	13
	100 RB		\	6.02	\	13

**LTE Band 40(2350MHz-2360MHz)**

Test Modulation		Test Bandwidth	Low Channel (dB)	Middle Channel (dB)	High Channel (dB)	Limit(dB)
QPSK	1 RB	10M	\	3.14	\	13
	100 RB		\	5.12	\	13
16-QAM	1 RB	10M	\	4.03	\	13
	100 RB		\	6.16	\	13

**LTE Band 41**

Test Modulation		Test Bandwidth	Low Channel (dB)	Middle Channel (dB)	High Channel (dB)	Limit(dB)
QPSK	1 RB	20M	3.19	3.00	3.20	≤ 13
	100 RB		5.00	5.03	5.07	≤ 13
16-QAM	1 RB	20M	4.05	4.13	4.19	≤ 13
	100 RB		6.03	6.05	6.07	≤ 13

**LTE Band 66**

Test Modulation		Test Bandwidth	Low Channel (dB)	Middle Channel (dB)	High Channel (dB)	Limit(dB)
QPSK	1 RB	20M	3.19	3.14	3.07	≤ 13
	100 RB		5.13	5.09	5.07	≤ 13
16-QAM	1 RB	20M	4.18	4.06	4.05	≤ 13
	100 RB		6.06	6.09	6.20	≤ 13

**LTE Band 40 Duty cycle:**

**2305-2315MHz**

Test Modulation	Test Bandwidth	Ton (ms)	Total (ms)	Duty Cycle (%)	Limit (%)
QPSK	5M	3.206	10.020	32.00	≤ 38
	10M	3.206	10.100	31.74	≤ 38
16-QAM	5M	3.126	10.020	31.20	≤ 38
	10M	3.126	10.020	31.20	≤ 38

**2350-2360MHz**

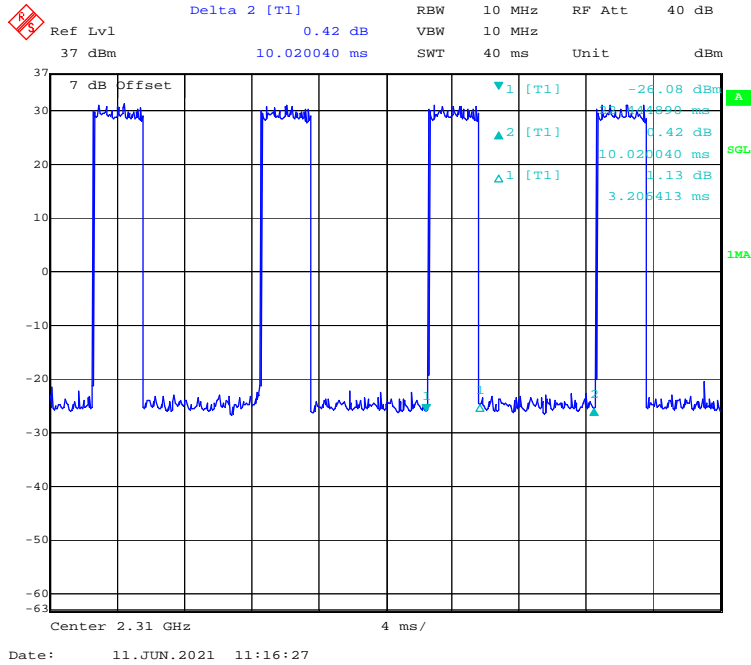
Test Modulation	Test Bandwidth	Ton (ms)	Total (ms)	Duty Cycle (%)	Limit (%)
QPSK	5M	3.287	10.100	32.54	≤ 38
	10M	3.126	10.020	31.20	≤ 38
16-QAM	5M	3.126	10.020	31.20	≤ 38
	10M	3.206	10.020	32.00	≤ 38

Note: EUT setup is as following:

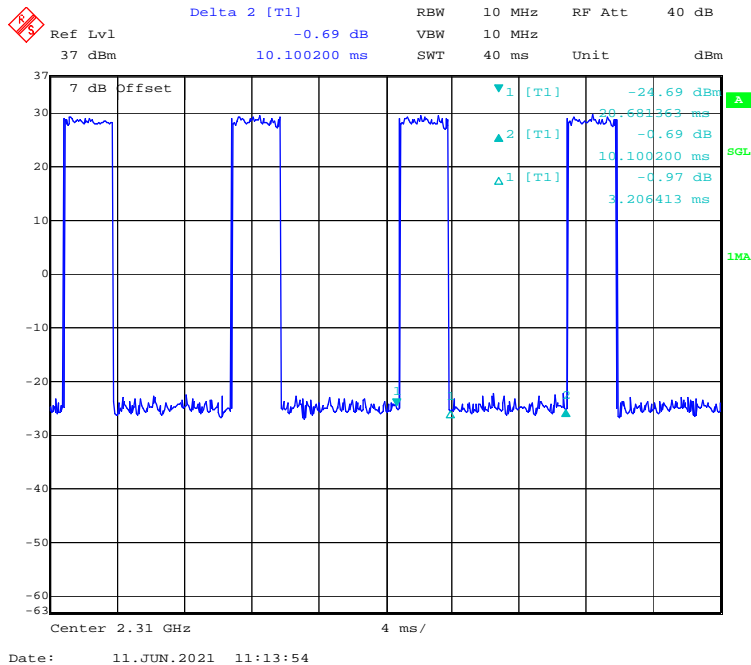
Uplink downlink configuration	Subframe number									
	0	1	2	3	4	5	6	7	8	9
3	D	S	U	U	U	D	D	D	D	D

2305-2315 MHz:

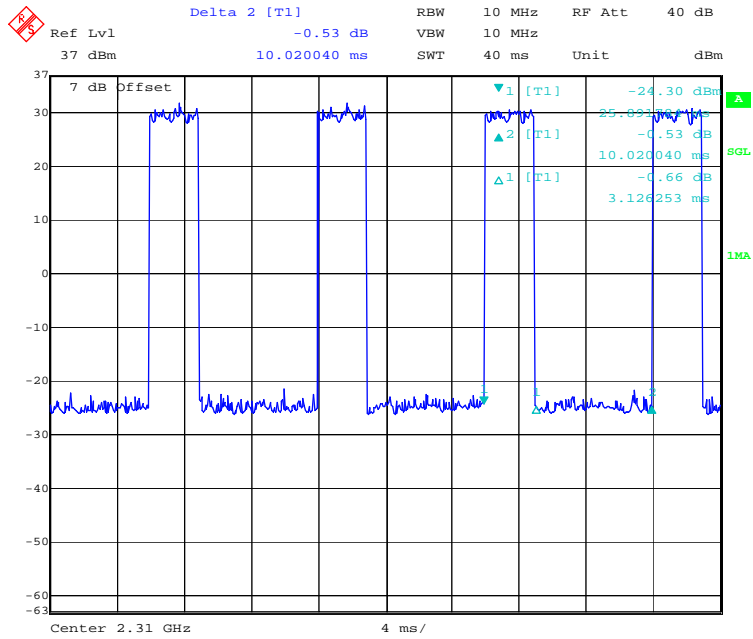
QPSK, 5MHz



QPSK, 10MHz

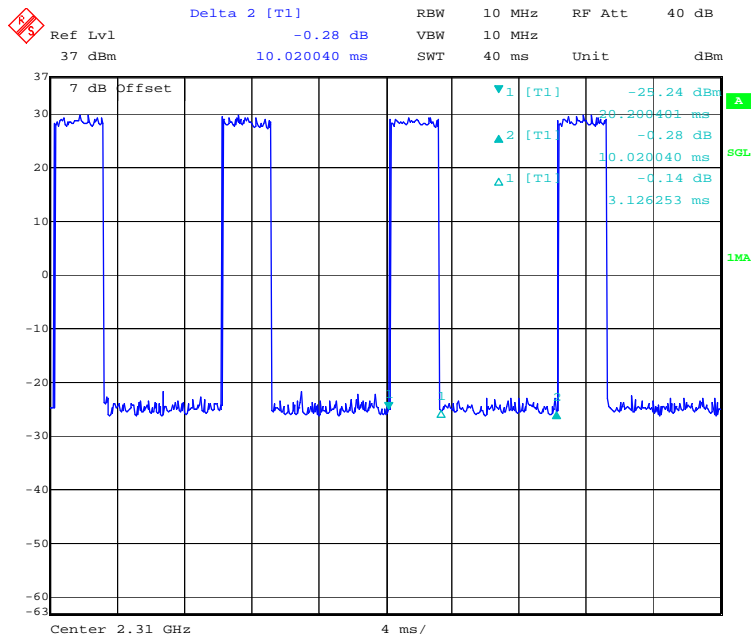


### 16-QAM, 5MHz



Date: 11.JUN.2021 11:15:40

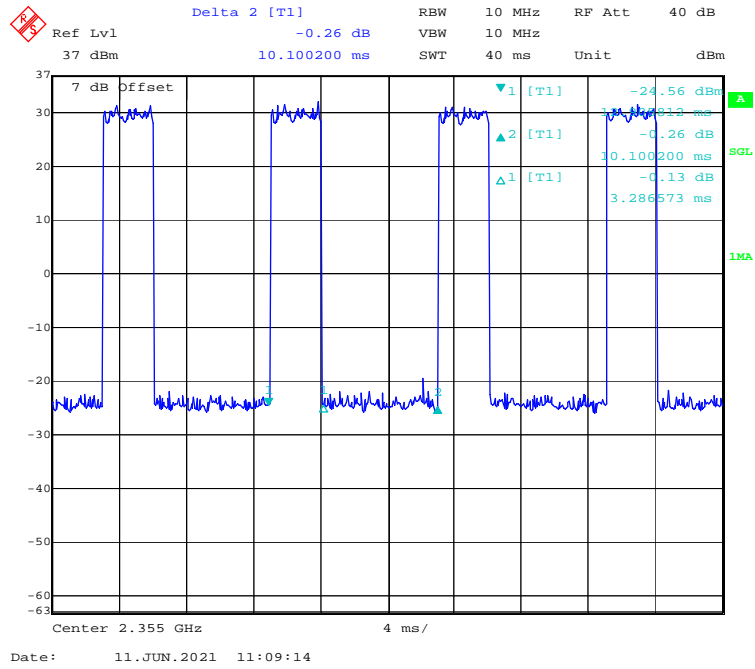
### 16-QAM, 10MHz



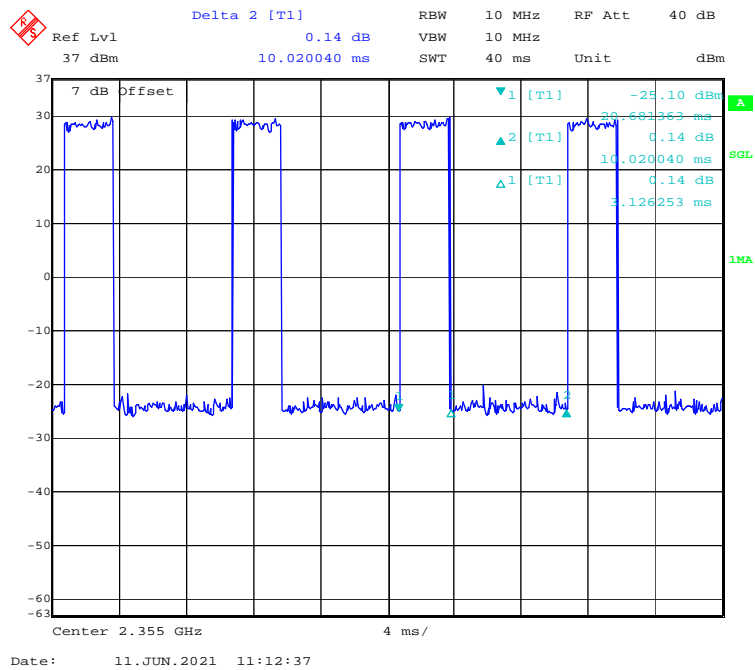
Date: 11.JUN.2021 11:14:36

2350-2360 MHz:

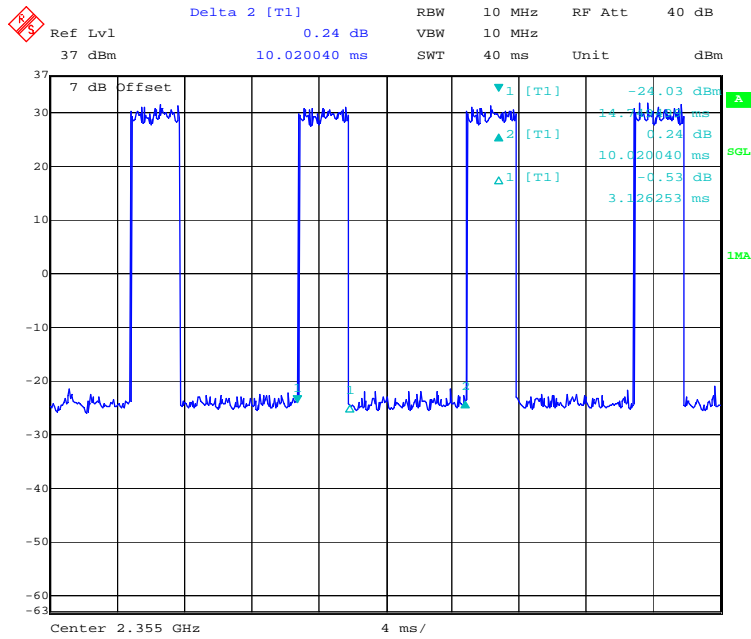
QPSK, 5MHz



QPSK, 10MHz

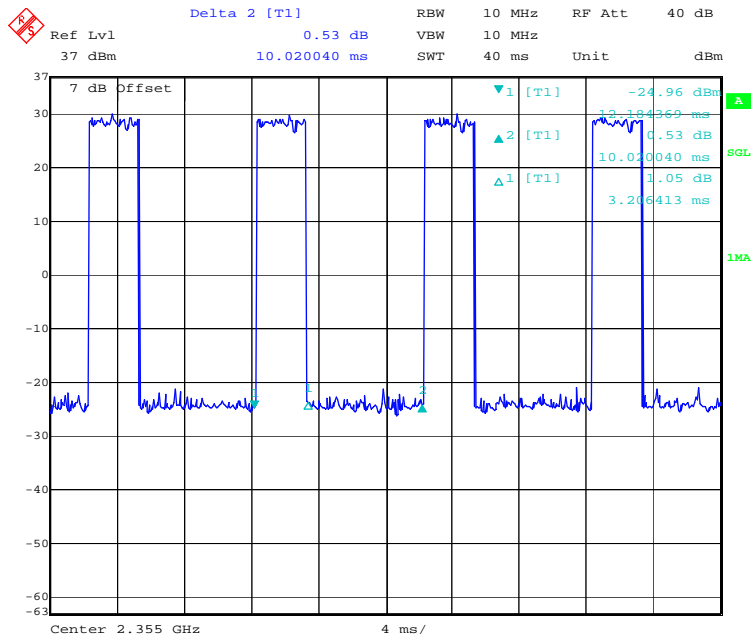


### 16-QAM, 5MHz



Date: 11.JUN.2021 11:10:21

### 16-QAM, 10MHz



Date: 11.JUN.2021 11:12:01



**Radiated Power:**

**GPRS/EGPRS Mode**

Frequency (MHz)	Receiver Reading (dBµV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
GPRS 850, Low Channel (ERP)										
824.2	96.56	239	166	H	32.90	0.62	-1.18	31.10	38.45	7.35
824.2	96.08	354	14	V	32.42	0.62	-1.18	30.62	38.45	7.83
EGPRS 850, Low Channel (ERP)										
824.2	95.79	144	141	H	32.13	0.62	-1.18	24.33	38.45	14.12
824.2	95.93	61	215	V	32.27	0.62	-1.18	24.47	38.45	13.98
GPRS 1900, Low Channel (EIRP)										
1850.2	94.24	18	163	H	21.11	0.84	8.76	29.03	33	3.97
1850.2	95.81	97	296	V	22.68	0.84	8.76	30.60	33	2.40
EGPRS 1900, Low Channel (EIRP)										
1850.2	95.08	221	185	H	21.95	0.84	8.76	23.87	33	9.03
1850.2	95.52	207	354	V	22.39	0.84	8.76	24.31	33	8.69

**GPRS/EGPRS Mode**

Frequency (MHz)	Receiver Reading (dBµV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
GPRS 850, Middle Channel (ERP)										
836.6	96.28	150	123	H	32.62	0.63	-1.1	30.89	38.45	7.56
836.6	96.88	154	170	V	33.22	0.63	-1.1	31.49	38.45	6.60
EGPRS 850, Middle Channel (ERP)										
836.6	96.76	87	181	H	33.1	0.63	-1.1	25.37	38.45	13.08
836.6	95.13	341	37	V	31.47	0.63	-1.1	25.74	38.45	14.71
GPRS 1900, Middle Channel (EIRP)										
1880	95.63	288	103	H	22.5	0.85	8.81	30.46	33	2.54
1880	95.23	198	228	V	22.1	0.85	8.81	30.06	33	2.94
EGPRS 1900, Middle Channel (EIRP)										
1880	95.01	178	165	H	21.88	0.85	8.81	23.84	33	9.06
1880	95.76	134	252	V	22.63	0.85	8.81	24.59	33	8.41

**GPRS/EGPRS Mode**

Frequency (MHz)	Receiver Reading (dBµV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
GPRS 850, High Channel (ERP)										
848.8	96.19	19	167	H	33.65	0.63	-1.1	31.92	38.45	6.53
848.8	96.98	89	109	V	34.44	0.63	-1.1	32.71	38.45	5.74
EGPRS 850, High Channel (ERP)										
848.8	95.71	36	107	H	32.05	0.63	-1.10	24.32	38.45	14.13
848.8	95.54	360	173	V	31.88	0.63	-1.10	24.15	38.45	14.30
GPRS 1900, High Channel (EIRP)										
1909.8	95.26	121	175	H	22.13	0.85	8.85	30.13	33	2.87
1909.8	95.68	245	138	V	22.55	0.85	8.85	30.55	33	2.45
EGPRS 1900, High Channel (EIRP)										
1909.8	95.61	313	134	H	22.48	0.85	8.85	24.48	33	8.52
1909.8	95.68	119	113	V	22.55	0.85	8.85	24.55	33	8.45

**WCDMA Mode**

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
WCDMA Band V, Low Channel(ERP)										
826.40	87.15	301	200	H	22.29	0.63	-1.17	20.49	38.45	17.96
826.40	88.24	288	150	V	23.38	0.63	-1.17	21.58	38.45	16.87
WCDMA Band II, Low Channel(EIRP)										
1852.40	81.16	269	200	H	11.03	0.84	8.76	18.95	33	14.05
1852.40	82.84	289	150	V	12.71	0.84	8.76	20.63	33	12.37
WCDMA Band IV, Low Channel(EIRP)										
1712.40	85.87	182	200	H	13.28	0.84	8.57	21.01	30	8.99
1712.40	84.24	354	150	V	11.65	0.84	8.57	19.38	30	10.62

**WCDMA Mode**

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
WCDMA Band V, Middle Channel(ERP)										
836.60	87.46	12	200	H	22.6	0.63	-1.14	20.83	38.45	17.62
836.60	88.96	7	150	V	24.1	0.63	-1.14	22.33	38.45	16.12
WCDMA Band II, Middle Channel(EIRP)										
1880.00	81.92	347	200	H	11.79	0.85	8.81	19.75	33	13.25
1880.00	82.38	151	150	V	12.25	0.85	8.81	20.21	33	12.79
WCDMA Band IV, Middle Channel(EIRP)										
1732.60	85.44	154	200	H	12.85	0.84	8.57	20.58	30	9.42
1732.60	84.48	2	150	V	11.89	0.84	8.57	19.62	30	10.38

**WCDMA Mode**

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
WCDMA Band V, High Channel(ERP)										
846.60	86.79	19	200	H	21.93	0.63	-1.11	20.19	38.45	18.26
846.60	87.41	328	150	V	22.55	0.63	-1.11	20.81	38.45	17.64
WCDMA Band II, High Channel(EIRP)										
1907.60	81.26	200	200	H	11.13	0.85	8.85	19.13	33	13.87
1907.60	82.17	277	150	V	12.04	0.85	8.85	20.04	33	12.96
WCDMA Band IV, High Channel(EIRP)										
1752.60	85.54	97	200	H	12.95	0.84	8.57	20.68	30	9.32
1752.60	84.13	179	150	V	11.54	0.84	8.57	19.27	30	10.73

**ERP&EIRP:**

**LTE Band 2**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 1.4M BW Low Channel</b>								
1850.70	V	89.32	14.59	0.84	8.76	22.51	33	10.49
1850.70	H	89.00	14.27	0.84	8.76	22.19	33	10.81
<b>16-QAM 1.4M BW Low Channel</b>								
1850.70	V	89.4	14.67	0.84	8.76	22.59	33	10.41
1850.70	H	88.28	13.55	0.84	8.76	21.47	33	11.53
<b>QPSK 3M BW Low Channel</b>								
1851.50	V	89.21	14.48	0.84	8.76	22.4	33	10.6
1851.50	H	88.96	14.23	0.84	8.76	22.15	33	10.85
<b>16-QAM 3M BW Low Channel</b>								
1851.50	V	89.55	14.82	0.84	8.76	22.74	33	10.26
1851.50	H	88.15	13.42	0.84	8.76	21.34	33	11.66
<b>QPSK 5M BW Low Channel</b>								
1852.50	V	89.89	15.16	0.84	8.76	23.08	33	9.92
1852.50	H	88.95	14.22	0.84	8.76	22.14	33	10.86
<b>16-QAM 5M BW Low Channel</b>								
1852.50	V	89.54	14.81	0.84	8.76	22.73	33	10.27
1852.50	H	88.44	13.71	0.84	8.76	21.63	33	11.37

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 10M BW Low Channel</b>								
1855.00	V	89.31	14.58	0.84	8.77	22.51	33	10.49
1855.00	H	88.93	14.20	0.84	8.77	22.13	33	10.87
<b>16-QAM 10M BW Low Channel</b>								
1855.00	V	89.81	15.08	0.84	8.77	23.01	33	9.99
1855.00	H	88.32	13.59	0.84	8.77	21.52	33	11.48
<b>QPSK 15M BW Low Channel</b>								
1857.50	V	89.42	14.69	0.84	8.77	22.62	33	10.38
1857.50	H	88.09	13.36	0.84	8.77	21.29	33	11.71
<b>16-QAM 15M BW Low Channel</b>								
1857.50	V	89.13	14.40	0.84	8.77	22.33	33	10.67
1857.50	H	88.8	14.07	0.84	8.77	22.00	33	11.00
<b>QPSK 20M BW Low Channel</b>								
1860.00	V	89.90	15.17	0.84	8.78	23.11	33	9.89
1860.00	H	88.65	13.92	0.84	8.78	21.86	33	11.14
<b>16-QAM 20M BW Low Channel</b>								
1860.00	V	89.31	14.58	0.84	8.78	22.52	33	10.48
1860.00	H	88.18	13.45	0.84	8.78	21.39	33	11.61

**LTE Band 2**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 1.4M BW Middle Channel</b>								
1880.00	V	87.61	12.88	0.85	8.81	20.84	33	12.16
1880.00	H	88.60	13.87	0.85	8.81	21.83	33	11.17
<b>16-QAM 1.4M BW Middle Channel</b>								
1880.00	V	89.85	15.12	0.85	8.81	23.08	33	9.92
1880.00	H	88.70	13.97	0.85	8.81	21.93	33	11.07
<b>QPSK 3M BW Middle Channel</b>								
1880.00	V	89.31	14.58	0.85	8.81	22.54	33	10.46
1880.00	H	88.42	13.69	0.85	8.81	21.65	33	11.35
<b>16-QAM 3M BW Middle Channel</b>								
1880.00	V	89.11	14.38	0.85	8.81	22.34	33	10.66
1880.00	H	88.86	14.13	0.85	8.81	22.09	33	10.91
<b>QPSK 5M BW Middle Channel</b>								
1880.00	V	89.83	15.10	0.85	8.81	23.06	33	9.94
1880.00	H	88.70	13.97	0.85	8.81	21.93	33	11.07
<b>16-QAM 5M BW Middle Channel</b>								
1880.00	V	89.87	15.14	0.85	8.81	23.10	33	9.90
1880.00	H	88.20	13.47	0.85	8.81	21.43	33	11.57

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 10M BW Middle Channel</b>								
1880.00	V	89.88	15.15	0.85	8.81	23.11	33	9.89
1880.00	H	88.25	13.52	0.85	8.81	21.48	33	11.52
<b>16-QAM 10M BW Middle Channel</b>								
1880.00	V	88.47	13.74	0.85	8.81	21.70	33	11.30
1880.00	H	88.07	13.34	0.85	8.81	21.30	33	11.70
<b>QPSK 15M BW Middle Channel</b>								
1880.00	V	89.99	15.26	0.85	8.81	23.22	33	9.78
1880.00	H	88.50	13.77	0.85	8.81	21.73	33	11.27
<b>16-QAM 15M BW Middle Channel</b>								
1880.00	V	89.20	14.47	0.85	8.81	22.43	33	10.57
1880.00	H	88.24	13.51	0.85	8.81	21.47	33	11.53
<b>QPSK 20M BW Middle Channel</b>								
1880.00	V	89.27	14.54	0.85	8.81	22.50	33	10.50
1880.00	H	88.12	13.39	0.85	8.81	21.35	33	11.65
<b>16-QAM 20M BW Middle Channel</b>								
1880.00	V	87.61	12.88	0.85	8.81	20.84	33	12.16
1880.00	H	88.66	13.93	0.85	8.81	21.89	33	11.11



**LTE Band 2**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 1.4M BW High Channel</b>								
1909.30	V	89.06	14.33	0.85	8.85	22.33	33	10.67
1909.30	H	88.13	13.40	0.85	8.85	21.40	33	11.60
<b>16-QAM 1.4M BW High Channel</b>								
1909.30	V	89.52	14.79	0.85	8.85	22.79	33	10.21
1909.30	H	88.15	13.42	0.85	8.85	21.42	33	11.58
<b>QPSK 3M BW High Channel</b>								
1908.50	V	89.37	14.64	0.85	8.85	22.64	33	10.36
1908.50	H	88.02	13.29	0.85	8.85	21.29	33	11.71
<b>16-QAM 3M BW High Channel</b>								
1908.50	V	89.43	14.7	0.85	8.85	22.70	33	10.30
1908.50	H	88.58	13.85	0.85	8.85	21.85	33	11.15
<b>QPSK 5M BW High Channel</b>								
1907.50	V	89.01	14.28	0.85	8.85	22.28	33	10.72
1907.50	H	88.92	14.19	0.85	8.85	22.19	33	10.81
<b>16-QAM 5M BW High Channel</b>								
1907.50	V	89.32	14.59	0.85	8.85	22.59	33	10.41
1907.50	H	88.56	13.83	0.85	8.85	21.83	33	11.17

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 10M BW High Channel</b>								
1905.00	V	89.69	14.96	0.85	8.85	22.96	33	10.04
1905.00	H	88.68	13.95	0.85	8.85	21.95	33	11.05
<b>16-QAM 10M BW High Channel</b>								
1905.00	V	89.61	14.88	0.85	8.85	22.88	33	10.12
1905.00	H	88.21	13.48	0.85	8.85	21.48	33	11.52
<b>QPSK 15M BW High Channel</b>								
1902.50	V	89.37	14.64	0.85	8.84	22.63	33	10.37
1902.50	H	88.01	13.28	0.85	8.84	21.27	33	11.73
<b>16-QAM 15M BW High Channel</b>								
1902.50	V	89.22	14.49	0.85	8.84	22.48	33	10.52
1902.50	H	88.36	13.63	0.85	8.84	21.62	33	11.38
<b>QPSK 20M BW High Channel</b>								
1900.00	V	89.54	14.81	0.85	8.84	22.80	33	10.20
1900.00	H	88.94	14.21	0.85	8.84	22.20	33	10.80
<b>16-QAM 20M BW High Channel</b>								
1900.00	V	89.61	14.88	0.85	8.84	22.87	33	10.13
1900.00	H	88.73	14.00	0.85	8.84	21.99	33	11.01

**LTE Band 4**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 1.4M BW Low Channel</b>								
1710.70	V	89.19	13.44	0.84	8.54	21.14	30	8.86
1710.70	H	88.36	12.61	0.84	8.54	20.31	30	9.69
<b>16-QAM 1.4M BW Low Channel</b>								
1710.70	V	89.91	14.16	0.84	8.54	21.86	30	8.14
1710.70	H	88.31	12.56	0.84	8.54	20.26	30	9.74
<b>QPSK 3M BW Low Channel</b>								
1711.50	V	89.10	13.35	0.84	8.54	21.05	30	8.95
1711.50	H	88.39	12.64	0.84	8.54	20.34	30	9.66
<b>16-QAM 3M BW Low Channel</b>								
1711.50	V	89.33	13.58	0.84	8.54	21.28	30	8.72
1711.50	H	88.99	13.24	0.84	8.54	20.94	30	9.06
<b>QPSK 5M BW Low Channel</b>								
1712.50	V	89.27	13.52	0.84	8.54	21.22	30	8.78
1712.50	H	88.60	12.85	0.84	8.54	20.55	30	9.45
<b>16-QAM 5M BW Low Channel</b>								
1712.50	V	89.50	13.75	0.84	8.54	21.45	30	8.55
1712.50	H	88.75	13.00	0.84	8.54	20.7	30	9.30

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 10M BW Low Channel</b>								
1715.00	V	89.07	13.32	0.84	8.54	21.02	30	8.98
1715.00	H	88.26	12.51	0.84	8.54	20.21	30	9.79
<b>16-QAM 10M BW Low Channel</b>								
1715.00	V	89.16	13.41	0.84	8.54	21.11	30	8.89
1715.00	H	88.03	12.28	0.84	8.54	19.98	30	10.02
<b>QPSK 15M BW Low Channel</b>								
1717.50	V	89.62	13.87	0.84	8.55	21.58	30	8.42
1717.50	H	88.38	12.63	0.84	8.55	20.34	30	9.66
<b>16-QAM 15M BW Low Channel</b>								
1717.50	V	89.39	13.64	0.84	8.55	21.35	30	8.65
1717.50	H	88.22	12.47	0.84	8.55	20.18	30	9.82
<b>QPSK 20M BW Low Channel</b>								
1720.00	V	89.36	13.61	0.84	8.55	21.32	30	8.68
1720.00	H	88.33	12.58	0.84	8.55	20.29	30	9.71
<b>16-QAM 20M BW Low Channel</b>								
1720.00	V	89.92	14.17	0.84	8.55	21.88	30	8.12
1720.00	H	88.61	12.86	0.84	8.55	20.57	30	9.43

**LTE Band 4**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 1.4M BW Middle Channel</b>								
1732.50	V	86.30	10.55	0.84	8.57	18.28	30	11.72
1732.50	H	86.51	10.76	0.84	8.57	18.49	30	11.51
<b>16-QAM 1.4M BW Middle Channel</b>								
1732.50	V	89.84	14.09	0.84	8.57	21.82	30	8.18
1732.50	H	88.79	13.04	0.84	8.57	20.77	30	9.23
<b>QPSK 3M BW Middle Channel</b>								
1732.50	V	89.83	14.08	0.84	8.57	21.81	30	8.19
1732.50	H	88.02	12.27	0.84	8.57	20.00	30	10.00
<b>16-QAM 3M BW Middle Channel</b>								
1732.50	V	89.17	13.42	0.84	8.57	21.15	30	8.85
1732.50	H	88.76	13.01	0.84	8.57	20.74	30	9.26
<b>QPSK 5M BW Middle Channel</b>								
1732.50	V	89.24	13.49	0.84	8.57	21.22	30	8.78
1732.50	H	88.06	12.31	0.84	8.57	20.04	30	9.96
<b>16-QAM 5M BW Middle Channel</b>								
1732.50	V	89.14	13.39	0.84	8.57	21.12	30	8.88
1732.50	H	88.93	13.18	0.84	8.57	20.91	30	9.09

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 10M BW Middle Channel</b>								
1732.50	V	89.45	13.70	0.84	8.57	21.43	30	8.57
1732.50	H	88.12	12.37	0.84	8.57	20.10	30	9.90
<b>16-QAM 10M BW Middle Channel</b>								
1732.50	V	89.11	13.36	0.84	8.57	21.09	30	8.91
1732.50	H	88.67	12.92	0.84	8.57	20.65	30	9.35
<b>QPSK 15M BW Middle Channel</b>								
1732.50	V	89.69	13.94	0.84	8.57	21.67	30	8.33
1732.50	H	88.96	13.21	0.84	8.57	20.94	30	9.06
<b>16-QAM 15M BW Middle Channel</b>								
1732.50	V	89.06	13.31	0.84	8.57	21.04	30	8.96
1732.50	H	88.36	12.61	0.84	8.57	20.34	30	9.66
<b>QPSK 20M BW Middle Channel</b>								
1732.50	V	89.08	13.33	0.84	8.57	21.06	30	8.94
1732.50	H	88.44	12.69	0.84	8.57	20.42	30	9.58
<b>16-QAM 20M BW Middle Channel</b>								
1732.50	V	86.02	10.27	0.84	8.57	18.00	30	12.00
1732.50	H	88.93	13.18	0.84	8.57	20.91	30	9.09

## LTE Band 4

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 1.4M BW High Channel</b>								
1754.30	V	89.58	13.83	0.84	8.61	21.60	30	8.40
1754.30	H	88.36	12.61	0.84	8.61	20.38	30	9.62
<b>16-QAM 1.4M BW High Channel</b>								
1754.30	V	89.61	13.86	0.84	8.61	21.63	30	8.37
1754.30	H	88.19	12.44	0.84	8.61	20.21	30	9.79
<b>QPSK 3M BW High Channel</b>								
1753.50	V	89.64	13.89	0.84	8.6	21.65	30	8.35
1753.50	H	88.84	13.09	0.84	8.6	20.85	30	9.15
<b>16-QAM 3M BW High Channel</b>								
1753.50	V	89.19	13.44	0.84	8.6	21.20	30	8.80
1753.50	H	88.10	12.35	0.84	8.6	20.11	30	9.89
<b>QPSK 5M BW High Channel</b>								
1752.50	V	89.92	14.17	0.84	8.6	21.93	30	8.07
1752.50	H	88.28	12.53	0.84	8.6	20.29	30	9.71
<b>16-QAM 5M BW High Channel</b>								
1752.50	V	89.60	13.85	0.84	8.6	21.61	30	8.39
1752.50	H	88.87	13.12	0.84	8.6	20.88	30	9.12

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 10M BW High Channel</b>								
1750.00	V	89.84	14.09	0.84	8.60	21.85	30	8.15
1750.00	H	88.10	12.35	0.84	8.60	20.11	30	9.89
<b>16-QAM 10M BW High Channel</b>								
1750.00	V	89.78	14.03	0.84	8.60	21.79	30	8.21
1750.00	H	88.02	12.27	0.84	8.60	20.03	30	9.97
<b>QPSK 15M BW High Channel</b>								
1747.50	V	89.56	13.81	0.84	8.60	21.57	30	8.43
1747.50	H	88.03	12.28	0.84	8.60	20.04	30	9.96
<b>16-QAM 15M BW High Channel</b>								
1747.50	V	89.73	13.98	0.84	8.60	21.74	30	8.26
1747.50	H	88.72	12.97	0.84	8.60	20.73	30	9.27
<b>QPSK 20M BW High Channel</b>								
1745.00	V	89.6	13.85	0.84	8.59	21.60	30	8.40
1745.00	H	88.32	12.57	0.84	8.59	20.32	30	9.68
<b>16-QAM 20M BW High Channel</b>								
1745.00	V	89.92	14.17	0.84	8.59	21.92	30	8.08
1745.00	H	88.7	12.95	0.84	8.59	20.70	30	9.30



**LTE Band 5**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 1.4M BW Low Channel</b>								
824.70	V	86.45	22.58	0.62	-1.18	20.78	38.45	17.67
824.70	H	88.36	24.49	0.62	-1.18	22.69	38.45	15.76
<b>16-QAM 1.4M BW Low Channel</b>								
824.70	V	90.80	26.93	0.62	-1.18	25.13	38.45	13.32
824.70	H	88.19	24.32	0.62	-1.18	22.52	38.45	15.93
<b>QPSK 3M BW Low Channel</b>								
825.50	V	90.97	27.10	0.63	-1.17	25.30	38.45	13.15
825.50	H	88.91	25.04	0.63	-1.17	23.24	38.45	15.21
<b>16-QAM 3M BW Low Channel</b>								
825.50	V	90.60	26.73	0.63	-1.17	24.93	38.45	13.52
825.50	H	88.34	24.47	0.63	-1.17	22.67	38.45	15.78
<b>QPSK 5M BW Low Channel</b>								
826.50	V	90.94	27.07	0.63	-1.17	25.27	38.45	13.18
826.50	H	88.40	24.53	0.63	-1.17	22.73	38.45	15.72
<b>16-QAM 5M BW Low Channel</b>								
826.50	V	90.27	26.40	0.63	-1.17	24.60	38.45	13.85
826.50	H	88.33	24.46	0.63	-1.17	22.66	38.45	15.79
<b>QPSK 10M BW Low Channel</b>								
829.00	V	90.12	26.25	0.63	-1.16	24.46	38.45	13.99
829.00	H	88.38	24.51	0.63	-1.16	22.72	38.45	15.73
<b>16-QAM 10M BW Low Channel</b>								
829.00	V	90.90	27.03	0.63	-1.16	25.24	38.45	13.21
829.00	H	88.35	24.48	0.63	-1.16	22.69	38.45	15.76

**LTE Band 5**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 1.4M BW Middle Channel</b>								
836.50	V	87.41	23.54	0.63	-1.14	21.77	38.45	16.68
836.50	H	88.03	24.16	0.63	-1.14	22.39	38.45	16.06
<b>16-QAM 1.4M BW Middle Channel</b>								
836.50	V	87.00	23.13	0.63	-1.14	21.36	38.45	17.09
836.50	H	88.83	24.96	0.63	-1.14	23.19	38.45	15.26
<b>QPSK 3M BW Middle Channel</b>								
836.50	V	90.90	27.03	0.63	-1.14	25.26	38.45	13.19
836.50	H	88.84	24.97	0.63	-1.14	23.20	38.45	15.25
<b>16-QAM 3M BW Middle Channel</b>								
836.50	V	90.79	26.92	0.63	-1.14	25.15	38.45	13.30
836.50	H	88.70	24.83	0.63	-1.14	23.06	38.45	15.39
<b>QPSK 5M BW Middle Channel</b>								
836.50	V	90.91	27.04	0.63	-1.14	25.27	38.45	13.18
836.50	H	88.08	24.21	0.63	-1.14	22.44	38.45	16.01
<b>16-QAM 5M BW Middle Channel</b>								
836.50	V	90.50	26.63	0.63	-1.14	24.86	38.45	13.59
836.50	H	88.08	24.21	0.63	-1.14	22.44	38.45	16.01
<b>QPSK 10M BW Middle Channel</b>								
836.50	V	90.40	26.53	0.63	-1.14	24.76	38.45	13.69
836.50	H	88.05	24.18	0.63	-1.14	22.41	38.45	16.04
<b>16-QAM 10M BW Middle Channel</b>								
836.50	V	90.37	26.50	0.63	-1.14	24.73	38.45	13.72
836.50	H	88.69	24.82	0.63	-1.14	23.05	38.45	15.40

LTE Band 5

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 1.4M BW High Channel</b>								
848.30	V	90.61	26.74	0.63	-1.11	25.00	38.45	13.45
848.30	H	88.61	24.74	0.63	-1.11	23.00	38.45	15.45
<b>16-QAM 1.4M BW High Channel</b>								
848.30	V	90.58	26.71	0.63	-1.11	24.97	38.45	13.48
848.30	H	88.12	24.25	0.63	-1.11	22.51	38.45	15.94
<b>QPSK 3M BW High Channel</b>								
847.50	V	90.44	26.57	0.63	-1.11	24.83	38.45	13.62
847.50	H	88.75	24.88	0.63	-1.11	23.14	38.45	15.31
<b>16-QAM 3M BW High Channel</b>								
847.50	V	90.37	26.50	0.63	-1.11	24.76	38.45	13.69
847.50	H	88.63	24.76	0.63	-1.11	23.02	38.45	15.43
<b>QPSK 5M BW High Channel</b>								
846.50	V	90.79	26.92	0.63	-1.11	25.18	38.45	13.27
846.50	H	88.31	24.44	0.63	-1.11	22.70	38.45	15.75
<b>16-QAM 5M BW High Channel</b>								
846.50	V	90.89	27.02	0.63	-1.11	25.28	38.45	13.17
846.50	H	88.19	24.32	0.63	-1.11	22.58	38.45	15.87
<b>QPSK 10M BW High Channel</b>								
844.00	V	90.33	26.46	0.63	-1.12	24.71	38.45	13.74
844.00	H	88.73	24.86	0.63	-1.12	23.11	38.45	15.34
<b>16-QAM 10M BW High Channel</b>								
844.00	V	90.65	26.78	0.63	-1.12	25.03	38.45	13.42
844.00	H	88.73	24.86	0.63	-1.12	23.11	38.45	15.34

**LTE band 7**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
<b>QPSK 5M BW Low Channel</b>								
2502.50	V	89.02	13.13	0.89	10.10	22.34	33	10.66
2502.50	H	87.86	11.97	0.89	10.10	21.18	33	11.82
<b>16-QAM 5M BW Low Channel</b>								
2502.50	V	89.68	13.79	0.89	10.10	23.00	33	10.00
2502.50	H	87.40	11.51	0.89	10.10	20.72	33	12.28
<b>QPSK 10M BW Low Channel</b>								
2505.00	V	89.66	13.77	0.89	10.09	22.97	33	10.03
2505.00	H	87.20	11.31	0.89	10.09	20.51	33	12.49
<b>16-QAM 10M BW Low Channel</b>								
2505.00	V	89.95	14.06	0.89	10.09	23.26	33	9.74
2505.00	H	87.22	11.33	0.89	10.09	20.53	33	12.47
<b>QPSK 15M BW Low Channel</b>								
2507.50	V	89.44	13.55	0.89	10.09	22.75	33	10.25
2507.50	H	87.60	11.71	0.89	10.09	20.91	33	12.09
<b>16-QAM 15M BW Low Channel</b>								
2507.50	V	89.95	14.06	0.89	10.09	23.26	33	9.74
2507.50	H	87.09	11.20	0.89	10.09	20.40	33	12.60
<b>QPSK 20M BW Low Channel</b>								
2510.00	V	89.41	13.52	0.89	10.09	22.72	33	10.28
2510.00	H	87.03	11.14	0.89	10.09	20.34	33	12.66
<b>16-QAM 20M BW Low Channel</b>								
2510.00	V	89.97	14.08	0.89	10.09	23.28	33	9.72
2510.00	H	87.45	11.56	0.89	10.09	20.76	33	12.24

LTE band 7

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
<b>QPSK 5M BW Middle Channel</b>								
2535.00	V	85.70	9.81	0.89	10.05	18.97	33	14.03
2535.00	H	87.73	11.84	0.89	10.05	21.00	33	12.00
<b>16-QAM 5M BW Middle Channel</b>								
2535.00	V	89.49	13.60	0.89	10.05	22.76	33	10.24
2535.00	H	87.68	11.79	0.89	10.05	20.95	33	12.05
<b>QPSK 10M BW Middle Channel</b>								
2535.00	V	89.6	13.71	0.89	10.05	22.87	33	10.13
2535.00	H	87.81	11.92	0.89	10.05	21.08	33	11.92
<b>16-QAM 10M BW Middle Channel</b>								
2535.00	V	89.17	13.28	0.89	10.05	22.44	33	10.56
2535.00	H	87.33	11.44	0.89	10.05	20.60	33	12.4
<b>QPSK 15M BW Middle Channel</b>								
2535.00	V	89.20	13.31	0.89	10.05	22.47	33	10.53
2535.00	H	87.71	11.82	0.89	10.05	20.98	33	12.02
<b>16-QAM 15M BW Middle Channel</b>								
2535.00	V	89.52	13.63	0.89	10.05	22.79	33	10.21
2535.00	H	87.89	12.00	0.89	10.05	21.16	33	11.84
<b>QPSK 20M BW Middle Channel</b>								
2535.00	V	89.77	13.88	0.89	10.05	23.04	33	9.96
2535.00	H	87.29	11.40	0.89	10.05	20.56	33	12.44
<b>16-QAM 20M BW Middle Channel</b>								
2535.00	V	87.26	11.37	0.89	10.05	20.53	33	12.47
2535.00	H	87.83	11.94	0.89	10.05	21.10	33	11.90

LTE band 7

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
<b>QPSK 5M BW High Channel</b>								
2567.50	V	89.07	13.18	0.89	10.01	22.30	33	10.70
2567.50	H	87.70	11.81	0.89	10.01	20.93	33	12.07
<b>16-QAM 5M BW High Channel</b>								
2567.50	V	89.44	13.55	0.89	10.01	22.67	33	10.33
2567.50	H	87.15	11.26	0.89	10.01	20.38	33	12.62
<b>QPSK 10M BW High Channel</b>								
2565.00	V	89.10	13.21	0.89	10.01	22.33	33	10.67
2565.00	H	87.20	11.31	0.89	10.01	20.43	33	12.57
<b>16-QAM 10M BW High Channel</b>								
2565.00	V	89.18	13.29	0.89	10.01	22.41	33	10.59
2565.00	H	87.52	11.63	0.89	10.01	20.75	33	12.25
<b>QPSK 15M BW High Channel</b>								
2562.50	V	89.82	13.93	0.89	10.01	23.05	33	9.95
2562.50	H	87.40	11.51	0.89	10.01	20.63	33	12.37
<b>16-QAM 15M BW High Channel</b>								
2562.50	V	89.91	14.02	0.89	10.01	23.14	33	9.86
2562.50	H	87.15	11.26	0.89	10.01	20.38	33	12.62
<b>QPSK 20M BW High Channel</b>								
2560.00	V	89.61	13.72	0.89	10.02	22.85	33	10.15
2560.00	H	87.21	11.32	0.89	10.02	20.45	33	12.55
<b>16-QAM 20M BW High Channel</b>								
2560.00	V	89.70	13.81	0.89	10.02	22.94	33	10.06
2560.00	H	87.40	11.51	0.89	10.02	20.64	33	12.36

LTE Band 12

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 1.4M BW Low Channel</b>								
699.70	V	88.57	24.93	0.62	-1.75	22.56	34.77	12.21
699.70	H	86.30	22.66	0.62	-1.75	20.29	34.77	14.48
<b>16-QAM 1.4M BW Low Channel</b>								
699.70	V	88.63	24.99	0.62	-1.75	22.62	34.77	12.15
699.70	H	86.43	22.79	0.62	-1.75	20.42	34.77	14.35
<b>QPSK 3M BW Low Channel</b>								
700.50	V	88.42	24.78	0.62	-1.75	22.41	34.77	12.36
700.50	H	86.43	22.79	0.62	-1.75	20.42	34.77	14.35
<b>16-QAM 3M BW Low Channel</b>								
700.50	V	88.37	24.73	0.62	-1.75	22.36	34.77	12.41
700.50	H	86.97	23.33	0.62	-1.75	20.96	34.77	13.81
<b>QPSK 5M BW Low Channel</b>								
701.50	V	88.19	24.55	0.62	-1.74	22.19	34.77	12.58
701.50	H	86.41	22.77	0.62	-1.74	20.41	34.77	14.36
<b>16-QAM 5M BW Low Channel</b>								
701.50	V	88.43	24.79	0.62	-1.74	22.43	34.77	12.34
701.50	H	86.96	23.32	0.62	-1.74	20.96	34.77	13.81
<b>QPSK 10M BW Low Channel</b>								
704.00	V	88.27	24.63	0.62	-1.73	22.28	34.77	12.49
704.00	H	86.59	22.95	0.62	-1.73	20.60	34.77	14.17
<b>16-QAM 10M BW Low Channel</b>								
704.00	V	88.46	24.82	0.62	-1.73	22.47	34.77	12.30
704.00	H	86.34	22.70	0.62	-1.73	20.35	34.77	14.42

LTE Band 12

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 1.4M BW Middle Channel</b>								
707.50	V	86.10	22.61	0.62	-1.71	20.28	34.77	14.49
707.50	H	86.84	23.35	0.62	-1.71	21.02	34.77	13.75
<b>16-QAM 1.4M BW Middle Channel</b>								
707.50	V	88.17	24.68	0.62	-1.71	22.35	34.77	12.42
707.50	H	86.40	22.91	0.62	-1.71	20.58	34.77	14.19
<b>QPSK 3M BW Middle Channel</b>								
707.50	V	88.08	24.59	0.62	-1.71	22.26	34.77	12.51
707.50	H	86.88	23.39	0.62	-1.71	21.06	34.77	13.71
<b>16-QAM 3M BW Middle Channel</b>								
707.50	V	88.77	25.28	0.62	-1.71	22.95	34.77	11.82
707.50	H	86.04	22.55	0.62	-1.71	20.22	34.77	14.55
<b>QPSK 5M BW Middle Channel</b>								
707.50	V	88.63	25.14	0.62	-1.71	22.81	34.77	11.96
707.50	H	86.83	23.34	0.62	-1.71	21.01	34.77	13.76
<b>16-QAM 5M BW Middle Channel</b>								
707.50	V	88.35	24.86	0.62	-1.71	22.53	34.77	12.24
707.50	H	86.45	22.96	0.62	-1.71	20.63	34.77	14.14
<b>QPSK 10M BW Middle Channel</b>								
707.50	V	88.26	24.77	0.62	-1.71	22.44	34.77	12.33
707.50	H	86.41	22.92	0.62	-1.71	20.59	34.77	14.18
<b>16-QAM 10M BW Middle Channel</b>								
707.50	V	88.12	24.63	0.62	-1.71	22.30	34.77	12.47
707.50	H	86.01	22.52	0.62	-1.71	20.19	34.77	14.58



LTE Band 12

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 1.4M BW High Channel</b>								
715.30	V	88.67	24.75	0.62	-1.67	22.46	34.77	12.31
715.30	H	86.31	22.39	0.62	-1.67	20.10	34.77	14.67
<b>16-QAM 1.4M BW High Channel</b>								
715.30	V	88.49	24.57	0.62	-1.67	22.28	34.77	12.49
715.30	H	86.35	22.43	0.62	-1.67	20.14	34.77	14.63
<b>QPSK 3M BW High Channel</b>								
714.50	V	88.14	24.22	0.62	-1.68	21.92	34.77	12.85
714.50	H	86.55	22.63	0.62	-1.68	20.33	34.77	14.44
<b>16-QAM 3M BW High Channel</b>								
714.50	V	88.91	24.99	0.62	-1.68	22.69	34.77	12.08
714.50	H	86.58	22.66	0.62	-1.68	20.36	34.77	14.41
<b>QPSK 5M BW High Channel</b>								
713.50	V	88.62	24.7	0.62	-1.68	22.40	34.77	12.37
713.50	H	86.32	22.4	0.62	-1.68	20.10	34.77	14.67
<b>16-QAM 5M BW High Channel</b>								
713.50	V	88.14	24.22	0.62	-1.68	21.92	34.77	12.85
713.50	H	86.67	22.75	0.62	-1.68	20.45	34.77	14.32
<b>QPSK 10M BW High Channel</b>								
711.00	V	88.07	24.15	0.62	-1.7	21.83	34.77	12.94
711.00	H	86.72	22.8	0.62	-1.7	20.48	34.77	14.29
<b>16-QAM 10M BW High Channel</b>								
711.00	V	88.24	24.32	0.62	-1.7	22.00	34.77	12.77
711.00	H	86.97	23.05	0.62	-1.7	20.73	34.77	14.04

**LTE Band 17**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 5M BW Low Channel</b>								
706.50	V	86.47	22.19	0.62	-1.70	19.87	34.77	14.90
706.50	H	86.85	22.57	0.62	-1.70	20.25	34.77	14.52
<b>16-QAM 5M BW Low Channel</b>								
706.50	V	88.65	24.37	0.62	-1.70	22.05	34.77	12.72
706.50	H	86.59	22.31	0.62	-1.70	19.99	34.77	14.78
<b>QPSK 10M BW Low Channel</b>								
709.00	V	88.32	24.04	0.62	-1.70	21.72	34.77	13.05
709.00	H	86.44	22.16	0.62	-1.70	19.84	34.77	14.93
<b>16-QAM 10M BW Low Channel</b>								
709.00	V	88.35	24.07	0.62	-1.70	21.75	34.77	13.02
709.00	H	86.52	22.24	0.62	-1.70	19.92	34.77	14.85

**LTE Band 17**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 5M BW Middle Channel</b>								
710.00	V	88.27	24.16	0.62	-1.68	21.86	34.77	12.91
710.00	H	86.97	22.86	0.62	-1.68	20.56	34.77	14.21
<b>16-QAM 5M BW Middle Channel</b>								
710.00	V	88.62	24.51	0.62	-1.68	22.21	34.77	12.56
710.00	H	86.79	22.68	0.62	-1.68	20.38	34.77	14.39
<b>QPSK 10M BW Middle Channel</b>								
710.00	V	88.78	24.67	0.62	-1.70	22.35	34.77	12.42
710.00	H	86.40	22.29	0.62	-1.70	19.97	34.77	14.80
<b>16-QAM 10M BW Middle Channel</b>								
710.00	V	88.05	23.94	0.62	-1.70	21.62	34.77	13.15
710.00	H	86.78	22.67	0.62	-1.70	20.35	34.77	14.42

**LTE Band 17**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 5M BW High Channel</b>								
713.50	V	88.28	23.83	0.62	-1.72	21.49	34.77	13.28
713.50	H	86.04	21.59	0.62	-1.72	19.25	34.77	15.52
<b>16-QAM 5M BW High Channel</b>								
713.50	V	88.38	23.93	0.62	-1.72	21.59	34.77	13.18
713.50	H	86.13	21.68	0.62	-1.72	19.34	34.77	15.43
<b>QPSK 10M BW High Channel</b>								
711.00	V	88.58	24.13	0.62	-1.71	21.80	34.77	12.97
711.00	H	86.46	22.01	0.62	-1.71	19.68	34.77	15.09
<b>16-QAM 10M BW High Channel</b>								
711.00	V	88.30	23.85	0.62	-1.71	21.52	34.77	13.25
711.00	H	86.53	22.08	0.62	-1.71	19.75	34.77	15.02

**LTE Band 25**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 1.4M BW Low Channel</b>								
1850.70	V	89.72	15.01	0.84	8.67	22.84	33.00	10.16
1850.70	H	87.24	12.53	0.84	8.67	20.36	33.00	12.64
<b>16-QAM 1.4M BW Low Channel</b>								
1850.70	V	89.27	14.56	0.84	8.67	22.39	33.00	10.61
1850.70	H	87.44	12.73	0.84	8.67	20.56	33.00	12.44
<b>QPSK 3M BW Low Channel</b>								
1851.50	V	89.51	14.80	0.84	8.76	22.72	33.00	10.28
1851.50	H	87.61	12.90	0.84	8.76	20.82	33.00	12.18
<b>16-QAM 3M BW Low Channel</b>								
1851.50	V	90	15.29	0.84	8.76	23.21	33.00	9.79
1851.50	H	87.95	13.24	0.84	8.76	21.16	33.00	11.84
<b>QPSK 5M BW Low Channel</b>								
1852.50	V	89.41	14.70	0.84	8.76	22.62	33.00	10.38
1852.50	H	87.25	12.54	0.84	8.76	20.46	33.00	12.54
<b>16-QAM 5M BW Low Channel</b>								
1852.50	V	89.05	14.34	0.84	8.76	22.26	33.00	10.74
1852.50	H	87.07	12.36	0.84	8.76	20.28	33.00	12.72

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 10M BW Low Channel</b>								
1855.00	V	89.15	14.44	0.84	8.77	22.37	33.00	10.63
1855.00	H	87.74	13.03	0.84	8.77	20.96	33.00	12.04
<b>16-QAM 10M BW Low Channel</b>								
1855.00	V	89.96	15.25	0.84	8.77	23.18	33.00	9.82
1855.00	H	87.09	12.38	0.84	8.77	20.31	33.00	12.69
<b>QPSK 15M BW Low Channel</b>								
1857.50	V	89.48	14.77	0.84	8.77	22.70	33.00	10.30
1857.50	H	87.97	13.26	0.84	8.77	21.19	33.00	11.81
<b>16-QAM 15M BW Low Channel</b>								
1857.50	V	89.37	14.66	0.84	8.77	22.59	33.00	10.41
1857.50	H	87.76	13.05	0.84	8.77	20.98	33.00	12.02
<b>QPSK 20M BW Low Channel</b>								
1860.00	V	89.55	14.84	0.84	8.78	22.78	33.00	10.22
1860.00	H	87.55	12.84	0.84	8.78	20.78	33.00	12.22
<b>16-QAM 20M BW Low Channel</b>								
1860.00	V	89.64	14.93	0.84	8.78	22.87	33.00	10.13
1860.00	H	87.85	13.14	0.84	8.78	21.08	33.00	11.92

## LTE Band 25

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 1.4M BW Middle Channel</b>								
1882.50	V	89.66	14.95	0.85	8.81	22.91	33.00	10.09
1882.50	H	87.37	12.66	0.85	8.81	20.62	33.00	12.38
<b>16-QAM 1.4M BW Middle Channel</b>								
1882.50	V	89.58	14.87	0.85	8.81	22.83	33.00	10.17
1882.50	H	87.70	12.99	0.85	8.81	20.95	33.00	12.05
<b>QPSK 3M BW Middle Channel</b>								
1882.50	V	89.96	15.25	0.85	8.81	23.21	33.00	9.79
1882.50	H	87.67	12.96	0.85	8.81	20.92	33.00	12.08
<b>16-QAM 3M BW Middle Channel</b>								
1882.50	V	89.79	15.08	0.84	8.57	22.81	33.00	10.19
1882.50	H	87.56	12.85	0.84	8.57	20.58	33.00	12.42
<b>QPSK 5M BW Middle Channel</b>								
1882.50	V	89.28	14.57	0.85	8.81	22.53	33.00	10.47
1882.50	H	87.13	12.42	0.85	8.81	20.38	33.00	12.62
<b>16-QAM 5M BW Middle Channel</b>								
1882.50	V	89.69	14.98	0.85	8.81	22.94	33.00	10.06
1882.50	H	87.59	12.88	0.85	8.81	20.84	33.00	12.16

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 10M BW Middle Channel</b>								
1882.50	V	89.82	15.11	0.85	8.81	23.07	33.00	9.93
1882.50	H	87.26	12.55	0.85	8.81	20.51	33.00	12.49
<b>16-QAM 10M BW Middle Channel</b>								
1882.50	V	89.70	14.99	0.85	8.81	22.95	33.00	10.05
1882.50	H	87.74	13.03	0.85	8.81	20.99	33.00	12.01
<b>QPSK 15M BW Middle Channel</b>								
1882.50	V	89.57	14.86	0.85	8.81	22.82	33.00	10.18
1882.50	H	87.48	12.77	0.85	8.81	20.73	33.00	12.27
<b>16-QAM 15M BW Middle Channel</b>								
1882.50	V	89.01	14.30	0.85	8.81	22.26	33.00	10.74
1882.50	H	87.75	13.04	0.85	8.81	21.00	33.00	12.00
<b>QPSK 20M BW Middle Channel</b>								
1882.50	V	89.48	14.77	0.85	8.81	22.73	33.00	10.27
1882.50	H	87.15	12.44	0.85	8.81	20.40	33.00	12.60
<b>16-QAM 20M BW Middle Channel</b>								
1882.50	V	89.51	14.80	0.85	8.81	22.76	33.00	10.24
1882.50	H	87.20	12.49	0.85	8.81	20.45	33.00	12.55

**LTE Band 25**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 1.4M BW High Channel</b>								
1914.30	V	89.49	14.78	0.85	8.86	22.79	33.00	10.21
1914.30	H	87.99	13.28	0.85	8.86	21.29	33.00	11.71
<b>16-QAM 1.4M BW High Channel</b>								
1914.30	V	89.29	14.58	0.85	8.86	22.59	33.00	10.41
1914.30	H	87.59	12.88	0.85	8.86	20.89	33.00	12.11
<b>QPSK 3M BW High Channel</b>								
1913.50	V	89.65	14.94	0.85	8.86	22.95	33.00	10.05
1913.50	H	87.27	12.56	0.85	8.86	20.57	33.00	12.43
<b>16-QAM 3M BW High Channel</b>								
1913.50	V	89.11	14.40	0.85	8.86	22.41	33.00	10.59
1913.50	H	87.58	12.87	0.85	8.86	20.88	33.00	12.12
<b>QPSK 5M BW High Channel</b>								
1912.50	V	89.95	15.24	0.84	8.87	23.27	33.00	9.73
1912.50	H	87.85	13.14	0.84	8.87	21.17	33.00	11.83
<b>16-QAM 5M BW High Channel</b>								
1912.50	V	89.07	14.36	0.84	8.87	22.39	33.00	10.61
1912.50	H	87.39	12.68	0.84	8.87	20.71	33.00	12.29



Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 10M BW High Channel</b>								
1910.00	V	89.79	15.08	0.84	8.87	23.11	33.00	9.89
1910.00	H	87.36	12.65	0.84	8.87	20.68	33.00	12.32
<b>16-QAM 10M BW High Channel</b>								
1910.00	V	89.99	15.28	0.84	8.87	23.31	33.00	9.69
1910.00	H	87.57	12.86	0.84	8.87	20.89	33.00	12.11
<b>QPSK 15M BW High Channel</b>								
1907.50	V	89.15	14.44	0.85	8.87	22.46	33.00	10.54
1907.50	H	87.52	12.81	0.85	8.87	20.83	33.00	12.17
<b>16-QAM 15M BW High Channel</b>								
1907.50	V	89.39	14.68	0.85	8.87	22.70	33.00	10.30
1907.50	H	87.18	12.47	0.85	8.87	20.49	33.00	12.51
<b>QPSK 20M BW High Channel</b>								
1905.00	V	89.96	15.25	0.85	8.88	23.28	33.00	9.72
1905.00	H	87.61	12.90	0.85	8.88	20.93	33.00	12.07
<b>16-QAM 20M BW High Channel</b>								
1905.00	V	89.89	15.18	0.85	8.88	23.21	33.00	9.79
1905.00	H	87.55	12.84	0.85	8.88	20.87	33.00	12.13

**LTE Band 26**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 1.4M BW Low Channel</b>								
814.70	V	88.89	24.52	0.62	-1.21	22.69	38.45	15.76
814.70	H	86.61	22.24	0.62	-1.21	20.41	38.45	18.04
<b>16-QAM 1.4M BW Low Channel</b>								
814.70	V	88.52	24.15	0.62	-1.21	22.32	38.45	16.13
814.70	H	86.75	22.38	0.62	-1.21	20.55	38.45	17.9
<b>QPSK 3M BW Low Channel</b>								
815.50	V	88.37	24.00	0.62	-1.21	22.17	38.45	16.28
815.50	H	86.49	22.12	0.62	-1.21	20.29	38.45	18.16
<b>16-QAM 3M BW Low Channel</b>								
815.50	V	88.13	23.76	0.62	-1.21	21.93	38.45	16.52
815.50	H	86.15	21.78	0.62	-1.21	19.95	38.45	18.5
<b>QPSK 5M BW Low Channel</b>								
816.50	V	88.22	23.85	0.62	-1.20	22.03	38.45	16.42
816.50	H	86.66	22.29	0.62	-1.20	20.47	38.45	17.98
<b>16-QAM 5M BW Low Channel</b>								
816.50	V	88.33	23.96	0.62	-1.20	22.14	38.45	16.31
816.50	H	86.76	22.39	0.62	-1.20	20.57	38.45	17.88

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 10M BW Low Channel</b>								
819.00	V	88.81	24.44	0.62	-1.19	22.63	38.45	15.82
819.00	H	86.00	21.63	0.62	-1.19	19.82	38.45	18.63
<b>16-QAM 10M BW Low Channel</b>								
819.00	V	88.82	24.45	0.62	-1.19	22.64	38.45	15.81
819.00	H	86.35	21.98	0.62	-1.19	20.17	38.45	18.28
<b>QPSK 15M BW Low Channel</b>								
821.50	V	88.29	23.92	0.62	-1.19	22.11	38.45	16.34
821.50	H	86.75	22.38	0.62	-1.19	20.57	38.45	17.88
<b>16-QAM 15M BW Low Channel</b>								
821.50	V	88.06	23.69	0.62	-1.19	21.88	38.45	16.57
821.50	H	86.35	21.98	0.62	-1.19	20.17	38.45	18.28

## LTE Band 26

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 1.4M BW Middle Channel</b>								
831.50	V	88.23	23.90	0.63	-1.16	22.11	38.45	16.34
831.50	H	86.46	22.13	0.63	-1.16	20.34	38.45	18.11
<b>16-QAM 1.4M BW Middle Channel</b>								
831.50	V	88.54	24.21	0.63	-1.16	22.42	38.45	16.03
831.50	H	86.99	22.66	0.63	-1.16	20.87	38.45	17.58
<b>QPSK 3M BW Middle Channel</b>								
831.50	V	88.72	24.39	0.63	-1.16	22.60	38.45	15.85
831.50	H	86.71	22.38	0.63	-1.16	20.59	38.45	17.86
<b>16-QAM 3M BW Middle Channel</b>								
831.50	V	88.86	24.53	0.63	-1.16	22.74	38.45	15.71
831.50	H	86.93	22.60	0.63	-1.16	20.81	38.45	17.64
<b>QPSK 5M BW Middle Channel</b>								
831.50	V	88.16	23.83	0.63	-1.16	22.04	38.45	16.41
831.50	H	86.56	22.23	0.63	-1.16	20.44	38.45	18.01
<b>16-QAM 5M BW Middle Channel</b>								
831.50	V	88.84	24.51	0.63	-1.16	22.72	38.45	15.73
831.50	H	86.33	22.00	0.63	-1.16	20.21	38.45	18.24

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 10M BW Middle Channel</b>								
831.50	V	88.12	23.79	0.63	-1.16	22.00	38.45	16.45
831.50	H	86.81	22.48	0.63	-1.16	20.69	38.45	17.76
<b>16-QAM 10M BW Middle Channel</b>								
831.50	V	88.8	24.47	0.63	-1.16	22.68	38.45	15.77
831.50	H	86.09	21.76	0.63	-1.16	19.97	38.45	18.48
<b>QPSK 15M BW Middle Channel</b>								
831.50	V	88.72	24.39	0.63	-1.16	22.60	38.45	15.85
831.50	H	86.09	21.76	0.63	-1.16	19.97	38.45	18.48
<b>16-QAM 15M BW Middle Channel</b>								
831.50	V	88.41	24.08	0.63	-1.16	22.29	38.45	16.16
831.50	H	86.93	22.60	0.63	-1.16	20.81	38.45	17.64

LTE Band 26

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 1.4M BW High Channel</b>								
848.30	V	86.07	21.79	0.63	-1.11	20.05	38.45	18.4
848.30	H	86.18	21.90	0.63	-1.11	20.16	38.45	18.29
<b>16-QAM 1.4M BW High Channel</b>								
848.30	V	86.66	22.38	0.63	-1.11	20.64	38.45	17.81
848.30	H	86.37	22.09	0.63	-1.11	20.35	38.45	18.1
<b>QPSK 3M BW High Channel</b>								
847.50	V	88.97	24.69	0.63	-1.11	22.95	38.45	15.5
847.50	H	86.76	22.48	0.63	-1.11	20.74	38.45	17.71
<b>16-QAM 3M BW High Channel</b>								
847.50	V	88.87	24.59	0.63	-1.11	22.85	38.45	15.6
847.50	H	86.22	21.94	0.63	-1.11	20.20	38.45	18.25
<b>QPSK 5M BW High Channel</b>								
846.50	V	88.60	24.32	0.63	-1.11	22.58	38.45	15.87
846.50	H	86.66	22.38	0.63	-1.11	20.64	38.45	17.81
<b>16-QAM 5M BW High Channel</b>								
846.50	V	88.95	24.67	0.63	-1.11	22.93	38.45	15.52
846.50	H	86.17	21.89	0.63	-1.11	20.15	38.45	18.3

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 10M BW High Channel</b>								
844.00	V	88.96	24.68	0.63	-1.12	22.93	38.45	15.52
844.00	H	86.44	22.16	0.63	-1.12	20.41	38.45	18.04
<b>16-QAM 10M BW High Channel</b>								
844.00	V	88.57	24.29	0.63	-1.12	22.54	38.45	15.91
844.00	H	86.99	22.71	0.63	-1.12	20.96	38.45	17.49
<b>QPSK 15M BW High Channel</b>								
841.50	V	88.03	23.75	0.63	-1.13	21.99	38.45	16.46
841.50	H	86.39	22.11	0.63	-1.13	20.35	38.45	18.1
<b>16-QAM 15M BW High Channel</b>								
841.50	V	88.08	23.80	0.63	-1.13	22.04	38.45	16.41
841.50	H	86.84	22.56	0.63	-1.13	20.80	38.45	17.65

**LTE band 40(2305MHz-2310MHz)**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm/5MHz)	Limit (dBm/5MHz)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 5M BW Low Channel</b>								
2307.50	V	84.3	10.22	0.87	9.68	19.03	24	4.97
2307.50	H	84.09	10.01	0.87	9.68	18.82	24	5.18
<b>16-QAM 5M BW Low Channel</b>								
2307.50	V	85.83	11.75	0.87	9.68	20.56	24	3.44
2307.50	H	84.01	9.93	0.87	9.68	18.74	24	5.26

Note: the total power result meets the requirement EIRP less than 250mW/5MHz



**LTE band 40(2305MHz-2310MHz)**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm/5MHz)	Limit (dBm/5MHz)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 5M BW Middle Channel</b>								
2310.00	V	84.28	10.22	0.87	9.68	19.03	24	4.97
2310.00	H	84.51	10.43	0.87	9.68	19.24	24	4.76
<b>16-QAM 5M BW Middle Channel</b>								
2310.00	V	85.74	11.66	0.87	9.68	20.47	24	3.53
2310.00	H	84.57	10.49	0.87	9.68	19.30	24	4.7
<b>QPSK 10M BW Middle Channel</b>								
2310.00	V	85.21	11.13	0.87	9.68	19.94	24	4.06
2310.00	H	84.34	10.26	0.87	9.68	19.07	24	4.93
<b>16-QAM 10M BW Middle Channel</b>								
2310.00	V	85.1	11.02	0.87	9.68	19.83	24	4.17
2310.00	H	84.79	10.71	0.87	9.68	19.52	24	4.48

Note: the total power result meets the requirement EIRP less than 250mW/5MHz

**LTE band 40(2305MHz-2310MHz)**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm/5MHz)	Limit (dBm/5MHz)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 5M BW High Channel</b>								
2312.50	V	84.12	10.04	0.87	9.69	18.86	24	5.14
2312.50	H	84.17	10.09	0.87	9.69	18.91	24	5.09
<b>16-QAM 5M BW High Channel</b>								
2312.50	V	85.69	11.61	0.87	9.69	20.43	24	3.57
2312.50	H	84.34	10.26	0.87	9.69	19.08	24	4.92

Note: the total power result meets the requirement EIRP less than 250mW/5MHz

**LTE band 40(2350MHz-2360MHz)**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm/5MHz)	Limit (dBm/5MHz)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 5M BW Low Channel</b>								
2352.50	V	84.4	10.32	0.88	9.77	19.21	24	4.79
2352.50	H	84.89	10.81	0.88	9.77	19.70	24	4.30
<b>16-QAM 5M BW Low Channel</b>								
2352.50	V	85.52	11.44	0.88	9.77	20.33	24	3.67
2352.50	H	84.46	10.38	0.88	9.77	19.27	24	4.73

Note: the total power result meets the requirement EIRP less than 250mW/5MHz

**LTE band 40(2350MHz-2360MHz)**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm/5MHz)	Limit (dBm/5MHz)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 5M BW Middle Channel</b>								
2355.00	V	84.18	10.10	0.88	9.78	19.00	24	5.00
2355.00	H	84.55	10.47	0.88	9.78	19.37	24	4.63
<b>16-QAM 5M BW Middle Channel</b>								
2355.00	V	85.27	11.19	0.88	9.78	20.09	24	3.91
2355.00	H	84.11	10.03	0.88	9.78	18.93	24	5.07
<b>QPSK 10M BW Middle Channel</b>								
2355.00	V	85.64	11.56	0.88	9.78	20.46	24	3.54
2355.00	H	84.64	10.56	0.88	9.78	19.46	24	4.54
<b>16-QAM 10M BW Middle Channel</b>								
2355.00	V	85.05	10.97	0.88	9.78	19.87	24	4.13
2355.00	H	84.95	10.87	0.88	9.78	19.77	24	4.23

Note: the total power result meets the requirement EIRP less than 250mW/5MHz

**LTE band 40(2350MHz-2360MHz)**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm/5MHz)	Limit (dBm/5MHz)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 5M BW High Channel</b>								
2357.50	V	84.31	10.23	0.88	9.79	19.14	24	4.86
2357.50	H	84.30	10.22	0.88	9.79	19.13	24	4.87
<b>16-QAM 5M BW High Channel</b>								
2357.50	V	85.52	11.44	0.88	9.79	20.35	24	3.65
2357.50	H	84.44	10.36	0.88	9.79	19.27	24	4.73

Note: the total power result meets the requirement EIRP less than 250mW/5MHz

**LTE Band 41**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 5M BW Low Channel</b>								
2557.50	V	85.56	12.57	0.89	10.02	21.70	33	11.30
2557.50	H	84.83	11.84	0.89	10.02	20.97	33	12.03
<b>16-QAM 5M BW Low Channel</b>								
2557.50	V	85.96	12.97	0.89	10.02	22.10	33	10.90
2557.50	H	84.93	11.94	0.89	10.02	21.07	33	11.93
<b>QPSK 10M BW Low Channel</b>								
2560.00	V	85.67	12.68	0.89	10.02	21.81	33	11.19
2560.00	H	84.87	11.88	0.89	10.02	21.01	33	11.99
<b>16-QAM 10M BW Low Channel</b>								
2560.00	V	85.10	12.11	0.89	10.02	21.24	33	11.76
2560.00	H	84.98	11.99	0.89	10.02	21.12	33	11.88
<b>QPSK 15M BW Low Channel</b>								
2562.50	V	85.97	12.98	0.89	10.01	22.10	33	10.90
2562.50	H	84.80	11.81	0.89	10.01	20.93	33	12.07
<b>16-QAM 15M BW Low Channel</b>								
2562.50	V	85.36	12.37	0.89	10.01	21.49	33	11.51
2562.50	H	84.67	11.68	0.89	10.01	20.80	33	12.20
<b>QPSK 20M BW Low Channel</b>								
2565.00	V	85.11	12.12	0.89	10.01	21.24	33	11.76
2565.00	H	84.29	11.30	0.89	10.01	20.42	33	12.58
<b>16-QAM 20M BW Low Channel</b>								
2565.00	V	85.83	12.84	0.89	10.01	21.96	33	11.04
2565.00	H	84.23	11.24	0.89	10.01	20.36	33	12.64

LTE Band 41

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 5M BW Middle Channel</b>								
2605.00	V	85.23	12.24	0.9	9.95	21.29	33	11.71
2605.00	H	84.25	11.26	0.9	9.95	20.31	33	12.69
<b>16-QAM 5M BW Middle Channel</b>								
2605.00	V	85.99	13.00	0.9	9.95	22.05	33	10.95
2605.00	H	84.95	11.96	0.9	9.95	21.01	33	11.99
<b>QPSK 10M BW Middle Channel</b>								
2605.00	V	85.57	12.58	0.9	9.95	21.63	33	11.37
2605.00	H	84.46	11.47	0.9	9.95	20.52	33	12.48
<b>16-QAM 10M BW Middle Channel</b>								
2605.00	V	85.4	12.41	0.9	9.95	21.46	33	11.54
2605.00	H	84.73	11.74	0.9	9.95	20.79	33	12.21
<b>QPSK 15M BW Middle Channel</b>								
2605.00	V	85.16	12.17	0.9	9.95	21.22	33	11.78
2605.00	H	84.06	11.07	0.9	9.95	20.12	33	12.88
<b>16-QAM 15M BW Middle Channel</b>								
2605.00	V	85.19	12.20	0.9	9.95	21.25	33	11.75
2605.00	H	84.63	11.64	0.9	9.95	20.69	33	12.31
<b>QPSK 20M BW Middle Channel</b>								
2605.00	V	85.57	12.58	0.9	9.95	21.63	33	11.37
2605.00	H	84.6	11.61	0.9	9.95	20.66	33	12.34
<b>16-QAM 20M BW Middle Channel</b>								
2605.00	V	85.27	12.28	0.9	9.95	21.33	33	11.67
2605.00	H	84.15	11.16	0.9	9.95	20.21	33	12.79

LTE Band 41

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 5M BW High Channel</b>								
2652.50	V	85.45	12.46	0.9	9.89	21.45	33	11.55
2652.50	H	84.75	11.76	0.9	9.89	20.75	33	12.25
<b>16-QAM 5M BW High Channel</b>								
2652.50	V	85.68	12.69	0.9	9.89	21.68	33	11.32
2652.50	H	84.36	11.37	0.9	9.89	20.36	33	12.64
<b>QPSK 10M BW High Channel</b>								
2650.00	V	85.48	12.49	0.9	9.89	21.48	33	11.52
2650.00	H	84.26	11.27	0.9	9.89	20.26	33	12.74
<b>16-QAM 10M BW High Channel</b>								
2650.00	V	85.75	12.76	0.9	9.89	21.75	33	11.25
2650.00	H	84.57	11.58	0.9	9.89	20.57	33	12.43
<b>QPSK 15M BW High Channel</b>								
2647.50	V	85.08	12.09	0.9	9.89	21.08	33	11.92
2647.50	H	84.62	11.63	0.9	9.89	20.62	33	12.38
<b>16-QAM 15M BW High Channel</b>								
2647.50	V	85.53	12.54	0.9	9.89	21.53	33	11.47
2647.50	H	84.06	11.07	0.9	9.89	20.06	33	12.94
<b>QPSK 20M BW High Channel</b>								
2645.00	V	85.98	12.99	0.9	9.9	21.99	33	11.01
2645.00	H	84.3	11.31	0.9	9.9	20.31	33	12.69
<b>16-QAM 20M BW High Channel</b>								
2645.00	V	85.39	12.40	0.9	9.9	21.40	33	11.60
2645.00	H	84.86	11.87	0.9	9.9	20.87	33	12.13



**LTE Band 66**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 1.4M BW Low Channel</b>								
1710.70	V	88.62	12.71	0.84	8.54	20.41	30	9.59
1710.70	H	87.19	11.28	0.84	8.54	18.98	30	11.02
<b>16-QAM 1.4M BW Low Channel</b>								
1710.70	V	88.35	12.44	0.84	8.54	20.14	30	9.86
1710.70	H	87.81	11.90	0.84	8.54	19.60	30	10.40
<b>QPSK 3M BW Low Channel</b>								
1711.50	V	88.36	12.46	0.84	8.54	20.16	30	9.84
1711.50	H	88	12.10	0.84	8.54	19.80	30	10.20
<b>16-QAM 3M BW Low Channel</b>								
1711.50	V	88.52	12.62	0.84	8.54	20.32	30	9.68
1711.50	H	87.65	11.75	0.84	8.54	19.45	30	10.55
<b>QPSK 5M BW Low Channel</b>								
1712.50	V	88.31	12.42	0.84	8.54	20.12	30	9.88
1712.50	H	87.87	11.98	0.84	8.54	19.68	30	10.32
<b>16-QAM 5M BW Low Channel</b>								
1712.50	V	88.63	12.74	0.84	8.54	20.44	30	9.56
1712.50	H	87.18	11.29	0.84	8.54	18.99	30	11.01

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 10M BW Low Channel</b>								
1715.00	V	88.52	12.65	0.84	8.54	20.35	30	9.65
1715.00	H	87.56	11.69	0.84	8.54	19.39	30	10.61
<b>16-QAM 10M BW Low Channel</b>								
1715.00	V	88.74	12.87	0.84	8.54	20.57	30	9.43
1715.00	H	87.86	11.99	0.84	8.54	19.69	30	10.31
<b>QPSK 15M BW Low Channel</b>								
1717.50	V	88.51	12.65	0.84	8.55	20.36	30	9.64
1717.50	H	87.54	11.68	0.84	8.55	19.39	30	10.61
<b>16-QAM 15M BW Low Channel</b>								
1717.50	V	88.01	12.15	0.84	8.55	19.86	30	10.14
1717.50	H	87.79	11.93	0.84	8.55	19.64	30	10.36
<b>QPSK 20M BW Low Channel</b>								
1720.00	V	88.71	12.87	0.84	8.55	20.58	30	9.42
1720.00	H	87.46	11.62	0.84	8.55	19.33	30	10.67
<b>16-QAM 20M BW Low Channel</b>								
1720.00	V	88.02	12.18	0.84	8.55	19.89	30	10.11
1720.00	H	87.31	11.47	0.84	8.55	19.18	30	10.82

**LTE Band 66**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 1.4M BW Middle Channel</b>								
1745.00	V	88.11	12.45	0.84	8.59	20.20	30	9.80
1745.00	H	87.89	12.23	0.84	8.59	19.98	30	10.02
<b>16-QAM 1.4M BW Middle Channel</b>								
1745.00	V	88.43	12.77	0.84	8.59	20.52	30	9.48
1745.00	H	87.27	11.61	0.84	8.59	19.36	30	10.64
<b>QPSK 3M BW Middle Channel</b>								
1745.00	V	88.36	12.70	0.84	8.59	20.45	30	9.55
1745.00	H	87.56	11.90	0.84	8.59	19.65	30	10.35
<b>16-QAM 3M BW Middle Channel</b>								
1745.00	V	88.54	12.88	0.84	8.59	20.63	30	9.37
1745.00	H	87.14	11.48	0.84	8.59	19.23	30	10.77
<b>QPSK 5M BW Middle Channel</b>								
1745.00	V	88.62	12.96	0.84	8.59	20.71	30	9.29
1745.00	H	87.16	11.50	0.84	8.59	19.25	30	10.75
<b>16-QAM 5M BW Middle Channel</b>								
1745.00	V	88.36	12.70	0.84	8.59	20.45	30	9.55
1745.00	H	87.55	11.89	0.84	8.59	19.64	30	10.36

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 10M BW Middle Channel</b>								
1745.00	V	88.52	12.86	0.84	8.59	20.61	30	9.39
1745.00	H	87.58	11.92	0.84	8.59	19.67	30	10.33
<b>16-QAM 10M BW Middle Channel</b>								
1745.00	V	88.79	13.13	0.84	8.59	20.88	30	9.12
1745.00	H	87.41	11.75	0.84	8.59	19.50	30	10.5
<b>QPSK 15M BW Middle Channel</b>								
1745.00	V	88.23	12.57	0.84	8.59	20.32	30	9.68
1745.00	H	87.15	11.49	0.84	8.59	19.24	30	10.76
<b>16-QAM 15M BW Middle Channel</b>								
1745.00	V	88.92	13.26	0.84	8.59	21.01	30	8.99
1745.00	H	87.01	11.35	0.84	8.59	19.10	30	10.90
<b>QPSK 20M BW Middle Channel</b>								
1745.00	V	88.39	12.73	0.84	8.59	20.48	30	9.52
1745.00	H	87.74	12.08	0.84	8.59	19.83	30	10.17
<b>16-QAM 20M BW Middle Channel</b>								
1745.00	V	88.43	12.77	0.84	8.59	20.52	30	9.48
1745.00	H	87.91	12.25	0.84	8.59	20.00	30	10.00

## LTE Band 66

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 1.4M BW High Channel</b>								
1779.30	V	88.95	13.52	0.84	8.65	21.33	30	8.67
1779.30	H	87.15	11.72	0.84	8.65	19.53	30	10.47
<b>16-QAM 1.4M BW High Channel</b>								
1779.30	V	88.34	12.91	0.84	8.65	20.72	30	9.28
1779.30	H	87.63	12.20	0.84	8.65	20.01	30	9.99
<b>QPSK 3M BW High Channel</b>								
1778.50	V	88.13	12.69	0.84	8.64	20.49	30	9.51
1778.50	H	87.45	12.01	0.84	8.64	19.81	30	10.19
<b>16-QAM 3M BW High Channel</b>								
1778.50	V	88.18	12.74	0.84	8.64	20.54	30	9.46
1778.50	H	87.53	12.09	0.84	8.64	19.89	30	10.11
<b>QPSK 5M BW High Channel</b>								
1777.50	V	88.25	12.81	0.84	8.64	20.61	30	9.39
1777.50	H	87.02	11.58	0.84	8.64	19.38	30	10.62
<b>16-QAM 5M BW High Channel</b>								
1777.50	V	88.87	13.43	0.84	8.64	21.23	30	8.77
1777.50	H	87.24	11.80	0.84	8.64	19.60	30	10.40

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Submitted Level (dBm)	Cable loss (dB)	Antenna Gain (dBd/dBi)			
<b>QPSK 10M BW High Channel</b>								
1775.00	V	88.40	12.94	0.84	8.64	20.74	30	9.26
1775.00	H	87.04	11.58	0.84	8.64	19.38	30	10.62
<b>16-QAM 10M BW High Channel</b>								
1775.00	V	88.27	12.81	0.84	8.64	20.61	30	9.39
1775.00	H	87.94	12.48	0.84	8.64	20.28	30	9.72
<b>QPSK 15M BW High Channel</b>								
1772.50	V	88.78	13.30	0.84	8.64	21.10	30	8.90
1772.50	H	87.45	11.97	0.84	8.64	19.77	30	10.23
<b>16-QAM 15M BW High Channel</b>								
1772.50	V	88.30	12.82	0.84	8.64	20.62	30	9.38
1772.50	H	87.27	11.79	0.84	8.64	19.59	30	10.41
<b>QPSK 20M BW High Channel</b>								
1770.00	V	88.50	13.01	0.84	8.63	20.80	30	9.20
1770.00	H	87.78	12.29	0.84	8.63	20.08	30	9.92
<b>16-QAM 20M BW High Channel</b>								
1770.00	V	88.91	13.42	0.84	8.63	21.21	30	8.79
1770.00	H	87.83	12.34	0.84	8.63	20.13	30	9.87

**Note:**

All above data were tested without amplifier.

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

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

**FCC §2.1049, §22.917, §22.905 & §24.238, §27.53, §90.209- OCCUPIED BANDWIDTH**

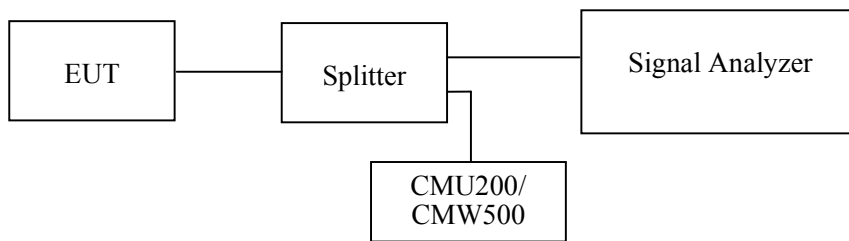
**Applicable Standards**

FCC 47 §2.1049, §22.917, §22.905; §24.238 ; §27.53 ; §90.209.

**Test Procedure**

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

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



**Test Data**

**Environmental Conditions**

<b>Temperature:</b>	23.1-24.9 °C
<b>Relative Humidity:</b>	45-50 %
<b>ATM Pressure:</b>	101.1-101.9 kPa

The testing was performed by Miller Xie from 2021-04-29 to 2021-06-09.

EUT operation mode: Transmitting

Test Result: Compliant.

**GSM 850 Band**

Mode	Channel	Frequency (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
GPRS (GMSK)	Low	824.2	0.317	0.246
	Middle	836.6	0.319	0.250
	High	848.8	0.319	0.246
EGPRS (8PSK)	Low	824.2	0.301	0.240
	Middle	836.6	0.321	0.248
	High	848.8	0.313	0.248

**WCDMA Band V**

Mode	Channel	Frequency (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
WCDMA (Rel 99)	Low	826.4	4.689	4.188
	Middle	836.6	4.669	4.168
	High	846.6	4.689	4.148
WCDMA (HSDPA)	Low	826.4	4.689	4.168
	Middle	836.6	4.689	4.168
	High	846.6	4.689	4.148
WCDMA (HSUPA)	Low	826.4	4.689	4.168
	Middle	836.6	4.689	4.188
	High	846.6	4.689	4.168
WCDMA (HSPA+)	Low	826.4	4.689	4.168
	Middle	836.6	4.689	4.168
	High	846.6	4.709	4.168



**PCS 1900**

Mode	Channel	Frequency (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
GPRS (GMSK)	Low	1850.2	0.321	0.242
	Middle	1880	0.321	0.244
	High	1909.8	0.317	0.242
EGPRS (8PSK)	Low	1850.2	0.315	0.253
	Middle	1880	0.317	0.251
	High	1909.8	0.321	0.246

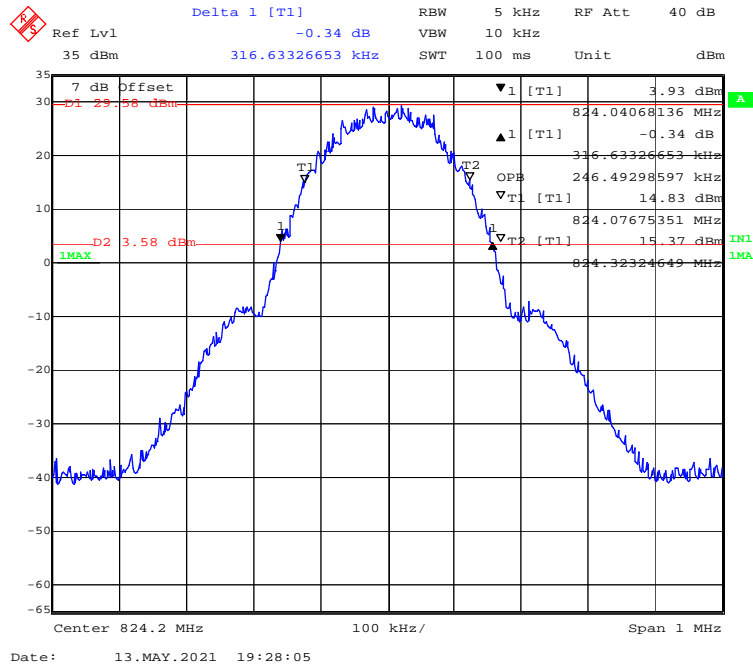
**WCDMA Band II**

Mode	Channel	Frequency (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
WCDMA (Rel 99)	Low	1852.4	4.689	4.188
	Middle	1880	4.689	4.168
	High	1907.6	4.709	4.188
WCDMA (HSDPA)	Low	1852.4	4.689	4.188
	Middle	1880	4.689	4.168
	High	1907.6	4.709	4.188
WCDMA (HSUPA)	Low	1852.4	4.709	4.168
	Middle	1880	4.689	4.168
	High	1907.6	4.689	4.168
WCDMA (HSPA+)	Low	1852.4	4.709	4.168
	Middle	1880	4.689	4.188
	High	1907.6	4.689	4.168

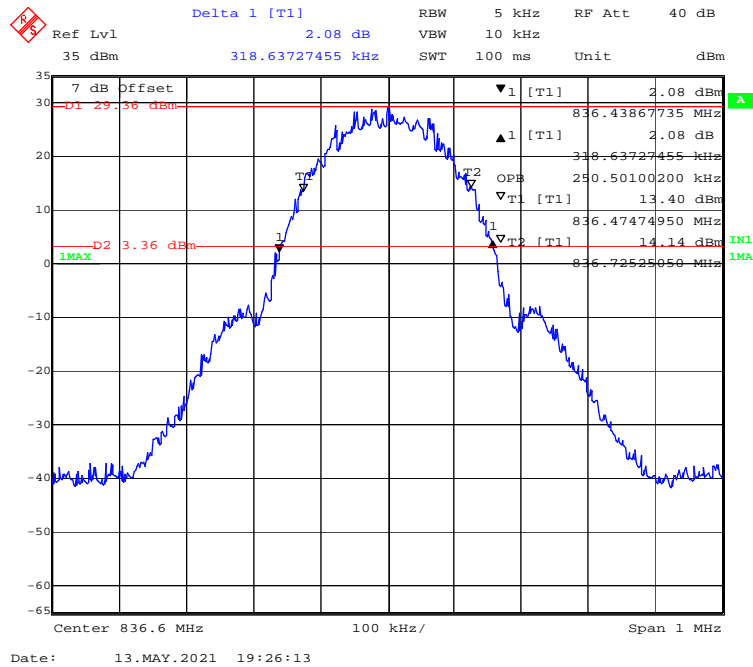
**WCDMA Band IV**

<b>Mode</b>	<b>Channel</b>	<b>Frequency (MHz)</b>	<b>26 dB Emission Bandwidth (MHz)</b>	<b>99% Occupied Bandwidth (MHz)</b>
WCDMA (Rel 99)	Low	1712.4	4.709	4.188
	Middle	1732.6	4.689	4.148
	High	1752.6	4.709	4.168
WCDMA (HSDPA)	Low	1712.4	4.709	4.188
	Middle	1732.6	4.689	4.168
	High	1752.6	4.709	4.168
WCDMA (HSUPA)	Low	1712.4	4.669	4.168
	Middle	1732.6	4.689	4.168
	High	1752.6	4.689	4.188
WCDMA (HSPA+)	Low	1712.4	4.669	4.188
	Middle	1732.6	4.689	4.168
	High	1752.6	4.689	4.188

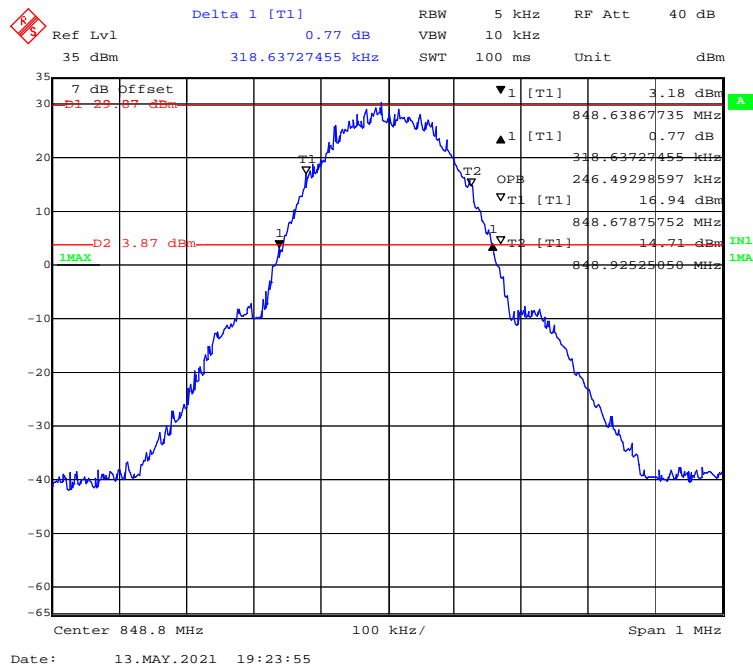
**GSM 850 Band**  
**99% Occupied & 26 dB Emissions Bandwidth for GPRS (GMSK) Mode Low Channel**



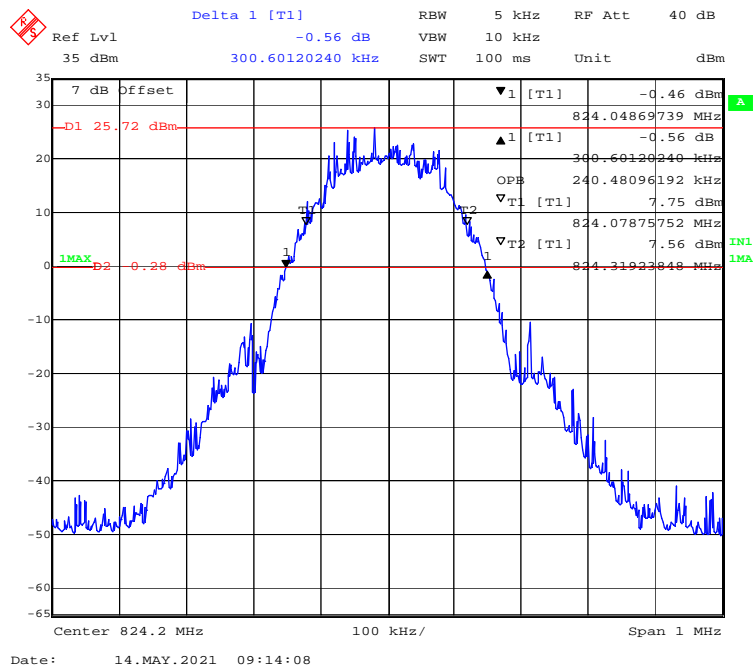
**99% Occupied & 26 dB Emissions Bandwidth for GPRS (GMSK) Mode Middle Channel**



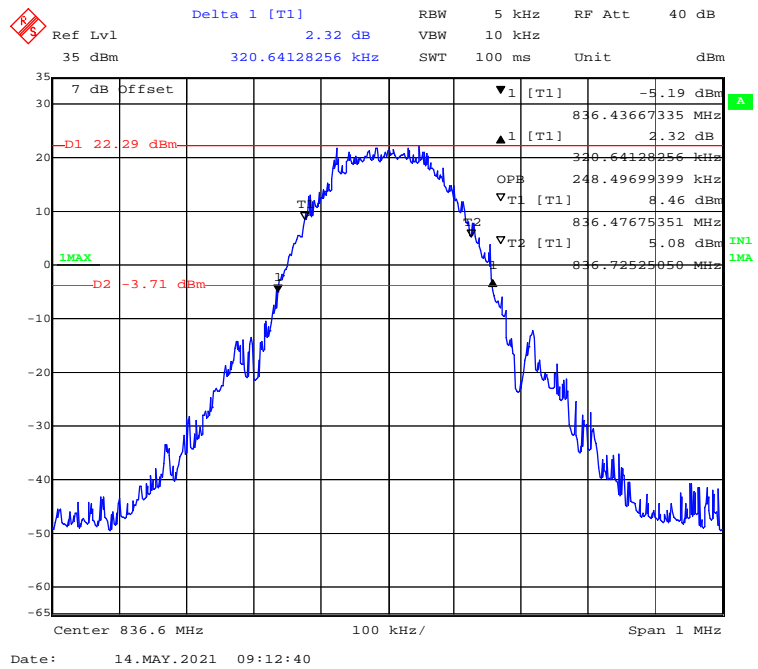
**99% Occupied & 26 dB Emissions Bandwidth for GPRS (GMSK) Mode High Channel**



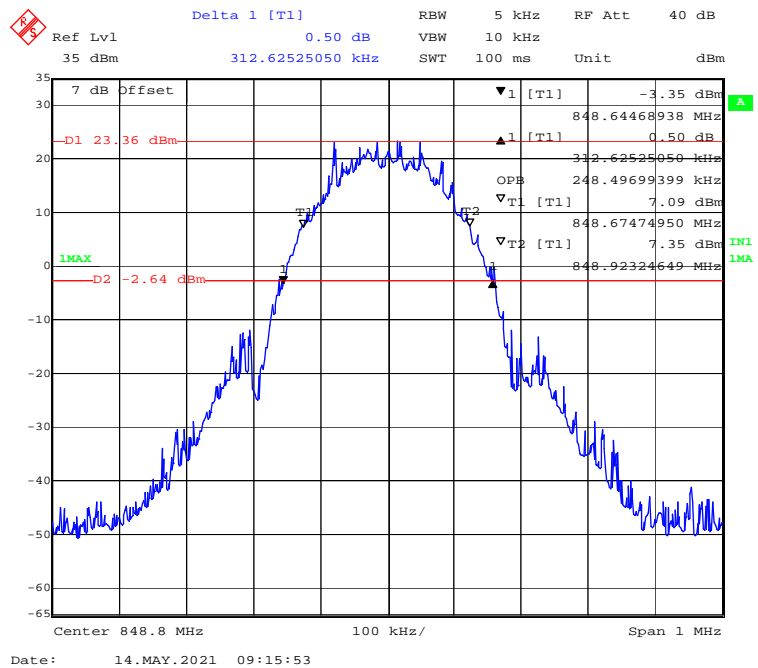
**99% Occupied & 26 dB Emissions Bandwidth for EGPRS (8PSK) Mode Low Channel**



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

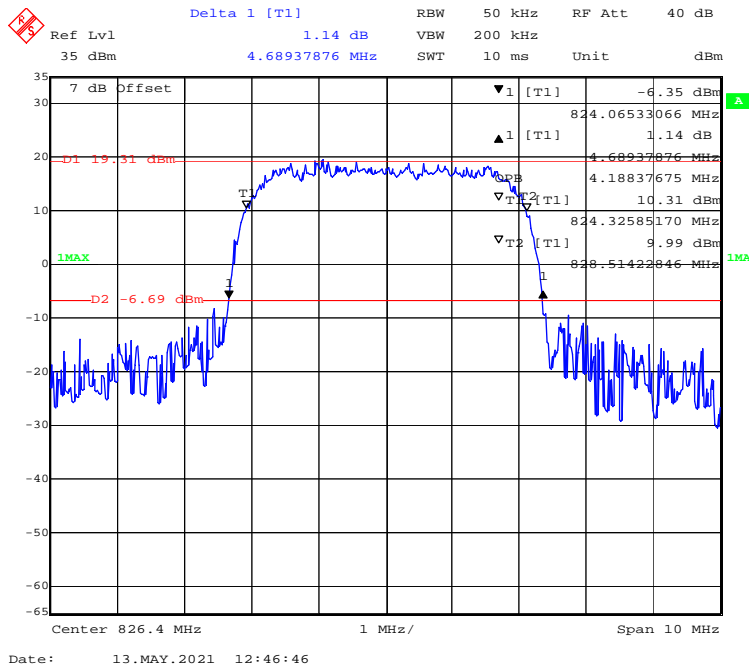


**99% Occupied & 26 dB Emissions Bandwidth for EGPRS (8PSK) Mode High Channel**

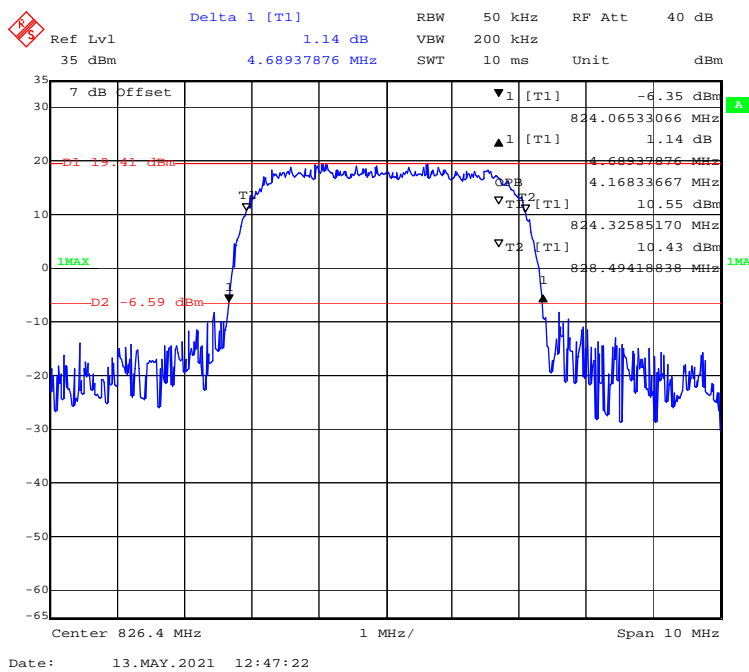


WCDMA Band V

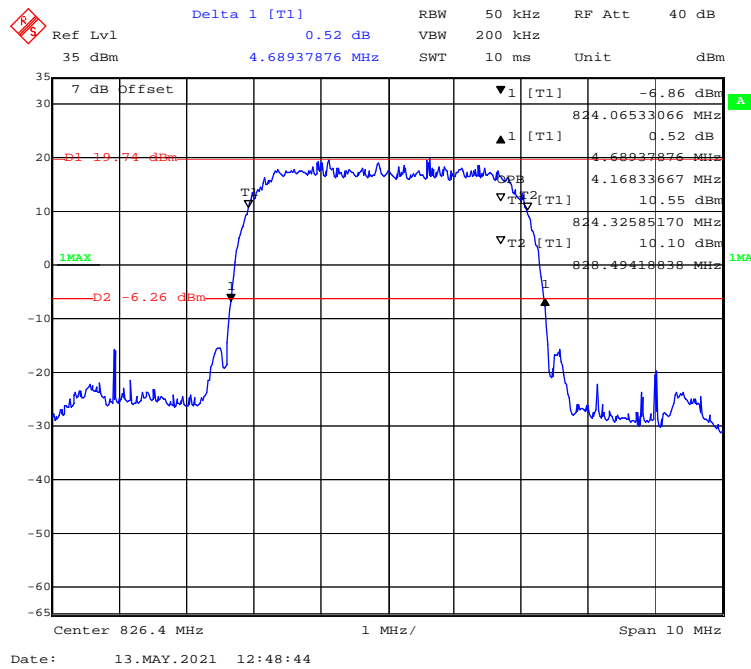
99% Occupied & 26 dB Emissions Bandwidth for WCDMA (Rel 99) Mode Low Channel



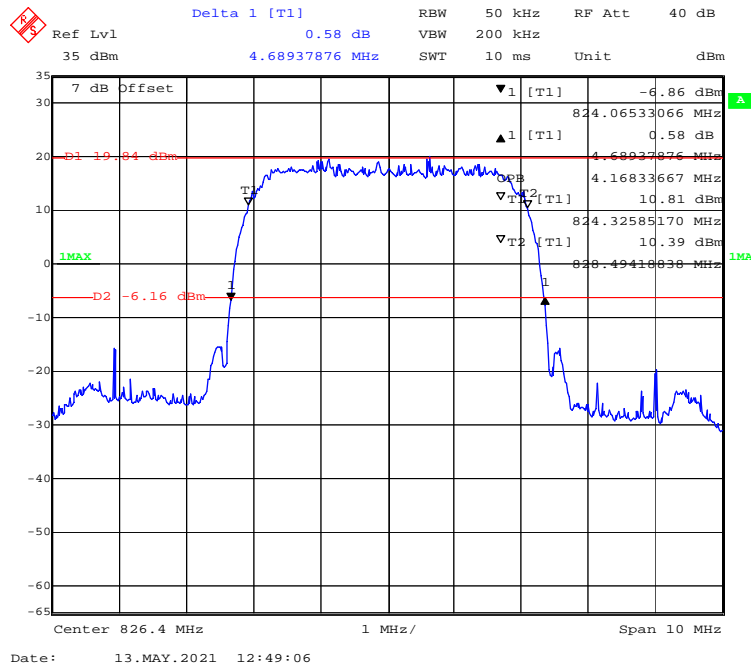
99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSDPA) Mode Low Channel



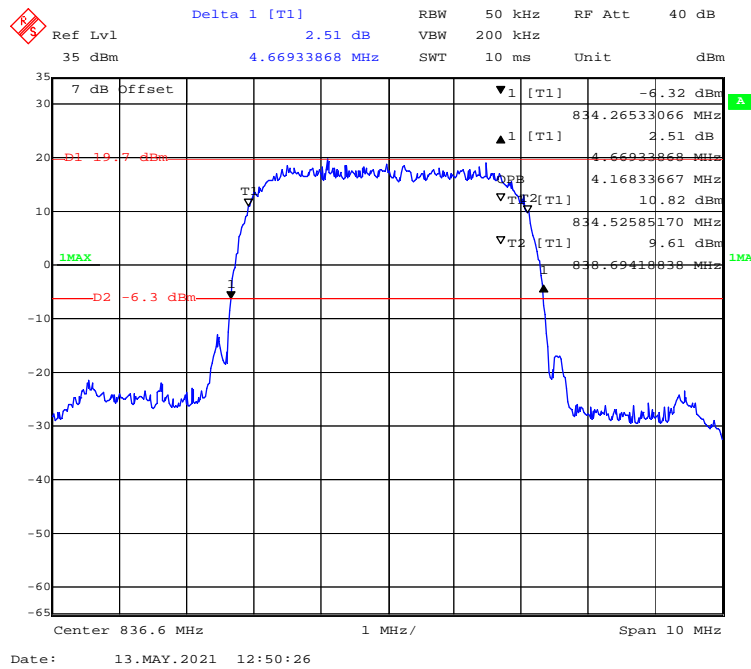
**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSUPA) Mode Low Channel**



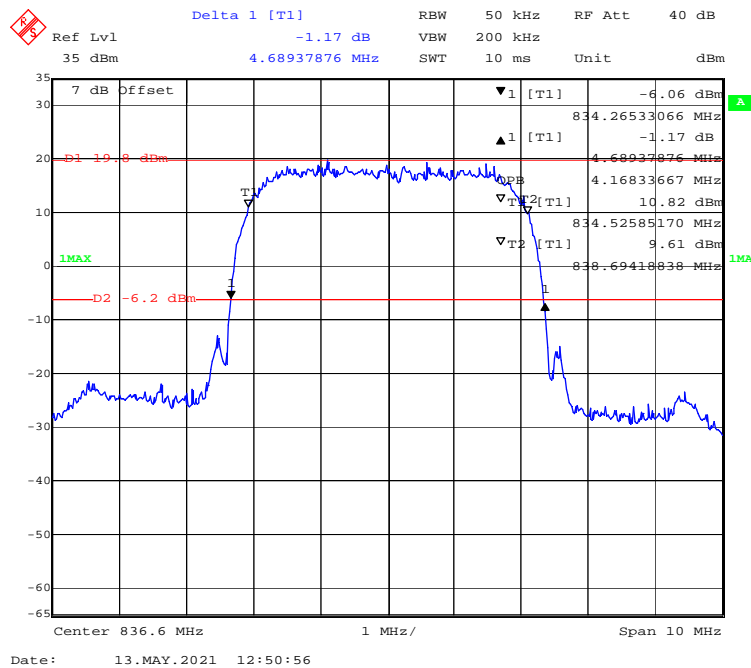
**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSPA+) Mode Low Channel**



**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (Rel 99) Mode Middle Channel**

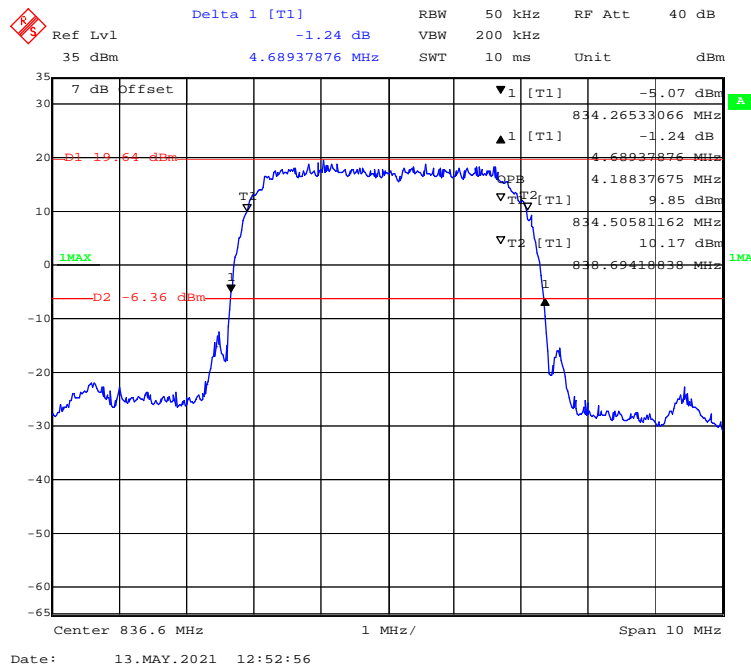


**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSDPA) Mode Middle Channel**

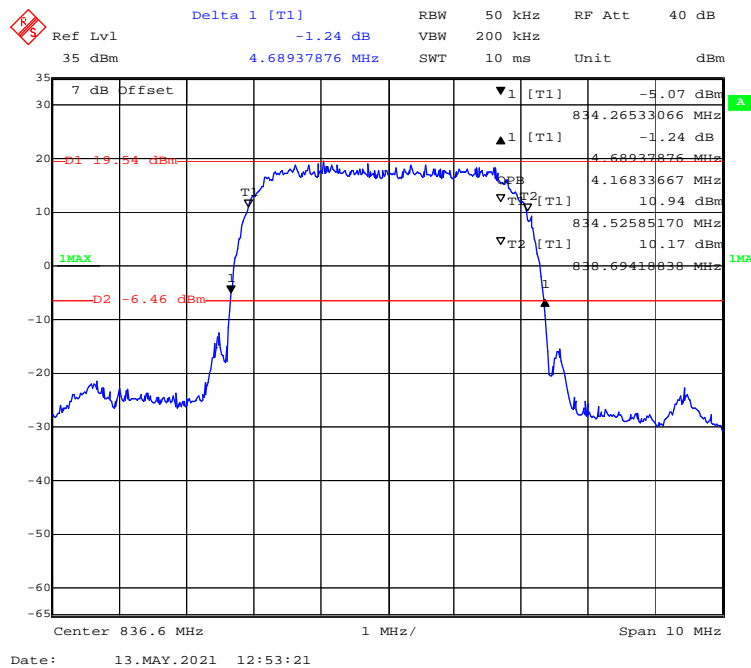




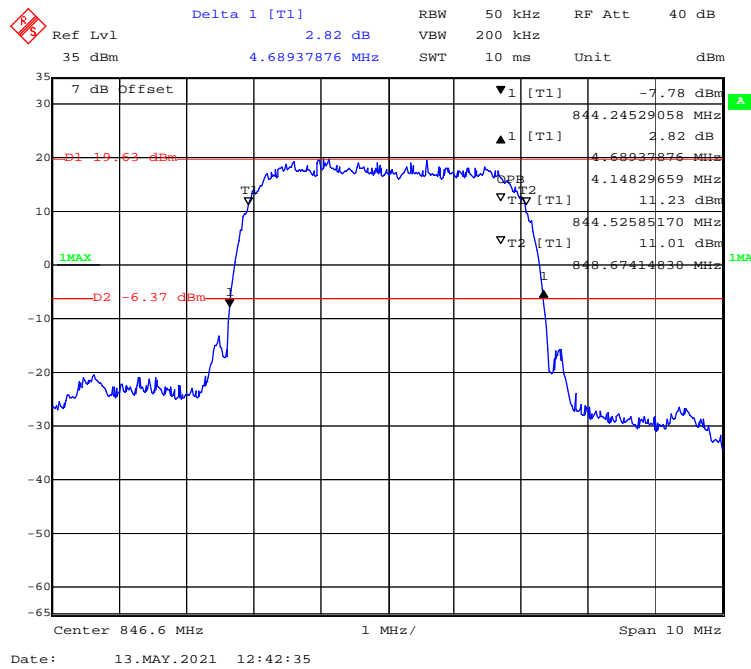
**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSUPA) Mode Middle Channel**



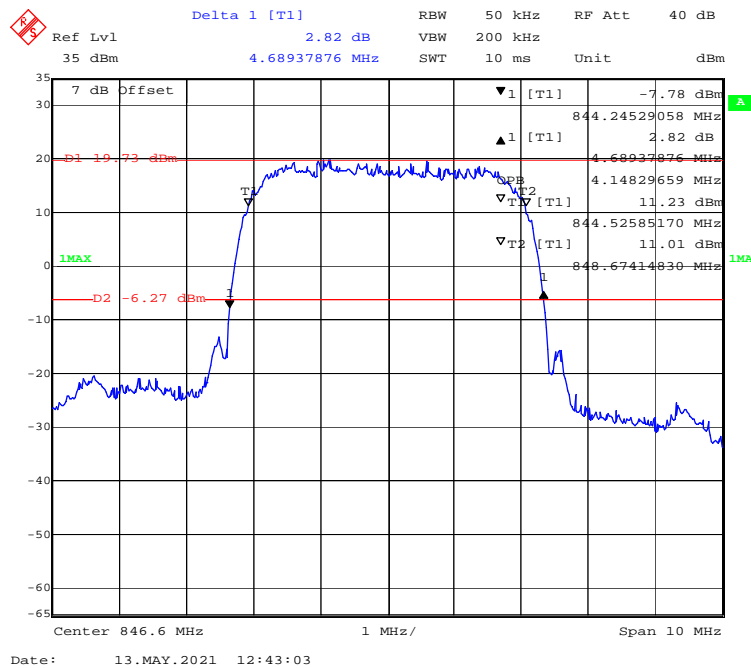
**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSPA+) Mode Middle Channel**



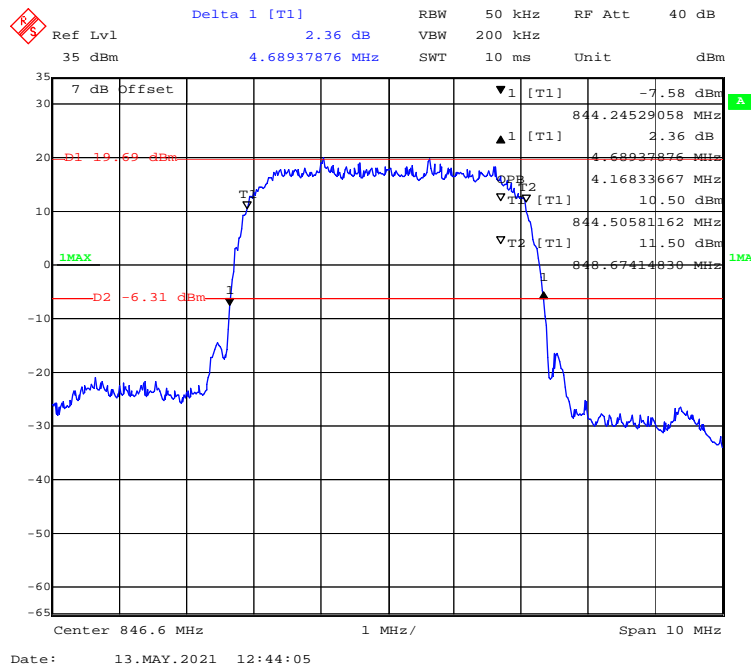
**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (Rel 99) Mode High Channel**



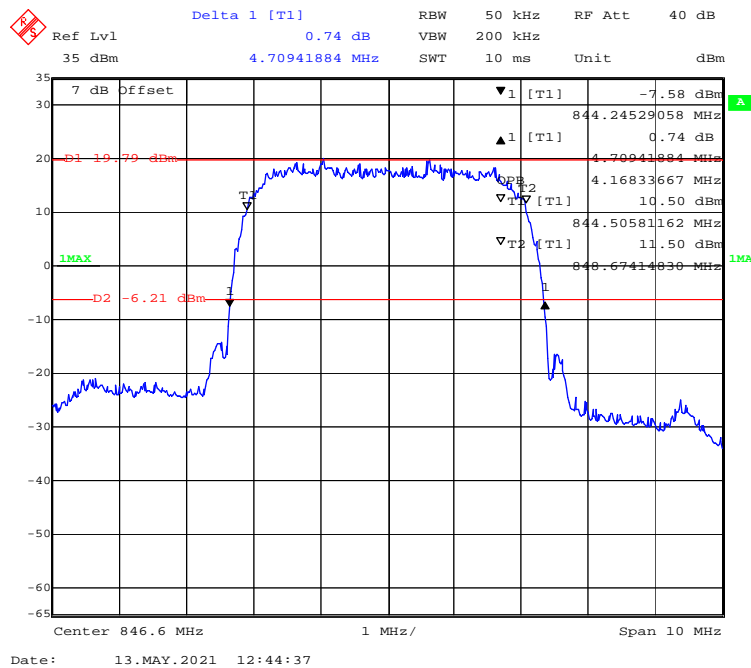
**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSDPA) Mode High Channel**



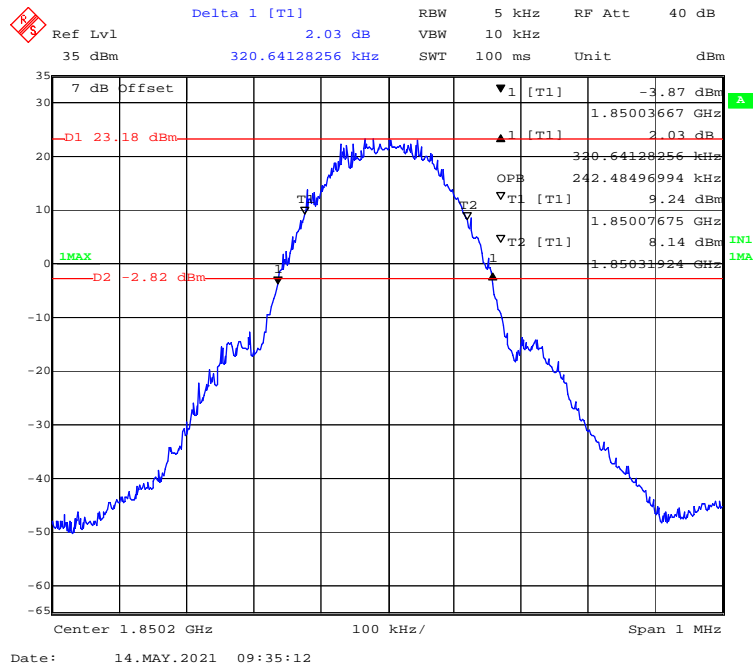
**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSUPA) Mode High Channel**



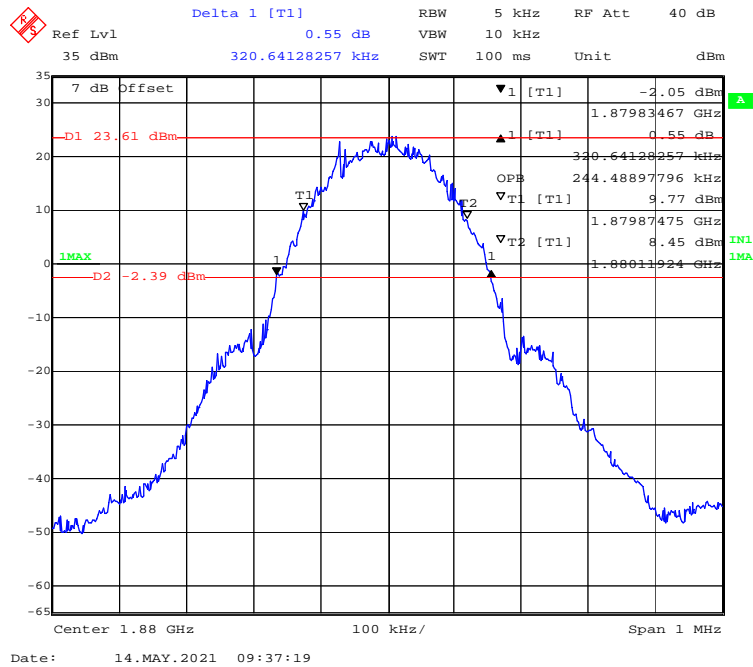
**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSPA+) Mode High Channel**



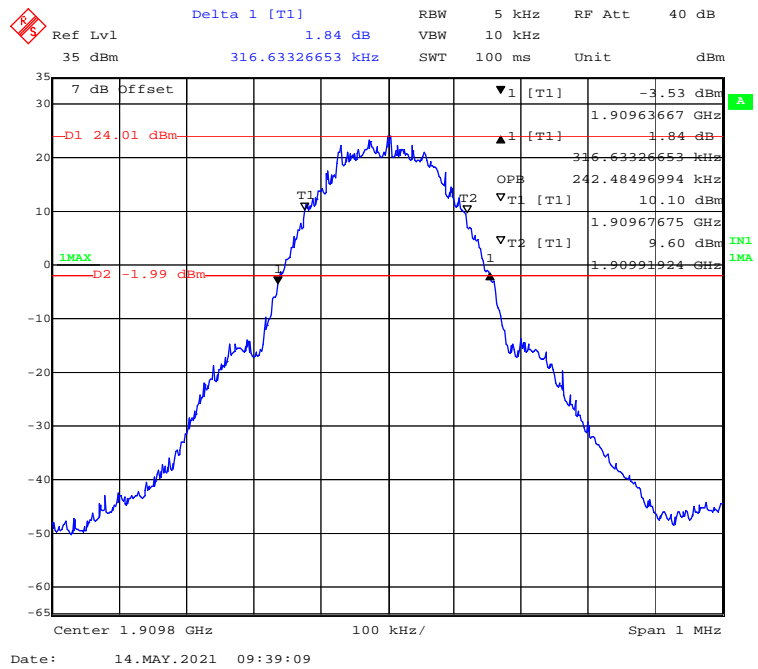
**PCS 1900 Band**  
**99% Occupied & 26 dB Emissions Bandwidth for GPRS (GMSK) Mode Low Channel**



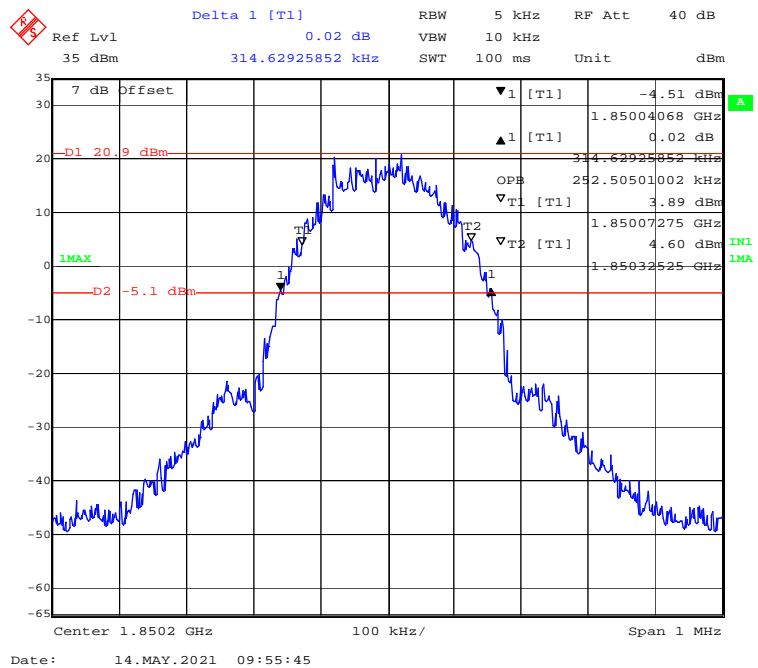
**99% Occupied & 26 dB Emissions Bandwidth for GPRS (GMSK) Mode Middle Channel**



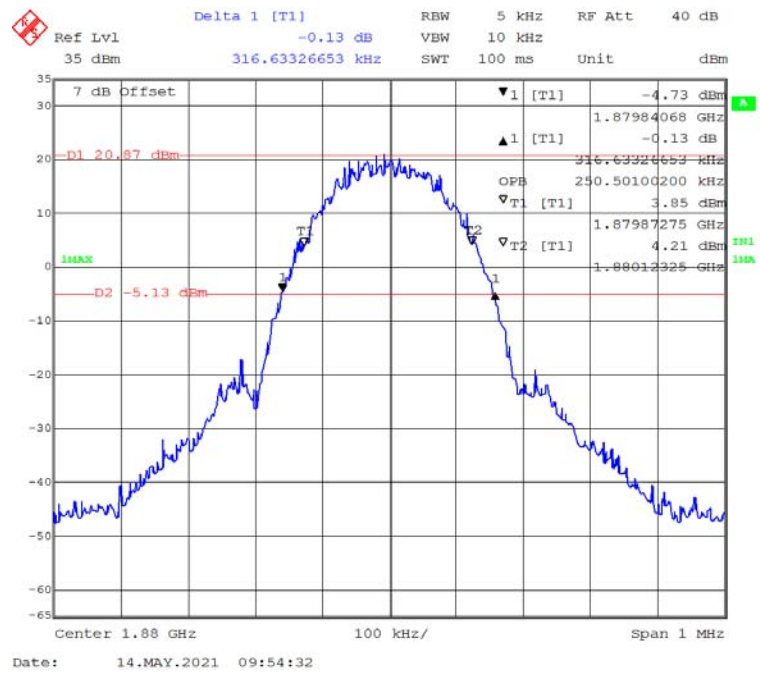
**99% Occupied & 26 dB Emissions Bandwidth for GPRS (GMSK) Mode High Channel**



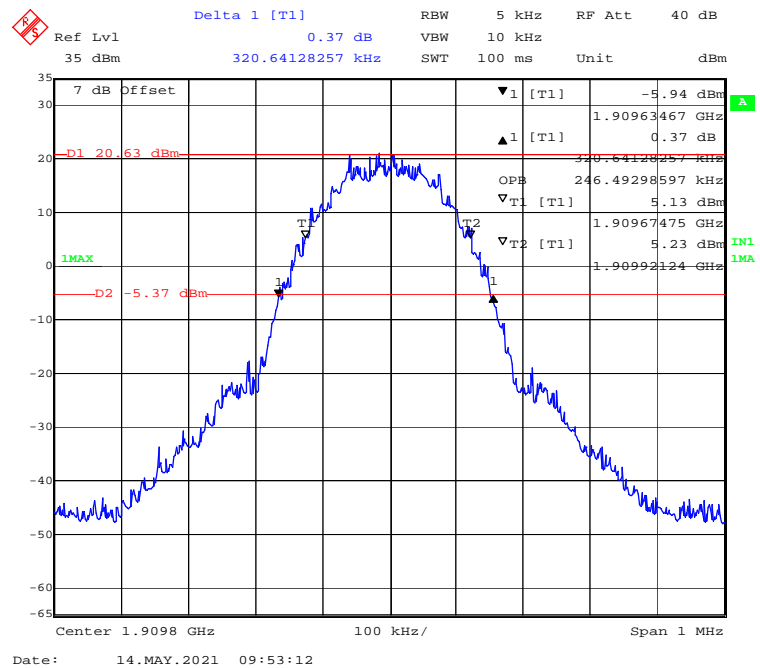
**99% Occupied & 26 dB Emissions Bandwidth for EGPRS (8PSK) Mode Low Channel**



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

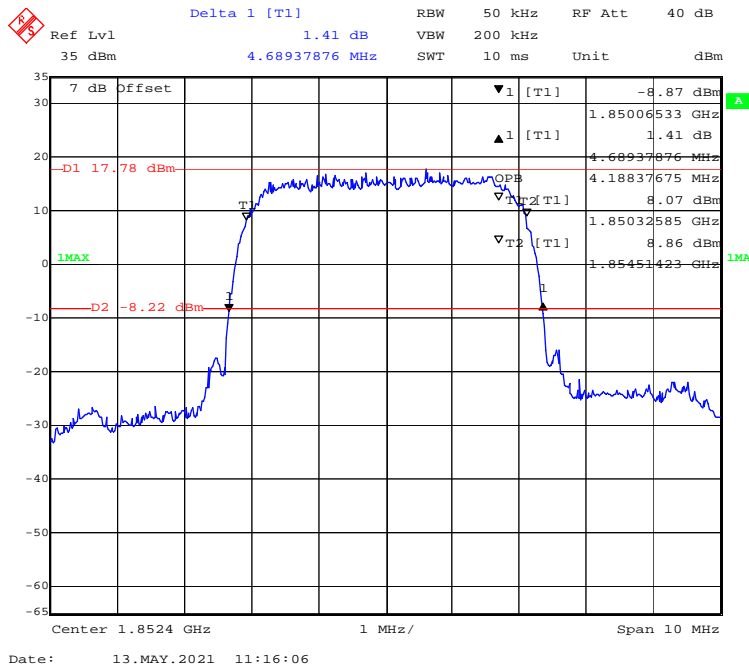


**99% Occupied & 26 dB Emissions Bandwidth for EGPRS (8PSK) Mode High Channel**

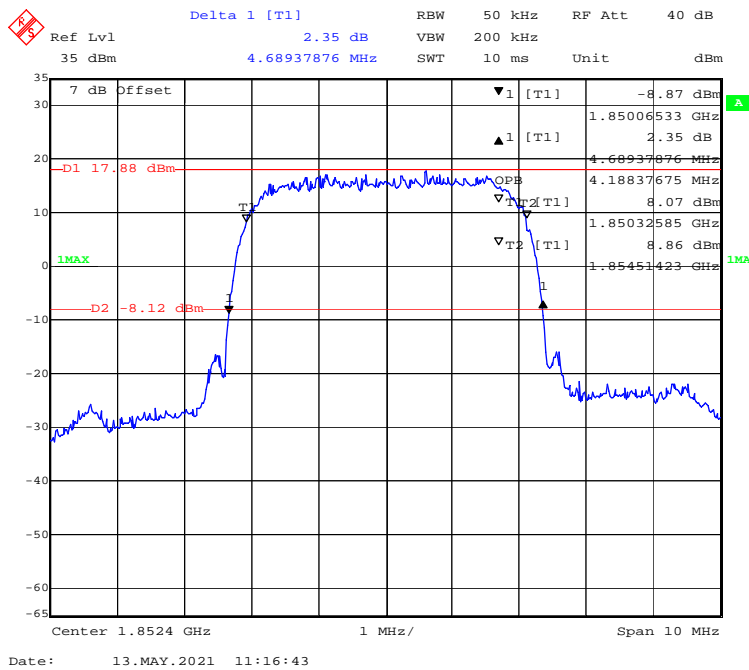


WCDMA Band II

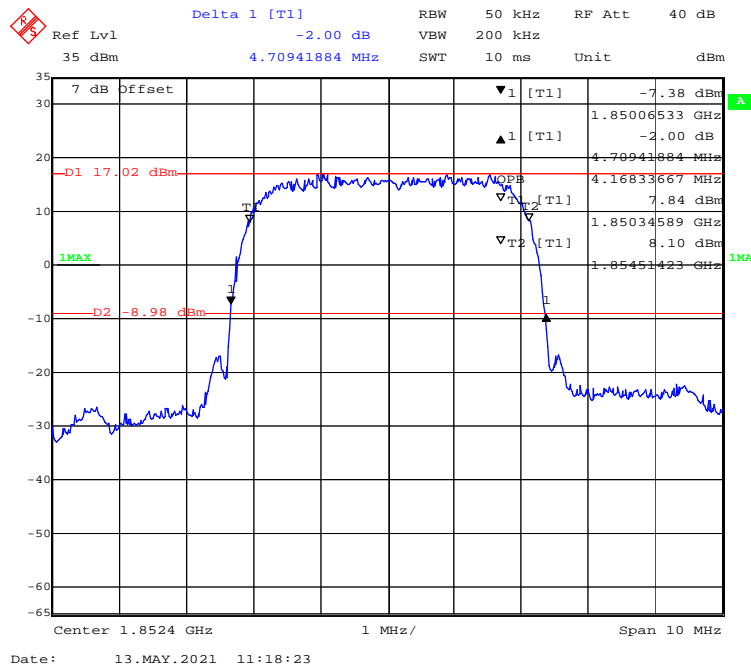
99% Occupied & 26 dB Emissions Bandwidth for WCDMA (Rel 99) Mode Low Channel



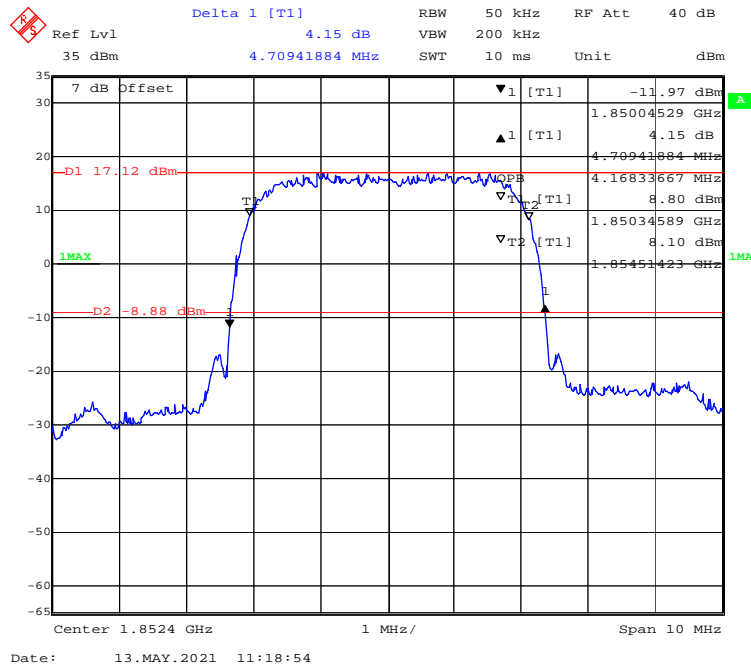
99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSDPA) Mode Low Channel



**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSUPA) Mode Low Channel**

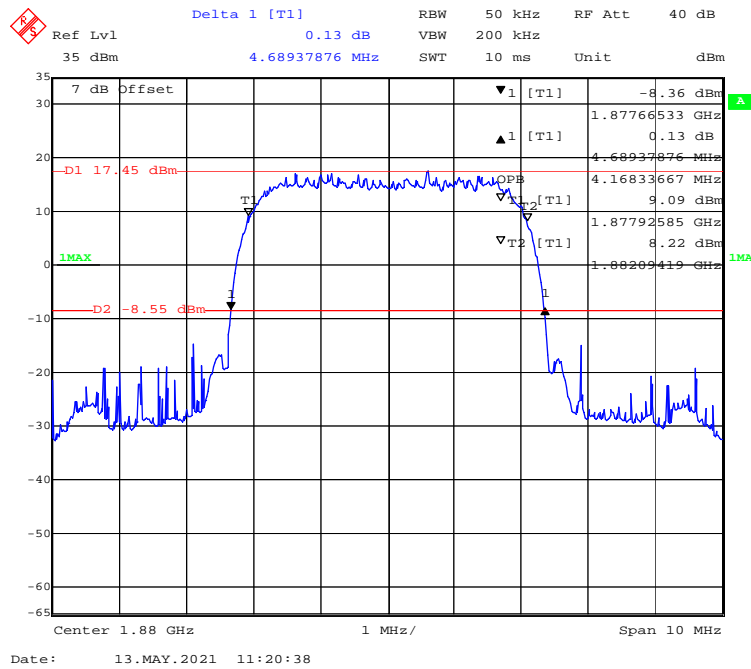


**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSPA+) Mode Low Channel**

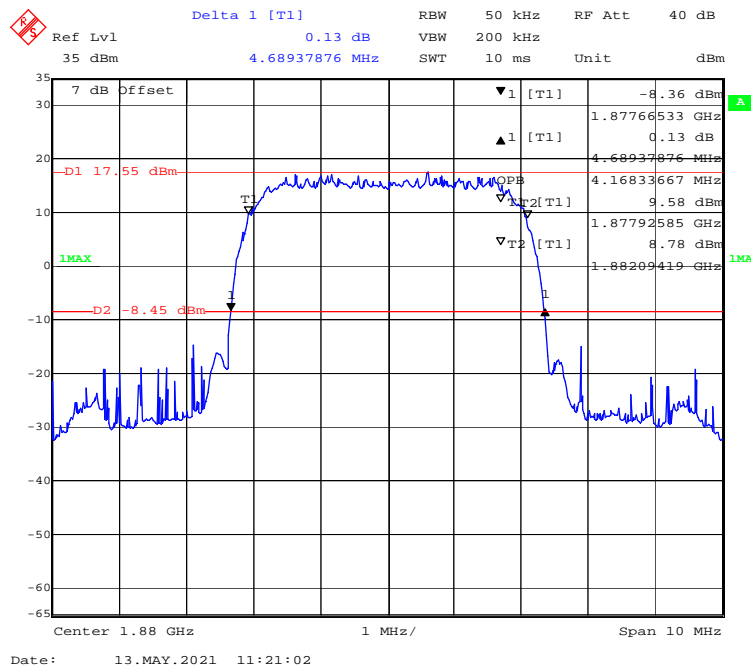




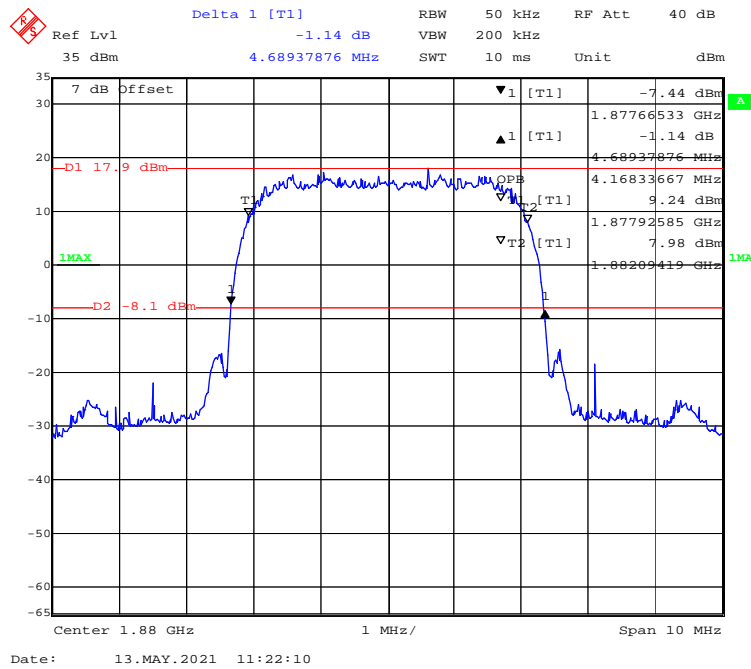
**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (Rel 99) Mode Middle Channel**



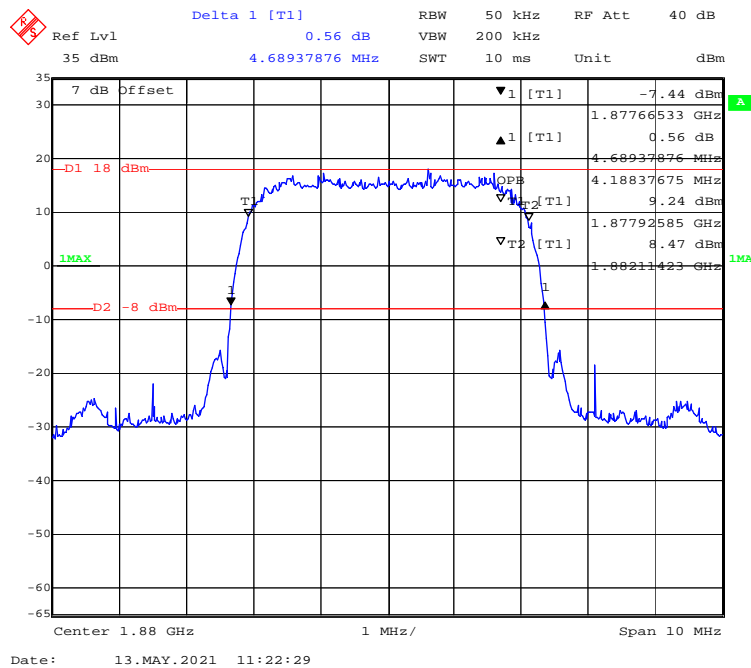
**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSDPA) Mode Middle Channel**



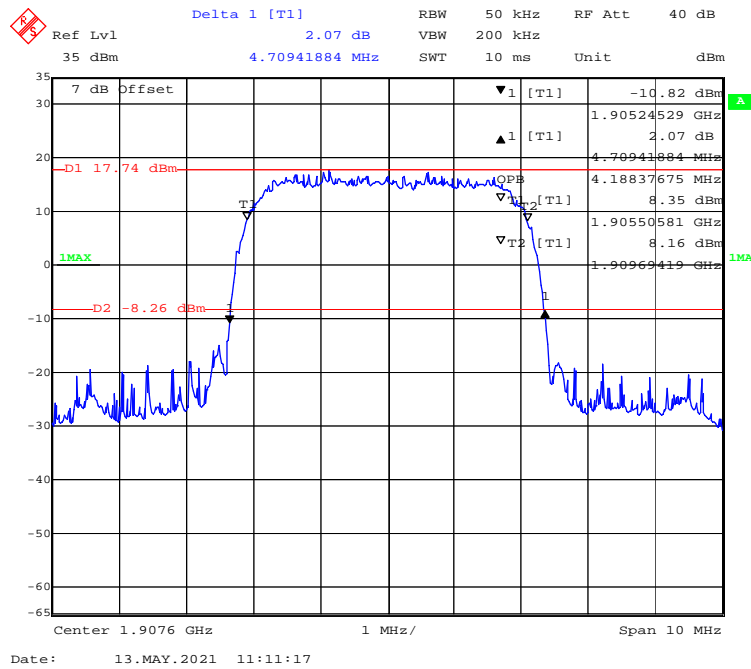
**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSUPA) Mode Middle Channel**



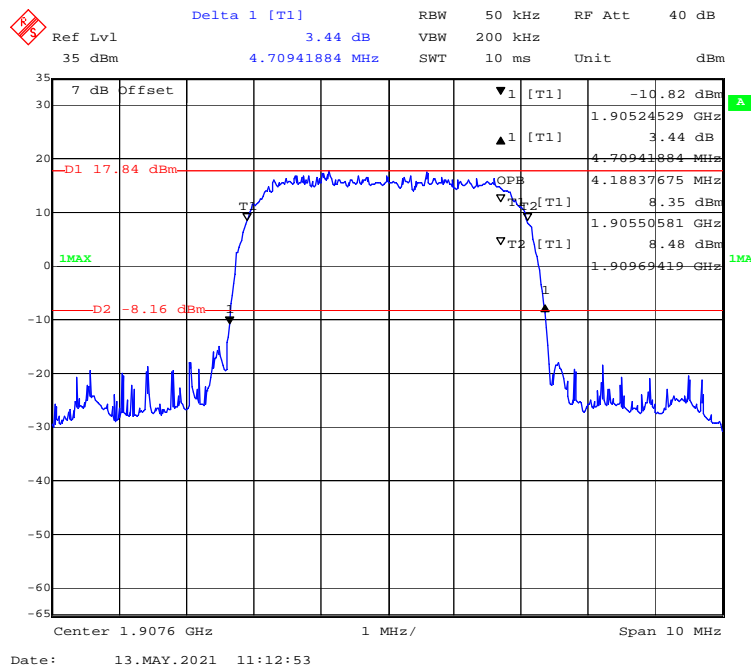
**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSPA+) Mode Middle Channel**



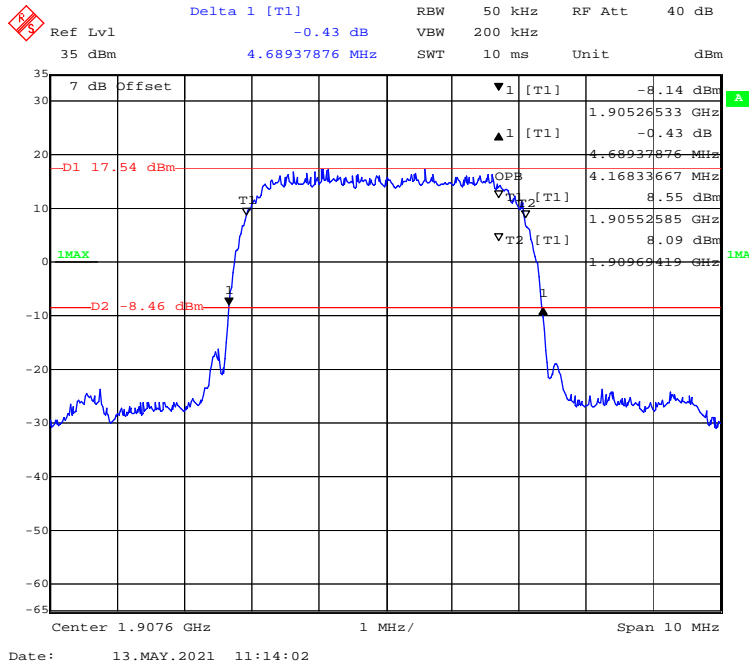
**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (Rel 99) Mode High Channel**



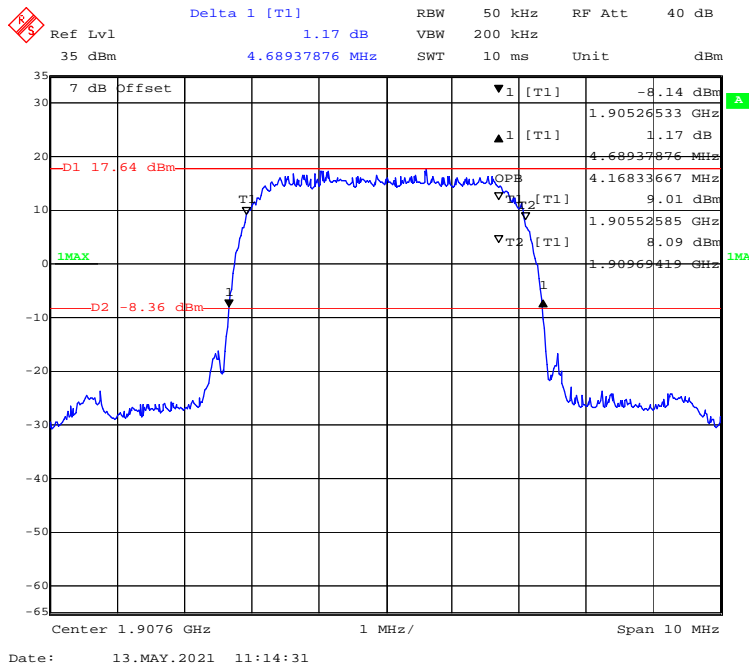
**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSDPA) Mode High Channel**



**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSUPA) Mode High Channel**

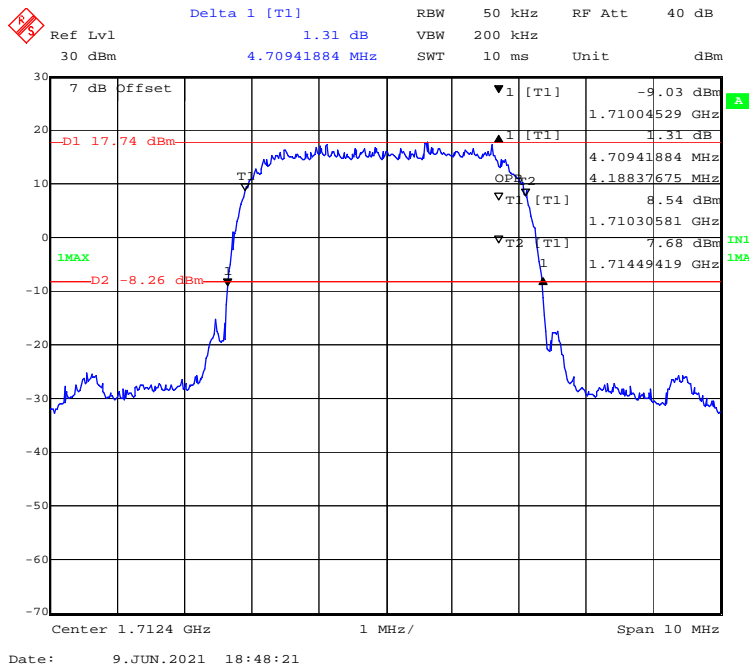


**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSPA+) Mode High Channel**

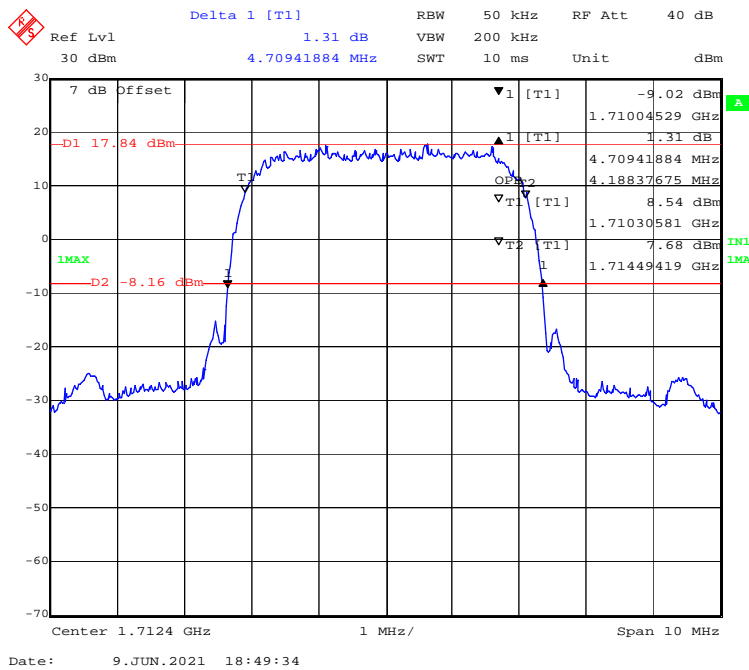


WCDMA Band IV

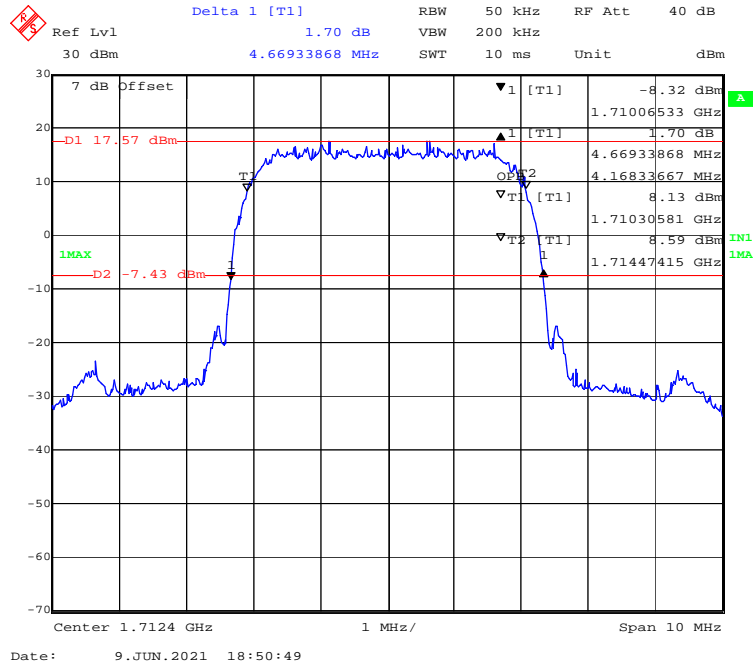
99% Occupied & 26 dB Emissions Bandwidth for WCDMA (Rel 99) Mode Low Channel



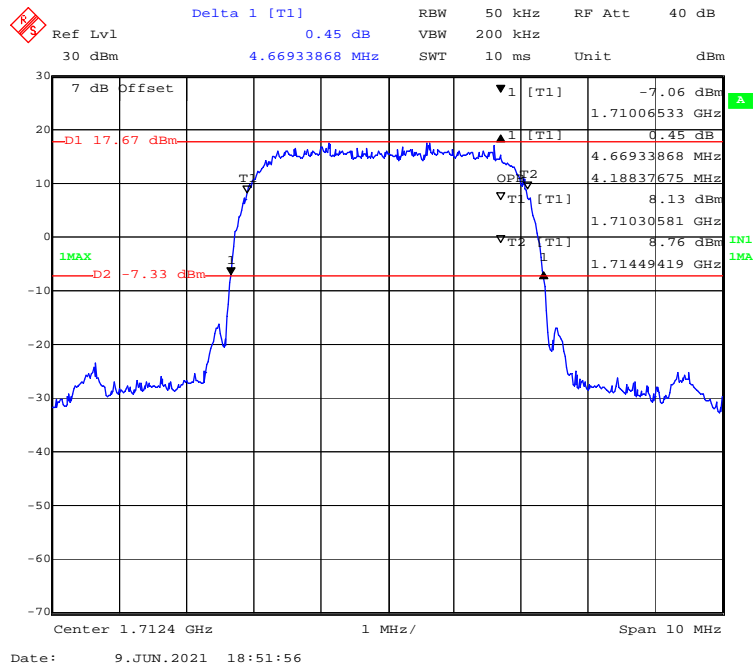
99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSDPA) Mode Low Channel



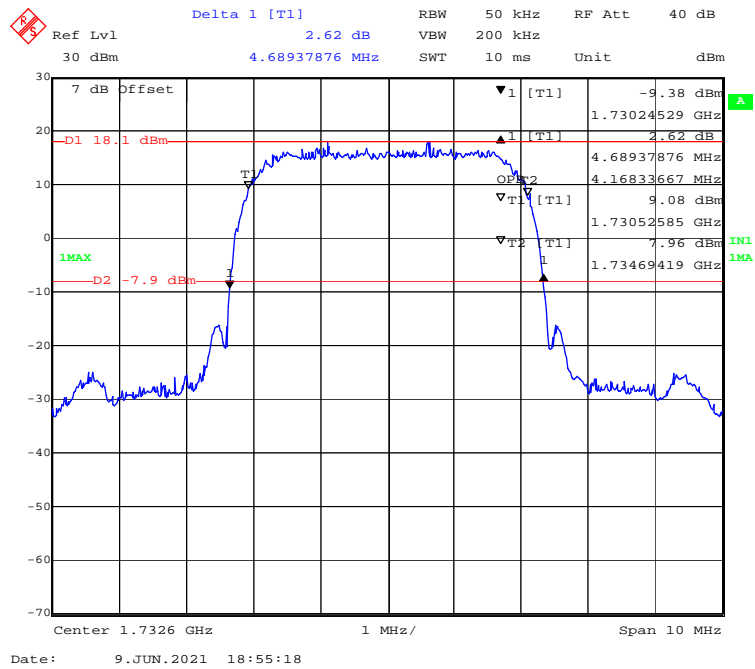
**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSUPA) Mode Low Channel**



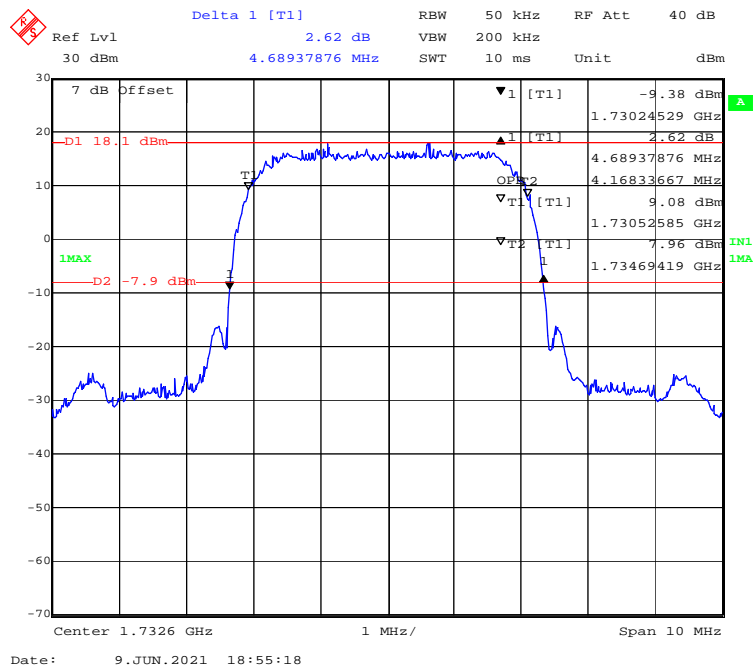
**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSPA+) Mode Low Channel**



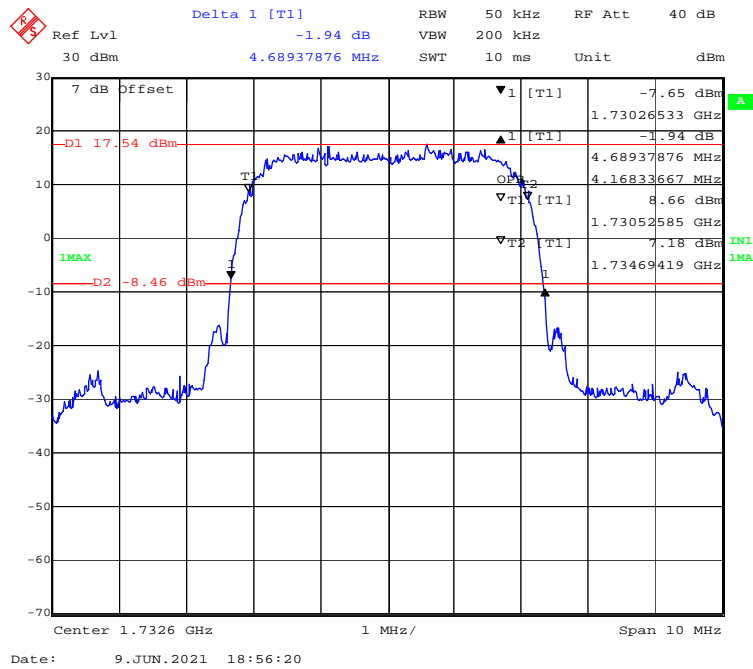
**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (Rel 99) Mode Middle Channel**



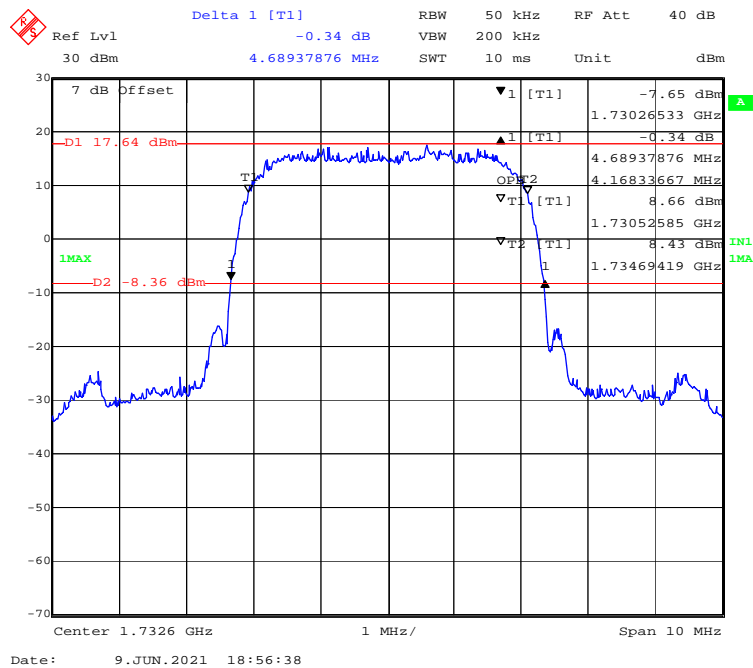
**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSDPA) Mode Middle Channel**



**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSUPA) Mode Middle Channel**

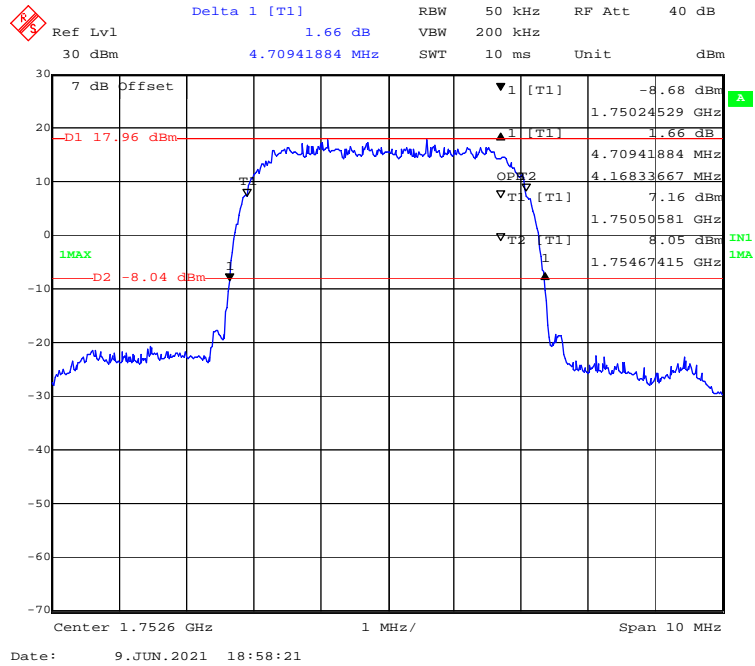


**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSPA+) Mode Middle Channel**

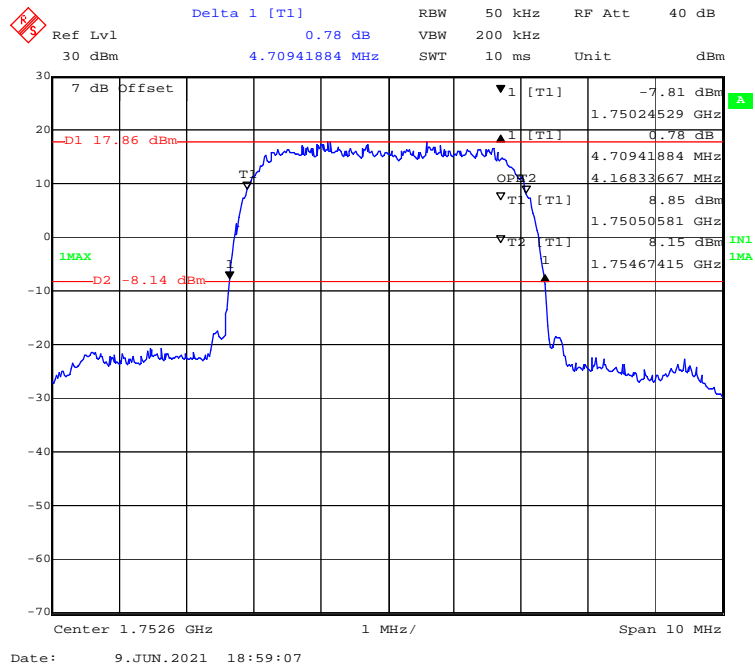




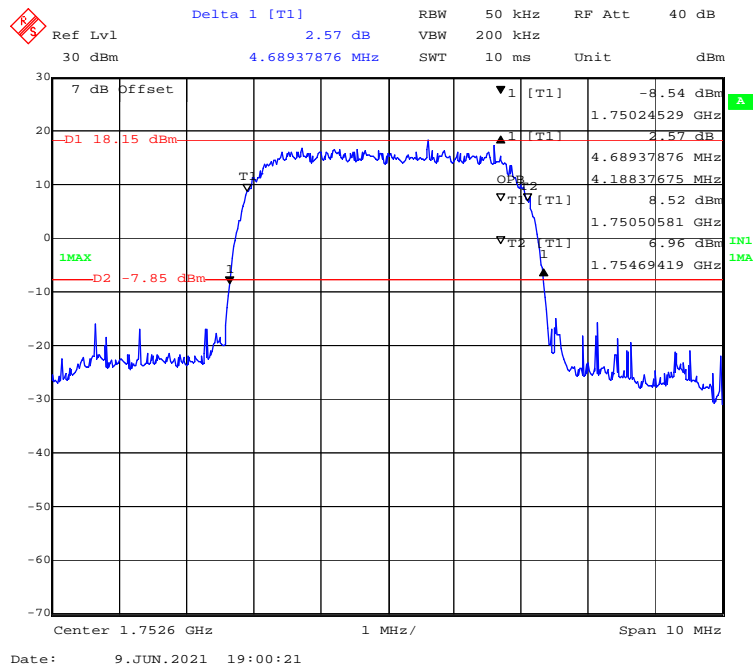
**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (Rel 99) Mode High Channel**



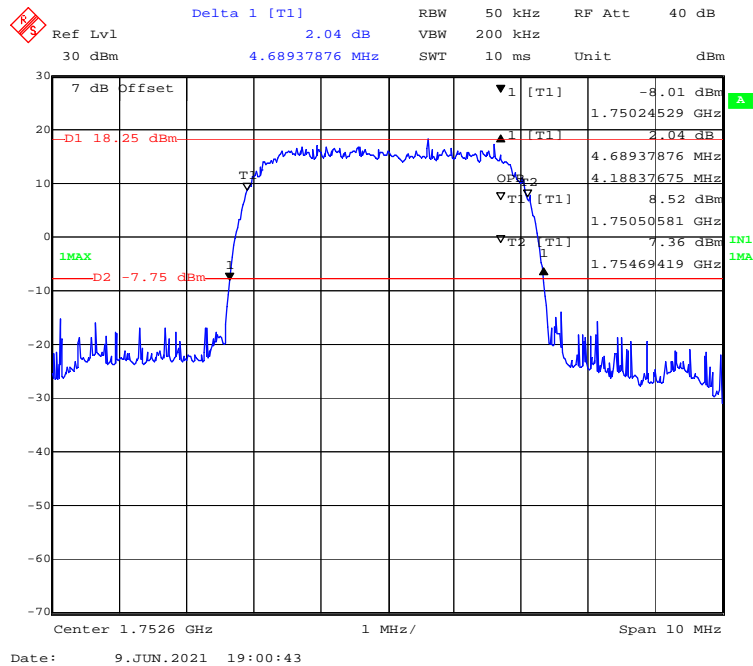
**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSDPA) Mode High Channel**



**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSUPA) Mode High Channel**



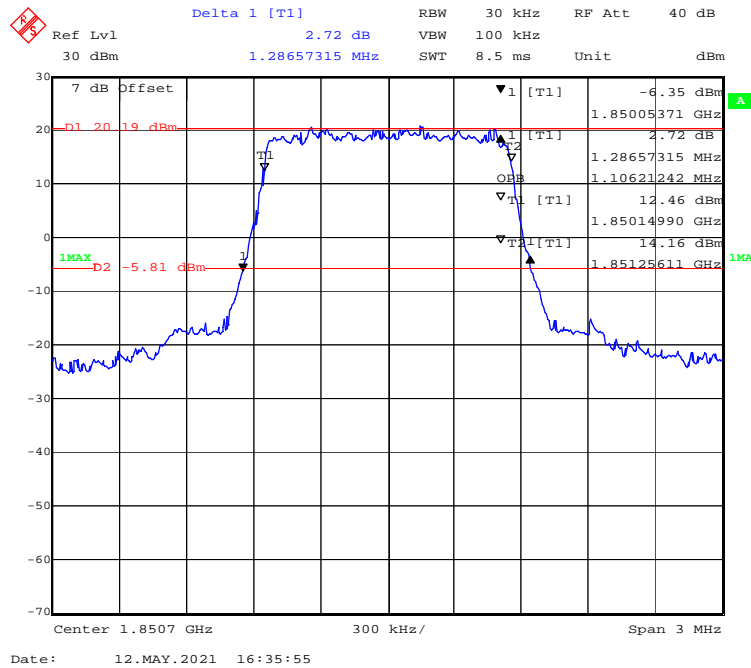
**99% Occupied & 26 dB Emissions Bandwidth for WCDMA (HSPA+) Mode High Channel**



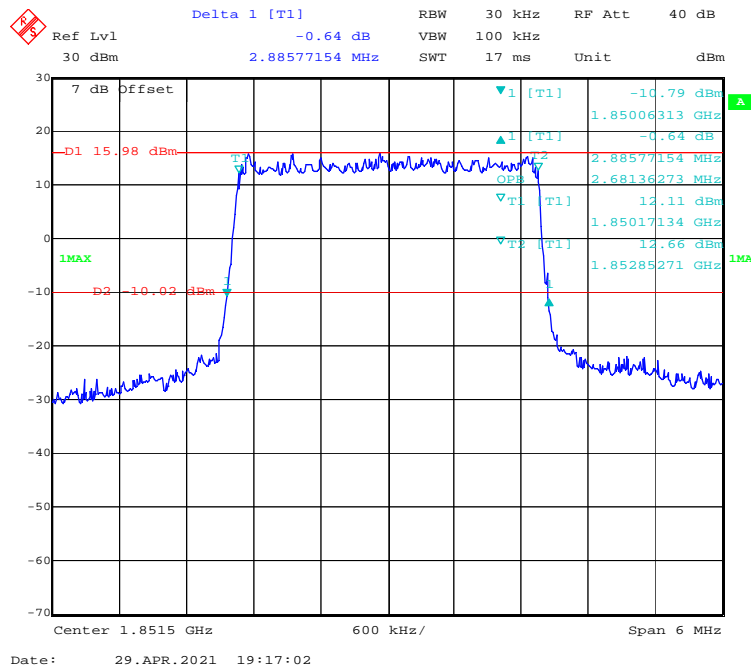
**LTE Band 2:**

Test Modulation	Test Bandwidth	Test Channel	26 dB Bandwidth	99% Occupied Bandwidth
			MHz	MHz
QPSK	1.4M	Low	1.287	1.106
	3M		2.886	2.681
	5M		4.950	4.509
	10M		9.499	8.978
	15M		14.669	13.527
	20M		19.319	17.956
	1.4M	Middle	1.293	1.100
	3M		2.874	2.693
	5M		5.010	4.509
	10M		9.539	8.978
	15M		14.729	13.467
	20M		19.319	17.956
	1.4M	High	1.293	1.106
	3M		2.874	2.693
	5M		4.950	4.509
	10M		9.579	8.978
	15M		14.850	13.527
	20M		19.559	17.956
16-QAM	1.4M	Low	1.287	1.100
	3M		2.886	2.681
	5M		4.950	4.509
	10M		9.579	8.938
	15M		14.789	13.527
	20M		19.319	18.036
	1.4M	Middle	1.269	1.094
	3M		2.886	2.681
	5M		4.950	4.529
	10M		9.539	8.938
	15M		14.790	13.527
	20M		19.319	17.956
	1.4M	High	1.293	1.100
	3M		2.874	2.681
	5M		4.990	4.529
	10M		9.579	8.978
	15M		14.790	13.527
	20M		19.399	17.956

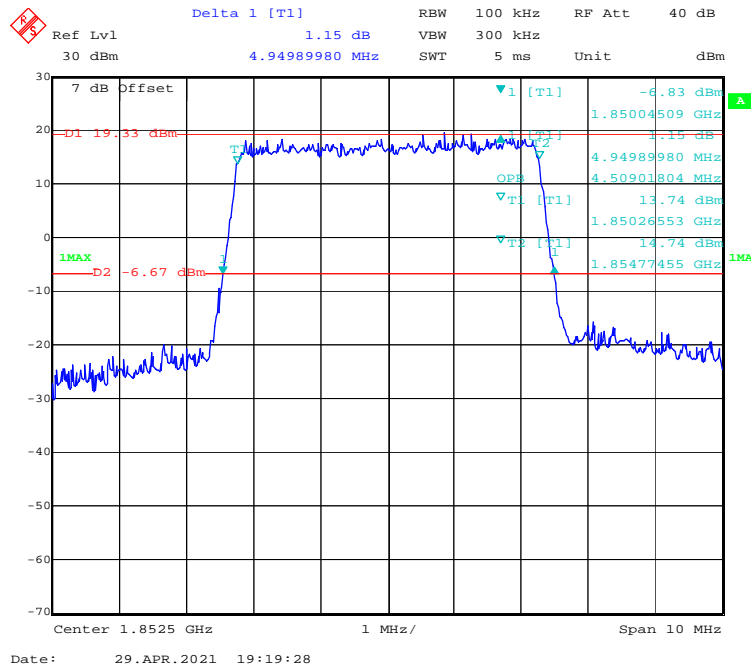
**QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



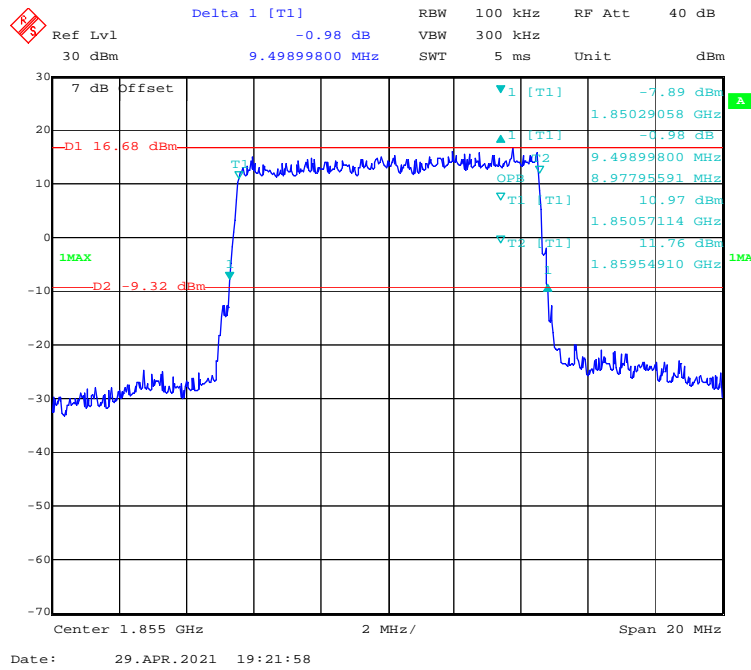
**QPSK (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



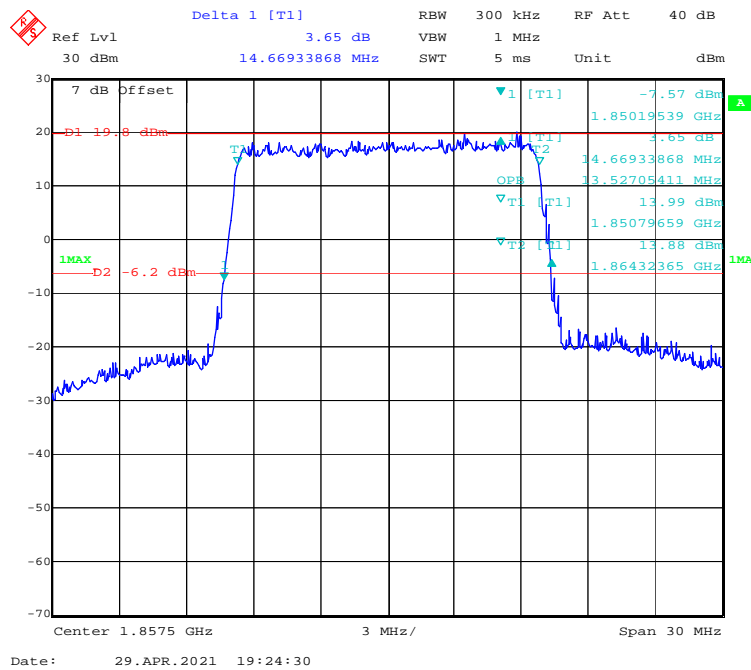
**QPSK (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



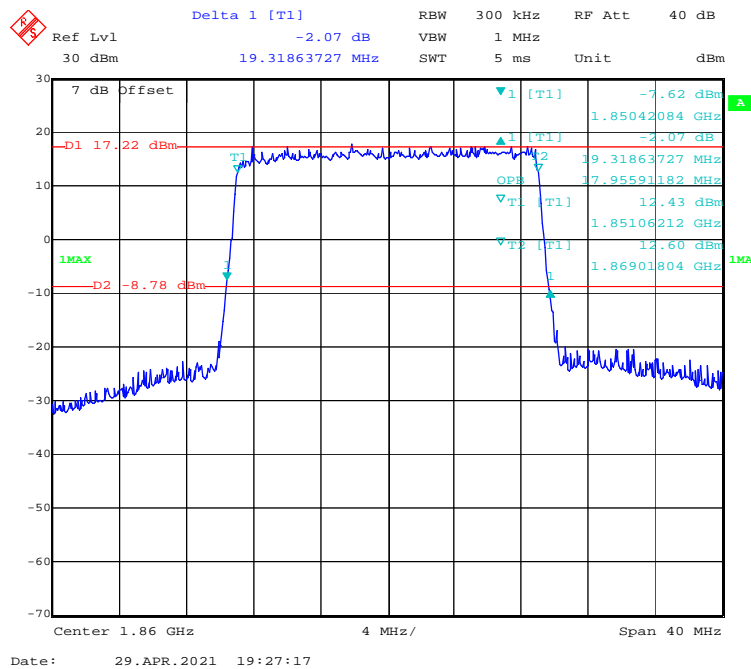
**QPSK (10MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



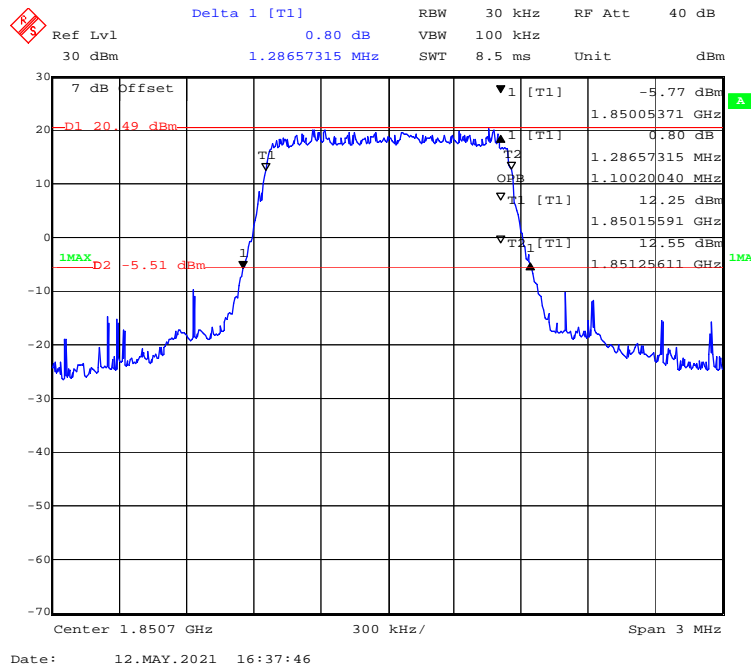
**QPSK (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



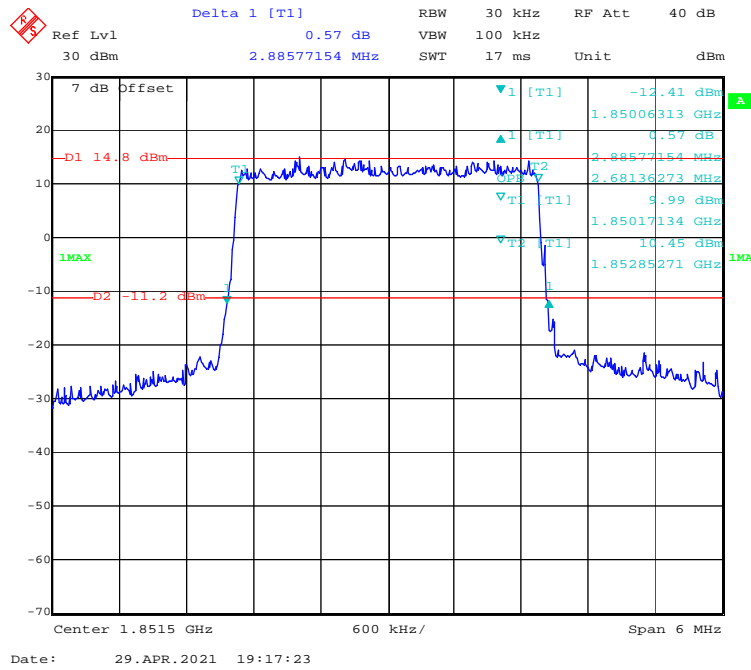
**QPSK (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



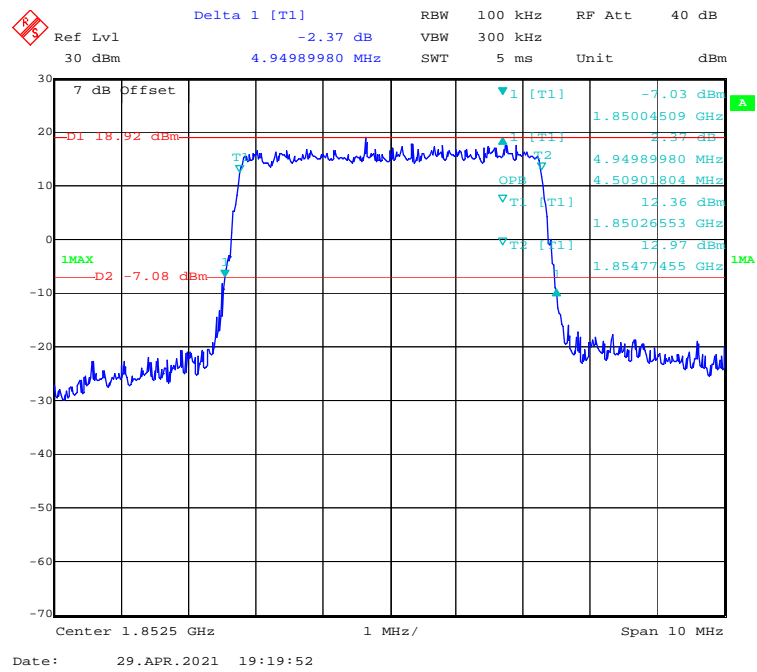
**16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



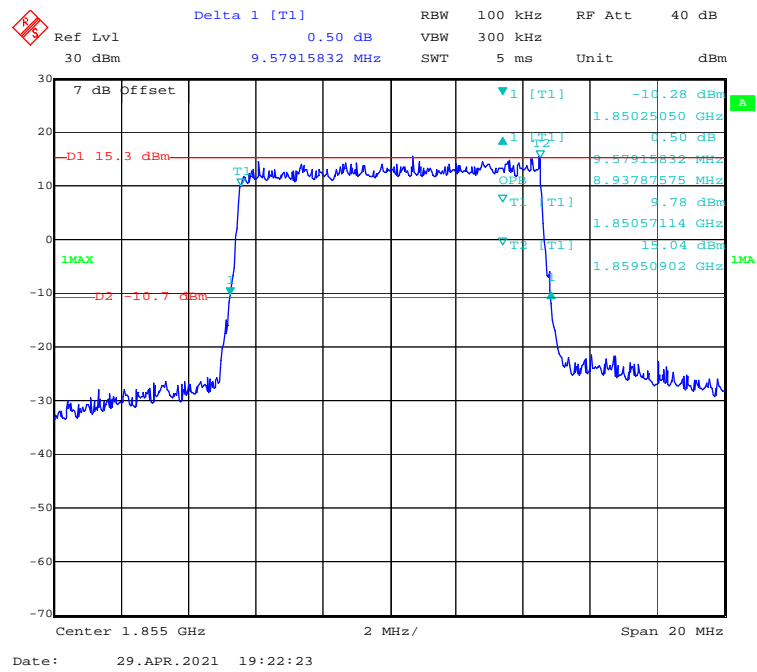
**16-QAM (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



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

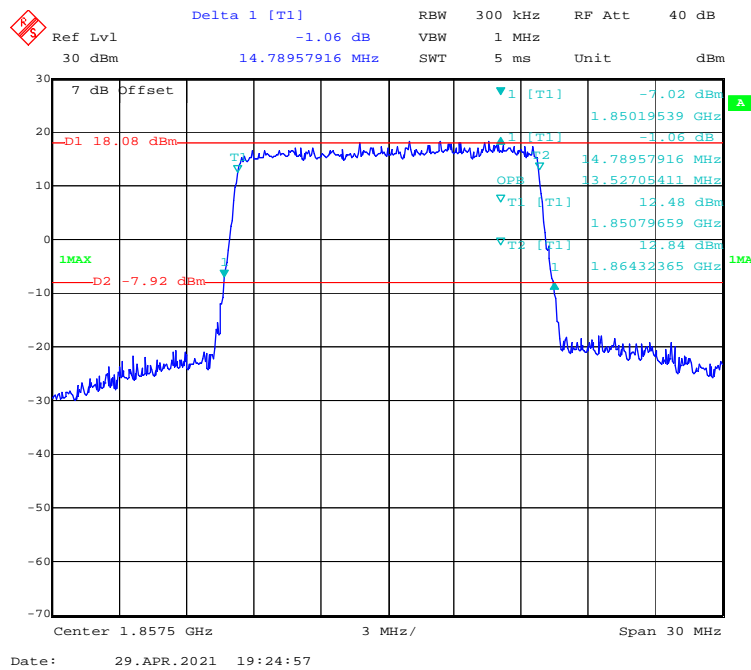


### 16-QAM (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel

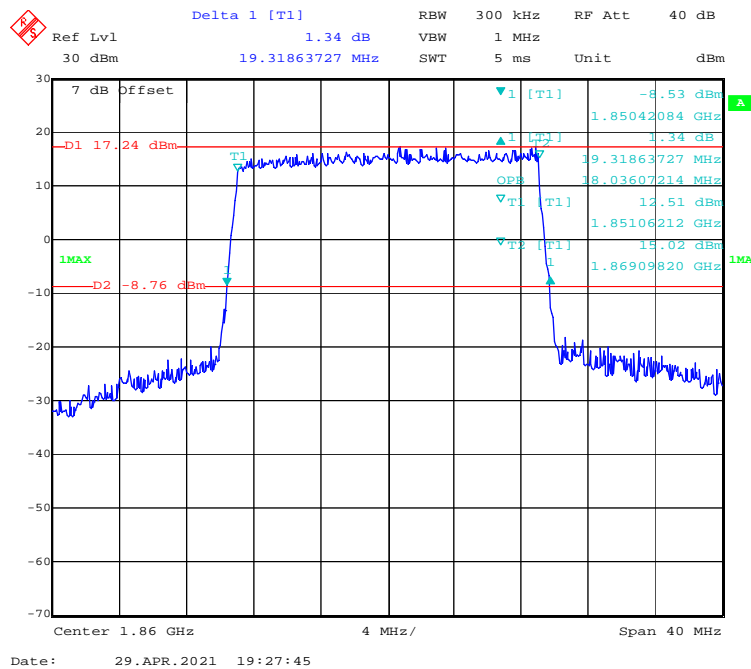




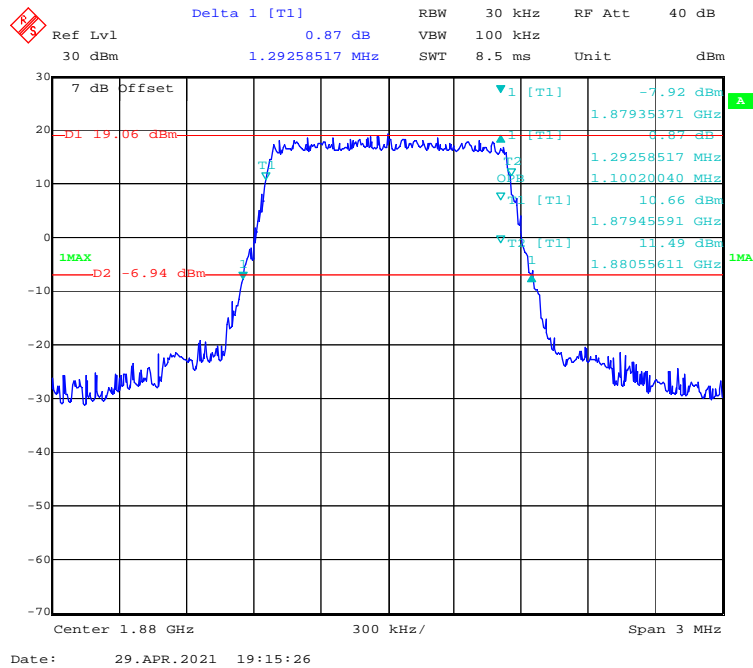
**16-QAM (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



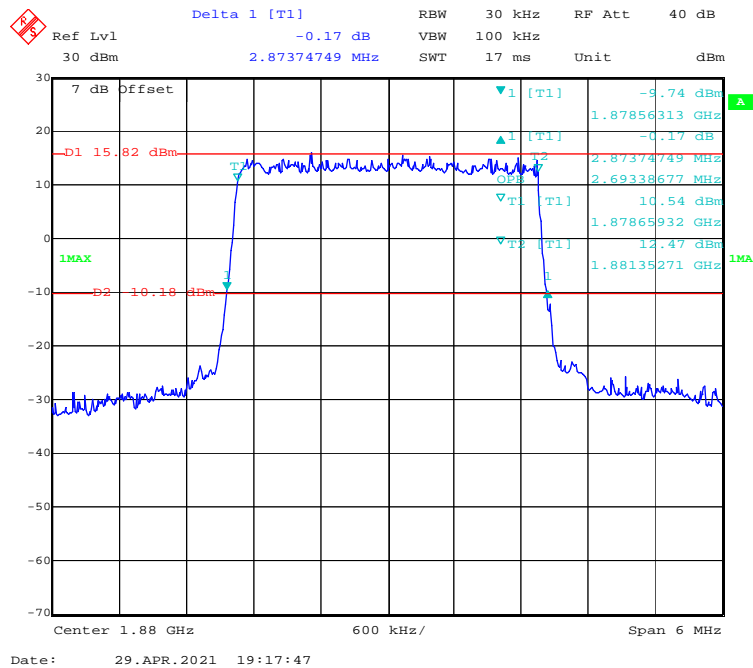
**16-QAM (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



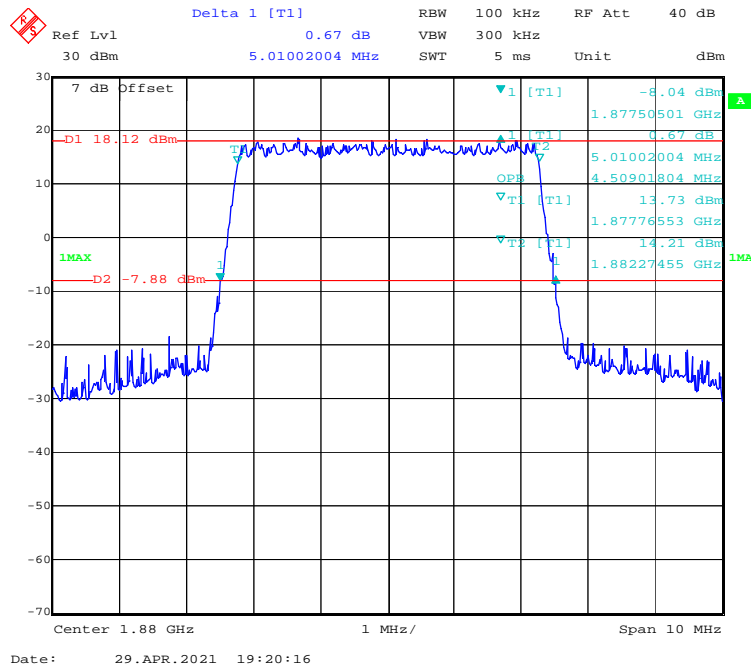
**QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



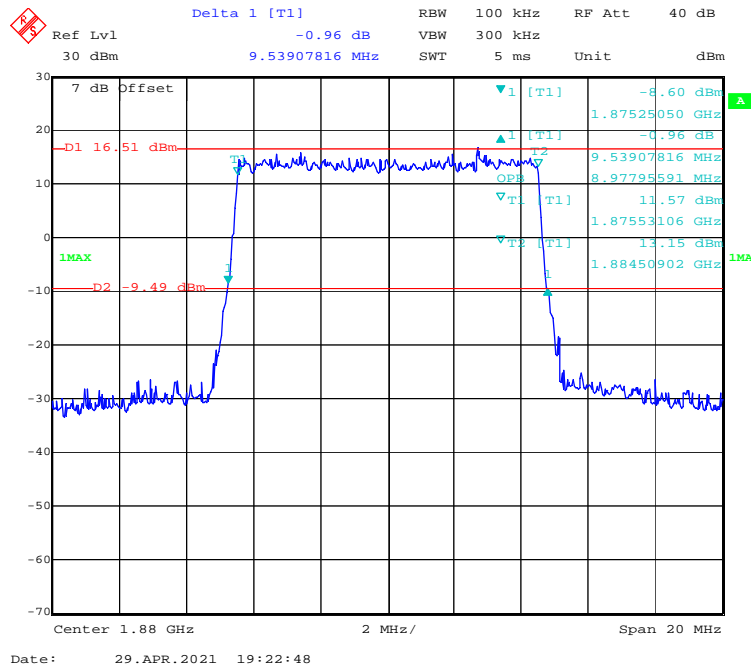
**QPSK (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



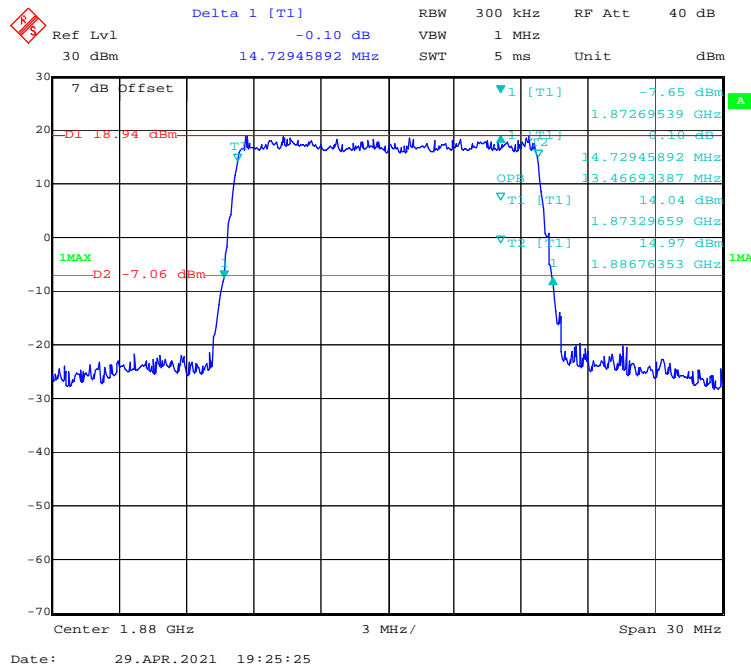
**QPSK (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



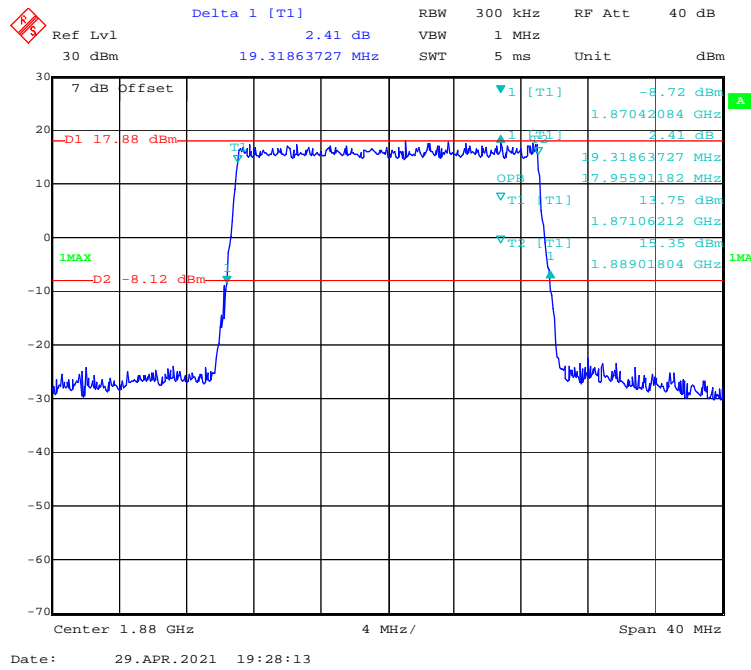
**QPSK (10MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



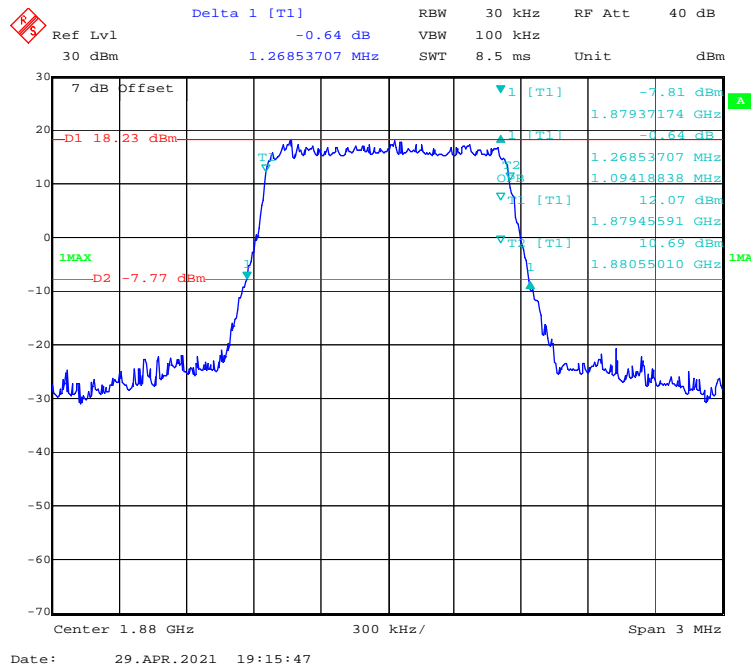
**QPSK (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



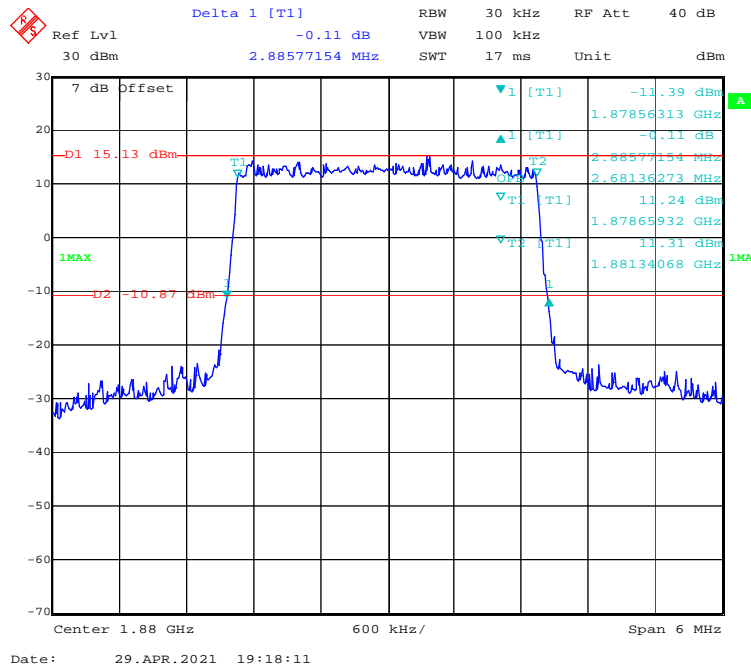
**QPSK (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



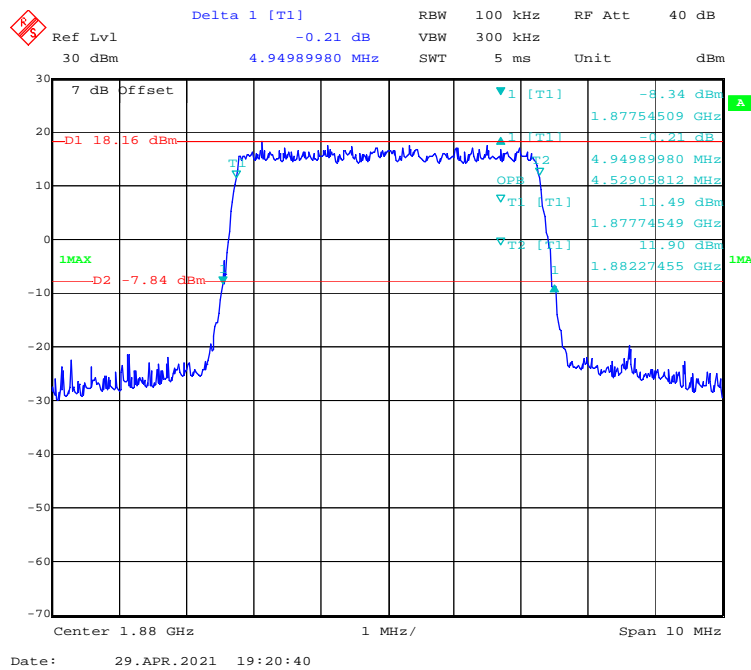
**16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



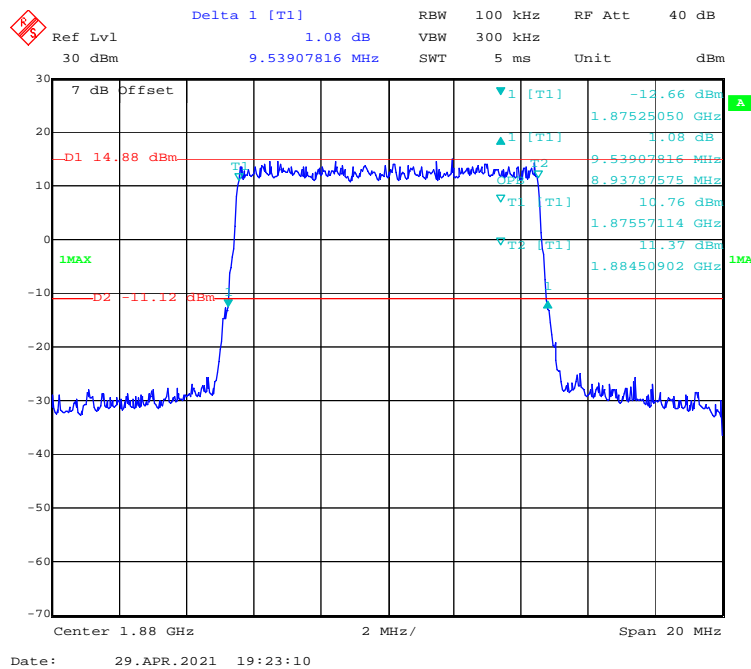
**16-QAM (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



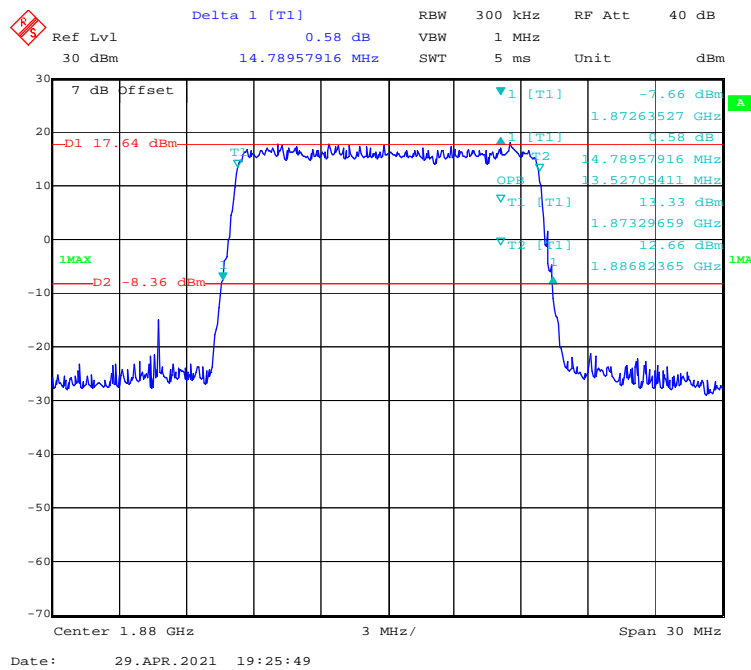
**16-QAM (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



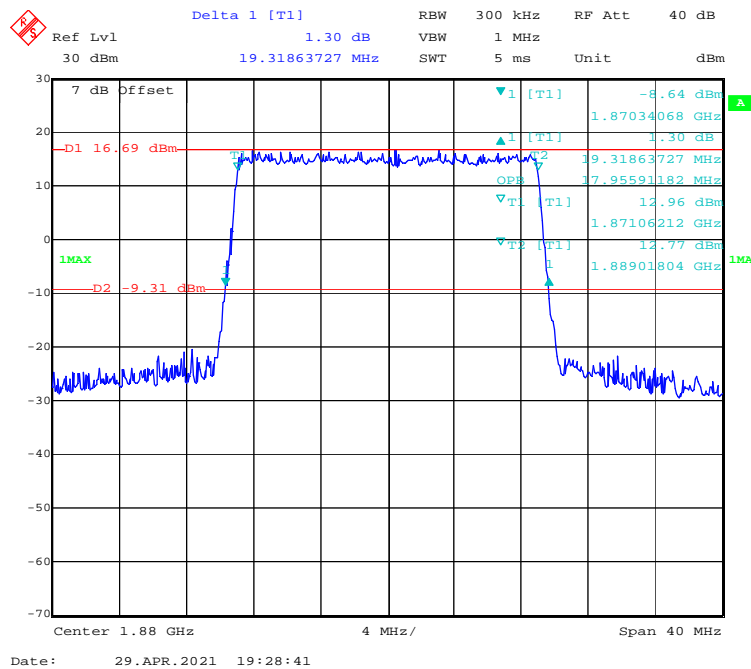
**16-QAM (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



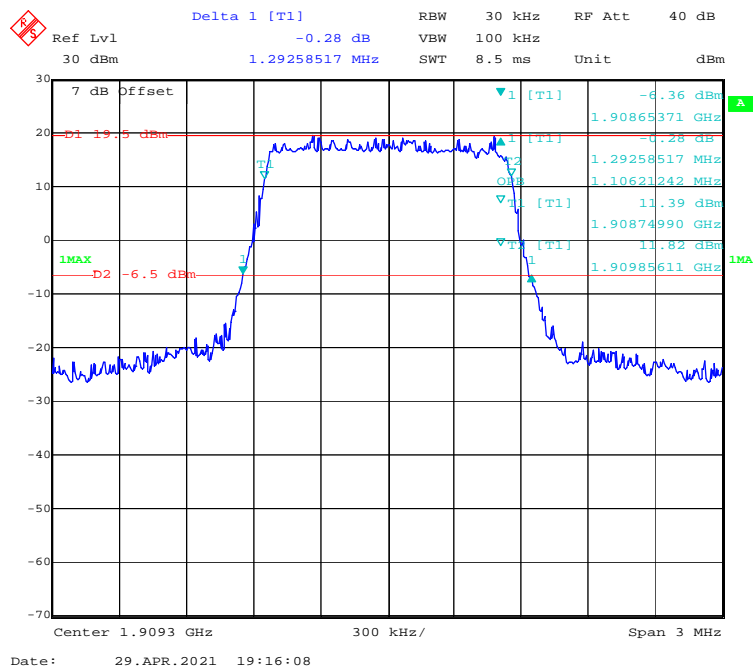
**16-QAM (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



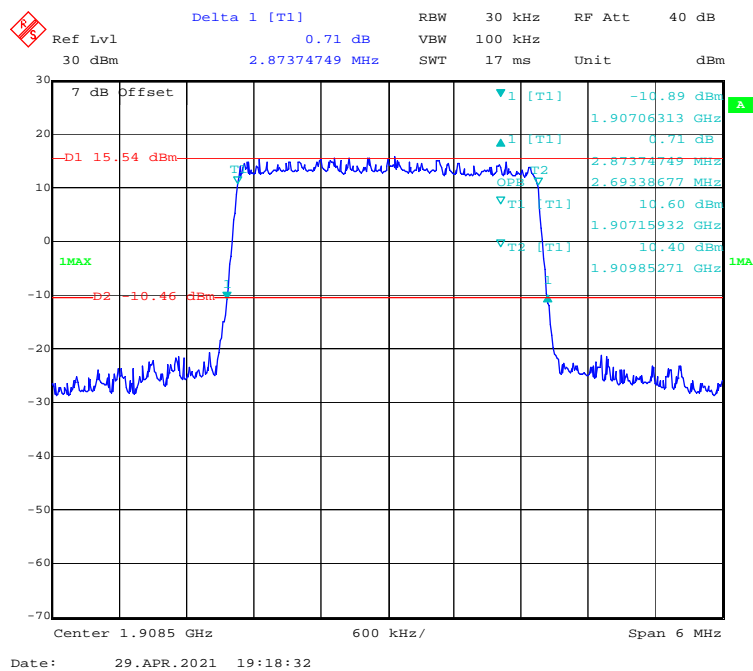
**16-QAM (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



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

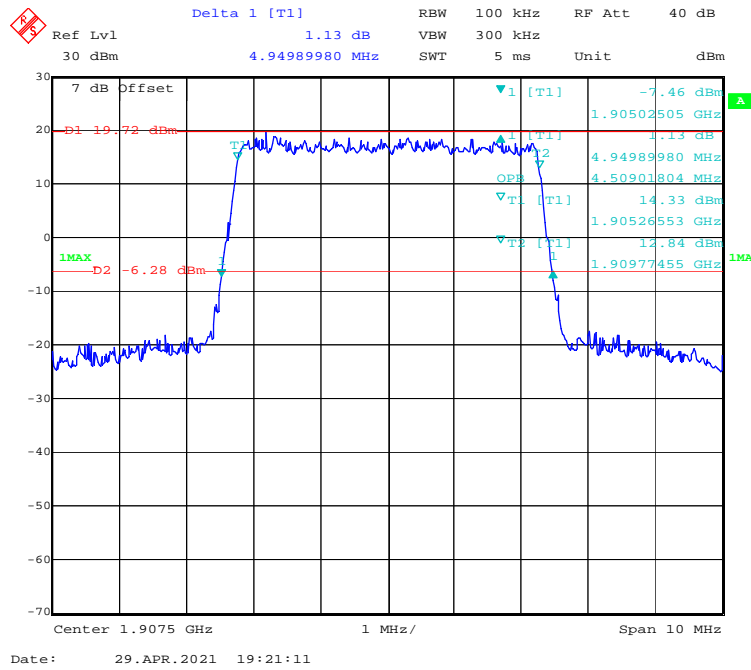


**QPSK (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

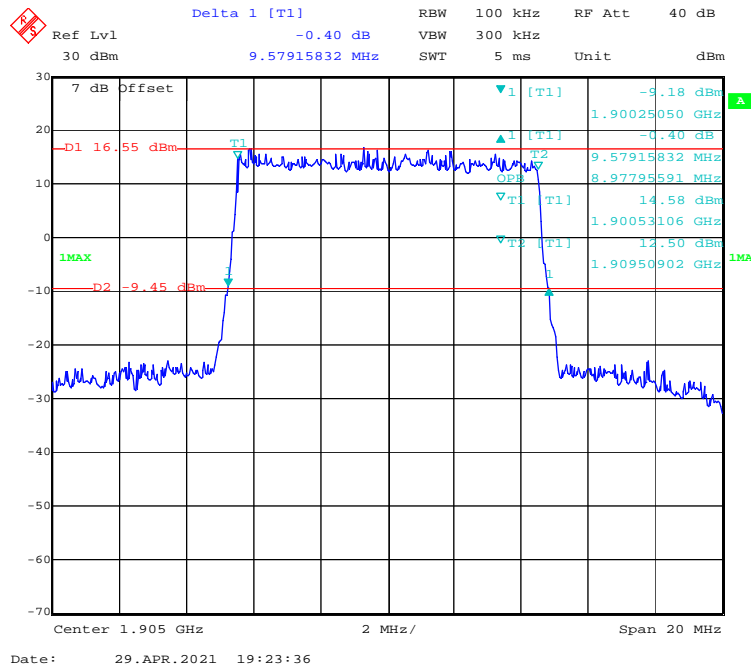




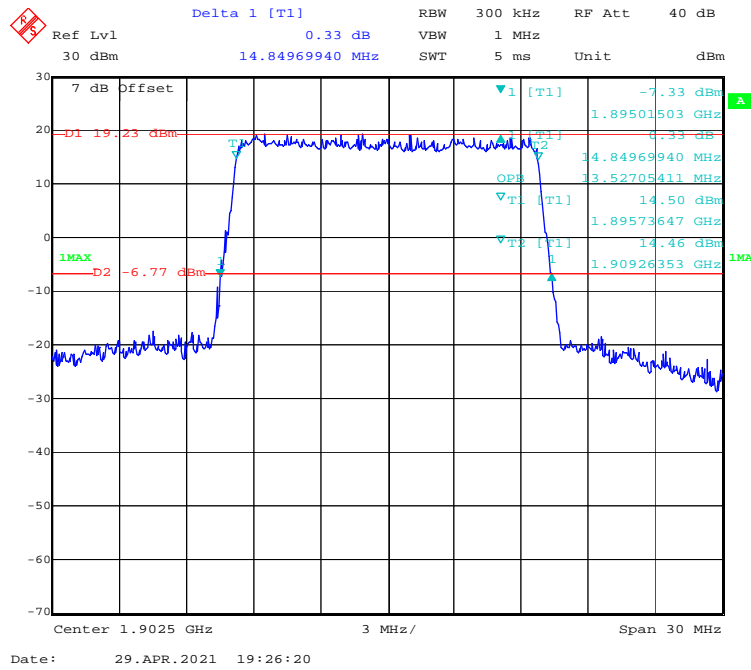
**QPSK (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



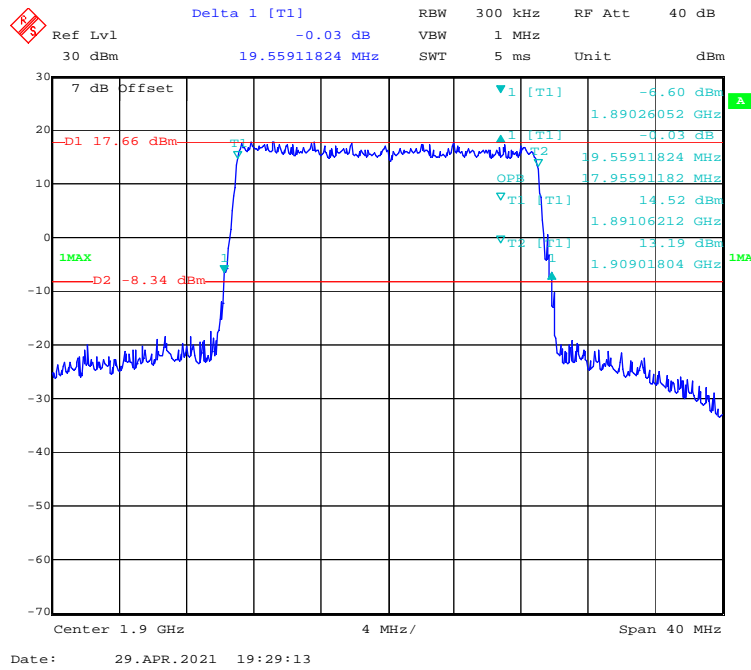
**QPSK (10MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



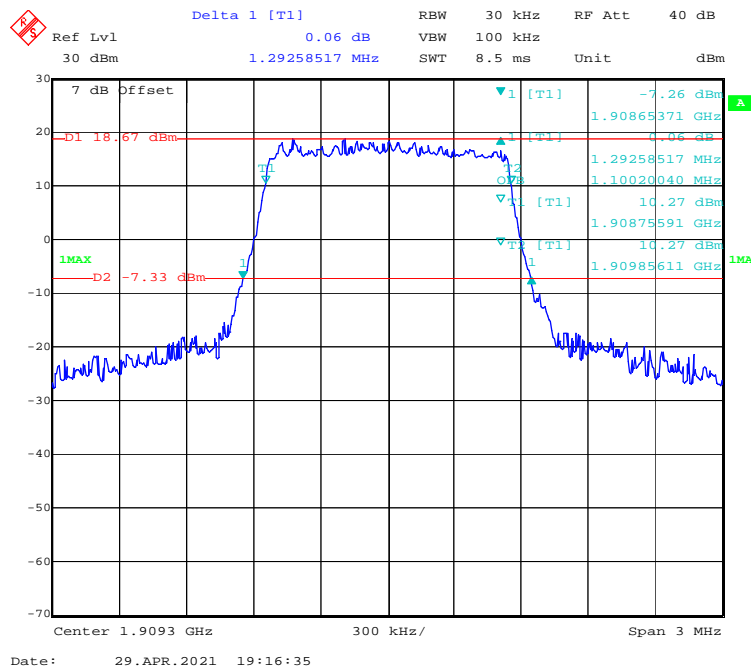
**QPSK (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



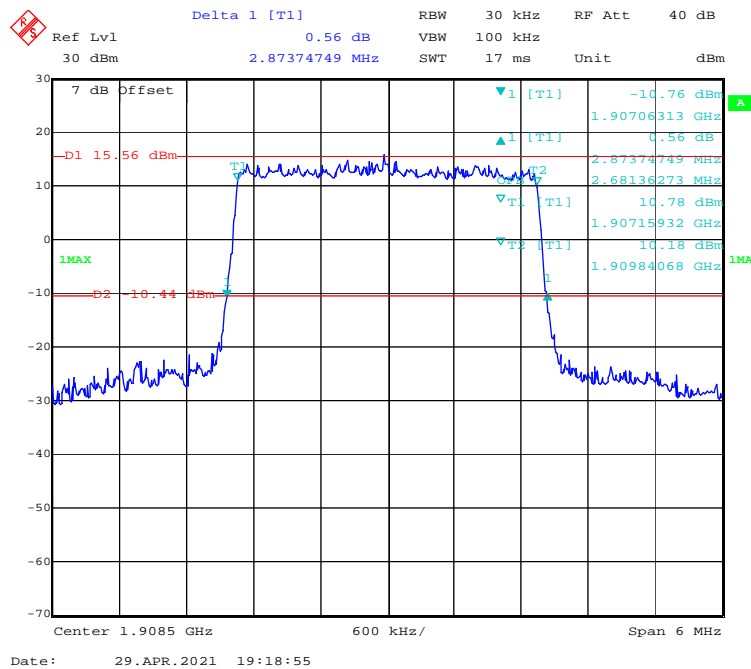
**QPSK (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



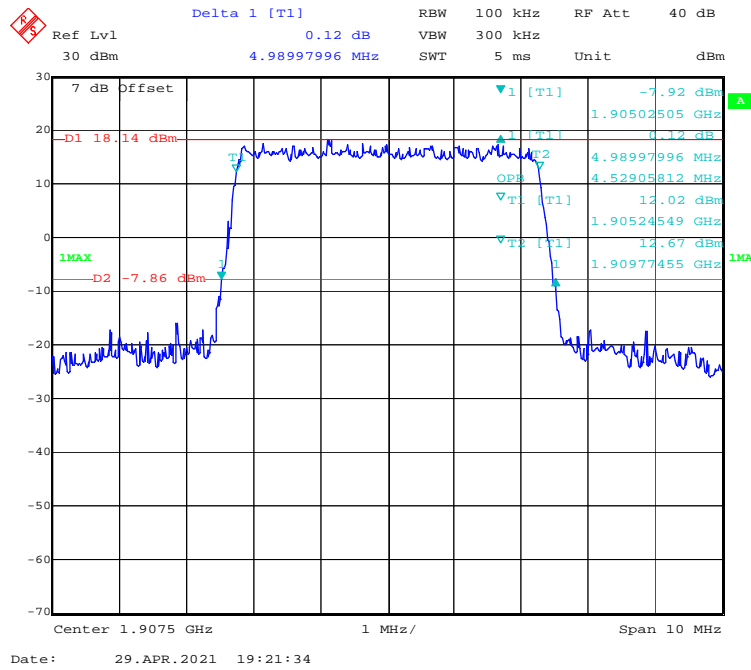
**16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



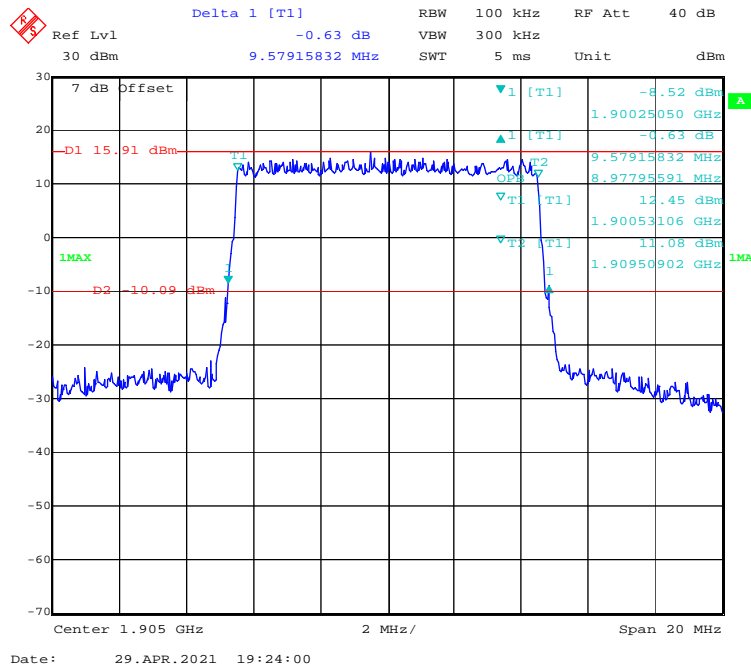
**16-QAM (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



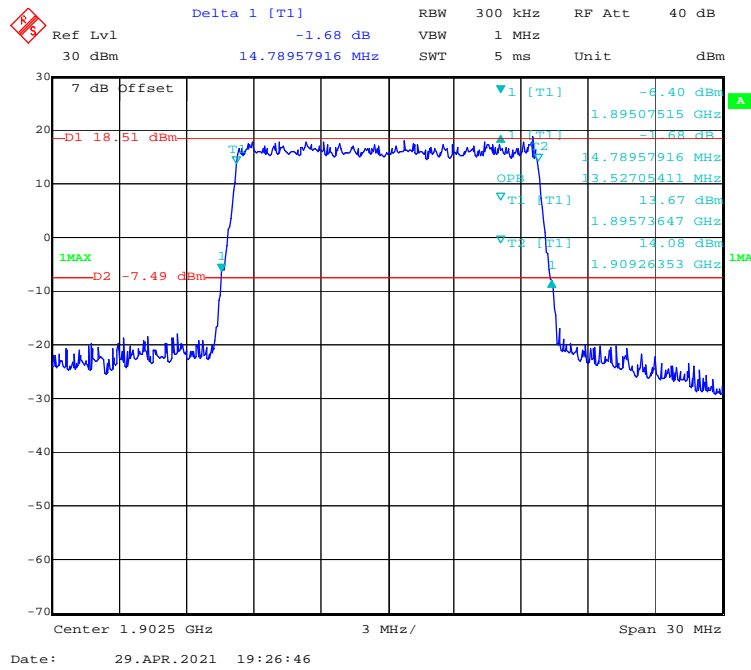
**16-QAM (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



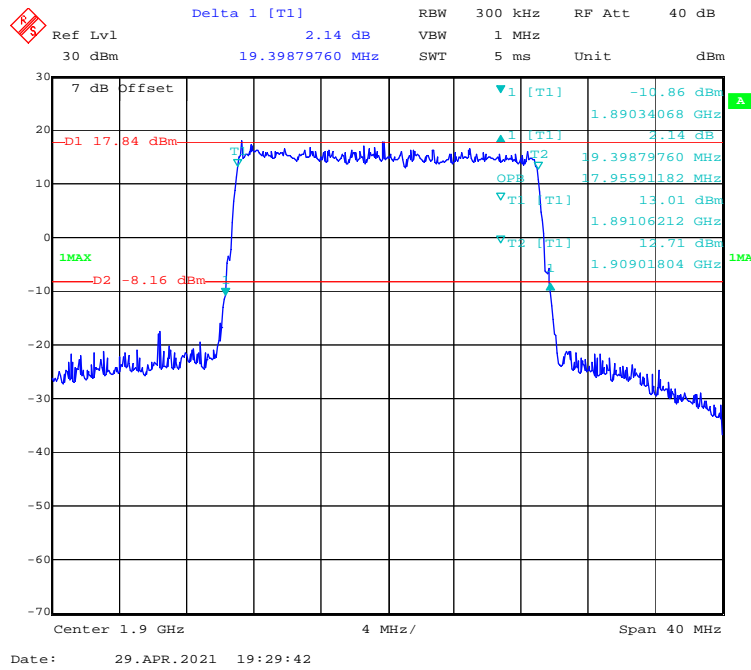
**16-QAM (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



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



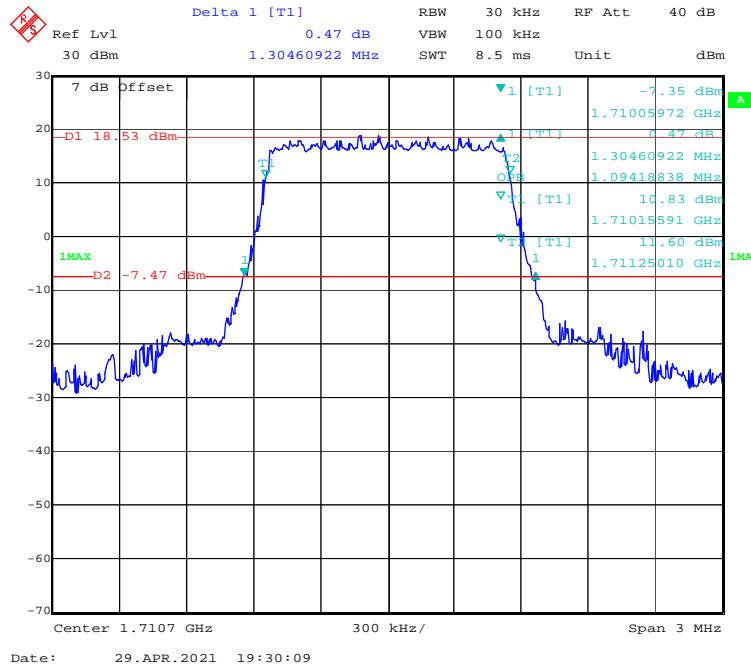
**16-QAM (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



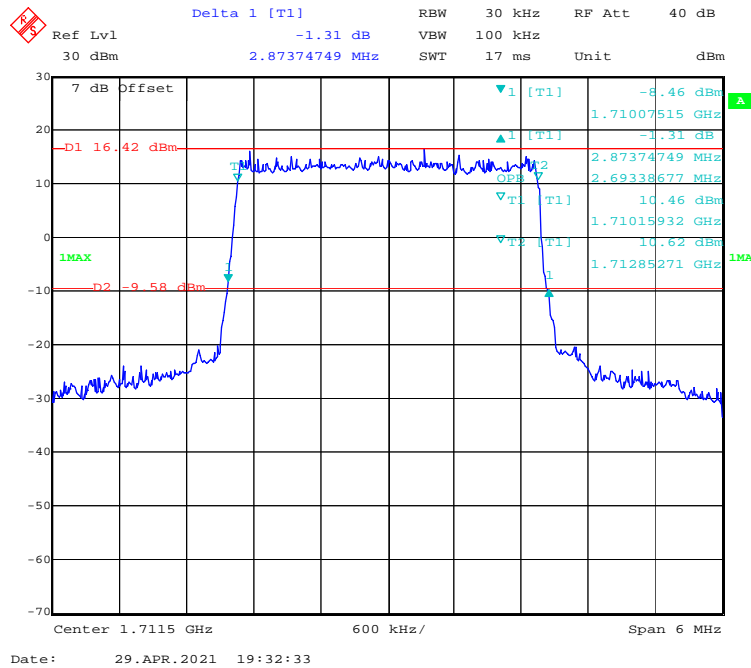
**LTE Band 4:**

Test Modulation	Test Bandwidth	Test Channel	26 dB Bandwidth	99% Occupied Bandwidth
			MHz	MHz
QPSK	1.4M	Low	1.305	1.094
	3M		2.874	2.693
	5M		4.950	4.529
	10M		9.539	8.978
	15M		14.850	13.527
	20M		19.319	17.956
	1.4M	Middle	1.281	1.094
	3M		2.874	2.693
	5M		4.970	4.509
	10M		9.539	8.938
	15M		14.790	13.467
	20M		19.319	17.956
	1.4M	High	1.281	1.106
	3M		2.874	2.693
	5M		4.950	4.509
	10M		9.579	8.978
	15M		14.729	13.527
	20M		19.319	17.956
16-QAM	1.4M	Low	1.305	1.106
	3M		2.898	2.693
	5M		4.930	4.509
	10M		9.539	8.978
	15M		14.729	13.527
	20M		19.319	17.956
	1.4M	Middle	1.293	1.094
	3M		2.874	2.693
	5M		4.970	4.549
	10M		9.579	8.978
	15M		14.729	13.527
	20M		19.319	17.956
	1.4M	High	1.287	1.100
	3M		2.874	2.693
	5M		4.990	4.529
	10M		9.579	8.978
	15M		14.669	13.527
	20M		19.158	17.956

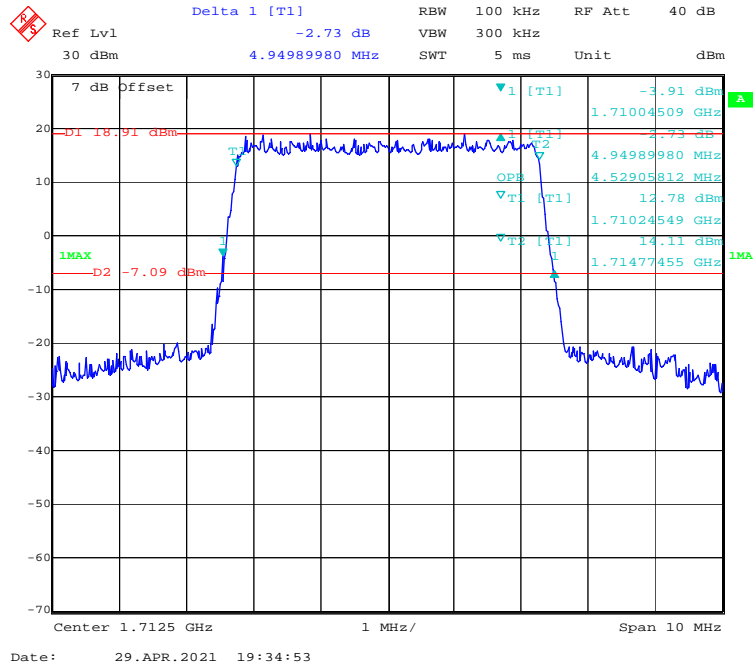
### QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



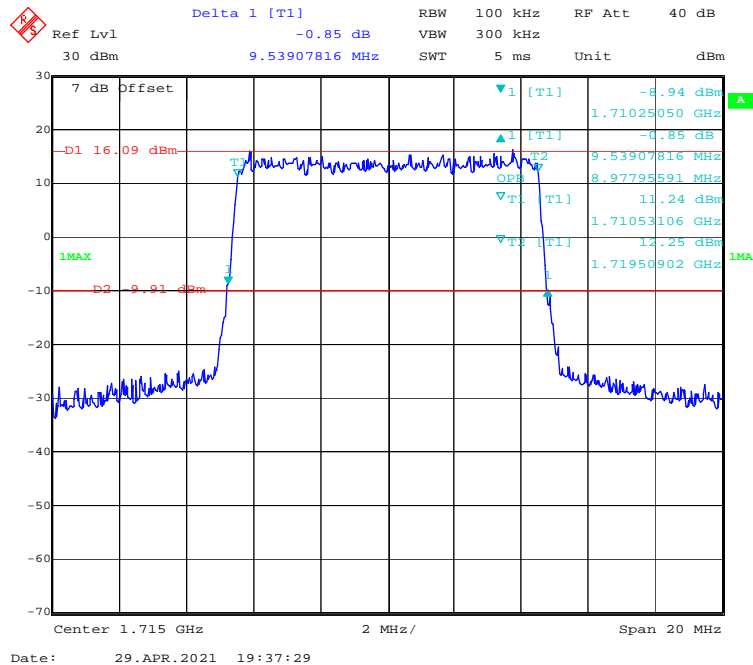
### QPSK (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



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

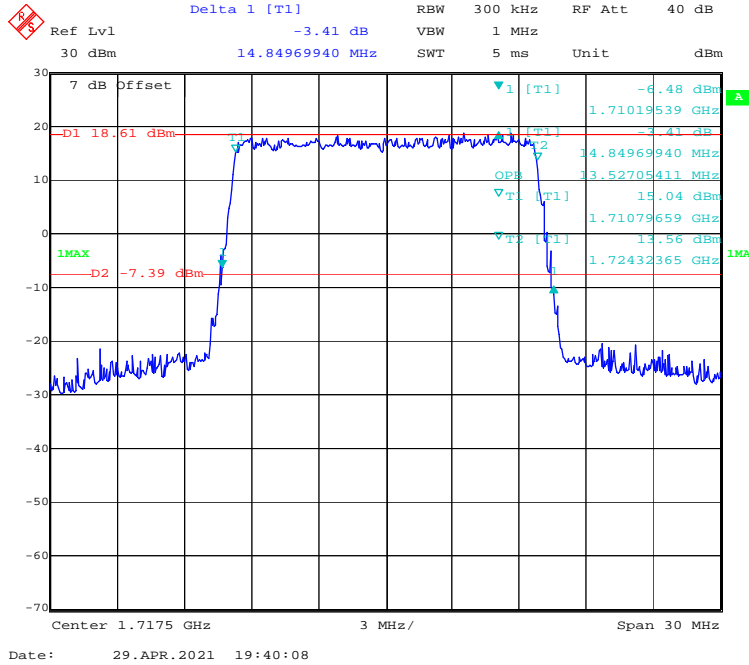


**QPSK (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

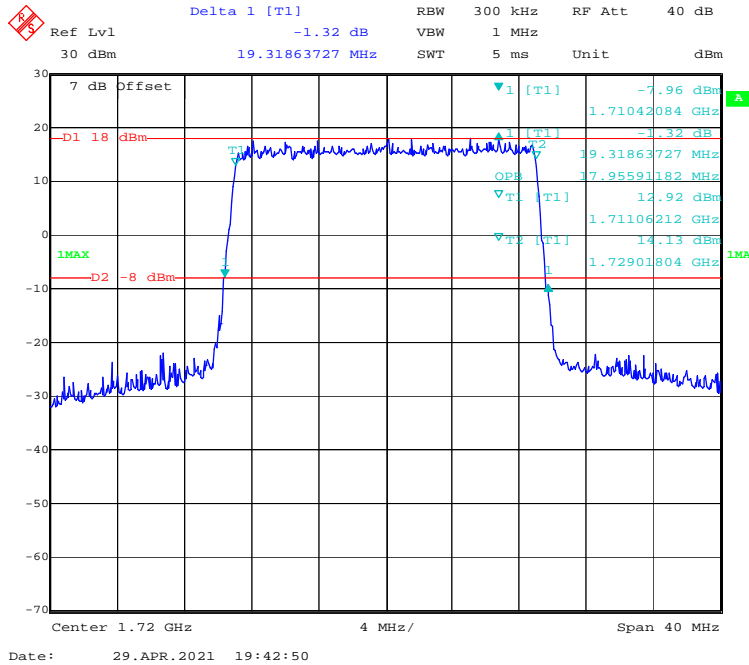




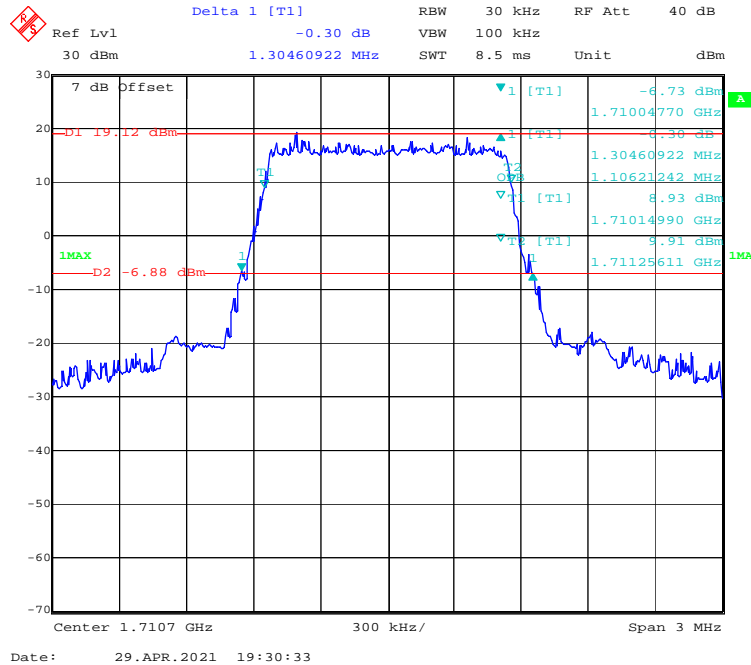
**QPSK (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



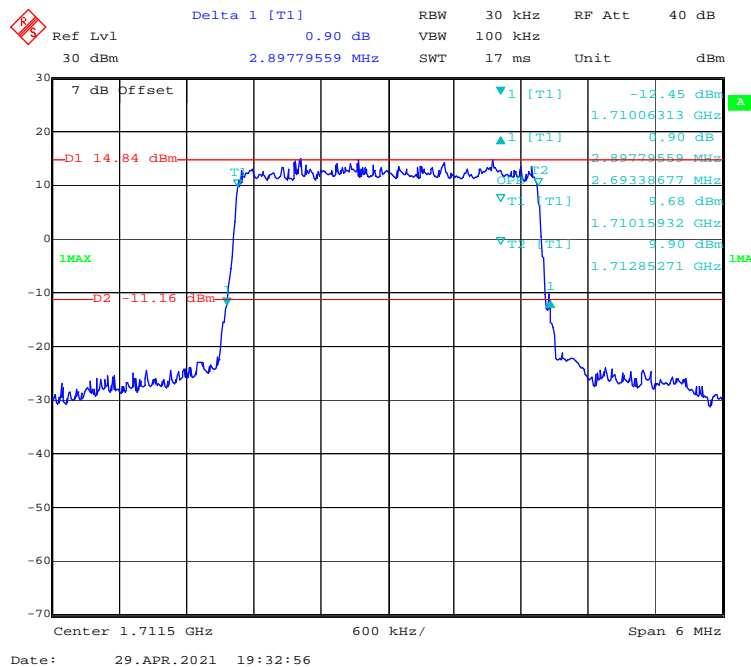
**QPSK (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



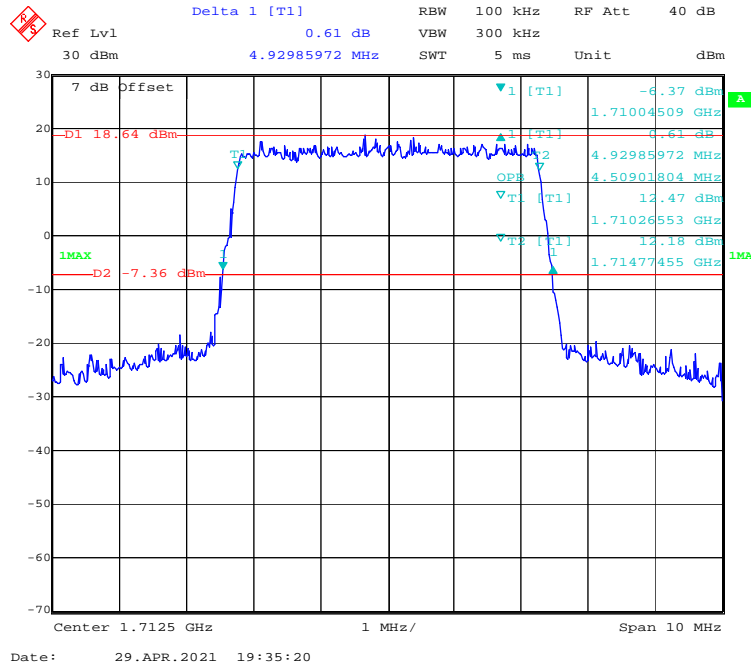
**16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



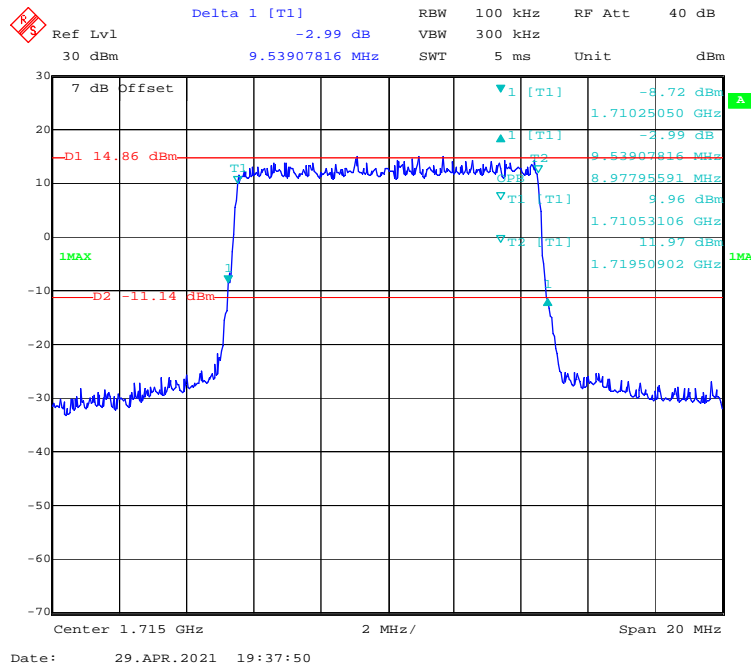
**16-QAM (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



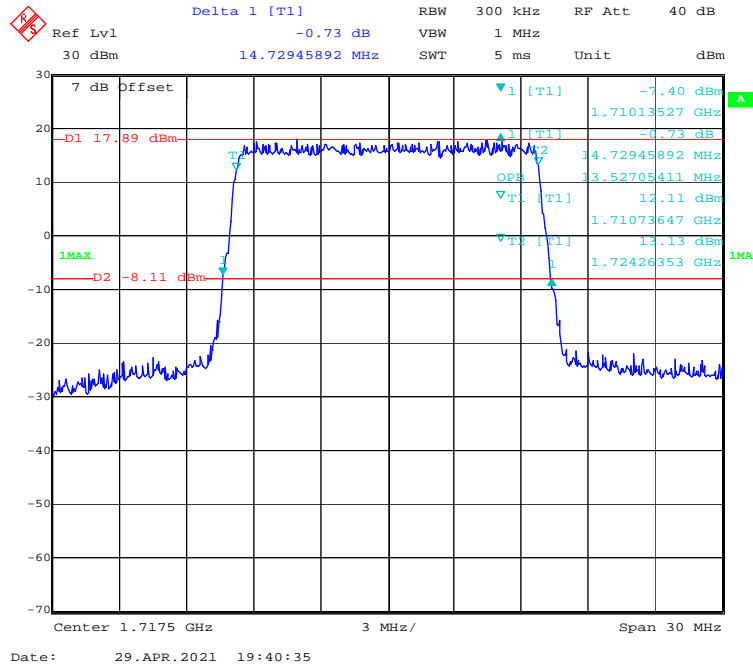
**16-QAM (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



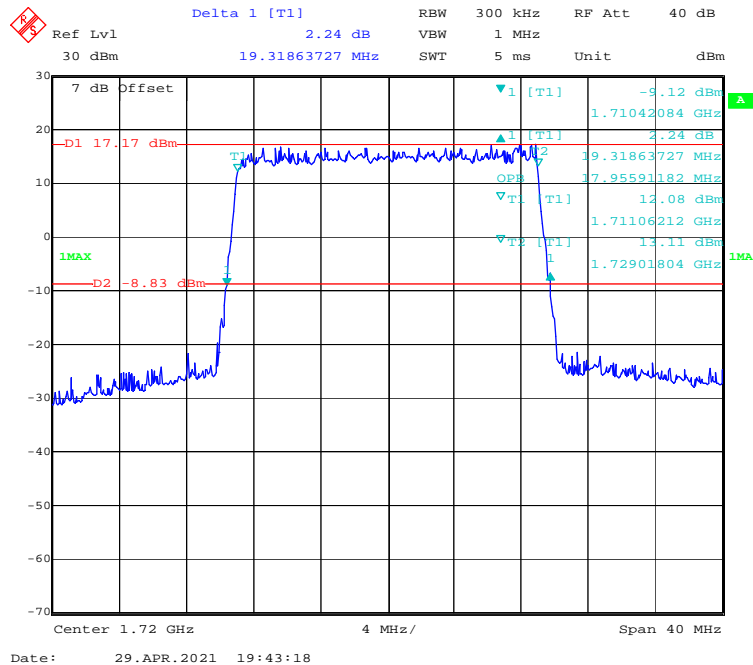
**16-QAM (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



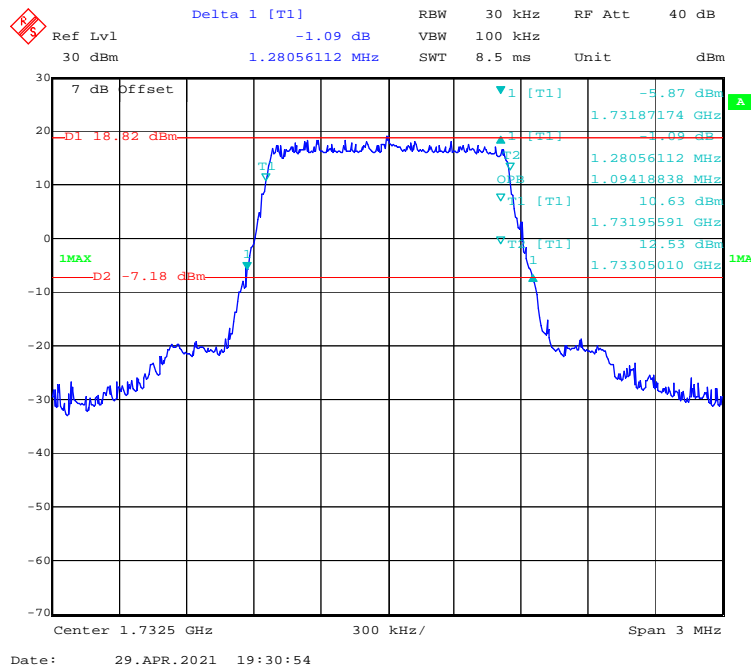
**16-QAM (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



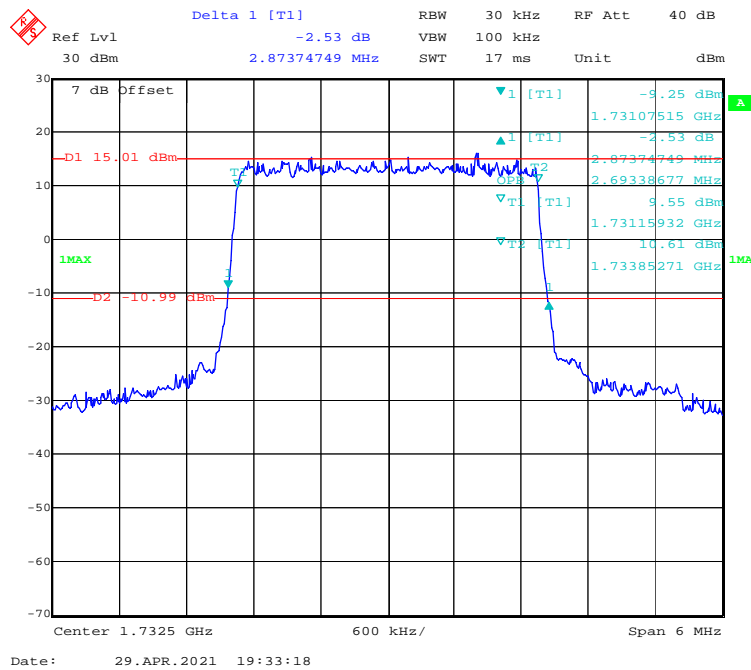
**16-QAM (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



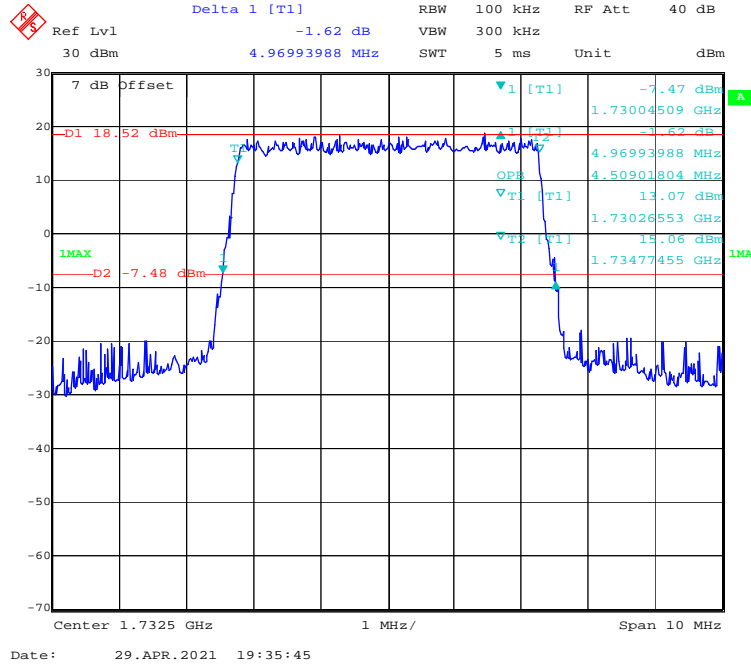
**QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



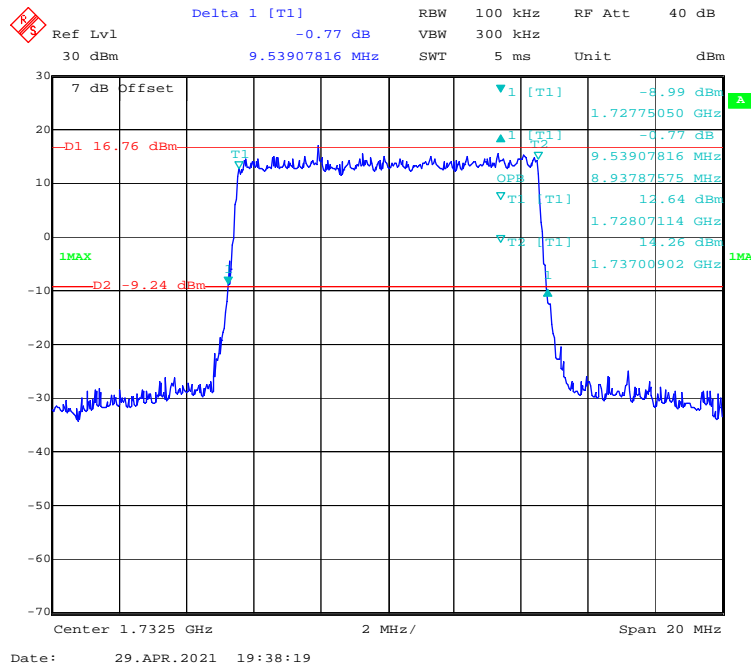
**QPSK (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



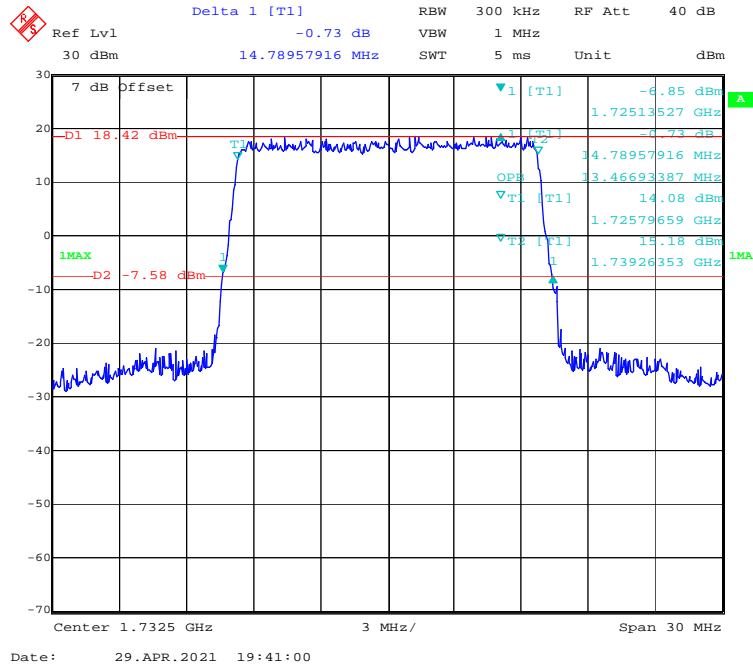
**QPSK (5MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



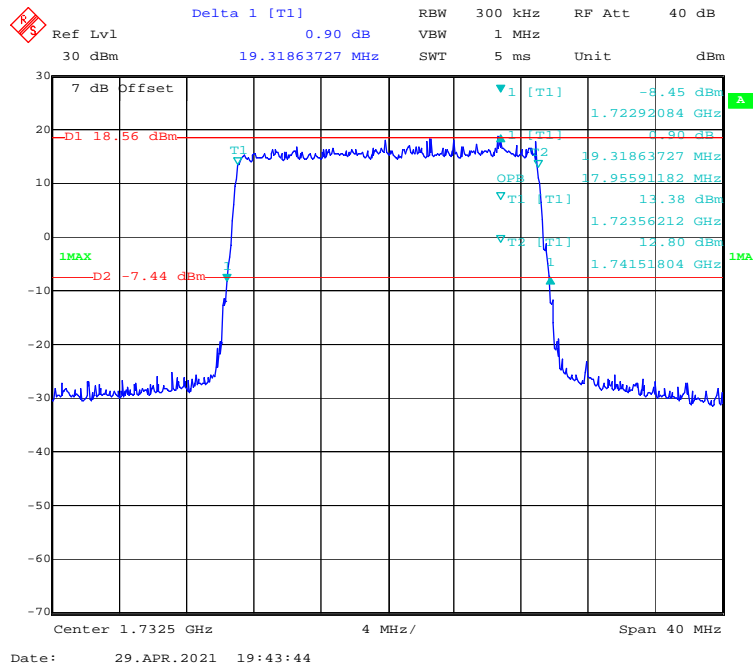
**QPSK (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



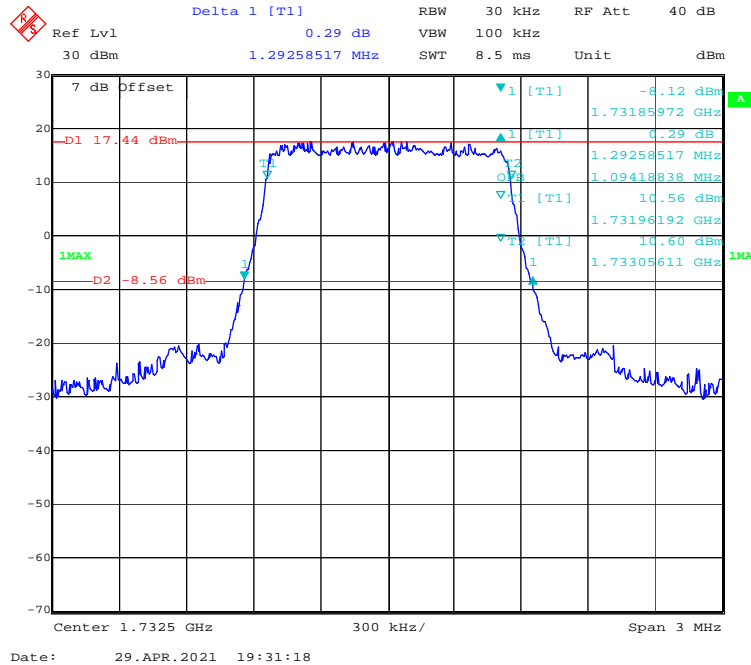
**QPSK (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



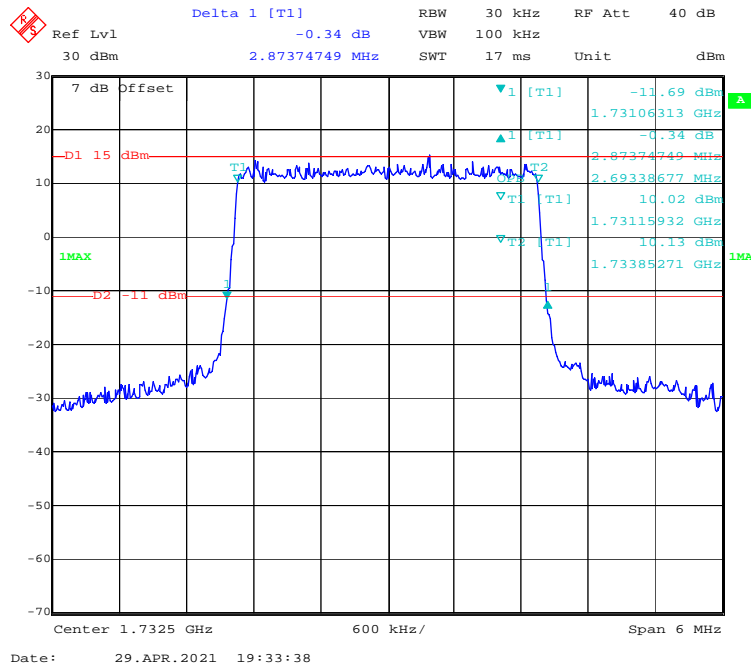
**QPSK (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



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

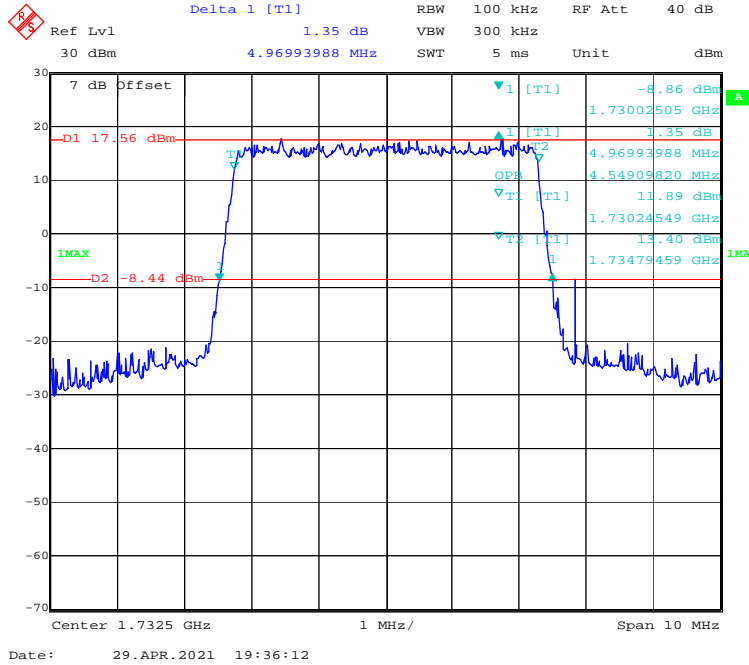


**16-QAM (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

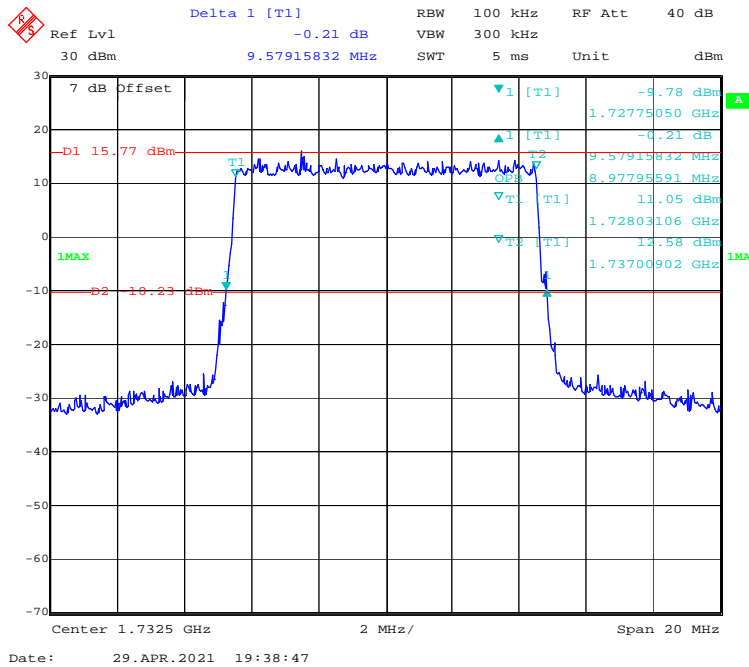




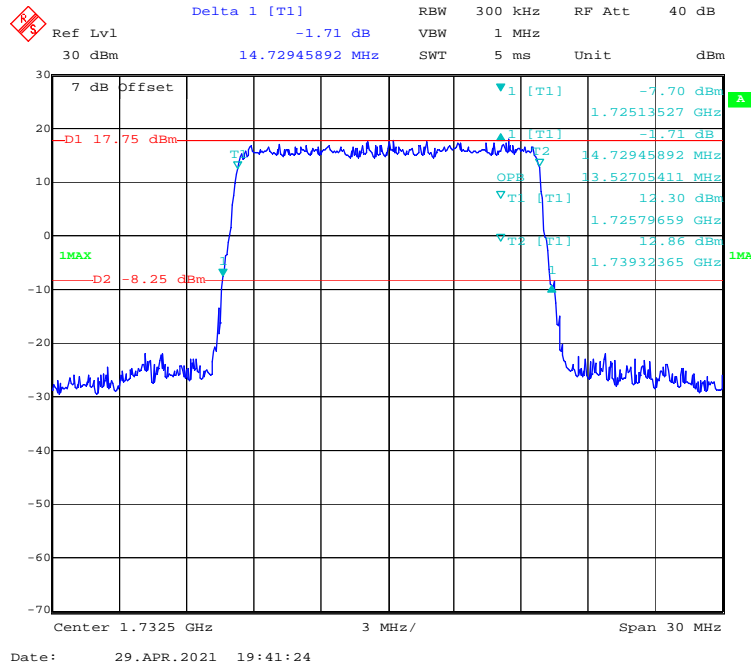
**16-QAM (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



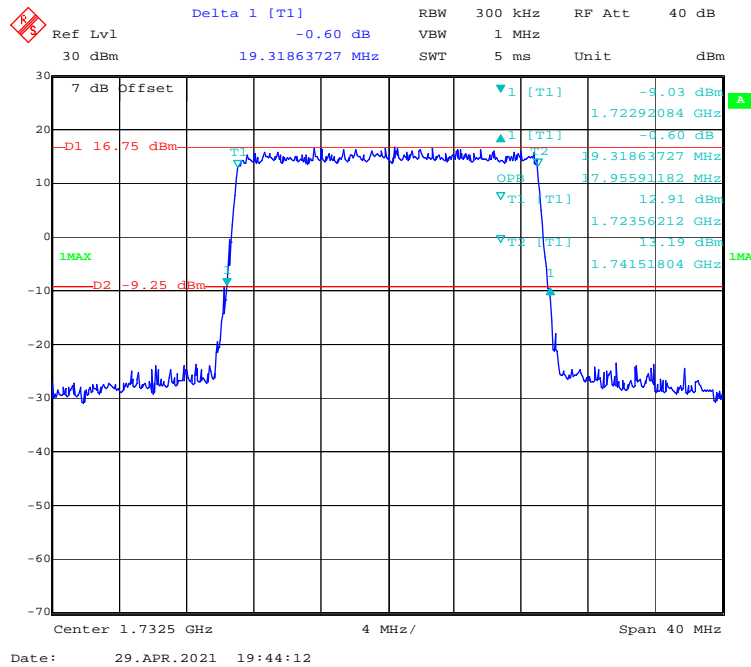
**16-QAM (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



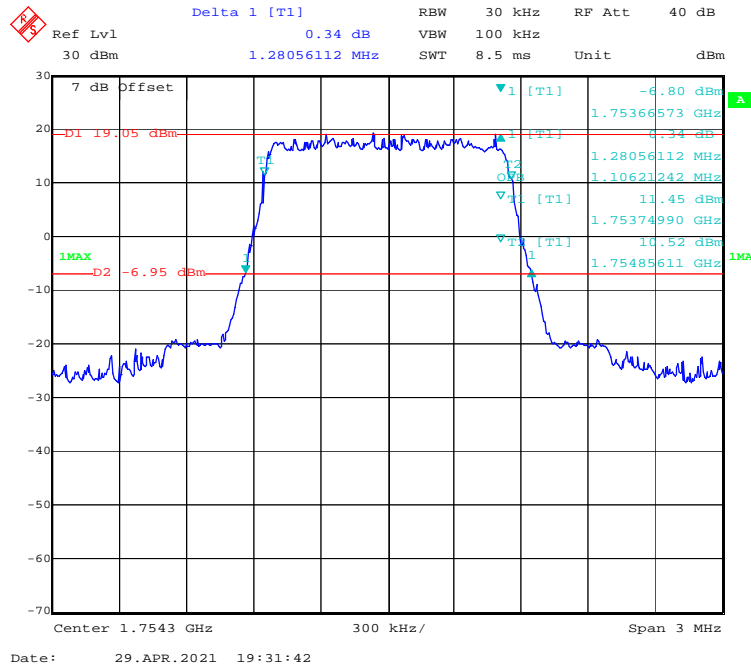
**16-QAM (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



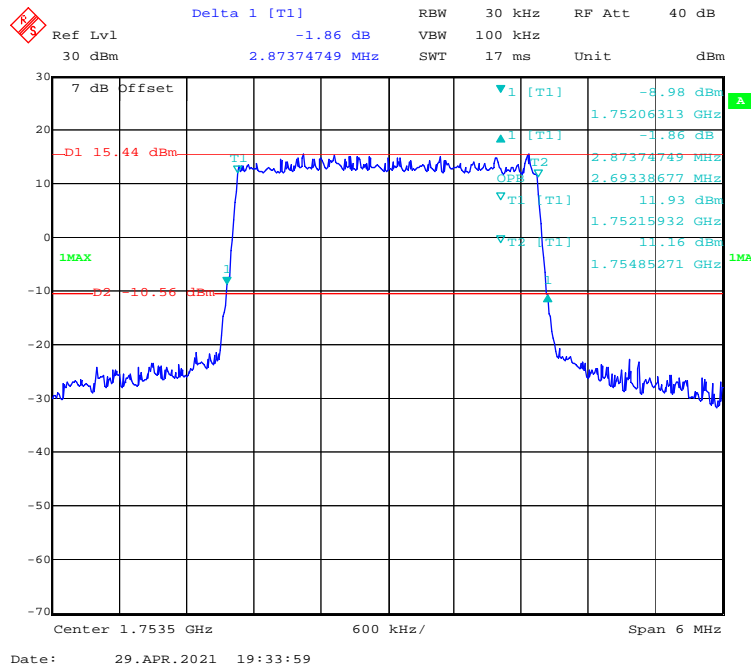
**16-QAM (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



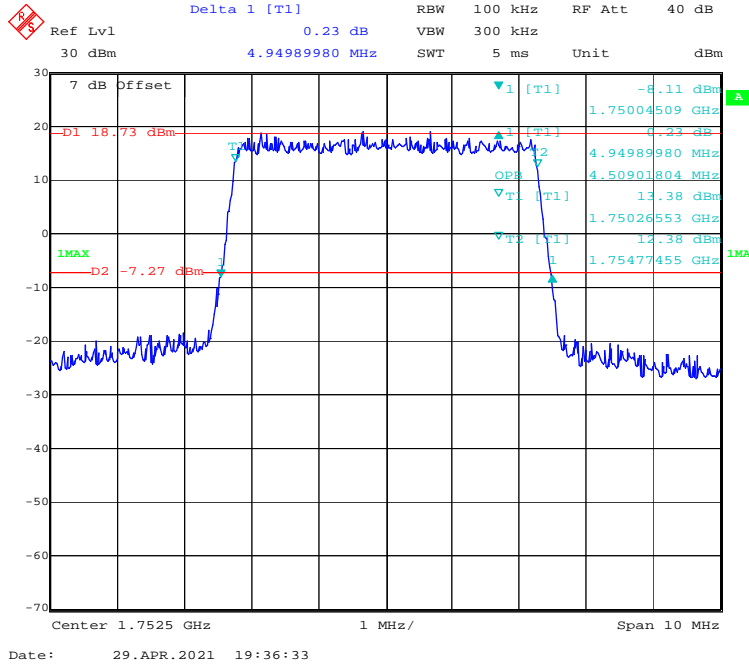
**QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



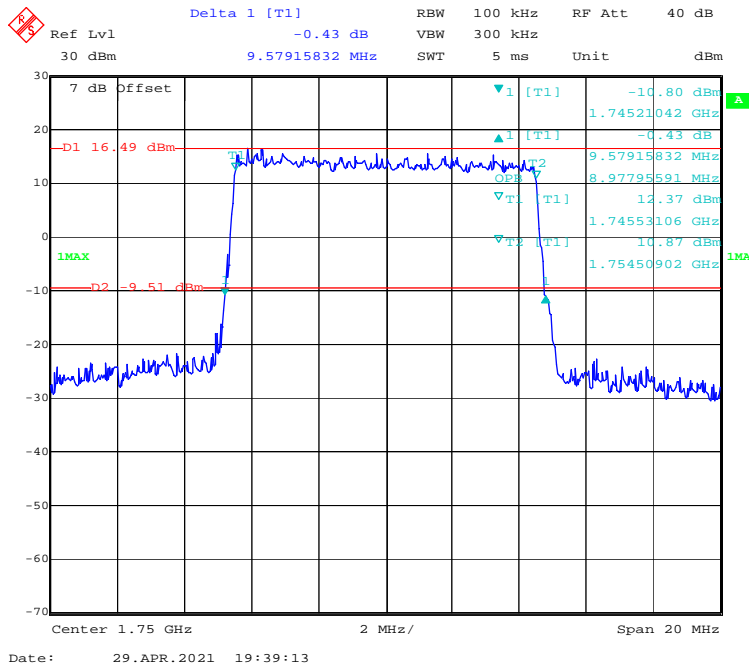
**QPSK (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



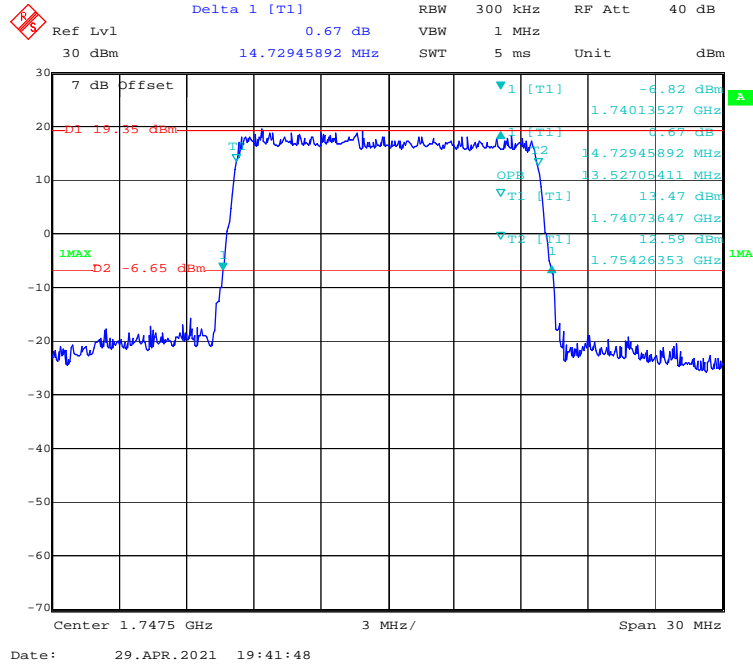
**QPSK (5MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



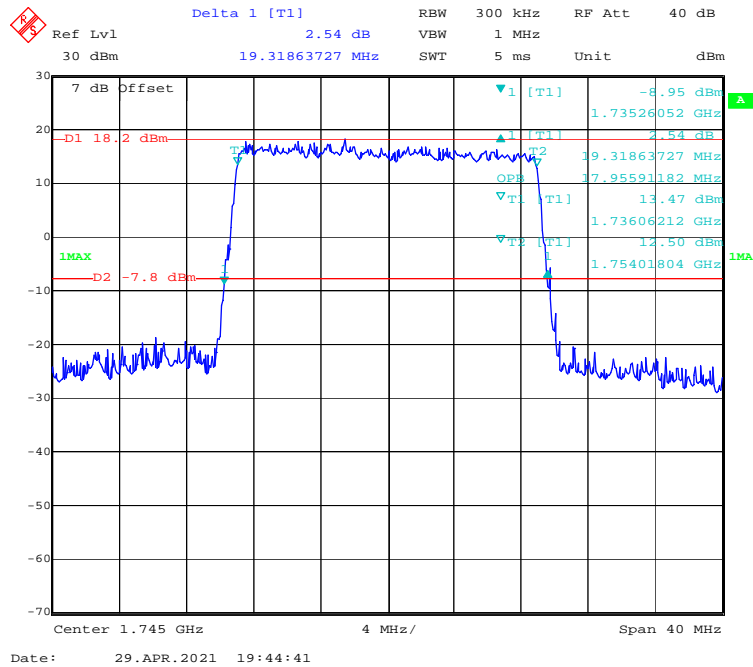
**QPSK (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



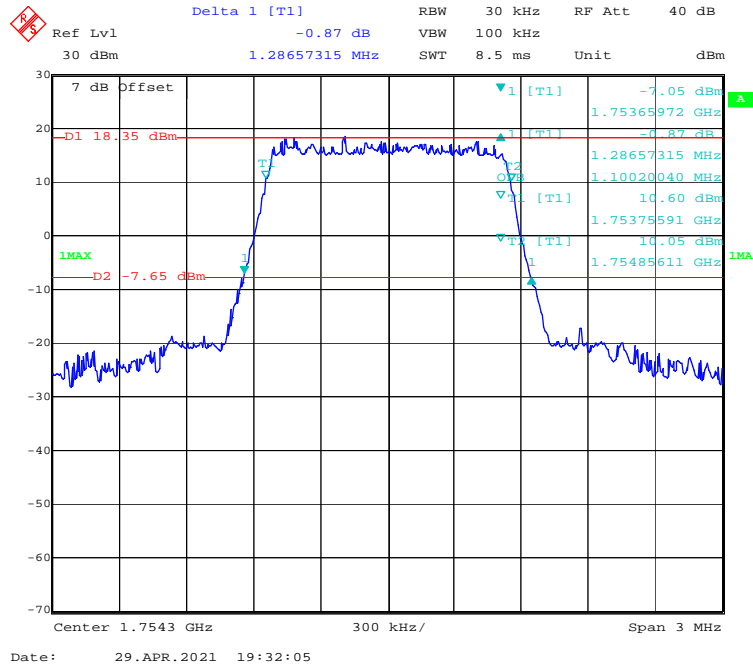
### QPSK (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



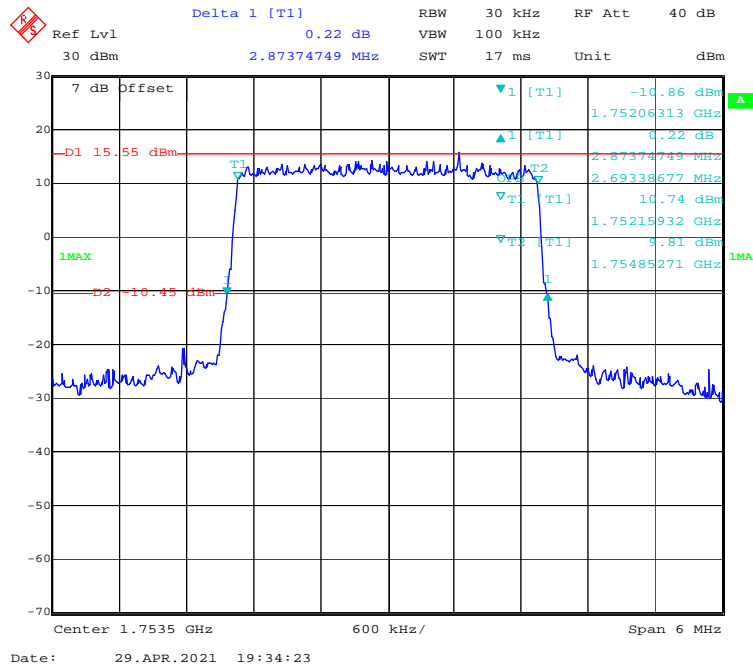
### QPSK (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



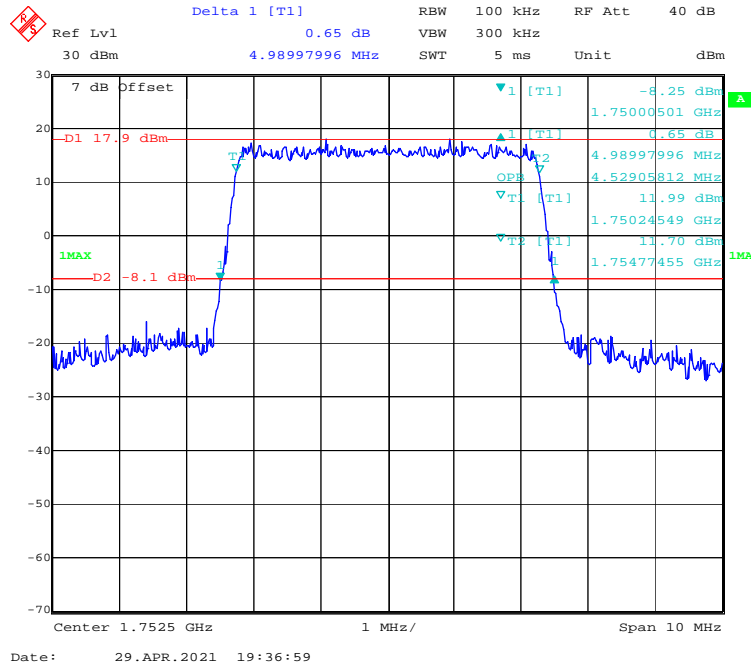
**16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



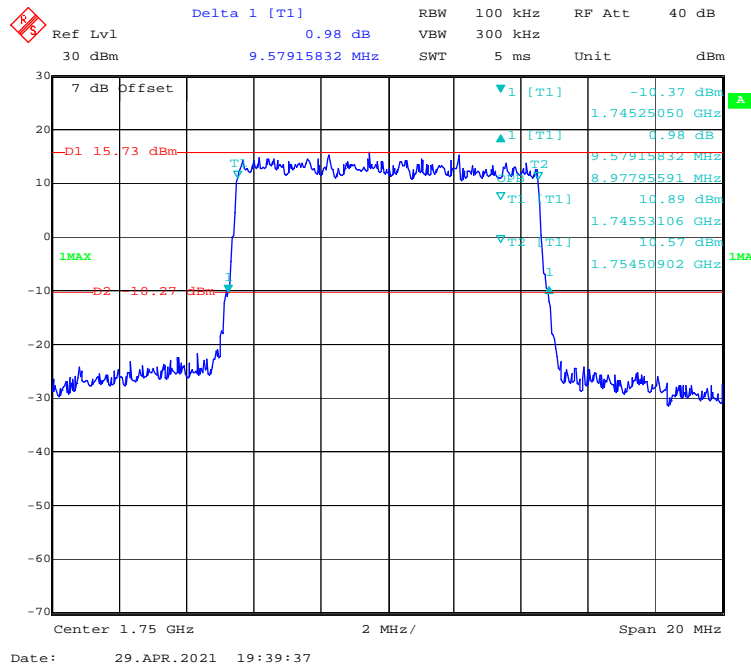
**16-QAM (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



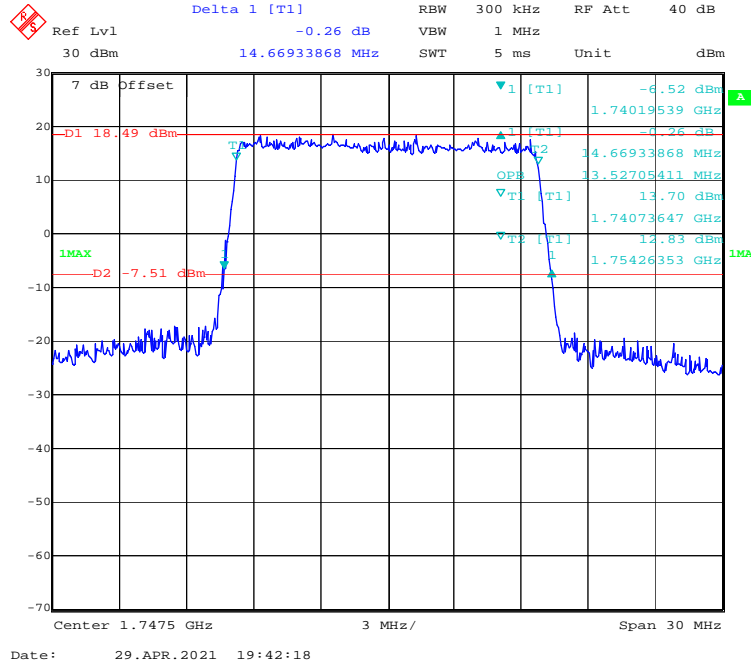
**16-QAM (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



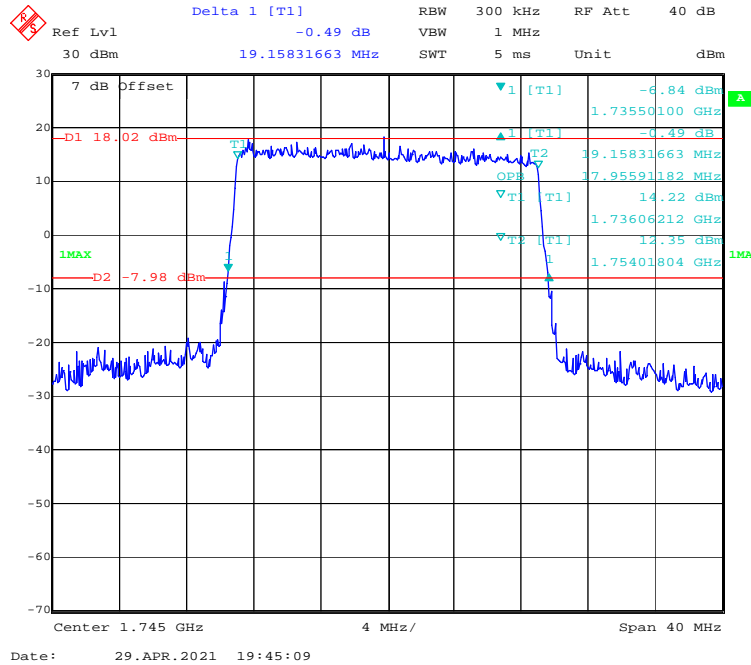
**16-QAM (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



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



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

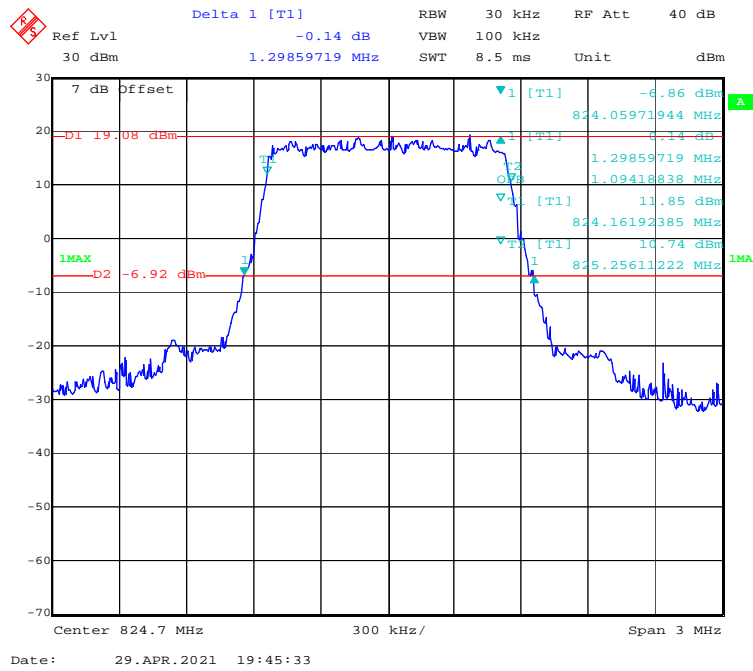




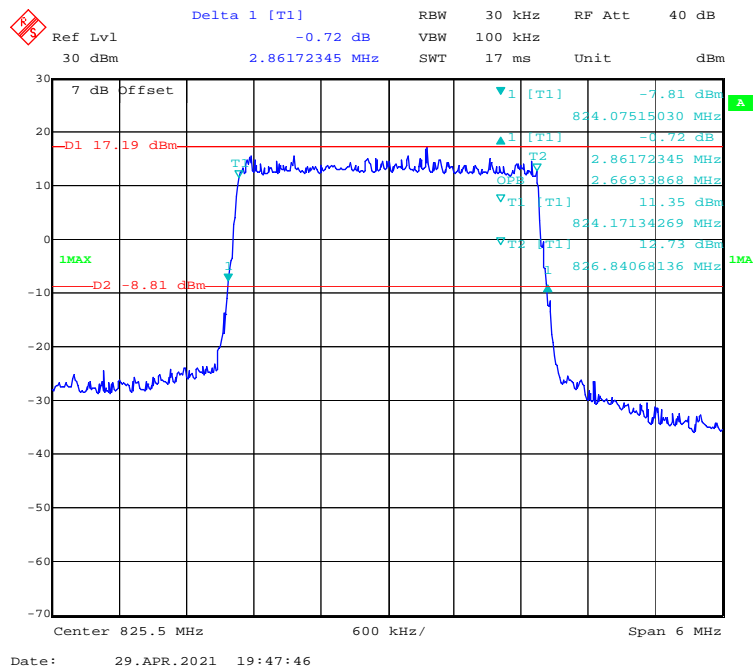
**LTE Band 5:**

Test Modulation	Test Bandwidth	Test Channel	26 dB Bandwidth	99% Occupied Bandwidth
			MHz	MHz
QPSK	1.4M	Low	1.299	1.094
	3M		2.862	2.669
	5M		4.970	4.509
	10M		9.619	8.978
	1.4M	Middle	1.311	1.100
	3M		2.862	2.693
	5M		4.930	4.529
	10M		9.579	8.978
	1.4M	High	1.281	1.100
	3M		2.874	2.693
	5M		4.930	4.529
	10M		9.579	8.978
16-QAM	1.4M	Low	1.311	1.106
	3M		2.886	2.681
	5M		4.950	4.509
	10M		9.619	8.938
	1.4M	Middle	1.281	1.100
	3M		2.874	2.681
	5M		4.970	4.529
	10M		9.539	8.978
	1.4M	High	1.293	1.100
	3M		2.886	2.681
	5M		4.970	4.529
	10M		9.579	8.978

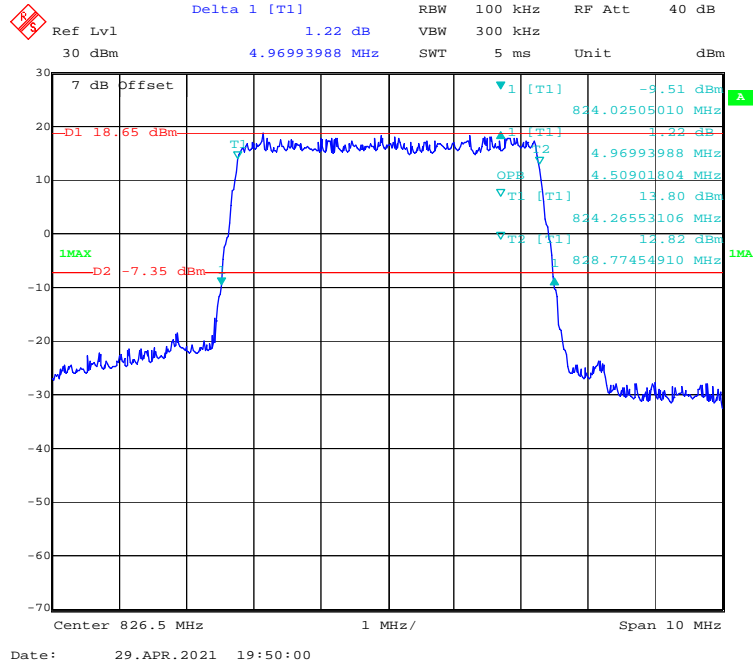
**QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



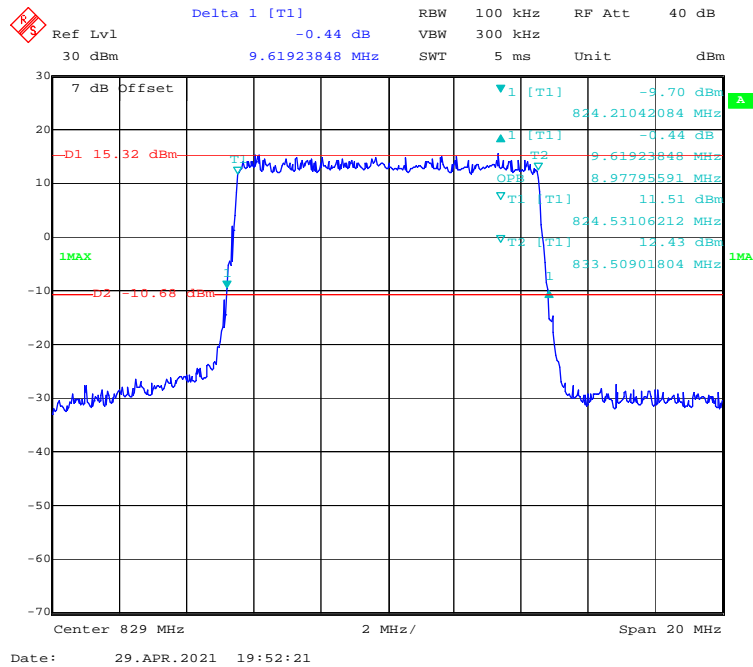
**QPSK (3.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



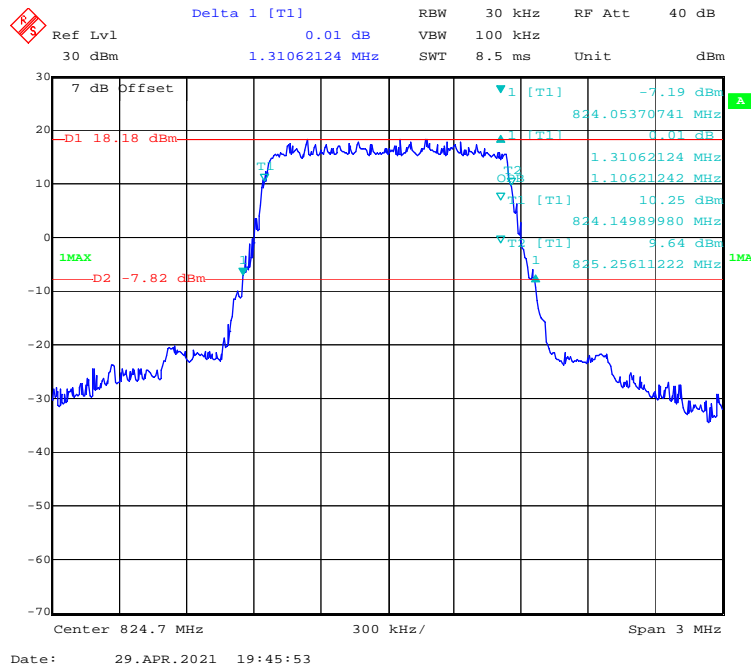
**QPSK (5.0MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



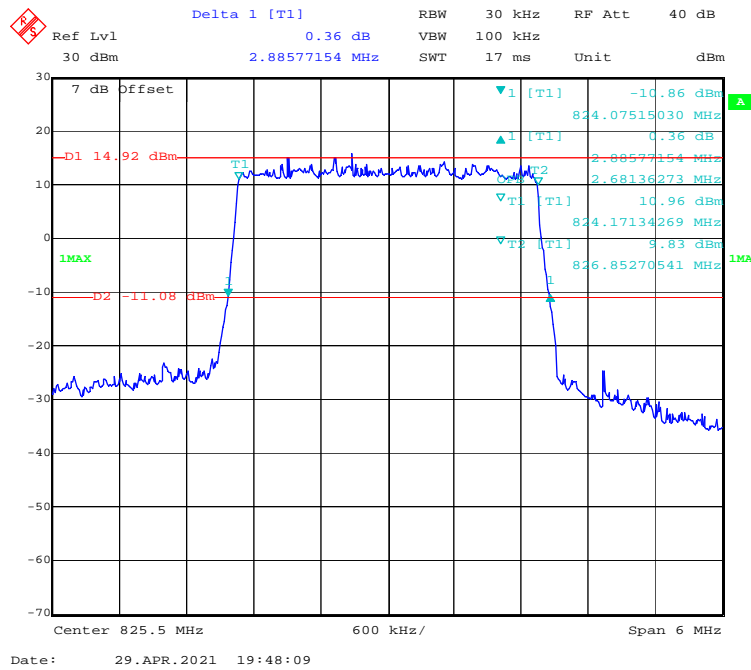
**QPSK (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



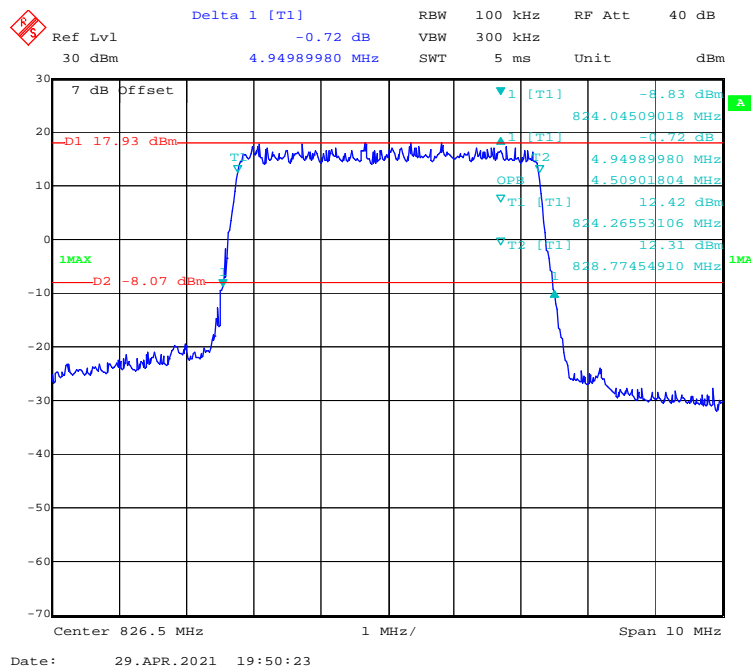
**16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



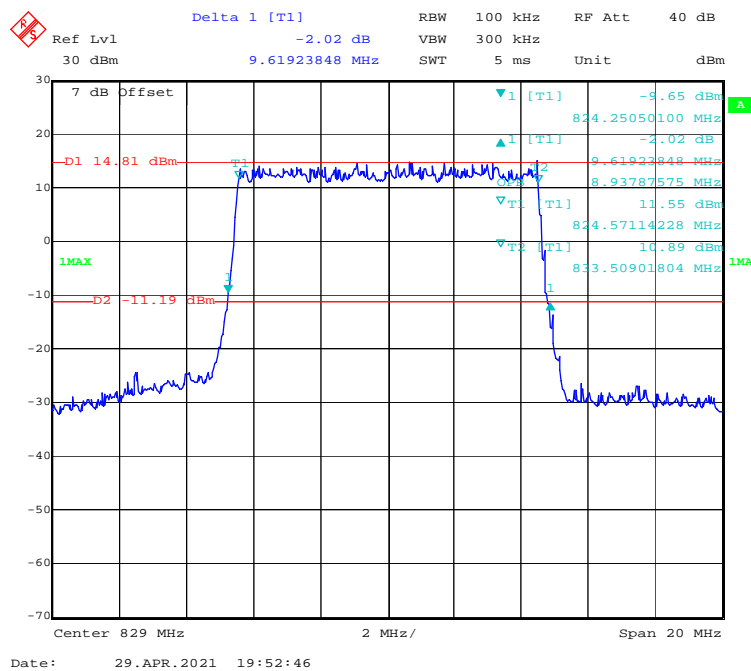
**16-QAM (3.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



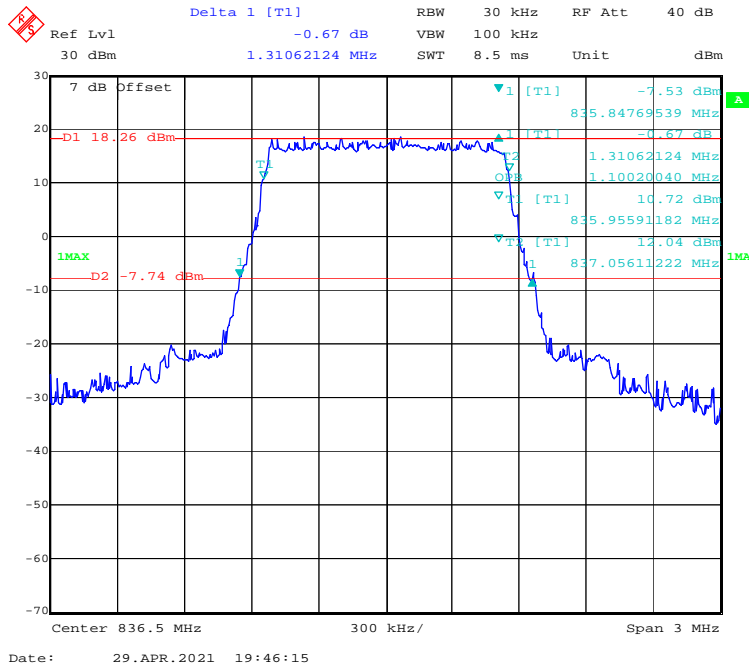
**16-QAM (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



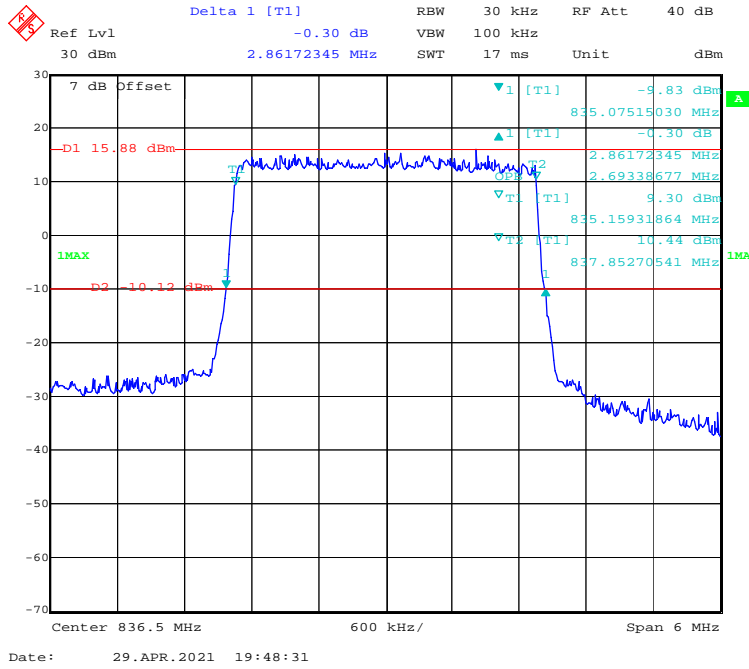
**16-QAM (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



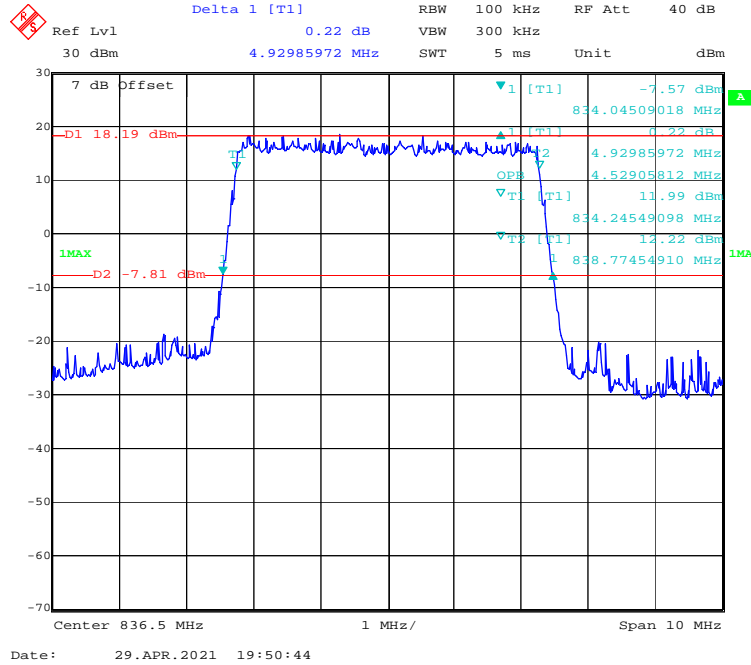
**QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



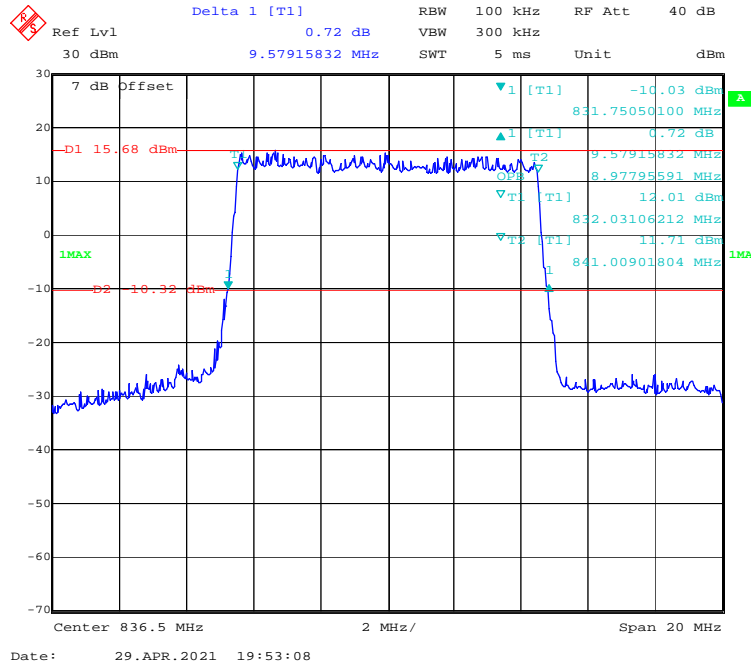
**QPSK (3.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



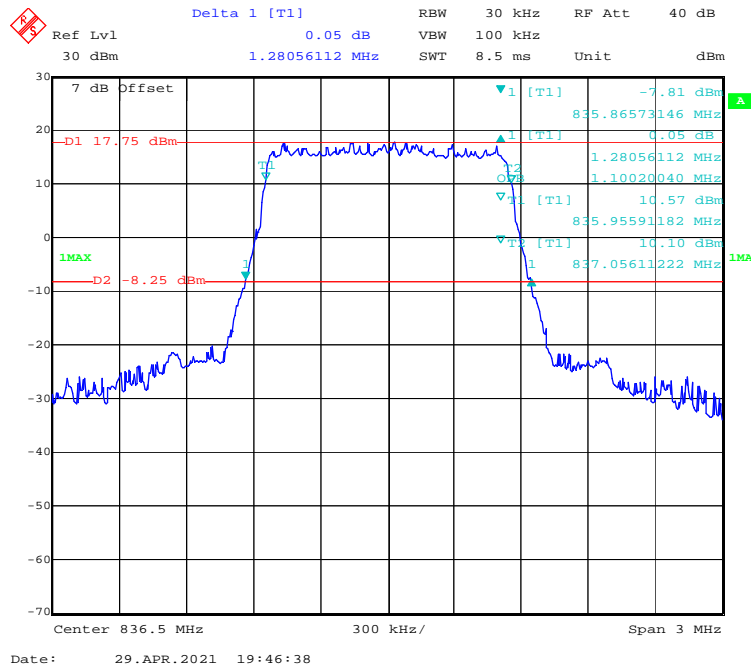
**QPSK (5.0MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



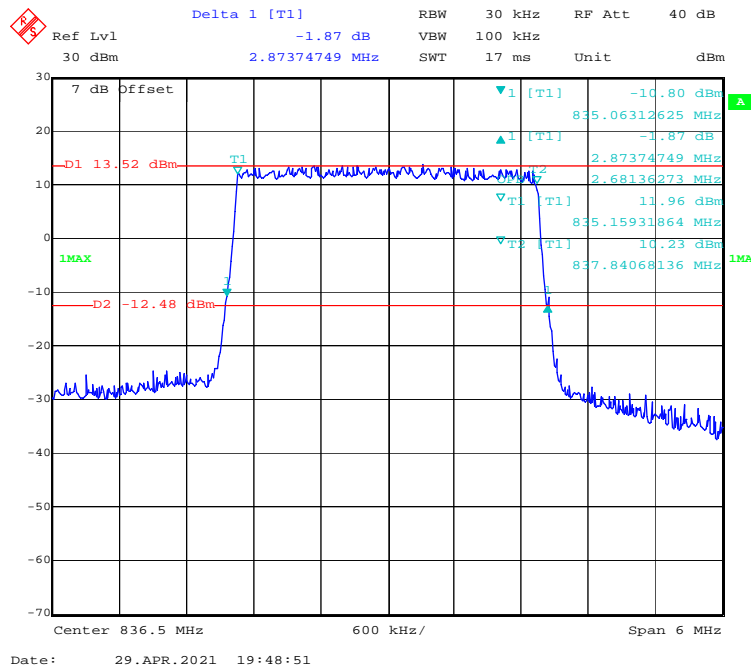
**QPSK (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



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

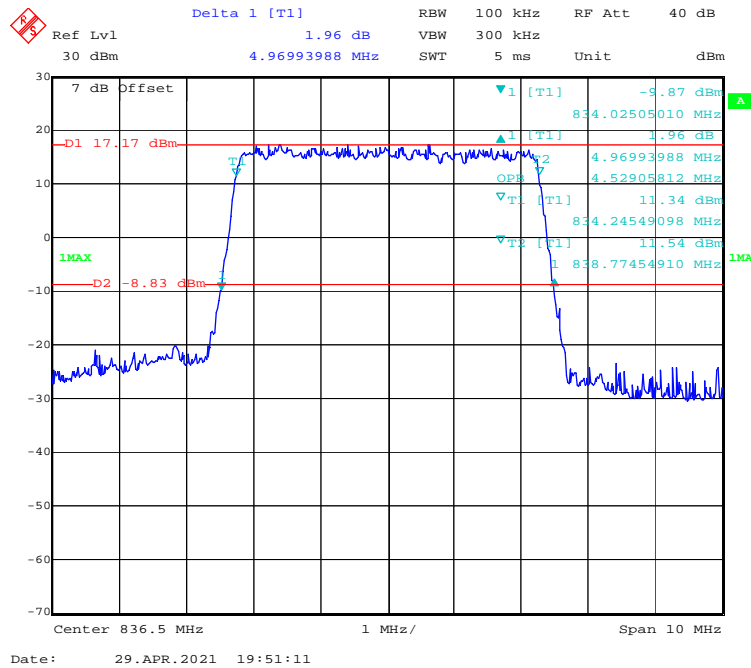


**16-QAM (3.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

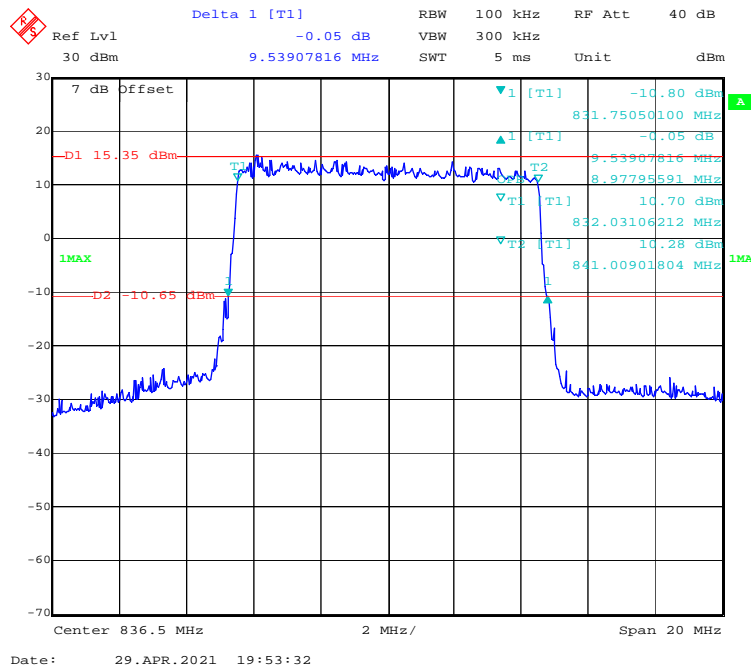




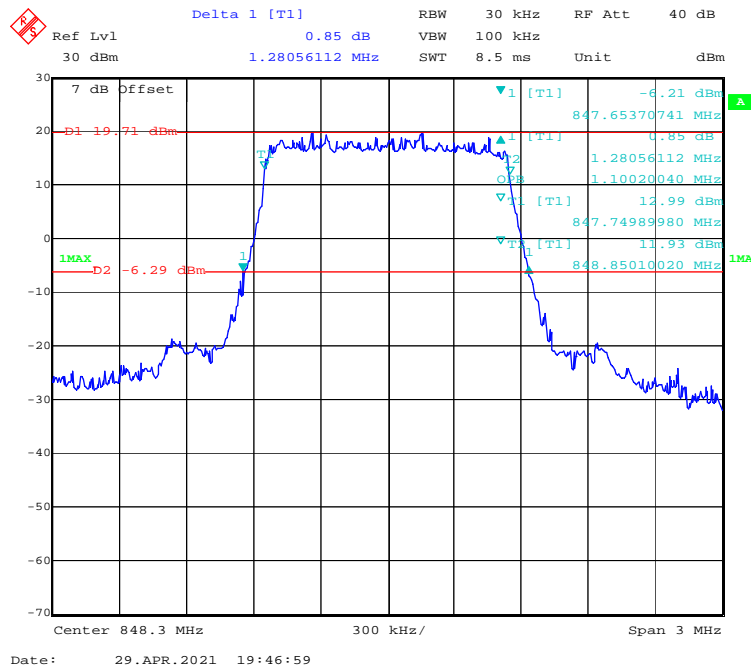
**16-QAM (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



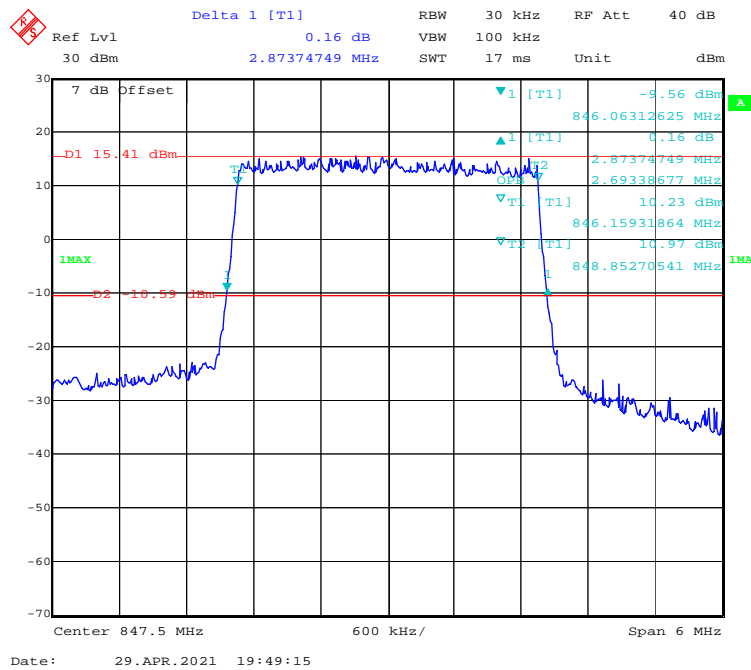
**16-QAM (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



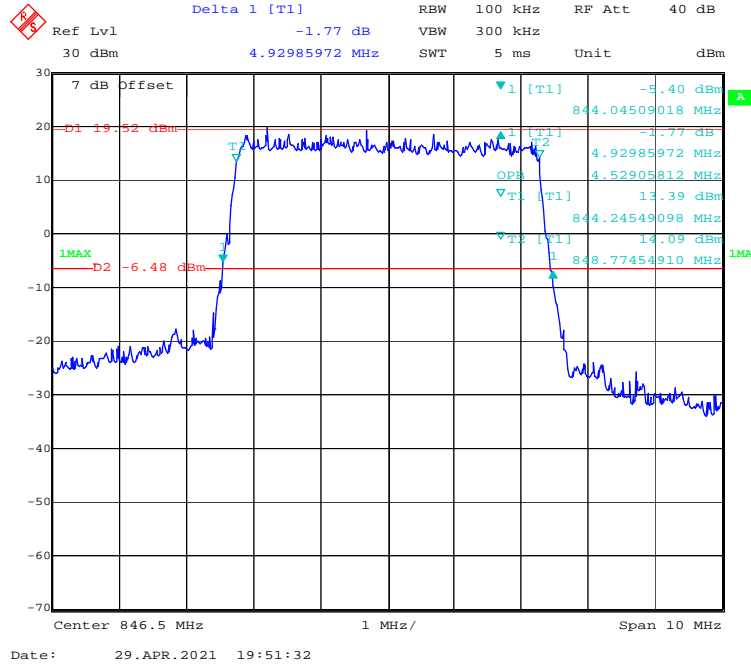
**QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



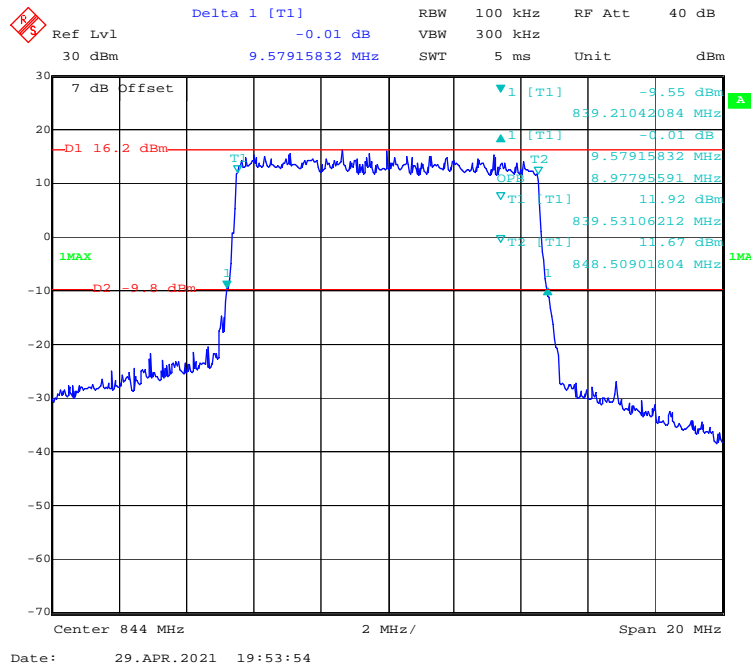
**QPSK (3.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



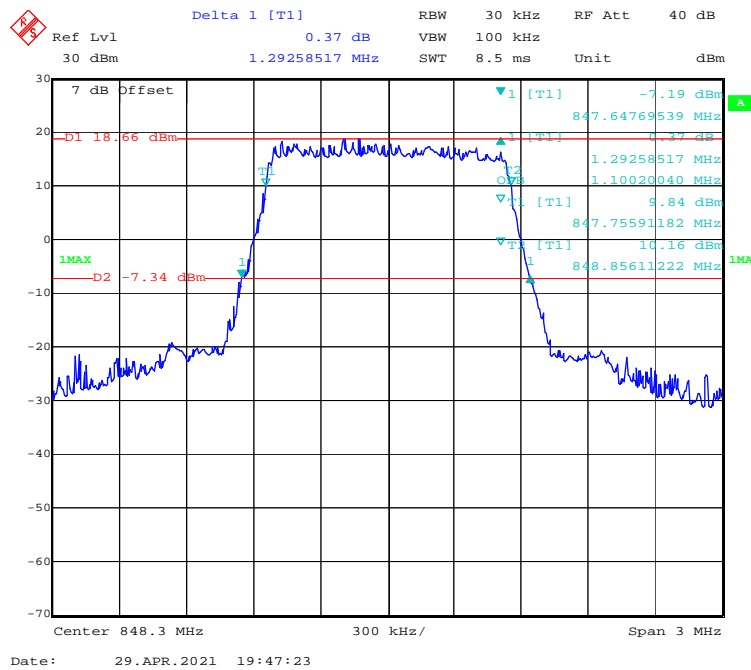
**QPSK (5.0MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



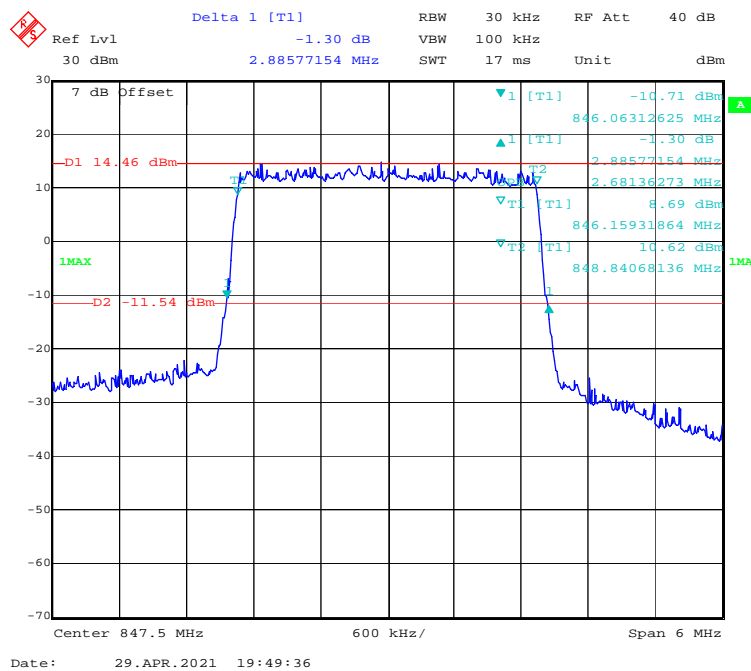
**QPSK (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



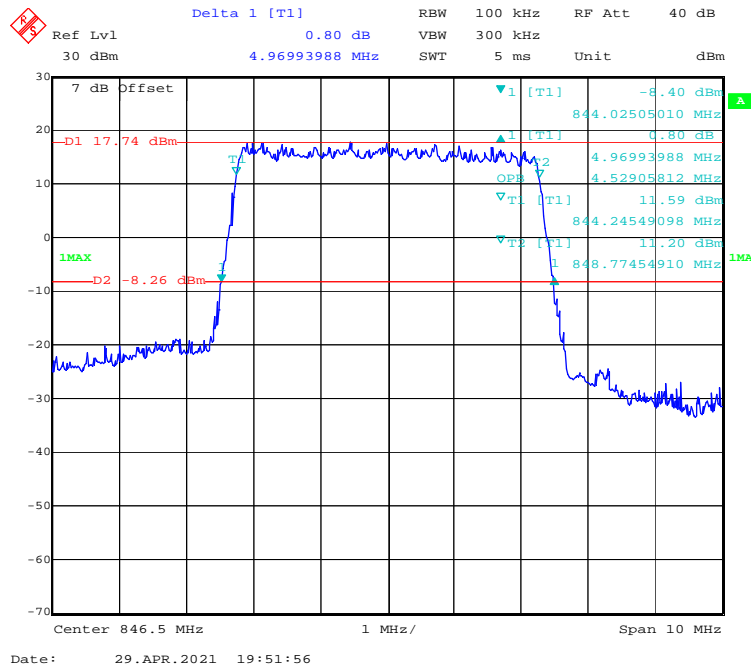
**16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



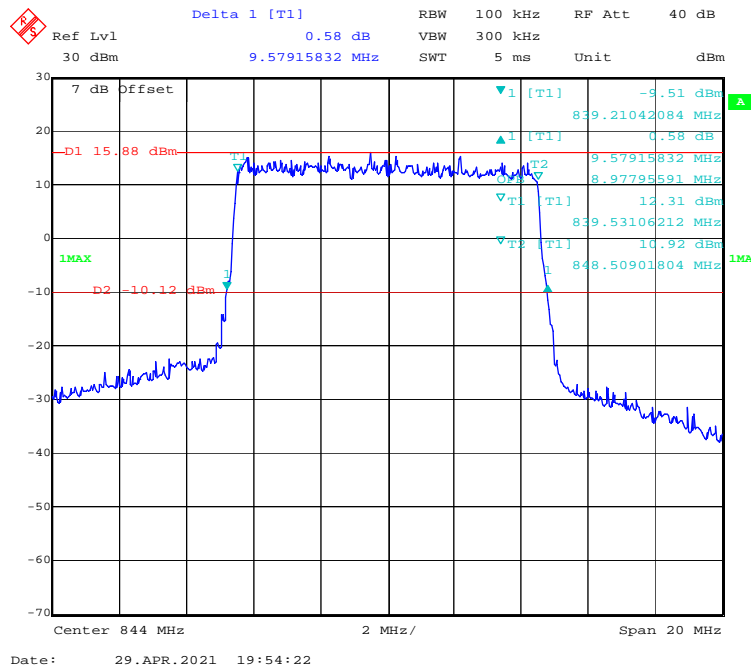
**16-QAM (3.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



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



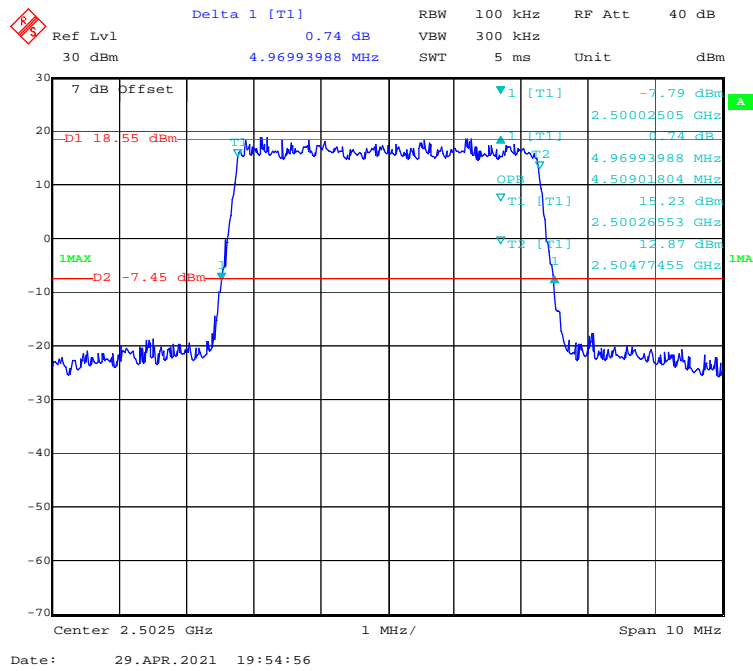
**16-QAM (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



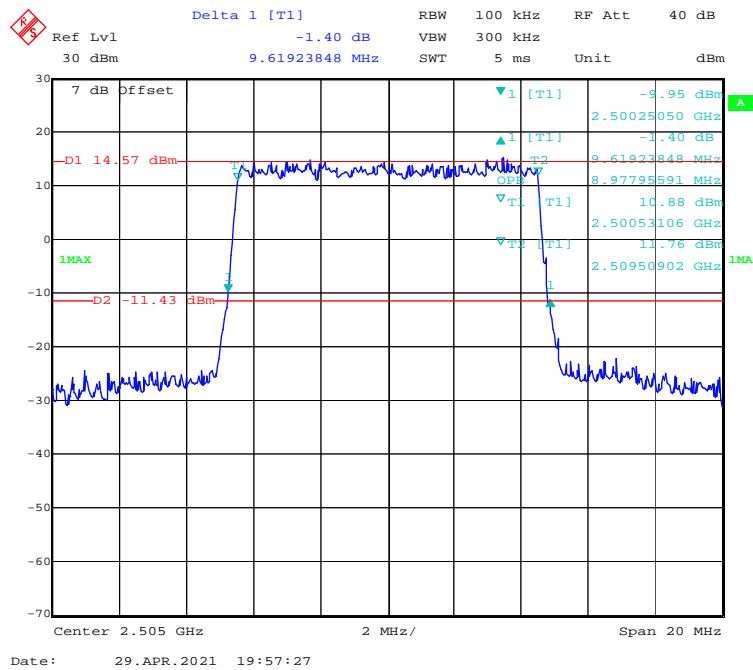
**LTE Band 7:**

Test Modulation	Test Bandwidth	Test Channel	26 dB Bandwidth	99% Occupied Bandwidth
			MHz	MHz
QPSK	5M	Low	4.970	4.509
	10M		9.619	8.978
	15M		14.910	13.587
	20M		19.319	17.956
	5M	Middle	5.551	4.529
	10M		9.539	8.978
	15M		14.729	13.527
	20M		19.319	17.956
	5M	High	4.950	4.509
	10M		9.459	8.978
	15M		14.790	13.467
	20M		19.399	17.956
16-QAM	5M	Low	4.950	4.509
	10M		9.579	8.938
	15M		14.790	13.527
	20M		19.559	17.956
	5M	Middle	4.950	4.529
	10M		9.579	8.978
	15M		14.729	13.467
	20M		20.120	18.036
	5M	High	4.970	4.509
	10M		9.579	8.978
	15M		14.729	13.527
	20M		19.319	17.956

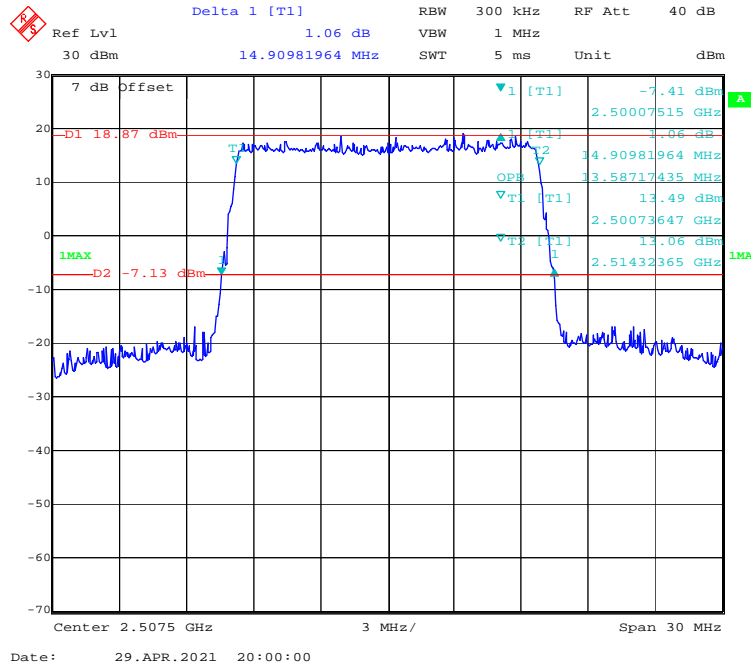
**QPSK (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



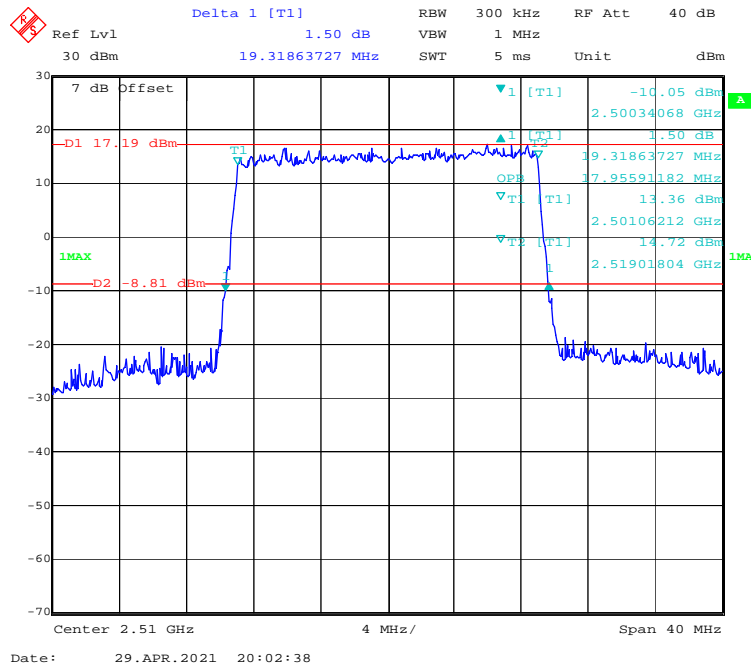
**QPSK (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



**QPSK (15.0MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

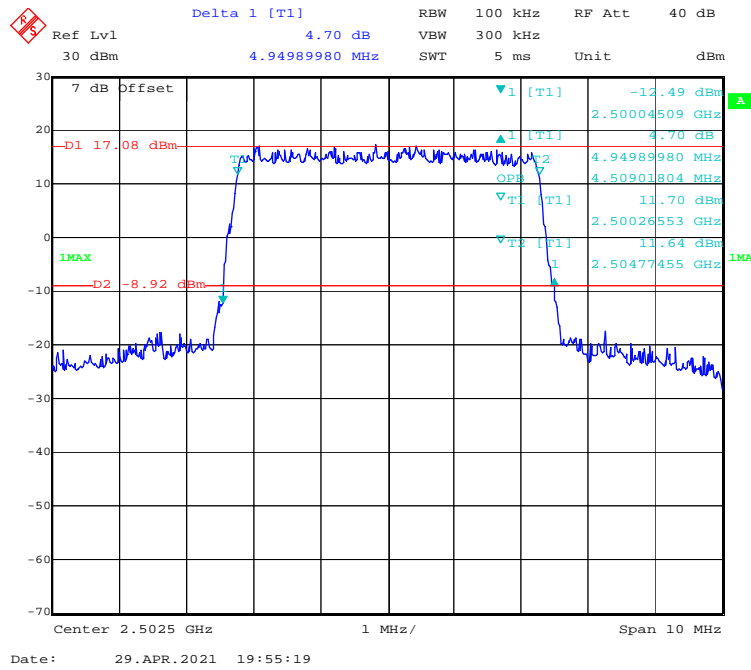


**QPSK (20.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

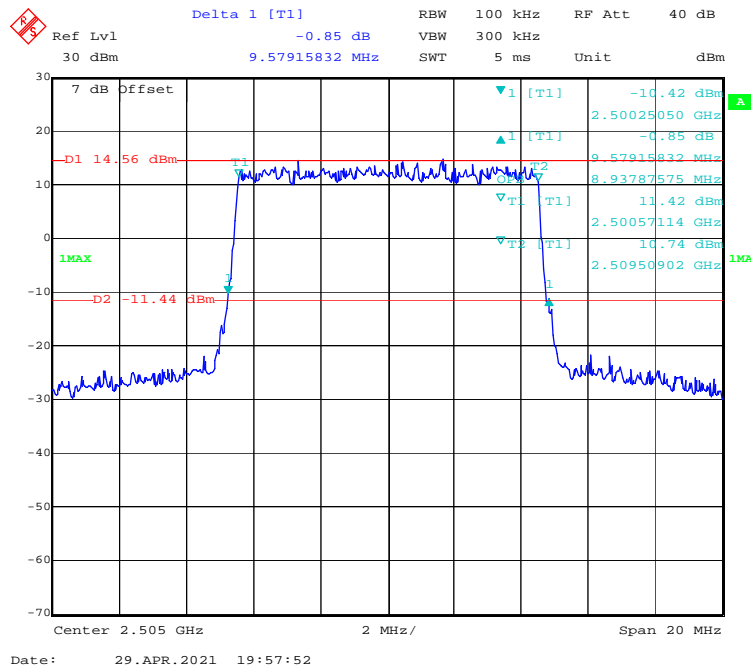




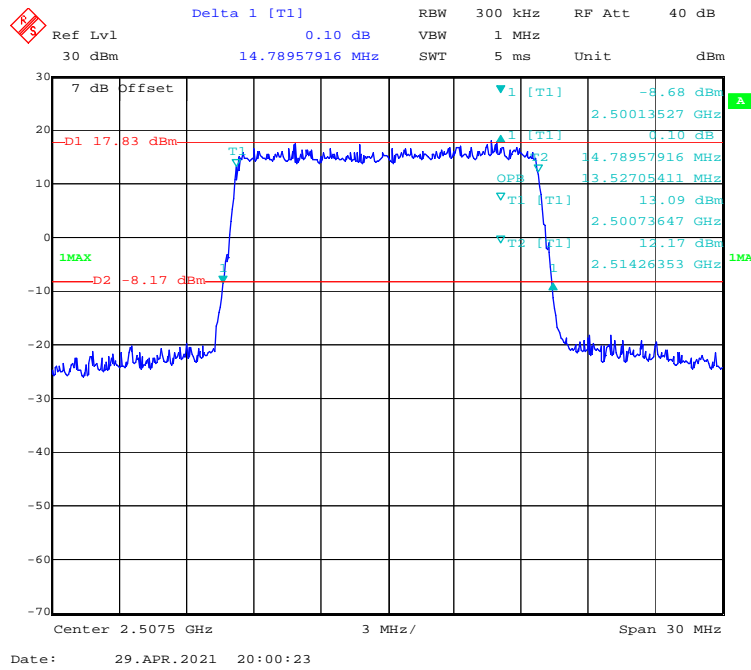
**16-QAM (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



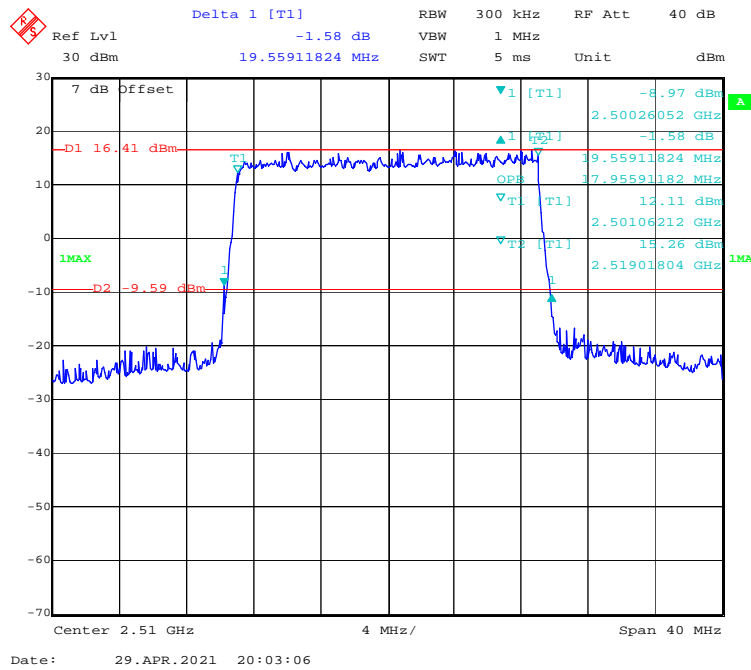
**16-QAM (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



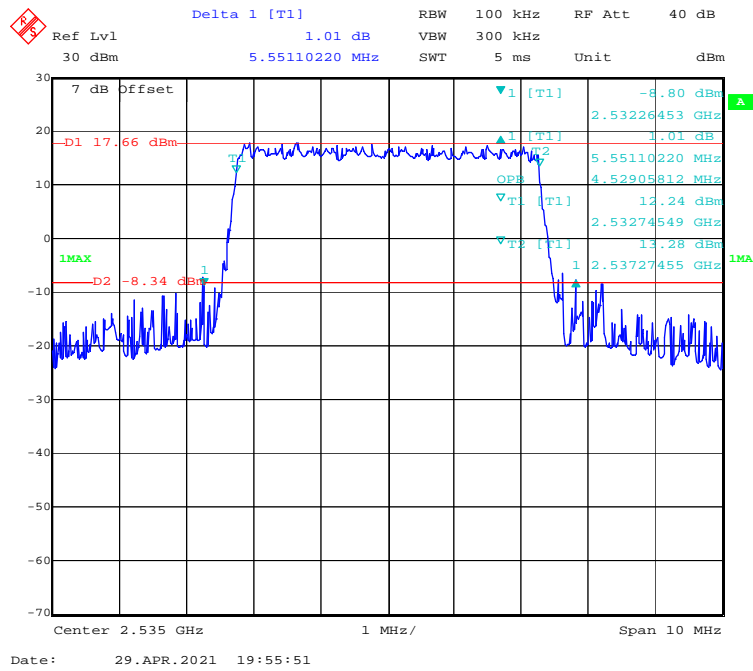
**16-QAM (15.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



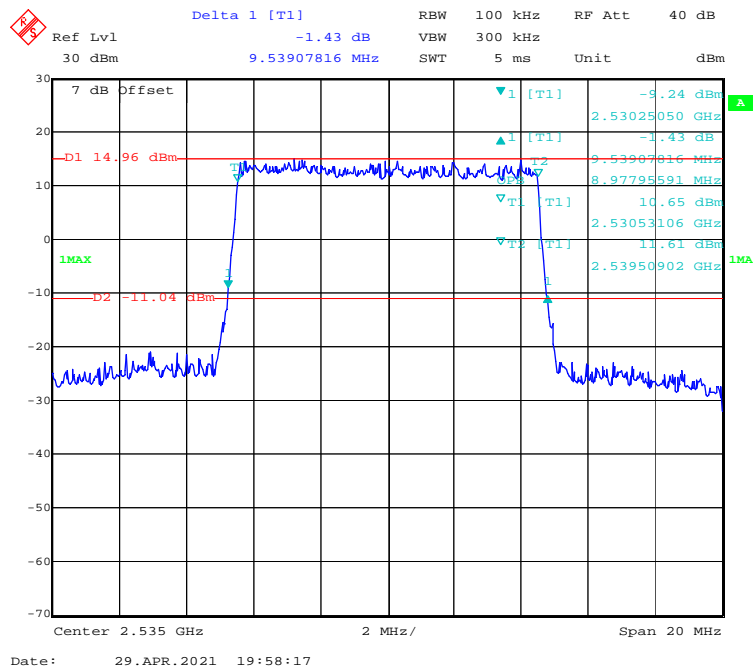
**16-QAM (20.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



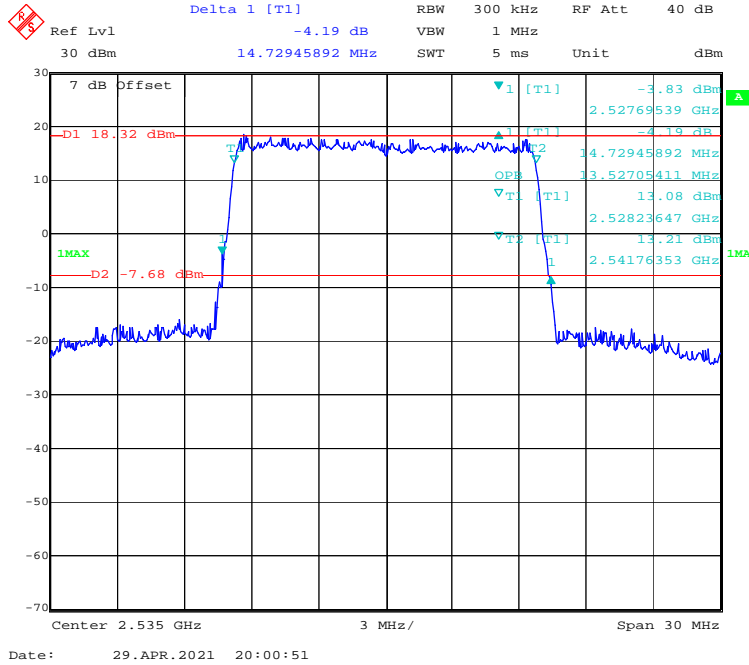
**QPSK (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



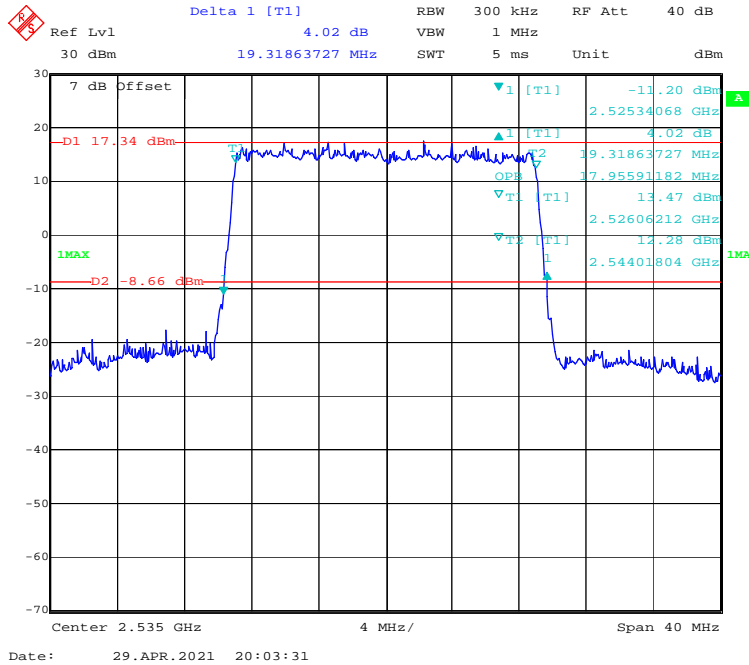
**QPSK (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



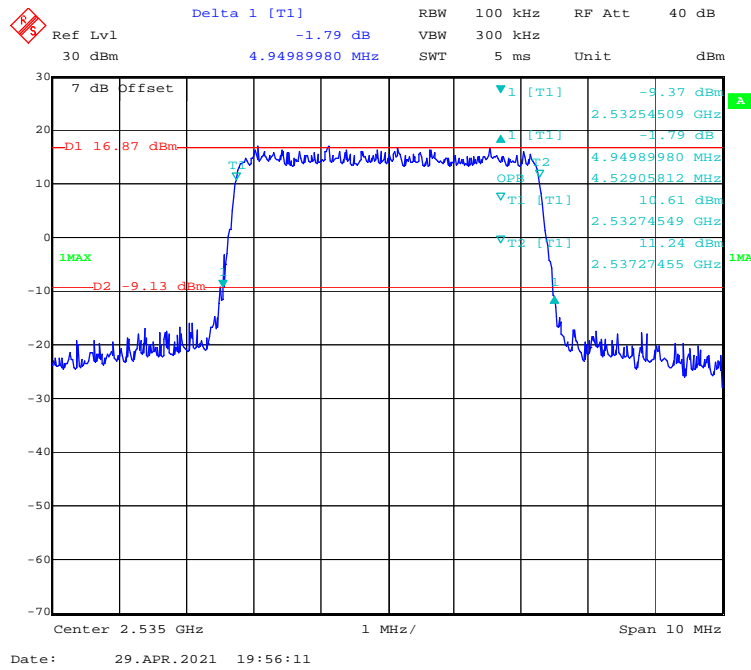
**QPSK (15.0MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



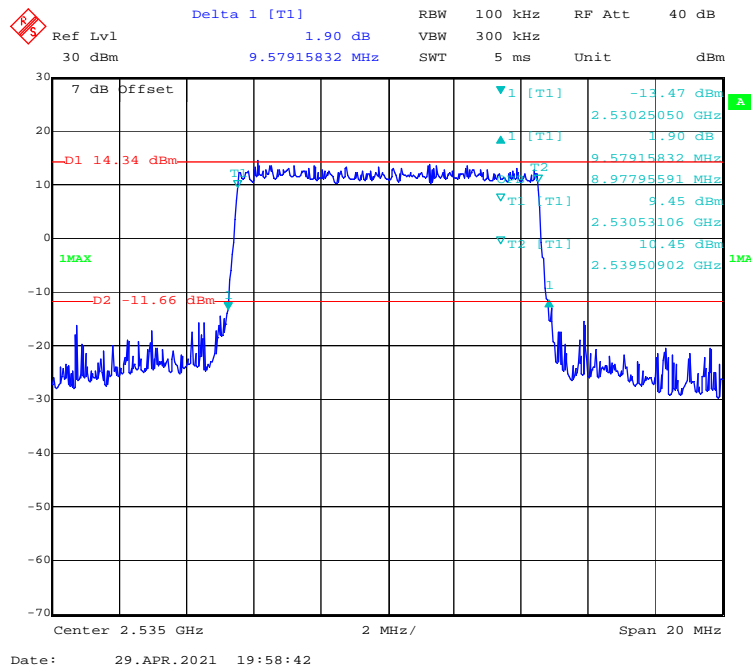
**QPSK (20.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



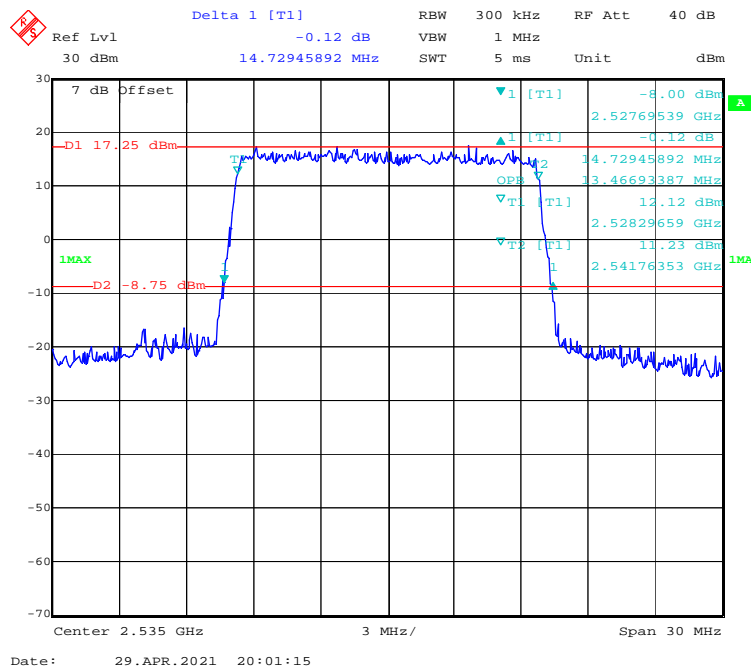
**16-QAM (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



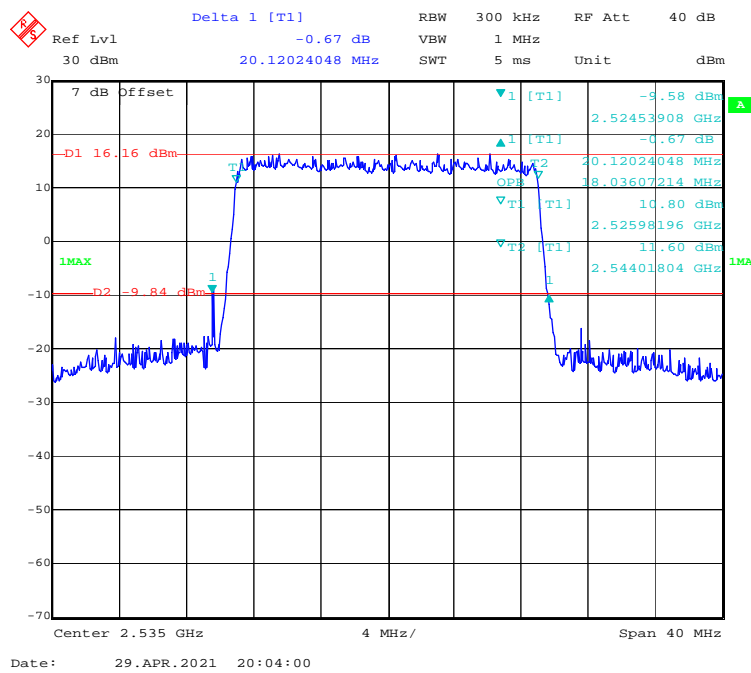
**16-QAM (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



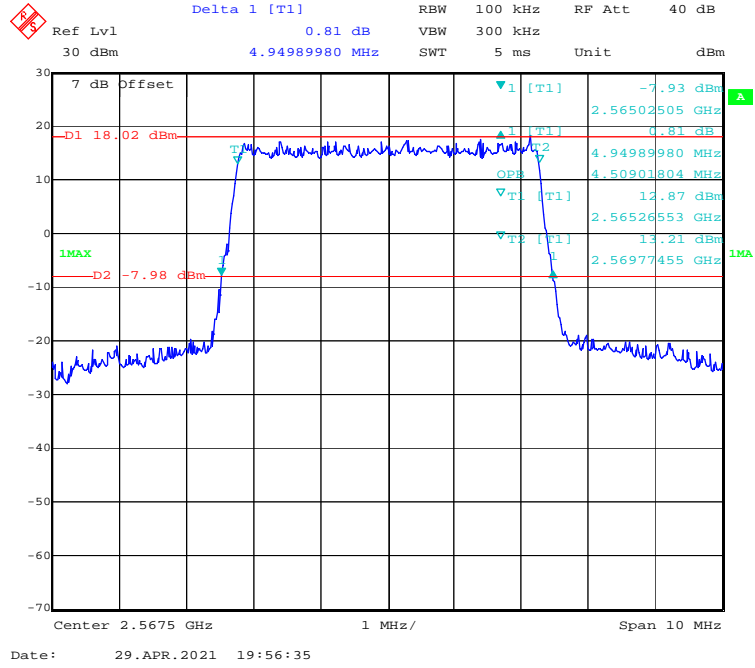
**16-QAM (15.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



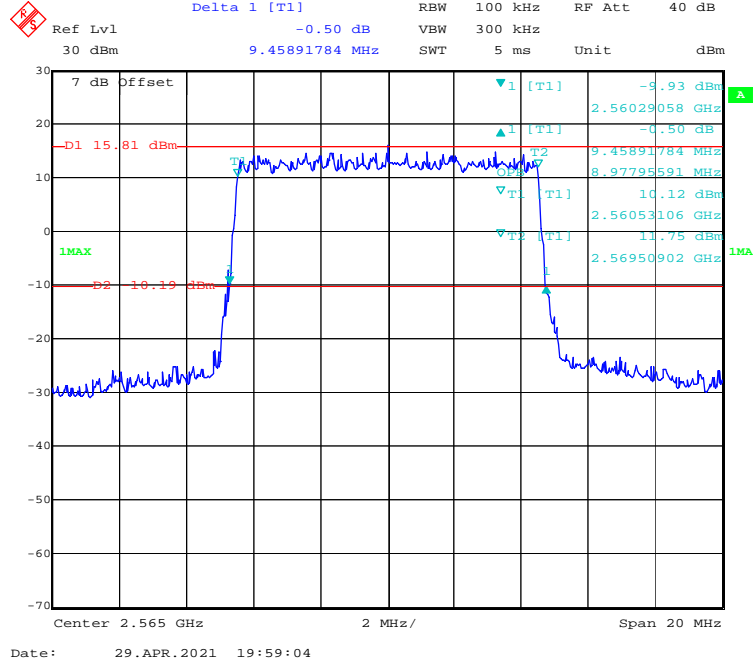
**16-QAM (20.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



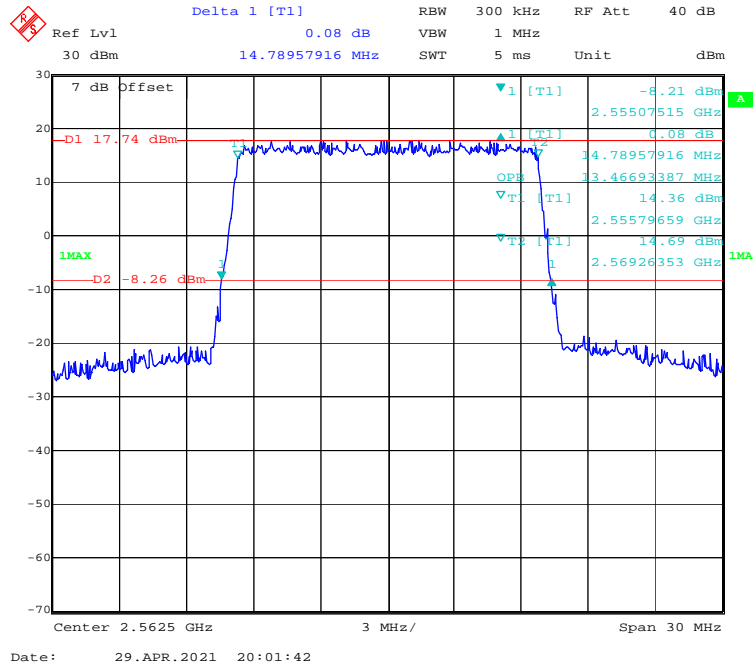
**QPSK (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



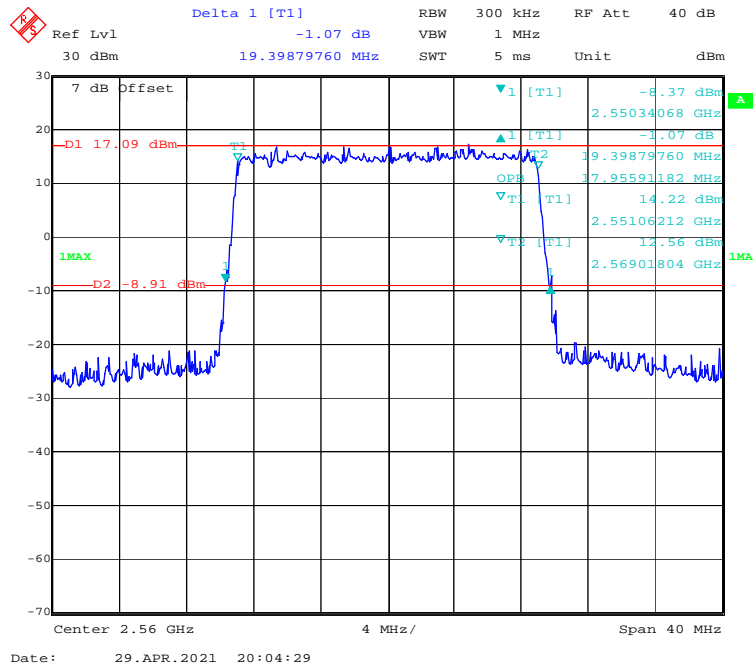
**QPSK (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



**QPSK (15.0MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

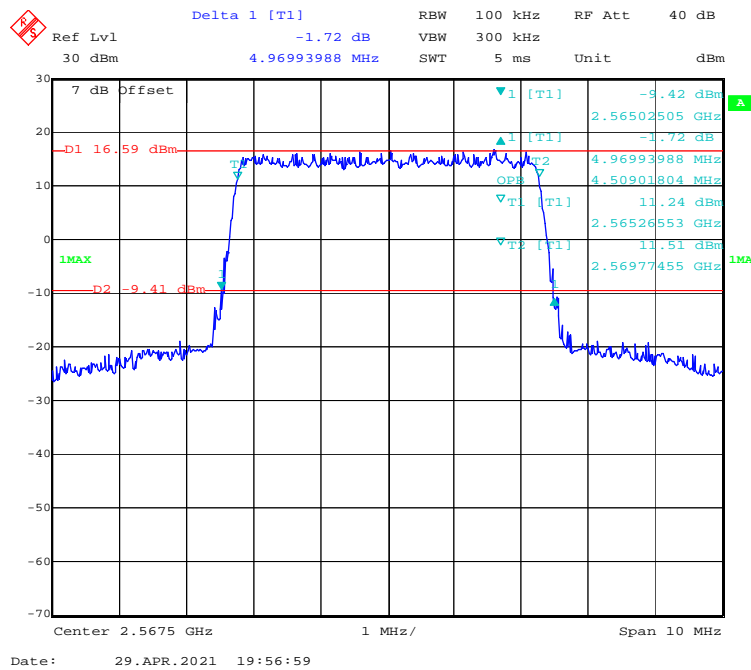


**QPSK (20.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

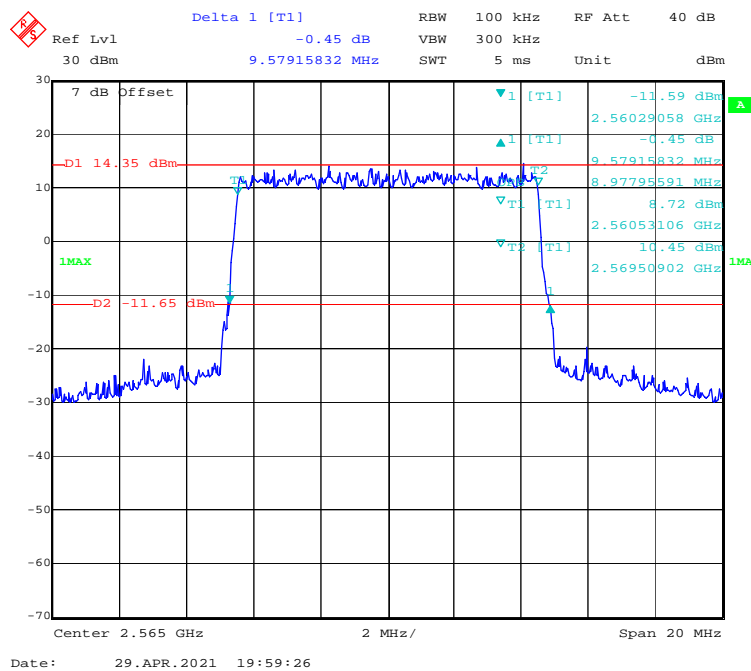




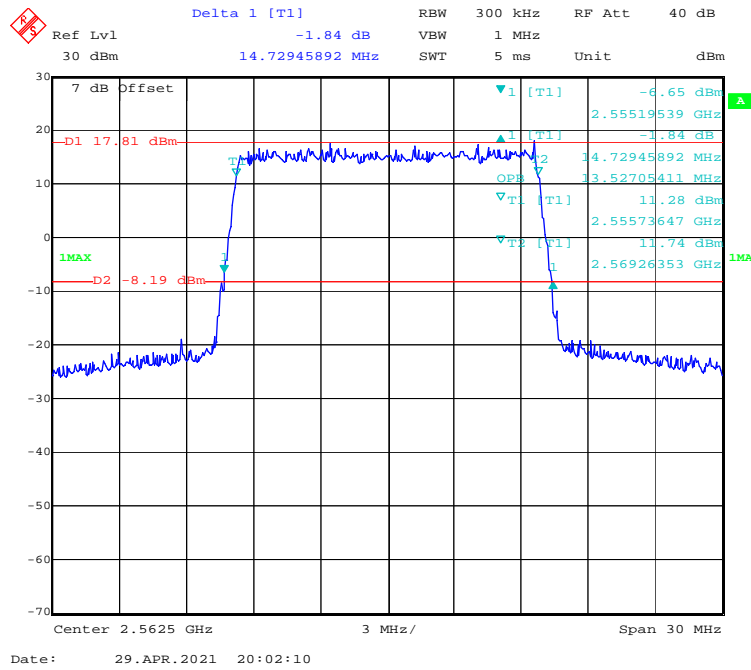
**16-QAM (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



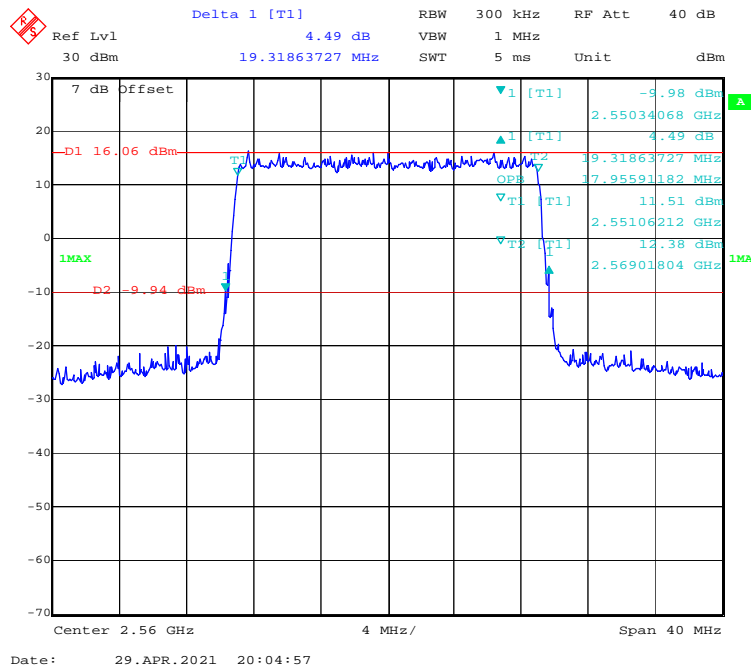
**16-QAM (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



**16-QAM (15.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



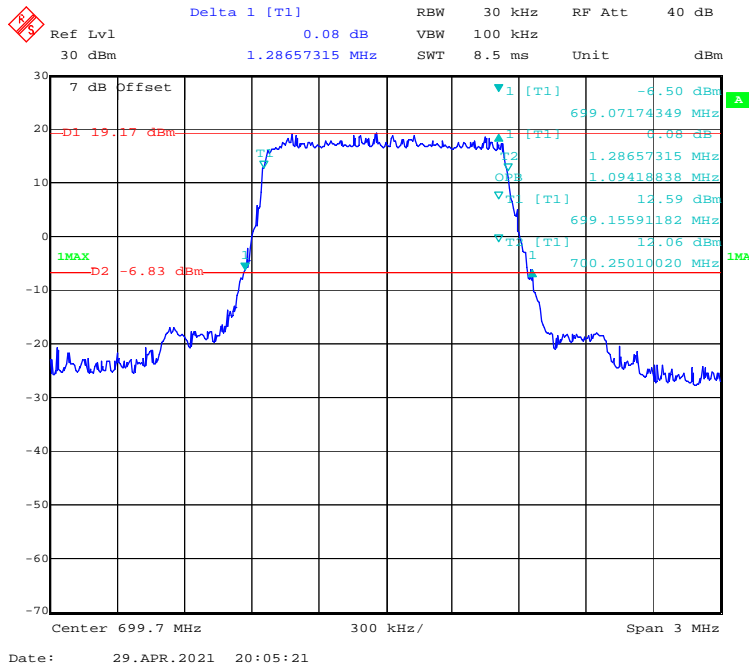
**16-QAM (20.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



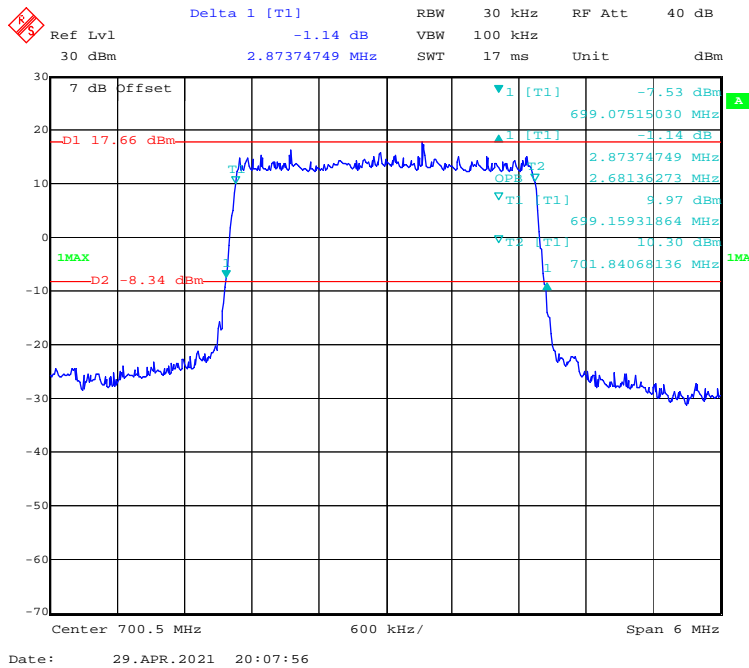
**LTE Band 12:**

Test Modulation	Test Bandwidth	Test Channel	26 dB Bandwidth	99% Occupied Bandwidth
			MHz	MHz
QPSK	1.4M	Low	1.287	1.094
	3M		2.874	2.681
	5M		5.230	4.569
	10M		9.900	8.938
	1.4M	Middle	1.299	1.100
	3M		2.862	2.681
	5M		5.170	4.529
	10M		9.980	8.978
	1.4M	High	1.281	1.106
	3M		2.886	2.693
	5M		5.190	4.529
	10M		9.900	8.978
16-QAM	1.4M	Low	1.281	1.106
	3M		2.862	2.681
	5M		5.150	4.549
	10M		9.699	8.978
	1.4M	Middle	1.485	1.100
	3M		2.874	2.681
	5M		5.170	4.529
	10M		9.700	8.978
	1.4M	High	1.287	1.100
	3M		2.898	2.681
	5M		5.170	4.549
	10M		9.739	8.978

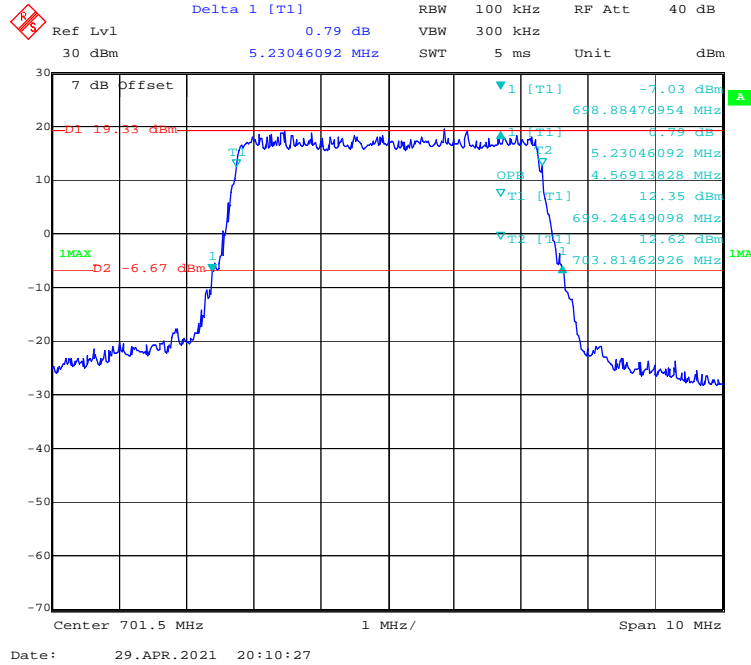
### QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



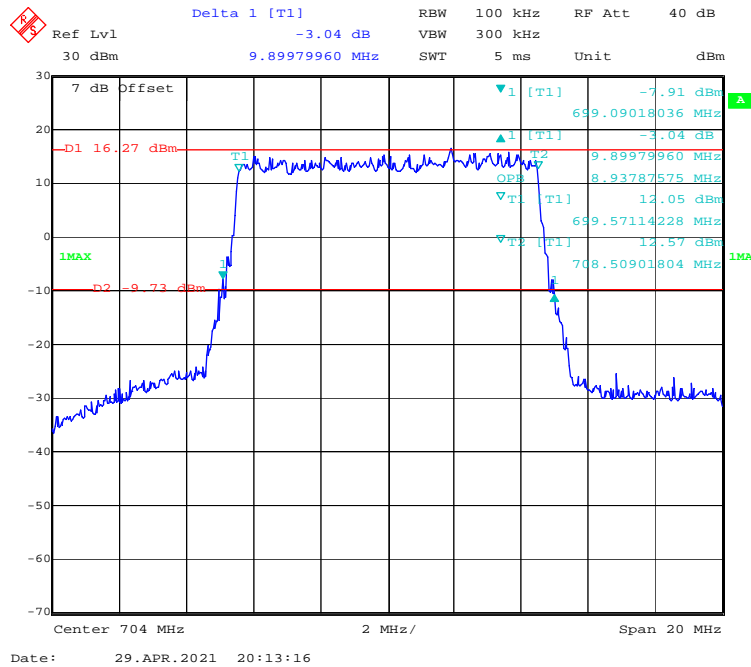
### QPSK (3.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



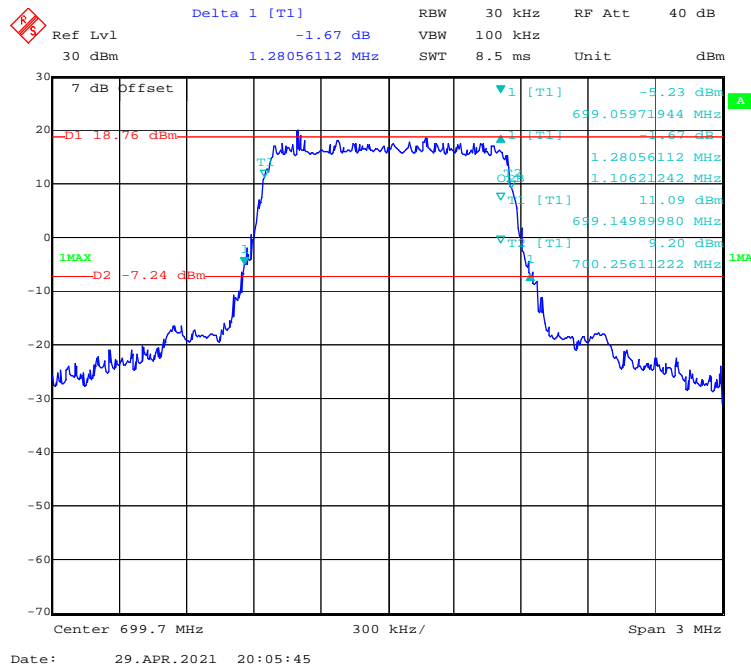
**QPSK (5.0MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



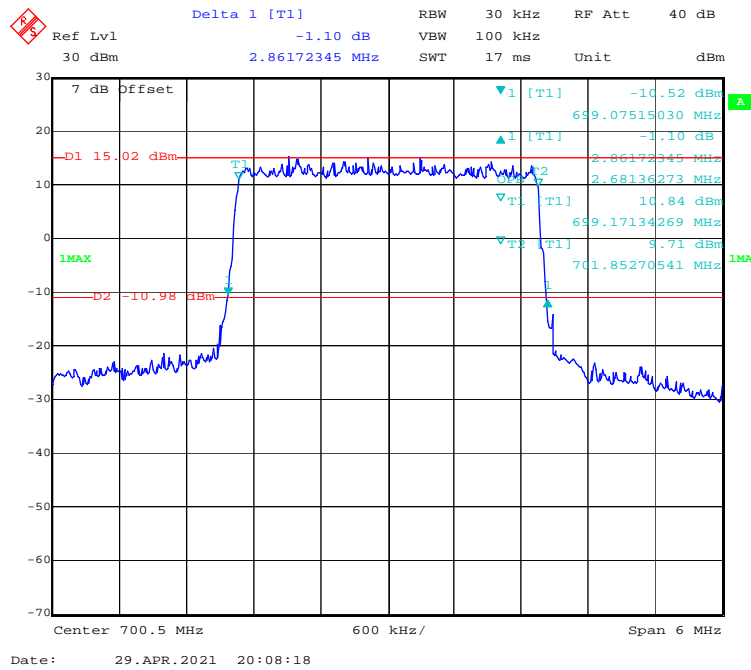
**QPSK (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



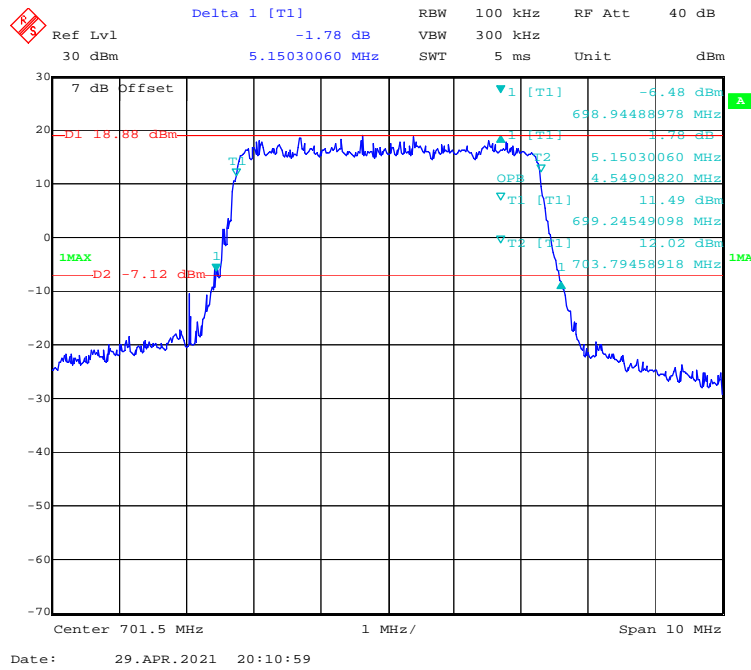
**16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



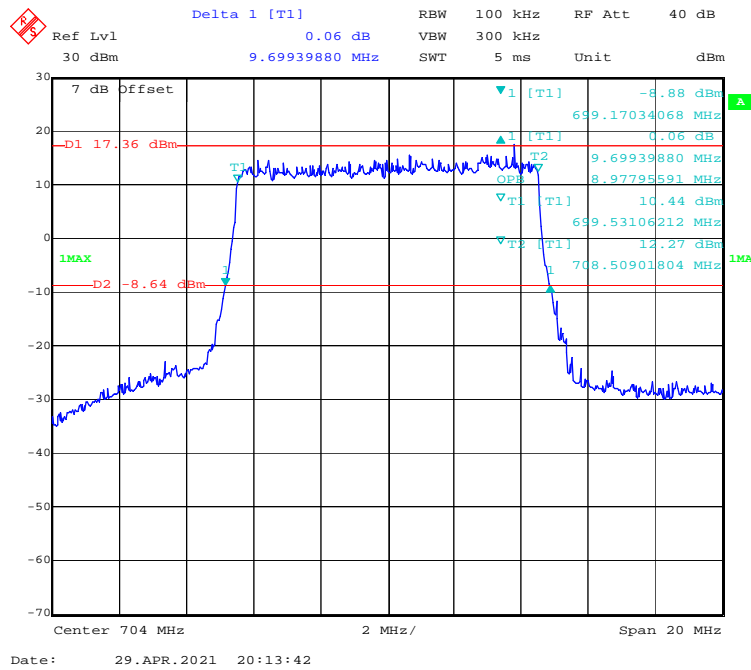
**16-QAM (3.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



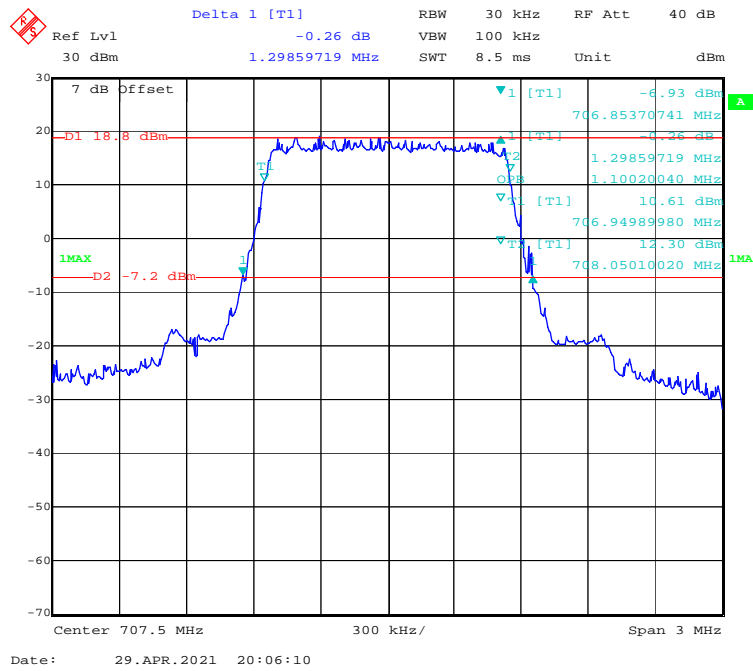
**16-QAM (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



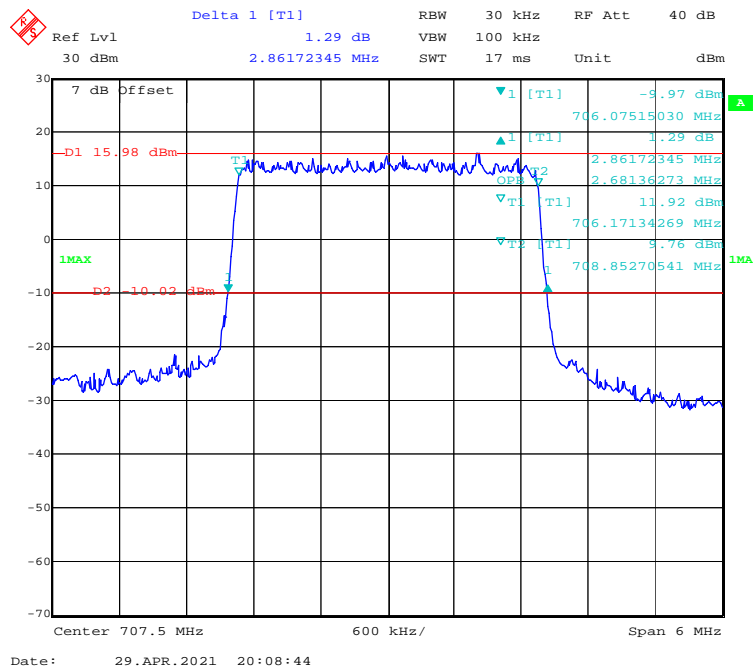
**16-QAM (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



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

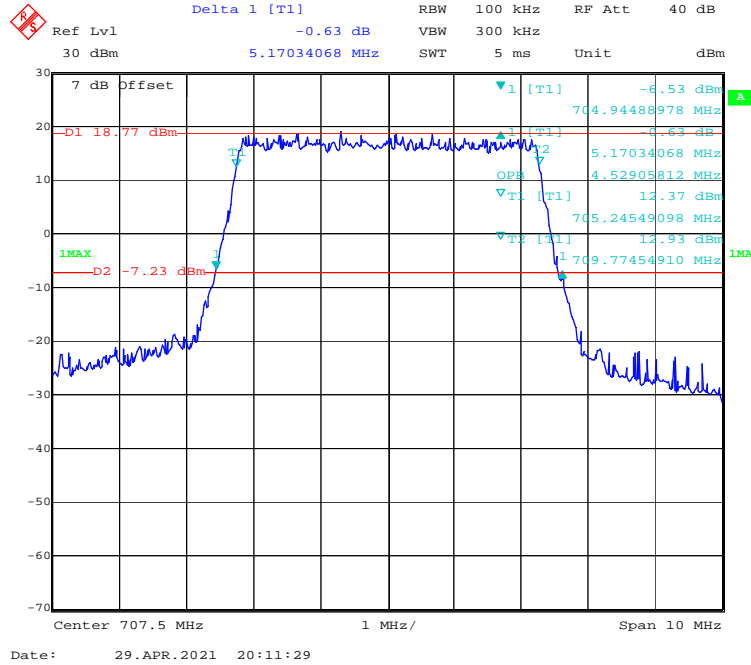


**QPSK (3.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

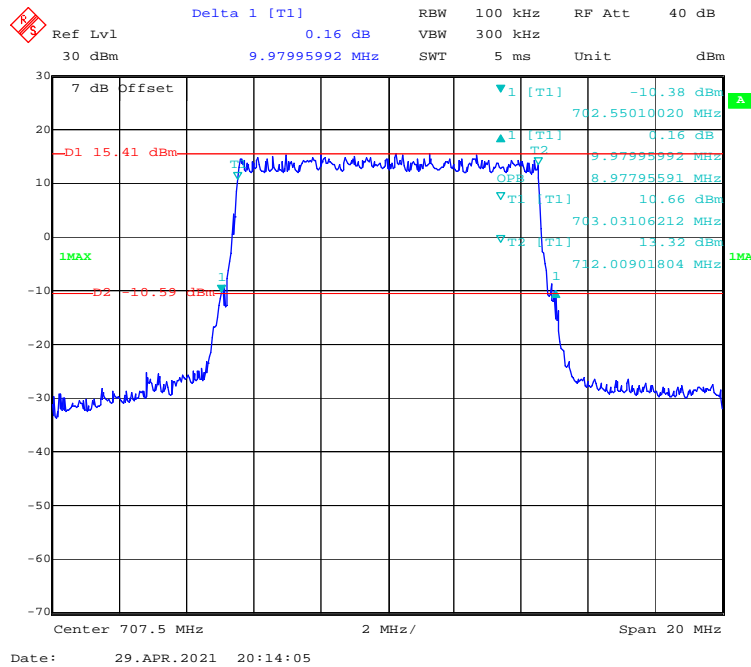




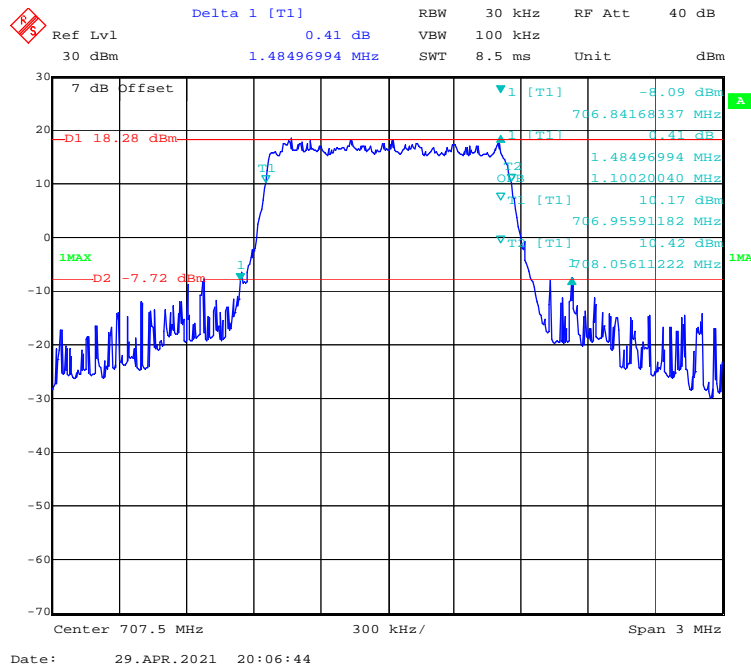
**QPSK (5.0MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



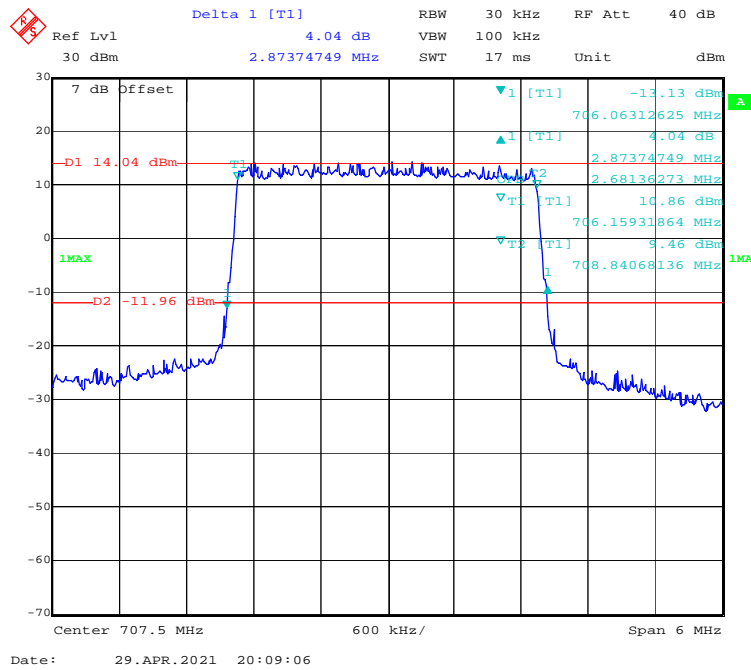
**QPSK (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



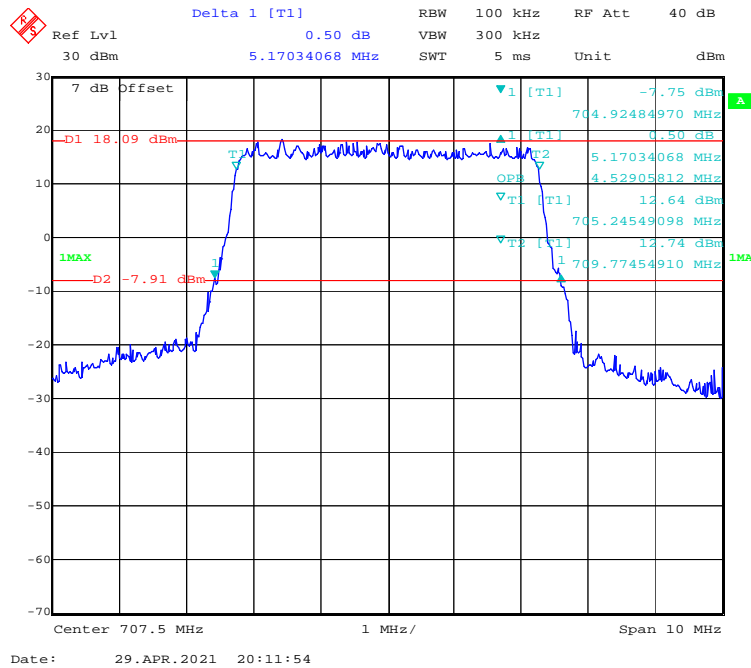
**16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



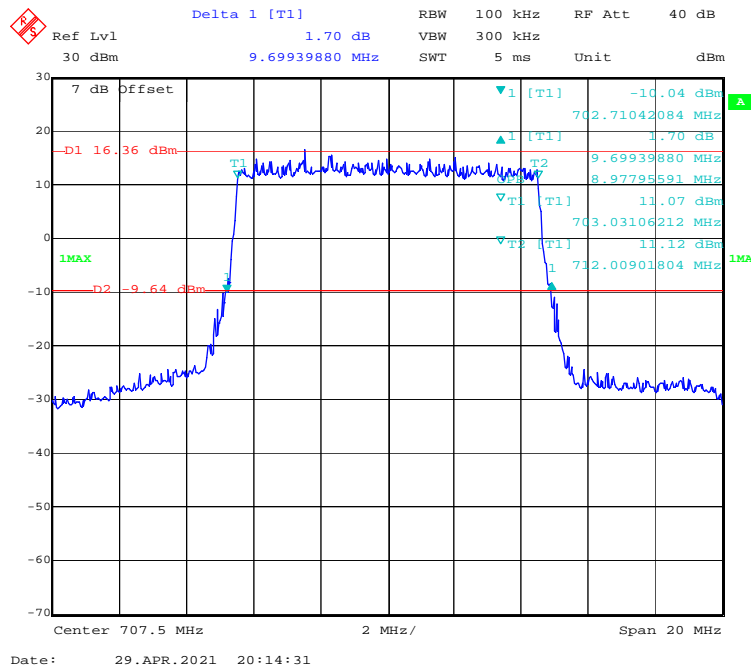
**16-QAM (3.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



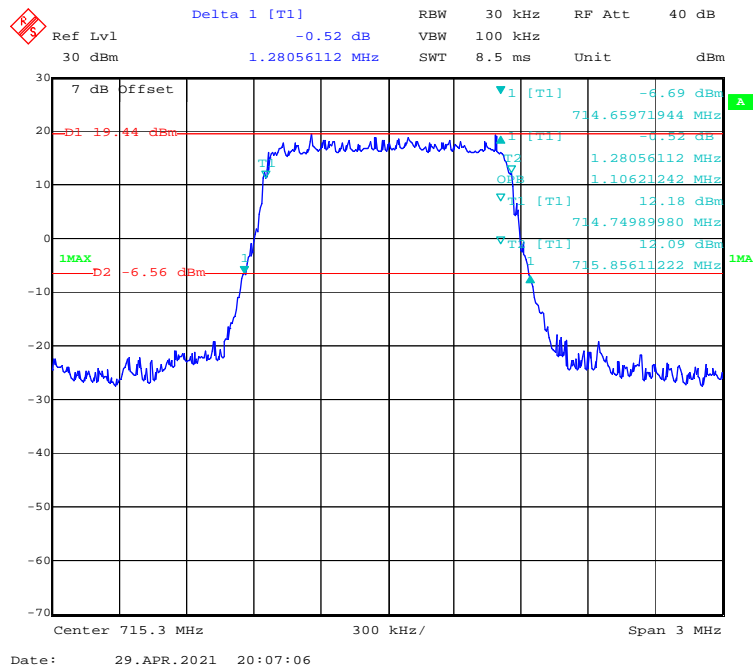
**16-QAM (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



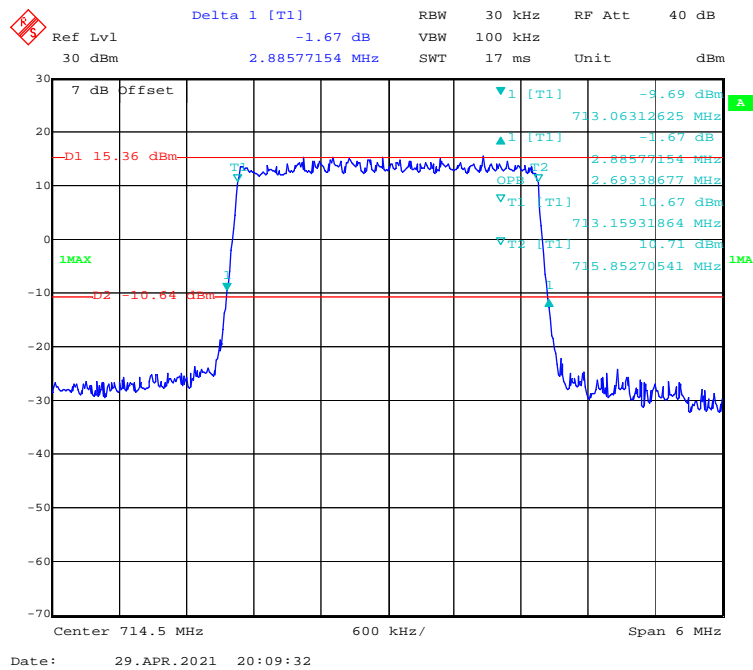
**16-QAM (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



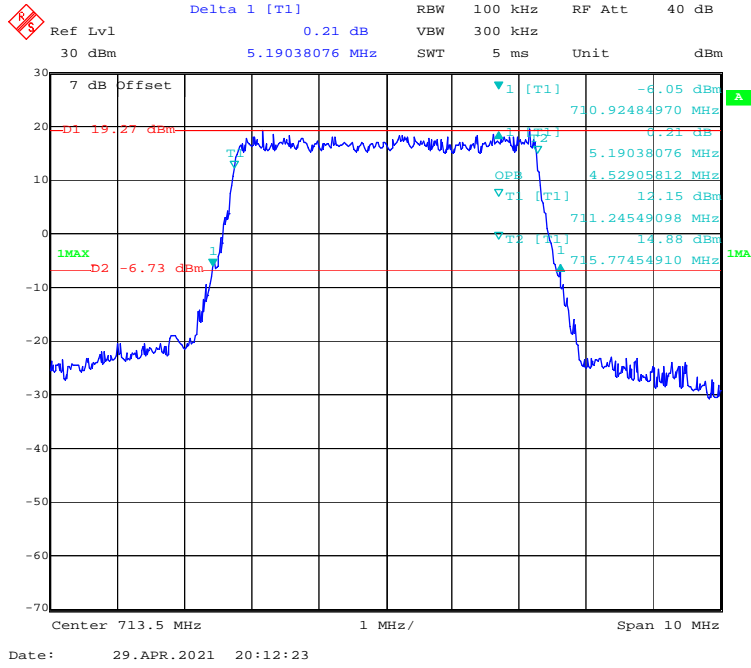
**QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



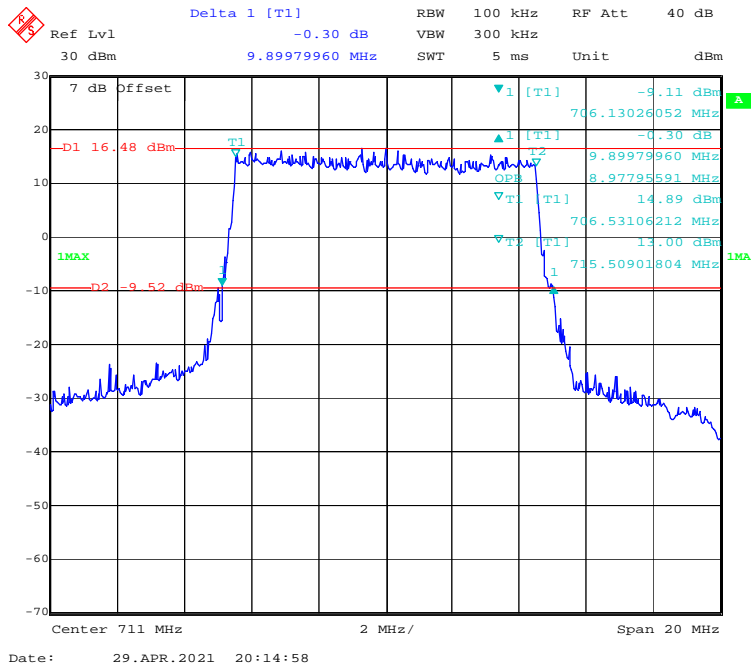
**QPSK (3.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



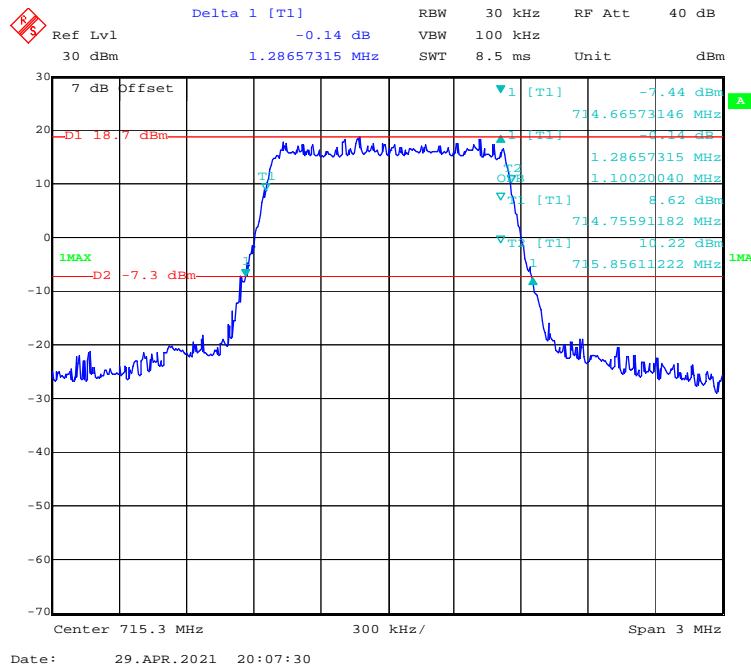
### QPSK (5.0MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



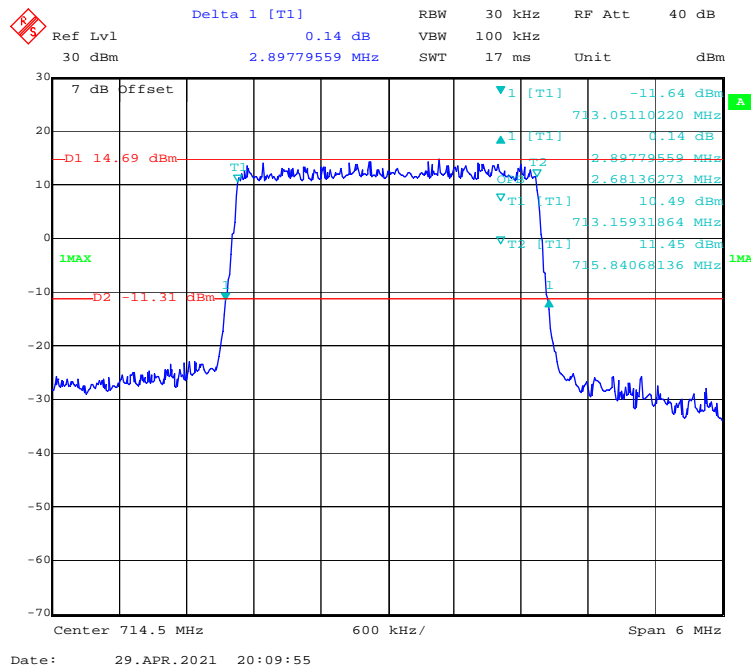
### QPSK (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



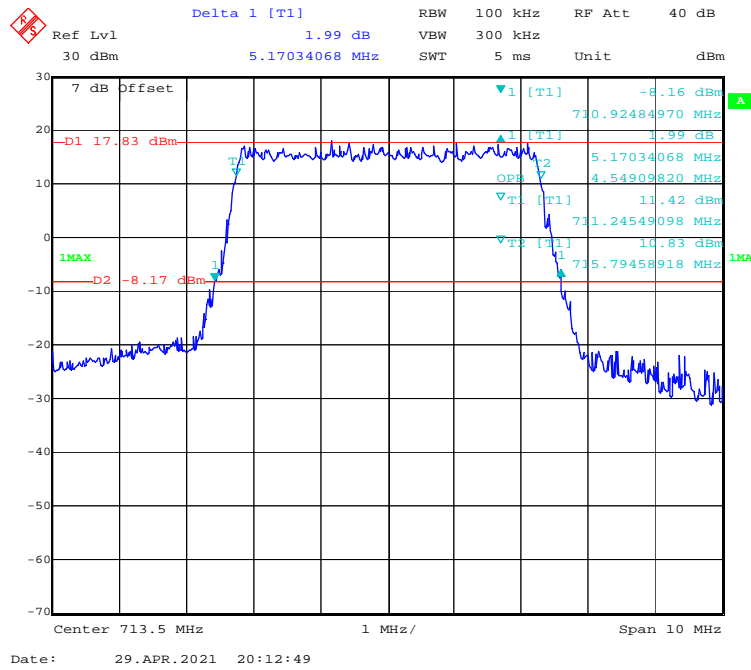
**16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



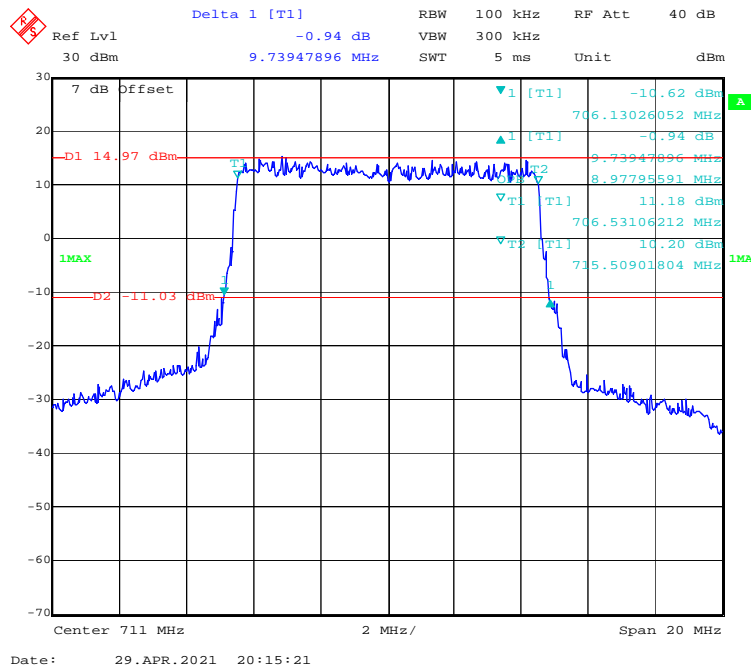
**16-QAM (3.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



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



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

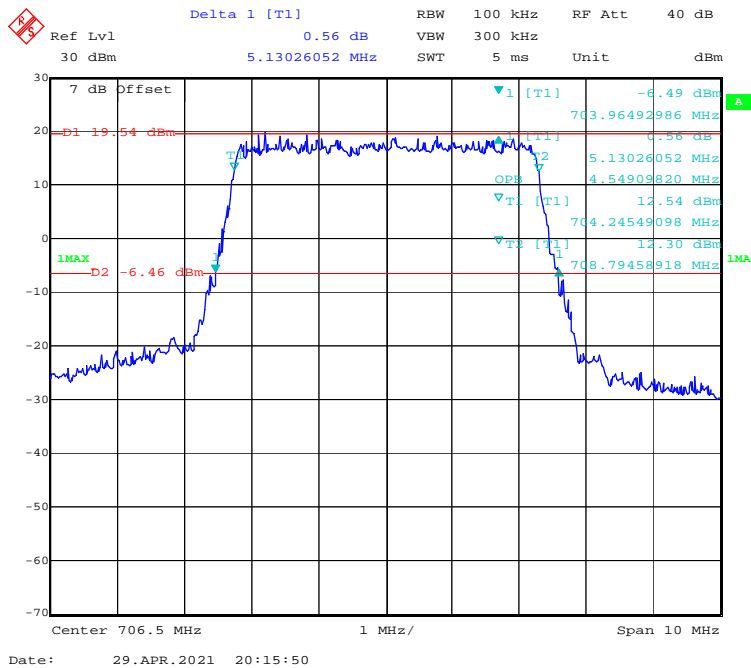


**LTE Band 17:**

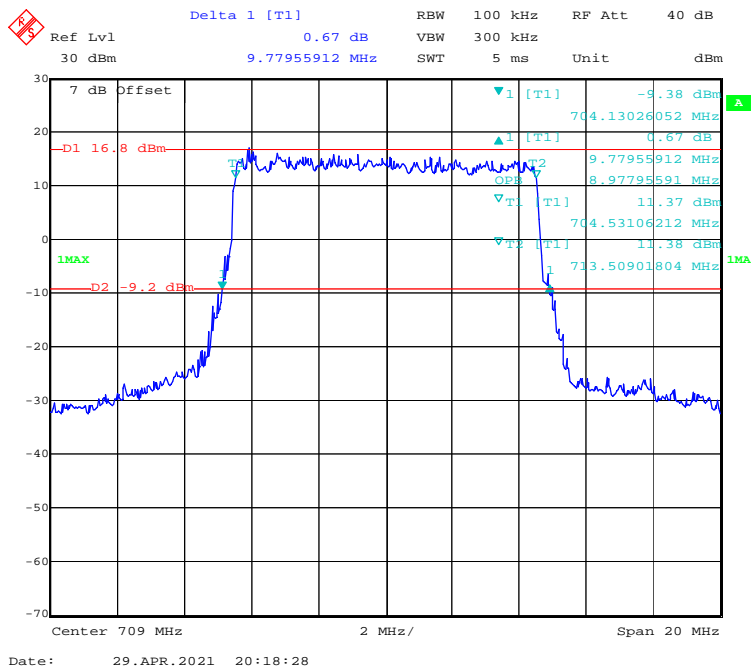
Test Modulation	Test Bandwidth	Test Channel	26 dB Bandwidth	99% Occupied Bandwidth
			MHz	MHz
QPSK	5M	Low	5.130	4.549
	10M		9.780	8.978
	5M	Middle	5.130	4.529
	10M		9.820	8.978
	5M	High	5.150	4.529
	10M		9.780	8.978
16-QAM	5M	Low	4.090	4.529
	10M		9.900	8.978
	5M	Middle	4.170	4.569
	10M		9.739	8.978
	5M	High	5.110	4.549
	10M		9.820	8.978



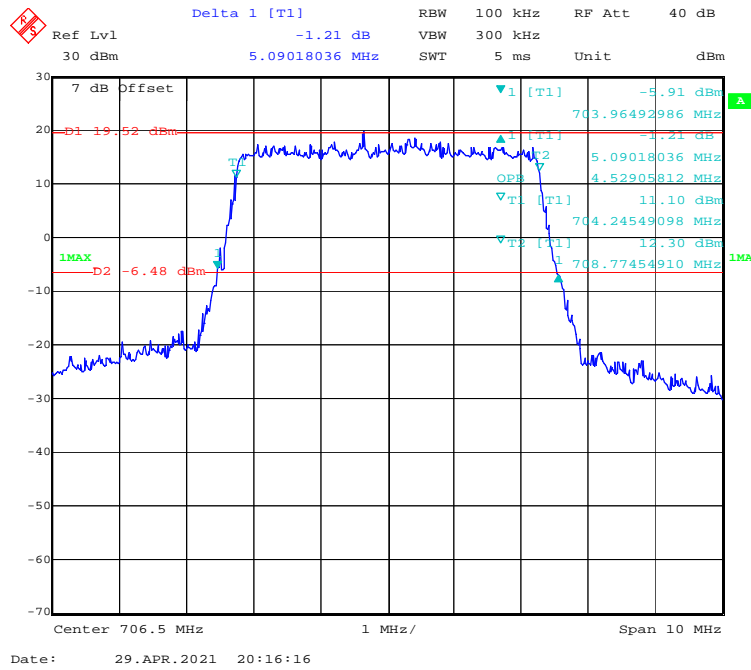
**QPSK (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



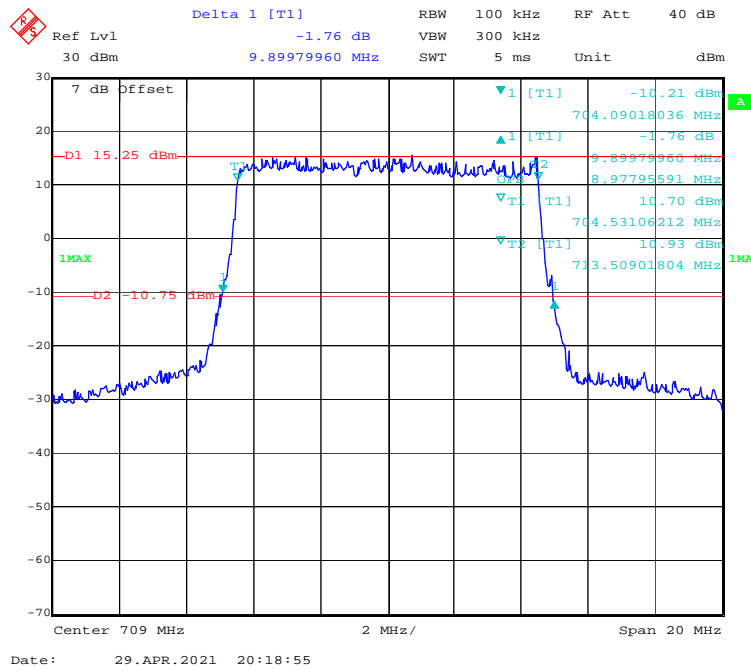
**QPSK (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



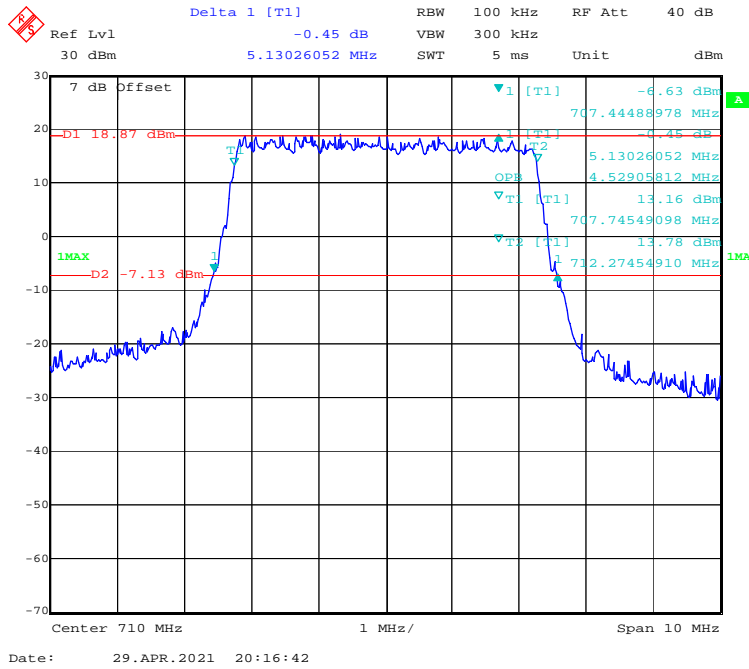
**16-QAM (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



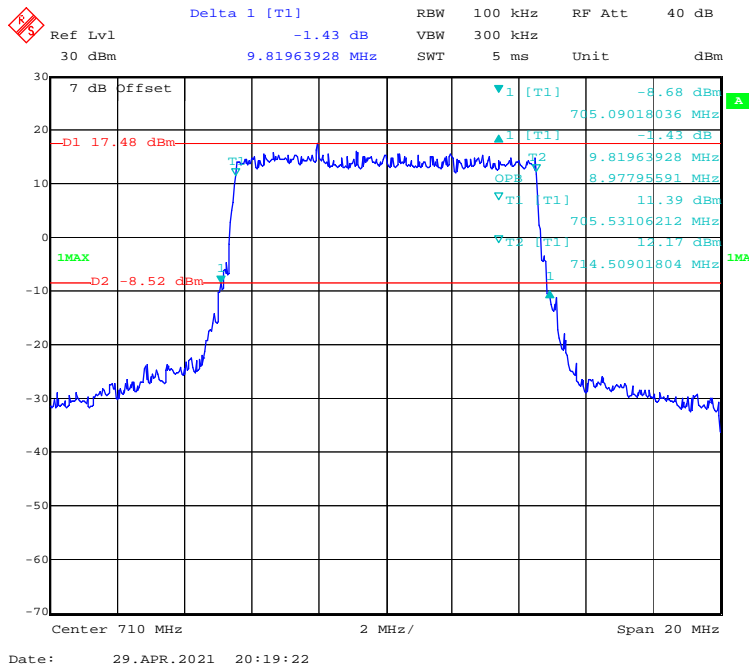
**16-QAM (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



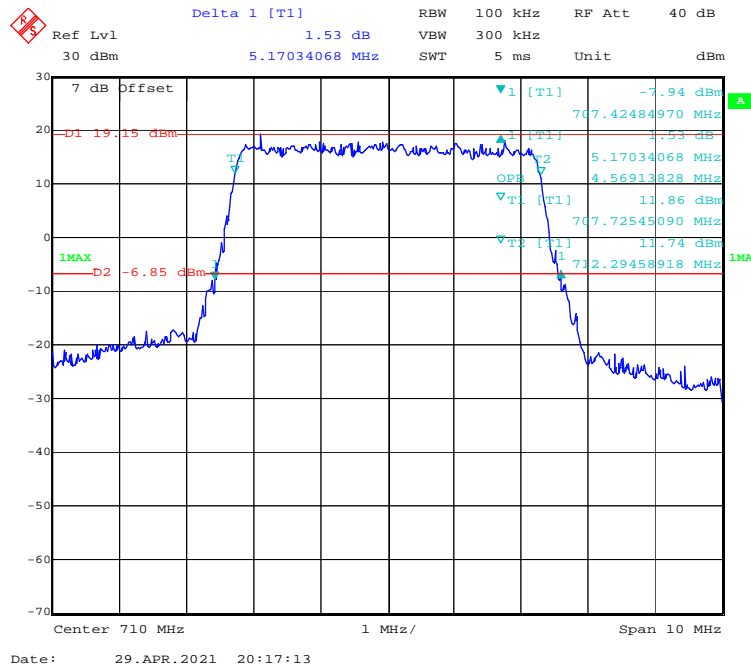
### QPSK (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



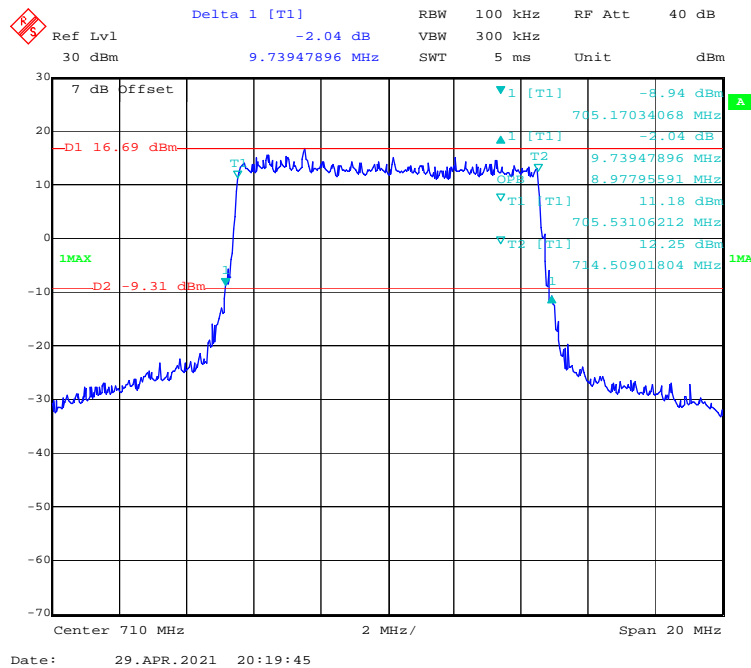
### QPSK (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



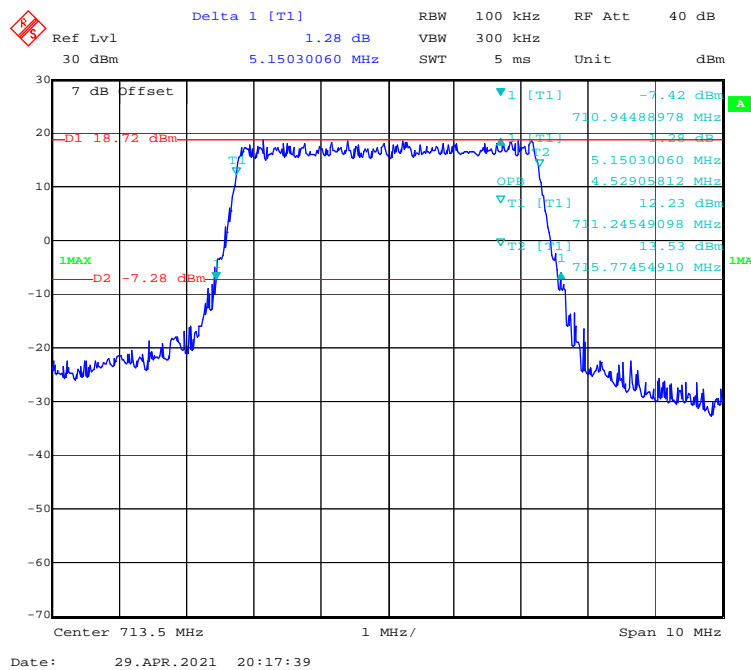
**16-QAM (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



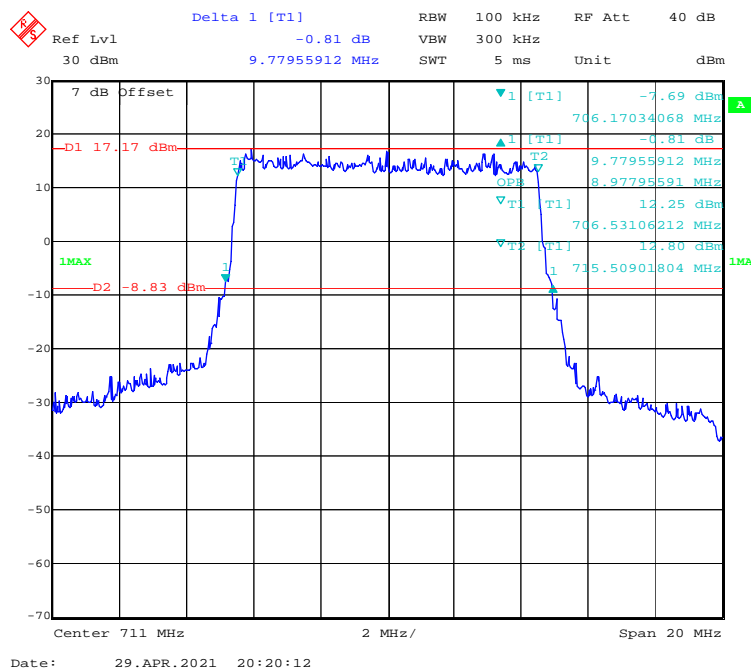
**16-QAM (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



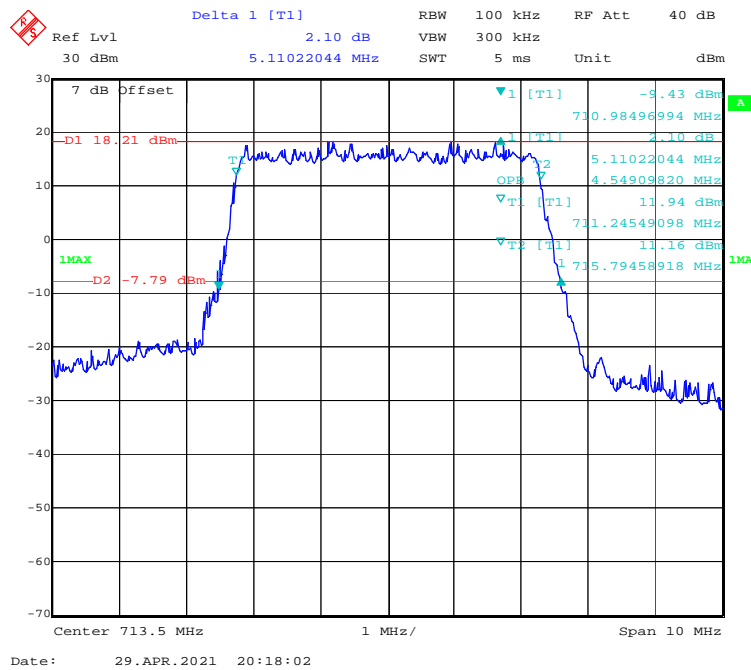
**QPSK (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



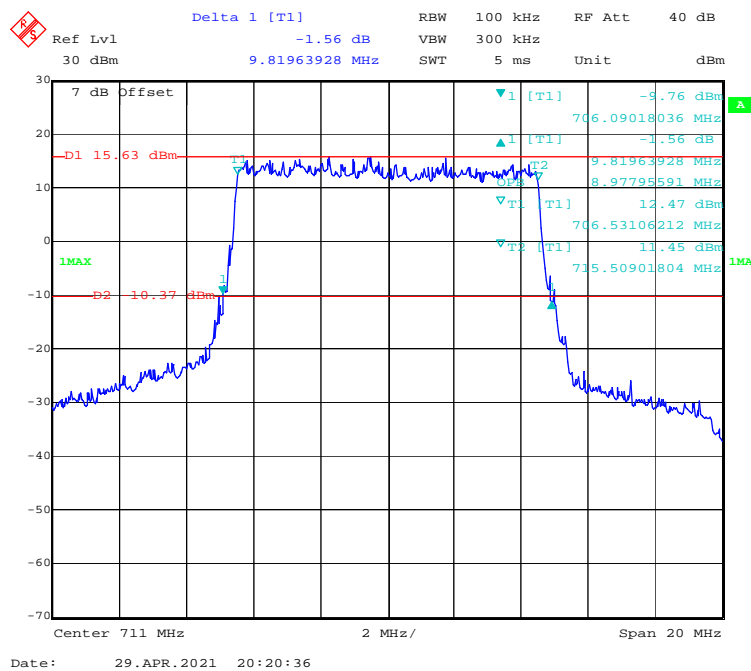
**QPSK (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



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



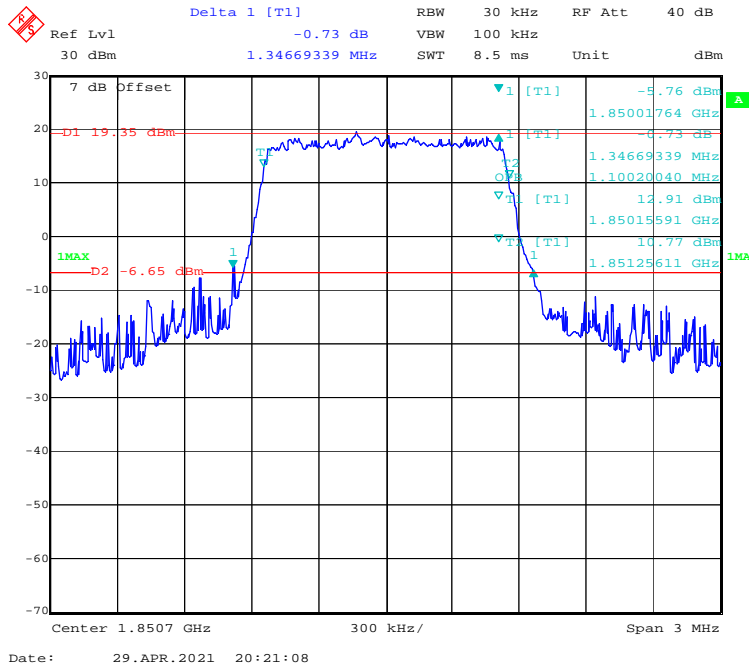
**16-QAM (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



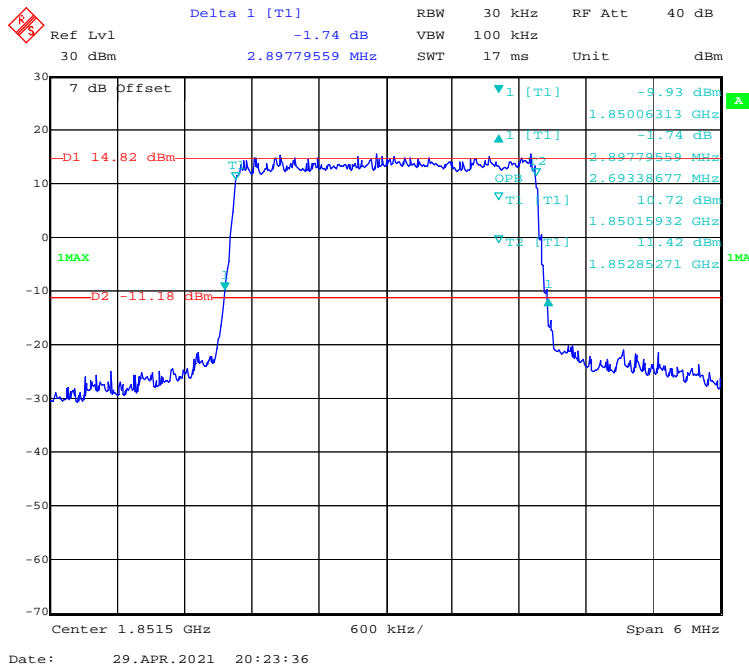
**LTE Band 25:**

Test Modulation	Test Bandwidth	Test Channel	26 dB Bandwidth	99% Occupied Bandwidth
			MHz	MHz
QPSK	1.4M	Low	1.347	1.100
	3M		2.898	2.693
	5M		5.190	4.549
	10M		9.780	8.978
	15M		15.210	13.527
	20M		19.399	17.956
	1.4M	Middle	1.299	1.100
	3M		2.862	2.693
	5M		5.170	4.529
	10M		9.820	8.978
	15M		15.090	13.527
	20M		19.719	17.956
	1.4M	High	1.275	1.106
	3M		2.898	2.681
	5M		5.150	4.529
	10M		9.820	8.978
	15M		15.090	13.527
	20M		19.559	17.956
16-QAM	1.4M	Low	1.293	1.112
	3M		2.850	2.669
	5M		5.110	4.529
	10M		9.780	8.978
	15M		14.970	13.527
	20M		19.639	17.956
	1.4M	Middle	1.275	1.094
	3M		2.886	2.681
	5M		5.210	4.569
	10M		9.820	9.018
	15M		15.150	13.527
	20M		19.719	17.956
	1.4M	High	1.299	1.106
	3M		2.886	2.681
	5M		5.190	4.569
	10M		9.820	8.978
	15M		14.970	13.527
	20M		19.719	18.036

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

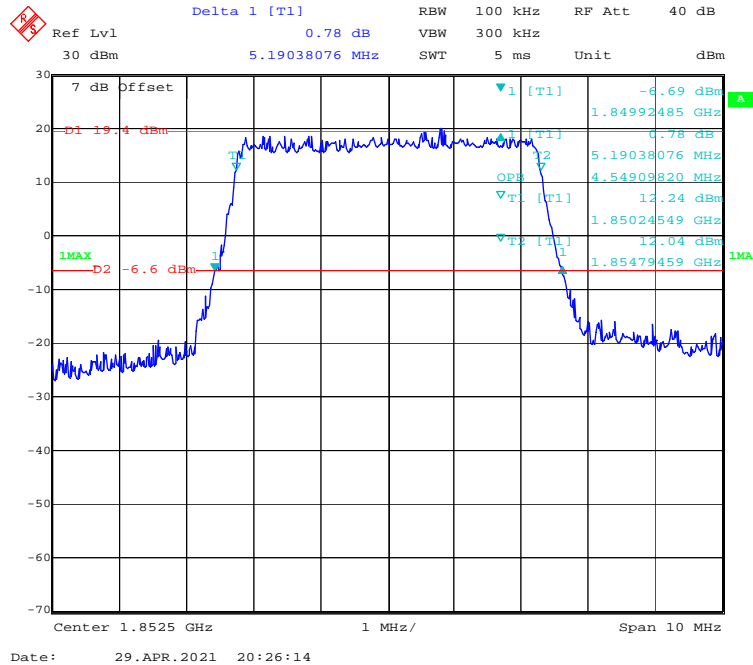


**QPSK (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

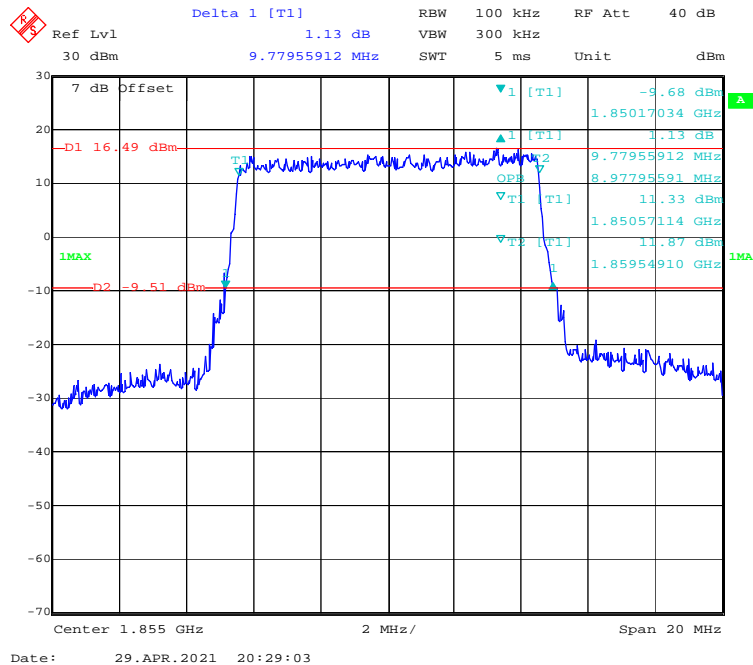




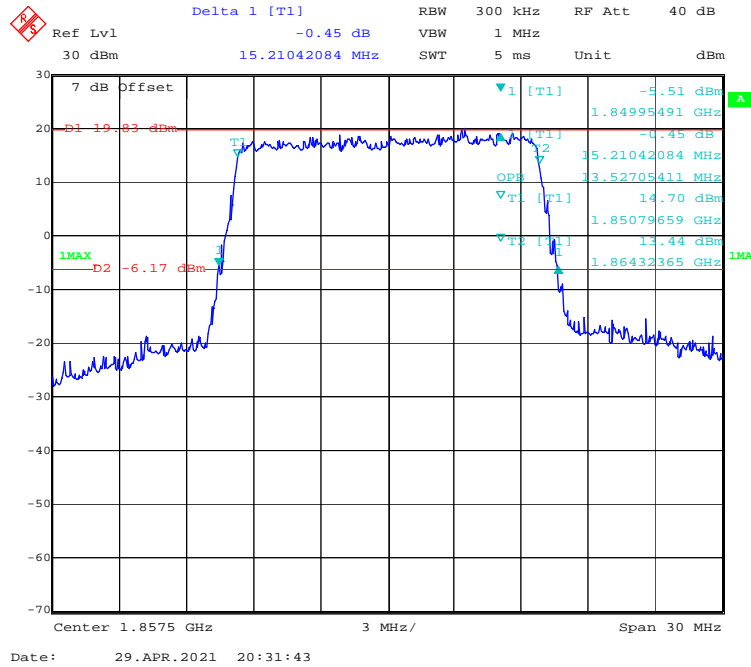
**QPSK (5MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



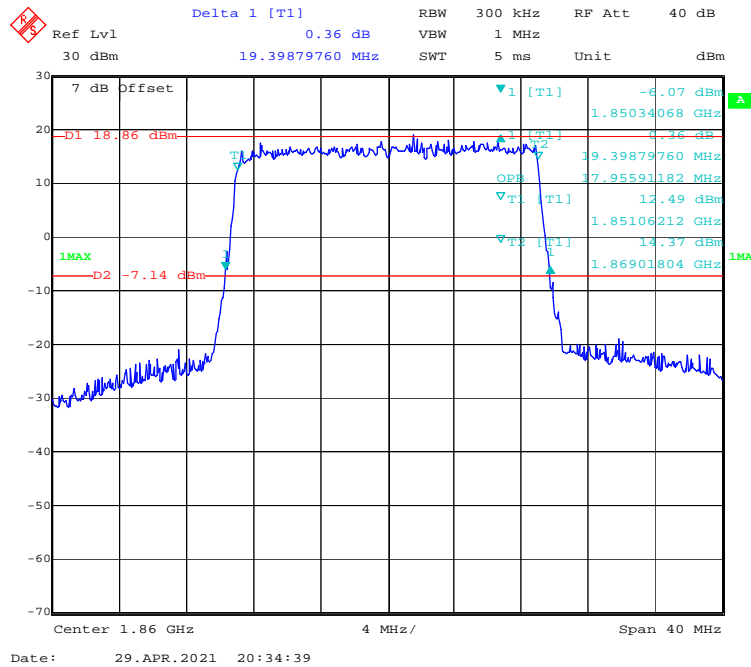
**QPSK (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



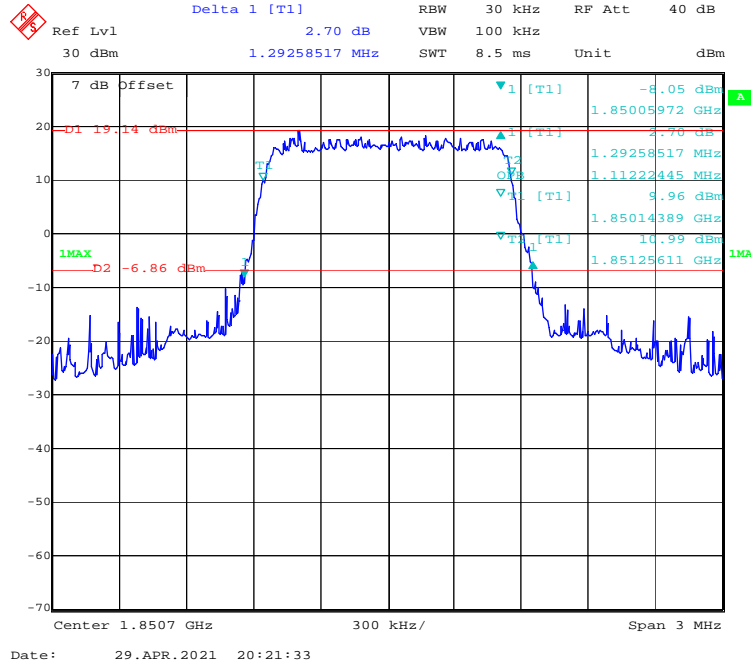
**QPSK (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



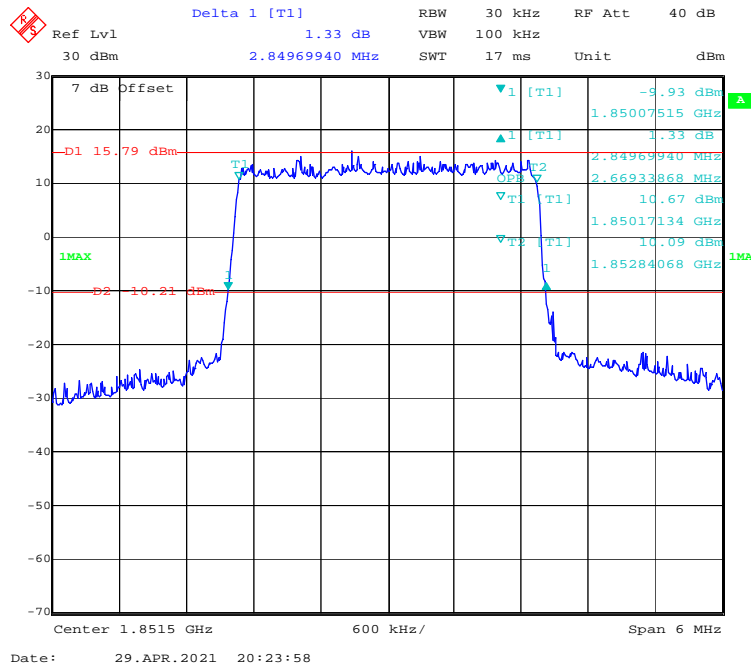
**QPSK (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



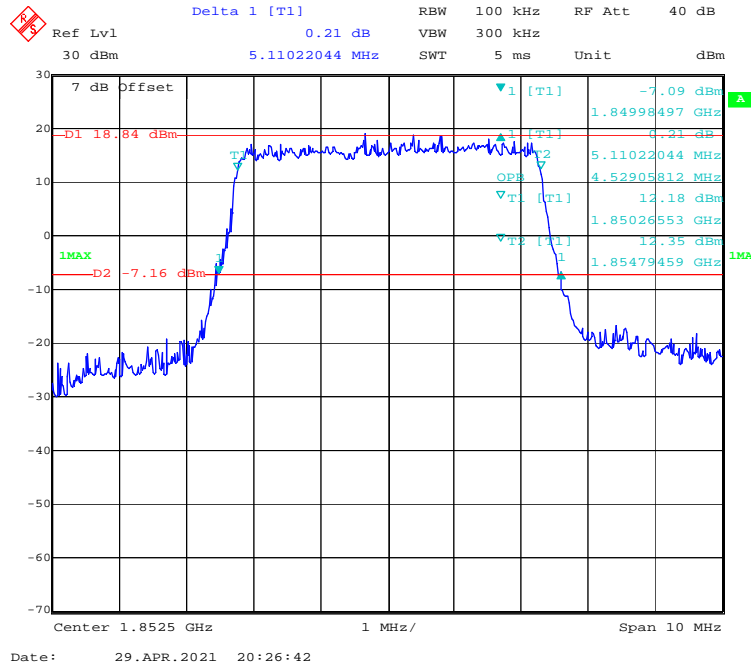
**16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



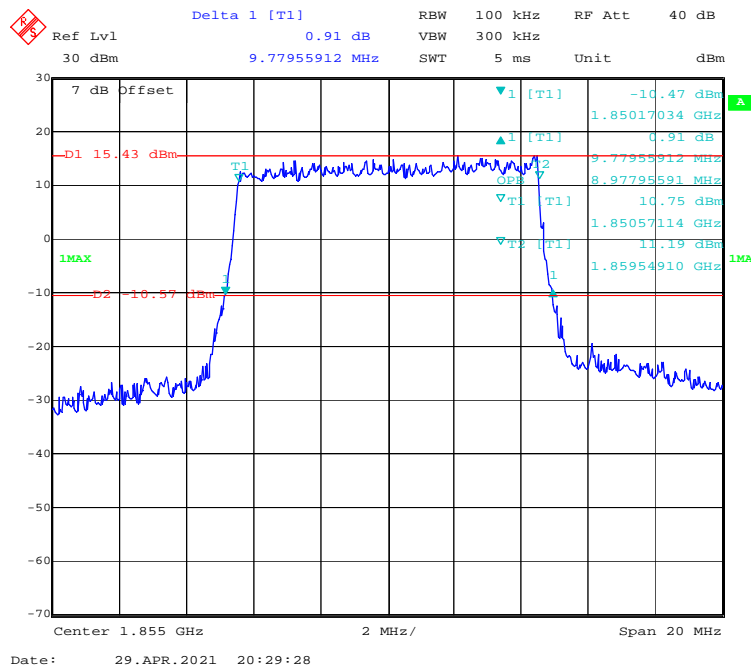
**16-QAM (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



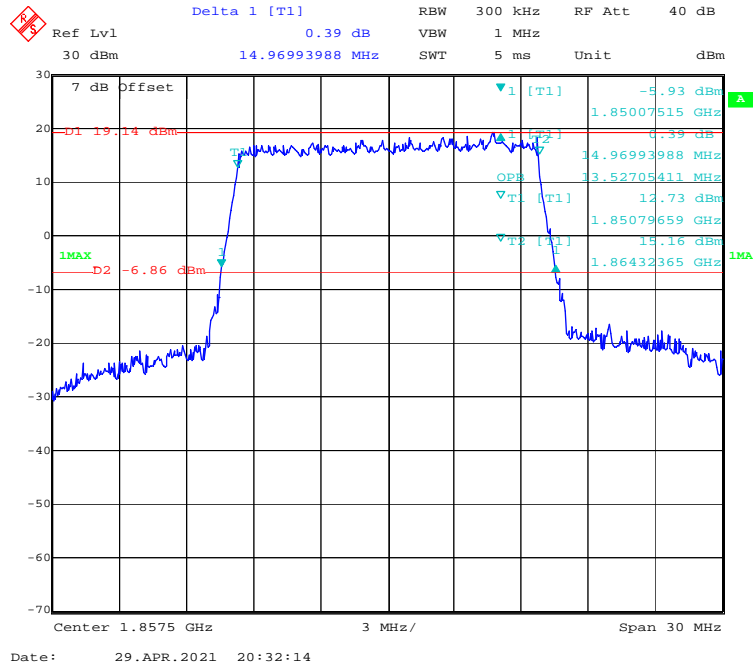
**16-QAM (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



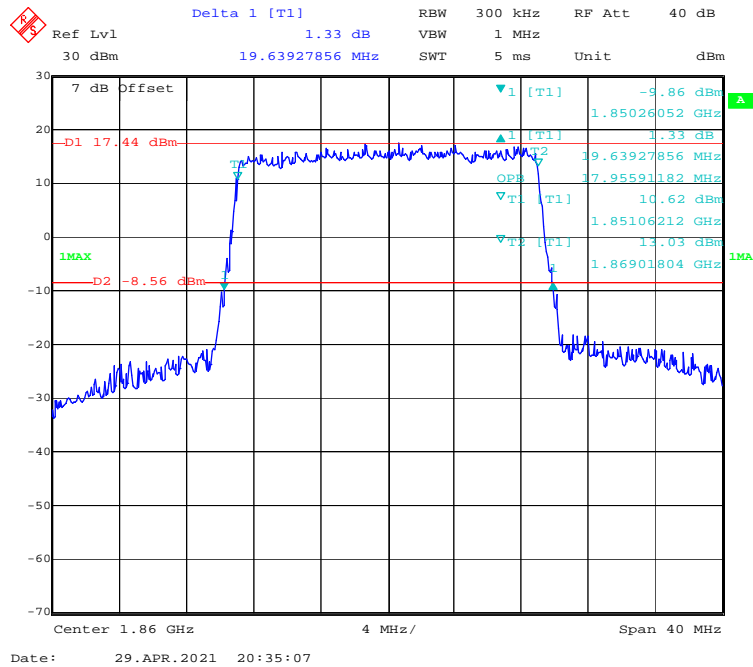
**16-QAM (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



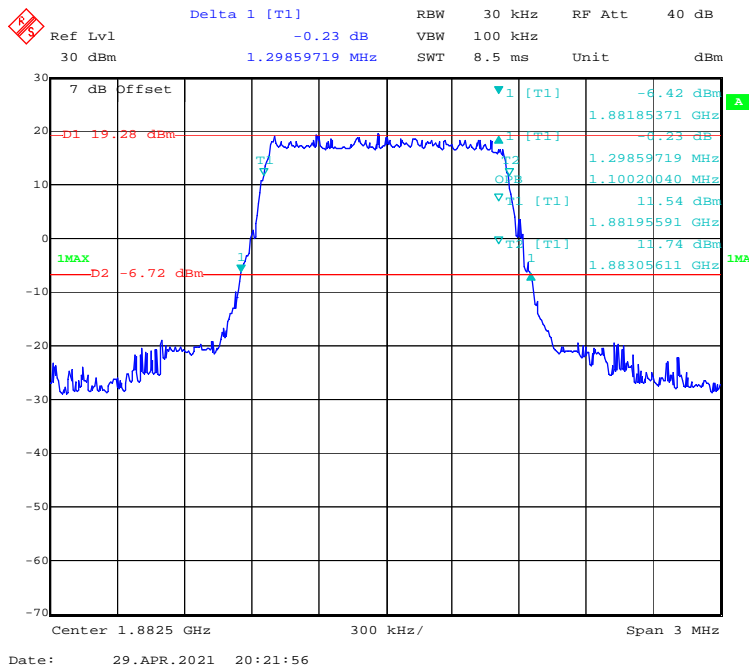
**16-QAM (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



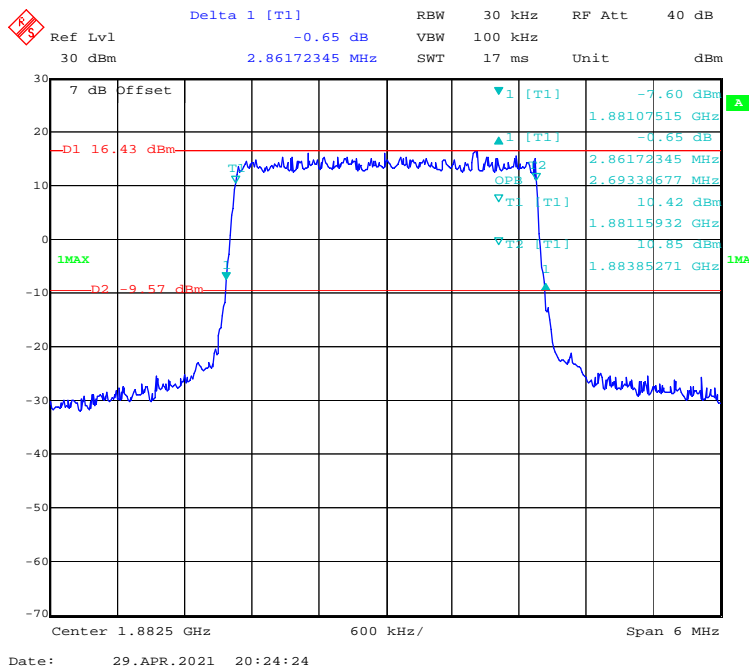
**16-QAM (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



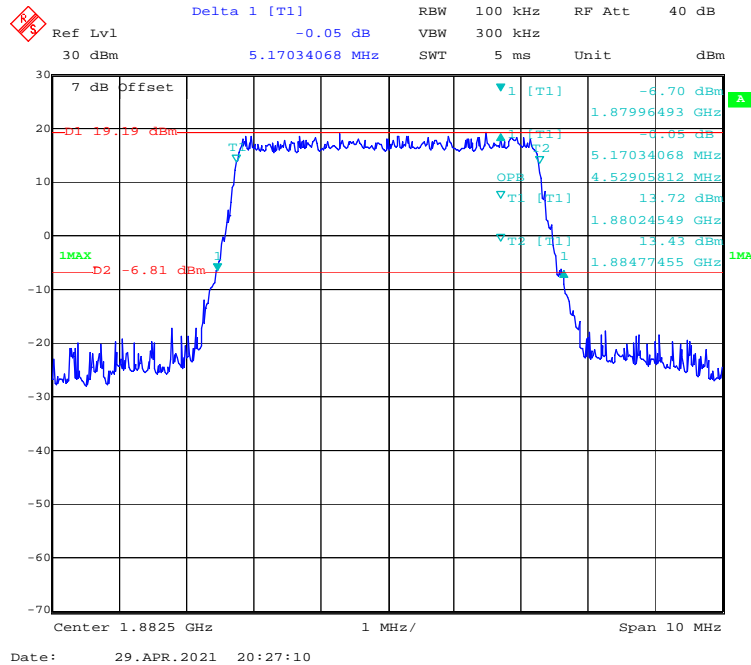
### QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



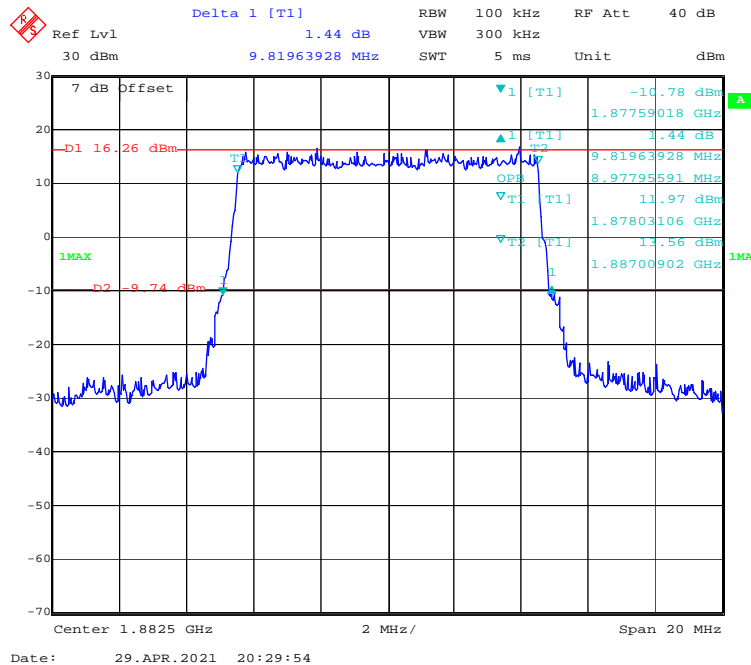
### QPSK (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



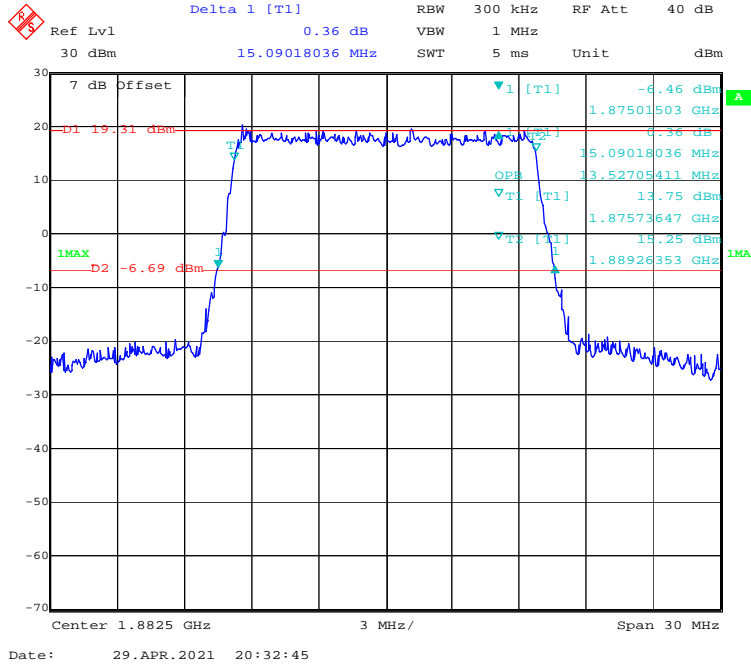
### QPSK (5MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



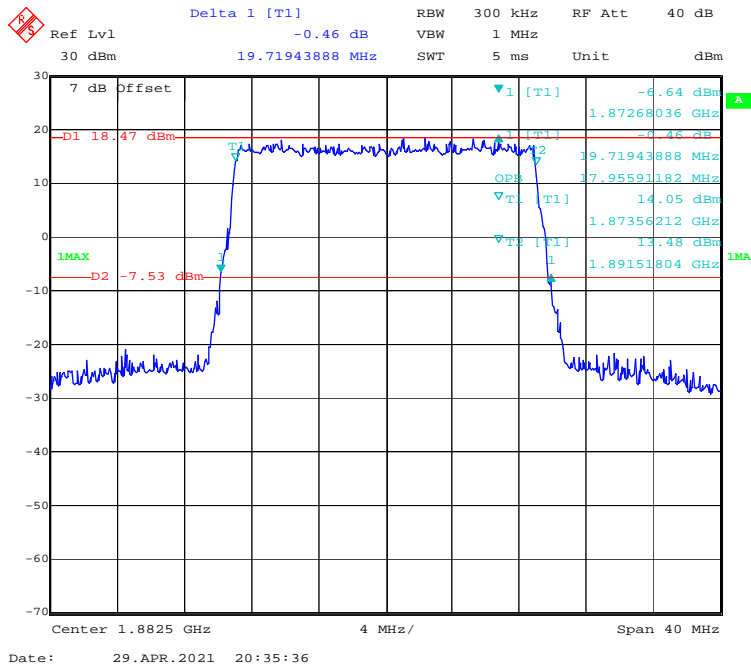
### QPSK (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



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

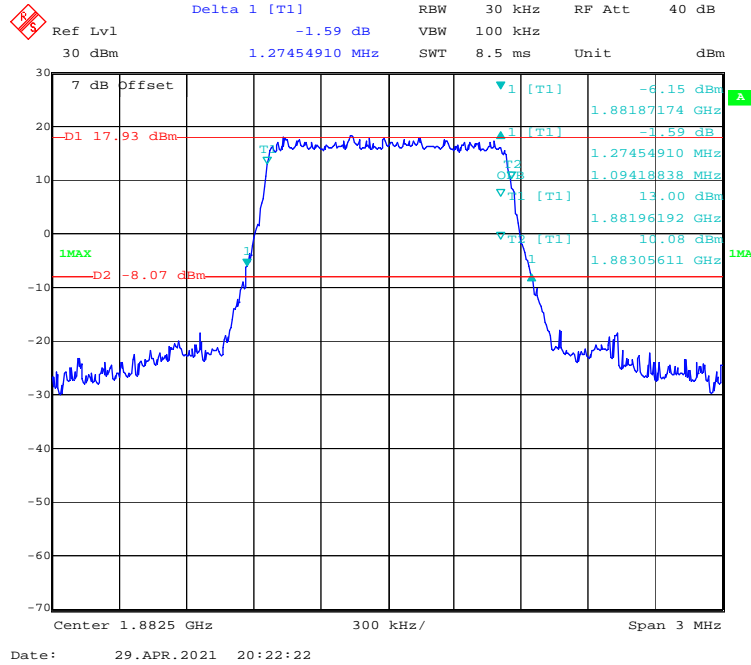


**QPSK (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

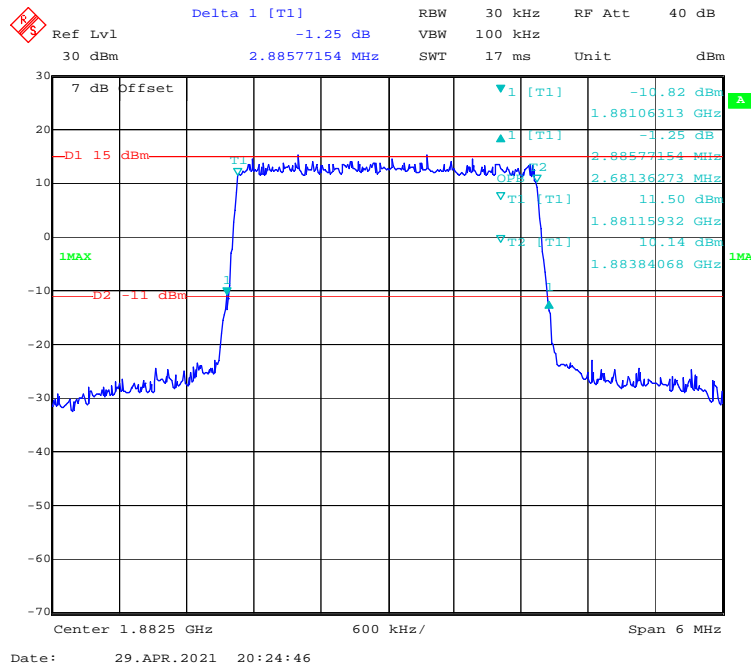




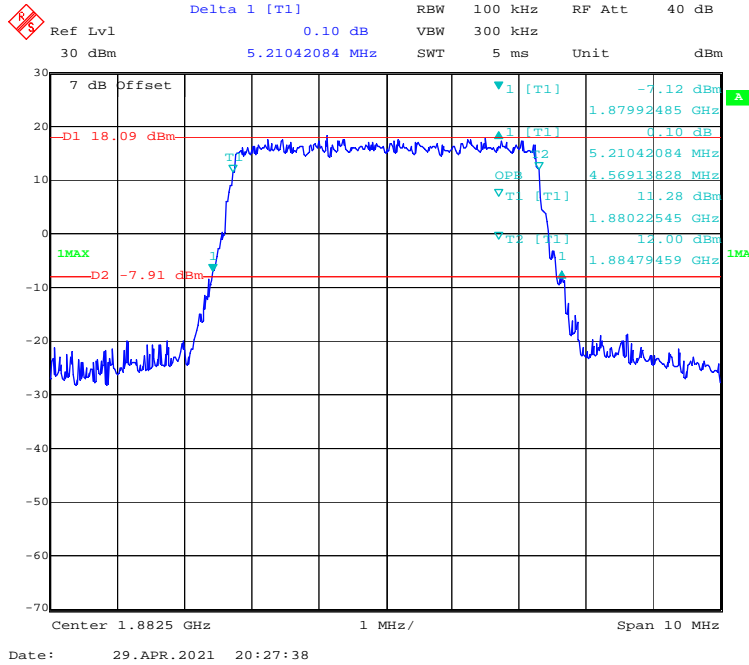
**16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



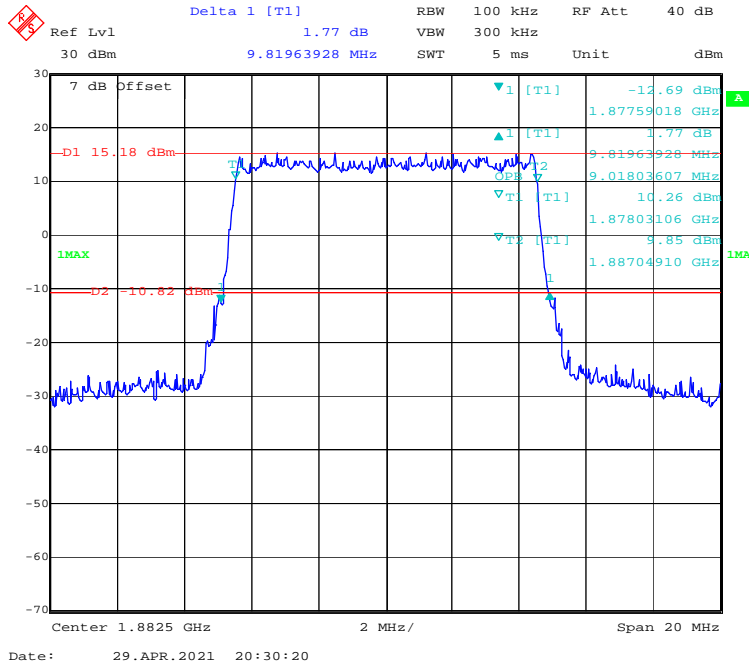
**16-QAM (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



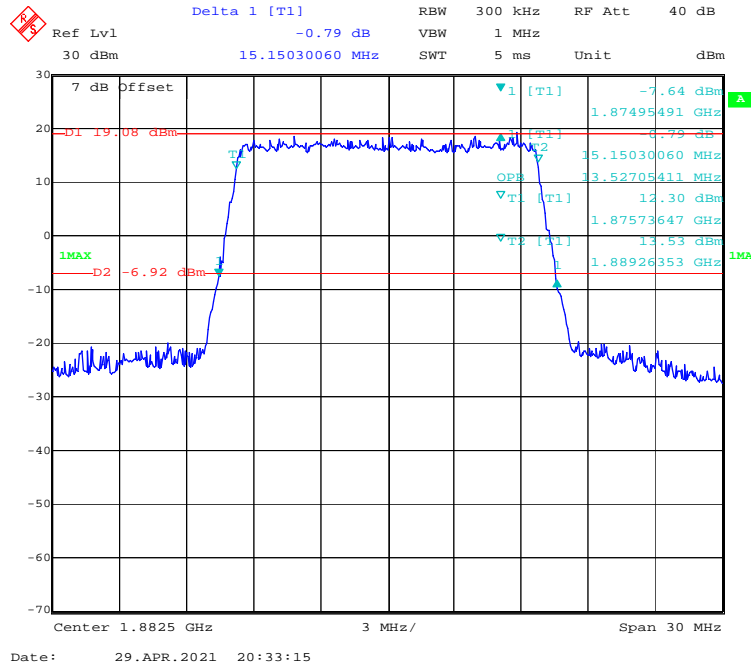
**16-QAM (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



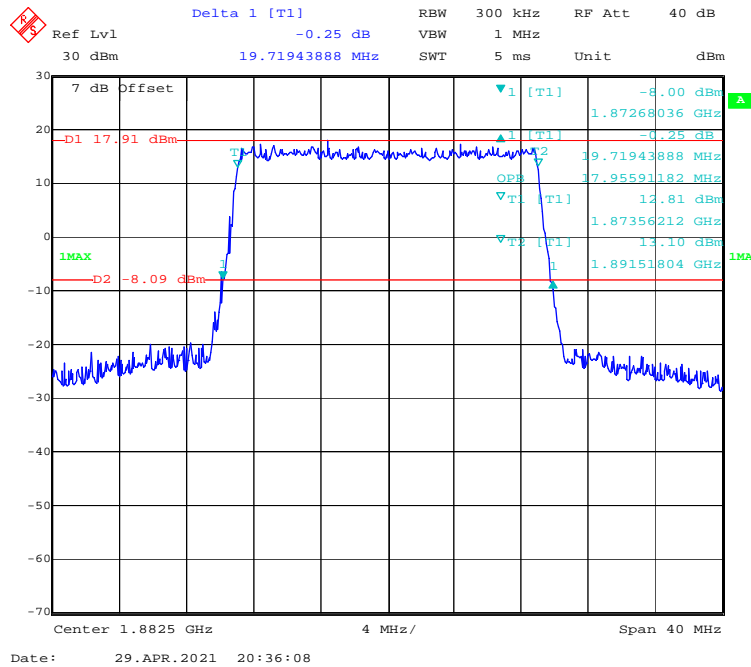
**16-QAM (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



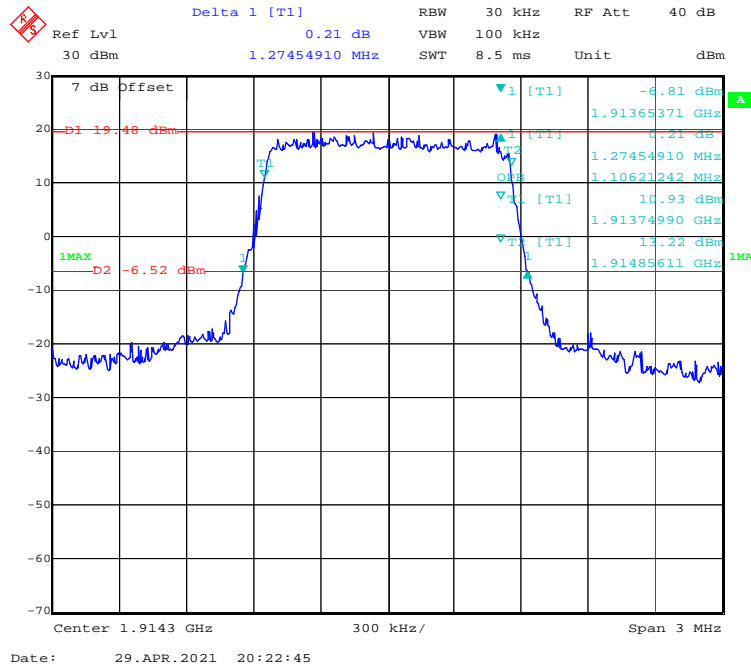
**16-QAM (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



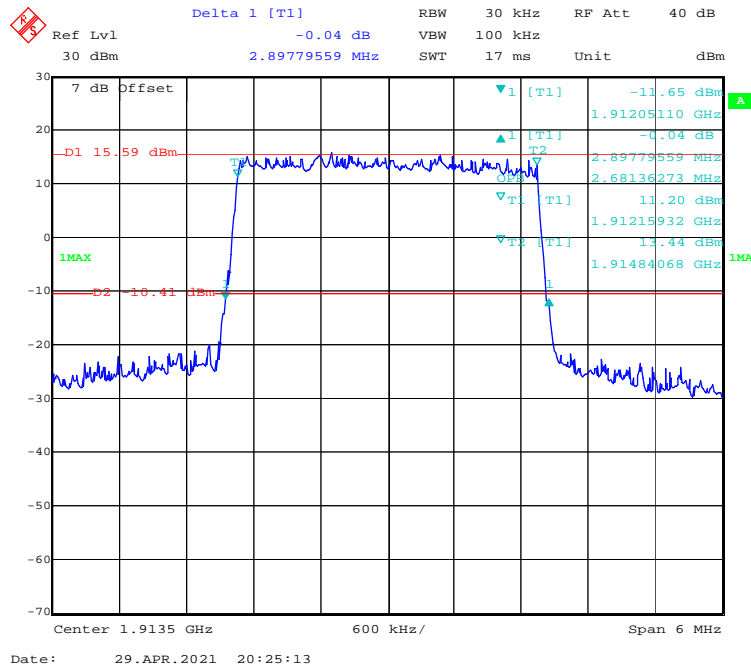
**16-QAM (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



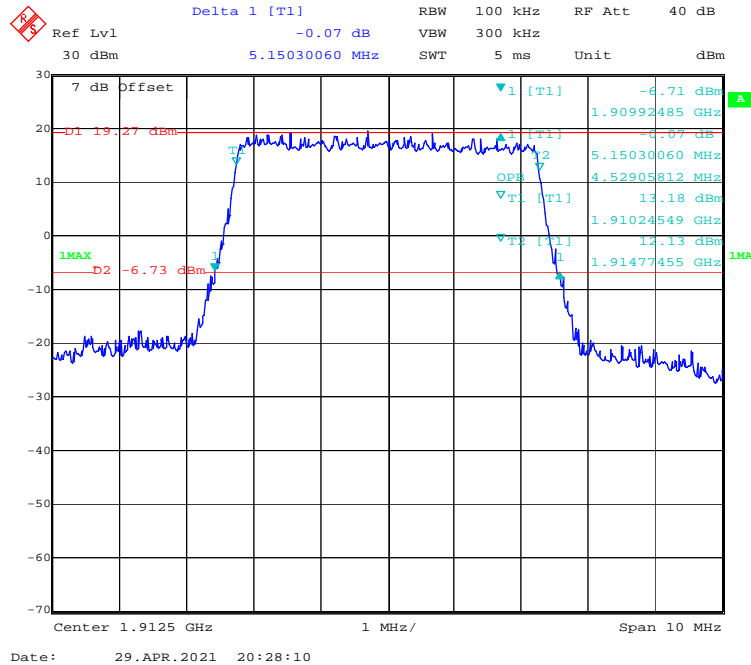
### QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



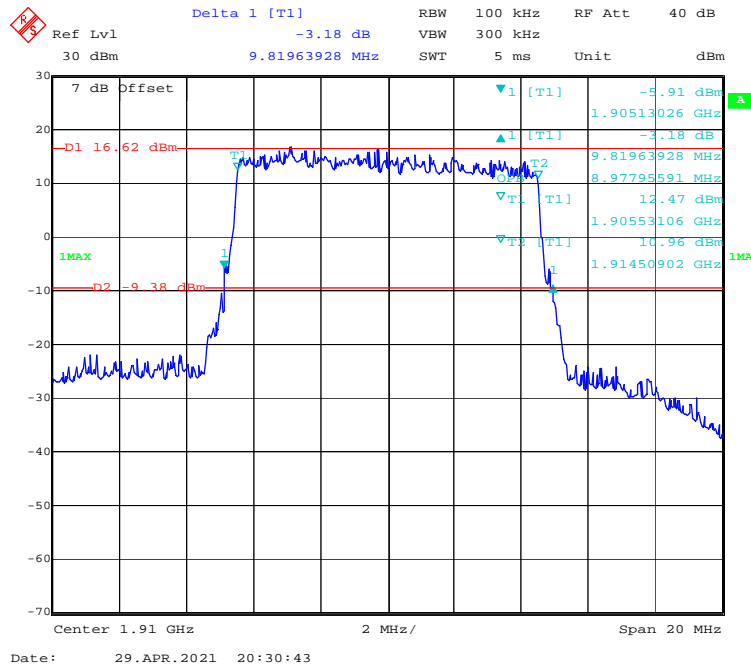
### QPSK (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



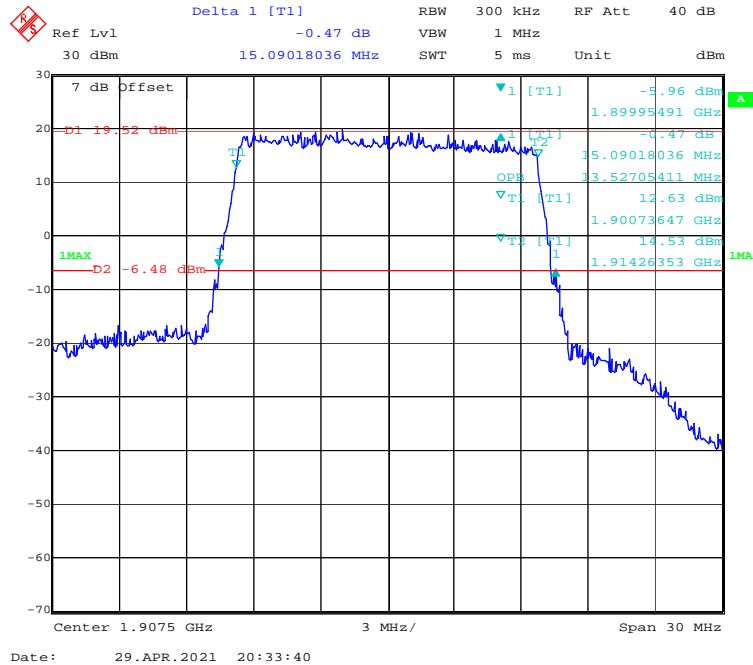
**QPSK (5MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



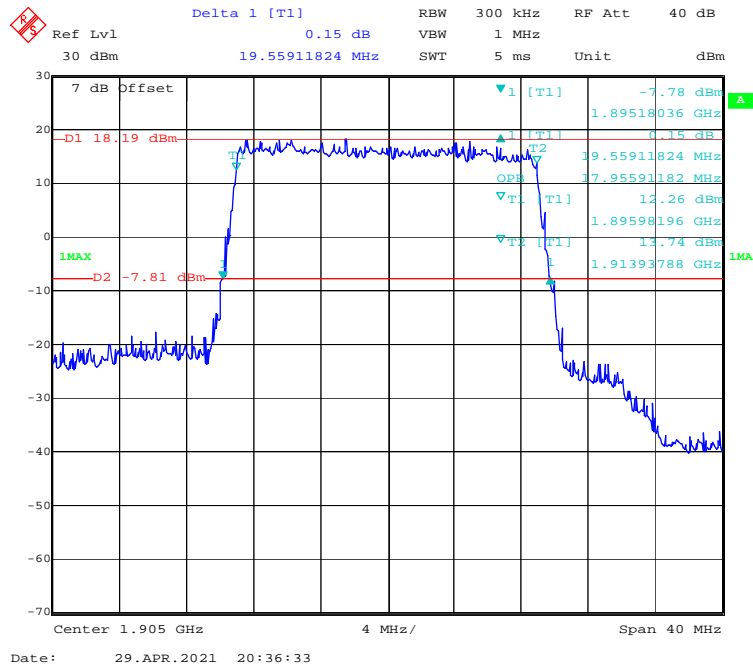
**QPSK (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



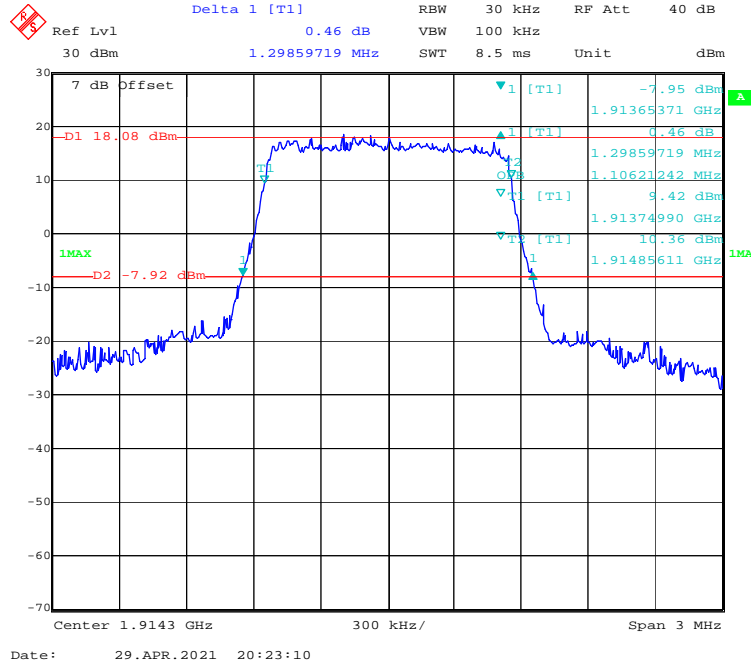
**QPSK (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



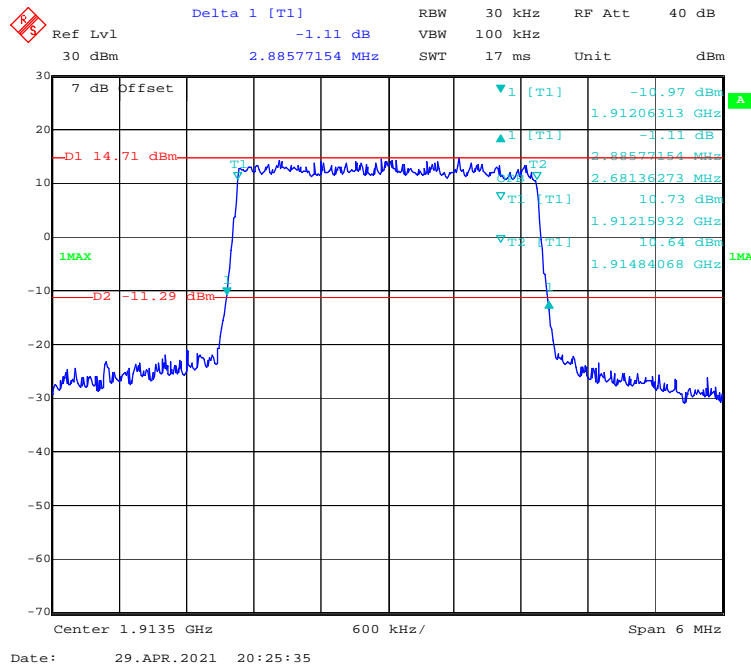
**QPSK (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



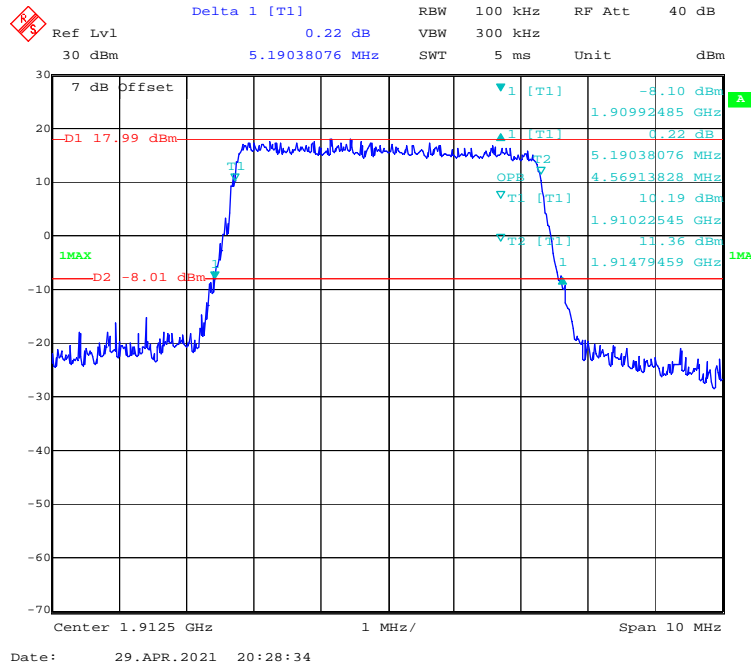
**16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



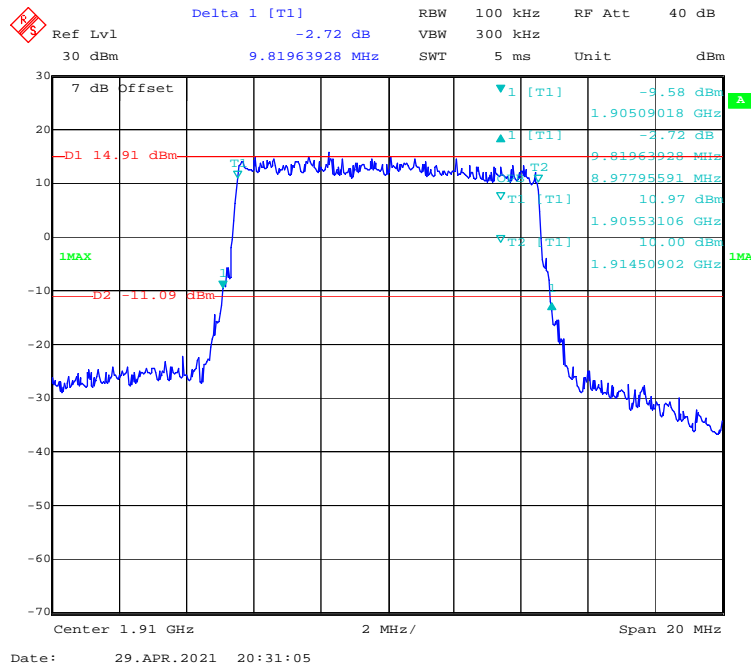
**16-QAM (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



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

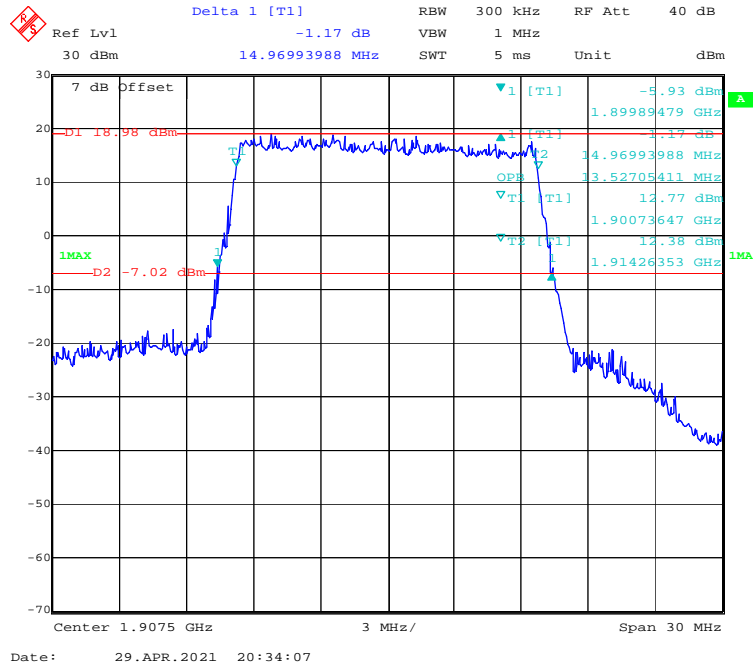


**16-QAM (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

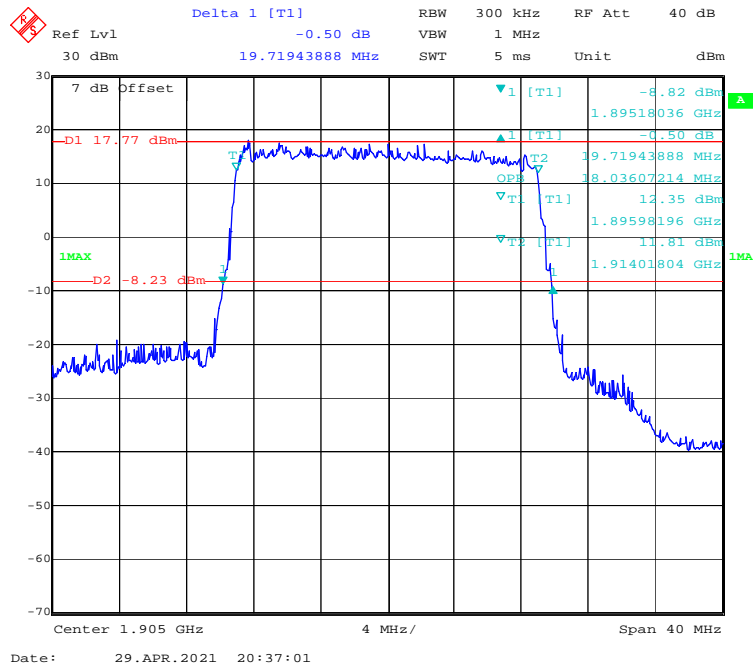




**16-QAM (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



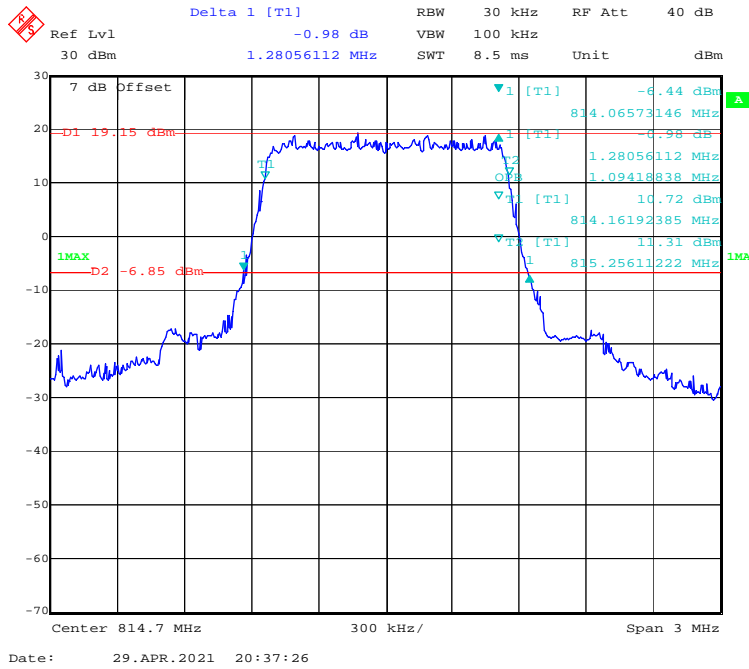
**16-QAM (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



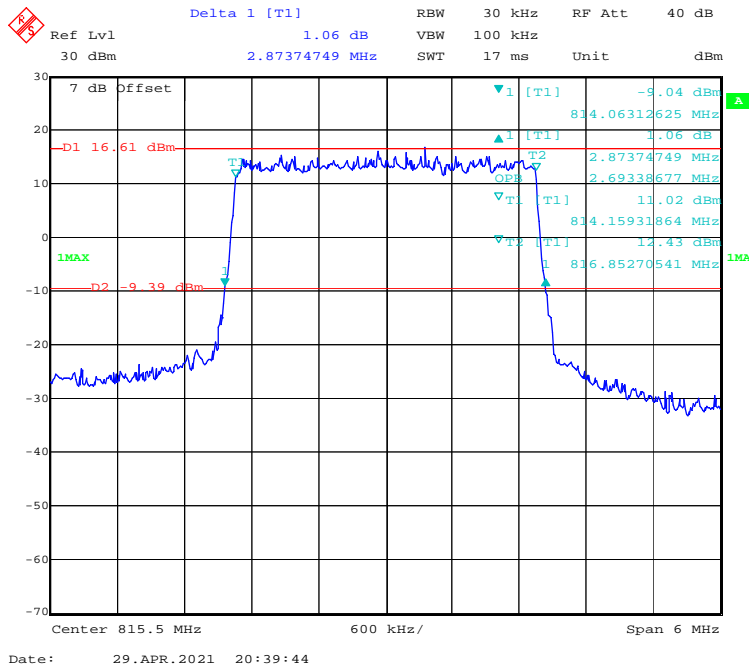
**LTE Band 26:**

Test Modulation	Test Bandwidth	Test Channel	26 dB Bandwidth	99% Occupied Bandwidth
			MHz	MHz
QPSK	1.4M	Low	1.281	1.094
	3M		2.874	2.693
	5M		4.930	4.509
	10M		9.539	8.978
	15M		14.729	13.467
	1.4M	Middle	1.311	1.100
	3M		2.886	2.681
	5M		4.930	4.509
	10M		9.539	8.978
	15M		14.729	13.467
	1.4M	High	1.275	1.106
	3M		2.874	2.693
	5M		4.910	4.509
	10M		9.539	8.978
	15M		14.790	13.527
16-QAM	1.4M	Low	1.317	1.100
	3M		2.862	2.681
	5M		4.950	4.509
	10M		9.539	8.938
	15M		14.790	13.527
	1.4M	Middle	1.275	1.094
	3M		2.886	2.681
	5M		4.950	4.549
	10M		9.699	8.938
	15M		14.790	13.527
	1.4M	High	1.299	1.094
	3M		2.862	2.681
	5M		4.910	4.509
	10M		9.659	8.978
	15M		14.729	13.527

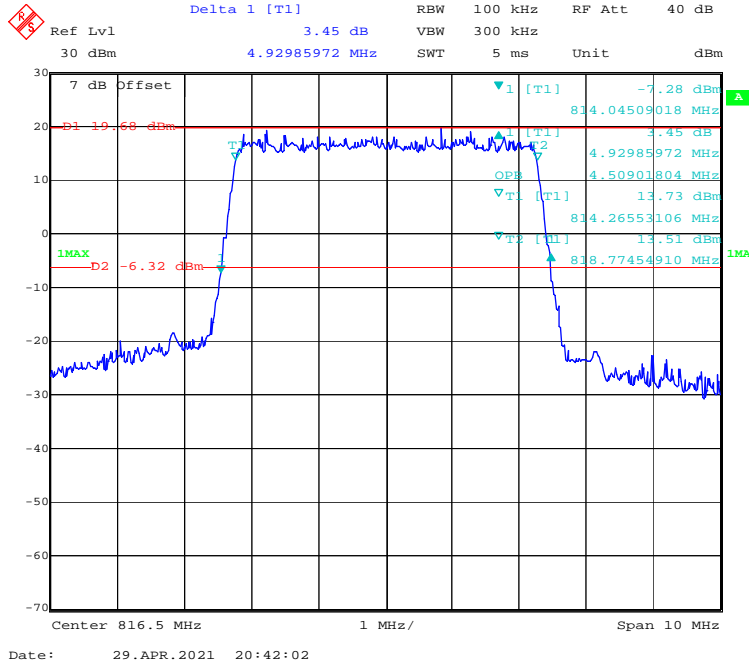
**QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



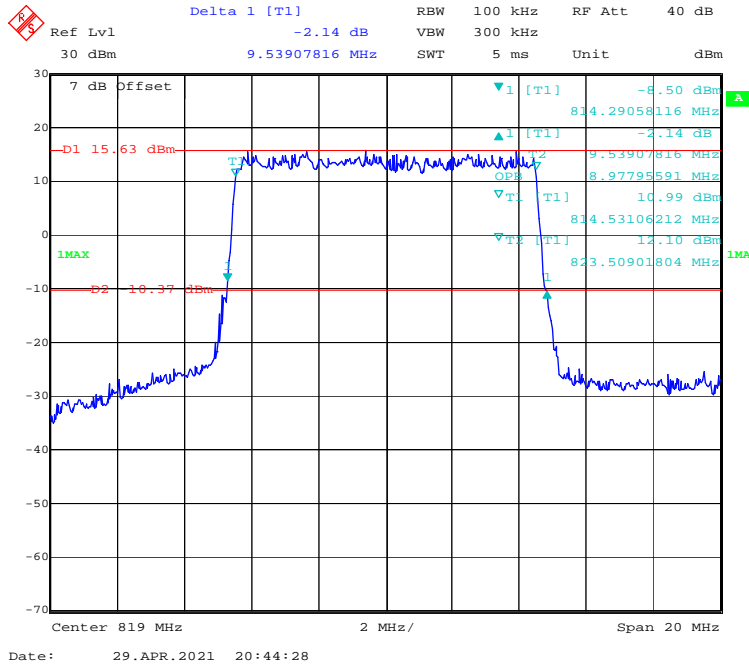
**QPSK (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



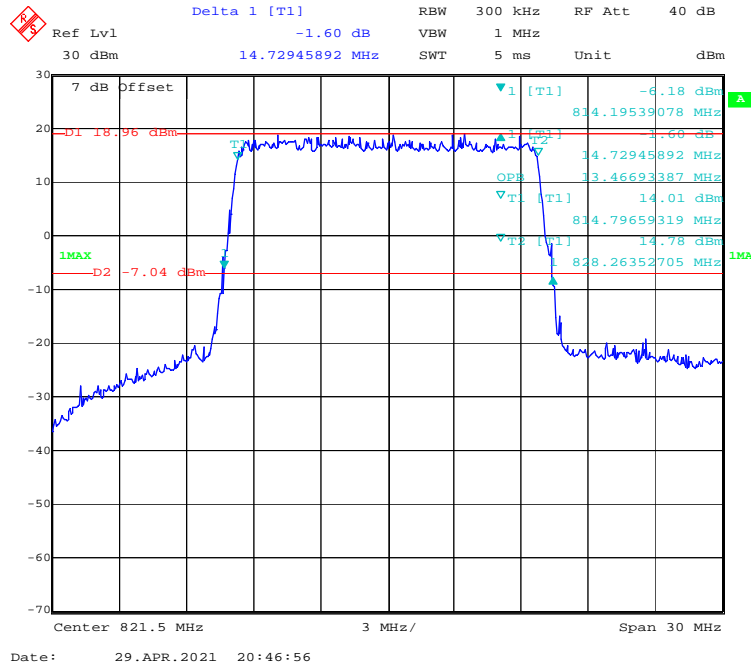
**QPSK (5MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



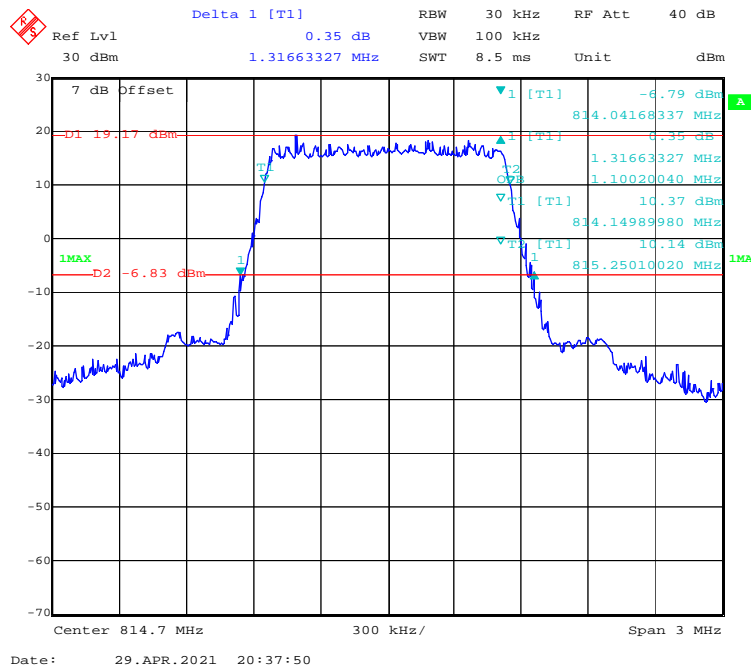
**QPSK (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



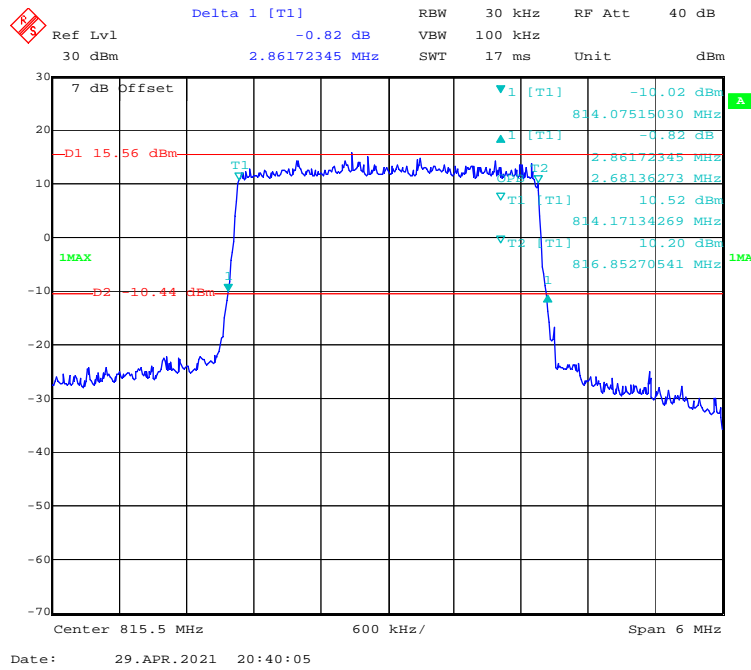
**QPSK (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



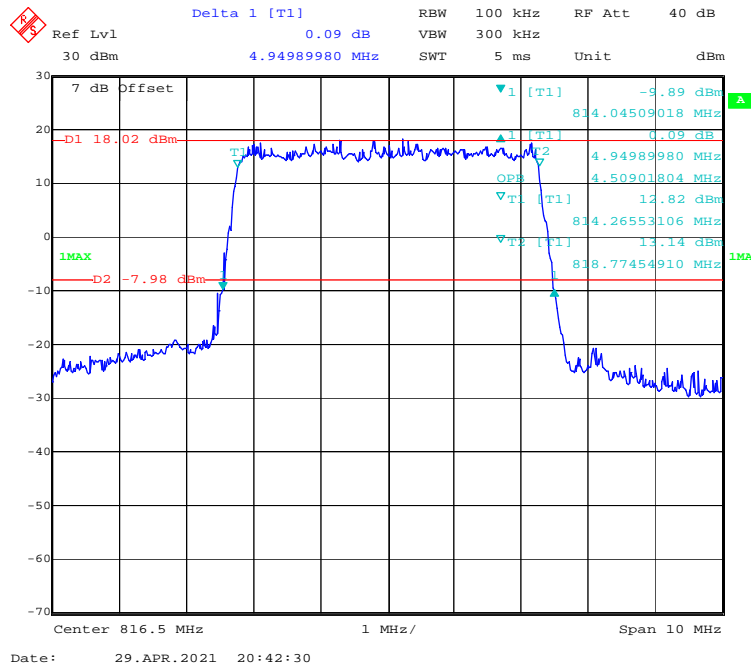
**16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



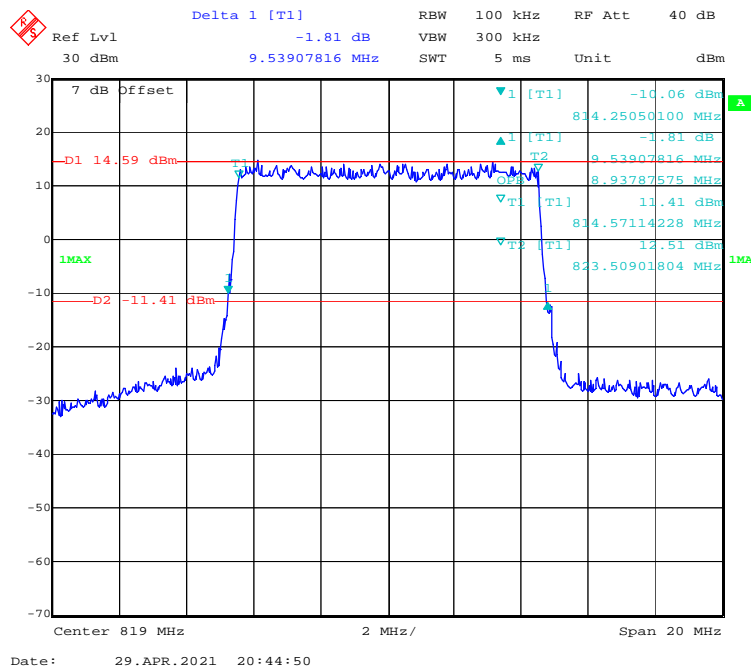
**16-QAM (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



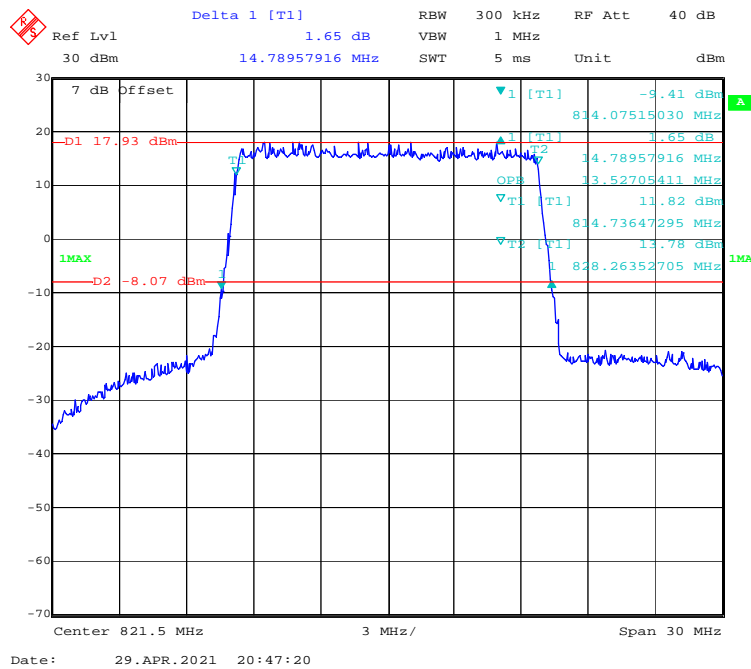
**16-QAM (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



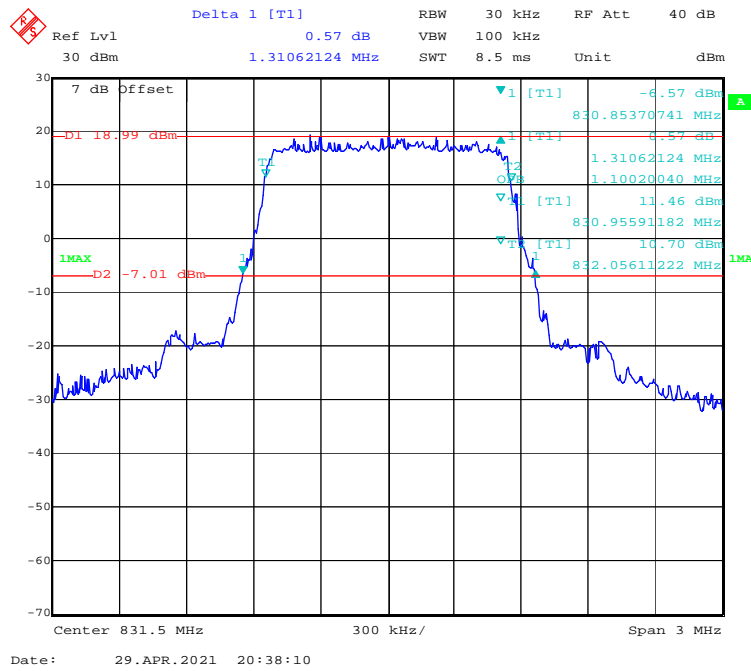
**16-QAM (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



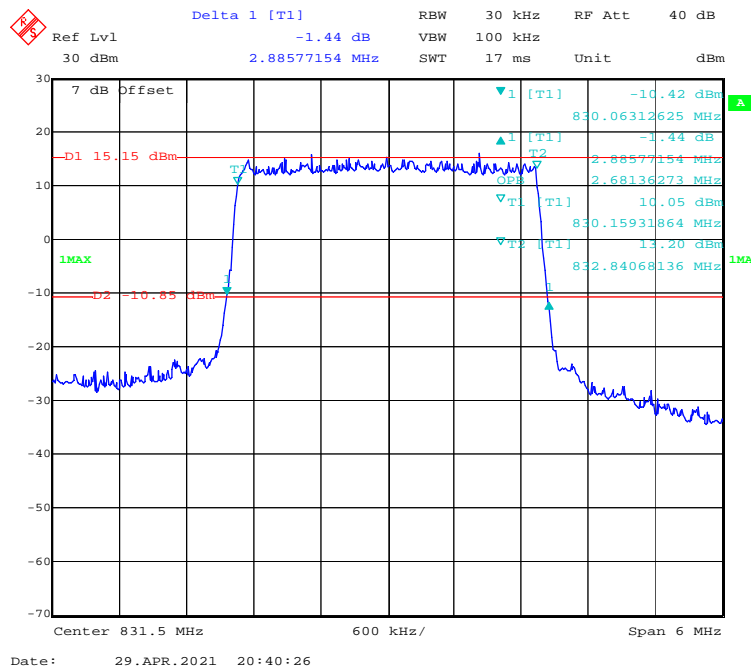
**16-QAM (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



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

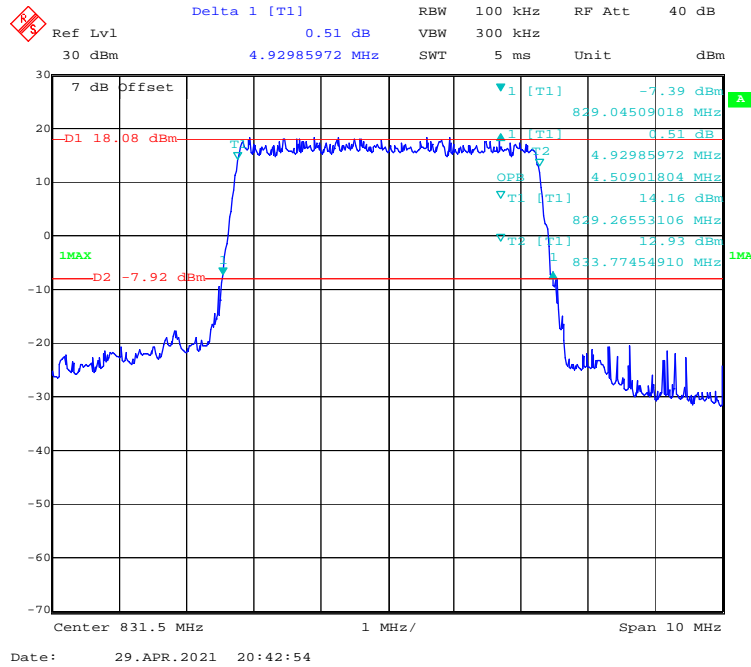


**QPSK (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

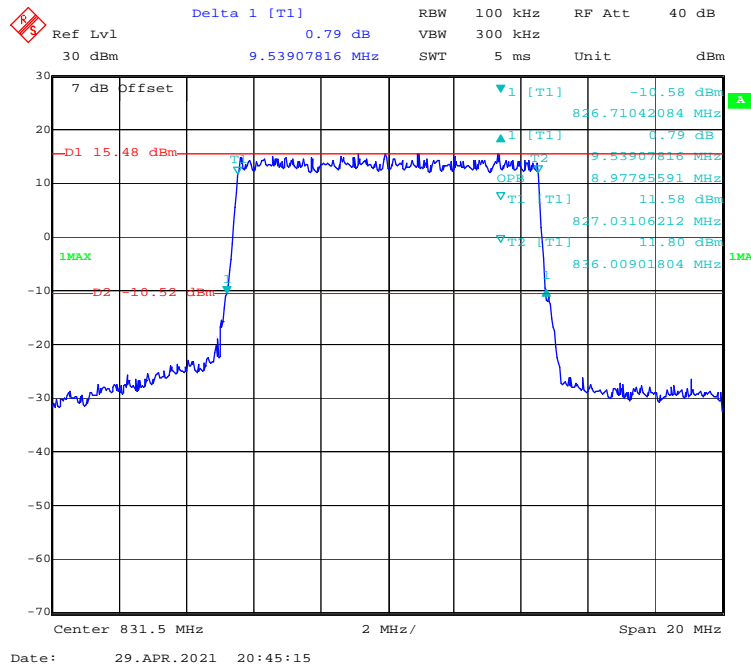




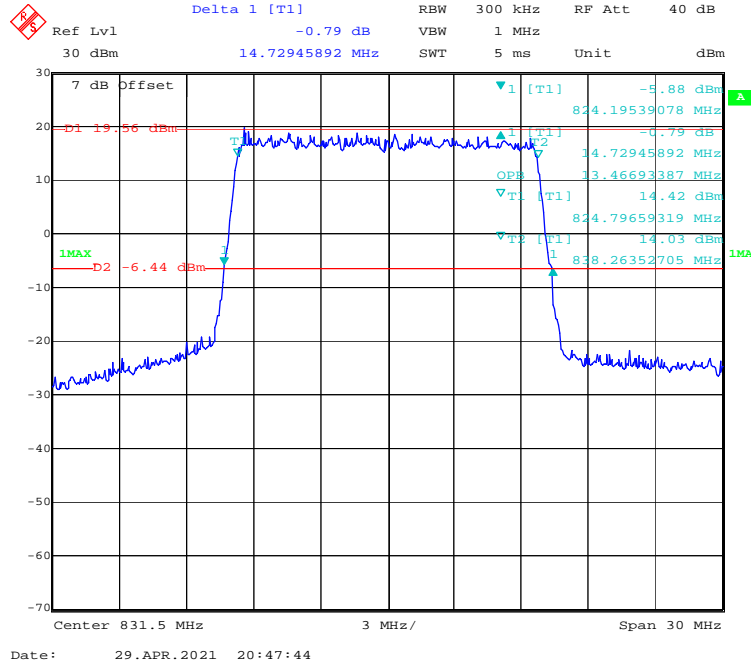
**QPSK (5MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



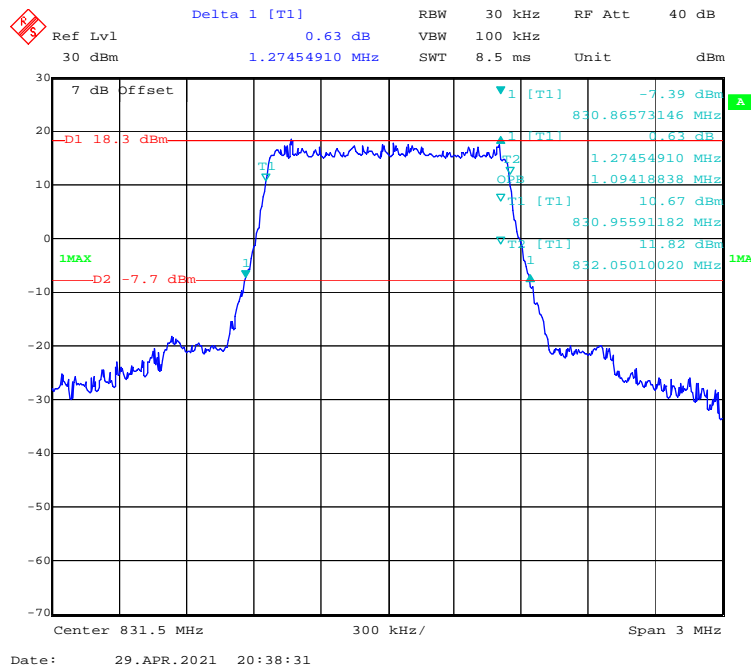
**QPSK (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



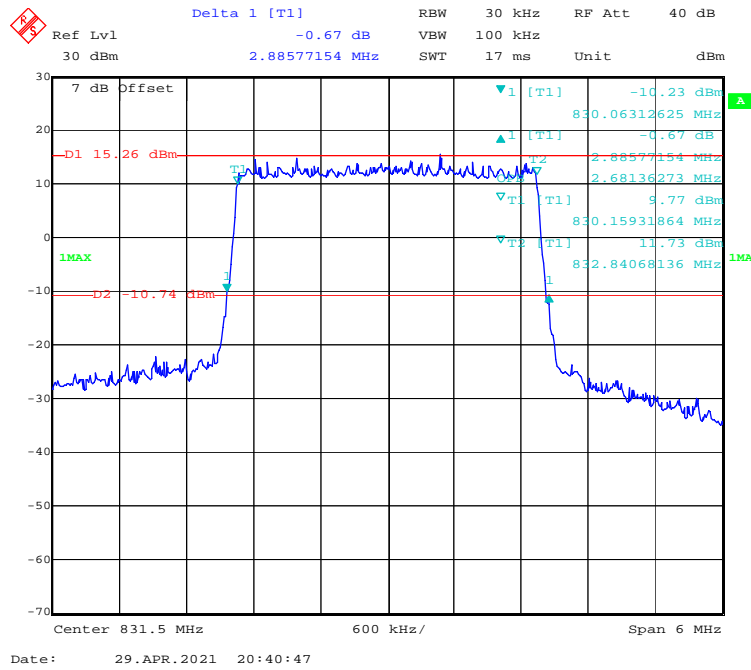
**QPSK (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



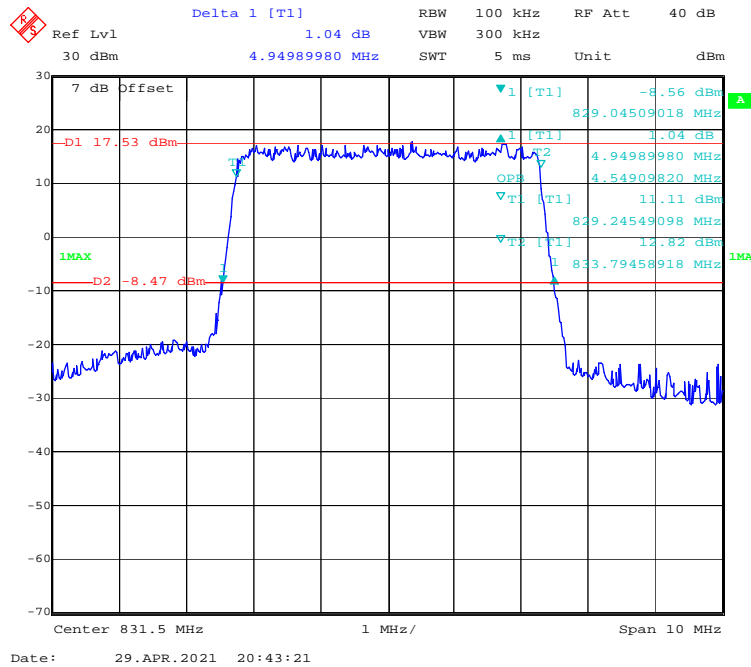
**16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



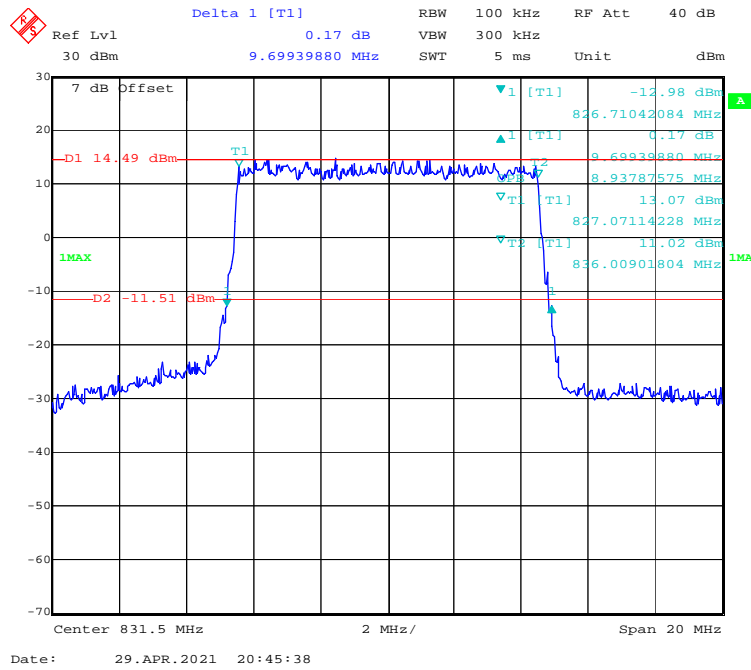
**16-QAM (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



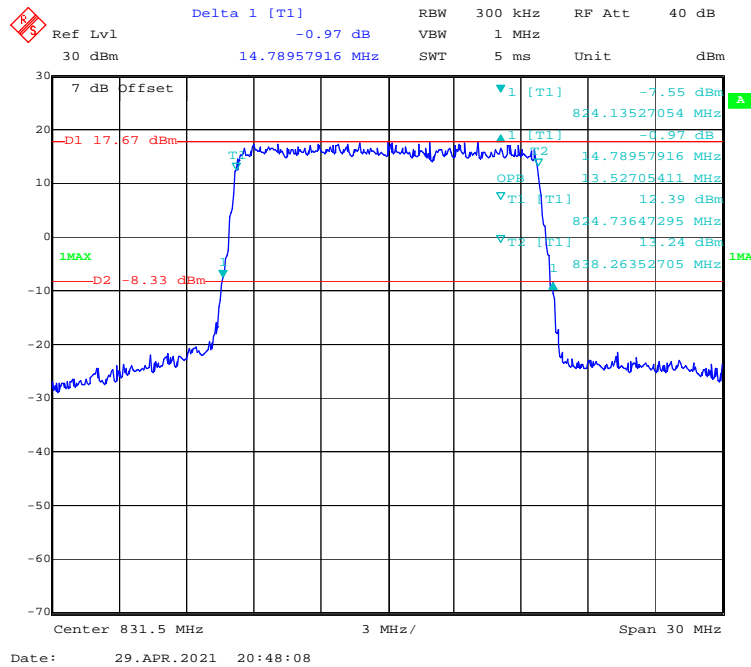
**16-QAM (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



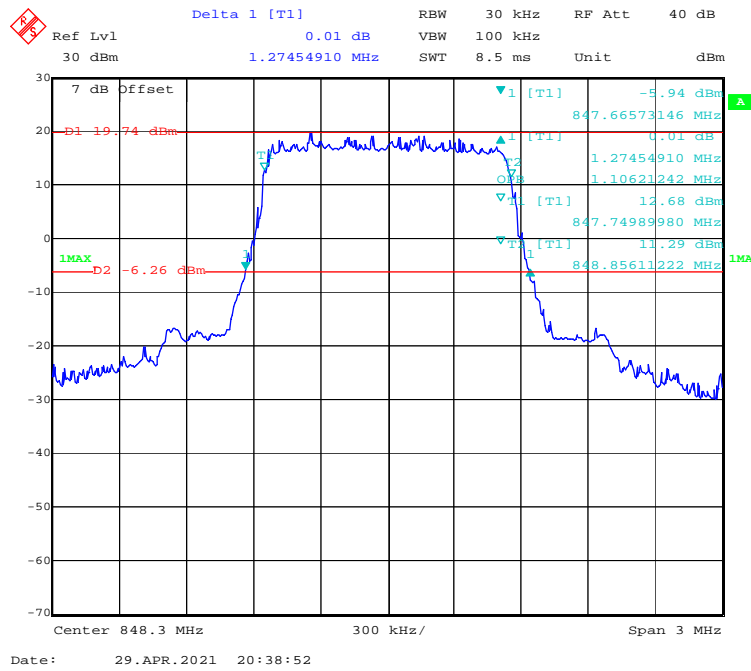
**16-QAM (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



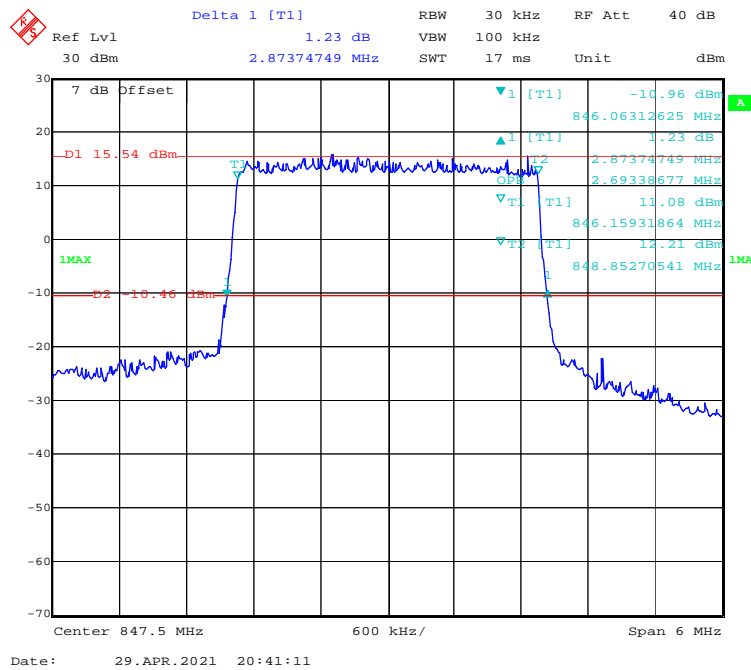
**16-QAM (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



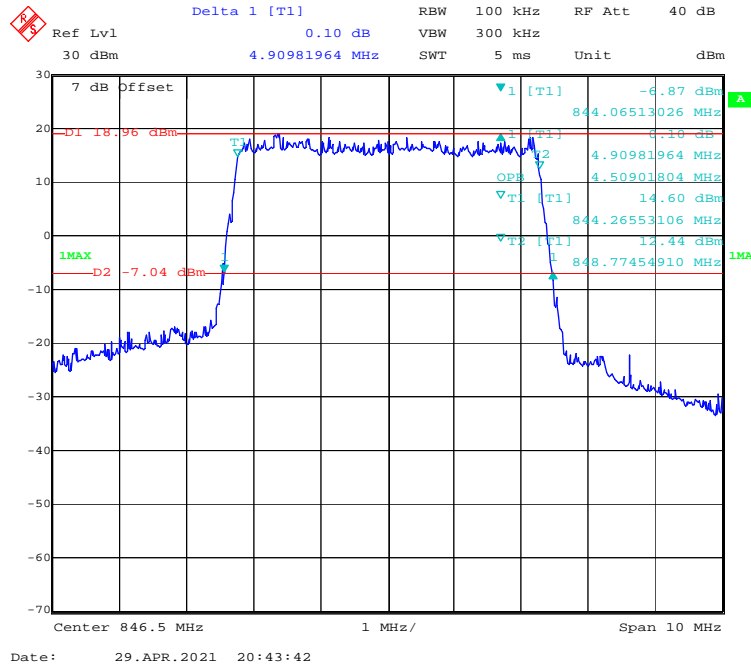
**QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



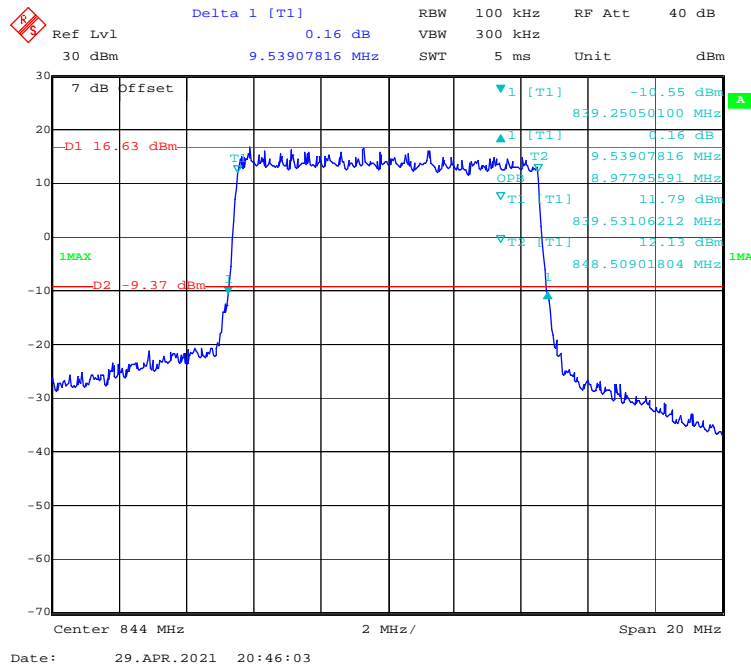
**QPSK (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



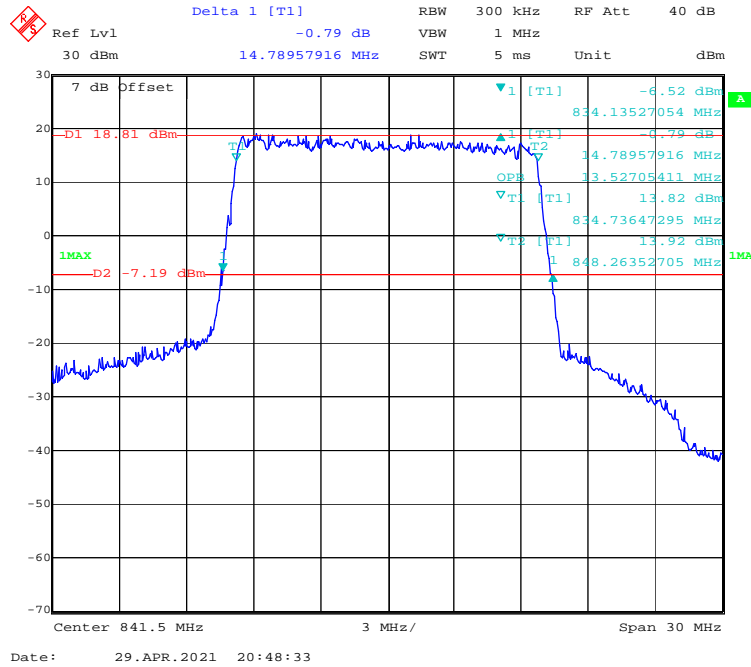
**QPSK (5MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



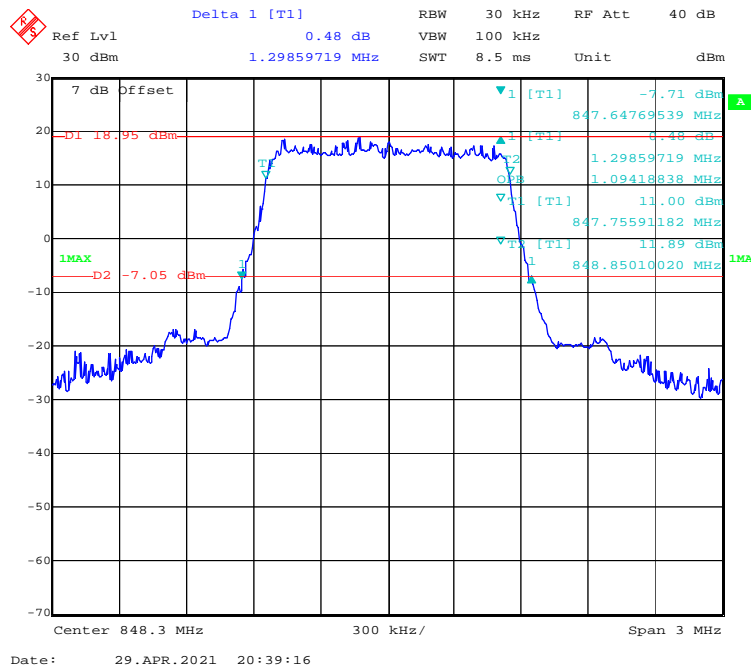
**QPSK (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



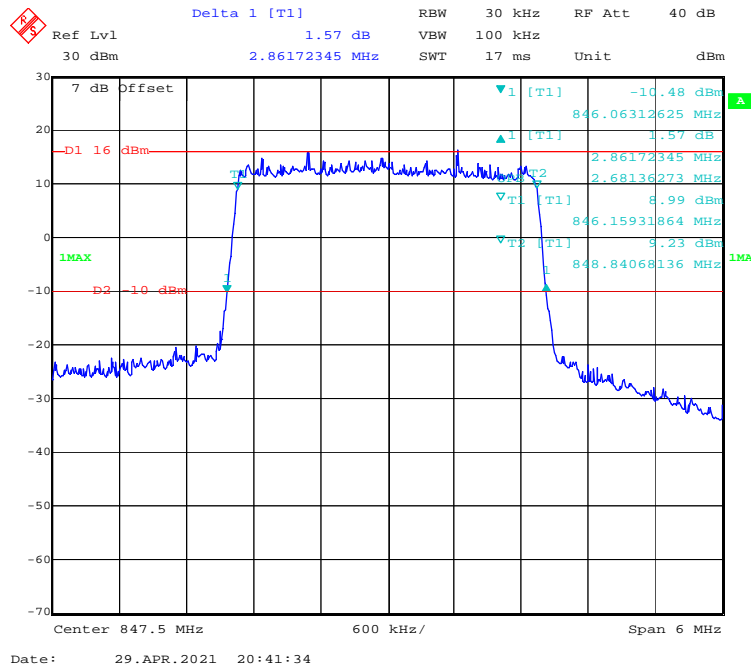
**QPSK (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



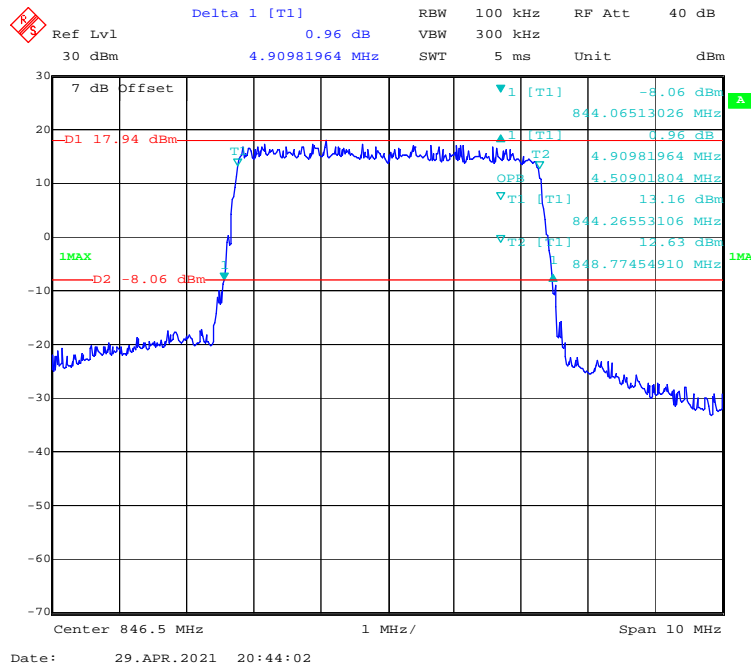
**16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



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

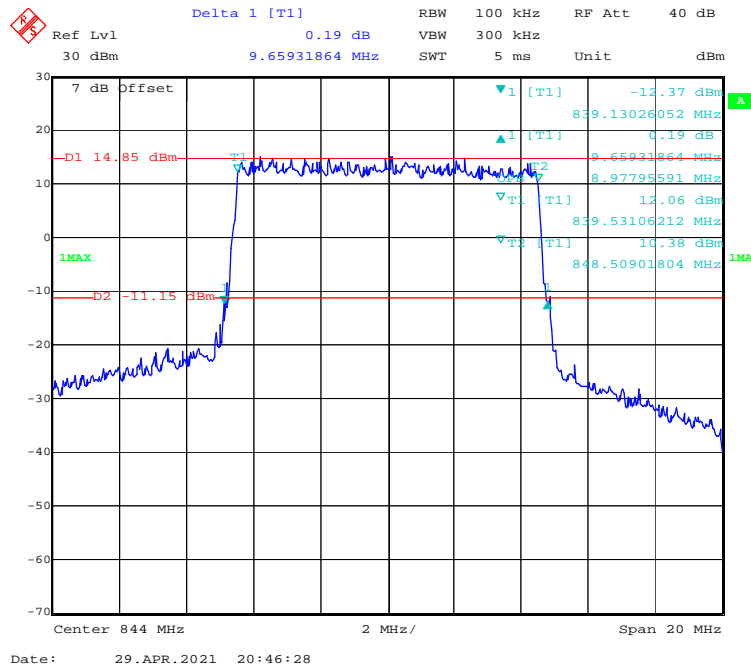


**16-QAM (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

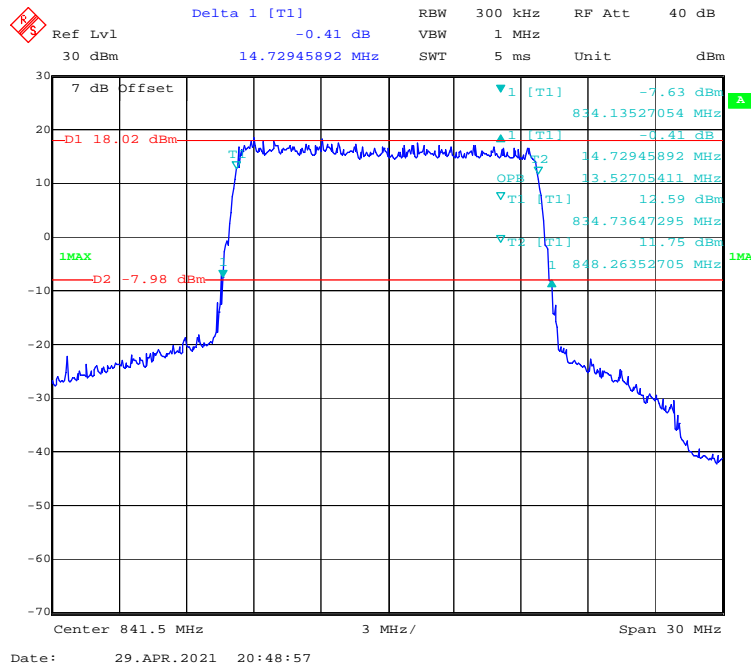




**16-QAM (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



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



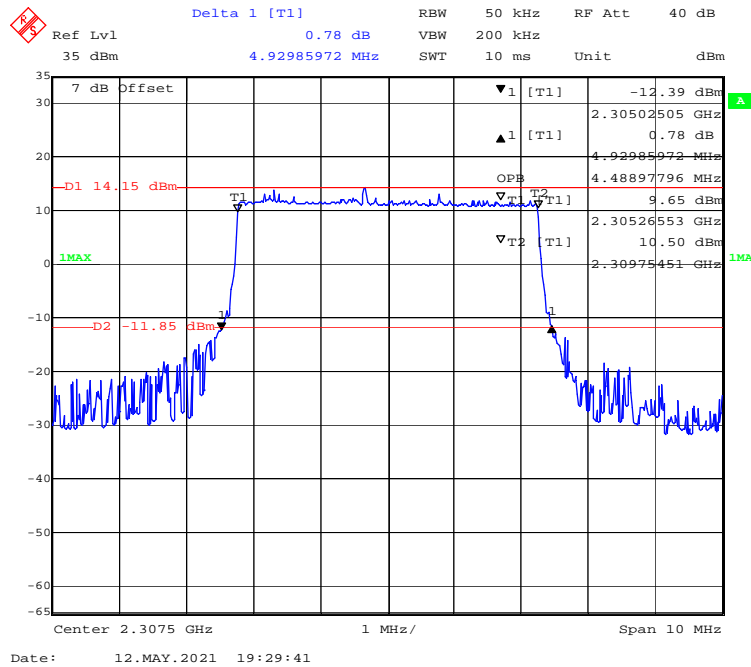
**LTE Band 40(2305MHz-2315MHz):**

Test Modulation	Test Bandwidth	Test Channel	26 dB Bandwidth	99% Occupied Bandwidth
			MHz	MHz
QPSK	5M	Low	4.930	4.489
	5M	Middle	5.090	4.489
	10M		9.940	8.978
	5M	High	2.310	4.489
16-QAM	5M	Low	4.970	4.489
	5M	Middle	5.070	4.489
	10M		9.940	8.978
	5M	High	4.910	4.489

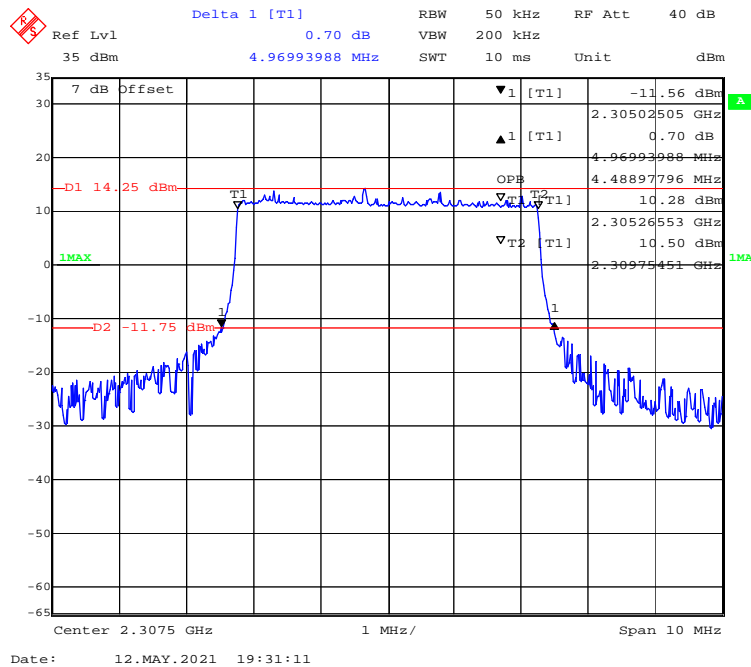
**LTE Band 40(2350MHz-2360MHz):**

Test Modulation	Test Bandwidth	Test Channel	26 dB Bandwidth	99% Occupied Bandwidth
			MHz	MHz
QPSK	5M	Low	4.970	4.489
	5M	Middle	5.090	4.489
	10M		9.860	8.978
	5M	High	4.950	4.489
16-QAM	5M	Low	4.970	4.489
	5M	Middle	5.090	4.489
	10M		9.860	8.978
	5M	High	5.090	4.489

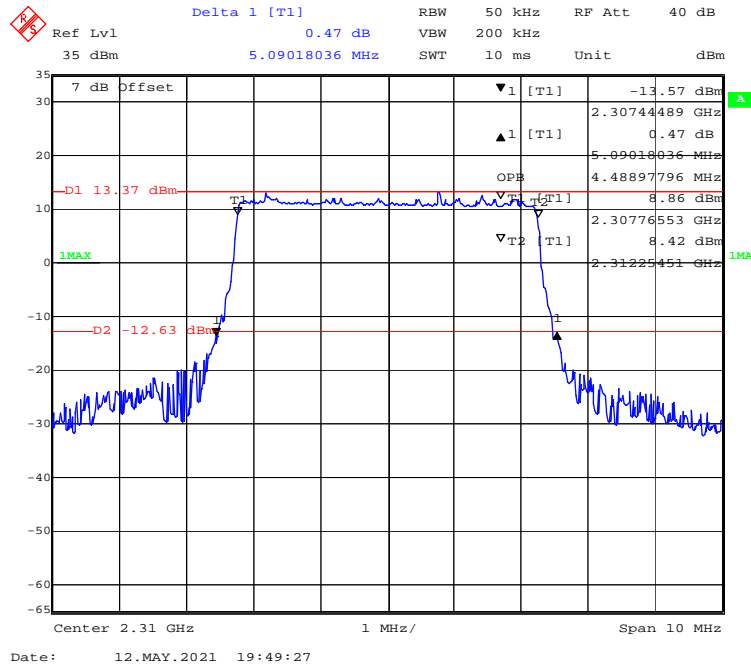
**2305MHz-2315MHz:  
QPSK (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



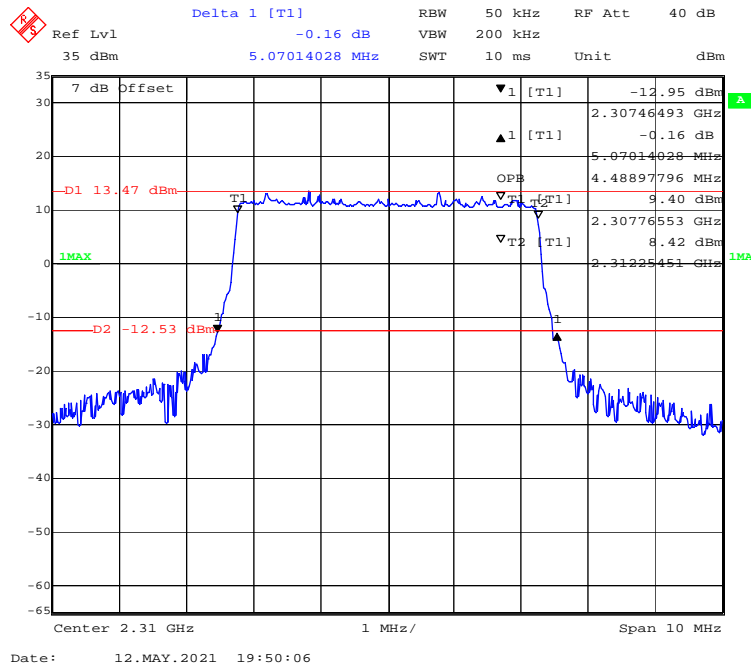
**16-QAM (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



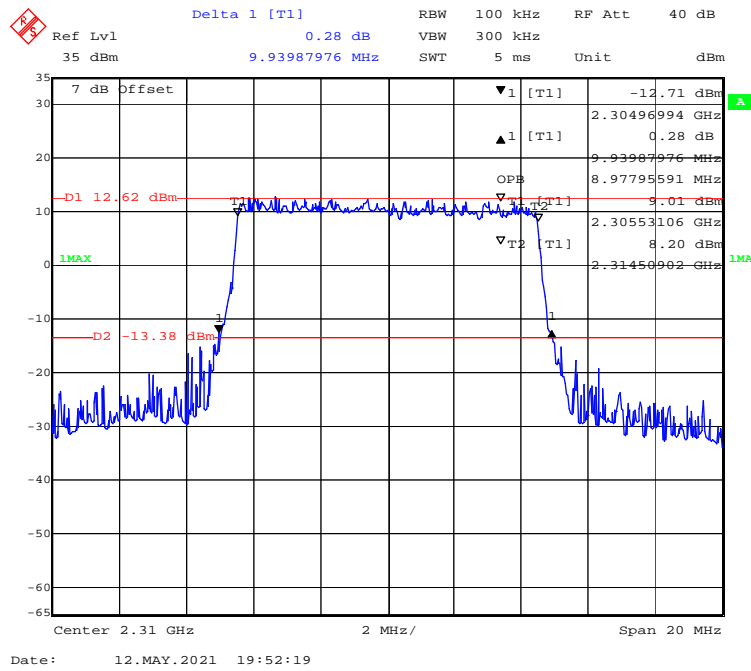
**QPSK (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



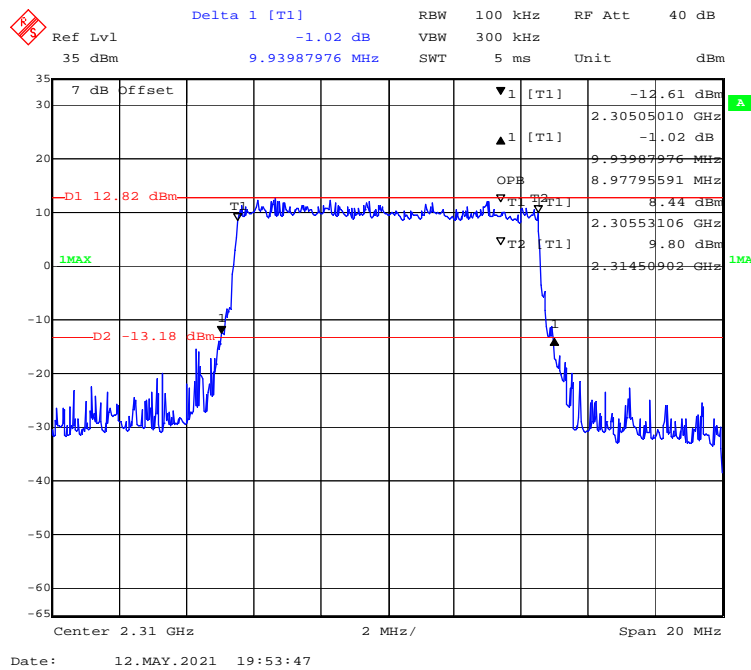
**16-QAM (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



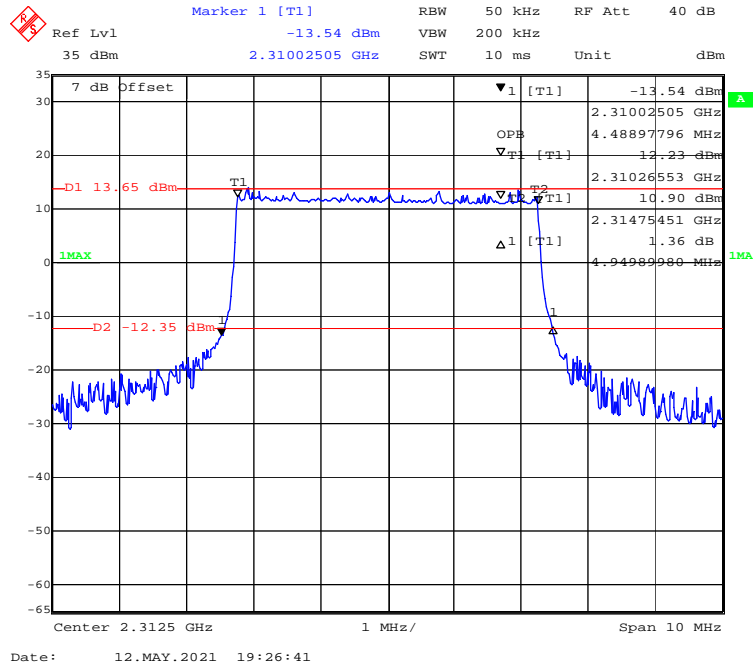
**QPSK (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



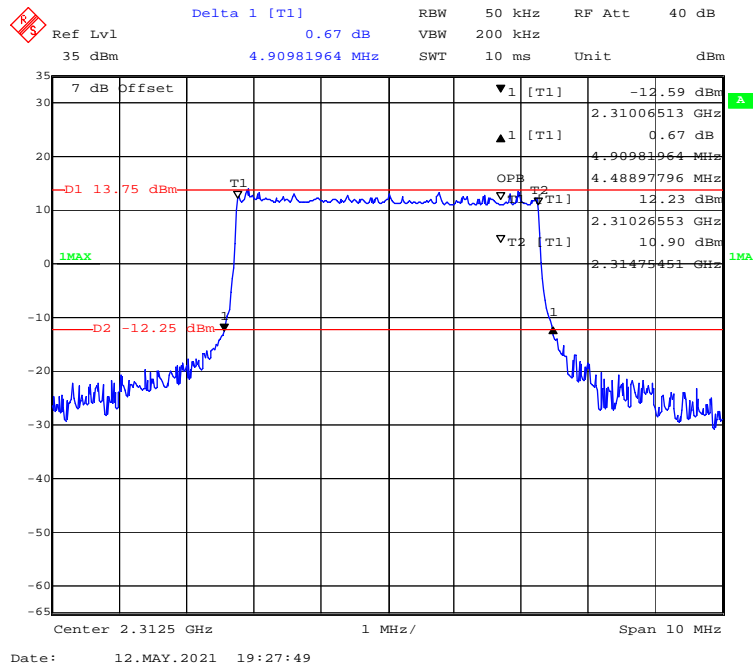
**16-QAM (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



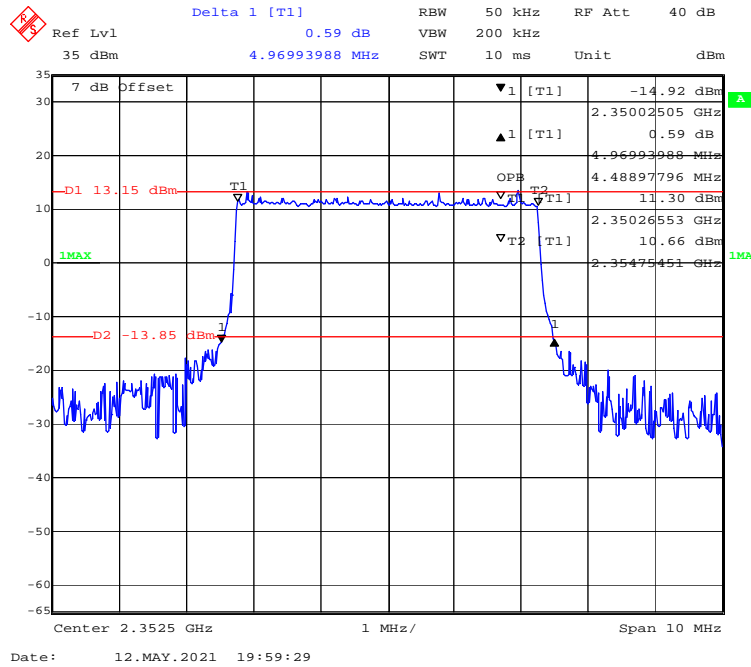
**QPSK (5.0MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



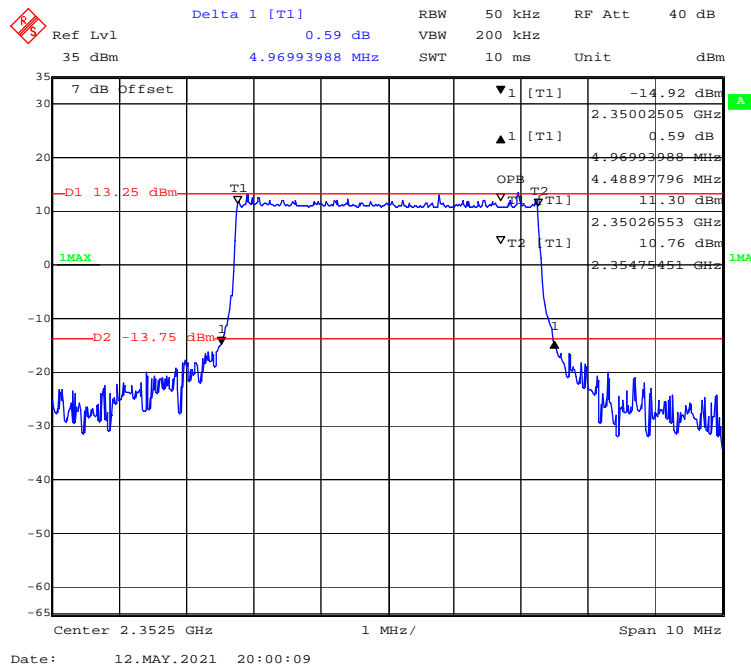
**16-QAM (5.0MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



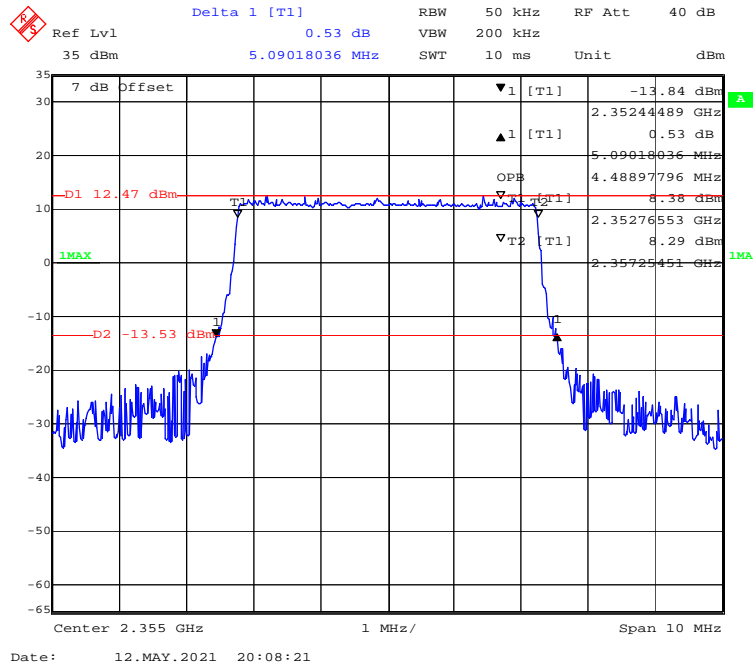
**2350MHz-2360MHz:  
QPSK (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



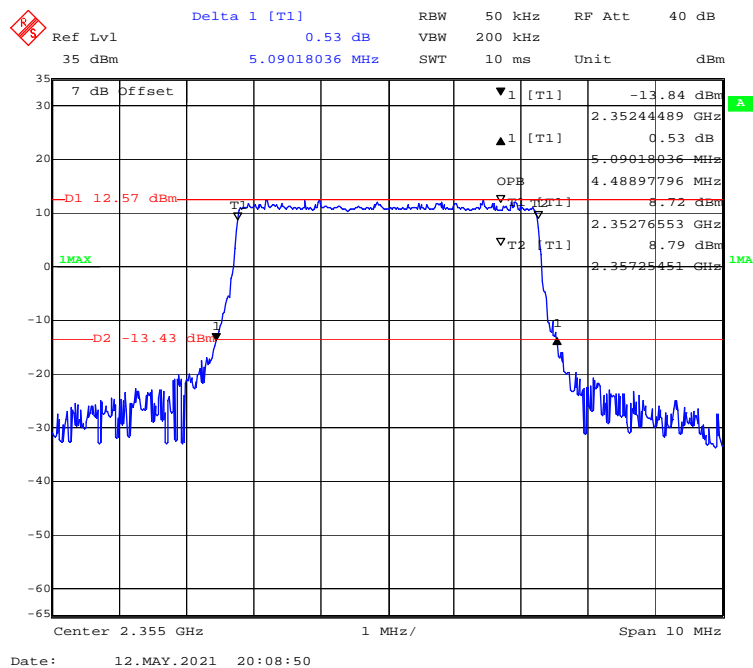
**16-QAM (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



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

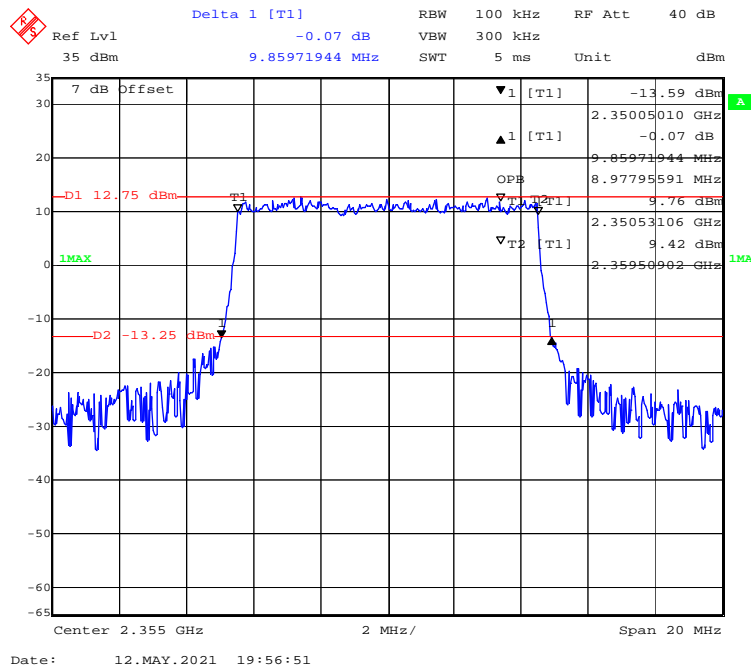


**16-QAM (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

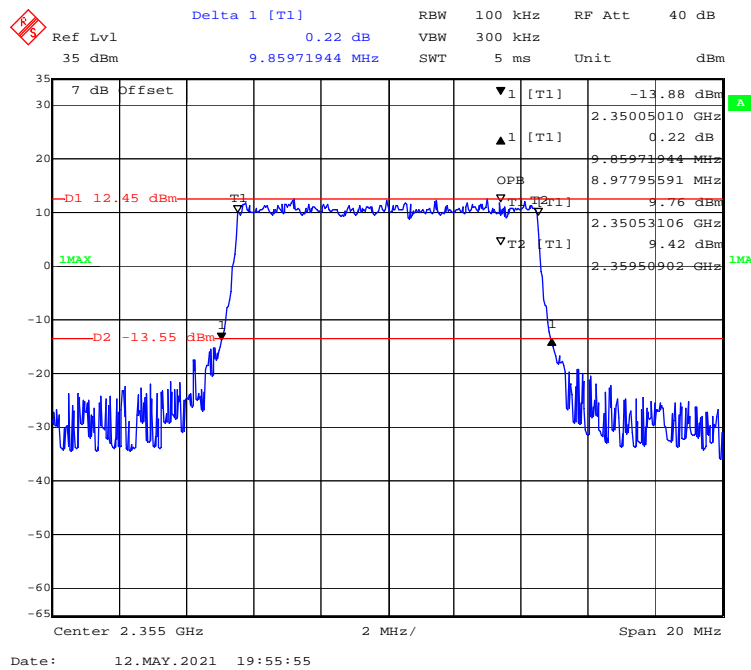




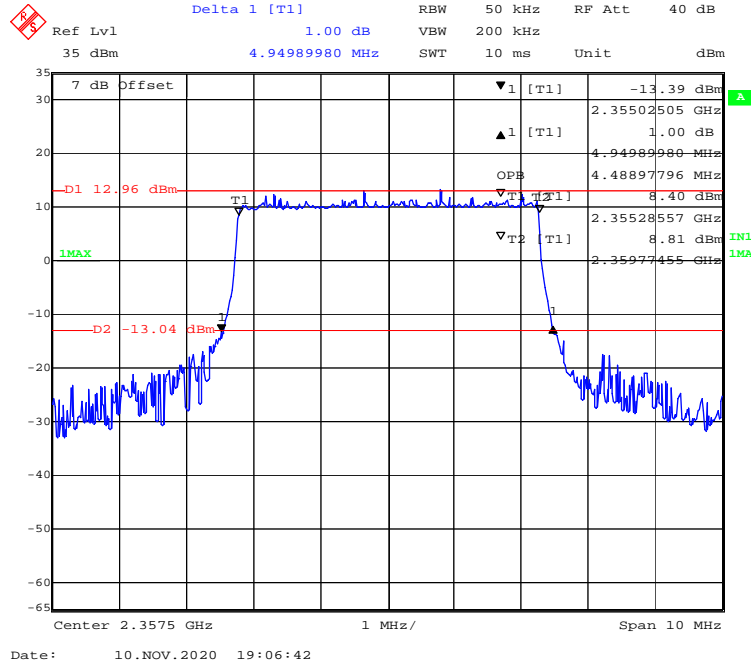
**QPSK (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



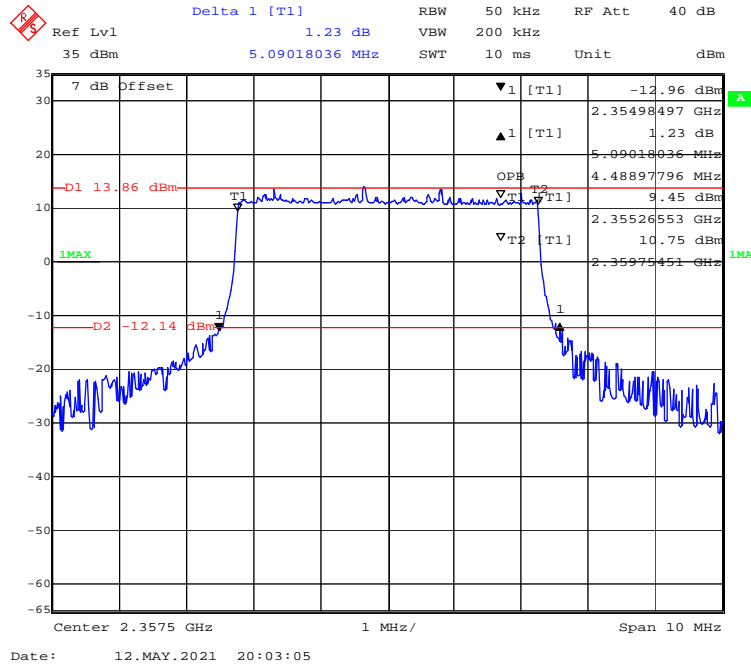
**16-QAM (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



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



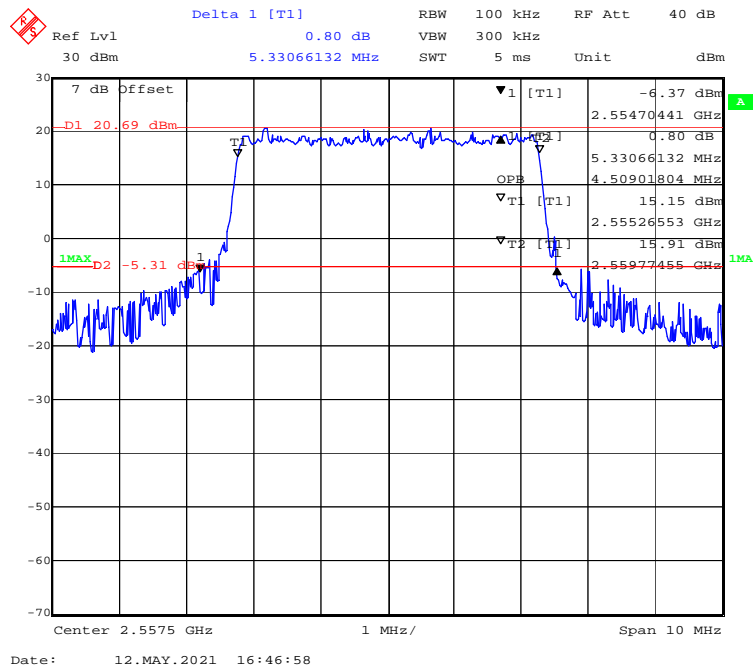
**16-QAM (5.0MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



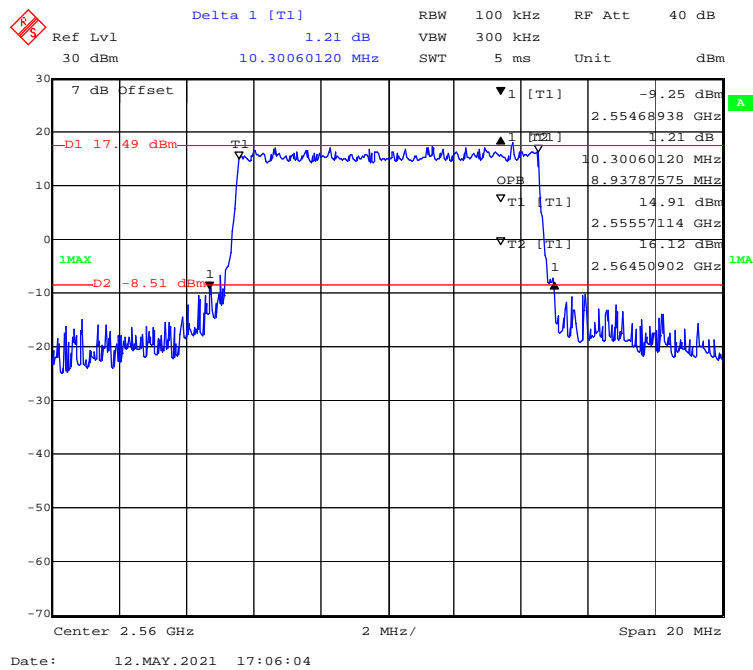
**LTE Band 41:**

Test Modulation	Test Bandwidth	Test Channel	26 dB Bandwidth	99% Occupied Bandwidth
			MHz	MHz
QPSK	5M	Low	5.331	4.509
	10M		10.301	8.938
	15M		14.910	13.587
	20M		19.559	17.956
	5M	Middle	4.970	4.529
	10M		9.780	8.978
	15M		15.391	13.587
	20M		19.559	18.036
	5M	High	5.230	4.529
	10M		10.421	8.978
	15M		16.172	13.527
	20M		20.040	18.036
16-QAM	5M	Low	5.210	4.529
	10M		10.461	8.978
	15M		14.729	13.527
	20M		19.639	17.956
	5M	Middle	5.090	4.509
	10M		10.020	8.978
	15M		15.451	13.527
	20M		19.800	17.956
	5M	High	5.310	4.529
	10M		10.180	8.978
	15M		16.052	13.527
	20M		20.281	18.036

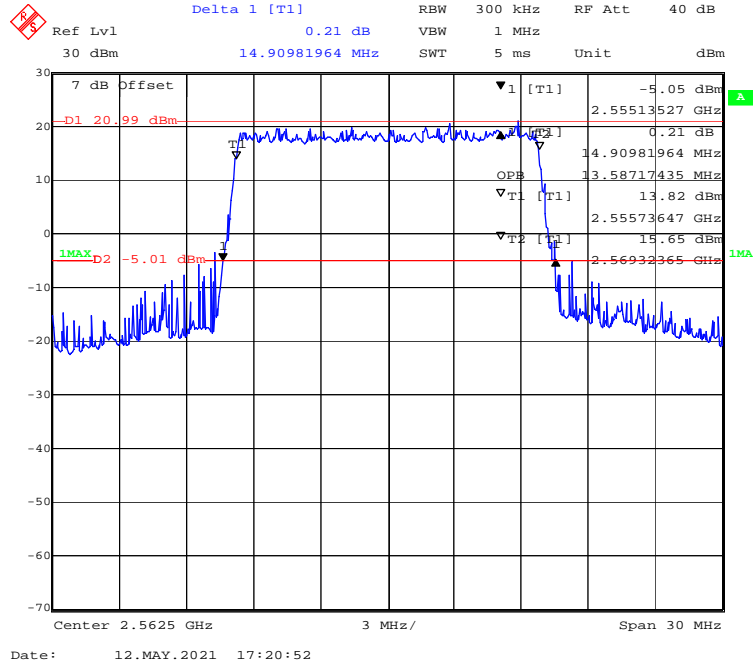
**QPSK (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



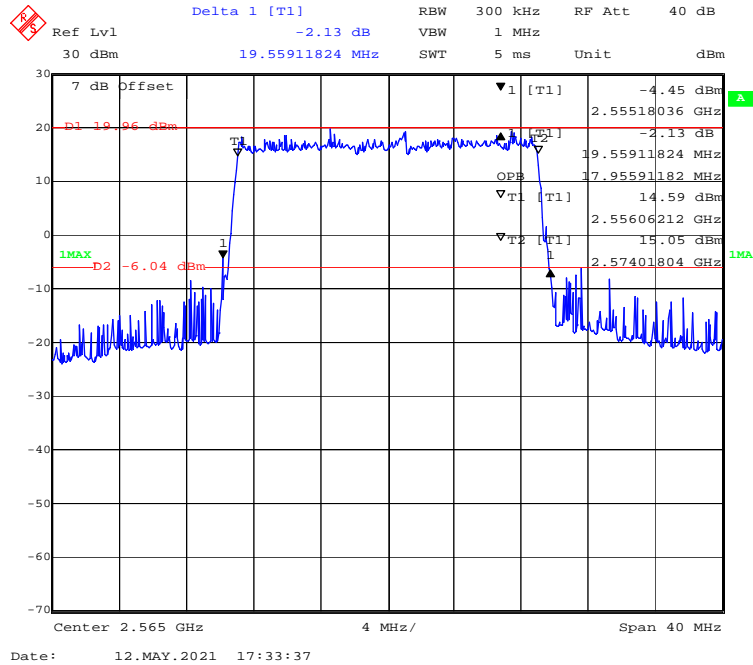
**QPSK (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



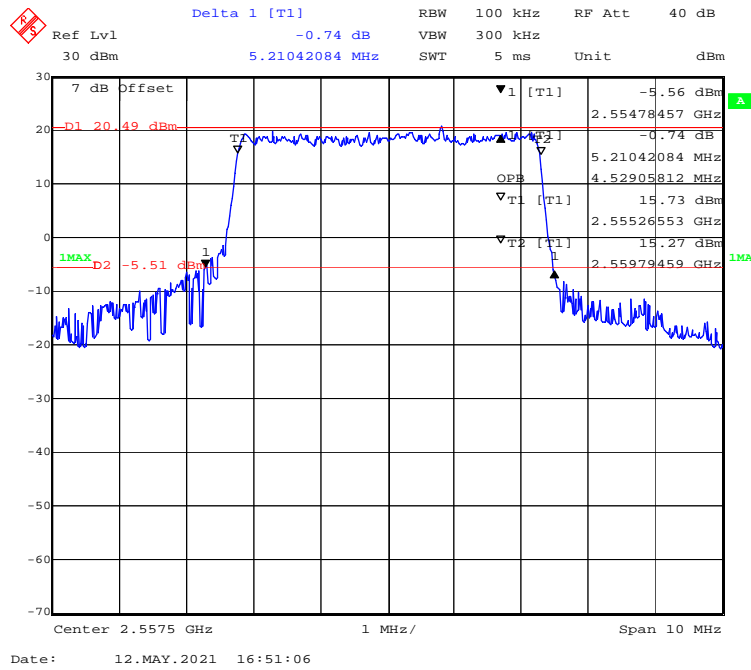
### QPSK (15.0MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



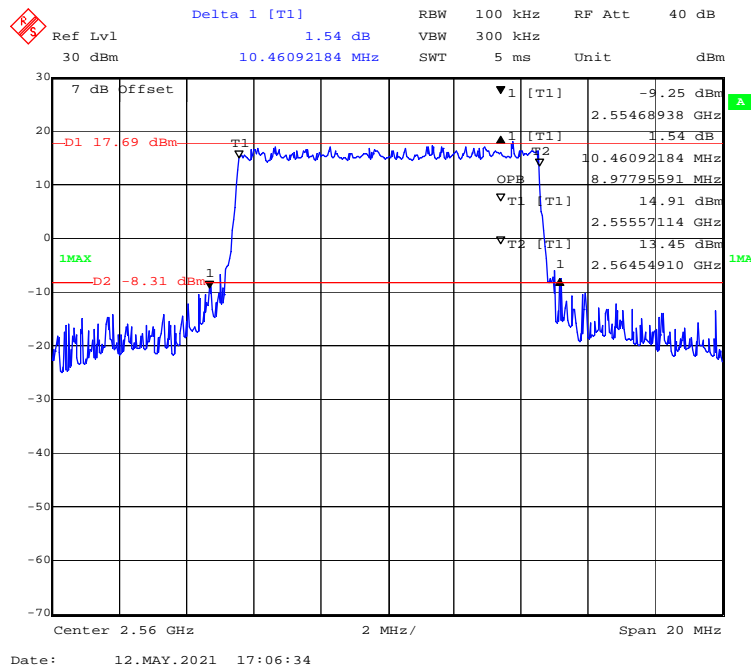
### QPSK (20.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



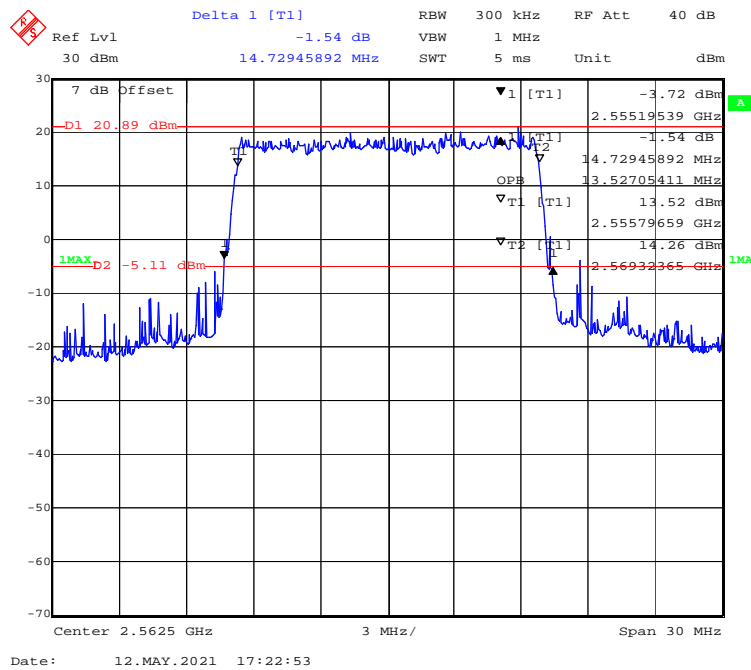
**16-QAM (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



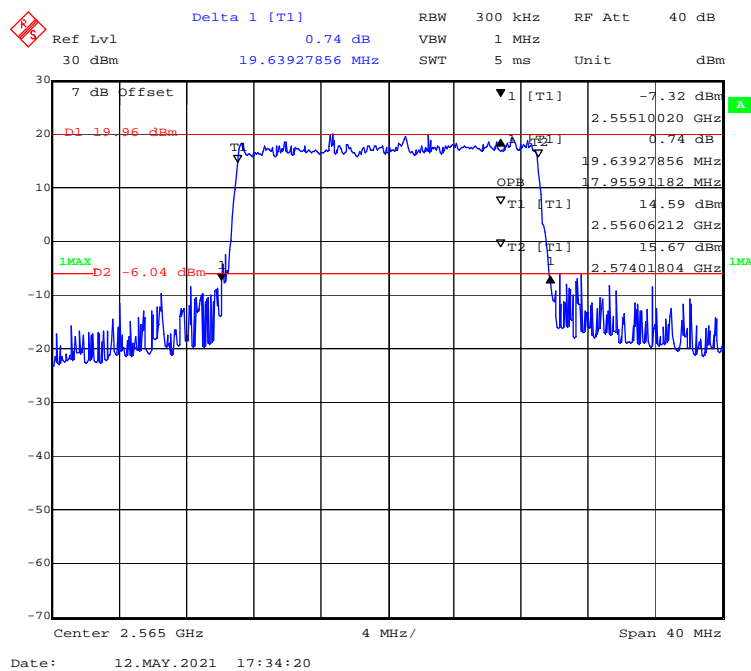
**16-QAM (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



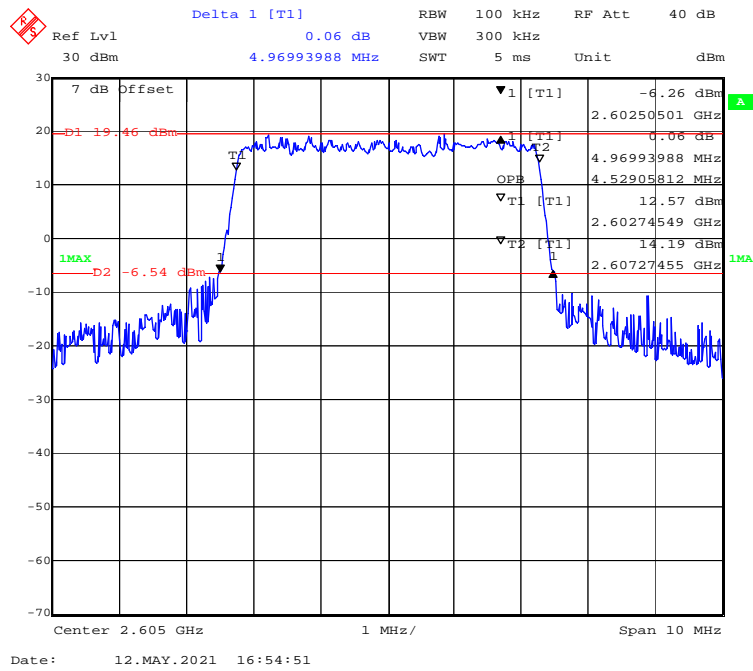
**16-QAM (15.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



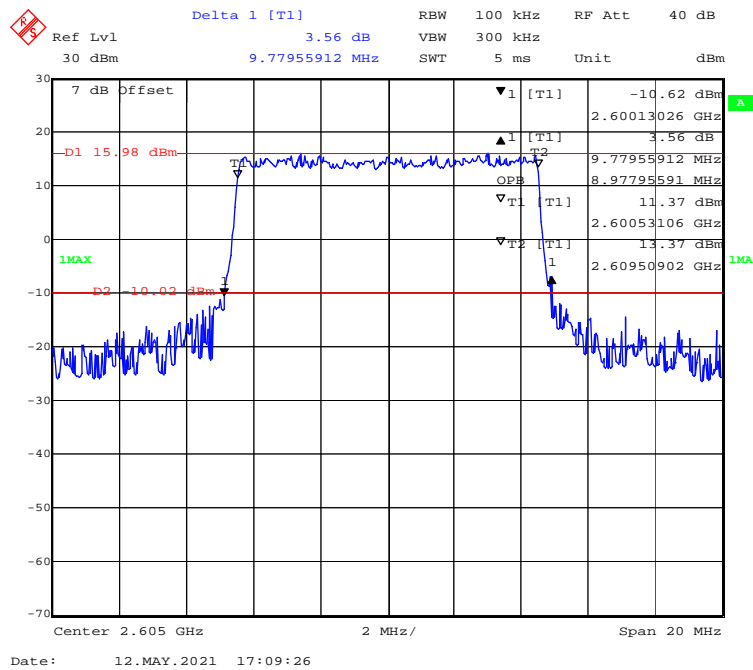
**16-QAM (20.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



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

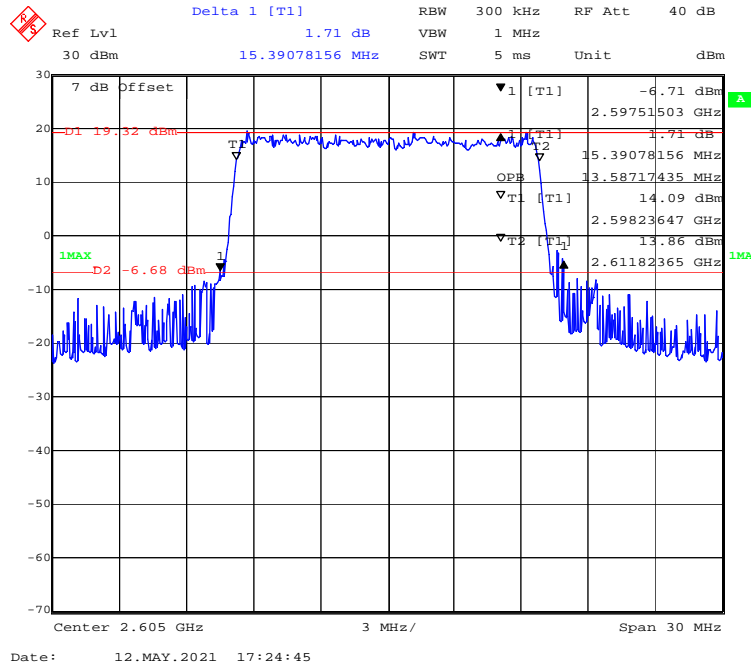


**QPSK (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

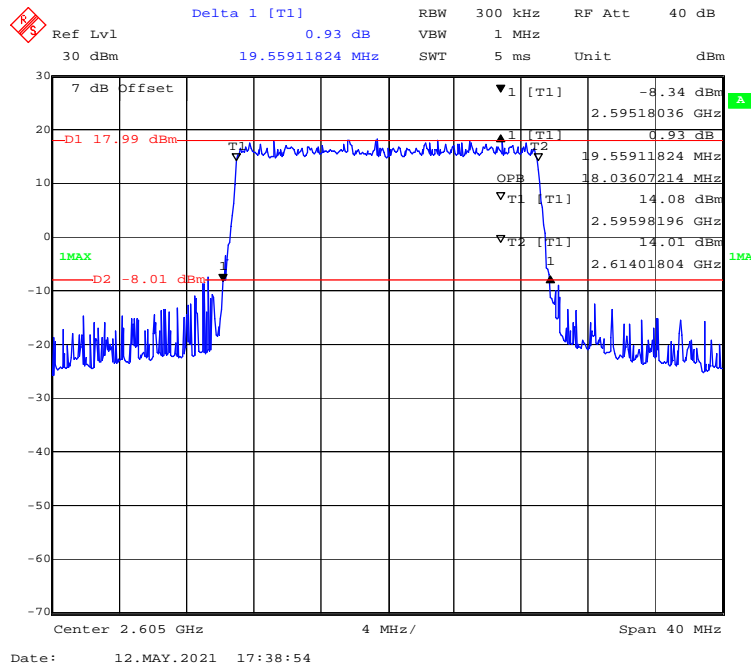




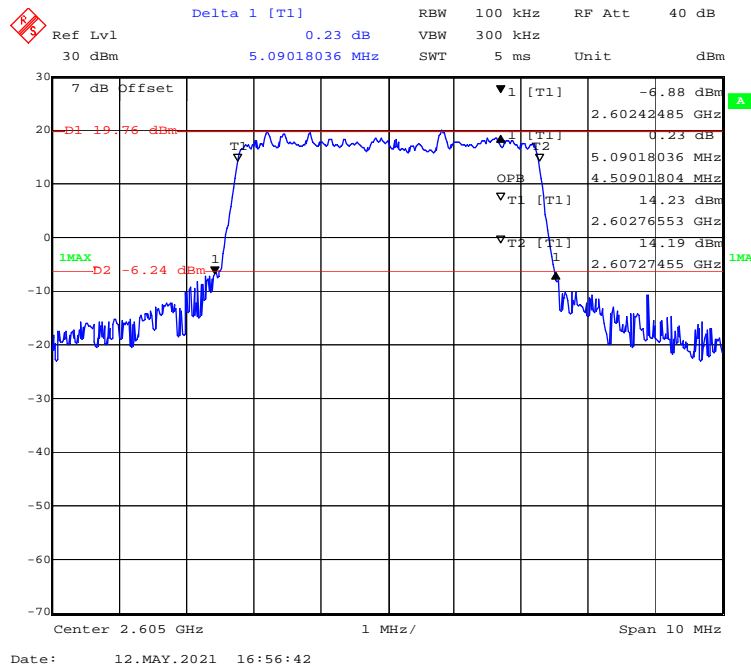
**QPSK (15.0MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



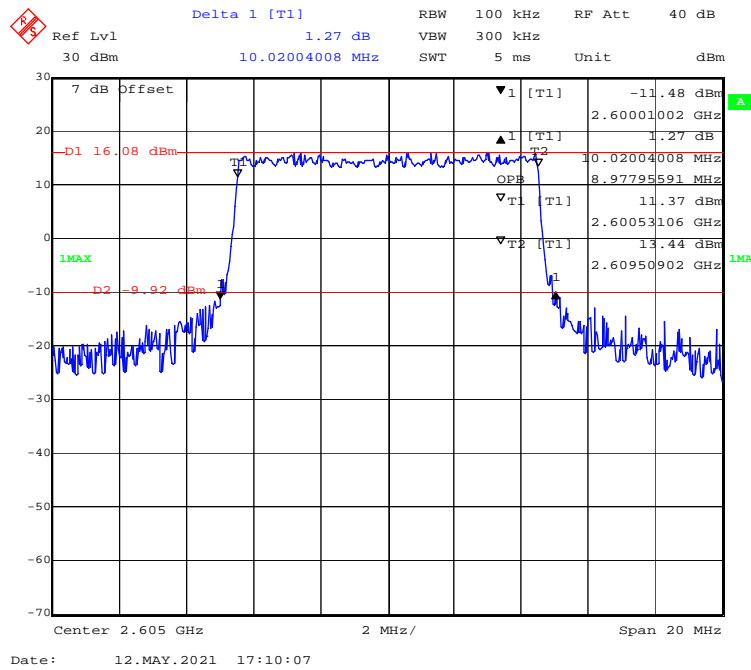
**QPSK (20.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



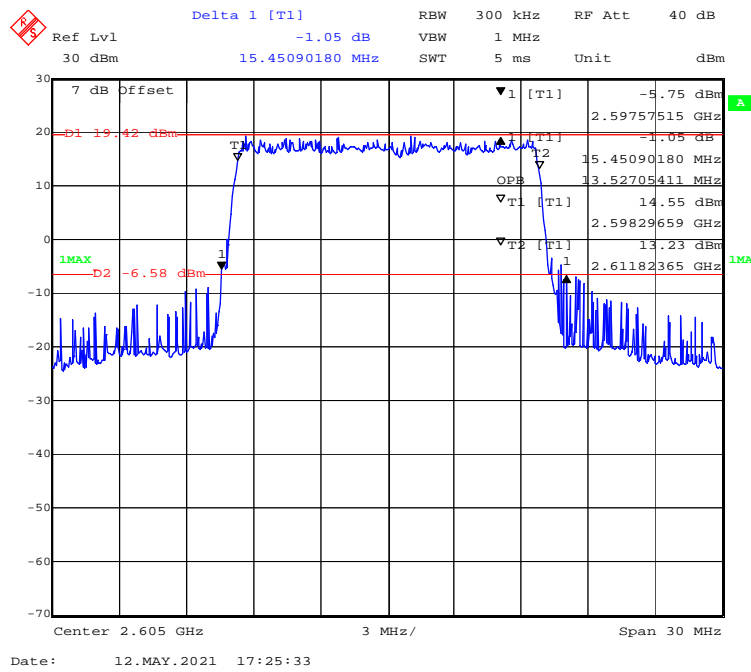
**16-QAM (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



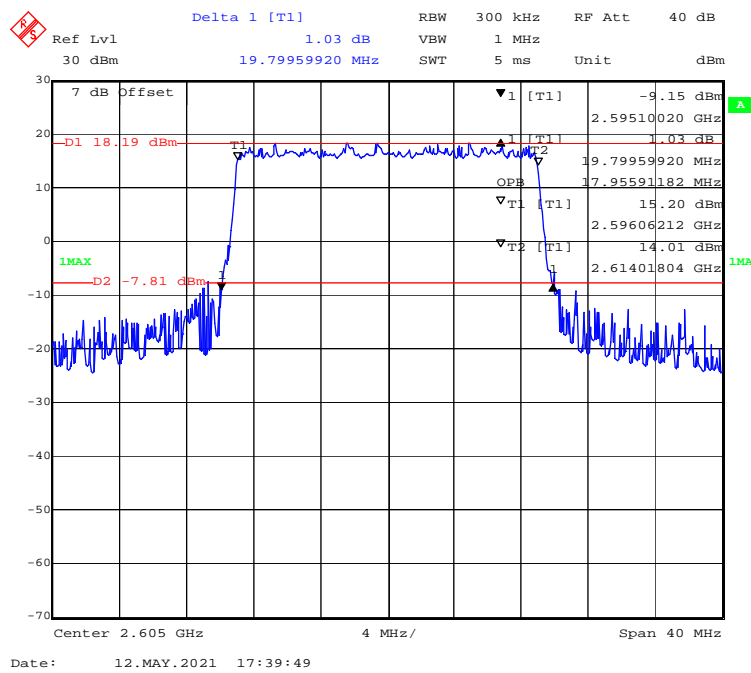
**16-QAM (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



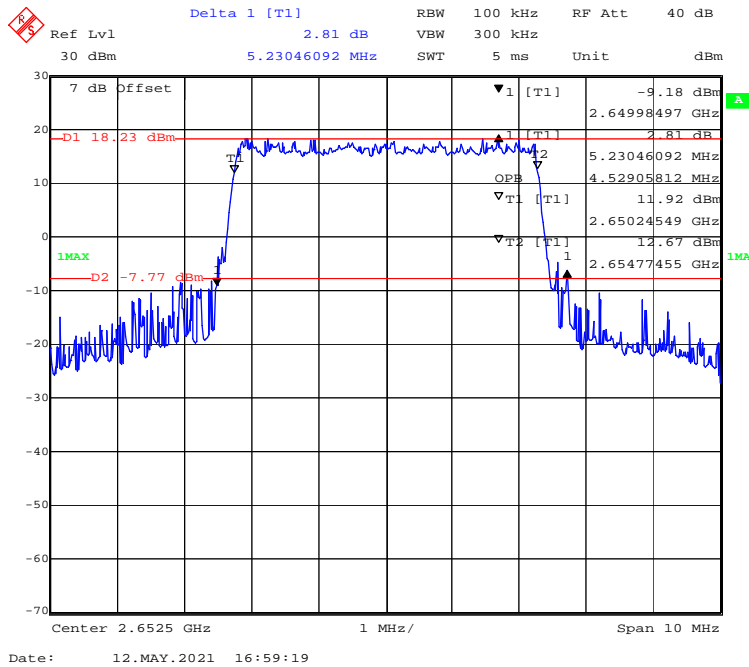
**16-QAM (15.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



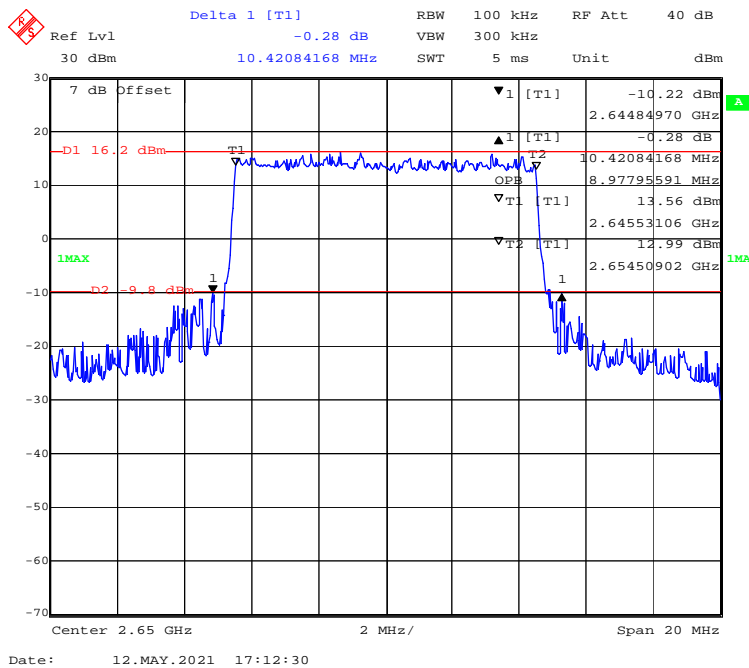
**16-QAM (20.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



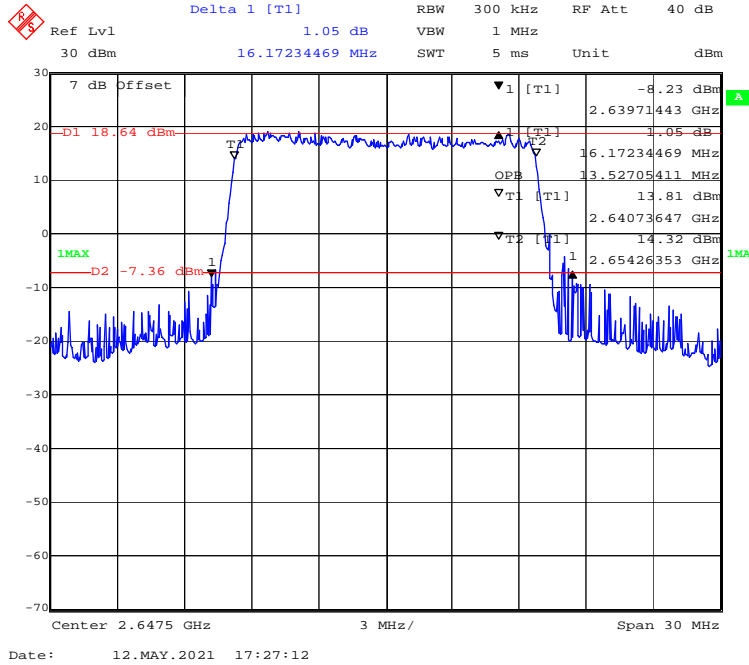
**QPSK (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



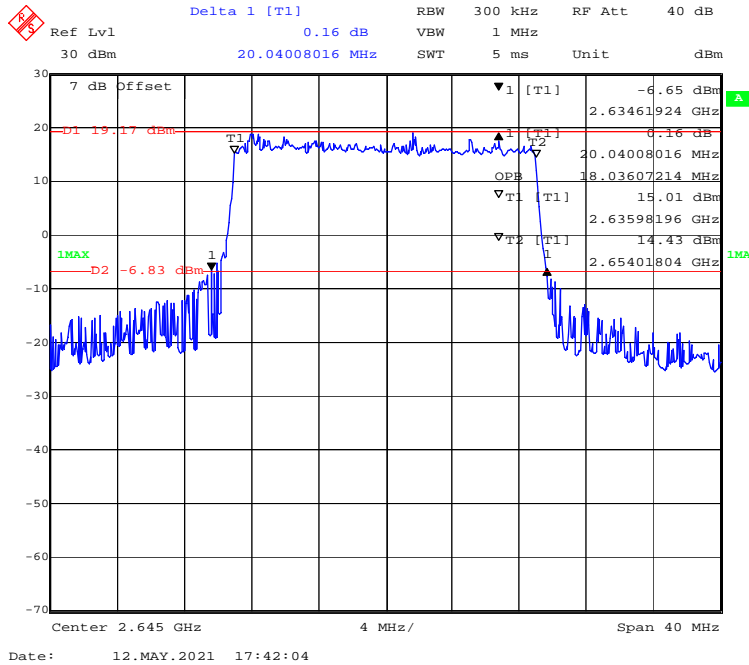
**QPSK (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



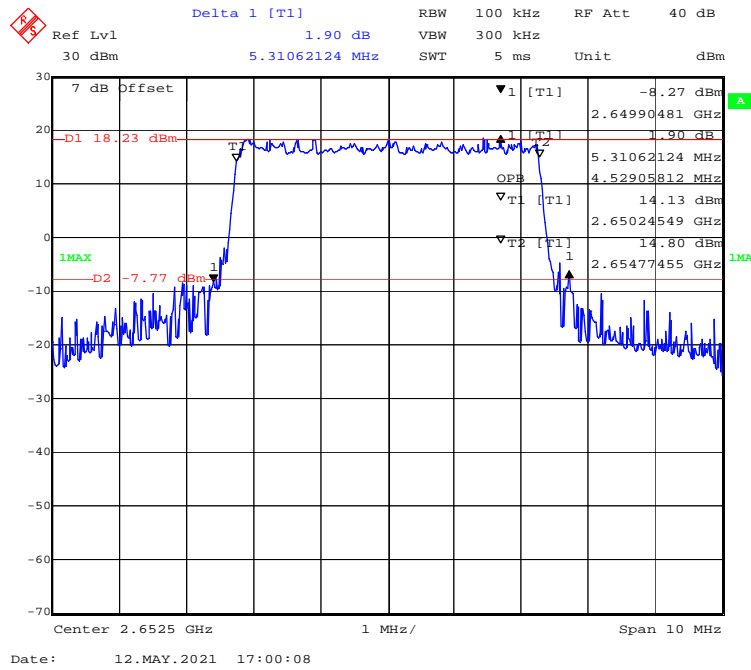
**QPSK (15.0MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



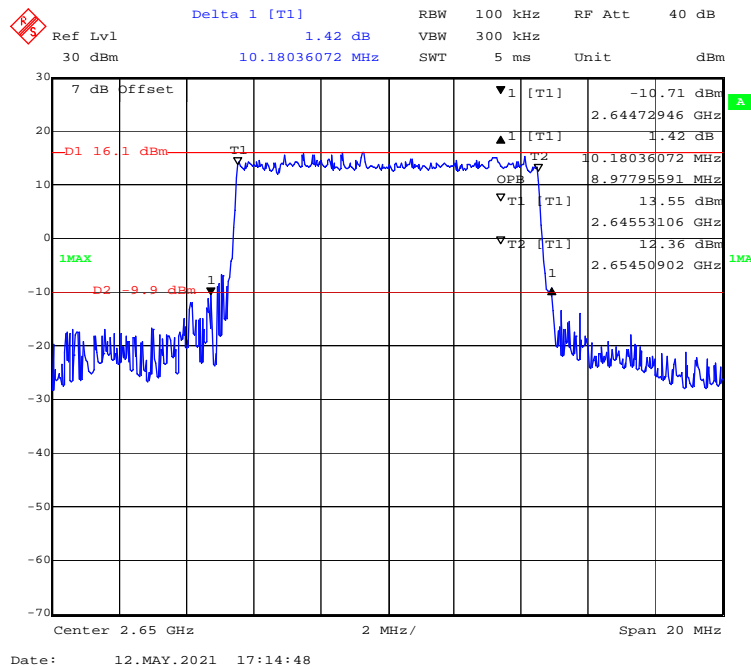
**QPSK (20.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



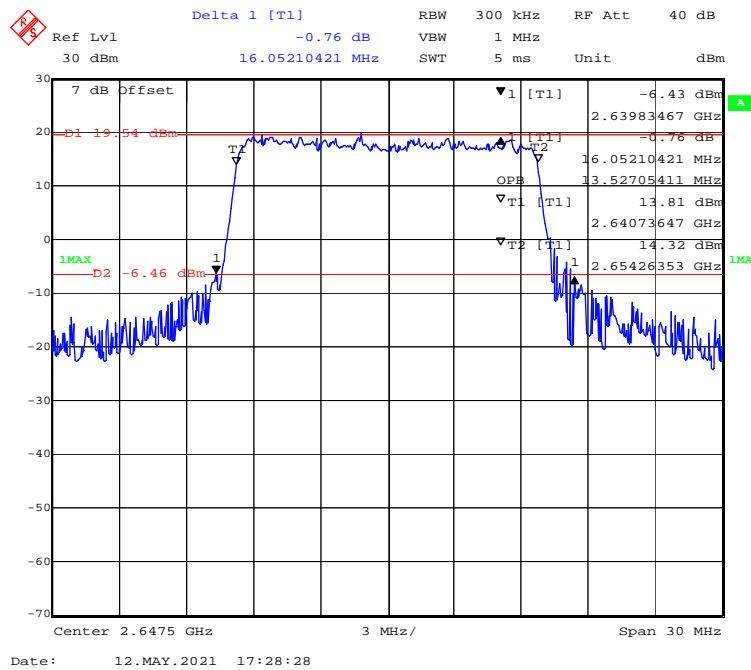
**16-QAM (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



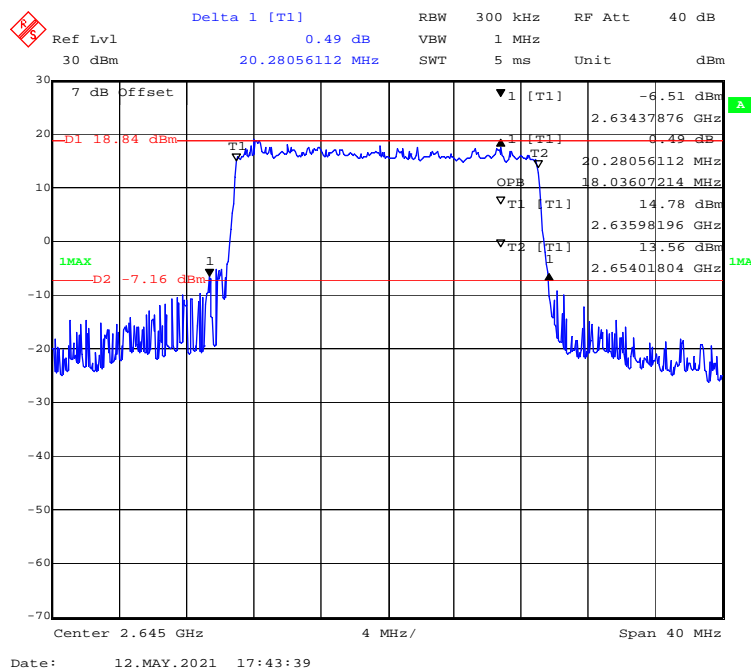
**16-QAM (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



**16-QAM (15.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



**16-QAM (20.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

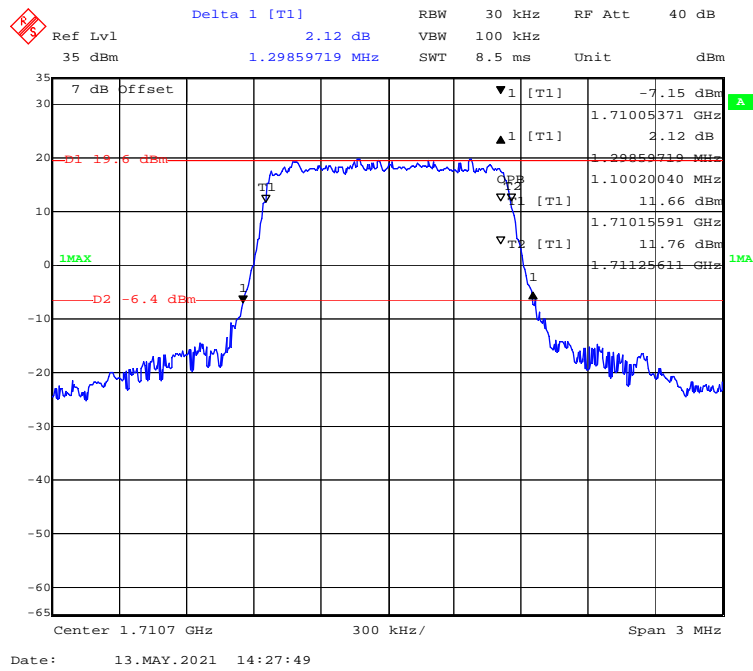


**LTE Band 66:**

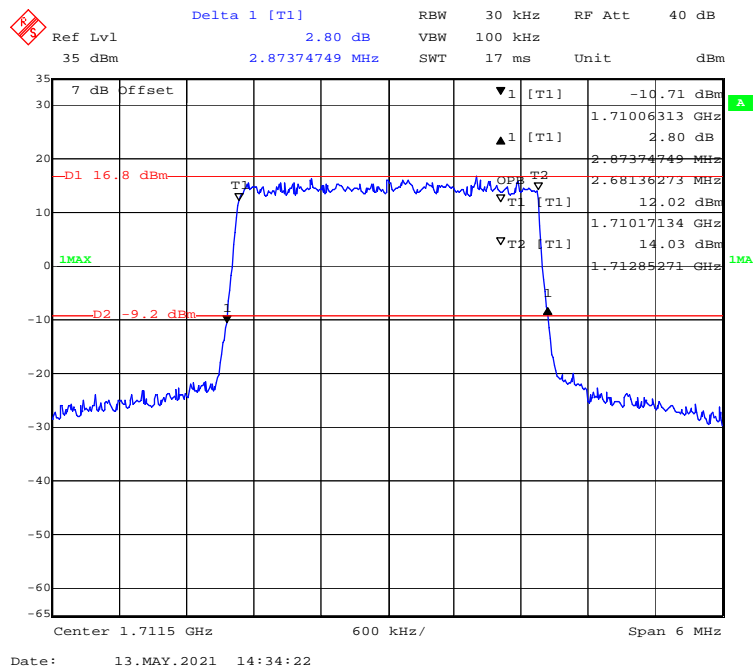
Test Modulation	Test Bandwidth	Test Channel	26 dB Bandwidth	99% Occupied Bandwidth
			MHz	MHz
QPSK	1.4M	Low	1.299	1.100
	3M		2.874	2.681
	5M		5.030	4.489
	10M		9.980	8.978
	15M		14.790	13.527
	20M		19.960	17.956
	1.4M	Middle	1.035	1.100
	3M		2.898	2.693
	5M		4.990	4.489
	10M		9.940	8.978
	15M		14.910	13.527
	20M		19.639	18.036
	1.4M	High	1.293	1.106
	3M		2.874	2.693
	5M		5.030	4.489
	10M		9.900	8.978
	15M		14.790	13.527
	20M		19.639	17.956
16-QAM	1.4M	Low	1.299	1.100
	3M		2.874	2.681
	5M		5.030	4.489
	10M		9.980	8.978
	15M		14.790	13.527
	20M		19.960	17.956
	1.4M	Middle	1.305	1.100
	3M		2.898	2.693
	5M		4.990	4.489
	10M		9.940	8.978
	15M		14.910	13.527
	20M		19.559	18.036
	1.4M	High	1.293	1.106
	3M		2.874	2.693
	5M		5.030	4.509
	10M		9.900	8.978
	15M		14.970	13.527
	20M		19.639	17.956



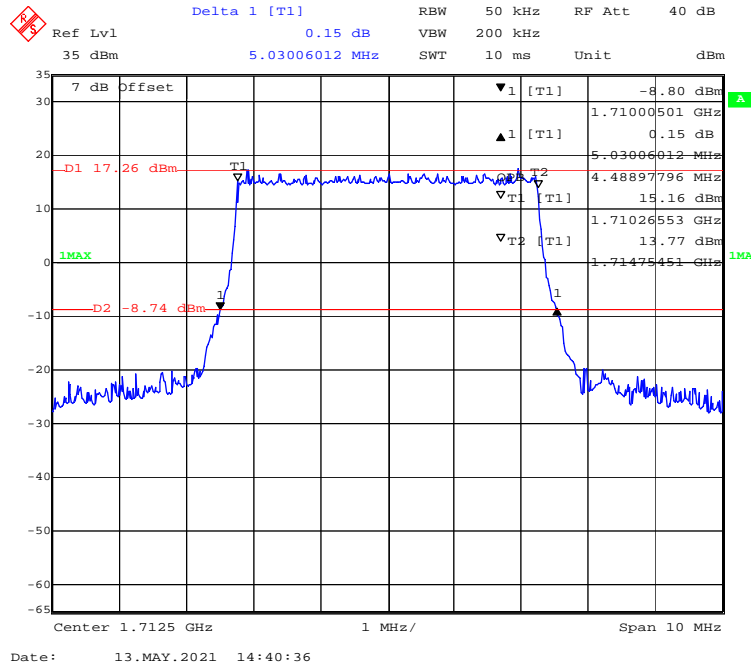
**QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



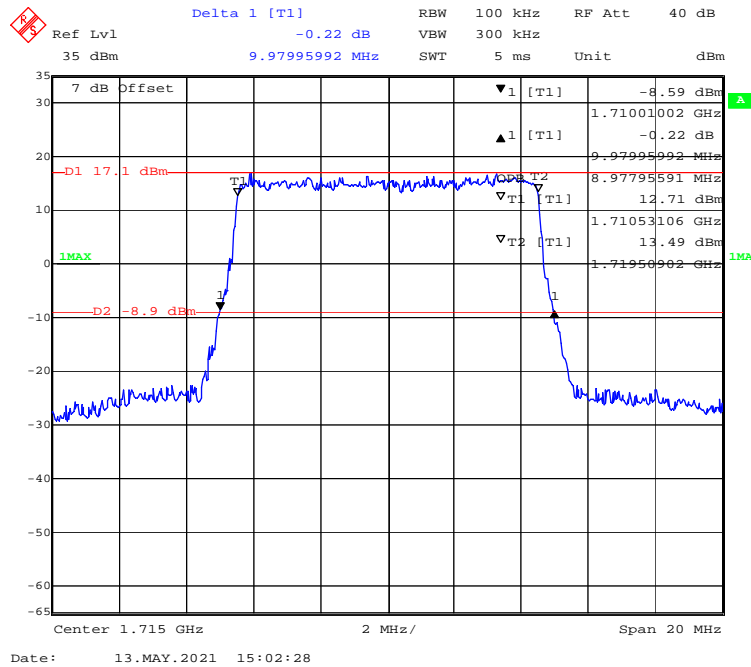
**QPSK (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



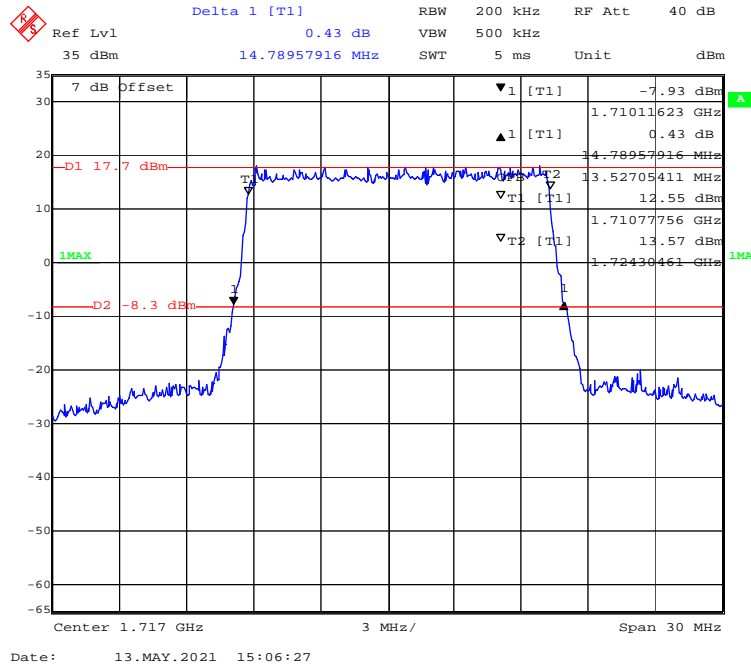
**QPSK (5MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



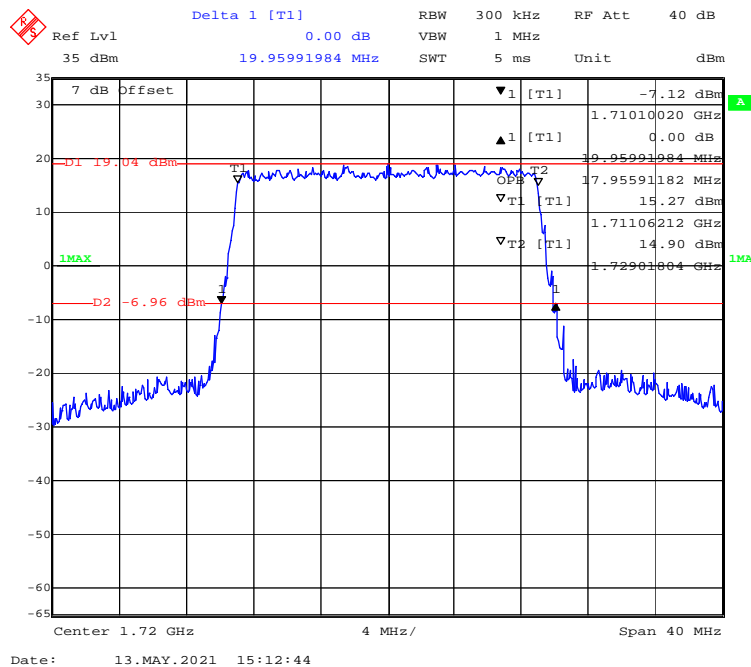
**QPSK (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



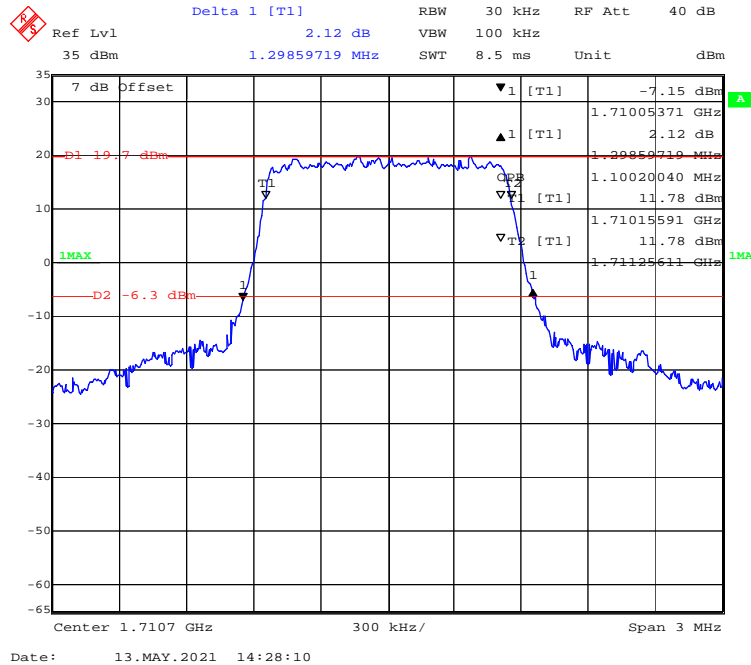
**QPSK (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



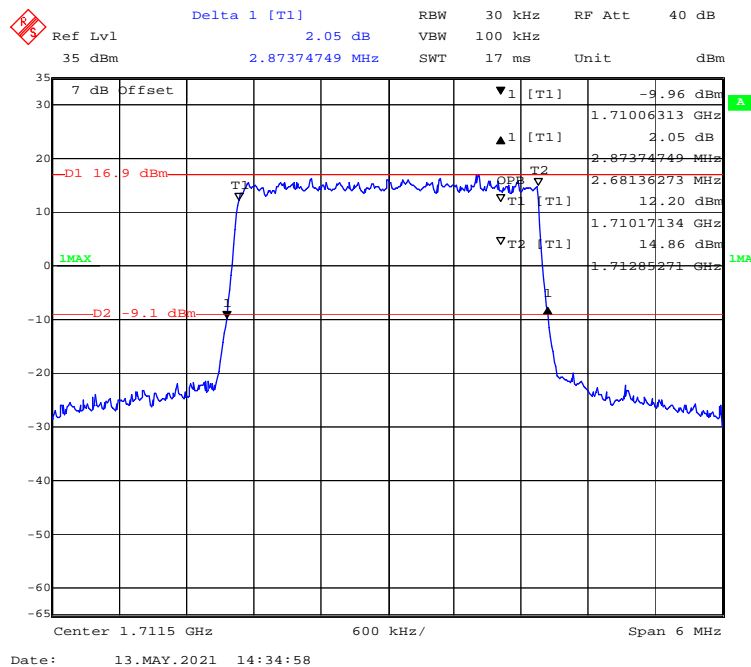
**QPSK (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



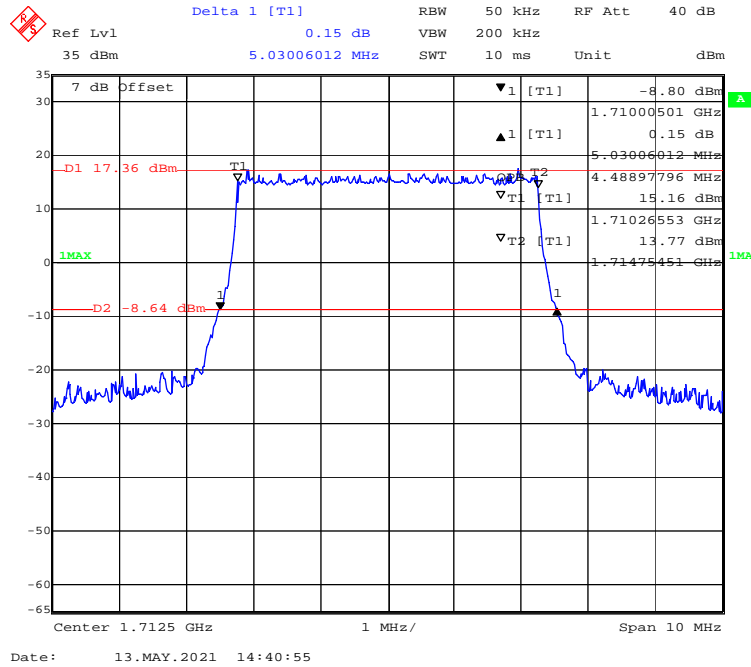
**16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



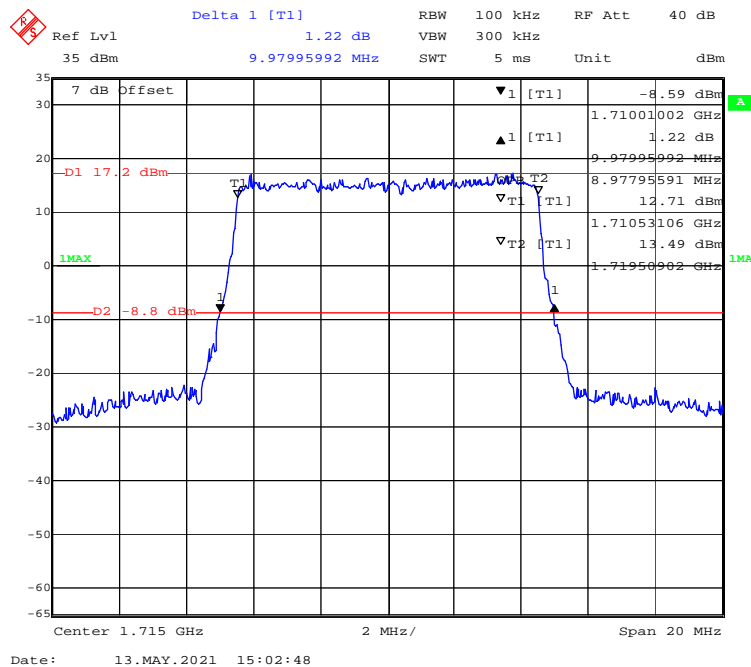
**16-QAM (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



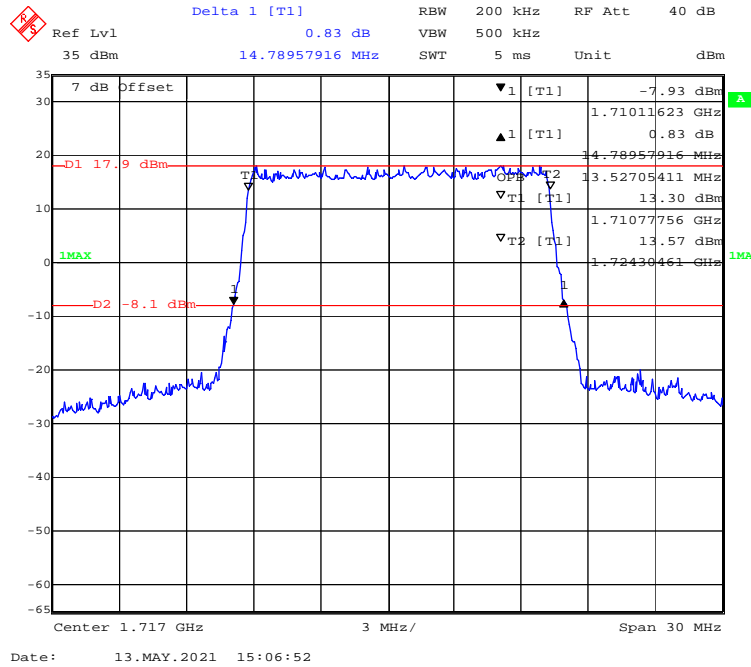
**16-QAM (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



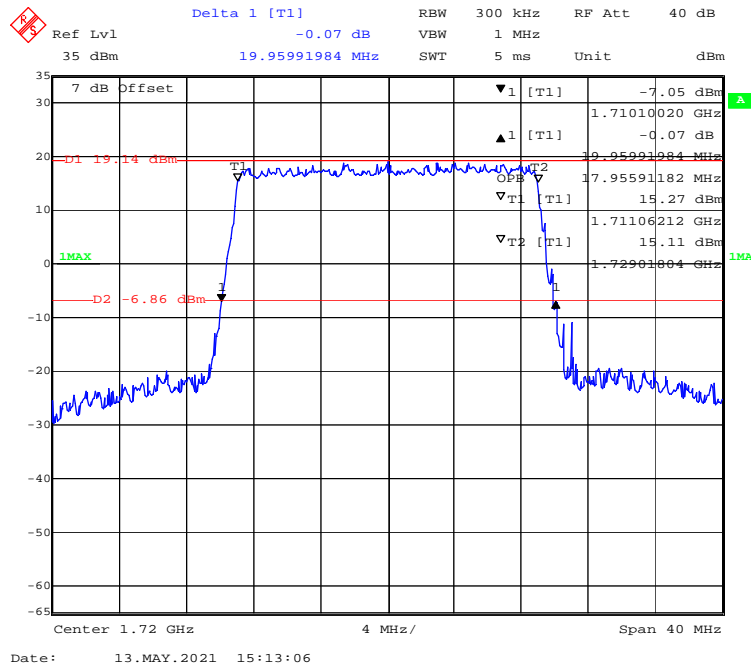
**16-QAM (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



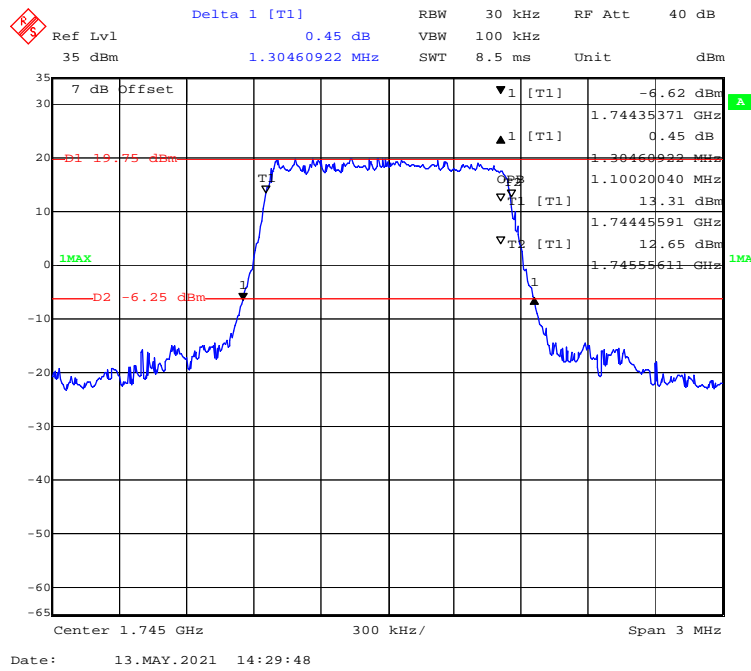
**16-QAM (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



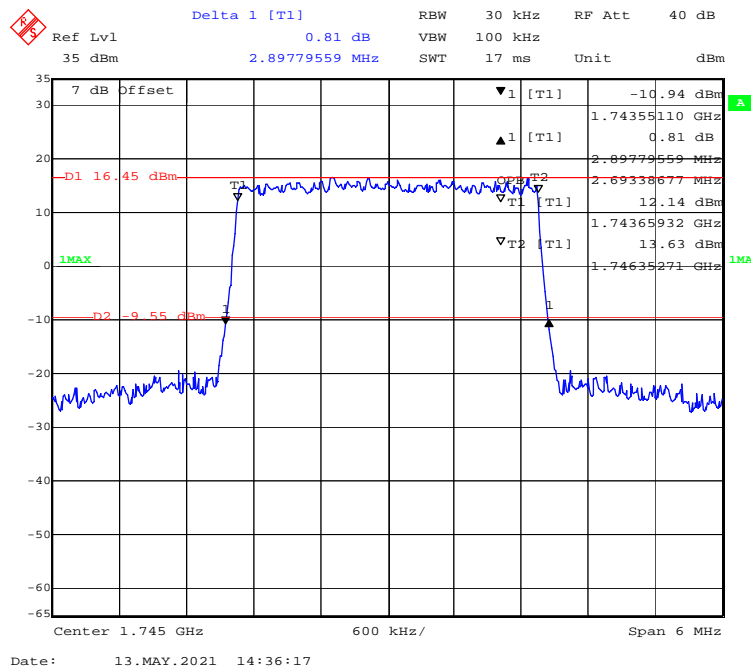
**16-QAM (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**



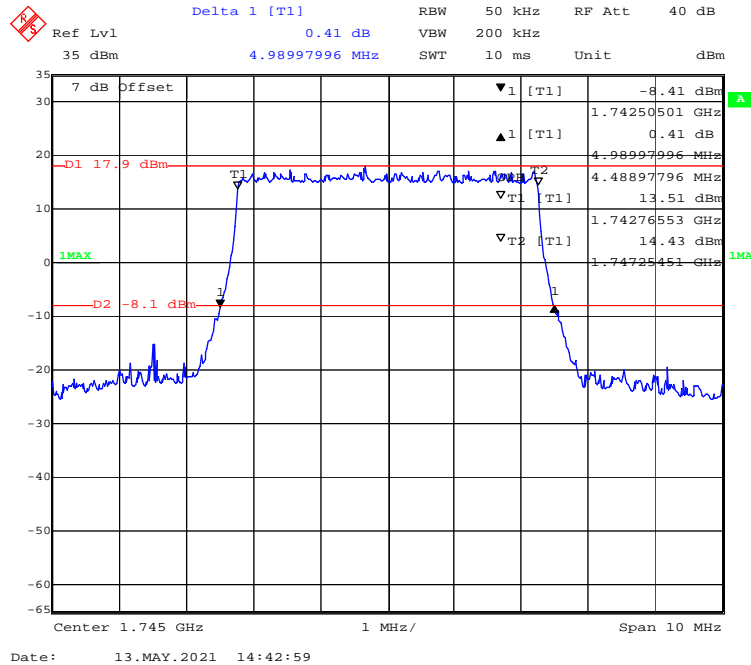
**QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



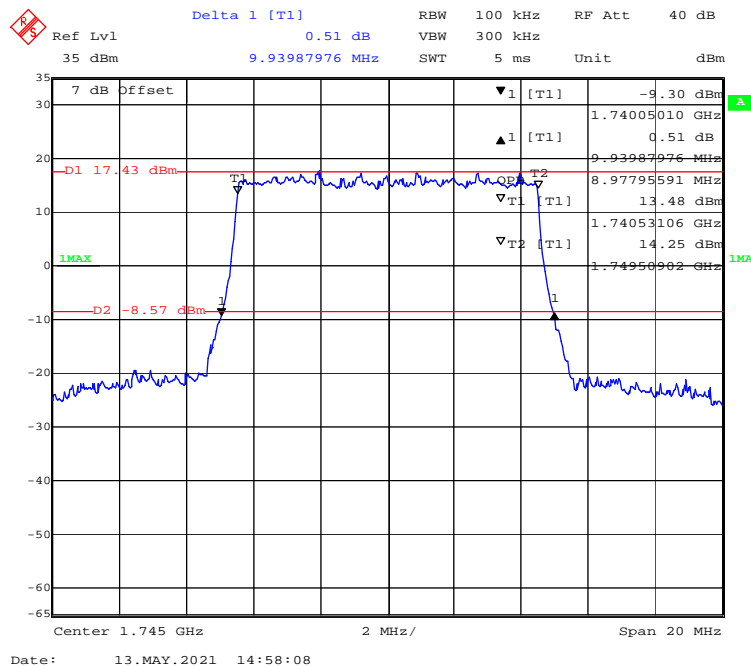
**QPSK (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



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

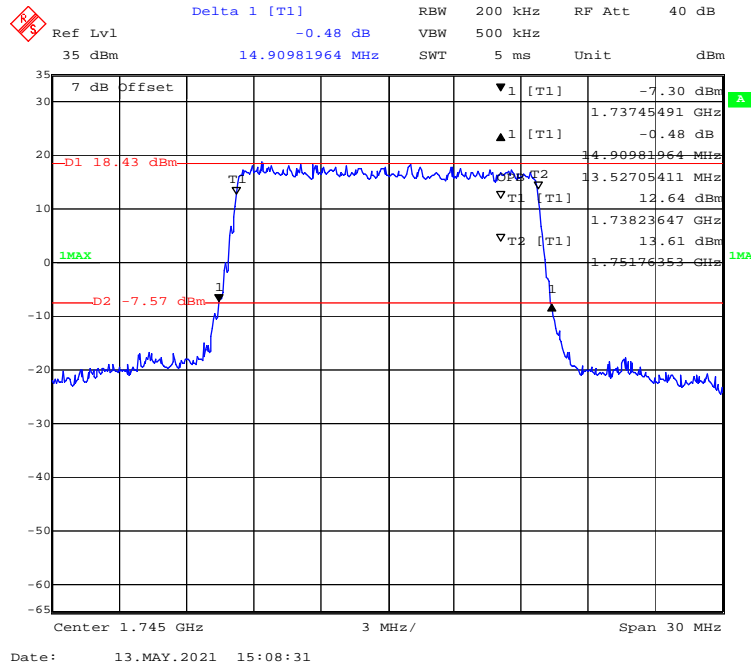


**QPSK (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

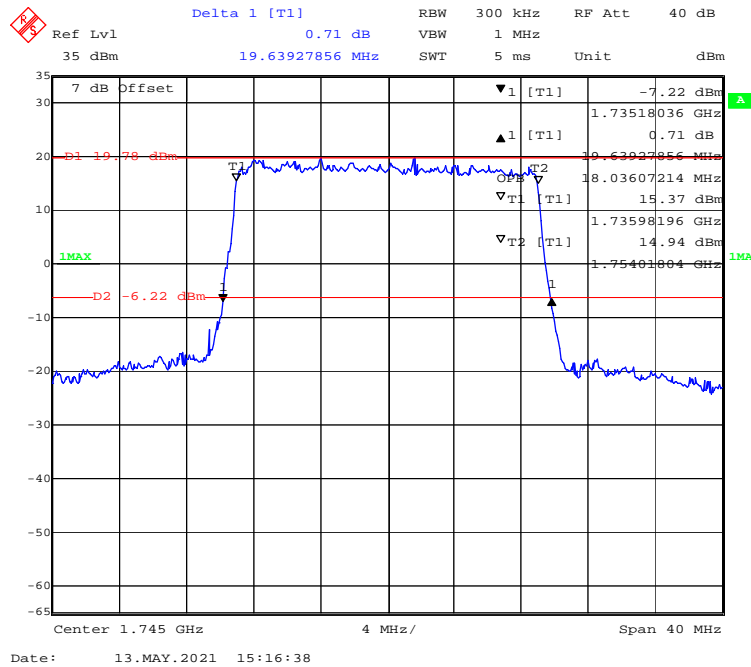




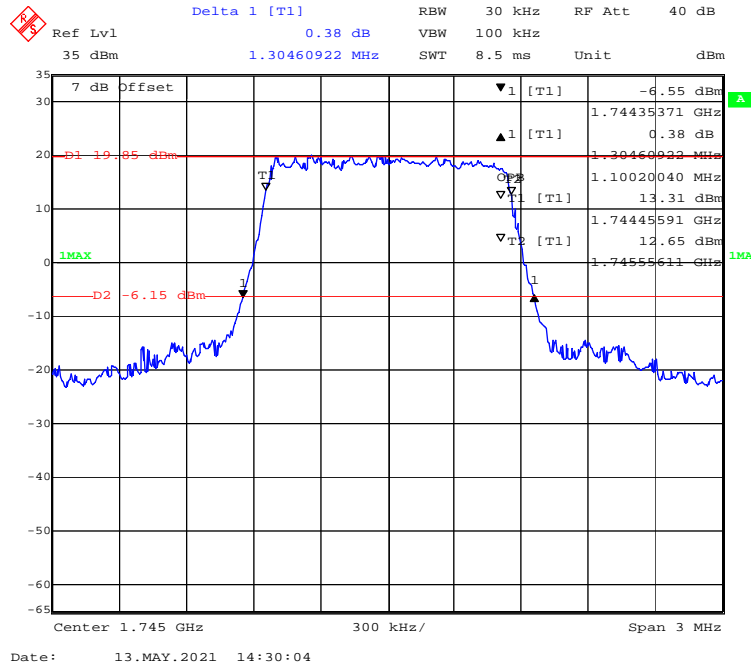
**QPSK (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



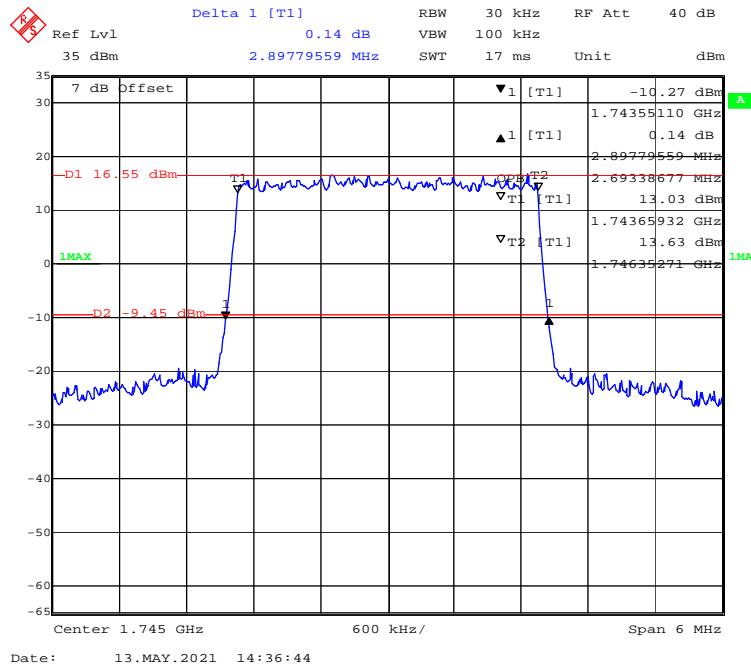
**QPSK (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



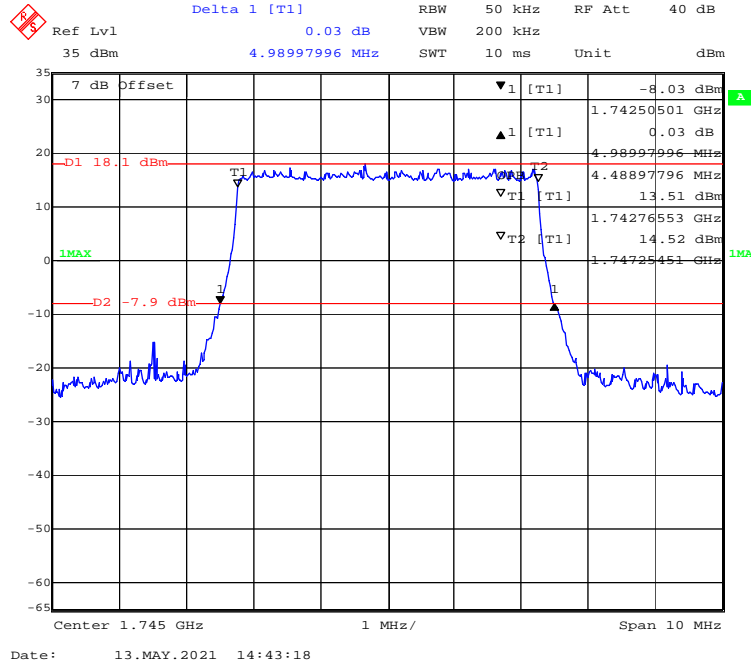
**16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



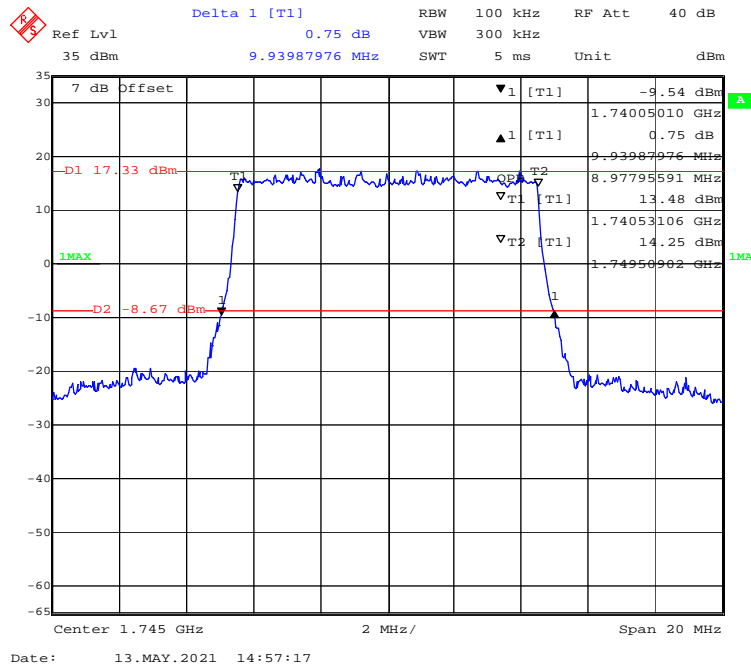
**16-QAM (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



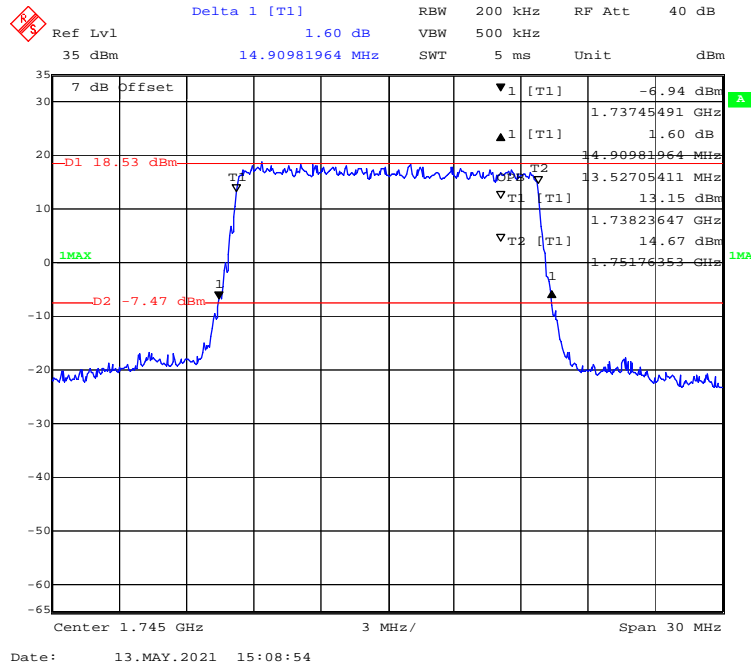
**16-QAM (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



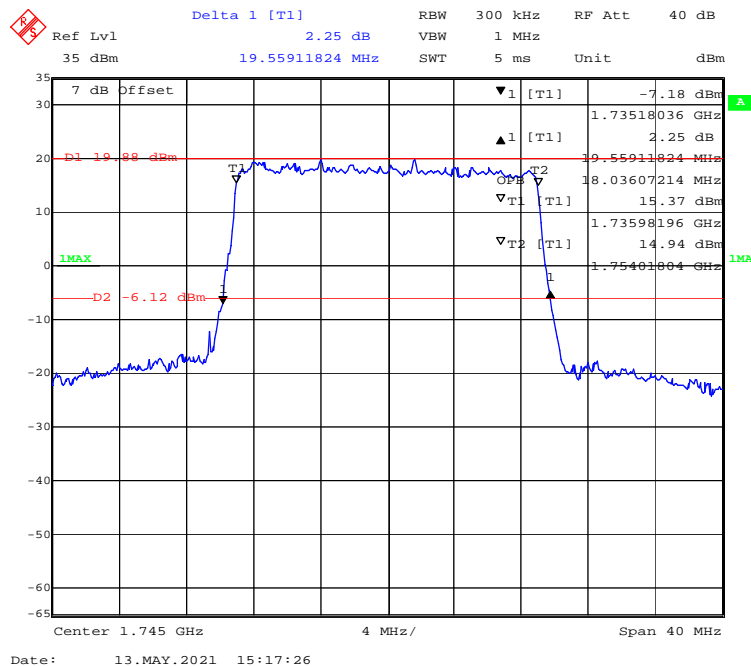
**16-QAM (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



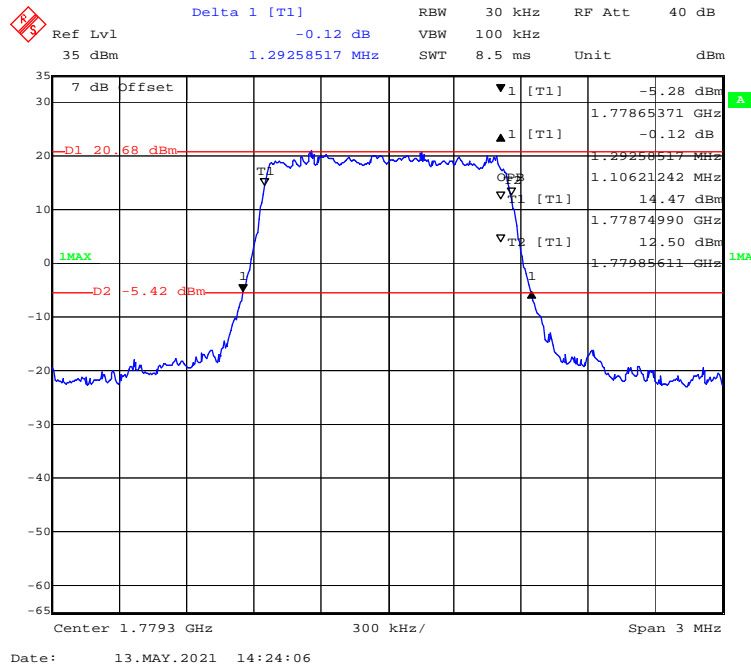
**16-QAM (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



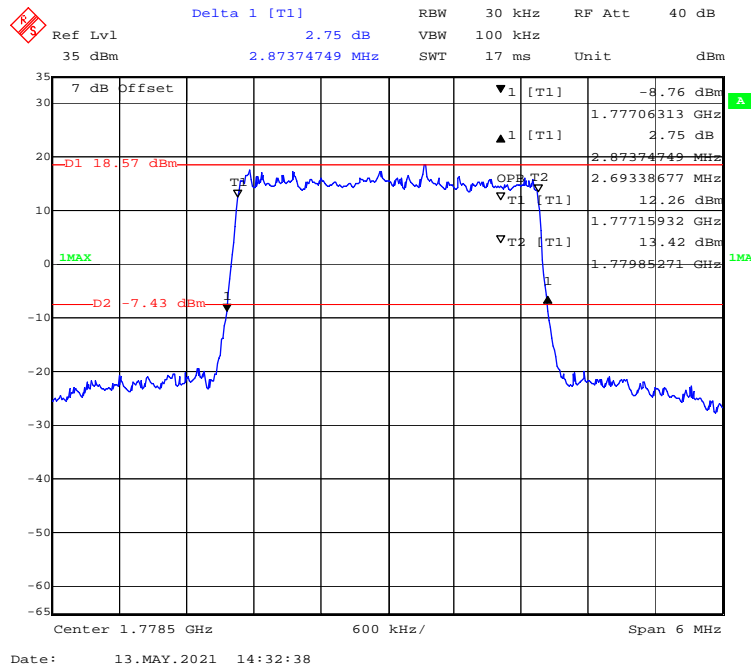
**16-QAM (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**



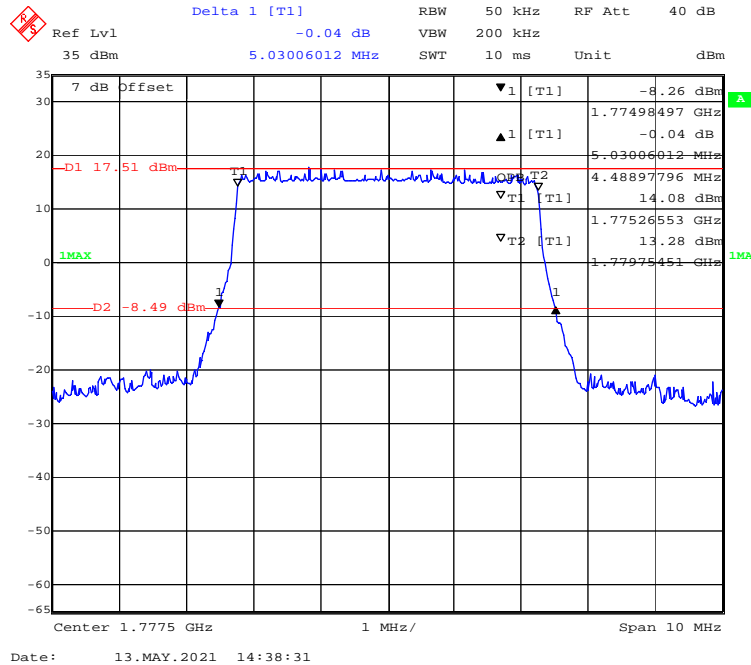
**QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



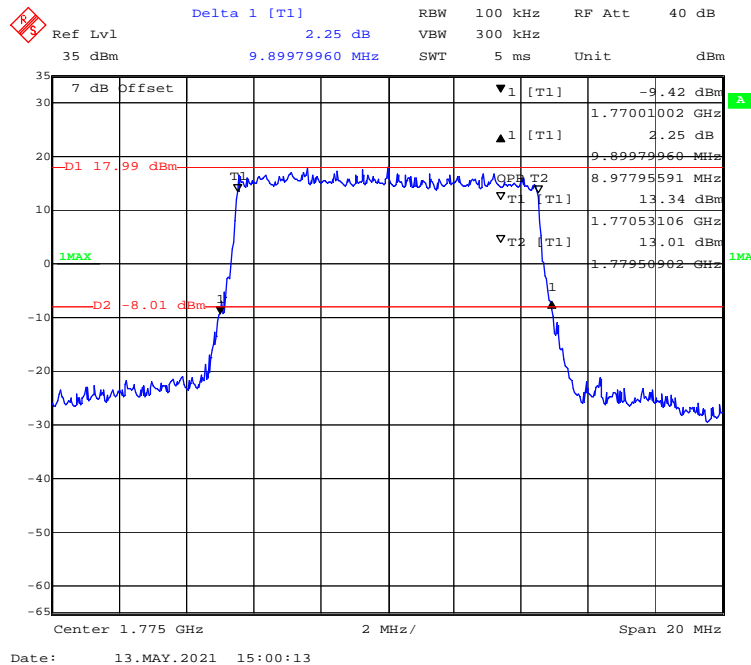
**QPSK (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



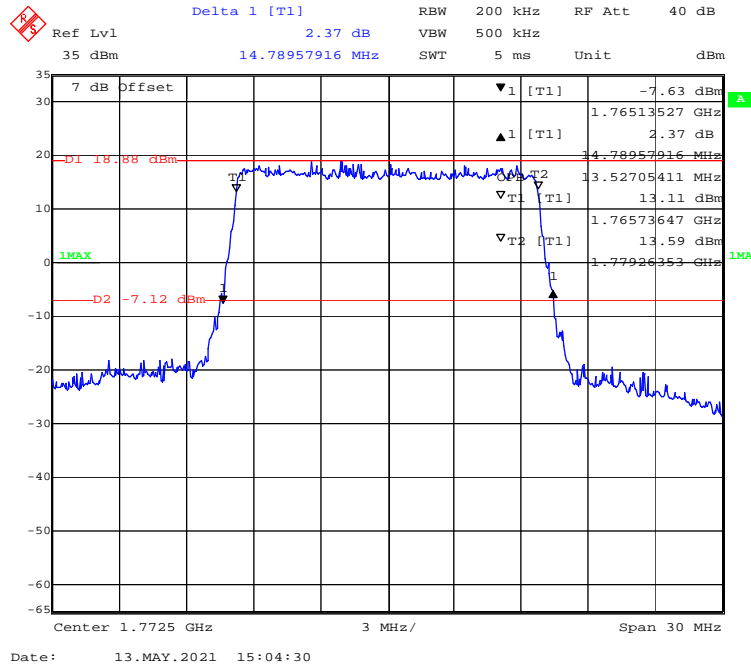
**QPSK (5MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



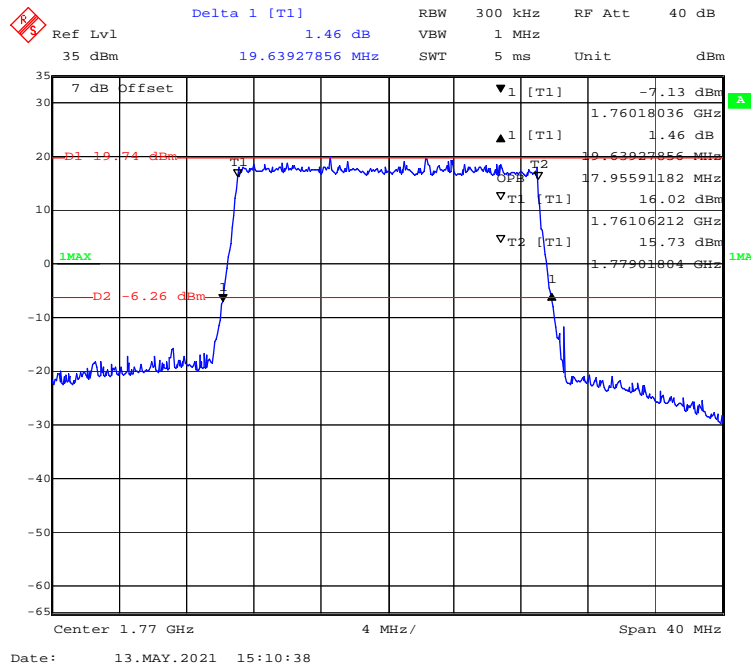
**QPSK (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



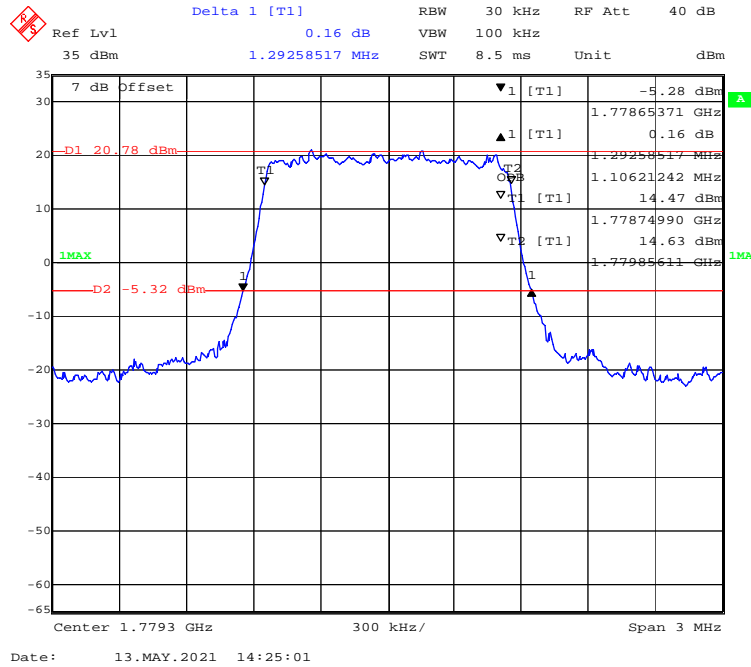
**QPSK (15 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



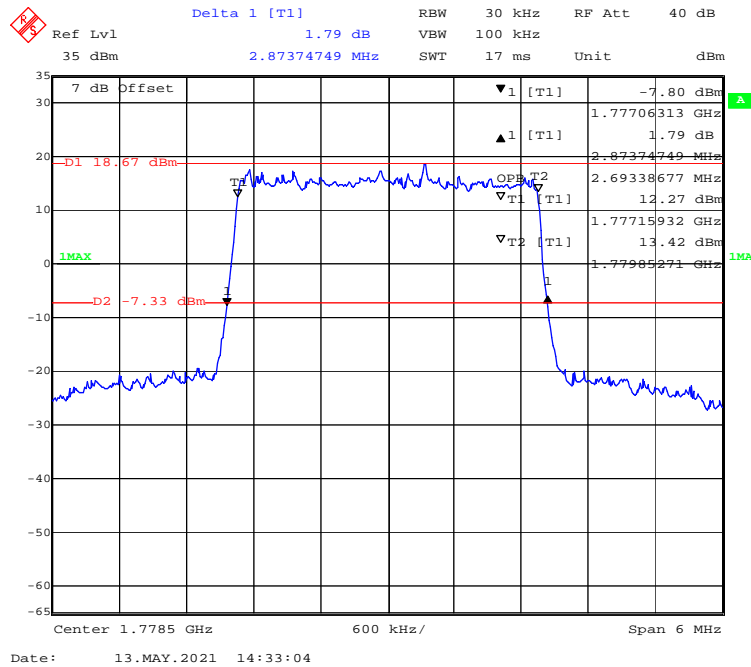
**QPSK (20 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



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

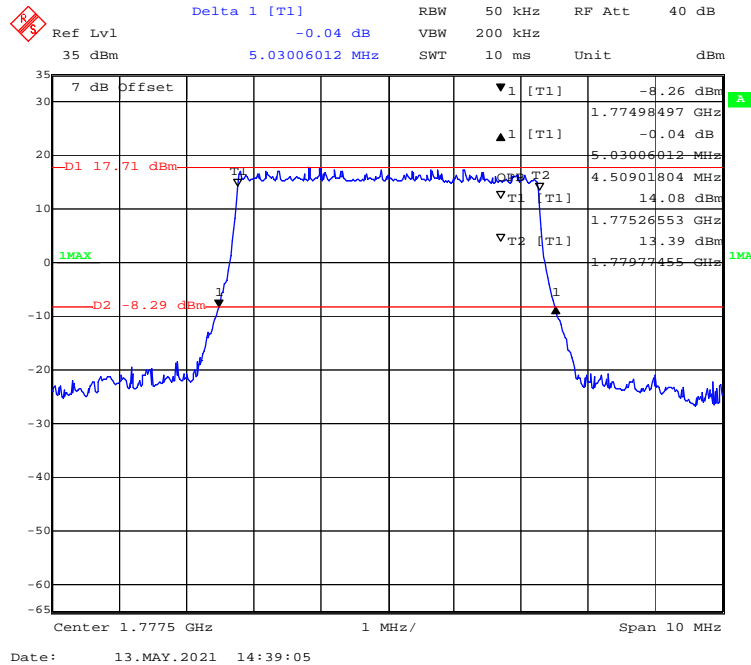


**16-QAM (3 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

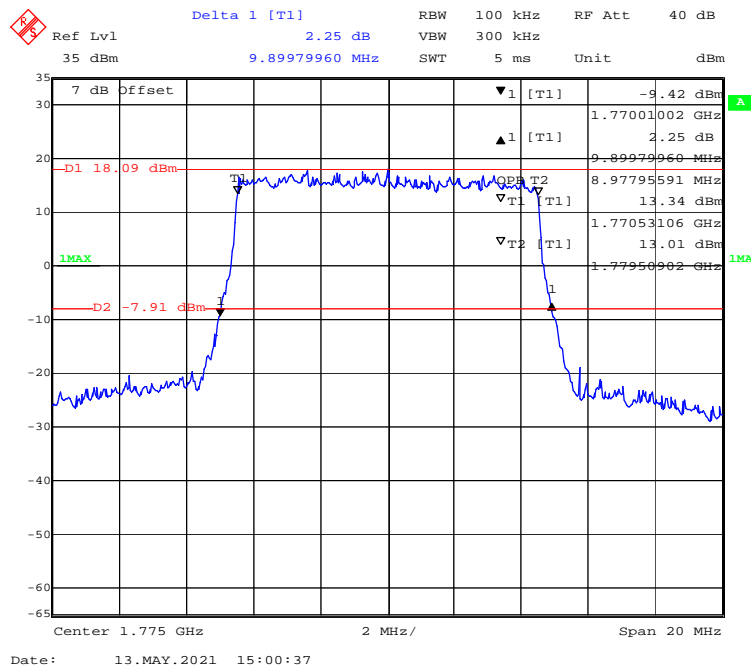




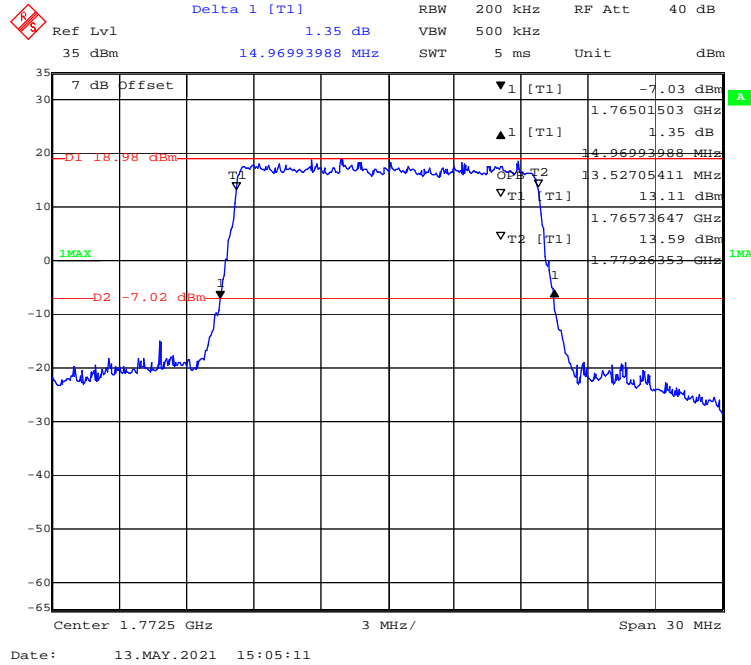
**16-QAM (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



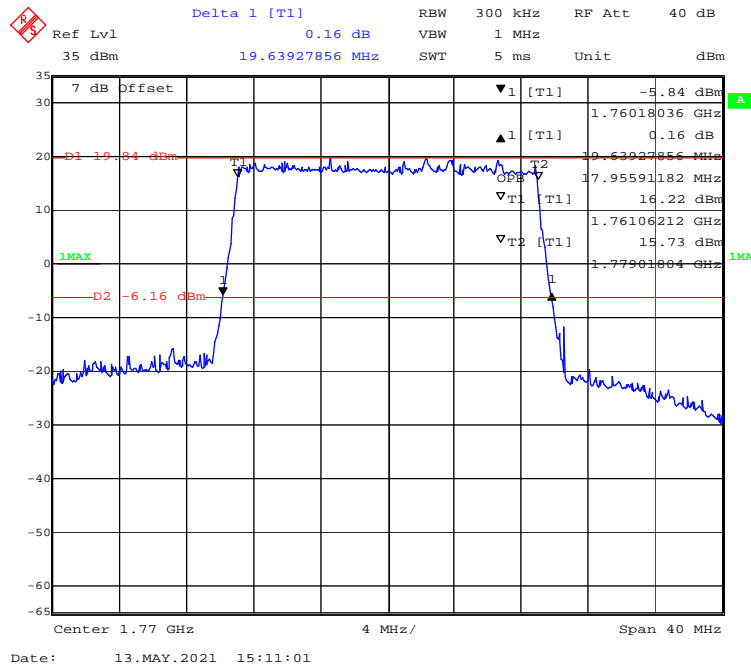
**16-QAM (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**



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



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



**FCC § 2.1051; § 22.917 (a); § 24.238 (a); §27.53 (a) (g) (h) (m); § 90.691 - SPURIOUS EMISSIONS AT ANTENNA TERMINALS**

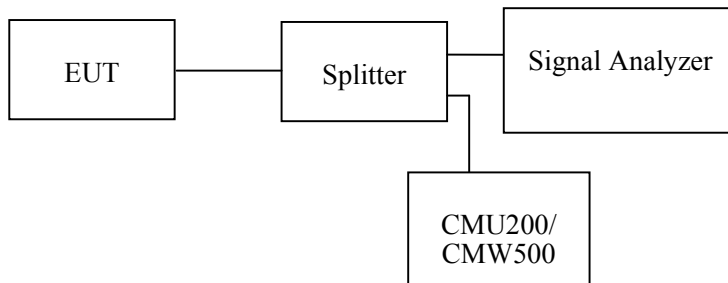
**Applicable Standards**

FCC §2.1051, §22.917(a), §24.238(a),§27.53 (c) (f) (h) (m) and § 90.691.

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

**Test Procedure**

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



**Test Data**

**Environmental Conditions**

<b>Temperature:</b>	23.5~24.9 °C
<b>Relative Humidity:</b>	50~52 %
<b>ATM Pressure:</b>	100.7~101.9 kPa

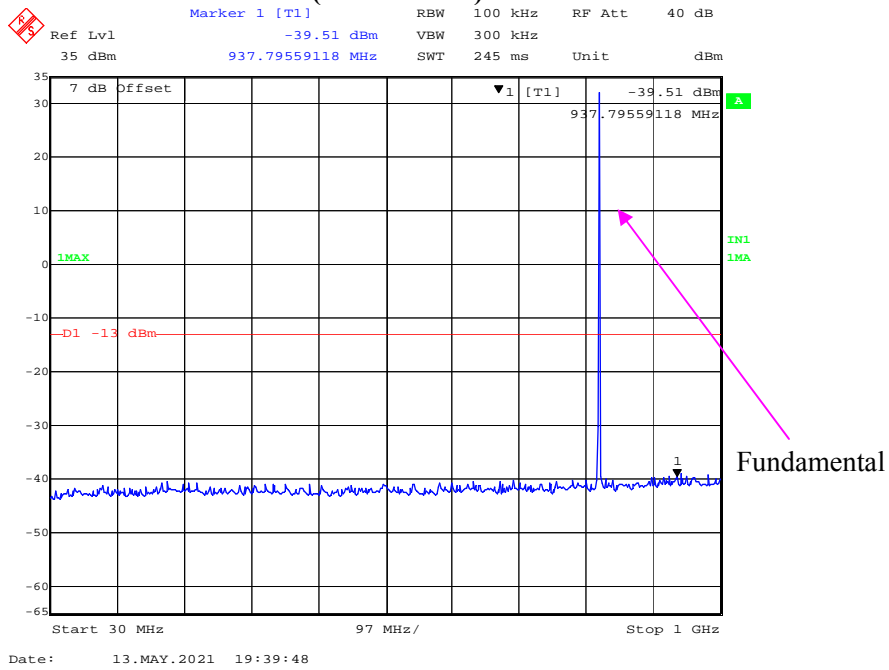
*The testing was performed by Miller Xie from 2021-04-29 to 2021-05-14.*

*EUT operation mode: Transmitting*

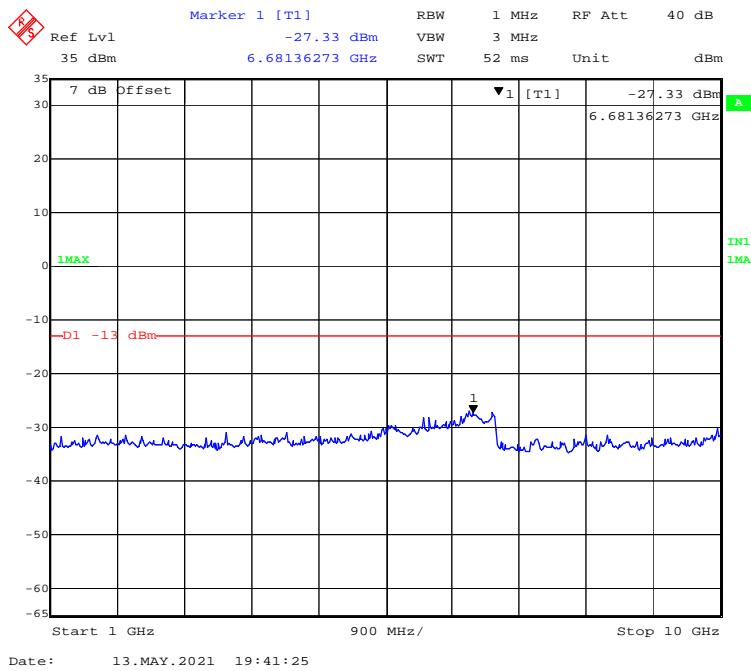
*Test Result: Compliant.*

**GSM 850 Band:**

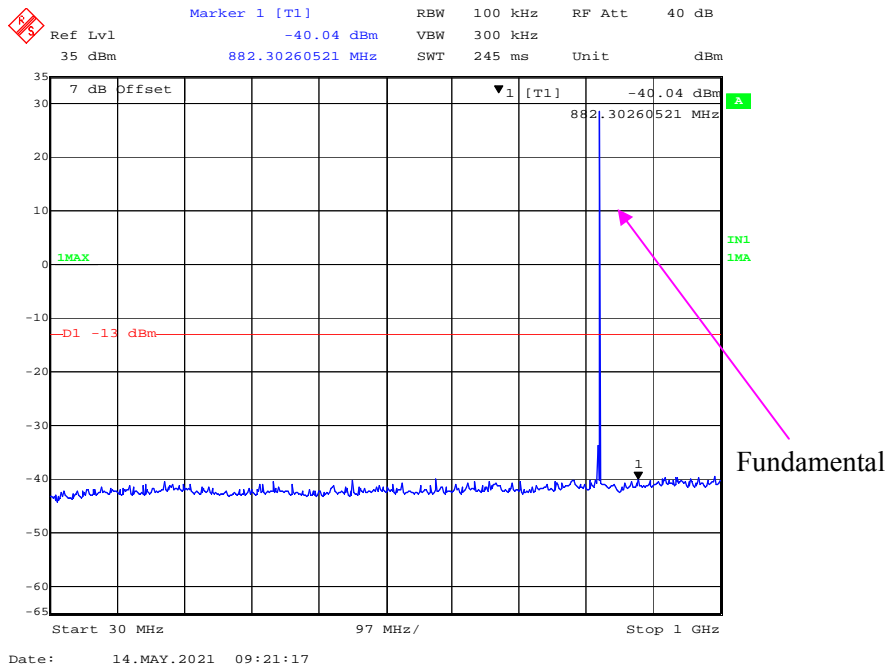
**30 MHz – 1GHz(GPRS Mode) Low Channel**



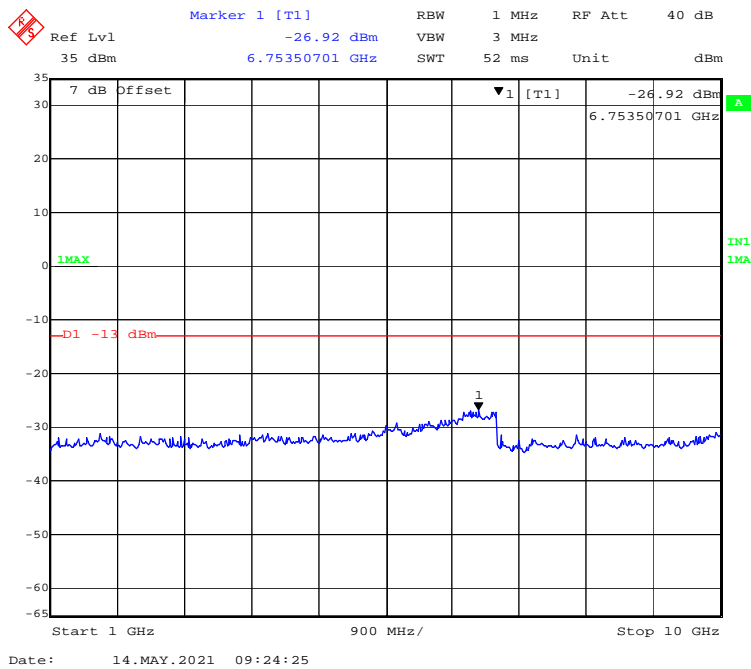
**1 GHz – 10 GHz (GPRS Mode) Low Channel**



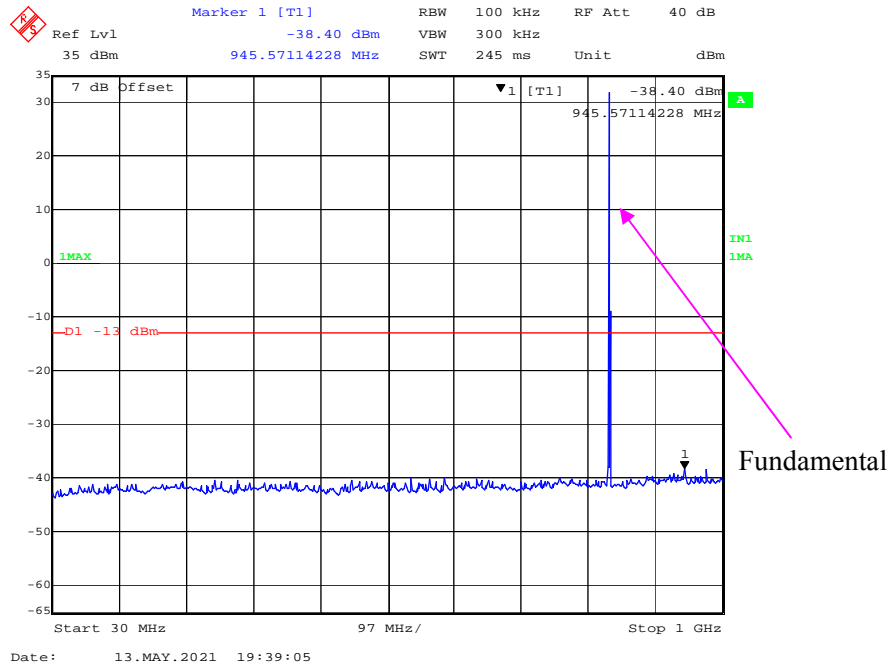
**30 MHz – 1GHz(EGPRS Mode) Low Channel**



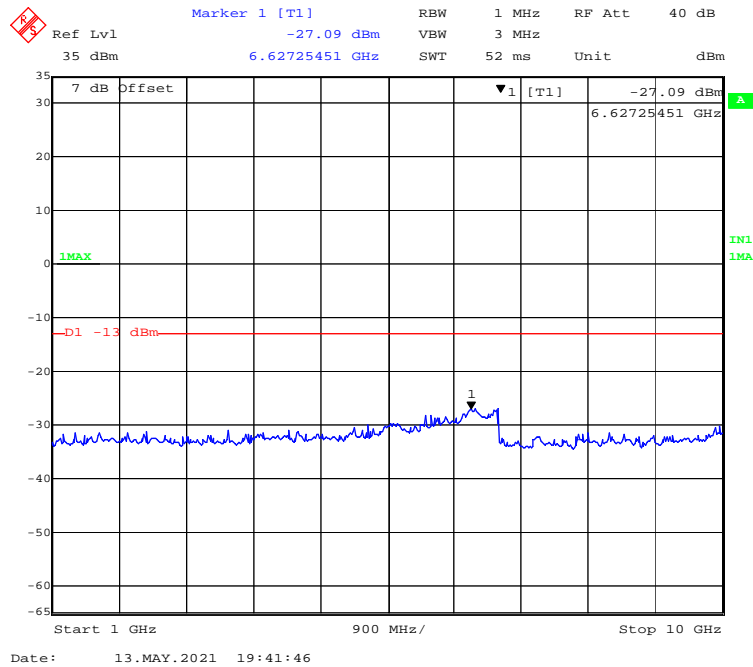
**1 GHz – 10 GHz (EGPRS Mode) Low Channel**



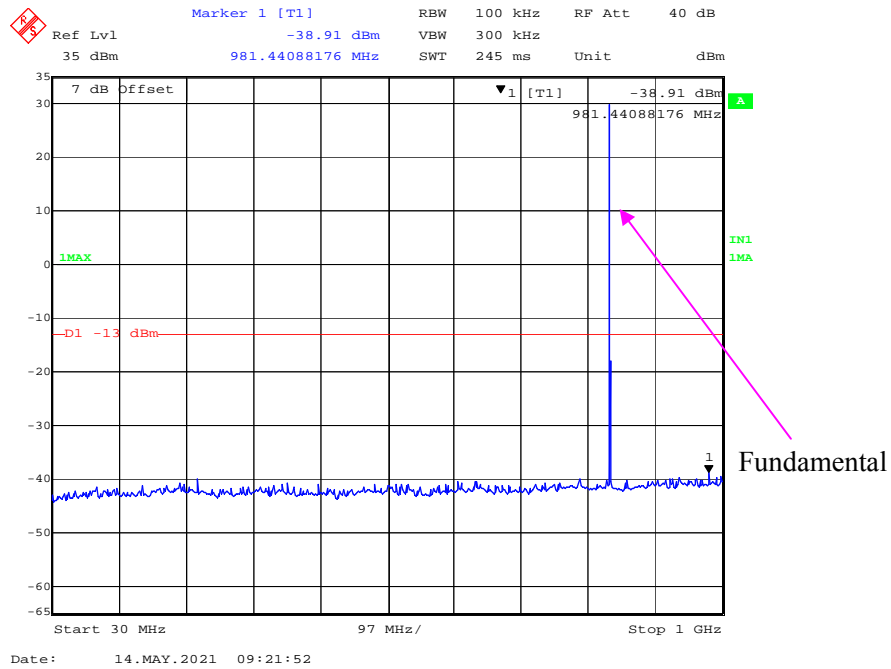
### 30 MHz – 1GHz(GPRS Mode) Middle Channel



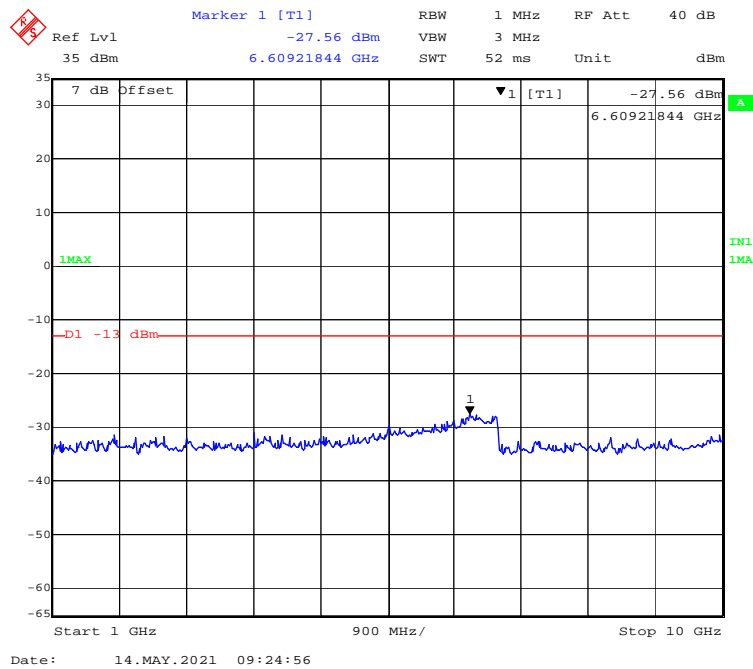
### 1 GHz – 10 GHz (GPRS Mode) Middle Channel



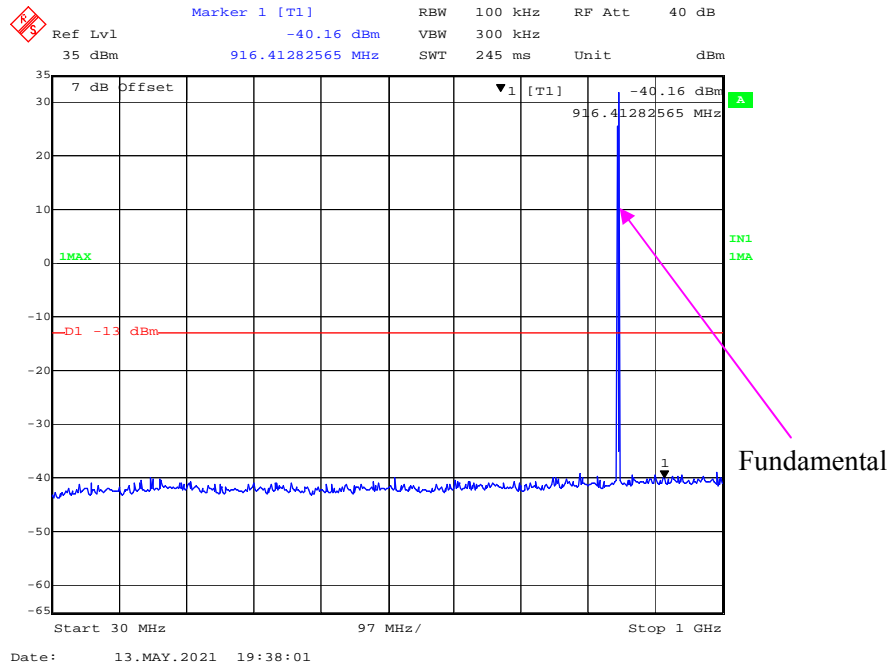
### 30 MHz – 1GHz(EGPRS Mode) Middle Channel



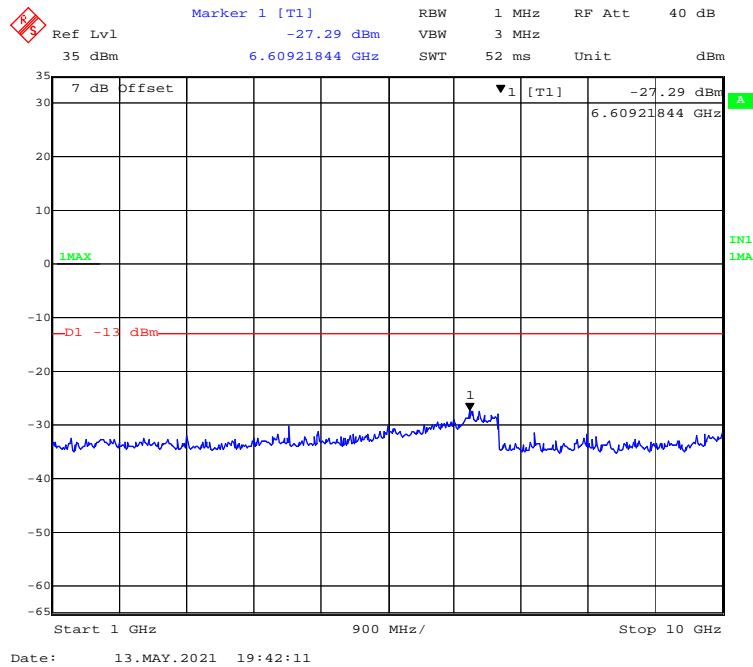
### 1 GHz – 10 GHz (EGPRS Mode) Middle Channel



### 30 MHz – 1GHz(GPRS Mode) High Channel



### 1 GHz – 10 GHz (GPRS Mode) High Channel

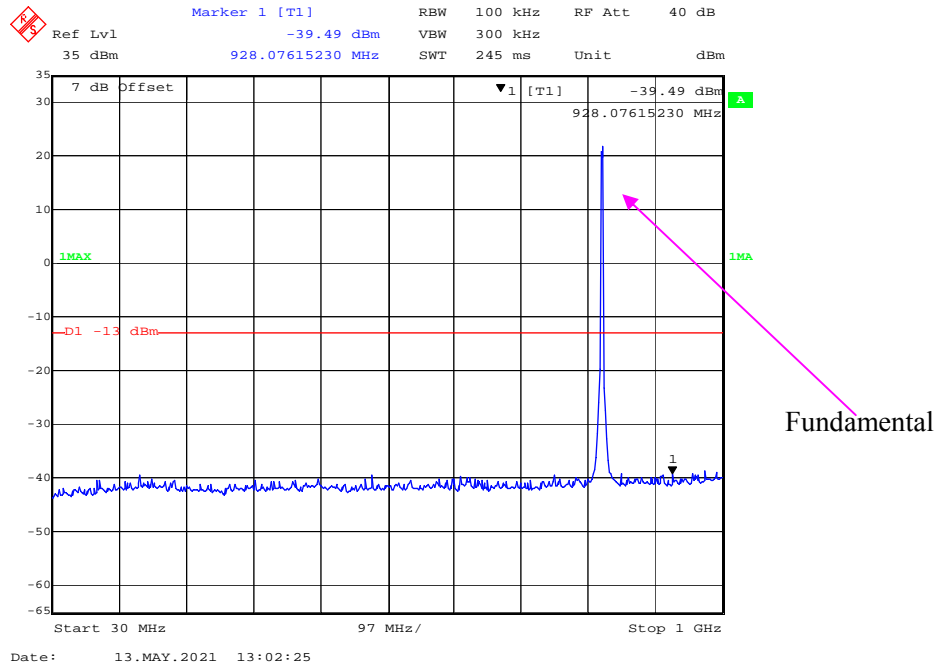




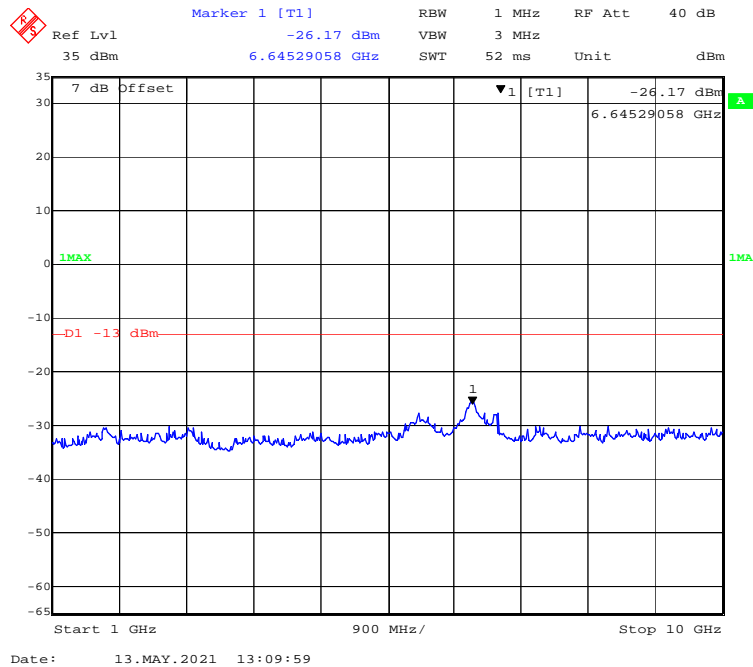


**WCDMA Band V:**

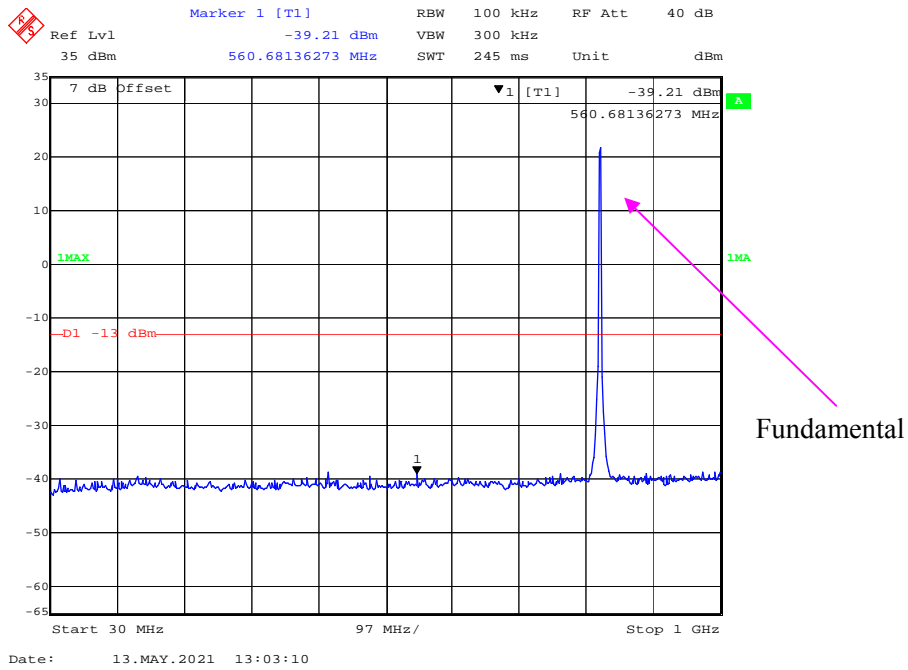
**30 MHz – 1GHz WCDMA (Rel 99) Mode Low Channel**



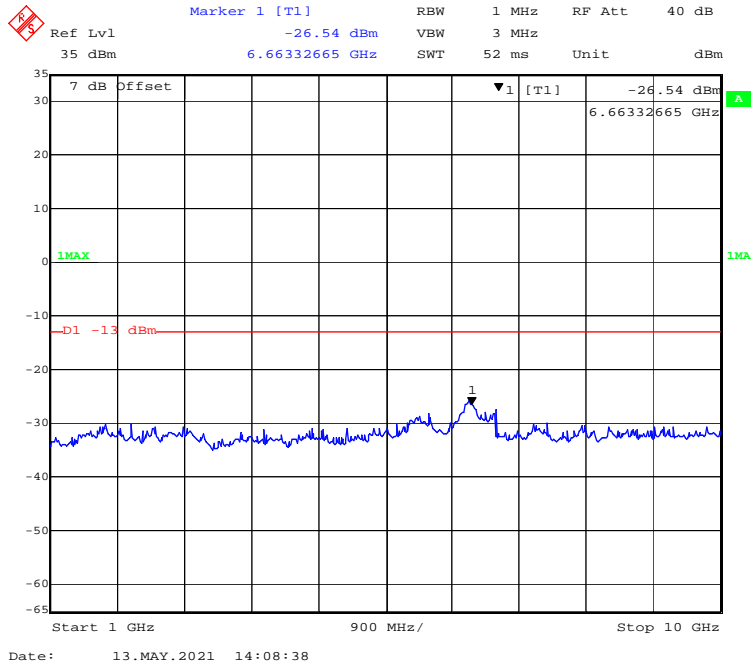
**1 GHz – 10 GHz WCDMA (Rel 99) Mode Low Channel**



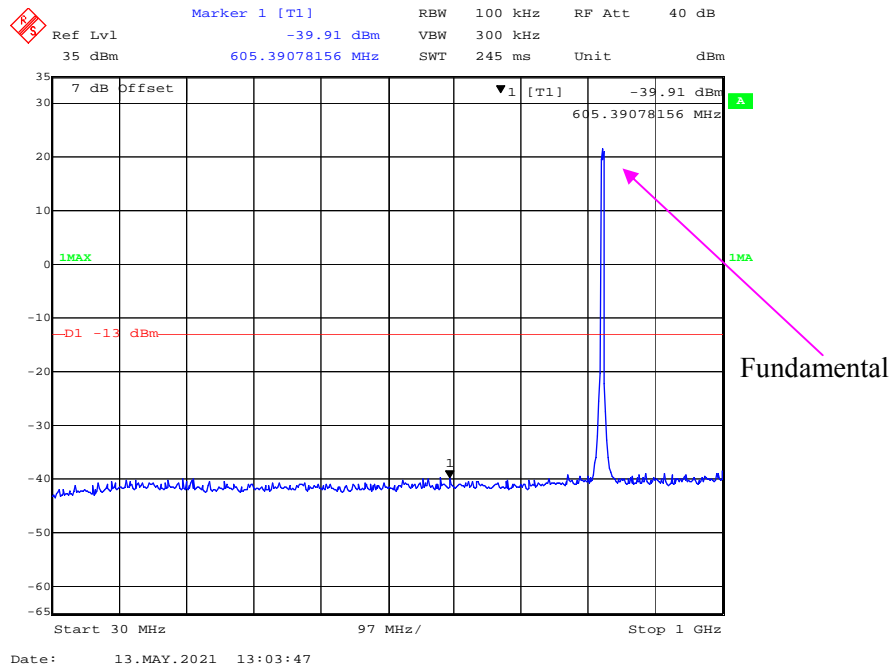
### 30 MHz – 1GHz WCDMA (HSDPA) Mode Low Channel



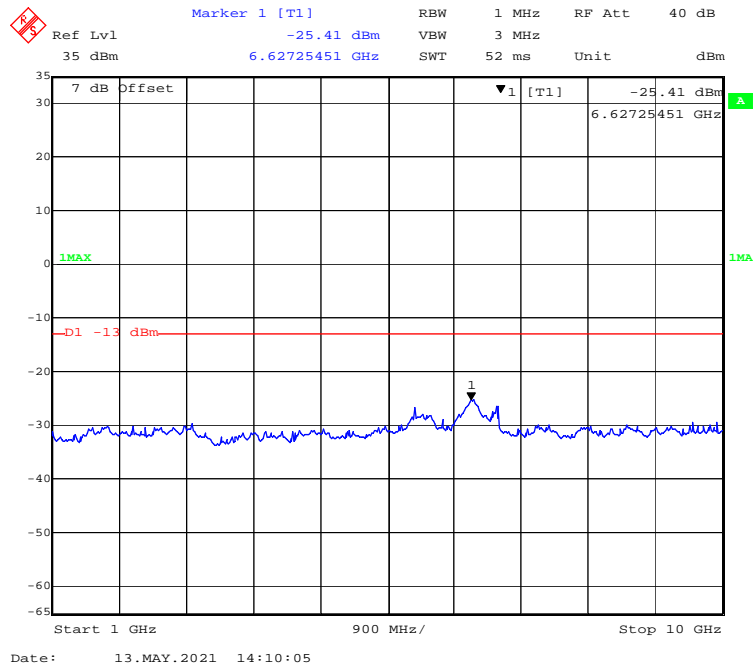
### 1 GHz – 10 GHz WCDMA (HSDPA) Mode Low Channel



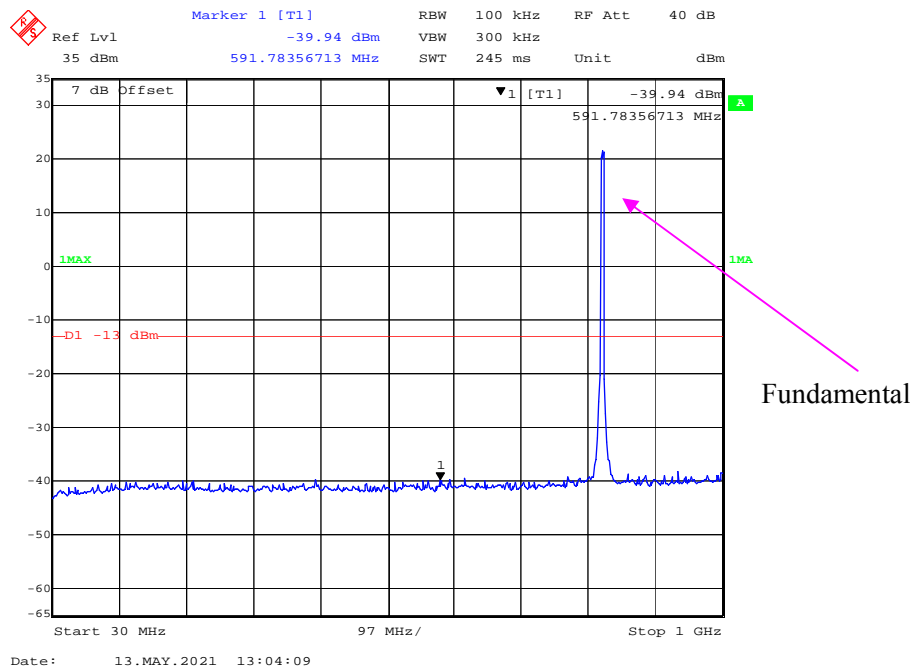
**30 MHz – 1GHz WCDMA (HSUPA) Mode Low Channel**



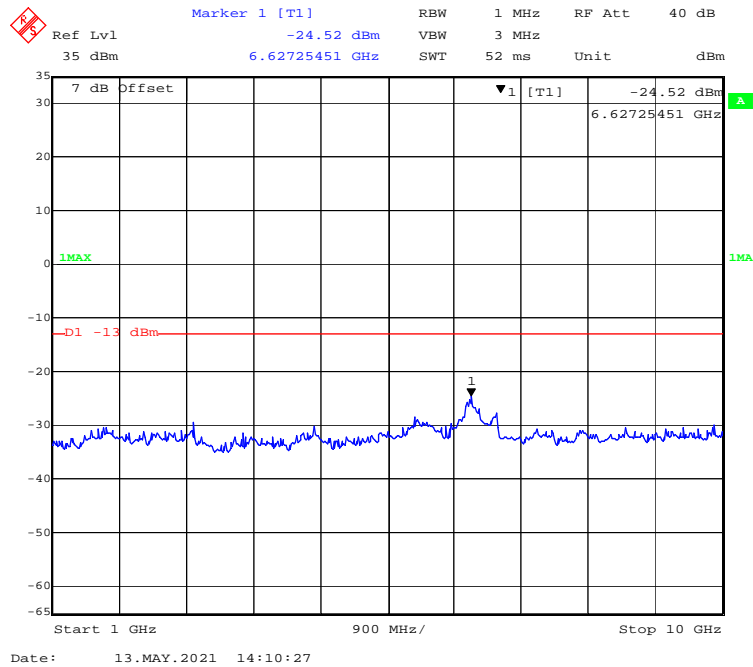
**1 GHz – 10 GHz WCDMA (HSUPA) Mode Low Channel**



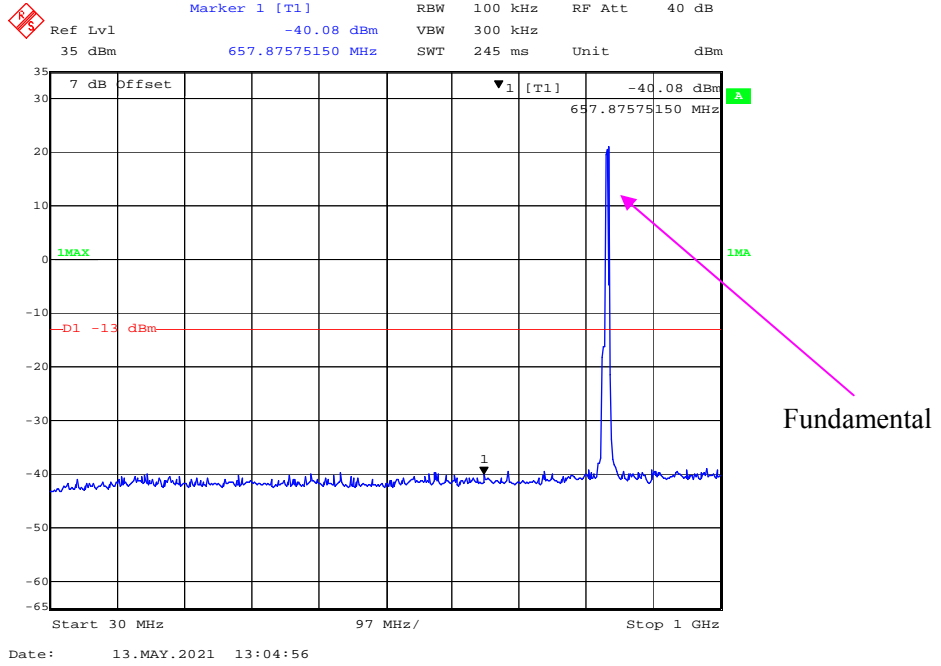
**30 MHz – 1GHz WCDMA (HSPA+) Mode Low Channel**



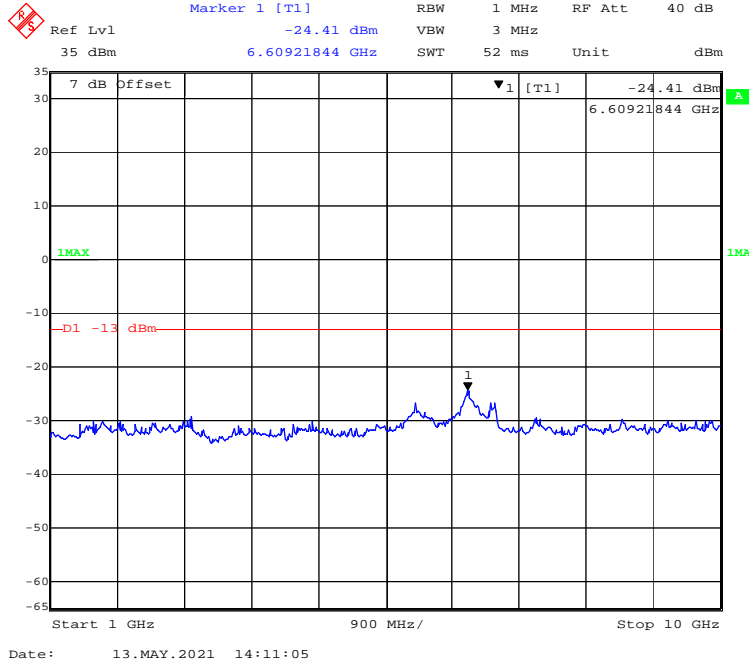
**1 GHz – 10 GHz WCDMA (HSPA+) Mode Low Channel**



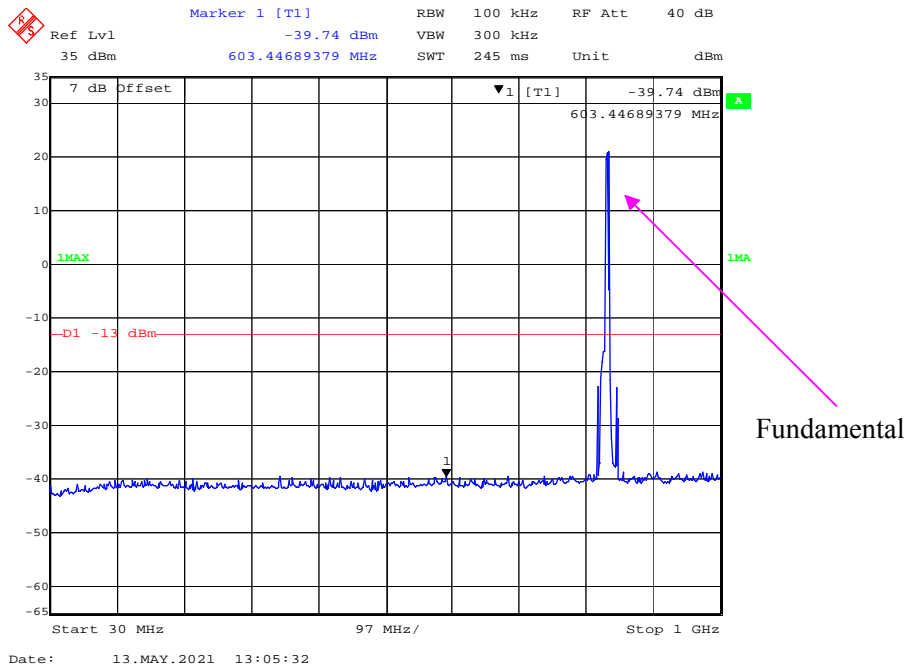
### 30 MHz – 1GHz WCDMA (Rel 99) Mode Middle Channel



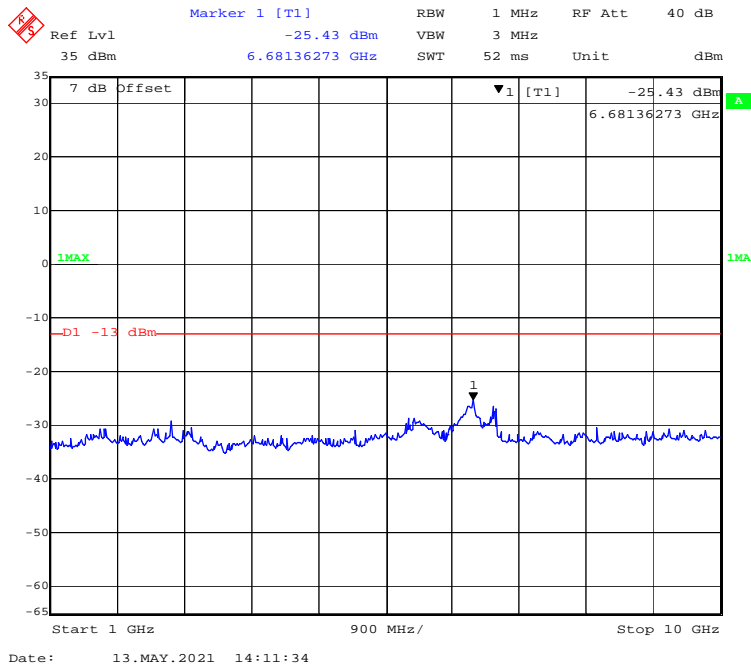
### 1 GHz – 10 GHz WCDMA (Rel 99) Mode Middle Channel



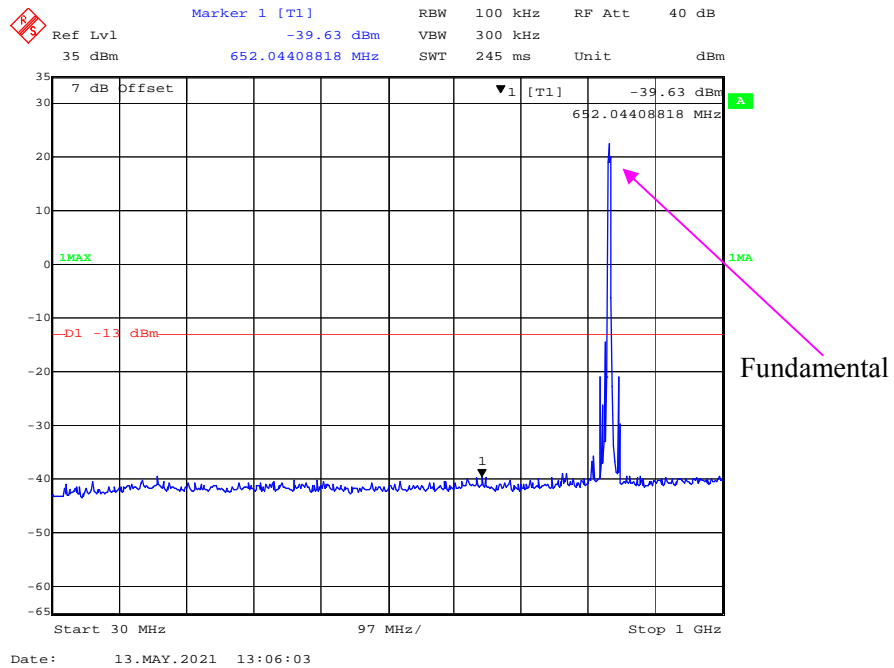
### 30 MHz – 1GHz WCDMA (HSDPA) Mode Middle Channel



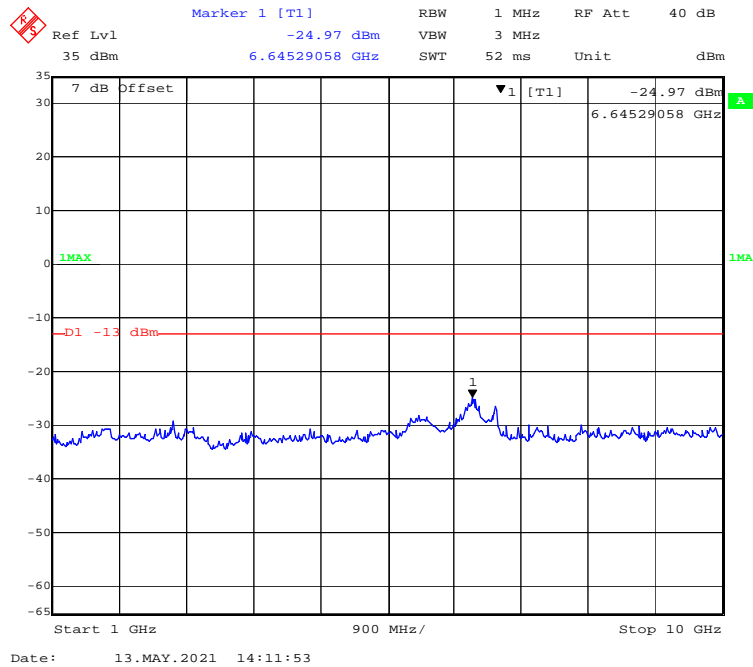
### 1 GHz – 10 GHz WCDMA (HSDPA) Mode Middle Channel



### 30 MHz – 1GHz WCDMA (HSUPA) Mode Middle Channel

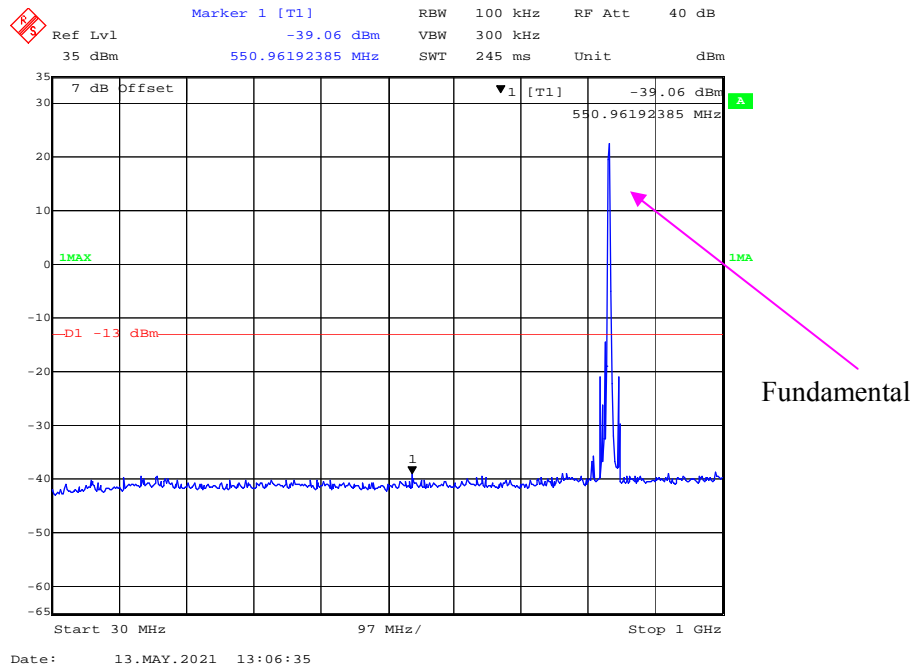


### 1 GHz – 10 GHz WCDMA (HSUPA) Mode Middle Channel

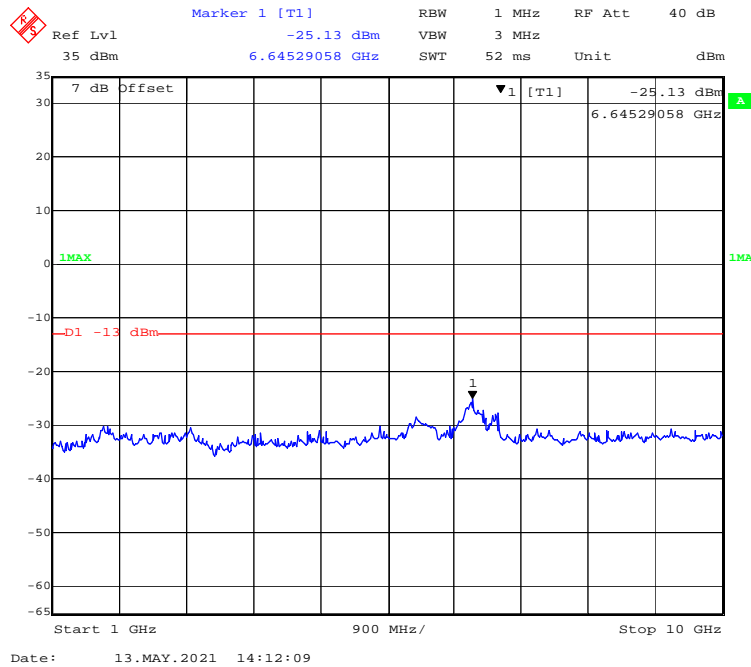





### 30 MHz – 1GHz WCDMA (HSPA+) Mode Middle Channel

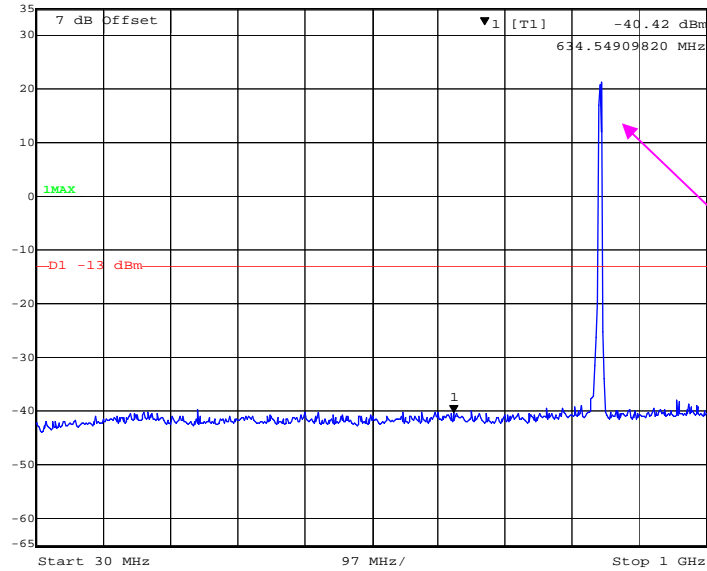


### 1 GHz – 10 GHz WCDMA (HSPA+) Mode Middle Channel



**30 MHz – 1GHz WCDMA (Rel 99) Mode High Channel**


	Marker 1 [T1]	RBW	100 kHz	RF Att	40 dB
Ref Lvl	-40.42 dBm	VBW	300 kHz		
35 dBm	634.54909820 MHz	SWT	245 ms	Unit	dBm

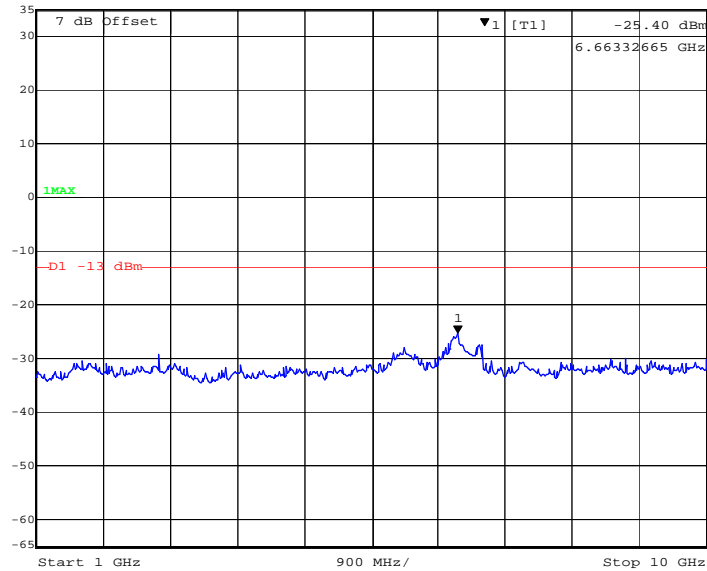


Fundamental

Date: 13.MAY.2021 13:07:32

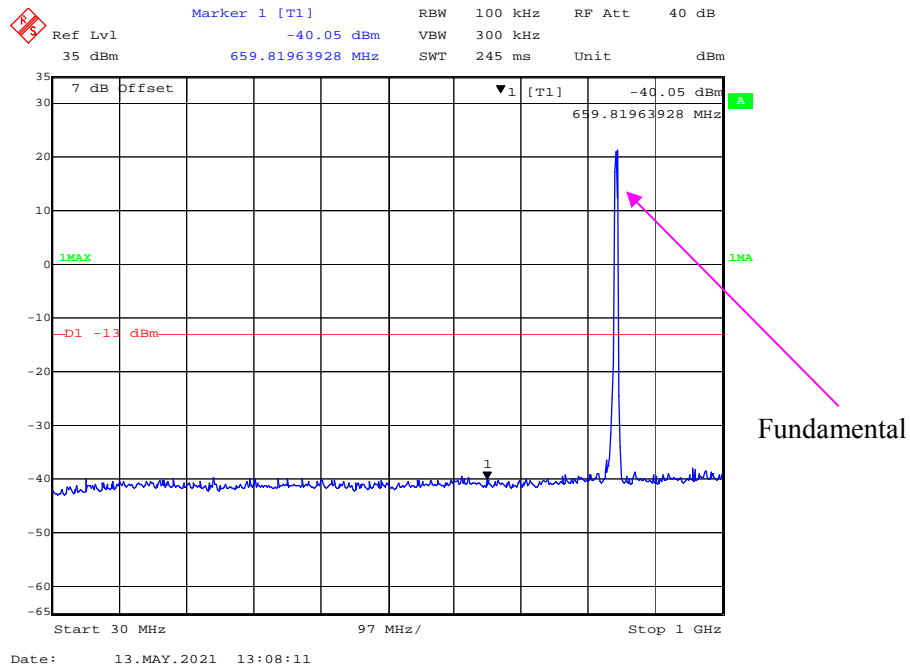
**1 GHz – 10 GHz WCDMA (Rel 99) Mode High Channel**

	Marker 1 [T1]	RBW	1 MHz	RF Att	40 dB
Ref Lvl	-25.40 dBm	VBW	3 MHz		
35 dBm	6.66332665 GHz	SWT	52 ms	Unit	dBm

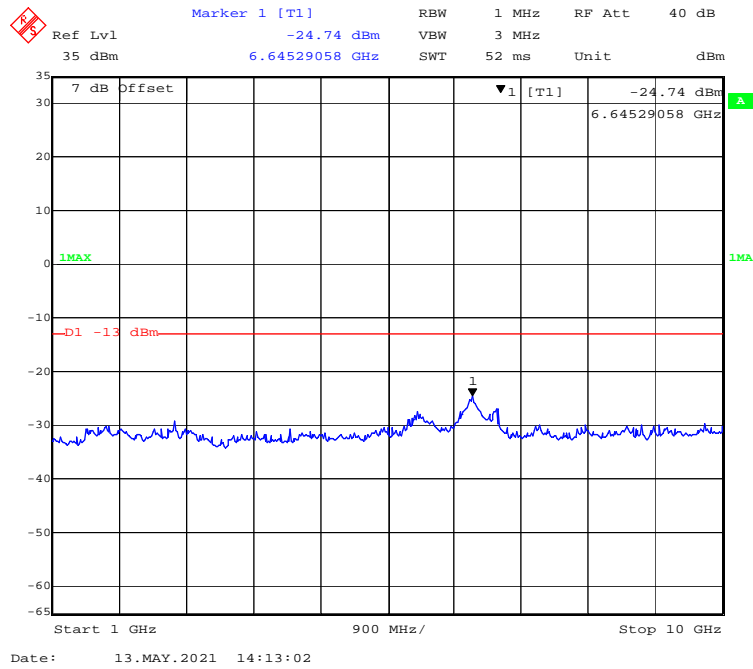


Date: 13.MAY.2021 14:12:36

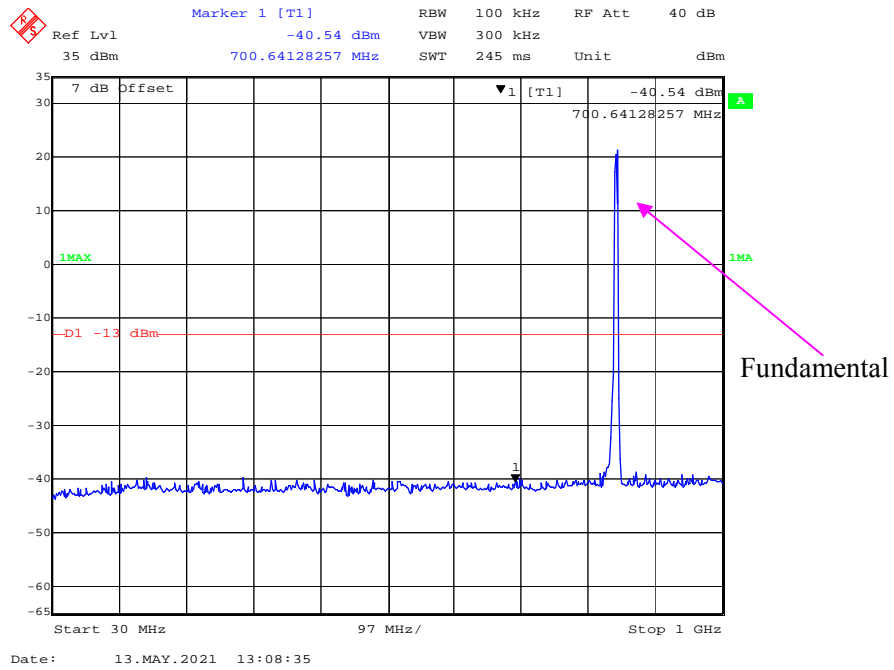
### 30 MHz – 1GHz WCDMA (HSDPA) Mode High Channel



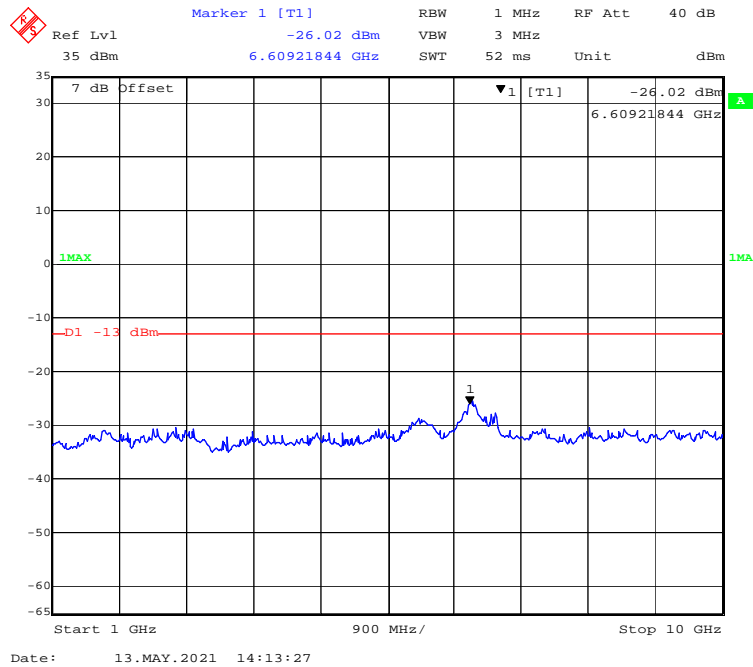
### 1 GHz – 10 GHz WCDMA (HSDPA) Mode High Channel



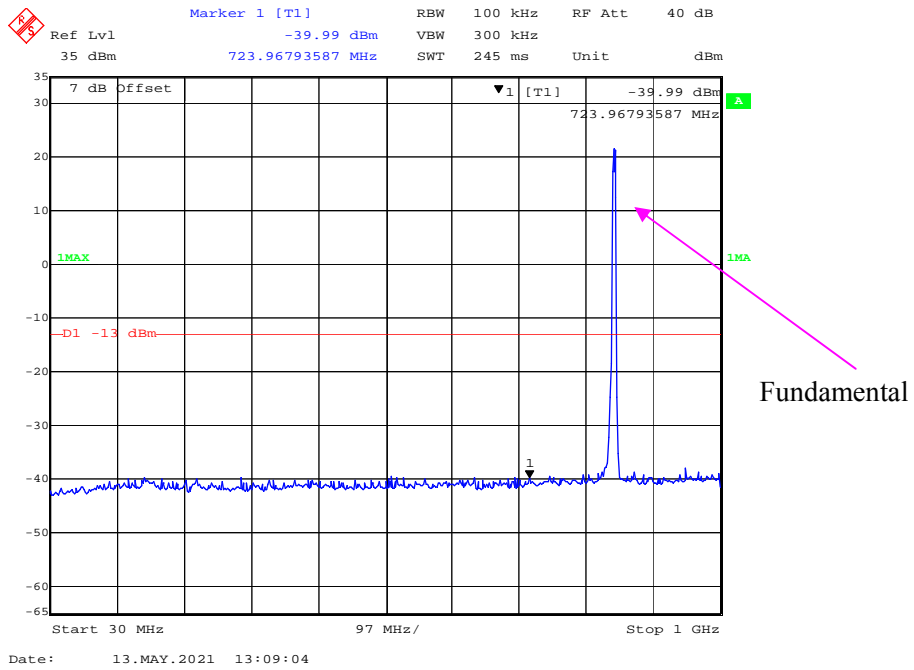
### 30 MHz – 1GHz WCDMA (HSUPA) Mode High Channel



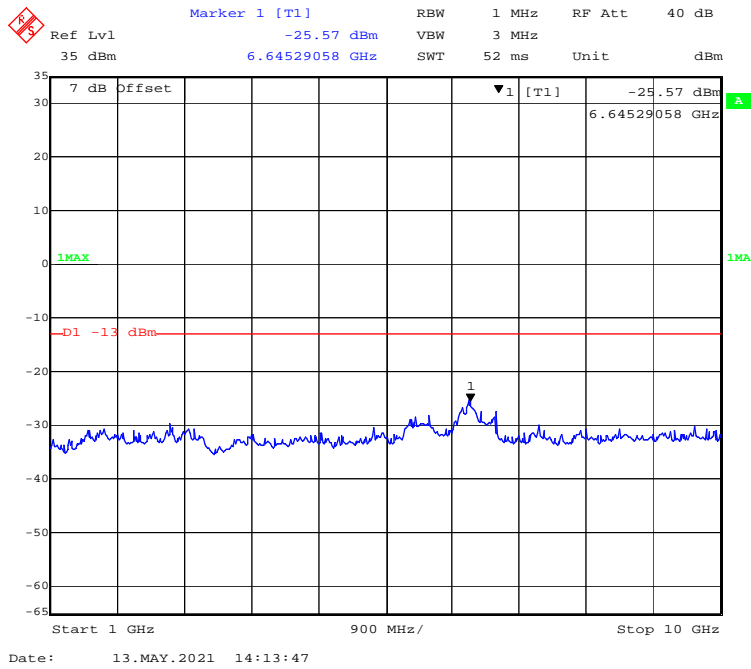
### 1 GHz – 10 GHz WCDMA (HSUPA) Mode High Channel



### 30 MHz – 1GHz WCDMA (HSPA+) Mode High Channel

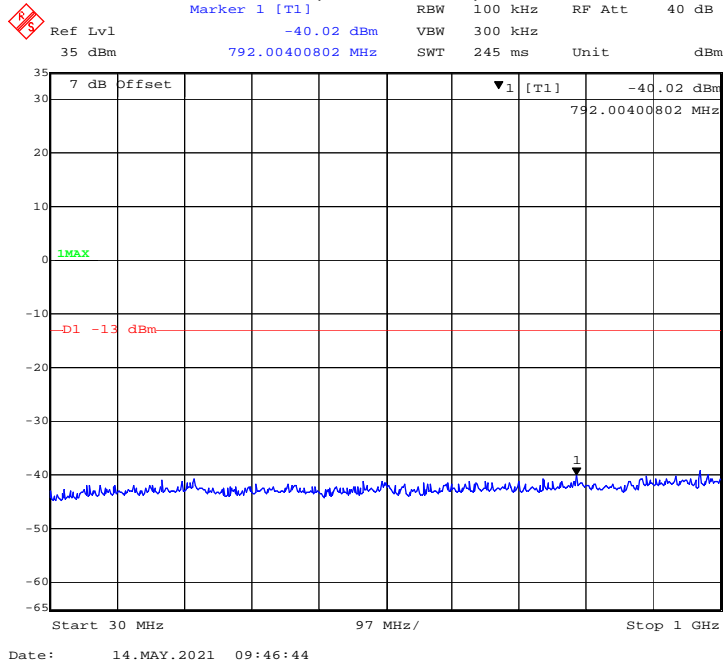


### 1 GHz – 10 GHz WCDMA (HSPA+) Mode High Channel

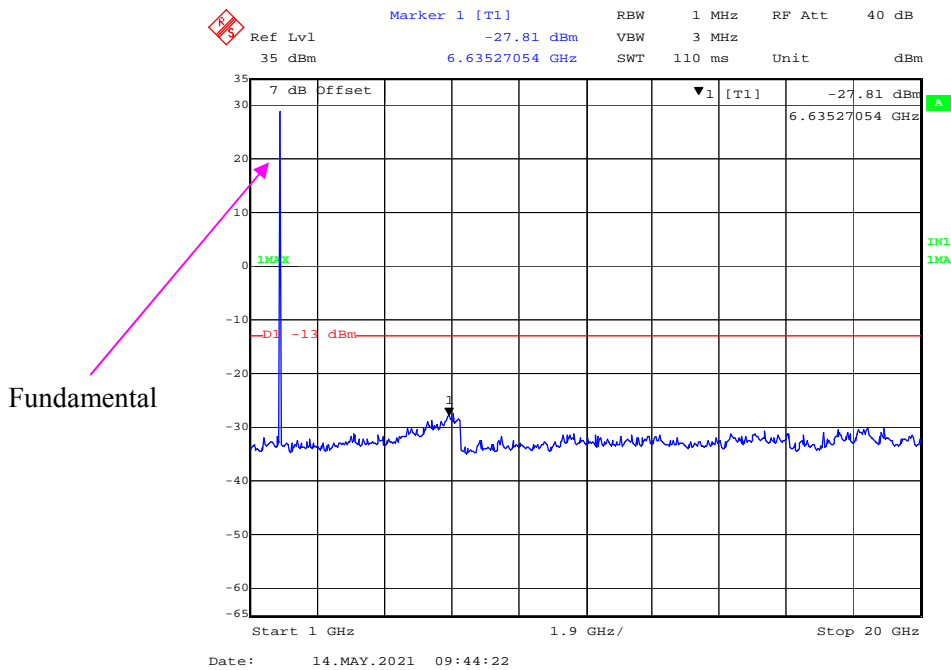


**PCS 1900 Band:**

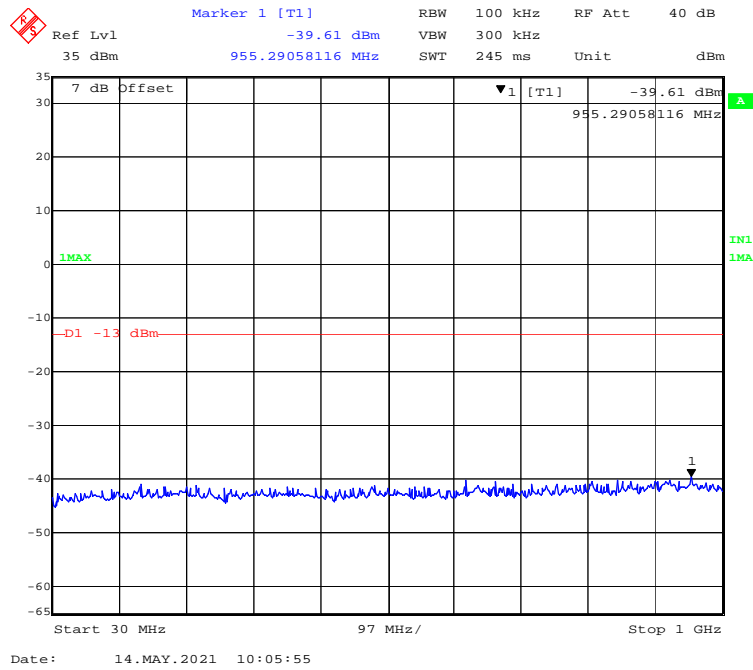
**30 MHz – 1GHz(GPRS Mode) Low Channel**



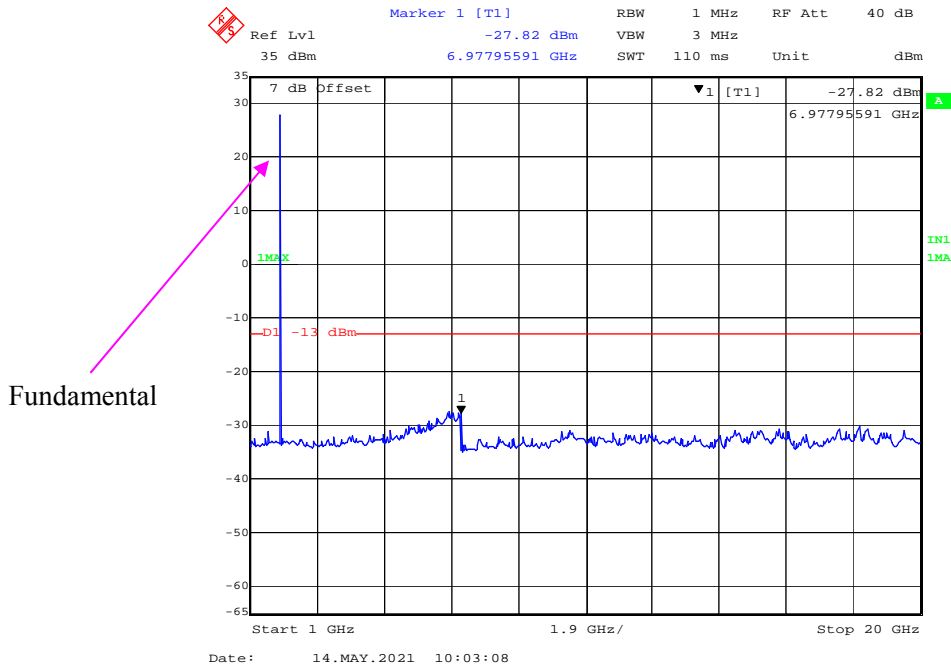
**1 GHz – 20 GHz (GPRS Mode) Low Channel**



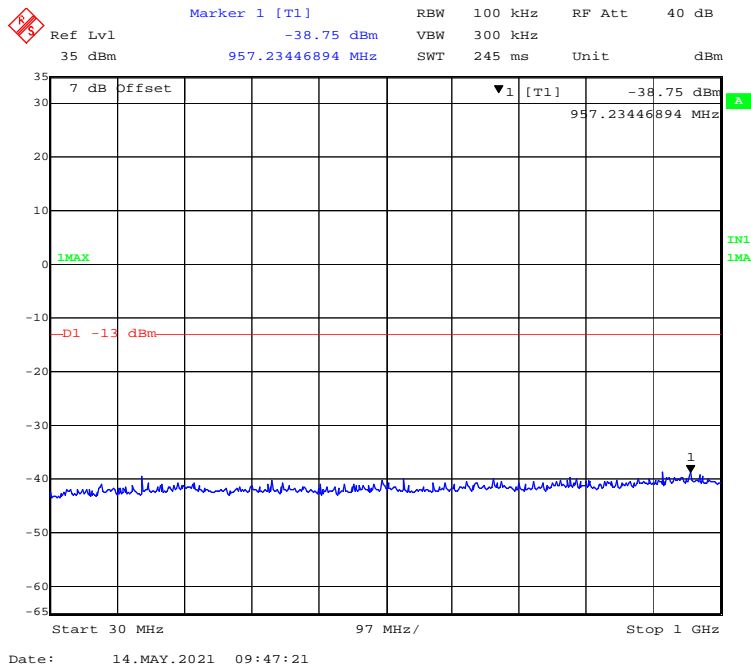
### 30 MHz – 1GHz(EGPRS Mode) Low Channel



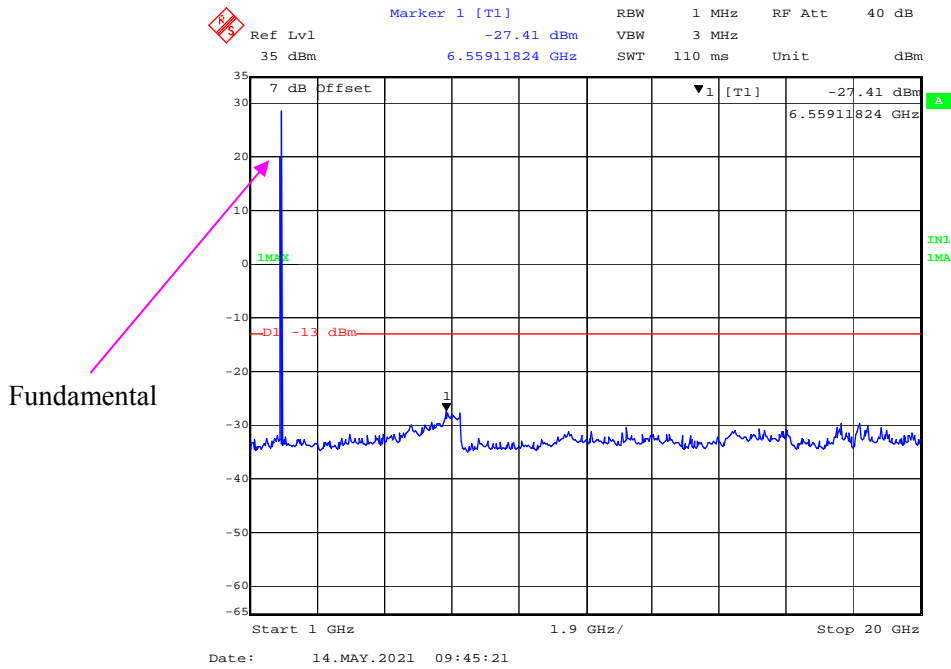
### 1 GHz – 20 GHz (EGPRS Mode) Low Channel



### 30 MHz – 1GHz(GPRS Mode) Middle Channel

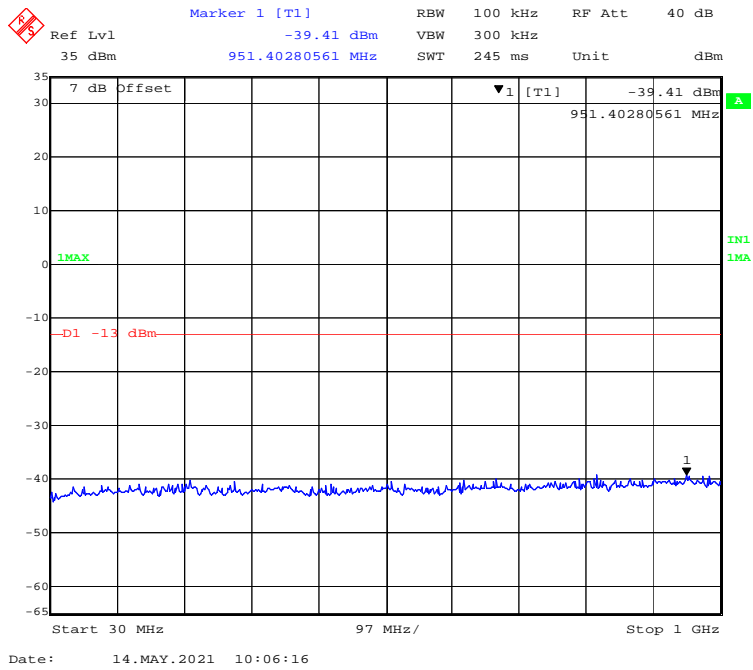


### 1 GHz – 20 GHz (GPRS Mode) Middle Channel

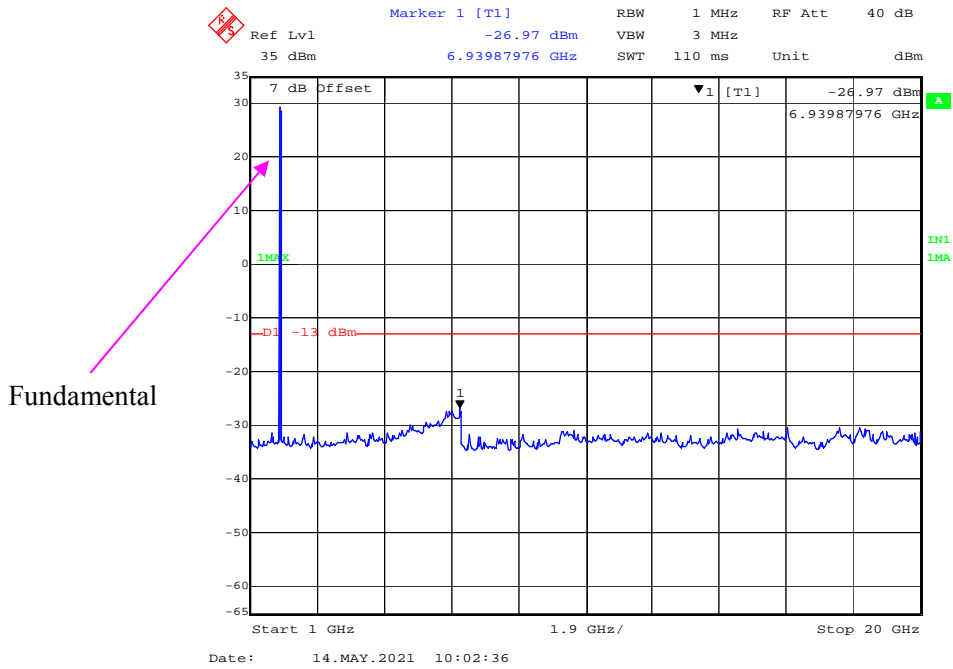




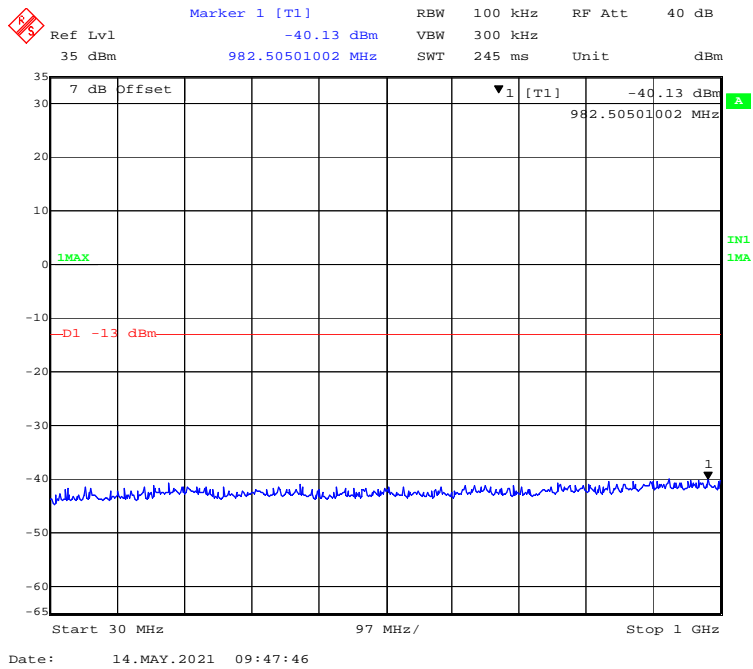
### 30 MHz – 1GHz(EGPRS Mode) Middle Channel



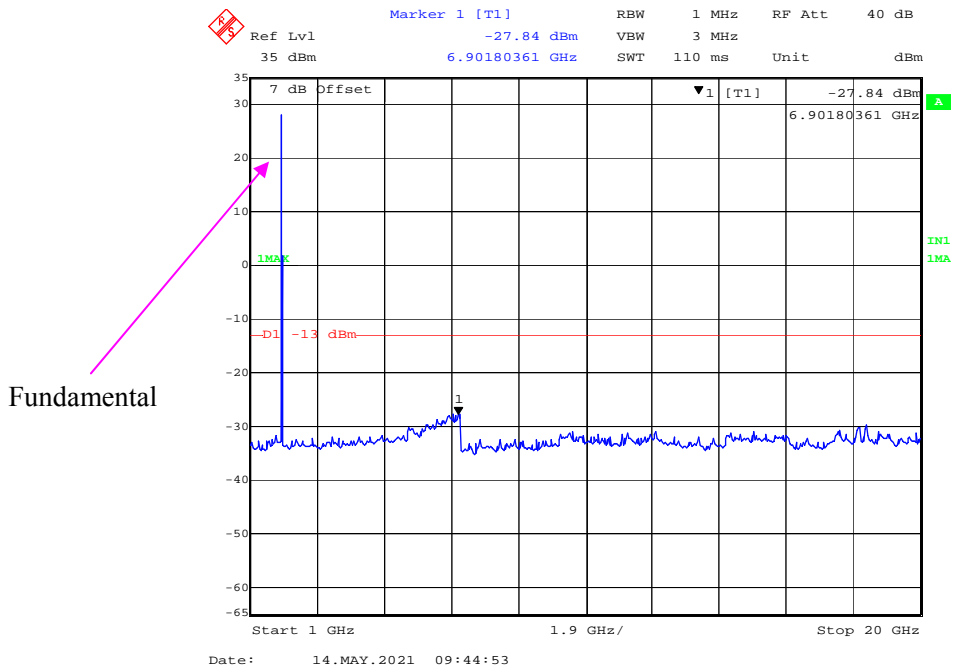
### 1 GHz – 20 GHz (EGPRS Mode) Middle Channel



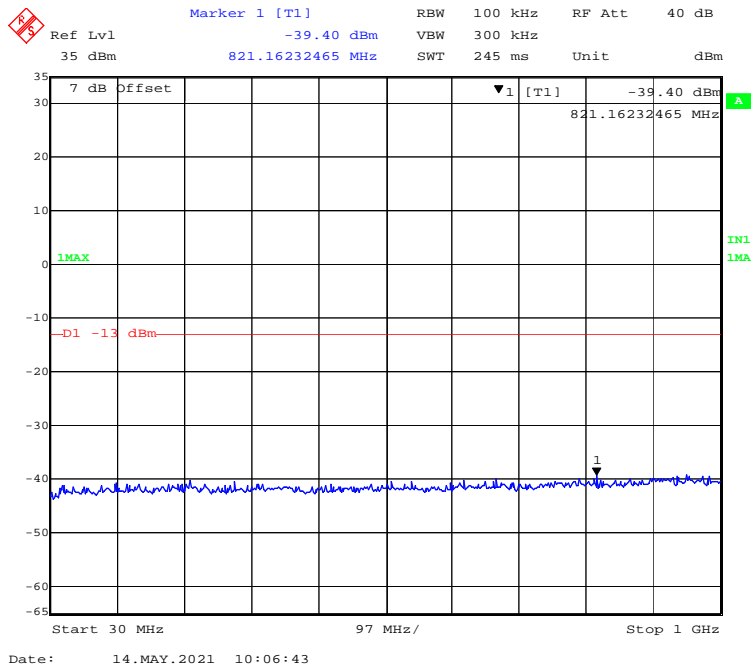
### 30 MHz – 1GHz(GPRS Mode) High Channel



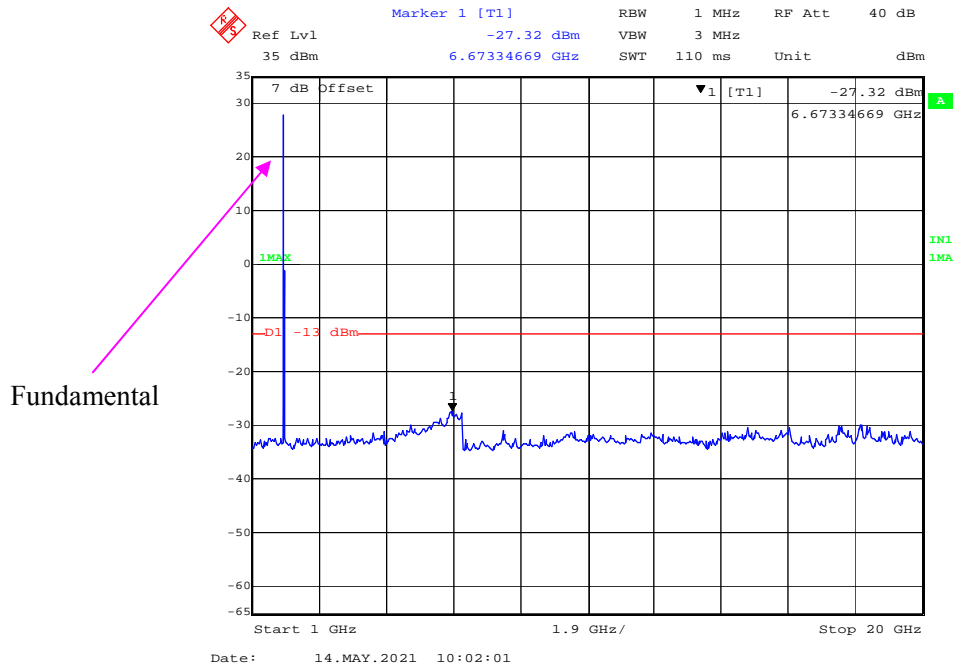
### 1 GHz – 20 GHz (GPRS Mode) High Channel



### 30 MHz – 1GHz(EGPRS Mode) High Channel

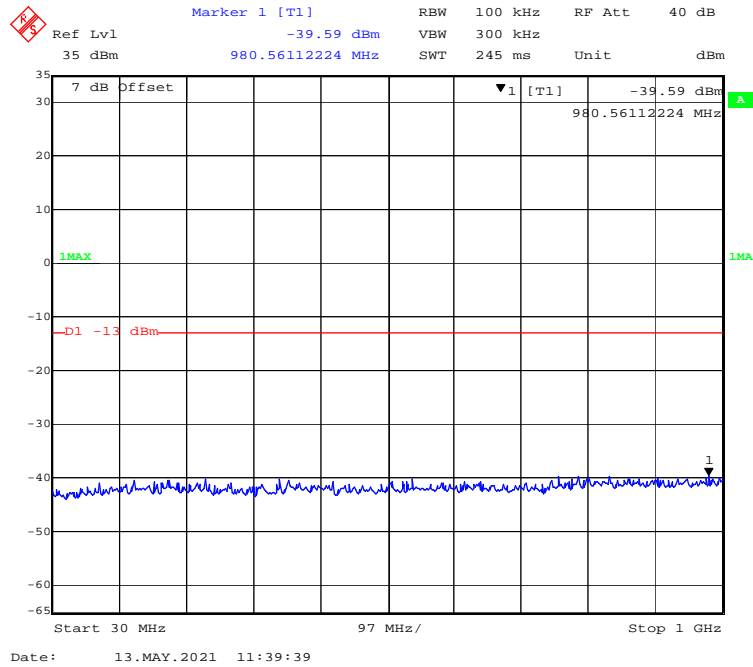


### 1 GHz – 20 GHz (EGPRS Mode) High Channel

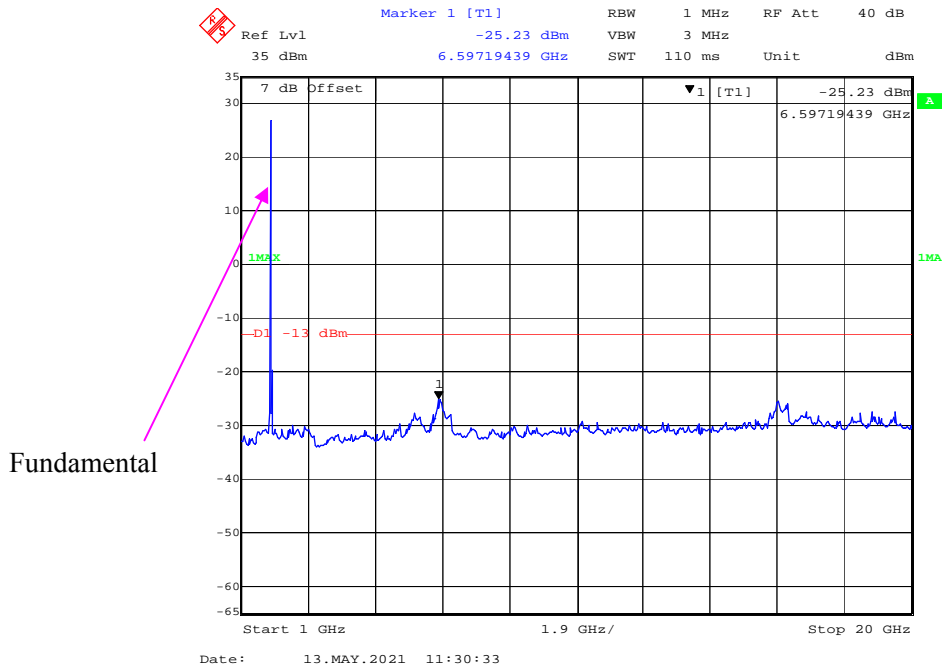


**WCDMA Band II:**

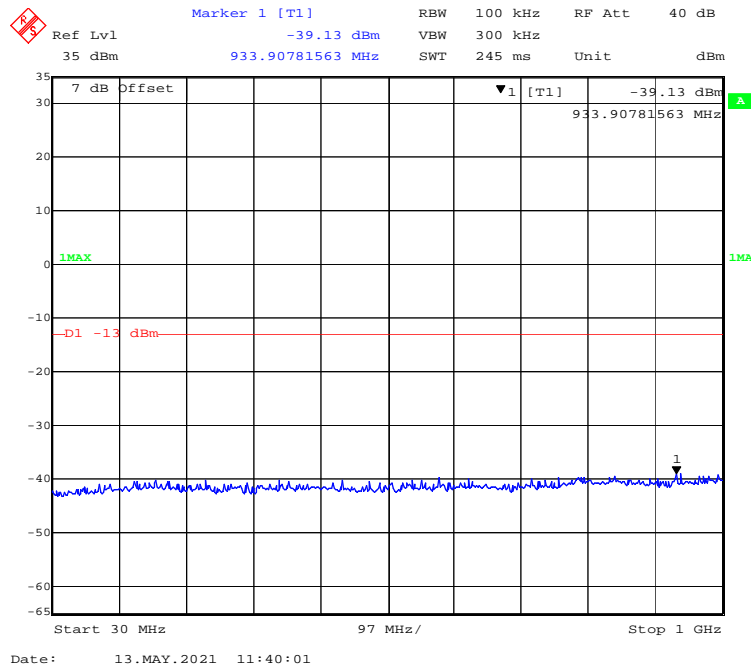
**30 MHz – 1GHz WCDMA (Rel 99) Mode Low Channel**



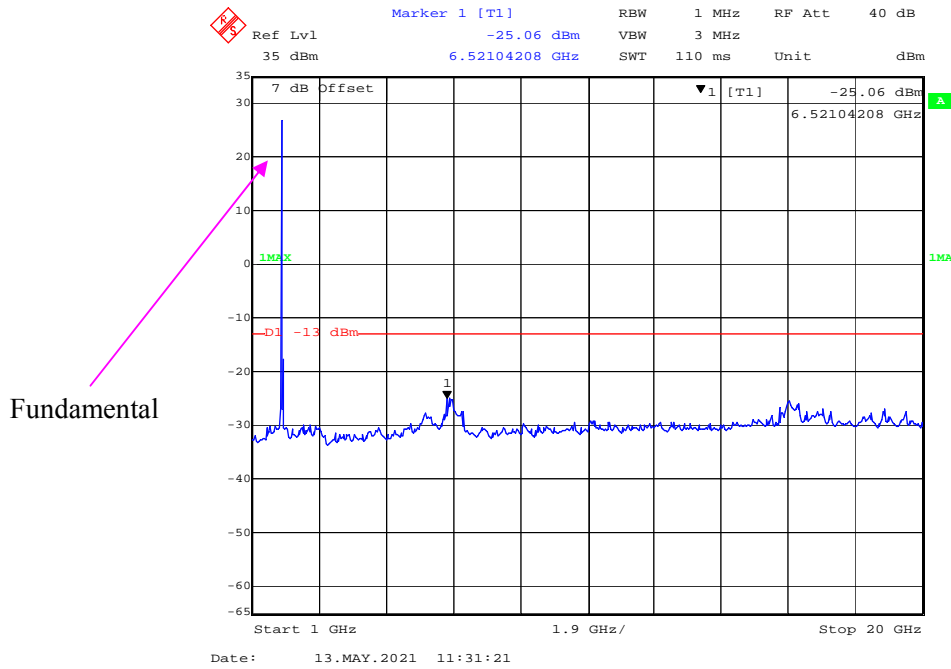
**1 GHz – 20 GHz WCDMA (Rel 99) Mode Low Channel**



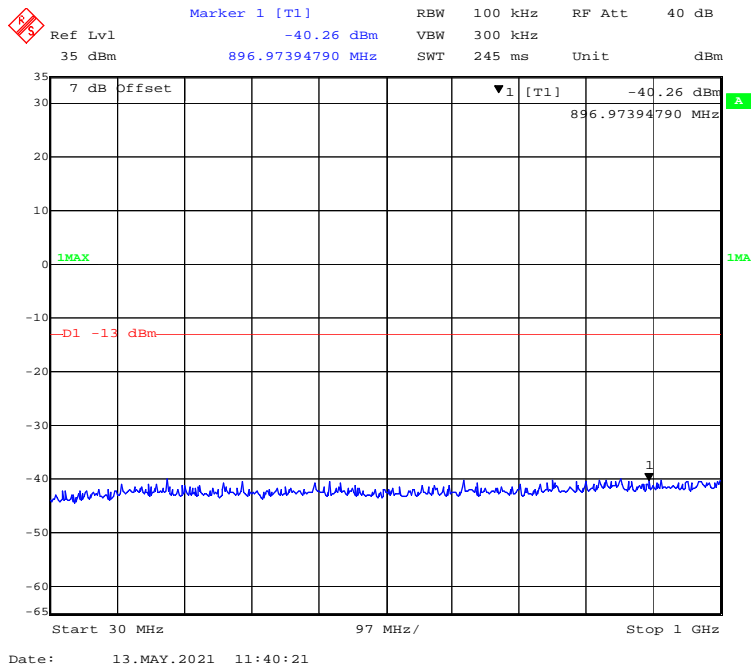
### 30 MHz – 1GHz WCDMA (HSDPA) Mode Low Channel



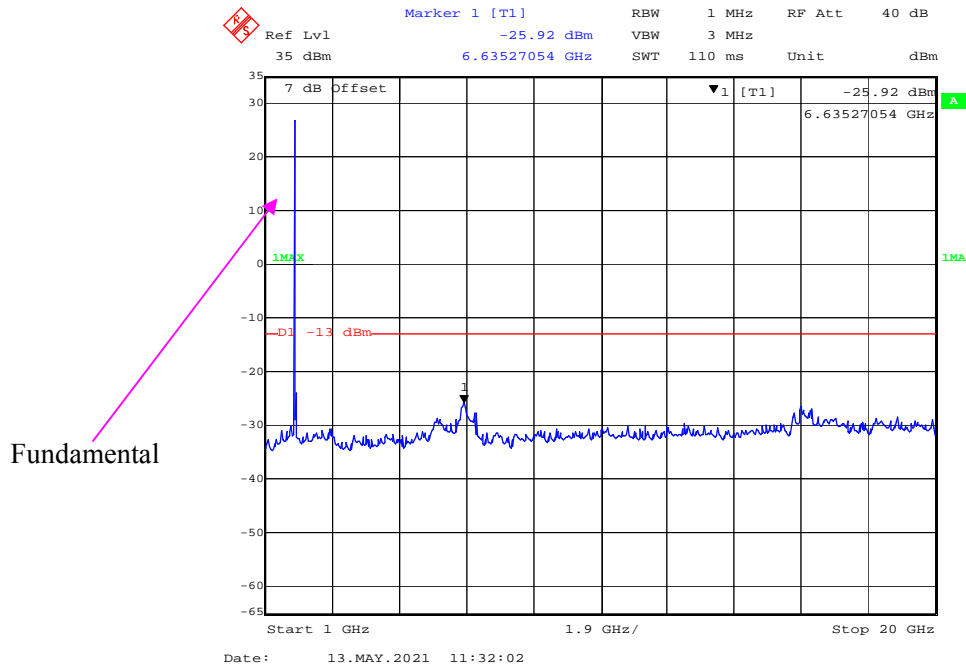
### 1 GHz – 20 GHz WCDMA (HSDPA) Mode Low Channel



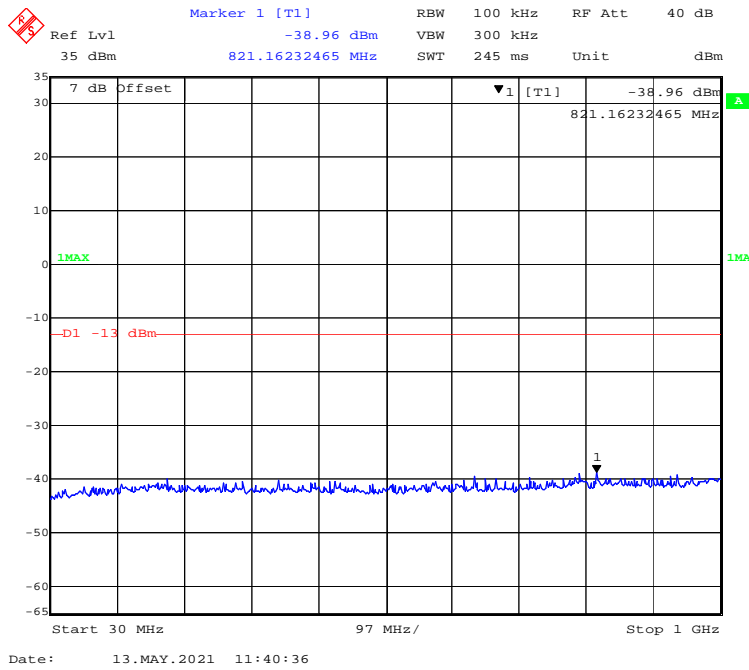
**30 MHz – 1GHz WCDMA (HSUPA) Mode Low Channel**



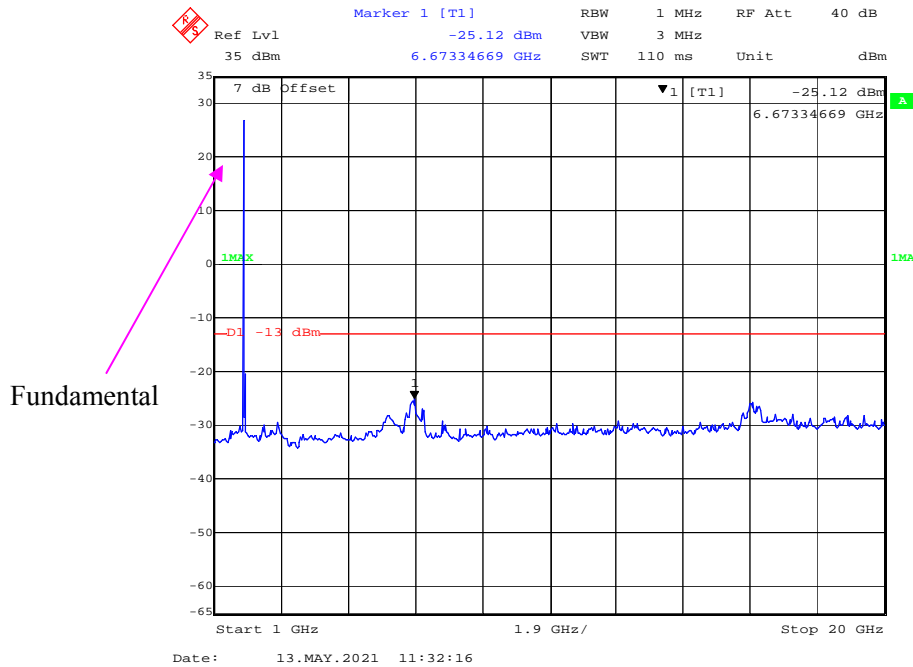
**1 GHz – 20 GHz WCDMA (HSUPA) Mode Low Channel**



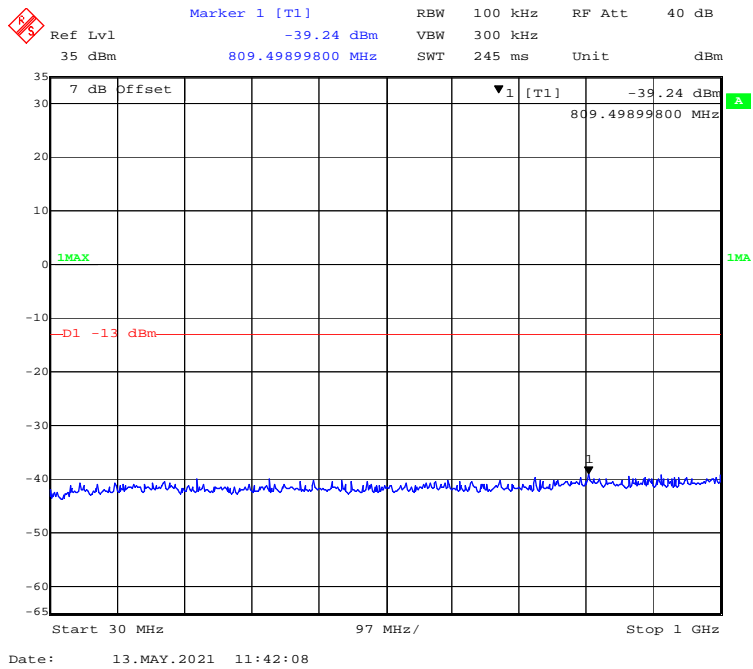
30 MHz – 1GHz WCDMA (HSPA+) Mode Low Channel



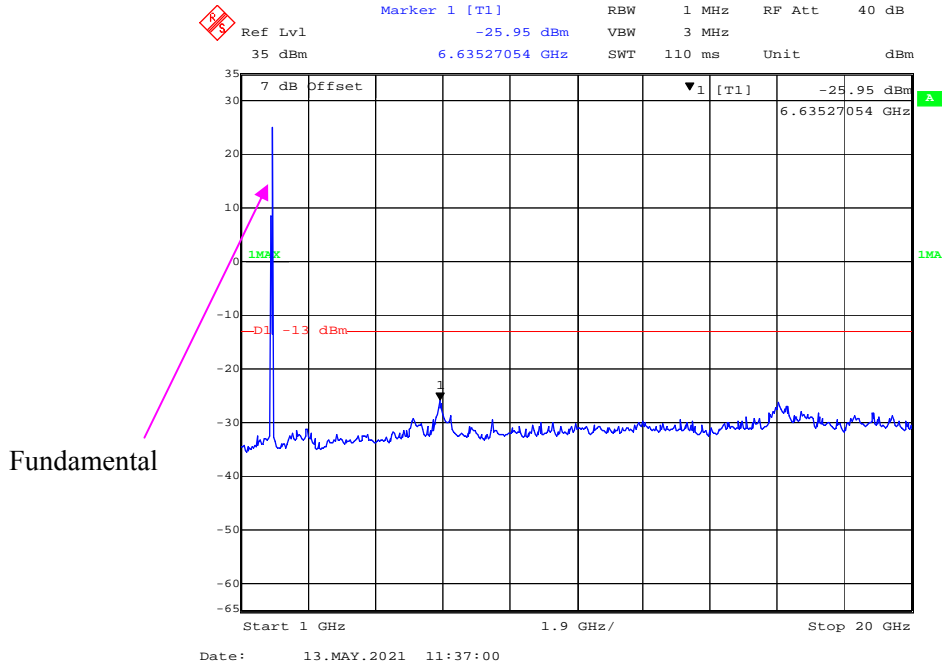
1 GHz – 20 GHz WCDMA (HSPA+) Mode Low Channel



### 30 MHz – 1GHz WCDMA (Rel 99) Mode Middle Channel

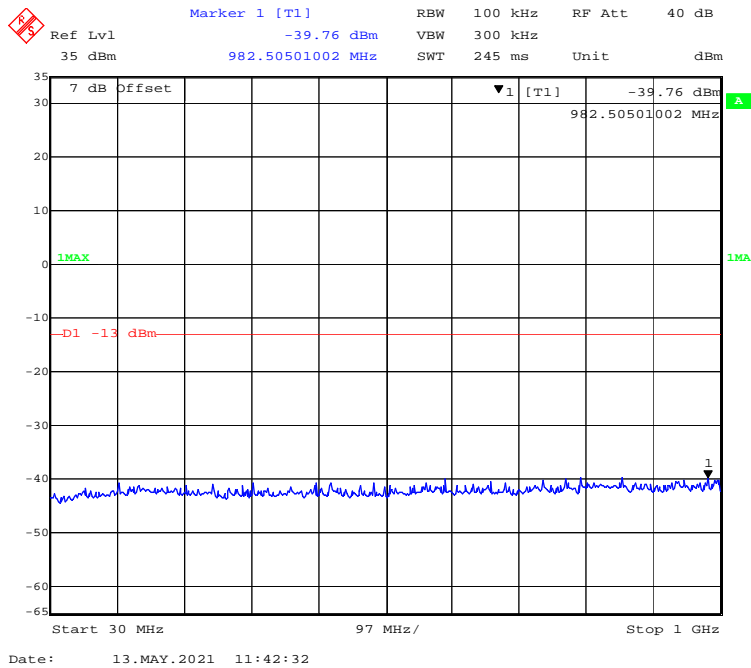


### 1 GHz – 20 GHz WCDMA (Rel 99) Mode Middle Channel

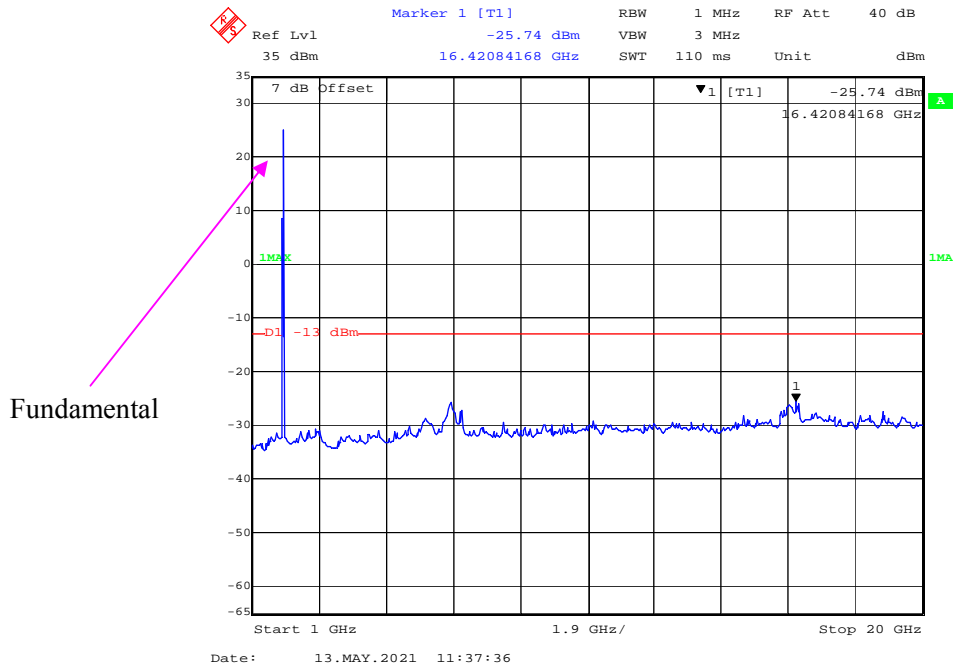




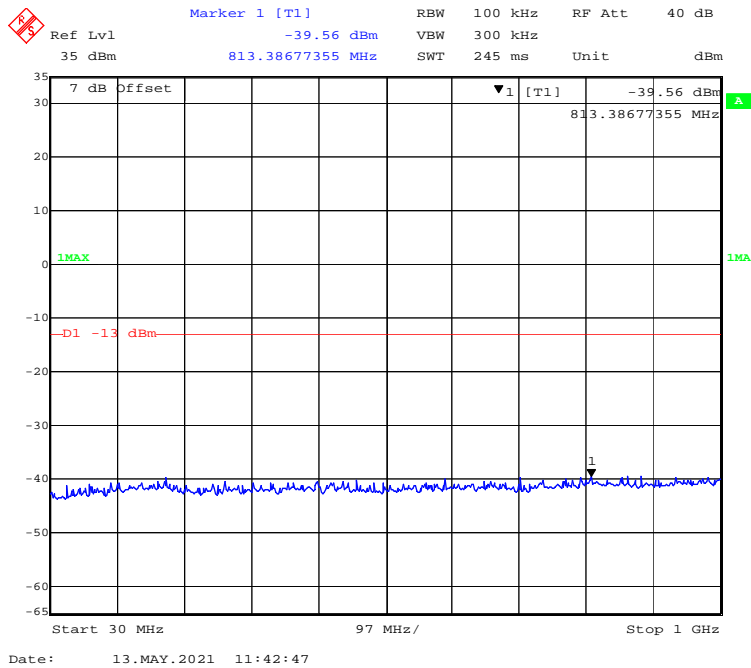
### 30 MHz – 1GHz WCDMA (HSDPA) Mode Middle Channel



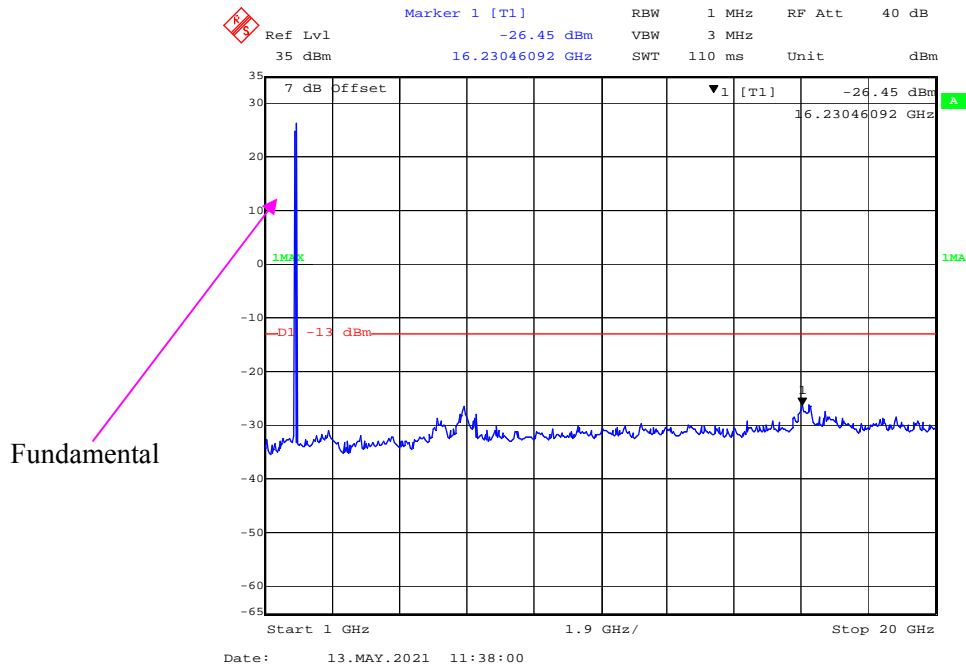
### 1 GHz – 20 GHz WCDMA (HSDPA) Mode Middle Channel



### 30 MHz – 1GHz WCDMA (HSUPA) Mode Middle Channel

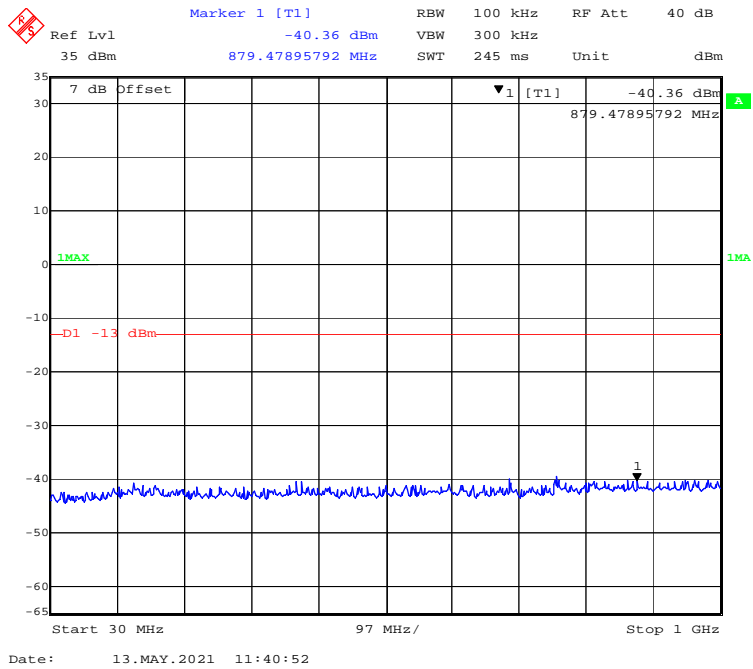


### 1 GHz – 20 GHz WCDMA (HSUPA) Mode Middle Channel





### 30 MHz – 1GHz WCDMA (Rel 99) Mode High Channel



### 1 GHz – 20 GHz WCDMA (Rel 99) Mode High Channel

