FCC RADIO TEST REPORT

FCC ID	:	**N7NEM92**
Equipment	:	**Wireless Module**
Brand Name	:	**AirPrime**
Model Name	:	**EM9293**
Applicant	:	**Sierra Wireless, ULC** **13811 Wireless Way, Richmond, BC V6V 3A4 Canada**
Manufacturer	:	**Sierra Wireless, ULC** **13811 Wireless Way, Richmond, BC V6V 3A4 Canada**
Standard	:	**FCC 47 CFR Part 2, Part 27(D)**

The product was received on Dec. 20, 2022 and testing was performed from Aug. 03, 2023 to Aug. 23, 2023. We, Sporton International Inc. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI / TIA-603-E and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Louis Wu

Approved by: Louis Wu

Sporton International Inc. EMC & Wireless Communications Laboratory
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)

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History of this test report

Report No.	Version	Description	Issue Date
FG2D2006I	01	Initial issue of report	Sep. 07, 2023

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.2	§2.1046	Conducted Output Power	Reporting only	-
3.3	-	Peak-to-Average Ratio	Reporting only	-
3.4	§2.1049	Occupied Bandwidth	Reporting only	-
3.5	§2.1051 §27.53 (a)(4)	Conducted Band Edge Measurement	Pass	-
3.6	§2.1051 §27.53 (a)(4)	Conducted Spurious Emission	Pass	-
3.7	§2.1055 §27.54	Frequency Stability Temperature & Voltage	Pass	-
4.2	§2.1053 §27.53 (a)(4)	Radiated Spurious Emission	Pass	15.89 dB under the limit at 6924.00 MHz

Conformity Assessment Condition:

1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. The measurement uncertainty please refer to each test result in the section “Measurement Uncertainty”.

Disclaimer:

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

Reviewed by: Danny Lee

Report Producer: Rachel Hsieh

1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature
General Specs WCDMA/LTE/5G NR, and GNSS.

Remark:

1. The EUT's information above is declared by manufacturer. Please refer to Disclaimer in report summary.
2. The maximum allowable antenna gain is determined by the manufacturer.

1.2 Modification of EUT

No modifications are made to the EUT during all test items.

1.3 Testing Site

Test Site	Sporton International Inc. EMC & Wireless Communications Laboratory
Test Site Location	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978
Test Site No.	**Sporton Site No.**
	TH03-HY
Test Engineer	George Chen
Temperature (℃)	22~24
Relative Humidity (%)	53~58

Test Site	Sporton International Inc. Wensan Laboratory
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	**Sporton Site No.**
	03CH11-HY (TAF Code: 3786)
Test Engineer	Yuan Lee, Sam Chou, Troye Hsieh and Leo Li
Temperature (℃)	19.8~23.5
Relative Humidity (%)	53.1~68.1
Remark	The Radiated Spurious Emission test item subcontracted to Sporton International Inc. Wensan Laboratory.

Note: The test site complies with ANSI C63.4 2014 requirement.

FCC Designation No.: TW1190 and TW3786

1.4 Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ANSI C63.26-2015
- FCC 47 CFR Part 2, Part 27(D)
- ANSI / TIA-603-E
- FCC KDB 971168 Power Meas License Digital Systems D01 v03r01
- FCC KDB 412172 D01 Determining ERP and EIRP v01r01
- FCC KDB 414788 D01 Radiated Test Site v01r01

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. The TAF code is not including all the FCC KDB listed without accreditation.

2 Test Configuration of Equipment Under Test

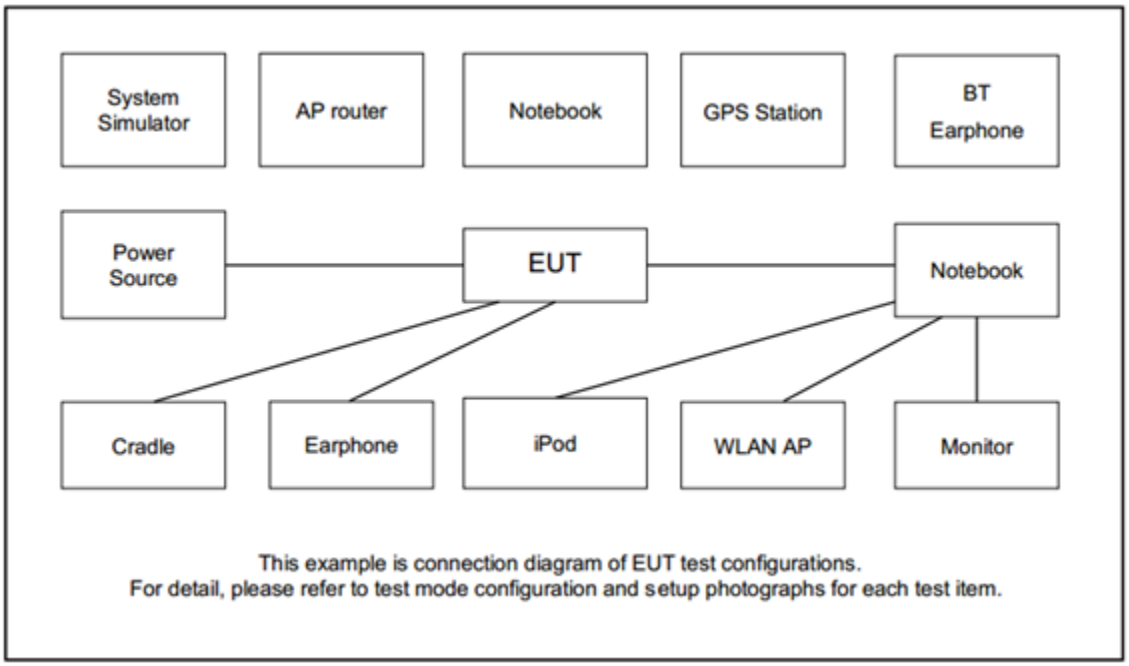
2.1 Test Mode

Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas. License Digital Systems v03r01 with maximum output power.

For radiated measurement, the measured emission level of the EUT was maximized by rotating the EUT on a turntable, adjusting the orientation of the EUT and EUT antenna in two config (Ant. Horizontal and Ant. Vertical), and adjusting the measurement antenna orientation, following C63.26 exploratory test procedures and only the worst case emissions were reported in this report.

Test Items	Band	Bandwidth (MHz)						Modulation					RB #			Test Channel		
		1.4	3	5	10	15	20	PI/2 BPSK	QPSK	16QAM	64QAM	256QAM	1	Half	Full	L	M	H
Max. Output Power	n30	-	-	v	v	-	-	v	v	v	v	v	v	v	v	v	v	v
Peak-to-Average Ratio	n30	-	-		v	-	-	v	v	v	v	v			v		v	
26dB and 99% Bandwidth	n30	-	-	v	v	-	-	v	v	v	v	v			v		v	
Conducted Band Edge	n30	-	-	v	v	-	-	v	v	v	v	v	v		v	v		v
Conducted Spurious Emission	n30	-	-	v	v	-	-		v				v			v	v	v
Frequency Stability	n30	-	-		v	-	-	v							v		v	
Radiated Spurious Emission	n30	Worst Case														v	v	v
Remark	1. The mark "**v** " means that this configuration is chosen for testing 2. The mark "-" means that this bandwidth is not supported. 3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported. 4. For radiated measurement, pre-scanned in two modes, DFT-s OFDM and CP OFDM. The worst cases (DFT-s OFDM) were recorded in this report. 5. One representative bandwidth is selected to perform PAR and frequency stability.																	

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model No.	FCC ID	Data Cable	Power Cord
1.	System Simulator	Anritsu	MT8000A	N/A	N/A	Unshielded, 1.8 m
2.	System Simulator	Anritsu	MT8821C	N/A	N/A	Unshielded, 1.8 m

2.4 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 4.2 dB and 10dB attenuator.

Example :

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).

= 4.2 + 10 = 14.2 (dB)

2.5 Frequency List of Low/Middle/High Channels

5G NR n30 Channel and Frequency List				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
10	Channel	-	27710	-
	Frequency	-	2310	-
5	Channel	27685	27710	27735
	Frequency	2307.5	2310	2312.5

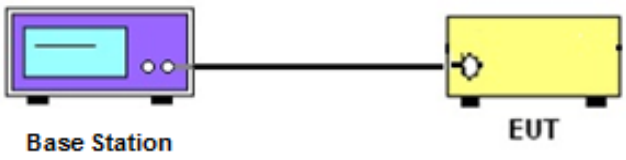
3 Conducted Test Items

3.1 Measuring Instruments

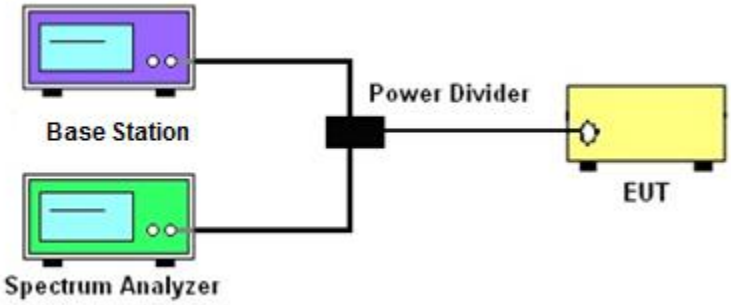
See list of measuring instruments of this test report.

3.1.1 Test Setup

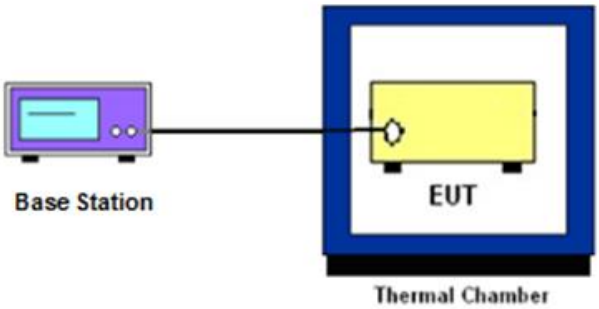
3.1.2 Conducted Output Power



3.1.3 Peak-to-Average Ratio, Occupied Bandwidth, 26dB Bandwidth ,Band-Edge and Conducted Spurious Emission



3.1.4 Frequency Stability



3.1.5 Test Result of Conducted Test

Please refer to Appendix A.

3.2 Conducted Output Power Measurement

3.2.1 Description of the Conducted Output Power Measurement

A base station simulator was used to establish communication with the EUT. Its parameters were set to transmit the maximum power on the EUT. The measured power in the radio frequency on the transmitter output terminals shall be reported.

3.2.2 Test Procedures

1. The transmitter output port was connected to the system simulator.
2. Set EUT at maximum power through the system simulator.
3. Select lowest, middle, and highest channels for each band and different modulation.
4. Measure and record the power level from the system simulator.

3.3 Peak-to-Average Ratio

3.3.1 Description of the PAR Measurement

Power Complementary Cumulative Distribution Function (CCDF) curves provide a means for characterizing the power peaks of a digitally modulated signal on a statistical basis. A CCDF curve depicts the probability of the peak signal amplitude exceeding the average power level. Most contemporary measurement instrumentation include the capability to produce CCDF curves for an input signal provided that the instrument's resolution bandwidth can be set wide enough to accommodate the entire input signal bandwidth. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

3.3.2 Test Procedures

The testing follows ANSI C63.26-2015 Section 5.2.6

1. The EUT was connected to spectrum and system simulator via a power divider.
2. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
3. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.
4. Record the deviation as Peak to Average Ratio.

3.4 Occupied Bandwidth

3.4.1 Description of Occupied Bandwidth Measurement

The occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean transmitted power.

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

3.4.2 Test Procedures

The testing follows ANSI C63.26-2015 Section 5.4.3 (26dB) and Section 5.4.4 (99OB)

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be between two and five times the anticipated OBW.
3. The nominal resolution bandwidth (RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.
4. Set the detection mode to peak, and the trace mode to max hold.
5. Determine the reference value: Set the EUT to transmit a modulated signal. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace.
   (this is the reference value)
6. Determine the “-26 dB down amplitude” as equal to (Reference Value – X).
7. Place two markers, one at the lowest and the other at the highest frequency of the envelope of the spectral display such that each marker is at or slightly below the “–X dB down amplitude” determined in step 6. If a marker is below this “-X dB down amplitude” value it shall be placed as close as possible to this value. The OBW is the positive frequency difference between the two markers.
8. Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.

3.5 Conducted Band Edge

3.5.1 Description of Conducted Band Edge Measurement

27.53 (a)(4)

For mobile and portable stations operating in the 2305-2315 MHz and 2350-2360 MHz bands:

(i) By a factor of not less than: 43 + 10 log (P) dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation, not less than 55 + 10 log (P) dB on all frequencies between 2320 and 2324 MHz and on all frequencies between 2341 and 2345 MHz, not less than 61 + 10 log (P) dB on all frequencies between 2324 and 2328 MHz and on all frequencies between 2337 and 2341 MHz, and not less than 67 + 10 log (P) dB on all frequencies between 2328 and 2337 MHz.

(ii) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2300 and 2305 MHz, 55 + 10 log (P) dB on all frequencies between 2296 and 2300 MHz, 61 + 10 log (P) dB on all frequencies between 2292 and 2296 MHz, 67 + 10 log (P) dB on all frequencies between 2288 and 2292 MHz, and 70 + 10 log (P) dB below 2288 MHz.

(iii) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2360 and 2365 MHz, and not less than 70 + 10 log (P) dB above 2365 MHz.

3.5.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 6.1.

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The band edges of low and high channels for the highest RF powers were measured.
3. Set RBW >= 1% EBW in the 1MHz band immediately outside and adjacent to the band edge.
4. Beyond the 1 MHz band from the band edge, RBW=1MHz was used.
5. Set spectrum analyzer with RMS detector.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
7. Checked that all the results comply with the emission limit line.
   The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)

3.6 Conducted Spurious Emission

3.6.1 Description of Conducted Spurious Emission Measurement

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least 70 + 10 log (P) dB.

It is measured by means of a calibrated spectrum analyzer and scanned from 9 kHz up to a frequency including its 10th harmonic.

3.6.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 6.1.

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. The middle channel for the highest RF power within the transmitting frequency was measured.
4. The conducted spurious emission for the whole frequency range was taken.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz.
6. Set spectrum analyzer with RMS detector.
7. Taking the record of maximum spurious emission.
8. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
9. The limit line is derived from 70 + 10log(P)dB below the transmitter power P(Watts)
   = P(W)- [70 + 10log(P)] (dB)
   = [30 + 10log(P)] (dBm) - [70 + 10log(P)] (dB)
   = -40dBm.

3.7 Frequency Stability

3.7.1 Description of Frequency Stability Measurement

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

3.7.2 Test Procedures for Temperature Variation

The testing follows FCC KDB 971168 D01 v03r01 Section 9.0.

1. The EUT was set up in the thermal chamber and connected with the system simulator.
2. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
3. With power OFF, the temperature was raised in 10°C step up to 50°C. The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

3.7.3 Test Procedures for Voltage Variation

The testing follows FCC KDB 971168 D01 v03r01 Section 9.0.

1. The EUT was placed in a temperature chamber at 20±5° C and connected with the system simulator.
2. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.
3. The variation in frequency was measured for the worst case.

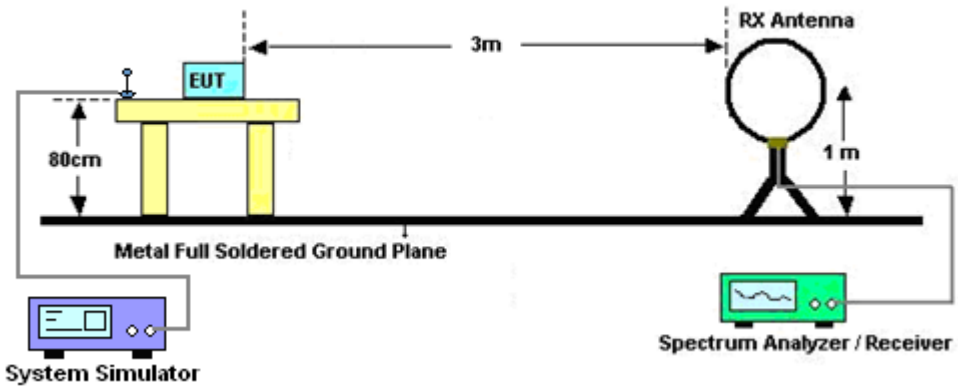
4 Radiated Test Items

4.1 Measuring Instruments

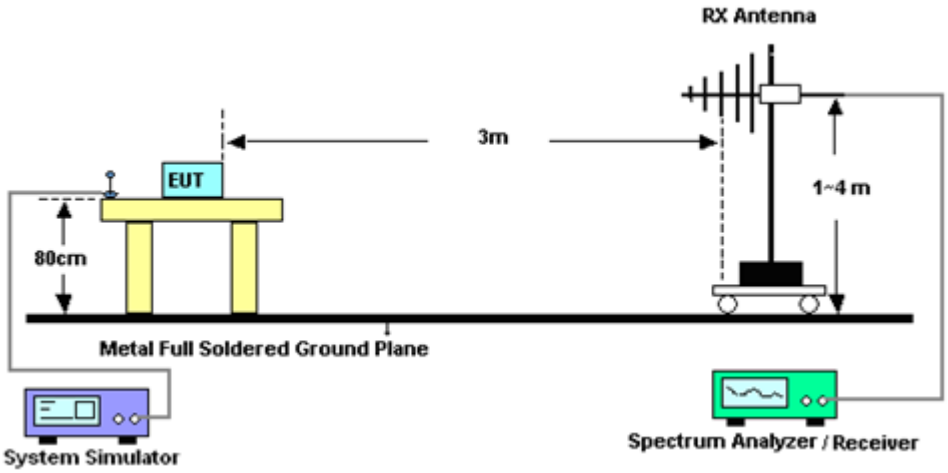
See list of measuring instruments of this test report.

4.1.1 Test Setup

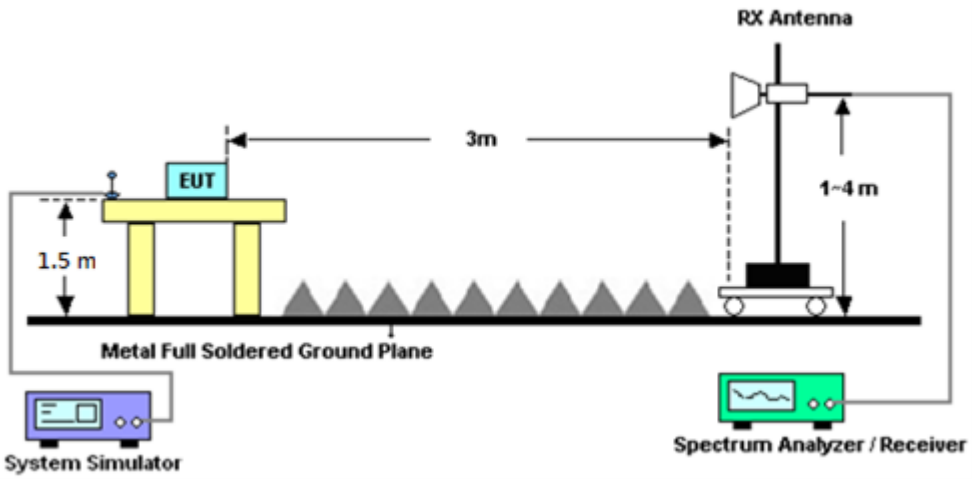
For radiated test below 30MHz



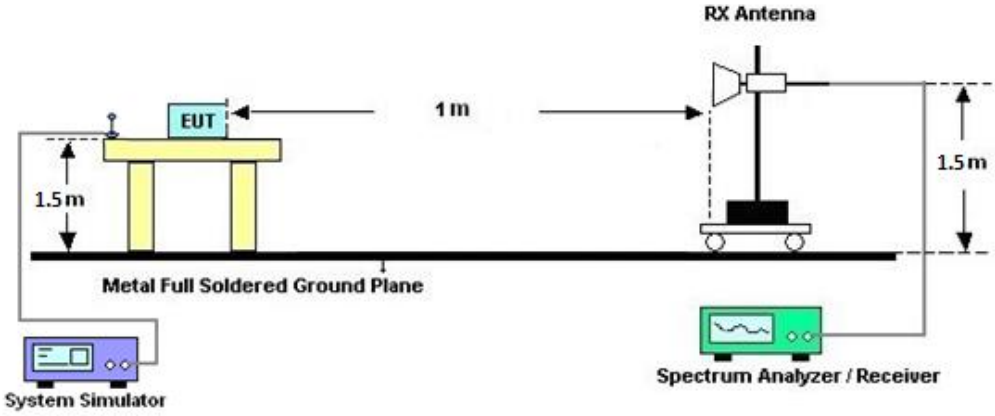
For radiated test from 30MHz to 1GHz



For radiated test from 1GHz to 18GHz



For radiated test above 18GHz



4.1.2 Test Result of Radiated Test

Please refer to Appendix B.

Note:

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is adequate comparison measurement of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.

4.2 Radiated Spurious Emission Measurement

4.2.1 Description of Radiated Spurious Emission Measurement

The radiated spurious emission was measured by substitution method according to ANSI / TIA-603-E

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least 70 + 10 log (P) dB.

The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

4.2.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 7 and ANSI / TIA-603-E Section 2.2.12.

1. The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1GHz respectively above ground.
2. The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between 1m to 4m to search the maximum spurious emission for both horizontal and vertical polarizations.
5. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
7. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
8. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
   EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
   ERP (dBm) = EIRP - 2.15
9. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
   The limit line is derived from 70 + 10log(P)dB below the transmitter power P(Watts)
   = P(W)- [70 + 10log(P)] (dB)
   = [30 + 10log(P)] (dBm) - [70 + 10log(P)] (dB)
   = -40dBm.

5 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
LOOP Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Sep. 20, 2022	Aug. 03, 2023~ Aug. 17, 2023	Sep. 19, 2023	Radiation (03CH11-HY)
Bilog Antenna	TESEQ	CBL 6111D & N-6-06	35414 & AT-N0602	30MHz~1GHz	Oct. 08, 2022	Aug. 03, 2023~ Aug. 17, 2023	Oct. 07, 2023	Radiation (03CH11-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-01620	1GHz~18GHz	Aug. 24, 2022	Aug. 03, 2023~ Aug. 17, 2023	Aug. 23, 2023	Radiation (03CH11-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1326	1GHz~18GHz	Aug. 24, 2022	Aug. 03, 2023~ Aug. 17, 2023	Aug. 23, 2023	Radiation (03CH11-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA9170	00993	18GHz~40GHz	Nov. 24, 2022	Aug. 03, 2023~ Aug. 17, 2023	Nov. 23, 2023	Radiation (03CH11-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA9170	00994	18GHz~40GHz	Nov. 04, 2022	Aug. 03, 2023~ Aug. 17, 2023	Nov. 03, 2023	Radiation (03CH11-HY)
Amplifier	SONOMA	310N	187312	9kHz~1GHz	Dec. 09, 2022	Aug. 03, 2023~ Aug. 17, 2023	Dec. 08, 2023	Radiation (03CH11-HY)
Preamplifier	Keysight	83017A	MY53270080	1GHz~26.5GHz	Nov. 09, 2022	Aug. 03, 2023~ Aug. 17, 2023	Nov. 08, 2023	Radiation (03CH11-HY)
Preamplifier	Jet-Power	JPA0118-55-303	1710001800055007	1GHz~18GHz	Jun. 14, 2023	Aug. 03, 2023~ Aug. 17, 2023	Jun. 13, 2024	Radiation (03CH11-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz~40GHz	Dec. 07, 2022	Aug. 03, 2023~ Aug. 17, 2023	Dec. 06, 2023	Radiation (03CH11-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200486	10Hz~44GHz	Oct. 07, 2022	Aug. 03, 2023~ Aug. 17, 2023	Oct. 06, 2023	Radiation (03CH11-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	Aug. 03, 2023~ Aug. 17, 2023	N/A	Radiation (03CH11-HY)
Turn Table	EMEC	TT 2000	N/A	0~360 Degree	N/A	Aug. 03, 2023~ Aug. 17, 2023	N/A	Radiation (03CH11-HY)
Software	Audix	E3 6.2009-8-24	RK-001053	N/A	N/A	Aug. 03, 2023~ Aug. 17, 2023	N/A	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY2859/2	30MHz~40GHz	Mar. 07, 2023	Aug. 03, 2023~ Aug. 17, 2023	Mar. 06, 2024	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	801595/2	30MHz~40GHz	Mar. 07, 2023	Aug. 03, 2023~ Aug. 17, 2023	Mar. 06, 2024	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803951/2	9K~30M	Mar. 07, 2023	Aug. 03, 2023~ Aug. 17, 2023	Mar. 06, 2024	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803951/2	30M~40G	Mar. 07, 2023	Aug. 03, 2023~ Aug. 17, 2023	Mar. 06, 2024	Radiation (03CH11-HY)
Filter	Wainwright	WHKX12-2700-3000-18000-60SS	SN3	3GHz High Pass Filter	Sep. 12, 2022	Aug. 03, 2023~ Aug. 17, 2023	Sep. 11, 2023	Radiation (03CH11-HY)
Filter	Wainwright	WHKX12-900-1000-15000-60SS	SN12	1GHz High Pass Filter	Sep. 12, 2022	Aug. 03, 2023~ Aug. 17, 2023	Sep. 11, 2023	Radiation (03CH11-HY)
Signal Generator	Rohde & Schwarz	SMF100A	101107	100kHz~40GHz	Jan. 11, 2023	Aug. 03, 2023~ Aug. 17, 2023	Jan. 10, 2024	Radiation (03CH11-HY)
Programmable Power Supply	GW Instek	PSS-2005	EL890001	50Hz~60Hz	Sep. 29, 2022	Aug. 21, 2023~ Aug. 23, 2023	Sep. 28, 2023	Conducted (TH03-HY)
Signal Analyzer	Rohde & Schwarz	FSV3044	101049	10Hz~44GHz	Oct. 07, 2022	Aug. 21, 2023~ Aug. 23, 2023	Oct. 06, 2023	Conducted (TH03-HY)
Temperature Chamber	ESPEC	SH-641	92013720	-40℃ ~90℃	Sep. 07, 2022	Aug. 21, 2023~ Aug. 23, 2023	Sep. 06, 2023	Conducted (TH03-HY)
Base Station (Measure)	Anritsu	MT8821C	6261940327	LTE	Dec. 09, 2022	Aug. 21, 2023~ Aug. 23, 2023	Dec. 08, 2023	Conducted (TH03-HY)
Base Station (Measure)	Anritsu	MT8000A	6261849015	FR1	Dec. 09, 2022	Aug. 21, 2023~ Aug. 23, 2023	Dec. 08, 2023	Conducted (TH03-HY)

6 Uncertainty of Evaluation

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.22 dB

Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.53 dB

Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.61 dB

Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power)

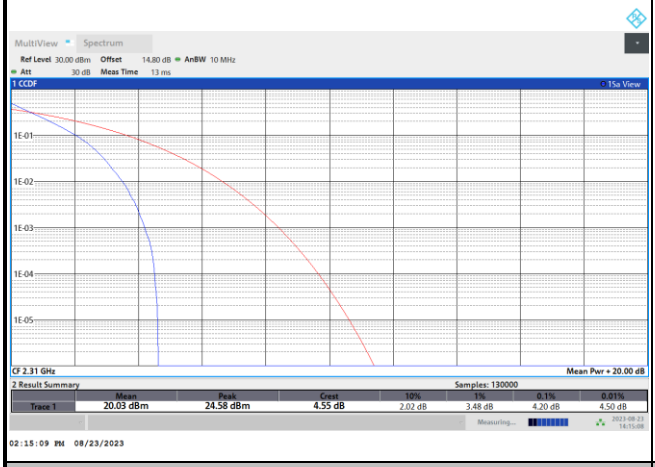
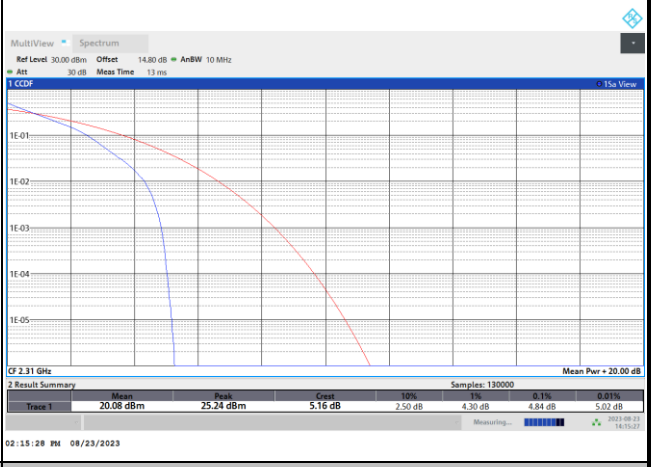
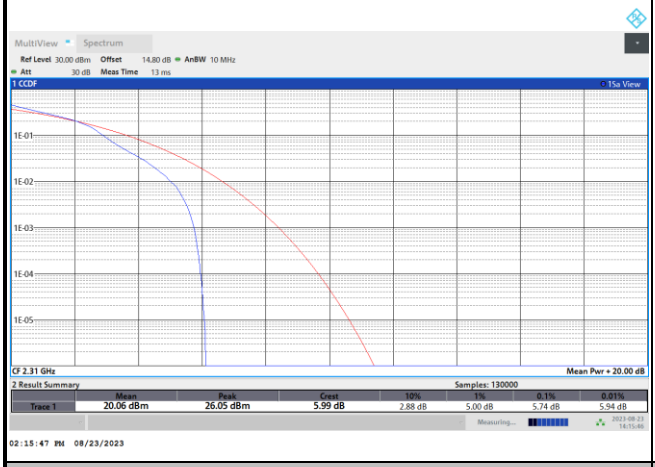
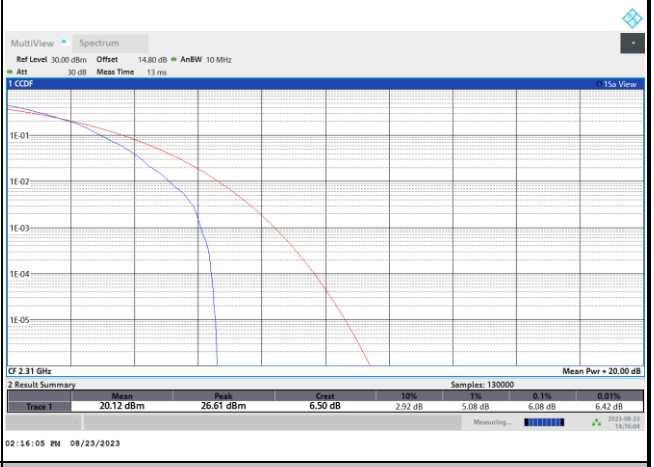
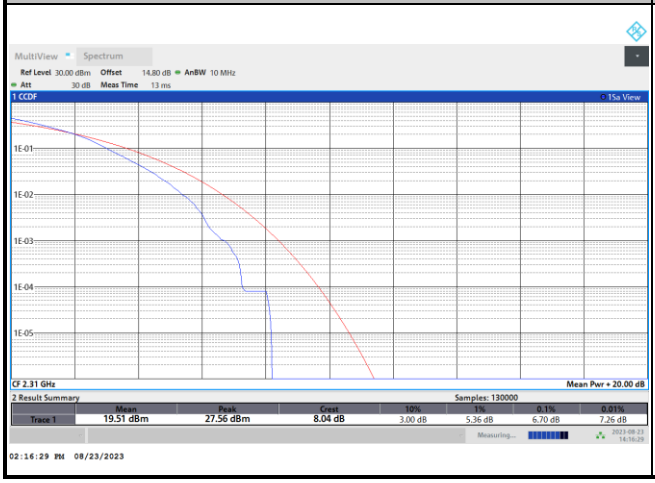
NR n30 Maximum Average Power [dBm]								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	Maximum Output Power (dBm)	Maximum Output Power (W)
5	1	1	PI/2 BPSK	24.62	24.66	24.72	24.72	0.2965
5	1	23		24.55	24.61	24.56		
5	12	6		24.56	24.66	24.70		
5	1	0		24.10	24.12	24.08		
5	1	24		24.03	24.09	24.08		
5	25	0		24.09	24.12	24.12		
5	1	1	QPSK	24.59	24.64	24.61	24.68	0.2938
5	1	23		24.51	24.57	24.60		
5	12	6		24.55	24.59	24.68		
5	1	0		23.61	23.59	23.64		
5	1	24		23.54	23.58	23.57		
5	25	0		23.59	23.61	23.67		
5	1	1	16-QAM	23.44	23.62	23.65	23.65	0.2317
5	1	1	64-QAM	22.30	22.33	22.32		
5	1	1	256-QAM	19.55	19.60	19.62		

NR n30 Maximum Average Power [dBm]								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	Maximum Output Power (dBm)	Maximum Output Power (W)
10	1	1	PI/2 BPSK	-	19.21	-	25.24	0.3342
10	1	50		-	19.12	-		
10	25	12		-	25.24	-		
10	1	0		-	19.22	-		
10	1	51		-	19.11	-		
10	50	0		-	21.20	-		
10	1	1	QPSK	-	19.11	-	25.26	0.3357
10	1	50		-	19.13	-		
10	25	12		-	25.26	-		
10	1	0		-	19.20	-		
10	1	51		-	19.13	-		
10	50	0		-	21.20	-		
10	1	1	16-QAM	-	19.16	-	19.17	0.0826
10	1	1	64-QAM	-	19.12	-		
10	1	1	256-QAM	-	19.17	-		

FR1 n30

Peak-to-Average Ratio

Mode	FR1 n30 / 10MHz / DFT-S OFDM				
Mod.	PI/2 BPSK	QPSK	16QAM	64QAM	Limit: 13dB
RB Size	Full RB	Full RB	Full RB	Full RB	Result
Middle CH	4.20	4.84	5.74	6.08	PASS
Mode	FR1 n30 / 20MHz / DFT-S OFDM				
Mod.	256QAM				Limit: 13dB
RB Size	Full RB				Result
Middle CH	6.70				PASS

FR1 n30 / 10MHz / DFT-S OFDM / Middle Channel / Full RB	
PI/2 BPSK	QPSK
	
16QAM	64QAM
	
256QAM	
	

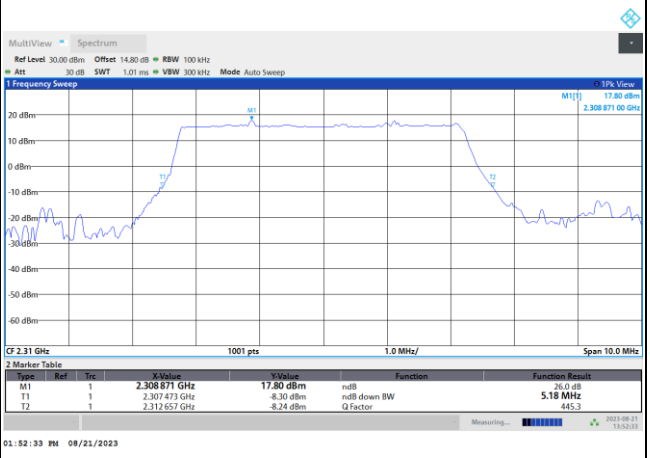
26dB Bandwidth

Mode	FR1 n30 : 26dB BW(MHz) / DFT-S OFDM							
BW	5MHz		10MHz					
Mod.	PI/2 BPSK		PI/2 BPSK					
Middle CH	5.19		9.69					

Mode	FR1 n30 : 26dB BW(MHz) / CP OFDM							
BW	5MHz		10MHz					
Mod.	QPSK	16QAM	QPSK	16QAM				
Middle CH	5.22	5.26	10.21	10.27				
Mod.	64QAM	256QAM	64QAM	256QAM				
Middle CH	5.26	5.37	10.15	10.17				

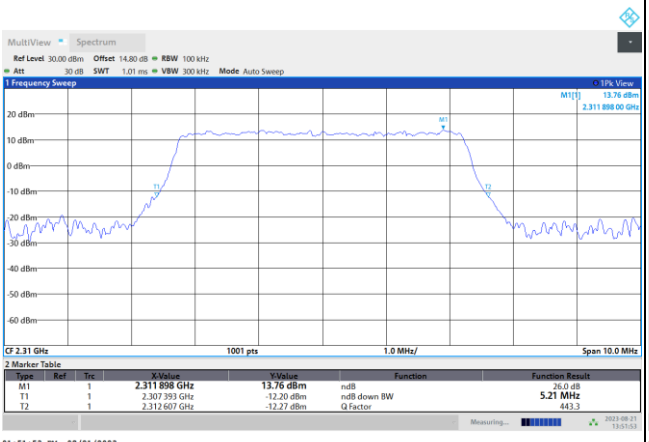
FR1 n30 / 5MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

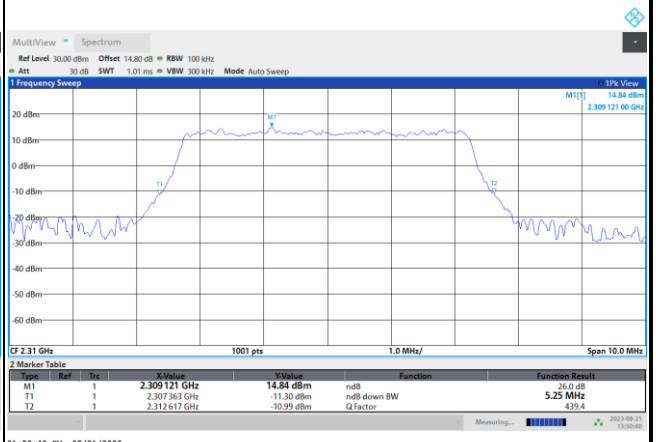


FR1 n30 / 5MHz / CP OFDM / Middle Channel / Full RB

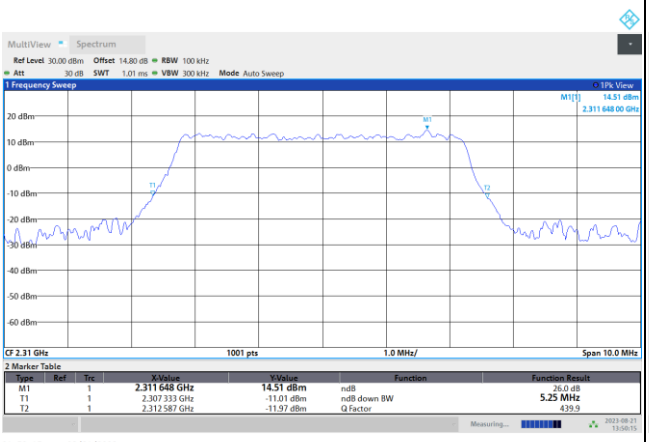
QPSK



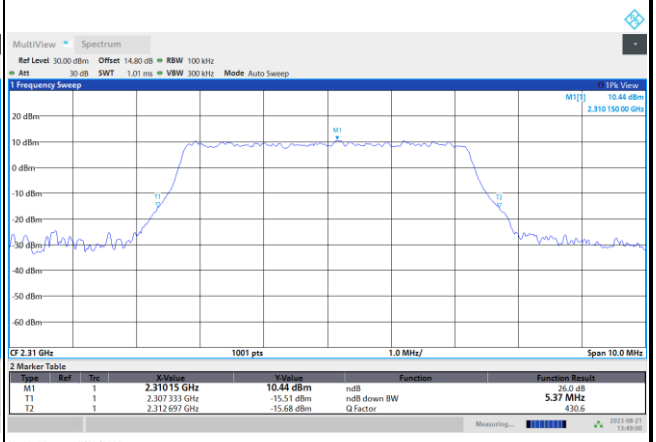
16QAM



64QAM

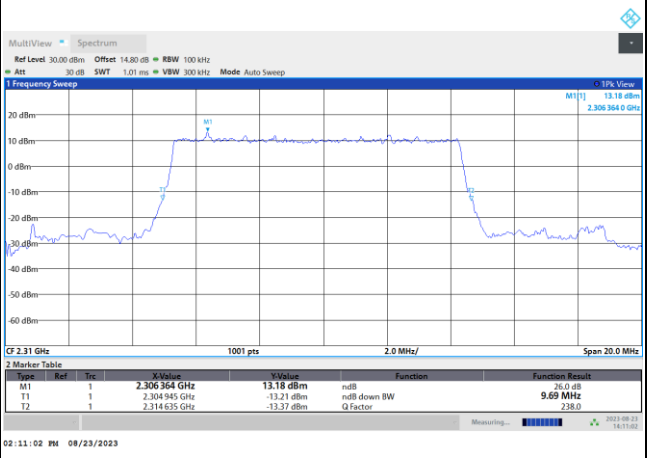


256QAM



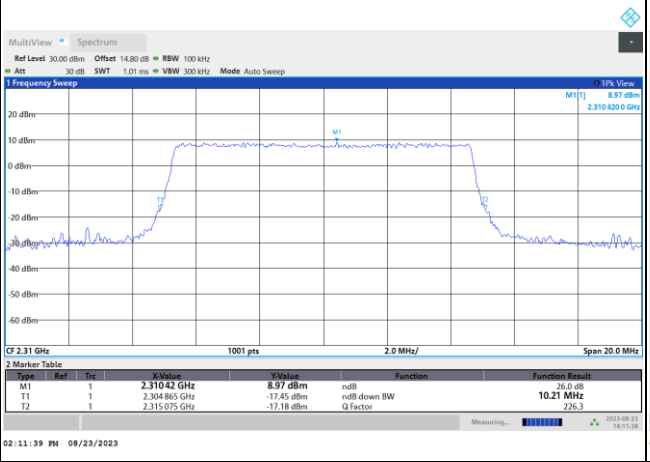
FR1 n30 / 10MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

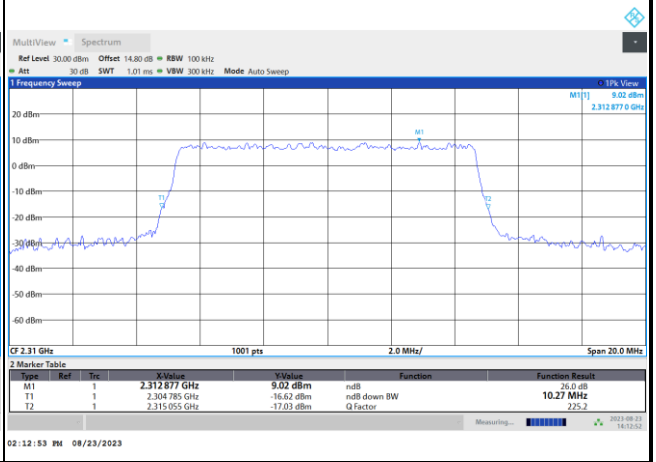


FR1 n30 / 10MHz / CP OFDM / Middle Channel / Full RB

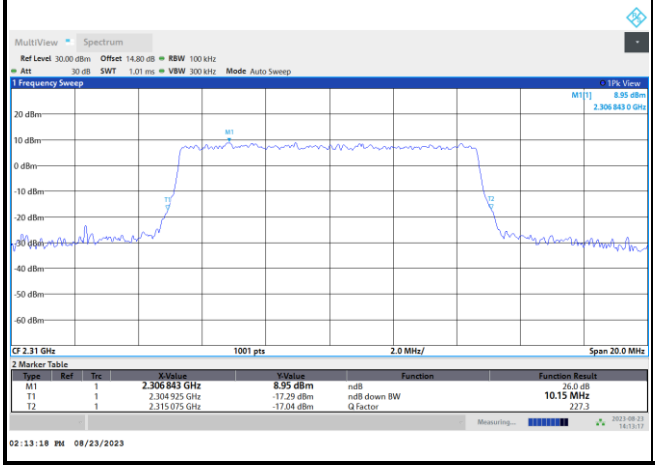
QPSK



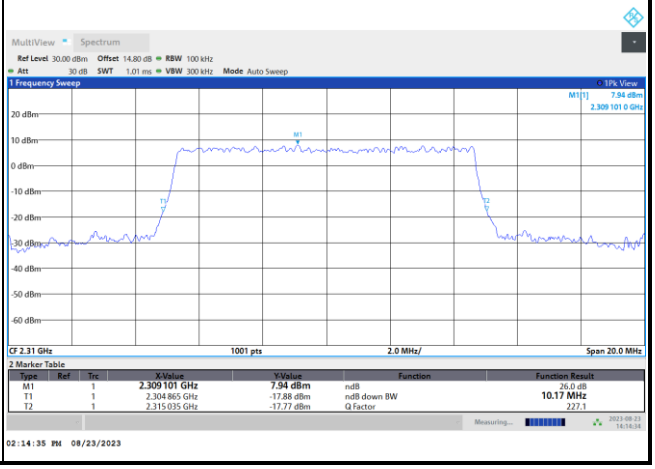
16QAM



64QAM



256QAM



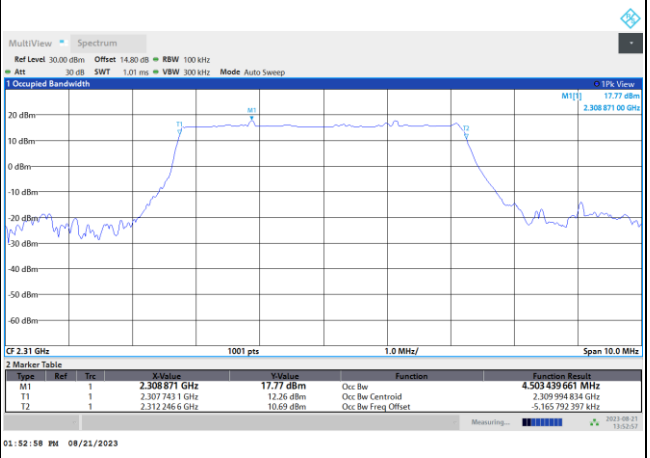
Occupied Bandwidth

Mode	FR1 n30 : 99%OBW(MHz) / DFT-S OFDM							
BW	5MHz		10MHz					
Mod.	PI/2 BPSK		PI/2 BPSK					
Middle CH	4.50		8.94					

Mode	FR1 n30 : 99%OBW (MHz) / CP OFDM							
BW	5MHz		10MHz					
Mod.	QPSK	16QAM	QPSK	16QAM				
Middle CH	4.52	4.53	9.31	9.31				
Mod.	64QAM	256QAM	64QAM	256QAM				
Middle CH	4.54	4.51	9.29	9.31				

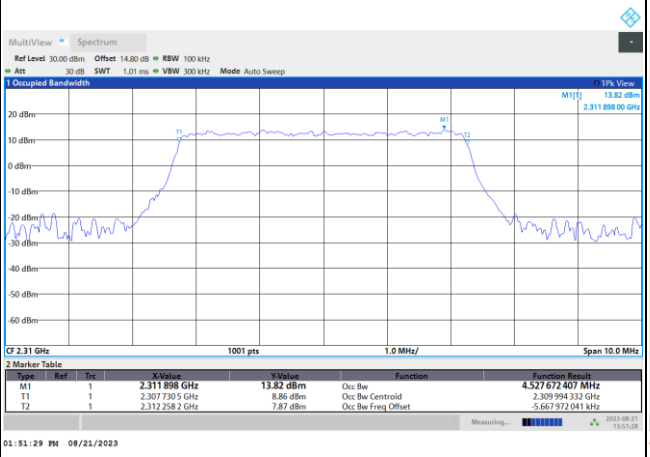
FR1 n30 / 5MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

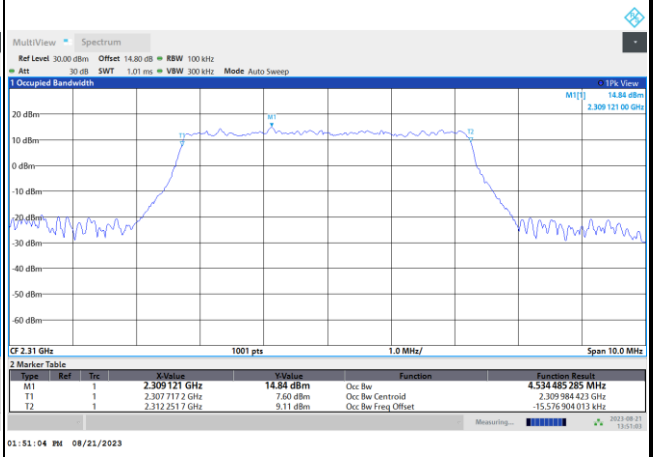


FR1 n30 / 5MHz / CP OFDM / Middle Channel / Full RB

QPSK



16QAM



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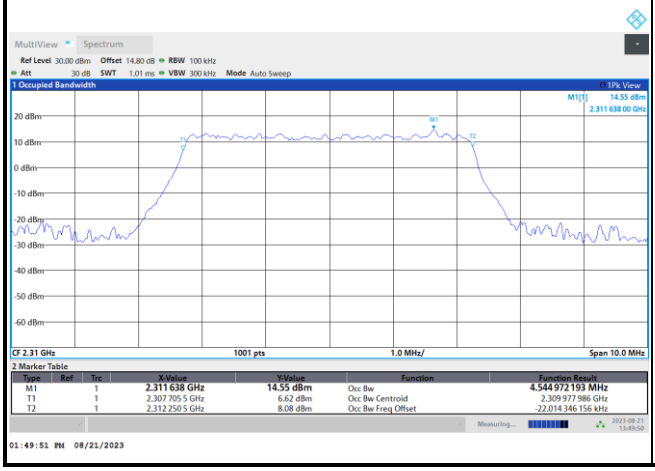
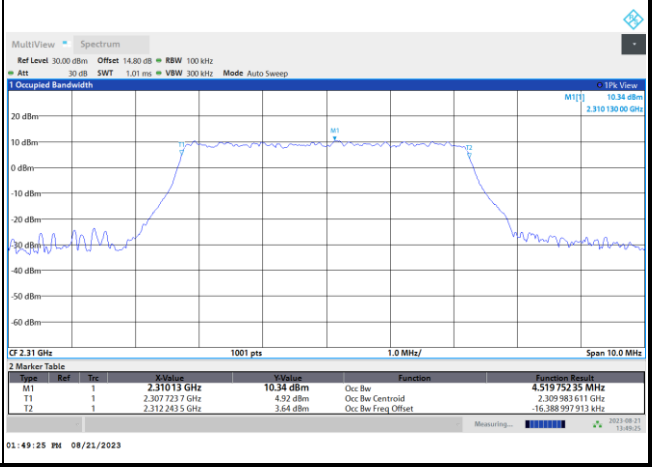
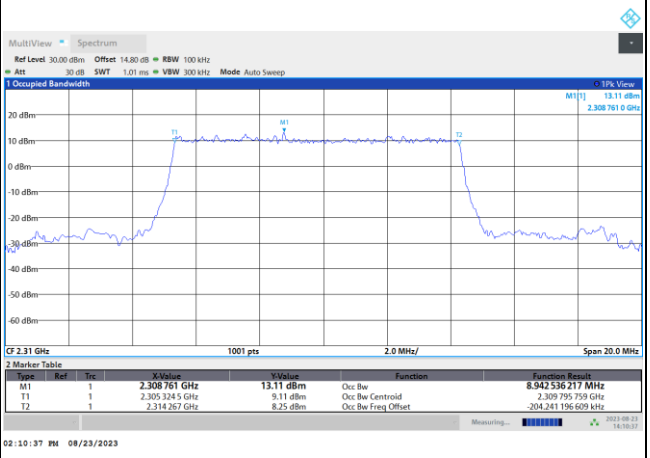


256QAM



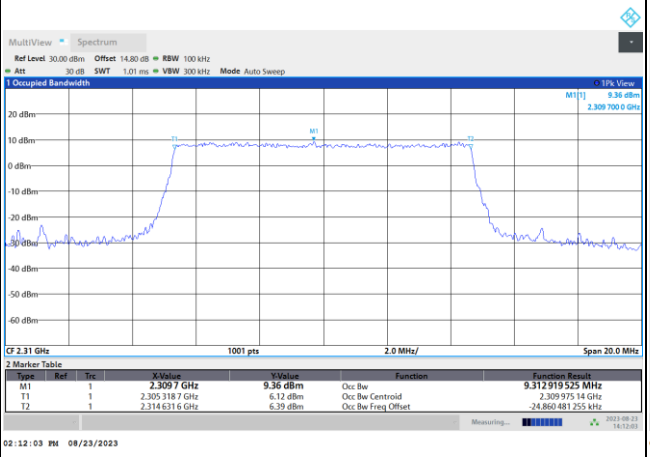
FR1 n30 / 10MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

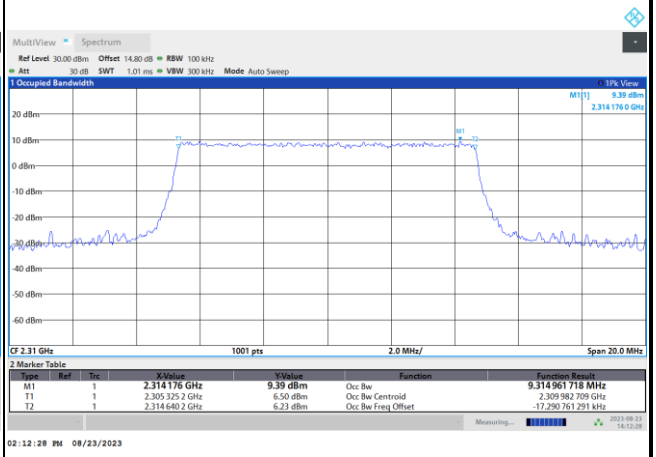


FR1 n30 / 10MHz / CP OFDM / Middle Channel / Full RB

QPSK



16QAM



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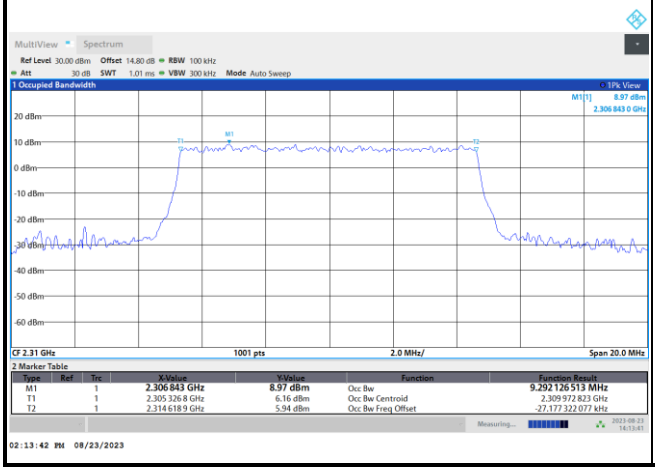

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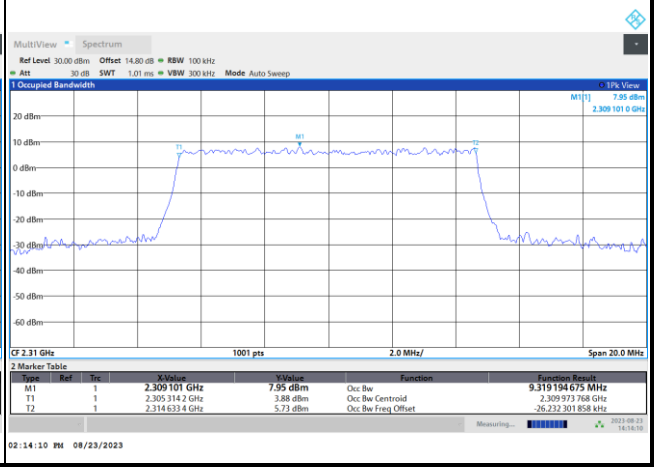
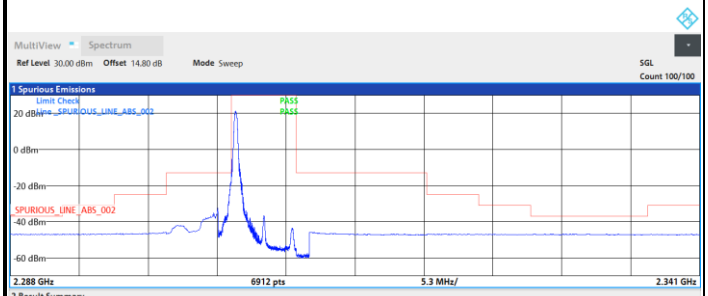


Conducted Band Edge

FR1 n30 / 5MHz / DFT-S OFDM / PI/2 BPSK

Lowest Band Edge / 1RB0



2 Result Summary

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.288 GHz	2.292 GHz	1.000 MHz	2.290 40 GHz	-46.73 dBm	-9.73 dB
2.292 GHz	2.296 GHz	1.000 MHz	2.293 96 GHz	-46.74 dBm	-15.74 dB
2.296 GHz	2.300 GHz	1.000 MHz	2.299 90 GHz	-45.87 dBm	-20.87 dB
2.300 GHz	2.304 GHz	1.000 MHz	2.303 94 GHz	-32.38 dBm	-19.38 dB
2.304 GHz	2.305 GHz	50.000 kHz	2.305 00 GHz	-14.40 dBm	-1.40 dB
2.305 GHz	2.310 GHz	100.000 kHz	2.305 31 GHz	21.36 dBm	-8.64 dB
2.310 GHz	2.311 GHz	50.000 kHz	2.310 16 GHz	-57.78 dBm	-44.78 dB
2.311 GHz	2.320 GHz	1.000 MHz	2.311 22 GHz	-46.06 dBm	-33.06 dB
2.320 GHz	2.324 GHz	1.000 MHz	2.320 18 GHz	-46.77 dBm	-21.77 dB
2.324 GHz	2.328 GHz	1.000 MHz	2.325 09 GHz	-46.74 dBm	-15.74 dB
2.328 GHz	2.337 GHz	1.000 MHz	2.331 07 GHz	-46.77 dBm	-9.77 dB
2.337 GHz	2.341 GHz	1.000 MHz	2.337 73 GHz	-46.91 dBm	-15.91 dB

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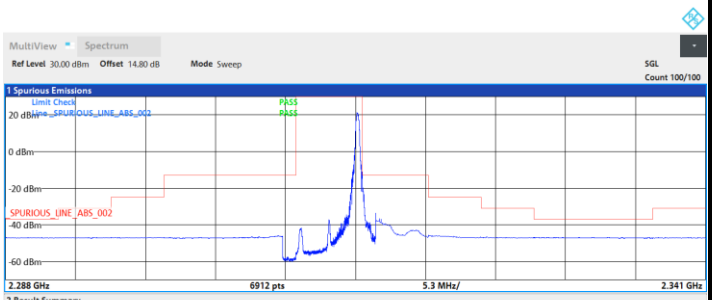
Highest Band Edge / 1RBmax



2 Result Summary

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.288 GHz	2.292 GHz	1.000 MHz	2.289 72 GHz	-46.86 dBm	-9.86 dB
2.292 GHz	2.296 GHz	1.000 MHz	2.294 75 GHz	-46.79 dBm	-15.79 dB
2.296 GHz	2.300 GHz	1.000 MHz	2.298 95 GHz	-46.80 dBm	-21.80 dB
2.300 GHz	2.309 GHz	1.000 MHz	2.308 60 GHz	-46.09 dBm	-33.09 dB
2.309 GHz	2.310 GHz	50.000 kHz	2.309 90 GHz	-57.55 dBm	-44.55 dB
2.310 GHz	2.315 GHz	100.000 kHz	2.314 62 GHz	21.18 dBm	-8.82 dB
2.315 GHz	2.316 GHz	50.000 kHz	2.315 01 GHz	-16.63 dBm	-3.63 dB
2.316 GHz	2.320 GHz	1.000 MHz	2.316 02 GHz	-33.76 dBm	-20.76 dB
2.320 GHz	2.324 GHz	1.000 MHz	2.320 02 GHz	-45.77 dBm	-20.77 dB
2.324 GHz	2.328 GHz	1.000 MHz	2.324 50 GHz	-46.67 dBm	-15.67 dB
2.328 GHz	2.337 GHz	1.000 MHz	2.333 66 GHz	-46.88 dBm	-9.88 dB
2.337 GHz	2.341 GHz	1.000 MHz	2.337 93 GHz	-46.89 dBm	-15.89 dB

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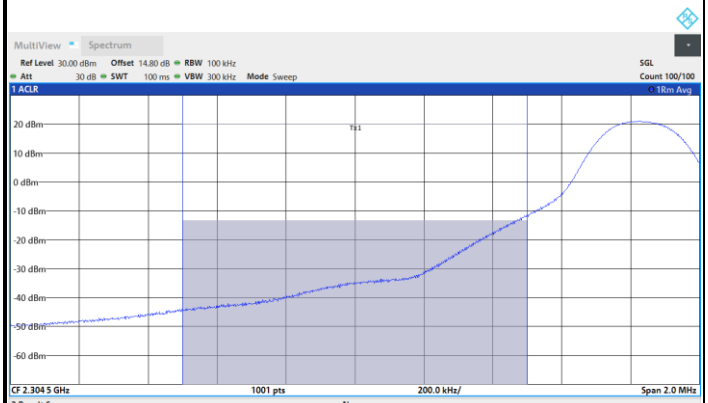
Lowest Band Edge / 1 RB / Lower zoom in



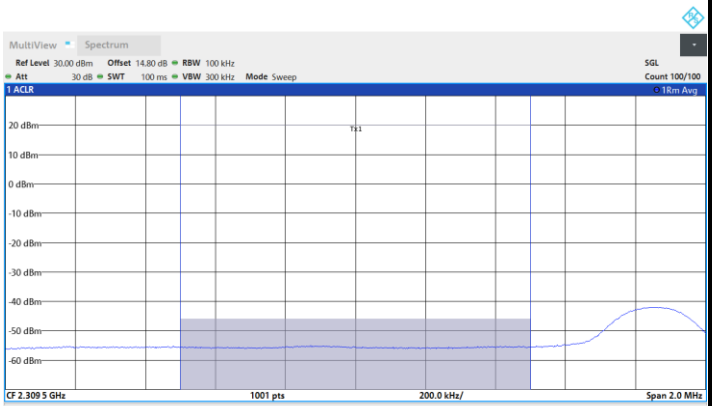
2 Result Summary

None

Channel	Bandwidth	Offset	Power
Tx1 (Ref)	1.000 MHz		-13.30 dBm
Tx Total			-13.30 dBm

02:24:14 PM 08/23/2023

Highest Band Edge / 1 RB / Lower zoom in

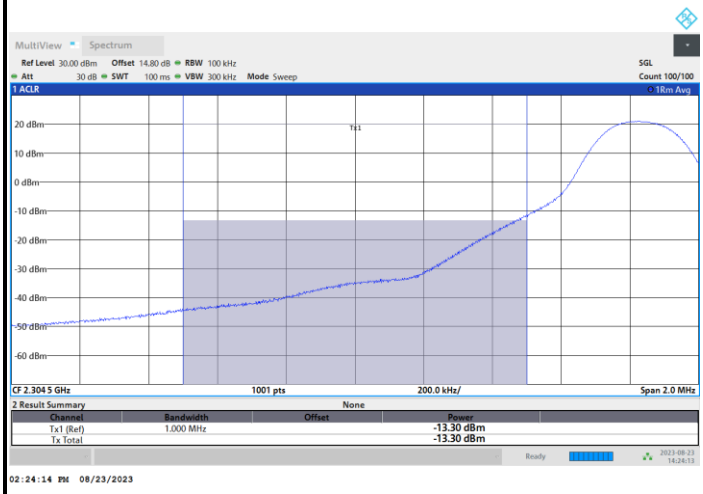
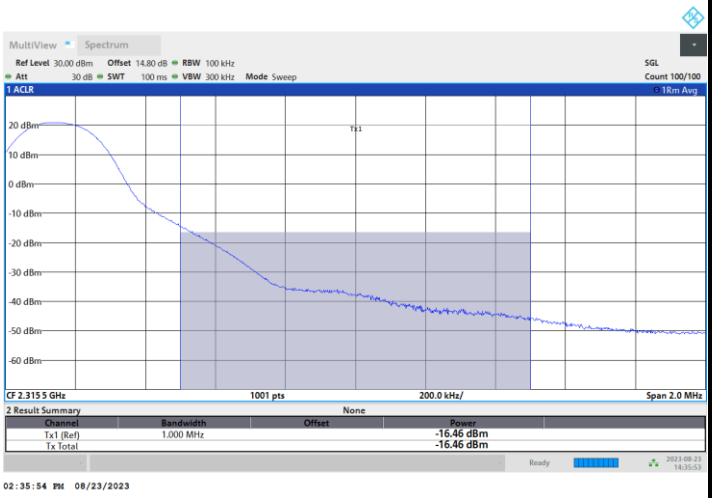


2 Result Summary

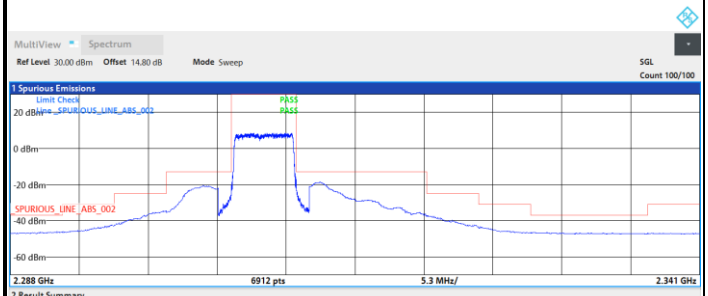
None

Channel	Bandwidth	Offset	Power
Tx1 (Ref)	1.000 MHz		-45.95 dBm
Tx Total			-45.95 dBm

02:35:29 PM 08/23/2023

Lowest Band Edge / 1 RB / Upper zoom in	Highest Band Edge / 1 RB / Upper zoom in
	

Lowest Band Edge / Full RB

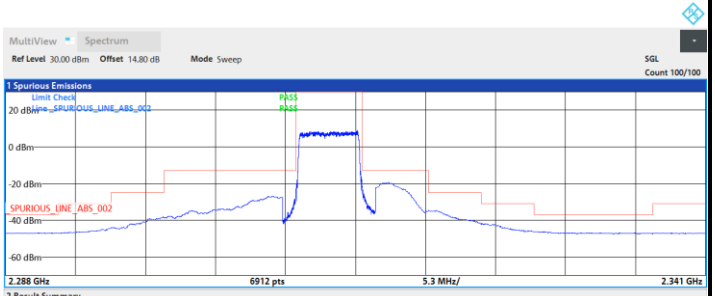


2 Result Summary

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.288 GHz	2.292 GHz	1.000 MHz	2.291 54 GHz	-46.06 dBm	-9.06 dB
2.292 GHz	2.296 GHz	1.000 MHz	2.295 82 GHz	-42.34 dBm	-11.34 dB
2.296 GHz	2.300 GHz	1.000 MHz	2.299 94 GHz	-34.53 dBm	-9.53 dB
2.300 GHz	2.304 GHz	1.000 MHz	2.302 83 GHz	-20.34 dBm	-7.34 dB
2.304 GHz	2.305 GHz	50.000 kHz	2.304 97 GHz	-25.10 dBm	-12.10 dB
2.305 GHz	2.310 GHz	100.000 kHz	2.309 64 GHz	8.51 dBm	-21.49 dB
2.310 GHz	2.311 GHz	50.000 kHz	2.310 00 GHz	-23.32 dBm	-10.32 dB
2.311 GHz	2.320 GHz	1.000 MHz	2.311 85 GHz	-18.75 dBm	-5.75 dB
2.320 GHz	2.324 GHz	1.000 MHz	2.320 18 GHz	-37.22 dBm	-12.22 dB
2.324 GHz	2.328 GHz	1.000 MHz	2.324 14 GHz	-43.28 dBm	-12.28 dB
2.328 GHz	2.337 GHz	1.000 MHz	2.328 40 GHz	-46.61 dBm	-9.61 dB
2.337 GHz	2.341 GHz	1.000 MHz	2.337 93 GHz	-46.88 dBm	-15.88 dB

11:40:48 AM 08/21/2023

Highest Band Edge / Full RB

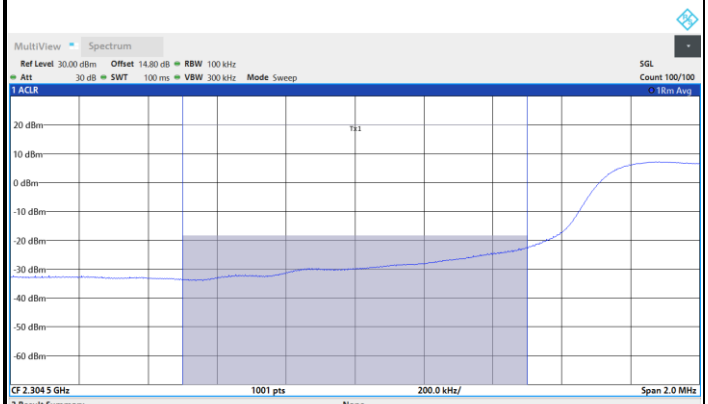


2 Result Summary

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.288 GHz	2.292 GHz	1.000 MHz	2.291 54 GHz	-46.76 dBm	-9.76 dB
2.292 GHz	2.296 GHz	1.000 MHz	2.295 94 GHz	-44.29 dBm	-13.29 dB
2.296 GHz	2.300 GHz	1.000 MHz	2.299 94 GHz	-37.97 dBm	-12.97 dB
2.300 GHz	2.309 GHz	1.000 MHz	2.308 24 GHz	-27.08 dBm	-14.08 dB
2.309 GHz	2.310 GHz	50.000 kHz	2.310 00 GHz	-26.53 dBm	-13.53 dB
2.310 GHz	2.315 GHz	100.000 kHz	2.314 63 GHz	8.84 dBm	-21.16 dB
2.315 GHz	2.316 GHz	50.000 kHz	2.315 02 GHz	-22.78 dBm	-9.78 dB
2.316 GHz	2.320 GHz	1.000 MHz	2.316 97 GHz	-19.30 dBm	-6.30 dB
2.320 GHz	2.324 GHz	1.000 MHz	2.320 61 GHz	-34.62 dBm	-9.62 dB
2.324 GHz	2.328 GHz	1.000 MHz	2.324 10 GHz	-41.68 dBm	-10.68 dB
2.328 GHz	2.337 GHz	1.000 MHz	2.328 04 GHz	-46.15 dBm	-9.15 dB
2.337 GHz	2.341 GHz	1.000 MHz	2.338 37 GHz	-46.87 dBm	-15.87 dB

11:52:49 AM 08/21/2023

Lowest Band Edge / Full RB / Lower zoom in



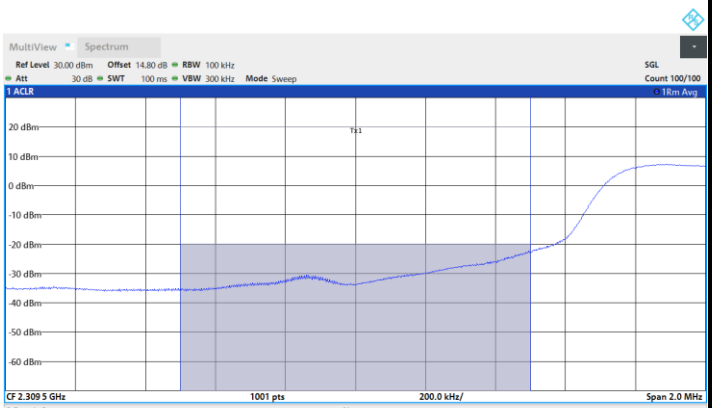
2 Result Summary

None

Channel	Bandwidth	Offset	Power
Tx1 (Ref)	1.000 MHz		-18.49 dBm
Tx Total			-18.49 dBm

02:25:05 PM 08/23/2023

Highest Band Edge / Full RB / Lower zoom in

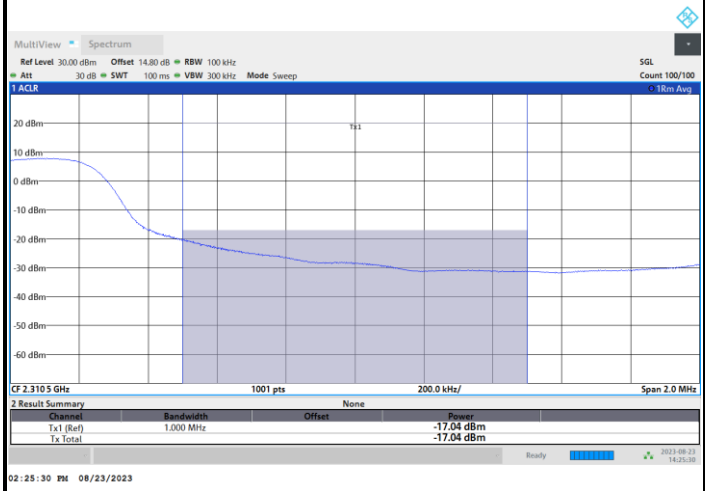
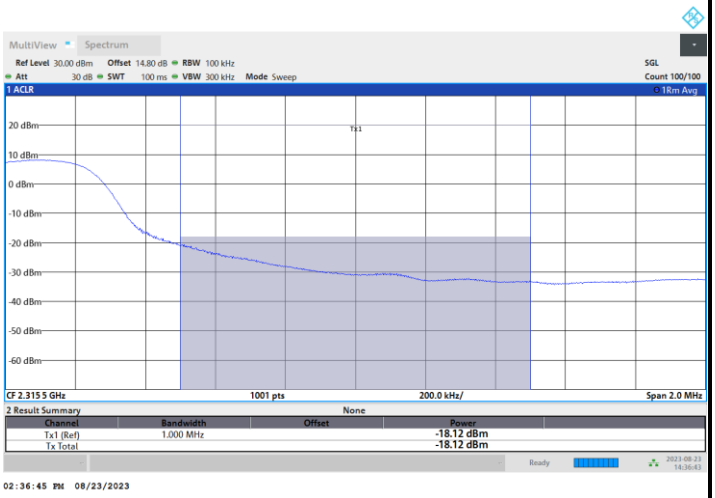


2 Result Summary

None

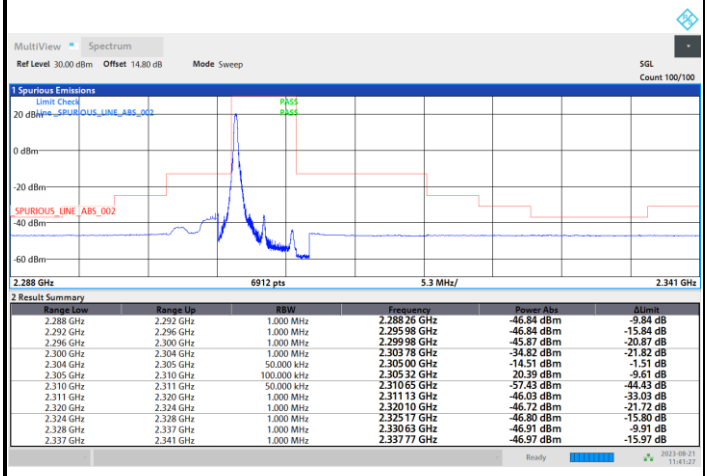
Channel	Bandwidth	Offset	Power
Tx1 (Ref)	1.000 MHz		-19.86 dBm
Tx Total			-19.86 dBm

02:36:20 PM 08/23/2023

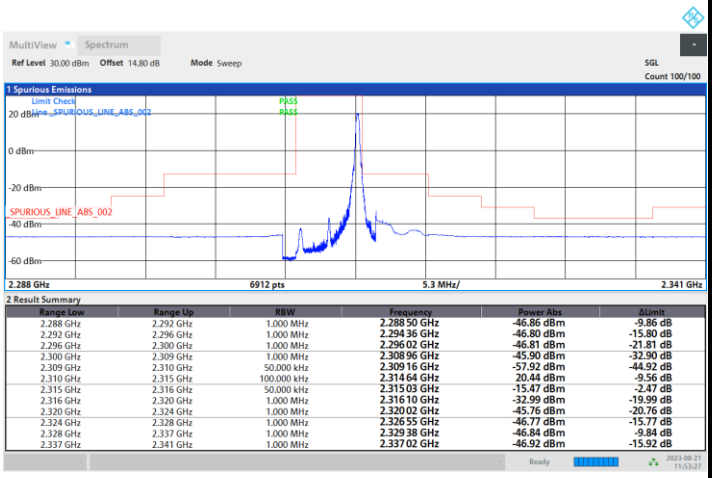
Lowest Band Edge / Full RB / Upper zoom in	Highest Band Edge / Full RB / Upper zoom in
	

FR1 n30 / 5MHz / DFT-S OFDM / QPSK

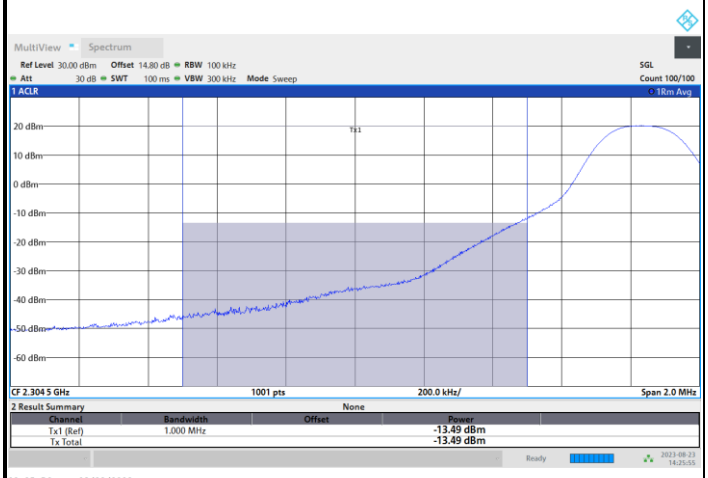
Lowest Band Edge / 1RB0



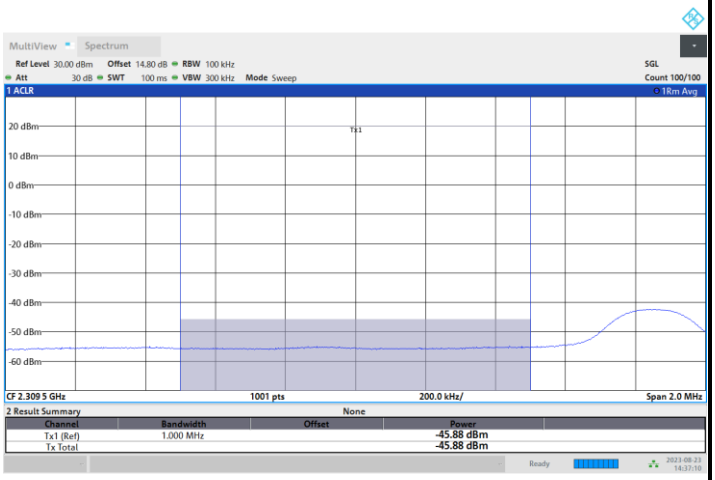
Highest Band Edge / 1RBmax

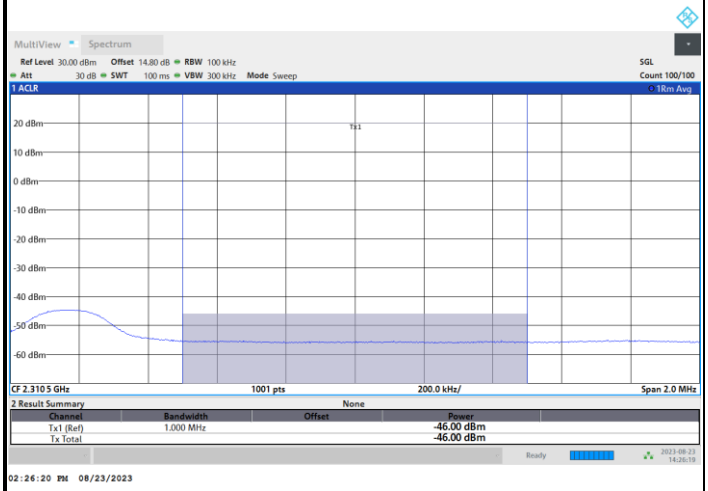
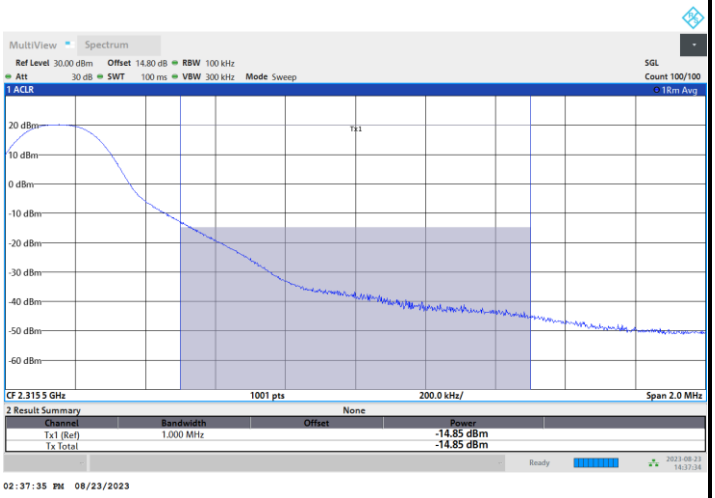


Lowest Band Edge / 1 RB / Lower zoom in

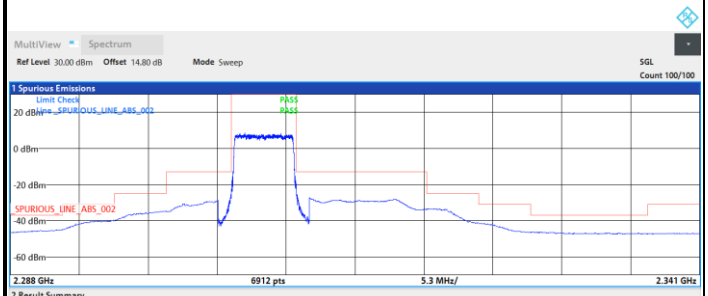


Highest Band Edge / 1 RB / Lower zoom in



Lowest Band Edge / 1 RB / Upper zoom in	Highest Band Edge / 1 RB / Upper zoom in
	

Lowest Band Edge / Full RB

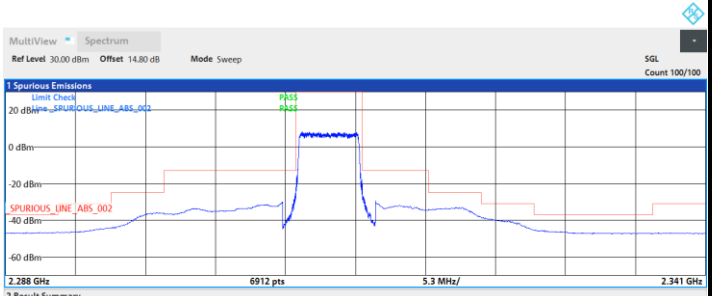


2 Result Summary

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.288 GHz	2.292 GHz	1.000 MHz	2.291 98 GHz	-45.10 dBm	-8.10 dB
2.292 GHz	2.296 GHz	1.000 MHz	2.295 90 GHz	-39.66 dBm	-8.66 dB
2.296 GHz	2.300 GHz	1.000 MHz	2.299 98 GHz	-34.68 dBm	-9.68 dB
2.300 GHz	2.304 GHz	1.000 MHz	2.303 90 GHz	-28.77 dBm	-15.77 dB
2.304 GHz	2.305 GHz	50.000 kHz	2.305 00 GHz	-23.37 dBm	-10.37 dB
2.305 GHz	2.310 GHz	100.000 kHz	2.306 03 GHz	8.68 dBm	-21.32 dB
2.310 GHz	2.311 GHz	50.000 kHz	2.310 05 GHz	-25.45 dBm	-12.45 dB
2.311 GHz	2.320 GHz	1.000 MHz	2.311 04 GHz	-27.22 dBm	-14.22 dB
2.320 GHz	2.324 GHz	1.000 MHz	2.321 01 GHz	-33.33 dBm	-8.33 dB
2.324 GHz	2.328 GHz	1.000 MHz	2.324 50 GHz	-41.40 dBm	-10.40 dB
2.328 GHz	2.337 GHz	1.000 MHz	2.328 13 GHz	-46.16 dBm	-9.16 dB
2.337 GHz	2.341 GHz	1.000 MHz	2.340 43 GHz	-46.94 dBm	-15.94 dB

11:41:46 AM 08/21/2023

Highest Band Edge / Full RB

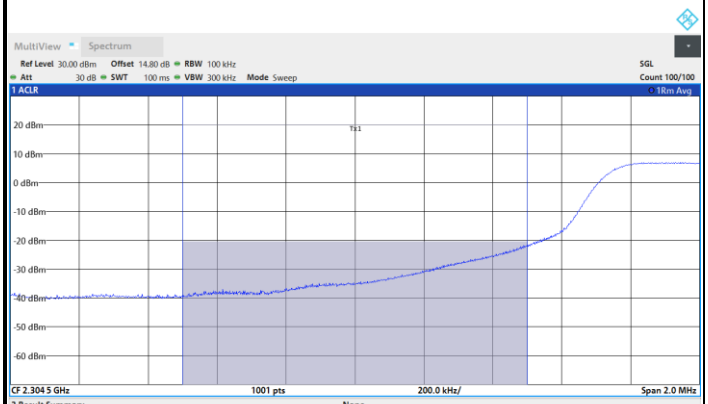


2 Result Summary

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.288 GHz	2.292 GHz	1.000 MHz	2.291 90 GHz	-46.58 dBm	-9.58 dB
2.292 GHz	2.296 GHz	1.000 MHz	2.295 98 GHz	-44.11 dBm	-13.11 dB
2.296 GHz	2.300 GHz	1.000 MHz	2.299 39 GHz	-35.77 dBm	-10.77 dB
2.300 GHz	2.309 GHz	1.000 MHz	2.308 96 GHz	-30.12 dBm	-17.12 dB
2.309 GHz	2.310 GHz	50.000 kHz	2.309 96 GHz	-25.27 dBm	-12.27 dB
2.310 GHz	2.315 GHz	100.000 kHz	2.310 47 GHz	8.05 dBm	-21.95 dB
2.315 GHz	2.316 GHz	50.000 kHz	2.315 00 GHz	-23.66 dBm	-10.66 dB
2.316 GHz	2.320 GHz	1.000 MHz	2.316 02 GHz	-29.51 dBm	-16.51 dB
2.320 GHz	2.324 GHz	1.000 MHz	2.322 04 GHz	-32.99 dBm	-7.99 dB
2.324 GHz	2.328 GHz	1.000 MHz	2.324 22 GHz	-38.52 dBm	-7.52 dB
2.328 GHz	2.337 GHz	1.000 MHz	2.328 13 GHz	-45.35 dBm	-8.35 dB
2.337 GHz	2.341 GHz	1.000 MHz	2.337 50 GHz	-46.92 dBm	-15.92 dB

11:53:47 AM 08/21/2023

Lowest Band Edge / Full RB / Lower zoom in



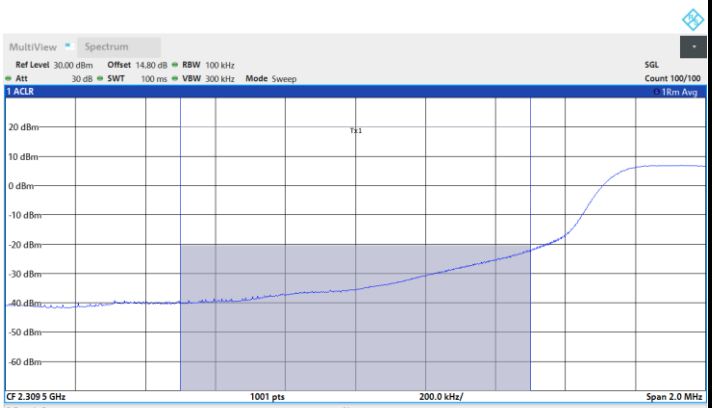
2 Result Summary

None

Channel	Bandwidth	Offset	Power
Tx1 (Ref)	1.000 MHz		-20.47 dBm
Tx Total			-20.47 dBm

02:26:45 PM 08/23/2023

Highest Band Edge / Full RB / Lower zoom in

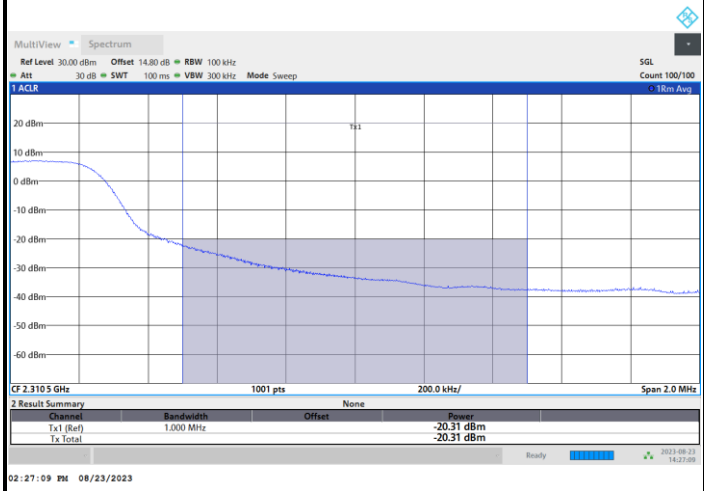
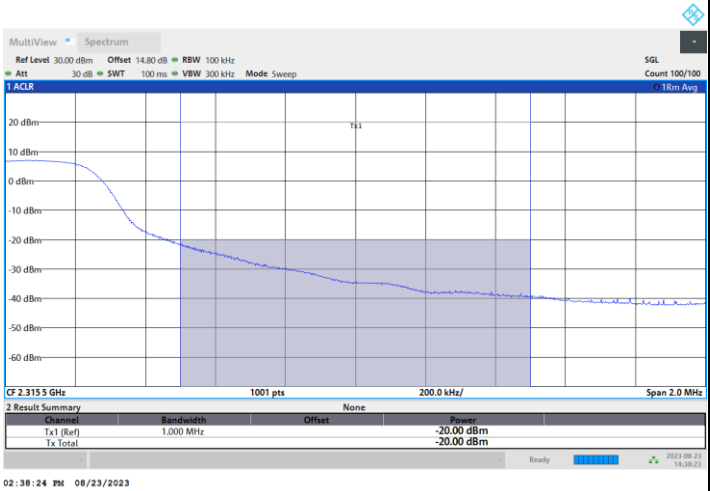


2 Result Summary

None

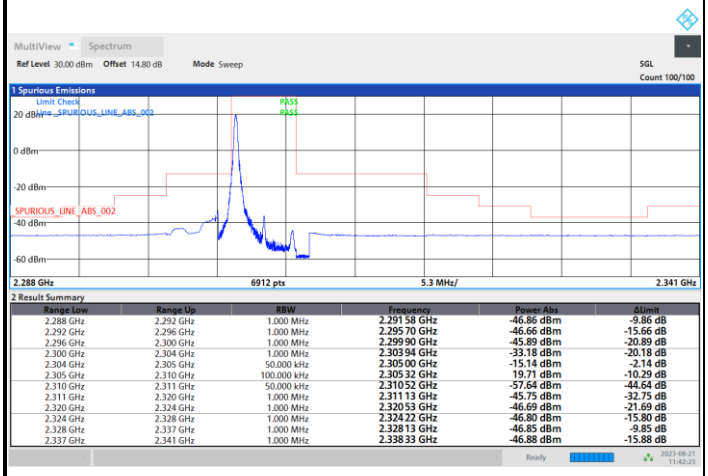
Channel	Bandwidth	Offset	Power
Tx1 (Ref)	1.000 MHz		-20.53 dBm
Tx Total			-20.53 dBm

02:30:00 PM 08/23/2023

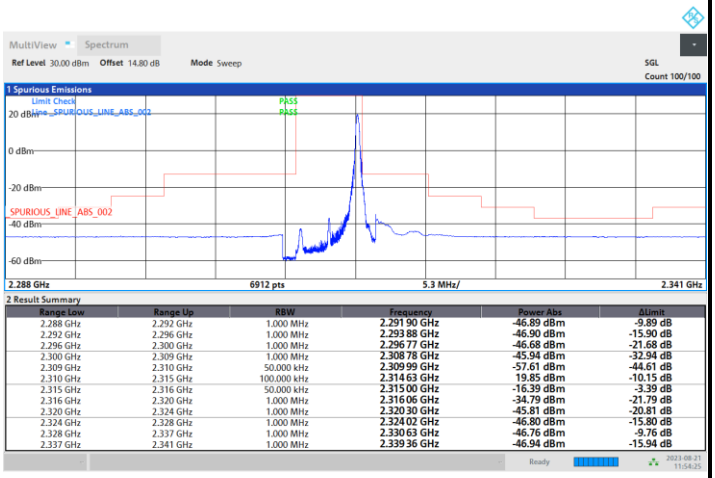
Lowest Band Edge / Full RB / Upper zoom in	Highest Band Edge / Full RB / Upper zoom in
	

FR1 n30 / 5MHz / DFT-S OFDM / 16QAM

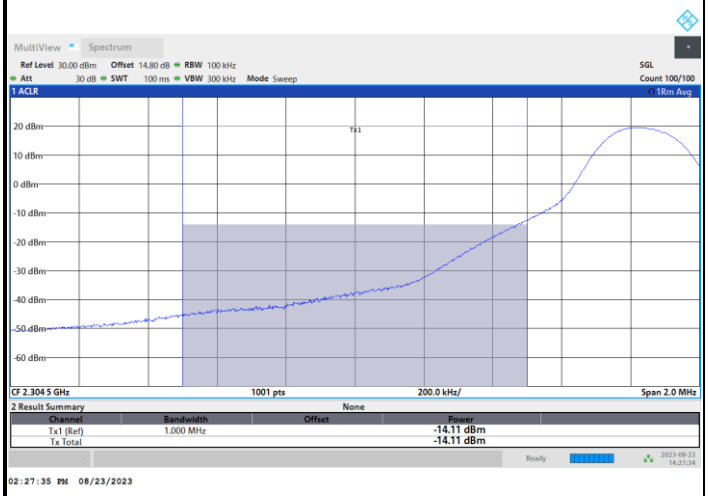
Lowest Band Edge / 1RB0



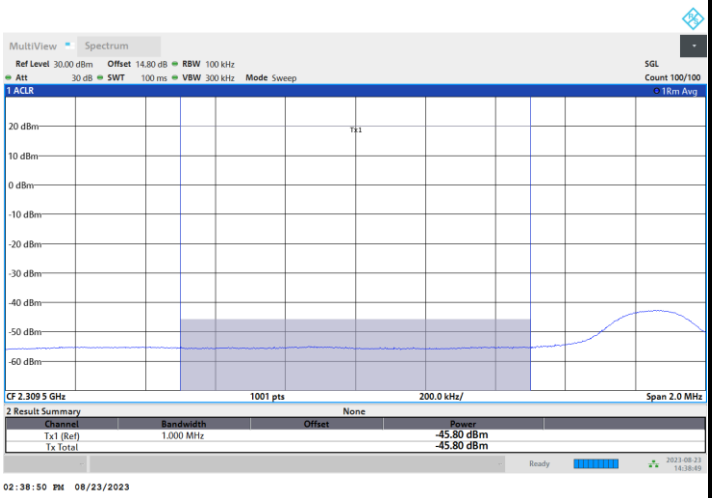
Highest Band Edge / 1RBmax

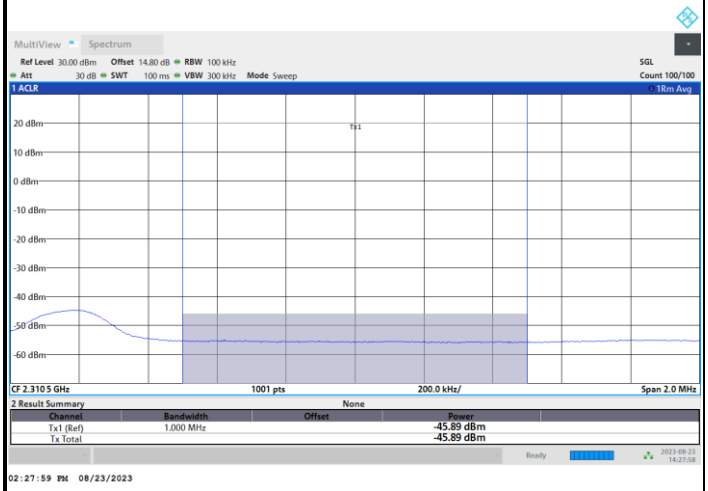
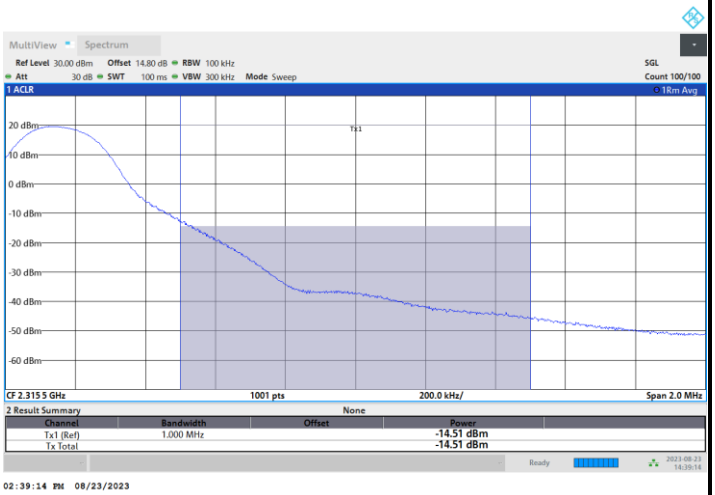


Lowest Band Edge / 1 RB / Lower zoom in

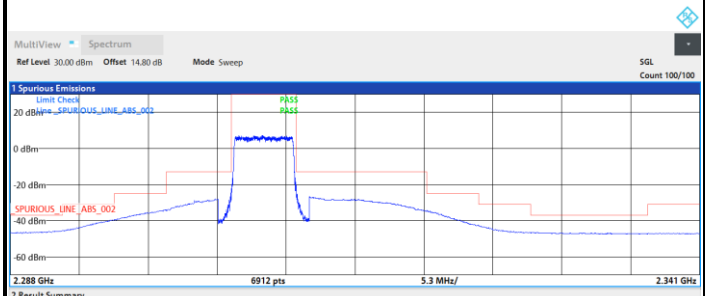


Highest Band Edge / 1 RB / Lower zoom in



Lowest Band Edge / 1 RB / Upper zoom in	Highest Band Edge / 1 RB / Upper zoom in
	

Lowest Band Edge / Full RB

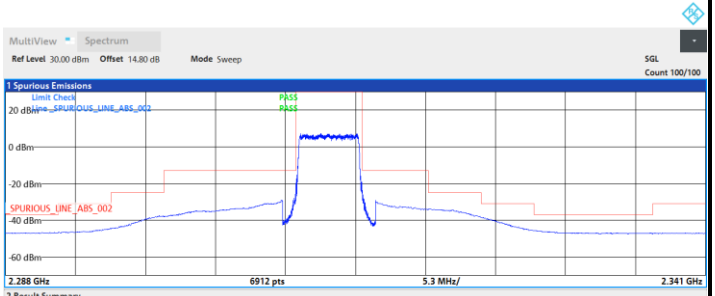


2 Result Summary

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.288 GHz	2.292 GHz	1.000 MHz	2.291 98 GHz	-45.44 dBm	-8.44 dB
2.292 GHz	2.296 GHz	1.000 MHz	2.295 86 GHz	-39.57 dBm	-8.57 dB
2.296 GHz	2.300 GHz	1.000 MHz	2.299 98 GHz	-33.86 dBm	-8.86 dB
2.300 GHz	2.304 GHz	1.000 MHz	2.303 78 GHz	-28.07 dBm	-15.07 dB
2.304 GHz	2.305 GHz	50.000 kHz	2.304 96 GHz	-24.63 dBm	-11.63 dB
2.305 GHz	2.310 GHz	100.000 kHz	2.307 37 GHz	7.08 dBm	-22.92 dB
2.310 GHz	2.311 GHz	50.000 kHz	2.310 05 GHz	-25.26 dBm	-12.26 dB
2.311 GHz	2.320 GHz	1.000 MHz	2.311 04 GHz	-26.77 dBm	-13.77 dB
2.320 GHz	2.324 GHz	1.000 MHz	2.320 02 GHz	-34.36 dBm	-9.36 dB
2.324 GHz	2.328 GHz	1.000 MHz	2.324 06 GHz	-42.68 dBm	-11.68 dB
2.328 GHz	2.337 GHz	1.000 MHz	2.328 49 GHz	-46.57 dBm	-9.57 dB
2.337 GHz	2.341 GHz	1.000 MHz	2.339 40 GHz	-46.91 dBm	-15.91 dB

11:42:04 AM 08/21/2023

Highest Band Edge / Full RB

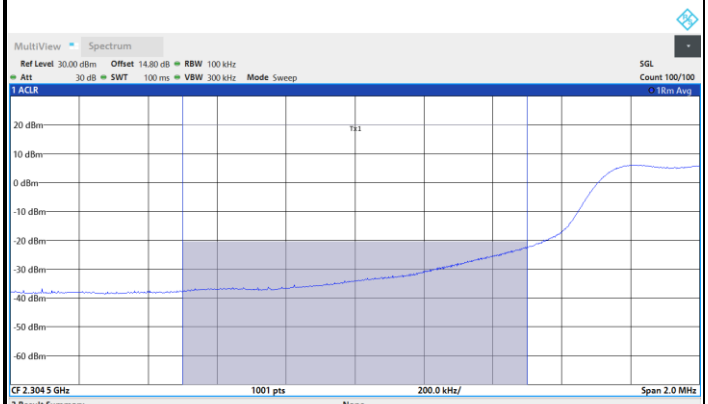


2 Result Summary

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.288 GHz	2.292 GHz	1.000 MHz	2.291 70 GHz	-46.59 dBm	-9.59 dB
2.292 GHz	2.296 GHz	1.000 MHz	2.295 90 GHz	-44.43 dBm	-13.43 dB
2.296 GHz	2.300 GHz	1.000 MHz	2.299 58 GHz	-37.50 dBm	-12.50 dB
2.300 GHz	2.309 GHz	1.000 MHz	2.308 87 GHz	-29.22 dBm	-16.22 dB
2.309 GHz	2.310 GHz	50.000 kHz	2.310 00 GHz	-21.61 dBm	-8.61 dB
2.310 GHz	2.315 GHz	100.000 kHz	2.310 35 GHz	7.21 dBm	-22.79 dB
2.315 GHz	2.316 GHz	50.000 kHz	2.315 01 GHz	-23.86 dBm	-10.86 dB
2.316 GHz	2.320 GHz	1.000 MHz	2.316 02 GHz	-29.20 dBm	-16.20 dB
2.320 GHz	2.324 GHz	1.000 MHz	2.320 22 GHz	-33.91 dBm	-8.91 dB
2.324 GHz	2.328 GHz	1.000 MHz	2.324 18 GHz	-38.41 dBm	-7.41 dB
2.328 GHz	2.337 GHz	1.000 MHz	2.328 04 GHz	-45.59 dBm	-8.59 dB
2.337 GHz	2.341 GHz	1.000 MHz	2.340 50 GHz	-46.94 dBm	-15.94 dB

11:54:06 AM 08/21/2023

Lowest Band Edge / Full RB / Lower zoom in



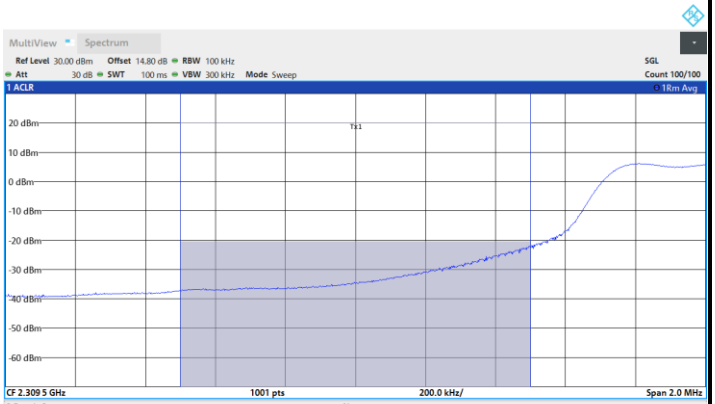
2 Result Summary

None

Channel	Bandwidth	Offset	Power
Tx1 (Ref)	1.000 MHz		-20.49 dBm
Tx Total			-20.49 dBm

02:28:24 PM 08/23/2023

Highest Band Edge / Full RB / Lower zoom in

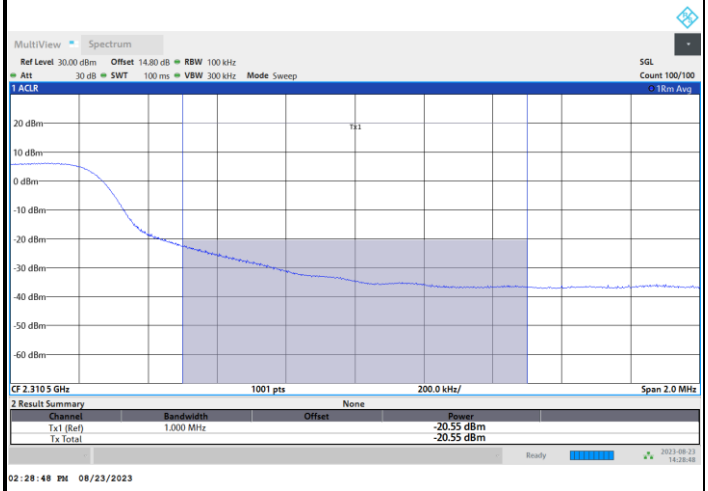
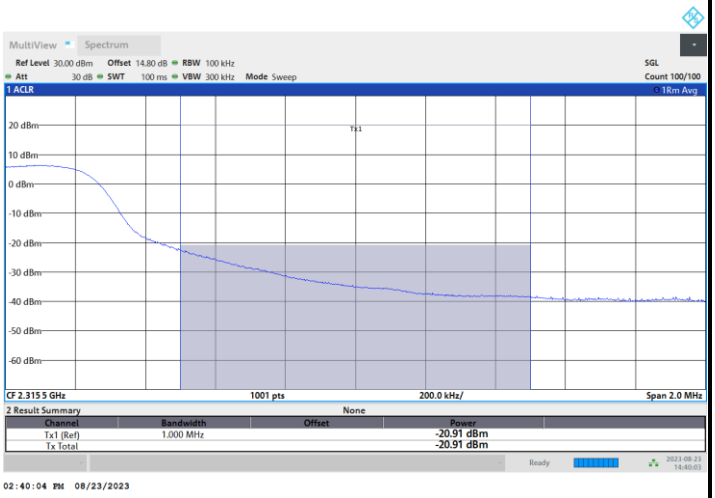


2 Result Summary

None

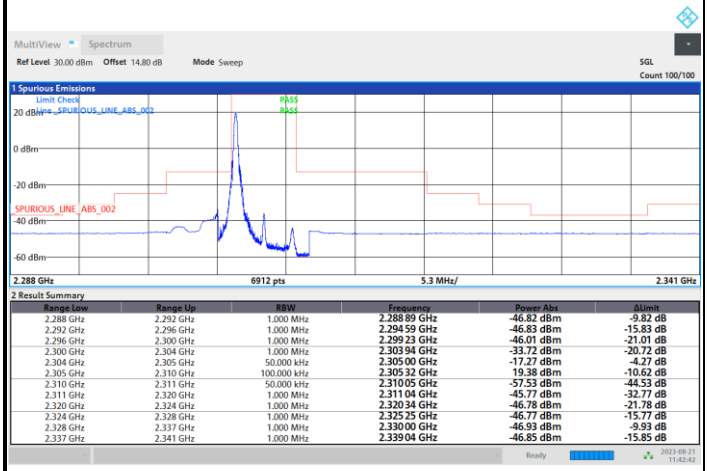
Channel	Bandwidth	Offset	Power
Tx1 (Ref)	1.000 MHz		-20.51 dBm
Tx Total			-20.51 dBm

02:39:39 PM 08/23/2023

Lowest Band Edge / Full RB / Upper zoom in	Highest Band Edge / Full RB / Upper zoom in
	

FR1 n30 / 5MHz / DFT-S OFDM / 64QAM

Lowest Band Edge / 1RB0

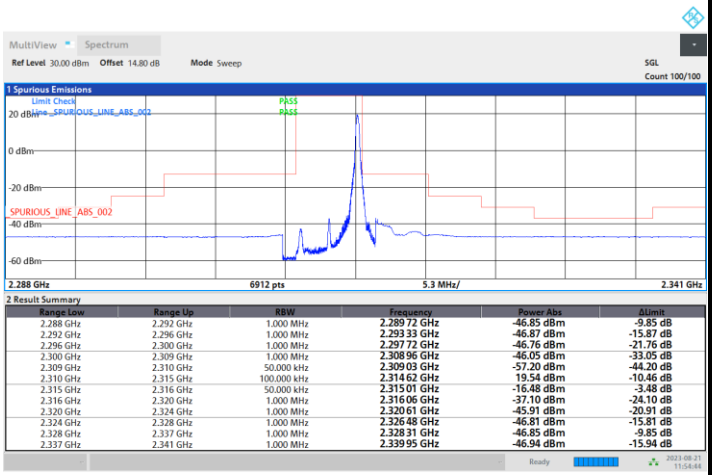


2 Result Summary

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.288 GHz	2.292 GHz	1.000 MHz	2.288 89 GHz	-46.82 dBm	-9.82 dB
2.292 GHz	2.296 GHz	1.000 MHz	2.294 59 GHz	-46.83 dBm	-15.83 dB
2.296 GHz	2.300 GHz	1.000 MHz	2.299 23 GHz	-46.01 dBm	-21.01 dB
2.300 GHz	2.304 GHz	1.000 MHz	2.303 94 GHz	-33.72 dBm	-20.72 dB
2.304 GHz	2.305 GHz	50.000 kHz	2.305 00 GHz	-17.27 dBm	-4.27 dB
2.305 GHz	2.310 GHz	100.000 kHz	2.305 32 GHz	19.38 dBm	-10.62 dB
2.310 GHz	2.311 GHz	50.000 kHz	2.310 05 GHz	-57.53 dBm	-44.53 dB
2.311 GHz	2.320 GHz	1.000 MHz	2.311 04 GHz	-45.77 dBm	-32.77 dB
2.320 GHz	2.324 GHz	1.000 MHz	2.320 34 GHz	-46.78 dBm	-21.78 dB
2.324 GHz	2.328 GHz	1.000 MHz	2.325 25 GHz	-46.77 dBm	-15.77 dB
2.328 GHz	2.337 GHz	1.000 MHz	2.330 00 GHz	-46.93 dBm	-9.93 dB
2.337 GHz	2.341 GHz	1.000 MHz	2.339 04 GHz	-46.85 dBm	-15.85 dB

11:42:43 AM 08/21/2023

Highest Band Edge / 1RBmax

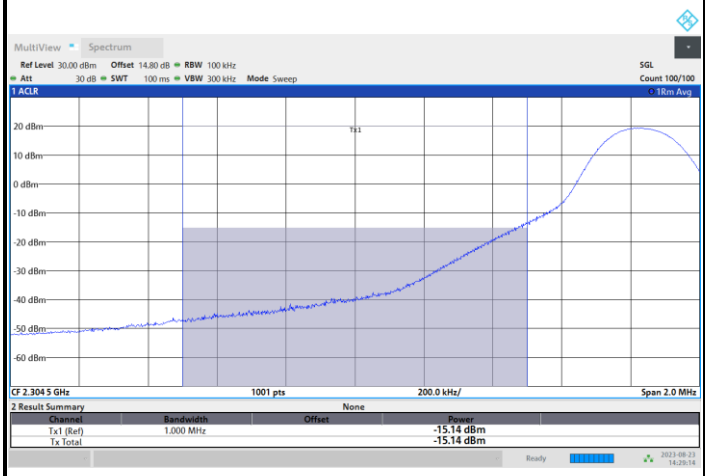


2 Result Summary

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.288 GHz	2.292 GHz	1.000 MHz	2.289 72 GHz	-46.85 dBm	-9.85 dB
2.292 GHz	2.296 GHz	1.000 MHz	2.293 33 GHz	-46.87 dBm	-15.87 dB
2.296 GHz	2.300 GHz	1.000 MHz	2.297 72 GHz	-46.76 dBm	-21.76 dB
2.300 GHz	2.309 GHz	1.000 MHz	2.308 96 GHz	-46.05 dBm	-33.05 dB
2.309 GHz	2.310 GHz	50.000 kHz	2.309 03 GHz	-57.20 dBm	-44.20 dB
2.310 GHz	2.315 GHz	100.000 kHz	2.314 62 GHz	19.54 dBm	-10.46 dB
2.315 GHz	2.316 GHz	50.000 kHz	2.315 01 GHz	-16.48 dBm	-3.48 dB
2.316 GHz	2.320 GHz	1.000 MHz	2.316 06 GHz	-37.10 dBm	-24.10 dB
2.320 GHz	2.324 GHz	1.000 MHz	2.320 61 GHz	-45.91 dBm	-20.91 dB
2.324 GHz	2.328 GHz	1.000 MHz	2.326 48 GHz	-46.81 dBm	-15.81 dB
2.328 GHz	2.337 GHz	1.000 MHz	2.328 31 GHz	-46.85 dBm	-9.85 dB
2.337 GHz	2.341 GHz	1.000 MHz	2.339 95 GHz	-46.94 dBm	-15.94 dB

11:54:44 AM 08/21/2023

Lowest Band Edge / 1 RB / Lower zoom in

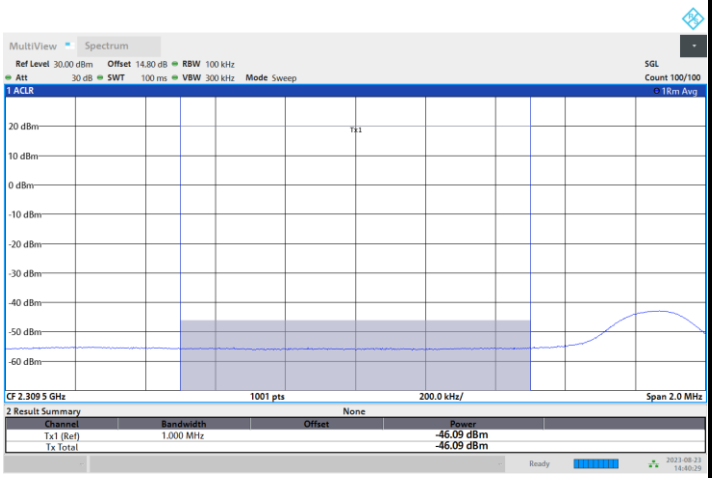


2 Result Summary None

Channel	Bandwidth	Offset	Power
Tx1 (Ref)	1.000 MHz		-15.14 dBm
Tx Total			-15.14 dBm

02:29:14 PM 08/23/2023

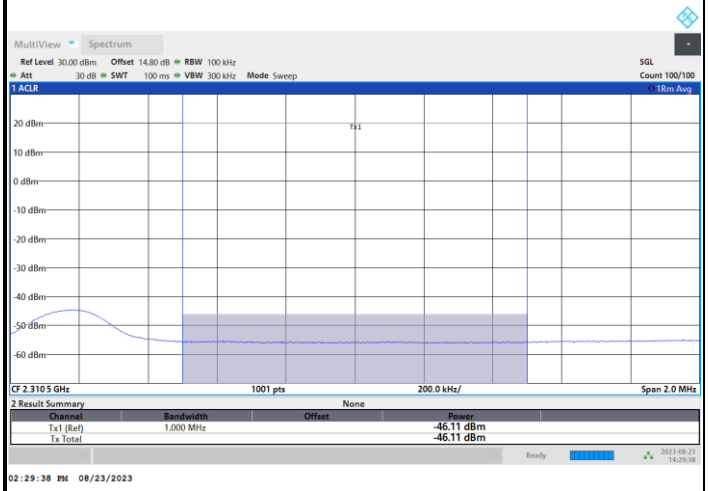
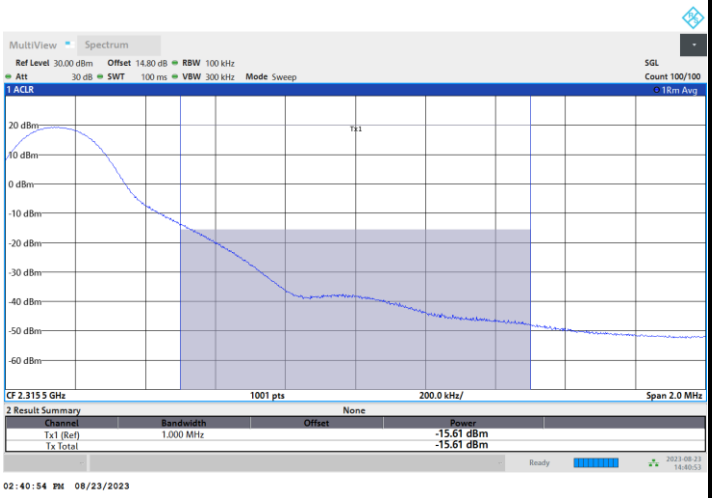
Highest Band Edge / 1 RB / Lower zoom in



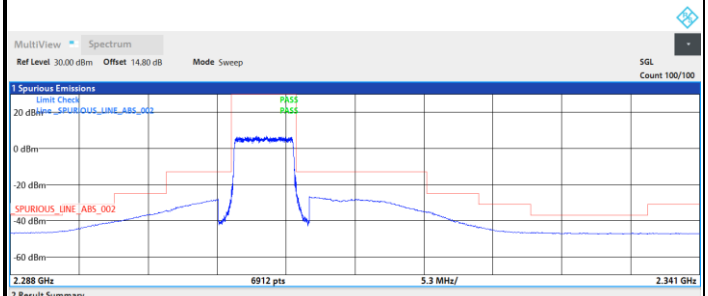
2 Result Summary None

Channel	Bandwidth	Offset	Power
Tx1 (Ref)	1.000 MHz		-46.09 dBm
Tx Total			-46.09 dBm

02:40:30 PM 08/23/2023

Lowest Band Edge / 1 RB / Upper zoom in	Highest Band Edge / 1 RB / Upper zoom in
	

Lowest Band Edge / Full RB

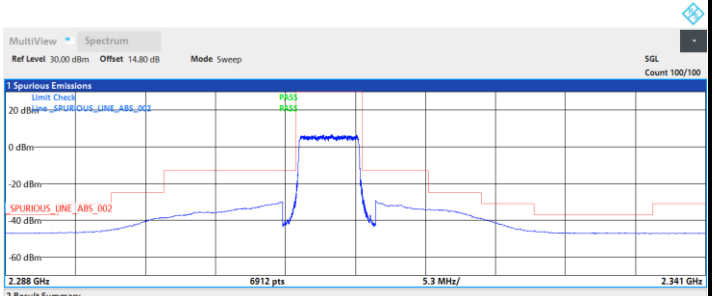


2 Result Summary

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.288 GHz	2.292 GHz	1.000 MHz	2.291 74 GHz	-45.93 dBm	-8.93 dB
2.292 GHz	2.296 GHz	1.000 MHz	2.295 98 GHz	-40.39 dBm	-9.39 dB
2.296 GHz	2.300 GHz	1.000 MHz	2.299 98 GHz	-34.39 dBm	-9.39 dB
2.300 GHz	2.304 GHz	1.000 MHz	2.303 98 GHz	-27.90 dBm	-14.90 dB
2.304 GHz	2.305 GHz	50.000 kHz	2.304 97 GHz	-26.94 dBm	-13.94 dB
2.305 GHz	2.310 GHz	100.000 kHz	2.306 93 GHz	6.76 dBm	-23.24 dB
2.310 GHz	2.311 GHz	50.000 kHz	2.310 02 GHz	-25.39 dBm	-12.39 dB
2.311 GHz	2.320 GHz	1.000 MHz	2.311 04 GHz	-26.89 dBm	-13.89 dB
2.320 GHz	2.324 GHz	1.000 MHz	2.320 18 GHz	-35.09 dBm	-10.09 dB
2.324 GHz	2.328 GHz	1.000 MHz	2.324 06 GHz	-43.58 dBm	-12.58 dB
2.328 GHz	2.337 GHz	1.000 MHz	2.328 13 GHz	-46.64 dBm	-9.64 dB
2.337 GHz	2.341 GHz	1.000 MHz	2.337 18 GHz	-46.94 dBm	-15.94 dB

11:43:02 AM 08/21/2023

Highest Band Edge / Full RB

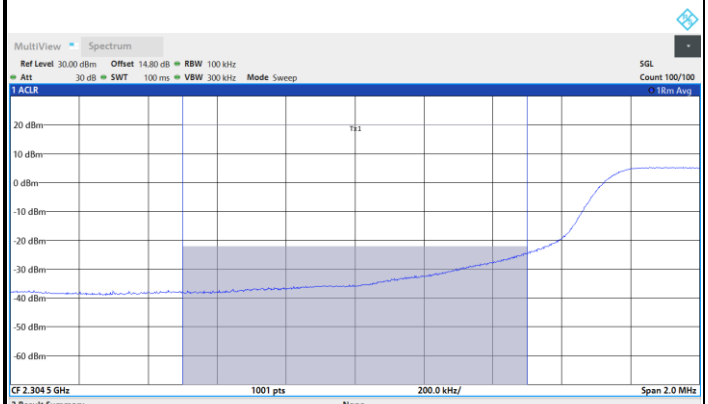


2 Result Summary

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.288 GHz	2.292 GHz	1.000 MHz	2.291 50 GHz	-46.68 dBm	-9.68 dB
2.292 GHz	2.296 GHz	1.000 MHz	2.295 78 GHz	-45.27 dBm	-14.27 dB
2.296 GHz	2.300 GHz	1.000 MHz	2.299 78 GHz	-38.42 dBm	-13.42 dB
2.300 GHz	2.309 GHz	1.000 MHz	2.308 87 GHz	-30.18 dBm	-17.18 dB
2.309 GHz	2.310 GHz	50.000 kHz	2.310 00 GHz	-27.57 dBm	-14.57 dB
2.310 GHz	2.315 GHz	100.000 kHz	2.312 69 GHz	6.77 dBm	-23.23 dB
2.315 GHz	2.316 GHz	50.000 kHz	2.315 00 GHz	-26.27 dBm	-13.27 dB
2.316 GHz	2.320 GHz	1.000 MHz	2.316 02 GHz	-29.01 dBm	-16.01 dB
2.320 GHz	2.324 GHz	1.000 MHz	2.320 02 GHz	-34.02 dBm	-9.02 dB
2.324 GHz	2.328 GHz	1.000 MHz	2.324 02 GHz	-39.19 dBm	-8.19 dB
2.328 GHz	2.337 GHz	1.000 MHz	2.328 04 GHz	-45.81 dBm	-8.81 dB
2.337 GHz	2.341 GHz	1.000 MHz	2.340 35 GHz	-46.98 dBm	-15.98 dB

11:55:03 AM 08/21/2023

Lowest Band Edge / Full RB / Lower zoom in



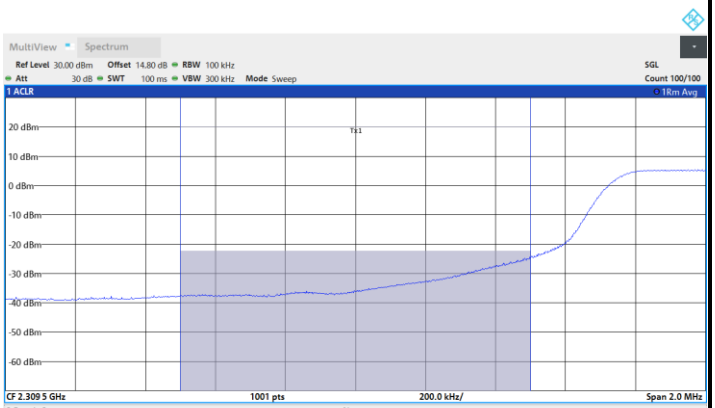
2 Result Summary

None

Channel	Bandwidth	Offset	Power
Tx1 (Ref)	1.000 MHz		-22.24 dBm
Tx Total			-22.24 dBm

02:30:03 PM 08/23/2023

Highest Band Edge / Full RB / Lower zoom in

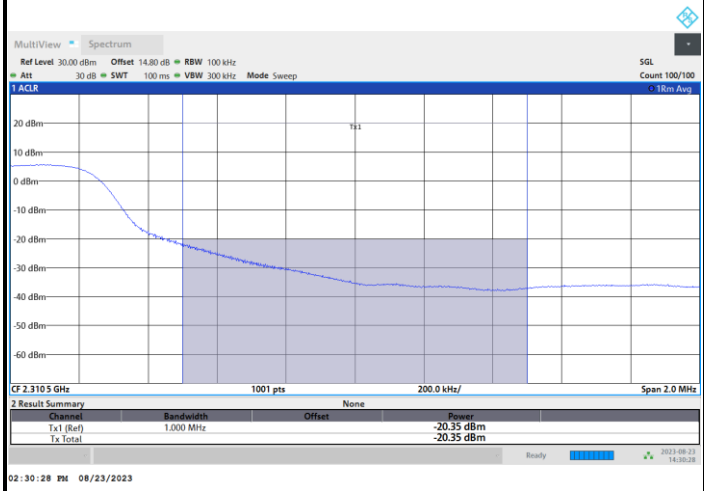
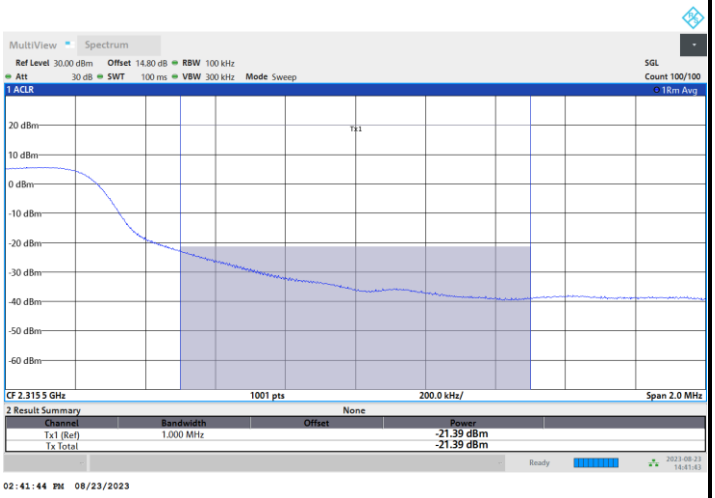


2 Result Summary

None

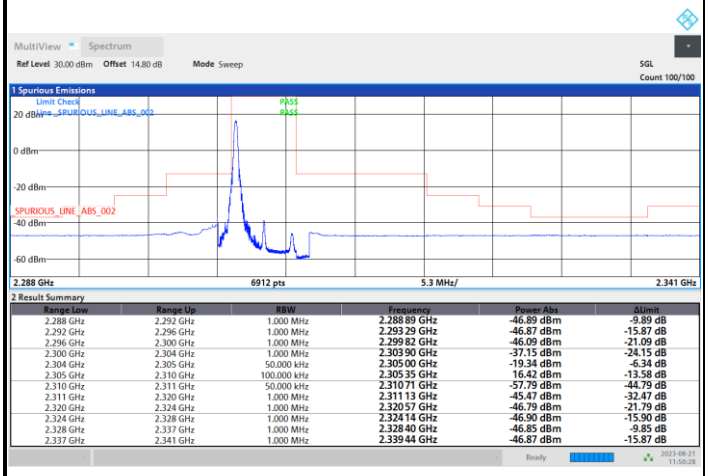
Channel	Bandwidth	Offset	Power
Tx1 (Ref)	1.000 MHz		-22.42 dBm
Tx Total			-22.42 dBm

02:41:19 PM 08/23/2023

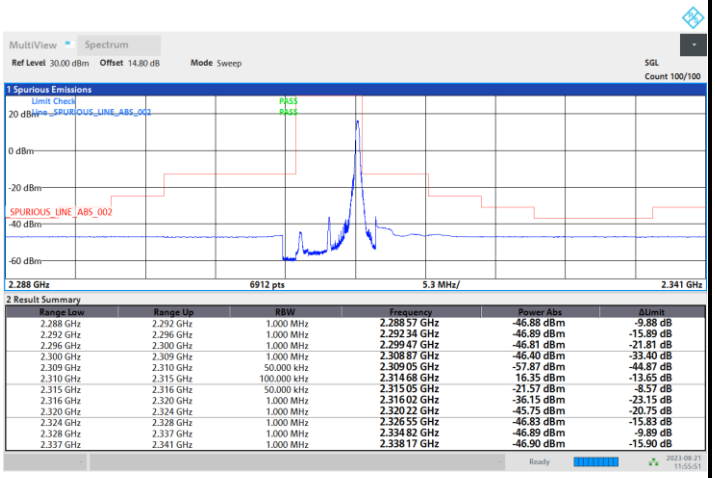
Lowest Band Edge / Full RB / Upper zoom in	Highest Band Edge / Full RB / Upper zoom in
	

FR1 n30 / 5MHz / DFT-S OFDM / 256QAM

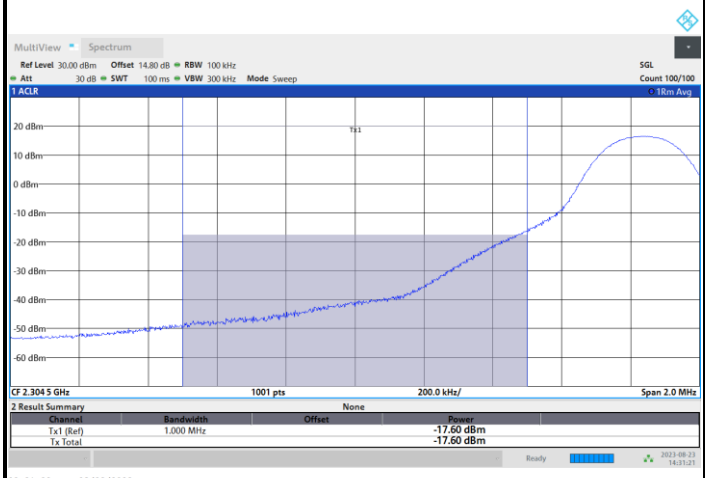
Lowest Band Edge / 1RB0



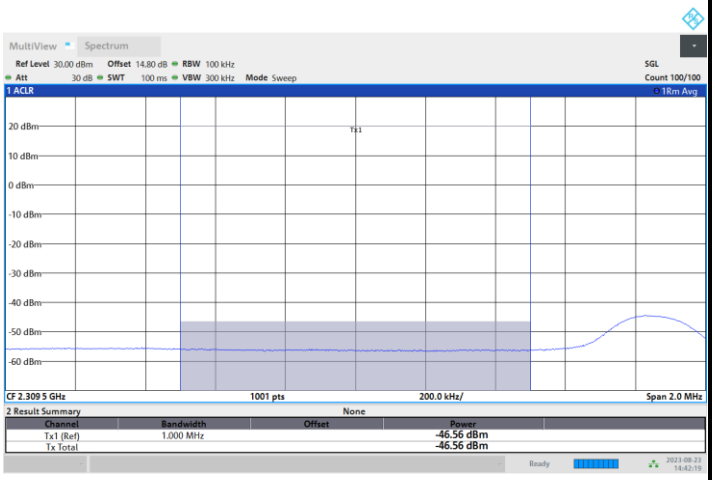
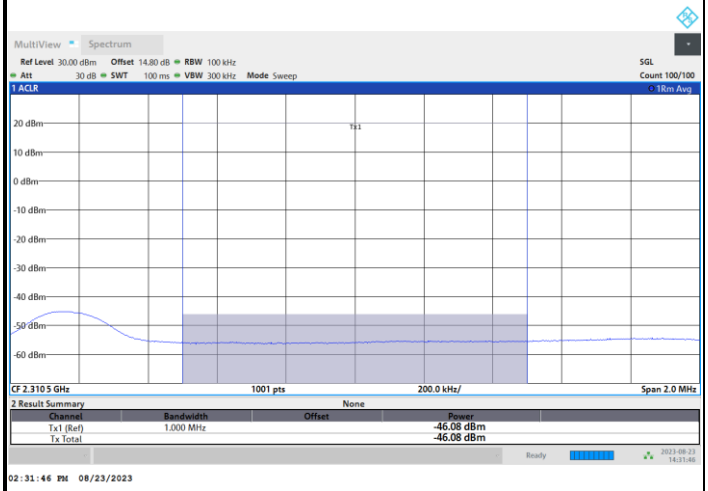
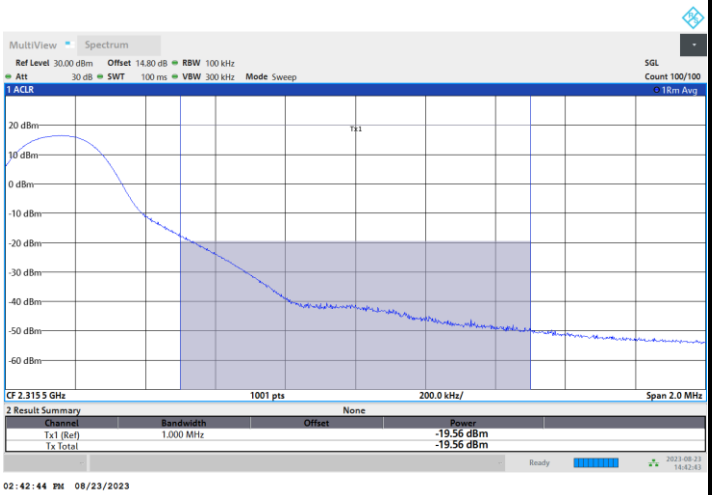
Highest Band Edge / 1RBmax



Lowest Band Edge / 1 RB / Lower zoom in



Highest Band Edge / 1 RB / Lower zoom in



Lowest Band Edge / 1 RB / Upper zoom in	Highest Band Edge / 1 RB / Upper zoom in