NVLAP TESTING
NVLAP LAB CODE 600338-0

BACL Bay Area Compliance Labs Corp.

FCC PART 27

FCC PART 22H, PART 24E

MEASUREMENT AND TEST REPORT

For

Brightway Innovation Intelligent Technology (Suzhou) Co., Ltd.

Building A2, Shangjinwan Headquarters Economic Park, No.2288, Wuzhong Avenue, Wuzhong Economic Development Zone, Suzhou Jiangsu P.R. China

FCC ID: 2A4GZ-NABE5

Report Type:	**Product Name:**
Original Report	IoT Device

Report Number:	RKSA231222001-00C
Report Date:	2024-06-07
Reviewed By:	Bard Liu
Approved By:	Kyle Xu
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REPORT REVISION HISTORY

Number of Revisions	Report No.	Version	Issue Date	Description
0	RKSA231222001-00C	R1V1	2024-06-07	Initial Release

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Applicant:	Brightway Innovation Intelligent Technology (Suzhou) Co., Ltd.
Tested Model:	NABE5-BL2
Product Name:	IoT Device
Power Supply:	DC 36V from DC power supply or DC 3.6V from battery
RF Function:	GPRS/EGPRS, LTE CAT-M, NB-IOT
Operating Band/Frequency:	GSM850: 824-849 MHz(TX), 869-894 MHz(RX) GSM1900: 1850-1910MHz(TX), 1930-1990MHz(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 12: 699-716 MHz(TX), 729-746 MHz(RX) LTE Band 13: 777-787 MHz(TX), 746-756 MHz(RX)
Maximum conducted Output Power:	GPRS 850: 32.98 dBm; EGPRS 850: 28.56 dBm GPRS 1900: 8.42 dBm; EGPRS 850: 25.35 dBm LTE NB-IOT: LTE Band 2: 20.08 dBm LTE Band 4: 20.55 dBm LTE Band 5: 20.72 dBm LTE Band 12: 20.74 dBm LTE Band 13: 20.61 dBm LTE CAT-M: LTE Band 2: 22.26 dBm LTE Band 4: 22.24 dBm LTE Band 5: 22.16 dBm LTE Band 12: 22.16 dBm LTE Band 13: 22.08 dBm
Modulation Type:	GPRS/EGPRS: GMSK, 8PSK LTE CAT-M: QPSK, 16QAM NB-IOT: BPSK, QPSK
Antenna Type:	PIFA Antenna
★Maximum Antenna Gain:	GSM850: -3.96 dBi GSM1900: 1.88 dBi LTE Band 2: 1.88 dBi LTE Band 4: 1.87 dBi LTE Band 5: -3.96 dBi LTE Band 12: -2.69 dBi LTE Band 13: -0.2 dBi

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

All measurement and test data in this report was gathered from production sample serial number: RKSA231222001-1 (Assigned by the BACL (Kunshan). The EUT supplied by the applicant was received on 2023-12-22.)

Objective

This type approval report is prepared for *Brightway Innovation Intelligent Technology (Suzhou) Co., Ltd.* in accordance with Part 2, Part 22-Subpart H and Part 24-Subpart E and Part 27 of the Federal Communication Commission's rules.

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

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

ANSI C63.26-2015: American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services

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
RF conducted test		0.9dB
Radiated emission	9 kHz~150 kHz	3.8dB
	150 kHz~30 MHz	3.4dB
	30MHz~1GHz	5.91dB
	1GHz~6GHz	4.68dB
	6GHz~18GHz	4.92dB
	18GHz~40GHz	5.21dB
Occupied Bandwidth		0.5kHz
Temperature		1.0℃
Humidity		6%

Test Facility

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

Bay Area Compliance Laboratories Corp. (Kunshan) is accredited in accordance with ISO/IEC 17025:2017 by NVLAP (Lab code: 600338-0), and the lab has been recognized as the FCC accredited lab under the KDB 974614 D01, the FCC Designation No. : CN5055.

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
LTE Band 2 (CAT-M)	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 (CAT-M)	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 (CAT-M)	1.4M	Low	20407	824.7
		Middle	20525	836.5
		High	20643	848.3
	3M	Low	20415	825.5
		Middle	20525	836.5
		High	20635	847.5
	5M	Low	20425	826.5
		Middle	20525	836.5
		High	20625	846.5
	10M	Low	20450	829.0
		Middle	20525	836.5
		High	20600	844.0
LTE Band 12 (CAT-M)	1.4M	Low	23017	699.7
		Middle	23095	707.5
		High	23173	715.3
	3M	Low	23025	700.5
		Middle	23095	707.5
		High	23165	714.5
	5M	Low	23035	701.5
		Middle	23095	707.5
		High	23155	713.5
	10M	Low	23060	704.0
		Middle	23095	707.5
		High	23130	711.0

Mode		Channel		Frequency (MHz)
LTE Band 13 (CAT-M)	5M	Low	23205	779.5
		Middle	23230	782.0
		High	23255	784.5
	10M	Low	/	/
		Middle	23230	782.0
		High	/	/

NB-IOT

Mode			Channel		Frequency (MHz)
LTE Band 2	BPSK	3.75KHz	Low	18602	1850.2
			Middle	18900	1880.0
			High	19198	1909.8
		15KHz	Low	18602	1850.2
			Middle	18900	1880.0
			High	19198	1909.8
	QPSK	3.75KHz	Low	18602	1850.2
			Middle	18900	1880.0
			High	19198	1909.8
		15KHz	Low	18602	1850.2
			Middle	18900	1880.0
			High	19198	1909.8

Mode			Channel		Frequency (MHz)
LTE Band 4	BPSK	3.75KHz	Low	19952	1710.2
			Middle	20175	1732.5
			High	20398	1754.8
		15KHz	Low	19952	1710.2
			Middle	20175	1732.5
			High	20398	1754.8
	QPSK	3.75KHz	Low	19952	1710.2
			Middle	20175	1732.5
			High	20398	1754.8
		15KHz	Low	19952	1710.2
			Middle	20175	1732.5
			High	20398	1754.8

Mode			Channel		Frequency (MHz)
LTE Band 5	BPSK	3.75KHz	Low	20402	824.2
			Middle	20525	836.5
			High	20648	848.8
		15KHz	Low	20402	824.2
			Middle	20525	836.5
			High	20648	848.8
	QPSK	3.75KHz	Low	20402	824.2
			Middle	20525	836.5
			High	20648	848.8
		15KHz	Low	20402	824.2
			Middle	20525	836.5
			High	20648	848.8

Mode			Channel		Frequency (MHz)
LTE Band 12	BPSK	3.75KHz	Low	23012	699.2
			Middle	23095	707.5
			High	23178	715.8
		15KHz	Low	23012	699.2
			Middle	23095	707.5
			High	23178	715.8
	QPSK	3.75KHz	Low	23012	699.2
			Middle	23095	707.5
			High	23178	715.8
		15KHz	Low	23012	699.2
			Middle	23095	707.5
			High	23178	715.8

Mode			Channel		Frequency (MHz)
LTE Band 13	BPSK	3.75KHz	Low	23182	777.2
			Middle	23230	782.0
			High	23278	786.8
		15KHz	Low	23182	777.2
			Middle	23230	782.0
			High	23278	786.8
	QPSK	3.75KHz	Low	23182	777.2
			Middle	23230	782.0
			High	23278	786.8
		15KHz	Low	23182	777.2
			Middle	23230	782.0
			High	23278	786.8

Equipment Modifications

No modifications were made to the EUT.

Support Equipment List and Details

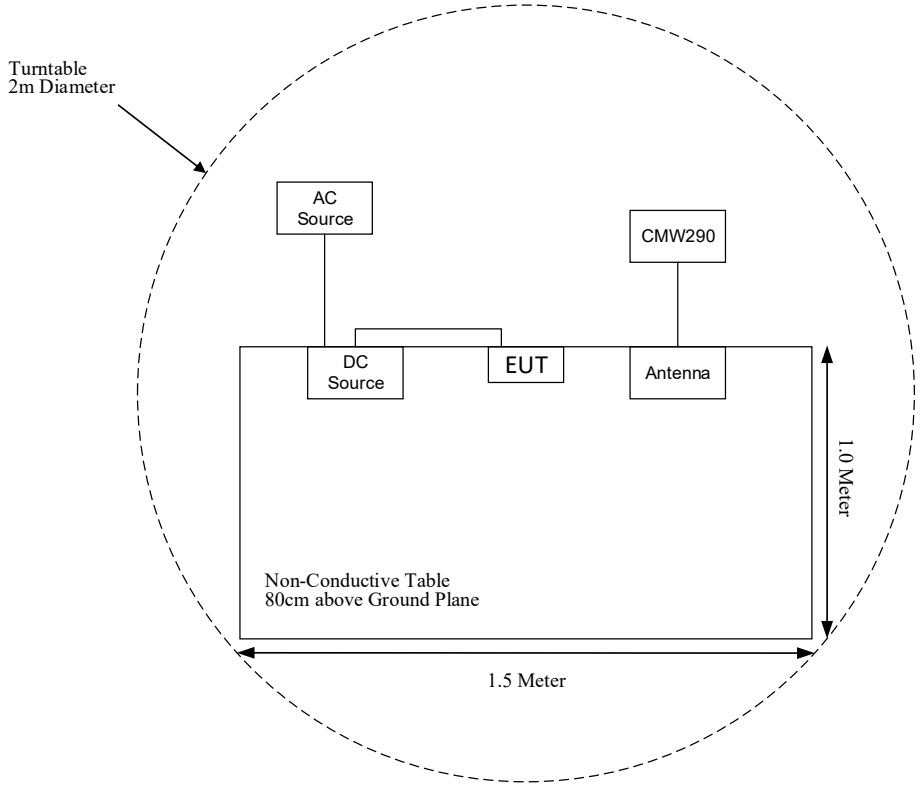
Manufacturer	Description	Model	Serial Number
Rohde & Schwarz	Functional Radio Communication Tester	CMW290	101743
Shenzhen Zhaoxin Electronic Instrument Equipment Co., Ltd.	DC Source	PS-6005D	18P6005D10724
ZHAOXIN	DC Source	RXN-605D	N/A

External I/O Cable

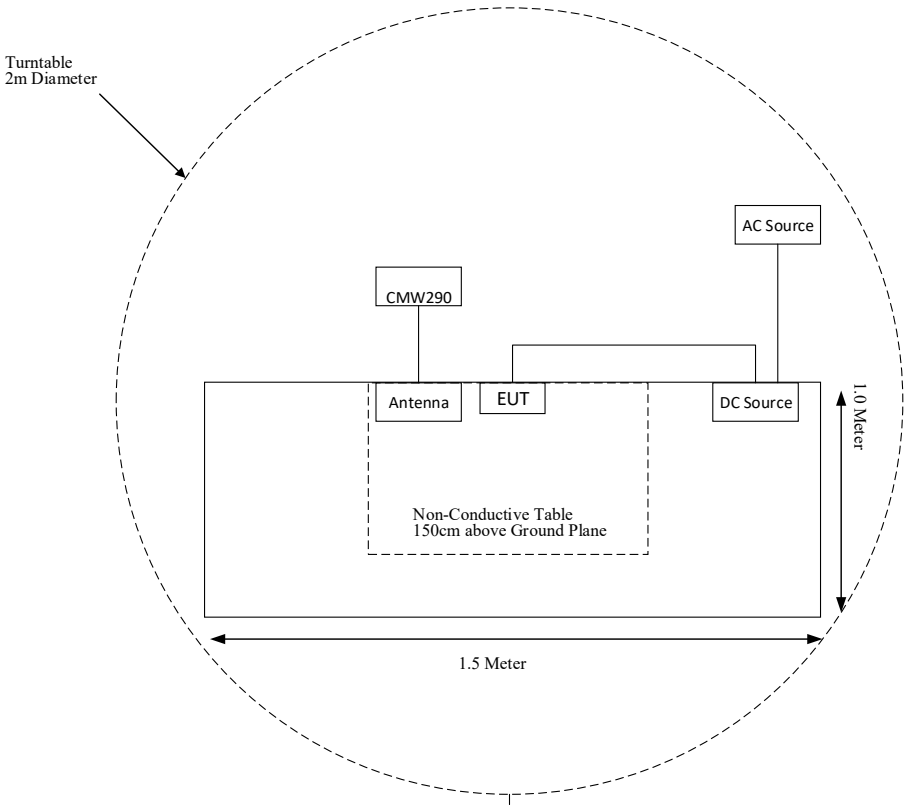
Cable Description	Length (m)	From Port	To Port
Power Cable 1	1.5	EUT	DC Source
Power Cable 2	1.0	DC Source	AC Source

Block Diagram of Test Setup

For Radiated Emissions (Below 1GHz):



For Radiated Emissions (Above 1GHz):



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§2.1046; § 22.913 (a); §24.232 (c); §27.50(a)(3) (c)(d) (h)(2);	RF Output Power	Compliant
§ 2.1047	Modulation Characteristics	Not Applicable
§2.1049; §22.905; §22.917; §24.238; §27.53;	Occupied Bandwidth	Compliant
§2.1051; §22.917 (a); §24.238 (a); §27.53(a) (g) (h) (m);	Spurious Emissions at Antenna Terminal	Compliant
§2.1053; §22.917 (a) §24.238 (a); §27.53 (a) (g) (h) (m);	Spurious Radiated Emissions	Compliant
§22.917 (a); §24.238 (a); §27.53(a) (g) (h) (m);	Band Edge	Compliant
§2.1055; §22.355; §24.235; §27.54;	Frequency stability	Compliant

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Radiated Emission Test					
Rohde & Schwarz	EMI Test Receiver	ESCI	100195	2023-05-23	2024-05-22
Keysight	Signal Generator	N5183A	MY47420304	2023-05-23	2024-05-22
Sunol Sciences	Hybrid Antenna	JB3	A090413-1	2023-11-11	2024-11-10
Sunol Sciences	Hybrid Antenna	JB3	A090314-2	2024-01-12	2025-01-11
Sonoma Instrument	Pre-amplifier	310N	171205	2023-05-23	2024-05-22
Rohde & Schwarz	Auto Test Software	EMC32	100361	N/A	N/A
MICRO-COAX	Cable	Cable-6	006	2023-05-23	2024-05-22
MICRO-COAX	Coaxial Cable	Cable-8	008	2023-05-23	2024-05-22
MICRO-COAX	Coaxial Cable	Cable-9	009	2023-05-23	2024-05-22
MICRO-COAX	Coaxial Cable	Cable-10	010	2023-05-23	2024-05-22
Rohde & Schwarz	EMI Test Receiver	ESU40	100207/040	2023-05-19	2024-05-18
ETS-LINDGREN	Horn Antenna	3115	6229	2024-01-26	2025-01-05
ETS-LINDGREN	Horn Antenna	3115	9311-4159	2023-12-02	2024-12-01
ETS-LINDGREN	Horn Antenna	3116	2516	2023-12-08	2024-12-07
ETS-LINDGREN	Horn Antenna	3116	84159	2023-12-08	2024-12-07
A.H.Systems, inc	Amplifier	PAM-0118P (2641-1)	512	2023-05-23	2024-05-22
SELECTOR	Amplifier	EM18G40G	060726	2023-05-23	2024-05-22
Rohde & Schwarz	Auto Test Software	EMC32	100361	N/A	N/A
MICRO-COAX	Coaxial Cable	Cable-11	011	2023-05-23	2024-05-22
MICRO-COAX	Coaxial Cable	Cable-12	012	2023-05-23	2024-05-22
MICRO-COAX	Coaxial Cable	Cable-13	013	2023-05-23	2024-05-22
MICRO-COAX	Coaxial Cable	Cable-16	016	2023-05-23	2024-05-22
Rohde & Schwarz	Functional Radio Communication Tester	CMW290	101743	2023-05-23	2024-05-22
Wi	Band reject filter	SN1	WRCGV5-804-824-849-869-30SS	2023-05-23	2024-05-22
Wi	Band reject filter	SN1	WRCGV6-1830-1850-1910-1930-30SS	2023-05-23	2024-05-22
Wi	Band reject filter	SN1	WRCGV8-1695-1710-1755-1770-30SS	2023-05-23	2024-05-22
Wi	Band reject filter	SN2	WRCT16-697-699-716-718-60SS	2023-05-23	2024-05-22
Wi	Band reject filter	SN1	WRCGV5-765-777-787-799-35SS	2023-05-23	2024-05-22

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
RF Conducted Test					
Rohde & Schwarz	Signal Analyzer	FSIQ26	100048	2023-05-23	2024-05-22
Mini-Circuits	Power Splitter	ZFRSC-183-S+	SF10944151S	2024-04-16	2024-04-15
Rohde & Schwarz	Signal Analyzer	FSV40	101116	2023-05-23	2024-05-22
Rohde & Schwarz	Functional Radio Communication Tester	CMW290	101743	2023-05-23	2024-05-22
BACL	Temperature & Humidity Chamber	BTH-150	30023	2023-05-23	2024-05-22
EAST	Regulated DC Power Supply	MCH-303D-II	14070562	2023-05-23	2024-05-22
HP	RF Cable	5061-5458	N/A	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 §2.1047 - MODULATION CHARACTERISTIC

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

FCC §2.1046; § 22.913 (a); §24.232 (c); §27.50 (b) (c) (d) - 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.

§27.50(b) Control stations and mobile stations transmitting in the 746-757 MHz, 776-788 MHz, and 805-806 MHz bands and fixed stations transmitting in the 787-788 MHz and 805-806 MHz bands are limited to 30 watts ERP.
§27.50(c) Control and mobile stations in the 698-746 MHz band are limited to 30 watts ERP
§27.50(d) Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.

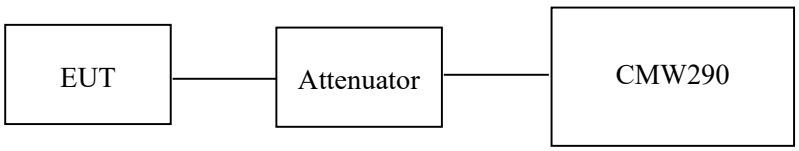
The peak-to-average power ratio (PAPR) of the transmitter output power must not exceed 13 dB.

Test Procedure

According to CFR Part 2.1046, ANSI C63.26-2015 Section 5.2.5.5:

Conducted method:

The RF output of the transmitter was connected to the CMW290 through sufficient attenuation.



Test Data: See Appendix

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

Applicable Standards

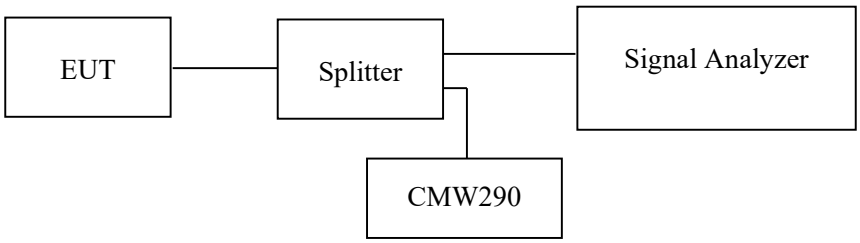
FCC 47 §2.1049, §22.917, §22.905 & §24.238 and §27.53.

Test Procedure

According to CFR Part 2.1049, ANSI C63.26-2015 Section 5.4.4

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 3 kHz (Cellular /PCS) & 10 kHz for LTE CAT-M,1 kHz (3.75kHz）/3 kHz(15kHz） for NB-IOT, and the 26 dB & 99% bandwidth was recorded.



Test Data: See Appendix

SPURIOUS EMISSIONS AT ANTENNA TERMINALS

Applicable Standards

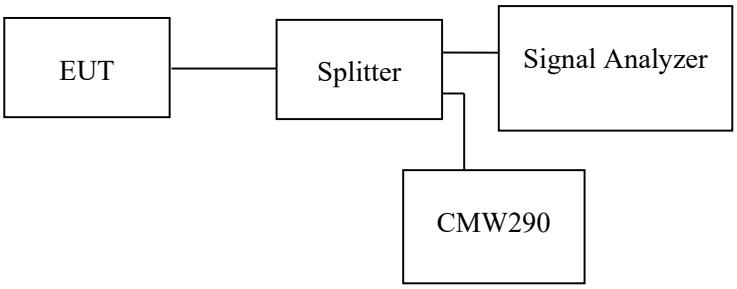
FCC §2.1051, §22.917(a) and §24.238(a) and §27.53(c) (f) (g) (h).

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

Test Procedure

According to ANSI C63.26-2015 Section 5.7.4:

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



Test Data: See Appendix

FCC § 2.1053; § 22.917 (a); § 24.238 (a); §27.53 (c) (f) (g) (h) - SPURIOUS RADIATED EMISSIONS

Applicable Standards

FCC § 2.1053, §22.917(a) and § 24.238(a) and § 27.53(c) (f) (g) (h)

22.917 (a) Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

24.238 (a) Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

27.53(c) For operations in the 746-758 MHz band and the 776-788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

(1) On any frequency outside the 746-758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;

(2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;

(3) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than 76 + 10 log (P) dB in a 6.25 kHz band segment, for base and fixed stations;

(4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations;

27.53 (f) For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to −70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and −80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

27.53 (g) For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

27.53 (h) AWS emission limits —the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 log10 (P) dB.

Test Procedure

According to ANSI C63.26-2015 Section 5.5.3:

The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load which was also placed on the turntable.

The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.

The frequency range up to tenth harmonic of the fundamental frequency was investigated.

Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

Spurious emissions in dB = 10 lg (TX pwr in Watts/0.001) – the absolute level

Spurious attenuation limit in dB = 43 + 10 Log_{10} (power out in Watts)

Test Data: See Appendix

FCC § 22.917 (a); § 24.238 (a); §27.53 (c) (f) (g) (h) - BAND EDGES

Applicable Standards

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

According to §24.238(a), the power of any emissions outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

27.53(c) For operations in the 746-758 MHz band and the 776-788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:
(1) On any frequency outside the 746-758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;
(2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;
(3) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than 76 + 10 log (P) dB in a 6.25 kHz band segment, for base and fixed stations;
(4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations;

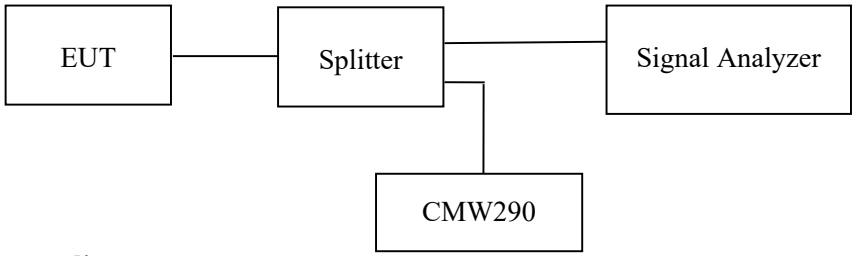
27.53 (f) For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to −70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and −80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

27.53 (g) For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

According to FCC §27.53 (h), the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

Test Procedure

According to ANSI C63.26-2015 Section 5.7.3:
The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.
The center of the spectrum analyzer was set to block edge frequency.



Test Data: See Appendix

FCC § 2.1055; § 22.355; § 24.235; §27.54 - FREQUENCY STABILITY

Applicable Standards

FCC § 2.1055, §22.355, §24.235 and §27.54.

According to FCC §2.1055, the frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

According to §22.355, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table below:

Frequency Tolerance for Transmitters in the Public Mobile Services

Frequency Range (MHz)	Base, fixed (ppm)	Mobile > 3 watts (ppm)	Mobile ≤ 3 watts (ppm)
25 to 50	20.0	20.0	50.0
50 to 450	5.0	5.0	50.0
450 to 512	2.5	5.0	5.0
821 to 896	1.5	2.5	2.5
928 to 929.	5.0	N/A	N/A
929 to 960.	1.5	N/A	N/A
2110 to 2220	10.0	N/A	N/A

According to §24.235, the frequency stability shall be sufficient to ensure that the fundamental emissions stays within the authorized frequency block.

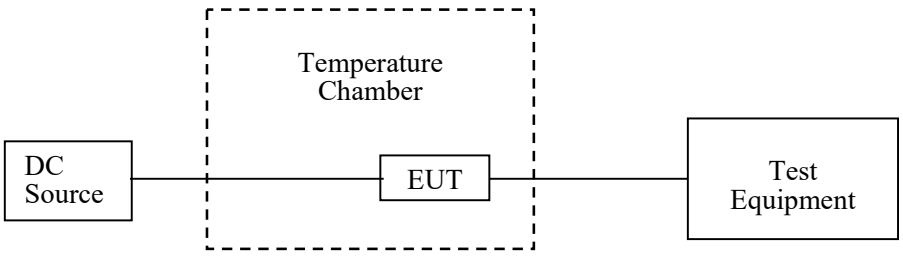
According to §27.54 Frequency stability, the frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

Test Procedure

According to ANSI C63.26-2015 Section 5.6:
Frequency Stability vs. Temperature: The equipment under test was connected to an external DC power supply and the RF output was connected to communication test set via feed-through attenuators. The EUT was placed inside the temperature chamber. The DC leads and RF output cable exited the chamber through an opening made for the purpose.

After the temperature stabilized for approximately 20 minutes, the frequency output was recorded from the communication test set.

Frequency Stability vs. Voltage: For hand carried, battery powered equipment; reduce primary supply voltage to the battery operating end point which shall be specified by the manufacturer.



Test Data: See Appendix

APPENDIX - TEST DATA

Environmental Conditions & Test Information

Test Item:	RF OUTPUT POWER	OCCUPIED BANDWIDTH	SPURIOUS EMISSIONS AT ANTENNA TERMINALS	SPURIOUS RADIATED EMISSIONS
Test Date:	2024-03-06	2024-01-31~2024-03-06	2024-02-04~2024-03-06	2024-03-06
Temperature:	16.5 ℃	15.9 ℃ ~ 17.3 ℃	16.9 ℃ ~ 17.3 ℃	16.5 ℃
Relative Humidity:	47 %	48 % ~ 51 %	49 % ~ 51 %	47 %
ATM Pressure:	102.7 kPa	101.2 kPa ~ 101.5 kPa	101 kPa ~ 101.5 kPa	102.7 kPa
Test Result:	Pass	Pass	Pass	Pass
Test Engineer:	Bard Liu	Bard Liu	Bard Liu	Bard Liu

Test Item:	BAND EDGES	FREQUENCY STABILITY
Test Date:	2024-03-06	2024-03-06
Temperature:	16.5 ℃	16.5 ℃
Relative Humidity:	47 %	47 %
ATM Pressure:	102.7 kPa	102.7 kPa
Test Result:	Pass	Pass
Test Engineer:	Bard Liu	Bard Liu

RF OUTPUT POWER

GSM 850 Band

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)				ERP (dBm)				Limit (dBm)
			1 slot	2 slots	3 slots	4 slots	1 slot	2 slots	3 slots	4 slots	
GPRS	128	824.2	32.98	31.33	30.22	29.92	26.87	25.22	24.11	23.81	38.45
	190	836.6	32.95	31.20	30.15	29.78	26.84	25.09	24.04	23.67	38.45
	251	848.8	32.88	30.98	30.28	29.85	26.77	24.87	24.17	23.74	38.45

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)				ERP (dBm)				Limit (dBm)
			1 slot	2 slots	3 slots	4 slots	1 slot	2 slots	3 slots	4 slots	
EGPRS	128	824.2	28.56	27.20	26.45	25.13	22.45	21.09	20.34	19.02	38.45
	190	836.6	28.26	27.42	25.88	25.09	22.15	21.31	19.77	18.98	38.45
	251	848.8	28.35	27.35	26.44	25.05	22.24	21.24	20.33	18.94	38.45

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd)
Antenna Gain(dBd) = Antenna Gain(dBi)-2.15

PCS 1900 Band

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)				EIRP (dBm)				Limit (dBm)
			1 slot	2 slots	3 slots	4 slots	1 slot	2 slots	3 slots	4 slots	
GPRS	512	1850.2	28.35	27.82	27.49	26.8	30.23	29.70	29.37	28.68	33
	661	1880	28.12	27.52	27	26.13	30.00	29.40	28.88	28.01	33
	810	1909.8	28.42	27.75	27.5	26.12	30.30	29.63	29.38	28.00	33

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)				EIRP (dBm)				Limit (dBm)
			1 slot	2 slots	3 slots	4 slots	1 slot	2 slots	3 slots	4 slots	
EGPRS	512	1850.2	25.35	24.8	23.93	23.08	27.23	26.68	25.81	24.96	33
	661	1880	24.88	24.43	23.3	22.48	26.76	26.31	25.18	24.36	33
	810	1909.8	25.19	24.63	23.46	22.68	27.07	26.51	25.34	24.56	33

Note: EIRP (dBm) = Conducted Power(dBm) + Antenna Gain(dBi)

NB-IoT Band 2

Test Modulation	Sub-carrier Spacing	Resource Block & RB offset	Conducted Average Output Power(dBm)			EIRP (dBm)		
			Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
BPSK	3.75kHz	1#0	19.35	19.93	19.99	21.23	21.81	21.87
		1#47	19.76	19.15	19.17	21.64	21.03	21.05
	15kHz	1#0	19.99	19.5	19.94	21.87	21.38	21.82
		1#11	**20.08**	19.95	19.97	21.96	21.83	21.85
QPSK	3.75kHz	1#0	19.62	19.63	19.56	21.5	21.51	21.44
		1#47	19.92	19.73	19.12	21.8	21.61	21
	15kHz	1#0	19.44	19.19	19.48	21.32	21.07	21.36
		1#11	19.4	19.11	**20.01**	21.28	20.99	21.89
		12#0	19.65	19.33	19.62	21.53	21.21	21.5

Note: EIRP (dBm) = Conducted Power(dBm) + Antenna Gain(dBi)
Limit: EIRP≤33dBm

NB-IoT Band 4

Test Modulation	Sub-carrier Spacing	Resource Block & RB offset	Conducted Average Output Power(dBm)			EIRP (dBm)		
			Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
BPSK	3.75kHz	1#0	**20.51**	20.50	20.51	22.38	22.37	22.38
		1#47	19.82	20.44	20.2	21.69	22.31	22.07
	15kHz	1#0	20.26	19.92	20.42	22.13	21.79	22.29
		1#11	19.77	20.12	20.05	21.64	21.99	21.92
QPSK	3.75kHz	1#0	20.45	20.09	20.1	22.32	21.96	21.97
		1#47	19.91	20.52	20	21.78	22.39	21.87
	15kHz	1#0	19.96	20	19.81	21.83	21.87	21.68
		1#11	20.46	**20.55**	19.87	22.33	22.42	21.74
		12#0	20.53	20.06	20.14	22.4	21.93	22.01

Note: EIRP (dBm) = Conducted Power(dBm) + Antenna Gain(dBi)
Limit: EIRP≤30dBm

NB-IoT Band 5

Test Modulation	Sub-carrier Spacing	Resource Block & RB offset	Conducted Average Output Power(dBm)			ERP (dBm)		
			Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
BPSK	3.75kHz	1#0	19.82	**20.58**	20.05	13.71	14.47	13.94
		1#47	20.04	20	20.02	13.93	13.89	13.91
	15kHz	1#0	20.48	20.34	20.5	14.37	14.23	14.39
		1#11	20.17	20.01	20	14.06	13.9	13.89
QPSK	3.75kHz	1#0	20.18	20.49	20.26	14.07	14.38	14.15
		1#47	19.83	20.38	20.01	13.72	14.27	13.9
	15kHz	1#0	**20.72**	20.21	19.6	14.61	14.1	13.49
		1#11	20.24	20.37	19.98	14.13	14.26	13.87
		12#0	20.7	20.04	19.92	14.59	13.93	13.81

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd)
Antenna Gain(dBd) = Antenna Gain(dBi)-2.15
Limit: ERP≤38.45dBm

NB-IoT Band 12

Test Modulation	Sub-carrier Spacing	Resource Block & RB offset	Conducted Average Output Power(dBm)			ERP (dBm)		
			Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
BPSK	3.75kHz	1#0	20.57	19.63	19.99	15.73	14.79	15.15
		1#47	**20.74**	20.1	19.83	15.9	15.26	14.99
	15kHz	1#0	20.25	20.59	20.49	15.41	15.75	15.65
		1#11	20.31	20.44	20.2	15.47	15.6	15.36
QPSK	3.75kHz	1#0	19.78	20.01	19.87	14.94	15.17	15.03
		1#47	19.97	**20.57**	19.56	15.13	15.73	14.72
	15kHz	1#0	20	20.38	19.69	15.16	15.54	14.85
		1#11	20.31	20.25	19.94	15.47	15.41	15.1
		12#0	19.85	20.09	20.04	15.01	15.25	15.2

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd)
Antenna Gain(dBd) = Antenna Gain(dBi)-2.15
Limit: ERP≤44.77dBm

NB-IoT Band 13

Test Modulation	Sub-carrier Spacing	Resource Block & RB offset	Conducted Average Output Power(dBm)			ERP (dBm)		
			Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
BPSK	3.75kHz	1#0	20.17	19.94	20.07	17.82	17.59	17.72
		1#47	20.18	20.25	20.16	17.83	17.9	17.81
	15kHz	1#0	19.79	**20.36**	20.04	17.44	18.01	17.69
		1#11	20.02	20.25	19.85	17.67	17.9	17.5
QPSK	3.75kHz	1#0	20.28	20.35	20.42	17.93	18	18.07
		1#47	20.25	20.49	19.9	17.9	18.14	17.55
	15kHz	1#0	19.82	20.43	20.37	17.47	18.08	18.02
		1#11	19.95	**20.61**	20.05	17.6	18.26	17.7
		12#0	19.84	20.13	20.13	17.49	17.78	17.78

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd)
Antenna Gain(dBd) = Antenna Gain(dBi)-2.15
Limit: ERP≤44.77dBm

Maximum Output Power:

CAT-M Band 2	Channel	RB size/ RB Offset	Conducted Power (dBm)		EIRP (dBm)	
			QPSK	16QAM	QPSK	16QAM
1.4M	18607(1850.7)	1#0	21.47	22.01	23.35	23.89
		6#0	**22.12**	21.9	24	23.78
	18900(1880)	1#0	22	21.32	23.88	23.2
		6#0	21.41	21.97	23.29	23.85
	19193(1909.3)	1#5	21.89	22.05	23.77	23.93
		6#0	21.93	21.35	23.81	23.23
3M	18615(1851.5)	1#0	21.29	21.13	23.17	23.01
		6#0	21.73	21.39	23.61	23.27
	18900(1880)	1#0	22.08	21.72	23.96	23.6
		6#0	**22.11**	21.17	23.99	23.05
	19185(1908.5)	1#5	21.96	21.55	23.84	23.43
		6#0	21.74	21.83	23.62	23.71
5M	18625(1852.5)	1#0	21.64	21.56	23.52	23.44
		6#0	21.48	21.13	23.36	23.01
	18900(1880)	1#0	**22.26**	21.73	24.14	23.61
		6#0	21.32	21.98	23.2	23.86
	19175(1907.5)	1#5	22.2	21.9	24.08	23.78
		6#0	21.85	21.67	23.73	23.55
10M	18650(1855)	1#0	22.06	21.14	23.94	23.02
		6#0	21.29	21.47	23.17	23.35
	18900(1880)	1#0	21.4	21.85	23.28	23.73
		6#0	**22.21**	21.91	24.09	23.79
	19150(1905)	1#5	21.43	21.56	23.31	23.44
		6#0	22.19	22.09	24.07	23.97
15M	18675(1857.5)	1#0	21.33	22.07	23.21	23.95
		6#0	21.31	21.55	23.19	23.43
	18900(1880)	1#0	21.77	21.71	23.65	23.59
		6#0	21.94	21.56	23.82	23.44
	19125(1902.5)	1#5	21.3	21.86	23.18	23.74
		6#0	**22.17**	21.99	24.05	23.87
20M	18700(1860)	1#0	21.53	21.64	23.41	23.52
		6#0	**21.97**	21.62	23.85	23.5
	18900(1880)	1#0	21.51	21.43	23.39	23.31
		6#0	21.7	21.34	23.58	23.22
	19100(1900)	1#5	21.88	21.4	23.76	23.28
		6#0	21.78	21.76	23.66	23.64

Note: EIRP (dBm) = Conducted Power(dBm) + Antenna Gain(dBi)
Limit: EIRP≤33dBm

CAT-M Band 4	Channel	RB size/ RB Offset	Conducted Power (dBm)		EIRP (dBm)	
			QPSK	16QAM	QPSK	16QAM
1.4M	19957(1710.7)	1#0	21.3	**21.96**	23.17	23.83
		6#0	21.83	21.79	23.7	23.66
	20175(1732.5)	1#0	21.69	21.41	23.56	23.28
		6#0	21.59	21.51	23.46	23.38
	20393(1754.3)	1#5	21.29	21.16	23.16	23.03
		6#0	21.54	21.68	23.41	23.55
3M	19965(1711.5)	1#0	22.14	21.5	24.01	23.37
		6#0	22	21.26	23.87	23.13
	20175(1732.5)	1#0	**22.24**	21.88	24.11	23.75
		6#0	22.03	21.64	23.9	23.51
	20385(1753.5)	1#5	21.99	21.57	23.86	23.44
		6#0	22.2	22.11	24.07	23.98
5M	19975(1712.5)	1#0	21.56	21.37	23.43	23.24
		6#0	21.6	21.96	23.47	23.83
	20175(1732.5)	1#0	21.62	**22.1**	23.49	23.97
		6#0	21.84	21.61	23.71	23.48
	20375(1752.5)	1#5	21.98	21.96	23.85	23.83
		6#0	21.76	21.64	23.63	23.51
10M	20000(1715)	1#0	21.81	21.4	23.68	23.27
		6#0	21.66	21.19	23.53	23.06
	20175(1732.5)	1#0	**22.22**	21.21	24.09	23.08
		6#0	21.94	21.32	23.81	23.19
	20350(1750)	1#5	21.35	21.37	23.22	23.24
		6#0	21.35	21.41	23.22	23.28
15M	20025(1717.5)	1#0	21.68	21.6	23.55	23.47
		6#0	21.34	21.74	23.21	23.61
	20175(1732.5)	1#0	**22.07**	21.75	23.94	23.62
		6#0	21.83	21.67	23.7	23.54
	20325(1747.5)	1#5	21.5	21.42	23.37	23.29
		6#0	21.81	21.21	23.68	23.08
20M	20050(1720)	1#0	21.44	21.43	23.31	23.3
		6#0	22.2	21.13	24.07	23
	20175(1732.5)	1#0	21.52	21.17	23.39	23.04
		6#0	21.49	21.78	23.36	23.65
	20300(1745)	1#5	21.87	21.74	23.74	23.61
		6#0	**22.06**	22	23.93	23.87

Note: EIRP (dBm) = Conducted Power(dBm) + Antenna Gain(dBi)
Limit: EIRP≤30dBm

CAT-M Band 5	Channel	RB size/ RB Offset	Conducted Power (dBm)		ERP (dBm)	
			QPSK	16QAM	QPSK	16QAM
1.4M	20407(824.7)	1#0	21.58	21.85	15.47	15.74
		6#0	21.86	21.37	15.75	15.26
	20525(836.5)	1#0	21.83	21.12	15.72	15.01
		6#0	22.14	22.1	16.03	15.99
	20643(848.3)	1#5	22.15	21.22	16.04	15.11
		6#0	**22.16**	21.72	16.05	15.61
3M	20415(825.5)	1#0	21.33	21.5	15.22	15.39
		6#0	21.66	**21.82**	15.55	15.71
	20525(836.5)	1#0	21.38	21.51	15.27	15.4
		6#0	21.69	21.69	15.58	15.58
	20643(847.5)	1#5	21.4	21.6	15.29	15.49
		6#0	21.54	21.73	15.43	15.62
5M	20425(826.5)	1#0	21.52	22.03	15.41	15.92
		6#0	21.27	22.06	15.16	15.95
	20525(836.5)	1#0	**22.15**	21.9	16.04	15.79
		6#0	21.33	21.25	15.22	15.14
	20643(846.5)	1#5	21.96	21.85	15.85	15.74
		6#0	22.03	21.11	15.92	15
10M	20450(829)	1#0	21.71	21.83	15.6	15.72
		6#0	21.67	21.43	15.56	15.32
	20525(836.5)	1#0	**22.1**	21.12	15.99	15.01
		6#0	21.97	21.73	15.86	15.62
	20600(844)	1#5	21.38	21.76	15.27	15.65
		6#0	21.34	21.64	15.23	15.53

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd)
Antenna Gain(dBd) = Antenna Gain(dBi)-2.15
ERP≤38.5dBm

CAT-M Band 12	Channel	RB size/ RB Offset	Conducted Power (dBm)		ERP(dBm)	
			QPSK	16QAM	QPSK	16QAM
1.4M	23017(699.7)	1#0	21.58	21.85	16.74	17.01
		6#0	21.86	21.37	17.02	16.53
	23095(707.5)	1#0	21.83	21.12	16.99	16.28
		6#0	22.14	22.1	17.3	17.26
	23173(715.3)	1#5	22.15	21.22	17.31	16.38
		6#0	**22.16**	21.72	17.32	16.88
3M	23025(700.5)	1#0	21.33	21.5	16.49	16.66
		6#0	21.66	**21.82**	16.82	16.98
	23095(707.5)	1#0	21.38	21.51	16.54	16.67
		6#0	21.69	21.69	16.85	16.85
	23165(714.5)	1#5	21.4	21.6	16.56	16.76
		6#0	21.54	21.73	16.7	16.89
5M	23035(701.5)	1#0	21.52	22.03	16.68	17.19
		6#0	21.27	**22.06**	16.43	17.22
	23095(707.5)	1#0	22.15	21.9	17.31	17.06
		6#0	21.33	21.25	16.49	16.41
	23155(713.5)	1#5	21.96	21.85	17.12	17.01
		6#0	22.03	21.11	17.19	16.27
10M	23060(704)	1#0	21.71	21.83	16.87	16.99
		6#0	21.67	21.43	16.83	16.59
	23095(707.5)	1#0	22.1	21.12	17.26	16.28
		6#0	**21.97**	21.73	17.13	16.89
	23130(711)	1#5	21.38	21.76	16.54	16.92
		6#0	21.34	21.64	16.5	16.8

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd)
Antenna Gain(dBd) = Antenna Gain(dBi)-2.15
ERP≤44.77dBm

CAT-M Band 13	Channel	RB size/ RB Offset	Conducted Power (dBm)		ERP (dBm)	
			QPSK	16QAM	QPSK	16QAM
5M	23205(779.5)	1#0	21.62	21.51	19.27	19.16
		6#0	21.43	21.21	19.08	18.86
	23230(782)	1#0	21.88	21.12	19.53	18.77
		6#0	21.62	21.83	19.27	19.48
	23255（784.5）	1#5	21.91	21.95	19.56	19.6
		6#0	**22.08**	21.77	19.73	19.42
10M	23230(782)	1#0	**21.95**	21.12	19.6	18.77
		6#0	21.47	21.68	19.12	19.33

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd)
Antenna Gain(dBd) = Antenna Gain(dBi)-2.15
ERP≤44.77dBm

Peak-to-average ratio (PAR)（worst case）:

GPRS/EGPRS 850 Band

Mode	Channel	PAR (dB)	Limit (dB)
GPRS	Low	2.98	≤ 13
	Middle	3.15	≤ 13
	High	2.87	≤ 13

Mode	Channel	PAR (dB)	Limit (dB)
EGPRS	Low	2.74	≤ 13
	Middle	2.86	≤ 13
	High	2.93	≤ 13

NB-IoT Band 2

Modulation	Sub-carrier Spacing	Middle Channel (dB)	PAR Limit (dB)	Result
BPSK	3.75kHz	1.43	≤ 13	Pass
	15kHz	1.51	≤ 13	Pass
QPSK	3.75kHz	1.28	≤ 13	Pass
	15kHz	1.48	≤ 13	Pass

NB-IoT Band 4

Modulation	Sub-carrier Spacing	Middle Channel (dB)	PAR Limit (dB)	Result
BPSK	3.75kHz	1.63	≤ 13	Pass
	15kHz	1.53	≤ 13	Pass
QPSK	3.75kHz	1.67	≤ 13	Pass
	15kHz	1.84	≤ 13	Pass

NB-IoT Band 5

Modulation	Sub-carrier Spacing	Middle Channel (dB)	PAR Limit (dB)	Result
BPSK	3.75kHz	2.13	≤ 13	Pass
	15kHz	2.04	≤ 13	Pass
QPSK	3.75kHz	2.27	≤ 13	Pass
	15kHz	2.16	≤ 13	Pass

NB-IoT Band 12

Modulation	Sub-carrier Spacing	Middle Channel (dB)	PAR Limit (dB)	Result
BPSK	3.75kHz	2.45	≤ 13	Pass
	15kHz	2.17	≤ 13	Pass
QPSK	3.75kHz	2.18	≤ 13	Pass
	15kHz	1.98	≤ 13	Pass

NB-IoT Band 13

Modulation	Sub-carrier Spacing	Middle Channel (dB)	PAR Limit (dB)	Result
BPSK	3.75kHz	2.34	≤ 13	Pass
	15kHz	2.15	≤ 13	Pass
QPSK	3.75kHz	2.26	≤ 13	Pass
	15kHz	2.11	≤ 13	Pass

CAT-M Band 2

Bandwidth	Modulation	Middle Channel (dB)	PAR Limit (dB)	Result
20MHz	QPSK	5.76	13	Pass
	16QAM	5.62	13	Pass

CAT-M Band 4

Bandwidth	Modulation	Middle Channel (dB)	PAR Limit (dB)	Result
20MHz	QPSK	6.12	13	Pass
	16QAM	6.51	13	Pass

CAT-M Band 5

Bandwidth	Modulation	Middle Channel (dB)	PAR Limit (dB)	Result
10MHz	QPSK	5.36	13	Pass
	16QAM	5.17	13	Pass

CAT-M Band 12

Bandwidth	Modulation	Middle Channel (dB)	PAR Limit (dB)	Result
10MHz	QPSK	5.11	13	Pass
	16QAM	5.26	13	Pass

CAT-M Band 13

Bandwidth	Modulation	Middle Channel (dB)	PAR Limit (dB)	Result
10MHz	QPSK	6.09	13	Pass
	16QAM	5.97	13	Pass

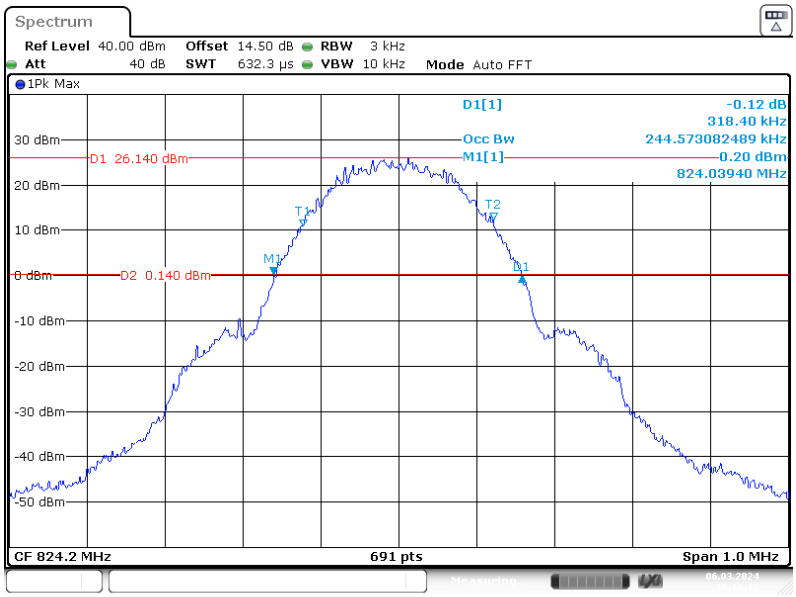
OCCUPIED BANDWIDTH

GSM 850 Band:

Mode	Channel	Frequency (MHz)	99% Occupied Bandwidth (kHz)	26 dB Emission Bandwidth (kHz)
GSM(GMSK)	128	824.2	244.573	318.4
	190	836.6	244.573	315.5
	251	848.8	244.573	316.9

Mode	Channel	Frequency (MHz)	99% Occupied Bandwidth (kHz)	26 dB Emission Bandwidth (kHz)
EGPRS(8PSK)	128	824.2	238.784	315.5
	190	836.6	237.337	314
	251	848.8	237.337	315.5

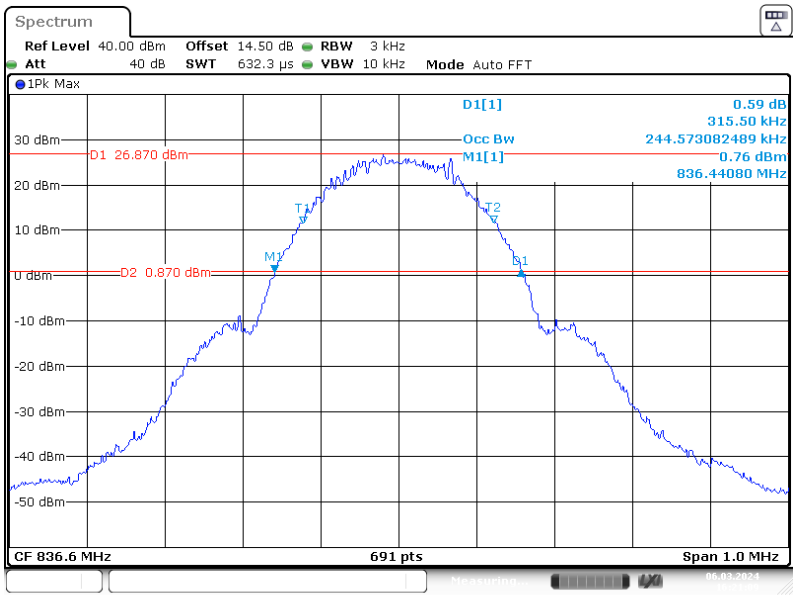
GPRS Mode Low Channel



ProjectNo.:RKSA231222001 Tester:Bard Liu

Date: 6.MAR.2024 16:16:12

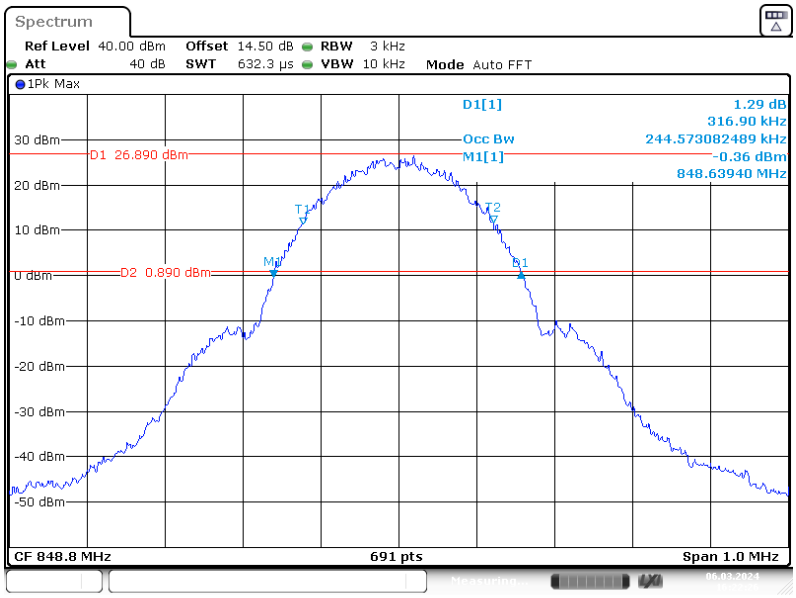
GPRS Mode Middle Channel



ProjectNo.:RKSA231222001 Tester:Bard Liu

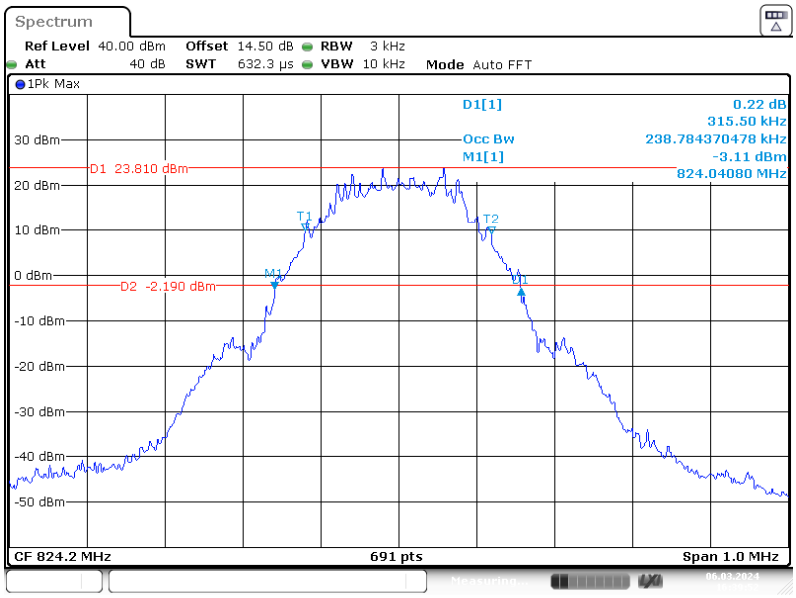
Date: 6.MAR.2024 16:21:09

GPRS Mode High Channel



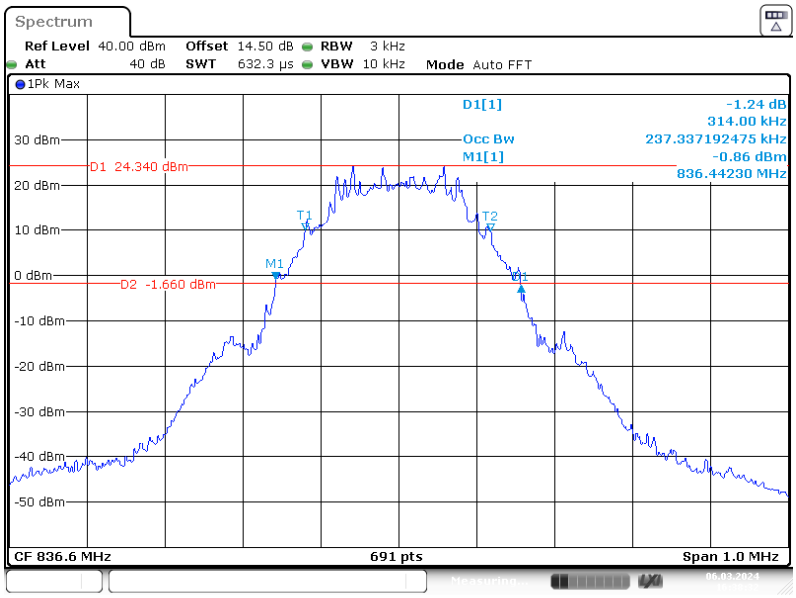
ProjectNo.:RKSA231222001 Tester:Bard Liu
Date: 6.MAR.2024 16:22:26

EGPRS Mode Low Channel



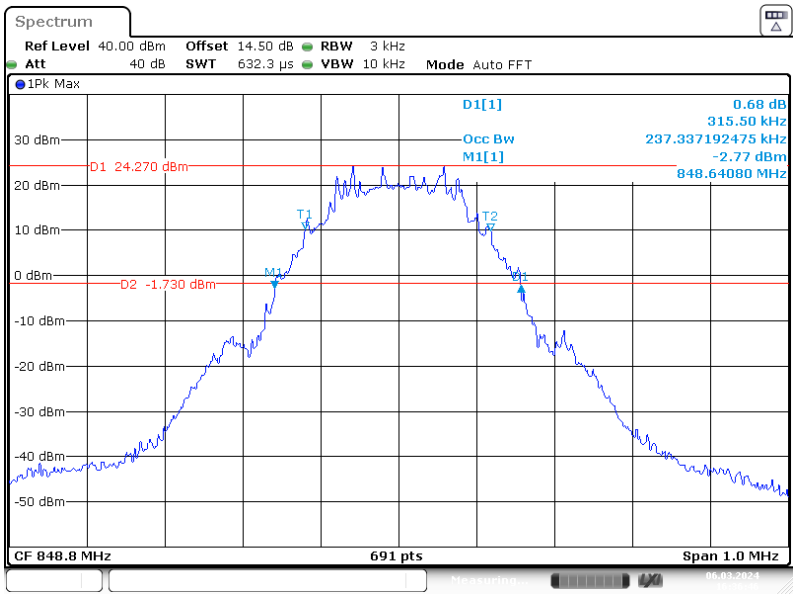
ProjectNo.:RKSA231222001 Tester:Bard Liu
Date: 6.MAR.2024 16:39:52

EGPRS Mode Middle Channel



ProjectNo.:RKSA231222001 Tester:Bard Liu
Date: 6.MAR.2024 16:38:33

EGPRS Mode High Channel



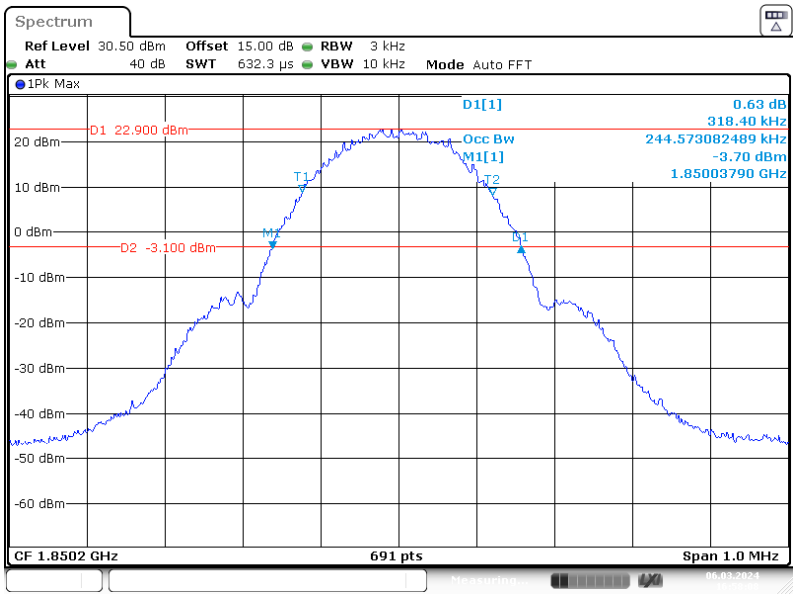
ProjectNo.:RKSA231222001 Tester:Bard Liu
Date: 6.MAR.2024 16:36:47

GSM 1900 Band:

Mode	Channel	Frequency (MHz)	99% Occupied Bandwidth (kHz)	26 dB Emission Bandwidth (kHz)
GSM(GMSK)	512	1850.2	244.573	318.4
	661	1880	243.126	316.9
	810	1909.8	243.126	321.3

Mode	Channel	Frequency (MHz)	99% Occupied Bandwidth (kHz)	26 dB Emission Bandwidth (kHz)
EGPRS(8PSK)	512	1850.2	248.915	316.9
	661	1880	250.362	315.5
	810	1909.8	243.126	314

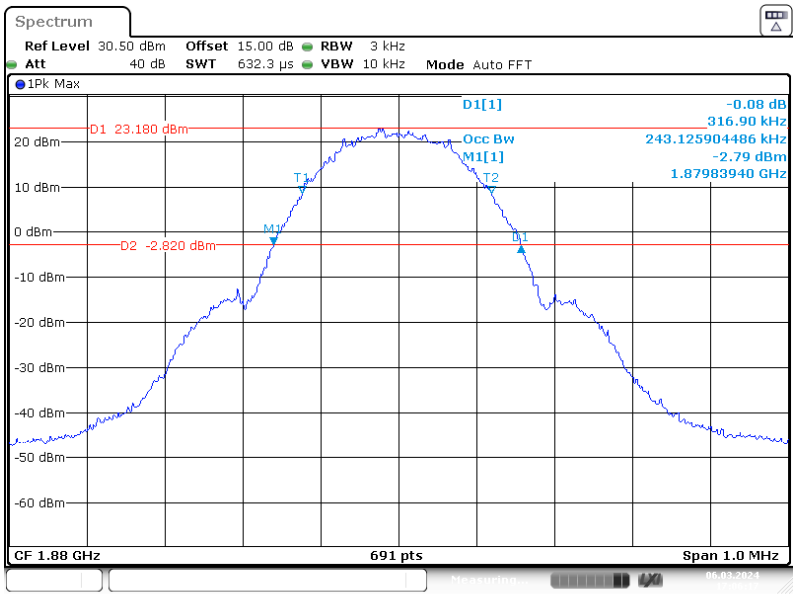
GPRS Mode Low Channel



ProjectNo.:RKSA231222001 Tester:Bard Liu

Date: 6.MAR.2024 16:58:08

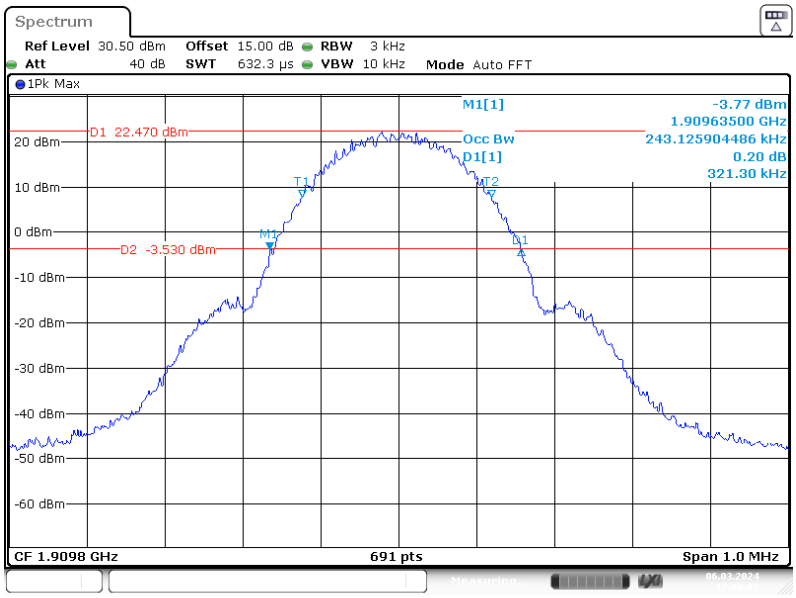
GPRS Mode Middle Channel



ProjectNo.:RKSA231222001 Tester:Bard Liu

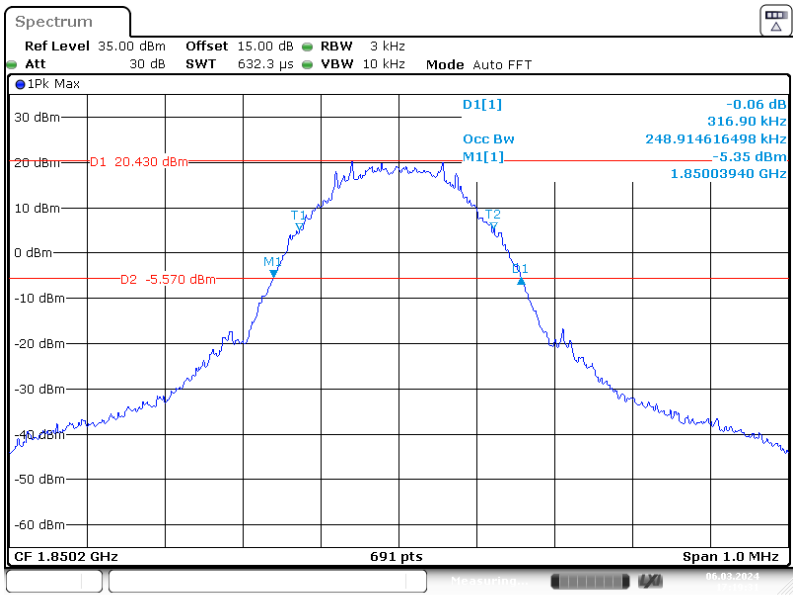
Date: 6.MAR.2024 17:06:18

GPRS Mode High Channel



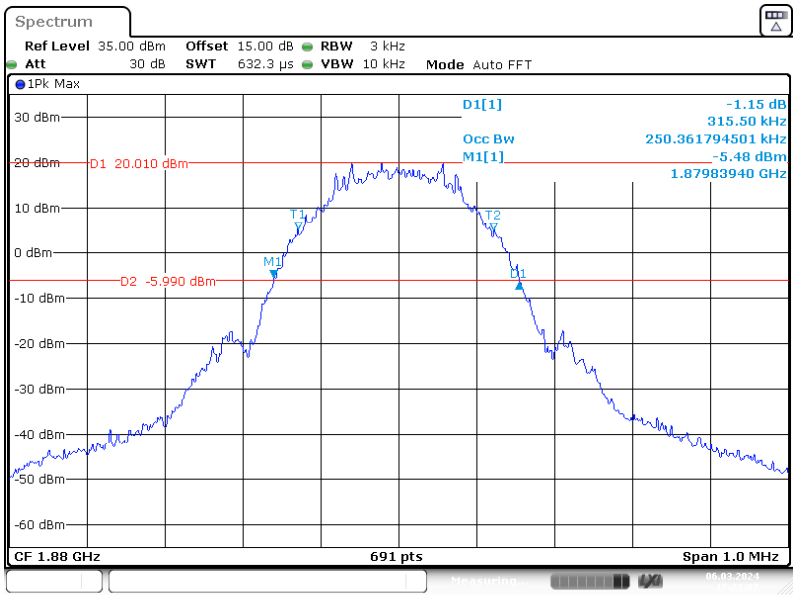
ProjectNo.:RKSA231222001 Tester:Bard Liu
Date: 6.MAR.2024 17:08:03

EGPRS Mode Low Channel



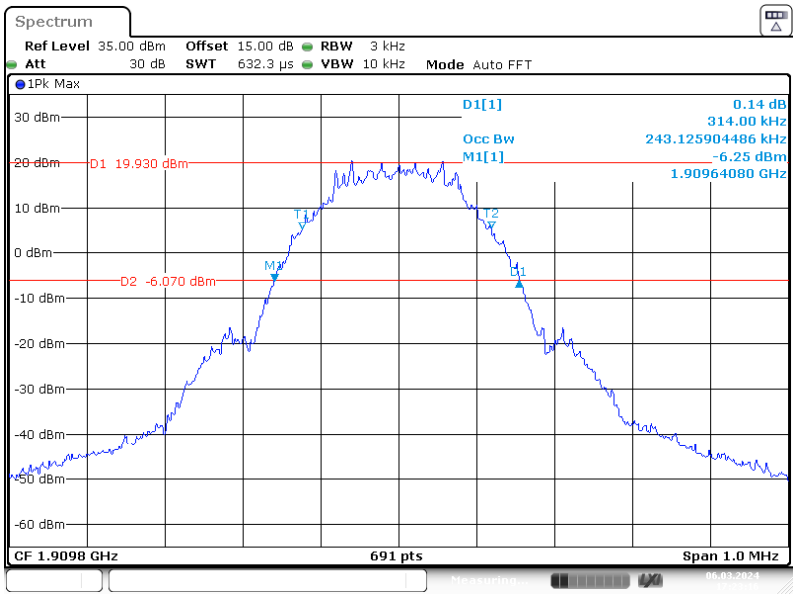
ProjectNo.:RKSA231222001 Tester:Bard Liu
Date: 6.MAR.2024 17:19:32

EGPRS Mode Middle Channel



ProjectNo.:RKSA231222001 Tester:Bard Liu
Date: 6.MAR.2024 17:21:07

EGPRS Mode High Channel

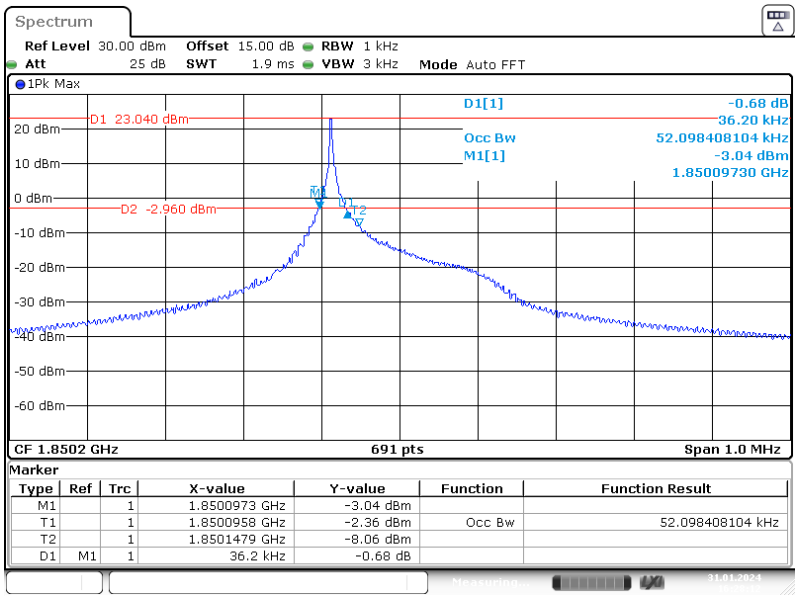


ProjectNo.:RKSA231222001 Tester:Bard Liu
Date: 6.MAR.2024 17:23:17

NB-IoT Band 2:

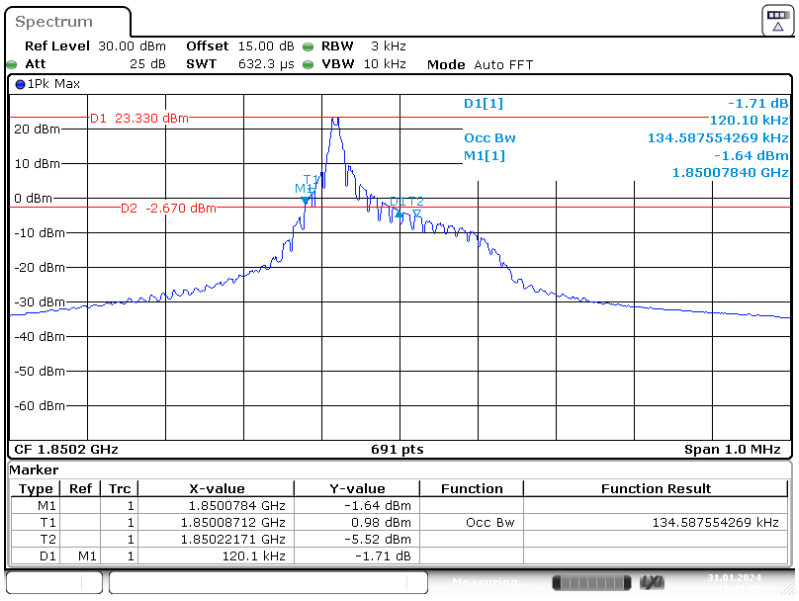
Test Modulation	Sub-carrier Spacing	Resource Block & RB offset	Test Channel	26 dB Bandwidth	99% Occupied Bandwidth
				MHz	MHz
BPSK	3.75kHz	1#0	Low	0.036	0.052
	15kHz	1#0		0.12	0.135
	3.75kHz	1#0	Middle	0.033	0.052
	15kHz	1#0		0.117	0.133
	3.75kHz	1#0	High	0.036	0.051
	15kHz	1#0		0.118	0.135
QPSK	3.75kHz	1#0	Low	0.042	0.061
	15kHz	1#0		0.132	0.133
	15kHz	12#0		0.265	0.192
	3.75kHz	1#0	Middle	0.041	0.059
	15kHz	1#0		0.13	0.133
	15kHz	12#0		0.263	0.191
	3.75kHz	1#0	High	0.043	0.059
	15kHz	1#0		0.132	0.133
	15kHz	12#0		0.266	0.191

BPSK (3.75kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



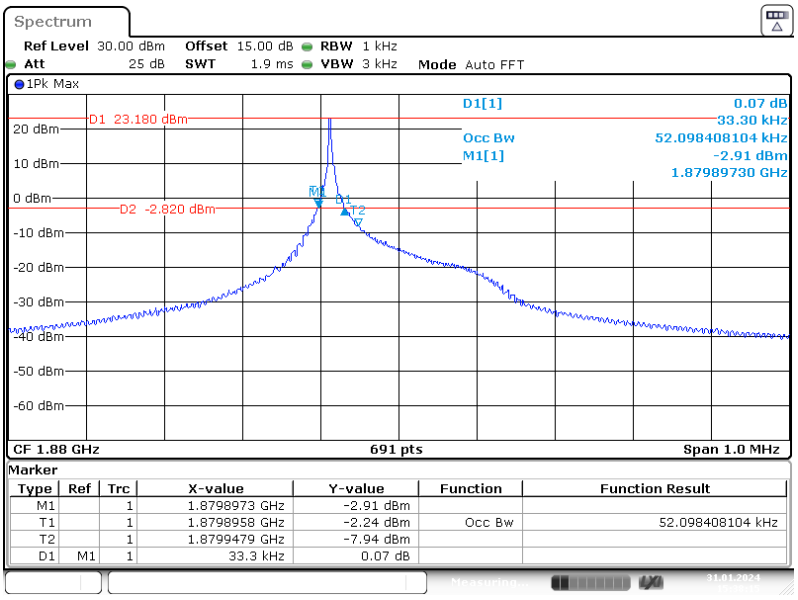
Project No.:RKSA231222001 Tester:Baird Liu
Date:31.JAN.2024 16:28:13

BPSK (15kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



Project No.:RKSA231222001 Tester:Baird Liu
Date:31.JAN.2024 16:12:06

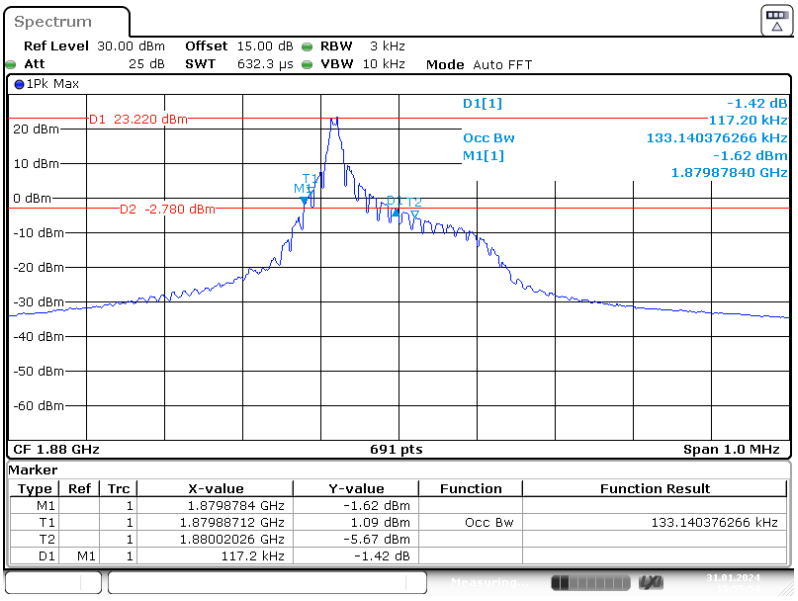
BPSK (3.75kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



Project No.:RKSA231222001 Tester:Bard Liu

Date:31.JAN.2024 15:38:15

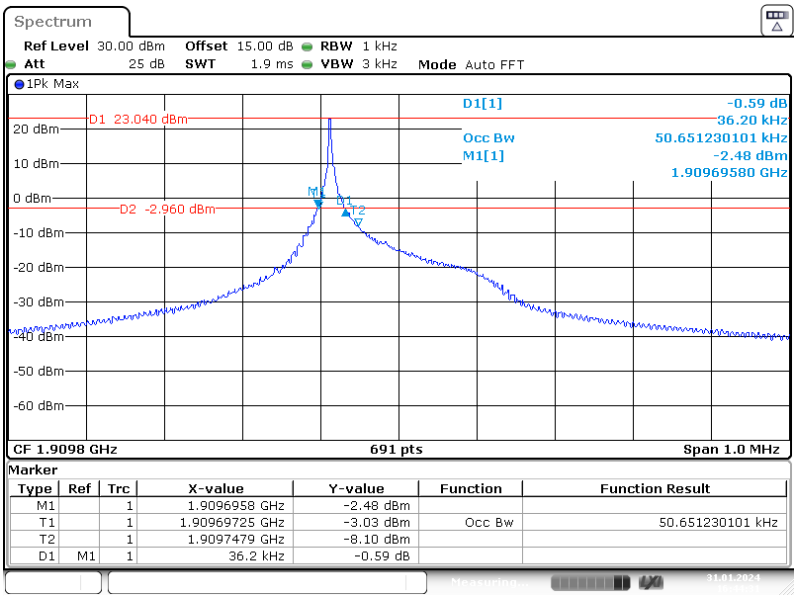
BPSK (15kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



Project No.:RKSA231222001 Tester:Bard Liu

Date:31.JAN.2024 15:55:55

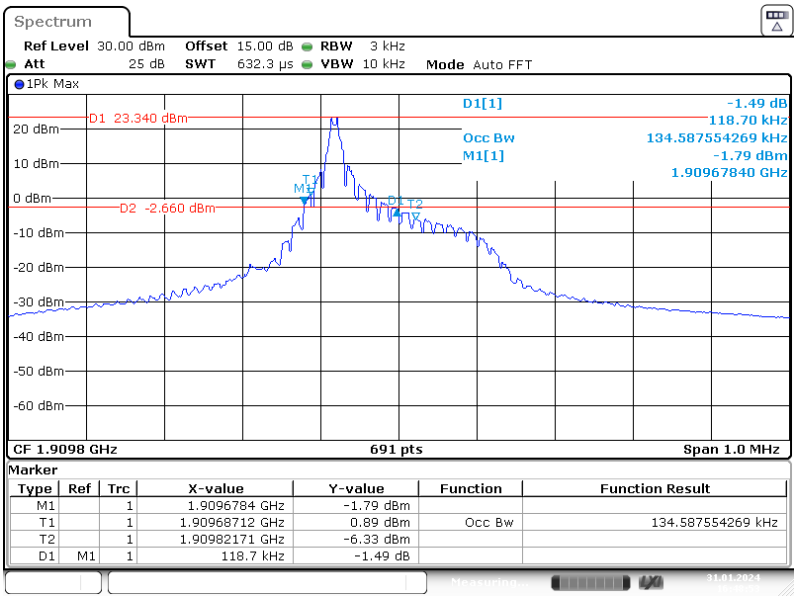
BPSK (3.75kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



Project No.:RKSA231222001 Tester:Bard Liu

Date:31.JAN.2024 16:44:31

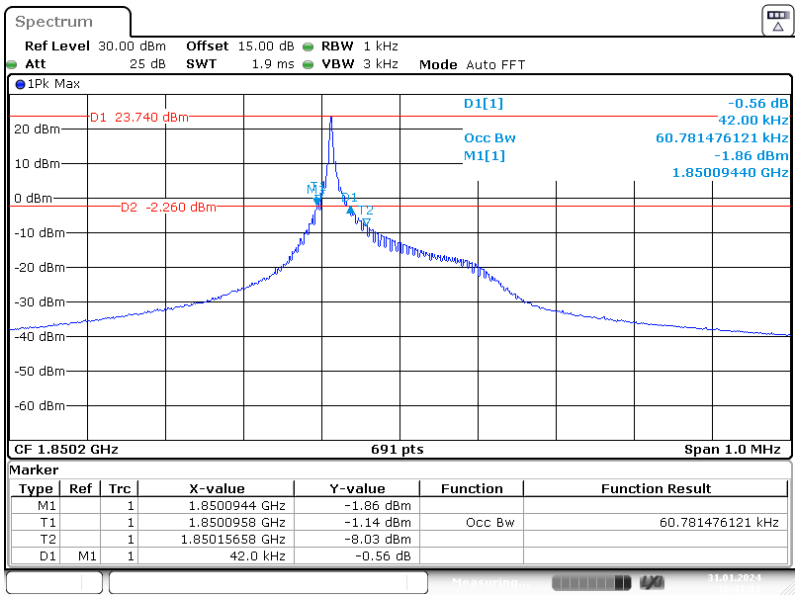
BPSK (15kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



Project No.:RKSA231222001 Tester:Bard Liu

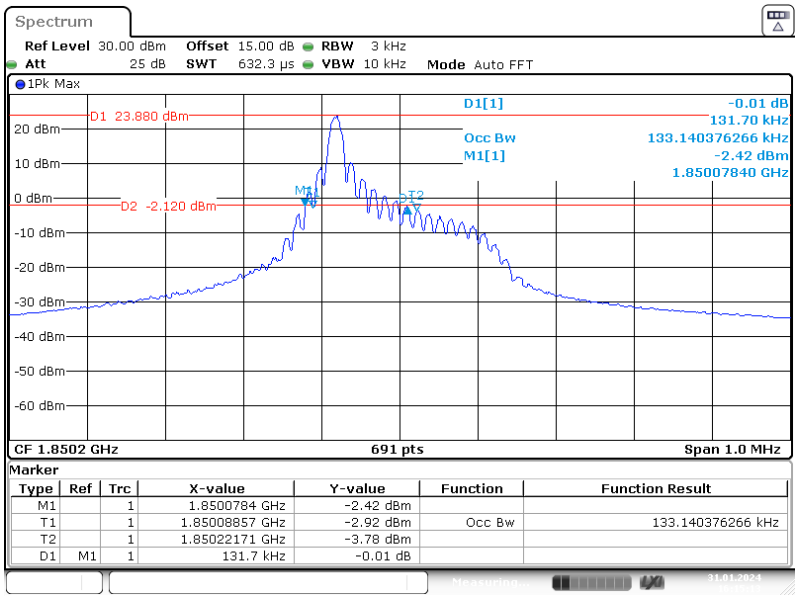
Date:31.JAN.2024 16:48:53

QPSK (3.75kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



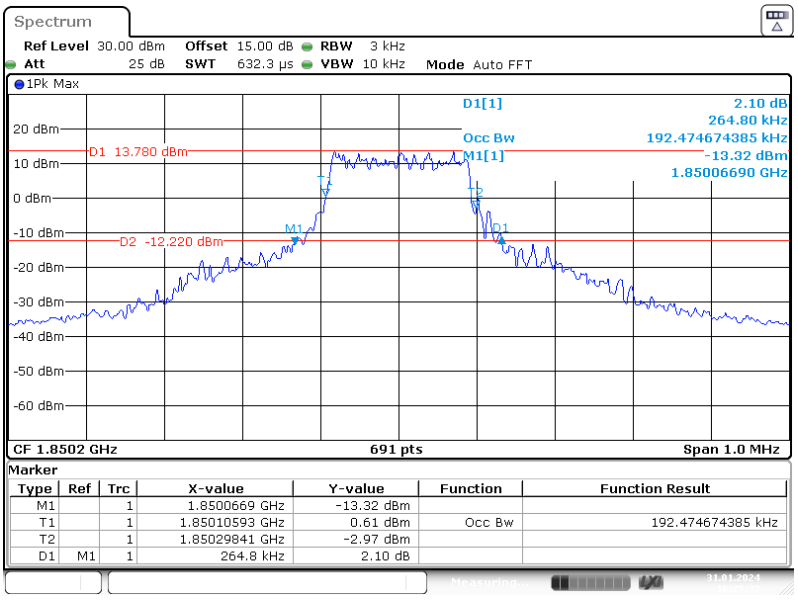
Project No.:RKSA231222001 Tester:Baird Liu
Date:31.JAN.2024 16:41:31

QPSK (15kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



Project No.:RKSA231222001 Tester:Baird Liu
Date:31.JAN.2024 16:15:14

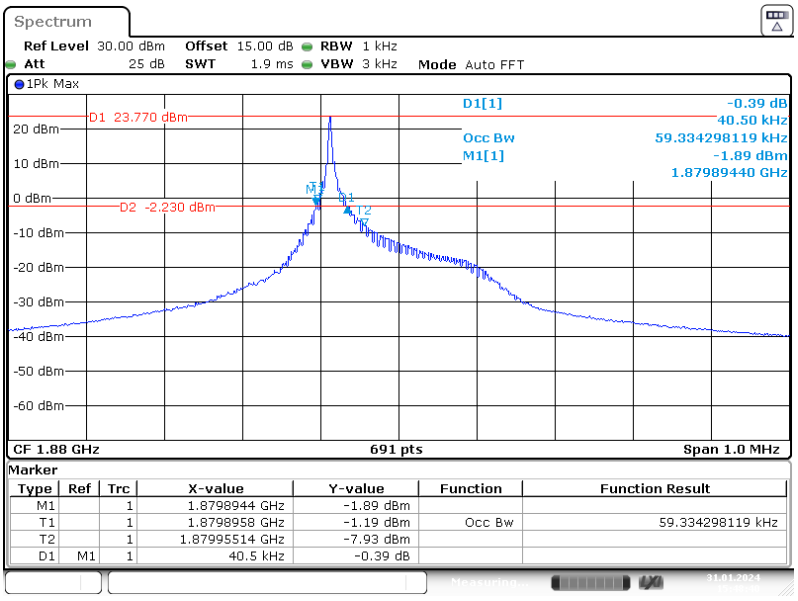
QPSK (15kHz,12#0) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



Project No.:RKSA231222001 Tester:Bard Liu

Date:31.JAN.2024 16:25:32

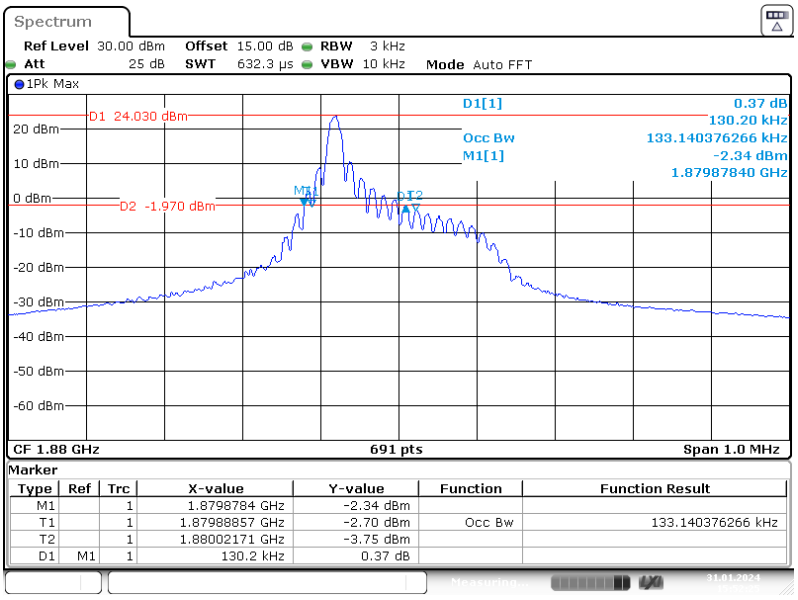
QPSK (3.75kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



Project No.:RKSA231222001 Tester:Bard Liu

Date:31.JAN.2024 15:48:41

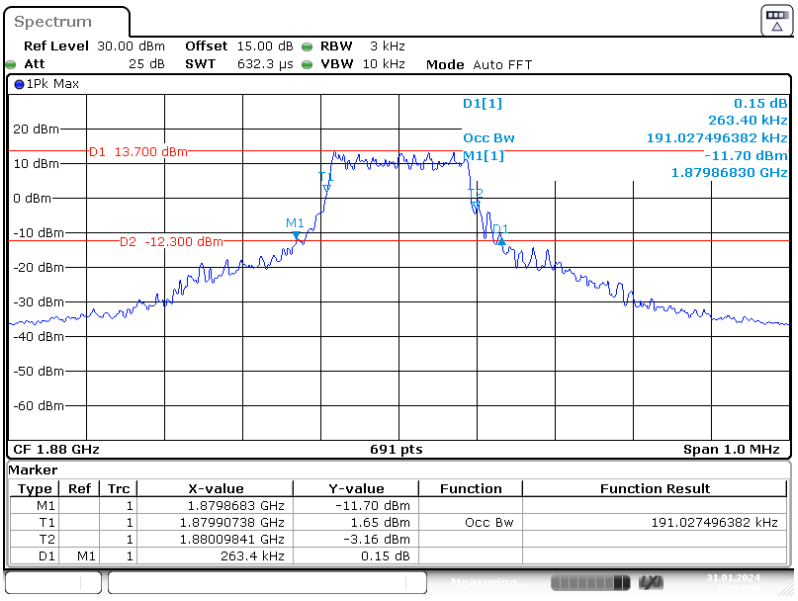
QPSK (15kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



Project No.:RKSA231222001 Tester:Bard Liu

Date:31.JAN.2024 15:52:26

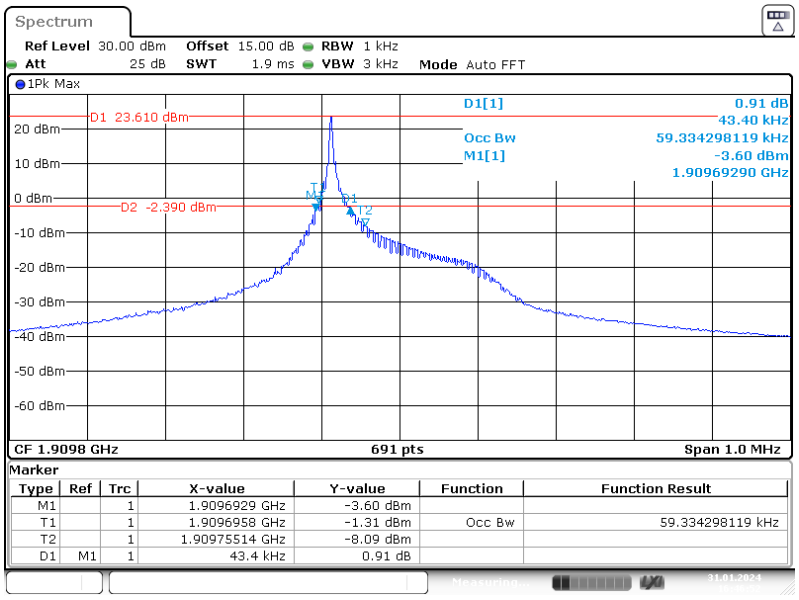
QPSK (15kHz,12#0) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



Project No.:RKSA231222001 Tester:Bard Liu

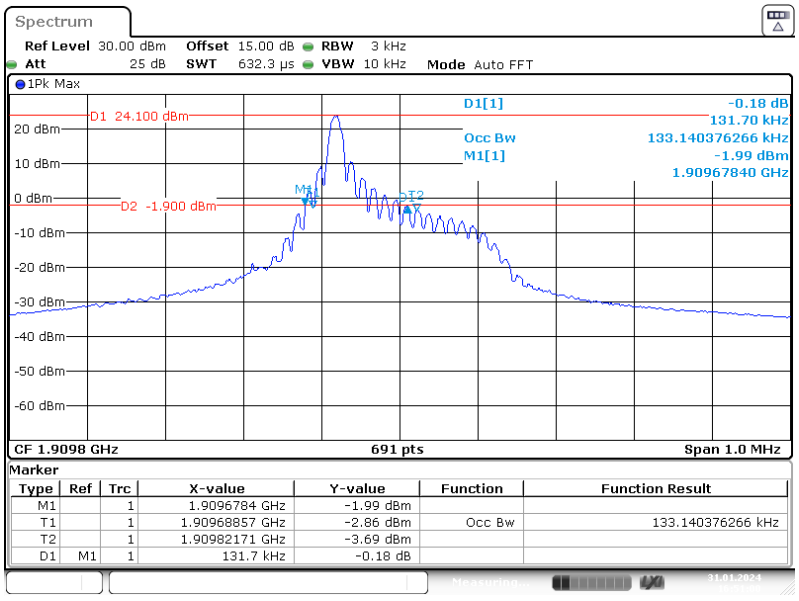
Date:31.JAN.2024 15:54:51

QPSK (3.75kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



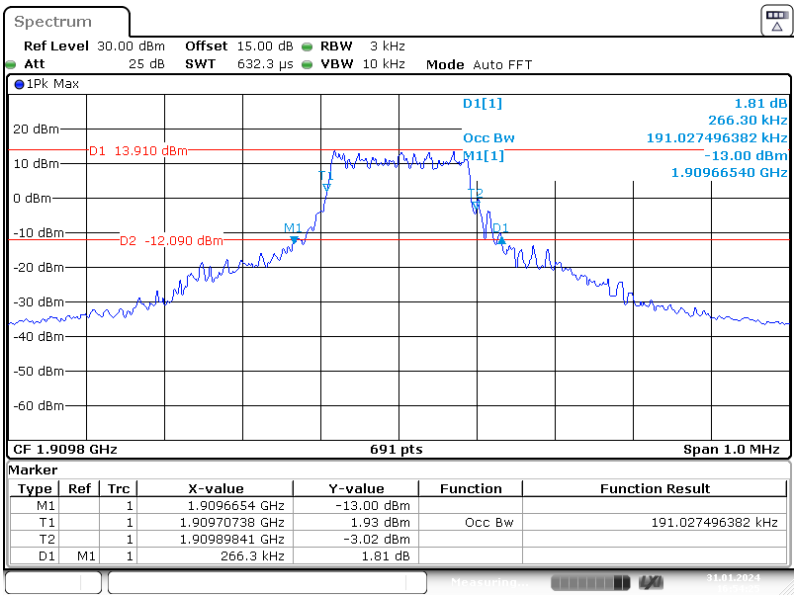
Project No.:RKSA231222001 Tester:Baird Liu
Date:31.JAN.2024 16:46:52

QPSK (15kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



Project No.:RKSA231222001 Tester:Baird Liu
Date:31.JAN.2024 16:51:01

QPSK (15kHz,12#0) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



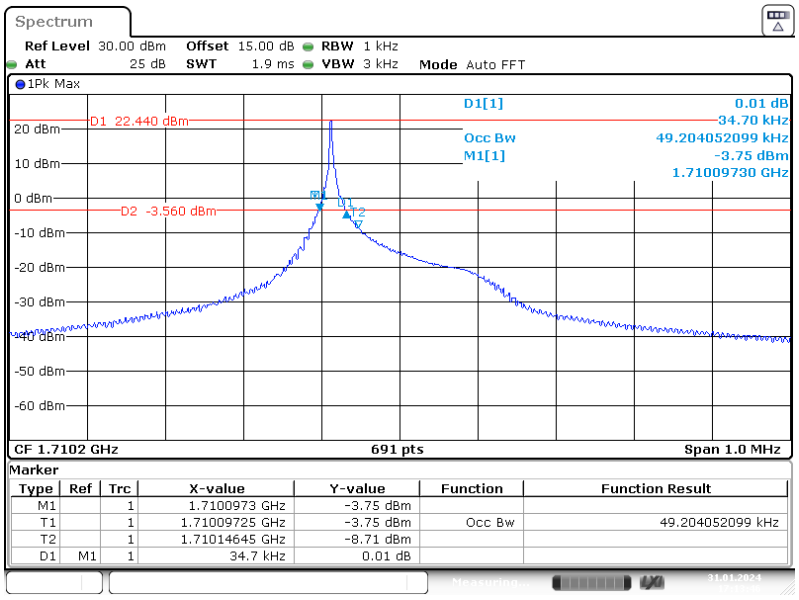
Project No.:RKSA231222001 Tester:Bard Liu

Date:31.JAN.2024 16:54:25

NB-IoT Band 4:

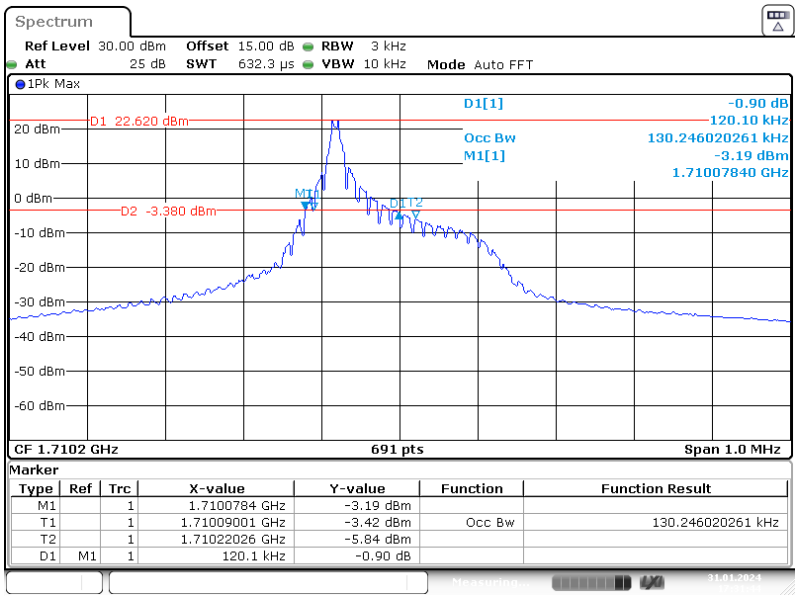
Test Modulation	Sub-carrier Spacing	Resource Block & RB offset	Test Channel	26 dB Bandwidth MHz	99% Occupied Bandwidth MHz
BPSK	3.75kHz	1#0	Low	0.035	0.049
	15kHz	1#0		0.12	0.13
	3.75kHz	1#0	Middle	0.036	0.048
	15kHz	1#0		0.114	0.132
	3.75kHz	1#0	High	0.035	0.049
	15kHz	1#0		0.118	0.132
QPSK	3.75kHz	1#0	Low	0.041	0.058
	15kHz	1#0		0.132	0.132
	15kHz	12#0		0.262	0.188
	3.75kHz	1#0	Middle	0.042	0.058
	15kHz	1#0		0.132	0.132
	15kHz	12#0		0.263	0.188
	3.75kHz	1#0	High	0.042	0.059
	15kHz	1#0		0.132	0.132
	15kHz	12#0		0.263	0.188

BPSK (3.75kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



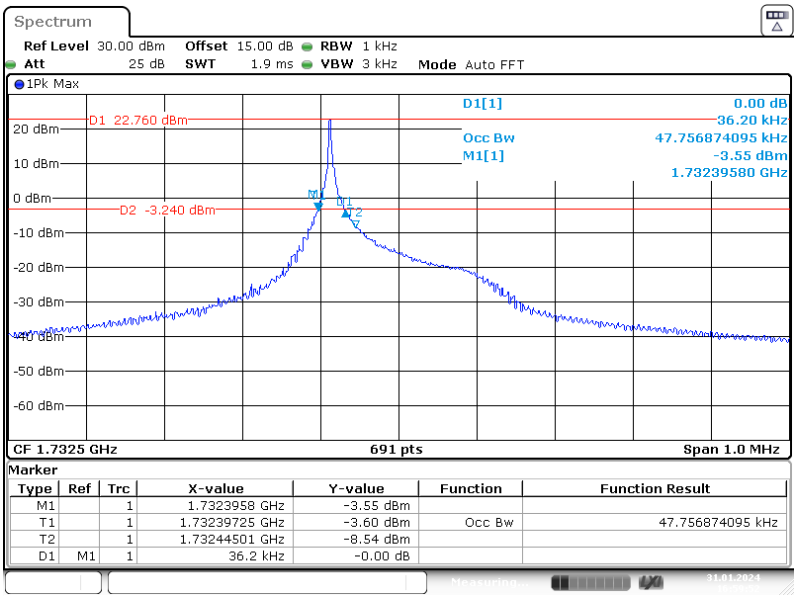
Project No.:RKSA231222001 Tester:Bard Liu
Date:31.JAN.2024 17:13:46

BPSK (15kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



Project No.:RKSA231222001 Tester:Bard Liu
Date:31.JAN.2024 17:31:44

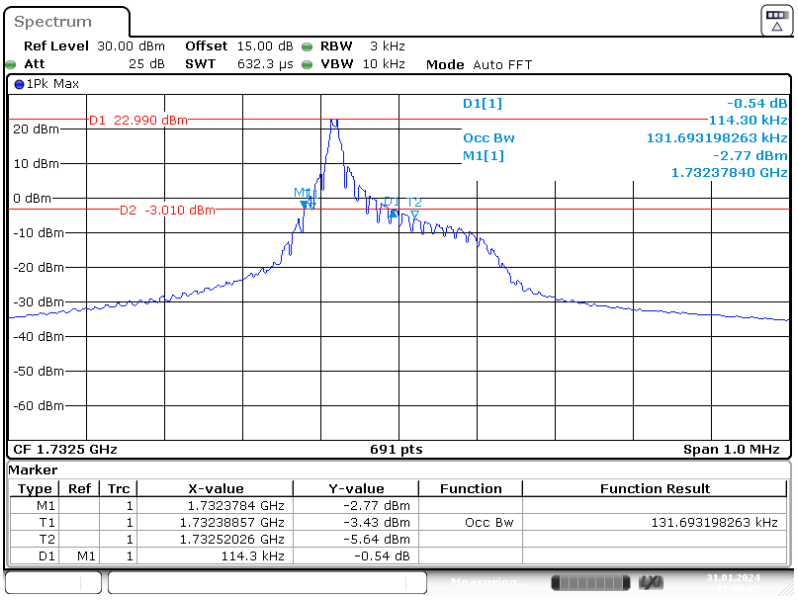
BPSK (3.75kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



Project No.:RKSA231222001 Tester:Bard Liu

Date:31.JAN.2024 16:59:53

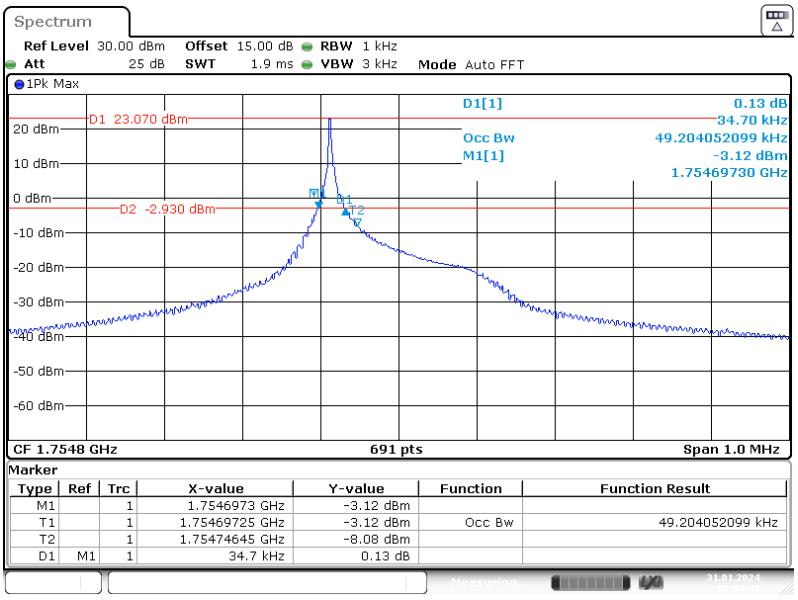
BPSK (15kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



Project No.:RKSA231222001 Tester:Bard Liu

Date:31.JAN.2024 17:09:24

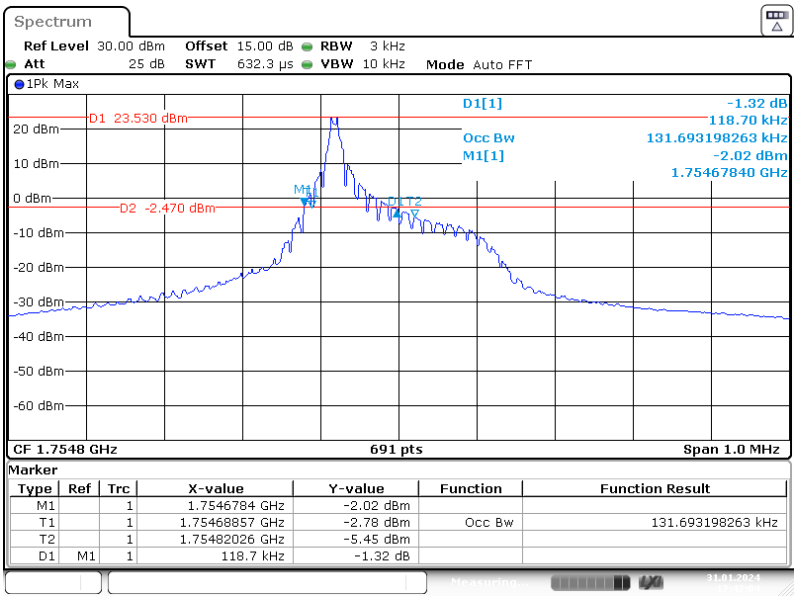
BPSK (3.75kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



Project No.:RKSA231222001 Tester:Bard Liu

Date:31.JAN.2024 17:34:42

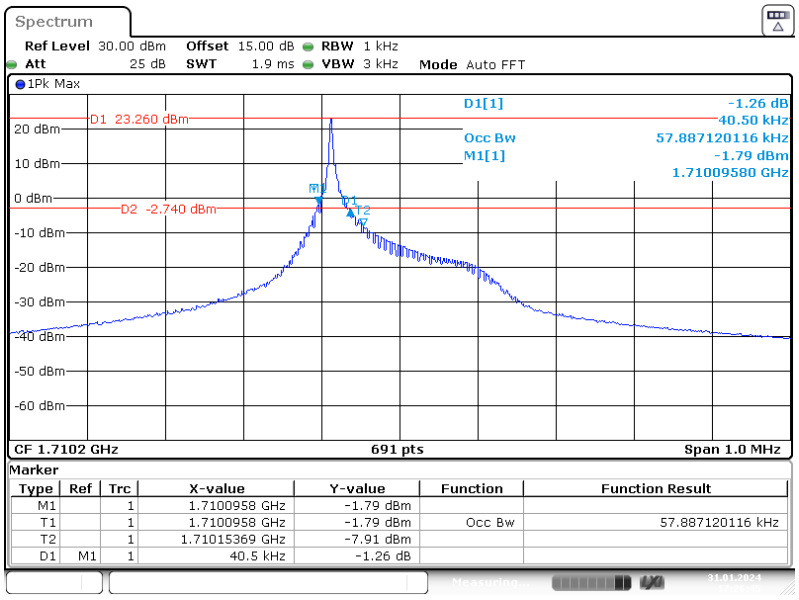
BPSK (15kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



Project No.:RKSA231222001 Tester:Bard Liu

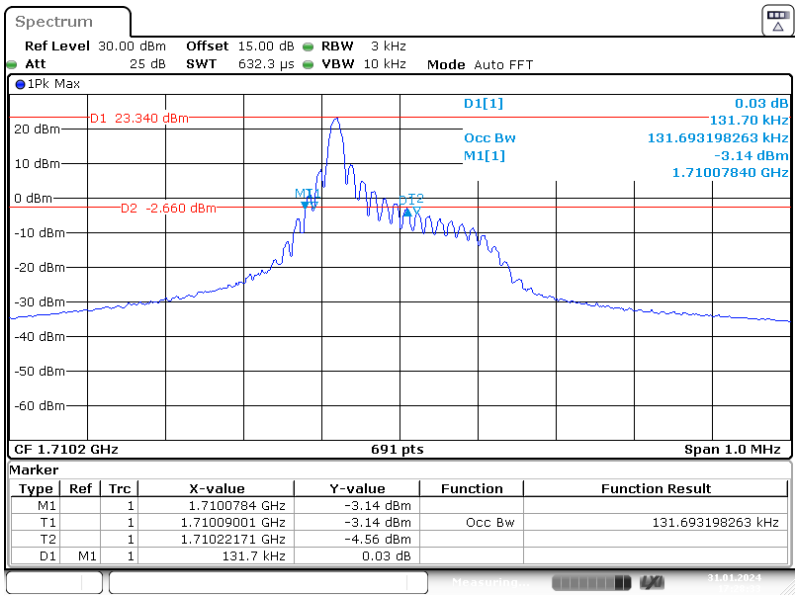
Date:31.JAN.2024 17:42:05

QPSK (3.75kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



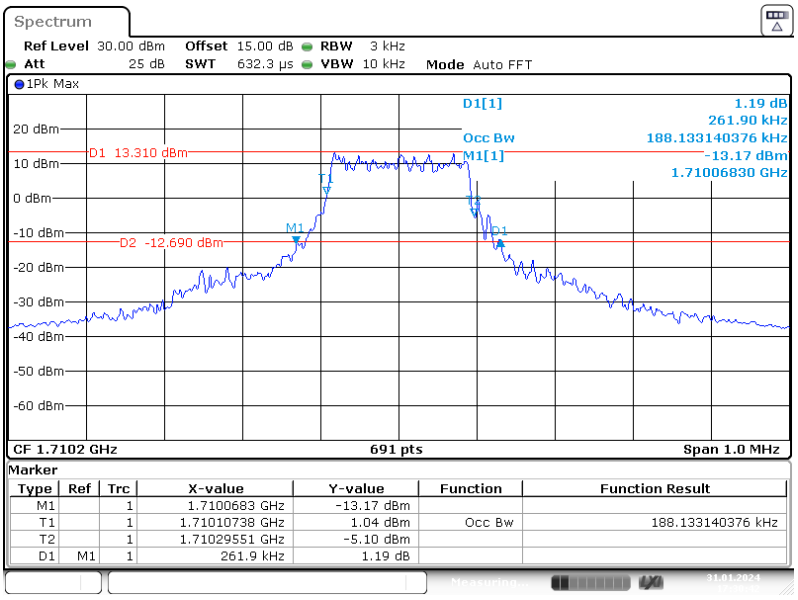
Project No.:RKSA231222001 Tester:Bard Liu
Date:31.JAN.2024 17:26:45

QPSK (15kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



Project No.:RKSA231222001 Tester:Bard Liu
Date:31.JAN.2024 17:28:33

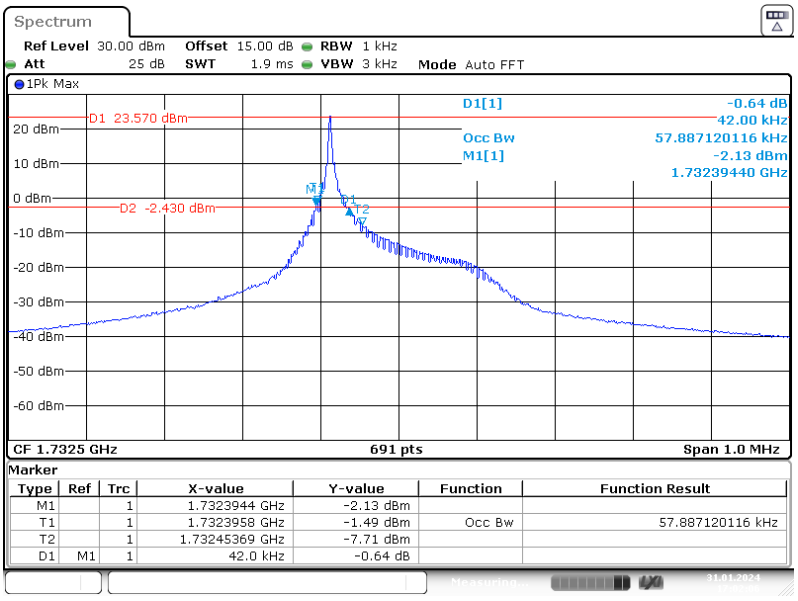
QPSK (15kHz,12#0) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



Project No.:RKSA231222001 Tester:Baird Liu

Date: 31.JAN.2024 17:30:43

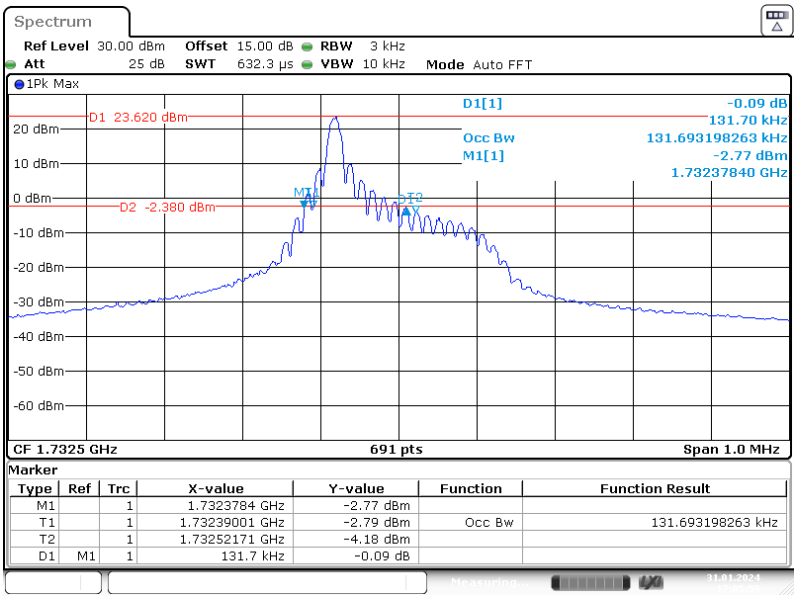
QPSK (3.75kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



Project No.:RKSA231222001 Tester:Baird Liu

Date: 31.JAN.2024 17:02:06

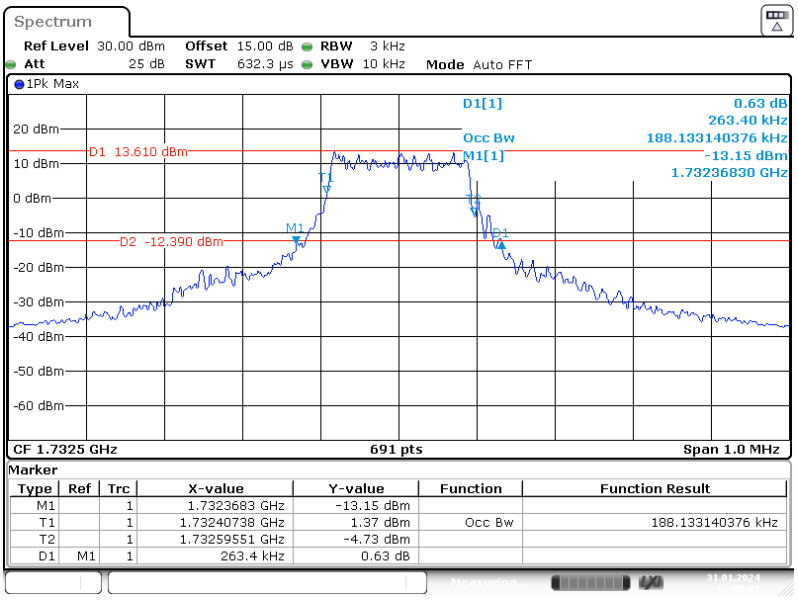
QPSK (15kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



Project No.:RKSA231222001 Tester:Bard Liu

Date: 31.JAN.2024 17:06:00

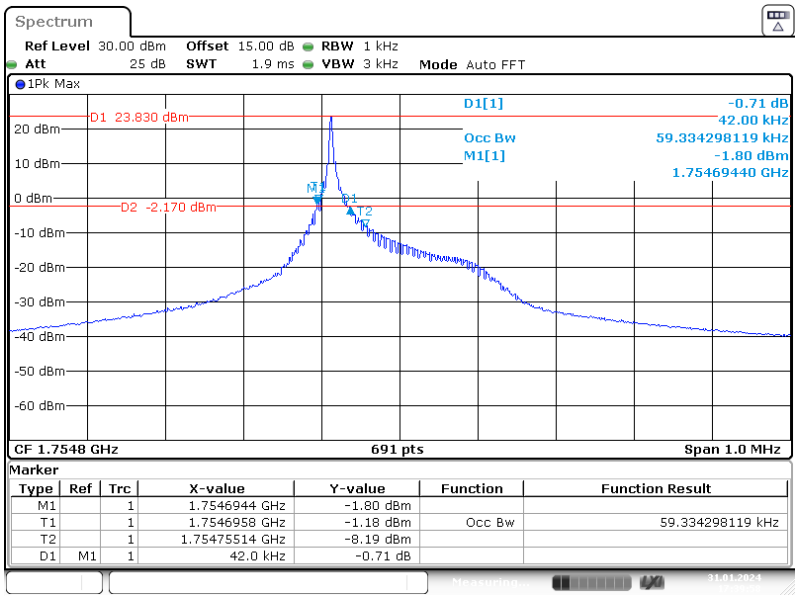
QPSK (15kHz,12#0) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



Project No.:RKSA231222001 Tester:Bard Liu

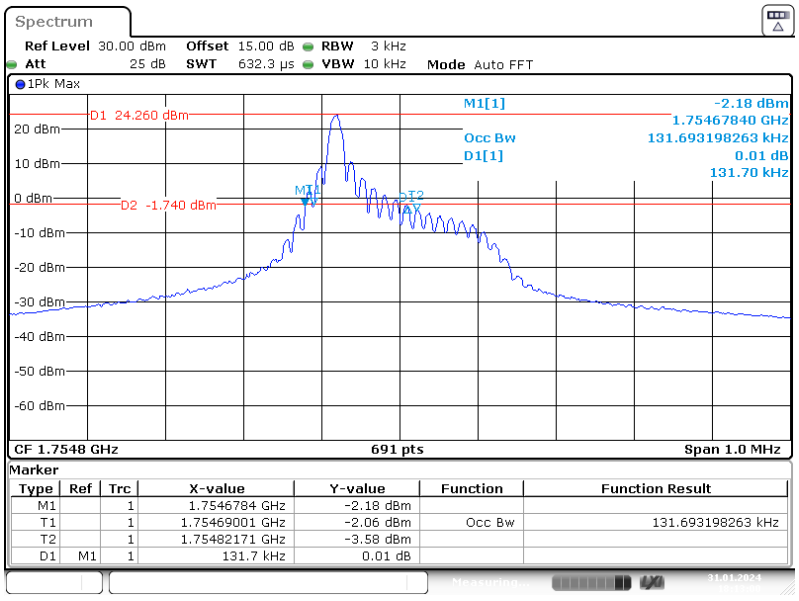
Date: 31.JAN.2024 17:08:02

QPSK (3.75kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



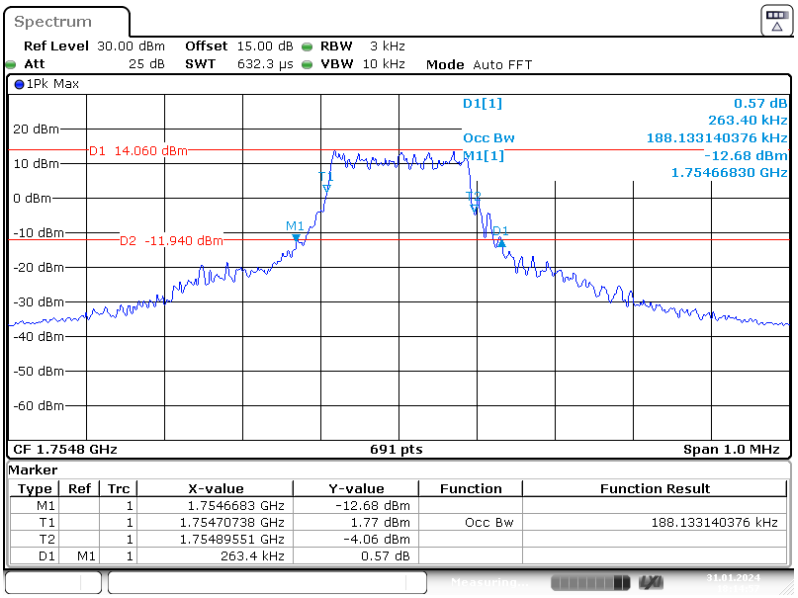
Project No.:RKSA231222001 Tester:Bard Liu
Date:31.JAN.2024 17:39:58

QPSK (15kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



Project No.:RKSA231222001 Tester:Bard Liu
Date:31.JAN.2024 18:13:00

QPSK (15kHz,12#0) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



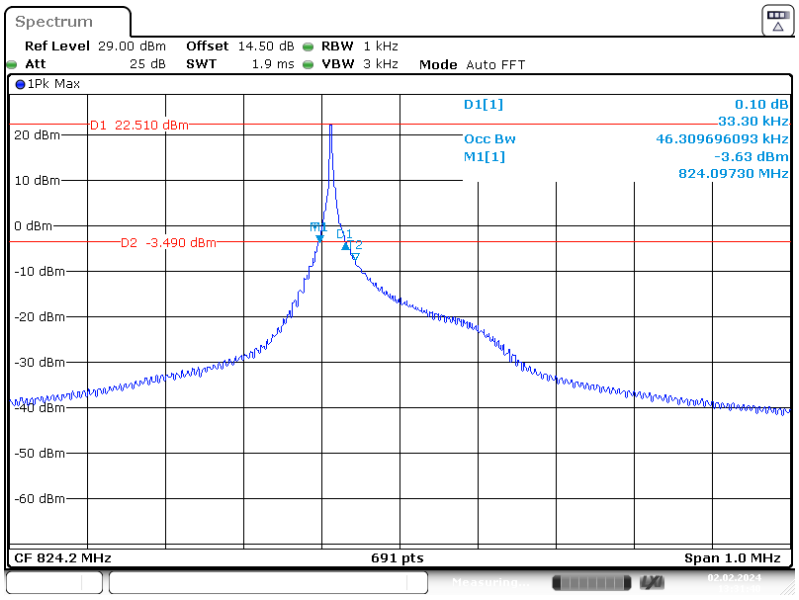
Project No.:RKSA231222001 Tester:Bard Liu

Date:31.JAN.2024 18:14:56

NB-IoT Band 5:

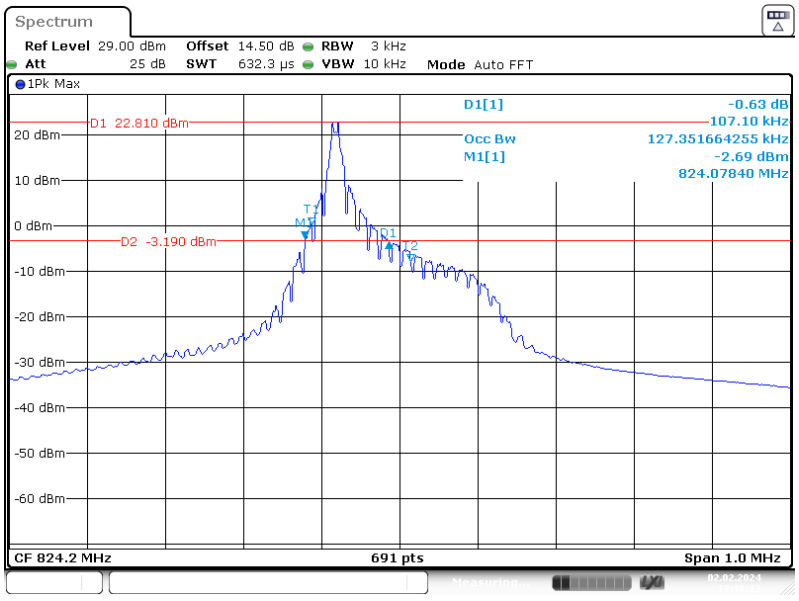
Test Modulation	Sub-carrier Spacing	Resource Block & RB offset	Test Channel	26 dB Bandwidth	99% Occupied Bandwidth
				MHz	MHz
BPSK	3.75kHz	1#0	Low	0.033	0.046
	15kHz	1#0		0.107	0.127
	3.75kHz	1#0	Middle	0.035	0.046
	15kHz	1#0		0.107	0.129
	3.75kHz	1#0	High	0.036	0.046
	15kHz	1#0		0.107	0.127
QPSK	3.75kHz	1#0	Low	0.041	0.059
	15kHz	1#0		0.13	0.132
	15kHz	12#0		0.249	0.184
	3.75kHz	1#0	Middle	0.042	0.059
	15kHz	1#0		0.132	0.132
	15kHz	12#0		0.249	0.184
	3.75kHz	1#0	High	0.041	0.059
	15kHz	1#0		0.13	0.132
	15kHz	12#0		0.25	0.185

BPSK (3.75kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



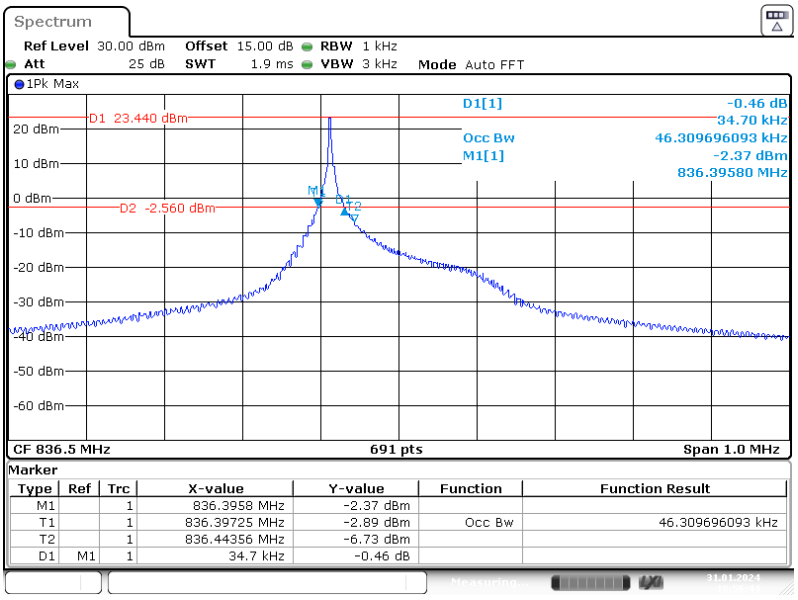
Project No.:RKSA231222001 Tester:Bard Liu
Date:2.FEB.2024 13:31:41

BPSK (15kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



Project No.:RKSA231222001 Tester:Bard Liu
Date:2.FEB.2024 13:36:12

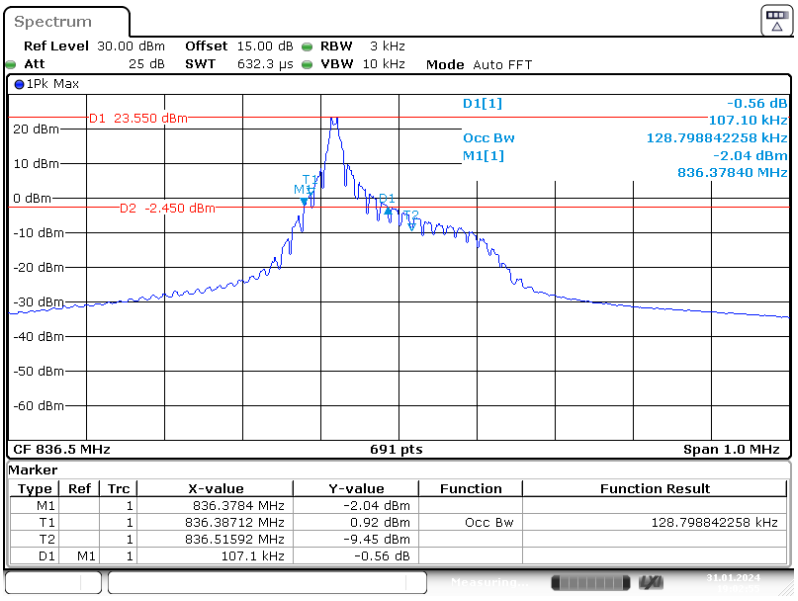
BPSK (3.75kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



Project No.:RKSA231222001 Tester:Bard Liu

Date:31.JAN.2024 18:56:45

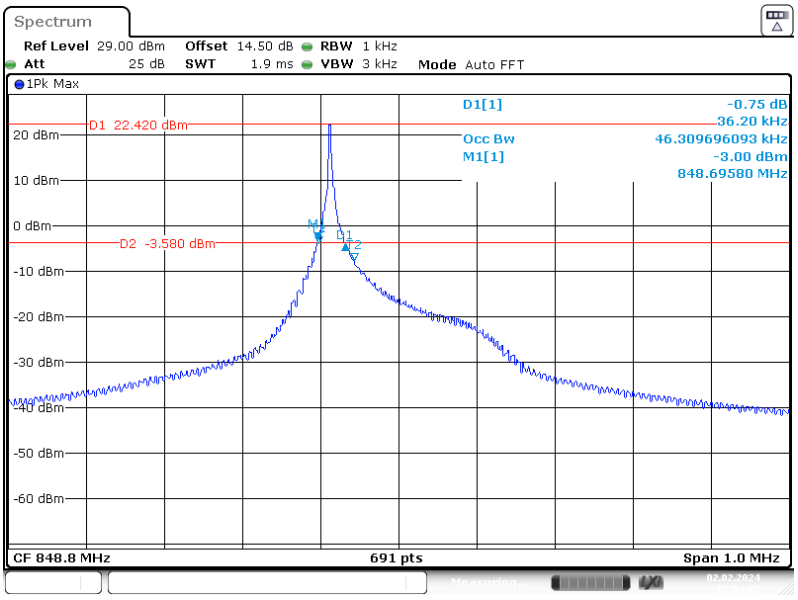
BPSK (15kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



Project No.:RKSA231222001 Tester:Bard Liu

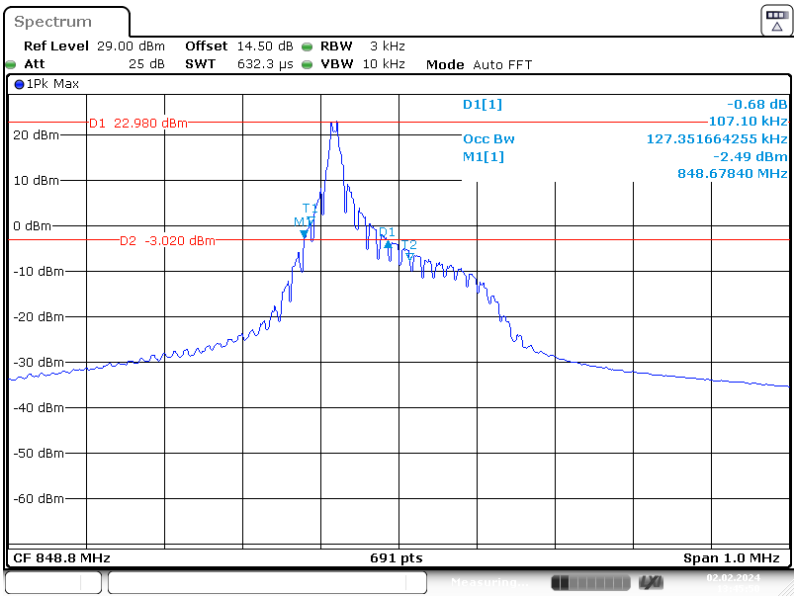
Date:31.JAN.2024 19:02:56

BPSK (3.75kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



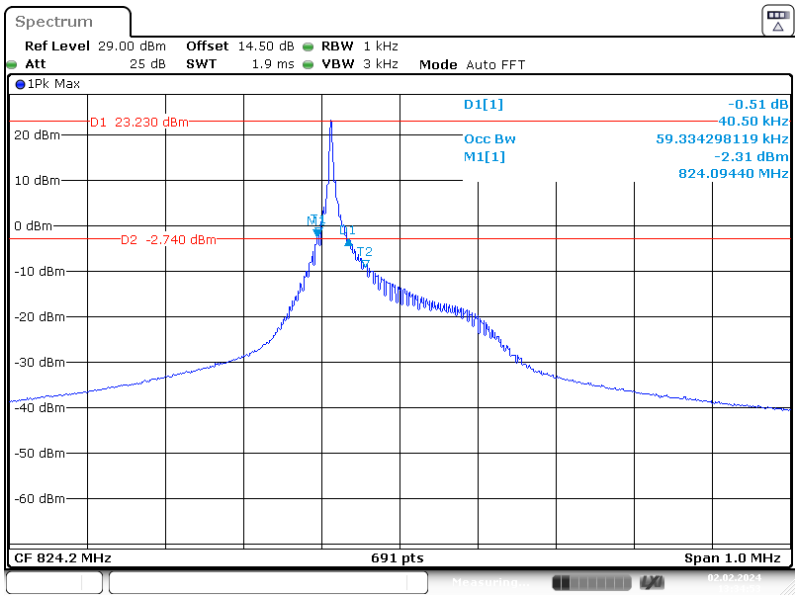
Project No.:RKSA231222001 Tester:Bard Liu
Date:2.FEB.2024 13:54:05

BPSK (15kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



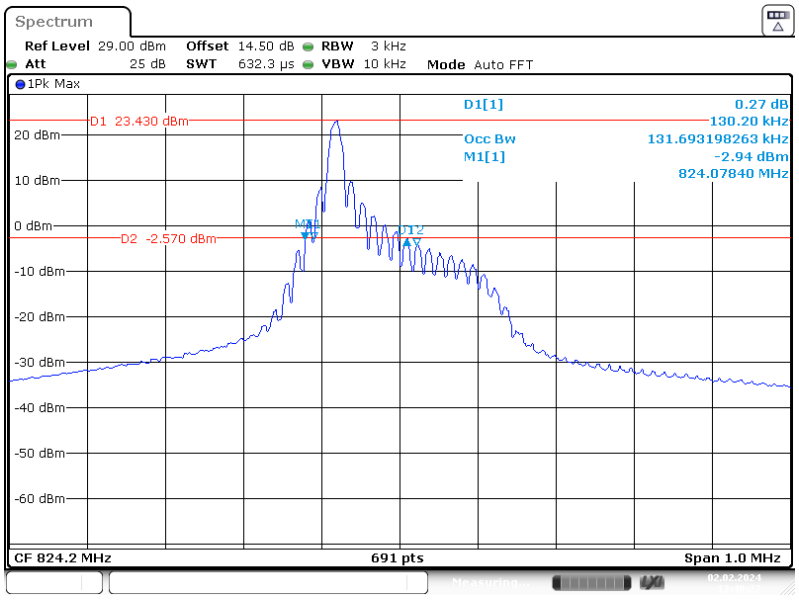
Project No.:RKSA231222001 Tester:Bard Liu
Date:2.FEB.2024 13:45:50

QPSK (3.75kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



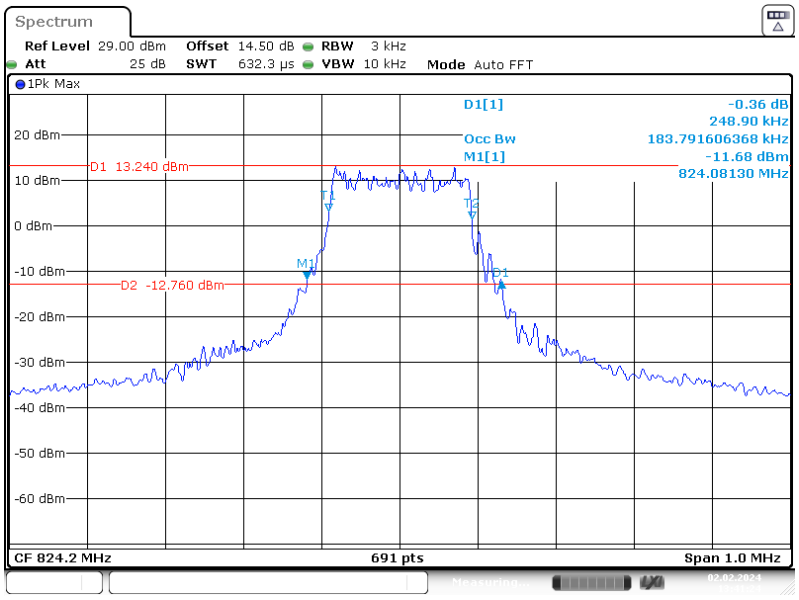
Project No.:RKSA231222001 Tester:Bard Liu
Date:2.FEB.2024 13:34:53

QPSK (15kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



Project No.:RKSA231222001 Tester:Bard Liu
Date:2.FEB.2024 13:40:28

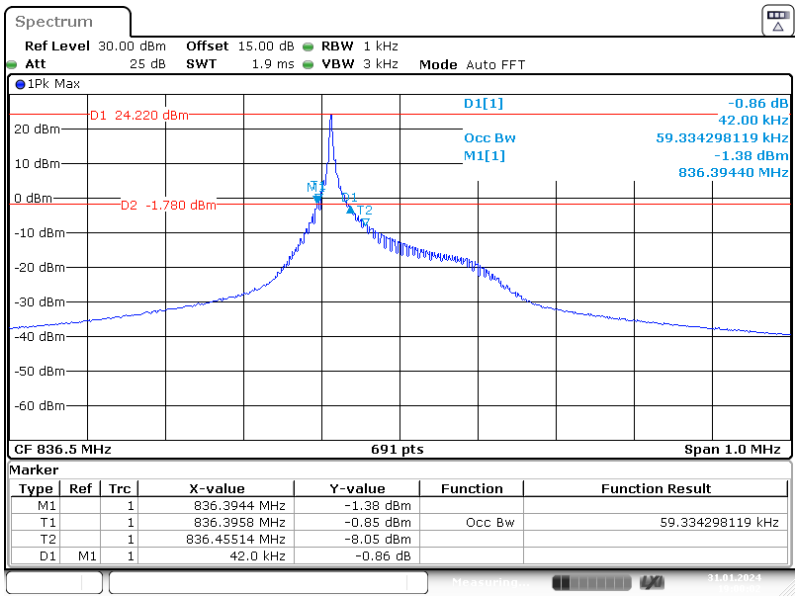
QPSK (15kHz,12#0) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



Project No.:RKSA231222001 Tester:Bard Liu

Date:2.FEB.2024 13:41:24

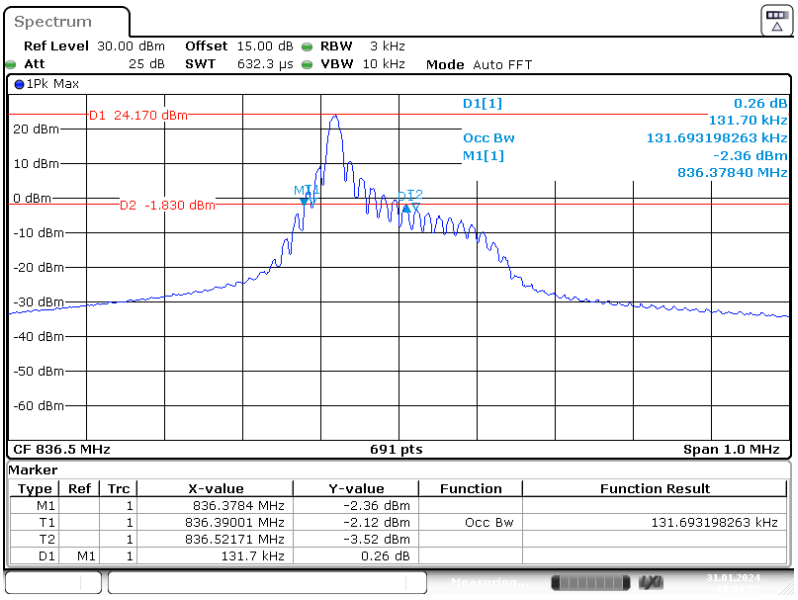
QPSK (3.75kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



Project No.:RKSA231222001 Tester:Bard Liu

Date:31.JAN.2024 19:00:03

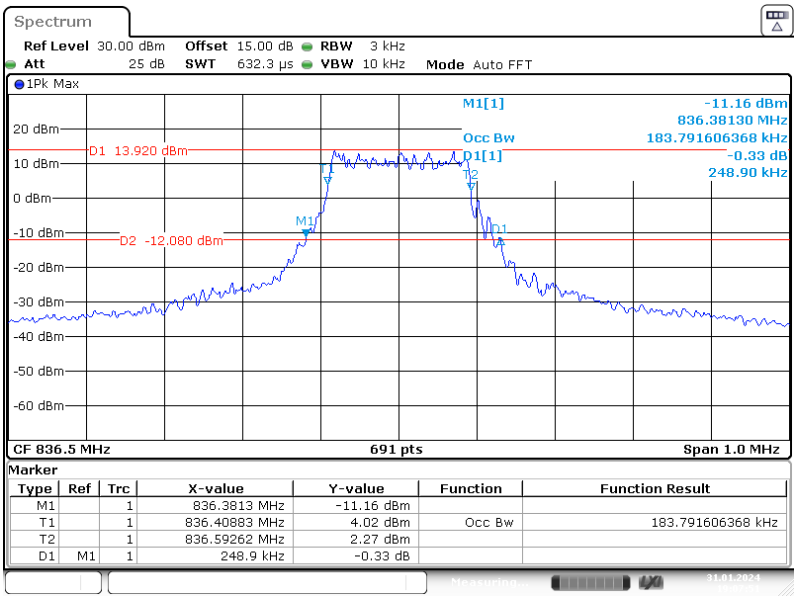
QPSK (15kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



Project No.:RKSA231222001 Tester:Bard Liu

Date:31.JAN.2024 19:04:55

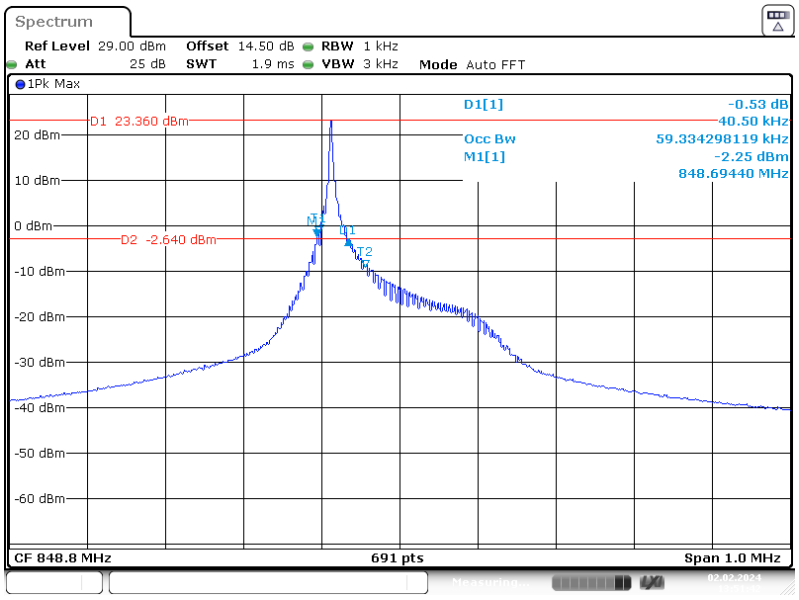
QPSK (15kHz,12#0) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



Project No.:RKSA231222001 Tester:Bard Liu

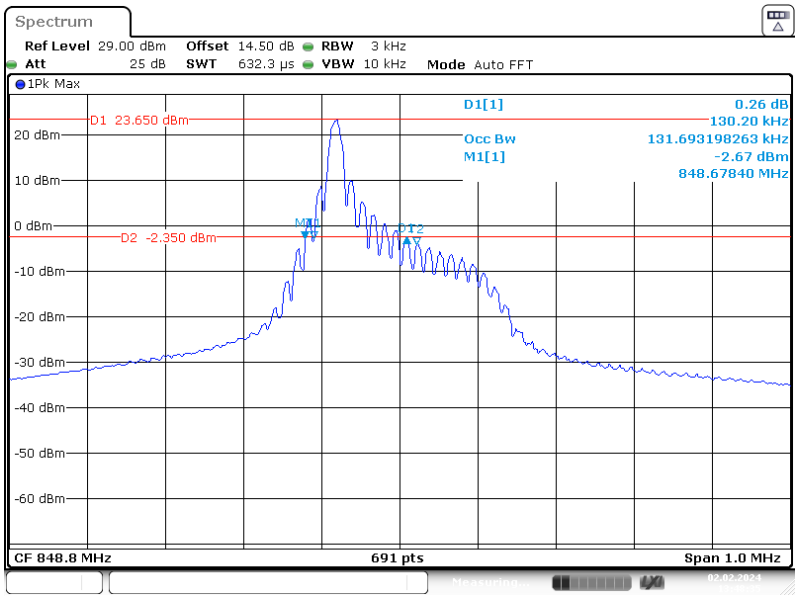
Date:31.JAN.2024 19:07:52

QPSK (3.75kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



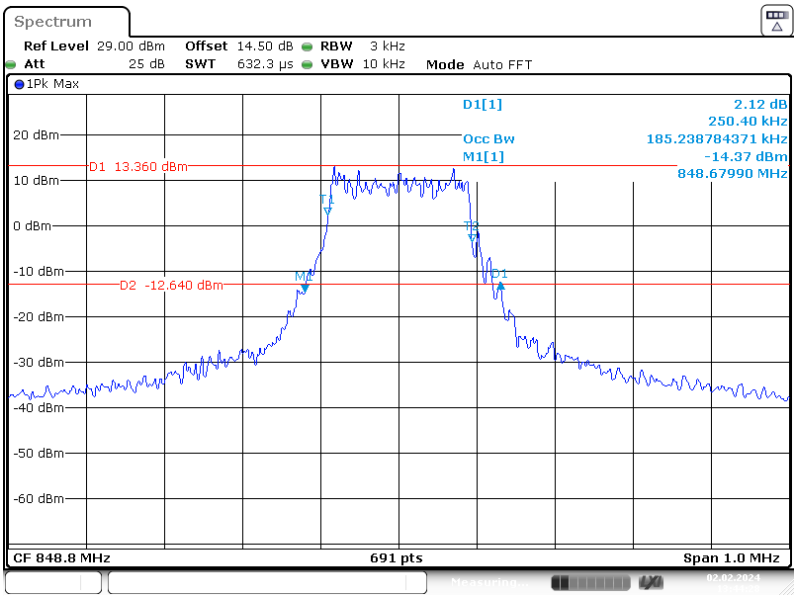
Project No.:RKSA231222001 Tester:Bard Liu
Date:2.FEB.2024 13:51:42

QPSK (15kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



Project No.:RKSA231222001 Tester:Bard Liu
Date:2.FEB.2024 13:48:35

QPSK (15kHz,12#0) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



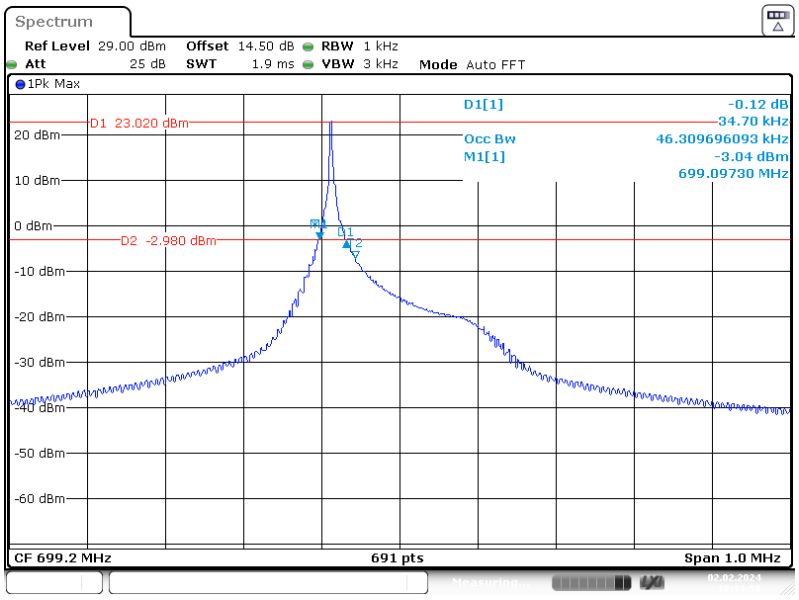
Project No.:RKSA231222001 Tester:Bard Liu

Date:2.FEB.2024 13:44:28

NB-IoT Band 12:

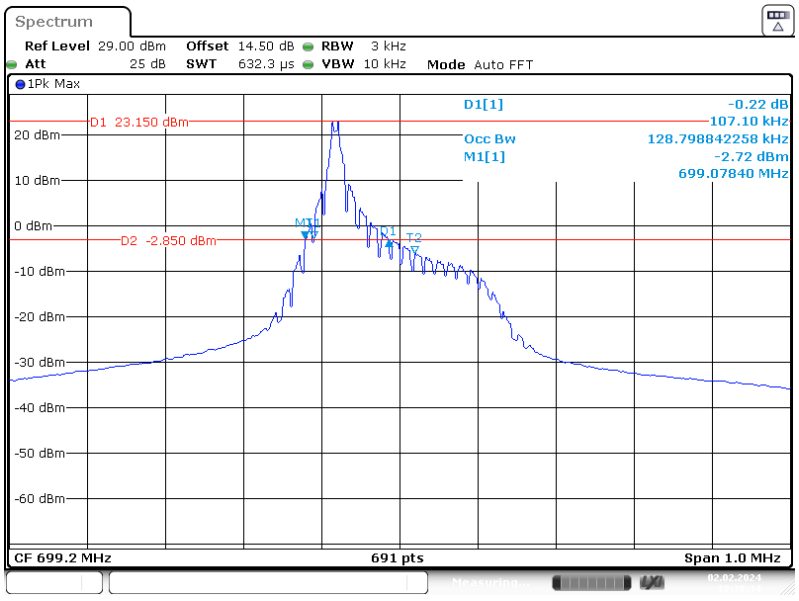
Test Modulation	Sub-carrier Spacing	Resource Block & RB offset	Test Channel	26 dB Bandwidth	99% Occupied Bandwidth
				MHz	MHz
BPSK	3.75kHz	1#0	Low	0.035	0.046
	15kHz	1#0		0.107	0.129
	3.75kHz	1#0	Middle	0.035	0.046
	15kHz	1#0		0.106	0.129
	3.75kHz	1#0	High	0.033	0.046
	15kHz	1#0		0.106	0.129
QPSK	3.75kHz	1#0	Low	0.041	0.056
	15kHz	1#0		0.119	0.127
	15kHz	12#0		0.249	0.184
	3.75kHz	1#0	Middle	0.041	0.056
	15kHz	1#0		0.13	0.127
	15kHz	12#0		0.25	0.184
	3.75kHz	1#0	High	0.041	0.056
	15kHz	1#0		0.119	0.129
	15kHz	12#0		0.25	0.184

BPSK (3.75kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



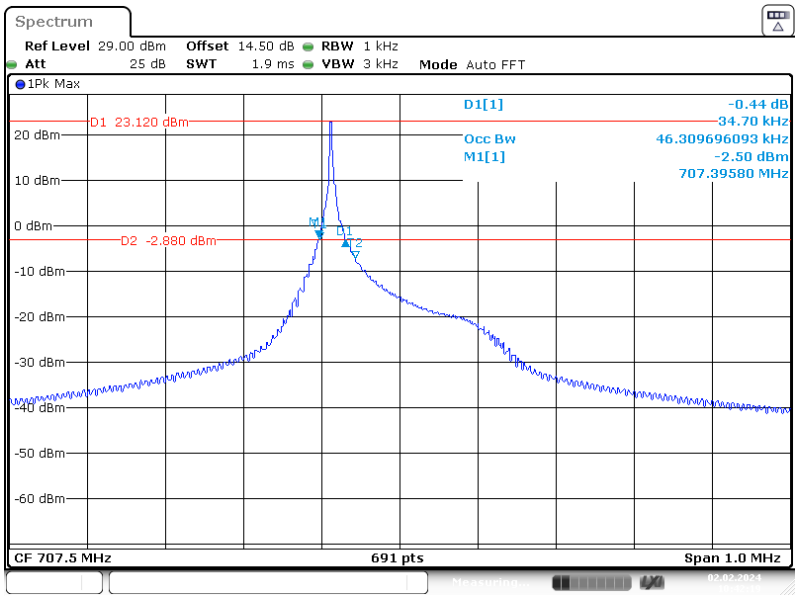
Project No.:RKSA231222001 Tester:Bard Liu
Date:2.FEB.2024 10:34:58

BPSK (15kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



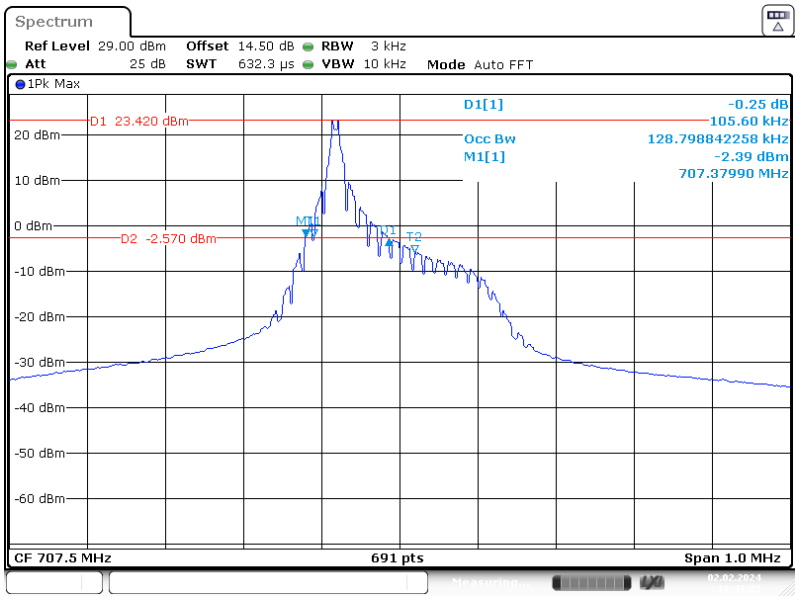
Project No.:RKSA231222001 Tester:Bard Liu
Date:2.FEB.2024 10:30:35

BPSK (3.75kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



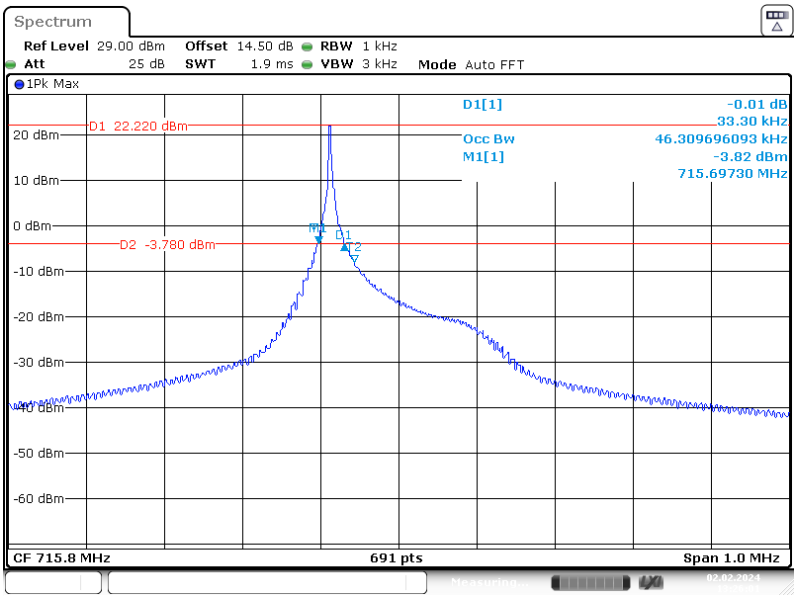
Project No.:RKSA231222001 Tester:Bard Liu
Date:2.FEB.2024 10:42:19

BPSK (15kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



Project No.:RKSA231222001 Tester:Bard Liu
Date:2.FEB.2024 10:43:24

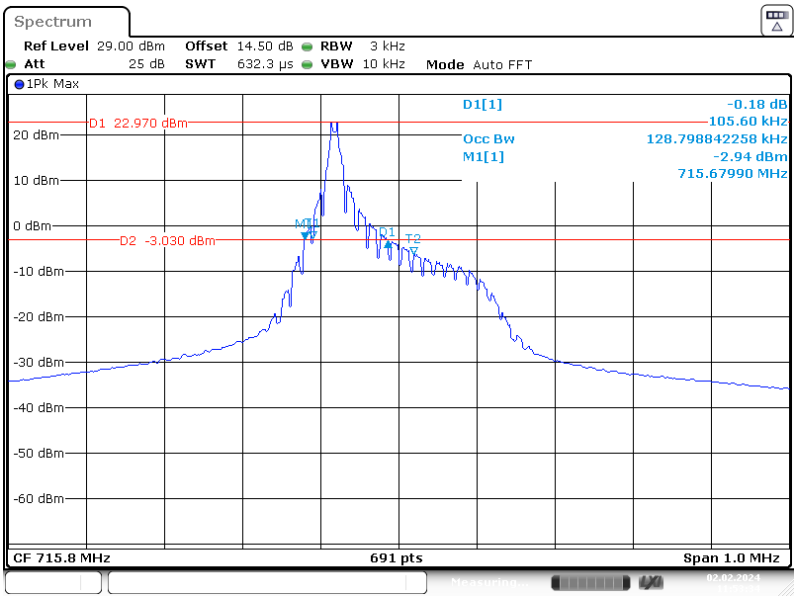
BPSK (3.75kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



Project No.:RKSA231222001 Tester:Bard Liu

Date:2.FEB.2024 13:26:02

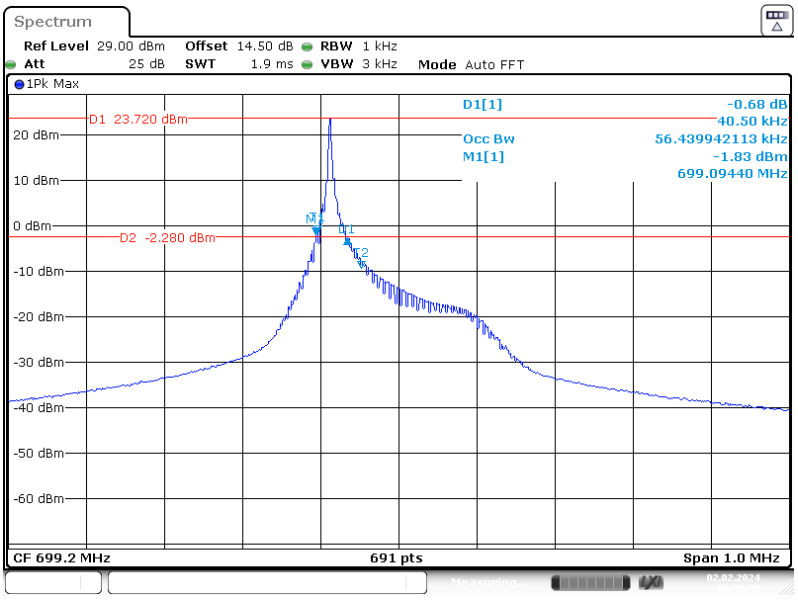
BPSK (15kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



Project No.:RKSA231222001 Tester:Bard Liu

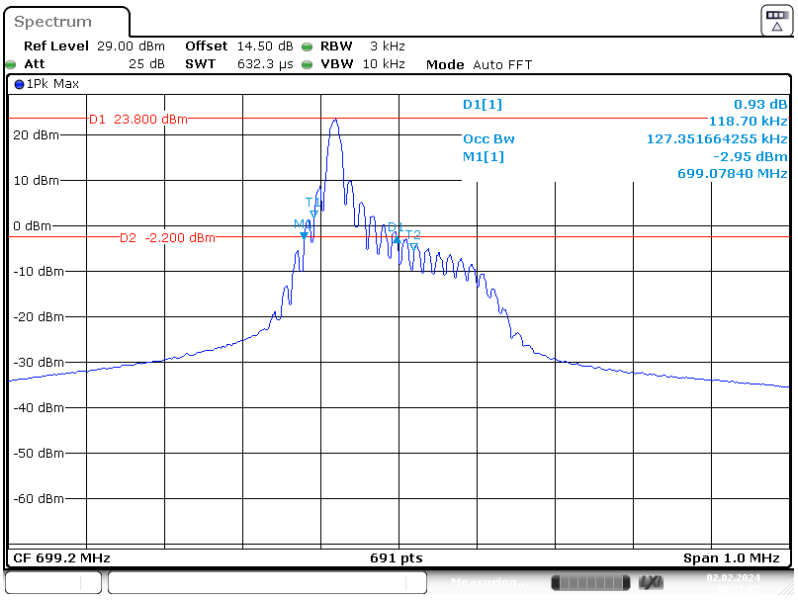
Date:2.FEB.2024 11:53:34

QPSK (3.75kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



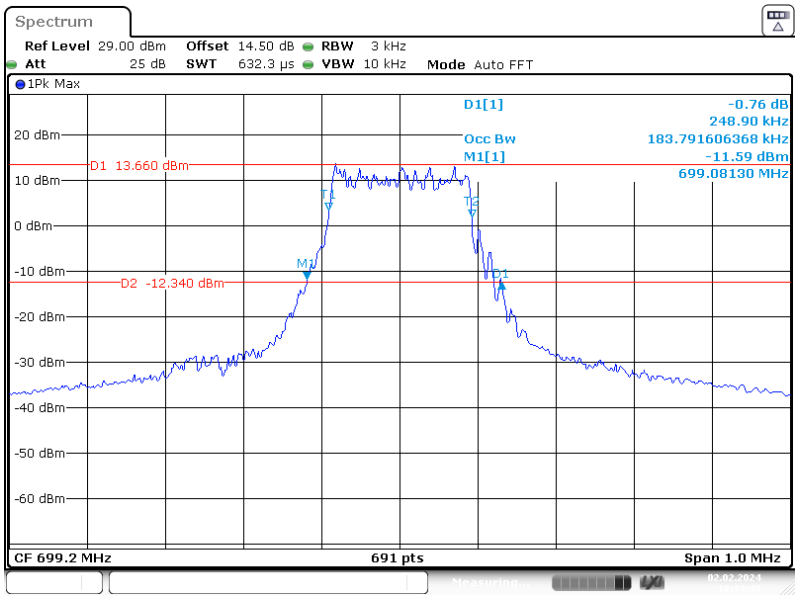
Project No.:RKSA231222001 Tester:Bard Liu
Date:2.FEB.2024 10:38:38

QPSK (15kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



Project No.:RKSA231222001 Tester:Bard Liu
Date:2.FEB.2024 10:31:39

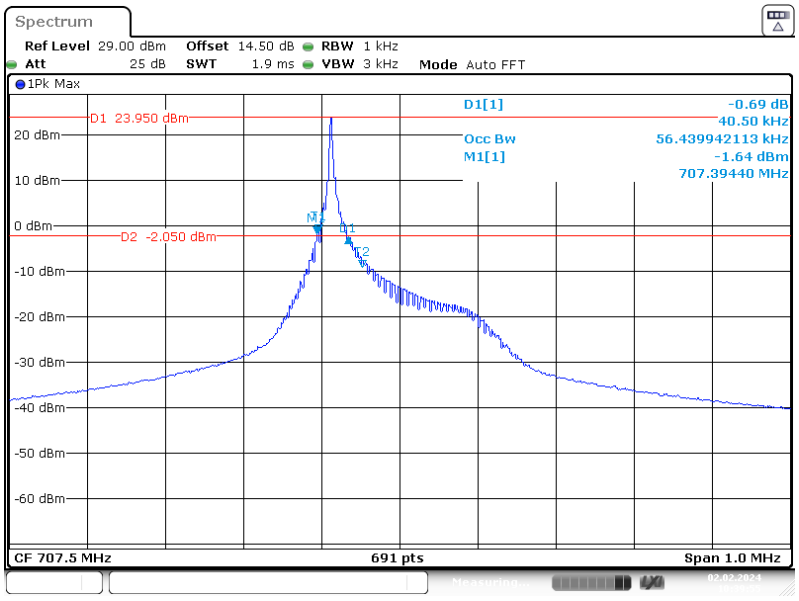
QPSK (15kHz,12#0) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



Project No.:RKSA231222001 Tester:Bard Liu

Date:2.FEB.2024 10:33:49

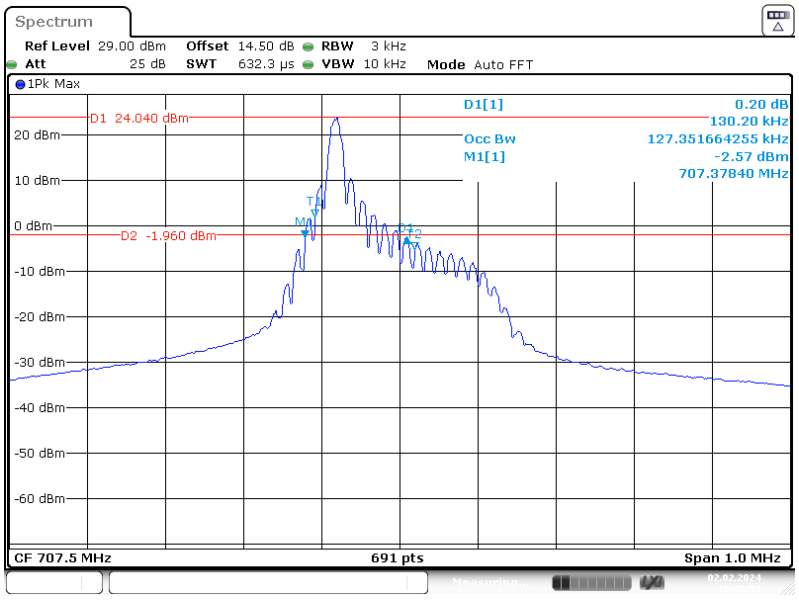
QPSK (3.75kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



Project No.:RKSA231222001 Tester:Bard Liu

Date:2.FEB.2024 10:39:55

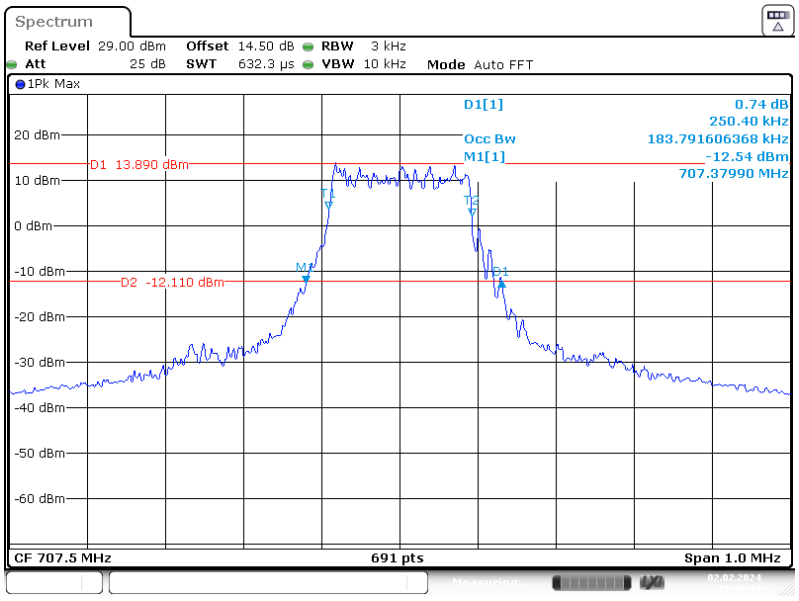
QPSK (15kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



Project No.:RKSA231222001 Tester:Bard Liu

Date:2.FEB.2024 10:46:52

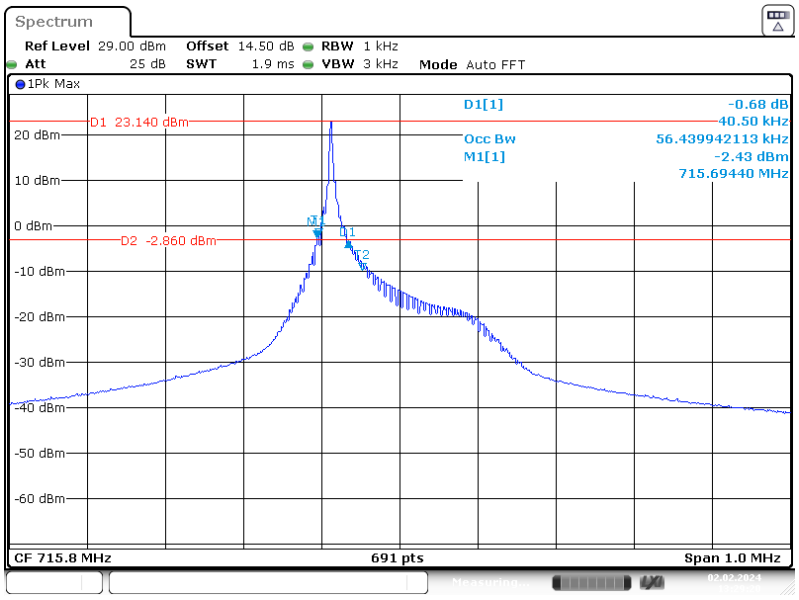
QPSK (15kHz,12#0) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



Project No.:RKSA231222001 Tester:Bard Liu

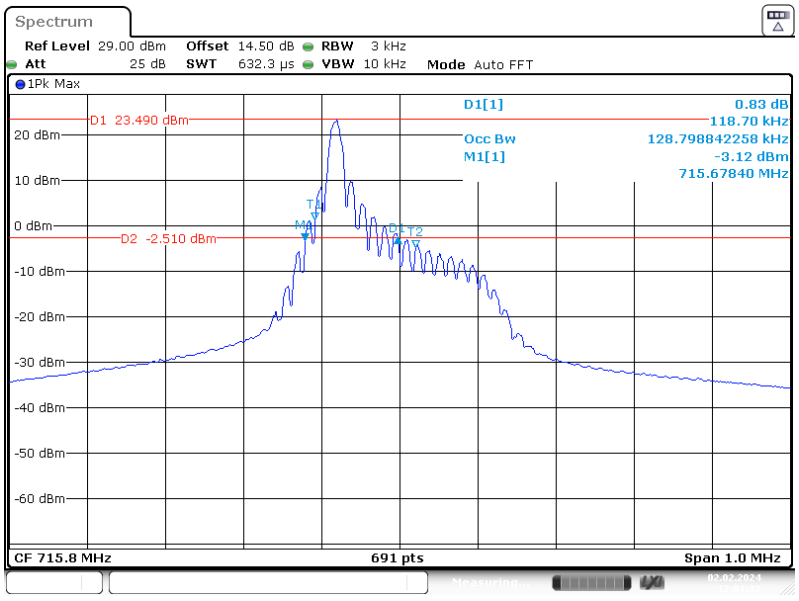
Date:2.FEB.2024 10:47:44

QPSK (3.75kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



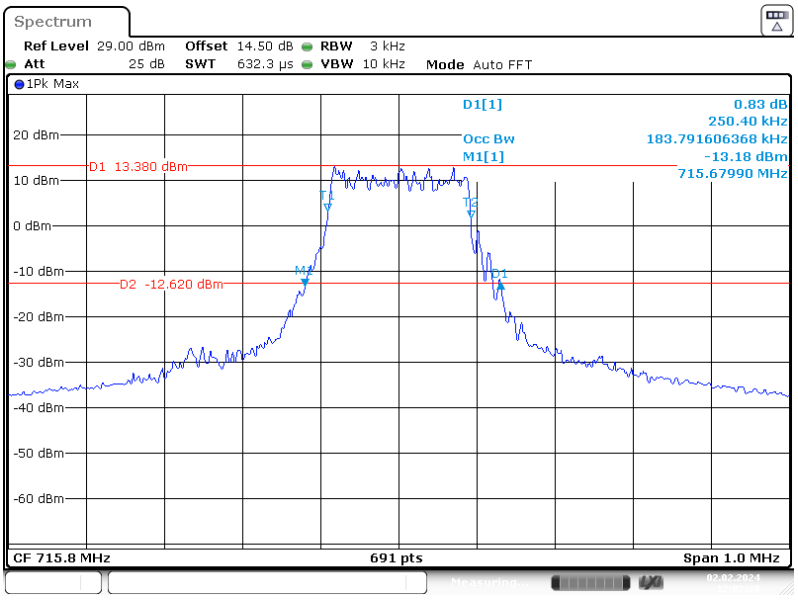
Project No.:RKSA231222001 Tester:Bard Liu
Date:2.FEB.2024 13:29:21

QPSK (15kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



Project No.:RKSA231222001 Tester:Bard Liu
Date:2.FEB.2024 12:01:33

QPSK (15kHz,12#0) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



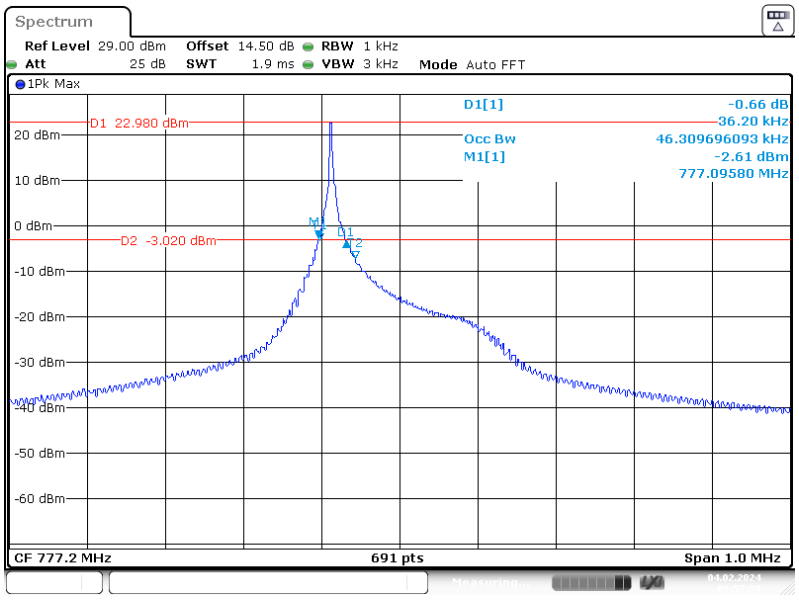
Project No.:RKSA231222001 Tester:Bard Li

Date:2.FEB.2024 12:02:21

NB-IoT Band 13:

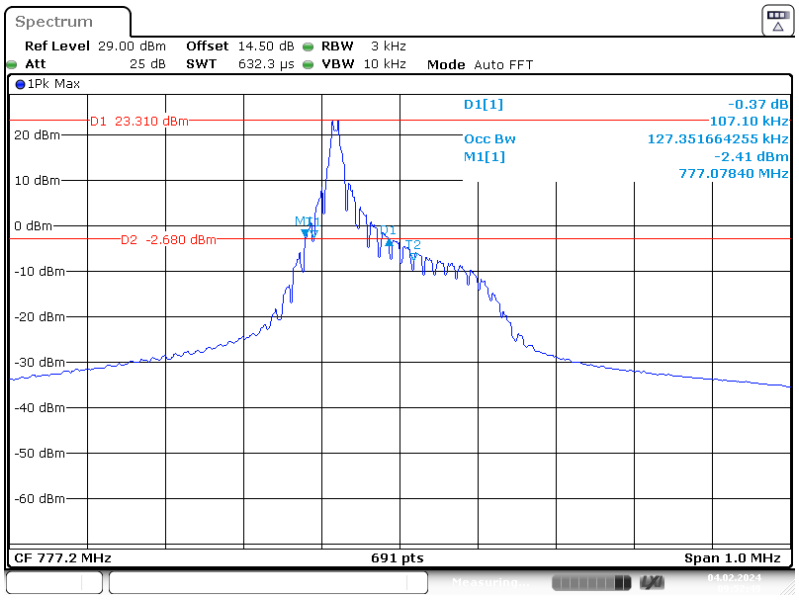
Test Modulation	Sub-carrier Spacing	Resource Block & RB offset	Test Channel	26 dB Bandwidth	99% Occupied Bandwidth
				MHz	MHz
BPSK	3.75kHz	1#0	Low	0.036	0.046
	15kHz	1#0		0.107	0.127
	3.75kHz	1#0	Middle	0.035	0.046
	15kHz	1#0		0.049	0.129
	3.75kHz	1#0	High	0.032	0.046
	15kHz	1#0		0.106	0.129
QPSK	3.75kHz	1#0	Low	0.041	0.056
	15kHz	1#0		0.13	0.129
	15kHz	12#0		0.25	0.184
	3.75kHz	1#0	Middle	0.041	0.058
	15kHz	1#0		0.13	0.13
	15kHz	12#0		0.249	0.184
	3.75kHz	1#0	High	0.041	0.058
	15kHz	1#0		0.132	0.13
	15kHz	12#0		0.248	0.184

BPSK (3.75kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



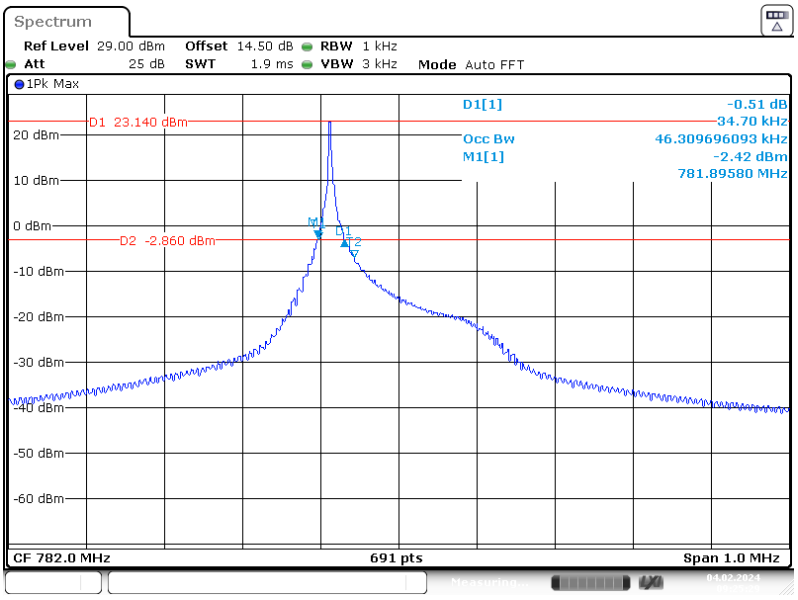
Project No.:RKSA231222001 Tester:Bard Liu
Date:4.FEB.2024 09:57:59

BPSK (15kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



Project No.:RKSA231222001 Tester:Bard Liu
Date:4.FEB.2024 09:52:49

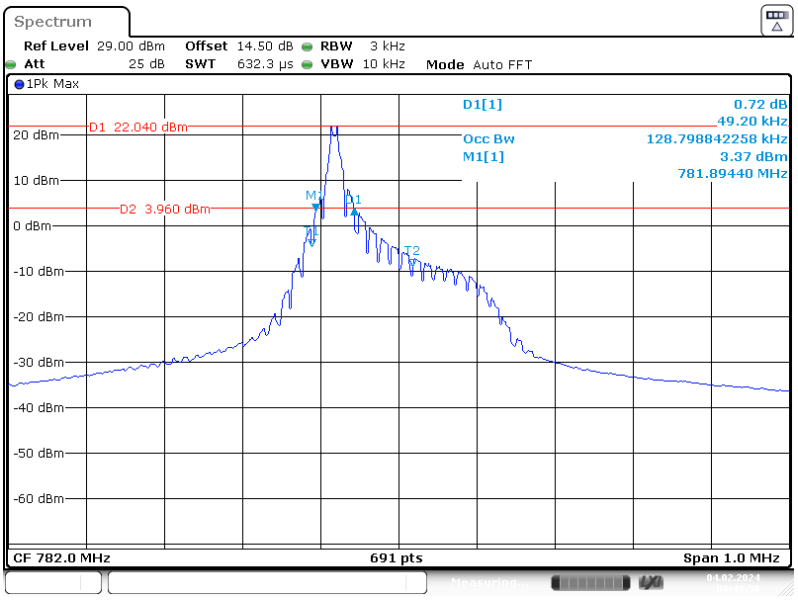
BPSK (3.75kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



Project No.:RKSA231222001 Tester:Bard Liu

Date:4.FEB.2024 09:25:29

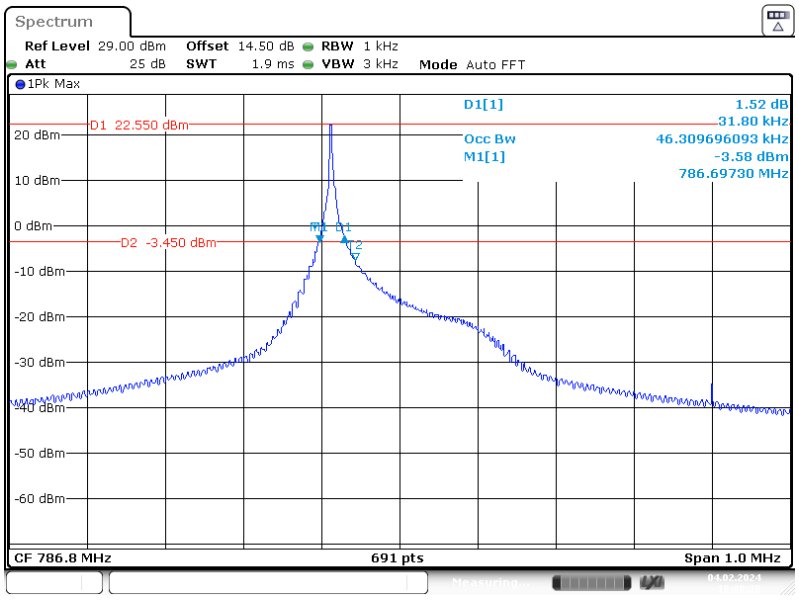
BPSK (15kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



Project No.:RKSA231222001 Tester:Bard Liu

Date:4.FEB.2024 09:43:50

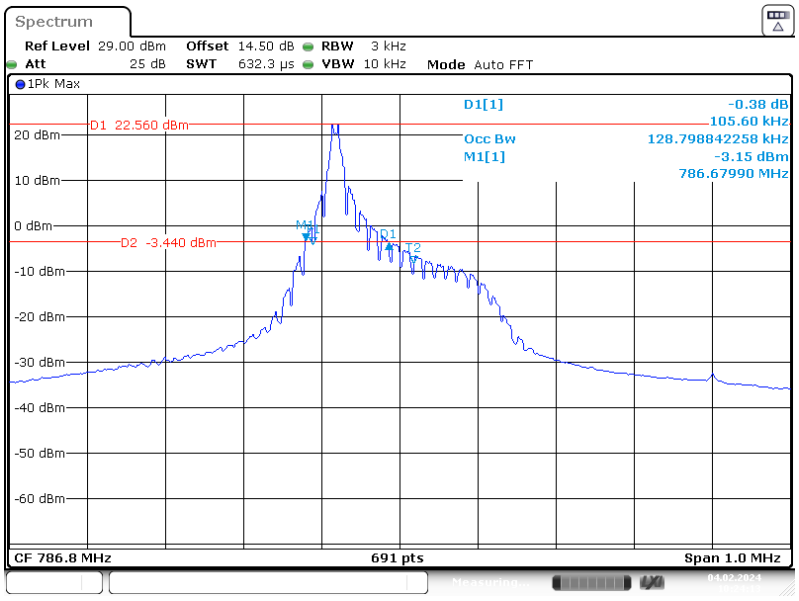
BPSK (3.75kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



Project No.:RKSA231222001 Tester:Bard Liu

Date:4.FEB.2024 10:08:20

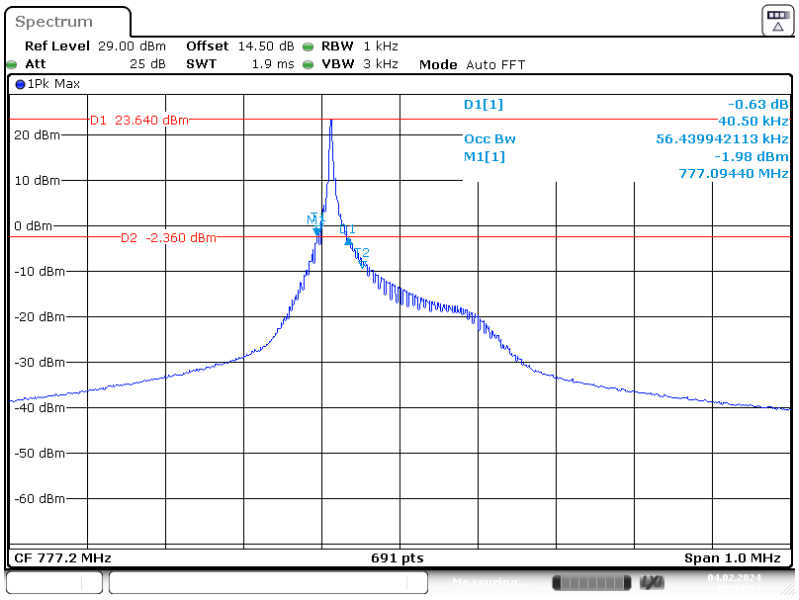
BPSK (15kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



Project No.:RKSA231222001 Tester:Bard Liu

Date:4.FEB.2024 10:24:13

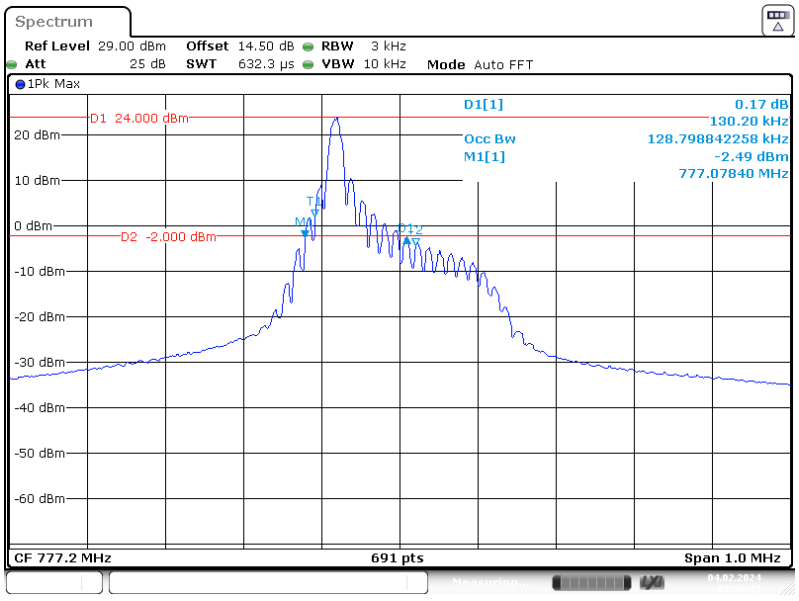
QPSK (3.75kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



Project No.:RKSA231222001 Tester:Bard Liu

Date:4.FEB.2024 09:59:55

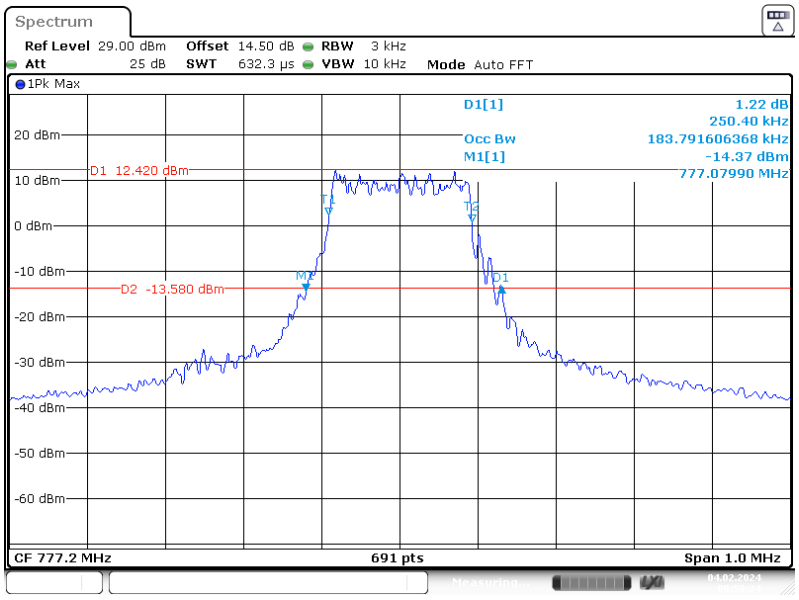
QPSK (15kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



Project No.:RKSA231222001 Tester:Bard Liu

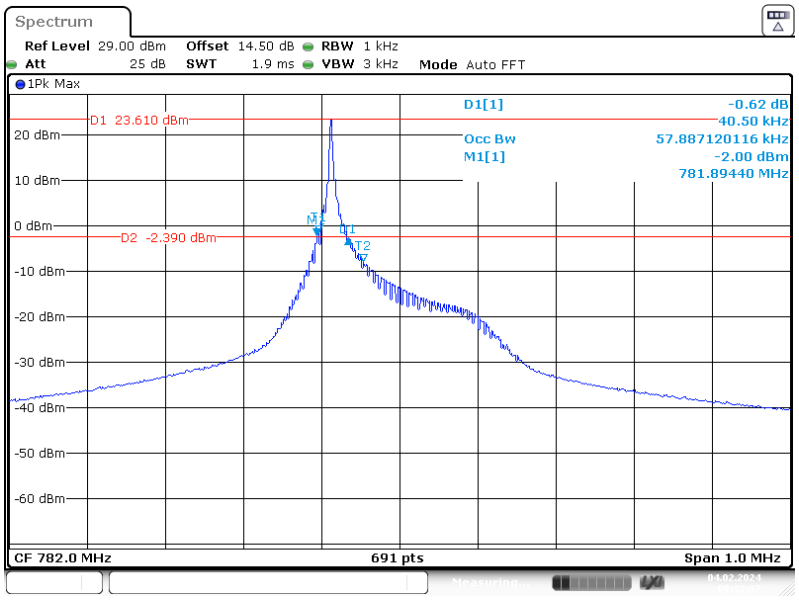
Date:4.FEB.2024 09:56:23

QPSK (15kHz,12#0) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel



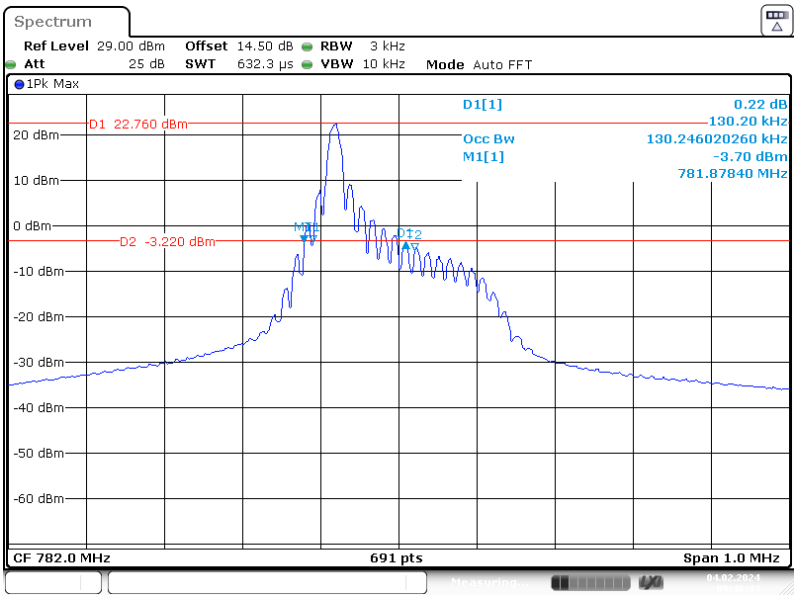
Project No.:RKSA231222001 Tester:Bard Liu
Date:4.FEB.2024 09:50:24

QPSK (3.75kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



Project No.:RKSA231222001 Tester:Bard Liu
Date:4.FEB.2024 09:32:08

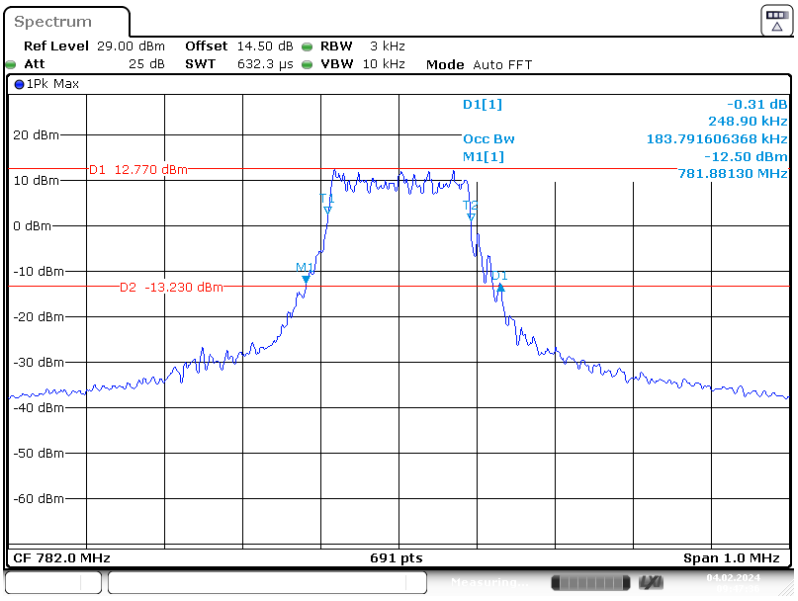
QPSK (15kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



Project No.:RKSA231222001 Tester:Bard Liu

Date:4.FEB.2024 09:46:44

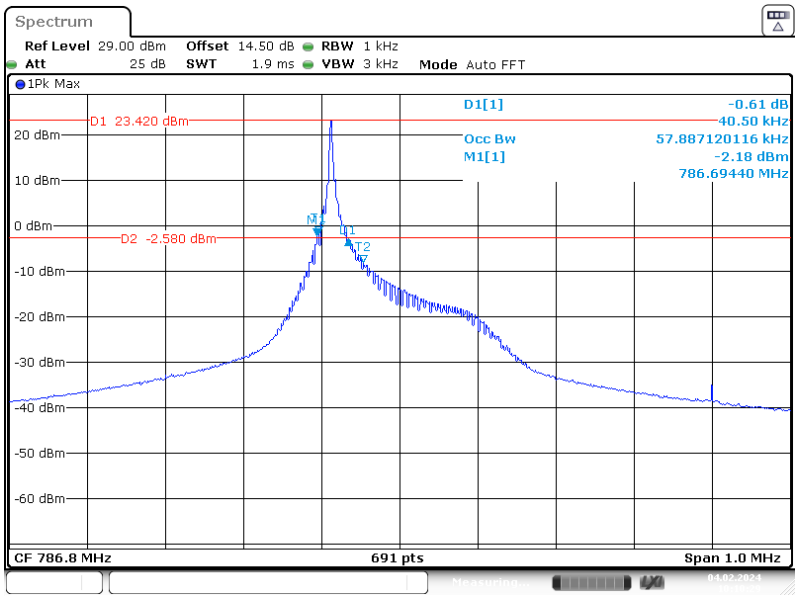
QPSK (15kHz,12#0) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



Project No.:RKSA231222001 Tester:Bard Liu

Date:4.FEB.2024 09:47:37

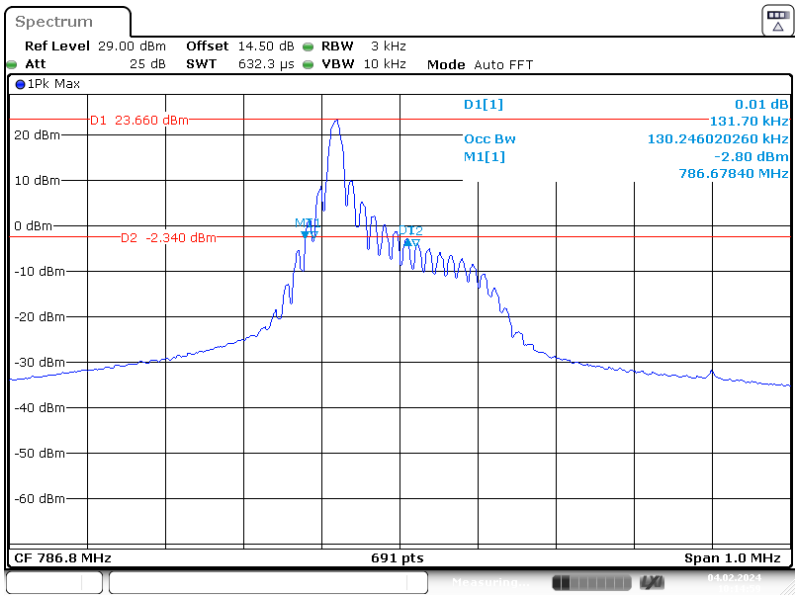
QPSK (3.75kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



Project No.:RKSA231222001 Tester:Bard Liu

Date:4.FEB.2024 10:10:30

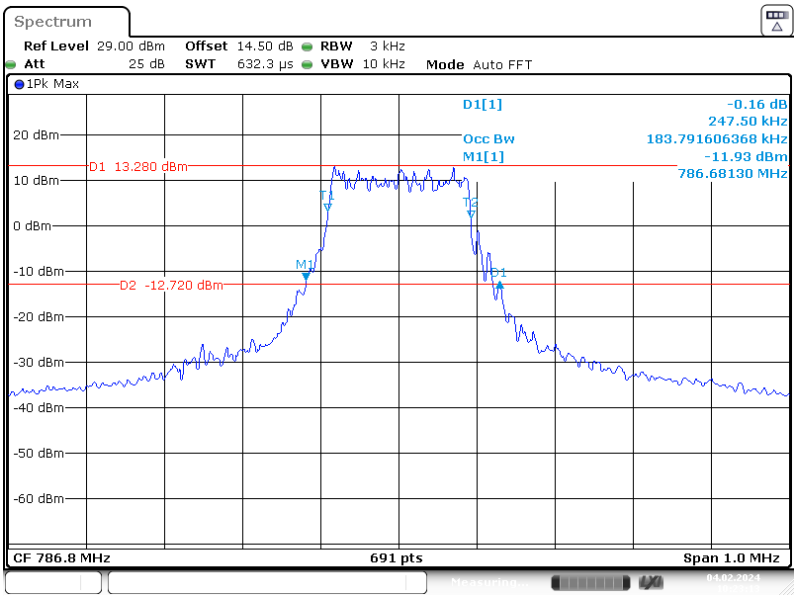
QPSK (15kHz,1#0) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



Project No.:RKSA231222001 Tester:Bard Liu

Date:4.FEB.2024 10:15:00

QPSK (15kHz,12#0) - 99% Occupied & 26 dB Emissions Bandwidth, High channel



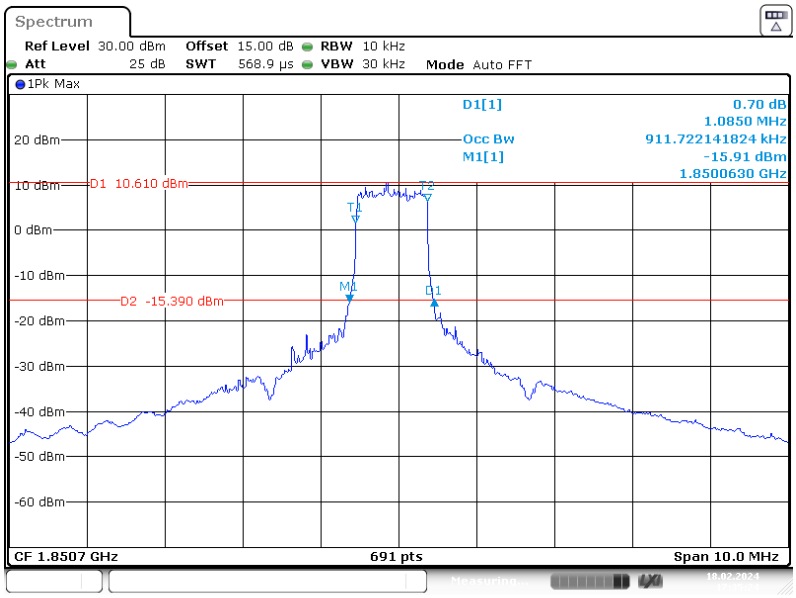
Project No.:RKSA231222001 Tester:Bard Li

Date:4.FEB.2024 10:23:13

LTE CAT-M Band 2:

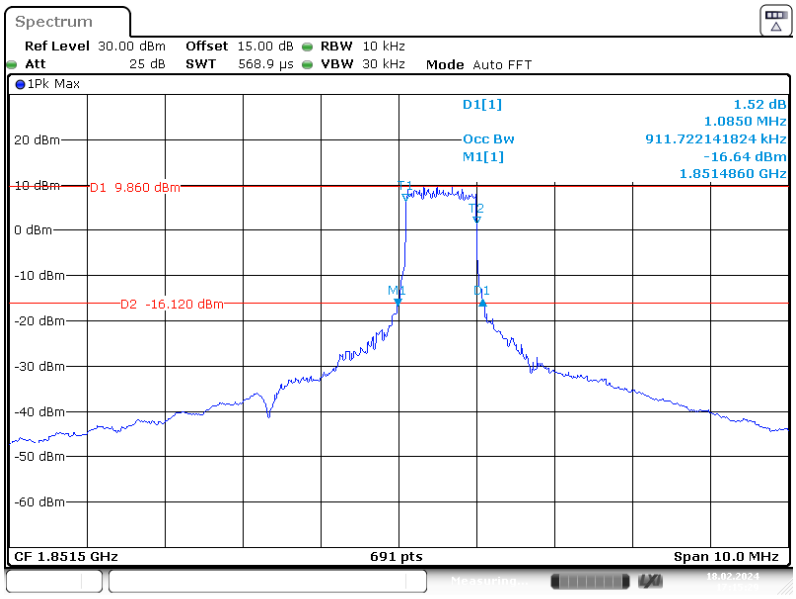
Test Modulation	Modulation	Test Channel	Channel /Frequency(MHz)	26 dB Bandwidth	99% Occupied Bandwidth
				MHz	MHz
1.4M	QPSK	Low	18607(1850.7)	1.085	0.912
	16QAM			1.056	0.912
	QPSK	Middle	18900(1880)	1.056	0.912
	16QAM			1.056	0.912
	QPSK	High	19193(1909.3)	1.085	0.912
	16QAM			1.071	0.912
3M	QPSK	Low	18615(1851.5)	1.085	0.912
	16QAM			1.085	0.912
	QPSK	Middle	18900(1880)	1.071	0.912
	16QAM			1.085	0.912
	QPSK	High	19185(1908.5)	1.1	0.912
	16QAM			1.085	0.912
5M	QPSK	Low	18625(1852.5)	1.082	0.897
	16QAM			1.067	0.897
	QPSK	Middle	18900(1880)	1.085	0.897
	16QAM			1.085	0.897
	QPSK	High	19175(1907.5)	1.085	0.897
	16QAM			1.071	0.897
10M	QPSK	Low	18650(1855)	0.926	0.724
	16QAM			1.114	0.912
	QPSK	Middle	18900(1880)	0.926	0.724
	16QAM			0.912	0.724
	QPSK	High	19150(1905)	0.883	0.724
	16QAM			0.926	0.724
15M	QPSK	Low	18675(1857.5)	1.302	1.071
	16QAM			1.274	0.897
	QPSK	Middle	18900(1880)	1.1	0.897
	16QAM			1.129	0.897
	QPSK	High	19125(1902.5)	1.129	0.897
	16QAM			1.187	0.897
20M	QPSK	Low	18700(1860)	1.331	1.071
	16QAM			1.216	0.926
	QPSK	Middle	18900(1880)	1.129	0.926
	16QAM			1.1	0.926
	QPSK	High	19100(1900)	1.1	0.897
	16QAM			1.187	0.897

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



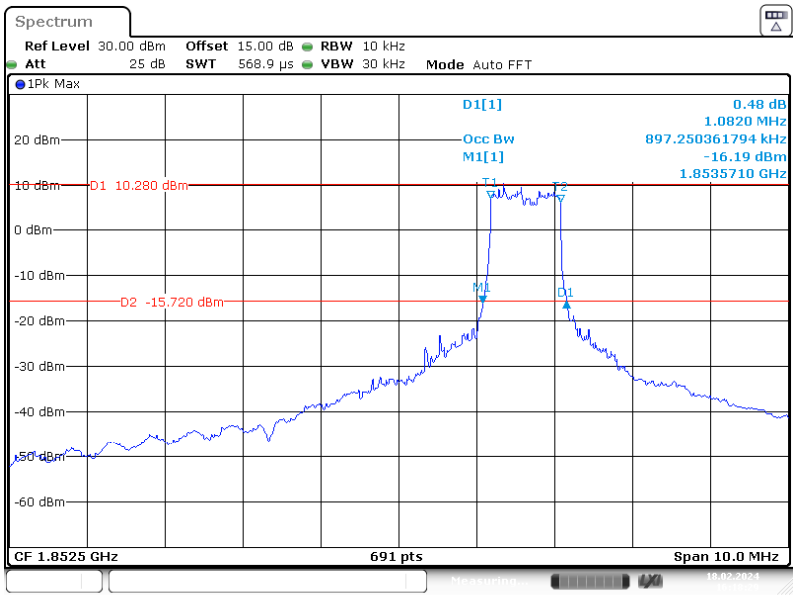
Project No. : RKSA231222001 Tester : Bard Liu
Date: 18.FEB.2024 17:35:24

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



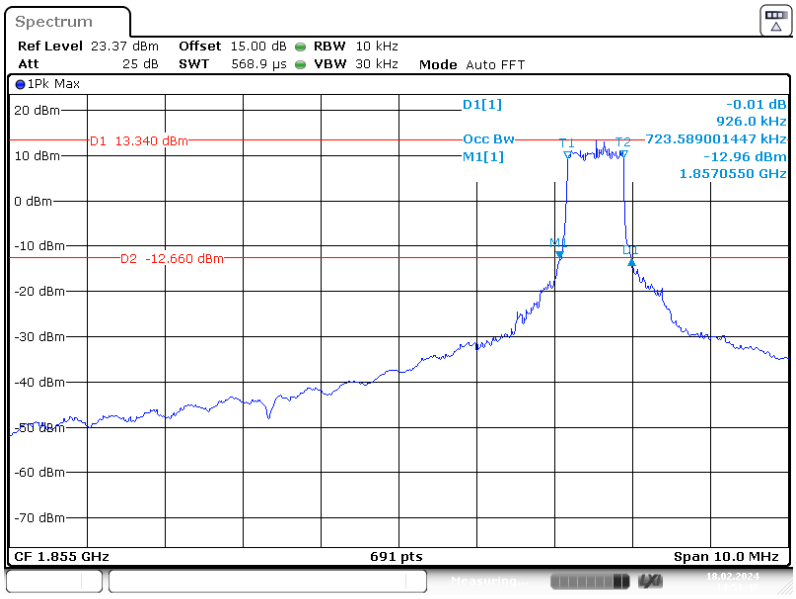
Project No. : RKSA231222001 Tester : Bard Liu
Date: 18.FEB.2024 17:15:30

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



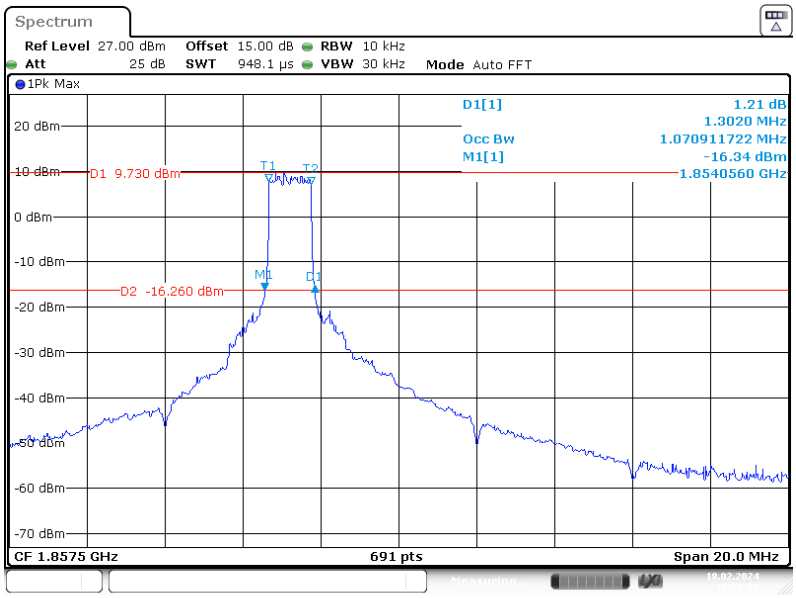
Project No. : RKSA231222001 Tester : Bard Liu
Date: 18.FEB.2024 16:18:29

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



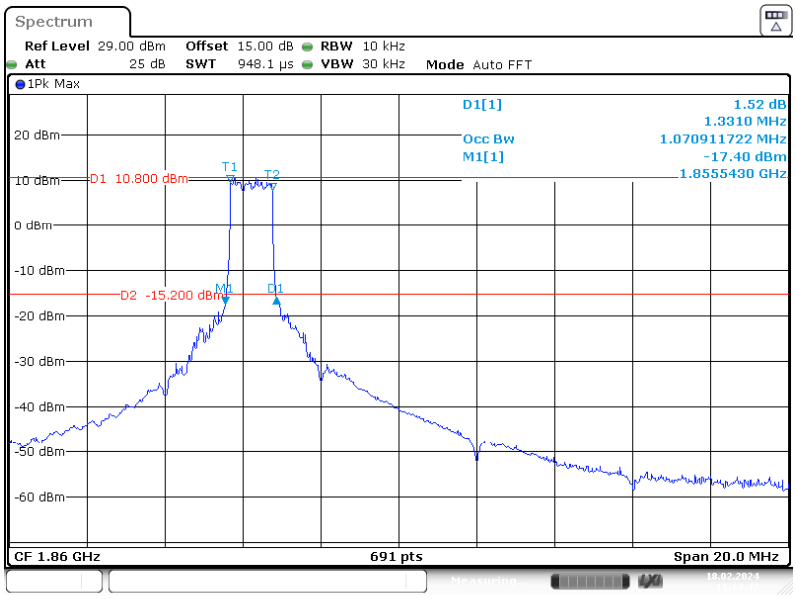
Project No. : RKSA231222001 Tester : Bard Liu
Date: 18.FEB.2024 14:51:49

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



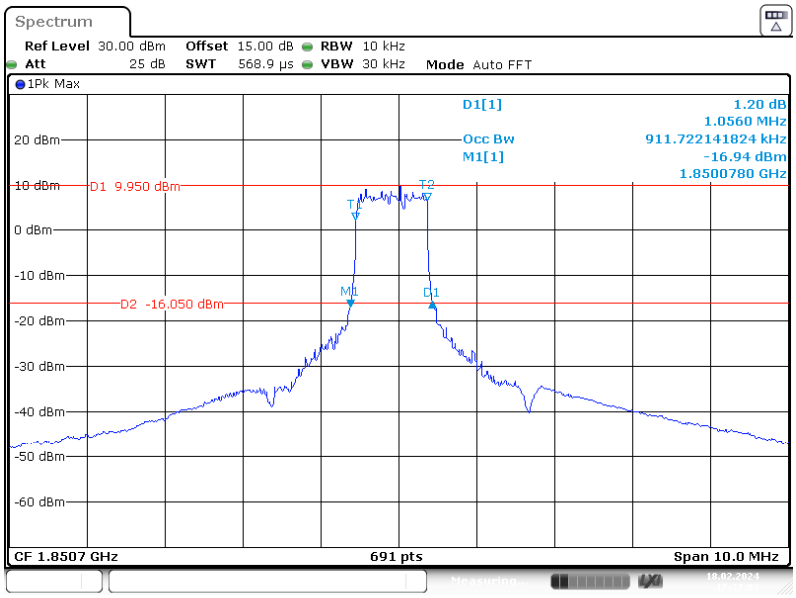
Project No. : RKSA231222001 Tester : Bard Liu
Date: 18.FEB.2024 13:55:08

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



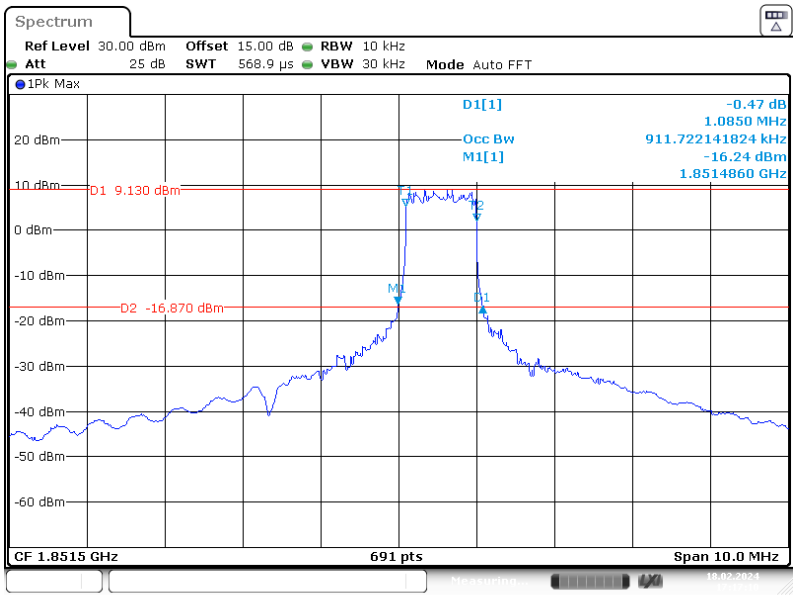
Project No. : RKSA231222001 Tester : Bard Liu
Date: 18.FEB.2024 11:14:48

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



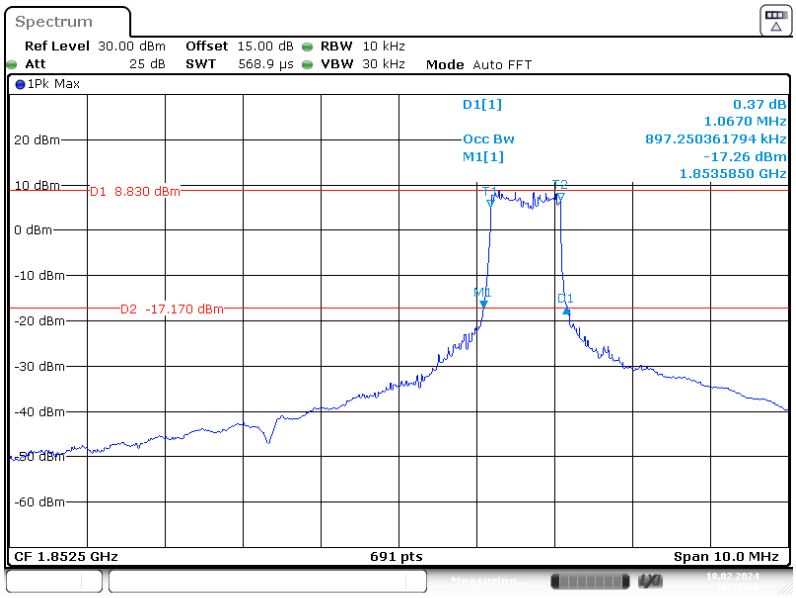
Project No. : RKSA231222001 Tester : Bard Liu
Date: 18.FEB.2024 17:37:04

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



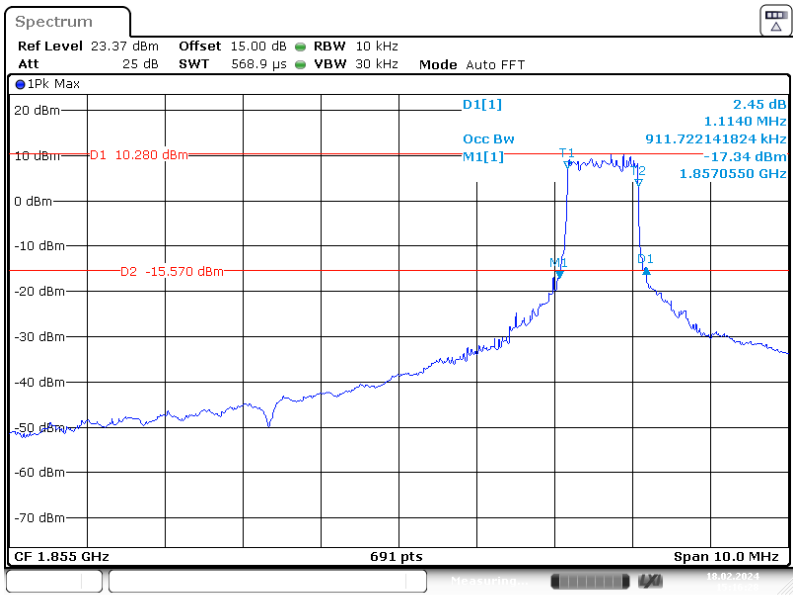
Project No. : RKSA231222001 Tester : Bard Liu
Date: 18.FEB.2024 17:17:10

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



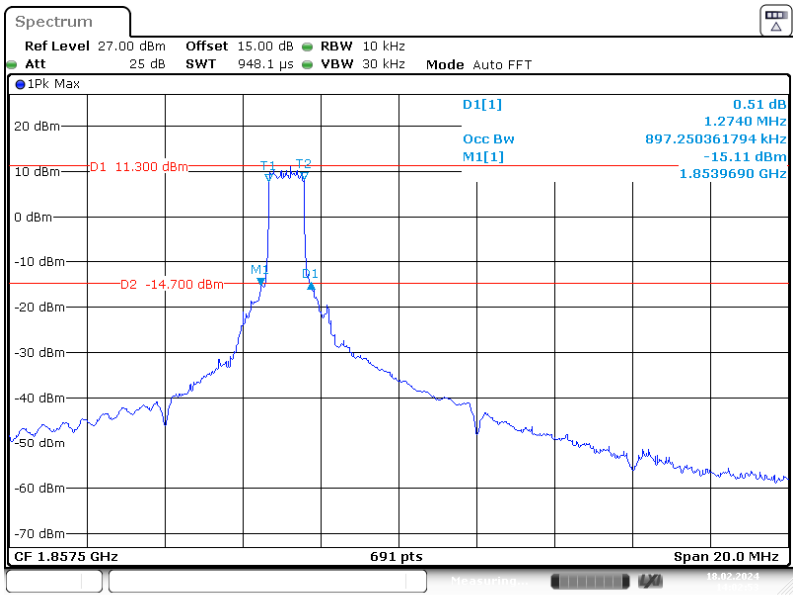
Project No. : RKSA231222001 Tester : Bard Liu
Date: 18.FEB.2024 16:15:17

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



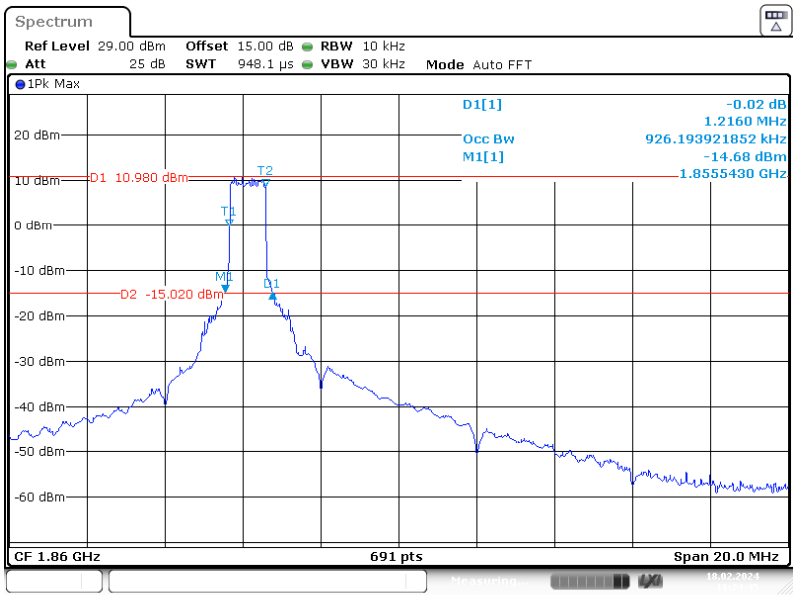
Project No. : RKSA231222001 Tester : Bard Liu
Date: 18.FEB.2024 15:16:29

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



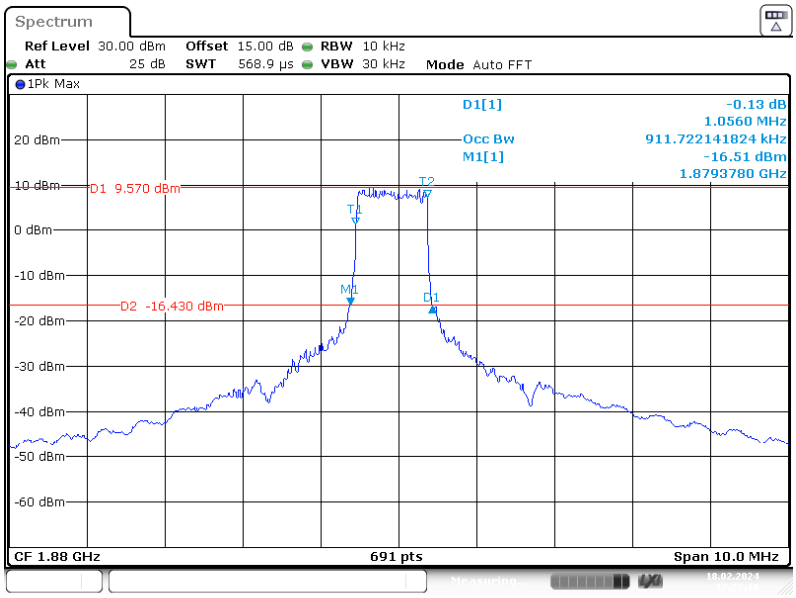
Project No. : RKSA231222001 Tester : Bard Liu
Date: 18.FEB.2024 14:02:53

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



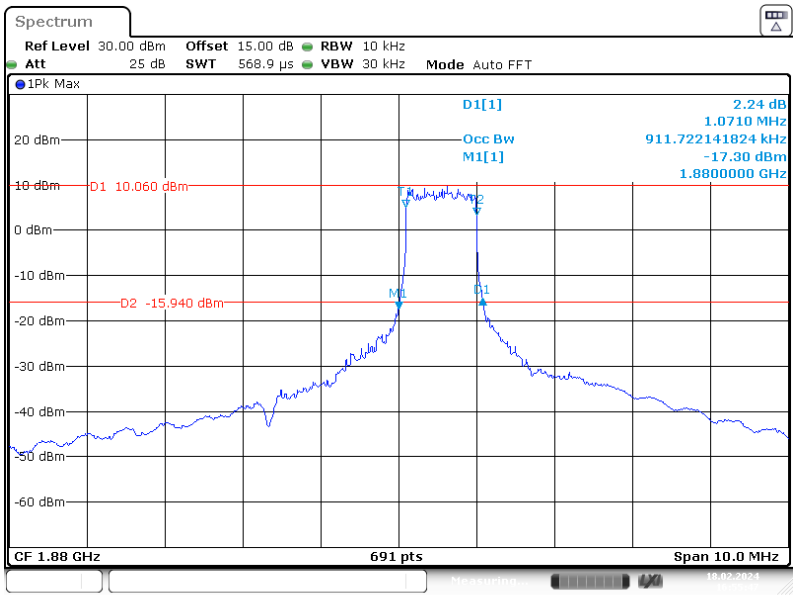
Project No. : RKSA231222001 Tester : Bard Liu
Date: 18.FEB.2024 11:24:46

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



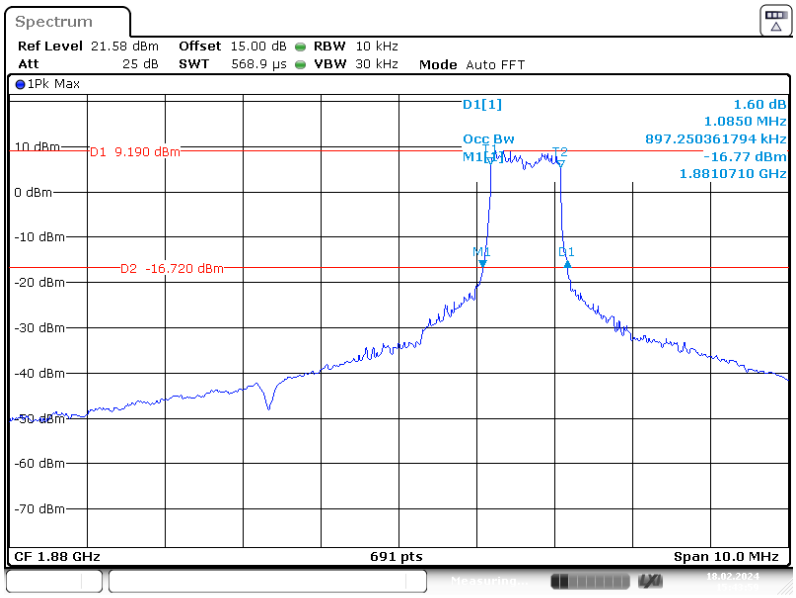
Project No. : RKSA231222001 Tester : Bard Liu
Date: 18.FEB.2024 17:27:10

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



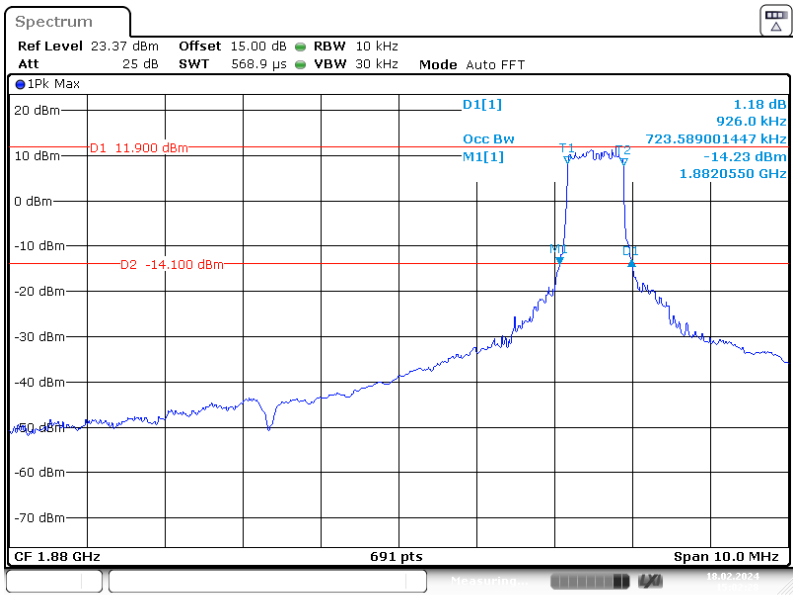
Project No. : RKSA231222001 Tester : Bard Liu
Date: 18.FEB.2024 16:55:47

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



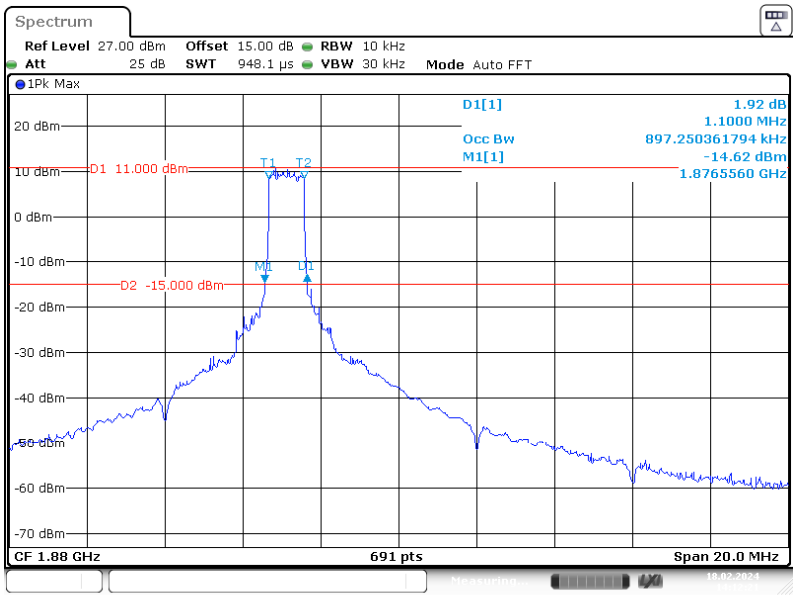
Project No. : RKSA231222001 Tester : Bard Liu
Date: 18.FEB.2024 15:44:00

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



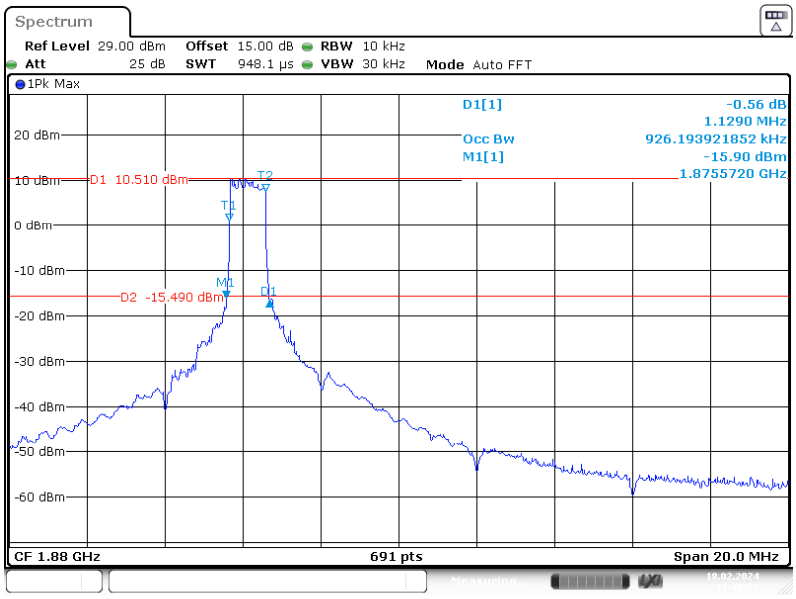
Project No. : RKSA231222001 Tester : Bard Liu
Date: 18.FEB.2024 15:02:28

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



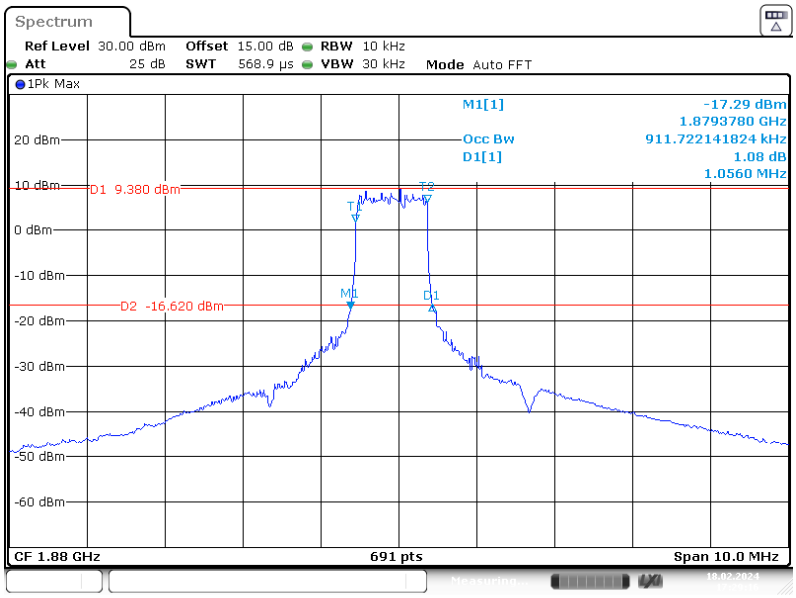
Project No. : RKSA231222001 Tester : Bard Liu
Date: 18.FEB.2024 14:12:22

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



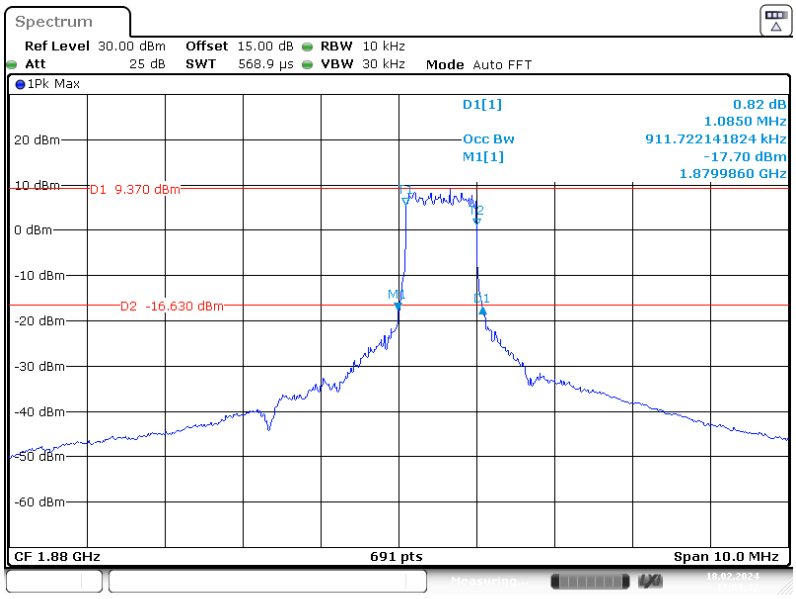
Project No. : RKSA231222001 Tester : Bard Liu
Date: 18.FEB.2024 11:40:24

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



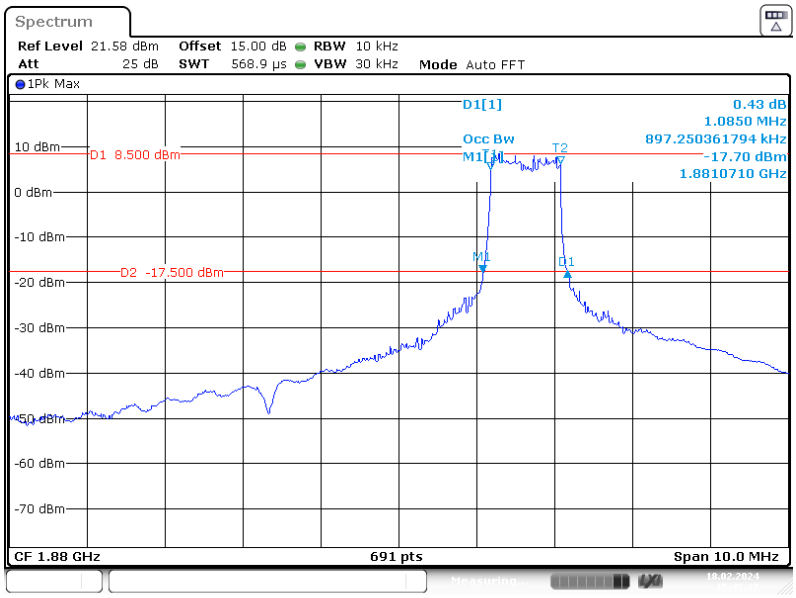
Project No. : RKSA231222001 Tester : Bard Liu
Date: 18.FEB.2024 17:29:16

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



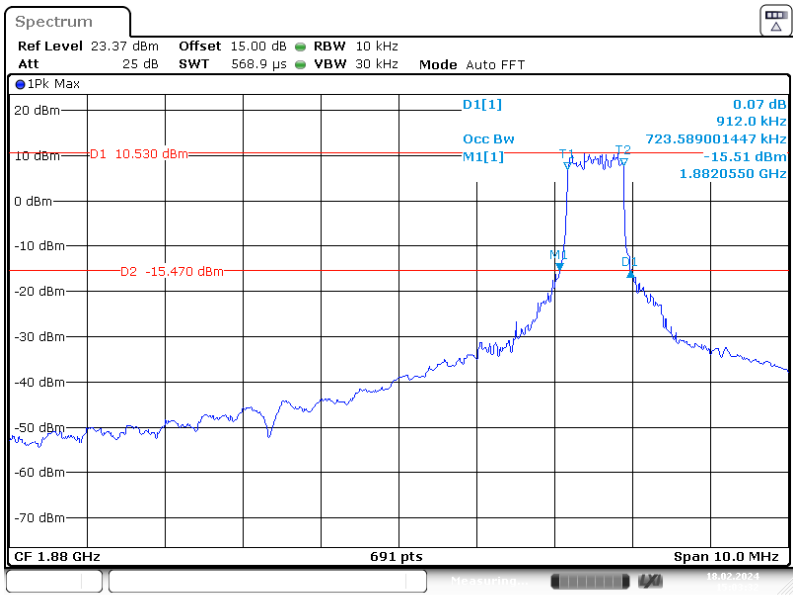
Project No. : RKSA231222001 Tester : Bard Liu
Date: 18.FEB.2024 17:08:33

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



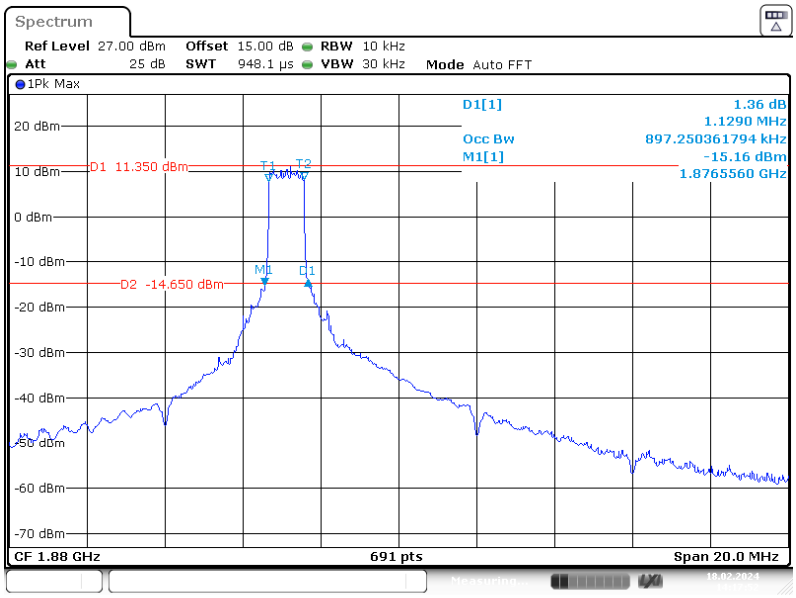
Project No. : RKSA231222001 Tester : Bard Liu
Date: 18.FEB.2024 15:45:37

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



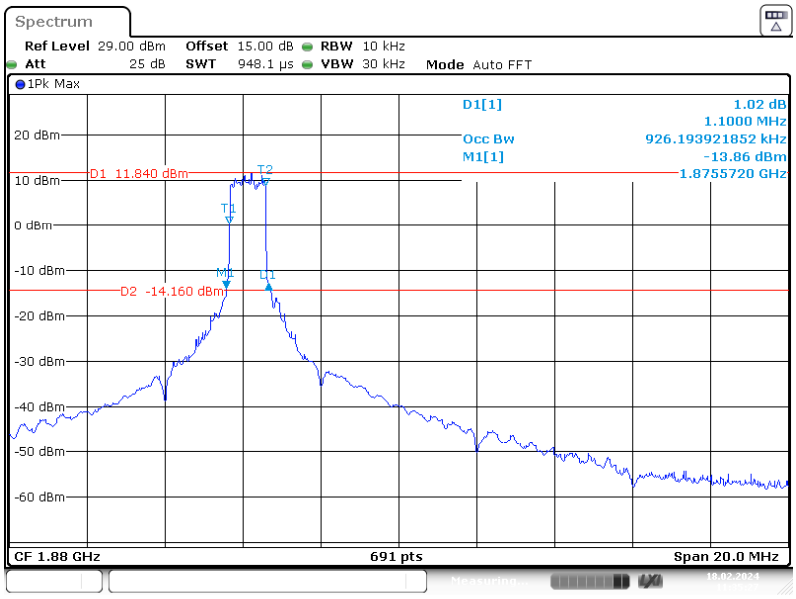
Project No. : RKSA231222001 Tester : Bard Liu
Date: 18.FEB.2024 15:03:32

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



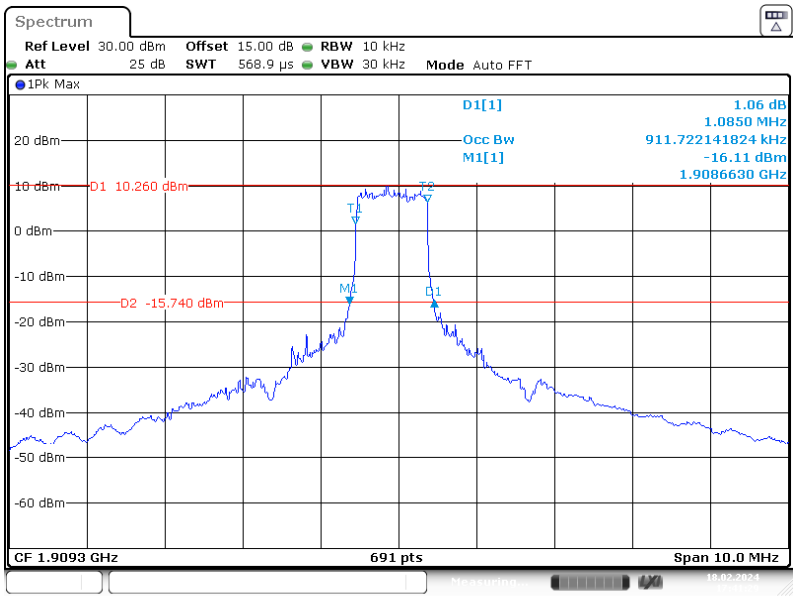
Project No. : RKSA231222001 Tester : Bard Liu
Date: 18.FEB.2024 14:17:52

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



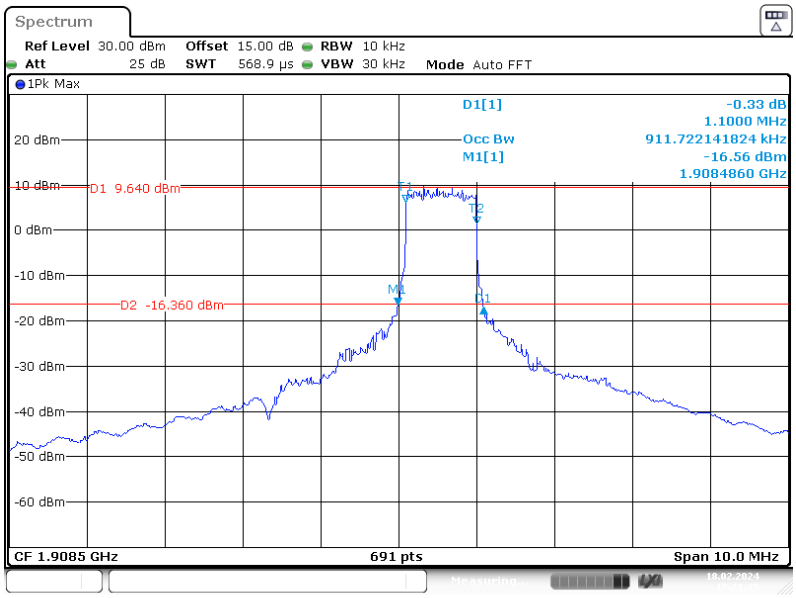
Project No. : RKSA231222001 Tester : Bard Liu
Date: 18.FEB.2024 11:35:27

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



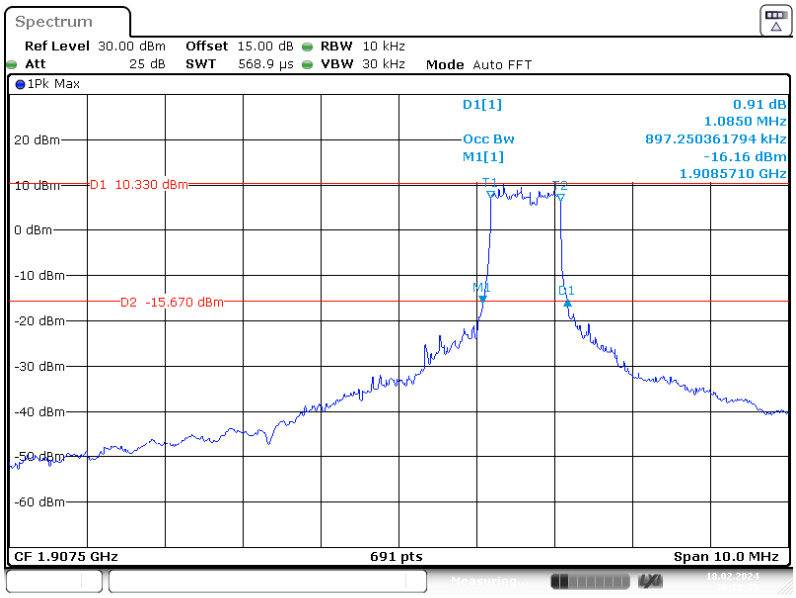
Project No. : RKSA231222001 Tester : Bard Liu
Date: 18.FEB.2024 17:41:29

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



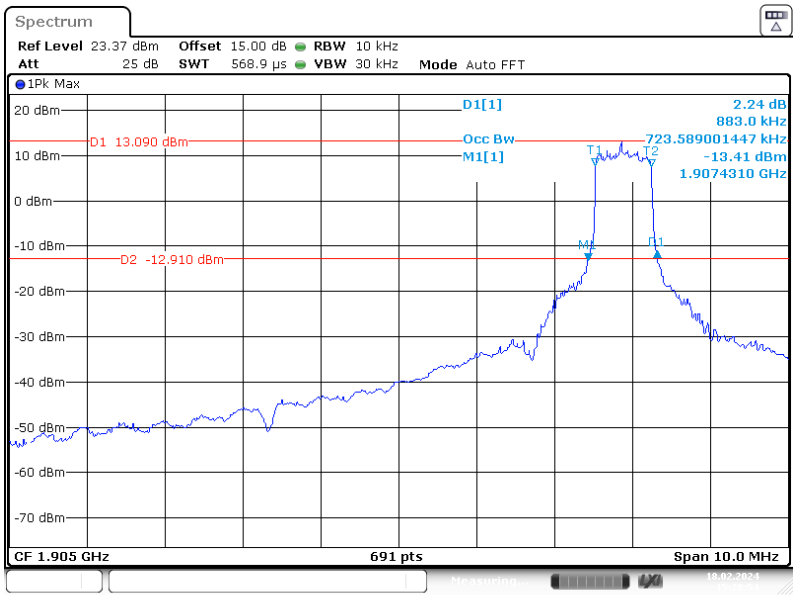
Project No. : RKSA231222001 Tester : Bard Liu
Date: 18.FEB.2024 17:21:36

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



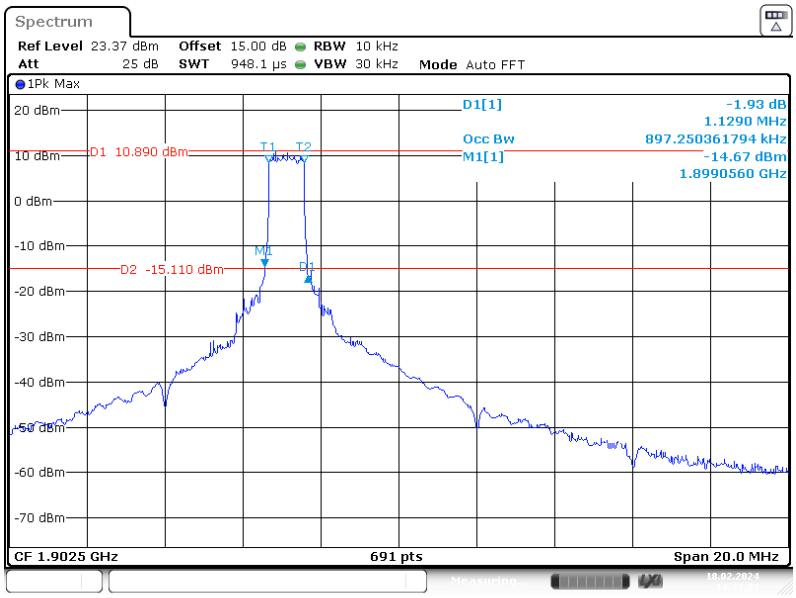
Project No. : RKSA231222001 Tester : Bard Liu
Date: 18.FEB.2024 16:28:36

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



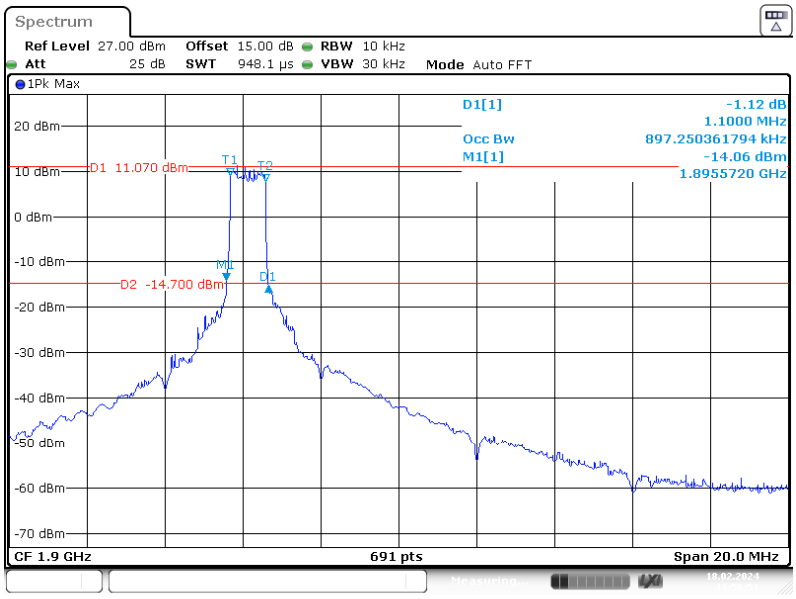
Project No. : RKSA231222001 Tester : Bard Liu
Date: 18.FEB.2024 15:28:54

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



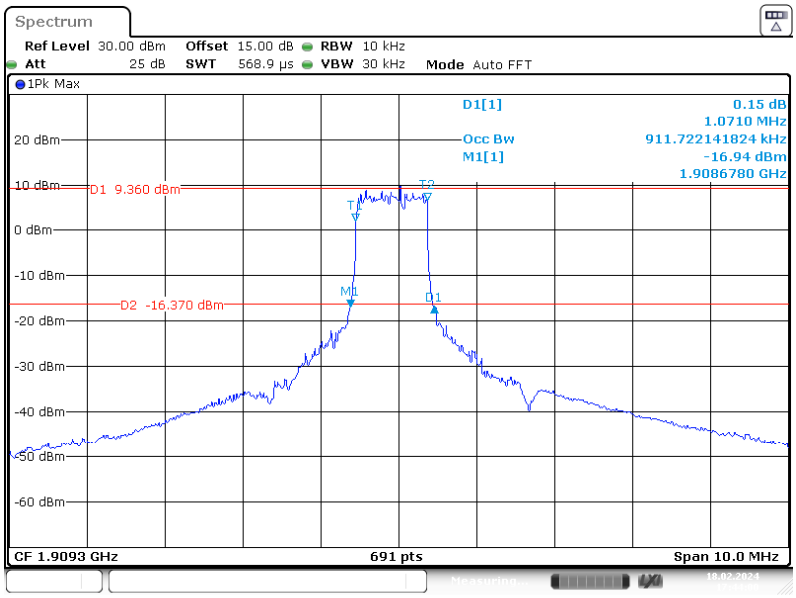
Project No. : RKSA231222001 Tester : Bard Liu
Date: 18.FEB.2024 14:33:23

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



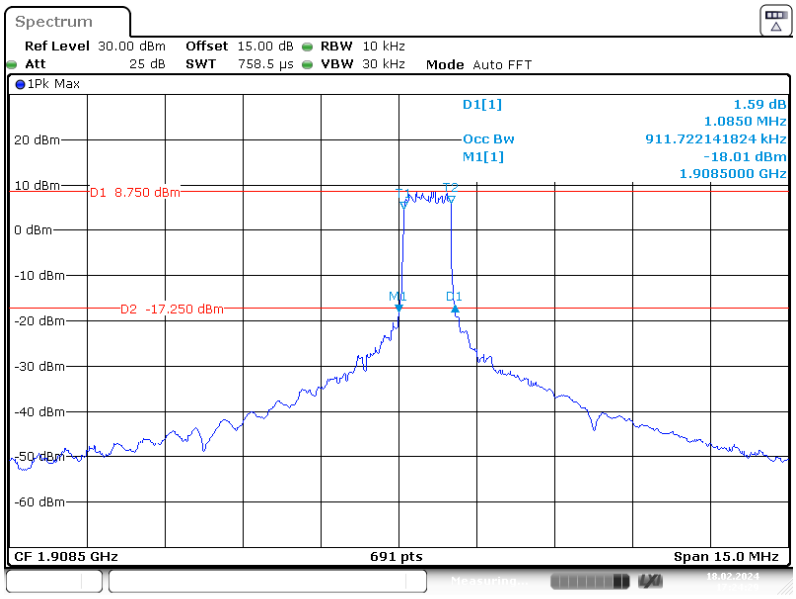
Project No. : RKSA231222001 Tester : Bard Liu
Date: 18.FEB.2024 11:56:51

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



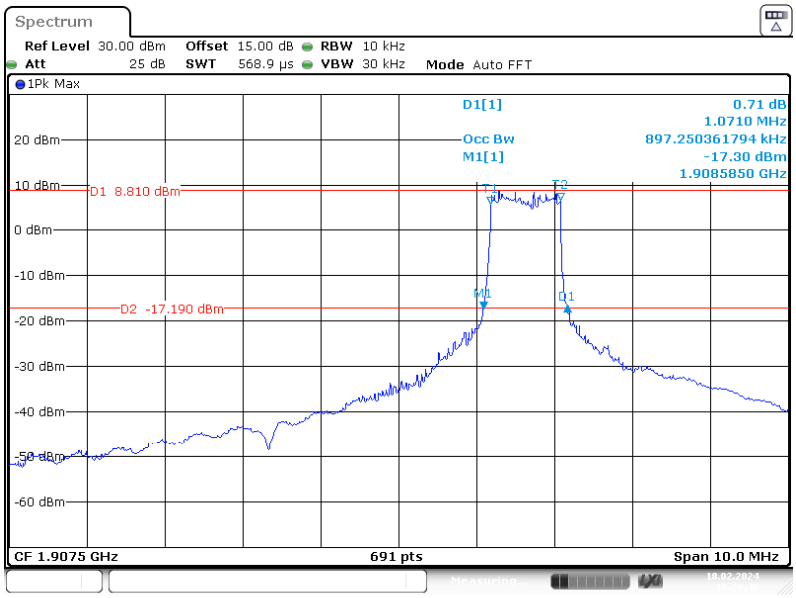
Project No. : RKSA231222001 Tester : Bard Liu
Date: 18.FEB.2024 17:44:00

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



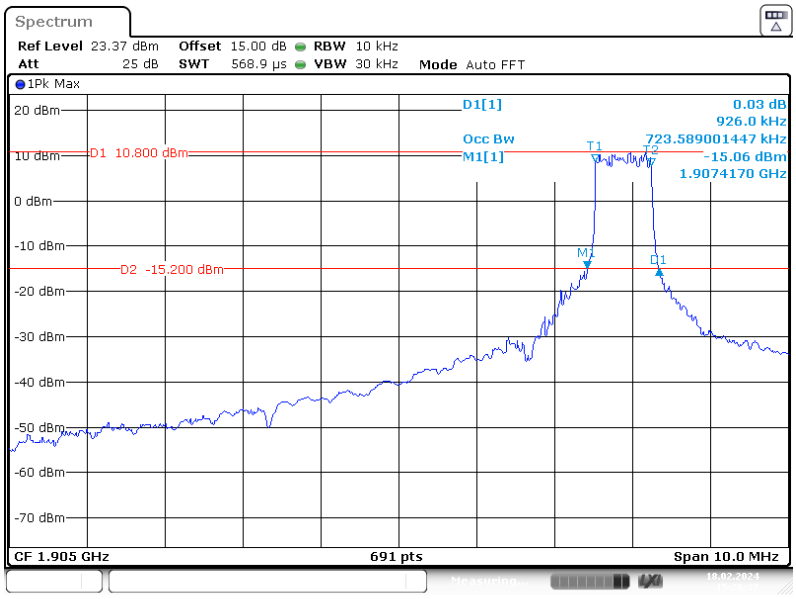
Project No. : RKSA231222001 Tester : Bard Liu
Date: 18.FEB.2024 17:24:29

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



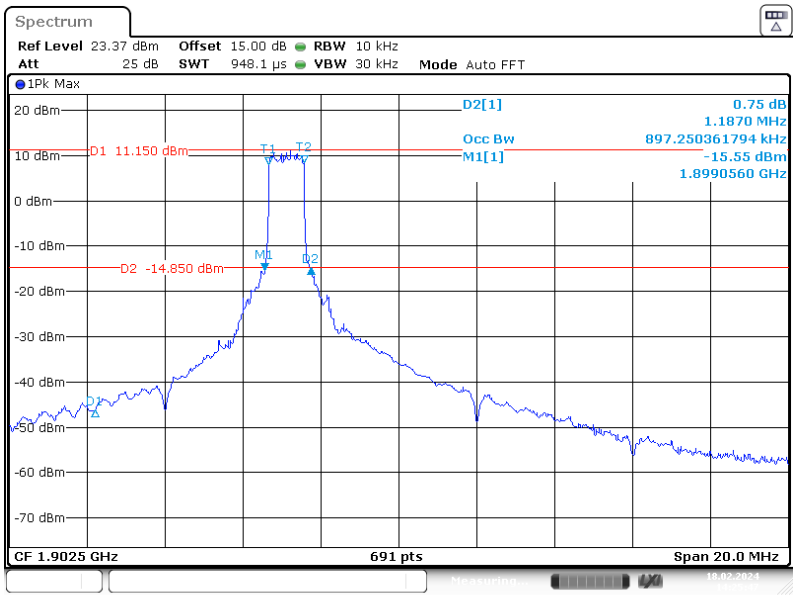
Project No. : RKSA231222001 Tester : Bard Liu
Date: 18.FEB.2024 16:29:49

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



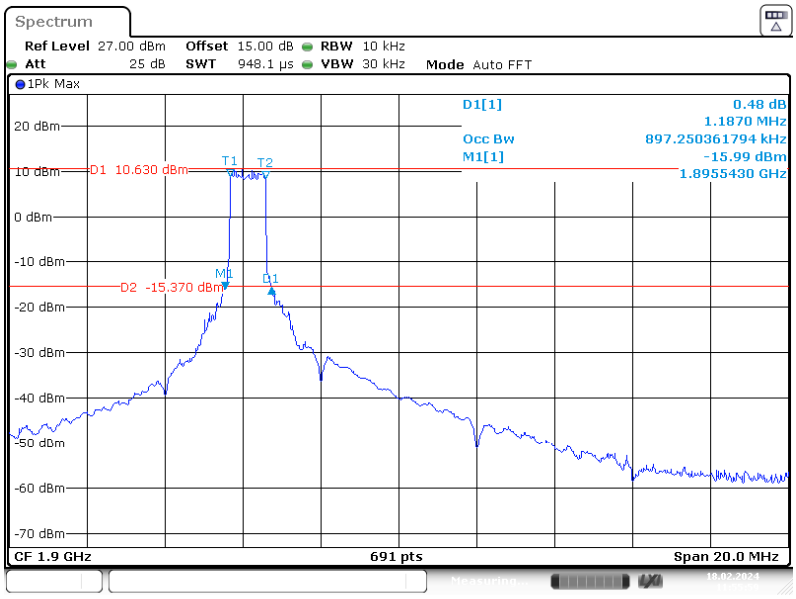
Project No. : RKSA231222001 Tester : Bard Liu
Date: 18.FEB.2024 15:26:37

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



Project No. : RKSA231222001 Tester : Bard Liu
Date: 18.FEB.2024 14:25:48

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

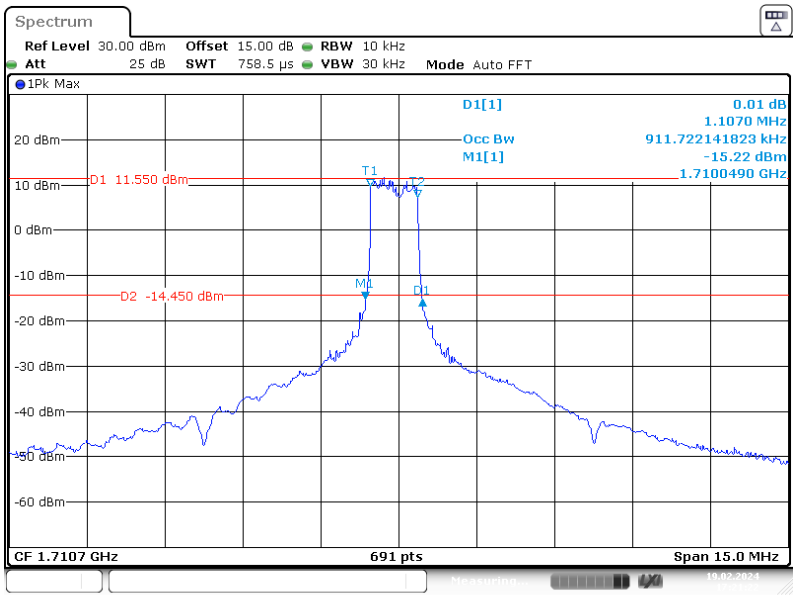


Project No. : RKSA231222001 Tester : Bard Liu
Date: 18.FEB.2024 11:55:59

LTE CAT-M Band 4:

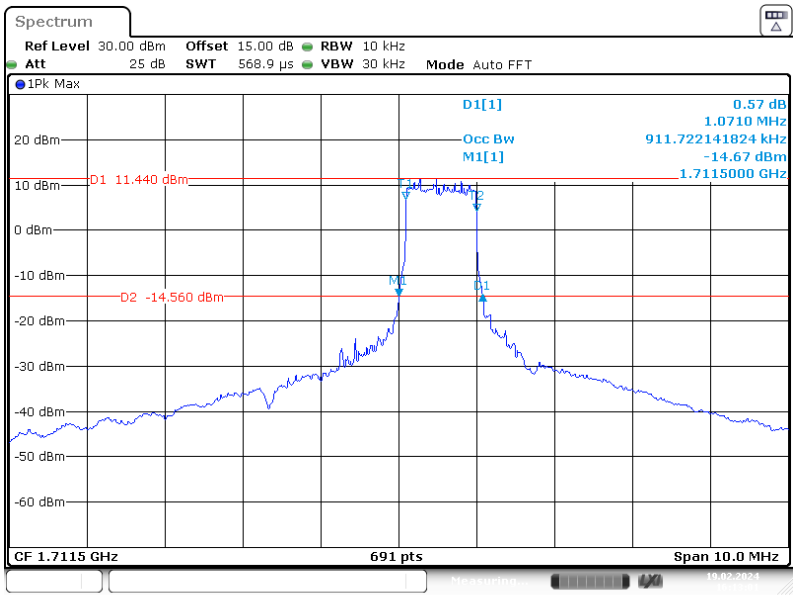
Test Modulation	Modulation	Test Channel	Channel /Frequency(MHz)	26 dB Bandwidth	99% Occupied Bandwidth
				MHz	MHz
1.4M	QPSK	Low	19957(1710.7)	1.107	0.912
	16QAM			1.085	0.912
	QPSK	Middle	20175(1732.5)	1.064	0.912
	16QAM			1.064	0.912
	QPSK	High	20393(1754.3)	1.064	0.912
	16QAM			1.085	0.912
3M	QPSK	Low	19965(1711.5)	1.071	0.912
	16QAM			1.056	0.912
	QPSK	Middle	20175(1732.5)	1.071	0.912
	16QAM			1.071	0.912
	QPSK	High	20385(1753.5)	1.085	0.912
	16QAM			1.085	0.912
5M	QPSK	Low	19975(1712.5)	1.107	0.912
	16QAM			1.107	0.912
	QPSK	Middle	20175(1732.5)	1.085	0.912
	16QAM			1.064	0.912
	QPSK	High	20375(1752.5)	1.085	0.912
	16QAM			1.121	0.912
10M	QPSK	Low	20000(1715)	0.912	0.738
	16QAM			0.912	0.738
	QPSK	Middle	20175(1732.5)	0.955	0.738
	16QAM			0.955	0.738
	QPSK	High	20350(1750)	0.89	0.738
	16QAM			0.912	0.738
15M	QPSK	Low	20025(1717.5)	1.129	0.897
	16QAM			1.187	0.897
	QPSK	Middle	20175(1732.5)	1.1	0.897
	16QAM			1.216	0.897
	QPSK	High	20325(1747.5)	1.129	0.897
	16QAM			1.245	0.897
20M	QPSK	Low	20050(1720)	1.118	0.926
	16QAM			1.118	0.926
	QPSK	Middle	20175(1732.5)	1.064	0.897
	16QAM			1.122	0.897
	QPSK	High	20300(1745)	1.129	0.926
	16QAM			1.158	0.926

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



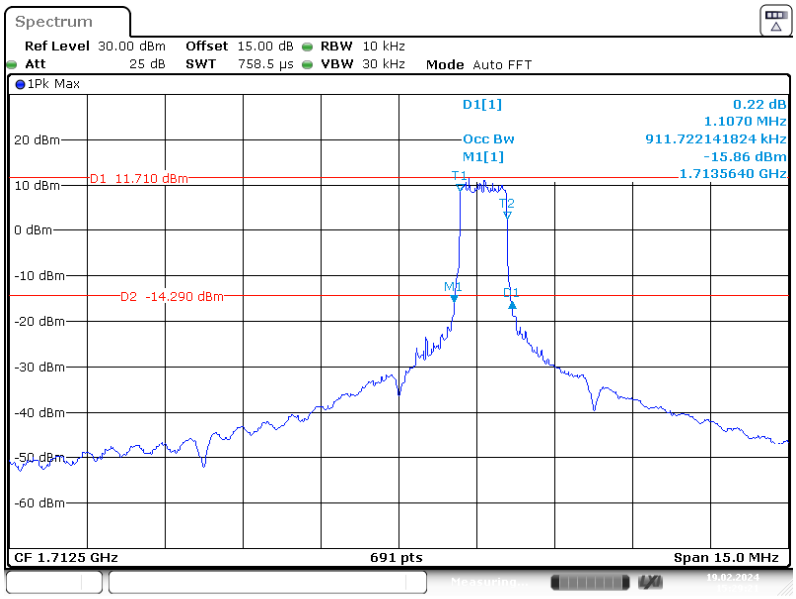
Project No. : RKSA231222001 Tester : Bard Liu
Date: 19.FEB.2024 17:21:22

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



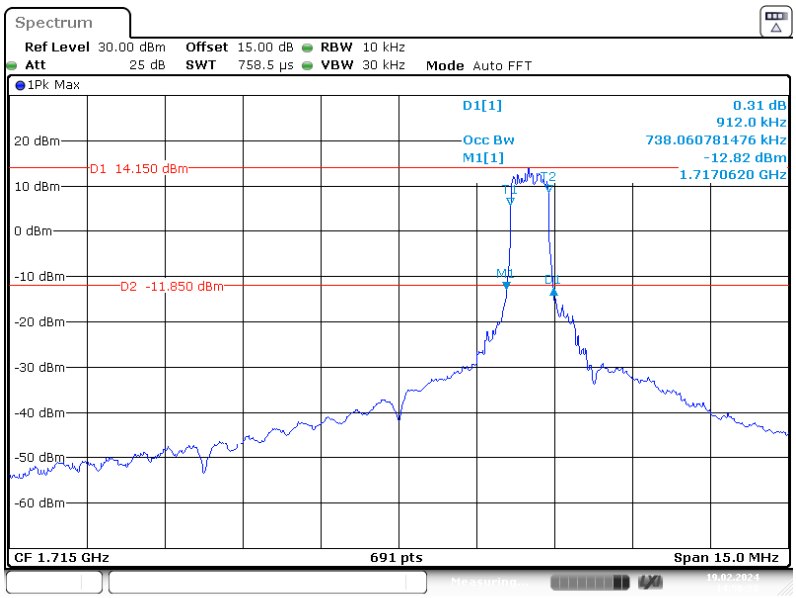
Project No. : RKSA231222001 Tester : Bard Liu
Date: 19.FEB.2024 16:13:02

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



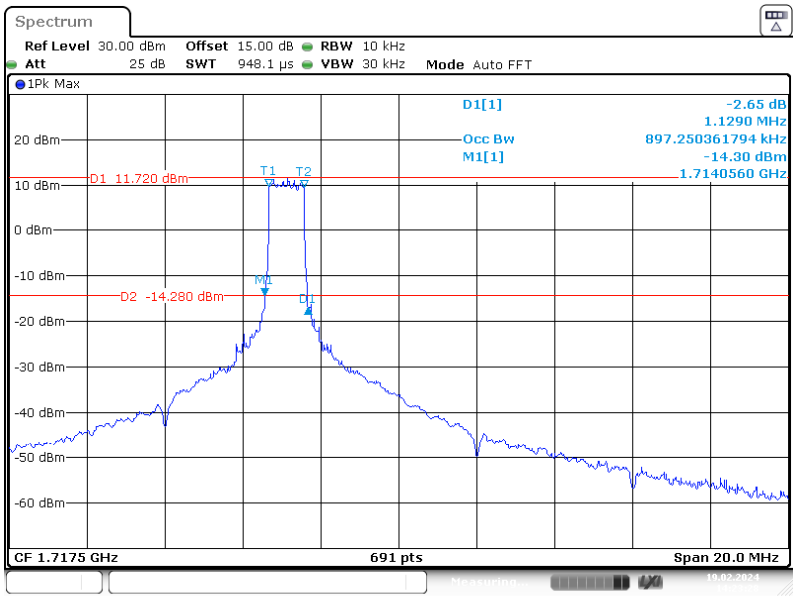
Project No. : RKSA231222001 Tester : Bard Liu
Date: 19.FEB.2024 15:29:21

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



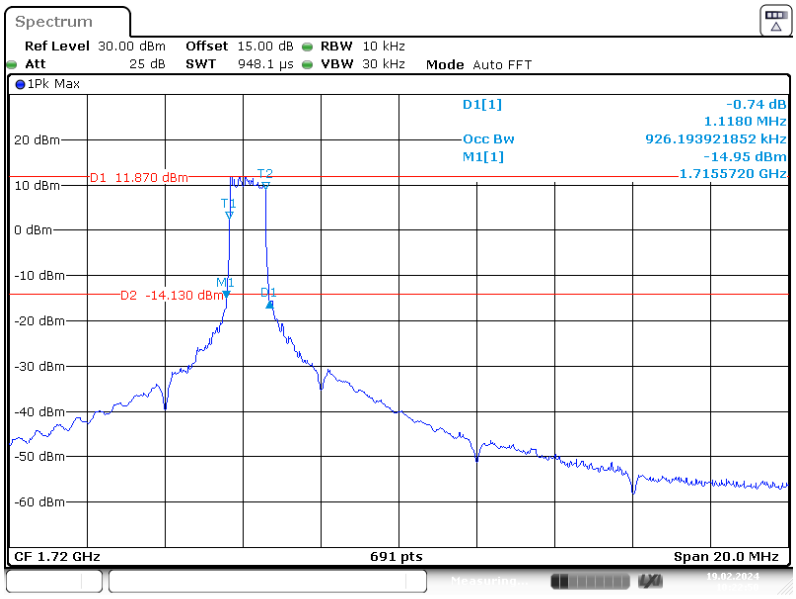
Project No. : RKSA231222001 Tester : Bard Liu
Date: 19.FEB.2024 14:56:28

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



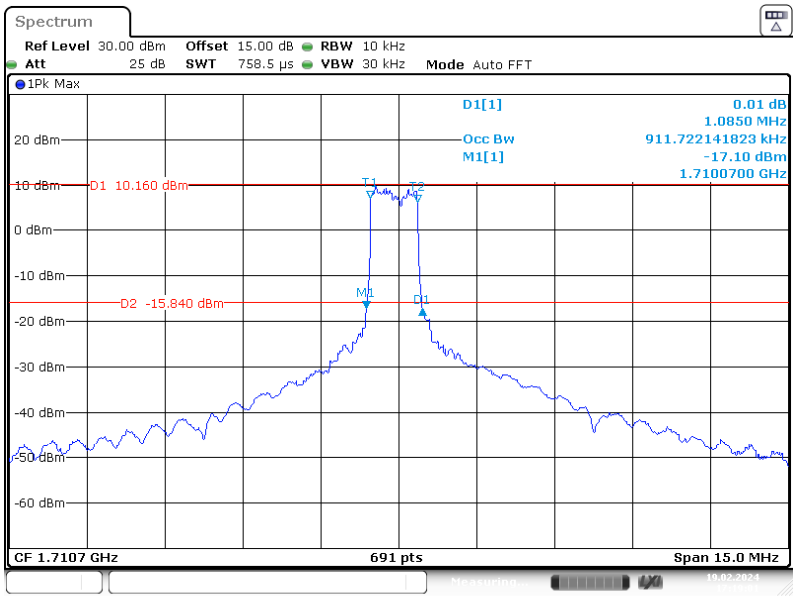
Project No. : RKSA231222001 Tester : Bard Liu
Date: 19.FEB.2024 14:23:29

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



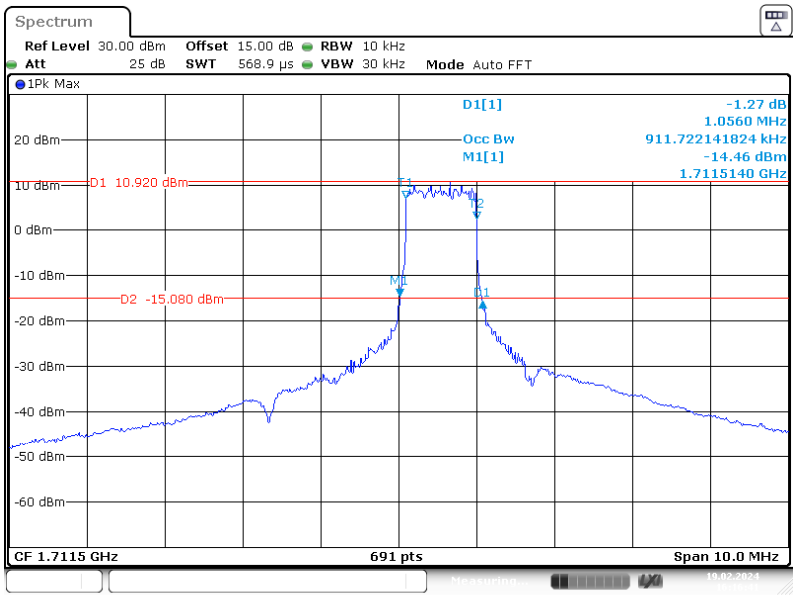
Project No. : RKSA231222001 Tester : Bard Liu
Date: 19.FEB.2024 10:22:50

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



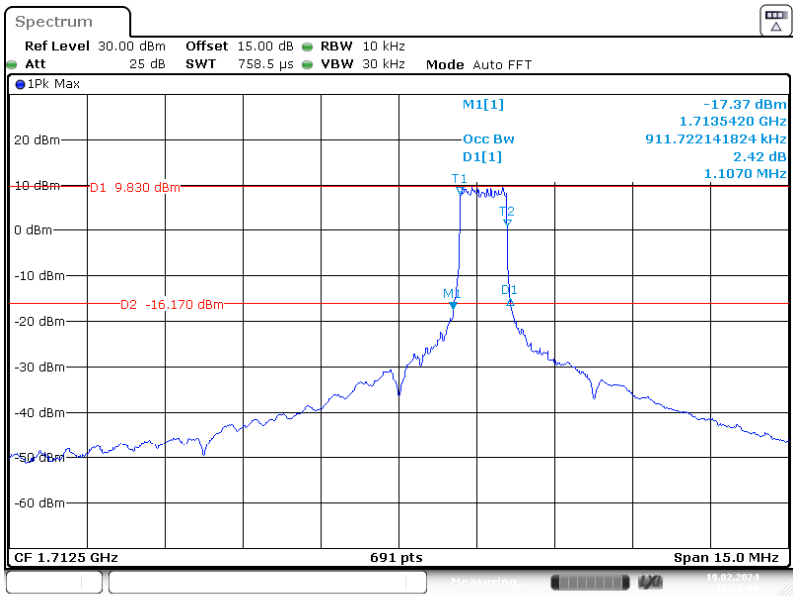
Project No. : RKSA231222001 Tester : Bard Liu
Date: 19.FEB.2024 17:19:01

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



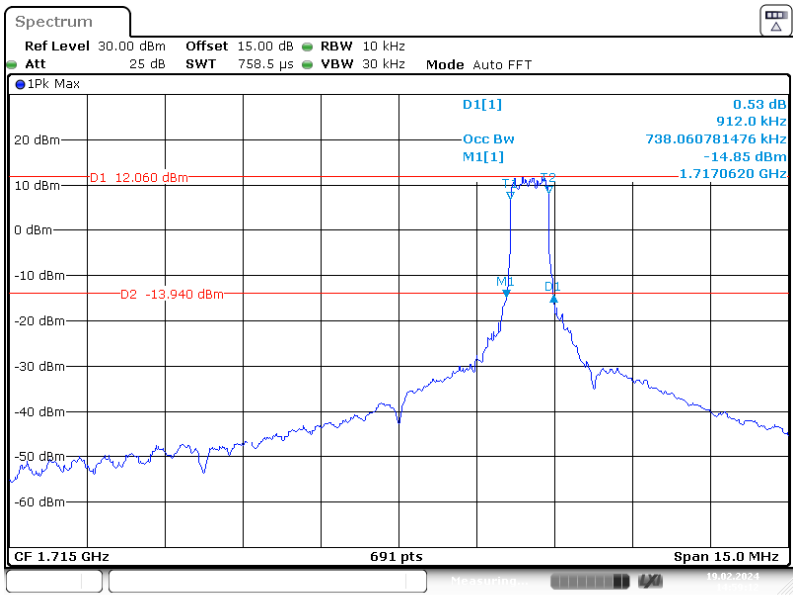
Project No. : RKSA231222001 Tester : Bard Liu
Date: 19.FEB.2024 16:16:42

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



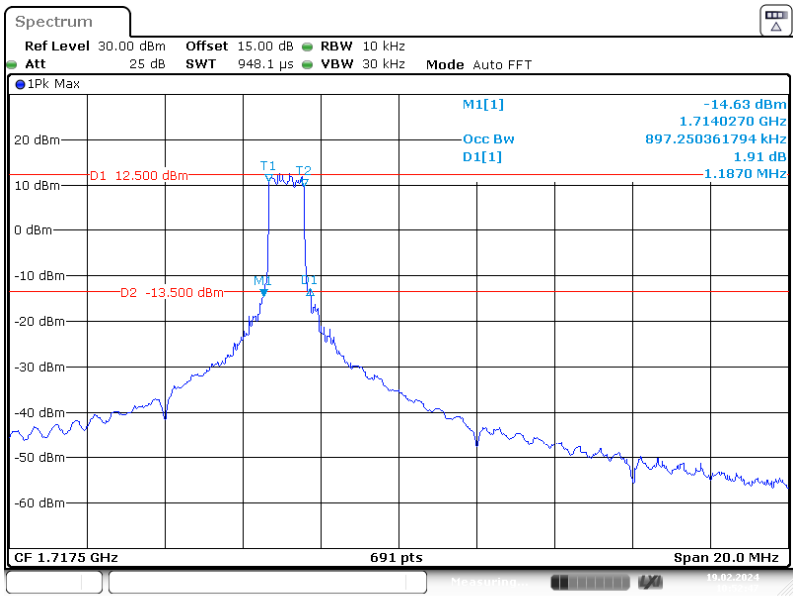
Project No. : RKSA231222001 Tester : Bard Liu
Date: 19.FEB.2024 15:22:10

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



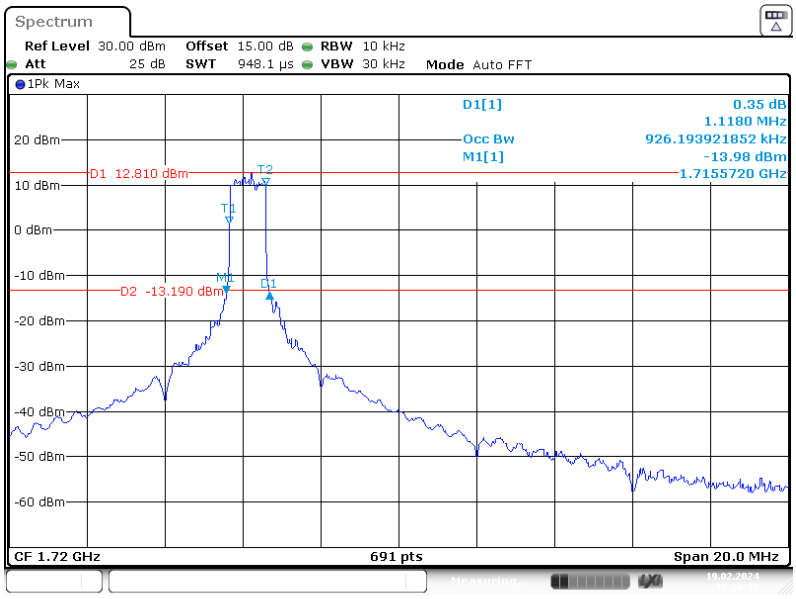
Project No. : RKSA231222001 Tester : Bard Liu
Date: 19.FEB.2024 14:59:13

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



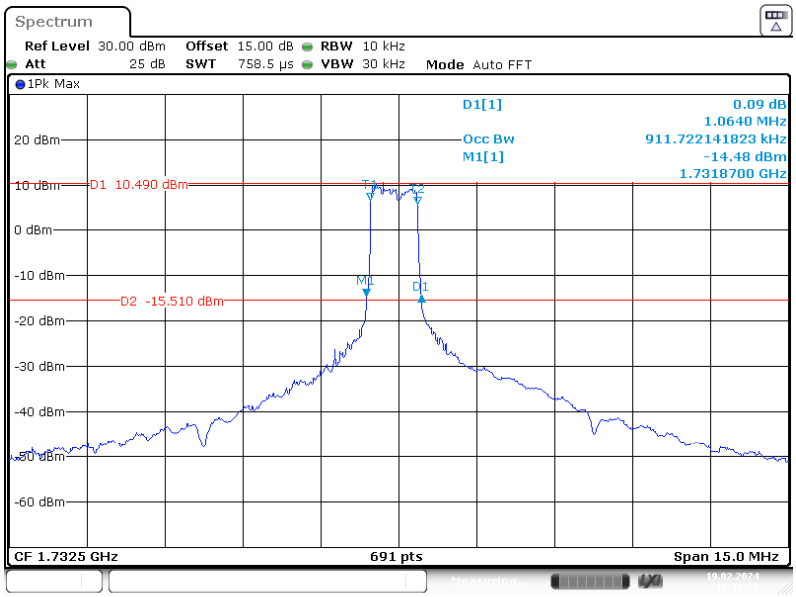
Project No. : RKSA231222001 Tester : Bard Liu
Date: 19.FEB.2024 10:52:47

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



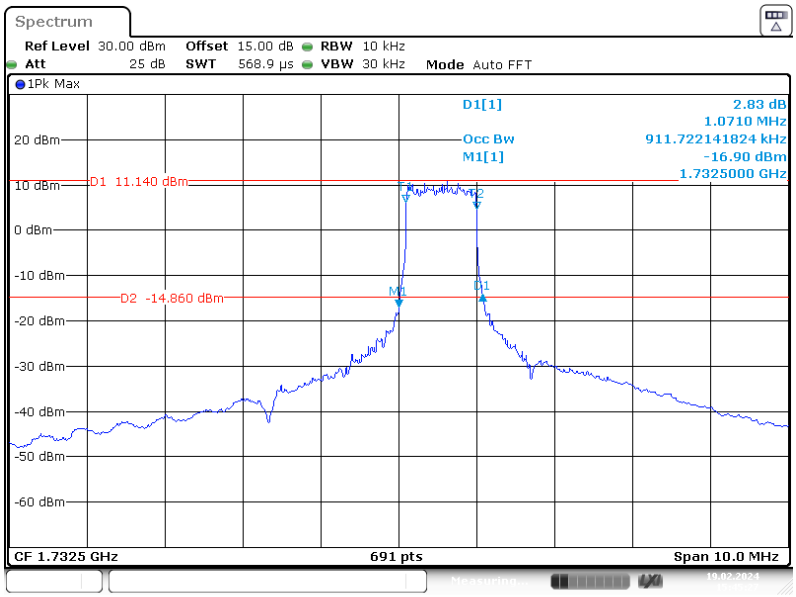
Project No. : RKSA231222001 Tester : Bard Liu
Date: 19.FEB.2024 10:26:18

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



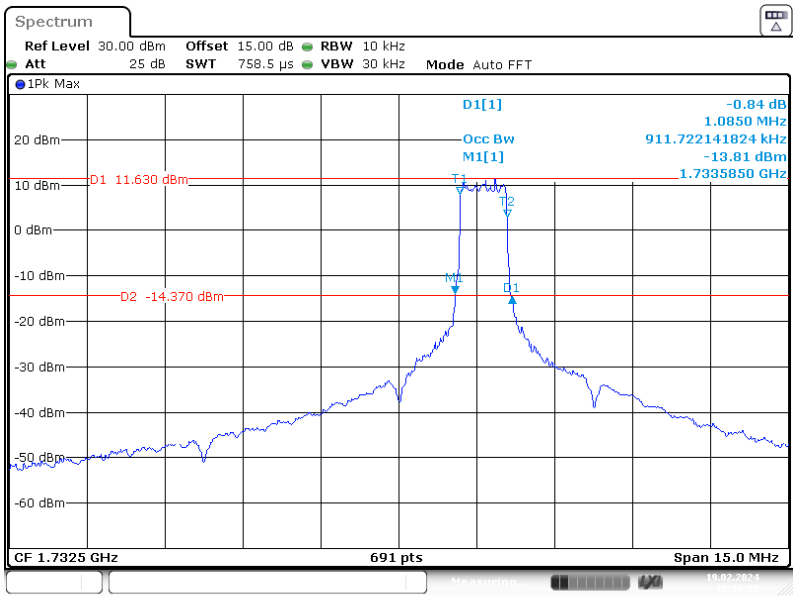
Project No. : RKSA231222001 Tester : Bard Liu
Date: 19.FEB.2024 17:11:38

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



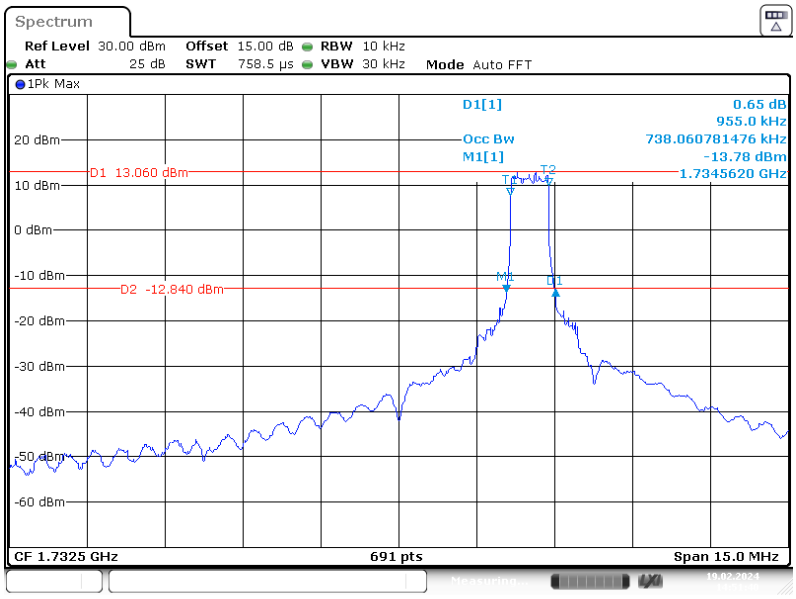
Project No. : RKSA231222001 Tester : Bard Liu
Date: 19.FEB.2024 15:45:27

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



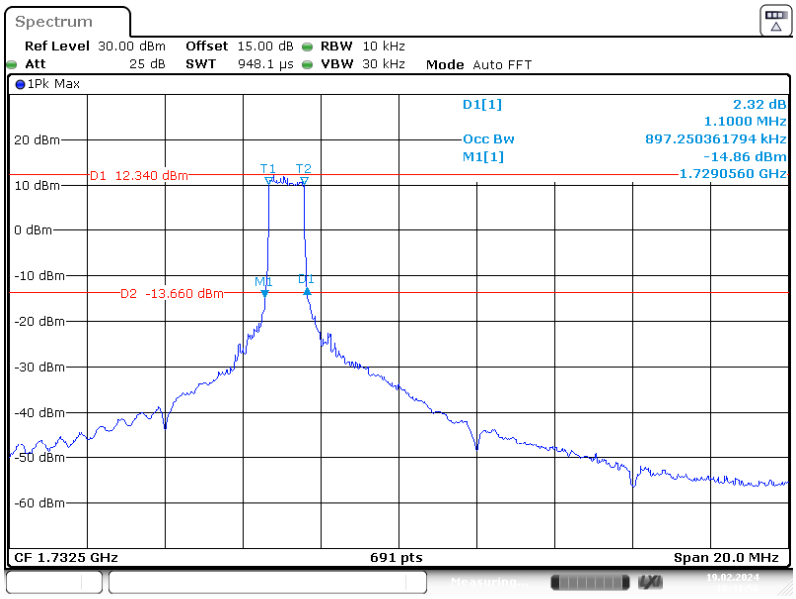
Project No. : RKSA231222001 Tester : Bard Liu
Date: 19.FEB.2024 15:16:21

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



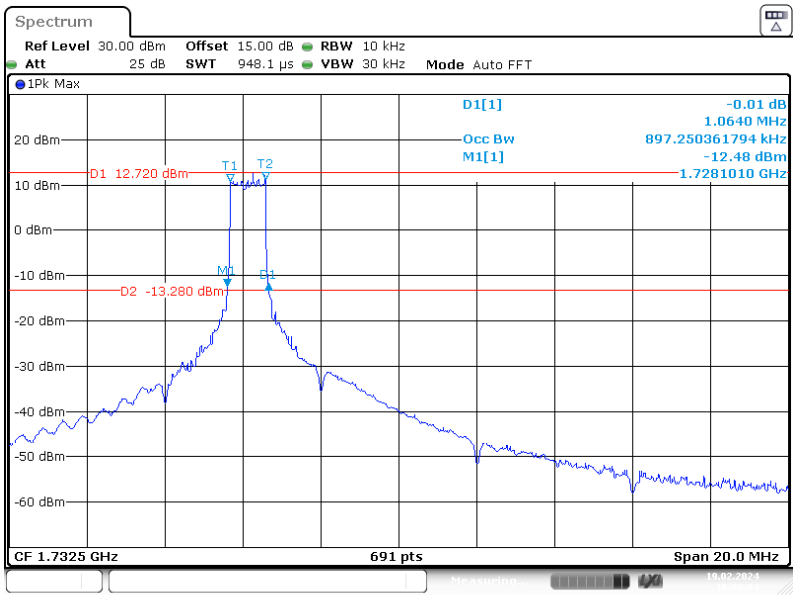
Project No. : RKSA231222001 Tester : Bard Liu
Date: 19.FEB.2024 14:51:40

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



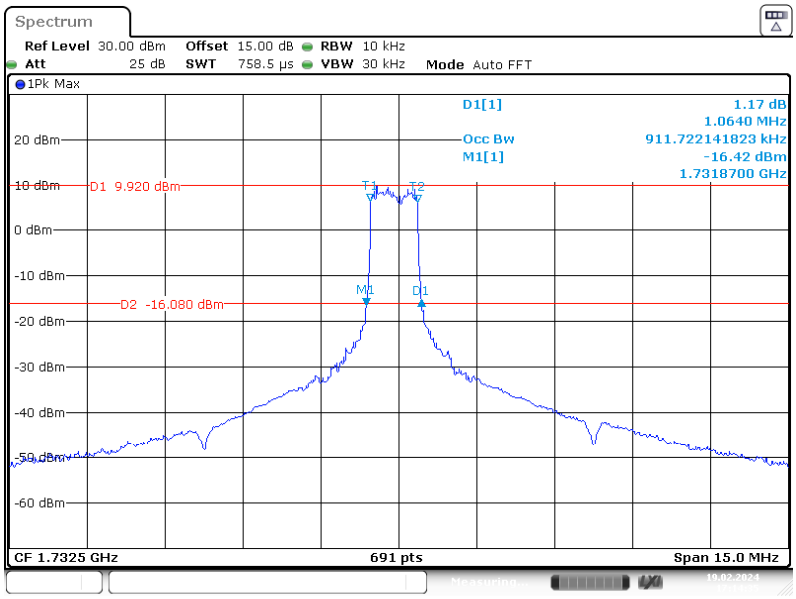
Project No. : RKSA231222001 Tester : Bard Liu
Date: 19.FEB.2024 10:41:57

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



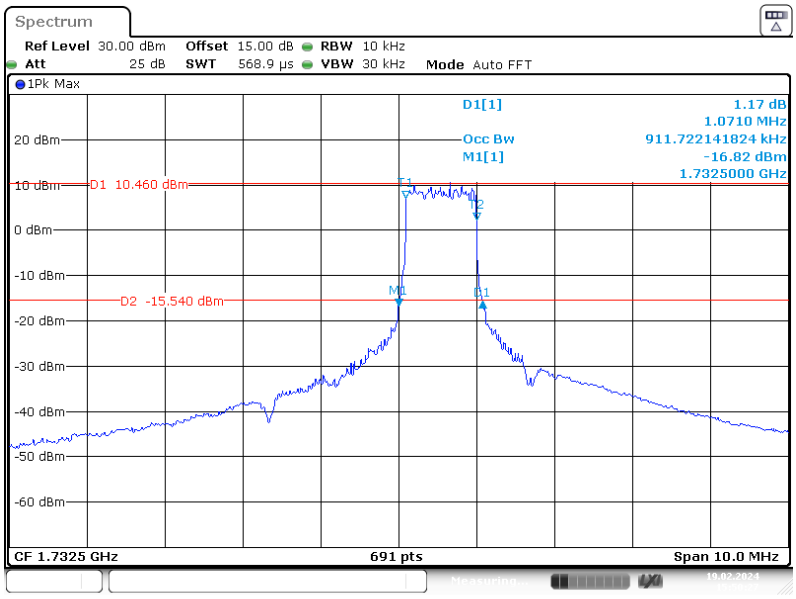
Project No. : RKSA231222001 Tester : Bard Liu
Date: 19.FEB.2024 10:08:04

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



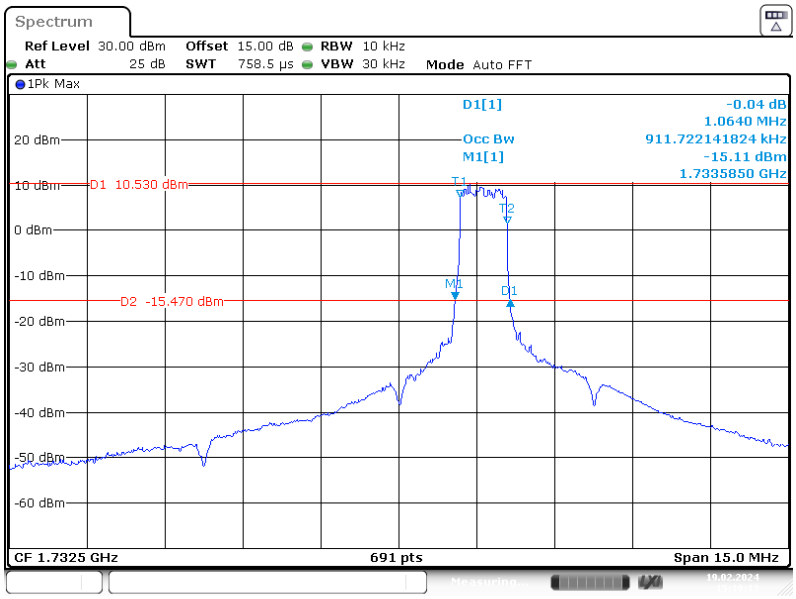
Project No. : RKSA231222001 Tester : Bard Liu
Date: 19.FEB.2024 17:14:36

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



Project No. : RKSA231222001 Tester : Bard Liu
Date: 19.FEB.2024 15:50:28

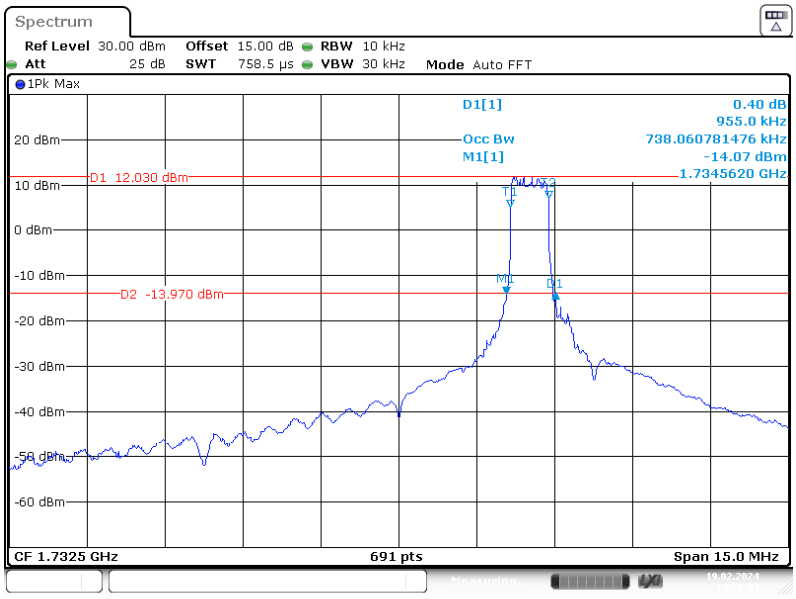
16-QAM (5 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



Project No. : RKSA231222001 Tester : Bard Liu

Date: 19.FEB.2024 15:19:14

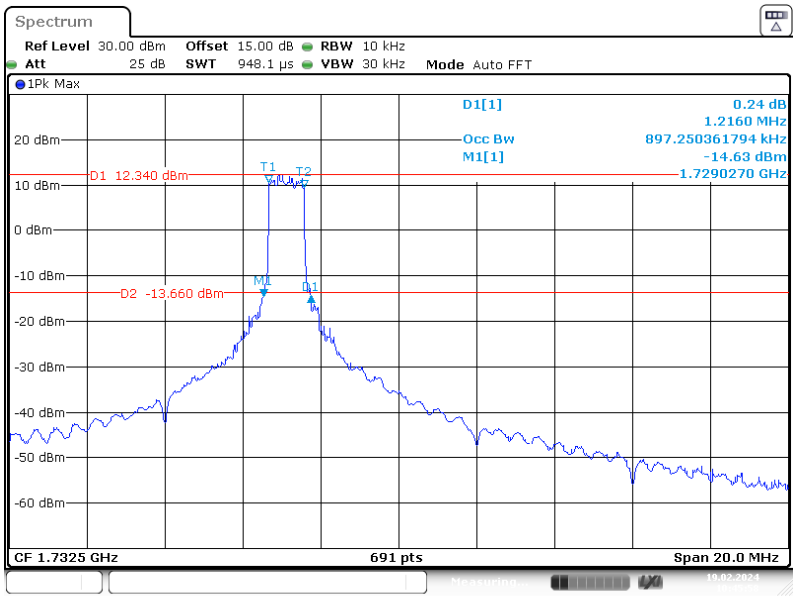
16-QAM (10 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



Project No. : RKSA231222001 Tester : Bard Liu

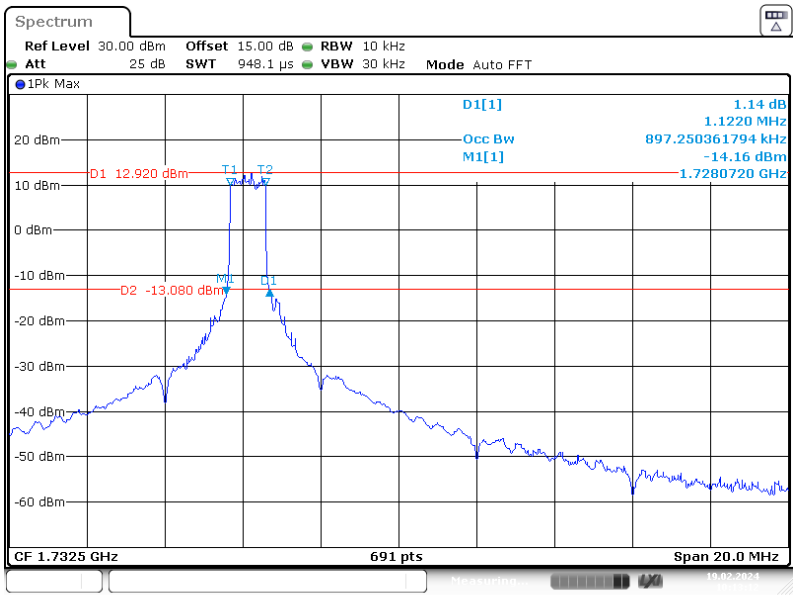
Date: 19.FEB.2024 14:50:05

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



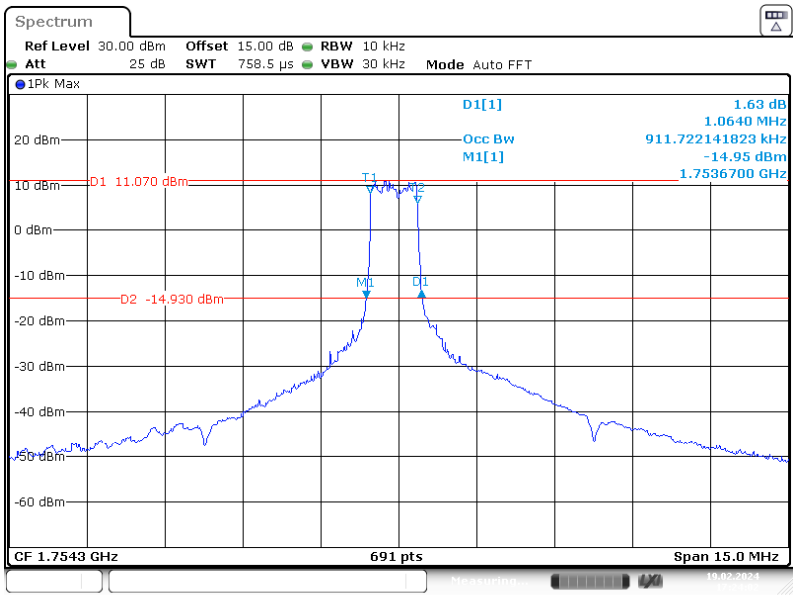
Project No. : RKSA231222001 Tester : Bard Liu
Date: 19.FEB.2024 10:45:59

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



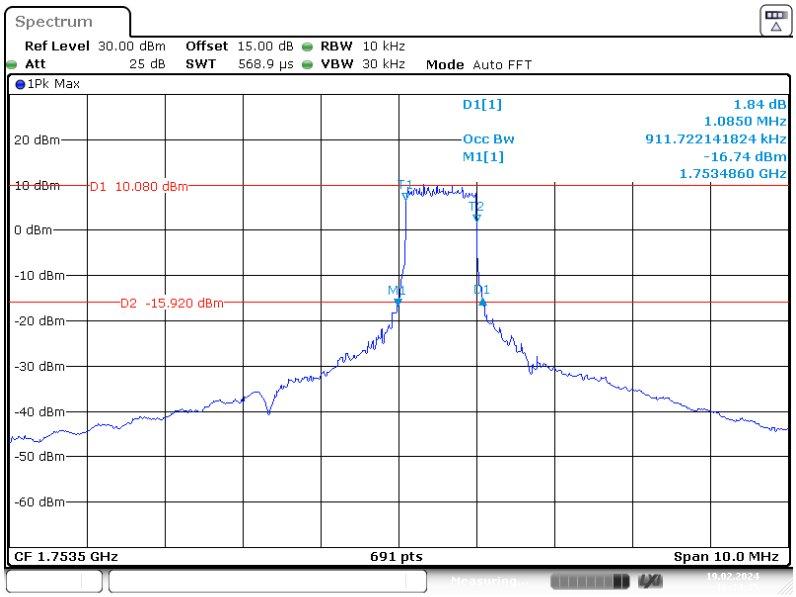
Project No. : RKSA231222001 Tester : Bard Liu
Date: 19.FEB.2024 10:13:12

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



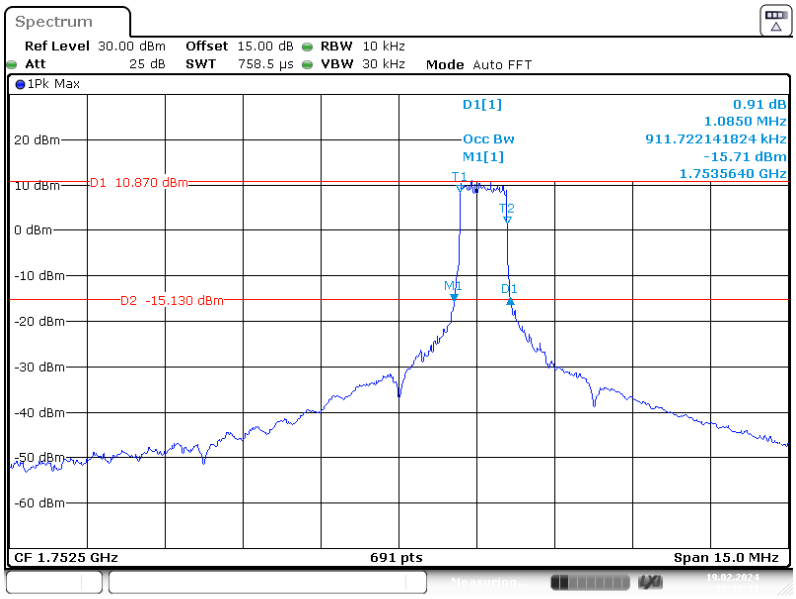
Project No. : RKSA231222001 Tester : Bard Liu
Date: 19.FEB.2024 17:24:02

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



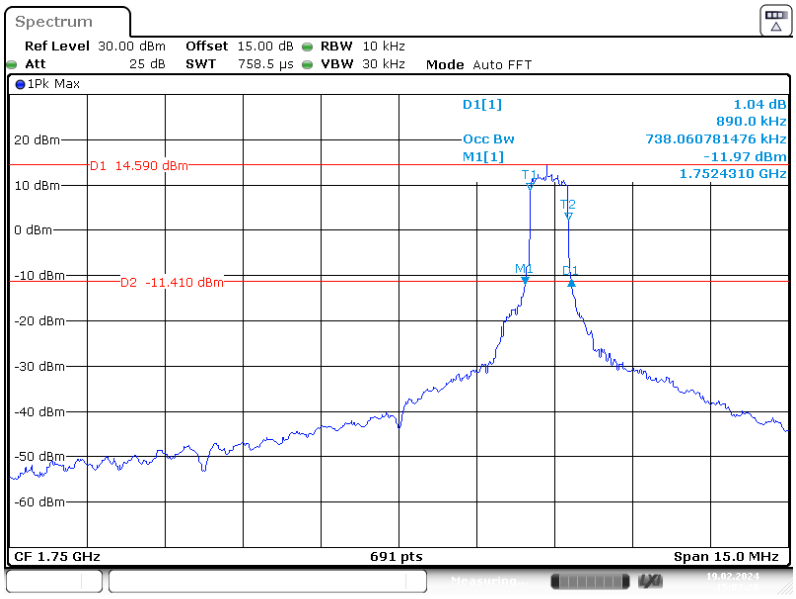
Project No. : RKSA231222001 Tester : Bard Liu
Date: 19.FEB.2024 16:34:35

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



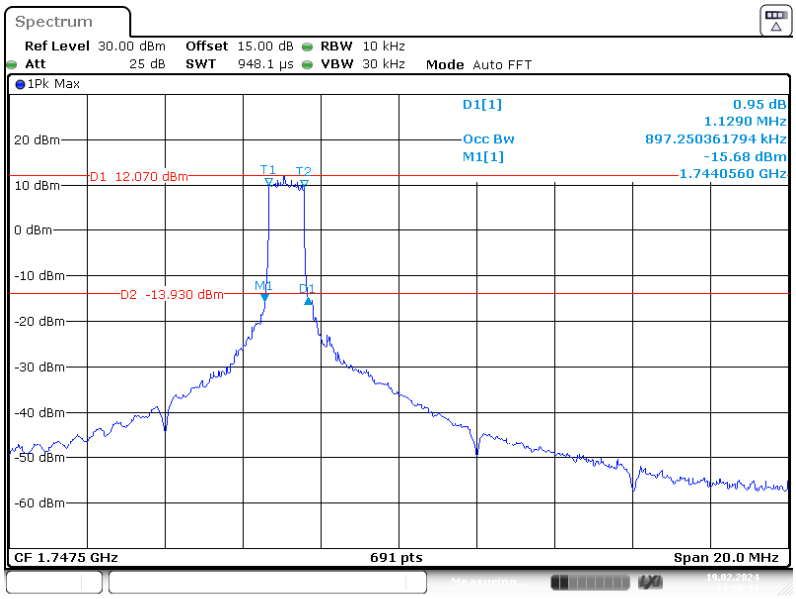
Project No. : RKSA231222001 Tester : Bard Liu
Date: 19.FEB.2024 15:32:31

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



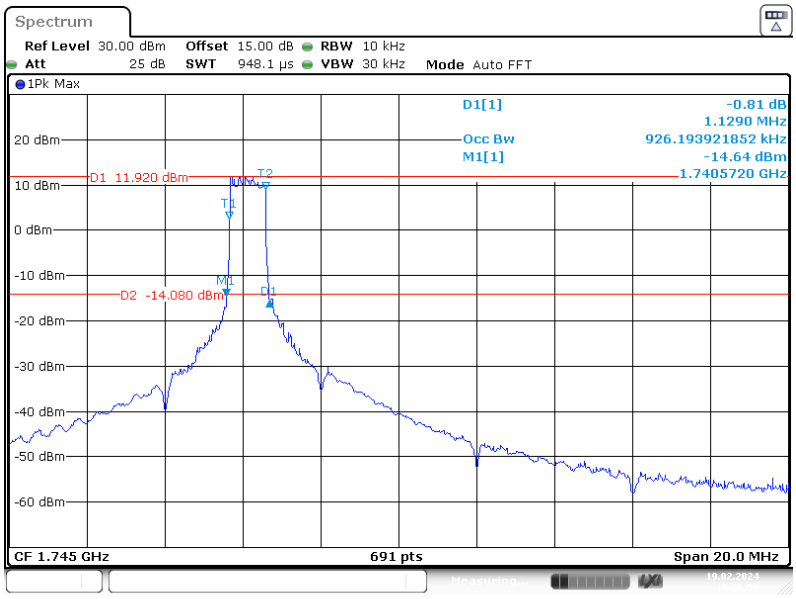
Project No. : RKSA231222001 Tester : Bard Liu
Date: 19.FEB.2024 15:07:28

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



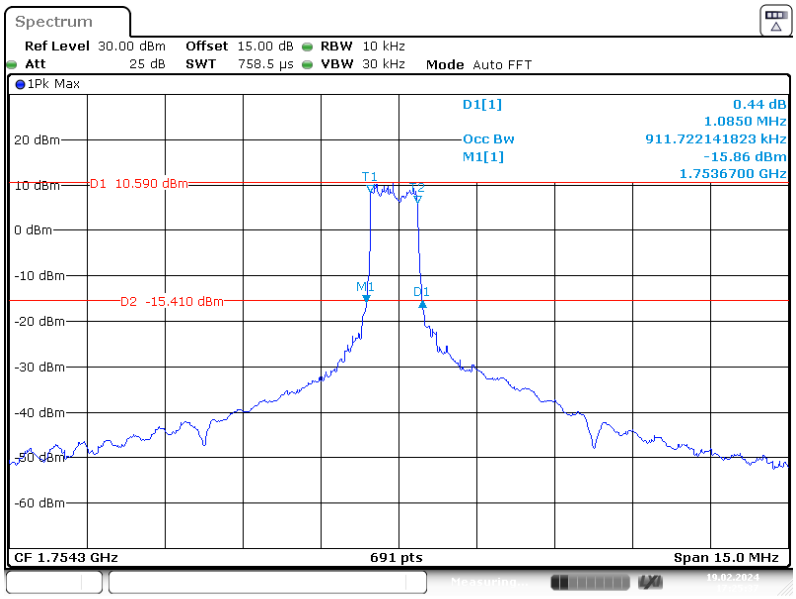
Project No. : RKSA231222001 Tester : Bard Liu
Date: 19.FEB.2024 14:26:34

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



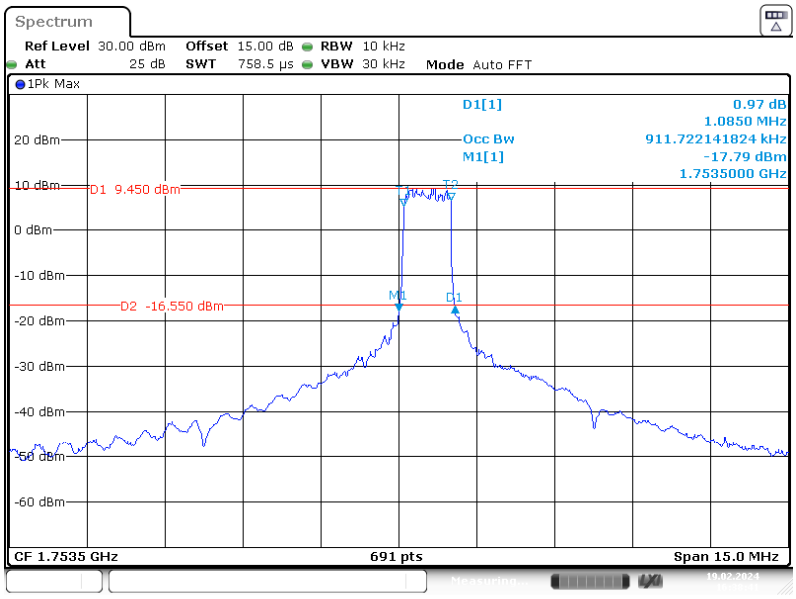
Project No. : RKSA231222001 Tester : Bard Liu
Date: 19.FEB.2024 10:36:59

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



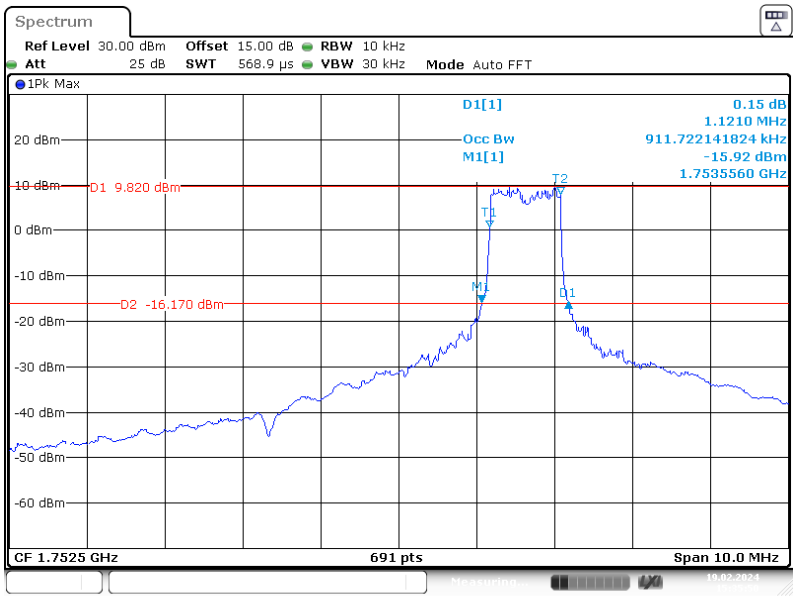
Project No. : RKSA231222001 Tester : Bard Liu
Date: 19.FEB.2024 17:25:37

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



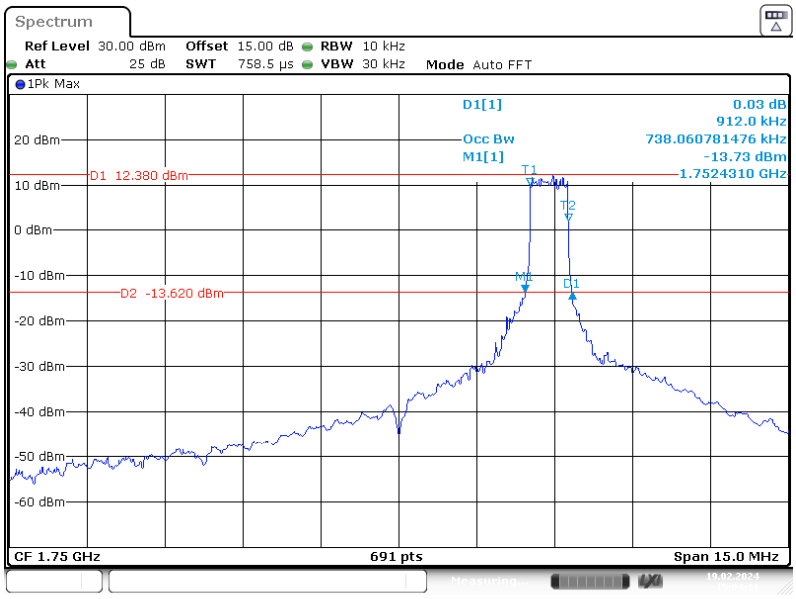
Project No. : RKSA231222001 Tester : Bard Liu
Date: 19.FEB.2024 16:38:42

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



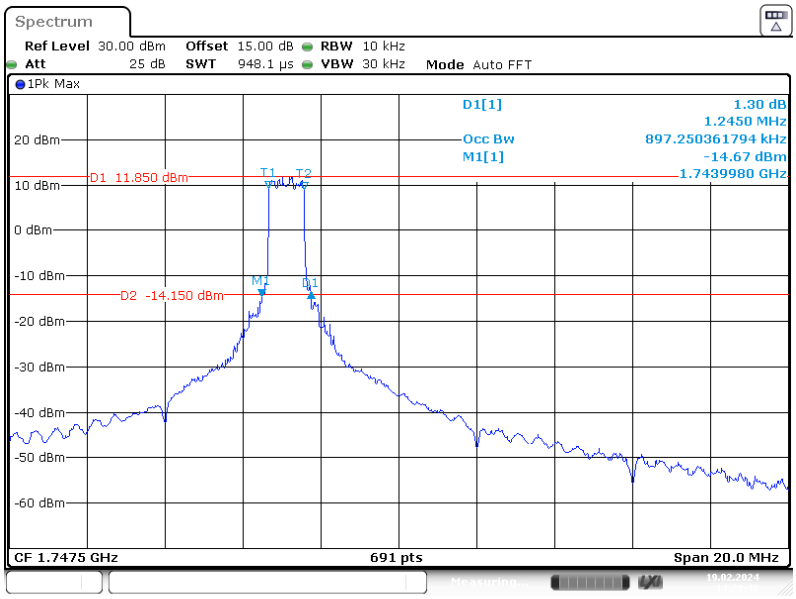
Project No. : RKSA231222001 Tester : Bard Liu
Date: 19.FEB.2024 15:35:51

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



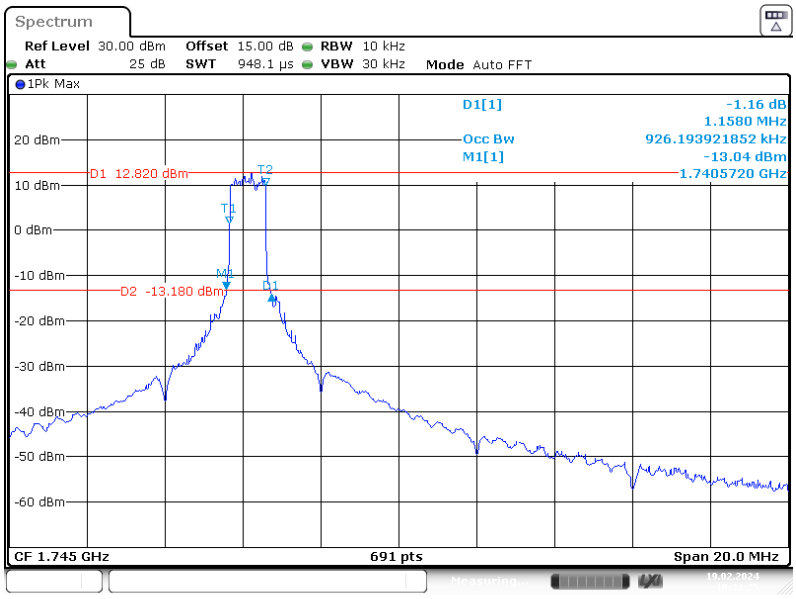
Project No. : RKSA231222001 Tester : Bard Liu
Date: 19.FEB.2024 15:04:12

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



Project No. : RKSA231222001 Tester : Bard Liu
Date: 19.FEB.2024 14:29:48

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

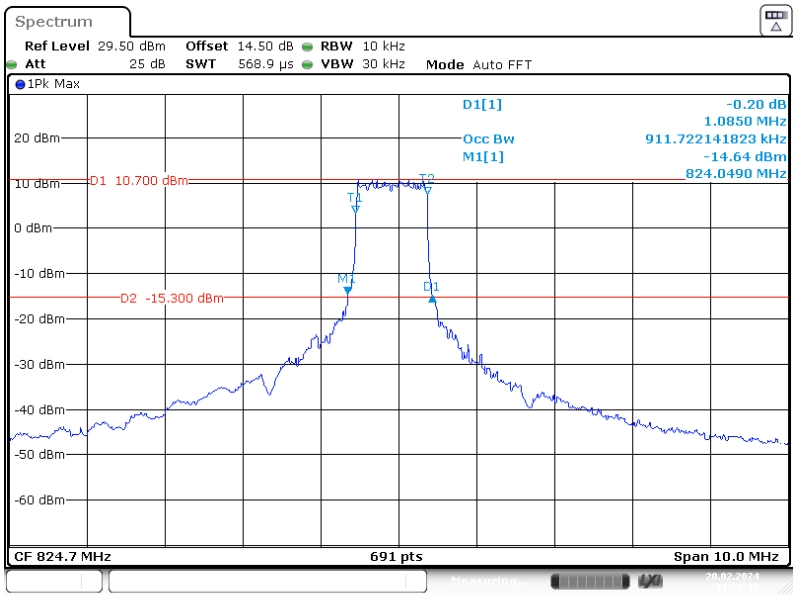


Project No. : RKSA231222001 Tester : Bard Liu
Date: 19.FEB.2024 10:32:26

LTE CAT-M Band 5:

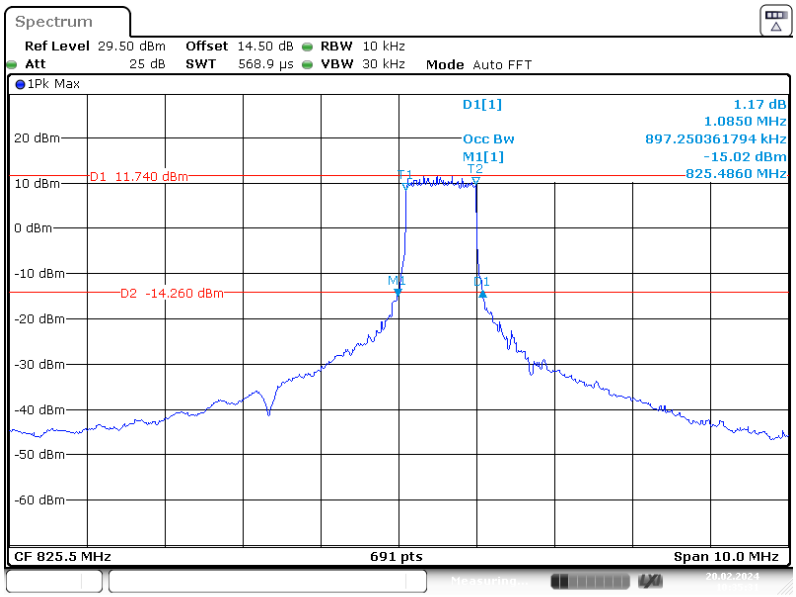
Test Modulation	Modulation	Test Channel	Channel /Frequency(MHz)	26 dB Bandwidth	99% Occupied Bandwidth
				MHz	MHz
1.4M	QPSK	Low	20407(824.7)	1.085	0.912
	16QAM			1.071	0.912
	QPSK	Middle	20525(836.5)	1.085	0.912
	16QAM			1.071	0.912
	QPSK	High	20643(848.3)	1.056	0.897
	16QAM			1.042	0.897
3M	QPSK	Low	20415(825.5)	1.085	0.897
	16QAM			1.085	0.912
	QPSK	Middle	20525(836.5)	1.056	0.912
	16QAM			1.085	0.897
	QPSK	High	20643(847.5)	1.085	0.897
	16QAM			1.1	0.912
5M	QPSK	Low	20425(826.5)	1.085	0.897
	16QAM			1.1	0.897
	QPSK	Middle	20525(836.5)	1.071	0.897
	16QAM			1.1	0.897
	QPSK	High	20643(846.5)	1.085	0.897
	16QAM			1.1	0.897
10M	QPSK	Low	20450(829)	0.912	0.724
	16QAM			0.897	0.724
	QPSK	Middle	20525(836.5)	0.912	0.738
	16QAM			0.912	0.738
	QPSK	High	20600(844)	0.926	0.724
	16QAM			0.912	0.738

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



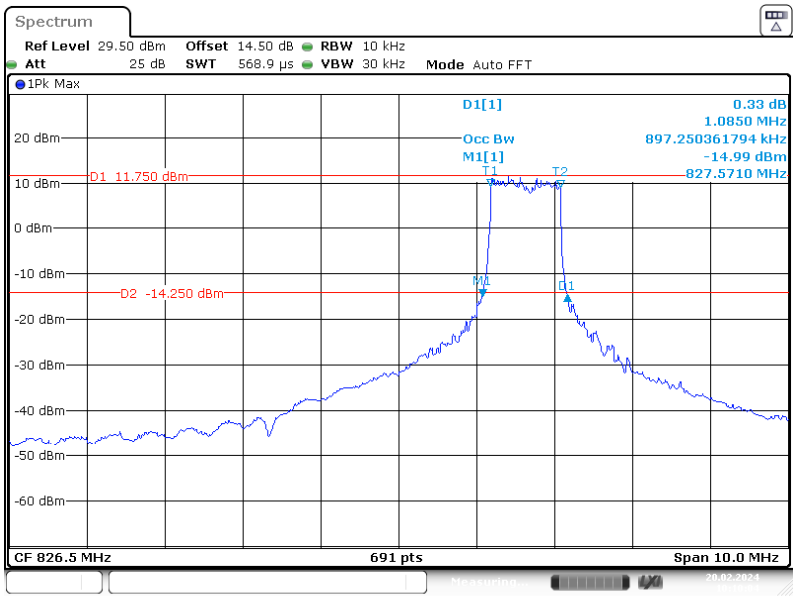
Project No. : RKSA231222001 Tester : Bard Liu
Date: 20.FEB.2024 11:21:16

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



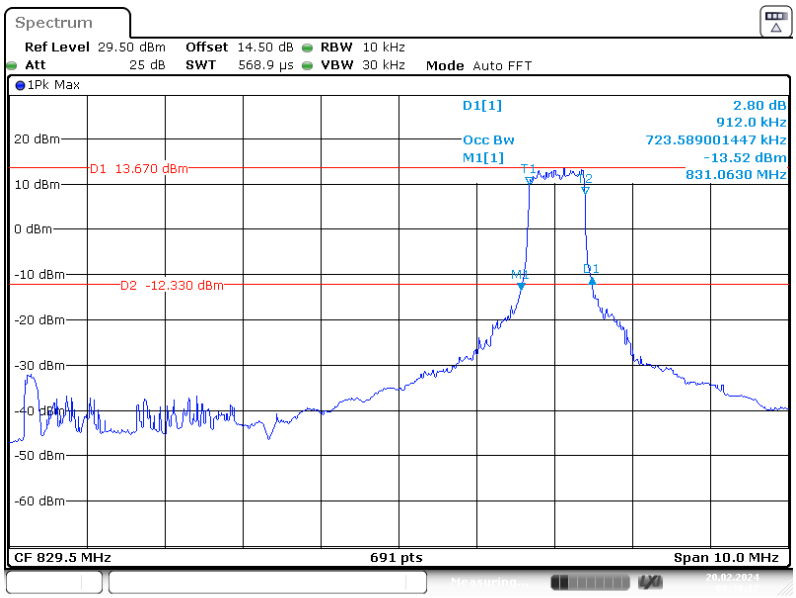
Project No. : RKSA231222001 Tester : Bard Liu
Date: 20.FEB.2024 10:35:31

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



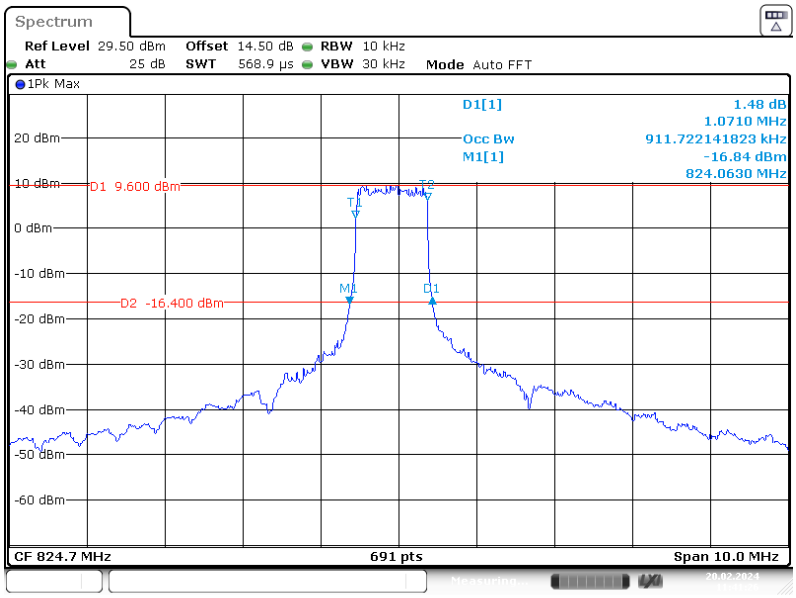
Project No. : RKSA231222001 Tester : Bard Liu
Date: 20.FEB.2024 10:10:04

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



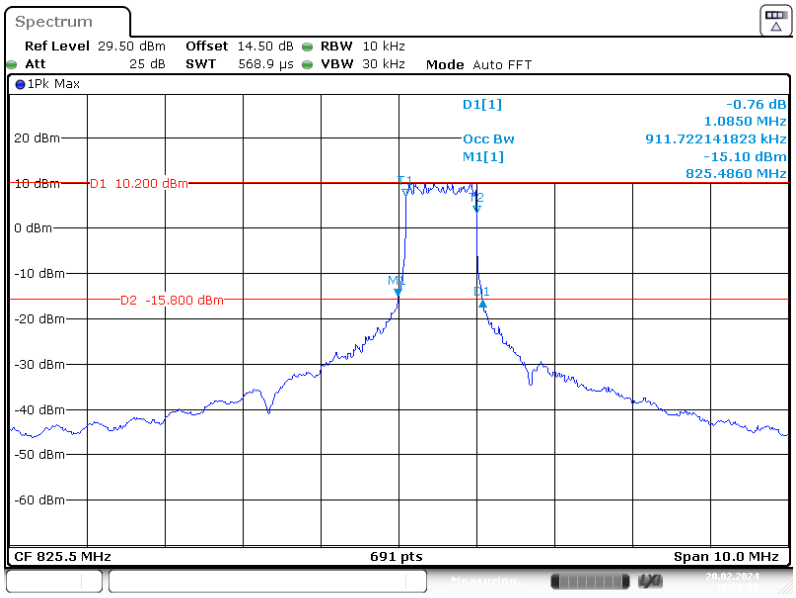
Project No. : RKSA231222001 Tester : Bard Liu
Date: 20.FEB.2024 09:39:18

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



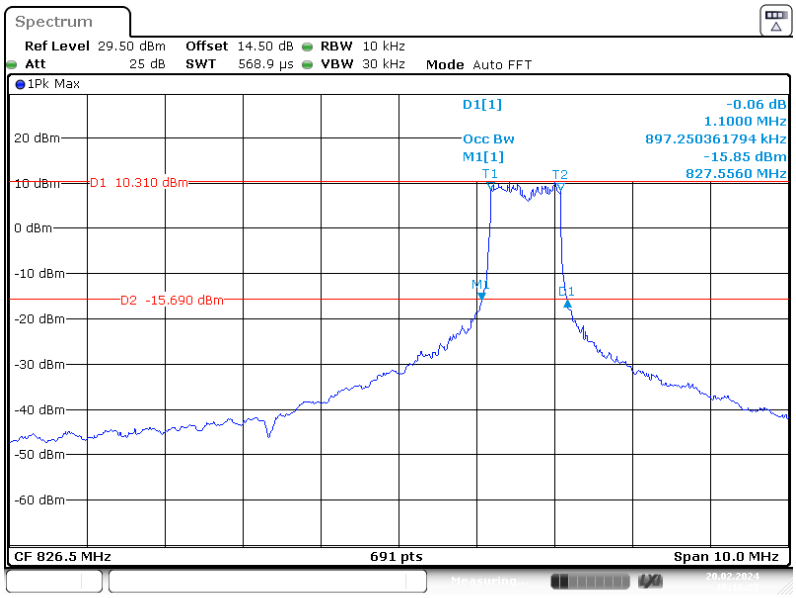
Project No. : RKSA231222001 Tester : Bard Liu
Date: 20.FEB.2024 11:41:26

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



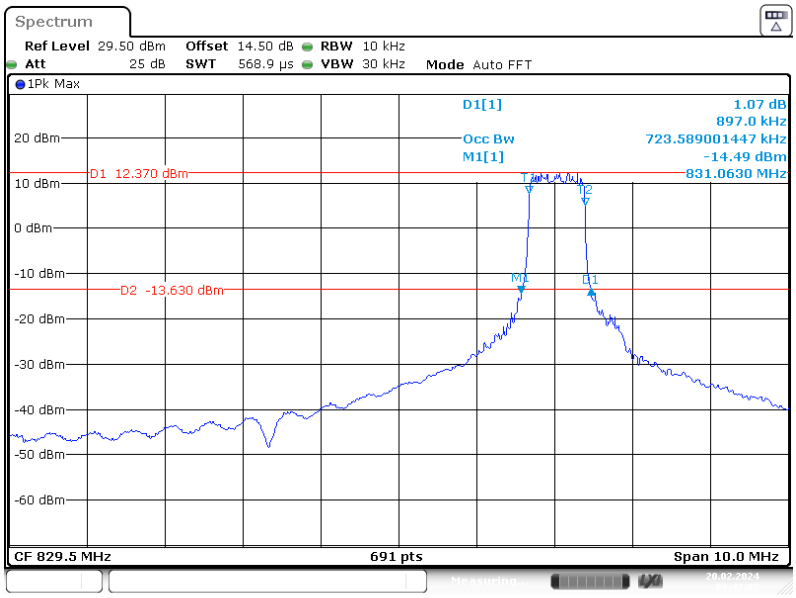
Project No. : RKSA231222001 Tester : Bard Liu
Date: 20.FEB.2024 10:38:09

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



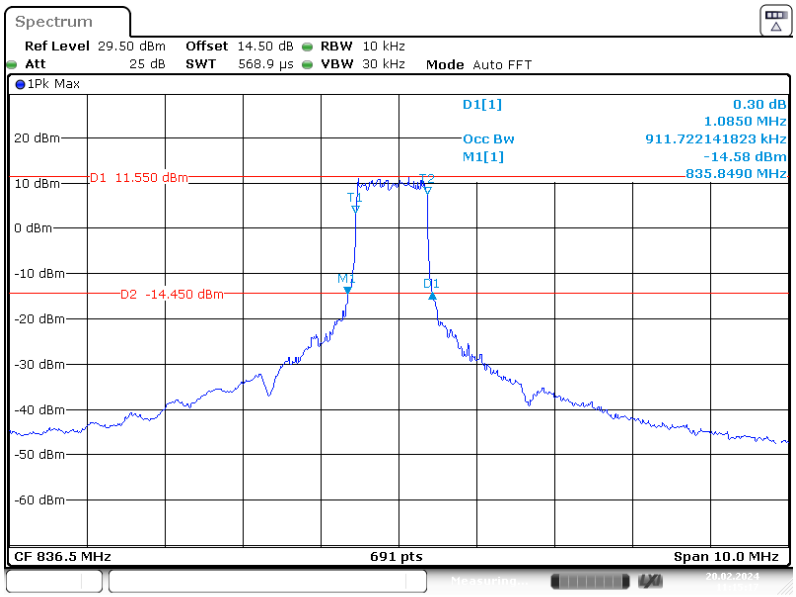
Project No. : RKSA231222001 Tester : Bard Liu
Date: 20.FEB.2024 10:16:24

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



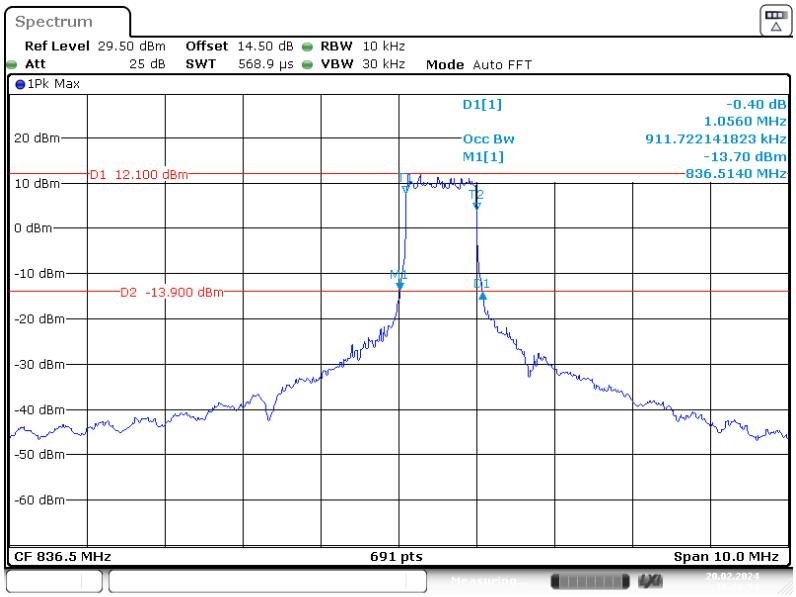
Project No. : RKSA231222001 Tester : Bard Liu
Date: 20.FEB.2024 09:42:03

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



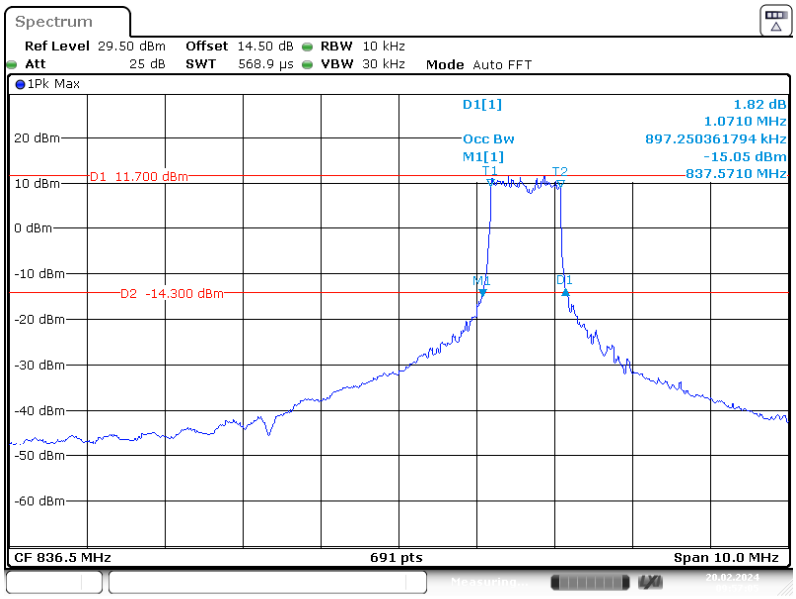
Project No. : RKSA231222001 Tester : Bard Liu
Date: 20.FEB.2024 11:15:17

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



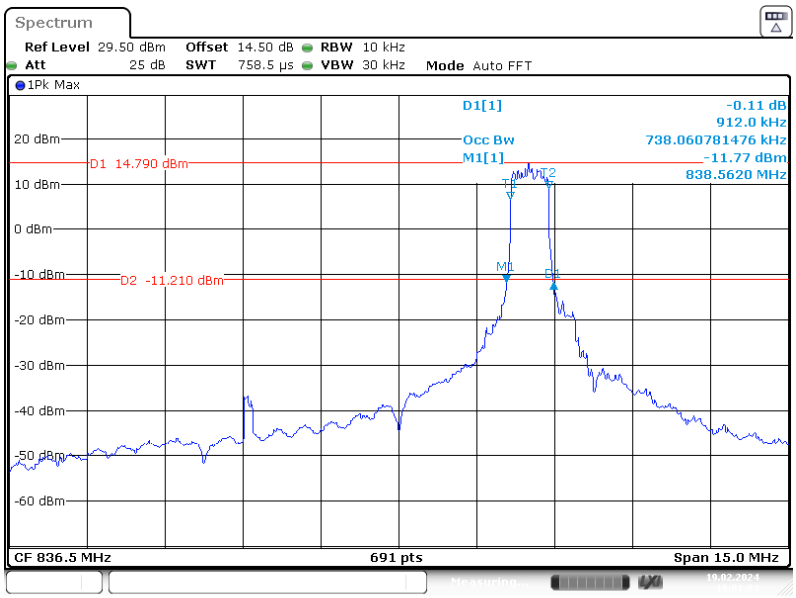
Project No. : RKSA231222001 Tester : Bard Liu
Date: 20.FEB.2024 10:26:54

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



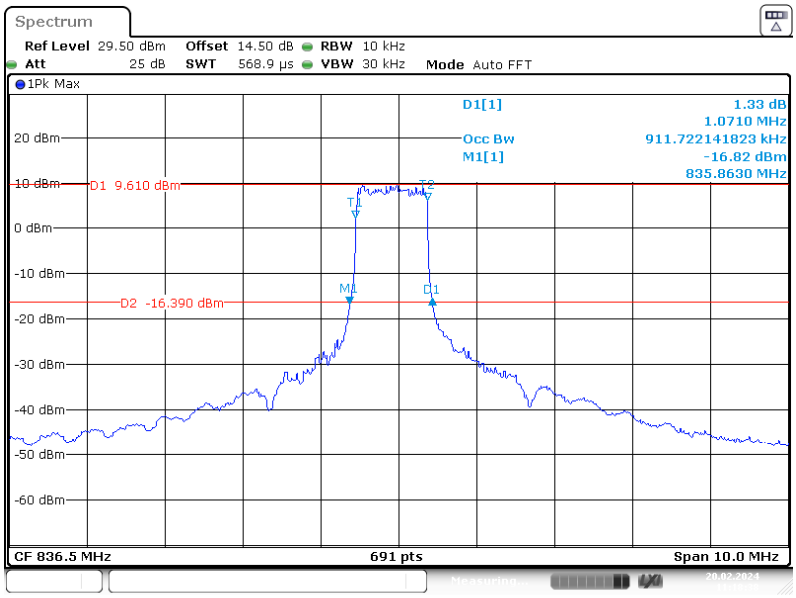
Project No. : RKSA231222001 Tester : Bard Liu
Date: 20.FEB.2024 09:57:05

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



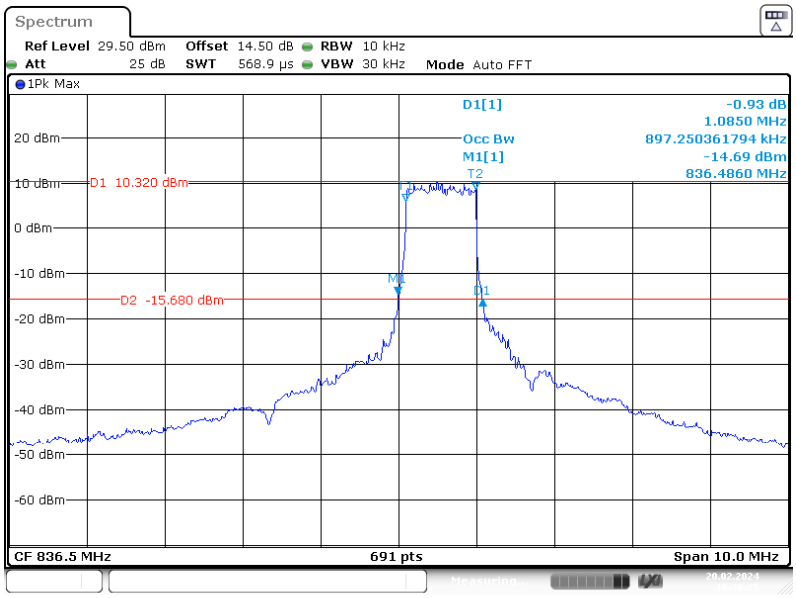
Project No. : RKSA231222001 Tester : Bard Liu
Date: 19.FEB.2024 19:01:05

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



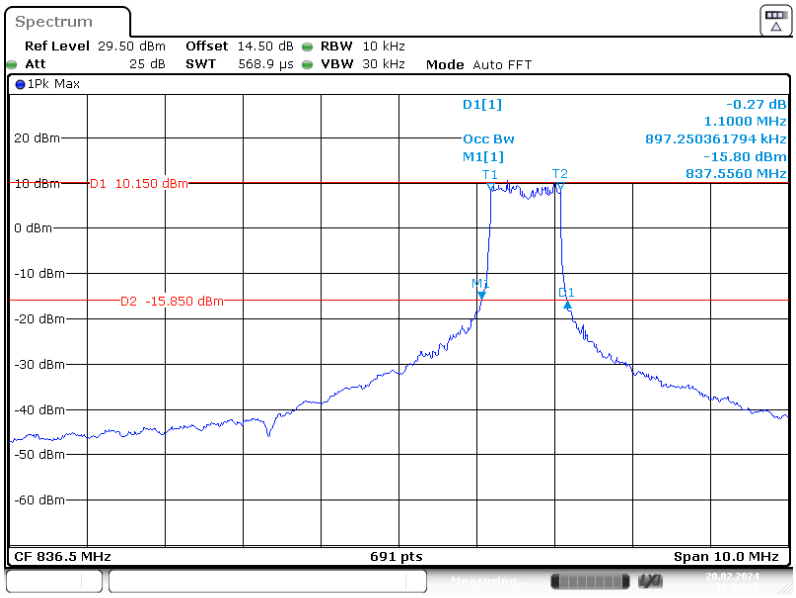
Project No. : RKSA231222001 Tester : Bard Liu
Date: 20.FEB.2024 11:18:39

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



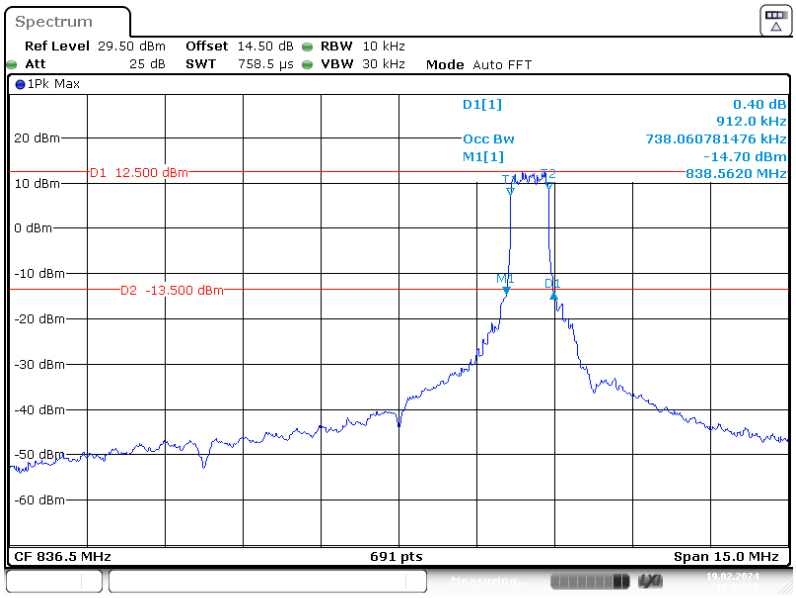
Project No. : RKSA231222001 Tester : Bard Liu
Date: 20.FEB.2024 10:30:26

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



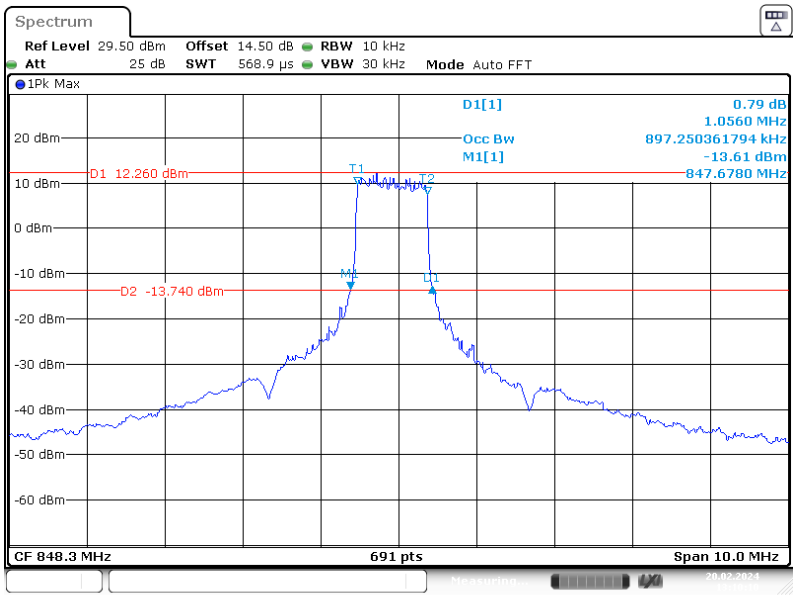
Project No. : RKSA231222001 Tester : Bard Liu
Date: 20.FEB.2024 10:02:56

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



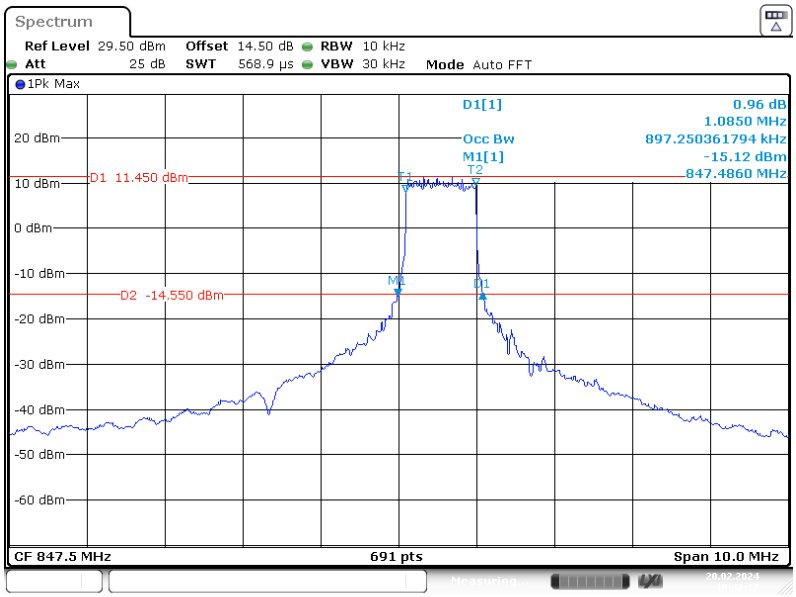
Project No. : RKSA231222001 Tester : Bard Liu
Date: 19.FEB.2024 19:03:18

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



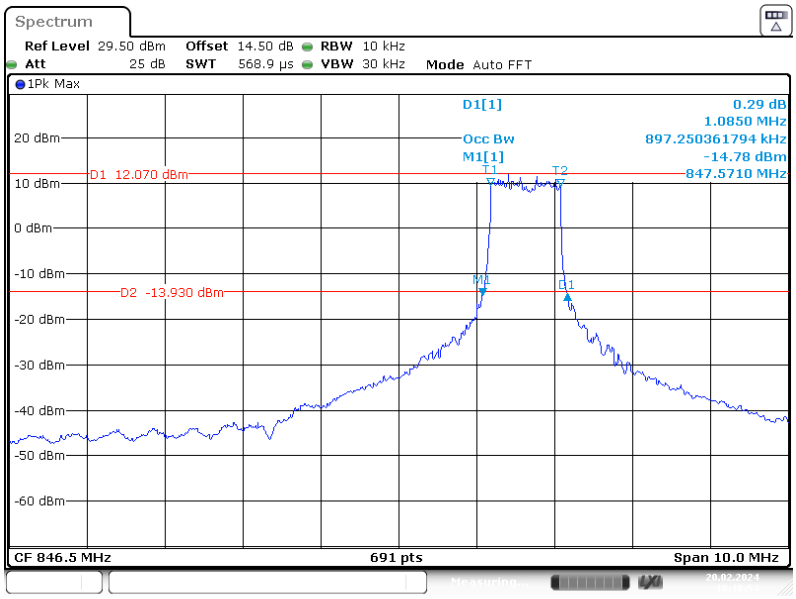
Project No. : RKSA231222001 Tester : Bard Liu
Date: 20.FEB.2024 13:10:10

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



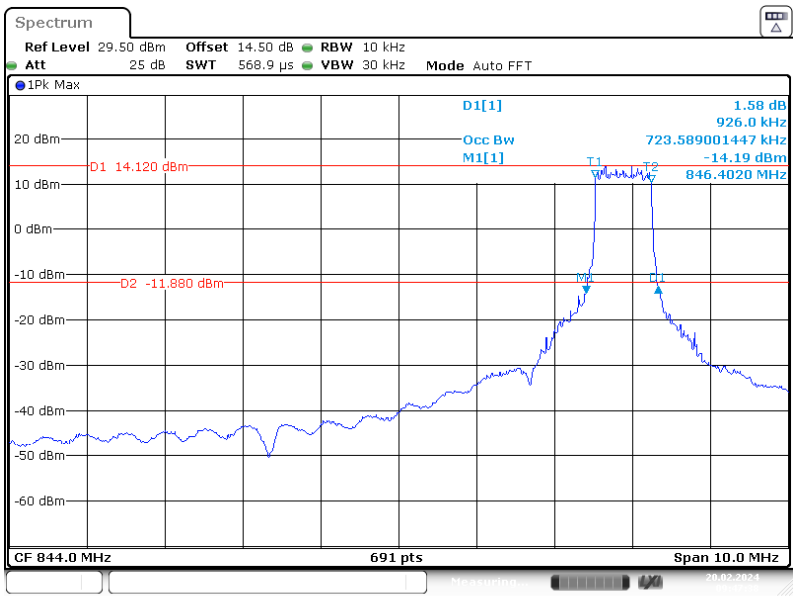
Project No. : RKSA231222001 Tester : Bard Liu
Date: 20.FEB.2024 10:42:18

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



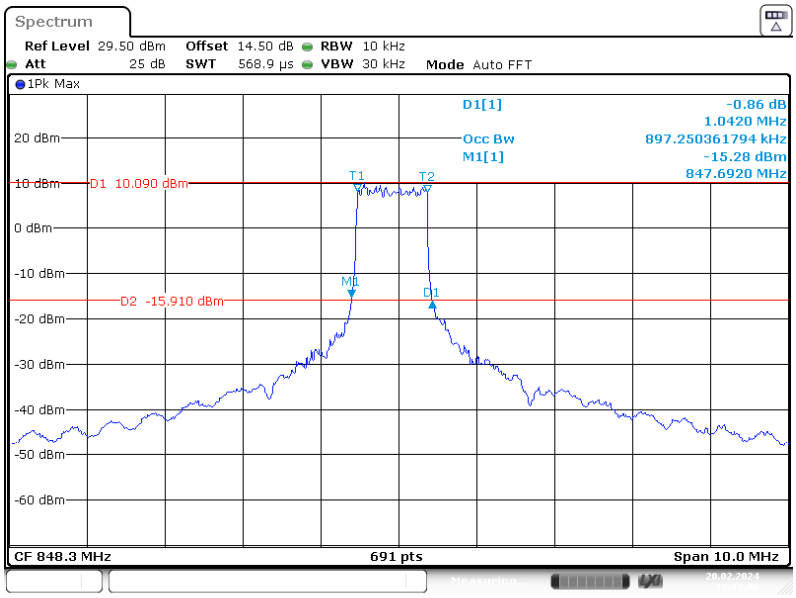
Project No. : RKSA231222001 Tester : Bard Liu
Date: 20.FEB.2024 10:18:54

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



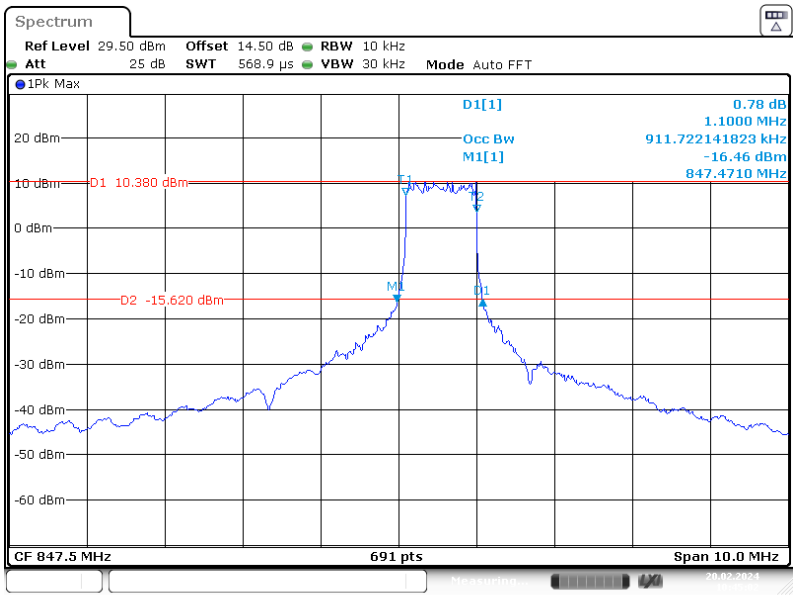
Project No. : RKSA231222001 Tester : Bard Liu
Date: 20.FEB.2024 09:47:38

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



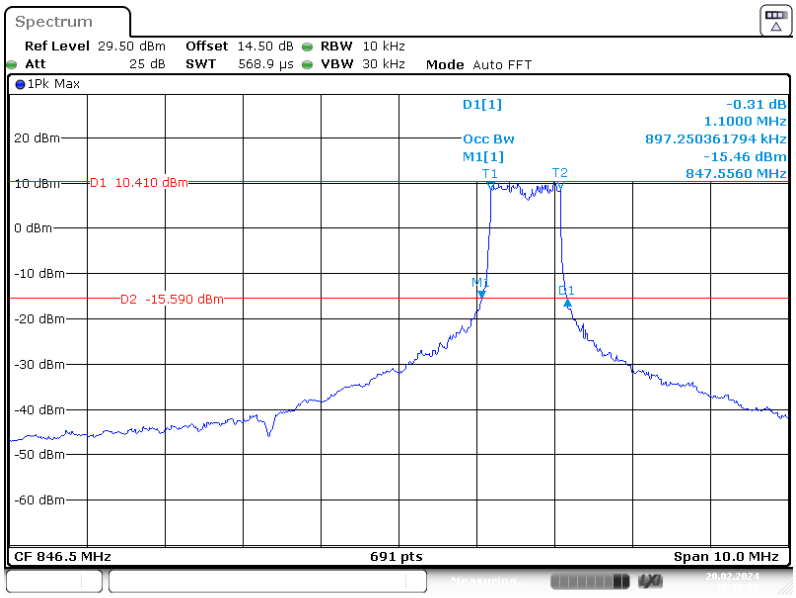
Project No. : RKSA231222001 Tester : Bard Liu
Date: 20.FEB.2024 13:13:06

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



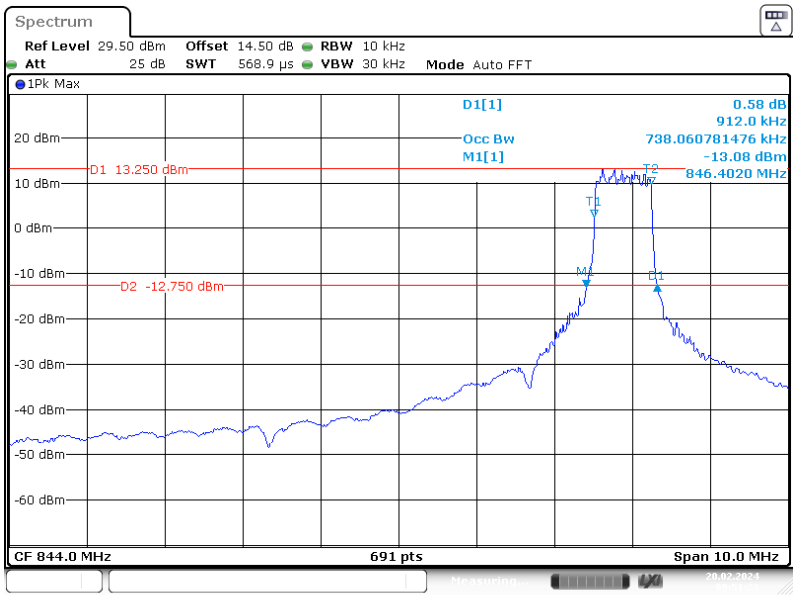
Project No. : RKSA231222001 Tester : Bard Liu
Date: 20.FEB.2024 10:45:02

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



Project No. : RKSA231222001 Tester : Bard Liu
Date: 20.FEB.2024 10:19:59

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

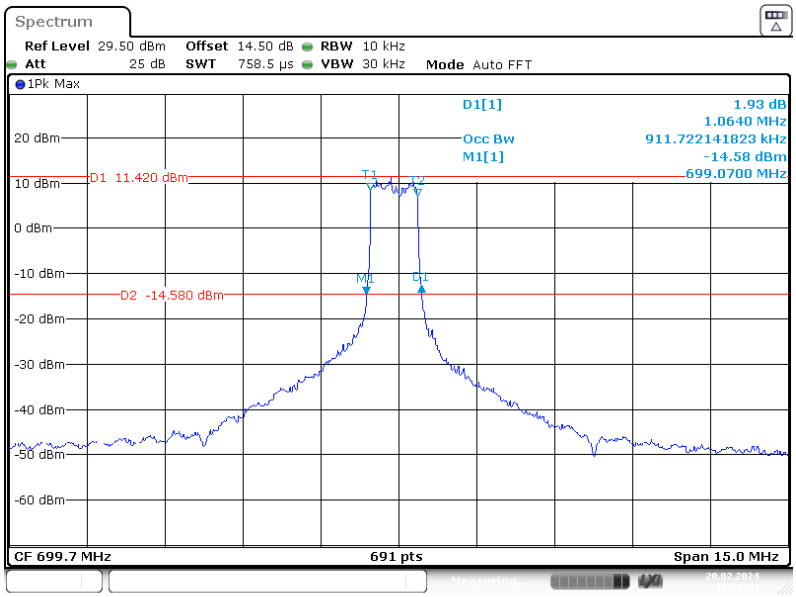


Project No. : RKSA231222001 Tester : Bard Liu
Date: 20.FEB.2024 09:51:23

LTE CAT-M Band 12:

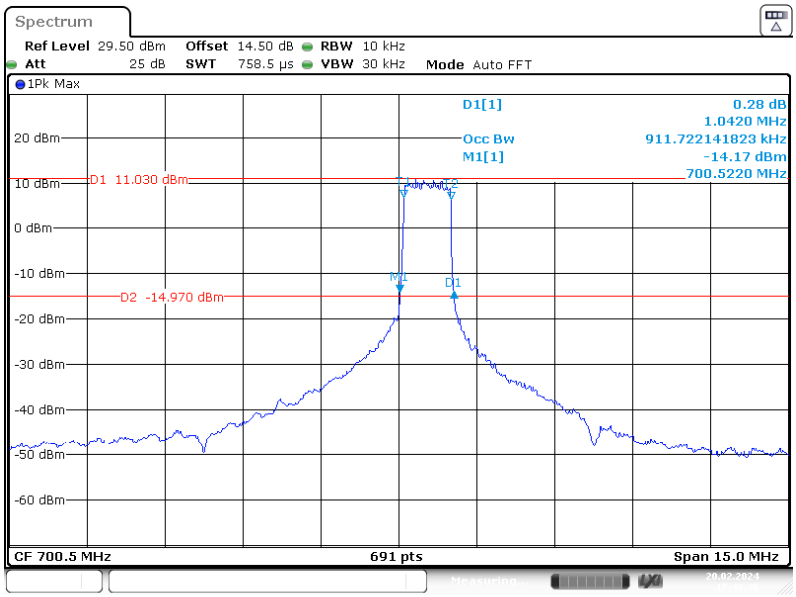
Test Modulation	Modulation	Test Channel	Channel /Frequency(MHz)	26 dB Bandwidth	99% Occupied Bandwidth
				MHz	MHz
1.4M	QPSK	Low	23017(699.7)	1.064	0.912
	16QAM			1.064	0.912
	QPSK	Middle	23095(707.5)	1.107	0.912
	16QAM			1.085	0.912
	QPSK	High	23173(715.3)	1.064	0.912
	16QAM			1.064	0.912
3M	QPSK	Low	23025(700.5)	1.042	0.912
	16QAM			1.064	0.912
	QPSK	Middle	23095(707.5)	1.064	0.912
	16QAM			1.042	0.912
	QPSK	High	23165(714.5)	1.064	0.912
	16QAM			1.064	0.912
5M	QPSK	Low	23035(701.5)	1.064	0.912
	16QAM			1.064	0.912
	QPSK	Middle	23095(707.5)	1.059	0.912
	16QAM			1.059	0.912
	QPSK	High	23155(713.5)	1.085	0.912
	16QAM			1.085	0.912
10M	QPSK	Low	23060(704)	0.917	0.738
	16QAM			1.042	0.912
	QPSK	Middle	23095(707.5)	0.912	0.738
	16QAM			0.89	0.738
	QPSK	High	23130(711)	0.836	0.716
	16QAM			0.713	0.738

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



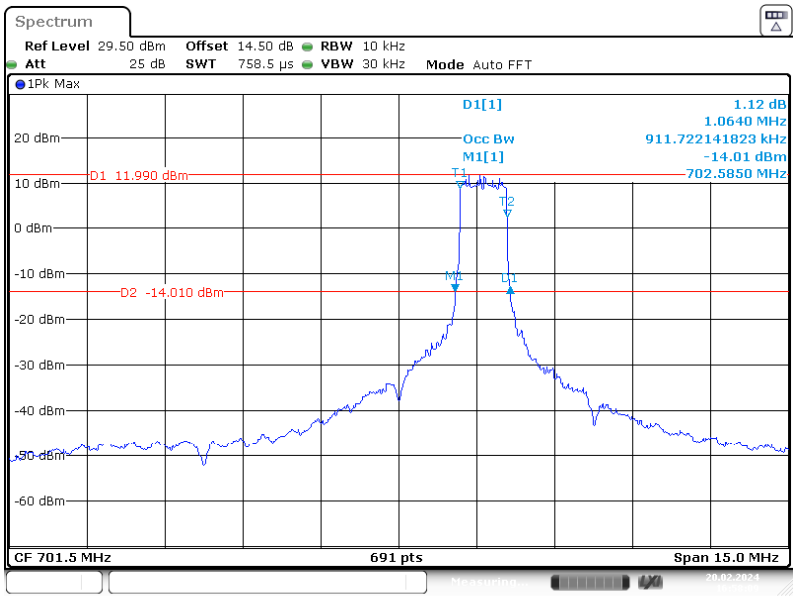
Project No. : RKSA231222001 Tester : Bard Liu
Date: 20.FEB.2024 19:52:53

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



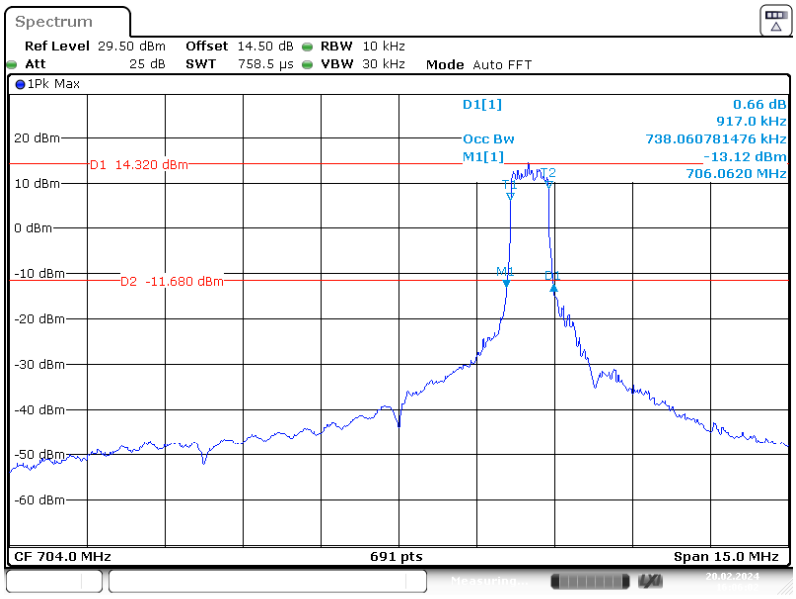
Project No. : RKSA231222001 Tester : Bard Liu
Date: 20.FEB.2024 17:40:36

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



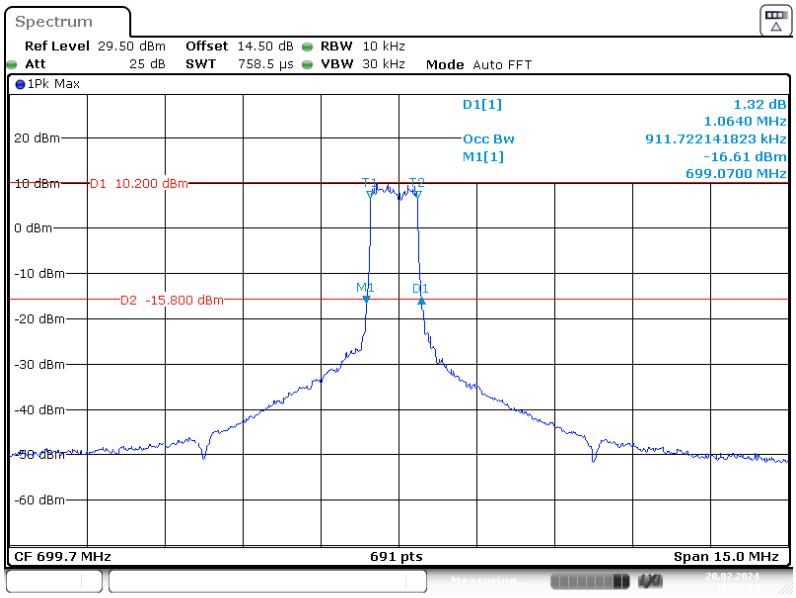
Project No. : RKSA231222001 Tester : Bard Liu
Date: 20.FEB.2024 16:58:10

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



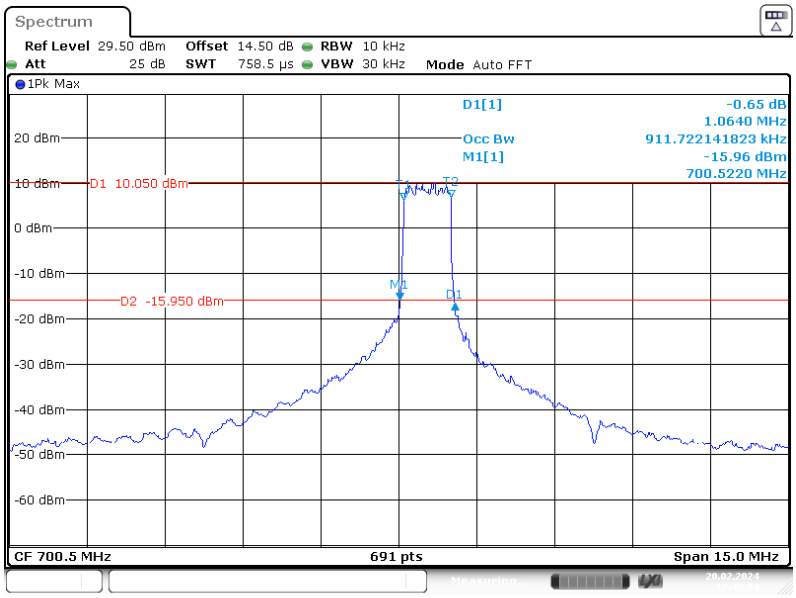
Project No. : RKSA231222001 Tester : Bard Liu
Date: 20.FEB.2024 16:06:02

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



Project No. : RKSA231222001 Tester : Bard Liu
Date: 20.FEB.2024 19:55:05

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



Project No. : RKSA231222001 Tester : Bard Liu
Date: 20.FEB.2024 17:42:55