Prüfbericht-Nr.: *Test report no.:*	**CN23QG53 001**	**Auftrags-Nr.:** *Order no.:*	**168428354** **P01070601**	**Seite 1 von 25** *Page 1 of 25*
Kunden-Referenz-Nr.: *Client reference no.:*	N/A	**Auftragsdatum:** *Order date:*	2023-05-25	
Auftraggeber: *Client:*	**ELSYS EQUIPAMENTOS ELETRONICOS LTD** RUA DOUTOR ALCIDES GOMES MIRANDA, 251, Valinhos, Brazil			
Prüfgegenstand: *Test item:*	Amplimax Ultra			
Bezeichnung / Typ-Nr.: *Identification / Type no.:*	EPRL30			
Auftrags-Inhalt: *Order content:*	Test Report			
Prüfgrundlage: *Test specification:*	47 CFR Part 22 Subpart H 47 CFR Part 24 Subpart E 47 CFR Part 27 47 CFR Part 90 47 CFR Part 2 Subpart J			
Wareneingangsdatum: *Date of sample receipt:*	2023-08-17			
Prüfmuster-Nr.: *Test sample no:*	A003541536-003			
Prüfzeitraum: *Testing period:*	2023-09-07 – 2024-01-31			
Ort der Prüfung: *Place of testing:*	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüflaboratorium: *Testing laboratory:*	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüfergebnis*: *Test result*:*	Pass			

geprüft von: *tested by:*	X Hardy Suo	**genehmigt von:** *authorized by:*	X Lin Lin
Datum: *Date:* 2024-04-07		**Ausstellungsdatum:** *Issue date:* 2024-04-07	
Stellung / *Position:*	**Sachverständige(r)/Expert**	**Stellung** / *Position:*	**Sachverständige(r)/Expert**
Sonstiges / *Other:*	FCC ID:2AZC5-02		

Zustand des Prüfgegenstandes bei Anlieferung: *Condition of the test item at delivery:*	Prüfmuster vollständig und unbeschädigt *Test item complete and undamaged*

* Legende:	P(ass) = entspricht o.g. Prüfgrundlage(n)	F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	N/A = nicht anwendbar	N/T = nicht getestet
** Legend:*	*P(ass) = passed a.m. test specification(s)*	*F(ail) = failed a.m. test specification(s)*	*N/A = not applicable*	*N/T = not tested*

Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.
This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.
V05

Anmerkungen
Remarks

1	The equipment used during the specified testing period was calibrated according to our test laboratory calibration program. The equipment fulfils the requirements included in the relevant standards. The traceability of the test equipment used is ensured by compliance with the regulations of our management system. Detailed information regarding test conditions, equipment and measurement uncertainty is available in the test laboratory and could be provided on request. *Alle eingesetzten Prüfmittel waren zum angegebenen Prüfzeitraum gemäß eines festgelegten Kalibrierungsprogramms unseres Prüfhauses kalibriert. Sie entsprechen den in den Prüfprogrammen hinterlegten Anforderungen. Die Rückverfolgbarkeit der eingesetzten Prüfmittel ist durch die Einhaltung der Regelungen unseres Managementsystems gegeben.* *Detaillierte Informationen bezüglich Prüfkonditionen, Prüfequipment und Messunsicherheiten sind im Prüflabor vorhanden und können auf Wunsch bereitgestellt werden.*
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3	Test clauses with remark of * are subcontracted to qualified subcontractors and descripted under the respective test clause in the report. Deviations of testing specification(s) or customer requirements are listed in specific test clause in the report. *Prüfklausel mit der Note * wurden an qualifizierte Unterauftragnehmer vergeben und sind unter der jeweiligen Prüfklausel des Berichts beschrieben. Abweichungen von Prüfspezifikation(en) oder Kundenanforderungen sind in der jeweiligen Prüfklausel im Bericht aufgeführt.*
4	The decision rule for statements of conformity, based on numerical measurement results, in this test report is based on the “Zero Guard Band Rule” and “Simple Acceptance” in accordance with ILAC G8:2019 and IEC Guide 115:2021, unless otherwise specified in the applied standard mentioned on Page 1 of this report or requested by the customer. This means that measurement uncertainty is not taken in account and hence also not declared in the test report. For additional information to the resulting risk based of this decision rule please refer to ILAC G8:2019. *Die Entscheidungsregel für Konformitätserklärungen basierend auf numerischen Messergebnisen in diesem Prüfbericht basiert auf der "Null-Grenzwert-Regel" und der "Einfachen Akzeptanz" gemäß ILAC G8:2019 und IEC Guide 115:2021, es sei denn, in der auf Seite 1 dieses Berichts genannten angewandten Norm ist etwas anderes festgelegt oder vom Kunden gewünscht. Dies bedeutet, dass die Messunsicherheit nicht berücksichtigt wird und daher auch nicht im Prüfbericht angegeben wird. Zu weiteren Informationen bezueglich des Risikos durch diese Entscheidungsregel siehe ILAC G8:2019.*

TEST SUMMARY

5.1.1 RF POWER OUTPUT
RESULT: Pass

5.1.2 MODULATION CHARACTERISTICS
RESULT: Pass

5.1.3 OCCUPIED BANDWIDTH AND 26DB BANDWIDTH
RESULT: Pass

5.1.4 SPURIOUS EMISSIONS AT ANTENNA TERMINALS
RESULT: Pass

5.1.5 SPURIOUS EMISSIONS AT ANTENNA TERMINALS – BAND EDGE
RESULT: Pass

5.1.6 FIELD STRENGTH OF SPURIOUS RADIATION
RESULT: Pass

5.1.7 FREQUENCY STABILITY
RESULT: Pass

5.1.8 PEAK TO AVERAGE RATIO
RESULT: Pass

CONTENTS

1. GENERAL REMARKS

1.1 COMPLEMENTARY MATERIALS

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix A: Test Results of Band 2 for LTE operation

Appendix B: Test Results of Band 4 for LTE operation

Appendix C: Test Results of Band 5 for LTE operation

Appendix D: Test Results of Band 7 for LTE operation

Appendix E: Test Results of Band 12 for LTE operation

Appendix F: Test Results of Band 13 for LTE operation

Appendix G: Test Results of Band 14 for LTE operation

Appendix H: Test Results of Band 17 for LTE operation

Appendix I: Test Results of Band 25 for LTE operation

Appendix J: Test Results of Band 26 Lower Range for LTE operation

Appendix K: Test Results of Band 26 Upper Range for LTE operation

Appendix L: Test Results of Band 30 for LTE operation

Appendix M: Test Results of Band 38 for LTE operation

Appendix N: Test Results of Band 41 for LTE operation

Appendix O: Test Results of Band 66 for LTE operation

Appendix P: Test Results of Band 71 for LTE operation

Appendix Q: Test Results of Band 2 for NR operation

Appendix R: Test Results of Band 5 for NR operation

Appendix S: Test Results of Band 7 for NR operation

Appendix T: Test Results of Band 12 for NR operation

Appendix U: Test Results of Band 14 for NR operation

Appendix V: Test Results of Band 25 for NR operation

Appendix W: Test Results of Band 26 for NR operation

Appendix X: Test Results of Band 30 for NR operation

Appendix Y: Test Results of Band 38 for NR operation

Appendix Z: Test Results of Band 41 for NR operation

Appendix AA: Test Results of Band 66 for NR operation

Appendix AB: Test Results of Band 71 for NR operation

Appendix AC: Test Results of Band n77 & n78 for NR operation

Appendix AD: Test Results of Field Strength of Spurious Radiation

Appendix AE: Photographs of the Test Set-Up

1.2 TEST STANDARD(S)

Applied Rules:	47 CFR Part 22 Subpart H 47 CFR Part 24 Subpart E 47 CFR Part 27 47 CFR Part 90 47 CFR Part 2 Subpart J
Test Method:	KDB 971168 D01 v03r01 Power Meas License Digital Systems KDB 971168 D02 v02r01 Misc Rev Approv License Devices KDB 662911 D01 v02r01 Multiple Transmitter Output KDB 412172 D01 v01r01 Determining ERP and EIRP ANSI C63.26:2015

1.3 List of Document Change

No.	Report No.	Description
1	CN23QG53 001	First release.

2. TEST SITES

2.1 TEST FACILITIES

TÜV Rheinland (Shenzhen) Co., Ltd.
(FCC Registration No.: 694916 & IC Registration Number: 25069)
Address: No. 362 Huanguan Road Middle, Longhua District, Shenzhen 518110, P.R. China

2.2 TEST DATE

Date of test: 2023-09-07 to 2024-01-31

2.3 LIST OF TEST AND MEASUREMENT INSTRUMENTS

Table 1: List of Test and Measurement Equipment

Description	Manufacturer	Model	Serial No.	Calibrated until (DD.MM.YYYY)
Field Strength of Spurious Radiation				
EMI Test Receiver	R&S	ESR 7	102021	25.07.2024
Signal Analyzer	R&S	FSV 40	101439	25.07.2024
System Controller Interface	R&S	SCI-100	S10010038	N/A
Filterbank	R&S	Wlan	100759	25.07.2024
OSP	R&S	OSP 120	102040	N/A
Pre-amplifier	R&S	SCU08F1	08320031	25.07.2024
Amplifier	R&S	SCU-18F	180070	25.07.2024
Amplifier	R&S	SCU40A	100475	25.07.2024
Trilog Broadband Antenna (30 MHz - 7 GHz)	Schwarzbeck	VULB 9162	193	06.08.2024
Double-Ridged Antenna (1 -18 GHz)	ETS-LINDGREN	3117	00218717	06.08.2024
Wideband Ridged Horn Antenna (18-40 GHz)	Steatite	QMS-00880	19067	27.08.2024
Active Loop Antenna	Schwarzbeck	FMZB 1513	302	06.08.2024
Test software	R&S	EMC32 (V10.60.10)	N/A	N/A
Control PC	Dell	OptiPlex 7050	36NV9P2	N/A

3m Semi-Anechoic Chamber	Albatross	SAC-3m	APC17151-SAC	22.06.2024
Radio Spectrum Testing (CTE6000)				
Shielding Room 6#	Albatross	SR6	APC17151-SR6	22.06.2024
Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	166305	25.07.2024
Signal Analyzer	Rohde & Schwarz	FSV 40	101475	25.07.2024
Vector Signal Generator	Rohde & Schwarz	SMBV100A	263466	21.09.2024
Signal Generator	Rohde & Schwarz	SMB100A	181041	05.11.2024
High Speed Power Supply	KEITHLEY	2303	4080052	05.11.2024
RF Control Unit	Tonscend	JS0806-1	19H8060192	N/A
Band Reject Filter Group	Tonscend	JS0806-F	19I8060194	13.11.2025
Temp.&Humidity Chamber	GIANT FORCE	ITH-150-40-CP-AR	IAA1406-004	31.10.2024
NB-IoT&Emtc Integration Filter Group	Tonscend	JS0806-F	21D8060410	31.07.2024
Test Software	Tonscend	JS1120	N/A	N/A
Control PC	Dell	Inspiron3670	5HVGWS2	N/A
Radio Spectrum Testing (5G NR)				
UXM 5G Wireless Test Platform	Keysight	E7515B	MY60192758	29.06.2024
EXA Signal Analyzer	Keysight	N9010B	MY60240665	24.05.2024
MXG X-Series RF Vector Signal Generator	Keysight	N5182B	MY59101222	24.05.2024
EXG X-Series Microwave Analog Signal Generator	Keysight	N5173B	MY59101124	24.05.2024
DC Power Supply	Keysight	E3642A	MY61086017	24.05.2024
RF Control Unit	Tonscend	JS0806-1	21D8060407	N/A
Band Reject Filter Group	Tonscend	JS0806-F	21D8060406	27.05.2024
High Low Temperature Test Chamber	KOWINTEST	TH-30FJX	KW-21040497	25.07.2024
Test Software	Tonscend	JS1120-5	N/A	N/A
Control PC	Lenovo	Tianyi510Pro-141MB	M70JFXP3	N/A

2.4 Traceability

All measurement equipment calibrations are traceable to NIST or where calibration is performed outside the United States, to equivalent nationally recognized standards organizations.

2.5 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basics using in house standards or comparisons.

2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix A of this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Shenzhen) file for certification follow-up purposes.

2.7 Status of Facility Used for Testing

The TÜV Rheinland (Shenzhen) Co., Ltd. facility located at No. 362 Huanguan Road Middle, Longhua District, Shenzhen 518110, P.R. China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

3. GENERAL PRODUCT INFORMATION

3.1 GENERAL DESCRIPTION

The The EUT is outdoor CPE with embedded directinal antenna for fixed wireless access used for internet access. It transmits data over 4G and 5G celluar network.

For details refer to the User Manual, Technical Description and Circuit Diagram.

3.2 RATING AND SYSTEM DETAILS

Table 2: Rating of EUT

General Information of EUT	Description
Kind of Equipment:	Amplimax Ultra
Type Designation:	EPRL30
FCC ID:	2AZC5-02
Type of Equipment:	End device
Antenna Type:	Integrated Antenna
Operating Voltage:	DC 24V via AC/DC power supply or PoE supply

Table 3: Technical Specification of EUT

Characteristic	Description
Operated Modes:	LTE and NR
Certified Transmitter Module:	Integrated module (FCC ID:XMR2022RG520NNA)
Operational Frequency Band(s):	E-UTRA Band 2, 4, 5, 7, 12, 13, 14, 17, 25, 26, 29, 30, 38, 41, 48, 66, 71 NR Band n2, n5, n7, n12, n14, n25, n26, n30, n38, n41, n48, n66, n71, n77, n78
Rated RF output power (Conducted):	LTE Power Class 3: +23 dBm ± 2 dB (except band 48) NR Power Class 3: +23 dBm ± 2 dB (except band n48) NR Power Class 2: +26 dBm ± 2 dB (only for Band n38 and n41) NR Power Class 2: +24 dBm ± 2 dB (only for Band n77 and n78) LTE Band 48 / NR Band n48: 16 dBm ± 1 dB
Channel Bandwidth:	E-UTRA Band Band 2, Band 4, Band 5, Band 25 Band 26, Band 66: 1.4, 3, 5, 10, 15, 20 MHz Band 7, Band 38, Band 41, Band 48, Band 71: 5, 10, 15, 20 MHz Band 12: 1.4, 3, 5, 10 MHz Band 13, Band 14, Band 17, Band 30: 5, 10 MHz

	NR Band n2, n5, n26, n71: 5, 10, 15, 20MHz n7, n25: 5, 10, 15, 20, 25, 30, 40MHz n66: 5, 10, 15, 20, 30, 40MHz n12: 5, 10, 15MHz n14: 5, 10MHz n38: 10, 15, 20, 30, 40MHz n41: 20, 30, 40, 50, 60, 70, 80, 90, 100MHz n48: 10, 20, 30, 40 MHz n77, n78: 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100MHz
Modulation Type:	QPSK, 16QAM, 64QAM, 256QAM
Antenna Type:	Integrated Antenna, directional antenna
Operation mode:	Stand-alone

Table 4: Operating Frequency Range and Antenna Gain

Frequency Band(s)	Frequency Range						Applicable	Antenna Gain (dBi)
	Transmitting f_{UL} (MHz)			Receiving f_{DL} (MHz)				
Band 2	1850	~	1910	1930	~	1990	LTE, NR	7
Band 4	1710	~	1755	2110	~	2155	LTE	5
Band 5	824	~	849	869	~	894	LTE, NR	7
Band 7	2500	~	2570	2620	~	2690	LTE, NR	7
Band 12	699	~	716	729	~	746	LTE, NR	6
Band 13	777	~	787	746	~	756	LTE	6
Band 14	788	~	798	758	~	768	LTE, NR	6
Band 17	704	~	716	734	~	746	LTE	6
Band 25	1850	~	1915	1930	~	1995	LTE, NR	7
Band 26	814	~	849	859	~	894	LTE, NR	7
Band 29	NA	~	NA	717	~	728	LTE	--
Band 30	2305	~	2315	2350	~	2360	LTE, NR	7
Band 38	2570	~	2620	2570	~	2620	LTE, NR	5
Band 41	2496	~	2690	2496	~	2690	LTE, NR	5
Band 48	3550	~	3700	3550	~	3700	LTE, NR	6
Band 66	1710	~	1780	2110	~	2200	LTE, NR	5
Band 71	663	~	698	617	~	652	LTE, NR	6
Band 77	3700	~	3980	3700	~	3980	NR	6
Band 78	3300	~	3800	3300	~	3800	NR	6

3.3 INDEPENDENT OPERATION MODES

The basic operation modes are:

A. On, communication link established
    1) LTE operating
        i. Low channel
        ii. Middle channel
        iii. High channel
    2) NR operating
        i. Low channel
        ii. Middle channel
        iii. High channel
B. Standby/Idle
C. Off

3.4 NOISE GENERATING AND NOISE SUPPRESSING PARTS

Refer to the Circuit Diagram.

3.5 SUBMITTED DOCUMENTS

☒ User Manual
☒ Circuit Diagram
☒ Block Diagram
☒ Schematics
☐ Model Difference Letter
☒ Rating Label
☒ PCB Layout
☒ Photo Document
☒ Parts List

4. TEST SET-UP AND OPERATION MODES

4.1 PRINCIPLE OF CONFIGURATION SELECTION

Radio Spectrum: The equipment under test (EUT) was configured at its highest power output in order to measure its highest possible radiation and conducted level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 TEST OPERATION AND TEST SOFTWARE

Test operation refers to test setup in chapter 5. All testing were performed according to the procedure in KDB 971168 D01 and ANSI C63.26.

Table 5: Test Environments

Environment Parameter	Selected Values During Tests		
	Temperature (°C)	Voltage (V) AC	Relative Humidity
Normal (NTNV)	23	120V via AC/DC adapter	51%
HTHV	50 °C	138.0	---
LTHV	-30 °C	138.0	---
HTLV	50 °C	102.0	---
LTLV	-30 °C	102.0	---

5G NR n77 (3300 ~ 4200 MHz) overlaps the entire frequency range of n78 (3300 ~ 3800 MHz). Therefore, test data provided in this report covers n78 as well as n77. The DFT-s-OFDM and CP-OFDM waveforms were investigated, and DFT-s-OFDM was found to be the worst case.

LTE Band 25 (1850 ~ 1915 MHz) overlaps the entire frequency range of LTE Band 2 (1850 ~ 1910 MHz). Therefore, test data provided in this report covers Band 2 as well as Band 25.
LTE Band 66 (1710 ~ 1780 MHz) overlaps the entire frequency range of LTE Band 4 (1710 ~ 1755 MHz). Therefore, test data provided in this report covers Band 4 as well as Band 66.
LTE Band 26 (814 ~ 849 MHz) overlaps the entire frequency range of LTE Band 5 (824 ~ 849 MHz). Therefore, test data provided in this report covers Band 5 as well as Band 26.
LTE Band 41 (2496 ~ 2690 MHz) overlaps the entire frequency range of LTE Band 38 (2570 ~ 2620 MHz). Therefore, test data provided in this report covers Band 38 as well as Band 41.

The worst-case scenario for all measurements is based on an engineering evaluation. The modulation of QPSK were observed as the worst one and set for all conducted and radiated measurement. Output power measurements were measured on QPSK & 16QAM modulations.

4.3 SPECIAL ACCESSORIES AND AUXILIARY EQUIPMENT

Table 6: Auxiliary Equipment used during test

Name	Model	Manufacturer	S/N
Switching Power Supply	S024AMU2400100	TEN PAO INDUSTRIAL CO LTD.	N/A
PoE Adapter	Amplimax Ultra POE adapter	ELSYS	N/A

4.4 COUNTERMEASURES TO ACHIEVE EMC COMPLIANCE

The test sample, which has been tested, contained the noise suppression parts as described in the Constructional Data Form or the Technical Construction File. No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Equipment Configuration for Transmitter Measurement

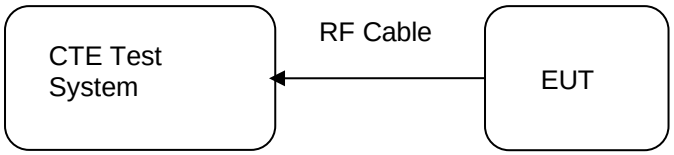


Diagram of Measurement Configuration for Radiation Test (Below 1GHz)

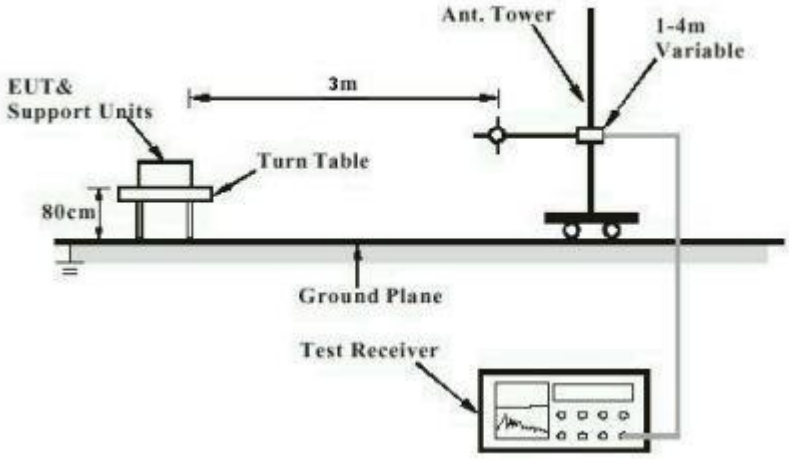
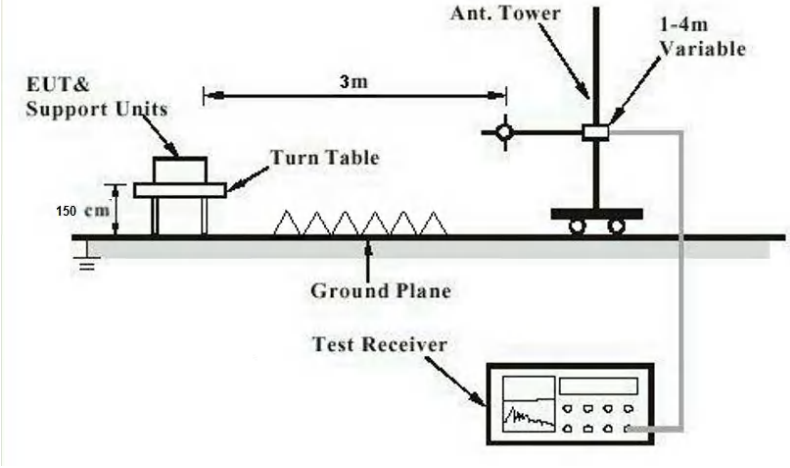


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)



5. TEST RESULTS

5.1 ESSENTIAL REQUIREMENTS OF STANDARD

5.1.1 RF POWER OUTPUT

RESULT: **Pass**

Test standard	:	47 CFR Part 22 Subpart H 47 CFR Part 24 Subpart E 47 CFR Part 27 47 CFR Part 90 47 CFR Part 2 Subpart J
Limits	:	The ERP of mobile transmitters must not exceed 7 watts for Band 5 & Band 26. The ERP of mobile transmitters must not exceed 30 watts for Band 13 and Band 14, Band 17. The ERP of mobile transmitters must not exceed 3 watts for Band 12 and Band 71. The EIRP of mobile transmitters must not exceed 2 watts for Band 2 and Band 7, Band 25, Band 30, Band 38, Band 41 The EIRP of mobile transmitters must not exceed 1 watt for Band 4 and Band 66, Band 77, Band 78
Test procedure	:	Clause 5.2.4.2 of ANSI C63.26
Kind of test site	:	Shielding Room

Test Setup

Date of testing	:	2023-09-07 to 2024-01-31
Input voltage	:	AC 120V via AC/DC adapter
Test environment	:	☒ Normal test conditions ☐ Extreme test conditions
Operation mode	:	A
Ambient temperature	:	23 ºC
Relative humidity	:	51%
Atmospheric pressure	:	101.0 kPa

ERP or EIRP = P_{Meas} + G_T

where

ERP or EIRP: effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as P_{Meas}, e.g. dBm)

P_{Meas}: measured transmitter output power, in dBm

G_T: gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP)

ERP = EIRP -2.15

Refer to attached Appendix for details of test results.

5.1.2 MODULATION CHARACTERISTICS

RESULT: **Pass**

Test standard	:	47 CFR Part 22 Subpart H 47 CFR Part 24 Subpart E 47 CFR Part 27 47 CFR Part 90 47 CFR Part 2 Subpart J
Limits	:	"Other types of equipment", the use of higher order modulations such as OFDM or LTE or other modulation are acceptable for use
Test procedure	:	Clause 5.2.3 of ANSI C63.26
Kind of test site	:	Shielding Room
		via AC/DC adapter

Note:
The device implements digital modulation such as QPSK and 16QAM, hence the EUT is deemed to comply with this requirement without additional testing.

5.1.3 OCCUPIED BANDWIDTH AND 26DB BANDWIDTH

RESULT: **Pass**

Test standard	:	47 CFR Part 22 Subpart H 47 CFR Part 24 Subpart E 47 CFR Part 27 47 CFR Part 90 47 CFR Part 2 Subpart J
Test requirement	:	Section 2.1049 of 47 CFR Part 2 Subpart J
Limits	:	No limit
Test procedure	:	Section 5.4.3 of ANSI C63.26 ☒ Conducted measurements ☐ Radiated measurements
Kind of test site	:	Shielding Room

TEST SETUP

Date of testing	:	2023-09-07 to 2024-01-31
Input voltage	:	AC 120V via AC/DC adapter
Test environment	:	☒ Normal test conditions ☐ Extreme test conditions
Operation mode	:	A
Ambient temperature	:	23 ºC
Relative humidity	:	51%
Atmospheric pressure	:	101.0 kPa

Refer to attached Appendix for details of test results.

5.1.4 SPURIOUS EMISSIONS AT ANTENNA TERMINALS

RESULT: **Pass**

Test standard	:	47 CFR Part 22 Subpart H 47 CFR Part 24 Subpart E 47 CFR Part 27 47 CFR Part 90 47 CFR Part 2 Subpart J
Limits	:	Section 22.917(a) of 47 CFR Part 22 Subpart H Section 24.238(a) of 47 CFR Part 24 Subpart E “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+10log(P) dB” Section 27.53(c), (g), (h), (l) and (m) of 47 CFR Part 27 “the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 $\log_{10}$(P) dB” Section 90.691(a) of 47 CFR Part 90 “for any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + 10Log_{10}(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz”
Test procedure	:	Clause 5.7.3 of ANSI C63.26
Kind of test site	:	Shielding Room

TEST SETUP

Date of testing	:	2023-09-07 to 2024-01-31
Input voltage	:	AC 120V via AC/DC adapter
Test environment	:	☒ Normal test conditions ☐ Extreme test conditions
Operation mode	:	A
Ambient temperature	:	23 ºC
Relative humidity	:	51%
Atmospheric pressure	:	101.0 kPa

The limit calculation:
Limit = P_{Meas} (dBm) – [43+10log(P_{Meas})] = −13 dBm

Refer to attached Appendix for details of test results.

5.1.5 SPURIOUS EMISSIONS AT ANTENNA TERMINALS – BAND EDGE

RESULT: **Pass**

Test standard	:	47 CFR Part 22 Subpart H 47 CFR Part 24 Subpart E 47 CFR Part 27 47 CFR Part 90 47 CFR Part 2 Subpart J
Limits	:	Section 22.917(a) of 47 CFR Part 22 Subpart H Section 24.238(a) of 47 CFR Part 24 Subpart E "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+10log(P) dB" Section 27.53(c), (g), (h), (l) and (m) of 47 CFR Part 27 "the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 $\log_{10}$(P) dB" Section 90.691(a) of 47 CFR Part 90 "for any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 Log10(f/6.1) decibels or 50 + 10 Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz."
Test procedure	:	Clause 5.7.4 of ANSI C63.26 In the 1 MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed
Kind of test site	:	Shielding Room

TEST SETUP

Date of testing	:	2023-09-07 to 2024-01-31
Input voltage	:	AC 120V via AC/DC adapter
Test environment	:	☒ Normal test conditions ☐ Extreme test conditions
Operation mode	:	A
Ambient temperature	:	23 ºC
Relative humidity	:	51%
Atmospheric pressure	:	101.0 kPa

The limit calculation:
Limit = P_{Meas} (dBm) – [43+10log(P_{Meas})] = −13 dBm
Limit = P_{Meas} (dBm) – [50+10log(P_{Meas})] = -20 dBm

Refer to attached Appendix for details of test results.

5.1.6 FIELD STRENGTH OF SPURIOUS RADIATION

RESULT: **Pass**

Test standard	:	47 CFR Part 22 Subpart H 47 CFR Part 24 Subpart E 47 CFR Part 27 47 CFR Part 90 47 CFR Part 2 Subpart J
Limits	:	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. The emission limit equal to -13dBm For Band 7 and Band 41, 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 55 + 10 log(P) dB. The emission limit equal to -25dBm.
Test procedure	:	Clause 5.5 of ANSI C63.26
Kind of test site	:	3m Semi Anechoic Room

Test Setup

Date of testing	:	2023-09-07 to 2024-01-31
Input voltage	:	AC 120V via AC/DC adapter
Test environment	:	☒ Normal test conditions ☐ Extreme test conditions
Operation mode	:	A
Ambient temperature	:	23 ºC
Relative humidity	:	51%
Atmospheric pressure	:	101.0 kPa

Setting of Measurement

Following setting is configed in spectrum a
RBW = 1MHz
VBW≥ 3*RBW
Sweep time ≥ 10 × (number of points in sweep) × (transmission symbol period)
Detector = Peak
Trace mode = max hold
The trace was allowed to stabilize

Sweep the whole frequency band through the range from 9 kHz to the 10th harmonic of the carrier, the emissions below the noise floor will not be recorded in this report. The measurement is performed for all operational modes and both antenna polarization, only the data of the worst mode is recorded in this report.

Refer to attached Appendix for details of test results.

5.1.7 FREQUENCY STABILITY

RESULT: **Pass**

Test standard	:	47 CFR Part 22 Subpart H 47 CFR Part 24 Subpart E 47 CFR Part 27 47 CFR Part 90 47 CFR Part 2 Subpart J
Limits	:	Section 22.355 of 47 CFR Part 22 Subpart H “2.5ppm for mobile < 3 watts” Section 24.235 of 47 CFR Part 24 Subpart E “The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.” Section 27.54 of 47 CFR Part 27 “The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.” Section 90.213 of 47 CFR Part 90 “2.5ppm for mobile stations which the output power is less than 2 watts”
Test procedure	:	Clause 5.6.3 of ANSI C63.26
Kind of test site	:	Shielding Room

TEST SETUP

Date of testing	:	2023-09-07 to 2024-01-31
Input voltage	:	AC 120V via AC/DC adapterV
Test environment	:	☒ Normal test conditions ☒ Extreme test conditions
Operation mode	:	A
Ambient temperature	:	23 ºC
Relative humidity	:	51%
Atmospheric pressure	:	101.0 kPa

Refer to attached Appendix for details of test results.

5.1.8 PEAK TO AVERAGE RATIO

RESULT: **Pass**

Test standard	:	47 CFR Part 22 Subpart H 47 CFR Part 24 Subpart E 47 CFR Part 27 47 CFR Part 90 47 CFR Part 2 Subpart J
Limits	:	Section 22.913(d) of 47 CFR Part 22 Subpart H Section 24.232(d) of 47 CFR Part 24 Subpart E Section 27.50(d) of 47 CFR Part 27 “The peak-to-average ratio (PAR) of the transmission must not exceed 13 dB”
Test procedure	:	Clause 5.2.3.4 of ANSI C63.26
Kind of test site	:	Shielding Room

TEST SETUP

Date of testing	:	2023-09-07 to 2024-01-31
Input voltage	:	AC 120V via AC/DC adapterV
Test environment	:	☒ Normal test conditions ☐ Extreme test conditions
Operation mode	:	A
Ambient temperature	:	23 ºC
Relative humidity	:	51%
Atmospheric pressure	:	101.0 kPa

Refer to attached Appendix for details of test results.

6. SYSTEM MEASUREMENT UNCERTAINTY

For a 95% confidence level, the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO 17025 were:

Table 7: System Measurement Uncertainty

Items		Extended Uncertainty
Radiated Spurious Emissions	Radiated emission below 1 GHz	±3.97 dB
	Radiated emission above 1 GHz	±4.30 dB
Remark: 95% Confidence Levels, k=2.		

7. LIST OF TABLES

========== END OF REPORT ==========

APPENDIX A: TEST RESULTS FOR E-UTRA OPERATING BAND 2

APPENDIX A.1: EFFECTIVE (ISOTROPIC) RADIATED POWER

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Conducted Power Result(dBm)	EIRP/ERP (dBm)	Limit (dBm)	Verdict
Band2	1.4MHz	QPSK	18607	1RB#0	22.03	29.03	33.01	PASS
Band2	1.4MHz	QPSK	18607	1RB#2	22.04	29.04	33.01	PASS
Band2	1.4MHz	QPSK	18607	1RB#5	22.07	29.07	33.01	PASS
Band2	1.4MHz	QPSK	18607	3RB#0	22.08	29.08	33.01	PASS
Band2	1.4MHz	QPSK	18607	3RB#1	22.1	29.1	33.01	PASS
Band2	1.4MHz	QPSK	18607	3RB#3	22.07	29.07	33.01	PASS
Band2	1.4MHz	QPSK	18607	6RB#0	21.11	28.11	33.01	PASS
Band2	1.4MHz	QPSK	18900	1RB#0	22.22	29.22	33.01	PASS
Band2	1.4MHz	QPSK	18900	1RB#2	22.2	29.2	33.01	PASS
Band2	1.4MHz	QPSK	18900	1RB#5	22.19	29.19	33.01	PASS
Band2	1.4MHz	QPSK	18900	3RB#0	22.23	29.23	33.01	PASS
Band2	1.4MHz	QPSK	18900	3RB#1	22.23	29.23	33.01	PASS
Band2	1.4MHz	QPSK	18900	3RB#3	22.28	29.28	33.01	PASS
Band2	1.4MHz	QPSK	18900	6RB#0	21.22	28.22	33.01	PASS
Band2	1.4MHz	QPSK	19193	1RB#0	21.81	28.81	33.01	PASS
Band2	1.4MHz	QPSK	19193	1RB#2	21.88	28.88	33.01	PASS
Band2	1.4MHz	QPSK	19193	1RB#5	21.82	28.82	33.01	PASS
Band2	1.4MHz	QPSK	19193	3RB#0	21.84	28.84	33.01	PASS
Band2	1.4MHz	QPSK	19193	3RB#1	21.96	28.96	33.01	PASS
Band2	1.4MHz	QPSK	19193	3RB#3	21.87	28.87	33.01	PASS
Band2	1.4MHz	QPSK	19193	6RB#0	20.89	27.89	33.01	PASS
Band2	1.4MHz	16QAM	18607	1RB#0	21.04	28.04	33.01	PASS
Band2	1.4MHz	16QAM	18607	1RB#2	21.24	28.24	33.01	PASS
Band2	1.4MHz	16QAM	18607	1RB#5	21.15	28.15	33.01	PASS
Band2	1.4MHz	16QAM	18607	3RB#0	21.16	28.16	33.01	PASS
Band2	1.4MHz	16QAM	18607	3RB#1	21	28	33.01	PASS
Band2	1.4MHz	16QAM	18607	3RB#3	21.11	28.11	33.01	PASS
Band2	1.4MHz	16QAM	18607	6RB#0	20.13	27.13	33.01	PASS
Band2	1.4MHz	16QAM	18900	1RB#0	21.29	28.29	33.01	PASS
Band2	1.4MHz	16QAM	18900	1RB#2	21.34	28.34	33.01	PASS
Band2	1.4MHz	16QAM	18900	1RB#5	21.29	28.29	33.01	PASS
Band2	1.4MHz	16QAM	18900	3RB#0	21.33	28.33	33.01	PASS
Band2	1.4MHz	16QAM	18900	3RB#1	21.42	28.42	33.01	PASS
Band2	1.4MHz	16QAM	18900	3RB#3	21.27	28.27	33.01	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	20.21	27.21	33.01	PASS
Band2	1.4MHz	16QAM	19193	1RB#0	20.88	27.88	33.01	PASS
Band2	1.4MHz	16QAM	19193	1RB#2	20.83	27.83	33.01	PASS
Band2	1.4MHz	16QAM	19193	1RB#5	20.85	27.85	33.01	PASS
Band2	1.4MHz	16QAM	19193	3RB#0	20.9	27.9	33.01	PASS
Band2	1.4MHz	16QAM	19193	3RB#1	20.98	27.98	33.01	PASS
Band2	1.4MHz	16QAM	19193	3RB#3	20.91	27.91	33.01	PASS
Band2	1.4MHz	16QAM	19193	6RB#0	19.77	26.77	33.01	PASS
Band2	3MHz	QPSK	18615	1RB#0	22.04	29.04	33.01	PASS

Band2	3MHz	QPSK	18615	1RB#8	22.1	29.1	33.01	PASS
Band2	3MHz	QPSK	18615	1RB#14	22.04	29.04	33.01	PASS
Band2	3MHz	QPSK	18615	8RB#0	21.14	28.14	33.01	PASS
Band2	3MHz	QPSK	18615	8RB#4	21.14	28.14	33.01	PASS
Band2	3MHz	QPSK	18615	8RB#7	21.16	28.16	33.01	PASS
Band2	3MHz	QPSK	18615	15RB#0	21.13	28.13	33.01	PASS
Band2	3MHz	QPSK	18900	1RB#0	22.17	29.17	33.01	PASS
Band2	3MHz	QPSK	18900	1RB#8	22.27	29.27	33.01	PASS
Band2	3MHz	QPSK	18900	1RB#14	22.13	29.13	33.01	PASS
Band2	3MHz	QPSK	18900	8RB#0	21.26	28.26	33.01	PASS
Band2	3MHz	QPSK	18900	8RB#4	21.25	28.25	33.01	PASS
Band2	3MHz	QPSK	18900	8RB#7	21.18	28.18	33.01	PASS
Band2	3MHz	QPSK	18900	15RB#0	21.16	28.16	33.01	PASS
Band2	3MHz	QPSK	19185	1RB#0	21.82	28.82	33.01	PASS
Band2	3MHz	QPSK	19185	1RB#8	21.97	28.97	33.01	PASS
Band2	3MHz	QPSK	19185	1RB#14	21.84	28.84	33.01	PASS
Band2	3MHz	QPSK	19185	8RB#0	20.93	27.93	33.01	PASS
Band2	3MHz	QPSK	19185	8RB#4	20.92	27.92	33.01	PASS
Band2	3MHz	QPSK	19185	8RB#7	20.88	27.88	33.01	PASS
Band2	3MHz	QPSK	19185	15RB#0	20.92	27.92	33.01	PASS
Band2	3MHz	16QAM	18615	1RB#0	21.4	28.4	33.01	PASS
Band2	3MHz	16QAM	18615	1RB#8	21.22	28.22	33.01	PASS
Band2	3MHz	16QAM	18615	1RB#14	21.28	28.28	33.01	PASS
Band2	3MHz	16QAM	18615	8RB#0	20.16	27.16	33.01	PASS
Band2	3MHz	16QAM	18615	8RB#4	20.22	27.22	33.01	PASS
Band2	3MHz	16QAM	18615	8RB#7	20.13	27.13	33.01	PASS
Band2	3MHz	16QAM	18615	15RB#0	20.14	27.14	33.01	PASS
Band2	3MHz	16QAM	18900	1RB#0	21.45	28.45	33.01	PASS
Band2	3MHz	16QAM	18900	1RB#8	21.33	28.33	33.01	PASS
Band2	3MHz	16QAM	18900	1RB#14	21.25	28.25	33.01	PASS
Band2	3MHz	16QAM	18900	8RB#0	20.26	27.26	33.01	PASS
Band2	3MHz	16QAM	18900	8RB#4	20.24	27.24	33.01	PASS
Band2	3MHz	16QAM	18900	8RB#7	20.17	27.17	33.01	PASS
Band2	3MHz	16QAM	18900	15RB#0	20.21	27.21	33.01	PASS
Band2	3MHz	16QAM	19185	1RB#0	20.88	27.88	33.01	PASS
Band2	3MHz	16QAM	19185	1RB#8	20.98	27.98	33.01	PASS
Band2	3MHz	16QAM	19185	1RB#14	20.93	27.93	33.01	PASS
Band2	3MHz	16QAM	19185	8RB#0	19.97	26.97	33.01	PASS
Band2	3MHz	16QAM	19185	8RB#4	19.9	26.9	33.01	PASS
Band2	3MHz	16QAM	19185	8RB#7	19.92	26.92	33.01	PASS
Band2	3MHz	16QAM	19185	15RB#0	19.97	26.97	33.01	PASS
Band2	5MHz	QPSK	18625	1RB#0	22.12	29.12	33.01	PASS
Band2	5MHz	QPSK	18625	1RB#12	22.21	29.21	33.01	PASS
Band2	5MHz	QPSK	18625	1RB#24	22.11	29.11	33.01	PASS
Band2	5MHz	QPSK	18625	12RB#0	21.12	28.12	33.01	PASS
Band2	5MHz	QPSK	18625	12RB#6	21.11	28.11	33.01	PASS
Band2	5MHz	QPSK	18625	12RB#13	21.13	28.13	33.01	PASS
Band2	5MHz	QPSK	18625	25RB#0	21.14	28.14	33.01	PASS
Band2	5MHz	QPSK	18900	1RB#0	22.26	29.26	33.01	PASS

Band2	5MHz	QPSK	18900	1RB#12	22.29	29.29	33.01	PASS
Band2	5MHz	QPSK	18900	1RB#24	22.17	29.17	33.01	PASS
Band2	5MHz	QPSK	18900	12RB#0	21.22	28.22	33.01	PASS
Band2	5MHz	QPSK	18900	12RB#6	21.21	28.21	33.01	PASS
Band2	5MHz	QPSK	18900	12RB#13	21.21	28.21	33.01	PASS
Band2	5MHz	QPSK	18900	25RB#0	21.2	28.2	33.01	PASS
Band2	5MHz	QPSK	19175	1RB#0	21.9	28.9	33.01	PASS
Band2	5MHz	QPSK	19175	1RB#12	21.98	28.98	33.01	PASS
Band2	5MHz	QPSK	19175	1RB#24	21.88	28.88	33.01	PASS
Band2	5MHz	QPSK	19175	12RB#0	20.89	27.89	33.01	PASS
Band2	5MHz	QPSK	19175	12RB#6	20.91	27.91	33.01	PASS
Band2	5MHz	QPSK	19175	12RB#13	20.9	27.9	33.01	PASS
Band2	5MHz	QPSK	19175	25RB#0	20.91	27.91	33.01	PASS
Band2	5MHz	16QAM	18625	1RB#0	21.15	28.15	33.01	PASS
Band2	5MHz	16QAM	18625	1RB#12	21.29	28.29	33.01	PASS
Band2	5MHz	16QAM	18625	1RB#24	21.14	28.14	33.01	PASS
Band2	5MHz	16QAM	18625	12RB#0	20.11	27.11	33.01	PASS
Band2	5MHz	16QAM	18625	12RB#6	20.12	27.12	33.01	PASS
Band2	5MHz	16QAM	18625	12RB#13	20.26	27.26	33.01	PASS
Band2	5MHz	16QAM	18625	25RB#0	20.19	27.19	33.01	PASS
Band2	5MHz	16QAM	18900	1RB#0	21.34	28.34	33.01	PASS
Band2	5MHz	16QAM	18900	1RB#12	21.56	28.56	33.01	PASS
Band2	5MHz	16QAM	18900	1RB#24	21.38	28.38	33.01	PASS
Band2	5MHz	16QAM	18900	12RB#0	20.26	27.26	33.01	PASS
Band2	5MHz	16QAM	18900	12RB#6	20.14	27.14	33.01	PASS
Band2	5MHz	16QAM	18900	12RB#13	20.16	27.16	33.01	PASS
Band2	5MHz	16QAM	18900	25RB#0	20.19	27.19	33.01	PASS
Band2	5MHz	16QAM	19175	1RB#0	20.9	27.9	33.01	PASS
Band2	5MHz	16QAM	19175	1RB#12	21.25	28.25	33.01	PASS
Band2	5MHz	16QAM	19175	1RB#24	21.11	28.11	33.01	PASS
Band2	5MHz	16QAM	19175	12RB#0	19.87	26.87	33.01	PASS
Band2	5MHz	16QAM	19175	12RB#6	19.96	26.96	33.01	PASS
Band2	5MHz	16QAM	19175	12RB#13	19.91	26.91	33.01	PASS
Band2	5MHz	16QAM	19175	25RB#0	19.89	26.89	33.01	PASS
Band2	10MHz	QPSK	18650	1RB#0	21.97	28.97	33.01	PASS
Band2	10MHz	QPSK	18650	1RB#24	22.13	29.13	33.01	PASS
Band2	10MHz	QPSK	18650	1RB#49	22.14	29.14	33.01	PASS
Band2	10MHz	QPSK	18650	25RB#0	21.11	28.11	33.01	PASS
Band2	10MHz	QPSK	18650	25RB#12	21.09	28.09	33.01	PASS
Band2	10MHz	QPSK	18650	25RB#25	21.16	28.16	33.01	PASS
Band2	10MHz	QPSK	18650	50RB#0	21.16	28.16	33.01	PASS
Band2	10MHz	QPSK	18900	1RB#0	22.21	29.21	33.01	PASS
Band2	10MHz	QPSK	18900	1RB#24	22.25	29.25	33.01	PASS
Band2	10MHz	QPSK	18900	1RB#49	22.12	29.12	33.01	PASS
Band2	10MHz	QPSK	18900	25RB#0	21.26	28.26	33.01	PASS
Band2	10MHz	QPSK	18900	25RB#12	21.18	28.18	33.01	PASS
Band2	10MHz	QPSK	18900	25RB#25	21.19	28.19	33.01	PASS
Band2	10MHz	QPSK	18900	50RB#0	21.22	28.22	33.01	PASS
Band2	10MHz	QPSK	19150	1RB#0	21.79	28.79	33.01	PASS

Band2	10MHz	QPSK	19150	1RB#24	21.91	28.91	33.01	PASS
Band2	10MHz	QPSK	19150	1RB#49	21.87	28.87	33.01	PASS
Band2	10MHz	QPSK	19150	25RB#0	20.92	27.92	33.01	PASS
Band2	10MHz	QPSK	19150	25RB#12	20.86	27.86	33.01	PASS
Band2	10MHz	QPSK	19150	25RB#25	20.92	27.92	33.01	PASS
Band2	10MHz	QPSK	19150	50RB#0	20.93	27.93	33.01	PASS
Band2	10MHz	16QAM	18650	1RB#0	21.25	28.25	33.01	PASS
Band2	10MHz	16QAM	18650	1RB#24	21.3	28.3	33.01	PASS
Band2	10MHz	16QAM	18650	1RB#49	21.21	28.21	33.01	PASS
Band2	10MHz	16QAM	18650	25RB#0	20.12	27.12	33.01	PASS
Band2	10MHz	16QAM	18650	25RB#12	20.14	27.14	33.01	PASS
Band2	10MHz	16QAM	18650	25RB#25	20.15	27.15	33.01	PASS
Band2	10MHz	16QAM	18650	50RB#0	20.17	27.17	33.01	PASS
Band2	10MHz	16QAM	18900	1RB#0	21.33	28.33	33.01	PASS
Band2	10MHz	16QAM	18900	1RB#24	21.51	28.51	33.01	PASS
Band2	10MHz	16QAM	18900	1RB#49	21.18	28.18	33.01	PASS
Band2	10MHz	16QAM	18900	25RB#0	20.32	27.32	33.01	PASS
Band2	10MHz	16QAM	18900	25RB#12	20.28	27.28	33.01	PASS
Band2	10MHz	16QAM	18900	25RB#25	20.2	27.2	33.01	PASS
Band2	10MHz	16QAM	18900	50RB#0	20.23	27.23	33.01	PASS
Band2	10MHz	16QAM	19150	1RB#0	20.9	27.9	33.01	PASS
Band2	10MHz	16QAM	19150	1RB#24	21.04	28.04	33.01	PASS
Band2	10MHz	16QAM	19150	1RB#49	21.07	28.07	33.01	PASS
Band2	10MHz	16QAM	19150	25RB#0	19.96	26.96	33.01	PASS
Band2	10MHz	16QAM	19150	25RB#12	19.98	26.98	33.01	PASS
Band2	10MHz	16QAM	19150	25RB#25	19.95	26.95	33.01	PASS
Band2	10MHz	16QAM	19150	50RB#0	19.95	26.95	33.01	PASS
Band2	15MHz	QPSK	18675	1RB#0	21.84	28.84	33.01	PASS
Band2	15MHz	QPSK	18675	1RB#38	21.93	28.93	33.01	PASS
Band2	15MHz	QPSK	18675	1RB#74	22.08	29.08	33.01	PASS
Band2	15MHz	QPSK	18675	36RB#0	21.01	28.01	33.01	PASS
Band2	15MHz	QPSK	18675	36RB#18	20.98	27.98	33.01	PASS
Band2	15MHz	QPSK	18675	36RB#39	21.13	28.13	33.01	PASS
Band2	15MHz	QPSK	18675	75RB#0	21.06	28.06	33.01	PASS
Band2	15MHz	QPSK	18900	1RB#0	22.16	29.16	33.01	PASS
Band2	15MHz	QPSK	18900	1RB#38	22.18	29.18	33.01	PASS
Band2	15MHz	QPSK	18900	1RB#74	21.96	28.96	33.01	PASS
Band2	15MHz	QPSK	18900	36RB#0	21.15	28.15	33.01	PASS
Band2	15MHz	QPSK	18900	36RB#18	21.17	28.17	33.01	PASS
Band2	15MHz	QPSK	18900	36RB#39	21.07	28.07	33.01	PASS
Band2	15MHz	QPSK	18900	75RB#0	21.11	28.11	33.01	PASS
Band2	15MHz	QPSK	19125	1RB#0	21.65	28.65	33.01	PASS
Band2	15MHz	QPSK	19125	1RB#38	21.7	28.7	33.01	PASS
Band2	15MHz	QPSK	19125	1RB#74	21.78	28.78	33.01	PASS
Band2	15MHz	QPSK	19125	36RB#0	20.78	27.78	33.01	PASS
Band2	15MHz	QPSK	19125	36RB#18	20.76	27.76	33.01	PASS
Band2	15MHz	QPSK	19125	36RB#39	20.76	27.76	33.01	PASS
Band2	15MHz	QPSK	19125	75RB#0	20.85	27.85	33.01	PASS
Band2	15MHz	16QAM	18675	1RB#0	21.15	28.15	33.01	PASS

Band2	15MHz	16QAM	18675	1RB#38	21.14	28.14	33.01	PASS
Band2	15MHz	16QAM	18675	1RB#74	21.41	28.41	33.01	PASS
Band2	15MHz	16QAM	18675	36RB#0	19.95	26.95	33.01	PASS
Band2	15MHz	16QAM	18675	36RB#18	19.97	26.97	33.01	PASS
Band2	15MHz	16QAM	18675	36RB#39	20.12	27.12	33.01	PASS
Band2	15MHz	16QAM	18675	75RB#0	20.07	27.07	33.01	PASS
Band2	15MHz	16QAM	18900	1RB#0	21.25	28.25	33.01	PASS
Band2	15MHz	16QAM	18900	1RB#38	21.27	28.27	33.01	PASS
Band2	15MHz	16QAM	18900	1RB#74	21.05	28.05	33.01	PASS
Band2	15MHz	16QAM	18900	36RB#0	20.12	27.12	33.01	PASS
Band2	15MHz	16QAM	18900	36RB#18	20.19	27.19	33.01	PASS
Band2	15MHz	16QAM	18900	36RB#39	20.06	27.06	33.01	PASS
Band2	15MHz	16QAM	18900	75RB#0	20.11	27.11	33.01	PASS
Band2	15MHz	16QAM	19125	1RB#0	20.97	27.97	33.01	PASS
Band2	15MHz	16QAM	19125	1RB#38	20.82	27.82	33.01	PASS
Band2	15MHz	16QAM	19125	1RB#74	20.8	27.8	33.01	PASS
Band2	15MHz	16QAM	19125	36RB#0	19.79	26.79	33.01	PASS
Band2	15MHz	16QAM	19125	36RB#18	19.79	26.79	33.01	PASS
Band2	15MHz	16QAM	19125	36RB#39	19.82	26.82	33.01	PASS
Band2	15MHz	16QAM	19125	75RB#0	19.84	26.84	33.01	PASS
Band2	20MHz	QPSK	18700	1RB#0	21.98	28.98	33.01	PASS
Band2	20MHz	QPSK	18700	1RB#49	21.96	28.96	33.01	PASS
Band2	20MHz	QPSK	18700	1RB#99	22.12	29.12	33.01	PASS
Band2	20MHz	QPSK	18700	50RB#0	21.05	28.05	33.01	PASS
Band2	20MHz	QPSK	18700	50RB#25	21.08	28.08	33.01	PASS
Band2	20MHz	QPSK	18700	50RB#50	21.21	28.21	33.01	PASS
Band2	20MHz	QPSK	18700	100RB#0	21.11	28.11	33.01	PASS
Band2	20MHz	QPSK	18900	1RB#0	22.12	29.12	33.01	PASS
Band2	20MHz	QPSK	18900	1RB#49	22.08	29.08	33.01	PASS
Band2	20MHz	QPSK	18900	1RB#99	21.76	28.76	33.01	PASS
Band2	20MHz	QPSK	18900	50RB#0	21.15	28.15	33.01	PASS
Band2	20MHz	QPSK	18900	50RB#25	21.18	28.18	33.01	PASS
Band2	20MHz	QPSK	18900	50RB#50	21.05	28.05	33.01	PASS
Band2	20MHz	QPSK	18900	100RB#0	21.11	28.11	33.01	PASS
Band2	20MHz	QPSK	19100	1RB#0	21.66	28.66	33.01	PASS
Band2	20MHz	QPSK	19100	1RB#49	21.68	28.68	33.01	PASS
Band2	20MHz	QPSK	19100	1RB#99	21.71	28.71	33.01	PASS
Band2	20MHz	QPSK	19100	50RB#0	20.83	27.83	33.01	PASS
Band2	20MHz	QPSK	19100	50RB#25	20.85	27.85	33.01	PASS
Band2	20MHz	QPSK	19100	50RB#50	20.81	27.81	33.01	PASS
Band2	20MHz	QPSK	19100	100RB#0	20.87	27.87	33.01	PASS
Band2	20MHz	16QAM	18700	1RB#0	21.11	28.11	33.01	PASS
Band2	20MHz	16QAM	18700	1RB#49	21.23	28.23	33.01	PASS
Band2	20MHz	16QAM	18700	1RB#99	21.17	28.17	33.01	PASS
Band2	20MHz	16QAM	18700	50RB#0	20.03	27.03	33.01	PASS
Band2	20MHz	16QAM	18700	50RB#25	20.09	27.09	33.01	PASS
Band2	20MHz	16QAM	18700	50RB#50	20.2	27.2	33.01	PASS
Band2	20MHz	16QAM	18700	100RB#0	20.13	27.13	33.01	PASS
Band2	20MHz	16QAM	18900	1RB#0	21.35	28.35	33.01	PASS

Band2	20MHz	16QAM	18900	1RB#49	21.43	28.43	33.01	PASS
Band2	20MHz	16QAM	18900	1RB#99	21.14	28.14	33.01	PASS
Band2	20MHz	16QAM	18900	50RB#0	20.15	27.15	33.01	PASS
Band2	20MHz	16QAM	18900	50RB#25	20.19	27.19	33.01	PASS
Band2	20MHz	16QAM	18900	50RB#50	20.09	27.09	33.01	PASS
Band2	20MHz	16QAM	18900	100RB#0	20.1	27.1	33.01	PASS
Band2	20MHz	16QAM	19100	1RB#0	20.9	27.9	33.01	PASS
Band2	20MHz	16QAM	19100	1RB#49	20.71	27.71	33.01	PASS
Band2	20MHz	16QAM	19100	1RB#99	20.85	27.85	33.01	PASS
Band2	20MHz	16QAM	19100	50RB#0	19.76	26.76	33.01	PASS
Band2	20MHz	16QAM	19100	50RB#25	19.79	26.79	33.01	PASS
Band2	20MHz	16QAM	19100	50RB#50	19.85	26.85	33.01	PASS
Band2	20MHz	16QAM	19100	100RB#0	19.88	26.88	33.01	PASS

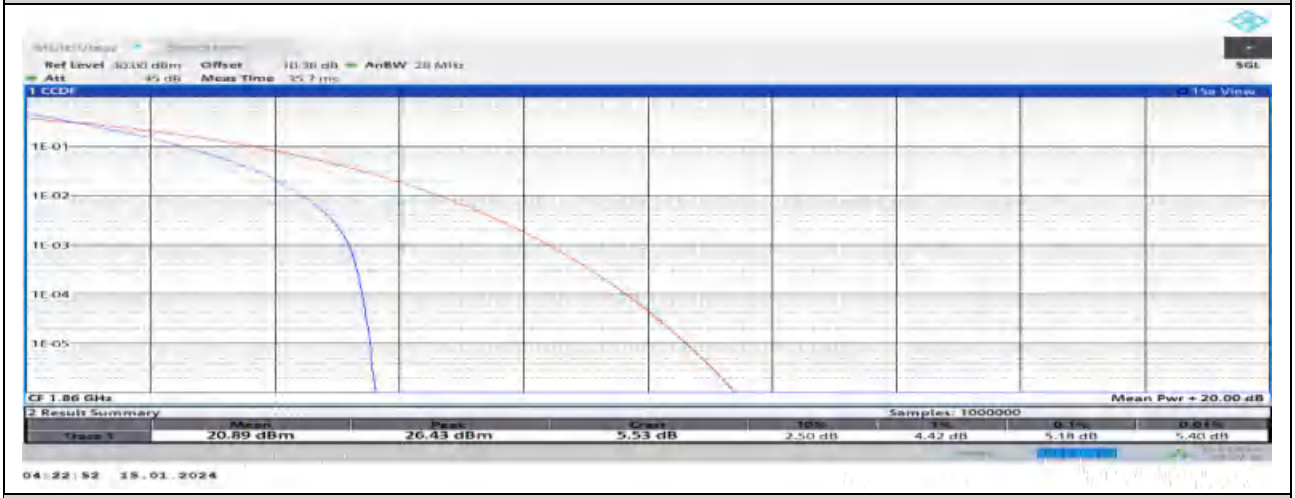
APPENDIX A.2: PEAK-TO AVERAGE RATIO

Test Result

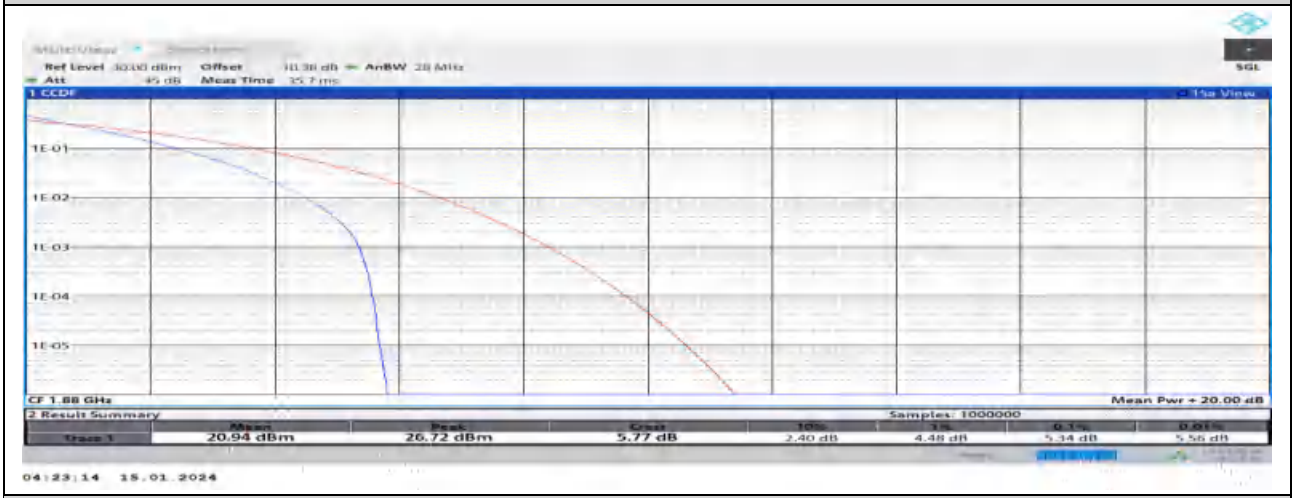
Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band2	20MHz	QPSK	18700	100RB#0	5.18	13	PASS
Band2	20MHz	QPSK	18900	100RB#0	5.34	13	PASS
Band2	20MHz	QPSK	19100	100RB#0	5.52	13	PASS
Band2	20MHz	16QAM	18700	100RB#0	5.98	13	PASS
Band2	20MHz	16QAM	18900	100RB#0	6.24	13	PASS
Band2	20MHz	16QAM	19100	100RB#0	6.32	13	PASS

Test Graphs

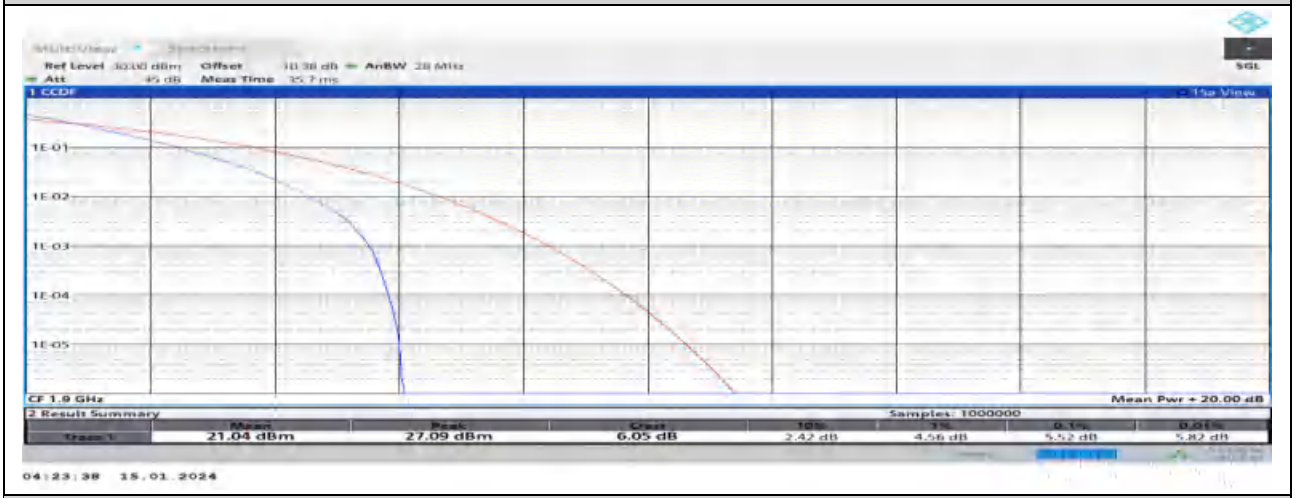
Band2-20MHz-QPSK-18700-100RB#0



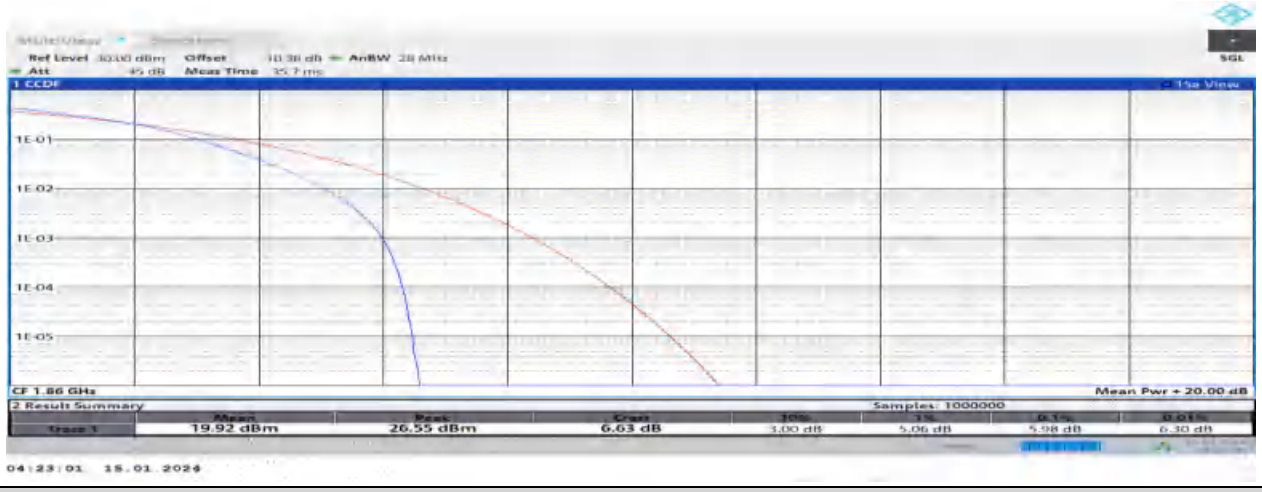
Band2-20MHz-QPSK-18900-100RB#0



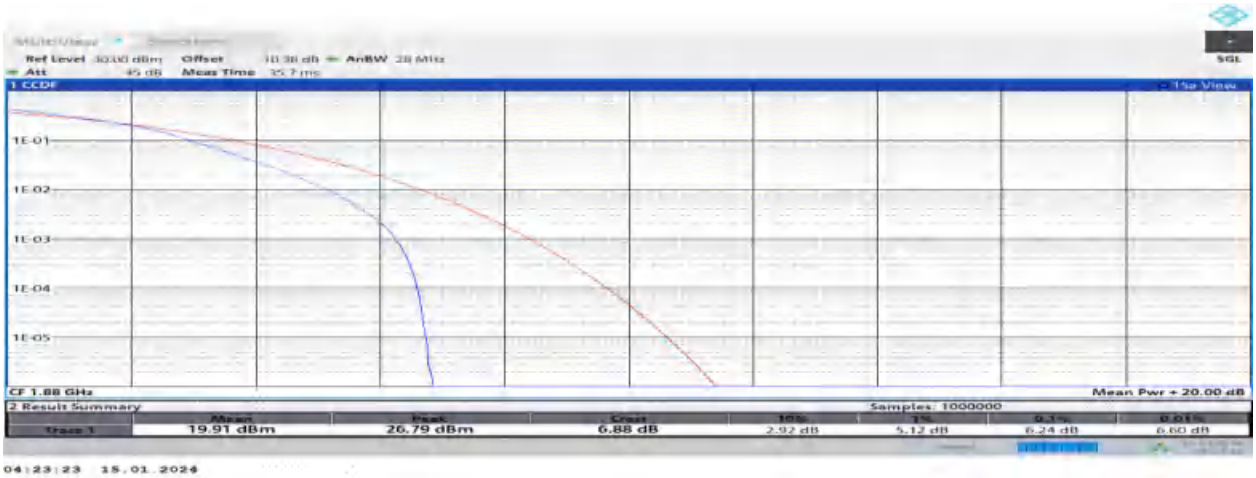
Band2-20MHz-QPSK-19100-100RB#0



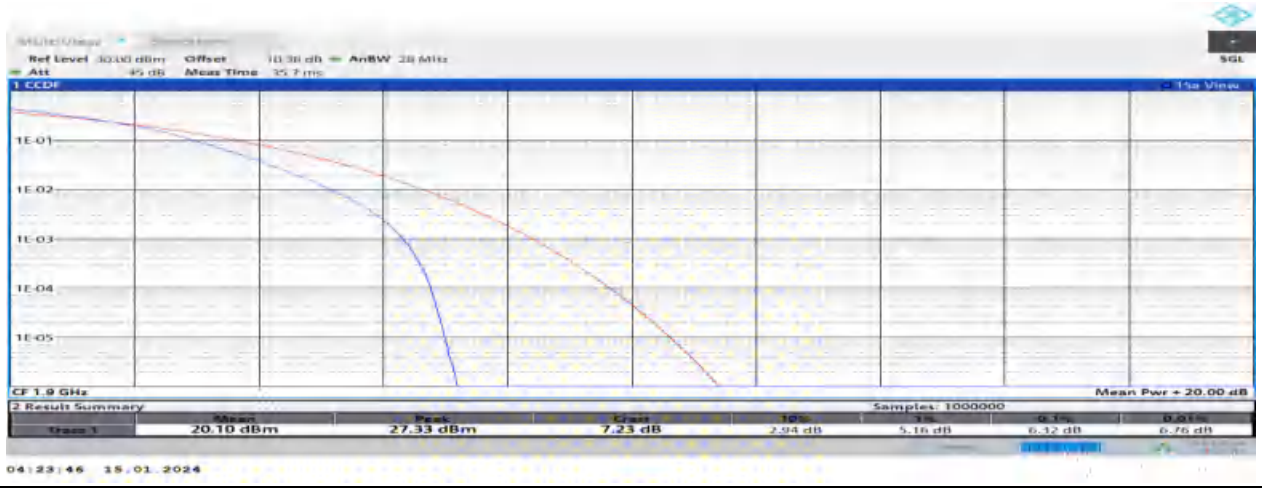
Band2-20MHz-16QAM-18700-100RB#0



Band2-20MHz-16QAM-18900-100RB#0



Band2-20MHz-16QAM-19100-100RB#0



APPENDIX A.3: 26DB BANDWIDTH AND OCCUPIED BANDWIDTH

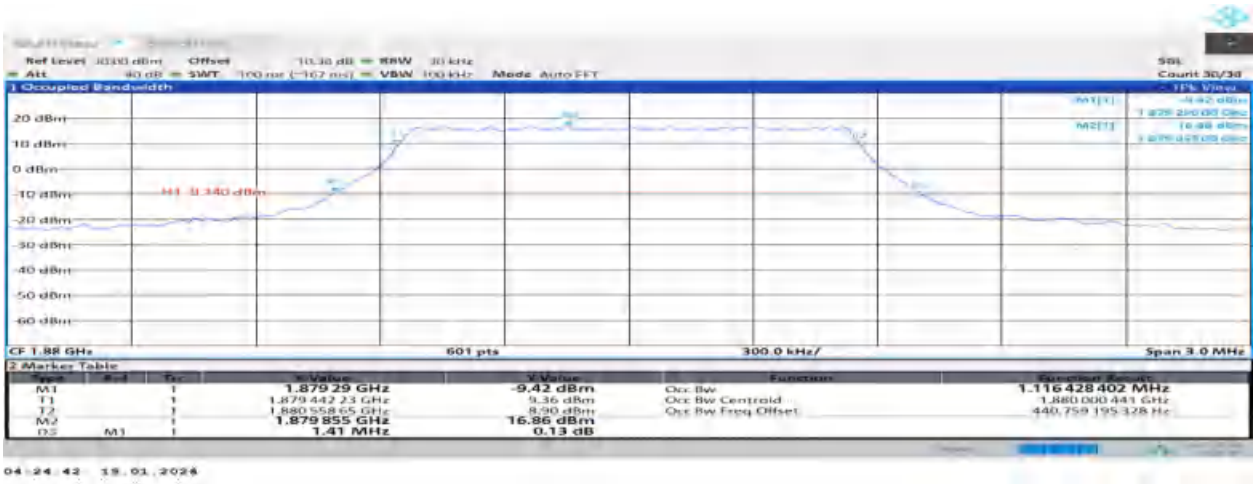
Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band2	1.4MHz	QPSK	18607	6RB#0	1.107	1.40	PASS
Band2	1.4MHz	QPSK	18900	6RB#0	1.116	1.41	PASS
Band2	1.4MHz	QPSK	19193	6RB#0	1.117	1.41	PASS
Band2	1.4MHz	16QAM	18607	6RB#0	1.102	1.37	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	1.111	1.36	PASS
Band2	1.4MHz	16QAM	19193	6RB#0	1.111	1.39	PASS
Band2	3MHz	QPSK	18615	15RB#0	2.693	3.03	PASS
Band2	3MHz	QPSK	18900	15RB#0	2.694	3.05	PASS
Band2	3MHz	QPSK	19185	15RB#0	2.694	3.01	PASS
Band2	3MHz	16QAM	18615	15RB#0	2.694	3.01	PASS
Band2	3MHz	16QAM	18900	15RB#0	2.694	3.04	PASS
Band2	3MHz	16QAM	19185	15RB#0	2.694	3.02	PASS
Band2	5MHz	QPSK	18625	25RB#0	4.482	5.08	PASS
Band2	5MHz	QPSK	18900	25RB#0	4.479	5.07	PASS
Band2	5MHz	QPSK	19175	25RB#0	4.477	5.01	PASS
Band2	5MHz	16QAM	18625	25RB#0	4.481	5.05	PASS
Band2	5MHz	16QAM	18900	25RB#0	4.48	5.05	PASS
Band2	5MHz	16QAM	19175	25RB#0	4.485	5.07	PASS
Band2	10MHz	QPSK	18650	50RB#0	8.96	10.00	PASS
Band2	10MHz	QPSK	18900	50RB#0	8.956	9.87	PASS
Band2	10MHz	QPSK	19150	50RB#0	8.97	9.93	PASS
Band2	10MHz	16QAM	18650	50RB#0	8.959	9.90	PASS
Band2	10MHz	16QAM	18900	50RB#0	8.955	9.87	PASS
Band2	10MHz	16QAM	19150	50RB#0	8.94	9.87	PASS
Band2	15MHz	QPSK	18675	75RB#0	13.526	15.20	PASS
Band2	15MHz	QPSK	18900	75RB#0	13.499	15.00	PASS
Band2	15MHz	QPSK	19125	75RB#0	13.5	15.05	PASS
Band2	15MHz	16QAM	18675	75RB#0	13.511	15.10	PASS
Band2	15MHz	16QAM	18900	75RB#0	13.498	15.05	PASS
Band2	15MHz	16QAM	19125	75RB#0	13.473	15.05	PASS
Band2	20MHz	QPSK	18700	100RB#0	17.957	19.73	PASS
Band2	20MHz	QPSK	18900	100RB#0	17.918	19.67	PASS
Band2	20MHz	QPSK	19100	100RB#0	17.942	19.67	PASS
Band2	20MHz	16QAM	18700	100RB#0	17.948	19.93	PASS
Band2	20MHz	16QAM	18900	100RB#0	17.936	19.73	PASS
Band2	20MHz	16QAM	19100	100RB#0	17.953	20.00	PASS

Test Graphs

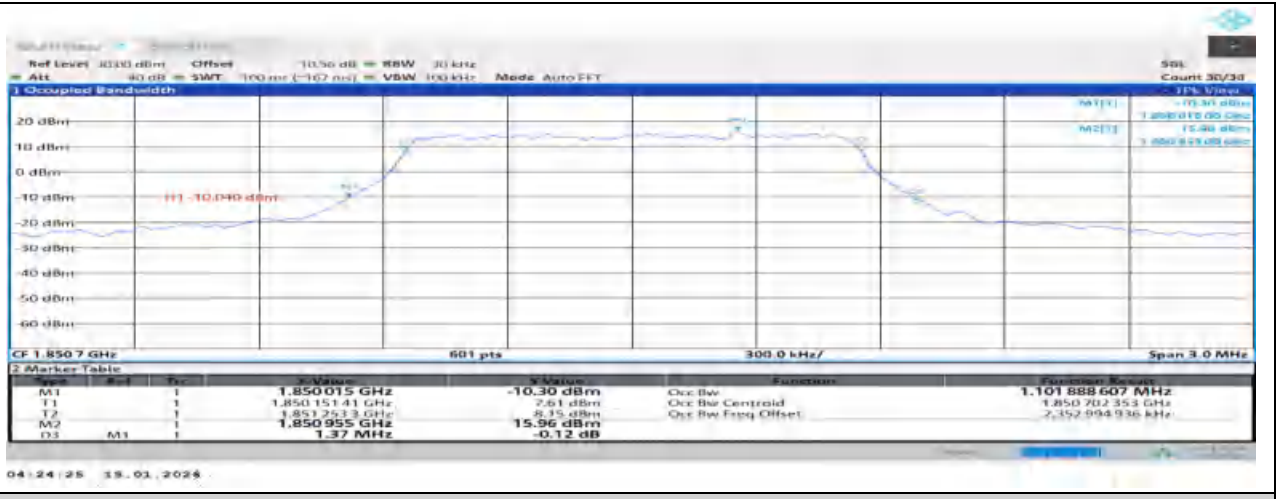
Band2-1.4MHz-QPSK-18607-6RB#0

Band2-1.4MHz-QPSK-18900-6RB#0

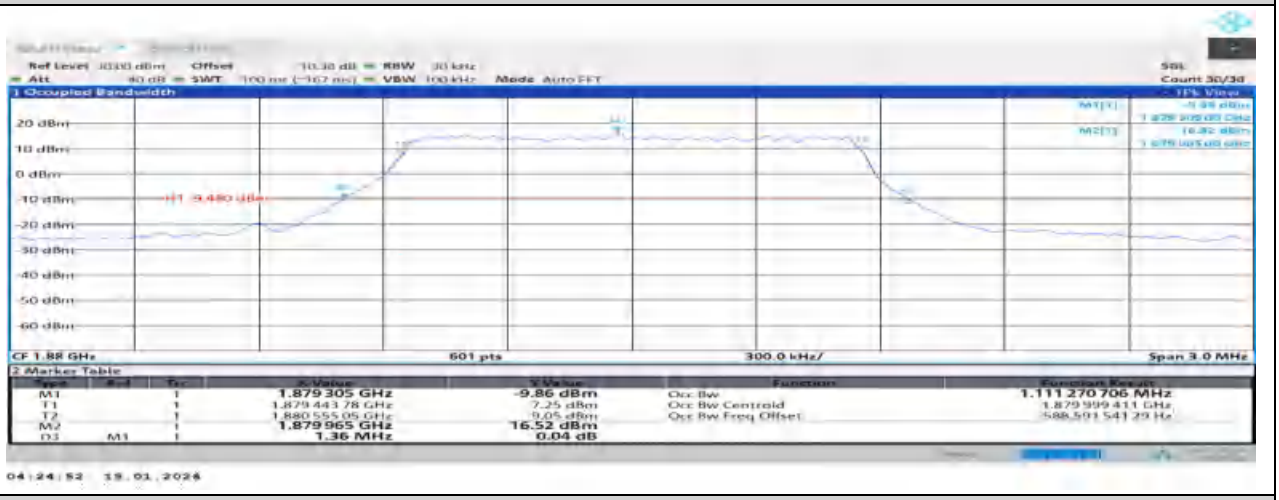


Band2-1.4MHz-QPSK-19193-6RB#0

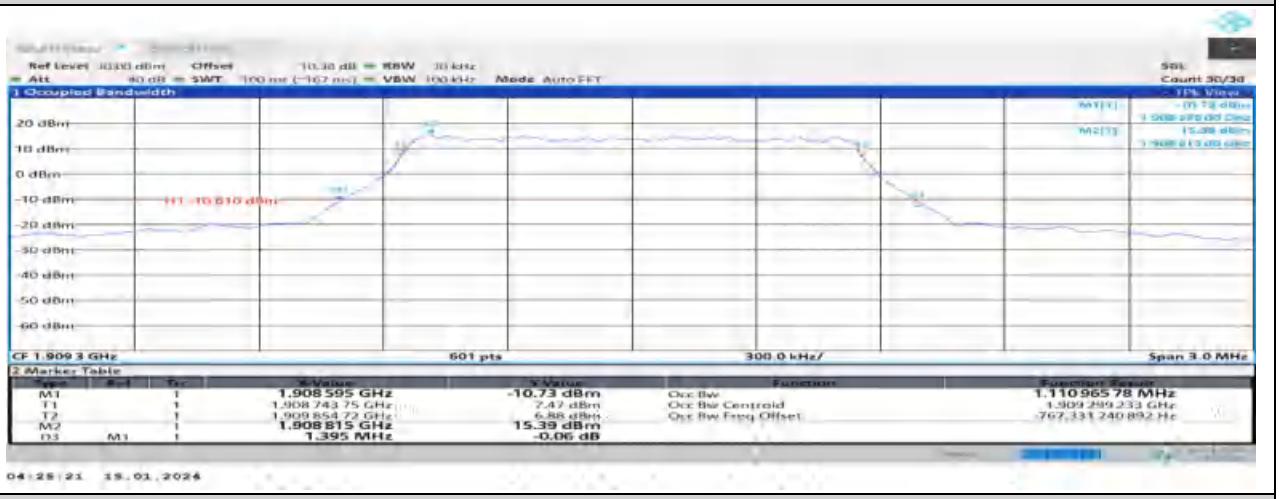
Band2-1.4MHz-16QAM-18607-6RB#0



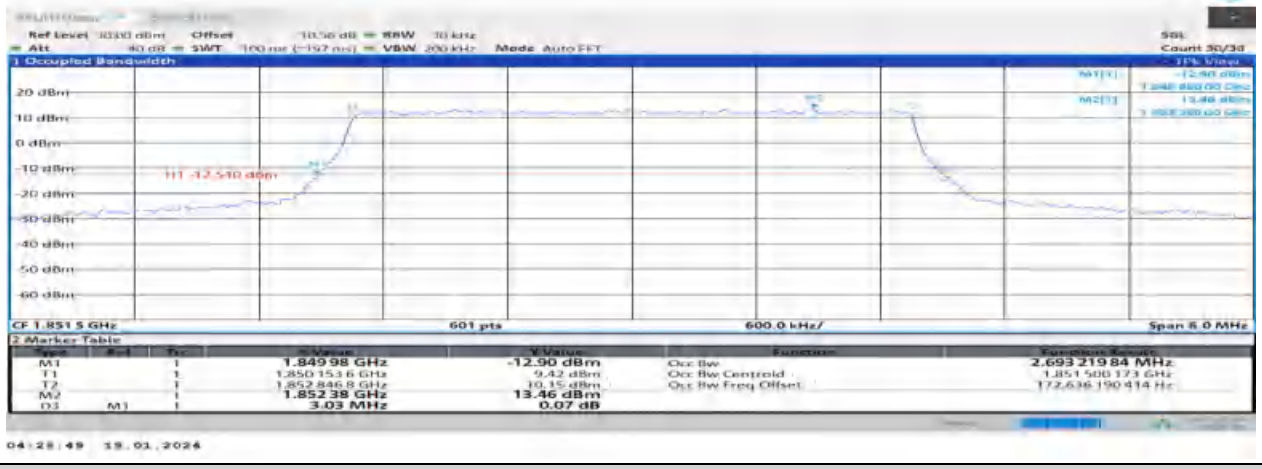
Band2-1.4MHz-16QAM-18900-6RB#0



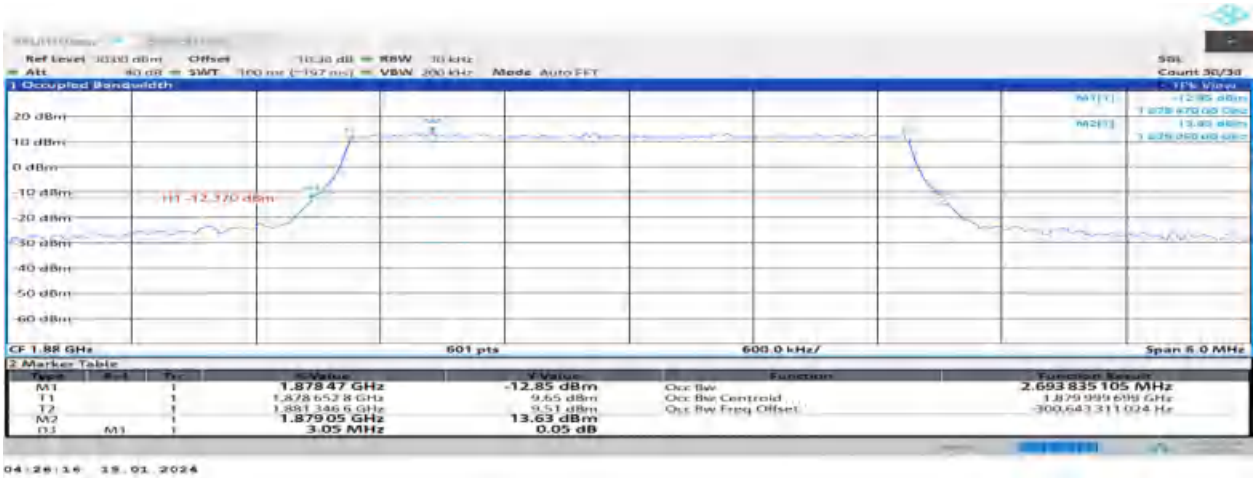
Band2-1.4MHz-16QAM-19193-6RB#0



Band2-3MHz-QPSK-18615-15RB#0



Band2-3MHz-QPSK-18900-15RB#0



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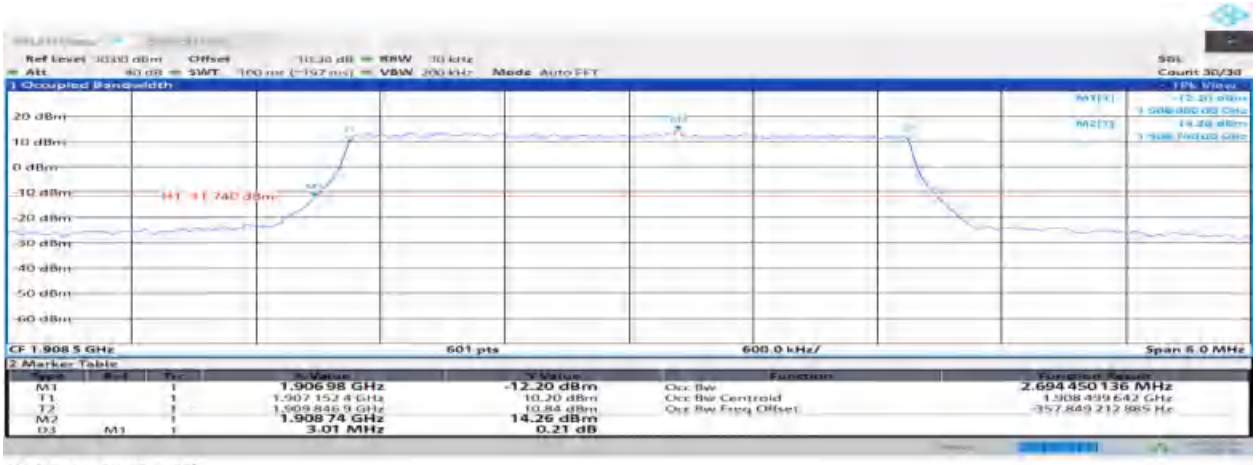
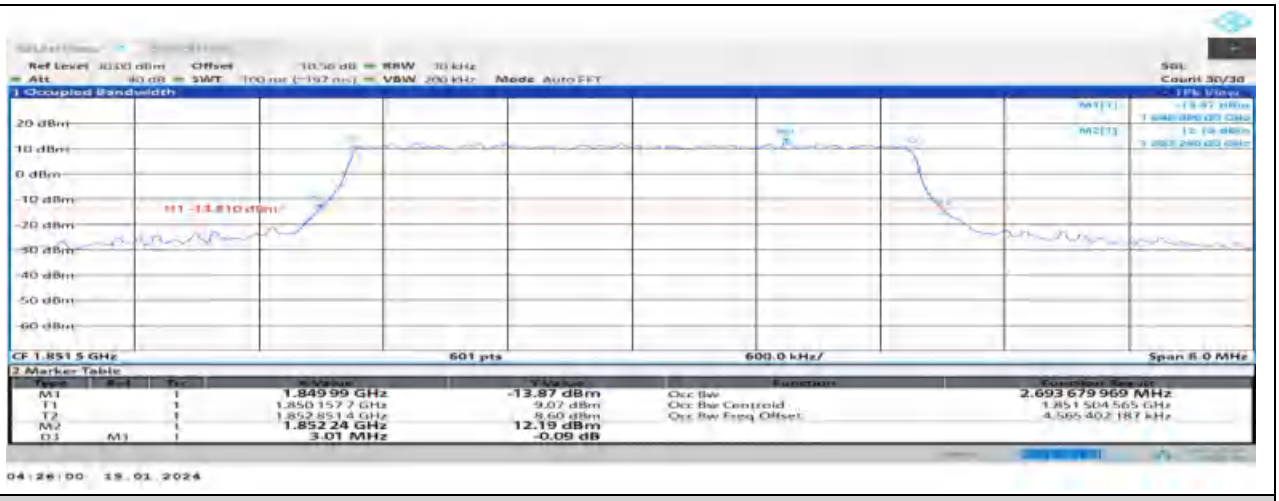
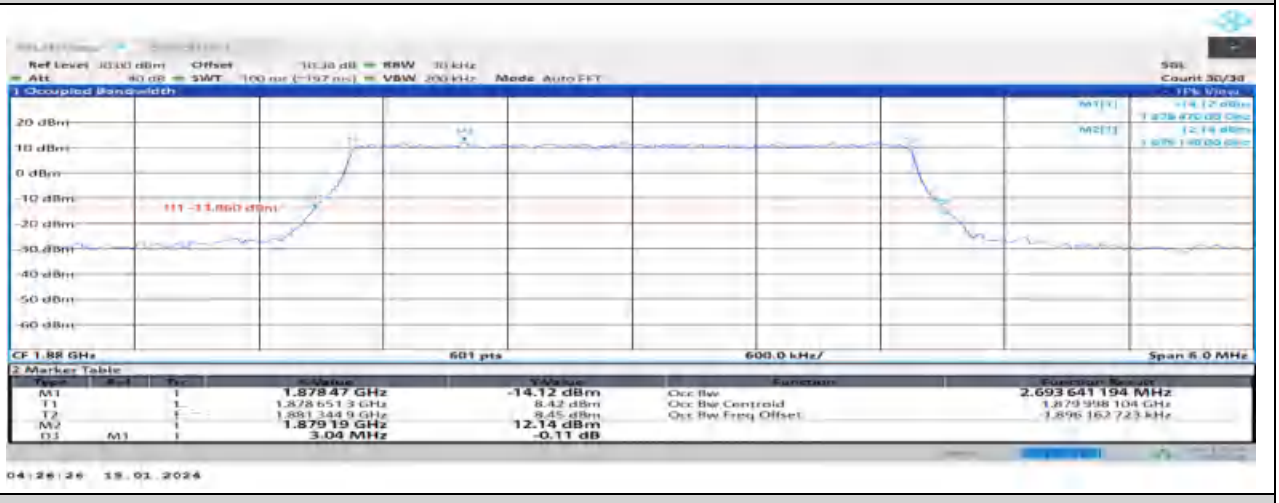


Band2-3MHz-16QAM-18615-15RB#0



Band2-3MHz-16QAM-18900-15RB#0



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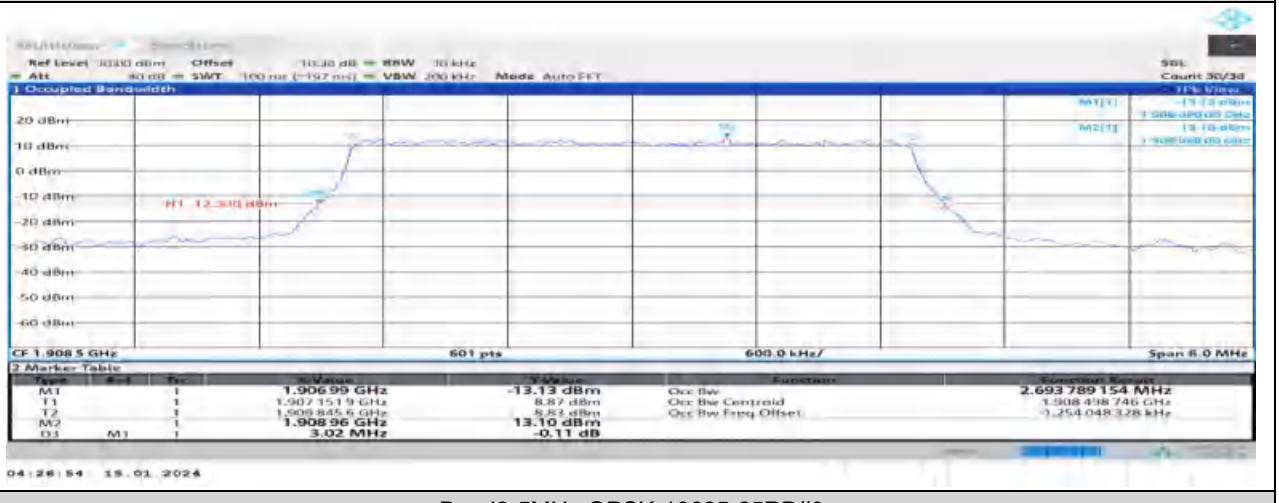
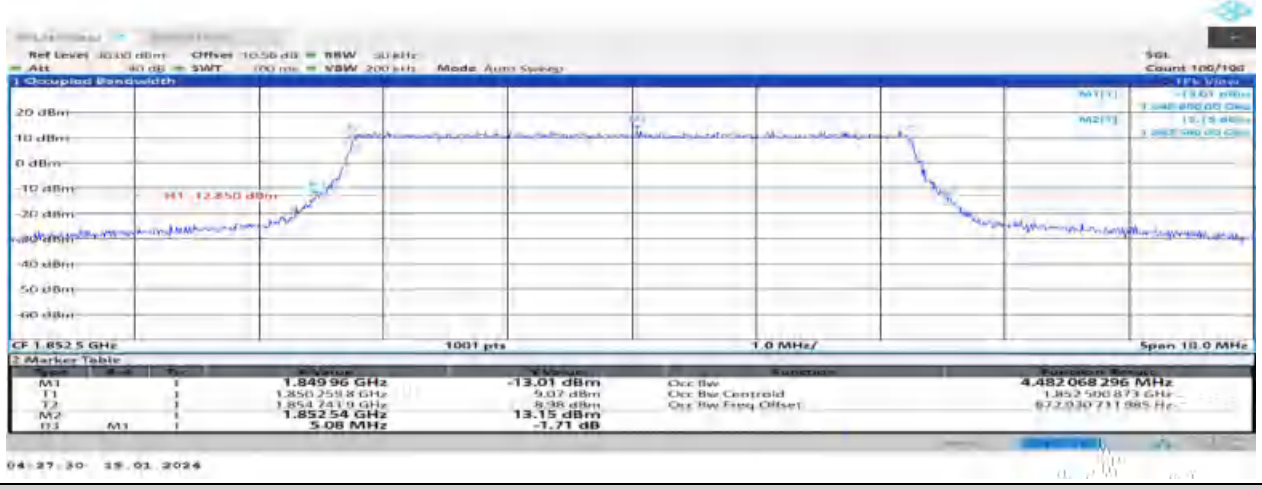
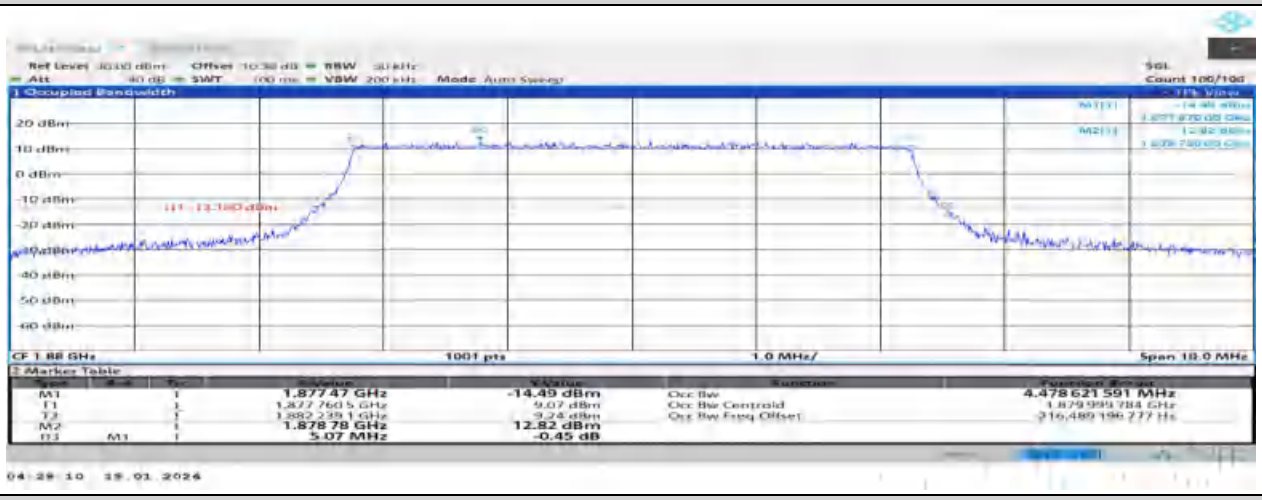


Band2-5MHz-QPSK-18625-25RB#0



Band2-5MHz-QPSK-18900-25RB#0



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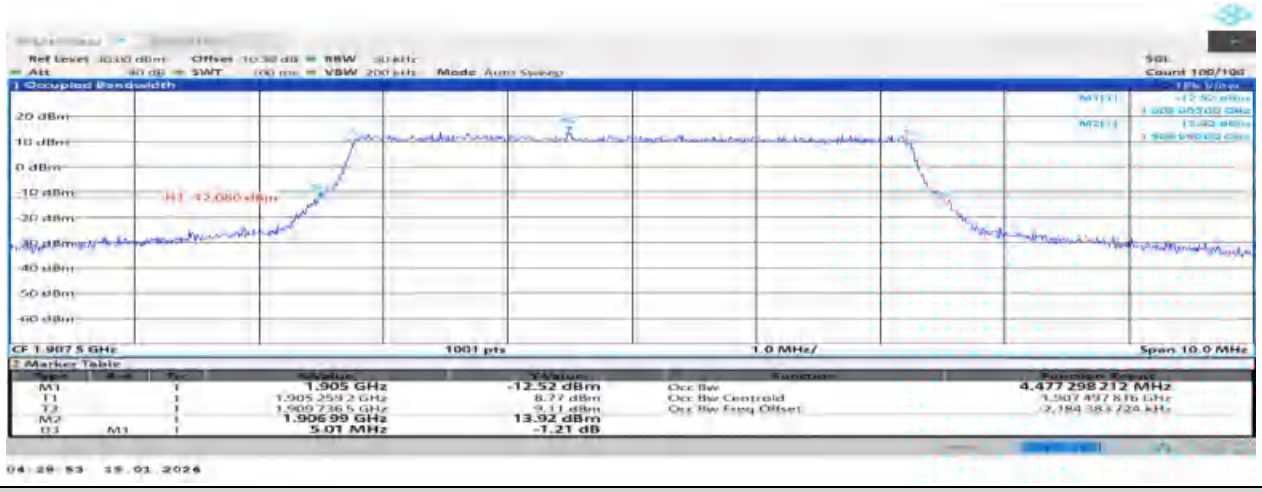
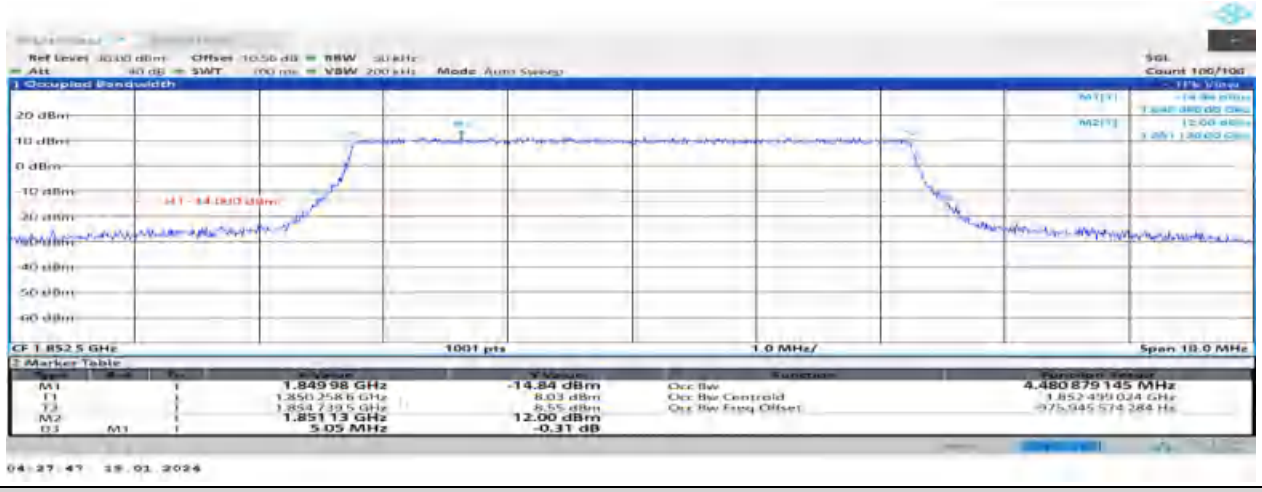
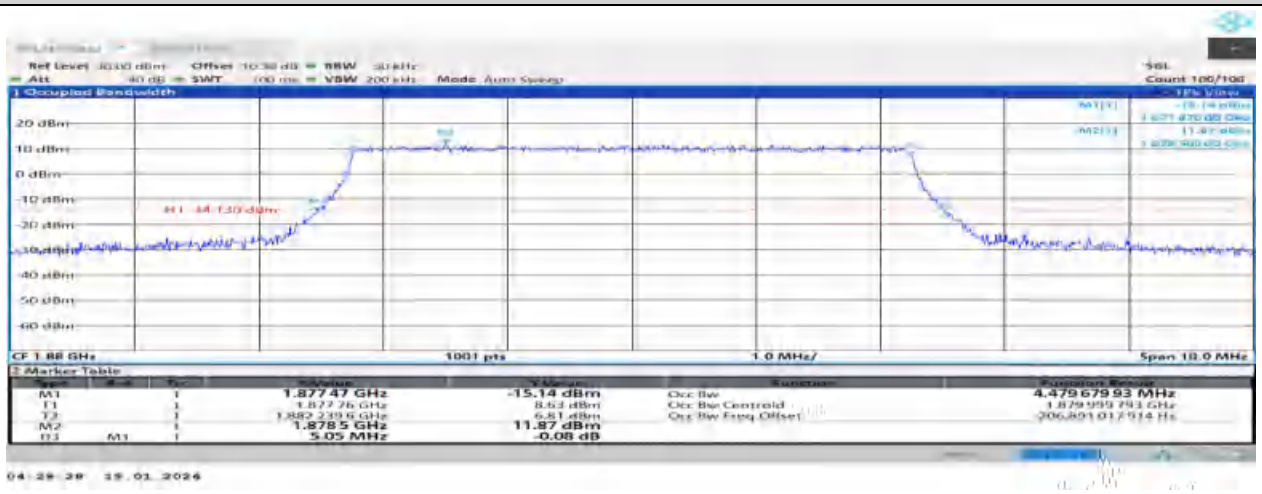


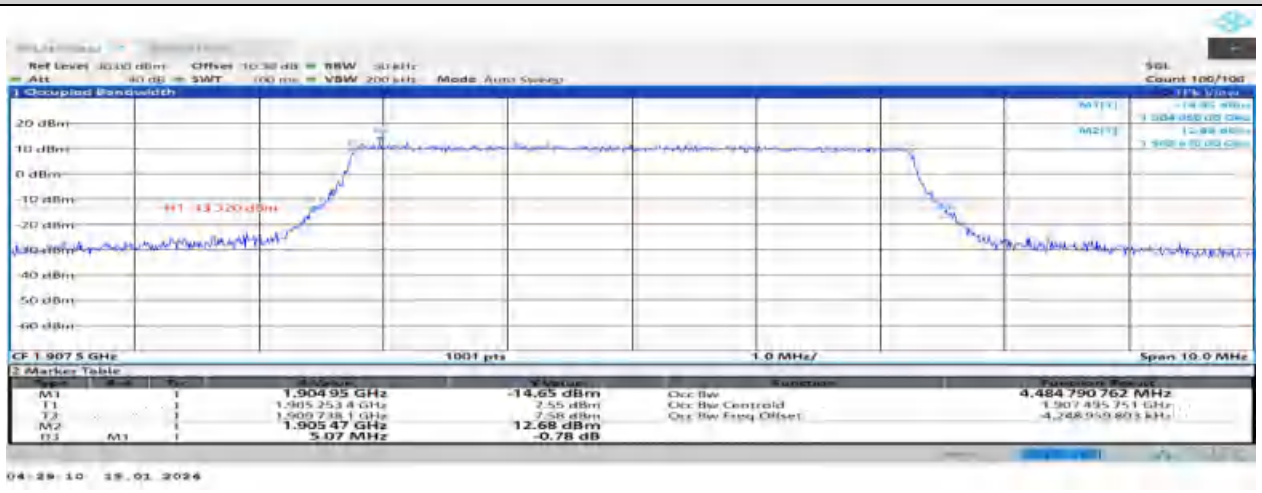
Band2-5MHz-16QAM-18625-25RB#0



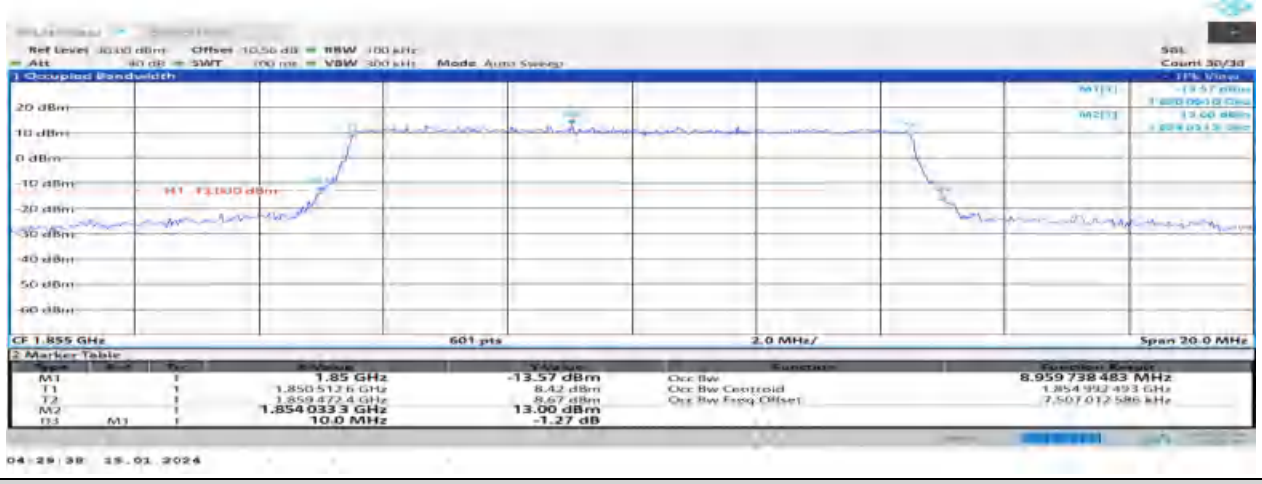
Band2-5MHz-16QAM-18900-25RB#0



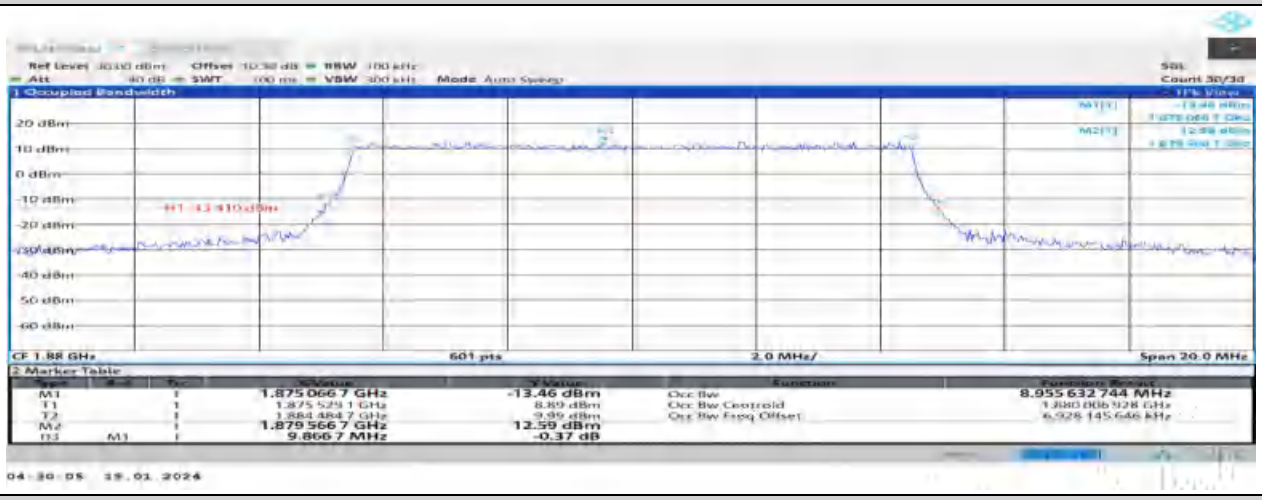
Band2-5MHz-16QAM-19175-25RB#0



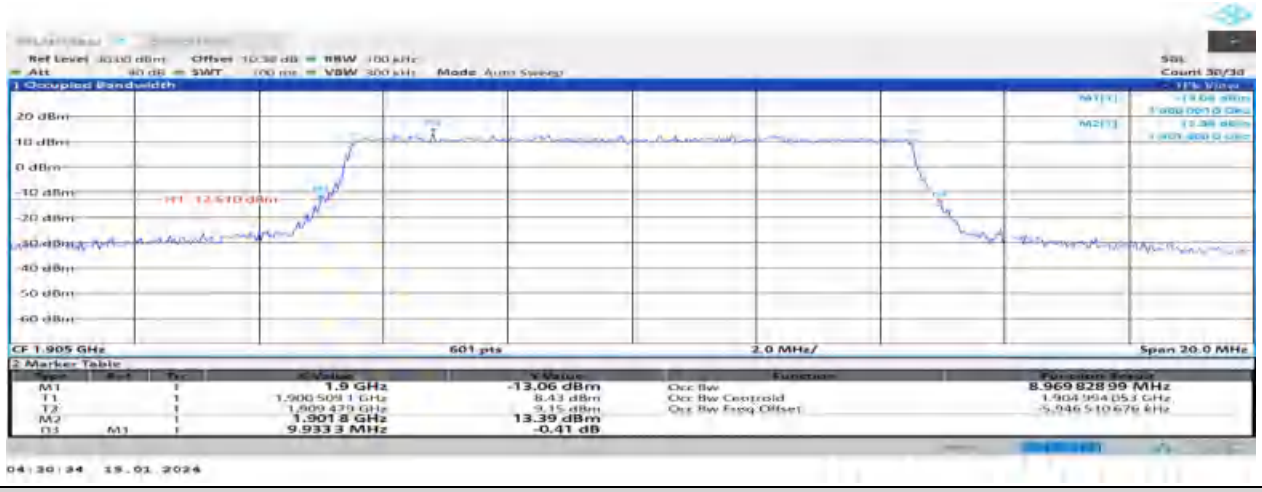
Band2-10MHz-QPSK-18650-50RB#0



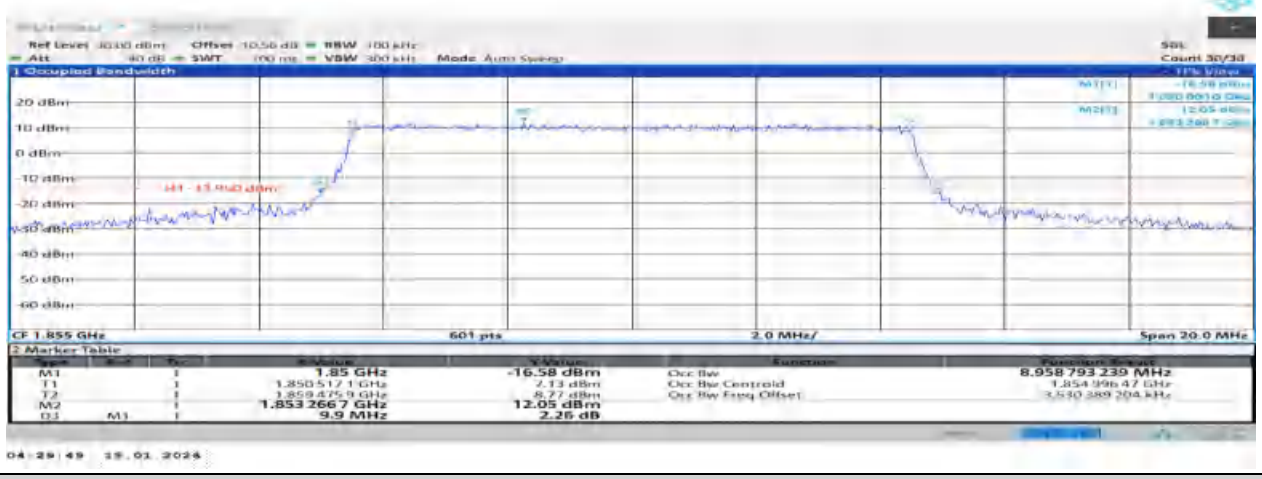
Band2-10MHz-QPSK-18900-50RB#0



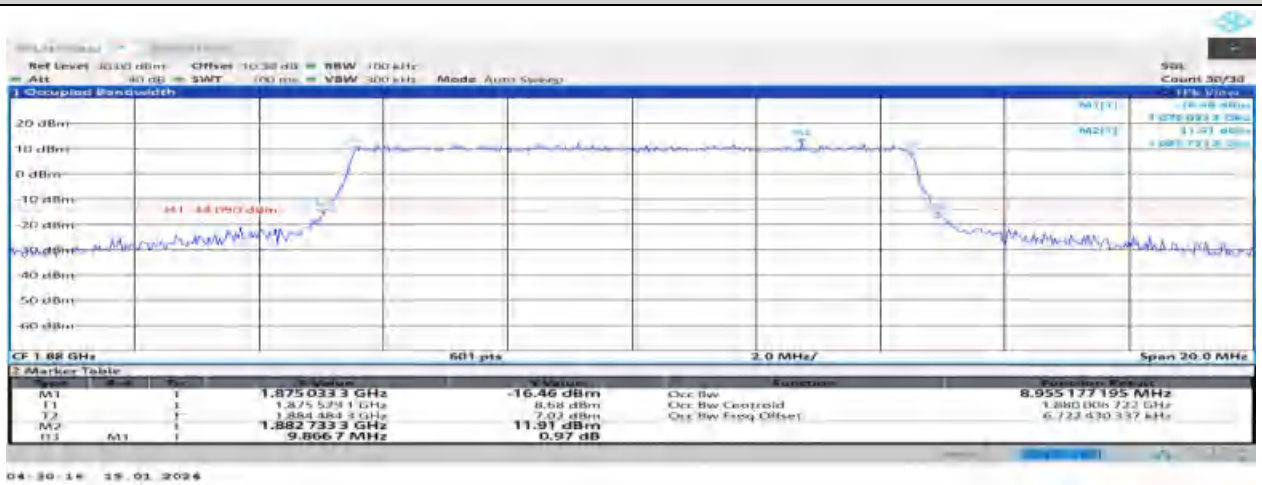
Band2-10MHz-QPSK-19150-50RB#0



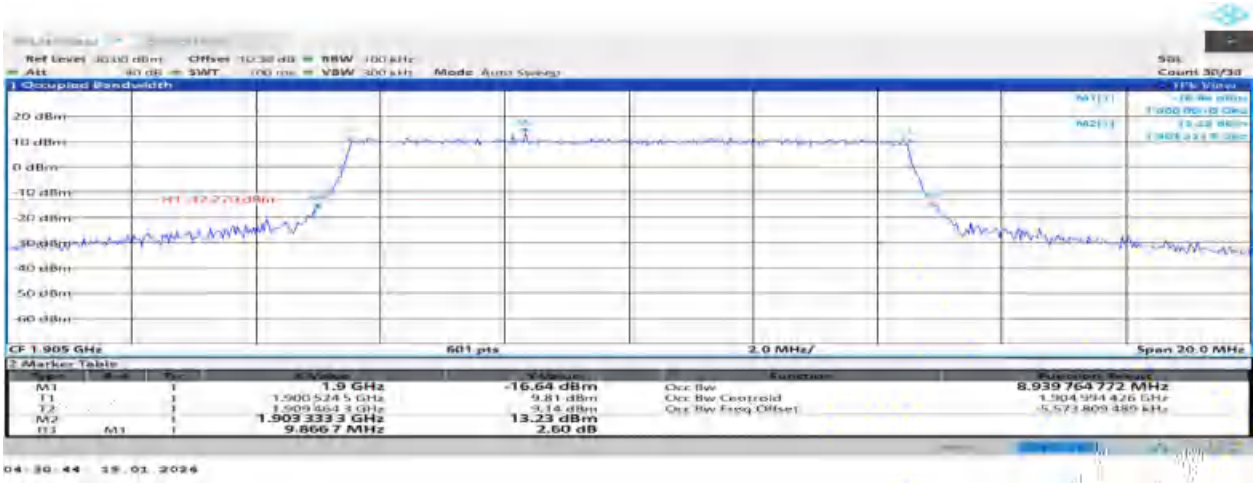
Band2-10MHz-16QAM-18650-50RB#0



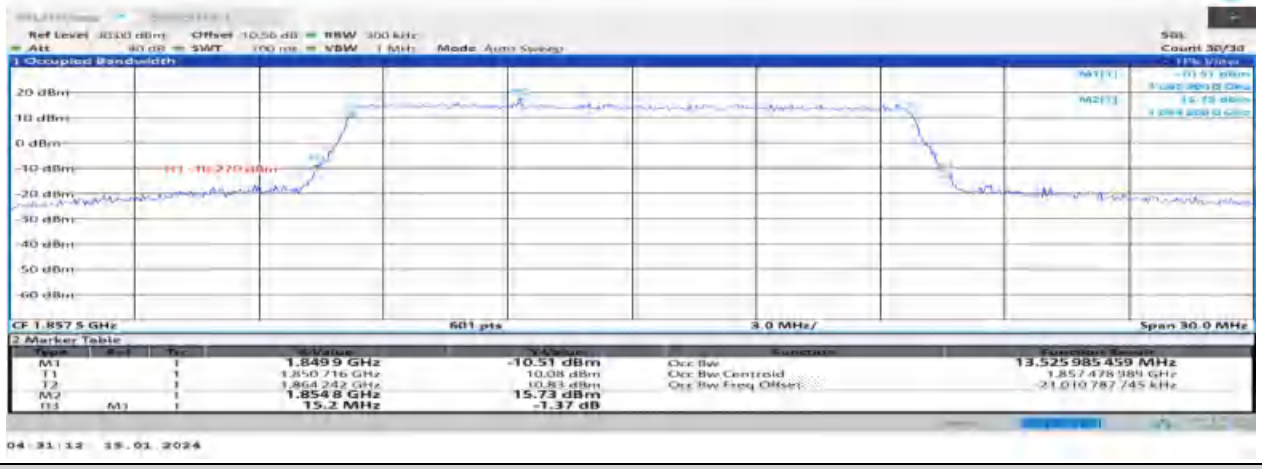
Band2-10MHz-16QAM-18900-50RB#0



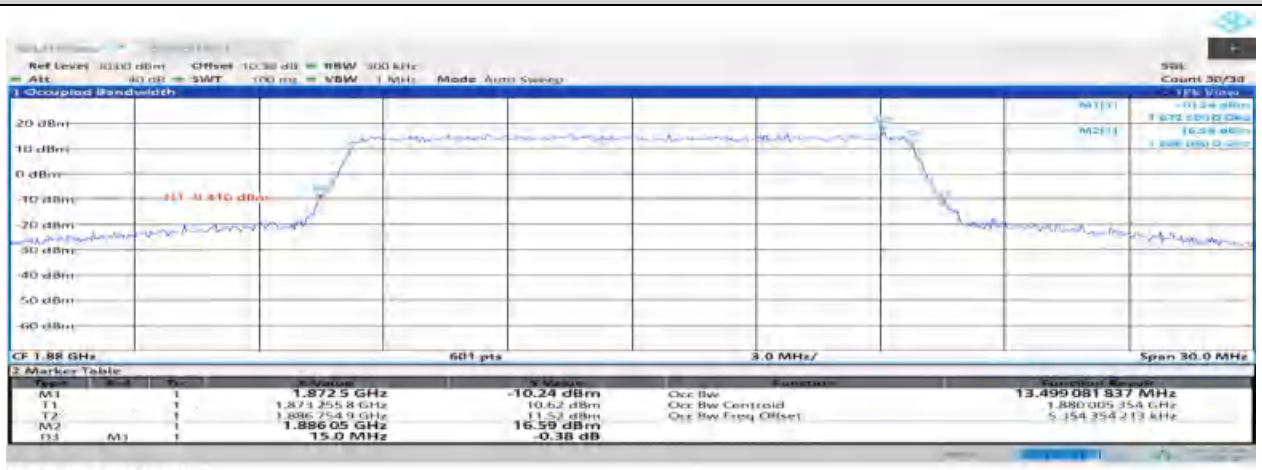
Band2-10MHz-16QAM-19150-50RB#0



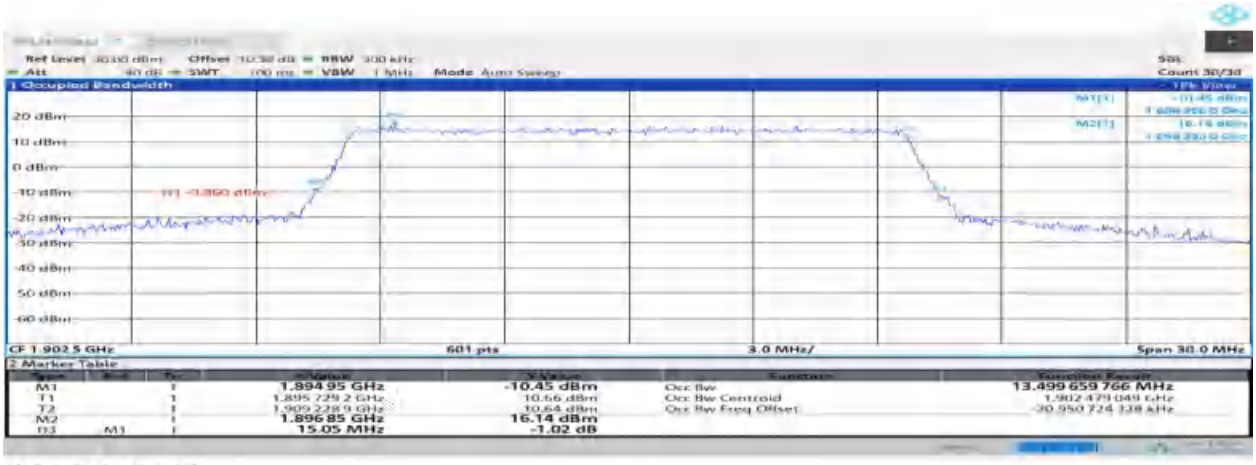
Band2-15MHz-QPSK-18675-75RB#0



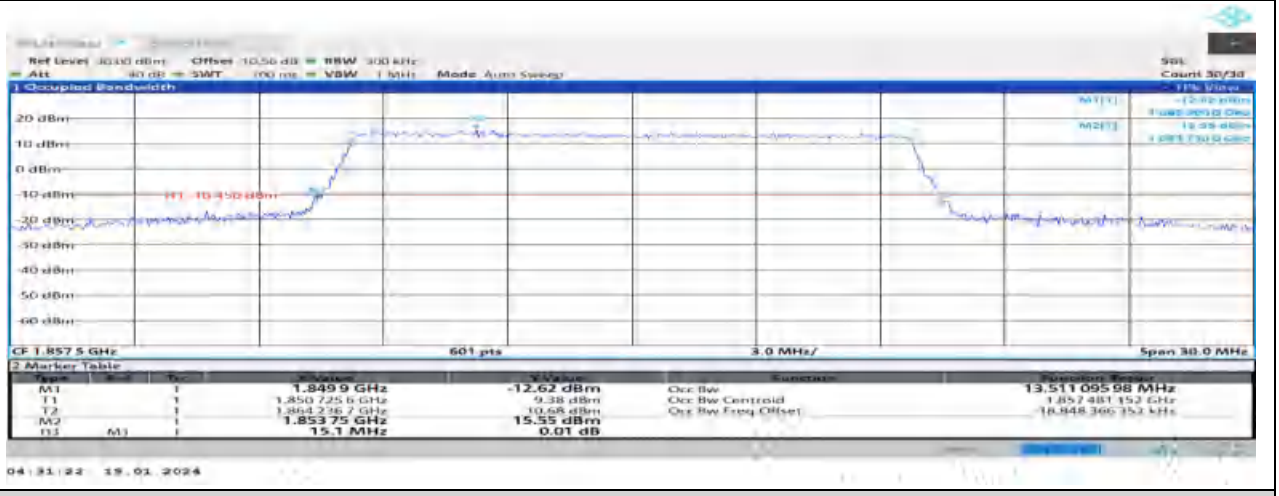
Band2-15MHz-QPSK-18900-75RB#0



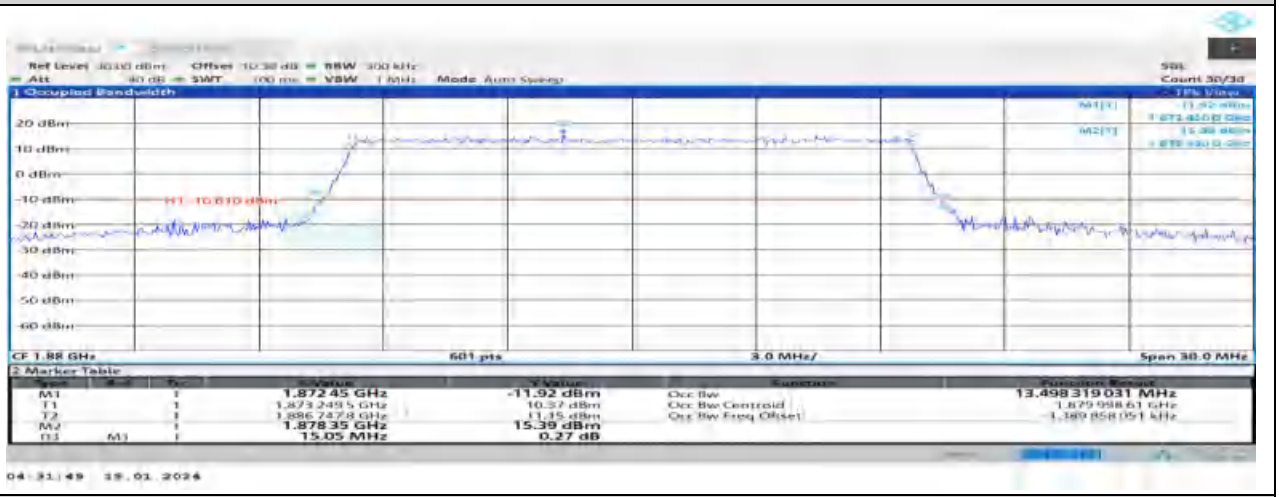
Band2-15MHz-QPSK-19125-75RB#0



Band2-15MHz-16QAM-18675-75RB#0



Band2-15MHz-16QAM-18900-75RB#0



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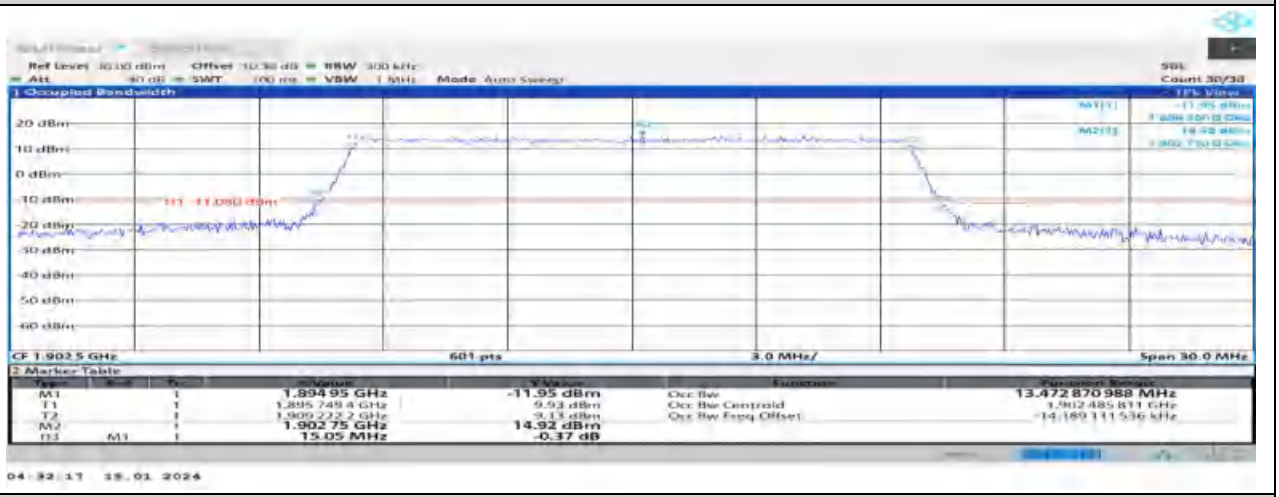

Band2-20MHz-QPSK-18700-100RB#0

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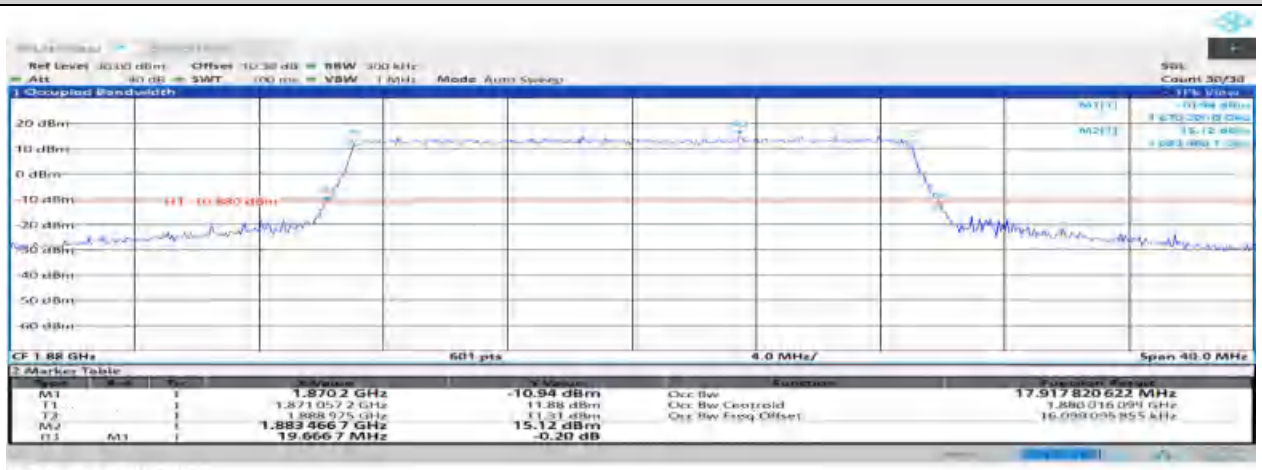

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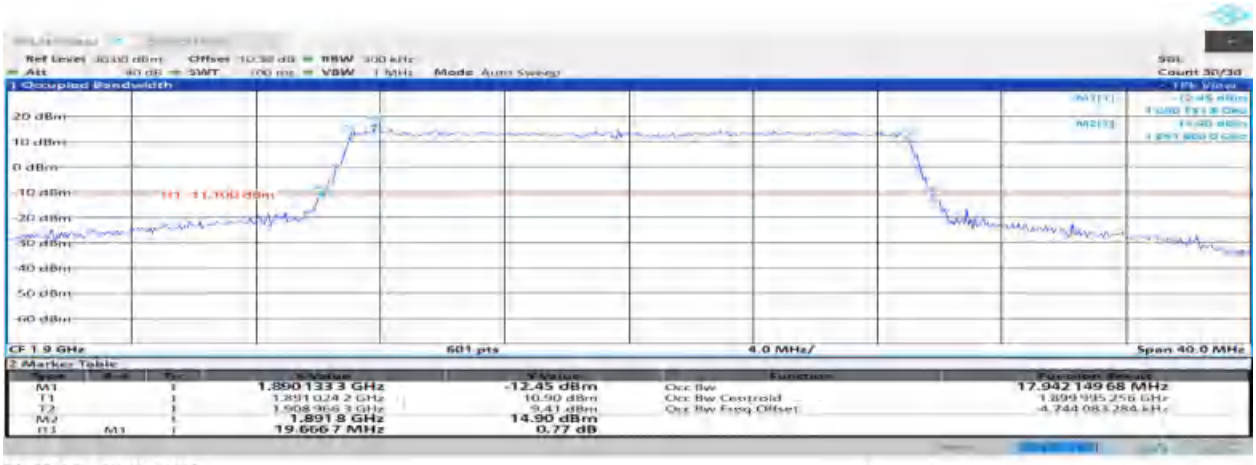

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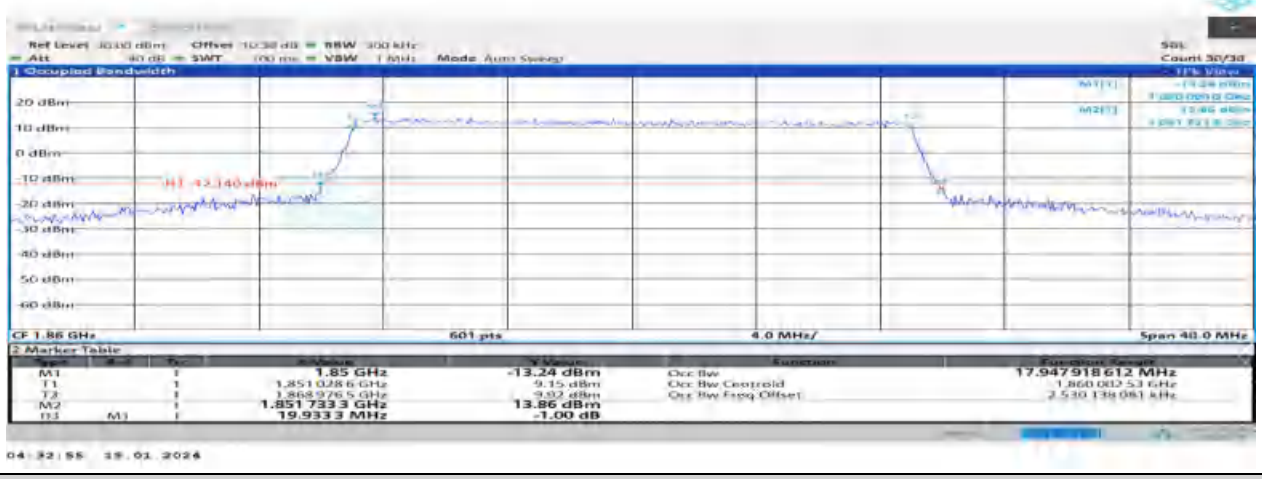

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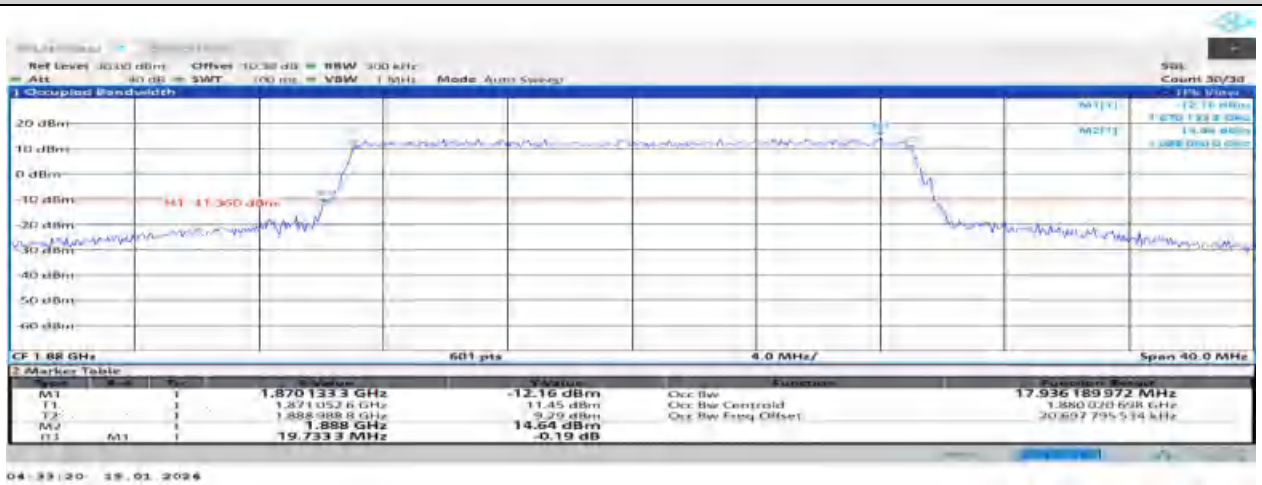

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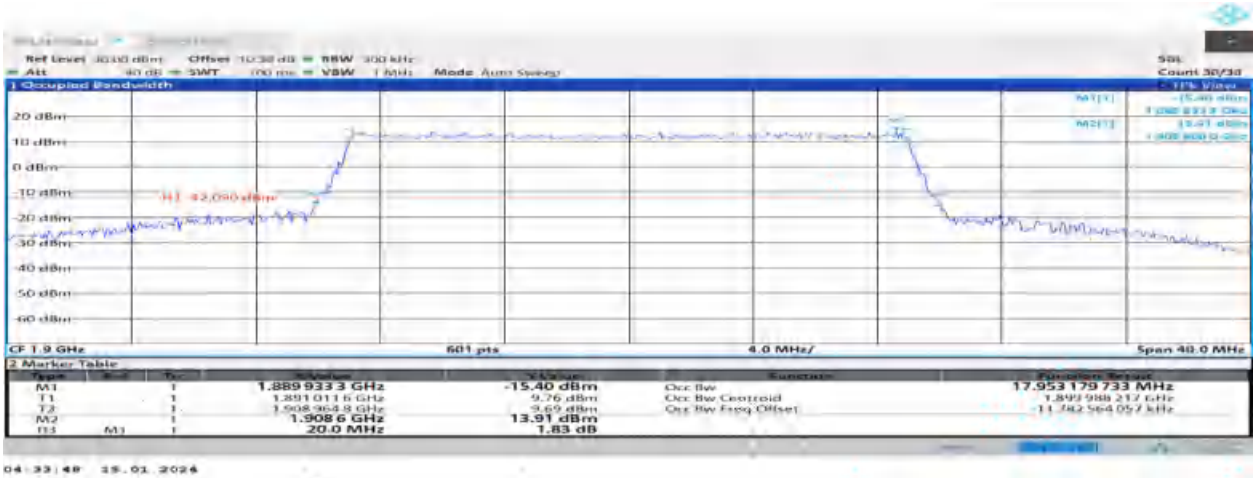


APPENDIX A.4: BAND EDGE

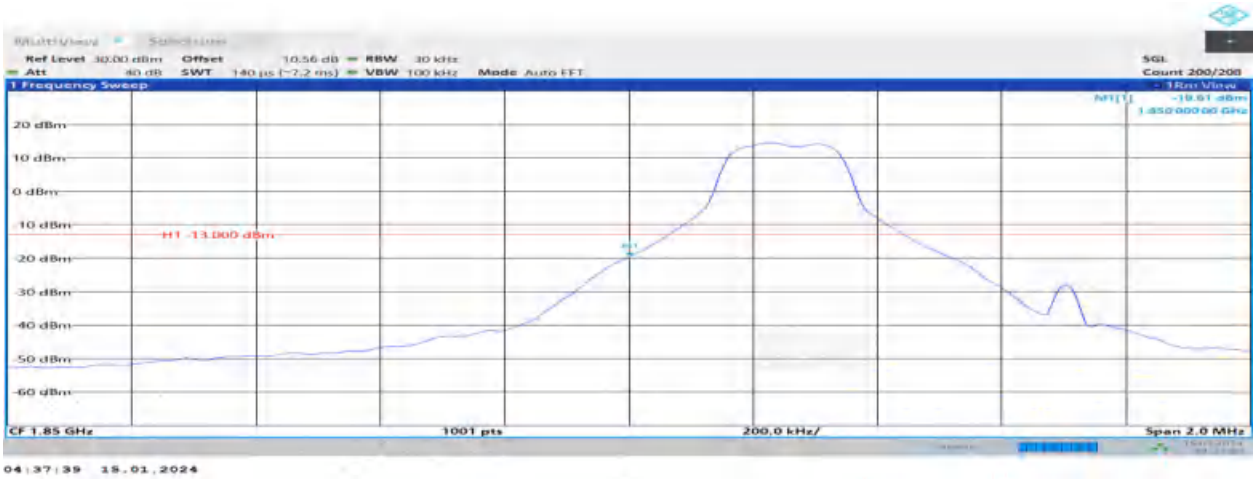
Test Result

Band	Bandwidth	Modulation	Channel	RB Config.	Result (dBm)	Verdict
Band2	1.4MHz	QPSK	18607	1RB#0	-19.61	PASS
Band2	1.4MHz	QPSK	18607	6RB#0	-24.43	PASS
Band2	1.4MHz	QPSK	19193	1RB#5	-19.34	PASS
Band2	1.4MHz	QPSK	19193	6RB#0	-25.71	PASS
Band2	1.4MHz	16QAM	18607	1RB#0	-20.64	PASS
Band2	1.4MHz	16QAM	18607	6RB#0	-25.88	PASS
Band2	1.4MHz	16QAM	19193	1RB#5	-19.32	PASS
Band2	1.4MHz	16QAM	19193	6RB#0	-26.64	PASS
Band2	3MHz	QPSK	18615	1RB#0	-21.20	PASS
Band2	3MHz	QPSK	18615	15RB#0	-22.87	PASS
Band2	3MHz	QPSK	19185	1RB#14	-21.91	PASS
Band2	3MHz	QPSK	19185	15RB#0	-25.47	PASS
Band2	3MHz	16QAM	18615	1RB#0	-21.23	PASS
Band2	3MHz	16QAM	18615	15RB#0	-25.04	PASS
Band2	3MHz	16QAM	19185	1RB#14	-20.54	PASS
Band2	3MHz	16QAM	19185	15RB#0	-27.01	PASS
Band2	5MHz	QPSK	18625	1RB#0	-22.68	PASS
Band2	5MHz	QPSK	18625	25RB#0	-27.66	PASS
Band2	5MHz	QPSK	19175	1RB#24	-22.75	PASS
Band2	5MHz	QPSK	19175	25RB#0	-27.52	PASS
Band2	5MHz	16QAM	18625	1RB#0	-25.24	PASS
Band2	5MHz	16QAM	18625	25RB#0	-29.00	PASS
Band2	5MHz	16QAM	19175	1RB#24	-23.31	PASS
Band2	5MHz	16QAM	19175	25RB#0	-30.42	PASS
Band2	10MHz	QPSK	18650	1RB#0	-32.62	PASS
Band2	10MHz	QPSK	18650	50RB#0	-30.52	PASS
Band2	10MHz	QPSK	19150	1RB#49	-31.22	PASS
Band2	10MHz	QPSK	19150	50RB#0	-32.49	PASS
Band2	10MHz	16QAM	18650	1RB#0	-32.48	PASS
Band2	10MHz	16QAM	18650	50RB#0	-32.44	PASS
Band2	10MHz	16QAM	19150	1RB#49	-31.09	PASS
Band2	10MHz	16QAM	19150	50RB#0	-33.03	PASS
Band2	15MHz	QPSK	18675	1RB#0	-21.65	PASS
Band2	15MHz	QPSK	18675	75RB#0	-27.27	PASS
Band2	15MHz	QPSK	19125	1RB#74	-20.75	PASS
Band2	15MHz	QPSK	19125	75RB#0	-29.76	PASS
Band2	15MHz	16QAM	18675	1RB#0	-20.11	PASS
Band2	15MHz	16QAM	18675	75RB#0	-29.11	PASS
Band2	15MHz	16QAM	19125	1RB#74	-21.53	PASS
Band2	15MHz	16QAM	19125	75RB#0	-30.96	PASS
Band2	20MHz	QPSK	18700	1RB#0	-23.17	PASS
Band2	20MHz	QPSK	18700	100RB#0	-30.06	PASS
Band2	20MHz	QPSK	19100	1RB#99	-23.77	PASS

Band2	20MHz	QPSK	19100	100RB#0	-32.36	PASS
Band2	20MHz	16QAM	18700	1RB#0	-26.26	PASS
Band2	20MHz	16QAM	18700	100RB#0	-31.46	PASS
Band2	20MHz	16QAM	19100	1RB#99	-25.86	PASS
Band2	20MHz	16QAM	19100	100RB#0	-33.86	PASS

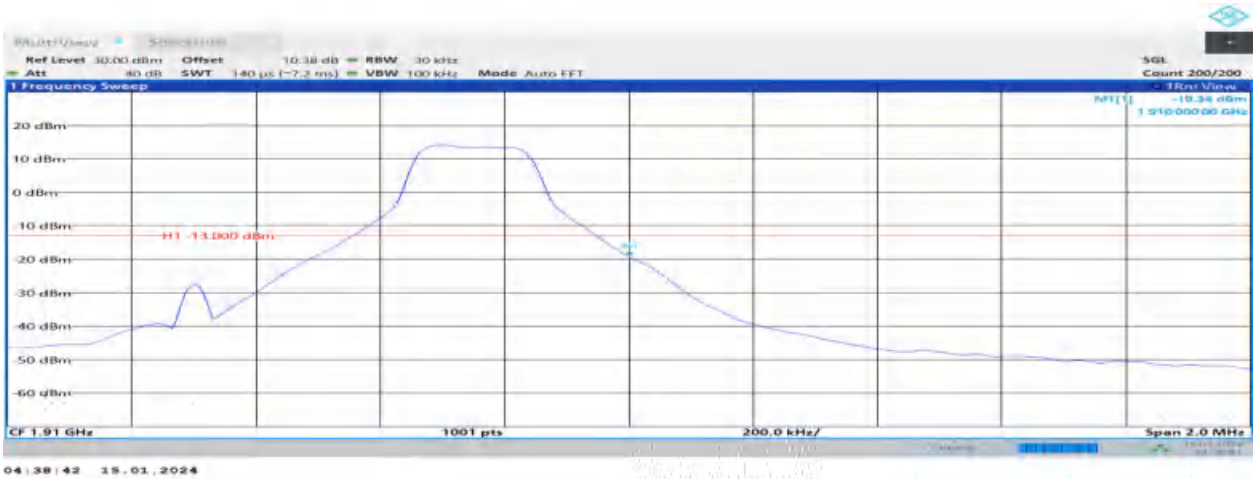
Test Graphs

Band2-1.4MHz-QPSK-18607-1RB#0



Band2-1.4MHz-QPSK-18607-6RB#0

Band2-1.4MHz-QPSK-19193-1RB#5



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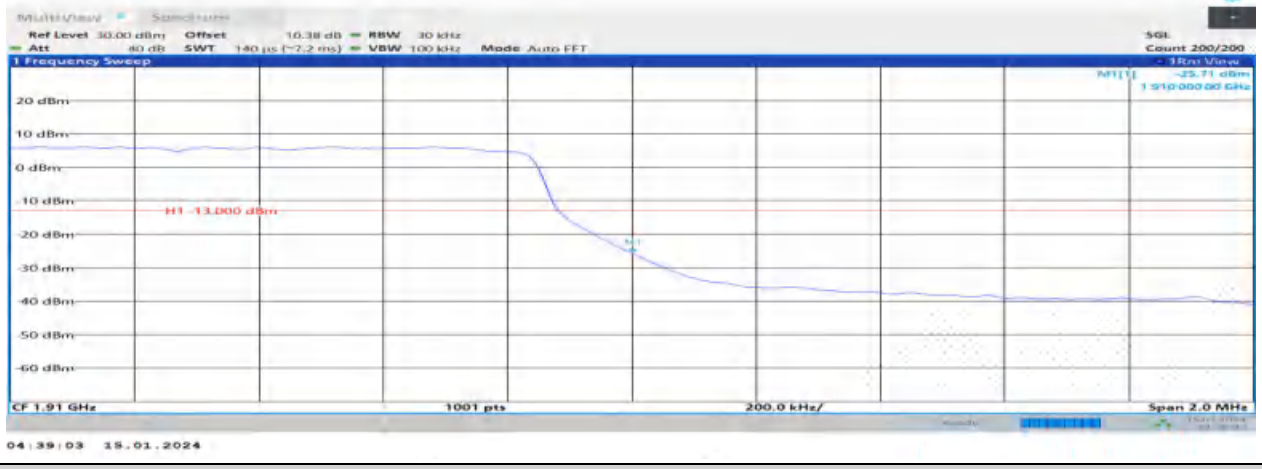
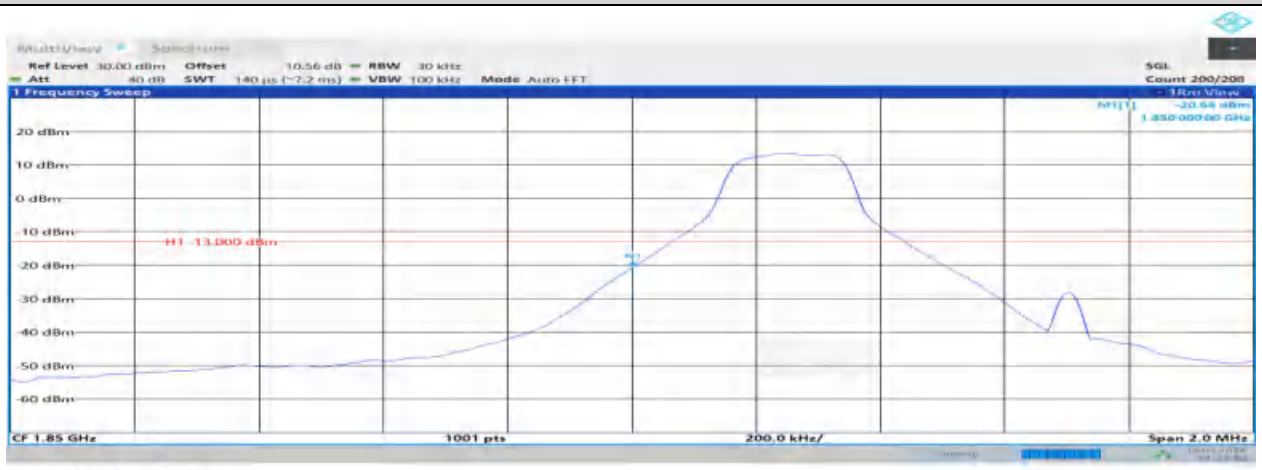


Band2-1.4MHz-16QAM-18607-1RB#0



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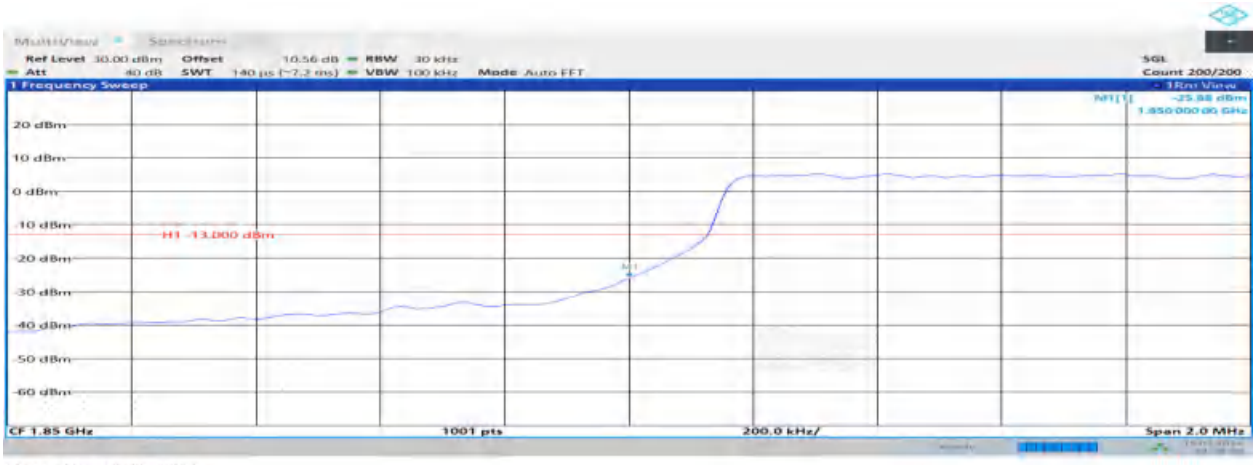

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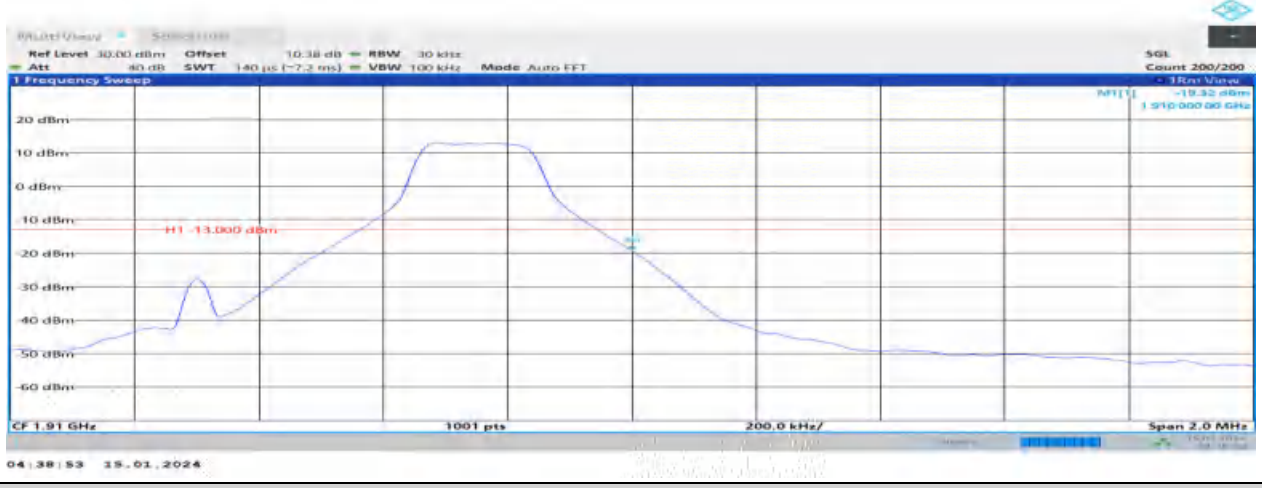

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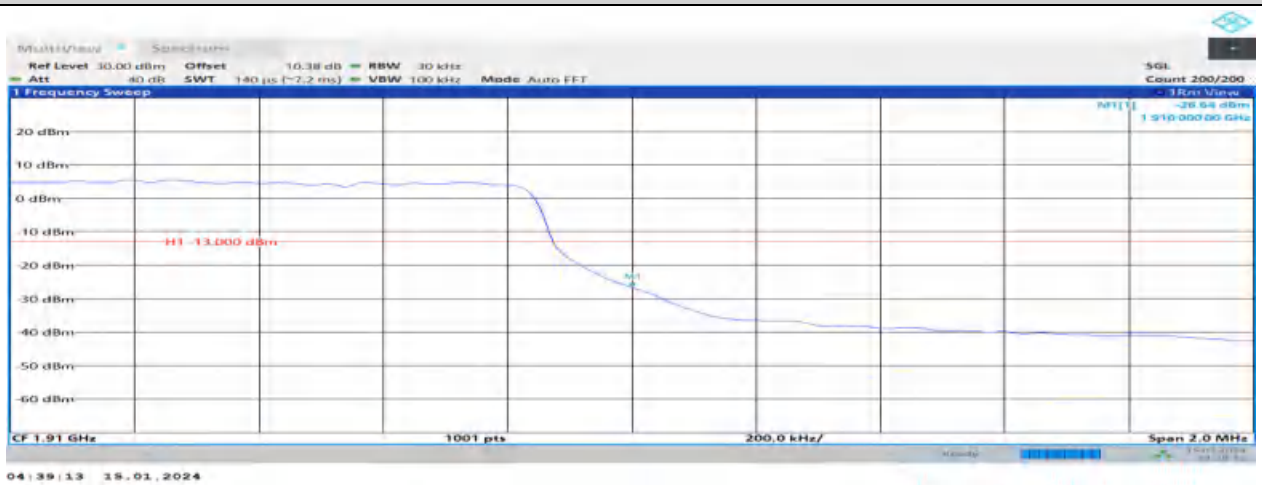

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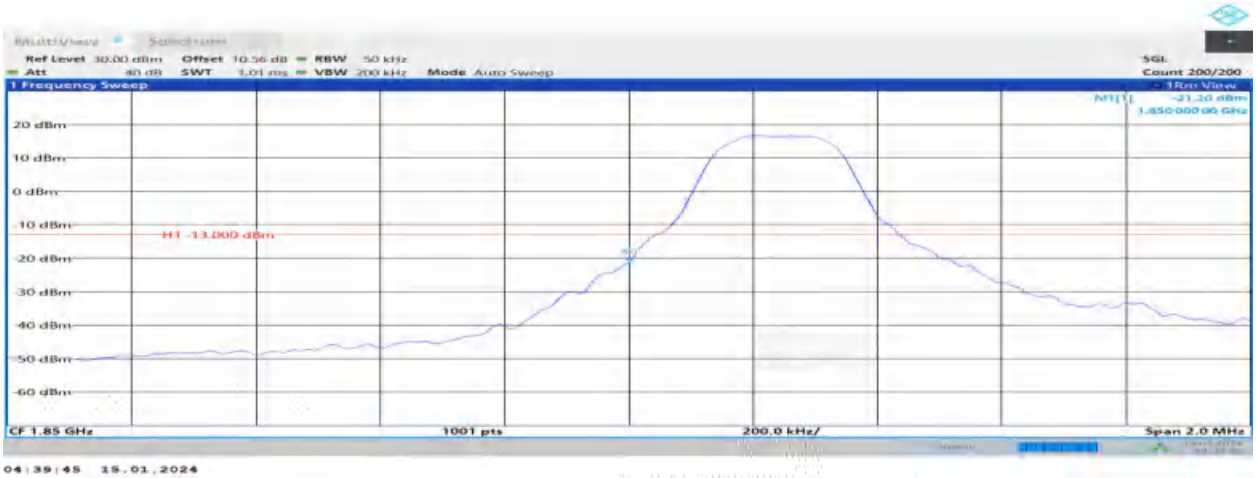

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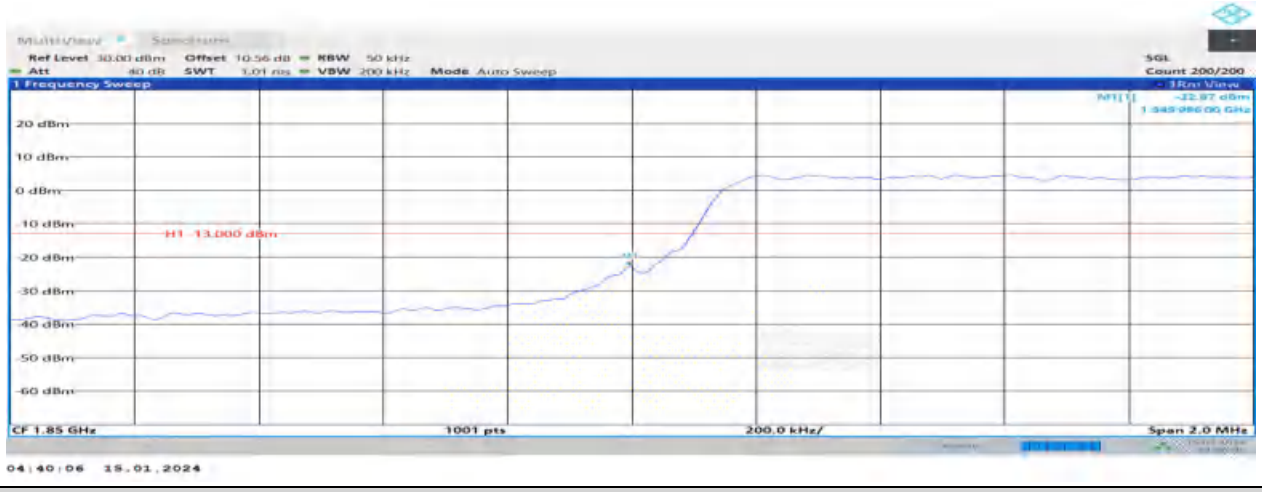

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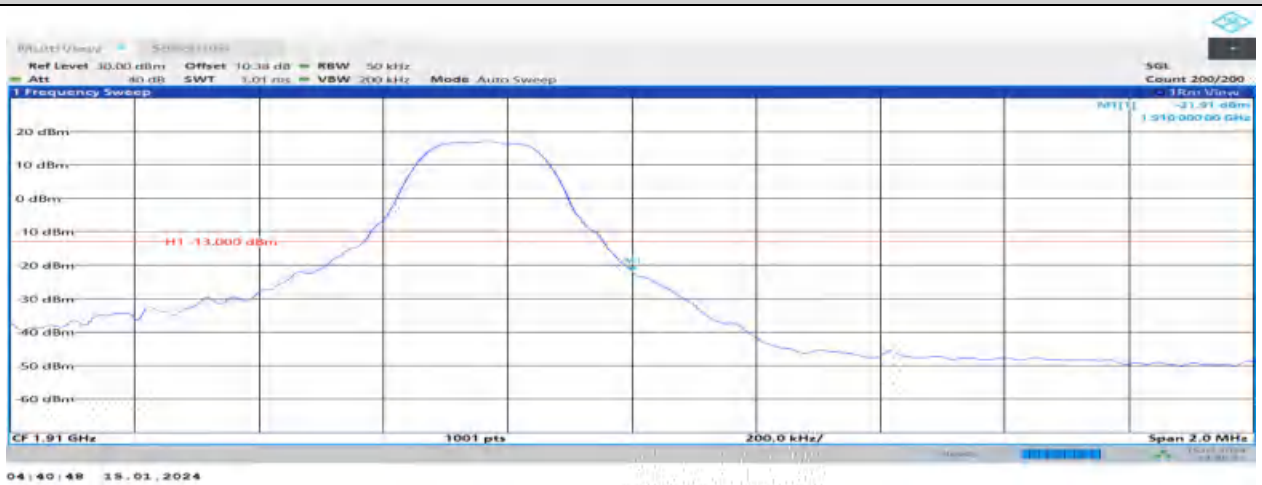

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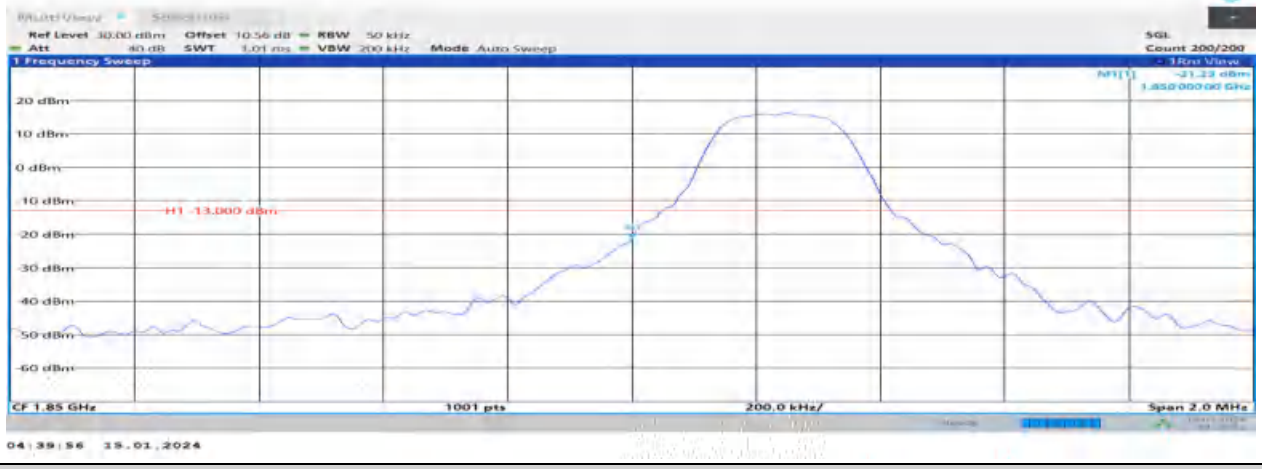

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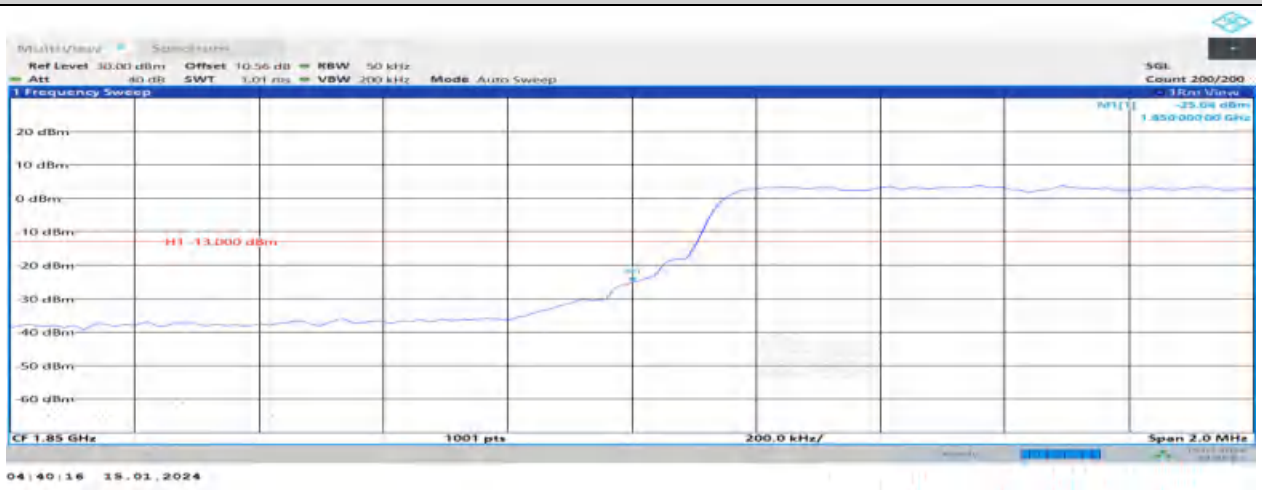

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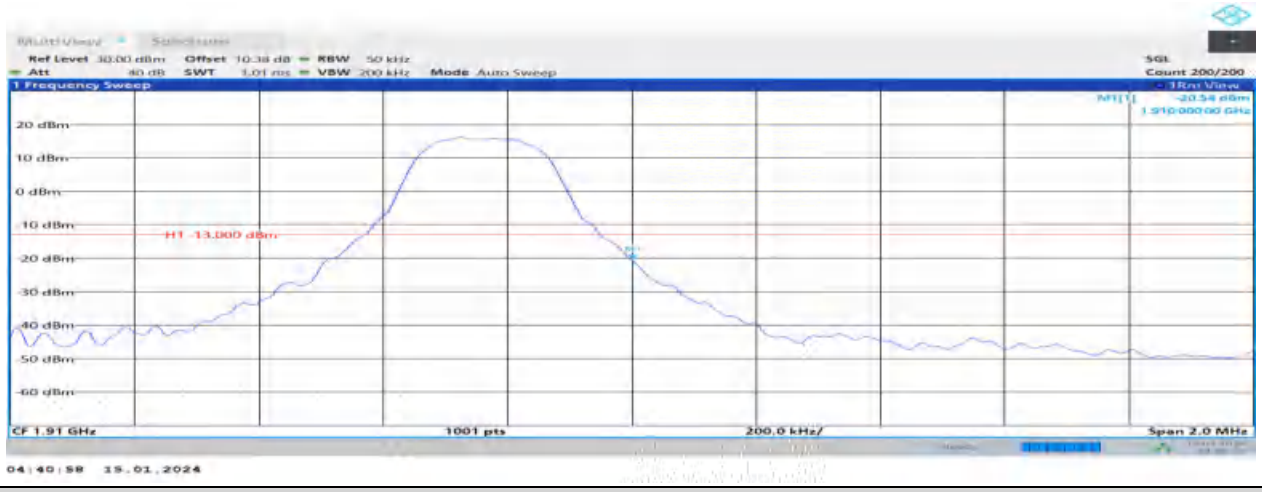

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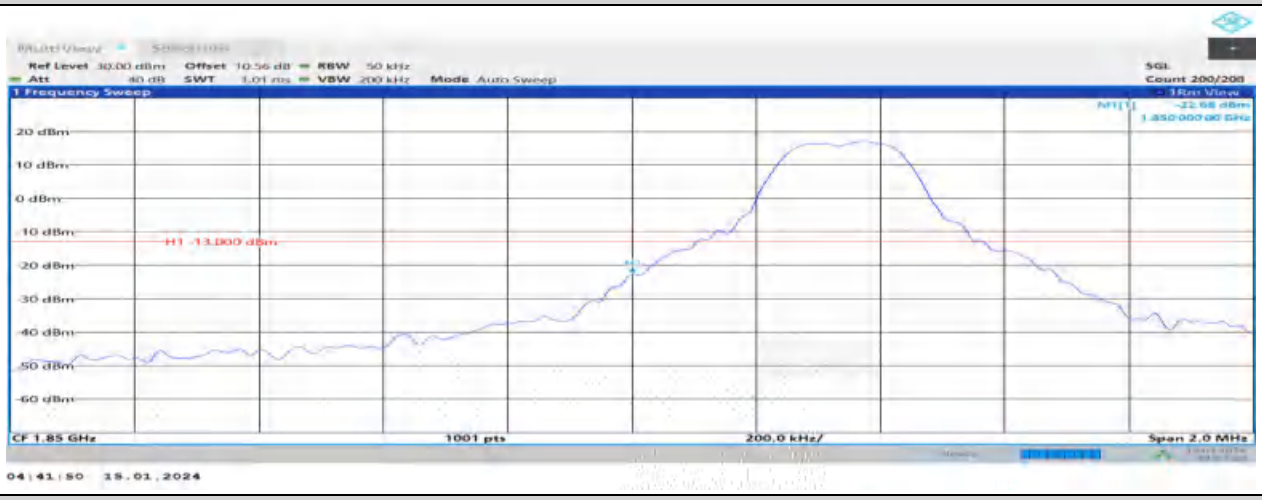
Band2-5MHz-QPSK-18625-1RB#0



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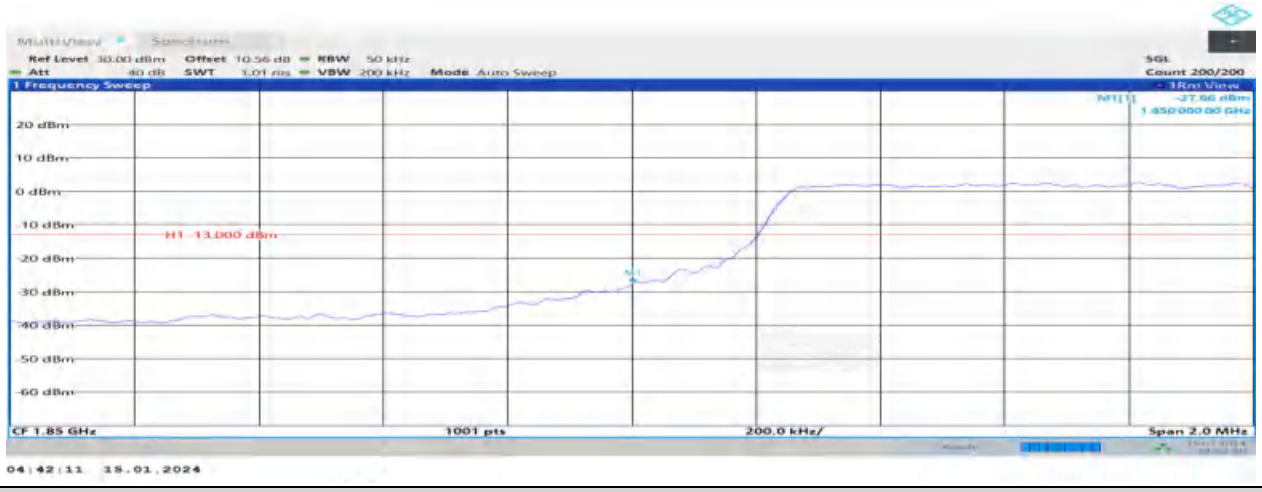

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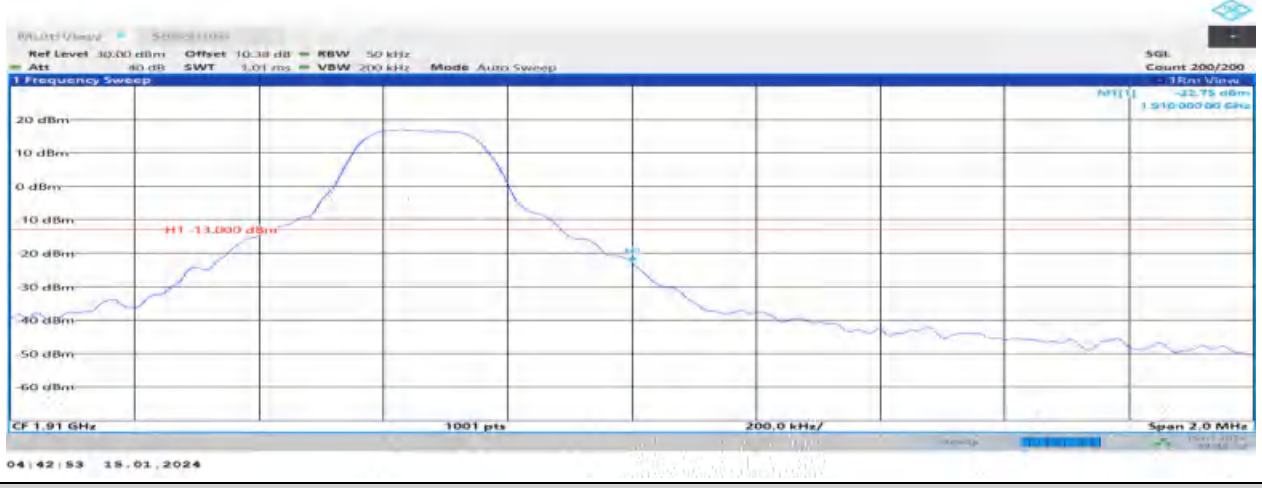

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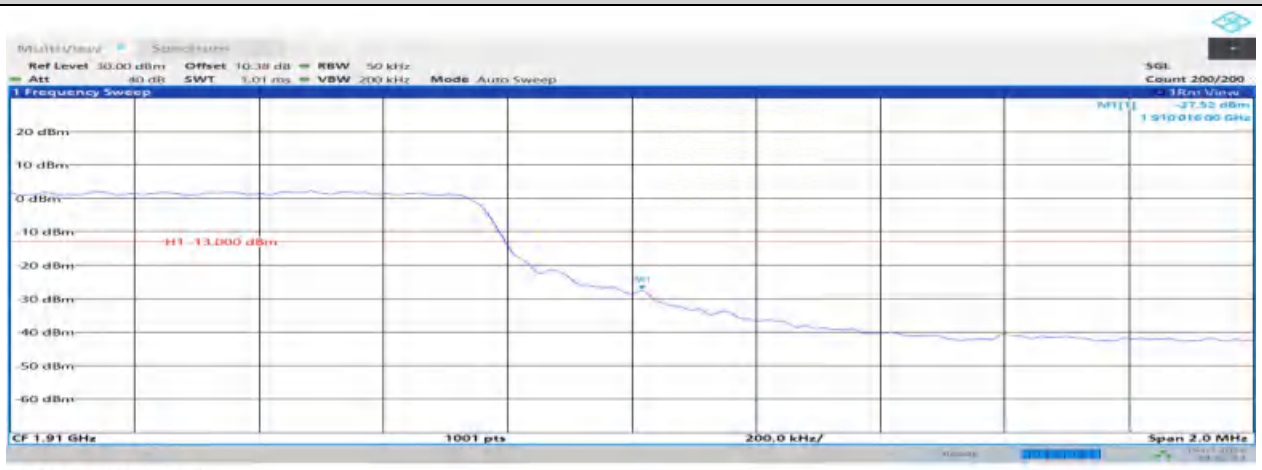

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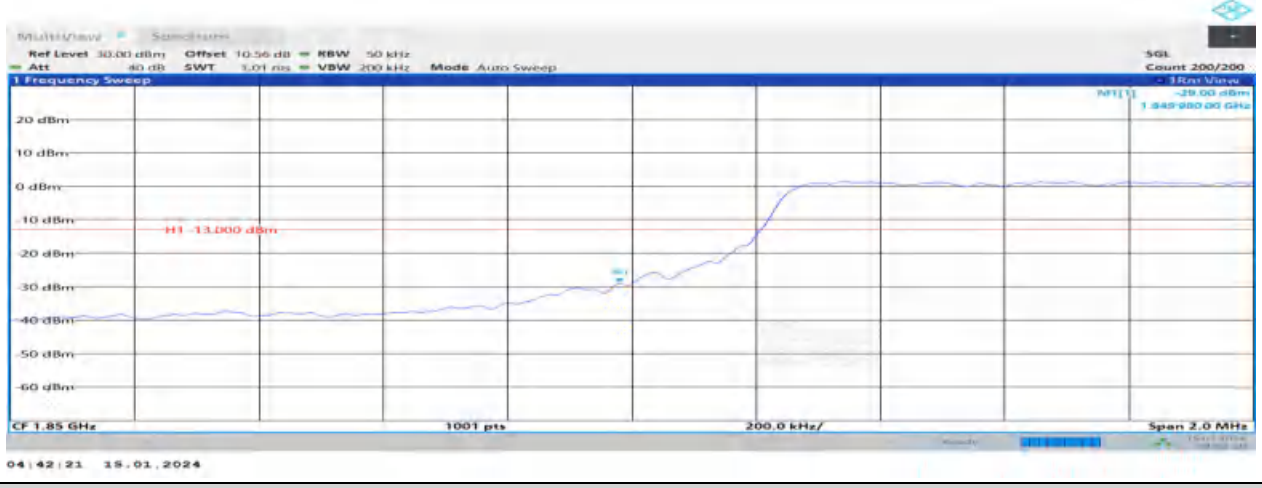

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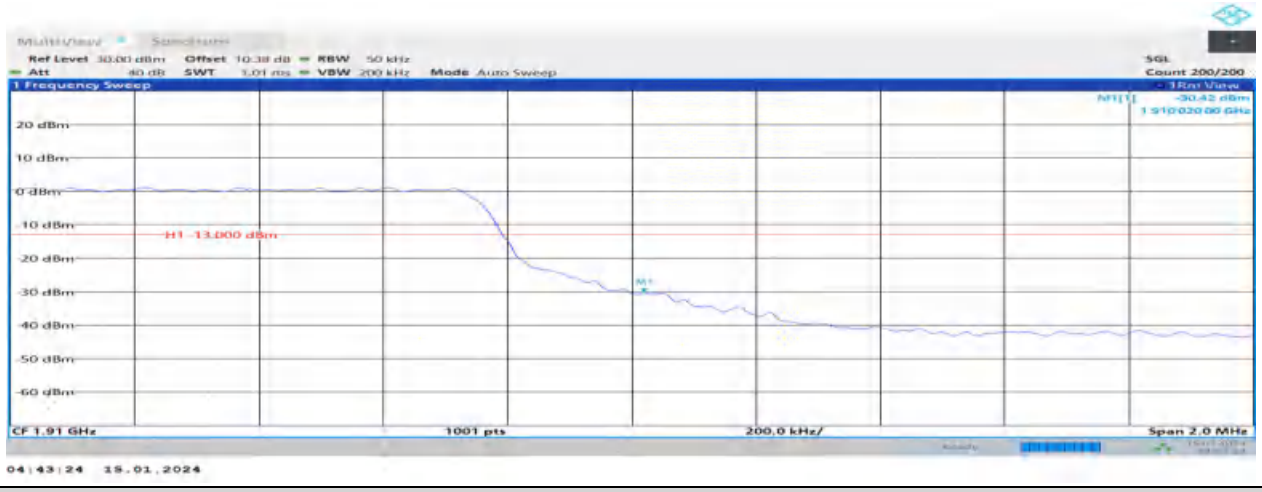

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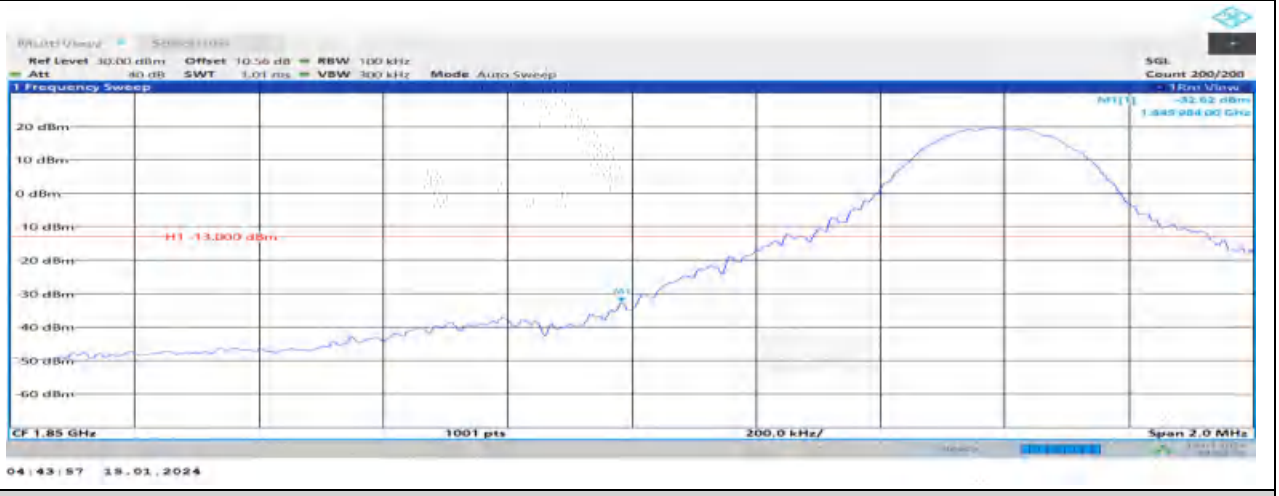

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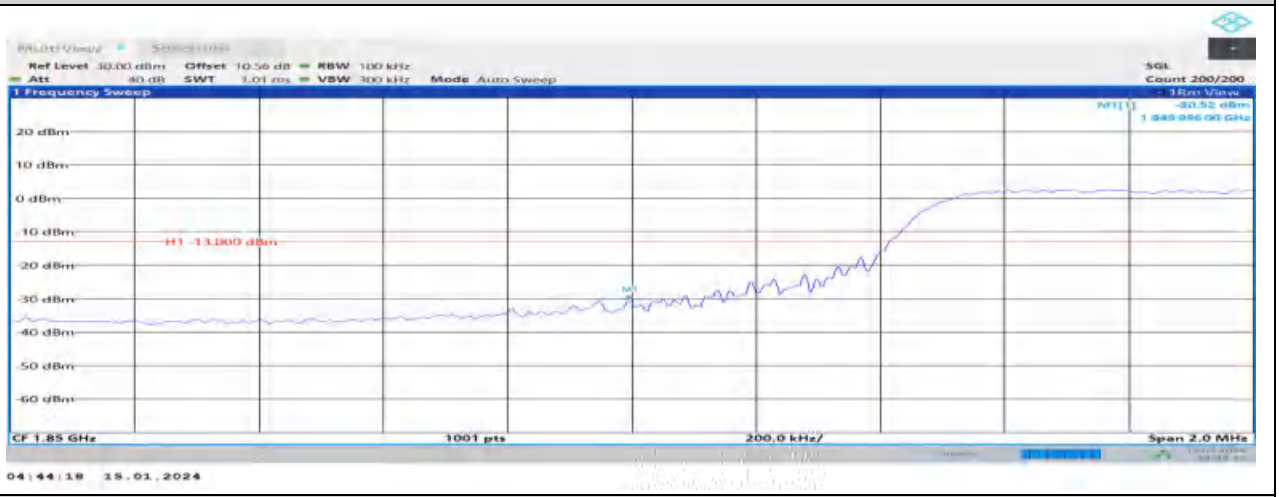
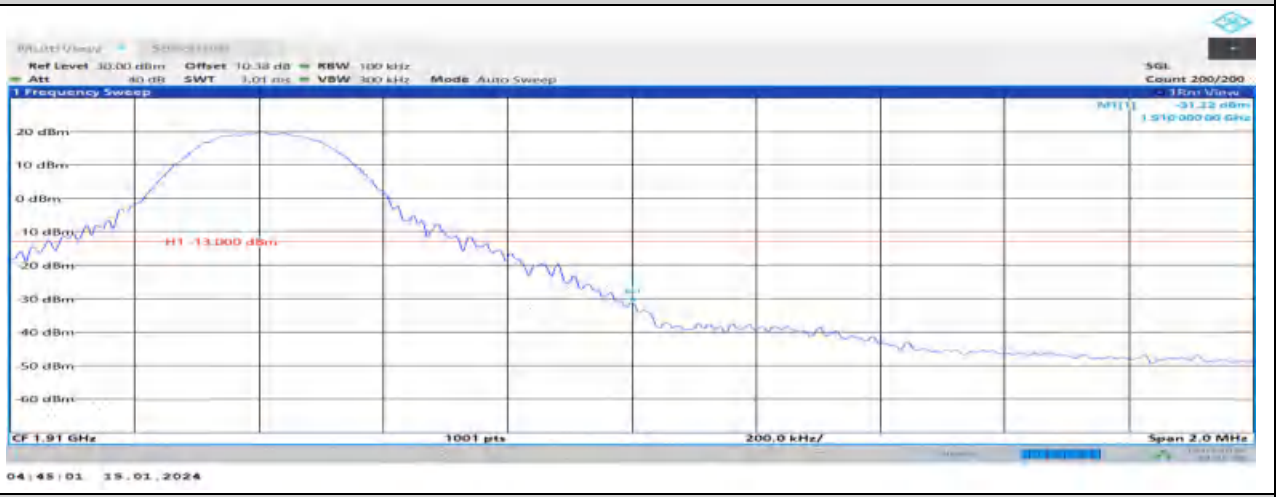
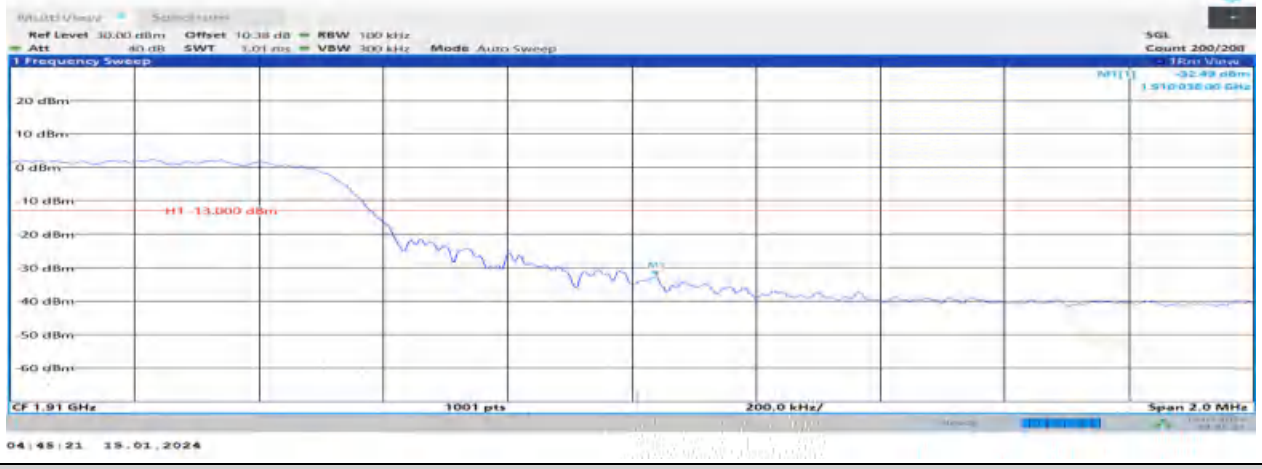


Band2-10MHz-QPSK-19150-1RB#49



Band2-10MHz-QPSK-19150-50RB#0



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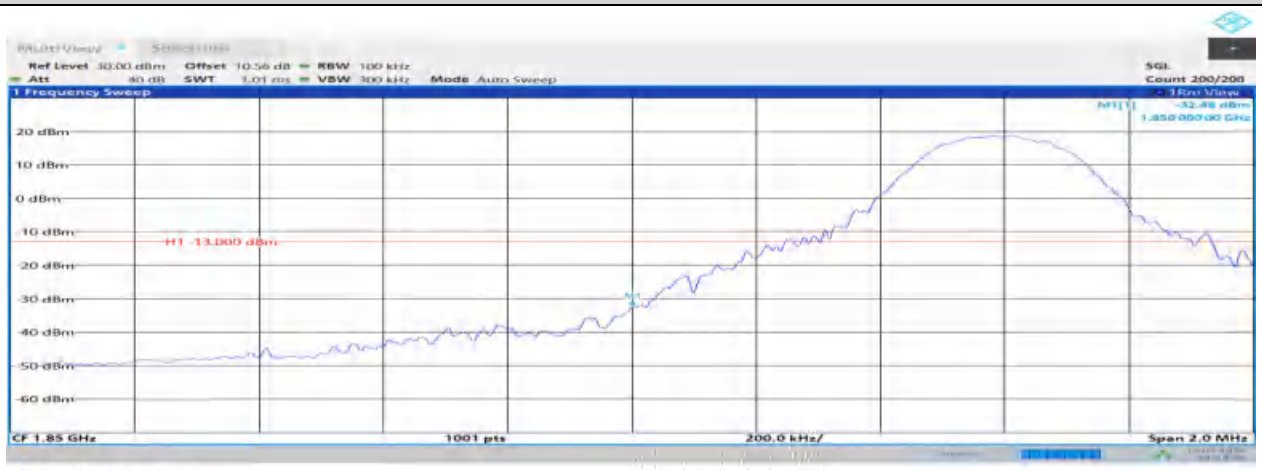

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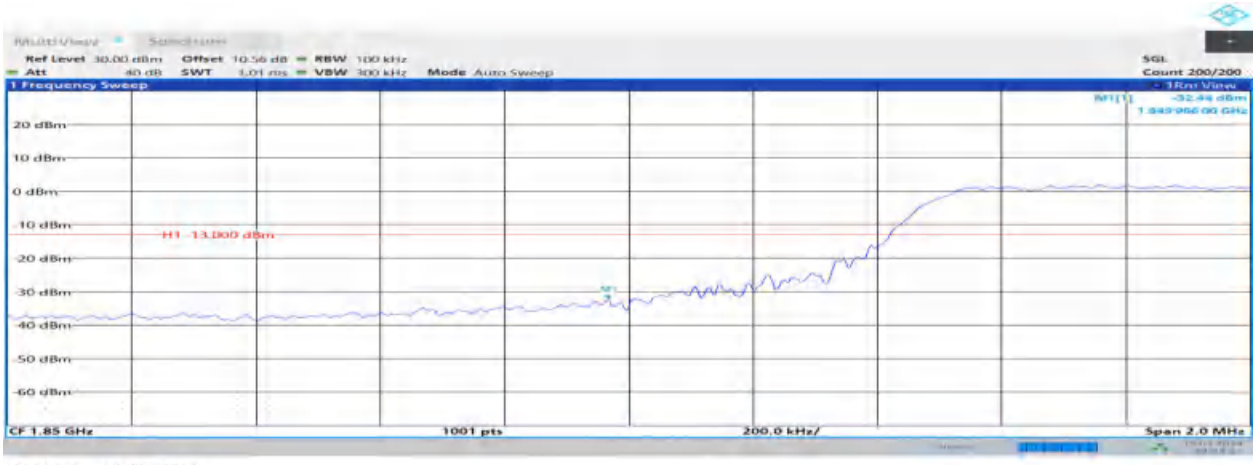

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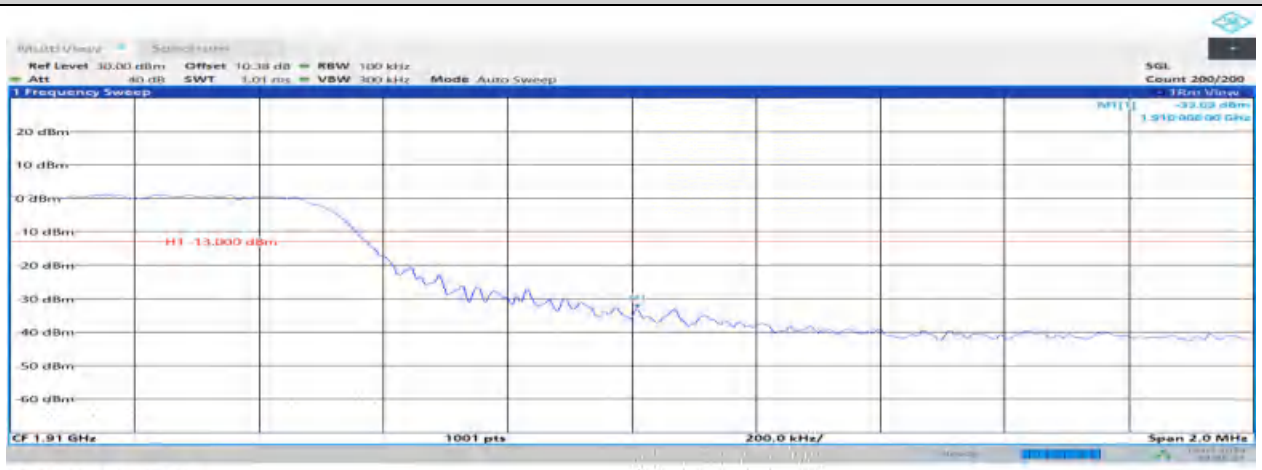

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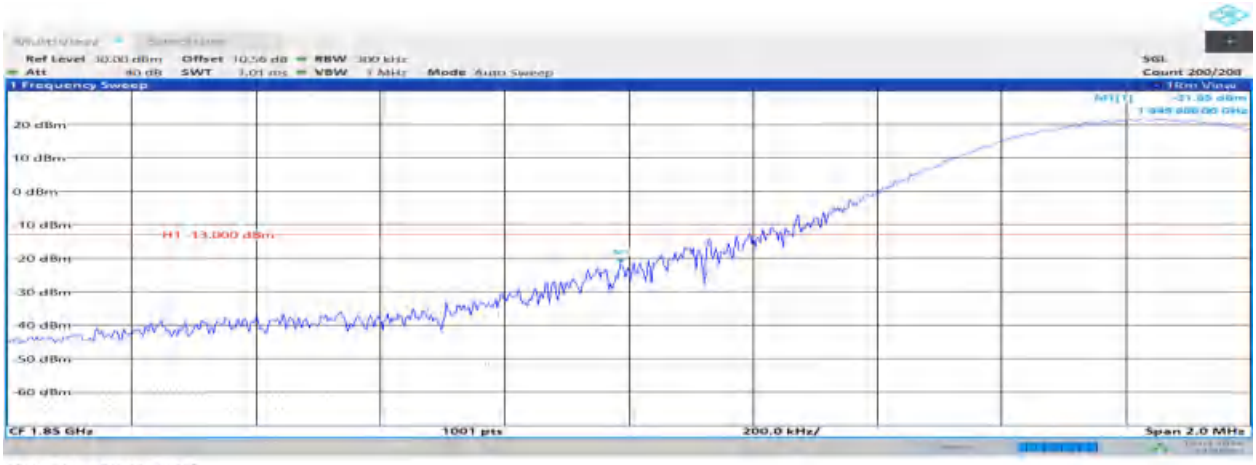
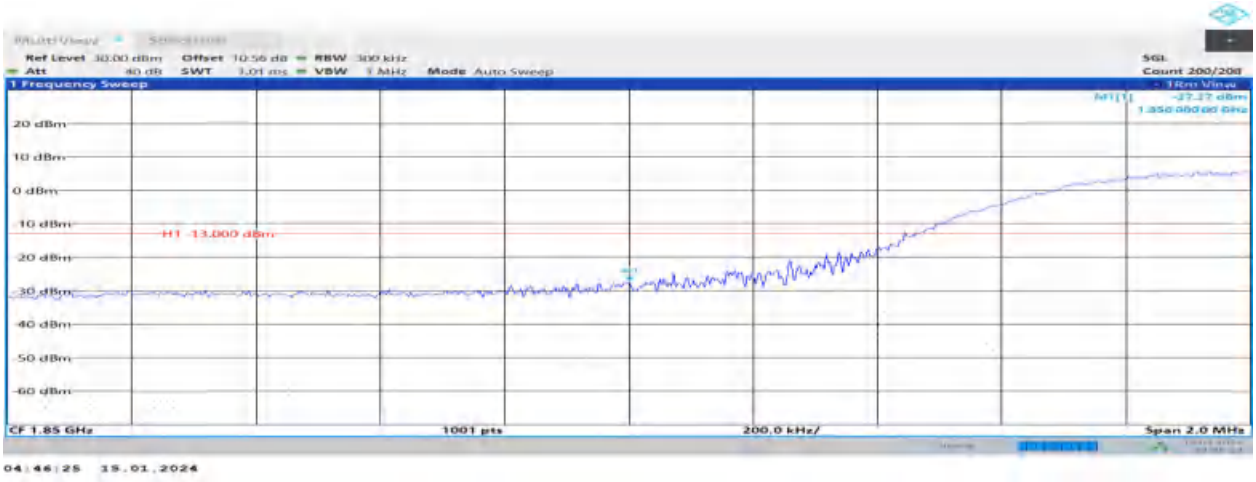


Band2-15MHz-QPSK-18675-75RB#0



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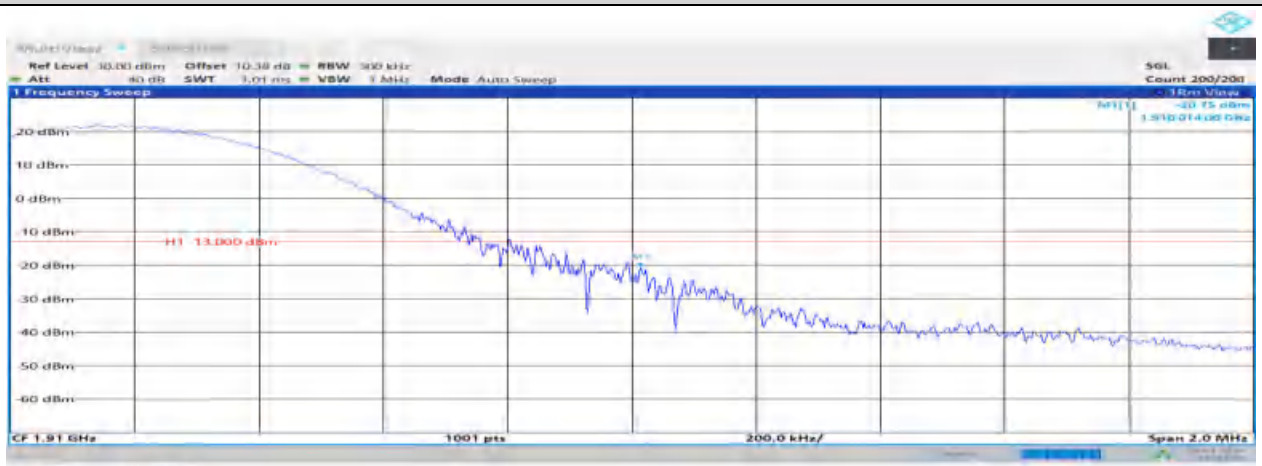

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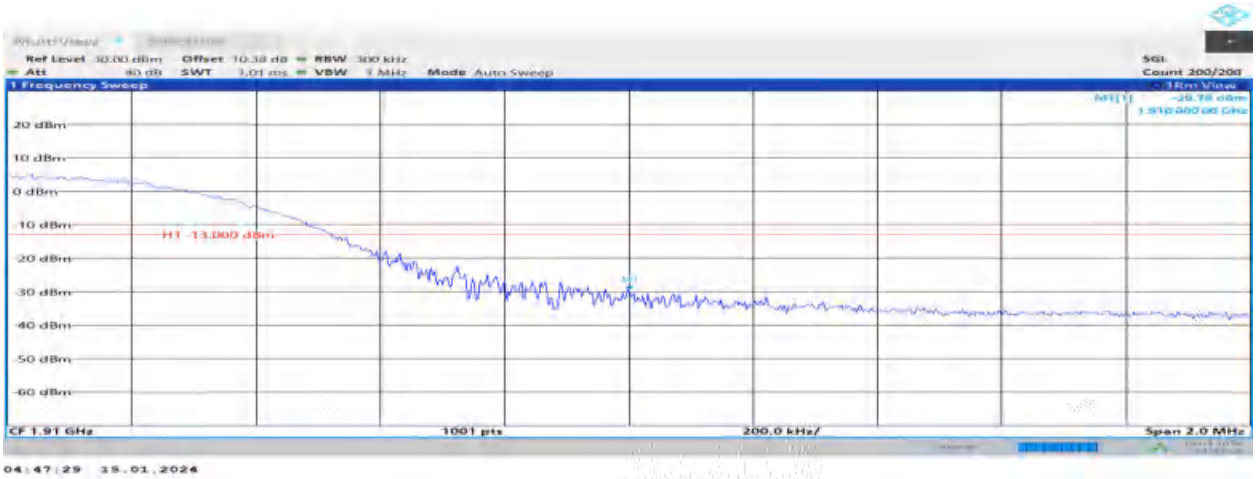
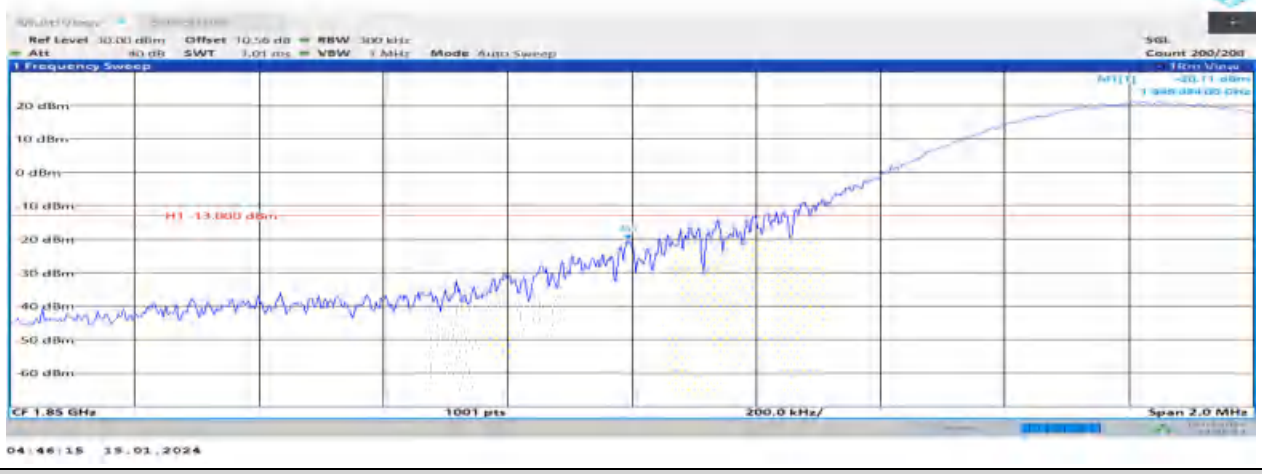
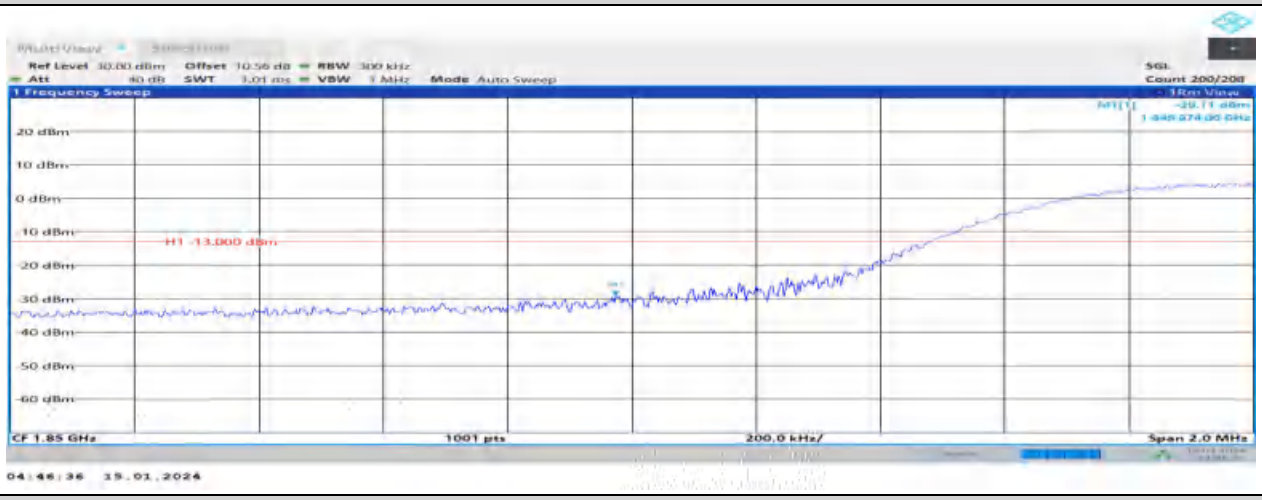


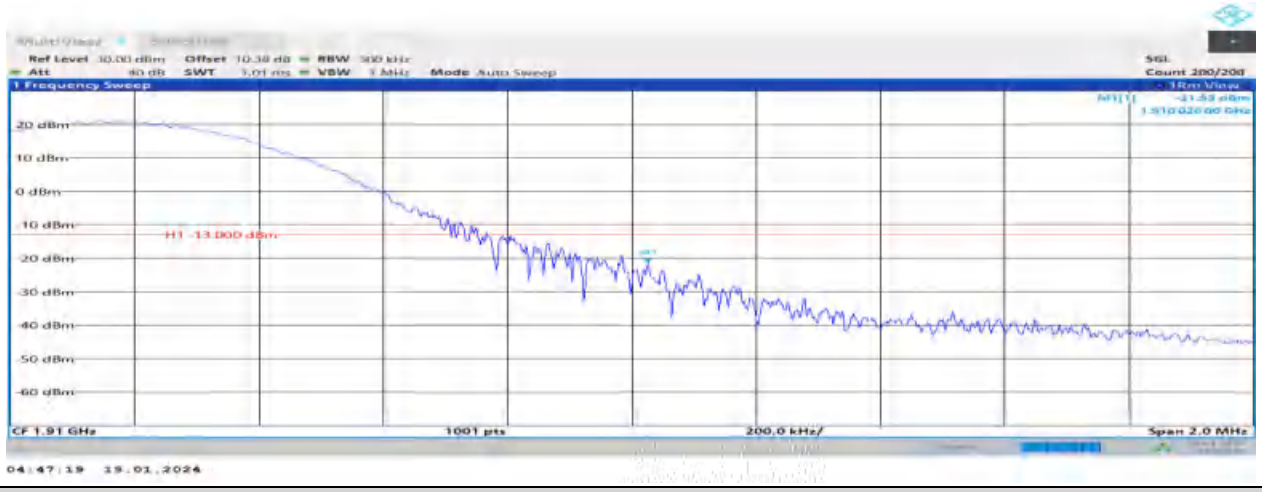
Band2-15MHz-16QAM-18675-1RB#0



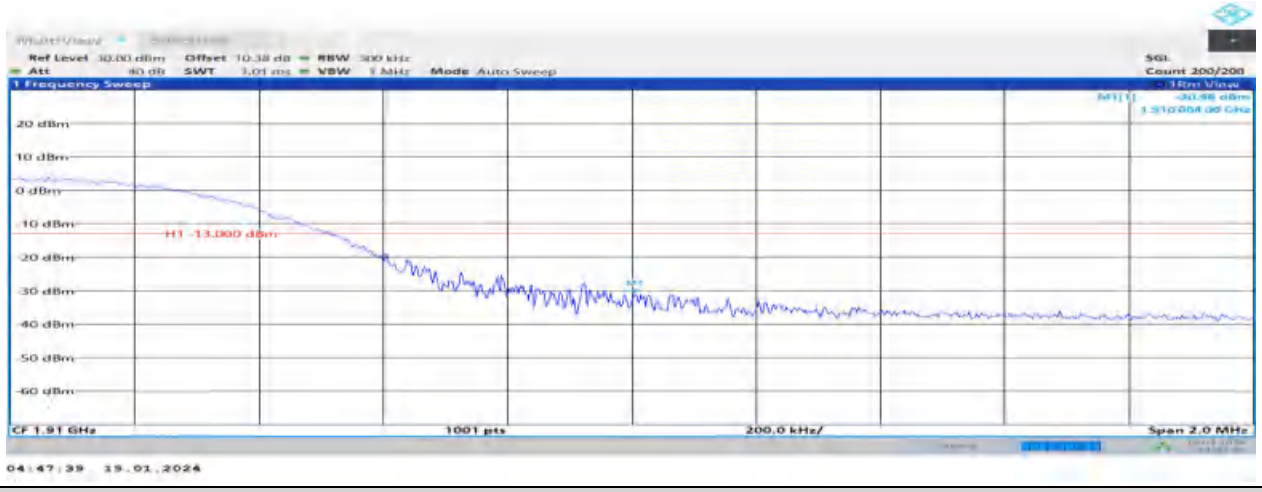
Band2-15MHz-16QAM-18675-75RB#0



Band2-15MHz-16QAM-19125-1RB#74



Band2-15MHz-16QAM-19125-75RB#0



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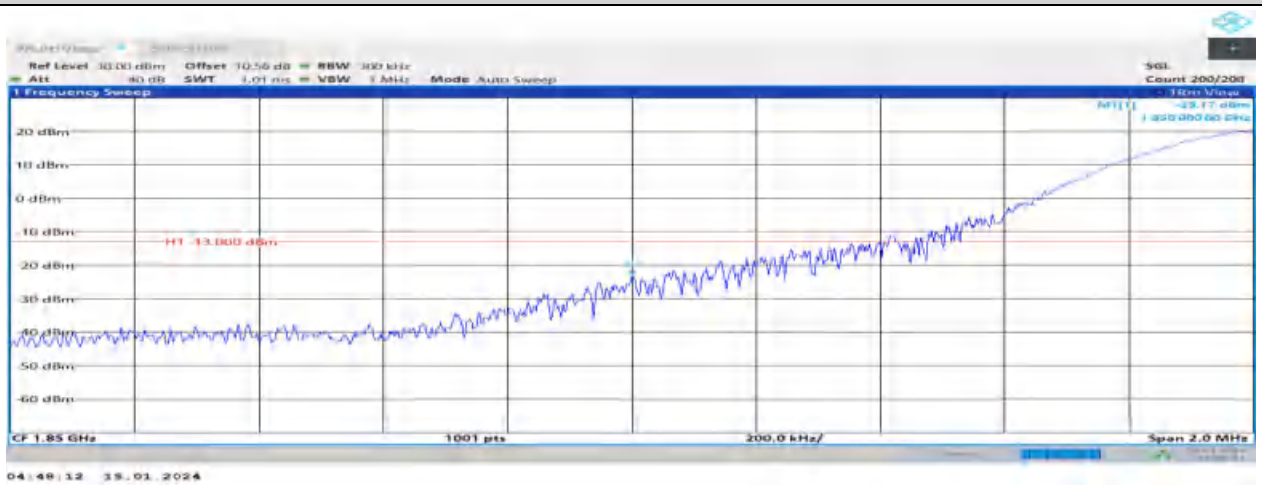

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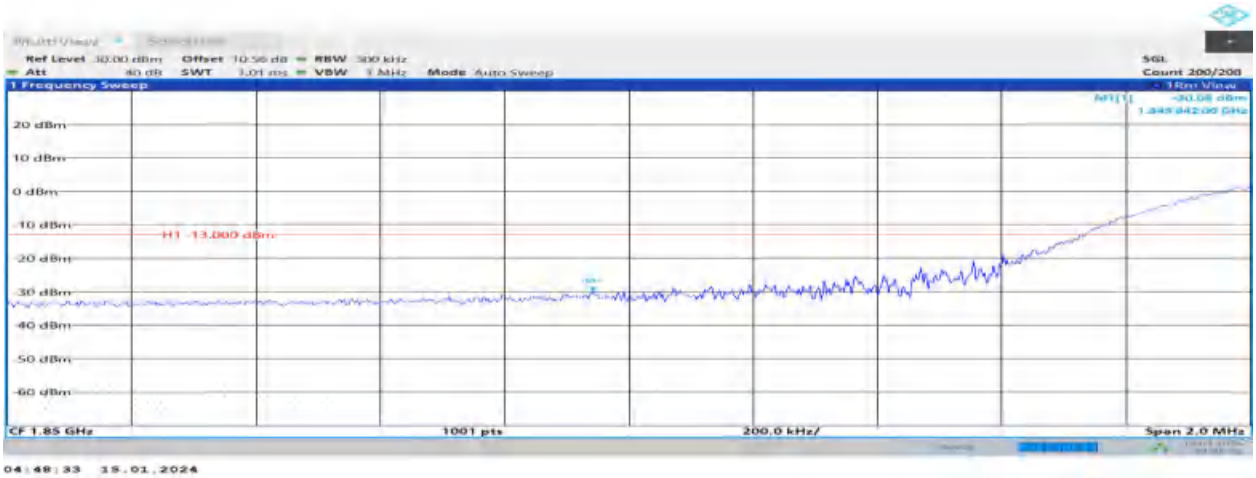
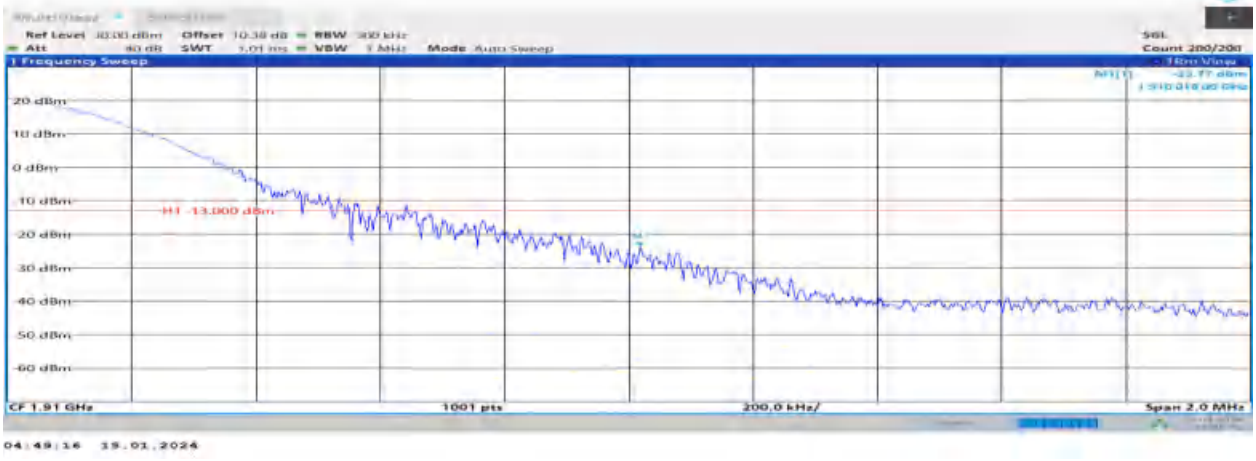
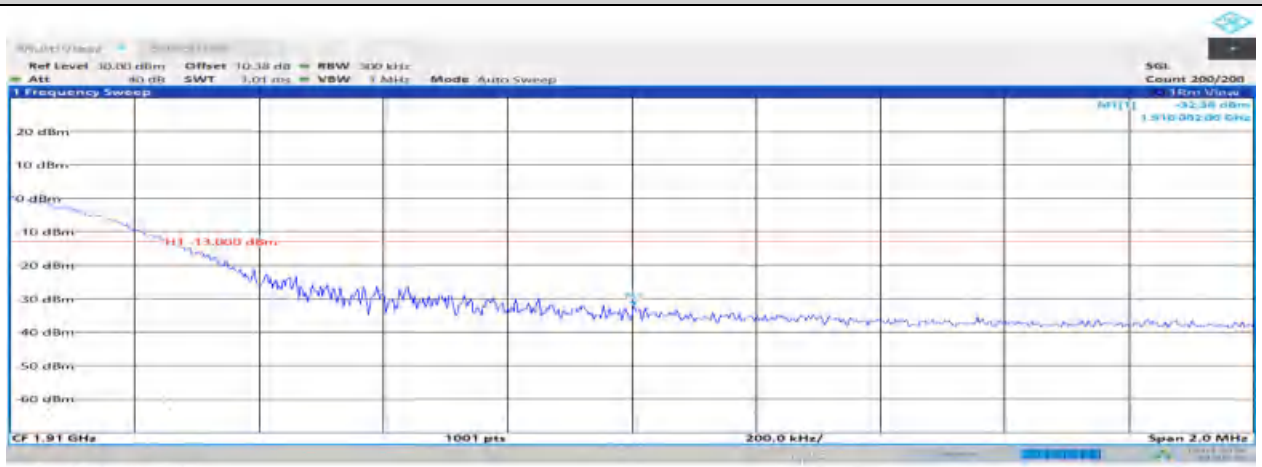


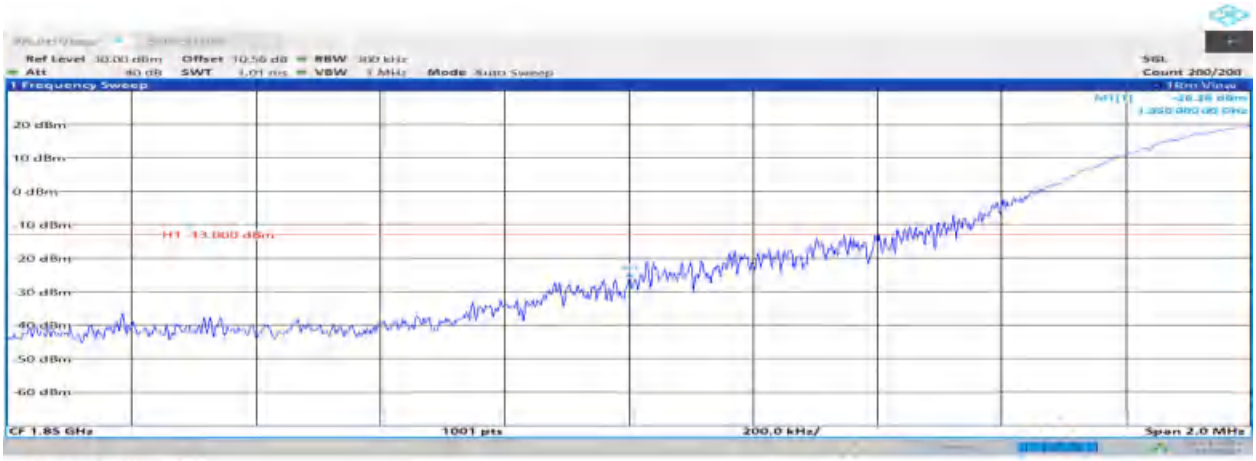
Band2-20MHz-QPSK-19100-1RB#99



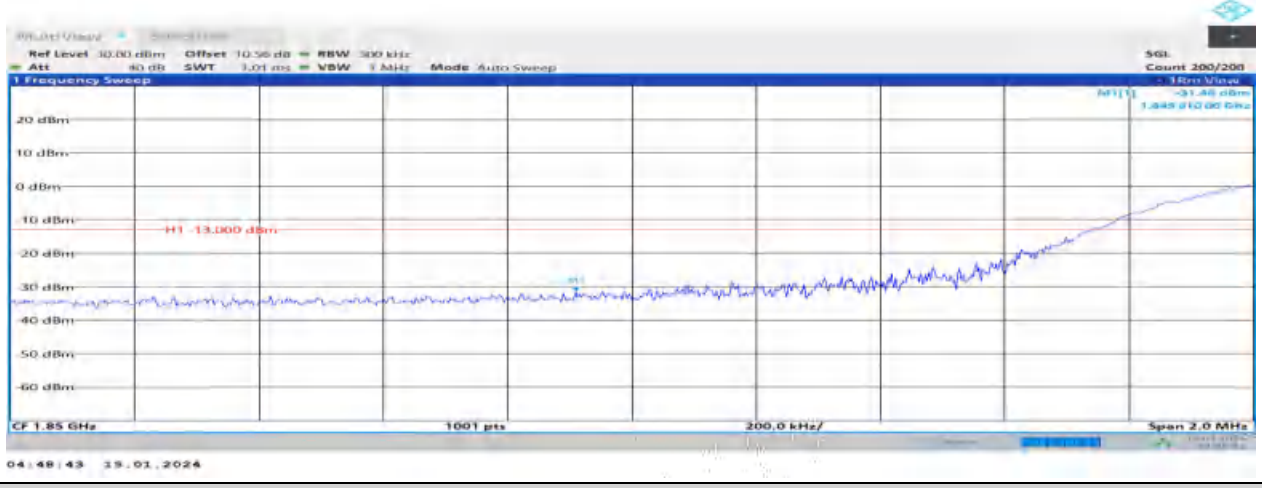
Band2-20MHz-QPSK-19100-100RB#0



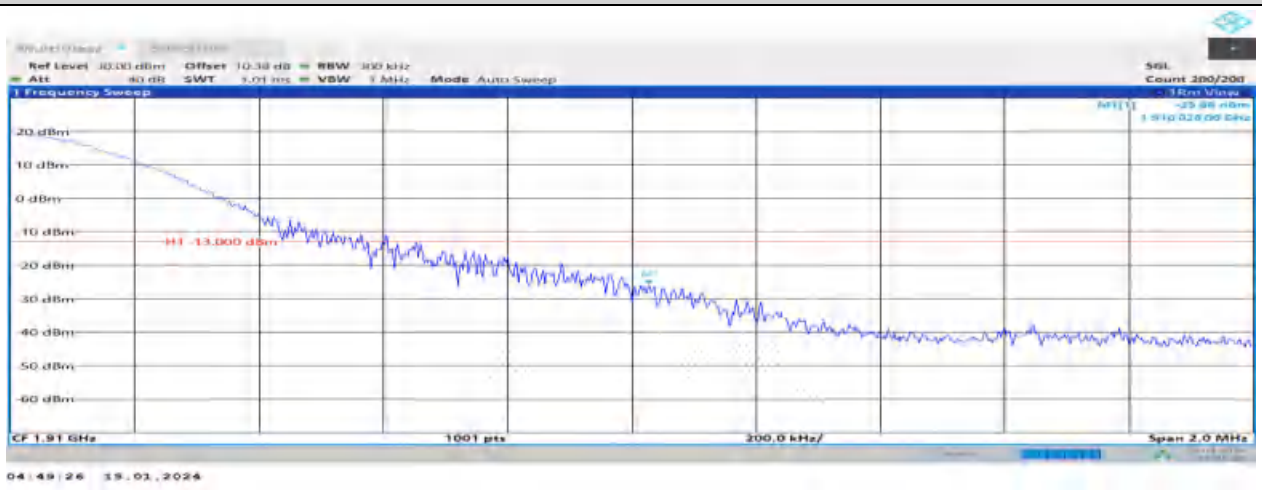
Band2-20MHz-16QAM-18700-1RB#0



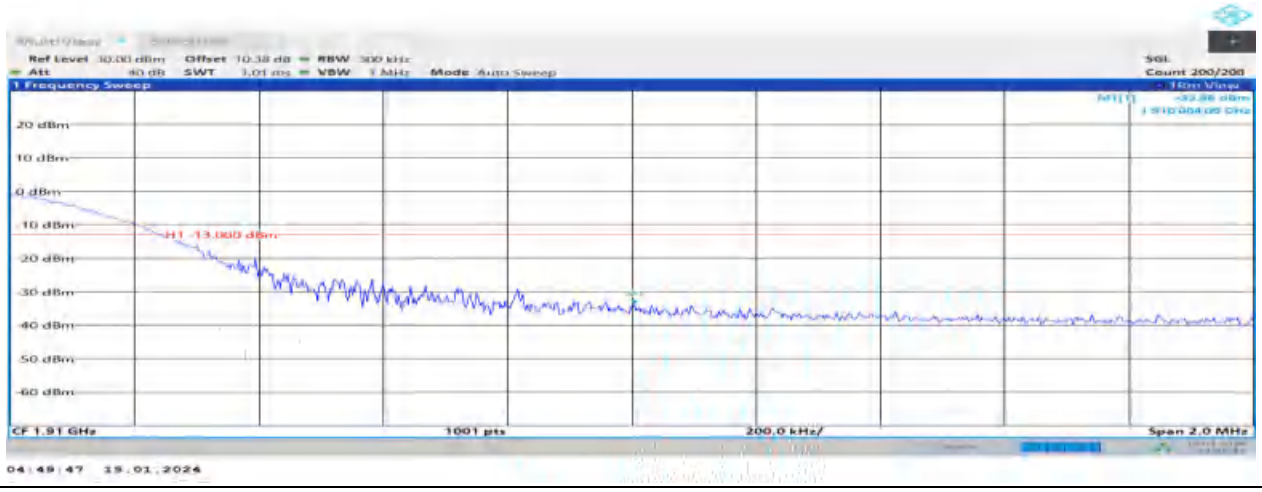
Band2-20MHz-16QAM-18700-100RB#0



Band2-20MHz-16QAM-19100-1RB#99



Band2-20MHz-16QAM-19100-100RB#0



APPENDIX A.5: CONDUCTED SPURIOUS EMISSIONS

Test Result

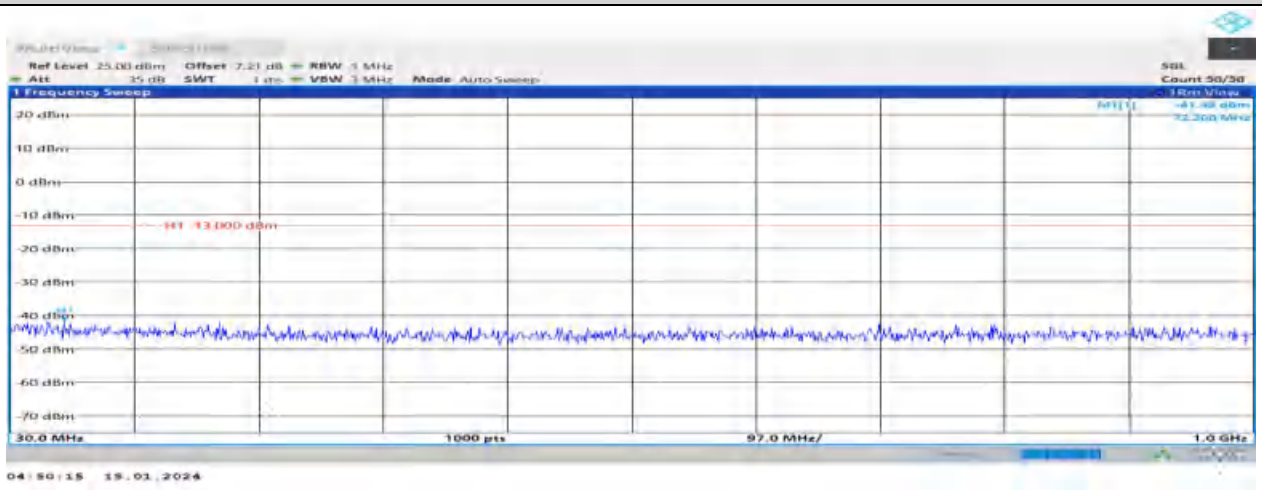
General:

Band	Bandwidth	Modulation	Channel	RB Configuration	Frequency Range	Result (dBm)	Verdict
Band2	20MHz	QPSK	18700	1RB#0	Range1:30~1000MHz	-41.89	PASS
Band2	20MHz	QPSK	18700	1RB#0	Range2:1000~2000MHz	-39.21	PASS
Band2	20MHz	QPSK	18700	1RB#0	Range3:2000~20000MHz	-49.81	PASS
Band2	20MHz	QPSK	18900	1RB#0	Range1:30~1000MHz	-42.12	PASS
Band2	20MHz	QPSK	18900	1RB#0	Range2:1000~2000MHz	-39.03	PASS
Band2	20MHz	QPSK	18900	1RB#0	Range3:2000~20000MHz	-50.48	PASS
Band2	20MHz	QPSK	19100	1RB#0	Range1:30~1000MHz	-40.9	PASS
Band2	20MHz	QPSK	19100	1RB#0	Range2:1000~2000MHz	-39.4	PASS
Band2	20MHz	QPSK	19100	1RB#0	Range3:2000~20000MHz	-50.55	PASS
Band2	20MHz	16QAM	18700	1RB#0	Range1:30~1000MHz	-41.52	PASS
Band2	20MHz	16QAM	18700	1RB#0	Range2:1000~2000MHz	-38.44	PASS
Band2	20MHz	16QAM	18700	1RB#0	Range3:2000~20000MHz	-49.99	PASS
Band2	20MHz	16QAM	18900	1RB#0	Range1:30~1000MHz	-41.21	PASS
Band2	20MHz	16QAM	18900	1RB#0	Range2:1000~2000MHz	-39.74	PASS
Band2	20MHz	16QAM	18900	1RB#0	Range3:2000~20000MHz	-50.32	PASS
Band2	20MHz	16QAM	19100	1RB#0	Range1:30~1000MHz	-41.56	PASS
Band2	20MHz	16QAM	19100	1RB#0	Range2:1000~2000MHz	-38.89	PASS
Band2	20MHz	16QAM	19100	1RB#0	Range3:2000~20000MHz	-50.32	PASS

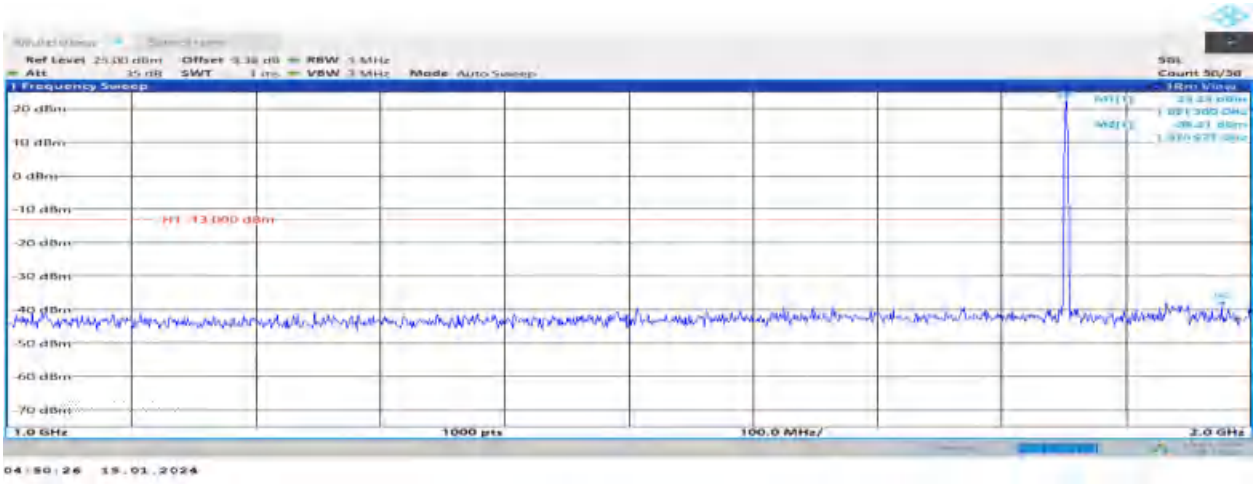
Test Graphs

General:

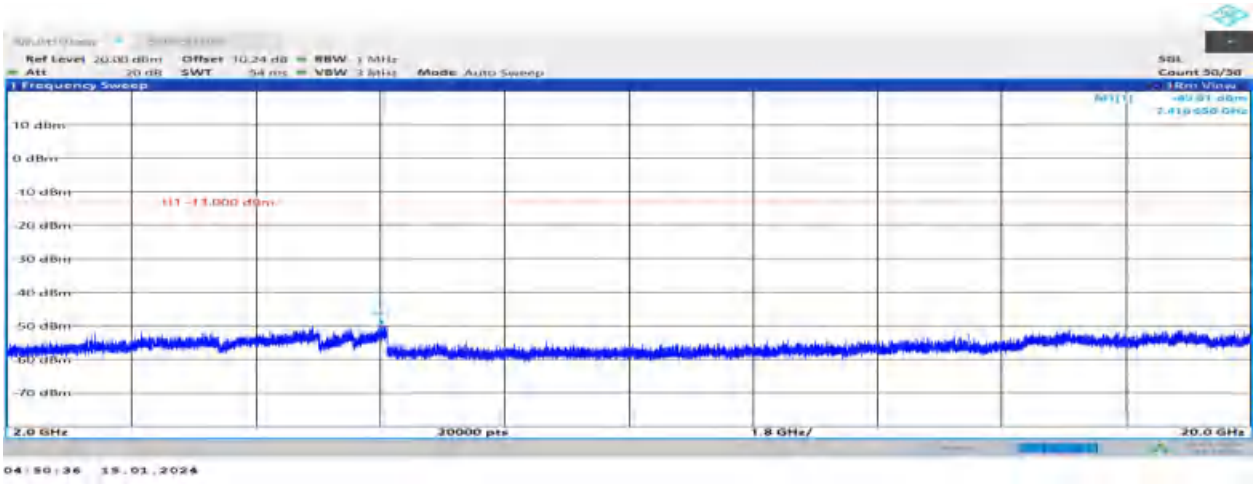
Band2-20MHz-QPSK-18700-1RB#0-Range1:30~1000MHz



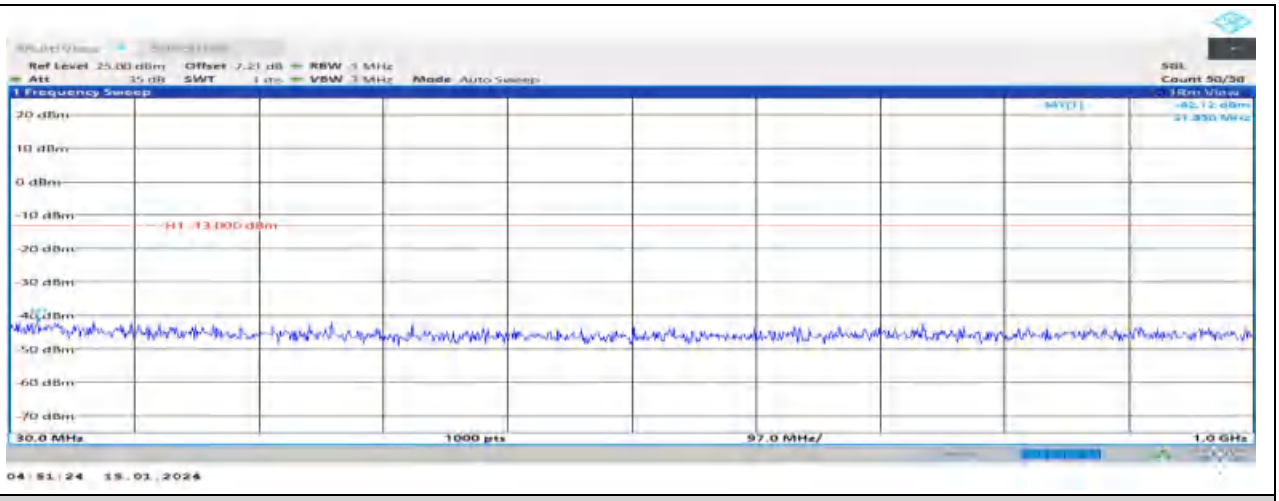
Band2-20MHz-QPSK-18700-1RB#0-Range2:1000~2000MHz



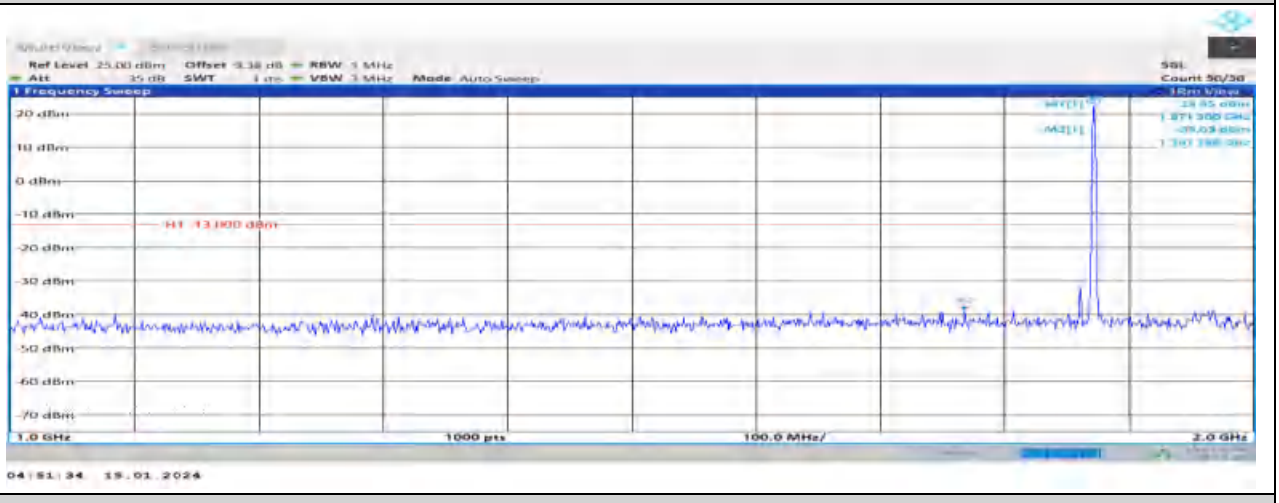
Band2-20MHz-QPSK-18700-1RB#0-Range3:2000~20000MHz



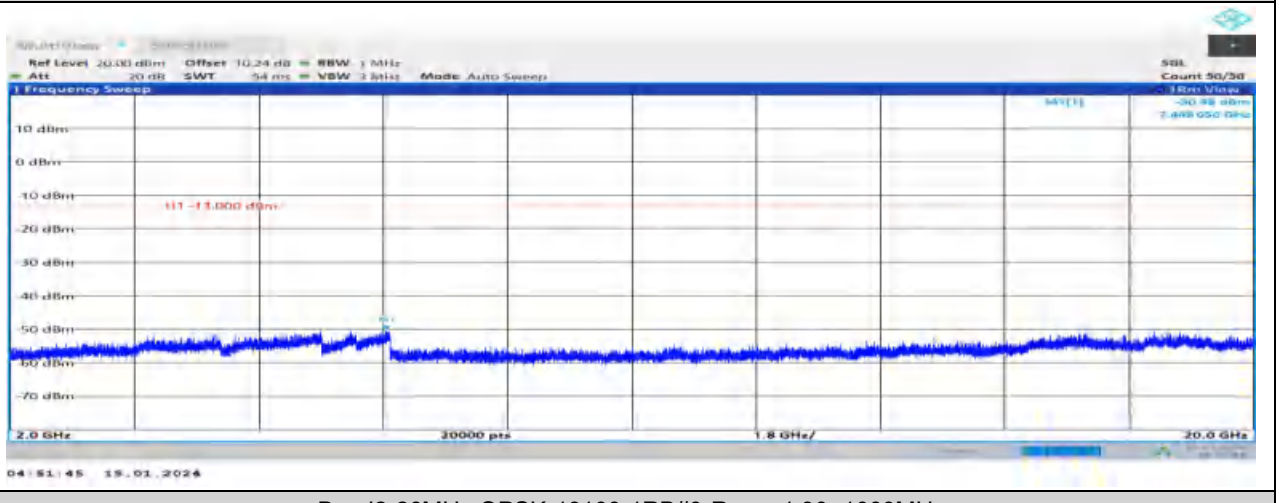
Band2-20MHz-QPSK-18900-1RB#0-Range1:30~1000MHz



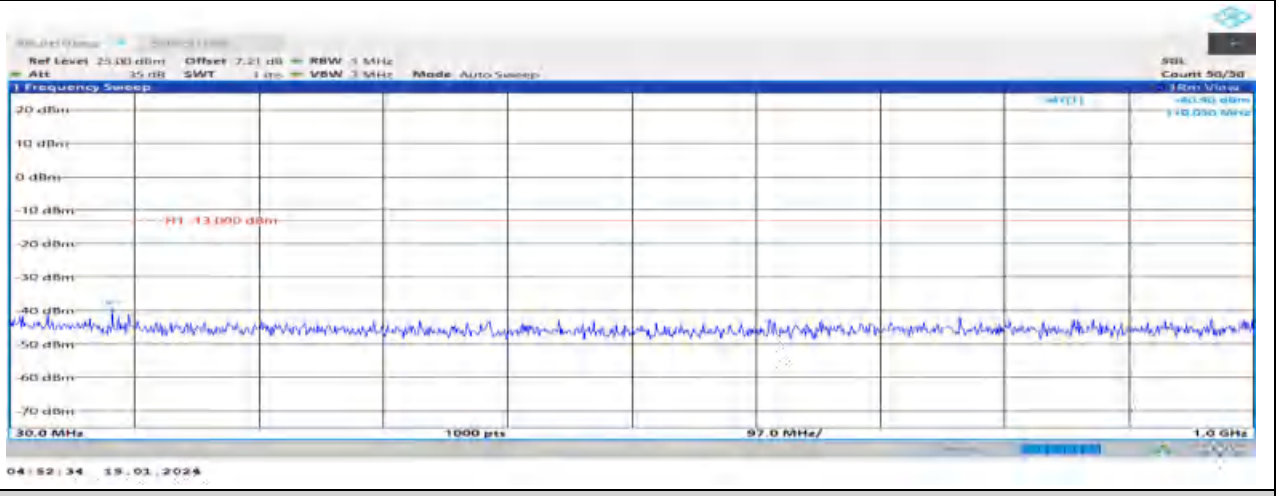
Band2-20MHz-QPSK-18900-1RB#0-Range2:1000~2000MHz



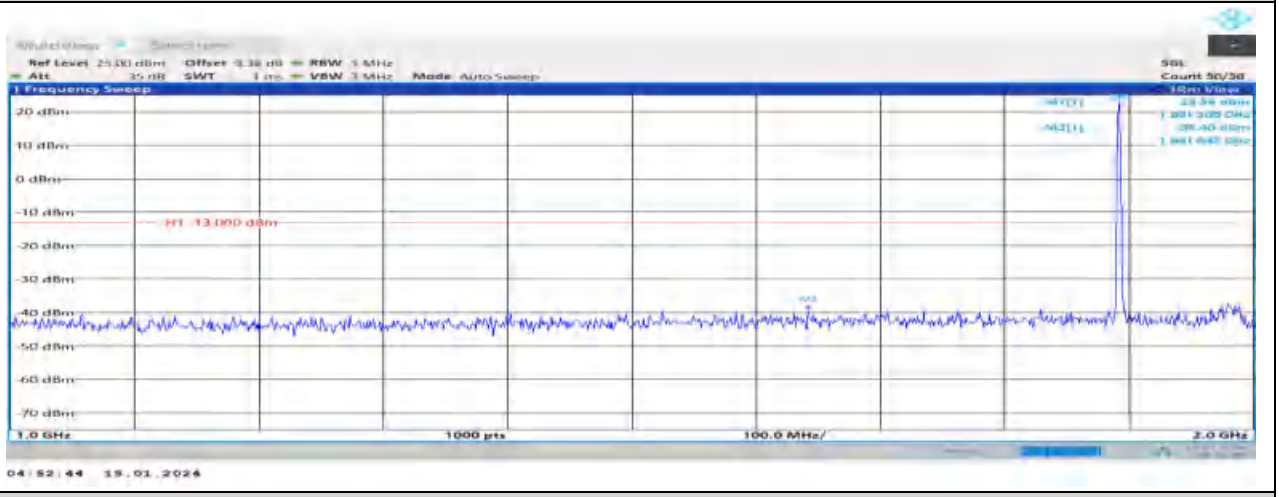
Band2-20MHz-QPSK-18900-1RB#0-Range3:2000~20000MHz



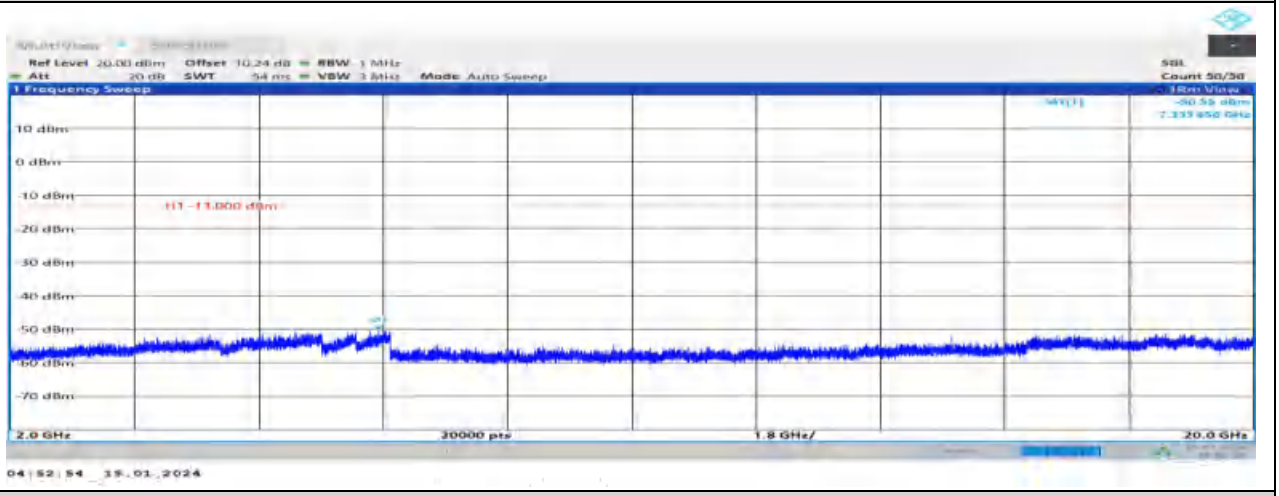
Band2-20MHz-QPSK-19100-1RB#0-Range1:30~1000MHz



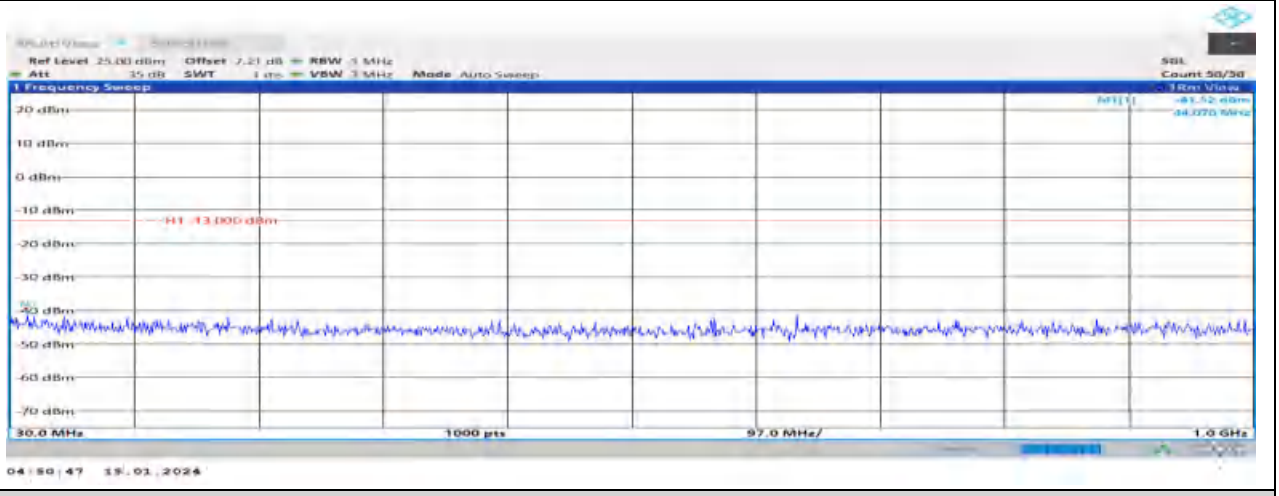
Band2-20MHz-QPSK-19100-1RB#0-Range2:1000~2000MHz



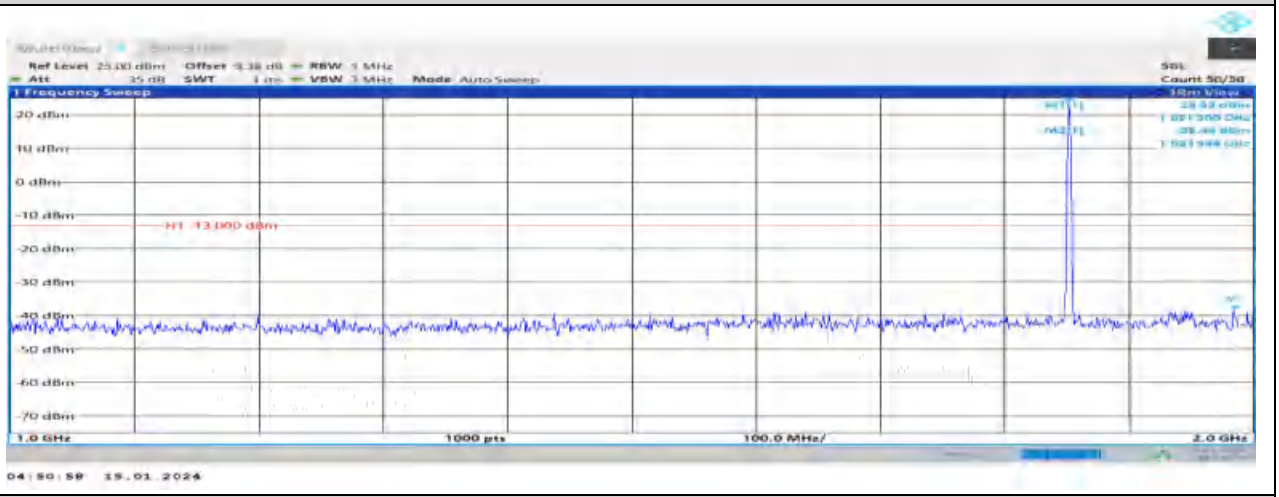
Band2-20MHz-QPSK-19100-1RB#0-Range3:2000~20000MHz



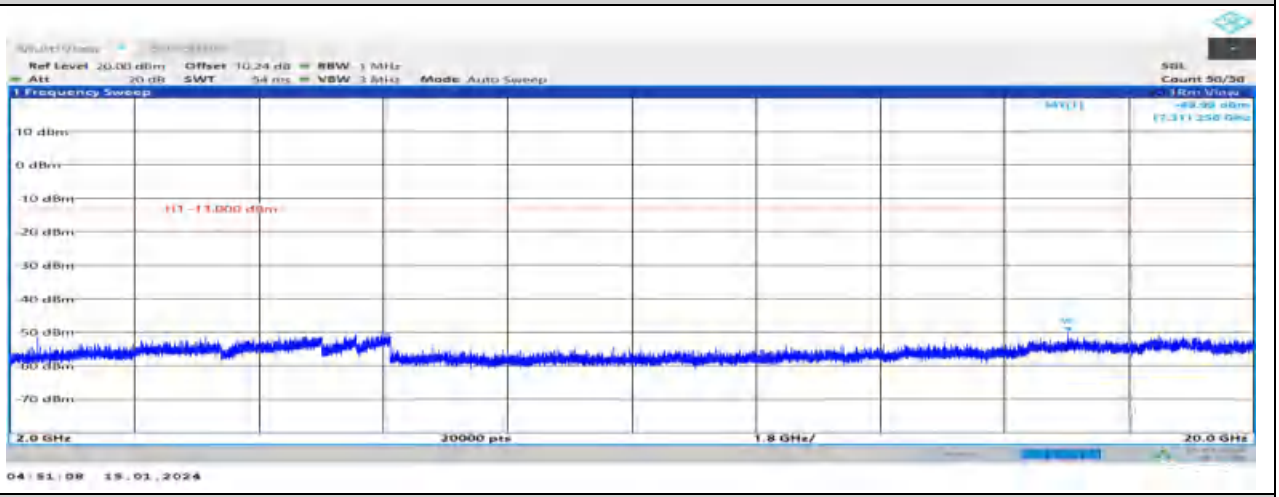
Band2-20MHz-16QAM-18700-1RB#0-Range1:30~1000MHz



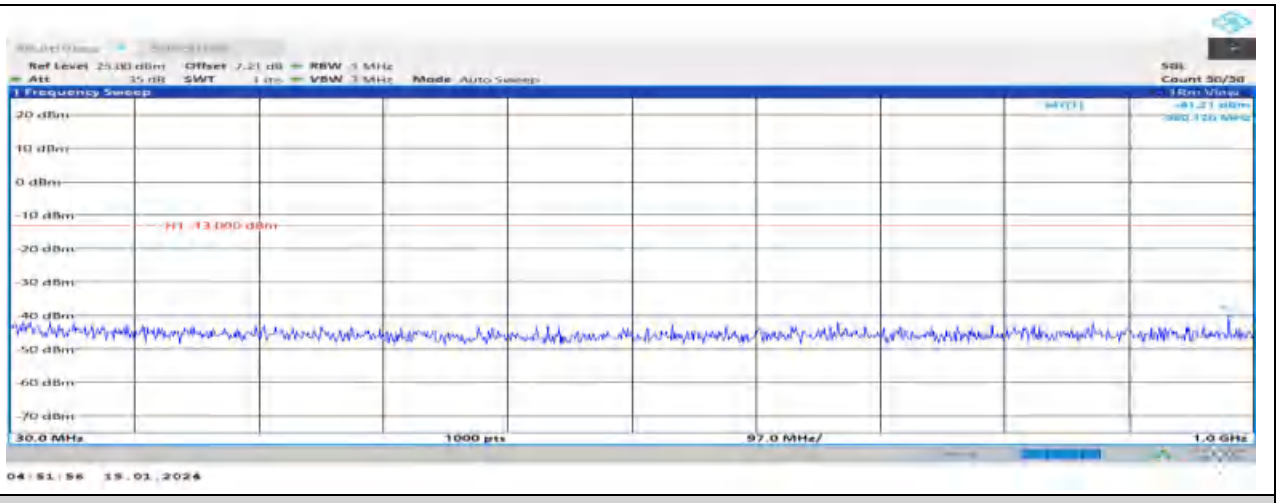
Band2-20MHz-16QAM-18700-1RB#0-Range2:1000~2000MHz



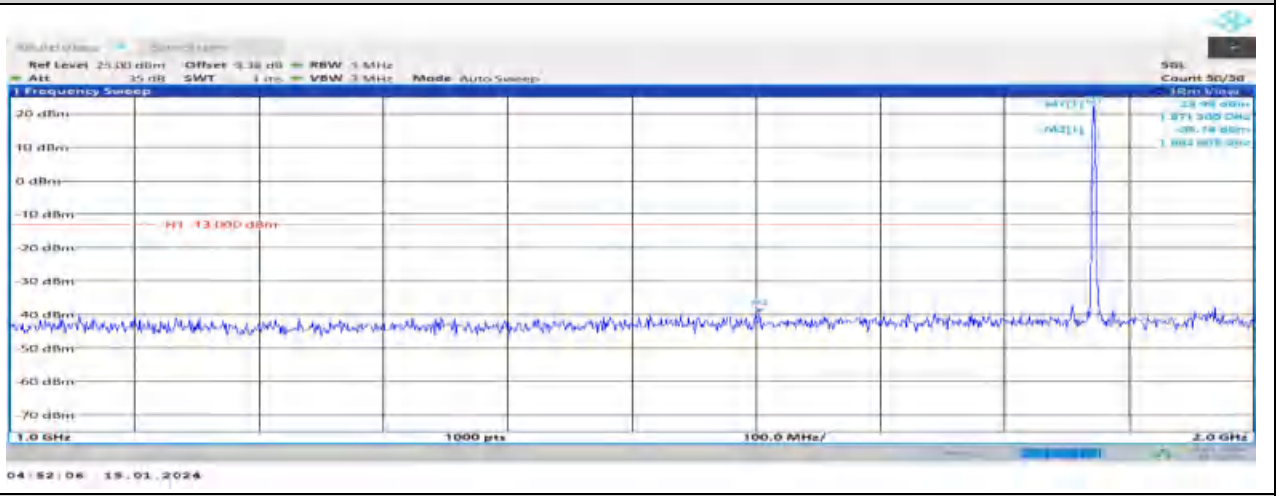
Band2-20MHz-16QAM-18700-1RB#0-Range3:2000~20000MHz



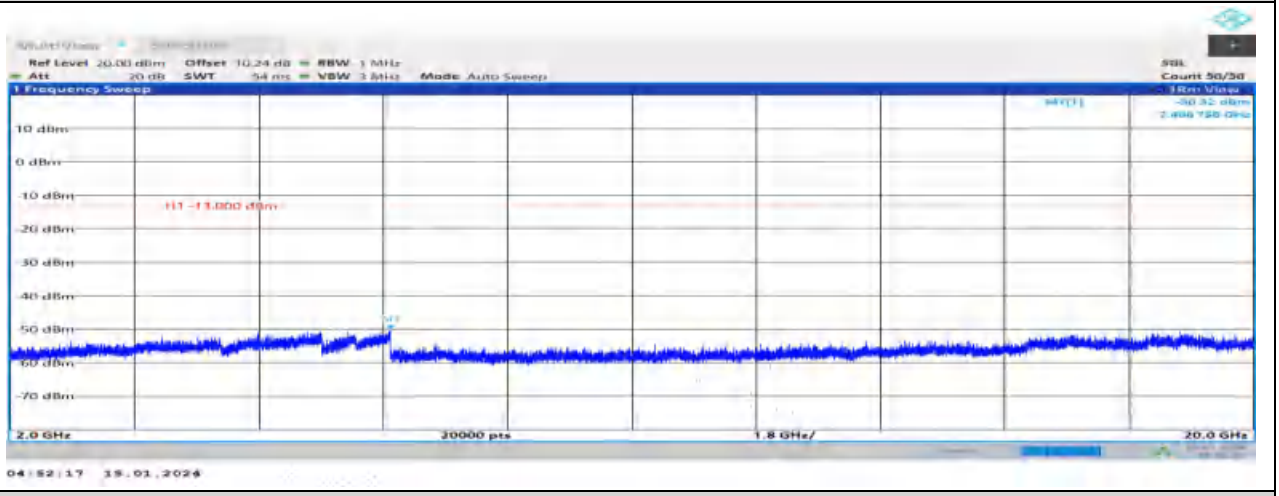
Band2-20MHz-16QAM-18900-1RB#0-Range1:30~1000MHz



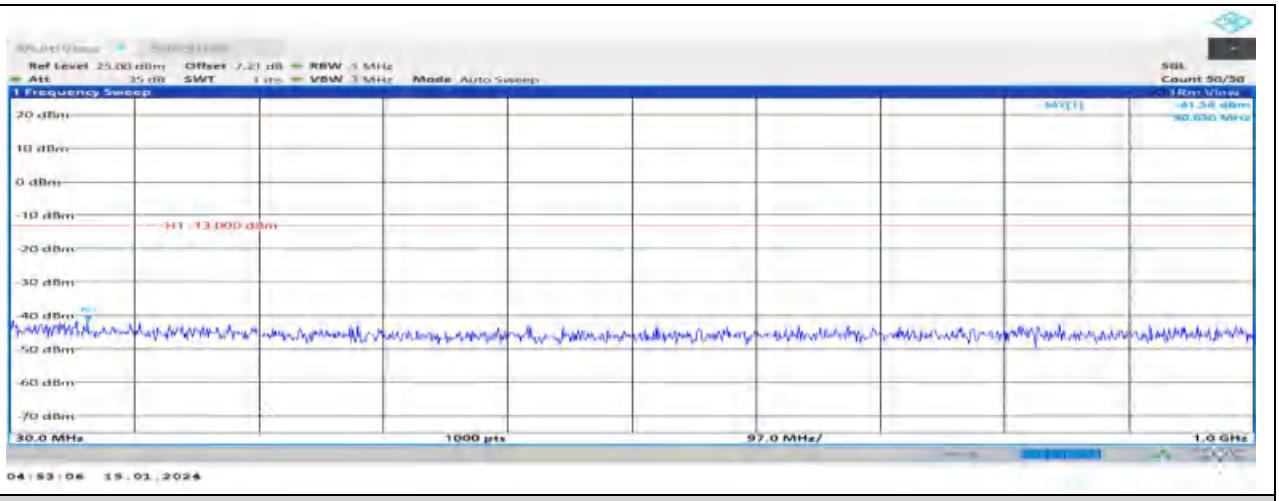
Band2-20MHz-16QAM-18900-1RB#0-Range2:1000~2000MHz



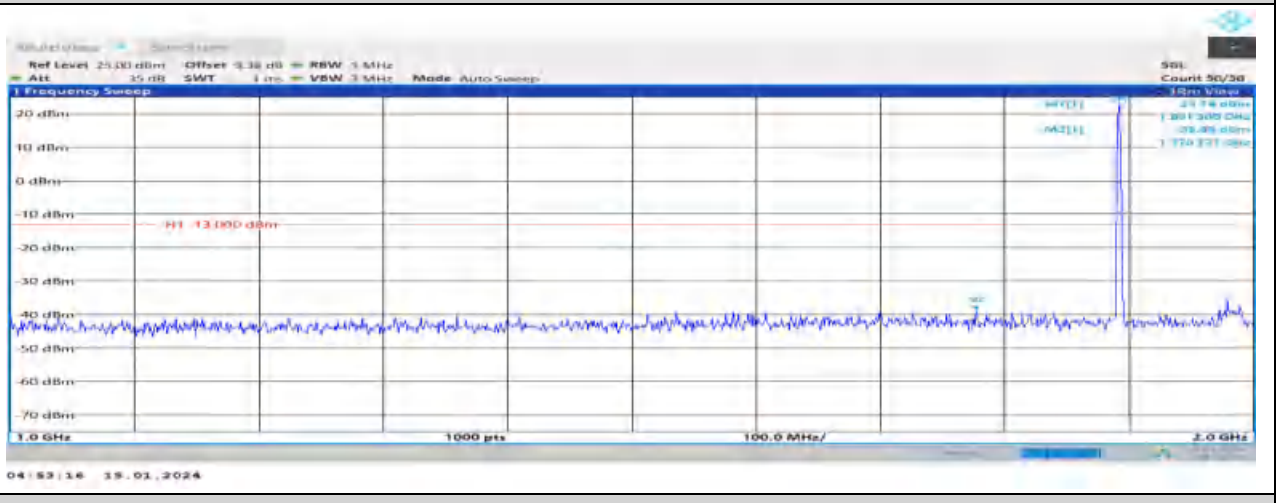
Band2-20MHz-16QAM-18900-1RB#0-Range3:2000~20000MHz



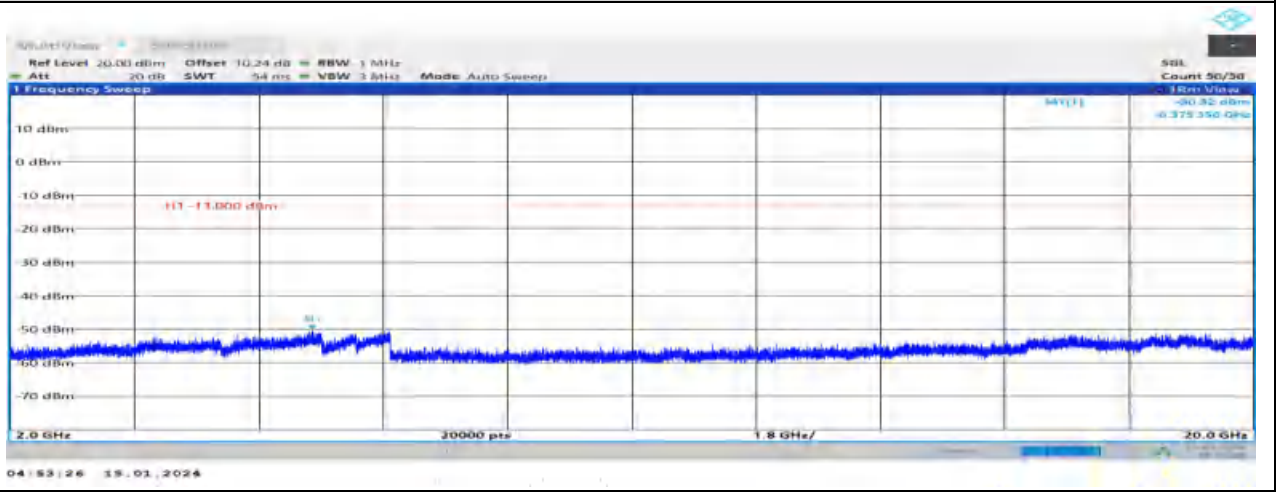
Band2-20MHz-16QAM-19100-1RB#0-Range1:30~1000MHz



Band2-20MHz-16QAM-19100-1RB#0-Range2:1000~2000MHz



Band2-20MHz-16QAM-19100-1RB#0-Range3:2000~20000MHz



APPENDIX A.6: FREQUENCY STABILITY

Test Result

Voltage										
Band	Bandwidth	Modulation	Channel	RB Configure	Voltage	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band2	20MHz	QPSK	18700	100RB#0	VL	NT	-4.51	-0.002425	±2.5	PASS
Band2	20MHz	QPSK	18700	100RB#0	VN	NT	2.59	0.001392	±2.5	PASS
Band2	20MHz	QPSK	18700	100RB#0	VH	NT	-3.12	-0.001677	±2.5	PASS
Band2	20MHz	QPSK	18900	100RB#0	VL	NT	-3.35	-0.001782	±2.5	PASS
Band2	20MHz	QPSK	18900	100RB#0	VN	NT	-1.72	-0.000915	±2.5	PASS
Band2	20MHz	QPSK	18900	100RB#0	VH	NT	-2.86	-0.001521	±2.5	PASS
Band2	20MHz	QPSK	19100	100RB#0	VL	NT	3.12	0.001642	±2.5	PASS
Band2	20MHz	QPSK	19100	100RB#0	VN	NT	3.76	0.001979	±2.5	PASS
Band2	20MHz	QPSK	19100	100RB#0	VH	NT	-4.72	-0.002484	±2.5	PASS
Band2	20MHz	16QAM	18700	100RB#0	VL	NT	-2.80	-0.001505	±2.5	PASS
Band2	20MHz	16QAM	18700	100RB#0	VN	NT	-3.33	-0.001790	±2.5	PASS
Band2	20MHz	16QAM	18700	100RB#0	VH	NT	-4.63	-0.002489	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	VL	NT	-3.55	-0.001888	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	VN	NT	2.92	0.001553	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	VH	NT	-3.42	-0.001819	±2.5	PASS
Band2	20MHz	16QAM	19100	100RB#0	VL	NT	2.80	0.001474	±2.5	PASS
Band2	20MHz	16QAM	19100	100RB#0	VN	NT	3.81	0.002005	±2.5	PASS
Band2	20MHz	16QAM	19100	100RB#0	VH	NT	2.07	0.001089	±2.5	PASS

Temperature										
Band	Bandwidth	Modulation	Channel	RB Configure	Voltage	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band2	20MHz	QPSK	18700	100RB#0	NV	-30	-3.25	-0.001747	±2.5	PASS
Band2	20MHz	QPSK	18700	100RB#0	NV	-20	-2.55	-0.001371	±2.5	PASS
Band2	20MHz	QPSK	18700	100RB#0	NV	0	-2.39	-0.001285	±2.5	PASS
Band2	20MHz	QPSK	18700	100RB#0	NV	10	-4.02	-0.002161	±2.5	PASS
Band2	20MHz	QPSK	18700	100RB#0	NV	20	-2.47	-0.001328	±2.5	PASS
Band2	20MHz	QPSK	18700	100RB#0	NV	30	3.26	0.001753	±2.5	PASS
Band2	20MHz	QPSK	18700	100RB#0	NV	40	-3.68	-0.001978	±2.5	PASS
Band2	20MHz	QPSK	18700	100RB#0	NV	50	2.17	0.001167	±2.5	PASS
Band2	20MHz	QPSK	18700	100RB#0	NV	55	3.09	0.001661	±2.5	PASS
Band2	20MHz	QPSK	18700	100RB#0	NV	60	2.55	0.001371	±2.5	PASS
Band2	20MHz	QPSK	18700	100RB#0	NV	70	-1.66	-0.000892	±2.5	PASS
Band2	20MHz	QPSK	18700	100RB#0	NV	75	-5.21	-0.002801	±2.5	PASS
Band2	20MHz	QPSK	18900	100RB#0	NV	-30	-3.59	-0.001910	±2.5	PASS
Band2	20MHz	QPSK	18900	100RB#0	NV	-20	2.36	0.001255	±2.5	PASS
Band2	20MHz	QPSK	18900	100RB#0	NV	0	-3.33	-0.001771	±2.5	PASS
Band2	20MHz	QPSK	18900	100RB#0	NV	10	-3.48	-0.001851	±2.5	PASS
Band2	20MHz	QPSK	18900	100RB#0	NV	20	-2.19	-0.001165	±2.5	PASS
Band2	20MHz	QPSK	18900	100RB#0	NV	30	2.90	0.001543	±2.5	PASS
Band2	20MHz	QPSK	18900	100RB#0	NV	40	-3.83	-0.002037	±2.5	PASS

Band2	20MHz	QPSK	18900	100RB#0	NV	50	3.40	0.001809	±2.5	PASS
Band2	20MHz	QPSK	18900	100RB#0	NV	55	-3.38	-0.001798	±2.5	PASS
Band2	20MHz	QPSK	18900	100RB#0	NV	60	-2.92	-0.001553	±2.5	PASS
Band2	20MHz	QPSK	18900	100RB#0	NV	70	-2.56	-0.001362	±2.5	PASS
Band2	20MHz	QPSK	18900	100RB#0	NV	75	-3.13	-0.001665	±2.5	PASS
Band2	20MHz	QPSK	19100	100RB#0	NV	-30	4.73	0.002489	±2.5	PASS
Band2	20MHz	QPSK	19100	100RB#0	NV	-20	-2.19	-0.001153	±2.5	PASS
Band2	20MHz	QPSK	19100	100RB#0	NV	0	2.29	0.001205	±2.5	PASS
Band2	20MHz	QPSK	19100	100RB#0	NV	10	3.96	0.002084	±2.5	PASS
Band2	20MHz	QPSK	19100	100RB#0	NV	20	2.76	0.001453	±2.5	PASS
Band2	20MHz	QPSK	19100	100RB#0	NV	30	4.82	0.002537	±2.5	PASS
Band2	20MHz	QPSK	19100	100RB#0	NV	40	2.29	0.001205	±2.5	PASS
Band2	20MHz	QPSK	19100	100RB#0	NV	50	2.36	0.001242	±2.5	PASS
Band2	20MHz	QPSK	19100	100RB#0	NV	55	4.02	0.002116	±2.5	PASS
Band2	20MHz	QPSK	19100	100RB#0	NV	60	-3.35	-0.001763	±2.5	PASS
Band2	20MHz	QPSK	19100	100RB#0	NV	70	-3.95	-0.002079	±2.5	PASS
Band2	20MHz	QPSK	19100	100RB#0	NV	75	-3.65	-0.001921	±2.5	PASS
Band2	20MHz	16QAM	18700	100RB#0	NV	-30	-5.48	-0.002946	±2.5	PASS
Band2	20MHz	16QAM	18700	100RB#0	NV	-20	-1.80	-0.000968	±2.5	PASS
Band2	20MHz	16QAM	18700	100RB#0	NV	0	-2.03	-0.001091	±2.5	PASS
Band2	20MHz	16QAM	18700	100RB#0	NV	10	-2.53	-0.001360	±2.5	PASS
Band2	20MHz	16QAM	18700	100RB#0	NV	20	-3.48	-0.001871	±2.5	PASS
Band2	20MHz	16QAM	18700	100RB#0	NV	30	-3.38	-0.001817	±2.5	PASS
Band2	20MHz	16QAM	18700	100RB#0	NV	40	-3.53	-0.001898	±2.5	PASS
Band2	20MHz	16QAM	18700	100RB#0	NV	50	-3.35	-0.001801	±2.5	PASS
Band2	20MHz	16QAM	18700	100RB#0	NV	55	-3.60	-0.001935	±2.5	PASS
Band2	20MHz	16QAM	18700	100RB#0	NV	60	-4.75	-0.002554	±2.5	PASS
Band2	20MHz	16QAM	18700	100RB#0	NV	70	3.68	0.001978	±2.5	PASS
Band2	20MHz	16QAM	18700	100RB#0	NV	75	-4.62	-0.002484	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	NV	-30	-3.76	-0.002000	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	NV	-20	-3.29	-0.001750	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	NV	0	-1.52	-0.000809	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	NV	10	-2.47	-0.001314	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	NV	20	-4.22	-0.002245	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	NV	30	1.95	0.001037	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	NV	40	-2.13	-0.001133	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	NV	50	-3.46	-0.001840	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	NV	55	-3.28	-0.001745	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	NV	60	2.30	0.001223	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	NV	70	-1.76	-0.000936	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	NV	75	-3.09	-0.001644	±2.5	PASS
Band2	20MHz	16QAM	19100	100RB#0	NV	-30	1.37	0.000721	±2.5	PASS
Band2	20MHz	16QAM	19100	100RB#0	NV	-20	3.85	0.002026	±2.5	PASS
Band2	20MHz	16QAM	19100	100RB#0	NV	0	3.10	0.001632	±2.5	PASS
Band2	20MHz	16QAM	19100	100RB#0	NV	10	-2.57	-0.001353	±2.5	PASS
Band2	20MHz	16QAM	19100	100RB#0	NV	20	-1.83	-0.000963	±2.5	PASS
Band2	20MHz	16QAM	19100	100RB#0	NV	30	4.48	0.002358	±2.5	PASS
Band2	20MHz	16QAM	19100	100RB#0	NV	40	3.45	0.001816	±2.5	PASS
Band2	20MHz	16QAM	19100	100RB#0	NV	50	-3.10	-0.001632	±2.5	PASS

Band2	20MHz	16QAM	19100	100RB#0	NV	55	4.45	0.002342	±2.5	PASS
Band2	20MHz	16QAM	19100	100RB#0	NV	60	3.93	0.002068	±2.5	PASS
Band2	20MHz	16QAM	19100	100RB#0	NV	70	2.07	0.001089	±2.5	PASS
Band2	20MHz	16QAM	19100	100RB#0	NV	75	2.76	0.001453	±2.5	PASS

APPENDIX B: TEST RESULTS FOR E-UTRA OPERATING BAND 4

APPENDIX B.1 EFFECTIVE (ISOTROPIC) RADIATED POWER

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Conducted Power Result (dBm)	EIRP/ERP (dBm)	Limit (dBm)	Verdict
Band4	1.4MHz	QPSK	19957	1RB#0	22.88	27.88	30.00	PASS
Band4	1.4MHz	QPSK	19957	1RB#2	22.89	27.89	30.00	PASS
Band4	1.4MHz	QPSK	19957	1RB#5	22.92	27.92	30.00	PASS
Band4	1.4MHz	QPSK	19957	3RB#0	22.97	27.97	30.00	PASS
Band4	1.4MHz	QPSK	19957	3RB#1	22.92	27.92	30.00	PASS
Band4	1.4MHz	QPSK	19957	3RB#3	22.93	27.93	30.00	PASS
Band4	1.4MHz	QPSK	19957	6RB#0	21.93	26.93	30.00	PASS
Band4	1.4MHz	QPSK	20175	1RB#0	22.9	27.9	30.00	PASS
Band4	1.4MHz	QPSK	20175	1RB#2	22.94	27.94	30.00	PASS
Band4	1.4MHz	QPSK	20175	1RB#5	22.94	27.94	30.00	PASS
Band4	1.4MHz	QPSK	20175	3RB#0	22.98	27.98	30.00	PASS
Band4	1.4MHz	QPSK	20175	3RB#1	22.93	27.93	30.00	PASS
Band4	1.4MHz	QPSK	20175	3RB#3	22.97	27.97	30.00	PASS
Band4	1.4MHz	QPSK	20175	6RB#0	22	27	30.00	PASS
Band4	1.4MHz	QPSK	20393	1RB#0	22.58	27.58	30.00	PASS
Band4	1.4MHz	QPSK	20393	1RB#2	22.79	27.79	30.00	PASS
Band4	1.4MHz	QPSK	20393	1RB#5	22.75	27.75	30.00	PASS
Band4	1.4MHz	QPSK	20393	3RB#0	22.74	27.74	30.00	PASS
Band4	1.4MHz	QPSK	20393	3RB#1	22.71	27.71	30.00	PASS
Band4	1.4MHz	QPSK	20393	3RB#3	22.78	27.78	30.00	PASS
Band4	1.4MHz	QPSK	20393	6RB#0	21.77	26.77	30.00	PASS
Band4	1.4MHz	16QAM	19957	1RB#0	21.83	26.83	30.00	PASS
Band4	1.4MHz	16QAM	19957	1RB#2	22.04	27.04	30.00	PASS
Band4	1.4MHz	16QAM	19957	1RB#5	21.93	26.93	30.00	PASS
Band4	1.4MHz	16QAM	19957	3RB#0	21.99	26.99	30.00	PASS
Band4	1.4MHz	16QAM	19957	3RB#1	21.93	26.93	30.00	PASS
Band4	1.4MHz	16QAM	19957	3RB#3	21.96	26.96	30.00	PASS
Band4	1.4MHz	16QAM	19957	6RB#0	21.06	26.06	30.00	PASS
Band4	1.4MHz	16QAM	20175	1RB#0	22.06	27.06	30.00	PASS
Band4	1.4MHz	16QAM	20175	1RB#2	22.11	27.11	30.00	PASS
Band4	1.4MHz	16QAM	20175	1RB#5	22.12	27.12	30.00	PASS
Band4	1.4MHz	16QAM	20175	3RB#0	22.06	27.06	30.00	PASS
Band4	1.4MHz	16QAM	20175	3RB#1	22.1	27.1	30.00	PASS
Band4	1.4MHz	16QAM	20175	3RB#3	22.03	27.03	30.00	PASS
Band4	1.4MHz	16QAM	20175	6RB#0	21.09	26.09	30.00	PASS
Band4	1.4MHz	16QAM	20393	1RB#0	21.71	26.71	30.00	PASS
Band4	1.4MHz	16QAM	20393	1RB#2	21.72	26.72	30.00	PASS
Band4	1.4MHz	16QAM	20393	1RB#5	21.77	26.77	30.00	PASS
Band4	1.4MHz	16QAM	20393	3RB#0	21.86	26.86	30.00	PASS
Band4	1.4MHz	16QAM	20393	3RB#1	21.79	26.79	30.00	PASS
Band4	1.4MHz	16QAM	20393	3RB#3	21.75	26.75	30.00	PASS
Band4	1.4MHz	16QAM	20393	6RB#0	20.86	25.86	30.00	PASS
Band4	3MHz	QPSK	19965	1RB#0	22.81	27.81	30.00	PASS

Band4	3MHz	QPSK	19965	1RB#8	22.95	27.95	30.00	PASS
Band4	3MHz	QPSK	19965	1RB#14	22.79	27.79	30.00	PASS
Band4	3MHz	QPSK	19965	8RB#0	21.97	26.97	30.00	PASS
Band4	3MHz	QPSK	19965	8RB#4	21.97	26.97	30.00	PASS
Band4	3MHz	QPSK	19965	8RB#7	22	27	30.00	PASS
Band4	3MHz	QPSK	19965	15RB#0	21.96	26.96	30.00	PASS
Band4	3MHz	QPSK	20175	1RB#0	22.87	27.87	30.00	PASS
Band4	3MHz	QPSK	20175	1RB#8	23	28	30.00	PASS
Band4	3MHz	QPSK	20175	1RB#14	22.9	27.9	30.00	PASS
Band4	3MHz	QPSK	20175	8RB#0	21.97	26.97	30.00	PASS
Band4	3MHz	QPSK	20175	8RB#4	22.01	27.01	30.00	PASS
Band4	3MHz	QPSK	20175	8RB#7	21.96	26.96	30.00	PASS
Band4	3MHz	QPSK	20175	15RB#0	21.98	26.98	30.00	PASS
Band4	3MHz	QPSK	20385	1RB#0	22.66	27.66	30.00	PASS
Band4	3MHz	QPSK	20385	1RB#8	22.73	27.73	30.00	PASS
Band4	3MHz	QPSK	20385	1RB#14	22.72	27.72	30.00	PASS
Band4	3MHz	QPSK	20385	8RB#0	21.76	26.76	30.00	PASS
Band4	3MHz	QPSK	20385	8RB#4	21.83	26.83	30.00	PASS
Band4	3MHz	QPSK	20385	8RB#7	21.8	26.8	30.00	PASS
Band4	3MHz	QPSK	20385	15RB#0	21.8	26.8	30.00	PASS
Band4	3MHz	16QAM	19965	1RB#0	21.95	26.95	30.00	PASS
Band4	3MHz	16QAM	19965	1RB#8	22	27	30.00	PASS
Band4	3MHz	16QAM	19965	1RB#14	22.11	27.11	30.00	PASS
Band4	3MHz	16QAM	19965	8RB#0	21	26	30.00	PASS
Band4	3MHz	16QAM	19965	8RB#4	21.01	26.01	30.00	PASS
Band4	3MHz	16QAM	19965	8RB#7	21.02	26.02	30.00	PASS
Band4	3MHz	16QAM	19965	15RB#0	21.06	26.06	30.00	PASS
Band4	3MHz	16QAM	20175	1RB#0	22.17	27.17	30.00	PASS
Band4	3MHz	16QAM	20175	1RB#8	22.31	27.31	30.00	PASS
Band4	3MHz	16QAM	20175	1RB#14	22.21	27.21	30.00	PASS
Band4	3MHz	16QAM	20175	8RB#0	21.06	26.06	30.00	PASS
Band4	3MHz	16QAM	20175	8RB#4	21.03	26.03	30.00	PASS
Band4	3MHz	16QAM	20175	8RB#7	21	26	30.00	PASS
Band4	3MHz	16QAM	20175	15RB#0	20.9	25.9	30.00	PASS
Band4	3MHz	16QAM	20385	1RB#0	21.85	26.85	30.00	PASS
Band4	3MHz	16QAM	20385	1RB#8	21.99	26.99	30.00	PASS
Band4	3MHz	16QAM	20385	1RB#14	21.88	26.88	30.00	PASS
Band4	3MHz	16QAM	20385	8RB#0	20.83	25.83	30.00	PASS
Band4	3MHz	16QAM	20385	8RB#4	20.84	25.84	30.00	PASS
Band4	3MHz	16QAM	20385	8RB#7	20.85	25.85	30.00	PASS
Band4	3MHz	16QAM	20385	15RB#0	20.84	25.84	30.00	PASS
Band4	5MHz	QPSK	19975	1RB#0	22.95	27.95	30.00	PASS
Band4	5MHz	QPSK	19975	1RB#12	23	28	30.00	PASS
Band4	5MHz	QPSK	19975	1RB#24	23.03	28.03	30.00	PASS
Band4	5MHz	QPSK	19975	12RB#0	21.97	26.97	30.00	PASS
Band4	5MHz	QPSK	19975	12RB#6	21.96	26.96	30.00	PASS
Band4	5MHz	QPSK	19975	12RB#13	22	27	30.00	PASS
Band4	5MHz	QPSK	19975	25RB#0	21.97	26.97	30.00	PASS
Band4	5MHz	QPSK	20175	1RB#0	22.96	27.96	30.00	PASS

Band4	5MHz	QPSK	20175	1RB#12	23.09	28.09	30.00	PASS
Band4	5MHz	QPSK	20175	1RB#24	23.02	28.02	30.00	PASS
Band4	5MHz	QPSK	20175	12RB#0	22.05	27.05	30.00	PASS
Band4	5MHz	QPSK	20175	12RB#6	22.05	27.05	30.00	PASS
Band4	5MHz	QPSK	20175	12RB#13	22.03	27.03	30.00	PASS
Band4	5MHz	QPSK	20175	25RB#0	21.97	26.97	30.00	PASS
Band4	5MHz	QPSK	20375	1RB#0	22.62	27.62	30.00	PASS
Band4	5MHz	QPSK	20375	1RB#12	22.8	27.8	30.00	PASS
Band4	5MHz	QPSK	20375	1RB#24	22.74	27.74	30.00	PASS
Band4	5MHz	QPSK	20375	12RB#0	21.81	26.81	30.00	PASS
Band4	5MHz	QPSK	20375	12RB#6	21.81	26.81	30.00	PASS
Band4	5MHz	QPSK	20375	12RB#13	21.82	26.82	30.00	PASS
Band4	5MHz	QPSK	20375	25RB#0	21.83	26.83	30.00	PASS
Band4	5MHz	16QAM	19975	1RB#0	22.08	27.08	30.00	PASS
Band4	5MHz	16QAM	19975	1RB#12	22.13	27.13	30.00	PASS
Band4	5MHz	16QAM	19975	1RB#24	22.09	27.09	30.00	PASS
Band4	5MHz	16QAM	19975	12RB#0	20.98	25.98	30.00	PASS
Band4	5MHz	16QAM	19975	12RB#6	20.99	25.99	30.00	PASS
Band4	5MHz	16QAM	19975	12RB#13	20.95	25.95	30.00	PASS
Band4	5MHz	16QAM	19975	25RB#0	20.99	25.99	30.00	PASS
Band4	5MHz	16QAM	20175	1RB#0	22.18	27.18	30.00	PASS
Band4	5MHz	16QAM	20175	1RB#12	22.39	27.39	30.00	PASS
Band4	5MHz	16QAM	20175	1RB#24	22.14	27.14	30.00	PASS
Band4	5MHz	16QAM	20175	12RB#0	21.1	26.1	30.00	PASS
Band4	5MHz	16QAM	20175	12RB#6	21.04	26.04	30.00	PASS
Band4	5MHz	16QAM	20175	12RB#13	21.01	26.01	30.00	PASS
Band4	5MHz	16QAM	20175	25RB#0	21.04	26.04	30.00	PASS
Band4	5MHz	16QAM	20375	1RB#0	21.7	26.7	30.00	PASS
Band4	5MHz	16QAM	20375	1RB#12	21.8	26.8	30.00	PASS
Band4	5MHz	16QAM	20375	1RB#24	21.94	26.94	30.00	PASS
Band4	5MHz	16QAM	20375	12RB#0	20.84	25.84	30.00	PASS
Band4	5MHz	16QAM	20375	12RB#6	20.81	25.81	30.00	PASS
Band4	5MHz	16QAM	20375	12RB#13	20.87	25.87	30.00	PASS
Band4	5MHz	16QAM	20375	25RB#0	20.85	25.85	30.00	PASS
Band4	10MHz	QPSK	20000	1RB#0	22.89	27.89	30.00	PASS
Band4	10MHz	QPSK	20000	1RB#24	22.92	27.92	30.00	PASS
Band4	10MHz	QPSK	20000	1RB#49	22.93	27.93	30.00	PASS
Band4	10MHz	QPSK	20000	25RB#0	22.02	27.02	30.00	PASS
Band4	10MHz	QPSK	20000	25RB#12	22	27	30.00	PASS
Band4	10MHz	QPSK	20000	25RB#25	22.05	27.05	30.00	PASS
Band4	10MHz	QPSK	20000	50RB#0	22.01	27.01	30.00	PASS
Band4	10MHz	QPSK	20175	1RB#0	22.93	27.93	30.00	PASS
Band4	10MHz	QPSK	20175	1RB#24	23.06	28.06	30.00	PASS
Band4	10MHz	QPSK	20175	1RB#49	22.91	27.91	30.00	PASS
Band4	10MHz	QPSK	20175	25RB#0	22.13	27.13	30.00	PASS
Band4	10MHz	QPSK	20175	25RB#12	22.05	27.05	30.00	PASS
Band4	10MHz	QPSK	20175	25RB#25	22.06	27.06	30.00	PASS
Band4	10MHz	QPSK	20175	50RB#0	22.04	27.04	30.00	PASS
Band4	10MHz	QPSK	20350	1RB#0	22.72	27.72	30.00	PASS

Band4	10MHz	QPSK	20350	1RB#24	22.76	27.76	30.00	PASS
Band4	10MHz	QPSK	20350	1RB#49	22.77	27.77	30.00	PASS
Band4	10MHz	QPSK	20350	25RB#0	21.84	26.84	30.00	PASS
Band4	10MHz	QPSK	20350	25RB#12	21.84	26.84	30.00	PASS
Band4	10MHz	QPSK	20350	25RB#25	21.85	26.85	30.00	PASS
Band4	10MHz	QPSK	20350	50RB#0	21.88	26.88	30.00	PASS
Band4	10MHz	16QAM	20000	1RB#0	22.04	27.04	30.00	PASS
Band4	10MHz	16QAM	20000	1RB#24	22.17	27.17	30.00	PASS
Band4	10MHz	16QAM	20000	1RB#49	22.08	27.08	30.00	PASS
Band4	10MHz	16QAM	20000	25RB#0	21.08	26.08	30.00	PASS
Band4	10MHz	16QAM	20000	25RB#12	21.05	26.05	30.00	PASS
Band4	10MHz	16QAM	20000	25RB#25	21.02	26.02	30.00	PASS
Band4	10MHz	16QAM	20000	50RB#0	21.02	26.02	30.00	PASS
Band4	10MHz	16QAM	20175	1RB#0	22.16	27.16	30.00	PASS
Band4	10MHz	16QAM	20175	1RB#24	22.28	27.28	30.00	PASS
Band4	10MHz	16QAM	20175	1RB#49	22.11	27.11	30.00	PASS
Band4	10MHz	16QAM	20175	25RB#0	21.15	26.15	30.00	PASS
Band4	10MHz	16QAM	20175	25RB#12	21.12	26.12	30.00	PASS
Band4	10MHz	16QAM	20175	25RB#25	21.1	26.1	30.00	PASS
Band4	10MHz	16QAM	20175	50RB#0	21	26	30.00	PASS
Band4	10MHz	16QAM	20350	1RB#0	21.87	26.87	30.00	PASS
Band4	10MHz	16QAM	20350	1RB#24	21.85	26.85	30.00	PASS
Band4	10MHz	16QAM	20350	1RB#49	21.94	26.94	30.00	PASS
Band4	10MHz	16QAM	20350	25RB#0	20.9	25.9	30.00	PASS
Band4	10MHz	16QAM	20350	25RB#12	20.95	25.95	30.00	PASS
Band4	10MHz	16QAM	20350	25RB#25	20.91	25.91	30.00	PASS
Band4	10MHz	16QAM	20350	50RB#0	20.9	25.9	30.00	PASS
Band4	15MHz	QPSK	20025	1RB#0	22.77	27.77	30.00	PASS
Band4	15MHz	QPSK	20025	1RB#38	22.81	27.81	30.00	PASS
Band4	15MHz	QPSK	20025	1RB#74	22.9	27.9	30.00	PASS
Band4	15MHz	QPSK	20025	36RB#0	21.84	26.84	30.00	PASS
Band4	15MHz	QPSK	20025	36RB#18	21.86	26.86	30.00	PASS
Band4	15MHz	QPSK	20025	36RB#39	21.95	26.95	30.00	PASS
Band4	15MHz	QPSK	20025	75RB#0	21.85	26.85	30.00	PASS
Band4	15MHz	QPSK	20175	1RB#0	22.87	27.87	30.00	PASS
Band4	15MHz	QPSK	20175	1RB#38	22.86	27.86	30.00	PASS
Band4	15MHz	QPSK	20175	1RB#74	22.88	27.88	30.00	PASS
Band4	15MHz	QPSK	20175	36RB#0	21.92	26.92	30.00	PASS
Band4	15MHz	QPSK	20175	36RB#18	21.95	26.95	30.00	PASS
Band4	15MHz	QPSK	20175	36RB#39	21.91	26.91	30.00	PASS
Band4	15MHz	QPSK	20175	75RB#0	21.92	26.92	30.00	PASS
Band4	15MHz	QPSK	20325	1RB#0	22.67	27.67	30.00	PASS
Band4	15MHz	QPSK	20325	1RB#38	22.68	27.68	30.00	PASS
Band4	15MHz	QPSK	20325	1RB#74	22.63	27.63	30.00	PASS
Band4	15MHz	QPSK	20325	36RB#0	21.75	26.75	30.00	PASS
Band4	15MHz	QPSK	20325	36RB#18	21.77	26.77	30.00	PASS
Band4	15MHz	QPSK	20325	36RB#39	21.68	26.68	30.00	PASS
Band4	15MHz	QPSK	20325	75RB#0	21.79	26.79	30.00	PASS
Band4	15MHz	16QAM	20025	1RB#0	21.91	26.91	30.00	PASS

Band4	15MHz	16QAM	20025	1RB#38	22	27	30.00	PASS
Band4	15MHz	16QAM	20025	1RB#74	21.99	26.99	30.00	PASS
Band4	15MHz	16QAM	20025	36RB#0	20.85	25.85	30.00	PASS
Band4	15MHz	16QAM	20025	36RB#18	20.89	25.89	30.00	PASS
Band4	15MHz	16QAM	20025	36RB#39	20.96	25.96	30.00	PASS
Band4	15MHz	16QAM	20025	75RB#0	20.9	25.9	30.00	PASS
Band4	15MHz	16QAM	20175	1RB#0	21.91	26.91	30.00	PASS
Band4	15MHz	16QAM	20175	1RB#38	22.11	27.11	30.00	PASS
Band4	15MHz	16QAM	20175	1RB#74	22	27	30.00	PASS
Band4	15MHz	16QAM	20175	36RB#0	20.96	25.96	30.00	PASS
Band4	15MHz	16QAM	20175	36RB#18	20.94	25.94	30.00	PASS
Band4	15MHz	16QAM	20175	36RB#39	20.92	25.92	30.00	PASS
Band4	15MHz	16QAM	20175	75RB#0	20.88	25.88	30.00	PASS
Band4	15MHz	16QAM	20325	1RB#0	21.78	26.78	30.00	PASS
Band4	15MHz	16QAM	20325	1RB#38	21.88	26.88	30.00	PASS
Band4	15MHz	16QAM	20325	1RB#74	21.85	26.85	30.00	PASS
Band4	15MHz	16QAM	20325	36RB#0	20.79	25.79	30.00	PASS
Band4	15MHz	16QAM	20325	36RB#18	20.8	25.8	30.00	PASS
Band4	15MHz	16QAM	20325	36RB#39	20.7	25.7	30.00	PASS
Band4	15MHz	16QAM	20325	75RB#0	20.79	25.79	30.00	PASS
Band4	20MHz	QPSK	20050	1RB#0	22.92	27.92	30.00	PASS
Band4	20MHz	QPSK	20050	1RB#49	22.91	27.91	30.00	PASS
Band4	20MHz	QPSK	20050	1RB#99	23.05	28.05	30.00	PASS
Band4	20MHz	QPSK	20050	50RB#0	21.98	26.98	30.00	PASS
Band4	20MHz	QPSK	20050	50RB#25	21.87	26.87	30.00	PASS
Band4	20MHz	QPSK	20050	50RB#50	21.95	26.95	30.00	PASS
Band4	20MHz	QPSK	20050	100RB#0	21.93	26.93	30.00	PASS
Band4	20MHz	QPSK	20175	1RB#0	22.88	27.88	30.00	PASS
Band4	20MHz	QPSK	20175	1RB#49	22.87	27.87	30.00	PASS
Band4	20MHz	QPSK	20175	1RB#99	22.9	27.9	30.00	PASS
Band4	20MHz	QPSK	20175	50RB#0	21.96	26.96	30.00	PASS
Band4	20MHz	QPSK	20175	50RB#25	21.95	26.95	30.00	PASS
Band4	20MHz	QPSK	20175	50RB#50	21.91	26.91	30.00	PASS
Band4	20MHz	QPSK	20175	100RB#0	21.91	26.91	30.00	PASS
Band4	20MHz	QPSK	20300	1RB#0	22.87	27.87	30.00	PASS
Band4	20MHz	QPSK	20300	1RB#49	22.73	27.73	30.00	PASS
Band4	20MHz	QPSK	20300	1RB#99	22.79	27.79	30.00	PASS
Band4	20MHz	QPSK	20300	50RB#0	21.8	26.8	30.00	PASS
Band4	20MHz	QPSK	20300	50RB#25	21.81	26.81	30.00	PASS
Band4	20MHz	QPSK	20300	50RB#50	21.71	26.71	30.00	PASS
Band4	20MHz	QPSK	20300	100RB#0	21.8	26.8	30.00	PASS
Band4	20MHz	16QAM	20050	1RB#0	21.99	26.99	30.00	PASS
Band4	20MHz	16QAM	20050	1RB#49	21.99	26.99	30.00	PASS
Band4	20MHz	16QAM	20050	1RB#99	22.19	27.19	30.00	PASS
Band4	20MHz	16QAM	20050	50RB#0	20.87	25.87	30.00	PASS
Band4	20MHz	16QAM	20050	50RB#25	20.9	25.9	30.00	PASS
Band4	20MHz	16QAM	20050	50RB#50	20.97	25.97	30.00	PASS
Band4	20MHz	16QAM	20050	100RB#0	20.93	25.93	30.00	PASS
Band4	20MHz	16QAM	20175	1RB#0	22.05	27.05	30.00	PASS

Band4	20MHz	16QAM	20175	1RB#49	22.14	27.14	30.00	PASS
Band4	20MHz	16QAM	20175	1RB#99	22.18	27.18	30.00	PASS
Band4	20MHz	16QAM	20175	50RB#0	20.93	25.93	30.00	PASS
Band4	20MHz	16QAM	20175	50RB#25	20.95	25.95	30.00	PASS
Band4	20MHz	16QAM	20175	50RB#50	20.95	25.95	30.00	PASS
Band4	20MHz	16QAM	20175	100RB#0	20.91	25.91	30.00	PASS
Band4	20MHz	16QAM	20300	1RB#0	22.02	27.02	30.00	PASS
Band4	20MHz	16QAM	20300	1RB#49	21.89	26.89	30.00	PASS
Band4	20MHz	16QAM	20300	1RB#99	22.08	27.08	30.00	PASS
Band4	20MHz	16QAM	20300	50RB#0	20.8	25.8	30.00	PASS
Band4	20MHz	16QAM	20300	50RB#25	20.8	25.8	30.00	PASS
Band4	20MHz	16QAM	20300	50RB#50	20.73	25.73	30.00	PASS
Band4	20MHz	16QAM	20300	100RB#0	20.82	25.82	30.00	PASS

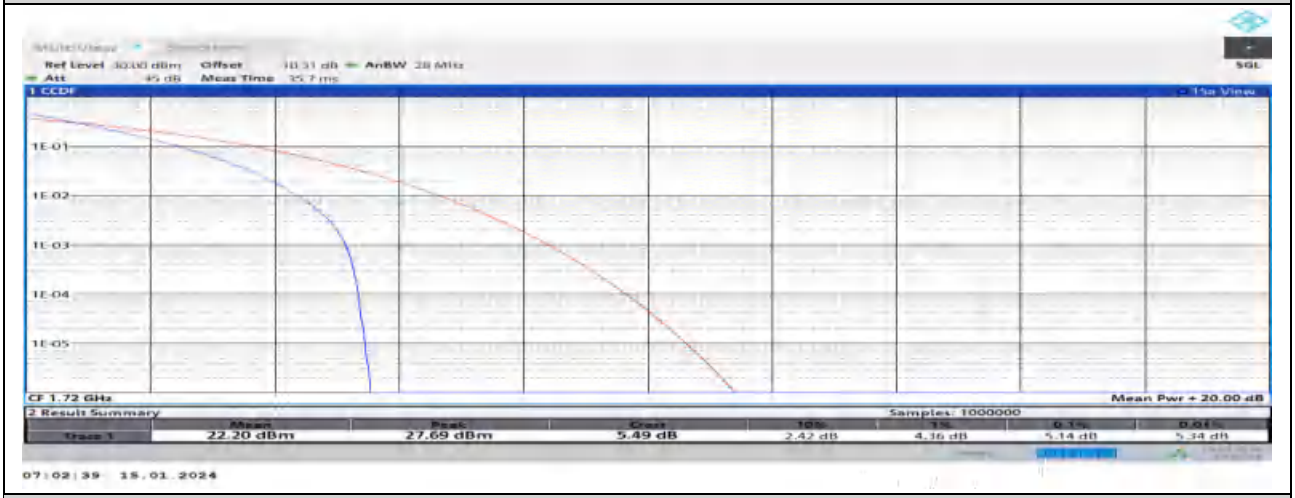
APPENDIX B.2 PEAK-TO AVERAGE RATIO

Test Result

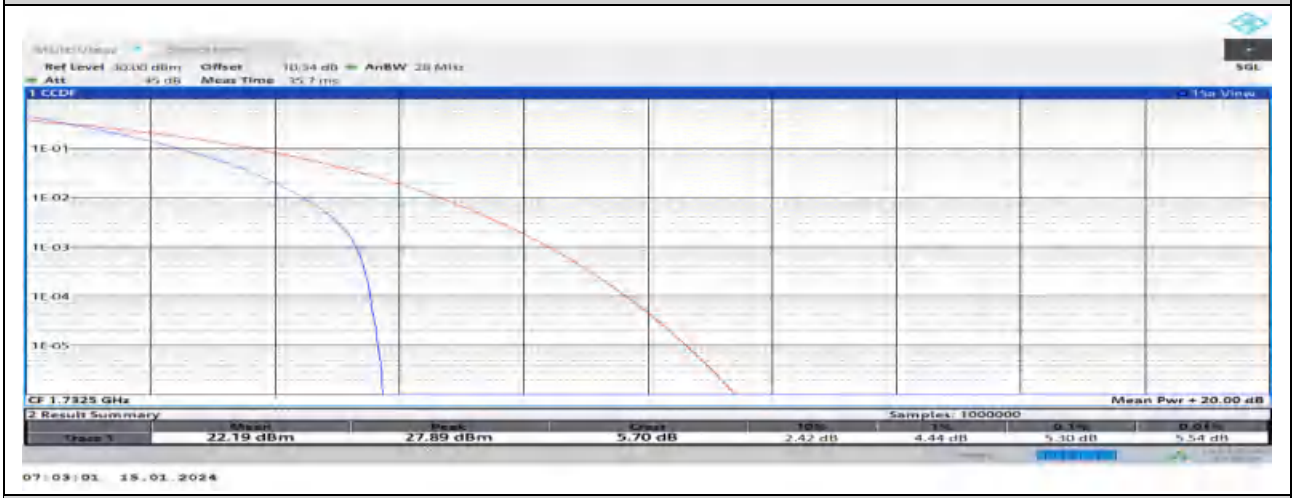
Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band4	20MHz	QPSK	20050	100RB#0	5.14	13	PASS
Band4	20MHz	QPSK	20175	100RB#0	5.30	13	PASS
Band4	20MHz	QPSK	20300	100RB#0	5.28	13	PASS
Band4	20MHz	16QAM	20050	100RB#0	6.02	13	PASS
Band4	20MHz	16QAM	20175	100RB#0	6.18	13	PASS
Band4	20MHz	16QAM	20300	100RB#0	6.20	13	PASS

Test Graphs

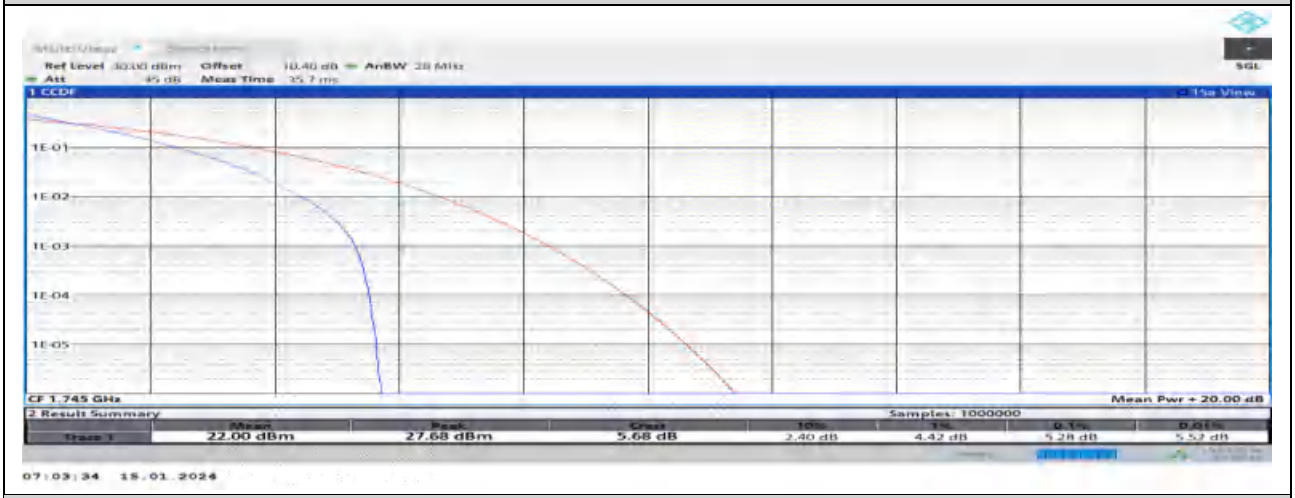
Band4-20MHz-QPSK-20050-100RB#0



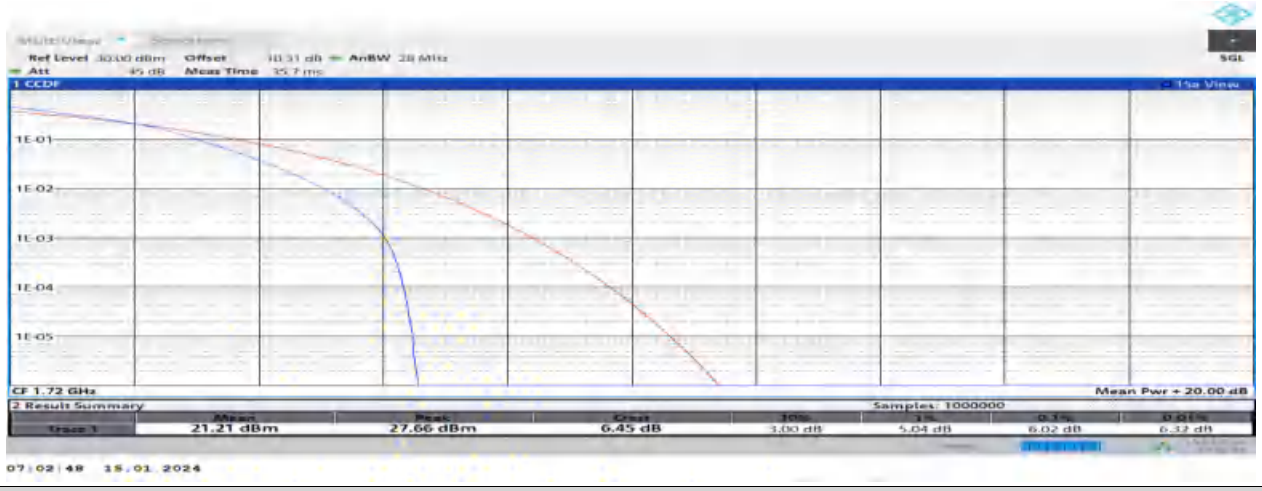
Band4-20MHz-QPSK-20175-100RB#0



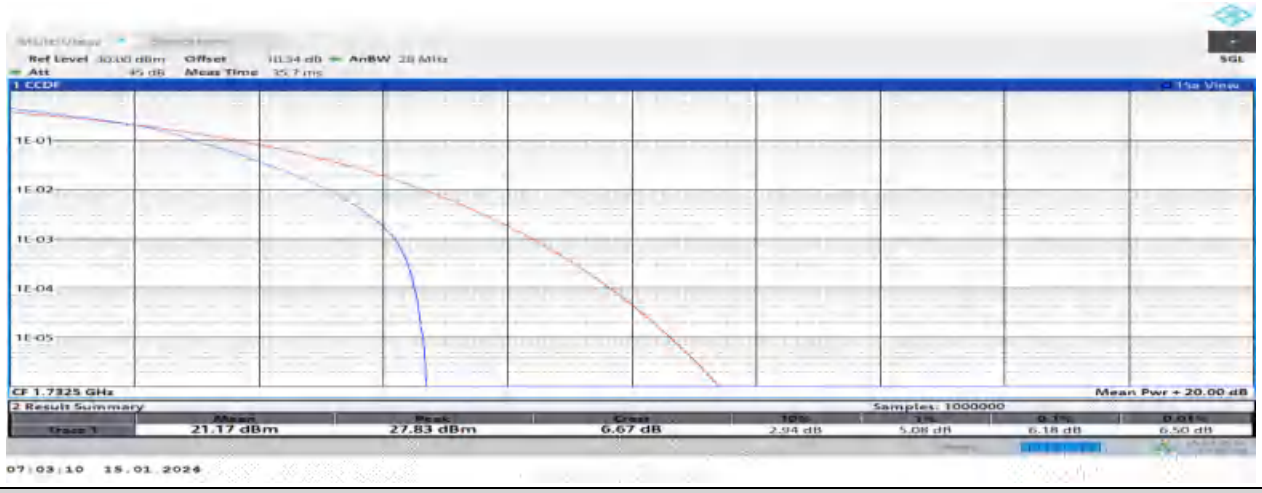
Band4-20MHz-QPSK-20300-100RB#0



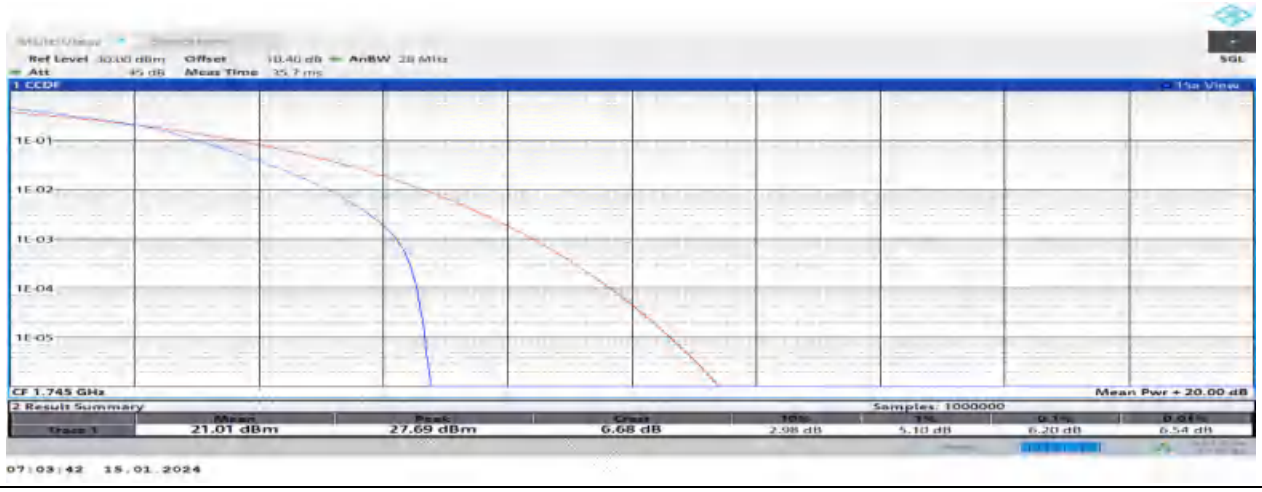
Band4-20MHz-16QAM-20050-100RB#0



Band4-20MHz-16QAM-20175-100RB#0



Band4-20MHz-16QAM-20300-100RB#0



APPENDIX B.3 26DB BANDWIDTH AND OCCUPIED BANDWIDTH

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band4	1.4MHz	QPSK	19957	6RB#0	1.108	1.41	PASS
Band4	1.4MHz	QPSK	20175	6RB#0	1.107	1.38	PASS
Band4	1.4MHz	QPSK	20393	6RB#0	1.107	1.38	PASS
Band4	1.4MHz	16QAM	19957	6RB#0	1.102	1.37	PASS
Band4	1.4MHz	16QAM	20175	6RB#0	1.109	1.39	PASS
Band4	1.4MHz	16QAM	20393	6RB#0	1.107	1.38	PASS
Band4	3MHz	QPSK	19965	15RB#0	2.702	3.10	PASS
Band4	3MHz	QPSK	20175	15RB#0	2.707	3.06	PASS
Band4	3MHz	QPSK	20385	15RB#0	2.706	3.06	PASS
Band4	3MHz	16QAM	19965	15RB#0	2.703	3.10	PASS
Band4	3MHz	16QAM	20175	15RB#0	2.704	3.05	PASS
Band4	3MHz	16QAM	20385	15RB#0	2.704	3.04	PASS
Band4	5MHz	QPSK	19975	25RB#0	4.482	5.08	PASS
Band4	5MHz	QPSK	20175	25RB#0	4.483	5.06	PASS
Band4	5MHz	QPSK	20375	25RB#0	4.483	5.08	PASS
Band4	5MHz	16QAM	19975	25RB#0	4.486	5.09	PASS
Band4	5MHz	16QAM	20175	25RB#0	4.486	5.09	PASS
Band4	5MHz	16QAM	20375	25RB#0	4.487	5.11	PASS
Band4	10MHz	QPSK	20000	50RB#0	8.963	9.93	PASS
Band4	10MHz	QPSK	20175	50RB#0	8.969	9.83	PASS
Band4	10MHz	QPSK	20350	50RB#0	8.959	9.90	PASS
Band4	10MHz	16QAM	20000	50RB#0	8.952	9.87	PASS
Band4	10MHz	16QAM	20175	50RB#0	8.98	9.90	PASS
Band4	10MHz	16QAM	20350	50RB#0	8.963	9.93	PASS
Band4	15MHz	QPSK	20025	75RB#0	13.525	15.00	PASS
Band4	15MHz	QPSK	20175	75RB#0	13.499	15.00	PASS
Band4	15MHz	QPSK	20325	75RB#0	13.507	15.05	PASS
Band4	15MHz	16QAM	20025	75RB#0	13.509	15.05	PASS
Band4	15MHz	16QAM	20175	75RB#0	13.513	15.10	PASS
Band4	15MHz	16QAM	20325	75RB#0	13.483	15.05	PASS
Band4	20MHz	QPSK	20050	100RB#0	17.914	19.80	PASS
Band4	20MHz	QPSK	20175	100RB#0	17.977	19.87	PASS
Band4	20MHz	QPSK	20300	100RB#0	17.938	19.87	PASS
Band4	20MHz	16QAM	20050	100RB#0	17.94	19.87	PASS
Band4	20MHz	16QAM	20175	100RB#0	17.94	19.87	PASS
Band4	20MHz	16QAM	20300	100RB#0	17.929	19.80	PASS

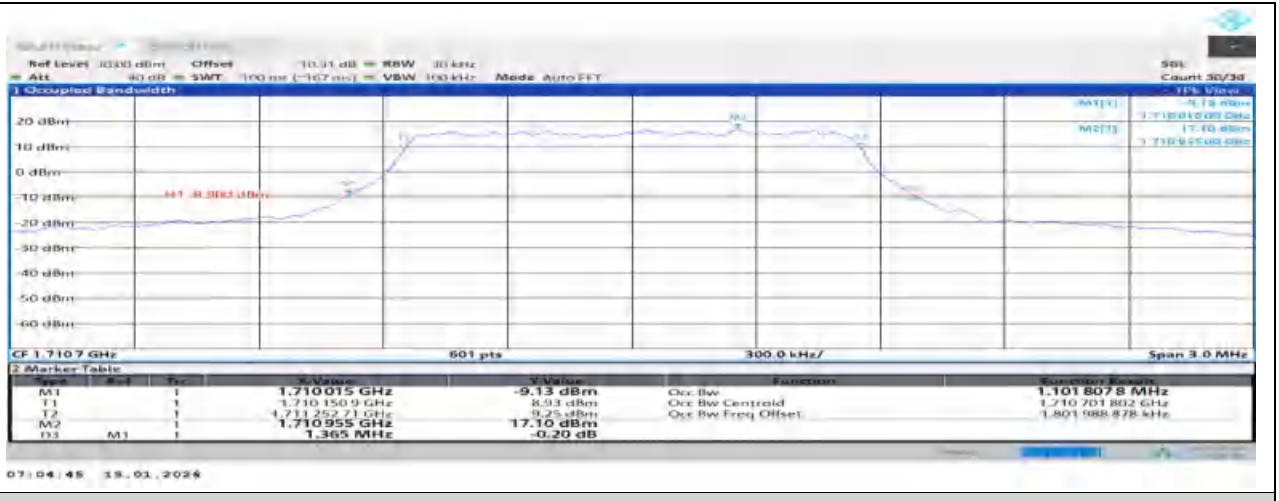
Test Graphs

Band4-1.4MHz-QPSK-19957-6RB#0

Band4-1.4MHz-QPSK-20175-6RB#0

Band4-1.4MHz-QPSK-20393-6RB#0

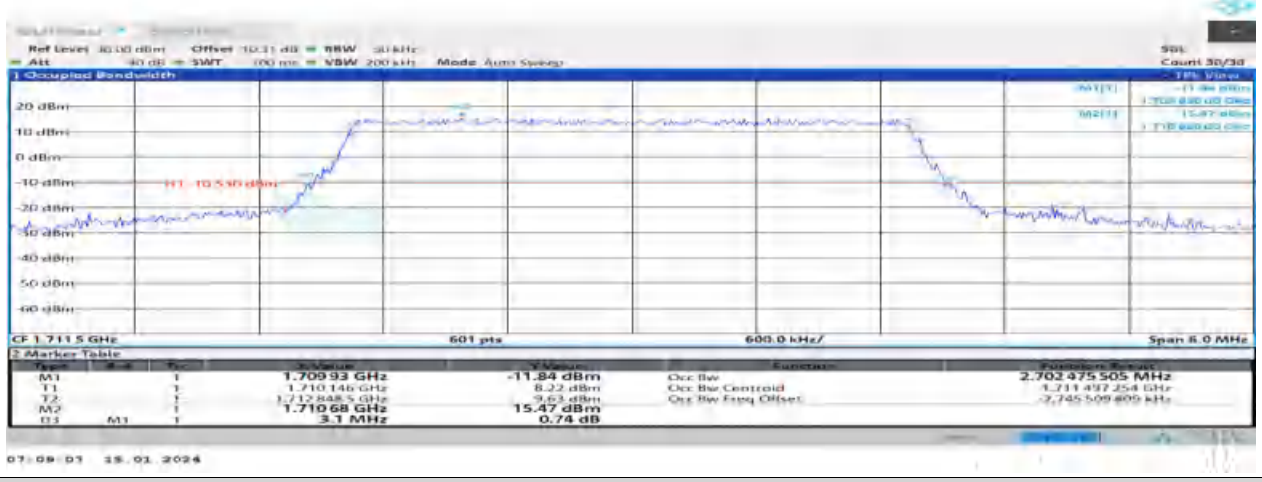
Band4-1.4MHz-16QAM-19957-6RB#0



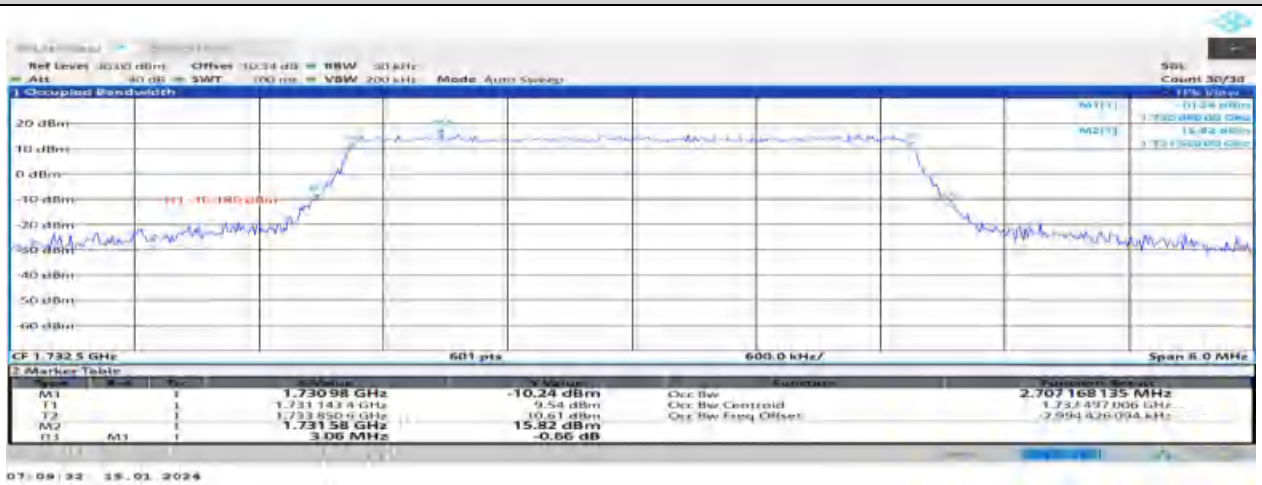
Band4-1.4MHz-16QAM-20175-6RB#0

Band4-1.4MHz-16QAM-20393-6RB#0

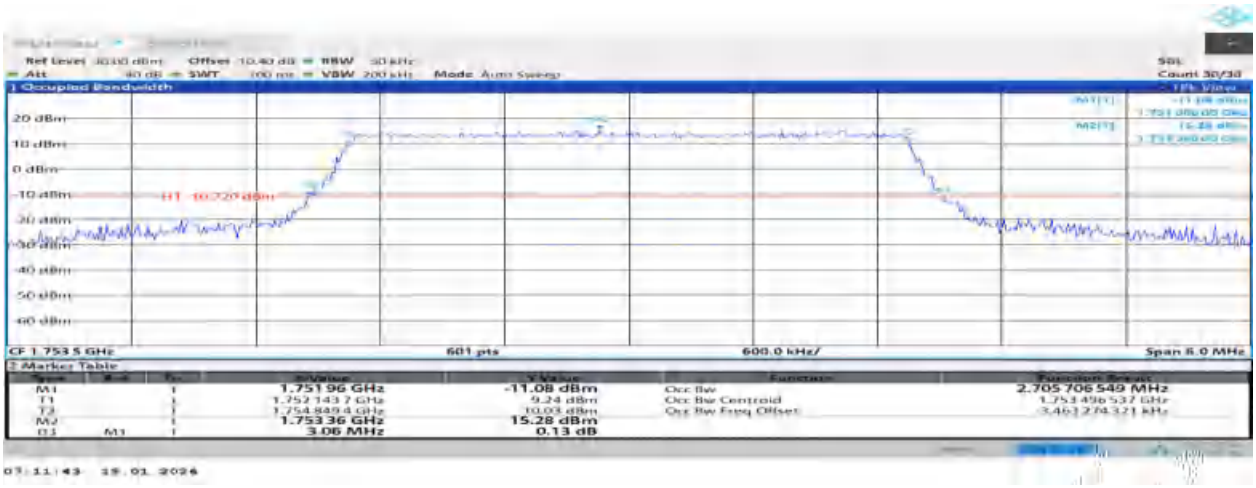
Band4-3MHz-QPSK-19965-15RB#0



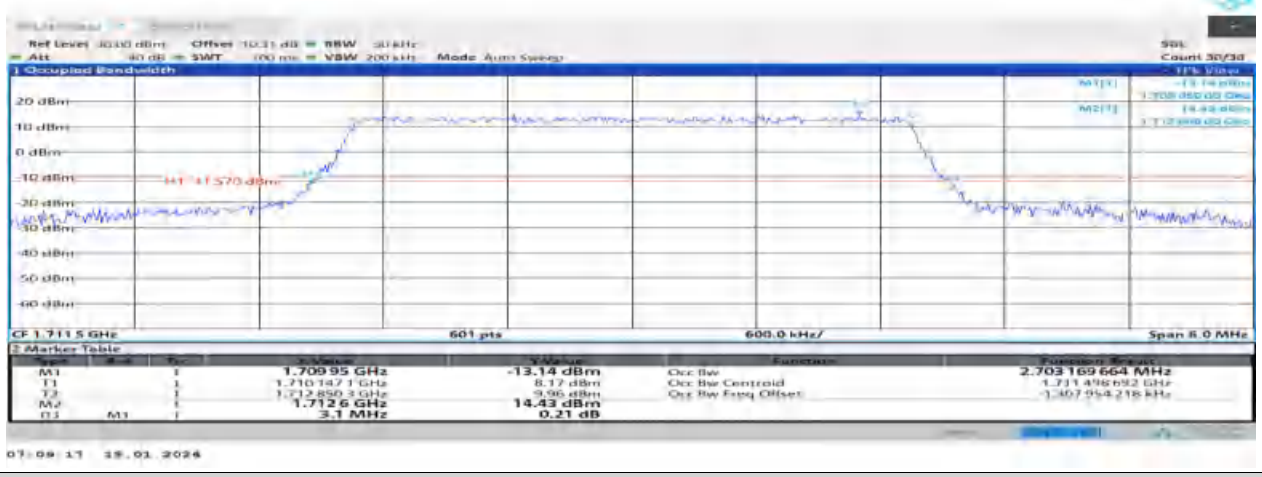
Band4-3MHz-QPSK-20175-15RB#0



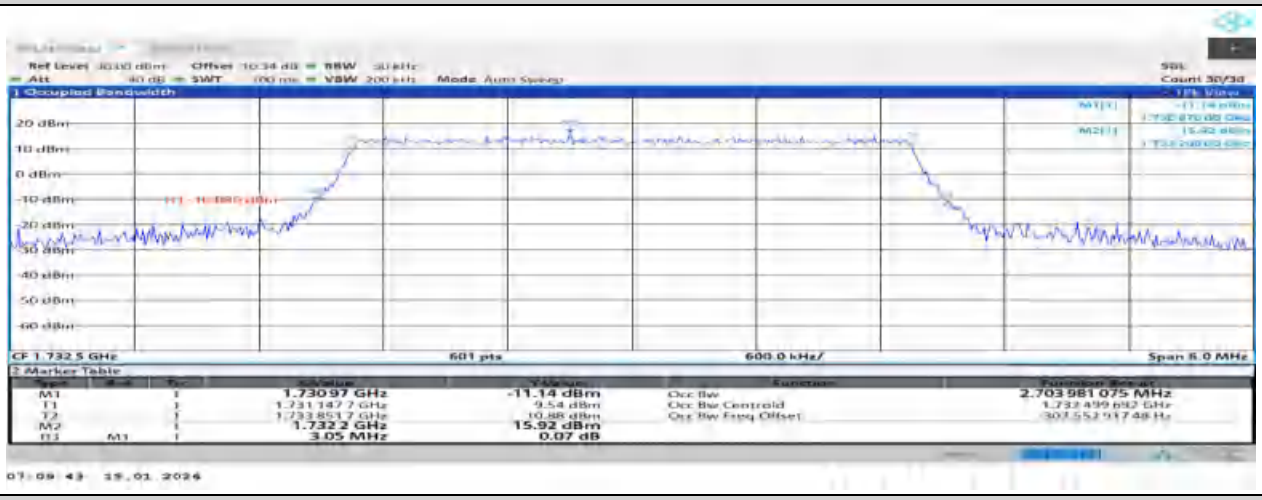
Band4-3MHz-QPSK-20385-15RB#0



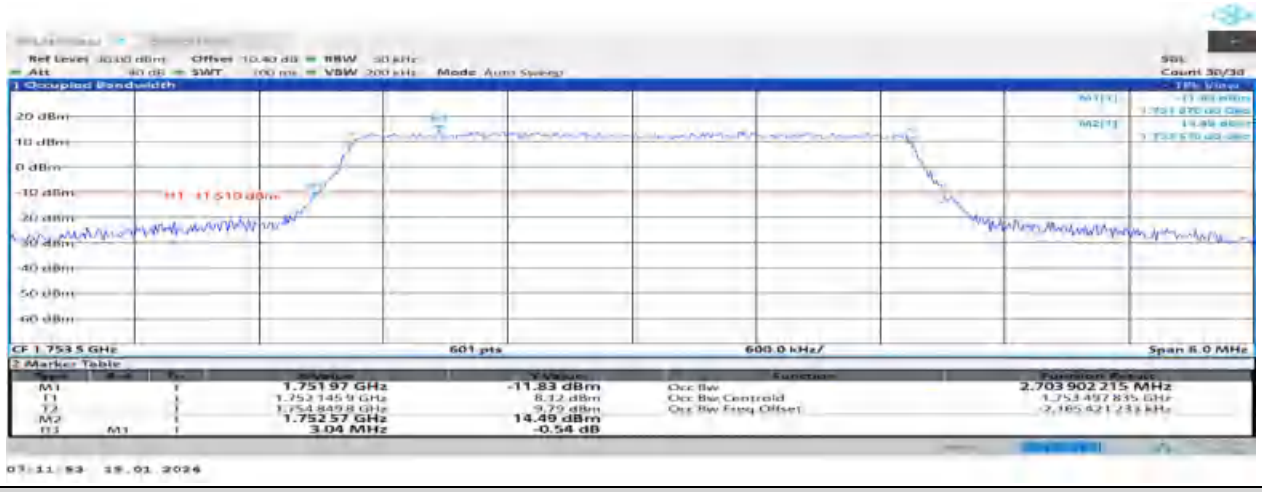
Band4-3MHz-16QAM-19965-15RB#0



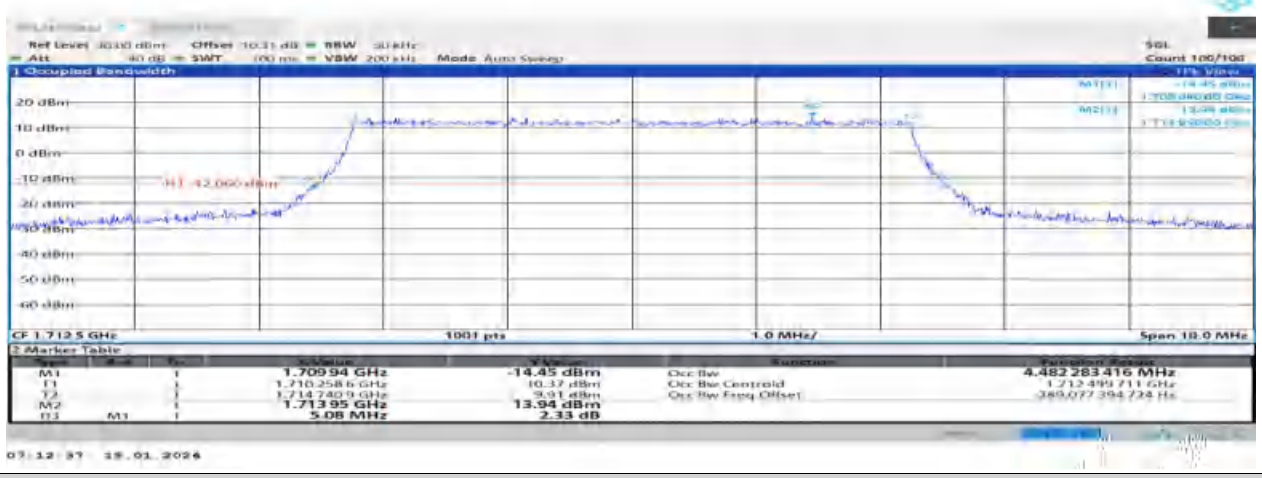
Band4-3MHz-16QAM-20175-15RB#0



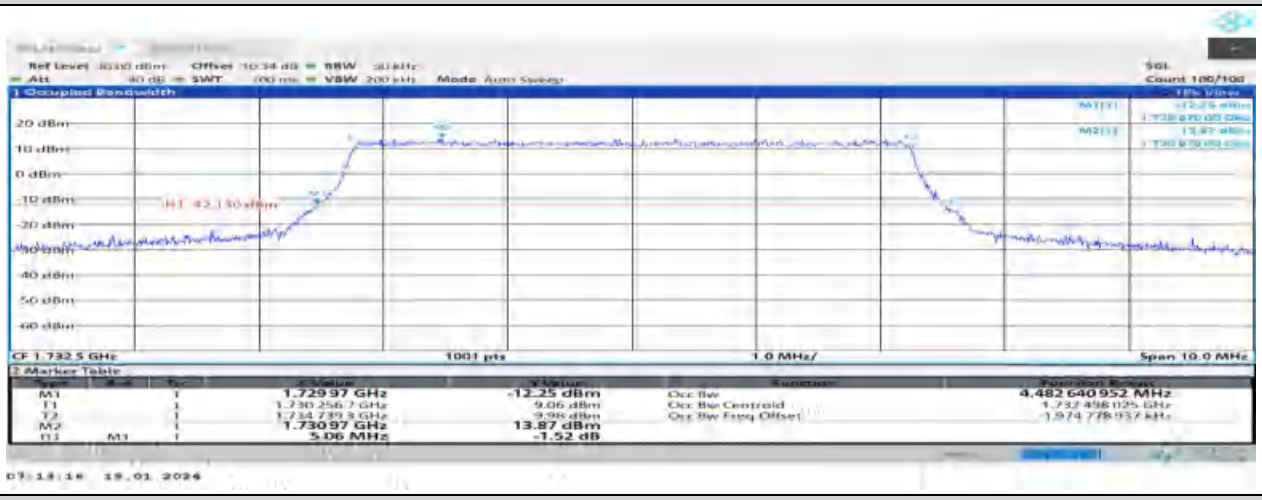
Band4-3MHz-16QAM-20385-15RB#0



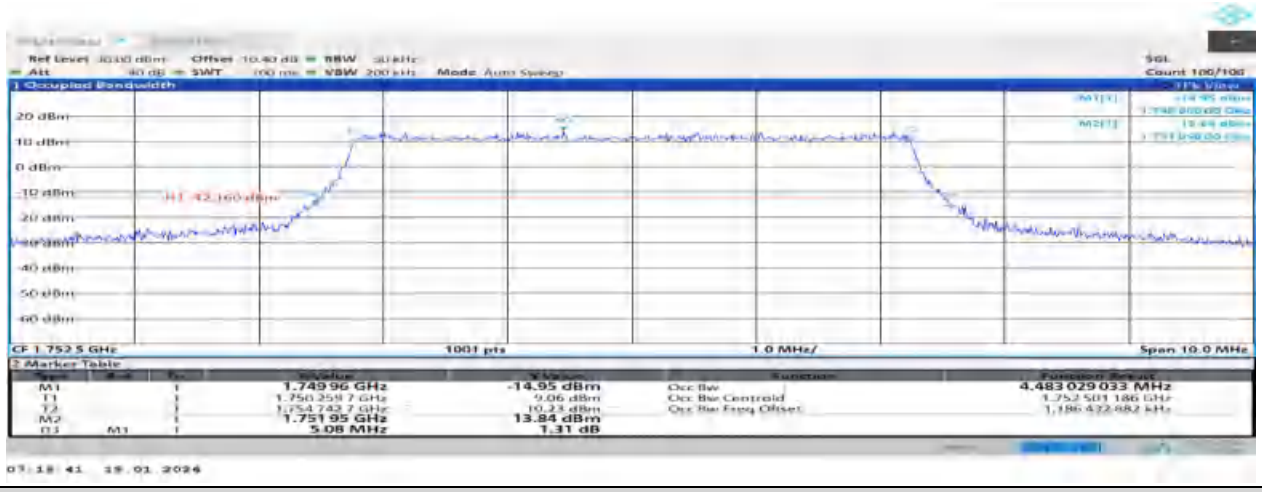
Band4-5MHz-QPSK-19975-25RB#0



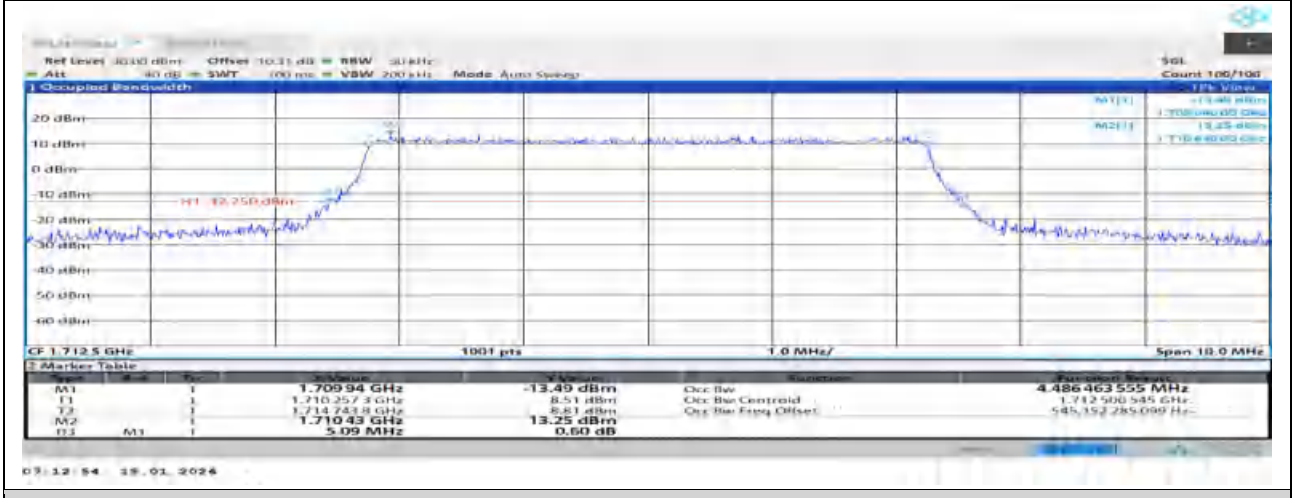
Band4-5MHz-QPSK-20175-25RB#0



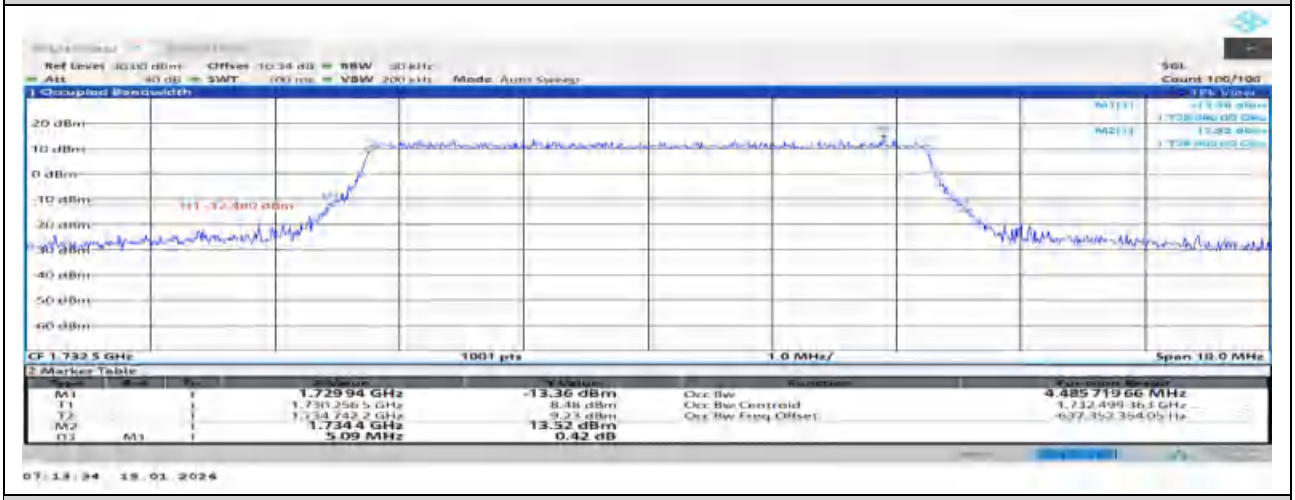
Band4-5MHz-QPSK-20375-25RB#0



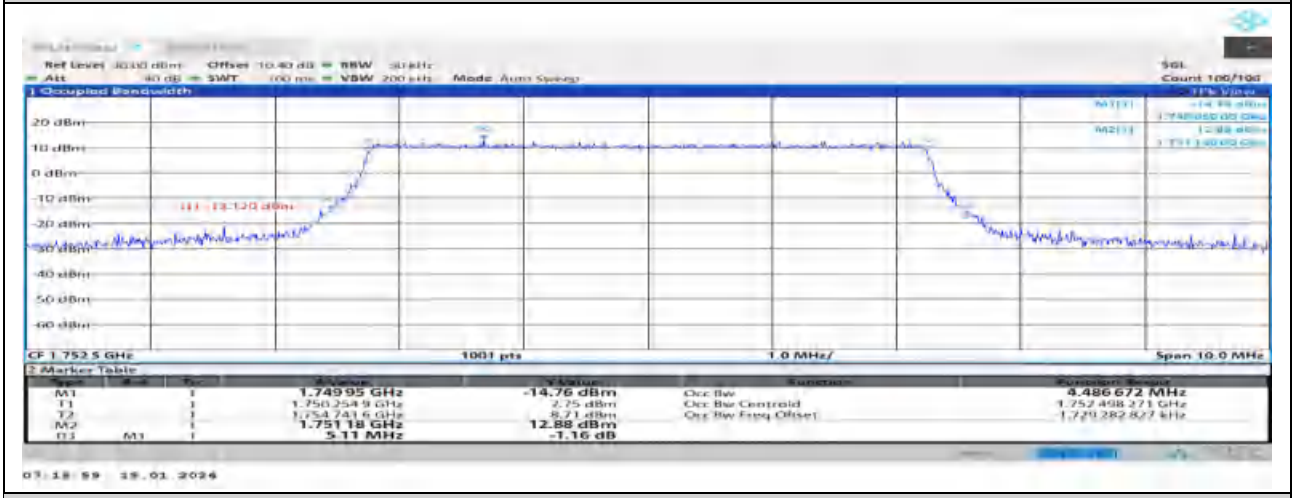
Band4-5MHz-16QAM-19975-25RB#0



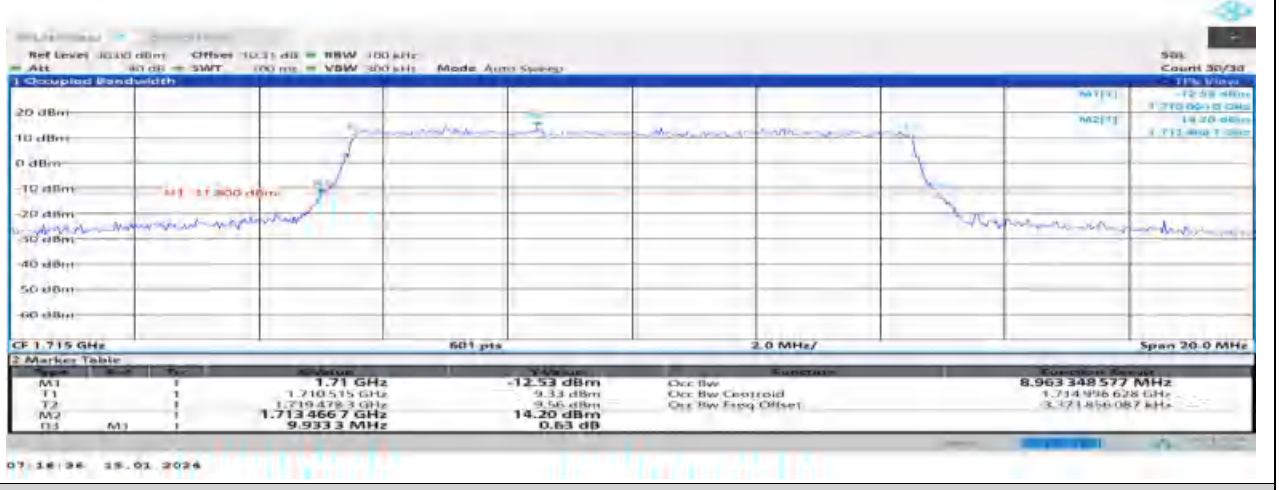
Band4-5MHz-16QAM-20175-25RB#0



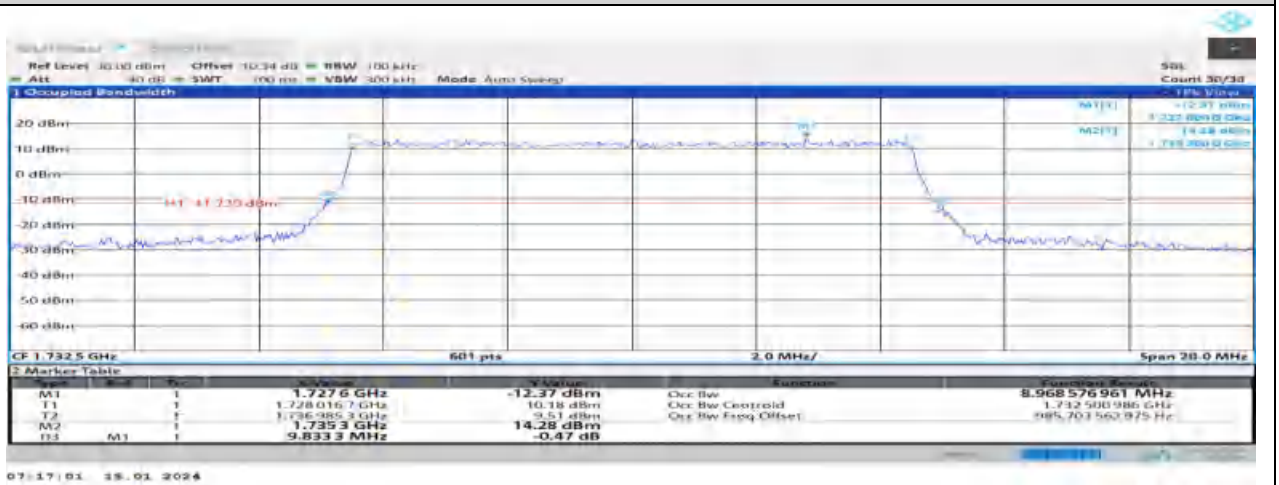
Band4-5MHz-16QAM-20375-25RB#0



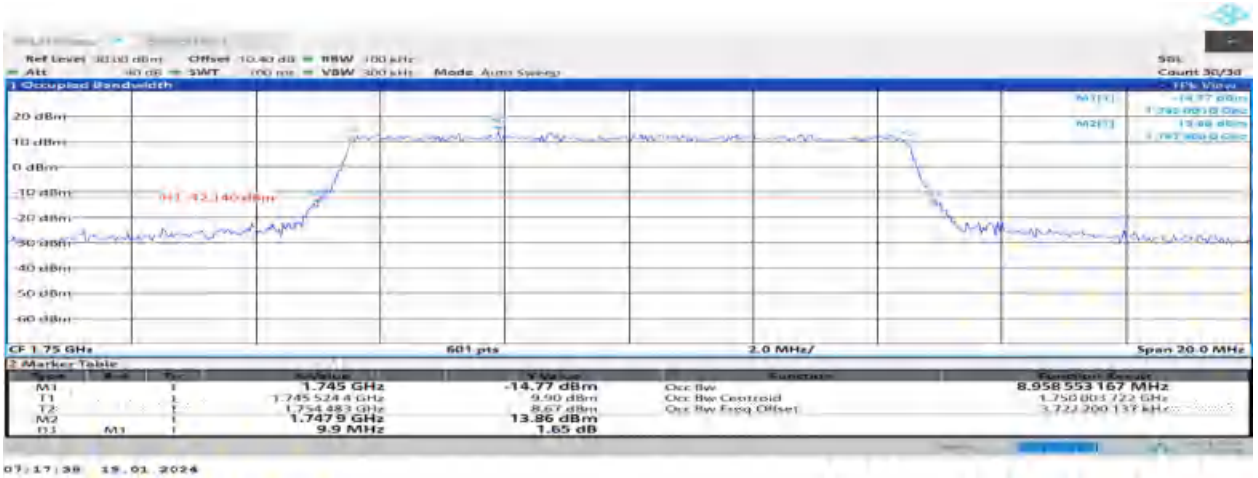
Band4-10MHz-QPSK-20000-50RB#0



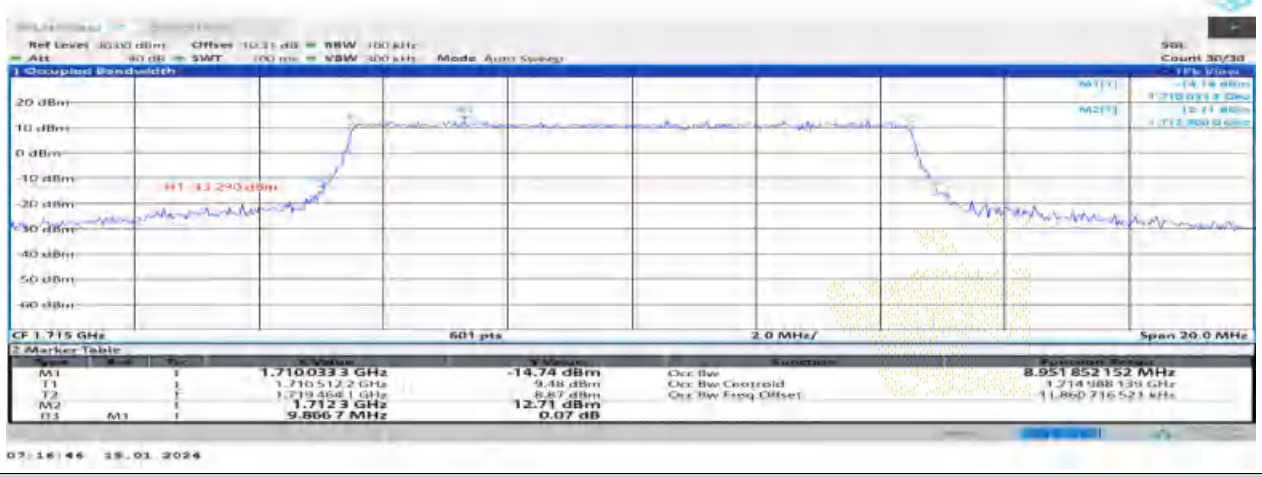
Band4-10MHz-QPSK-20175-50RB#0



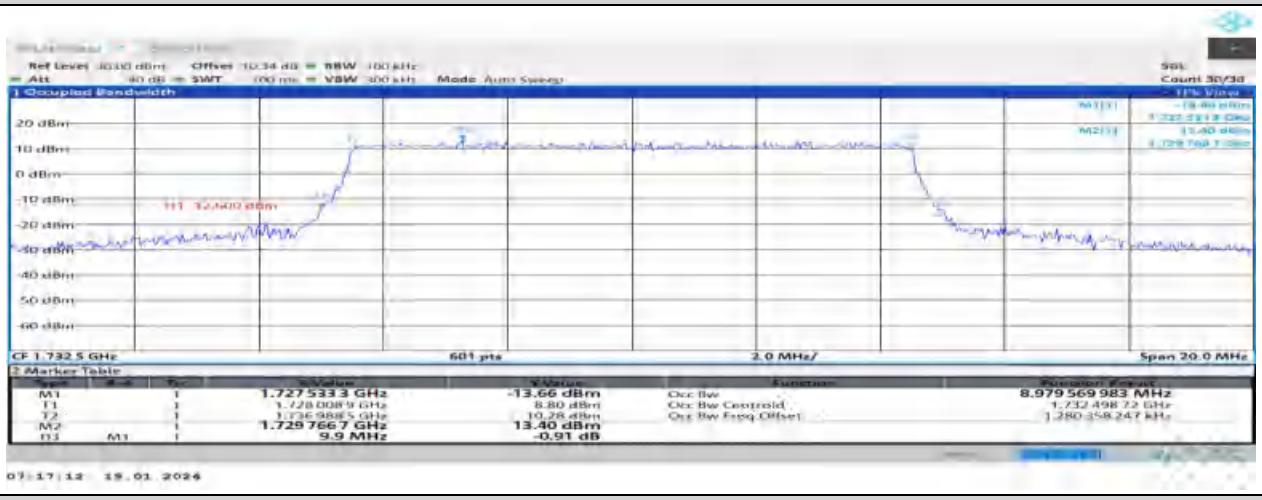
Band4-10MHz-QPSK-20350-50RB#0



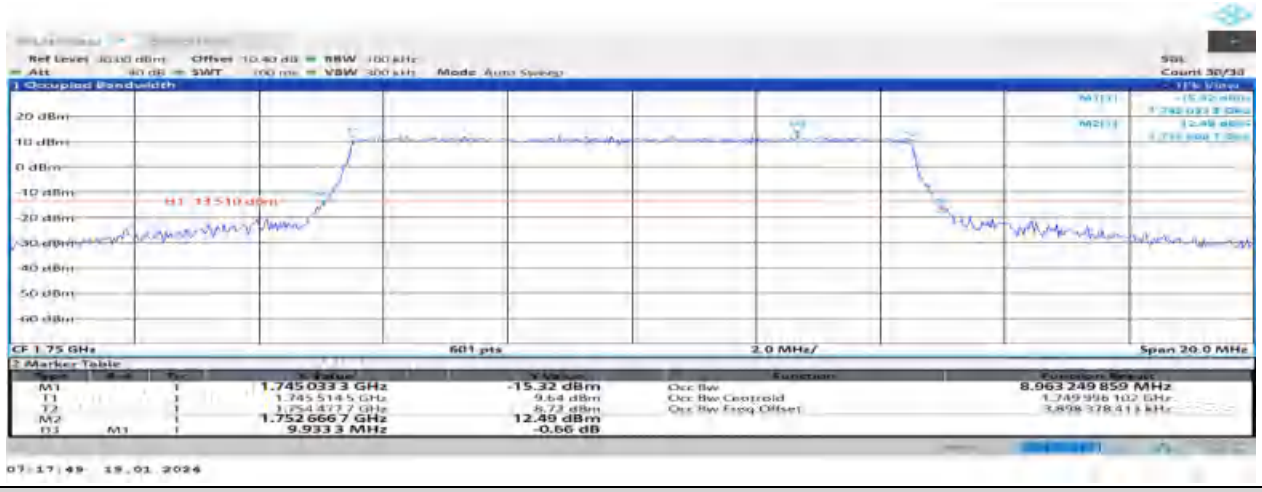
Band4-10MHz-16QAM-20000-50RB#0



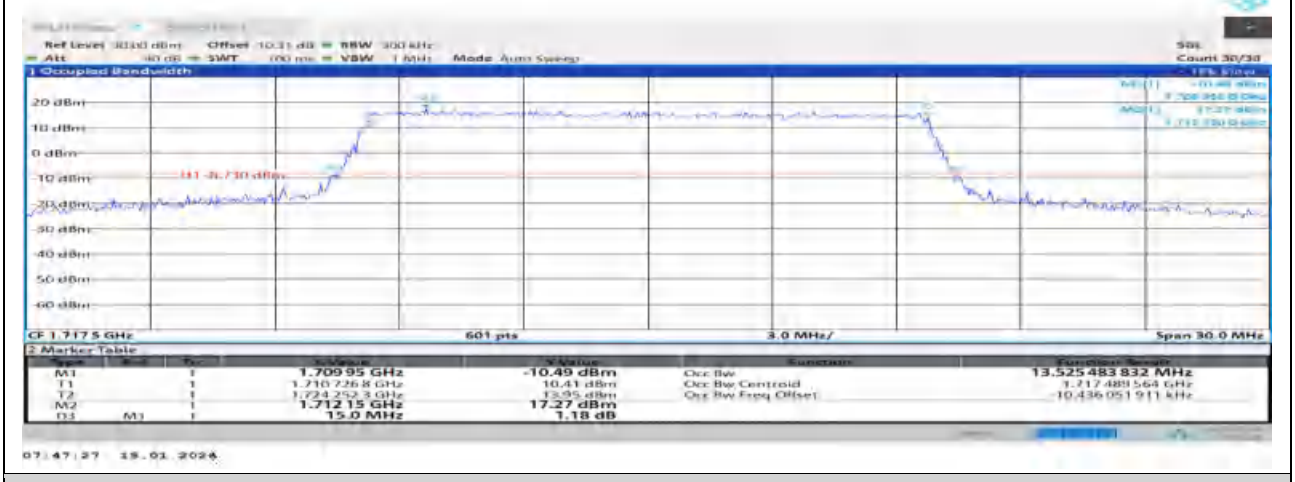
Band4-10MHz-16QAM-20175-50RB#0



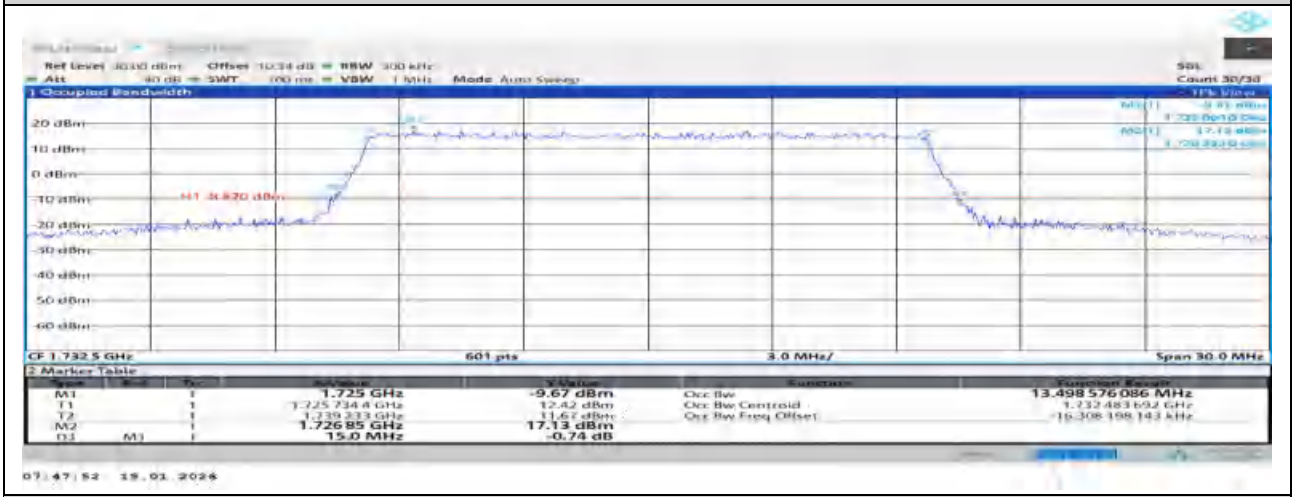
Band4-10MHz-16QAM-20350-50RB#0



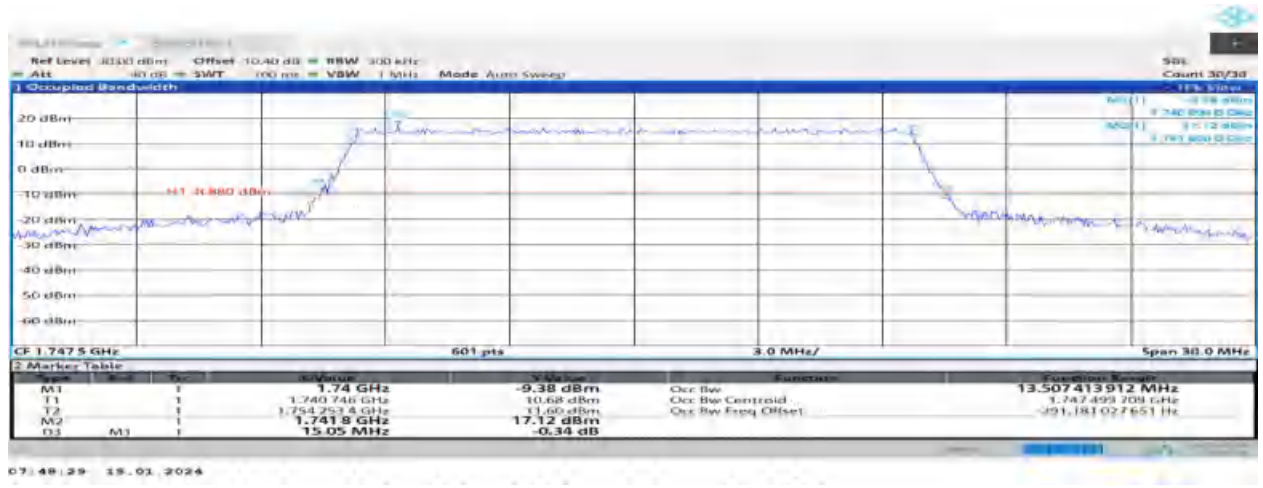
Band4-15MHz-QPSK-20025-75RB#0



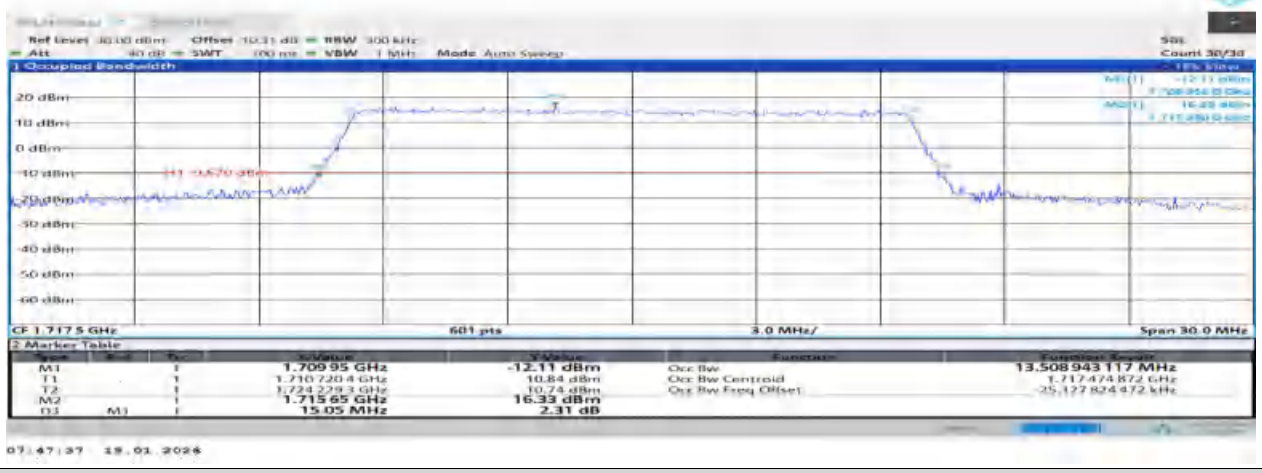
Band4-15MHz-QPSK-20175-75RB#0



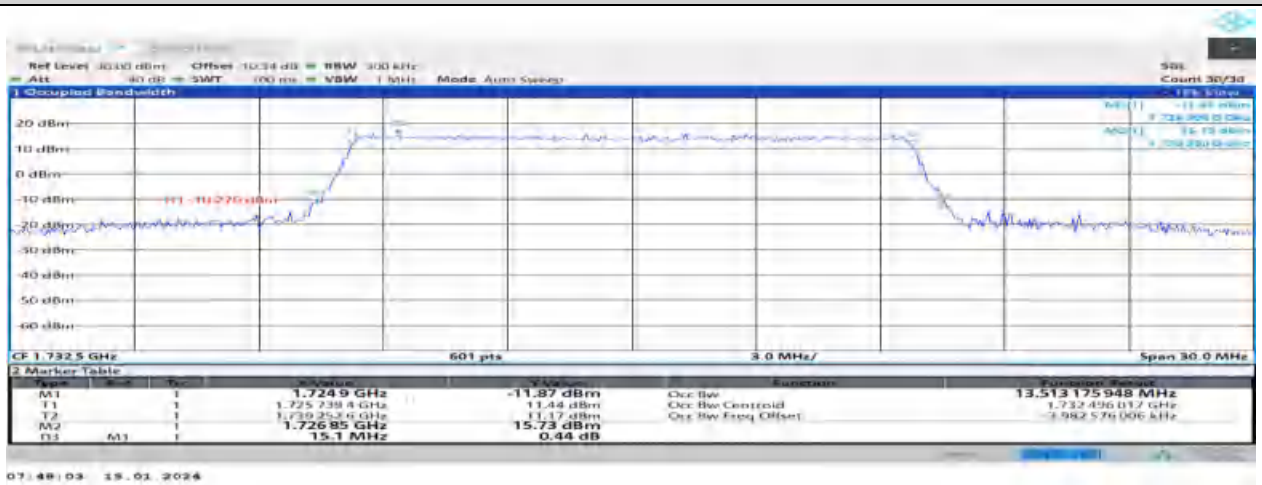
Band4-15MHz-QPSK-20325-75RB#0



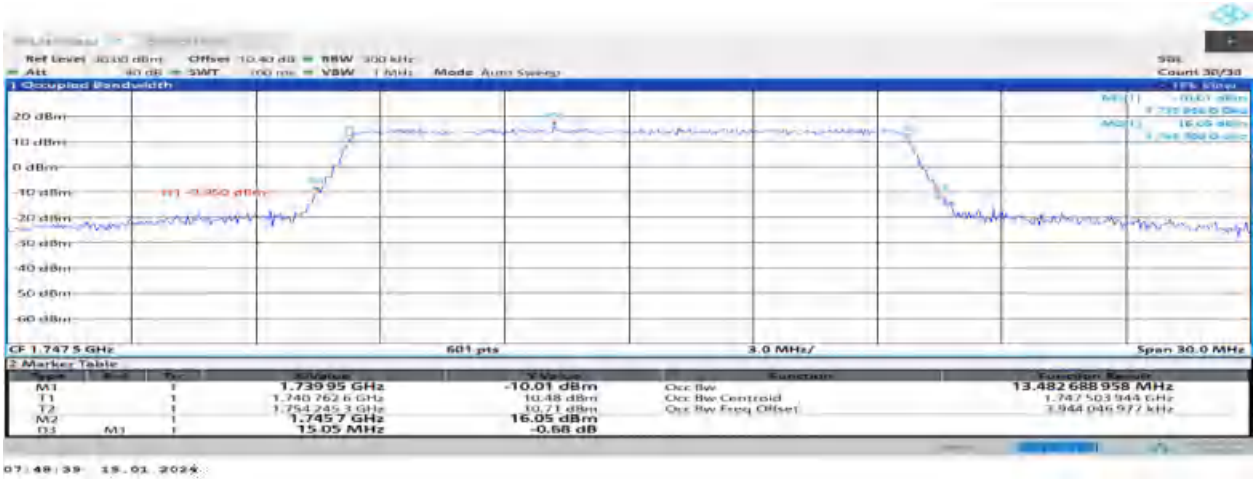
Band4-15MHz-16QAM-20025-75RB#0



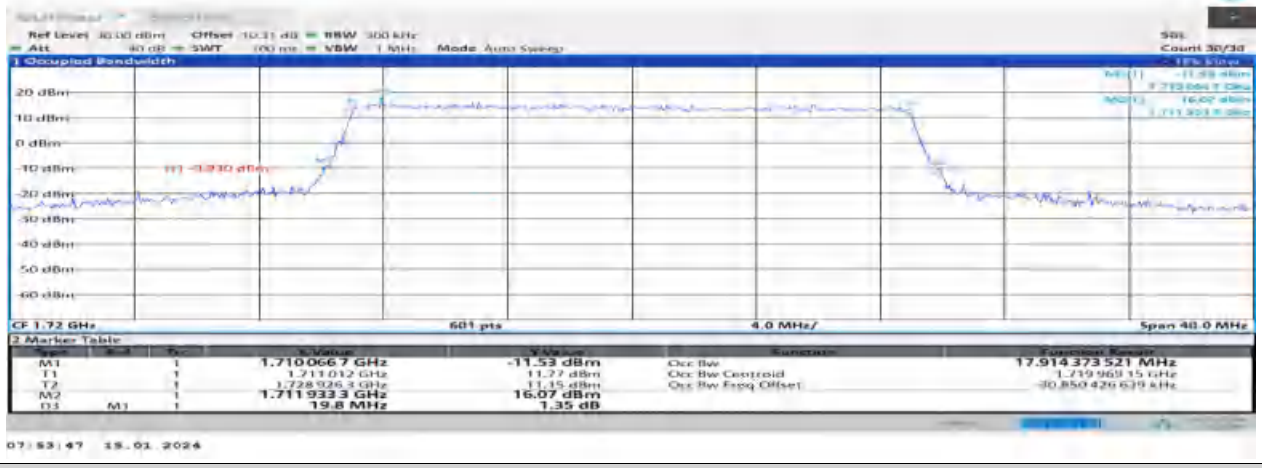
Band4-15MHz-16QAM-20175-75RB#0



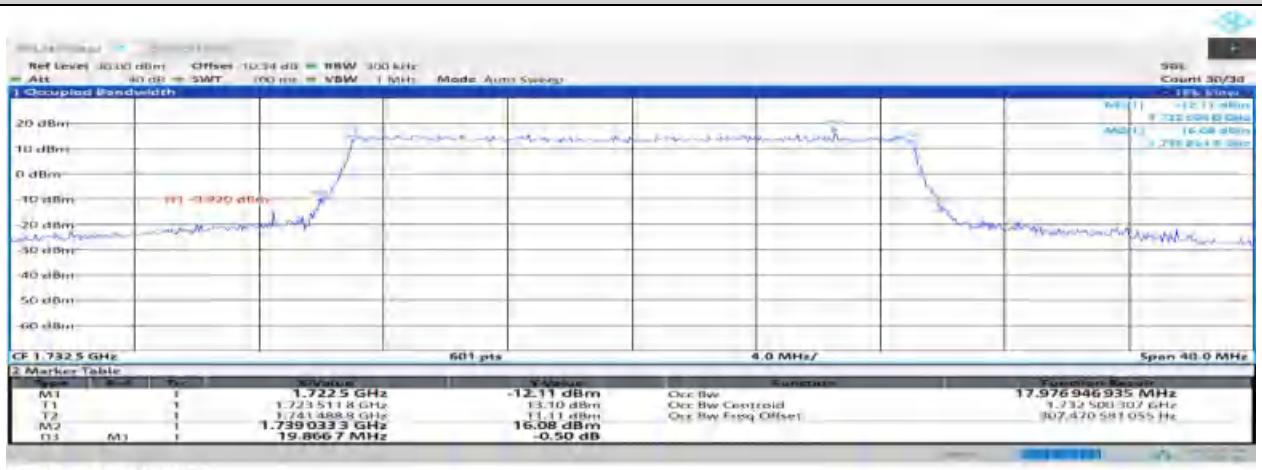
Band4-15MHz-16QAM-20325-75RB#0



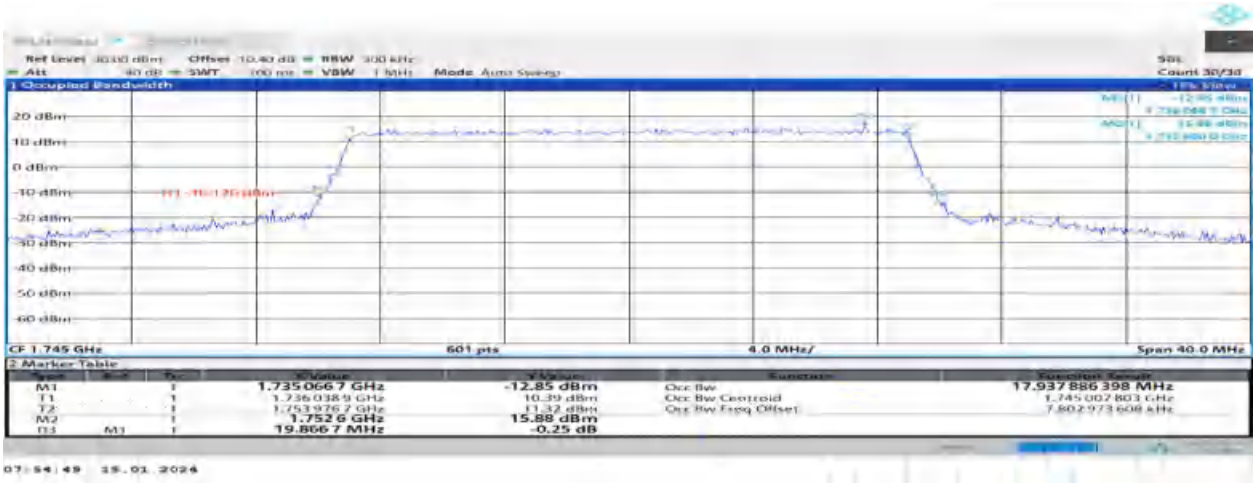
Band4-20MHz-QPSK-20050-100RB#0



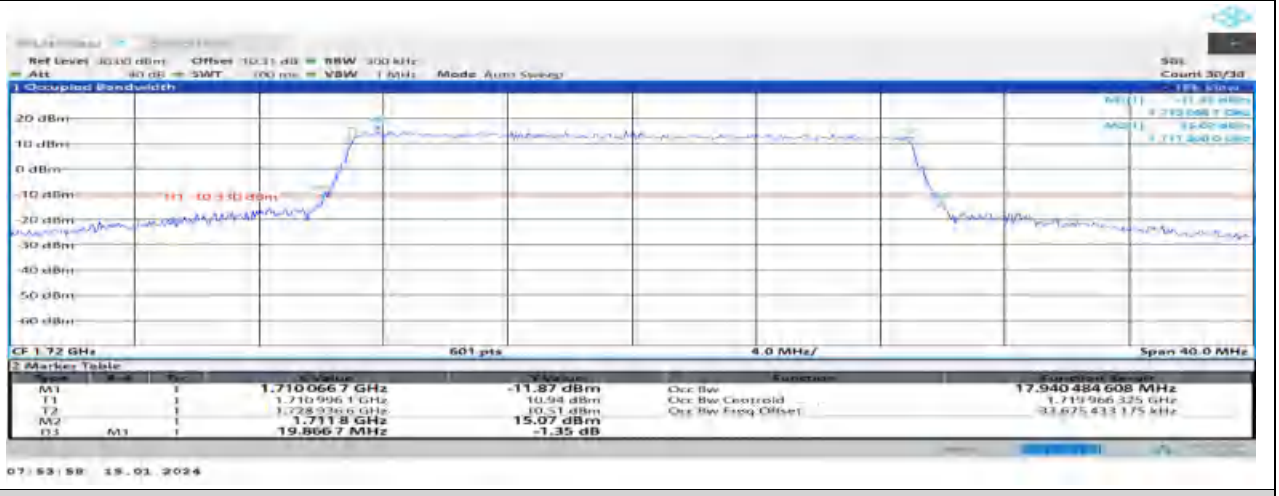
Band4-20MHz-QPSK-20175-100RB#0



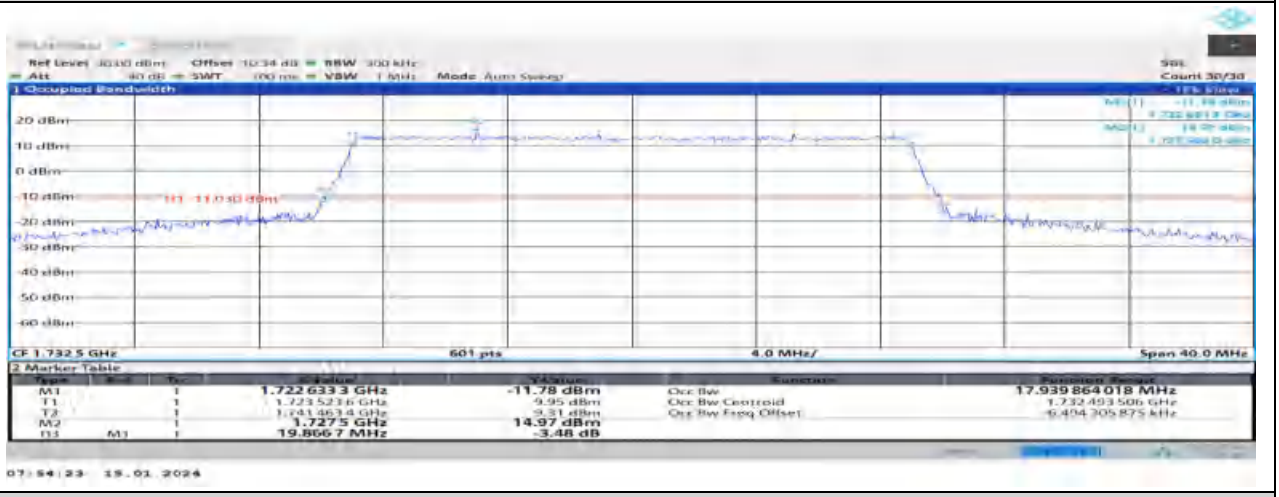
Band4-20MHz-QPSK-20300-100RB#0



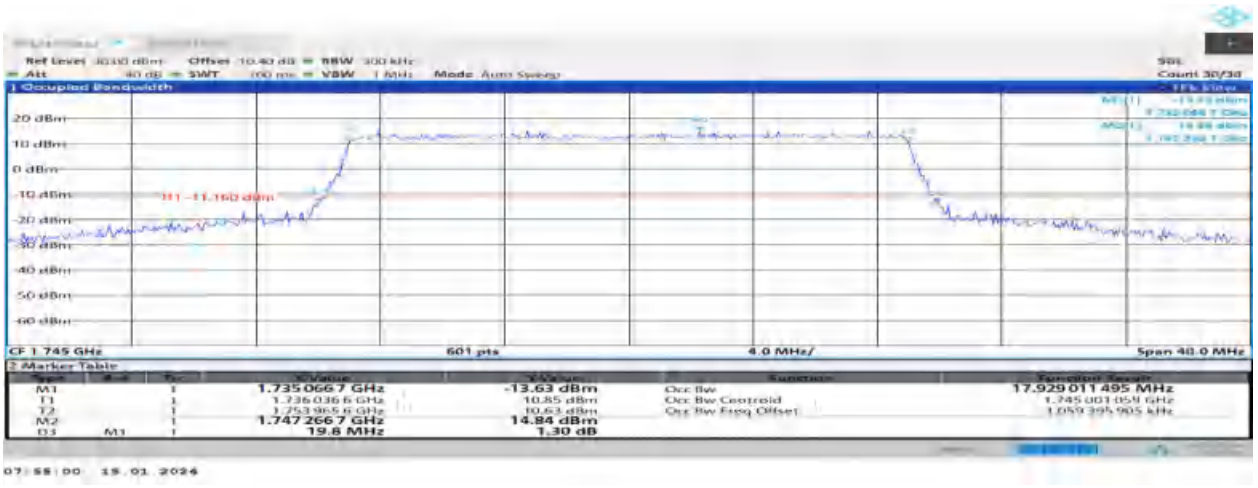
Band4-20MHz-16QAM-20050-100RB#0



Band4-20MHz-16QAM-20175-100RB#0



Band4-20MHz-16QAM-20300-100RB#0



APPENDIX B.4 BAND EDGE

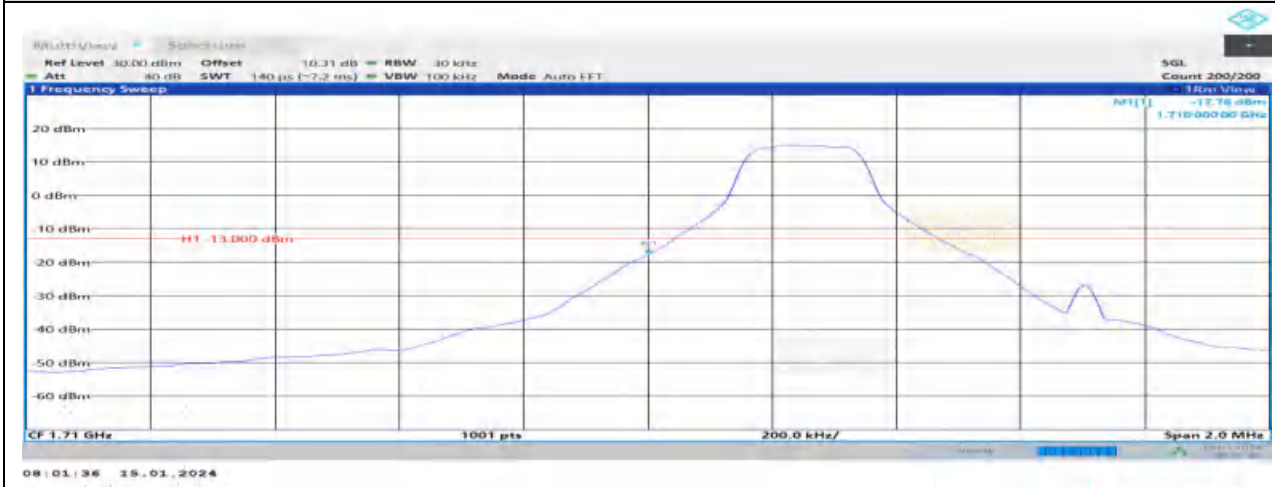
Test Result

Band	Bandwidth	Modulation	Channel	RB Config.	Result (dBm)	Verdict
Band4	1.4MHz	QPSK	19957	1RB#0	-17.76	PASS
Band4	1.4MHz	QPSK	19957	6RB#0	-22.44	PASS
Band4	1.4MHz	QPSK	20393	1RB#5	-18.09	PASS
Band4	1.4MHz	QPSK	20393	6RB#0	-24.45	PASS
Band4	1.4MHz	16QAM	19957	1RB#0	-19.07	PASS
Band4	1.4MHz	16QAM	19957	6RB#0	-24.69	PASS
Band4	1.4MHz	16QAM	20393	1RB#5	-20.83	PASS
Band4	1.4MHz	16QAM	20393	6RB#0	-25.33	PASS
Band4	3MHz	QPSK	19965	1RB#0	-18.58	PASS
Band4	3MHz	QPSK	19965	15RB#0	-23.00	PASS
Band4	3MHz	QPSK	20385	1RB#14	-19.16	PASS
Band4	3MHz	QPSK	20385	15RB#0	-24.09	PASS
Band4	3MHz	16QAM	19965	1RB#0	-19.59	PASS
Band4	3MHz	16QAM	19965	15RB#0	-23.79	PASS
Band4	3MHz	16QAM	20385	1RB#14	-19.36	PASS
Band4	3MHz	16QAM	20385	15RB#0	-25.98	PASS
Band4	5MHz	QPSK	19975	1RB#0	-22.51	PASS
Band4	5MHz	QPSK	19975	25RB#0	-26.36	PASS
Band4	5MHz	QPSK	20375	1RB#24	-21.09	PASS
Band4	5MHz	QPSK	20375	25RB#0	-28.04	PASS
Band4	5MHz	16QAM	19975	1RB#0	-22.66	PASS
Band4	5MHz	16QAM	19975	25RB#0	-27.84	PASS
Band4	5MHz	16QAM	20375	1RB#24	-24.49	PASS
Band4	5MHz	16QAM	20375	25RB#0	-29.55	PASS
Band4	10MHz	QPSK	20000	1RB#0	-30.31	PASS
Band4	10MHz	QPSK	20000	50RB#0	-30.13	PASS
Band4	10MHz	QPSK	20350	1RB#49	-32.57	PASS
Band4	10MHz	QPSK	20350	50RB#0	-31.48	PASS
Band4	10MHz	16QAM	20000	1RB#0	-31.17	PASS
Band4	10MHz	16QAM	20000	50RB#0	-31.42	PASS
Band4	10MHz	16QAM	20350	1RB#49	-32.43	PASS
Band4	10MHz	16QAM	20350	50RB#0	-32.37	PASS
Band4	15MHz	QPSK	20025	1RB#0	-19.24	PASS
Band4	15MHz	QPSK	20025	75RB#0	-26.26	PASS
Band4	15MHz	QPSK	20325	1RB#74	-20.72	PASS
Band4	15MHz	QPSK	20325	75RB#0	-28.26	PASS
Band4	15MHz	16QAM	20025	1RB#0	-19.41	PASS
Band4	15MHz	16QAM	20025	75RB#0	-27.19	PASS
Band4	15MHz	16QAM	20325	1RB#74	-19.91	PASS
Band4	15MHz	16QAM	20325	75RB#0	-29.86	PASS
Band4	20MHz	QPSK	20050	1RB#0	-24.25	PASS
Band4	20MHz	QPSK	20050	100RB#0	-29.32	PASS
Band4	20MHz	QPSK	20300	1RB#99	-23.55	PASS

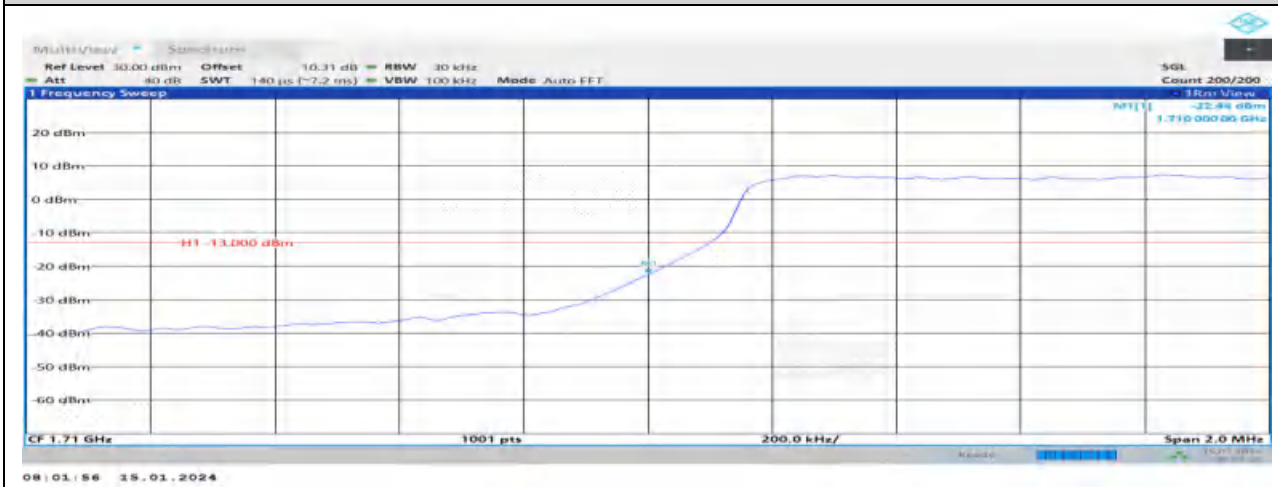
Band4	20MHz	QPSK	20300	100RB#0	-31.62	PASS
Band4	20MHz	16QAM	20050	1RB#0	-23.00	PASS
Band4	20MHz	16QAM	20050	100RB#0	-30.38	PASS
Band4	20MHz	16QAM	20300	1RB#99	-25.18	PASS
Band4	20MHz	16QAM	20300	100RB#0	-31.65	PASS

Test Graphs

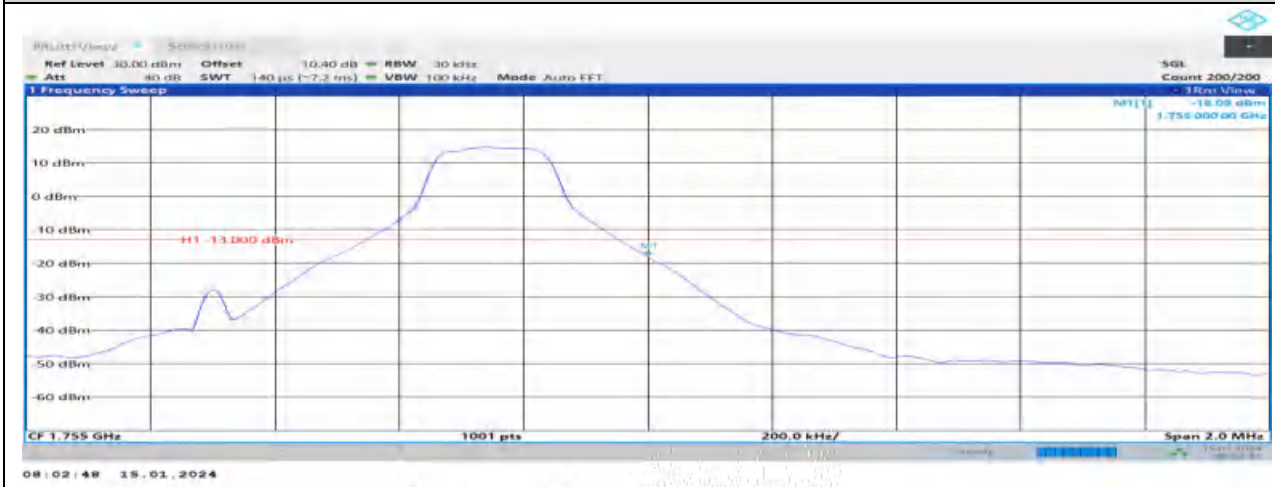
Band4-1.4MHz-QPSK-19957-1RB#0



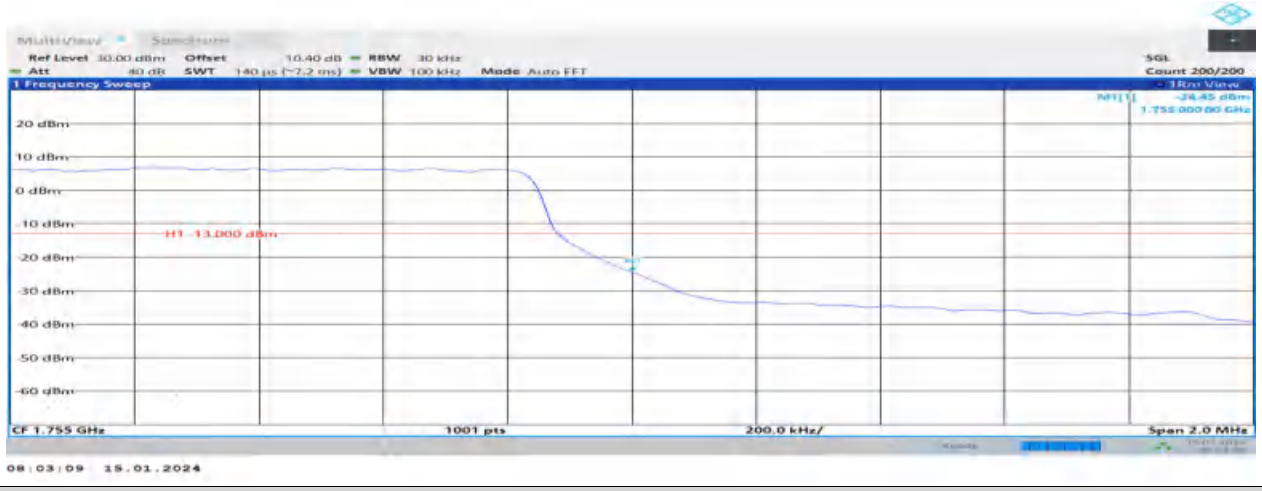
Band4-1.4MHz-QPSK-19957-6RB#0



Band4-1.4MHz-QPSK-20393-1RB#5

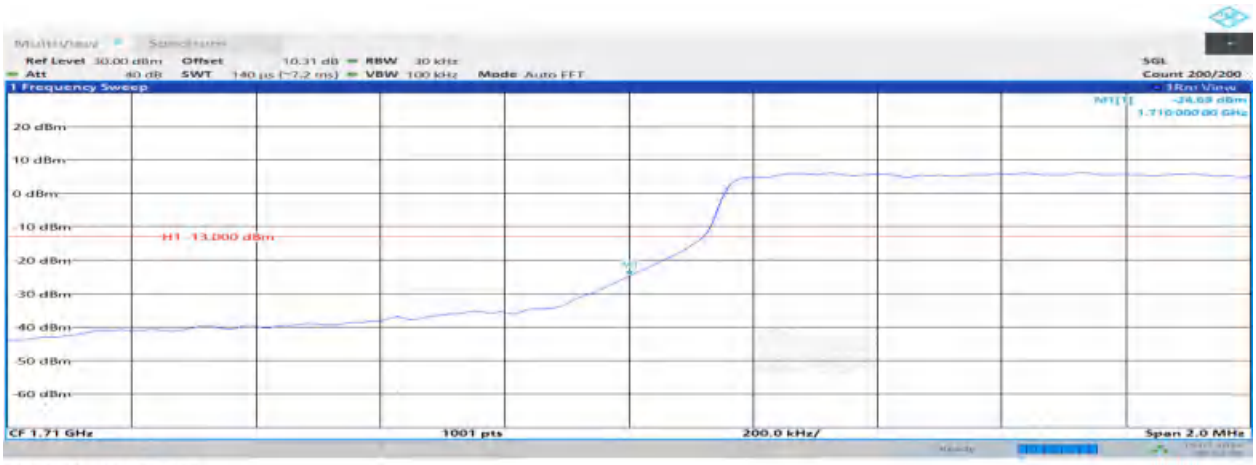


Band4-1.4MHz-QPSK-20393-6RB#0



Band4-1.4MHz-16QAM-19957-1RB#0

Band4-1.4MHz-16QAM-19957-6RB#0



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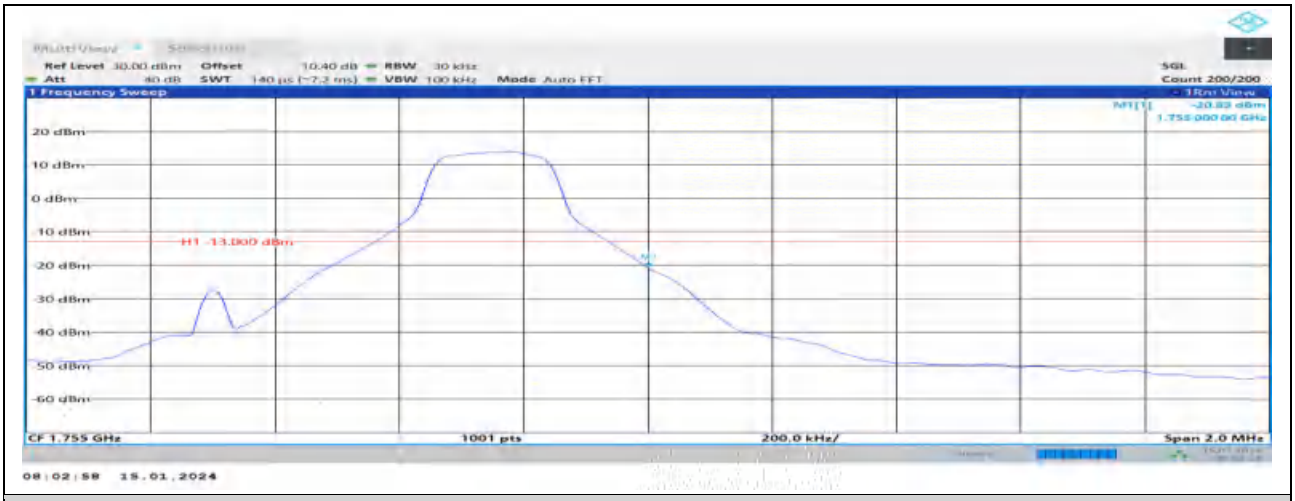
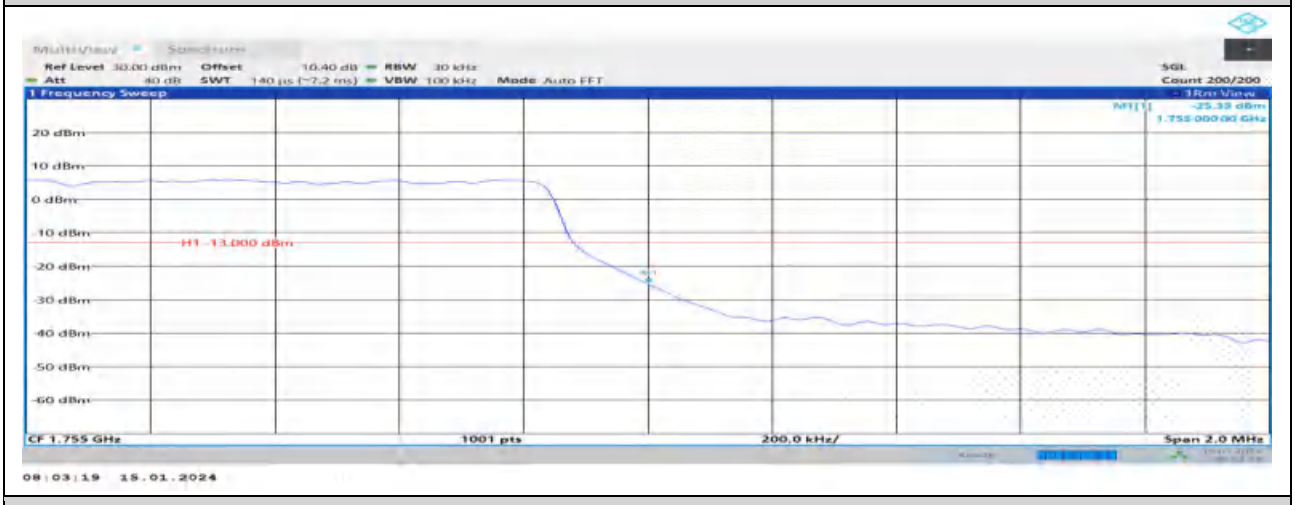
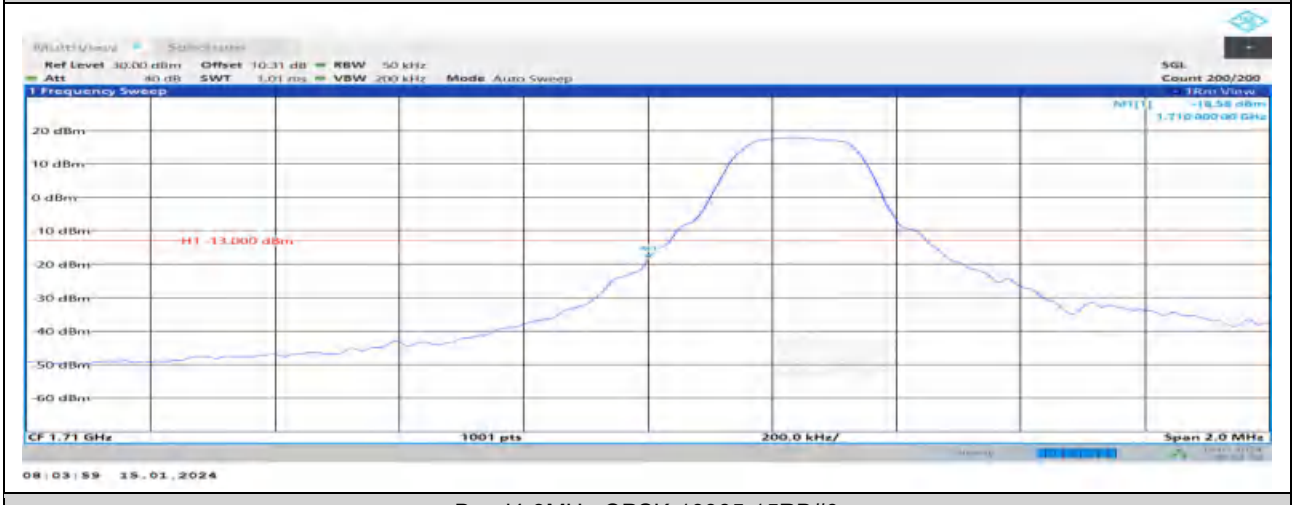


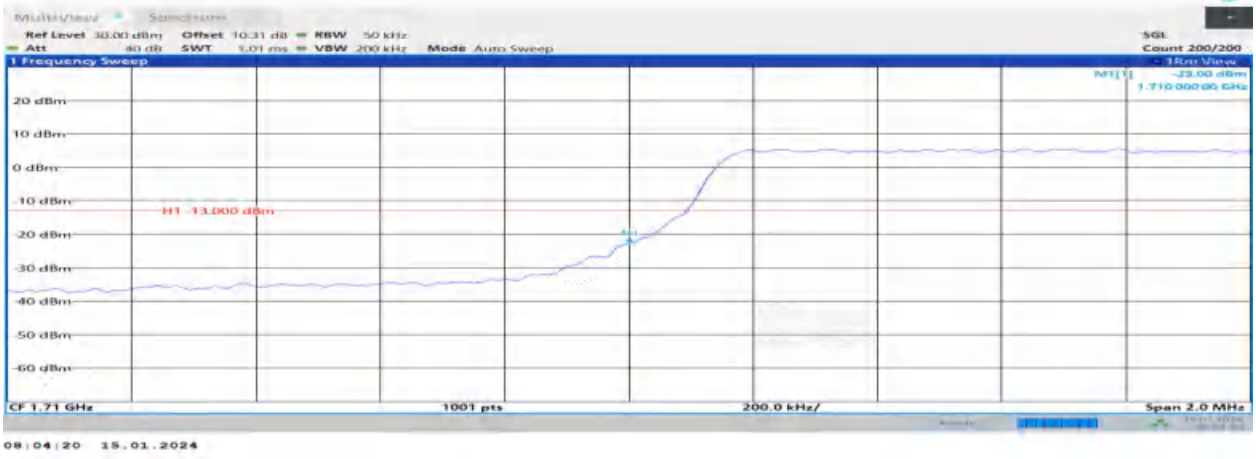
Band4-1.4MHz-16QAM-20393-6RB#0



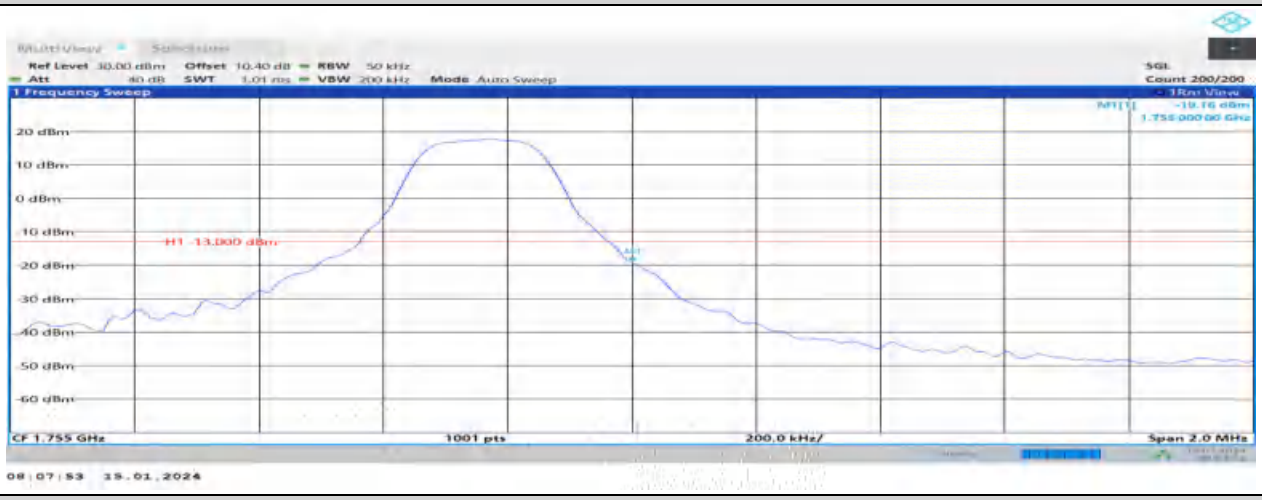
Band4-3MHz-QPSK-19965-1RB#0



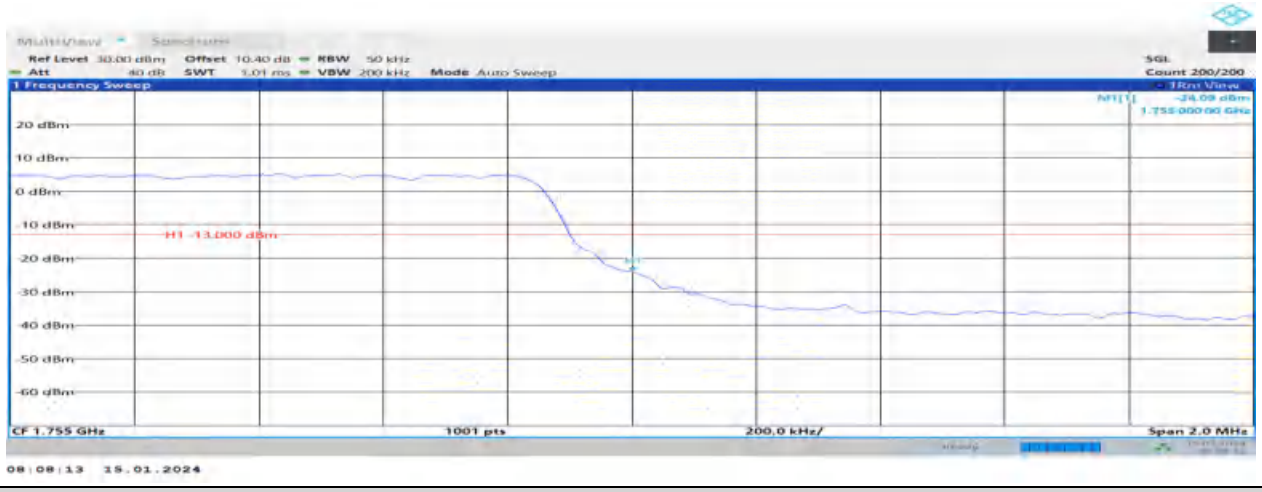
Band4-3MHz-QPSK-19965-15RB#0



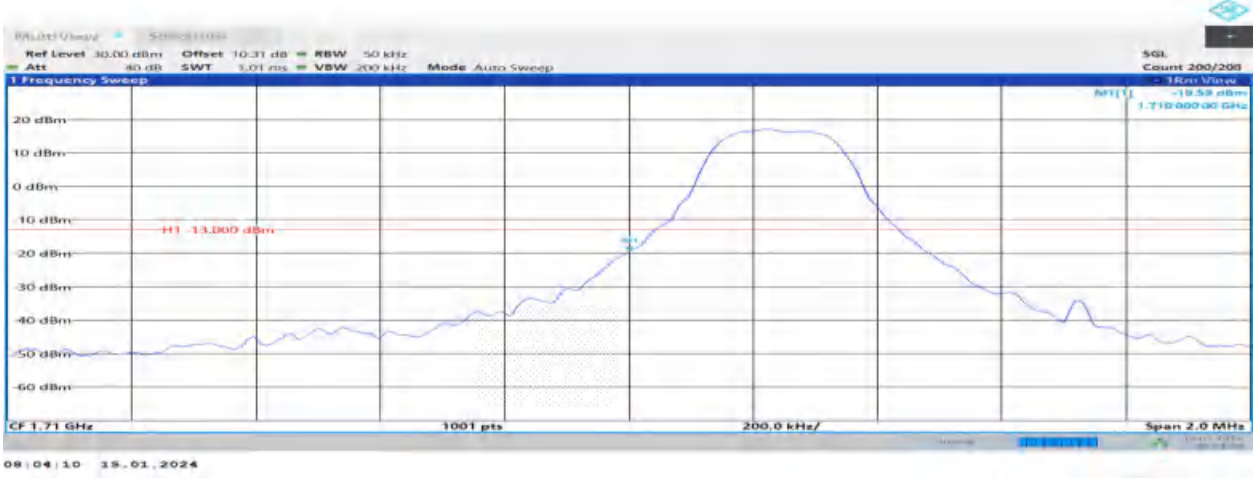
Band4-3MHz-QPSK-20385-1RB#14



Band4-3MHz-QPSK-20385-15RB#0



Band4-3MHz-16QAM-19965-1RB#0



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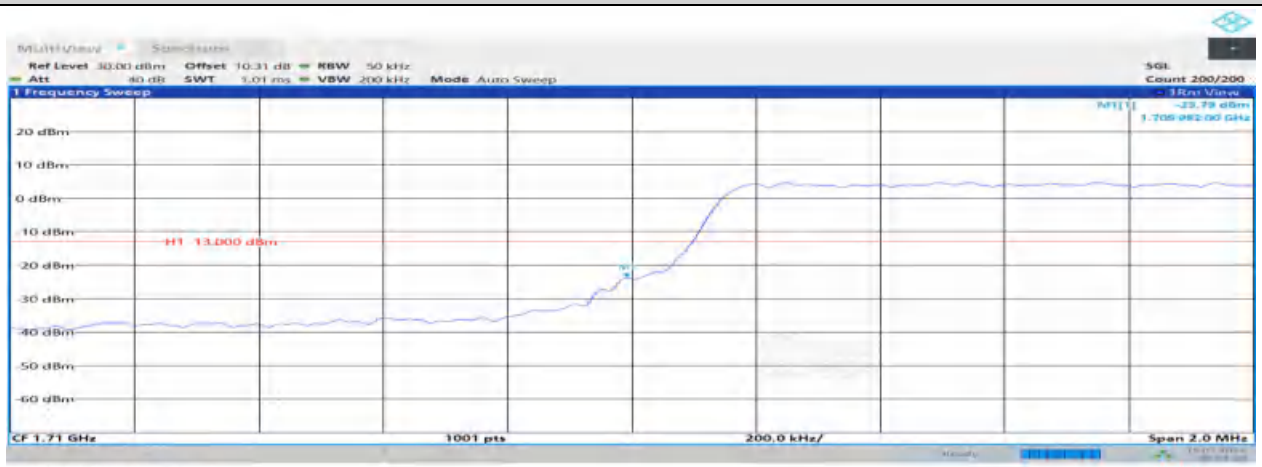
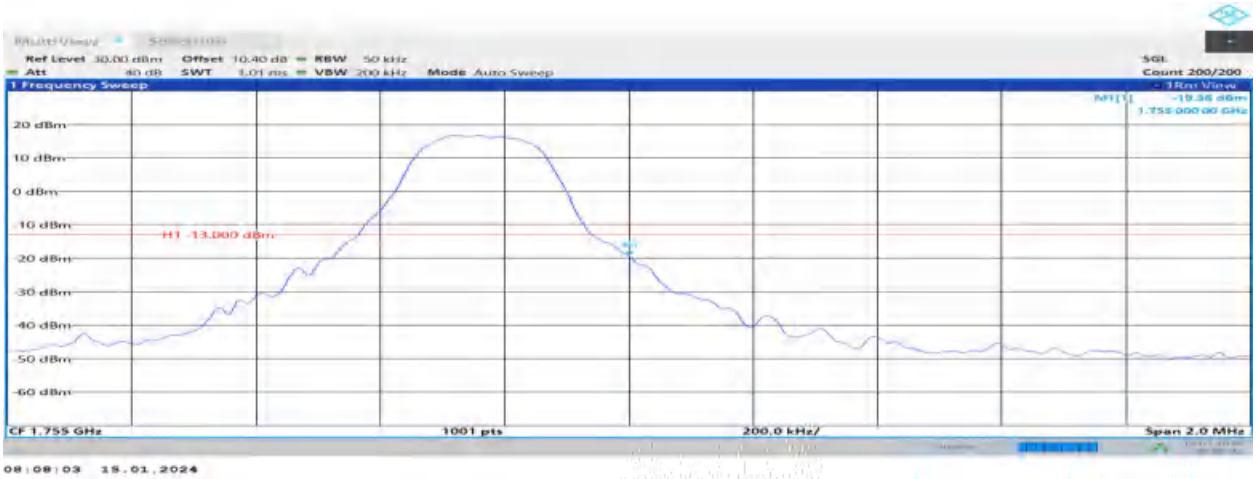


Band4-3MHz-16QAM-20385-1RB#14



Band4-3MHz-16QAM-20385-15RB#0