ETSI EN 300 328 V2.2.2 (2019-07)

TEST REPORT

For

Renesas Design Korea Inc.

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Tested Model: RRQ61001-009
Multiple Models: RRQ61001-010

Report Type: Original Report	**Product Type:** RRQ61001 Module

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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
1.0	2602P42655E-22A	Original Report	2026/3/11

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Product Name:	RRQ61001 Module
EUT Model:	RRQ61001-009
Multiple Models:	RRQ61001-010
Model Difference:	Refer to Dos
Rated Input Voltage:	1.8~3.6Vdc (Typical:3.3Vdc)
Serial Number:	3GD9-1 (For Radiated Test) 3GD9-2 (For RF Conducted Test)
EUT Received Date:	2026/1/20
EUT Received Status:	Good

Technical Specification

Operation Frequency Range (MHz):		802.11b/g/n20/ax20: 2412-2472
RF Output Power (EIRP) (dBm):		19.97
Number of Chains	**Transmit:**	1
	Receive:	1
Antenna Gain (dBi)▲:		3.3
Modulation Type:		DSSS, OFDM, OFDMA
Note: The manufacturer declares that the 802.11 ax HE mode only supports full RU and doesn't support partial RU.		

Objective

This report is prepared on behalf of ***Renesas Design Korea Inc.*** in accordance with ETSI EN 300328 V2.2.2 (2019-07), Wideband transmission systems; Data transmission equipment operating in the 2,4 GHz band; Harmonised Standard for access to radio spectrum.

The objective is to determine the compliance of EUT with ETSI EN 300328 V2.2.2 (2019-07).

Test Methodology

All measurements contained in this report were conducted with ETSI EN 300328 V2.2.2 (2019-07).

Test Facility

The test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.12, Pulong East 1st Road, Tangxia Town, Dongguan, Guangdong, China.

Measurement Uncertainty

Parameter	Flab	Maximum allow uncertainty
Occupied Channel Bandwidth	±5 %	±5 %
RF output power, conducted	±0.55dB	±1,5 dB
Power Spectral Density, conducted	±0.55dB	±3 dB
Unwanted Emissions, conducted	±2.47dB	±3 dB
All emissions, radiated	30MHz~1GHz: ±5.12 dB, 1GHz~18GHz: ±5.61 dB	±6 dB
Temperature	±1℃	±3℃
Supply voltages	±0.4%	±3 %
Time	±1%	±5 %

Note: Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.

Declarations

The information marked ▲ is provided by the applicant, the laboratory is not responsible for its authenticity and this information can affect the validity of the result in the test report.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

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Each test item follows the test standard(s) without deviation.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in engineering mode which was provided by manufacturer. 13 channels are provided to testing as below table:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	8	2447
2	2417	9	2452
3	2422	10	2457
4	2427	11	2462
5	2432	12	2467
6	2437	13	2472
7	2442	/	/

For lowest, middle and highest channel, 802.11b, 802.11g, 802.11n-HT20 and 802.11 ax20 modes were tested with Channel 1, 7 and 13.
The extreme temperature test conditions which were declared by the manufacturer and the normal conditions are as below:
NT: Normal Temperature +25℃
LT: Low Temperature -40℃
HT: High Temperature +85℃

Equipment Modifications

No modification was made to the EUT tested.

EUT Exercise Software

Software "AX Series MP Toolkit▲" was used for setting device works in engineering mode, and the maximum power level was configured as following setting, which was provided by manufacturer▲. The worst-case data rates are determined to be as follows for each mode based upon investigation by measuring the average power and PSD across all data rates bandwidths, and modulations.

Mode	Frequency (MHz)	Data rate (Mbps)	Power level
802.11 b	2412	1 Mbps	5
	2442	1 Mbps	6
	2472	1 Mbps	6
802.11 g	2412	6 Mbps	12
	2442	6 Mbps	12
	2472	6 Mbps	12
802.11n 20	2412	HT_MCS0	12
	2442	HT_MCS0	12
	2472	HT_MCS0	12
802.11ax 20	2412	HE_MCS0	11
	2442	HE_MCS0	11
	2472	HE_MCS0	11

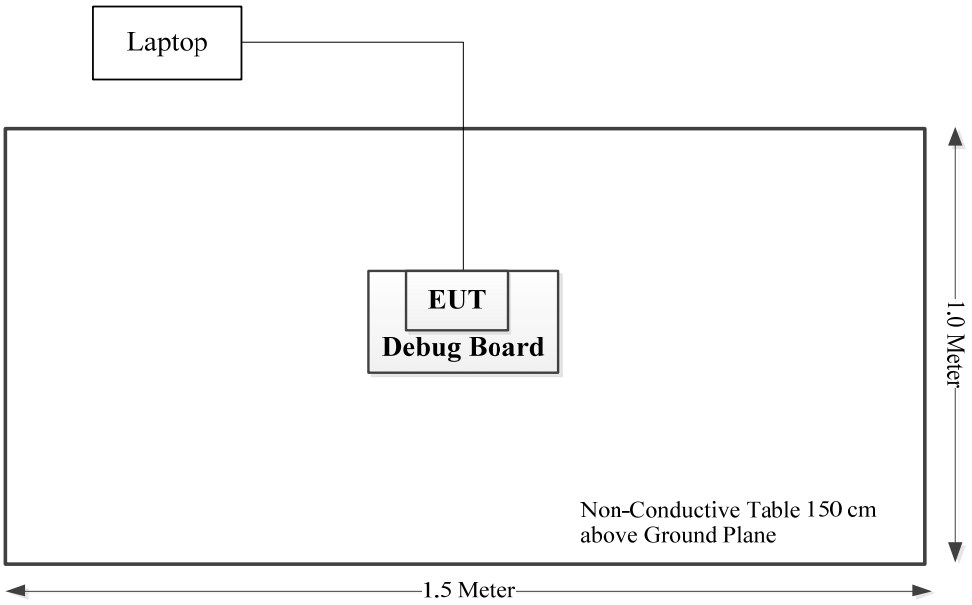
Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
unknown	Debug Board	unknown	2YVE-8
Azeyoo	Laptop	AL141U	unknown

Support Cable List and Details

Cable Description	Shielding Cable	Ferrite Core	Length (m)	From Port	To
USB Cable	NO	NO	1.1	Debug Board	Laptop

Block Diagram of Test Setup



Test Equipment List

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Radiated emissions below 1GHz					
Sunol Sciences	Hybrid Antenna	JB3	A060611-2	2024/4/16	2027/4/15
Narda	Coaxial Attenuator	757C-6dB	34010	2024/4/16	2027/4/15
Unknown	Coaxial Cable	C-NJNJ-50	C-0075-01	2025/7/1	2026/6/30
Unknown	Coaxial Cable	C-NJNJ-50	C-0400-01	2025/7/1	2026/6/30
Unknown	Coaxial Cable	C-NJNJ-50	C-1400-01	2025/7/1	2026/6/30
Sonoma	Amplifier	310N	372193	2025/7/30	2026/7/29
R&S	EMI Test Receiver	ESCI	100035	2025/6/25	2026/6/24
EMCO	Adjustable Dipole Antenna	3121C	9109-753	N/A	N/A
Micro-Coax	Coaxial Cable	UFA210B	99G1448	2025/9/4	2026/9/3
Agilent	Signal Generator	E8247C	MY43321350	2025/7/28	2026/7/27
Radiated emissions above 1 GHz					
ETS-Lindgren	Horn Antenna	3115	000 527 35	2023/9/7	2026/9/6
AH	Horn Antenna	SAS-571	1177	2026/1/22	2029/1/21
Xinhang Macrowave	Coaxial Cable	XH750A-N/J-SMA/J-10M	20231117004 #0001	2025/11/14	2026/11/13
Micro-Coax	Coaxial Cable	UFA210B	99G1448	2025/9/4	2026/9/3
Agilent	Signal Generator	E8247C	MY43321350	2025/7/28	2026/7/27
AH	Preamplifier	PAM-0118P	469	2025/4/11	2026/4/10
R&S	Spectrum Analyzer	FSV40	101944	2025/8/8	2026/8/7
Decentest	Multiplex Switch Test Control Set & Filter Switch Unit	DT7220SCU & DT7220FSU	DS79902 & DS79905	2025/8/25	2026/8/24
RF conducted					
R&S	Spectrum Analyzer	FSV40	101589	2025/7/28	2026/7/27
JD	Test Software	JD Auto Test System	V1.0	N/A	N/A
JD	Broadband Wireless Access Device Test Control box	DT2400MCU	DS78804	2025/5/23	2026/5/22
R&S	Wideband Radio Communication Tester	CMW500	149216	2025/7/28	2026/7/27
Agilent	MXG Vector Signal Generator	N5182B	MY51350142	2026/1/14	2027/1/13
JD	MPS Multi-channel Power Acquisition Device	DT2400MPS	DS78730	2025/05/23	2026/05/22
GLOBAL	TEMP&HUMI Test Chamber	BTH-150-40	30173	2025/08/01	2026/07/31
R&S	Spectrum Analyzer	FSV40	101589	2025/07/28	2026/07/27
RF conducted(Adaptivity)					
Keysight	MXA Signal Analyzer	N9020A	MY48490106	2025/7/29	2026/7/28
Agilent	MXG Vector Signal Generator	N5182A	MY49060274	2025/7/29	2026/7/28
Agilent	MXG Analog Signal Generator	N5181A	MY48180151	2025/7/29	2026/7/28
Tonscend	RF Control Unit	JS0806-2	19G8060171	2025/7/29	2026/7/28
Eastsheep	Coaxial Attenuator	2W-SMA-JK-6G-10dB	F-08-EM509	2025/6/6	2026/6/5
Mini-Circuits	Coaxial DC Block	BLK-18-S+	15542	2025/2/28	2026/2/27

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

Environmental Conditions

Test Site:	Radiated emissions below 1GHz	Radiated emissions above 1GHz	RF conducted	RF conducted (Adaptivity)
Temperature:	23.8 ℃	24.4 ℃	18.1~25.1℃	25.8℃
Relative Humidity:	42.0 %	54.0 %	43~67%	41%
ATM Pressure:	101.9 kPa	100.8 kPa	100.5~102.0kPa	101.5kPa
Tester:	Lancer Zhang	Alan Xie, Willem Qiu	Cooper Zhou	Harper Shen
Test Date:	2026/2/2	2026/2/25	2026/1/29~2026/3/3	2026/1/29

SUMMARY OF TEST RESULTS

SN	Rule and Clause	Description of Test	Test Result
1	EN 300 328 Clause 4.3.2.2	RF output power	Compliant
2	EN 300 328 Clause 4.3.2.3	Power Spectral Density	Compliant
3	EN 300 328 Clause 4.3.2.4	Duty cycle, Tx-Sequence, Tx-gap	Not applicable*
4	EN 300 328 Clause 4.3.2.5	Medium Utilization (MU) factor	Not applicable*
5	EN 300 328 Clause 4.3.2.6	Adaptivity	Compliant
6	EN 300 328 Clause 4.3.2.7	Occupied Channel Bandwidth	Compliant
7	EN 300 328 Clause 4.3.2.8	Transmitter unwanted emissions in the out-of-band domain	Compliant
8	EN 300 328 Clause 4.3.2.9	Transmitter unwanted emissions in the spurious domain	Compliant
9	EN 300 328 Clause 4.3.2.10	Receiver spurious emissions	Compliant
10	EN 300 328 Clause 4.3.2.11	Receiver Blocking	Compliant
11	EN 300 328 Clause 4.3.2.12	Geo-location capability	Not applicable**

Note:
The applicant declared that the equipment is adaptive equipment.
Not applicable*: The test is not applicable for adaptive equipment.
Not applicable**: The manufacturer declared the device without Geo-location capability.

1 – RF OUTPUT POWER

Definition

The RF output power is defined as the mean equivalent isotropic radiated power (e.i.r.p.) of the equipment during a transmission burst.

Limit

The RF output power for non-FHSS equipment shall be equal to or less than 20 dBm.

For Non-adaptive FHSS equipment, the manufacturer may have declared a reduced RF Output Power (see clause 5.4.1 m)) and associated Duty Cycle (see clause 5.4.1 e)) that will ensure that the equipment meets the requirement for the Medium Utilization (MU) factor further described in clause 4.3.2.5. This is verified by the conformance test referred to in clause 4.3.2.5.4.

For non-adaptive non-FHSS equipment, where the manufacturer has declared an RF output power of less than 20 dBm e.i.r.p., the RF output power shall be equal to or less than that declared value.

This limit shall apply for any combination of power level and intended antenna assembly.

Test Procedure

The test procedure shall be as follows:

Step 1:

•Use a fast power sensor suitable for 2,4 GHz and capable of minimum 1 MS/s.
•Use the following settings:
- Sample speed 1 MS/s or faster.
- The samples shall represent the RMS power of the signal.
- Measurement duration: For non-adaptive equipment: equal to the observation period defined in clause 4.3.1.3.2 or clause 4.3.2.4.2. For adaptive equipment, the measurement duration shall be long enough to ensure a minimum number of bursts (at least 10) are captured.
For adaptive equipment, to increase the measurement accuracy, a higher number of bursts may be used.

Step 2:

•For conducted measurements on devices with one transmit chain:

- Connect the power sensor to the transmit port, sample the transmit signal and store the raw data. Use these stored samples in all following steps.

•For conducted measurements on devices with multiple transmit chains:

- Connect one power sensor to each transmit port for a synchronous measurement on all transmit ports.
- Trigger the power sensors so that they start sampling at the same time. Make sure the time difference between the samples of all sensors is less than 500 ns.
- For each individual sampling point (time domain), sum the coincident power samples of all ports and store them. Use these summed samples in all following steps.

Step 3:

•Find the start and stop times of each burst in the stored measurement samples.
The start and stop times are defined as the points where the power is at least 30 dB below the highest value of the stored samples in step 2.
In case of insufficient dynamic range, the value of 30 dB may need to be reduced appropriately.

Step 4:

•Between the start and stop times of each individual burst calculate the RMS power over the burst using the formula below. The start and stop points shall be included. Save these P_{burst} values, as well as the start and stop times for each burst.

$$P_{burst} = \frac{1}{k}\sum_{n=1}^{k} P_{sample}(n)$$

with 'k' being the total number of samples and 'n' the actual sample number

Step 5:

•The highest of all P_{burst} values (value "A" in dBm) will be used for maximum e.i.r.p. calculations.

Step 6:

•Add the (stated) antenna assembly gain "G" in dBi of the individual antenna.
•If applicable, add the additional beamforming gain "Y" in dB.
•If more than one antenna assembly is intended for this power setting, the maximum overall antenna gain (G orG + Y) shall be used.
•The RF Output Power (P) shall be calculated using the formula below:

P = A + G + Y

•This value, which shall comply with the limit given in clause 4.3.1.2.3 or clause 4.3.2.2.3, shall be recorded in the test report.

Test Data

Test Result: *Compliant. Please refer to following tables.*

Test Condition: NT/NV

Test Mode	Antenna	Freq. (MHz)	EIRP (dBm)	EIRP Limit (dBm)	Verdict
802.11b	Chain 0	2412	17.003	20	Pass
		2442	15.689	20	Pass
		2472	15.666	20	Pass
802.11g	Chain 0	2412	19.303	20	Pass
		2442	19.557	20	Pass
		2472	19.376	20	Pass
802.11n20	Chain 0	2412	19.785	20	Pass
		2442	19.803	20	Pass
		2472	19.422	20	Pass
802.11ax20	Chain 0	2412	19.407	20	Pass
		2442	19.494	20	Pass
		2472	19.466	20	Pass

Test Condition: LT/NV

Test Mode	Antenna	Freq. (MHz)	EIRP (dBm)	EIRP Limit (dBm)	Verdict
802.11b	Chain 0	2412	17.283	20	Pass
		2442	16.055	20	Pass
		2472	15.971	20	Pass
802.11g	Chain 0	2412	19.539	20	Pass
		2442	19.891	20	Pass
		2472	19.697	20	Pass
802.11n20	Chain 0	2412	19.941	20	Pass
		2442	19.970	20	Pass
		2472	19.614	20	Pass
802.11ax20	Chain 0	2412	19.713	20	Pass
		2442	19.854	20	Pass
		2472	19.690	20	Pass

Test Condition: HT/NV

Test Mode	Antenna	Freq. (MHz)	EIRP (dBm)	EIRP Limit (dBm)	Verdict
802.11b	Chain 0	2412	16.868	20	Pass
		2442	15.503	20	Pass
		2472	15.371	20	Pass
802.11g	Chain 0	2412	19.066	20	Pass
		2442	19.430	20	Pass
		2472	19.206	20	Pass
802.11n20	Chain 0	2412	19.451	20	Pass
		2442	19.617	20	Pass
		2472	19.132	20	Pass
802.11ax20	Chain 0	2412	19.095	20	Pass
		2442	19.245	20	Pass
		2472	19.194	20	Pass

2 - POWER SPECTRAL DENSITY

Definition

The Power Spectral Density is the mean equivalent isotropically radiated power (e.i.r.p.) spectral density in a 1 MHz bandwidth during a transmission burst.

Limit

The maximum Power Spectral Density for non-FHSS equipment is 10 dBm per MHz.

Test Procedure

The transmitter shall be connected to a spectrum analyser and the Power Spectral Density as defined in clause 4.3.2.3shall be measured and recorded.

The test procedure shall be as follows:

Step 1:

Connect the UUT to the spectrum analyser and use the following settings:

- Start Frequency: 2 400 MHz
- Stop Frequency: 2 483.5 MHz
- Resolution BW: 10 kHz
- Video BW: 30 kHz
- Sweep Points: > 8 350;for spectrum analysers not supporting this number of sweep points, the frequency band may be segmented

NOTE: For spectrum analysers not supporting this number of sweep points, the frequency band may be segmented.

- Detector: RMS
- Trace Mode: Max Hold
- Sweep time: For non-continuous transmissions: 2 × Channel Occupancy Time × number of sweep points
  For continuous transmissions:10 s; the sweep time may be increased further until a value where the sweep time has no impact on the RMS value of the signal.

For non-continuous signals, wait for the trace to stabilize. Save the data (trace data) set to a file.

Step 2:

For conducted measurements on smart antenna systems using either operating mode 2 or operating mode 3 (see clause 5.3.2.2), repeat the measurement for each of the transmit ports. For each sampling point (frequency domain), add up the coincident power values (in mW) for the different transmit chains and use this as the new data set.

Step 3:

Add up the values for power for all the samples in the file using the formula below.

$$P_{Sum} = \frac{1}{k}\sum_{n=1}^{k} P_{sample}(n)$$

with 'k' being the total number of samples and 'n' the actual sample number

Step 4:

Normalize the individual values for power (in dBm) so that the sum is equal to the RF Output Power (e.i.r.p.) measured in clause 5.3.2 and save the corrected data. The following formulas can be used:

$$C_{Corr} = P_{Sum} - P_{e.i.r.p}$$

$$P_{Samplecorr}(n) = P_{Sample}(n) - C_{Corr}$$

with 'n' being the actual sample number

Step 5:

Starting from the first sample $P_{Samplecorr}(n)$ (lowest frequency), add up the power (in mW) of the following samples representing a 1 MHz segment and record the results for power and position (i.e. sample #1 to sample #100). This is the Power Spectral Density (e.i.r.p.) for the first 1 MHz segment which shall be recorded.

Step 6:

Shift the start point of the samples added up in step 5 by one sample and repeat the procedure in step 5 (i.e. sample #2 to sample #101).

Step 7:

Repeat step 6 until the end of the data set and record the Power Spectral Density values for each of the 1 MHz segments.

From all the recorded results, the highest value is the maximum Power Spectral Density for the UUT. This value, which shall comply with the limit given in clause 4.3.2.3.3, shall be recorded in the test report.

Test Data

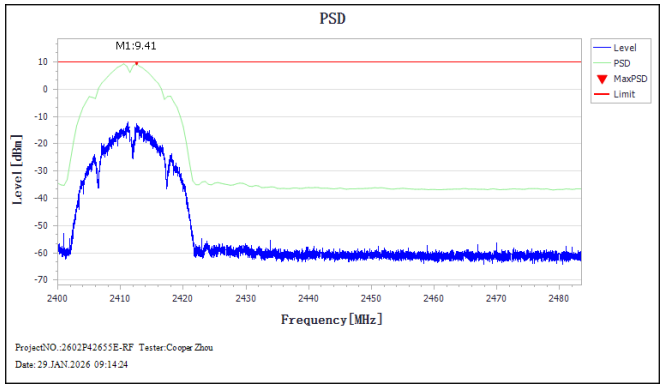
Test Result: *Compliant. Please refer to following tables.*

Test Condition: NT/NV

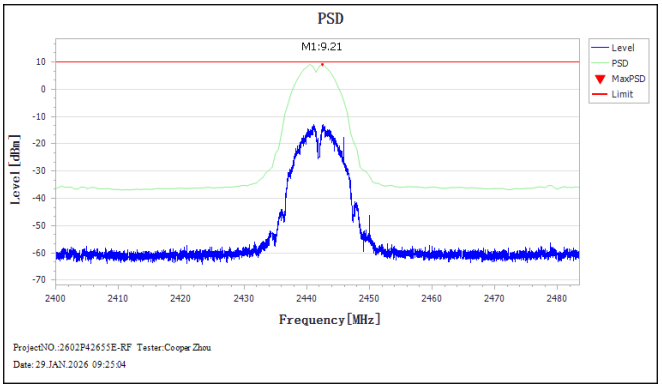
Test Mode	Antenna	Freq. (MHz)	PSD (dBm/MHz)	Limit (dBm/MHz)	Verdict
802.11b	Chain 0	2412	9.41	10	Pass
		2442	9.21	10	Pass
		2472	9.41	10	Pass
802.11g	Chain 0	2412	9.49	10	Pass
		2442	9.74	10	Pass
		2472	9.66	10	Pass
802.11n20	Chain 0	2412	9.66	10	Pass
		2442	9.69	10	Pass
		2472	9.34	10	Pass
802.11ax20	Chain 0	2412	9.17	10	Pass
		2442	9.19	10	Pass
		2472	9.16	10	Pass

2.4G

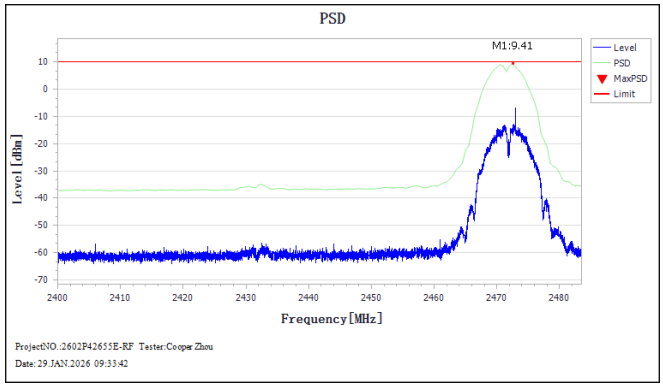
802.11b_2412MHz



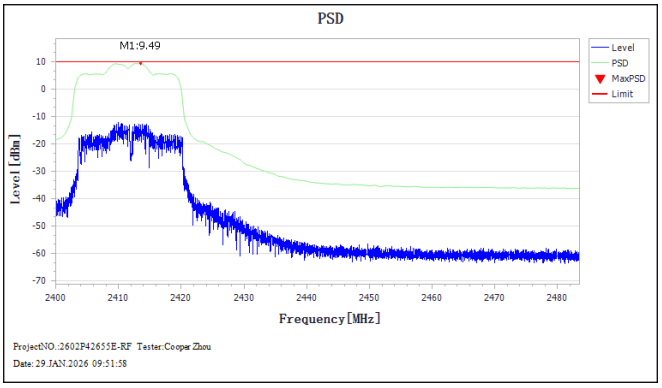
802.11b_2442MHz



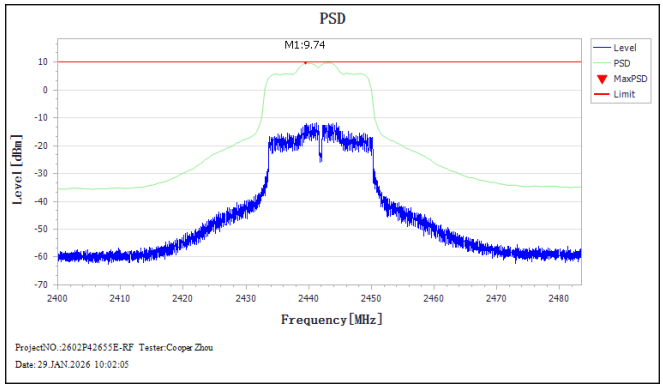
802.11b_2472MHz



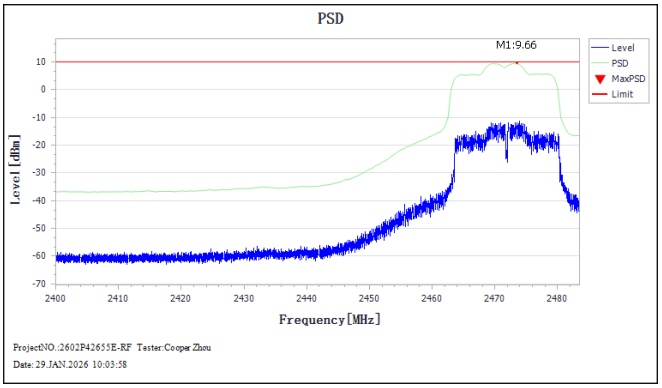
802.11g_2412MHz



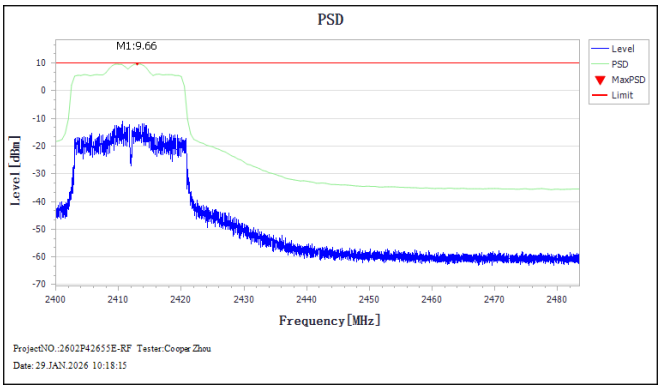
802.11g_2442MHz



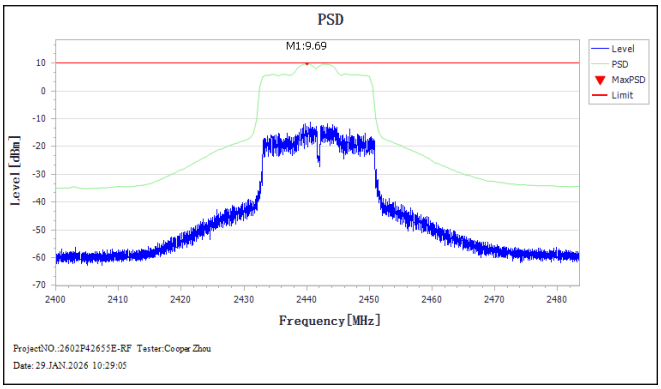
802.11g_2472MHz



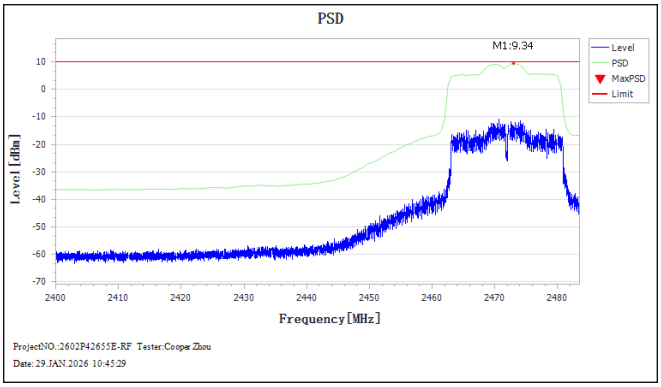
802.11n20_2412MHz



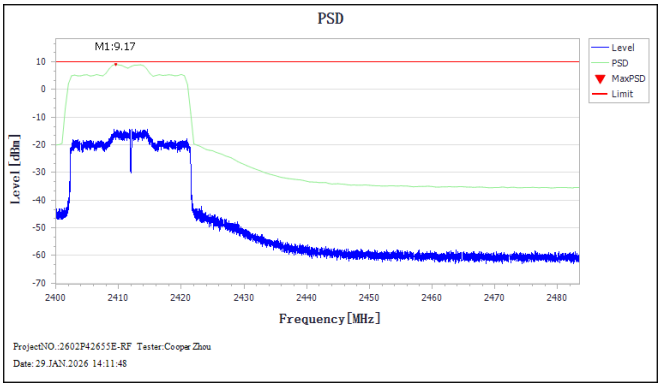
802.11n20_2442MHz



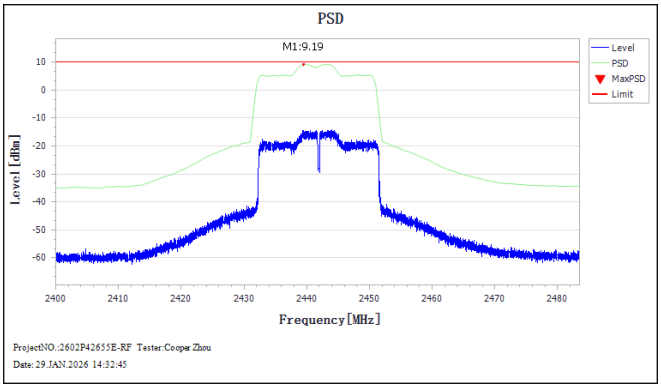
802.11n20_2472MHz



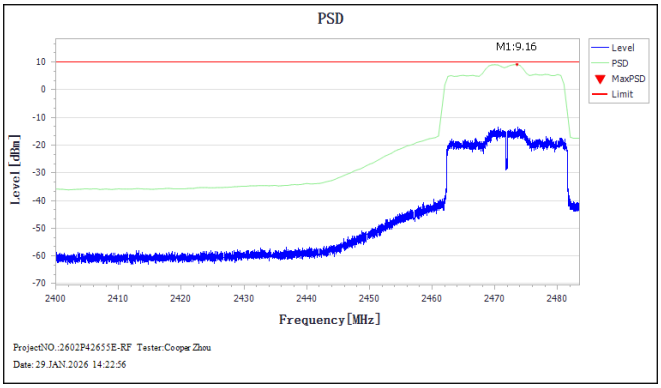
802.11ax20_2412MHz_RU_Full



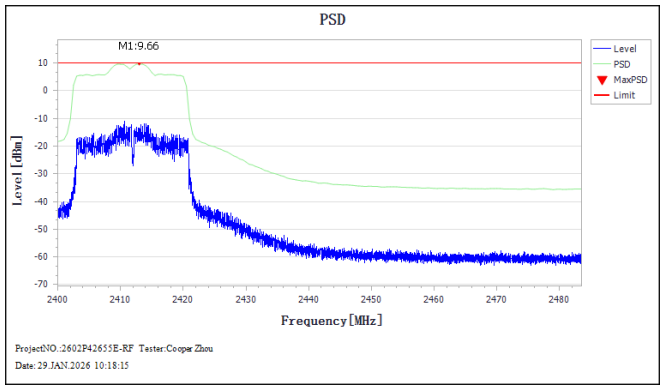
802.11ax20_2442MHz_RU_Full



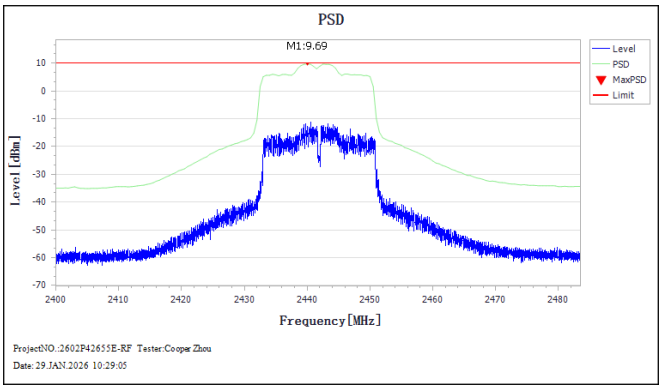
802.11ax20_2472MHz_RU_Full



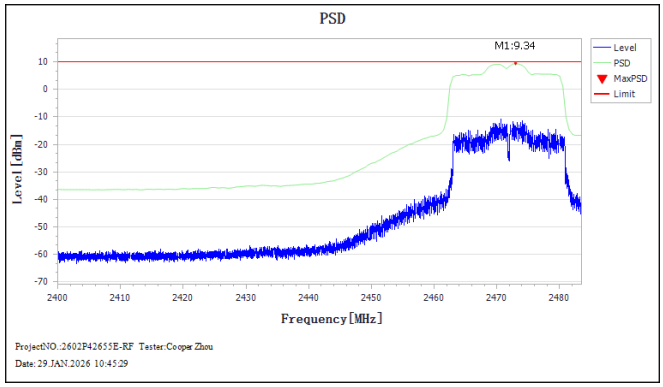
802.11n20_2412MHz



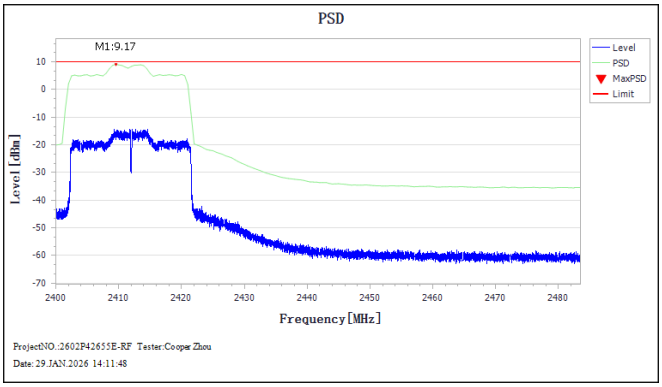
802.11n20_2442MHz



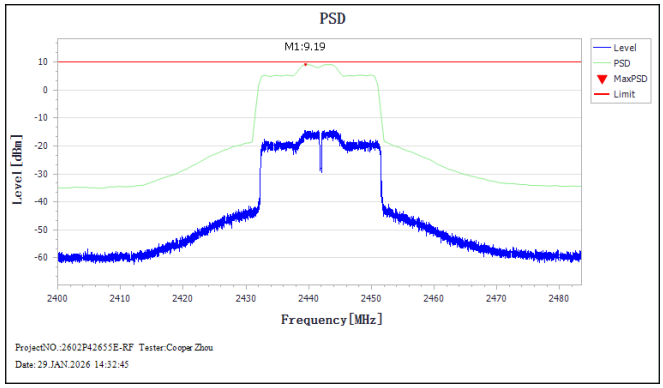
802.11n20_2472MHz



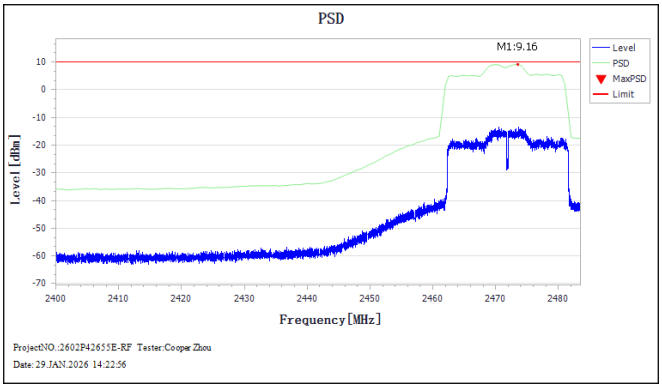
802.11ax20_2412MHz_RU_Full



802.11ax20_2442MHz_RU_Full



802.11ax20_2472MHz_RU_Full

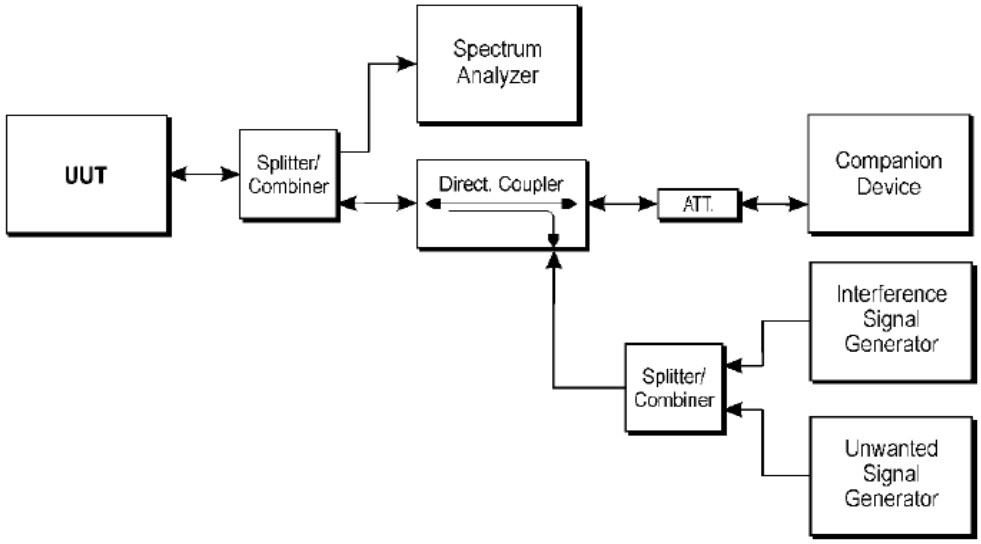


5 – ADAPTIVITY

Definition

Adaptive non-FHSS using LBT is a mechanism by which non-FHSS adaptive equipment avoids transmissions in a channel in the presence of an interfering signal in that channel. This mechanism shall operate as intended in the presence of an unwanted signal on frequencies other than those of the operating band.

Test Setup Block Diagram



Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
Lenovo	Laptop	T430	AA887-03
Tenda	Router	W18E	E9382010341000028

Test Procedure

The measurement procedure refer to ETSI EN 300 328 V2.2.2 (2019-07) §5.4.6

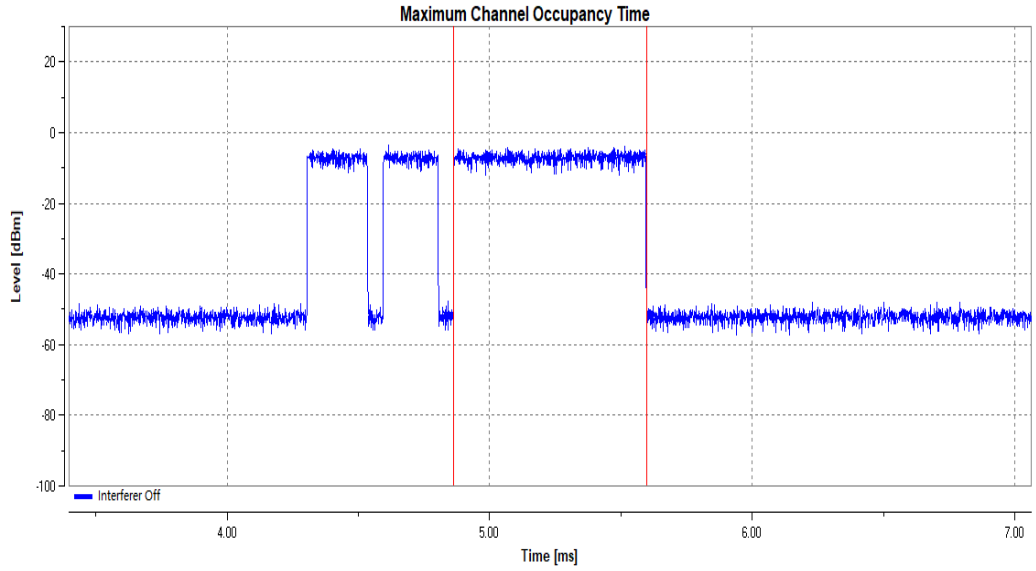
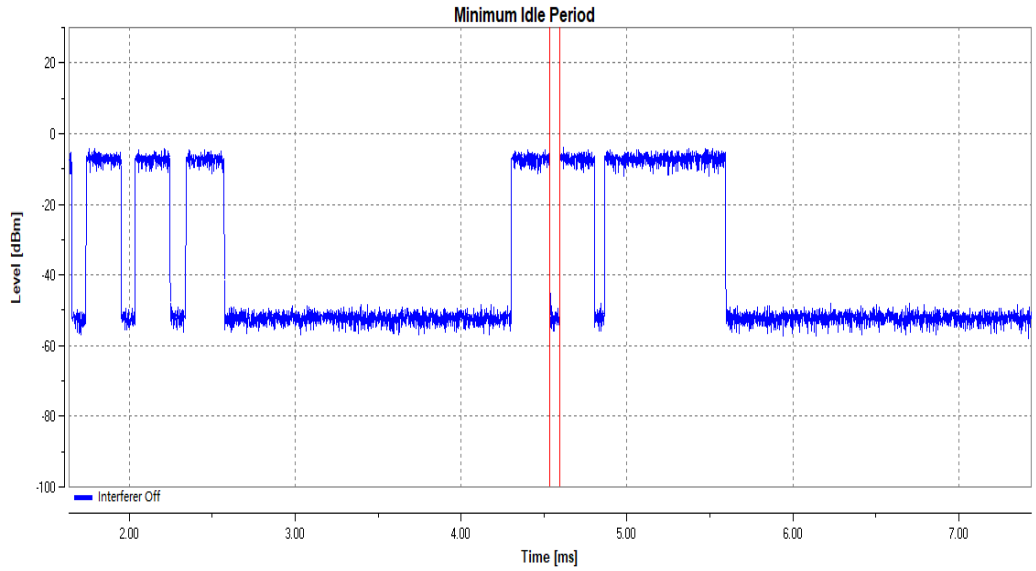
Test Data

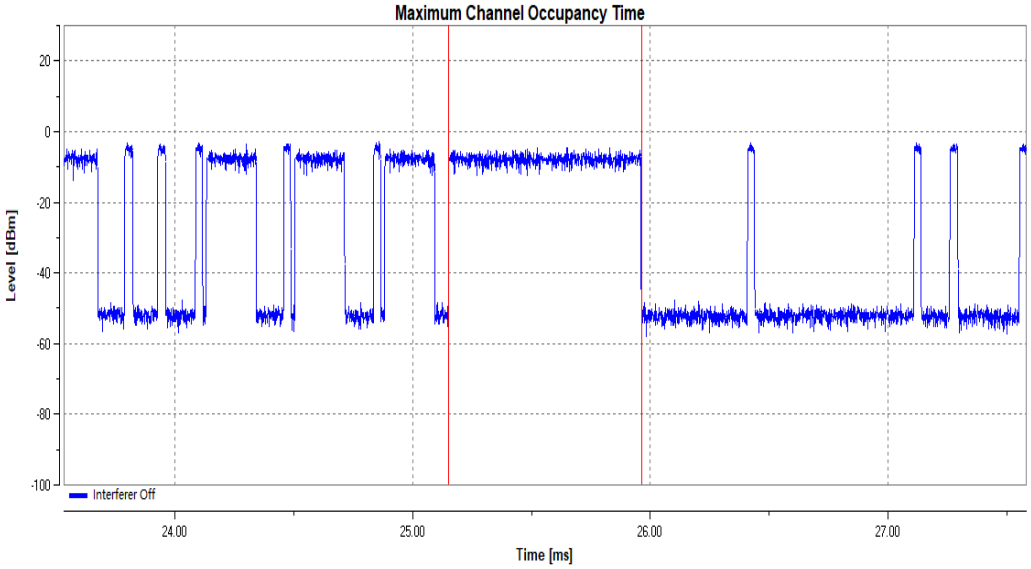
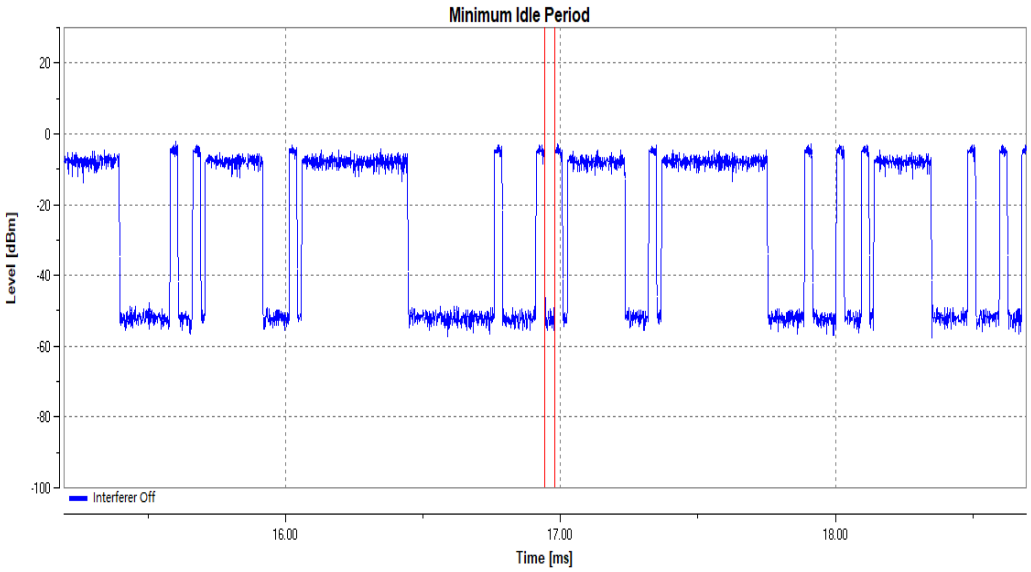
Test Result: *Compliant. Please refer to following tables.*

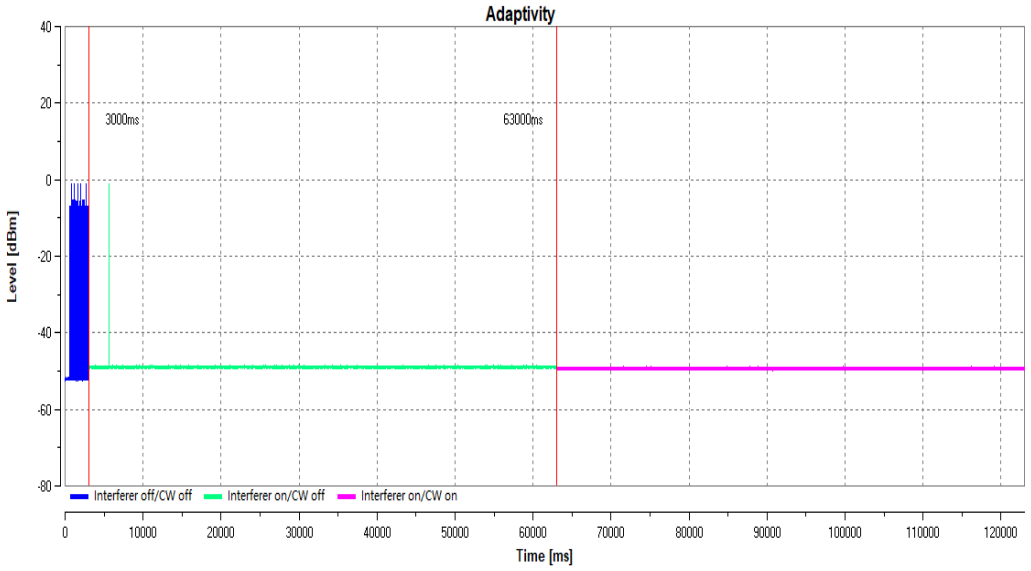
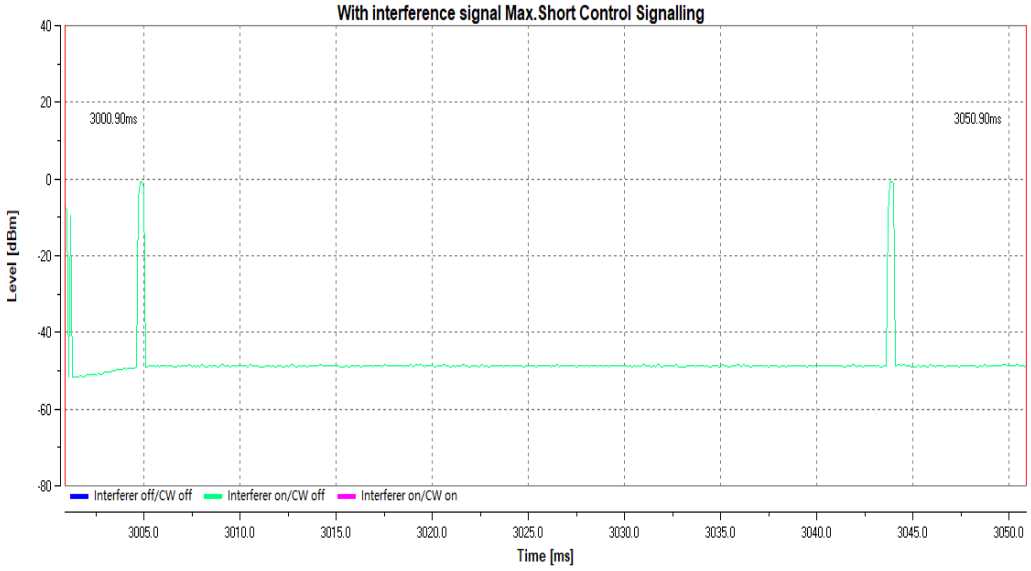
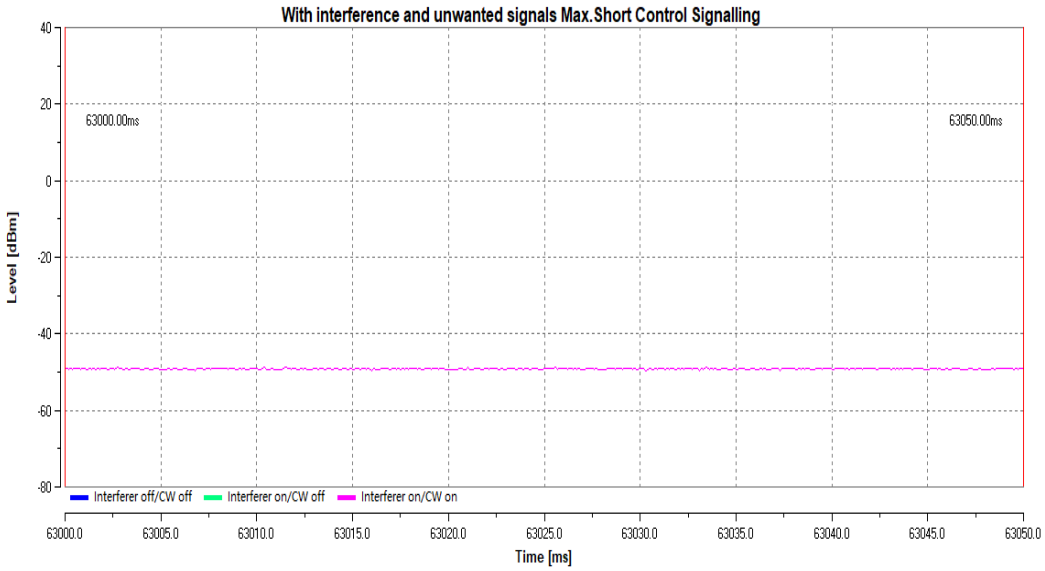
Test Mode	Channel	Max.COT [ms]	Limit[ms]	Min. Idle Time[ms]	Limit[ms]	Verdict
11N20SISO	2412	0.733	13	0.058	0.018	PASS
	2472	0.810	13	0.035	0.018	PASS

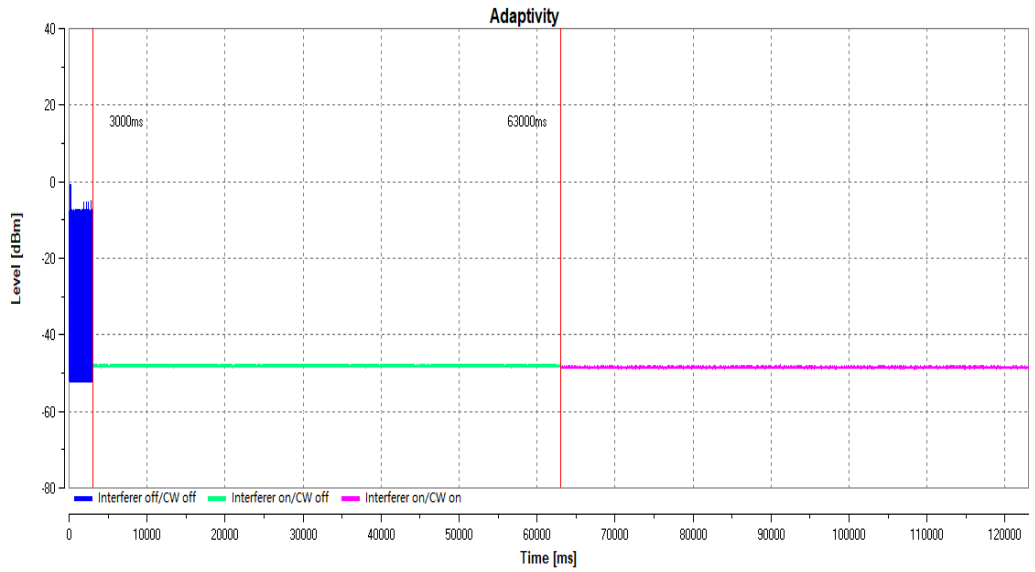
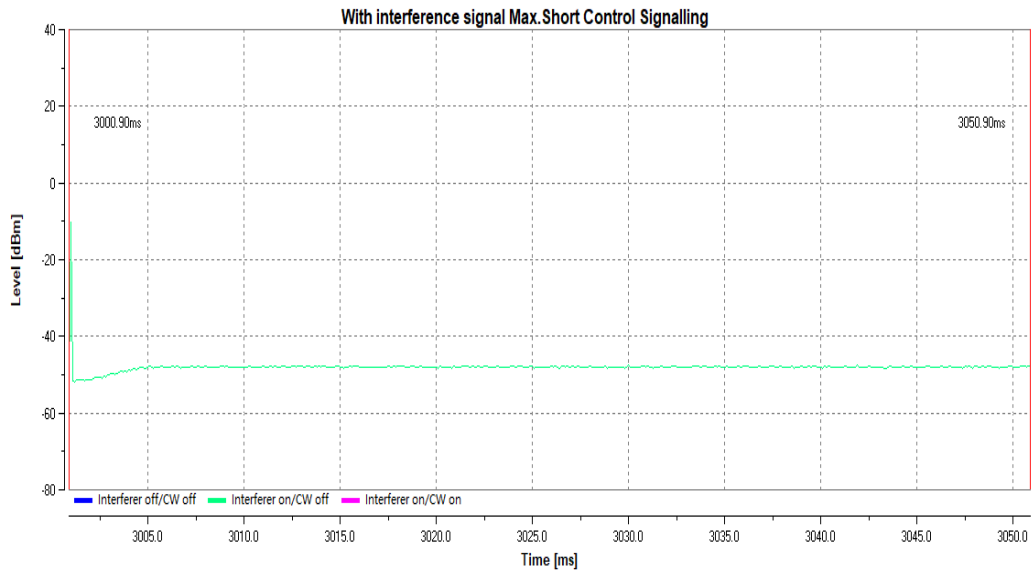
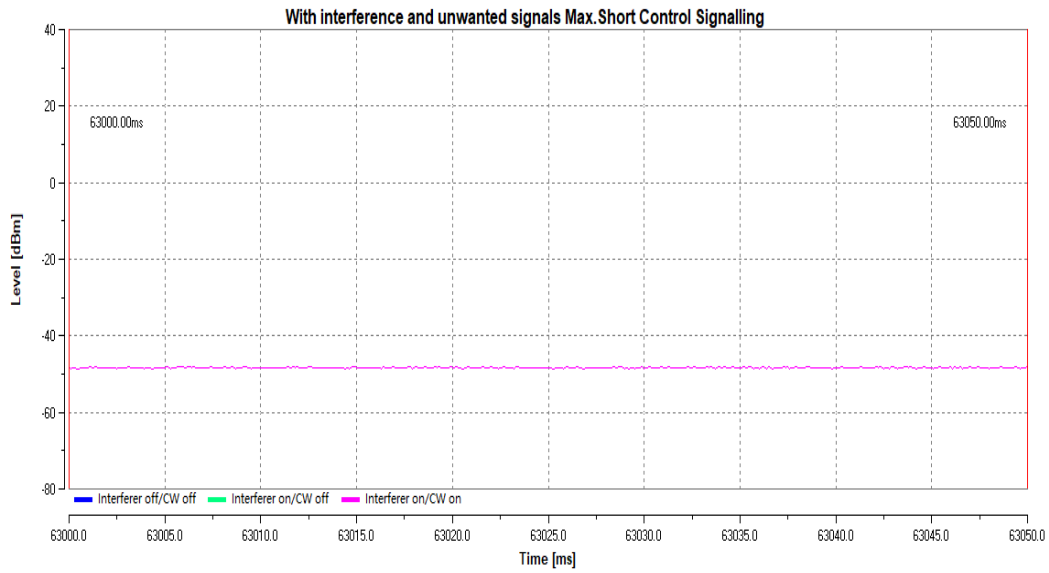
Test Mode	Channel	Add Signal Type	Add Signal Time [ms]	Add Signal Level[dbm]	Max. Short Time [%]	Limit [%]	Verdict
11N20SISO	2412	AWGN	3000	-66.67	2.20	≤ 10	PASS
		CW	63000	-31.70	0.00	≤ 10	PASS
	2472	AWGN	3000	-66.67	0.20	≤ 10	PASS
		CW	63000	-31.70	0.00	≤ 10	PASS

Please refer to following plots:

11N20SISO_Ant1_2412



11N20SISO_Ant1_2472



11N20SISO_Ant1_2412




11N20SISO_Ant1_2472




6 – OCCUPIED CHANNEL BANDWIDTH

Definition

The Occupied Channel Bandwidth is the bandwidth that contains 99 % of the power of the signal.

Limit

The Occupied Channel Bandwidth shall fall completely within the band given in clause 1.
In addition, for non-adaptive equipment using wide band modulations other than FHSS and with e.i.r.p greater than10 dBm, the occupied channel bandwidth shall be less than 20 MHz.

Test Procedure

The measurement procedure shall be as follows:

Step 1:

Connect the UUT to the spectrum analyser and use the following settings:

- •Centre Frequency: The centre frequency of the channel under test
- •Resolution BW: ~ 1 % of the span without going below 1 %
- •Video BW: 3 × RBW
- • Frequency Span for other types of equipment: 2 × Nominal Channel Bandwidth
- •Detector Mode: RMS
- •Trace Mode: Max Hold
- •Sweep time: 1 s

Step 2:

Wait for the trace to stabilize.
Find the peak value of the trace and place the analyser marker on this peak.

Step 3:

Use the 99 % bandwidth function of the spectrum analyser to measure the Occupied Channel Bandwidth of the UUT. This value shall be recorded.

NOTE: Make sure that the power envelope is sufficiently above the noise floor of the analyser to avoid the noise signals left and right from the power envelope being taken into account by this measurement.

Test Data

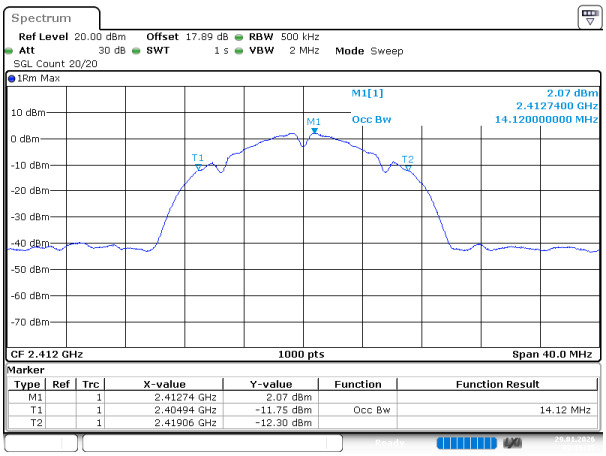
Test Result: *Compliant. Please refer to following tables.*

Test Condition: NT/NV

Test Mode	Antenna	Freq. (MHz)	OCB (MHz)	F_L (MHz)	F_H (MHz)	Limit (MHz)	Verdict
802.11b	Chain 0	2412	14.120	2404.940	2419.060	2400 to 2483.5	Pass
		2472	8.760	2467.660	2476.420	2400 to 2483.5	Pass
802.11g	Chain 0	2412	16.600	2403.700	2420.300	2400 to 2483.5	Pass
		2472	16.680	2463.660	2480.340	2400 to 2483.5	Pass
802.11n20	Chain 0	2412	17.800	2403.100	2420.900	2400 to 2483.5	Pass
		2472	17.880	2463.060	2480.940	2400 to 2483.5	Pass
802.11ax20	Chain 0	2412	18.920	2402.540	2421.460	2400 to 2483.5	Pass
		2472	19	2462.500	2481.500	2400 to 2483.5	Pass

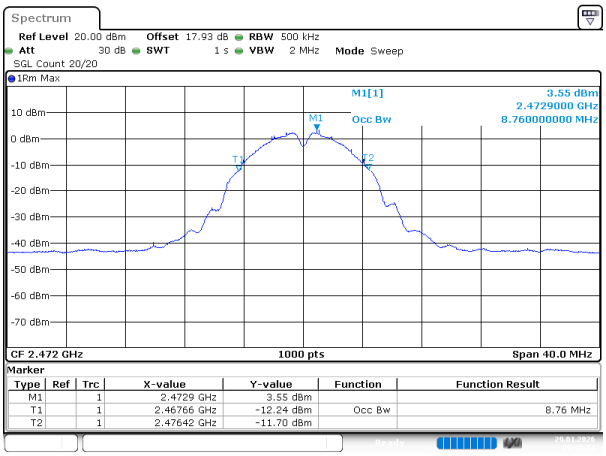
2.4G, Test Condition: NT/NV

802.11b_2412MHz



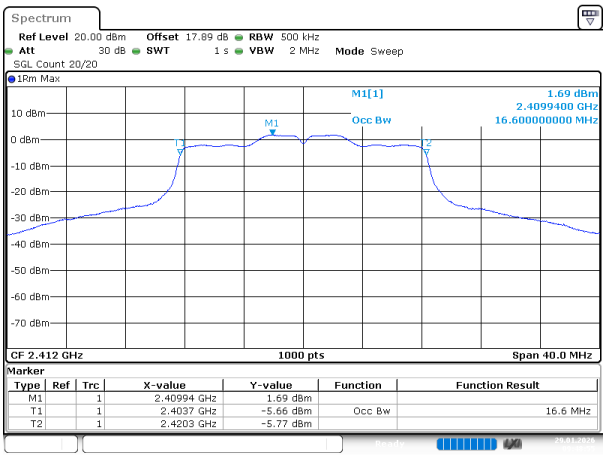
ProjectNo.:2602P42655E-RF Tester:Cooper Zhou
Date: 29.JAN.2026 09:16:46

802.11b_2472MHz



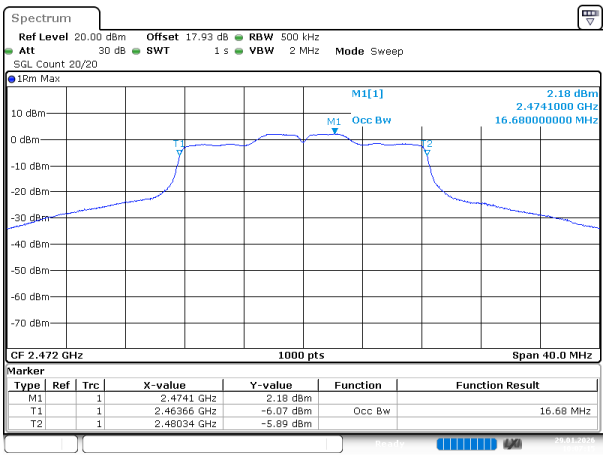
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Date: 29.JAN.2026 09:38:14

802.11g_2412MHz



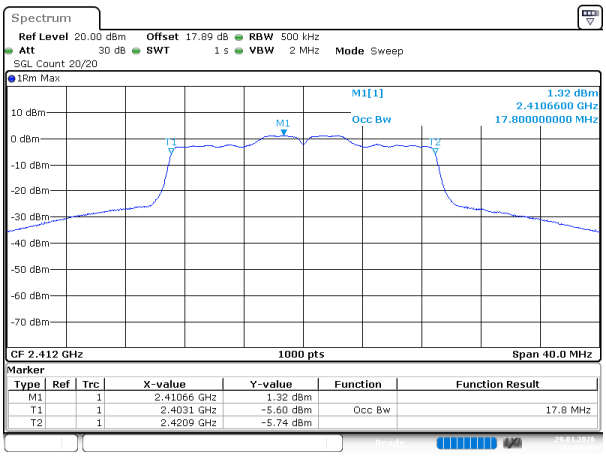
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Date: 29.JAN.2026 09:48:55

802.11g_2472MHz



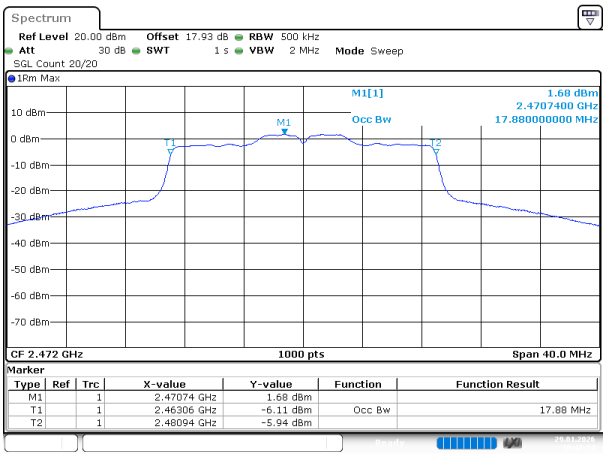
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Date: 29.JAN.2026 10:07:16

802.11n20_2412MHz



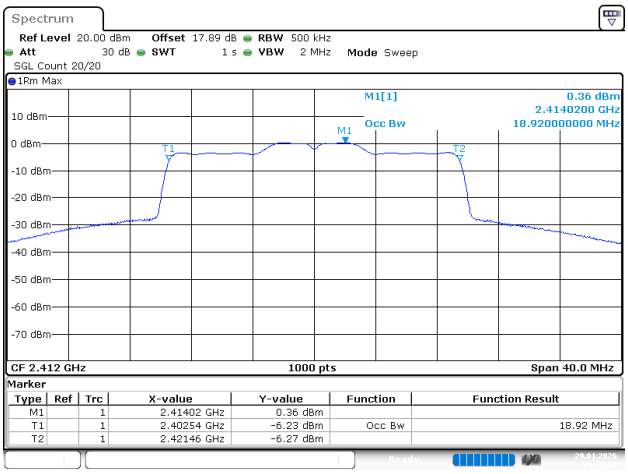
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Date: 29.JAN.2026 10:19:36

802.11n20_2472MHz



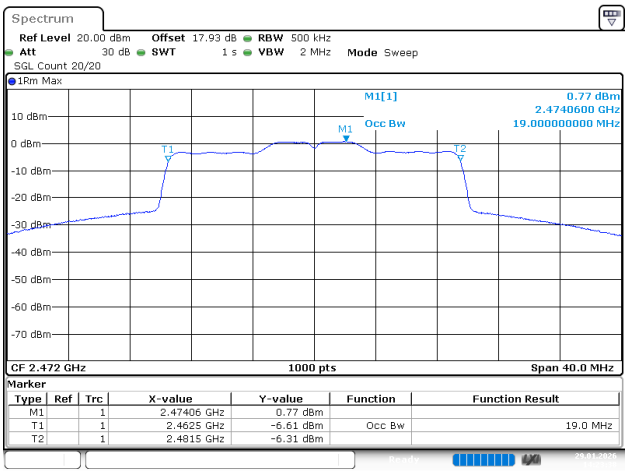
ProjectNo.:2602P42655E-RF Tester:Cooper Zhou
Date: 29.JAN.2026 10:47:34

802.11ax20_2412MHz_RU_Full



ProjectNo.:2602P42655E-RF Tester:Cooper Zhou
Date: 29.JAN.2026 14:12:29

802.11ax20_2472MHz_RU_Full



ProjectNo.:2602P42655E-RF Tester:Cooper Zhou
Date: 29.JAN.2026 14:23:38

7 – TRANSMITTER UNWANTED EMISSION IN THE OUT-OF-BAND DOMAIN

Definition

According to ETSI EN 300 328 V2.2.2 (2019-07) §4.3.2.8.2, Transmitter unwanted emissions in the out-of-band domain are emissions when the equipment is in Transmit mode, on frequencies immediately outside the allocated band , but excluding unwanted emissions in the spurious domain.

Limit

The transmitter unwanted emissions in the out-of-band domain shall not exceed the values provided by the mask in figure 3.

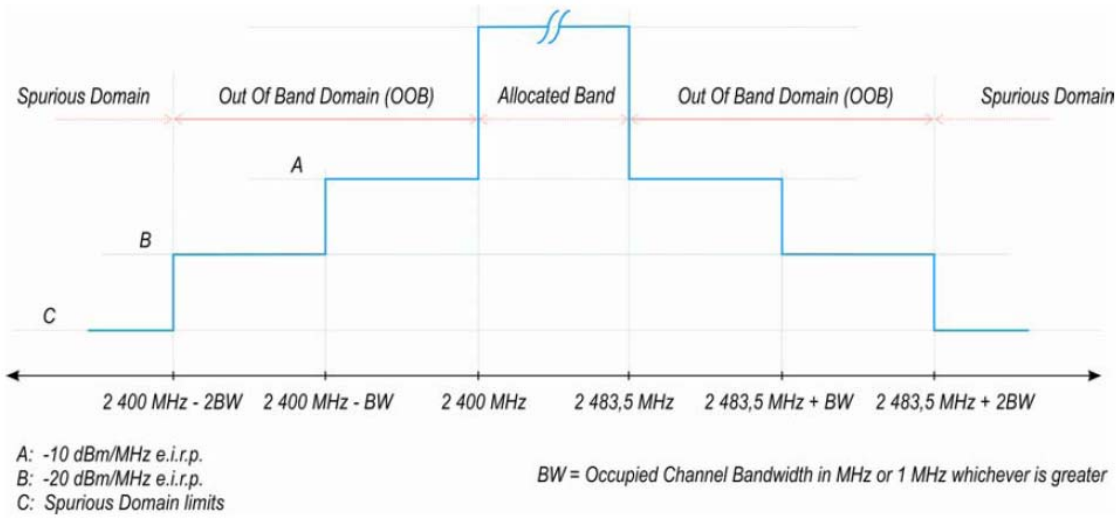


Figure 3: Transmit mask

Test Procedure

According to ETSI EN 300 328 V2.2.2 (2019-07) §5.4.8

Test Data

Test Result: *Compliant. Please refer to following tables.*
Test Condition: NT/NV

Test Mode	Antenna	Freq. (MHz)	Frequency (MHz)	Level (dBm/MHz)	Limit (dBm/MHz)	Result
802.11b	Chain 0	2412	2372.26	-45.44	-20	Pass
			2372.38	-46.08	-20	Pass
			2373.38	-46.80	-20	Pass
			2374.38	-45.34	-20	Pass
			2375.38	-47.09	-20	Pass
			2376.38	-46.51	-20	Pass
			2377.38	-47.48	-20	Pass
			2378.38	-45.61	-20	Pass
			2379.38	-45.99	-20	Pass
			2380.38	-45.21	-20	Pass
			2381.38	-44.56	-20	Pass
			2382.38	-43.25	-20	Pass
			2383.38	-42.05	-20	Pass
			2384.38	-43.47	-20	Pass
			2385.38	-43.45	-20	Pass
			2386.38	-42.84	-10	Pass
			2386.50	-43.40	-10	Pass
			2387.50	-43.82	-10	Pass
			2388.50	-42.83	-10	Pass
			2389.50	-41.69	-10	Pass
			2390.50	-42.72	-10	Pass
			2391.50	-40.17	-10	Pass
			2392.50	-39.33	-10	Pass
			2393.50	-39.04	-10	Pass
			2394.50	-38.01	-10	Pass
			2395.50	-38.42	-10	Pass
			2396.50	-35.66	-10	Pass
			2397.50	-36.13	-10	Pass
			2398.50	-36.45	-10	Pass
			2399.50	-36.15	-10	Pass
			2484	-49.72	-10	Pass
			2485	-50.36	-10	Pass
			2486	-49.21	-10	Pass

Test Mode	Antenna	Freq. (MHz)	Frequency (MHz)	Level (dBm/MHz)	Limit (dBm/MHz)	Result
802.11b	Chain 0	2412	2487	-51.69	-10	Pass
			2488	-49.67	-10	Pass
			2489	-50.03	-10	Pass
			2490	-49.56	-10	Pass
			2491	-48.62	-10	Pass
			2492	-48.45	-10	Pass
			2493	-48.18	-10	Pass
			2494	-49.66	-10	Pass
			2495	-48.69	-10	Pass
			2496	-50.06	-10	Pass
			2497	-49.91	-10	Pass
			2497.12	-49.84	-10	Pass
			2498.12	-47.71	-20	Pass
			2499.12	-47.92	-20	Pass
			2500.12	-49.26	-20	Pass
			2501.12	-50.41	-20	Pass
			2502.12	-49.83	-20	Pass
			2503.12	-48.42	-20	Pass
			2504.12	-48.69	-20	Pass
			2505.12	-50.06	-20	Pass
			2506.12	-48.87	-20	Pass
			2507.12	-48.36	-20	Pass
			2508.12	-50.59	-20	Pass
			2509.12	-50.63	-20	Pass
			2510.12	-49.70	-20	Pass
			2511.12	-49.86	-20	Pass
			2511.24	-49.66	-20	Pass
		2472	2382.98	-51.28	-20	Pass
			2383.74	-50.36	-20	Pass
			2384.74	-50.93	-20	Pass
			2385.74	-51.39	-20	Pass
			2386.74	-51.38	-20	Pass
			2387.74	-52.25	-20	Pass
			2388.74	-50.77	-20	Pass

Test Mode	Antenna	Freq. (MHz)	Frequency (MHz)	Level (dBm/MHz)	Limit (dBm/MHz)	Result
802.11b	Chain 0	2472	2389.74	-49.62	-20	Pass
			2390.74	-47.21	-20	Pass
			2391.74	-47.61	-10	Pass
			2392.50	-48.36	-10	Pass
			2393.50	-49.61	-10	Pass
			2394.50	-50.17	-10	Pass
			2395.50	-51.25	-10	Pass
			2396.50	-51.86	-10	Pass
			2397.50	-52.22	-10	Pass
			2398.50	-51.76	-10	Pass
			2399.50	-50.65	-10	Pass
			2484	-38.99	-10	Pass
			2485	-40.37	-10	Pass
			2486	-41.24	-10	Pass
			2487	-39.41	-10	Pass
			2488	-41.01	-10	Pass
			2489	-38.88	-10	Pass
			2490	-41.73	-10	Pass
			2491	-42.20	-10	Pass
			2491.76	-43.67	-10	Pass
			2492.76	-44.04	-20	Pass
			2493.76	-44.54	-20	Pass
			2494.76	-42.79	-20	Pass
			2495.76	-44.27	-20	Pass
			2496.76	-44.07	-20	Pass
			2497.76	-43.43	-20	Pass
			2498.76	-45.13	-20	Pass
			2499.76	-44.92	-20	Pass
			2500.52	-46.44	-20	Pass
802.11g	Chain 0	2412	2367.30	-43.02	-20	Pass
			2367.90	-43.04	-20	Pass
			2368.90	-43.04	-20	Pass
			2369.90	-42.35	-20	Pass
			2370.90	-42.21	-20	Pass

Test Mode	Antenna	Freq. (MHz)	Frequency (MHz)	Level (dBm/MHz)	Limit (dBm/MHz)	Result
802.11g	Chain 0	2412	2371.90	-41.44	-20	Pass
			2372.90	-40.07	-20	Pass
			2373.90	-40.95	-20	Pass
			2374.90	-40.52	-20	Pass
			2375.90	-40.55	-20	Pass
			2376.90	-40.20	-20	Pass
			2377.90	-40.39	-20	Pass
			2378.90	-39.28	-20	Pass
			2379.90	-36.69	-20	Pass
			2380.90	-35.58	-20	Pass
			2381.90	-37.20	-20	Pass
			2382.90	-35.63	-20	Pass
			2383.90	-34.78	-10	Pass
			2384.50	-33.93	-10	Pass
			2385.50	-32.53	-10	Pass
			2386.50	-30.08	-10	Pass
			2387.50	-31.07	-10	Pass
			2388.50	-31.28	-10	Pass
			2389.50	-29.87	-10	Pass
			2390.50	-27.77	-10	Pass
			2391.50	-27.29	-10	Pass
			2392.50	-24.95	-10	Pass
			2393.50	-21.51	-10	Pass
			2394.50	-20.97	-10	Pass
			2395.50	-19.63	-10	Pass
			2396.50	-18.96	-10	Pass
			2397.50	-17.52	-10	Pass
			2398.50	-16.43	-10	Pass
			2399.50	-14.66	-10	Pass
			2484	-44.32	-10	Pass
			2485	-44.64	-10	Pass
			2486	-42.69	-10	Pass
			2487	-43.64	-10	Pass
			2488	-44.41	-10	Pass

Test Mode	Antenna	Freq. (MHz)	Frequency (MHz)	Level (dBm/MHz)	Limit (dBm/MHz)	Result
802.11g	Chain 0	2412	2489	-44.47	-10	Pass
			2490	-44.07	-10	Pass
			2491	-44.41	-10	Pass
			2492	-44.47	-10	Pass
			2493	-44.87	-10	Pass
			2494	-43.78	-10	Pass
			2495	-45.54	-10	Pass
			2496	-45.14	-10	Pass
			2497	-45.30	-10	Pass
			2498	-45.36	-10	Pass
			2499	-45.77	-10	Pass
			2499.60	-44.90	-10	Pass
			2500.60	-46.37	-20	Pass
			2501.60	-45.55	-20	Pass
			2502.60	-45.76	-20	Pass
			2503.60	-46.23	-20	Pass
			2504.60	-45.77	-20	Pass
			2505.60	-46.03	-20	Pass
			2506.60	-46.02	-20	Pass
			2507.60	-46.17	-20	Pass
			2508.60	-45.06	-20	Pass
			2509.60	-46.45	-20	Pass
			2510.60	-46.08	-20	Pass
			2511.60	-45.52	-20	Pass
			2512.60	-45.84	-20	Pass
			2513.60	-46.48	-20	Pass
			2514.60	-45.85	-20	Pass
			2515.60	-46.51	-20	Pass
			2516.20	-46.47	-20	Pass
		2472	2367.14	-45.16	-20	Pass
			2367.82	-45.55	-20	Pass
			2368.82	-43.31	-20	Pass
			2369.82	-45.83	-20	Pass
			2370.82	-45.65	-20	Pass

Test Mode	Antenna	Freq. (MHz)	Frequency (MHz)	Level (dBm/MHz)	Limit (dBm/MHz)	Result
802.11g	Chain 0	2472	2371.82	-46.25	-20	Pass
			2372.82	-46.71	-20	Pass
			2373.82	-46.55	-20	Pass
			2374.82	-45.50	-20	Pass
			2375.82	-46.52	-20	Pass
			2376.82	-46.58	-20	Pass
			2377.82	-47.13	-20	Pass
			2378.82	-46.90	-20	Pass
			2379.82	-47.04	-20	Pass
			2380.82	-46.64	-20	Pass
			2381.82	-46.35	-20	Pass
			2382.82	-46.81	-20	Pass
			2383.82	-45.97	-10	Pass
			2384.50	-44.78	-10	Pass
			2385.50	-45.37	-10	Pass
			2386.50	-45.48	-10	Pass
			2387.50	-44.64	-10	Pass
			2388.50	-45.27	-10	Pass
			2389.50	-44.95	-10	Pass
			2390.50	-44.74	-10	Pass
			2391.50	-44.68	-10	Pass
			2392.50	-44.66	-10	Pass
			2393.50	-44.15	-10	Pass
			2394.50	-43.60	-10	Pass
			2395.50	-44.60	-10	Pass
			2396.50	-44.49	-10	Pass
			2397.50	-44.69	-10	Pass
			2398.50	-43.76	-10	Pass
			2399.50	-44.88	-10	Pass
			2484	-14.55	-10	Pass
			2485	-14.46	-10	Pass
			2486	-15.42	-10	Pass
			2487	-18.10	-10	Pass
			2488	-18.25	-10	Pass

Test Mode	Antenna	Freq. (MHz)	Frequency (MHz)	Level (dBm/MHz)	Limit (dBm/MHz)	Result
802.11g	Chain 0	2472	2489	-18.77	-10	Pass
			2490	-21.36	-10	Pass
			2491	-22.02	-10	Pass
			2492	-23.85	-10	Pass
			2493	-25.27	-10	Pass
			2494	-25.20	-10	Pass
			2495	-27.07	-10	Pass
			2496	-27.19	-10	Pass
			2497	-27.62	-10	Pass
			2498	-28.11	-10	Pass
			2499	-29.14	-10	Pass
			2499.68	-30.04	-10	Pass
			2500.68	-30.04	-20	Pass
			2501.68	-31.97	-20	Pass
			2502.68	-31.57	-20	Pass
			2503.68	-31.54	-20	Pass
			2504.68	-31.44	-20	Pass
			2505.68	-33.14	-20	Pass
			2506.68	-32.84	-20	Pass
			2507.68	-34.62	-20	Pass
			2508.68	-36.06	-20	Pass
			2509.68	-35.59	-20	Pass
			2510.68	-36.13	-20	Pass
			2511.68	-36.59	-20	Pass
			2512.68	-36.93	-20	Pass
			2513.68	-37.07	-20	Pass
			2514.68	-36.32	-20	Pass
			2515.68	-37.57	-20	Pass
			2516.36	-37.36	-20	Pass
802.11n20	Chain 0	2412	2364.90	-43.19	-20	Pass
			2365.70	-42.99	-20	Pass
			2366.70	-42.34	-20	Pass
			2367.70	-42.25	-20	Pass
			2368.70	-41.90	-20	Pass

Test Mode	Antenna	Freq. (MHz)	Frequency (MHz)	Level (dBm/MHz)	Limit (dBm/MHz)	Result
802.11n20	Chain 0	2412	2369.70	-42.61	-20	Pass
			2370.70	-40.64	-20	Pass
			2371.70	-41.79	-20	Pass
			2372.70	-40.06	-20	Pass
			2373.70	-40.07	-20	Pass
			2374.70	-40.82	-20	Pass
			2375.70	-39.09	-20	Pass
			2376.70	-39.75	-20	Pass
			2377.70	-38.23	-20	Pass
			2378.70	-36.59	-20	Pass
			2379.70	-36.85	-20	Pass
			2380.70	-37.36	-20	Pass
			2381.70	-36.15	-20	Pass
			2382.70	-35.09	-10	Pass
			2383.50	-33.48	-10	Pass
			2384.50	-32.36	-10	Pass
			2385.50	-32.57	-10	Pass
			2386.50	-30.83	-10	Pass
			2387.50	-30.76	-10	Pass
			2388.50	-27.23	-10	Pass
			2389.50	-25.98	-10	Pass
			2390.50	-21.97	-10	Pass
			2391.50	-23.49	-10	Pass
			2392.50	-23.07	-10	Pass
			2393.50	-21.44	-10	Pass
			2394.50	-20.28	-10	Pass
			2395.50	-18.23	-10	Pass
			2396.50	-17.71	-10	Pass
			2397.50	-15.98	-10	Pass
			2398.50	-16.47	-10	Pass
			2399.50	-15.16	-10	Pass
			2484	-43.75	-10	Pass
			2485	-43.54	-10	Pass
			2486	-44.25	-10	Pass

Test Mode	Antenna	Freq. (MHz)	Frequency (MHz)	Level (dBm/MHz)	Limit (dBm/MHz)	Result
802.11n20	Chain 0	2412	2487	-43.58	-10	Pass
			2488	-43.83	-10	Pass
			2489	-43.13	-10	Pass
			2490	-44.19	-10	Pass
			2491	-43.75	-10	Pass
			2492	-44.35	-10	Pass
			2493	-44.19	-10	Pass
			2494	-44.47	-10	Pass
			2495	-45.34	-10	Pass
			2496	-45.30	-10	Pass
			2497	-45.08	-10	Pass
			2498	-45.32	-10	Pass
			2499	-45.90	-10	Pass
			2500	-45.39	-10	Pass
			2500.80	-45.92	-10	Pass
			2501.80	-45.50	-20	Pass
			2502.80	-45.64	-20	Pass
			2503.80	-45.82	-20	Pass
			2504.80	-46.08	-20	Pass
			2505.80	-46.19	-20	Pass
			2506.80	-45.93	-20	Pass
			2507.80	-46.30	-20	Pass
			2508.80	-46.24	-20	Pass
			2509.80	-45.46	-20	Pass
			2510.80	-46.16	-20	Pass
			2511.80	-45.94	-20	Pass
			2512.80	-46.52	-20	Pass
			2513.80	-46.63	-20	Pass
			2514.80	-45.37	-20	Pass
			2515.80	-46.47	-20	Pass
			2516.80	-46.78	-20	Pass
			2517.80	-46.27	-20	Pass
			2518.60	-46.76	-20	Pass
		2472	2364.74	-46.56	-20	Pass

Test Mode	Antenna	Freq. (MHz)	Frequency (MHz)	Level (dBm/MHz)	Limit (dBm/MHz)	Result
802.11n20	Chain 0	2472	2365.62	-46.71	-20	Pass
			2366.62	-45.59	-20	Pass
			2367.62	-45.99	-20	Pass
			2368.62	-44.08	-20	Pass
			2369.62	-46.04	-20	Pass
			2370.62	-45.95	-20	Pass
			2371.62	-46.28	-20	Pass
			2372.62	-46.03	-20	Pass
			2373.62	-46.28	-20	Pass
			2374.62	-46.98	-20	Pass
			2375.62	-46.42	-20	Pass
			2376.62	-46.60	-20	Pass
			2377.62	-45.43	-20	Pass
			2378.62	-46.63	-20	Pass
			2379.62	-46.48	-20	Pass
			2380.62	-46.38	-20	Pass
			2381.62	-46.83	-20	Pass
			2382.62	-45.92	-10	Pass
			2383.50	-45.32	-10	Pass
			2384.50	-45.60	-10	Pass
			2385.50	-45.25	-10	Pass
			2386.50	-45.22	-10	Pass
			2387.50	-44.95	-10	Pass
			2388.50	-44.62	-10	Pass
			2389.50	-43.50	-10	Pass
			2390.50	-44.67	-10	Pass
			2391.50	-45.19	-10	Pass
			2392.50	-44.36	-10	Pass
			2393.50	-43.97	-10	Pass
			2394.50	-44.27	-10	Pass
			2395.50	-44.81	-10	Pass
			2396.50	-43.96	-10	Pass
			2397.50	-44.44	-10	Pass
			2398.50	-43.96	-10	Pass

Test Mode	Antenna	Freq. (MHz)	Frequency (MHz)	Level (dBm/MHz)	Limit (dBm/MHz)	Result
802.11n20	Chain 0	2472	2399.50	-44.32	-10	Pass
			2484	-13.12	-10	Pass
			2485	-14.97	-10	Pass
			2486	-15.12	-10	Pass
			2487	-16.39	-10	Pass
			2488	-17.03	-10	Pass
			2489	-18.64	-10	Pass
			2490	-20.94	-10	Pass
			2491	-21.85	-10	Pass
			2492	-22.03	-10	Pass
			2493	-22.18	-10	Pass
			2494	-22.47	-10	Pass
			2495	-25.13	-10	Pass
			2496	-25.41	-10	Pass
			2497	-25.92	-10	Pass
			2498	-28.58	-10	Pass
			2499	-28.49	-10	Pass
			2500	-29.90	-10	Pass
			2500.88	-29.67	-10	Pass
			2501.88	-30.29	-20	Pass
			2502.88	-30.96	-20	Pass
			2503.88	-30.78	-20	Pass
			2504.88	-29.88	-20	Pass
			2505.88	-32.20	-20	Pass
			2506.88	-31.89	-20	Pass
			2507.88	-34.01	-20	Pass
			2508.88	-32.21	-20	Pass
			2509.88	-32.26	-20	Pass
			2510.88	-32.34	-20	Pass
			2511.88	-33.27	-20	Pass
			2512.88	-35.95	-20	Pass
			2513.88	-37.15	-20	Pass
			2514.88	-36.73	-20	Pass
			2515.88	-37.22	-20	Pass

Test Mode	Antenna	Freq. (MHz)	Frequency (MHz)	Level (dBm/MHz)	Limit (dBm/MHz)	Result
802.11n20	Chain 0	2472	2516.88	-37.08	-20	Pass
			2517.88	-38.24	-20	Pass
			2518.76	-37.57	-20	Pass
802.11ax20	Chain 0	2412	2362.66	-44.65	-20	Pass
			2363.58	-44.36	-20	Pass
			2364.58	-44.08	-20	Pass
			2365.58	-43.33	-20	Pass
			2366.58	-43.77	-20	Pass
			2367.58	-43.13	-20	Pass
			2368.58	-43.57	-20	Pass
			2369.58	-42.32	-20	Pass
			2370.58	-43.09	-20	Pass
			2371.58	-42.07	-20	Pass
			2372.58	-41.84	-20	Pass
			2373.58	-41.07	-20	Pass
			2374.58	-40.23	-20	Pass
			2375.58	-40.99	-20	Pass
			2376.58	-40.98	-20	Pass
			2377.58	-39.59	-20	Pass
			2378.58	-37.55	-20	Pass
			2379.58	-38.59	-20	Pass
			2380.58	-35.87	-20	Pass
			2381.58	-37.13	-10	Pass
			2382.50	-35.77	-10	Pass
			2383.50	-34.72	-10	Pass
			2384.50	-34.41	-10	Pass
			2385.50	-32.41	-10	Pass
			2386.50	-28.50	-10	Pass
			2387.50	-27.27	-10	Pass
			2388.50	-26.60	-10	Pass
			2389.50	-24.43	-10	Pass
			2390.50	-25.11	-10	Pass
			2391.50	-22.83	-10	Pass
			2392.50	-23.37	-10	Pass

Test Mode	Antenna	Freq. (MHz)	Frequency (MHz)	Level (dBm/MHz)	Limit (dBm/MHz)	Result
802.11ax20	Chain 0	2412	2393.50	-20.96	-10	Pass
			2394.50	-19.92	-10	Pass
			2395.50	-18.44	-10	Pass
			2396.50	-17.02	-10	Pass
			2397.50	-17.81	-10	Pass
			2398.50	-16.76	-10	Pass
			2399.50	-15.97	-10	Pass
			2484	-44.66	-10	Pass
			2485	-44.81	-10	Pass
			2486	-44.58	-10	Pass
			2487	-43.76	-10	Pass
			2488	-44.76	-10	Pass
			2489	-45.06	-10	Pass
			2490	-44.79	-10	Pass
			2491	-45.09	-10	Pass
			2492	-45.35	-10	Pass
			2493	-45.32	-10	Pass
			2494	-45.93	-10	Pass
			2495	-46.11	-10	Pass
			2496	-45.60	-10	Pass
			2497	-44.57	-10	Pass
			2498	-44.44	-10	Pass
			2499	-45.50	-10	Pass
			2500	-46.52	-10	Pass
			2501	-46.30	-10	Pass
			2501.92	-45.85	-10	Pass
			2502.92	-46.69	-20	Pass
			2503.92	-46.48	-20	Pass
			2504.92	-46.75	-20	Pass
			2505.92	-45.57	-20	Pass
			2506.92	-46.02	-20	Pass
			2507.92	-46.65	-20	Pass
			2508.92	-47.04	-20	Pass
			2509.92	-46.80	-20	Pass

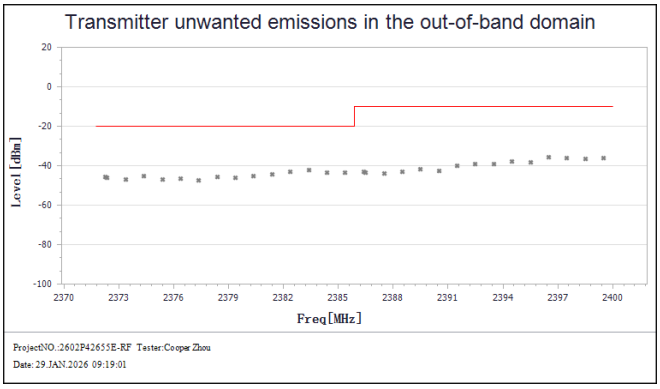
Test Mode	Antenna	Freq. (MHz)	Frequency (MHz)	Level (dBm/MHz)	Limit (dBm/MHz)	Result
802.11ax20	Chain 0	2412	2510.92	-46.58	-20	Pass
			2511.92	-46.66	-20	Pass
			2512.92	-46.81	-20	Pass
			2513.92	-47.16	-20	Pass
			2514.92	-47.22	-20	Pass
			2515.92	-47.27	-20	Pass
			2516.92	-47.00	-20	Pass
			2517.92	-47.50	-20	Pass
			2518.92	-46.92	-20	Pass
			2519.92	-46.76	-20	Pass
			2520.84	-47.45	-20	Pass
		2472	2362.50	-47.45	-20	Pass
			2363.50	-47.44	-20	Pass
			2364.50	-47.20	-20	Pass
			2365.50	-47.05	-20	Pass
			2366.50	-46.65	-20	Pass
			2367.50	-47.00	-20	Pass
			2368.50	-45.77	-20	Pass
			2369.50	-45.51	-20	Pass
			2370.50	-46.70	-20	Pass
			2371.50	-47.08	-20	Pass
			2372.50	-47.37	-20	Pass
			2373.50	-47.91	-20	Pass
			2374.50	-46.24	-20	Pass
			2375.50	-46.57	-20	Pass
			2376.50	-46.96	-20	Pass
			2377.50	-46.90	-20	Pass
			2378.50	-47.08	-20	Pass
			2379.50	-47.16	-20	Pass
			2380.50	-47.22	-20	Pass
			2381.50	-47.32	-10	Pass
			2382.50	-46.54	-10	Pass
			2383.50	-45.65	-10	Pass
			2384.50	-45.41	-10	Pass

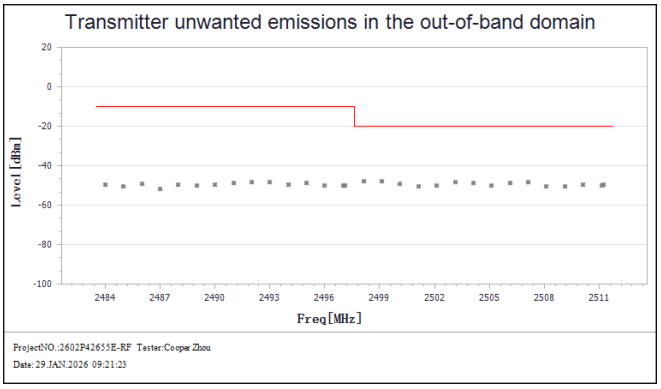
Test Mode	Antenna	Freq. (MHz)	Frequency (MHz)	Level (dBm/MHz)	Limit (dBm/MHz)	Result
802.11ax20	Chain 0	2472	2385.50	-45.74	-10	Pass
			2386.50	-45.96	-10	Pass
			2387.50	-46.20	-10	Pass
			2388.50	-45.11	-10	Pass
			2389.50	-45.46	-10	Pass
			2390.50	-44.85	-10	Pass
			2391.50	-44.84	-10	Pass
			2392.50	-44.66	-10	Pass
			2393.50	-45.18	-10	Pass
			2394.50	-44.07	-10	Pass
			2395.50	-44.93	-10	Pass
			2396.50	-44.97	-10	Pass
			2397.50	-45.04	-10	Pass
			2398.50	-45.31	-10	Pass
			2399.50	-44.59	-10	Pass
			2484	-14.28	-10	Pass
			2485	-15.96	-10	Pass
			2486	-16.65	-10	Pass
			2487	-16.21	-10	Pass
			2488	-16.09	-10	Pass
			2489	-18.07	-10	Pass
			2490	-19.60	-10	Pass
			2491	-20.02	-10	Pass
			2492	-22.97	-10	Pass
			2493	-23.26	-10	Pass
			2494	-24.92	-10	Pass
			2495	-25.28	-10	Pass
			2496	-26.76	-10	Pass
			2497	-28.11	-10	Pass
			2498	-29.42	-10	Pass
			2499	-29.79	-10	Pass
			2500	-29.89	-10	Pass
			2501	-30.36	-10	Pass
			2502.00	-30.88	-10	Pass

Test Mode	Antenna	Freq. (MHz)	Frequency (MHz)	Level (dBm/MHz)	Limit (dBm/MHz)	Result
802.11ax20	Chain 0	2472	2503	-31.04	-20	Pass
			2504	-30.47	-20	Pass
			2505	-31.63	-20	Pass
			2506	-31.96	-20	Pass
			2507	-33.83	-20	Pass
			2508	-32.70	-20	Pass
			2509	-33.85	-20	Pass
			2510	-32.65	-20	Pass
			2511	-36.01	-20	Pass
			2512	-37.55	-20	Pass
			2513	-37.25	-20	Pass
			2514	-37.97	-20	Pass
			2515	-37.78	-20	Pass
			2516	-38.35	-20	Pass
			2517	-38.44	-20	Pass
			2518	-38.62	-20	Pass
			2519	-39.42	-20	Pass
			2520	-38.50	-20	Pass
			2521.00	-39.63	-20	Pass

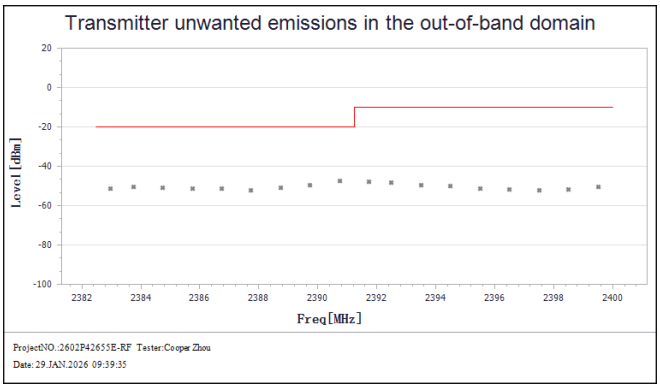
2.4G, Test Condition: NT/NV

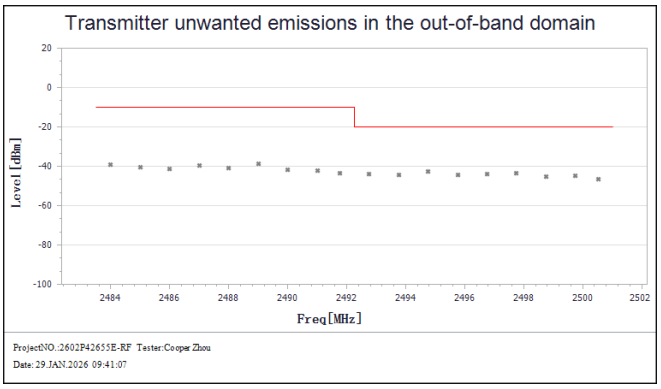
802.11b_2412MHz



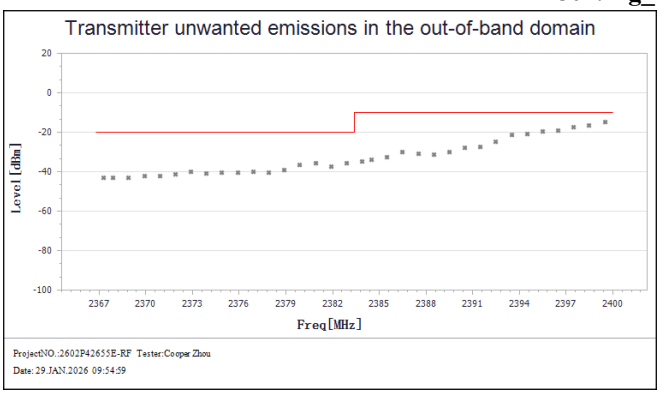


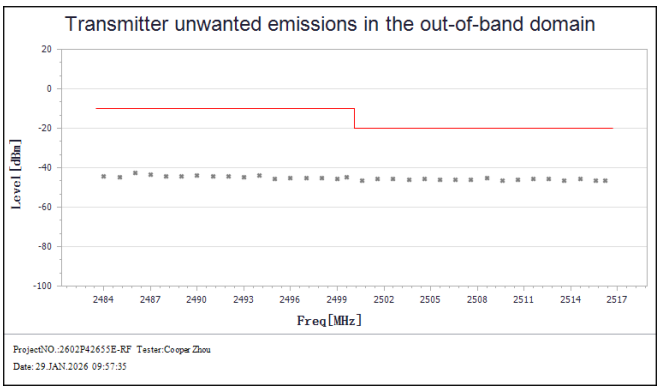
802.11b_2472MHz



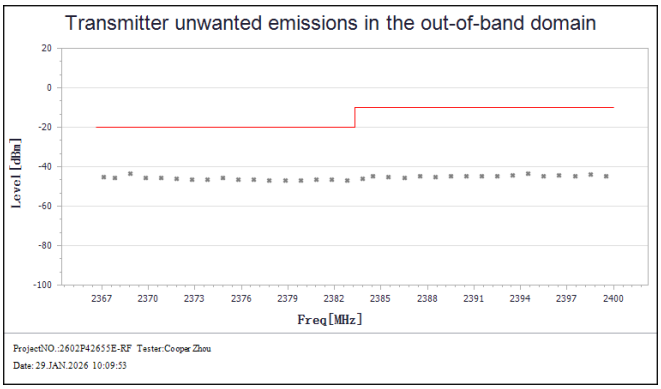


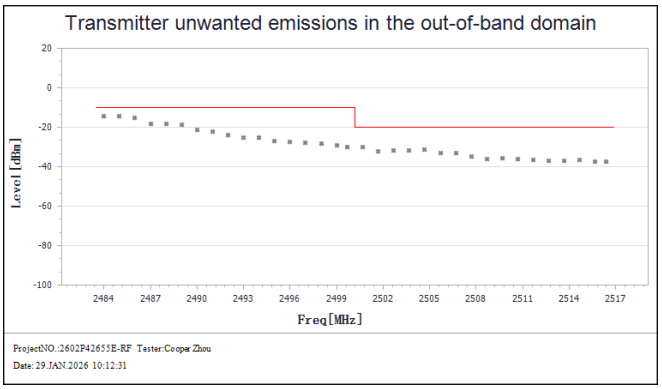
802.11g_2412MHz



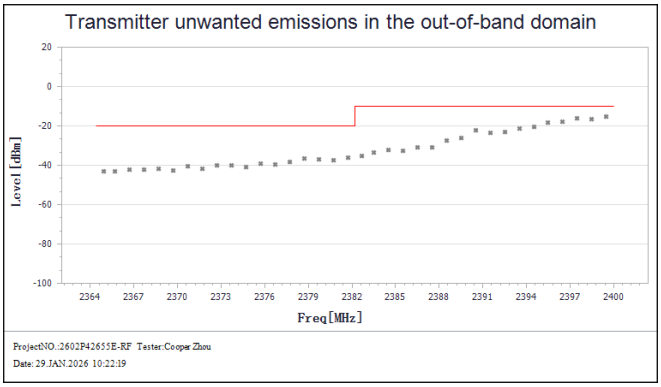


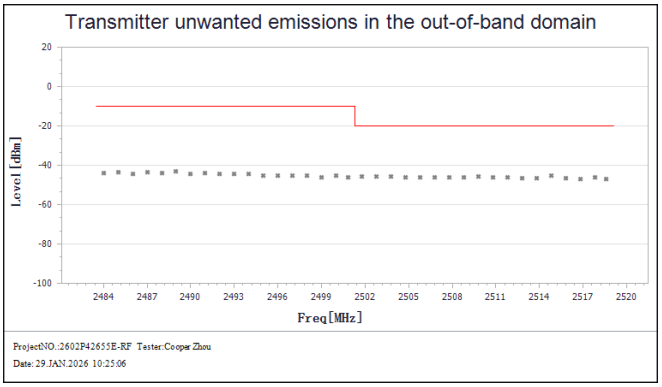
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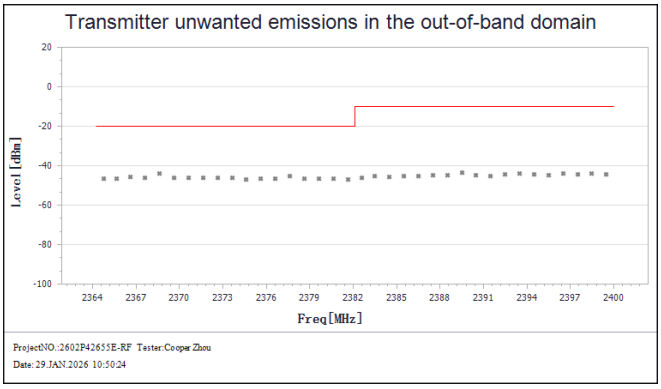


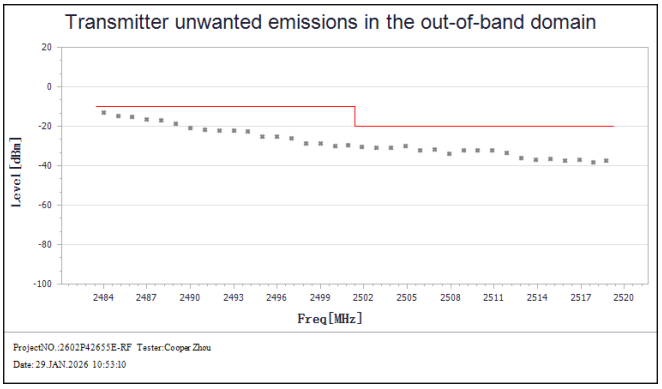
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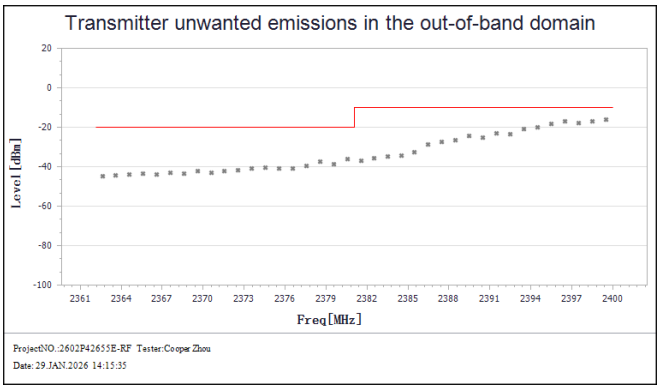


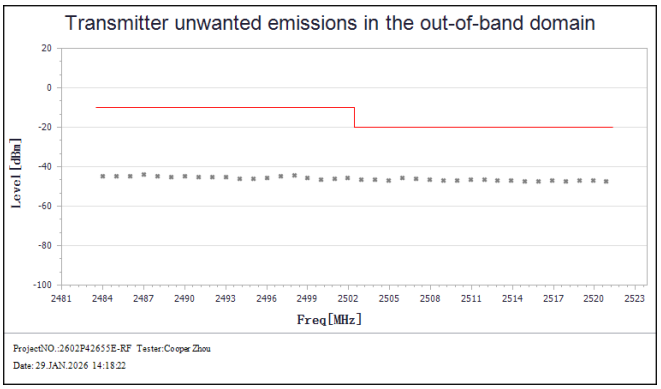
802.11n20_2472MHz



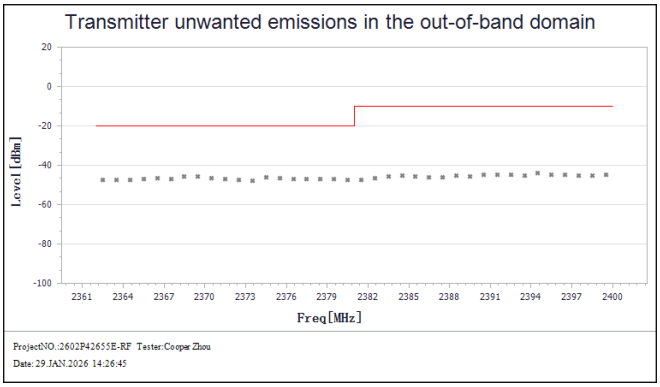


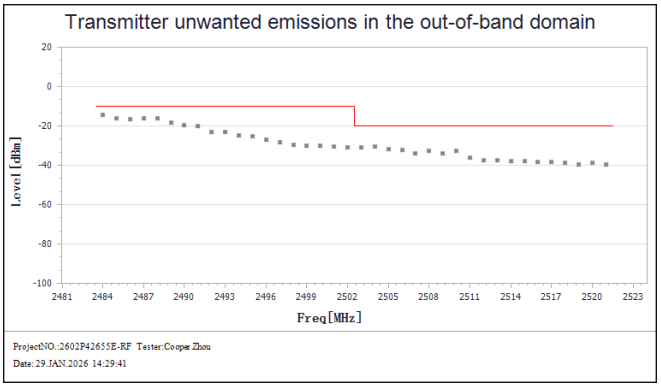
802.11ax20_2412MHz_RU_Full





802.11ax20_2472MHz_RU_Full





8 – TRANSMITTER UNWANTED EMISSION IN THE SPURIOUS DOMAIN

Definition

Transmitter unwanted emissions in the spurious domain are emissions outside the allocated band and outside the Out-of-band Domain as indicated in figure 3 when the equipment is in Transmit mode.

Limit

The transmitter unwanted emissions in the spurious domain shall not exceed the values given in the following table. In case of equipment with antenna connectors, these limits apply to emissions at the antenna port (conducted). For emissions radiated by the cabinet or emissions radiated by integral antenna equipment (without antenna connectors), these limits are e.r.p. for emissions up to 1 GHz and as e.i.r.p. for emissions above 1 GHz.

Transmitter limits for spurious emissions

Frequency range	Maximum power	Bandwidth
30 MHz to 47 MHz	-36 dBm	100 kHz
47 MHz to 74 MHz	-54 dBm	100 kHz
74 MHz to 87,5 MHz	-36 dBm	100 kHz
87,5 MHz to 118 MHz	-54 dBm	100 kHz
118 MHz to 174 MHz	-36 dBm	100 kHz
174 MHz to 230 MHz	-54 dBm	100 kHz
230 MHz to 470 MHz	-36 dBm	100 kHz
470 MHz to 694 MHz	-54 dBm	100 kHz
694 MHz to 1 GHz	-36 dBm	100 kHz
1 GHz to 12,75 GHz	-30 dBm	1 MHz

Test Procedure

According to ETSI EN 300 328 V2.2.2 (2019-07) §5.4.9

Test Data

Test Result: *Compliant. Pre-scan all modes, worst case please refer to following tables.*

Radiated Emissions:

802.11 b_low channel **2412 MHz**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
99.84	H	50.17	-62.20	0.00	0.13	-62.33	-54.00	8.33
100.25	V	47.31	-71.59	0.00	0.13	-71.72	-54.00	17.72
4824.00	H	50.02	-61.81	10.61	0.91	-52.11	-30.00	22.11
4824.00	V	59.01	-52.29	10.61	0.91	-42.59	-30.00	12.59
7236.00	H	49.04	-59.35	10.96	1.19	-49.58	-30.00	19.58
7236.00	V	48.56	-60.21	10.96	1.19	-50.44	-30.00	20.44
2110.68	H	58.48	-55.76	9.82	0.57	-46.51	-30.00	16.51
2713.56	V	69.26	-45.94	9.63	0.67	-36.98	-30.00	6.98

802.11 b_high channel **2472 MHz**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
98.46	H	48.67	-64.28	0.00	0.13	-64.41	-54.00	10.41
104.62	V	47.28	-71.09	0.00	0.13	-71.22	-54.00	17.22
4944.00	H	48.53	-62.61	10.47	0.92	-53.06	-30.00	23.06
4944.00	V	55.36	-55.34	10.47	0.92	-45.79	-30.00	15.79
7416.00	H	49.55	-58.61	10.85	1.20	-48.96	-30.00	18.96
7416.00	V	50.09	-58.70	10.85	1.20	-49.05	-30.00	19.05
2162.87	H	60.61	-54.09	9.74	0.58	-44.93	-30.00	14.93
2780.74	V	69.04	-45.72	9.76	0.68	-36.64	-30.00	6.64

Note 1:The unit of antenna gain is dBd for frequency below 1GHz and is dBi for frequency above 1GHz.
Note 2:
Absolute Level = Substituted Level - Cable loss + Antenna Gain
Margin = Limit- Absolute Level

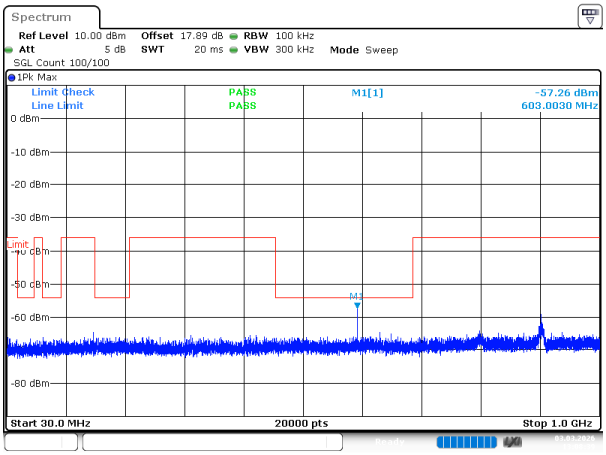
Conducted Emissions:

Mode	Channel	Test Band (RBW)	Frequency (MHz)	Result (dBm)	Limit	Verdict
802.11b	Low	Band I (100kHz)	603.003	-59.40	See test graph	Pass
		Band II (1MHz)	2712.749	-36.72	See test graph	Pass
	High	Band I (100kHz)	618.038	-61.10	See test graph	Pass
		Band II (1MHz)	2162.827	-38.50	See test graph	Pass
802.11g	Low	Band I (100kHz)	603.003	-59.06	See test graph	Pass
		Band II (1MHz)	2712.749	-42.16	See test graph	Pass
			2111.32	-44.27	See test graph	Pass
	High	Band I (100kHz)	618.038	-60.28	See test graph	Pass
		Band II (1MHz)	2162.356	-41.06	See test graph	Pass
			2780.6	-42.11	See test graph	Pass
802.11n20	Low	Band I (100kHz)	603.003	-61.95	See test graph	Pass
		Band II (1MHz)	2711.808	-37.99	See test graph	Pass
			2108.97	-41.04	See test graph	Pass
			3215.82	-41.21	See test graph	Pass
	High	Band I (100kHz)	618.038	-63.54	See test graph	Pass
		Band II (1MHz)	2781.841	-38.72	See test graph	Pass
			2163.96	-41.33	See test graph	Pass
			3296.19	-39.50	See test graph	Pass
802.11ax20	Low	Band I (100kHz)	603.003	-59.61	See test graph	Pass
		Band II (1MHz)	2712.749	-43.84	See test graph	Pass
			2108.97	-46.07	See test graph	Pass
	High	Band I (100kHz)	618.038	-60.86	See test graph	Pass
		Band II (1MHz)	2493.72	-46.45	See test graph	Pass
			2783.89	-45.16	See test graph	Pass
			2162.55	-42.08	See test graph	Pass

Note:
Band I (100kHz): 30MHz~1GHz
Band II (1MHz): 1GHz~12.75GHz

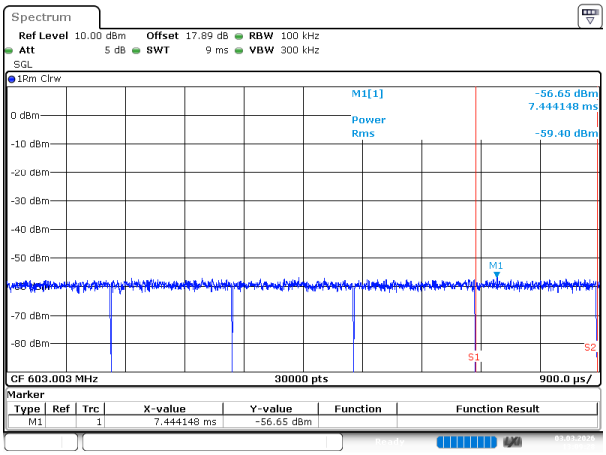
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802.11b_2412MHz(30MHz~1GHz)



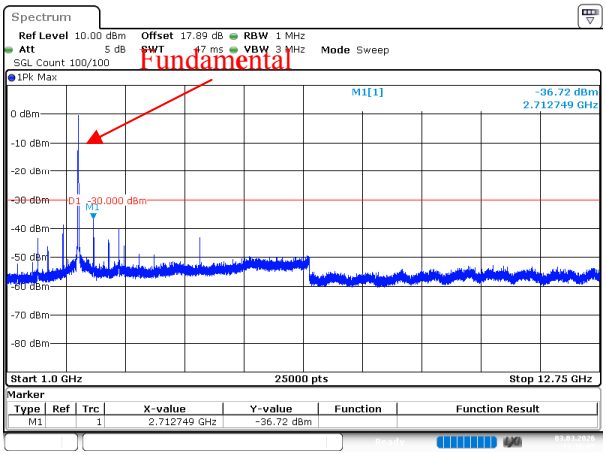
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802.11b_2412MHz(30MHz~1GHz) (Step 2)



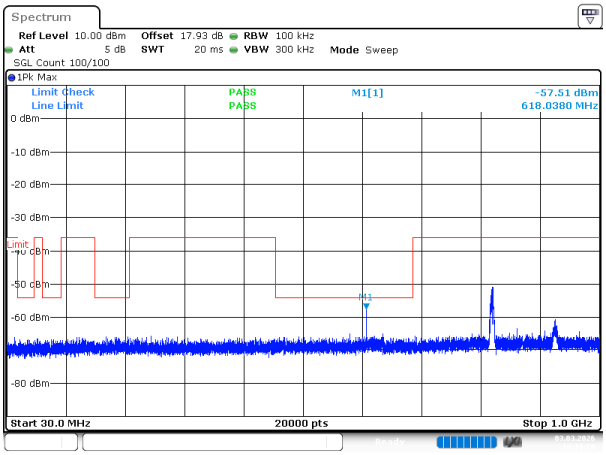
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802.11b_2412MHz(1GHz~12.75GHz)



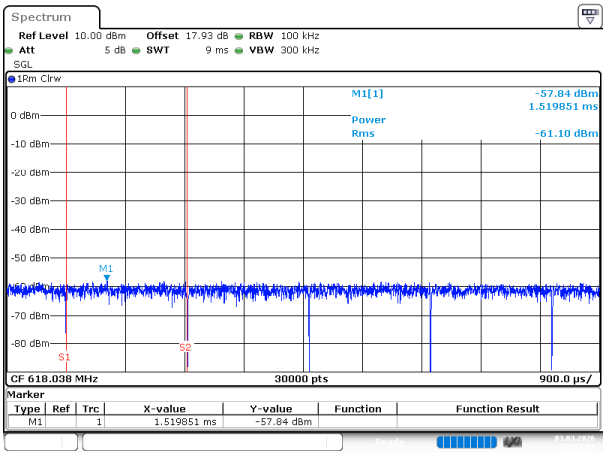
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802.11b_2472MHz(30MHz~1GHz)



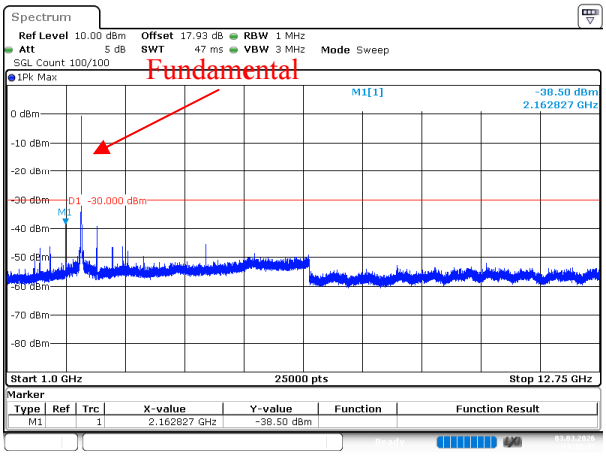
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802.11b_2472MHz(30MHz~1GHz) (Step 2)



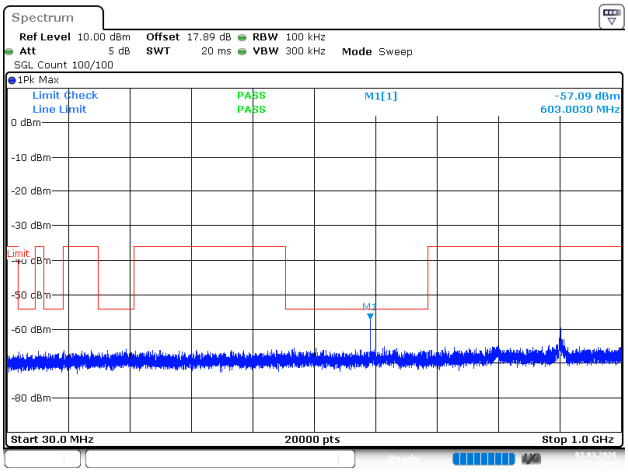
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802.11b_2472MHz(1GHz~12.75GHz)



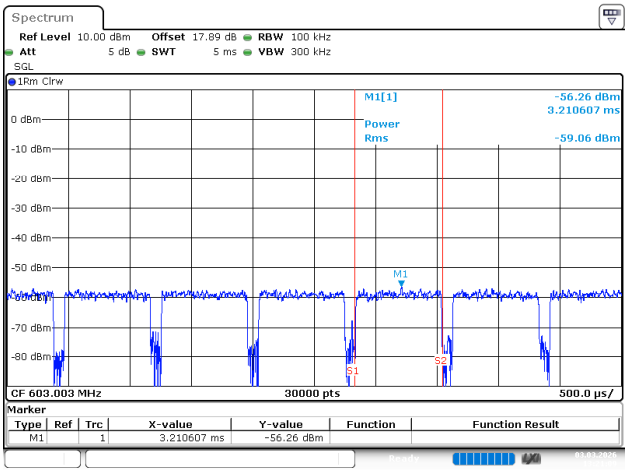
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802.11g_2412MHz(30MHz~1GHz)



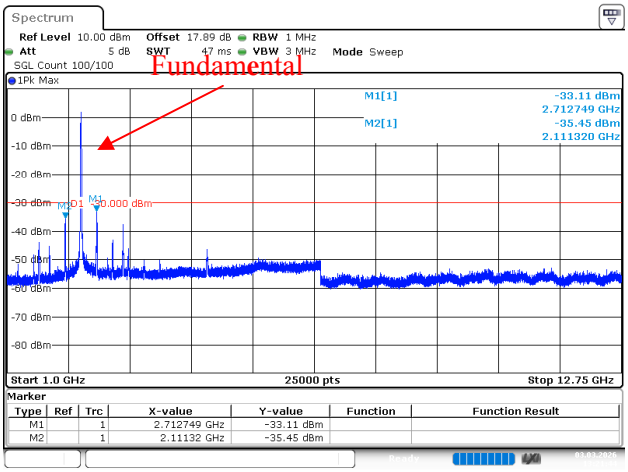
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802.11g_2412MHz(30MHz~1GHz) (Step 2)



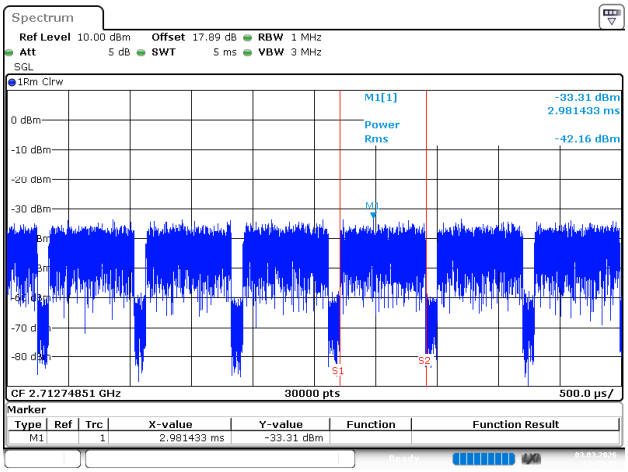
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802.11g_2412MHz(1GHz~12.75GHz)



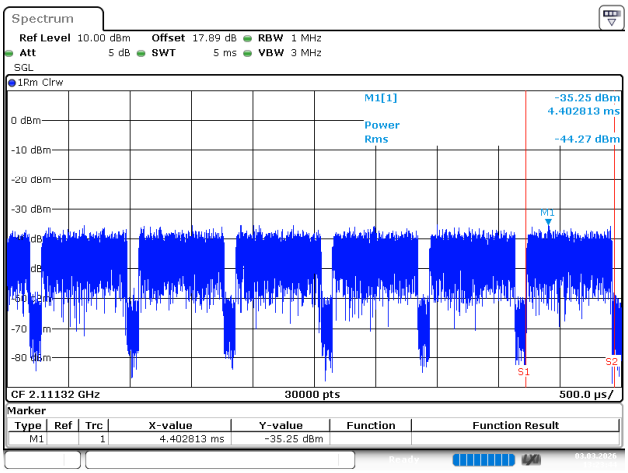
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802.11g_2412MHz(1GHz~12.75GHz) (Step 2)



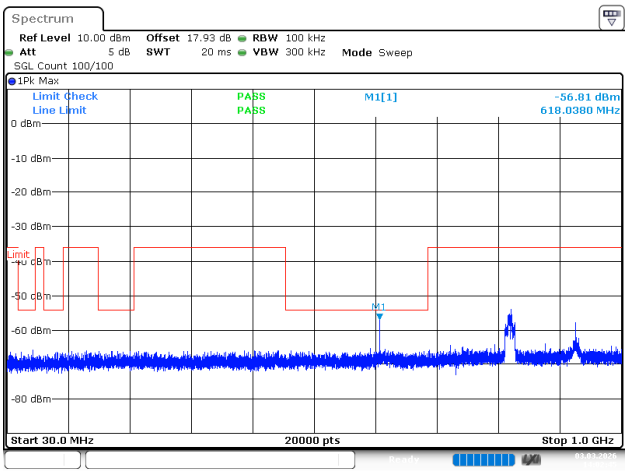
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802.11g_2412MHz(1GHz~12.75GHz) (Step 2)



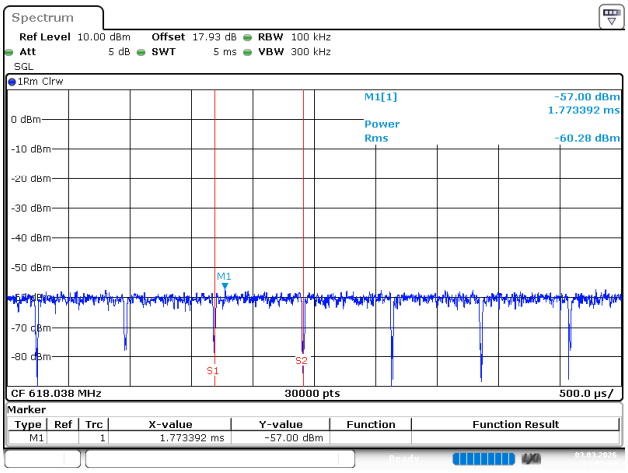
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802.11g_2472MHz(30MHz~1GHz)



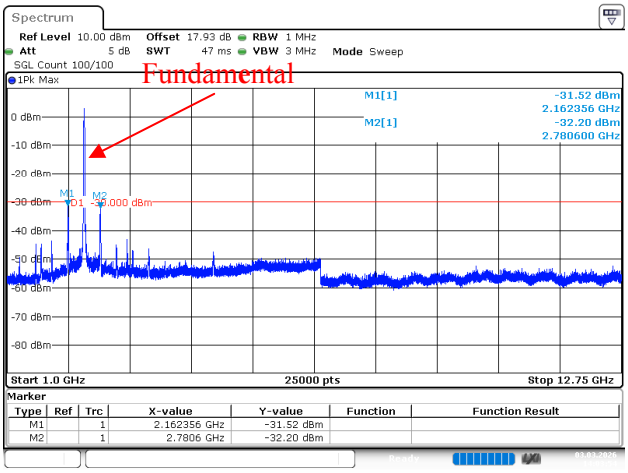
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802.11g_2472MHz(30MHz~1GHz) (Step 2)



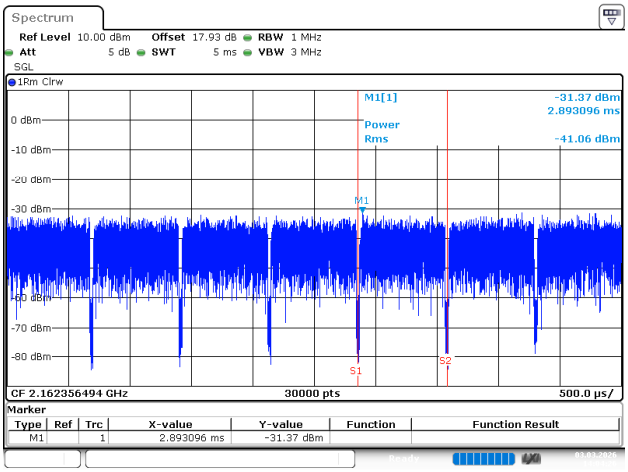
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802.11g_2472MHz(1GHz~12.75GHz)



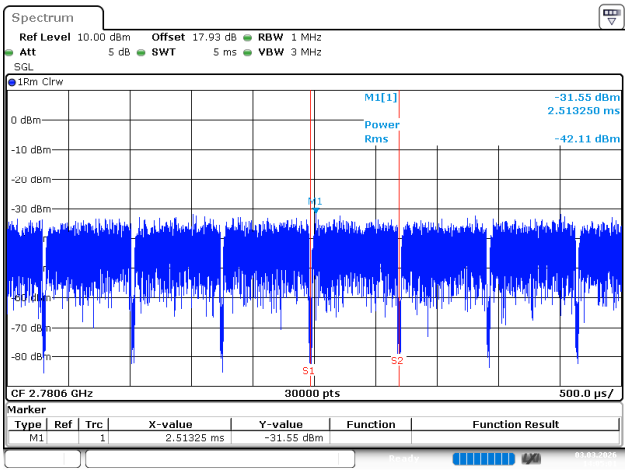
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802.11g_2472MHz(1GHz~12.75GHz) (Step 2)



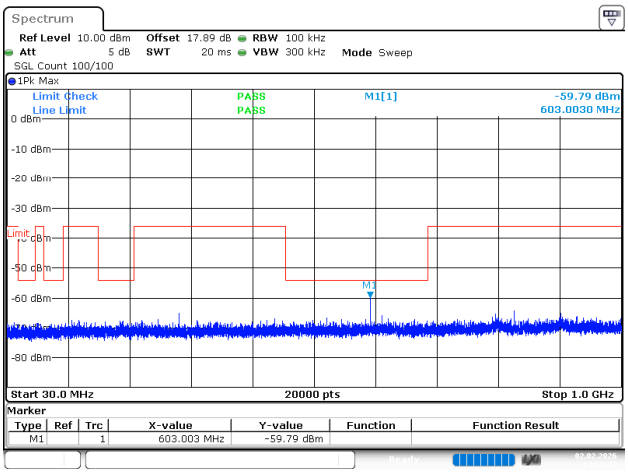
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802.11g_2472MHz(1GHz~12.75GHz) (Step 2)



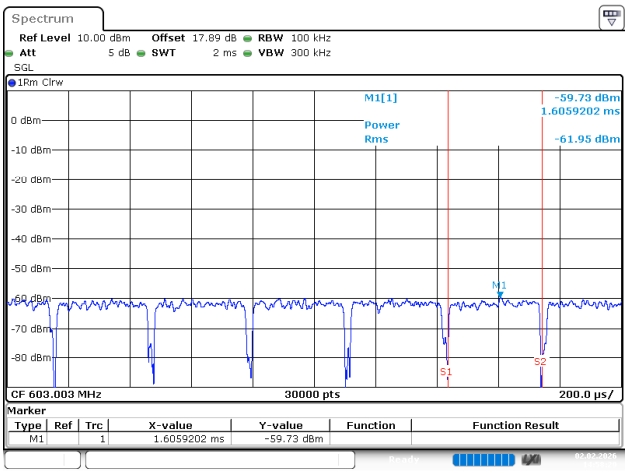
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802.11n20_2412MHz(30MHz~1GHz)



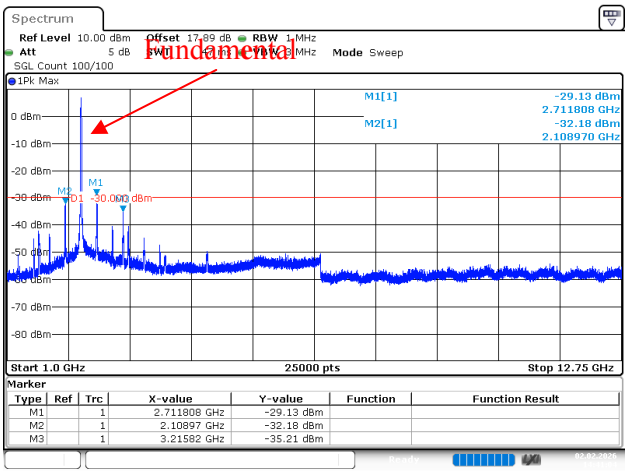
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802.11n20_2412MHz(30MHz~1GHz) (Step 2)



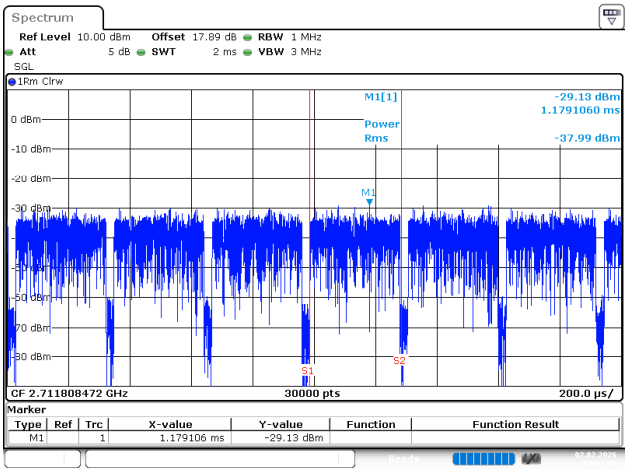
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802.11n20_2412MHz(1GHz~12.75GHz)



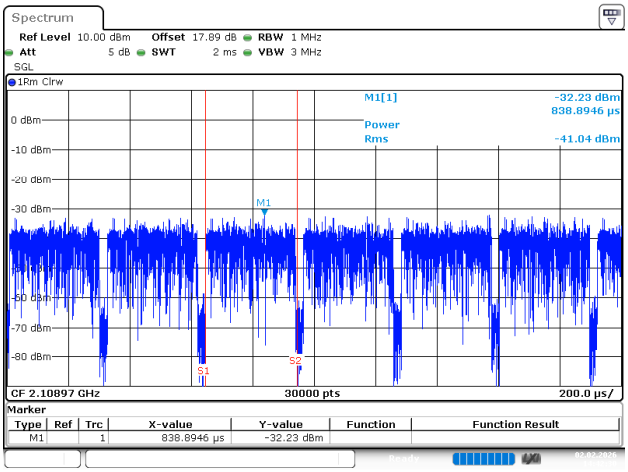
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802.11n20_2412MHz(1GHz~12.75GHz) (Step 2)



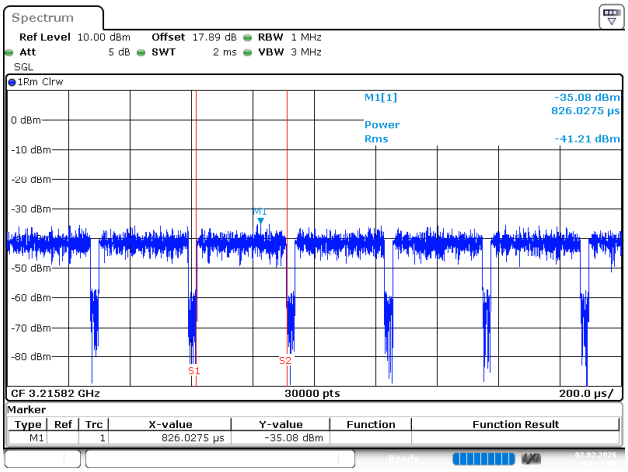
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802.11n20_2412MHz(1GHz~12.75GHz) (Step 2)



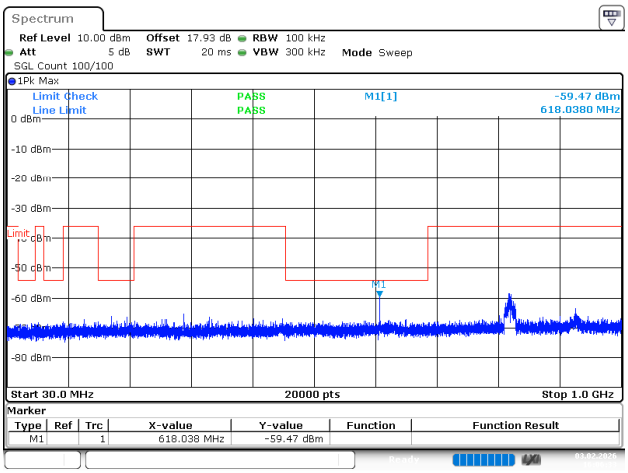
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802.11n20_2412MHz(1GHz~12.75GHz) (Step 2)



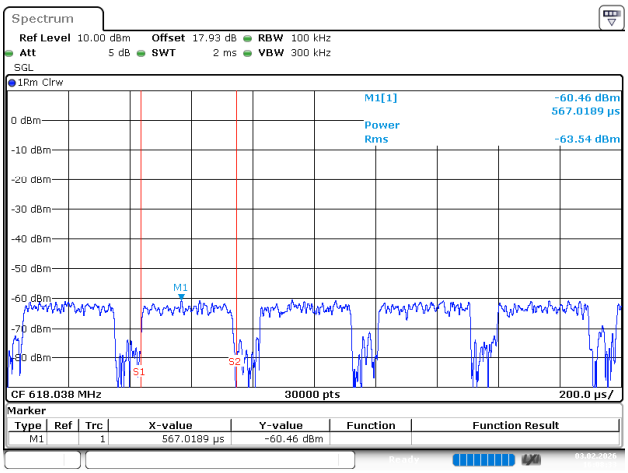
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Date: 2.FEB.2026 14:43:09

802.11n20_2472MHz(30MHz~1GHz)



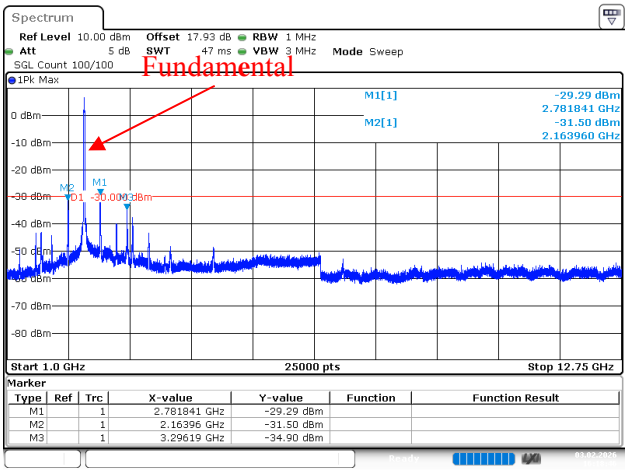
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Date: 3.FEB.2026 16:06:33

802.11n20_2472MHz(30MHz~1GHz) (Step 2)



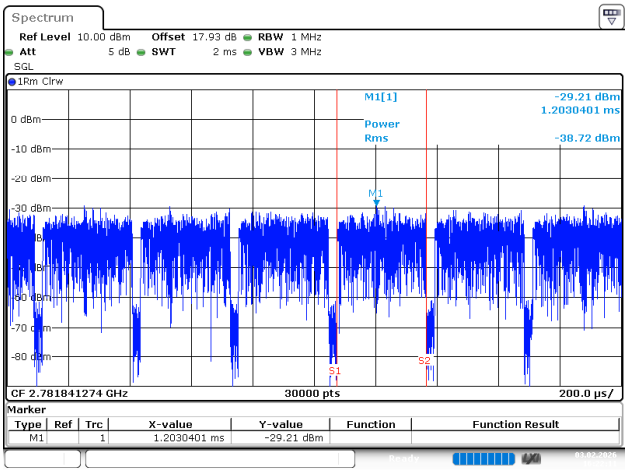
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Date: 3.FEB.2026 16:08:33

802.11n20_2472MHz(1GHz~12.75GHz)



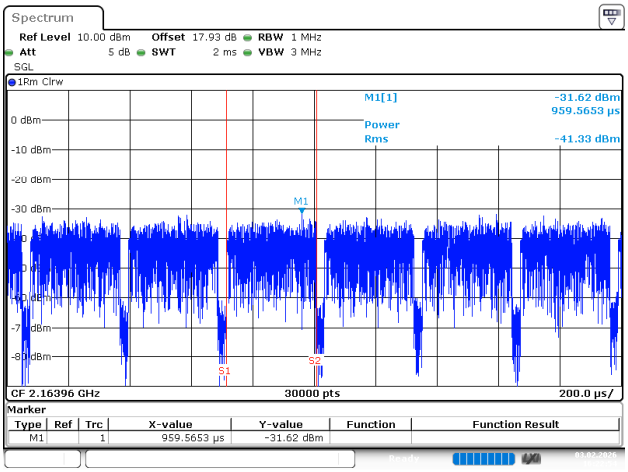
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802.11n20_2472MHz(1GHz~12.75GHz) (Step 2)



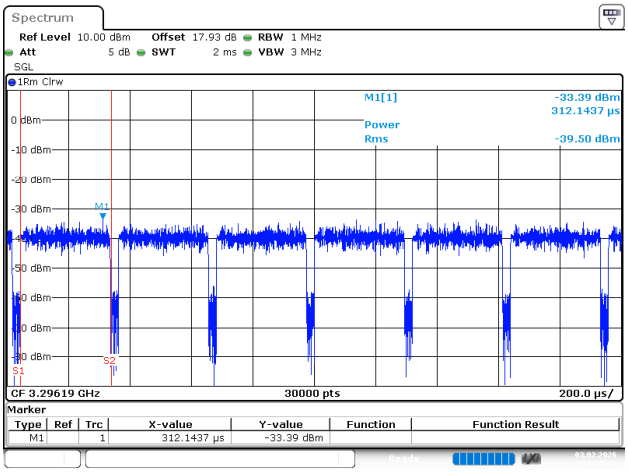
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802.11n20_2472MHz(1GHz~12.75GHz) (Step 2)



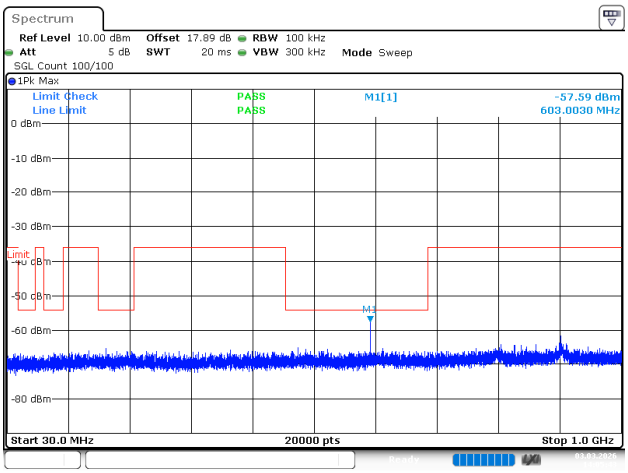
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802.11n20_2472MHz(1GHz~12.75GHz) (Step 2)



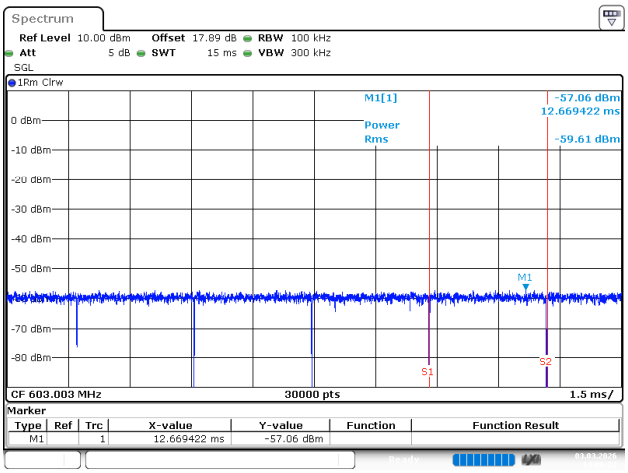
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802.11ax20_2412MHz_RU_Full(30MHz~1GHz)



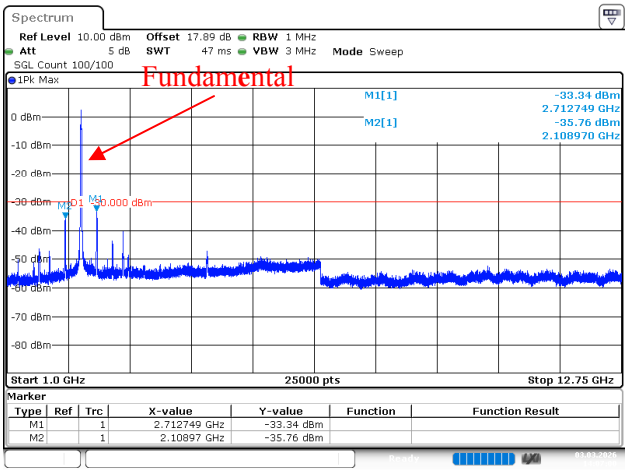
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Date: 3.MAR.2026 14:05:43

802.11ax20_2412MHz_RU_Full(30MHz~1GHz) (Step 2)



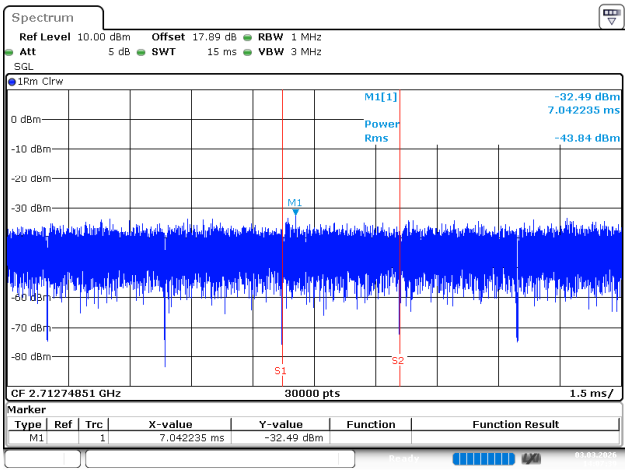
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802.11ax20_2412MHz_RU_Full(1GHz~12.75GHz)



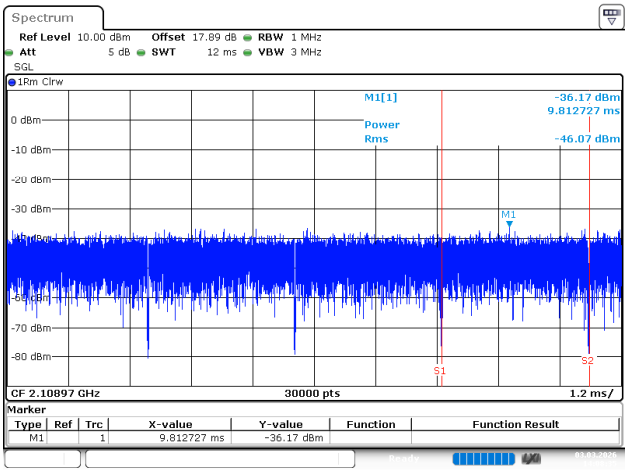
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802.11ax20_2412MHz_RU_Full(1GHz~12.75GHz) (Step 2)



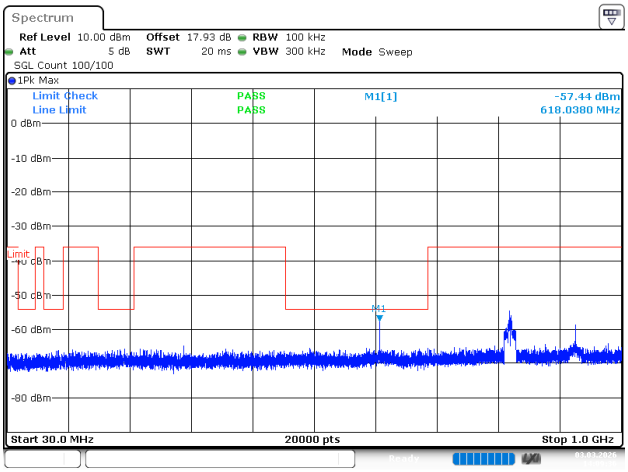
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802.11ax20_2412MHz_RU_Full(1GHz~12.75GHz) (Step 2)



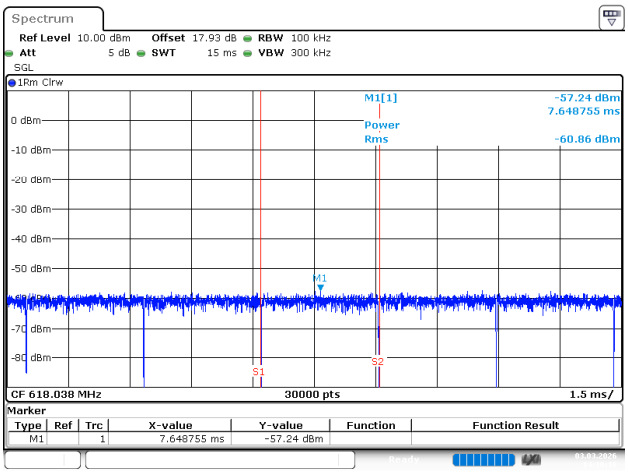
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802.11ax20_2472MHz_RU_Full(30MHz~1GHz)



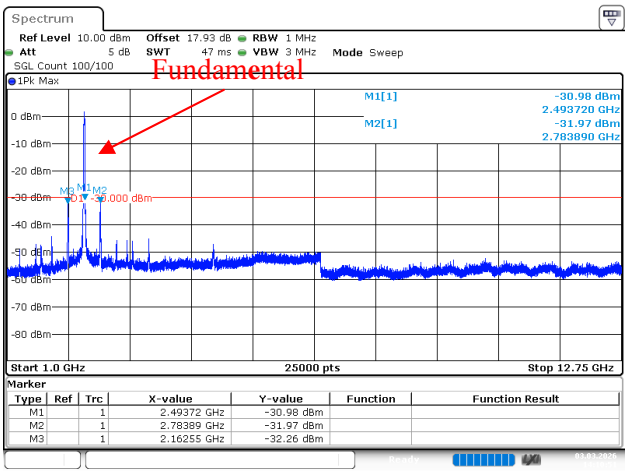
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802.11ax20_2472MHz_RU_Full(30MHz~1GHz) (Step 2)



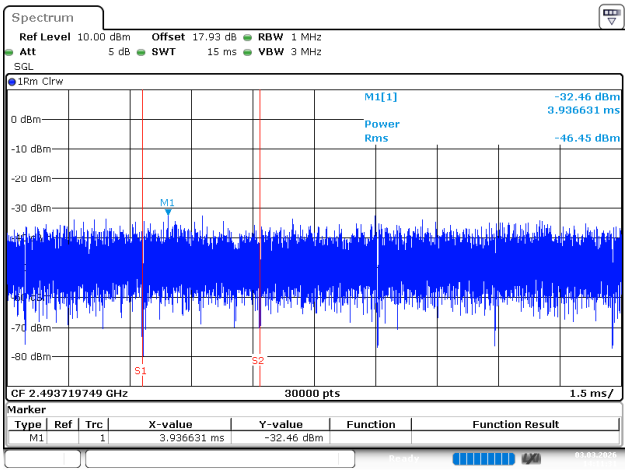
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802.11ax20_2472MHz_RU_Full(1GHz~12.75GHz)



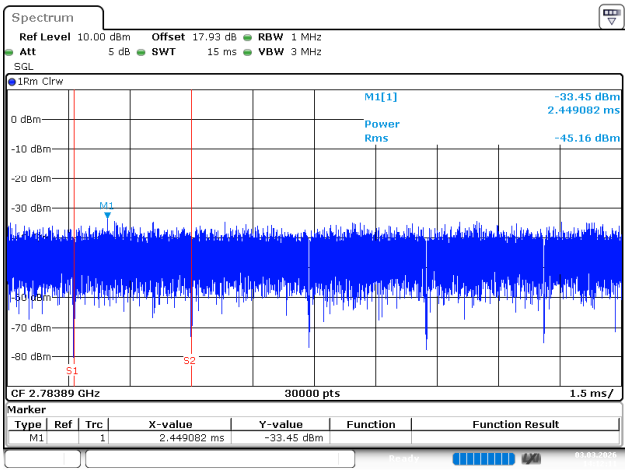
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802.11ax20_2472MHz_RU_Full(1GHz~12.75GHz) (Step 2)



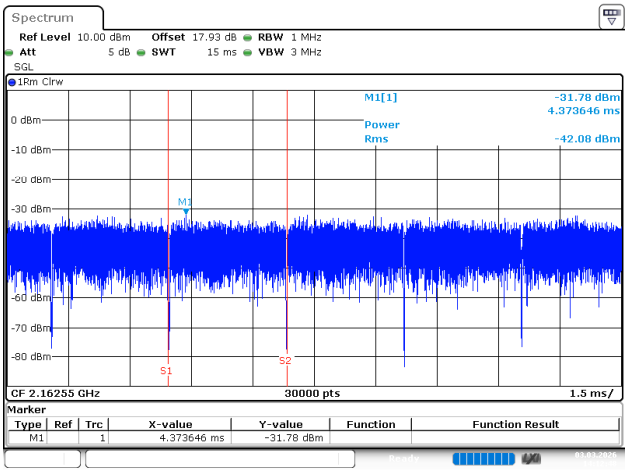
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802.11ax20_2472MHz_RU_Full(1GHz~12.75GHz) (Step 2)



ProjectNo.:2602P42655E-RF Tester:Cooper Zhou
Date: 3.MAR.2026 14:12:11

802.11ax20_2472MHz_RU_Full(1GHz~12.75GHz) (Step 2)



ProjectNo.:2602P42655E-RF Tester:Cooper Zhou
Date: 3.MAR.2026 14:12:48

9 – RECEIVER SPURIOUS EMISSIONS

Definition

Receiver spurious emissions are emissions at any frequency when the equipment is in receive mode.

Limit

The receiver spurious emissions shall not exceed the values given in the following table.

In case of equipment with antenna connectors, these limits apply to emissions at the antenna port (conducted). For emissions radiated by the cabinet or emissions radiated by integral antenna equipment (without antenna connectors), these limits are e.r.p. for emissions up to 1 GHz and e.i.r.p. for emissions above 1 GHz.

Spurious emission limits for receivers

Frequency range	Maximum power	Bandwidth
30 MHz to 1 GHz	-57 dBm	100 kHz
1 GHz to 12,75 GHz	-47 dBm	1 MHz

Test Procedure

According to ETSI EN 300 328 V2.2.2 (2019-07) §5.4.10

Test Data

Test Result: *Compliant. Pre-scan all modes, worst case please refer to following tables.*

Radiated Emissions:

802.11 b_Low channel **2412 MHz**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
102.52	H	40.21	-71.73	0.00	0.13	-71.86	-57.00	14.86
96.86	V	39.25	-79.67	0.00	0.12	-79.79	-57.00	22.79
1697.36	H	51.02	-64.98	9.52	0.46	-55.92	-47.00	8.92
1597.18	V	52.46	-65.13	9.36	0.42	-56.19	-47.00	9.19

802.11 b_High channel **2472 MHz**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
103.18	H	40.57	-71.28	0.00	0.13	-71.41	-57.00	14.41
94.75	V	38.96	-79.96	0.00	0.11	-80.07	-57.00	23.07
1696.20	H	51.11	-64.89	9.51	0.46	-55.84	-47.00	8.84
1368.03	V	51.66	-63.68	8.43	0.38	-55.63	-47.00	8.63

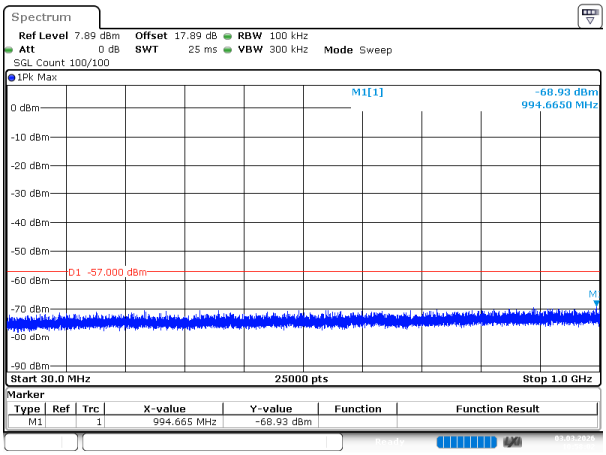
Note 1:The unit of antenna gain is dBd for frequency below 1GHz and is dBi for frequency above 1GHz.
Note 2:
Absolute Level = Substituted Level - Cable loss + Antenna Gain
Margin = Limit- Absolute Level

Conducted Emissions:

Mode	Channel	Test Band (RBW)	Frequency Range		Result (dBm)	Limit (dBm)	Verdict
			Start(MHz)	Stop(MHz)			
802.11b	Low	Band I (100kHz)	30	1000	-68.93	-57	Pass
		Band II (1MHz)	1000	12750	-54.06	-47	Pass
	High	Band I (100kHz)	30	1000	-68.22	-57	Pass
		Band II (1MHz)	1000	12750	-54.56	-47	Pass
802.11g	Low	Band I (100kHz)	30	1000	-68.58	-57	Pass
		Band II (1MHz)	1000	12750	-54.06	-47	Pass
	High	Band I (100kHz)	30	1000	-69.47	-57	Pass
		Band II (1MHz)	1000	12750	-54.21	-47	Pass
802.11n20	Low	Band I (100kHz)	30	1000	-70.22	-57	Pass
		Band II (1MHz)	1000	12750	-55.77	-47	Pass
	High	Band I (100kHz)	30	1000	-71.03	-57	Pass
		Band II (1MHz)	1000	12750	-55.78	-47	Pass
802.11ax20	Low	Band I (100kHz)	30	1000	-69.23	-57	Pass
		Band II (1MHz)	1000	12750	-54.34	-47	Pass
	High	Band I (100kHz)	30	1000	-68.66	-57	Pass
		Band II (1MHz)	1000	12750	-54.23	-47	Pass

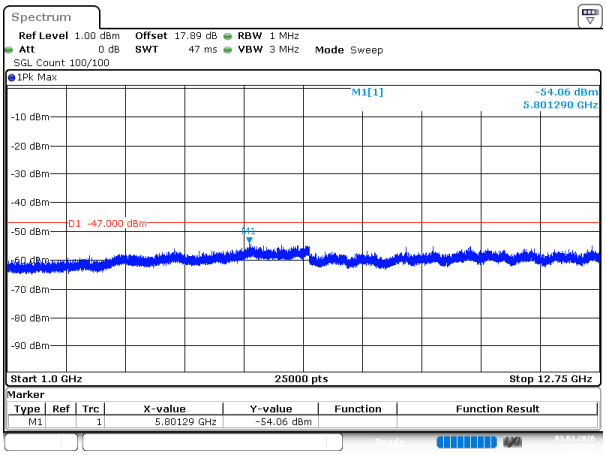
2.4G, Test Condition: NT/NV

802.11b_2412MHz(30MHz~1GHz)



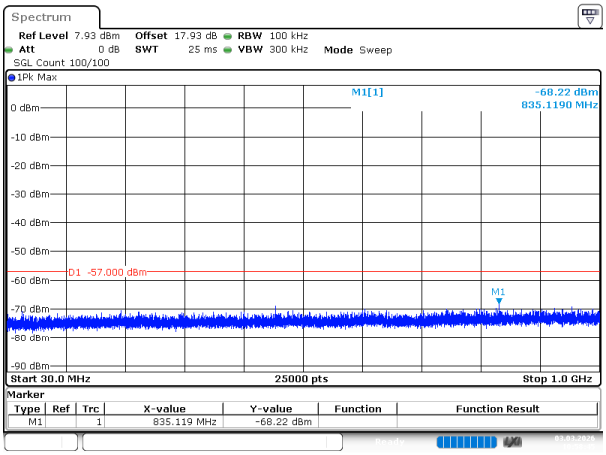
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Date: 3.MAR.2026 10:58:03

802.11b_2412MHz(1GHz~12.75GHz)



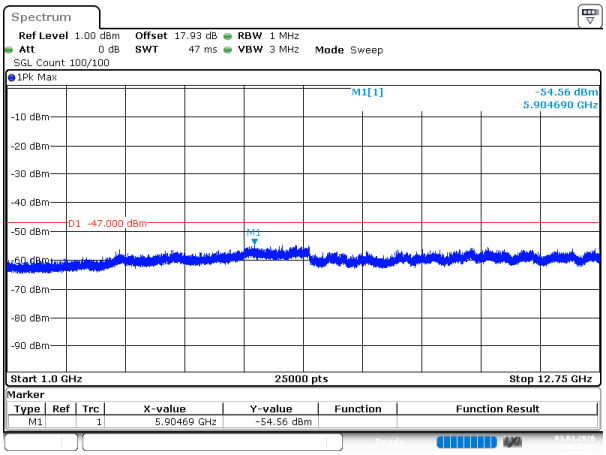
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Date: 3.MAR.2026 10:58:29

802.11b_2472MHz(30MHz~1GHz)



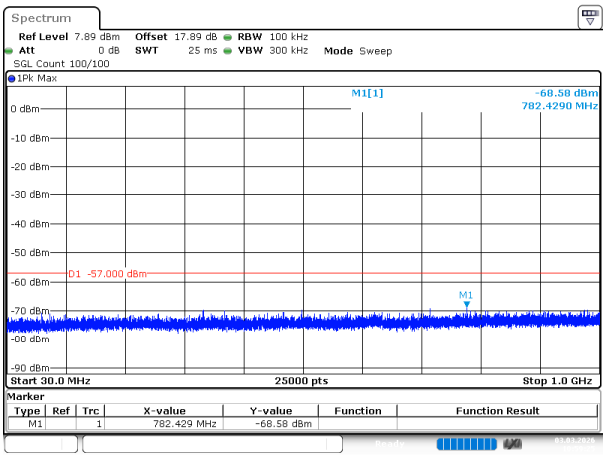
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802.11b_2472MHz(1GHz~12.75GHz)



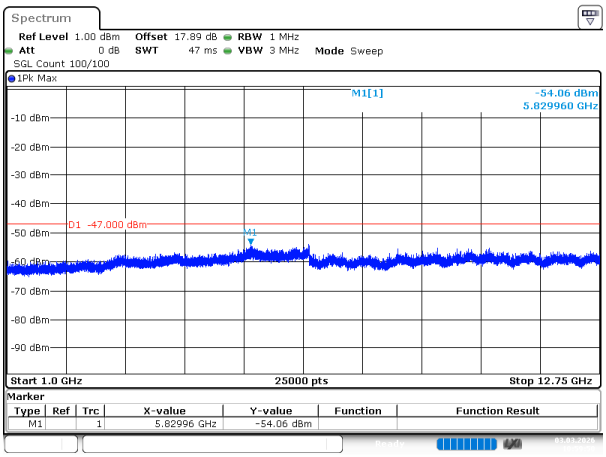
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Date: 3.MAR.2026 10:59:10

802.11g_2412MHz(30MHz~1GHz)



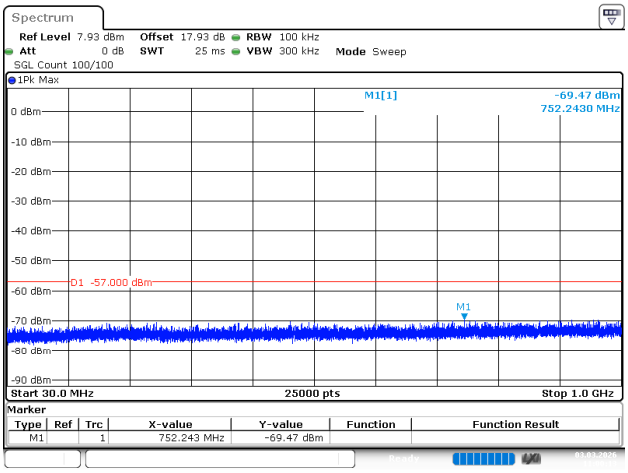
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802.11g_2412MHz(1GHz~12.75GHz)



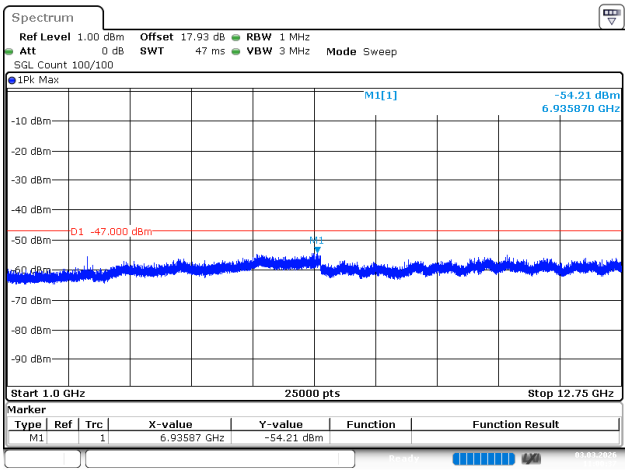
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802.11g_2472MHz(30MHz~1GHz)



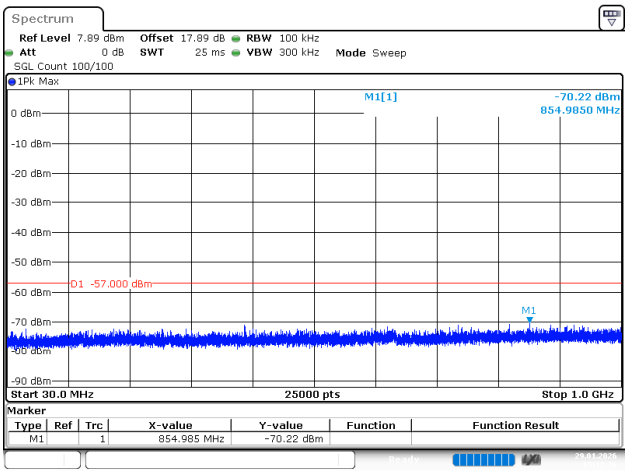
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802.11g_2472MHz(1GHz~12.75GHz)



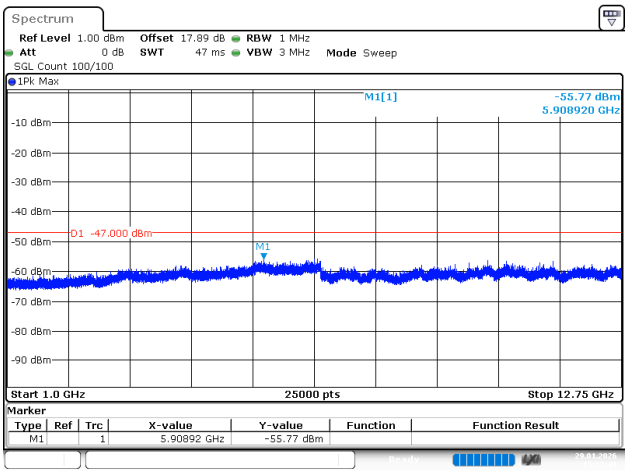
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802.11n20_2412MHz(30MHz~1GHz)



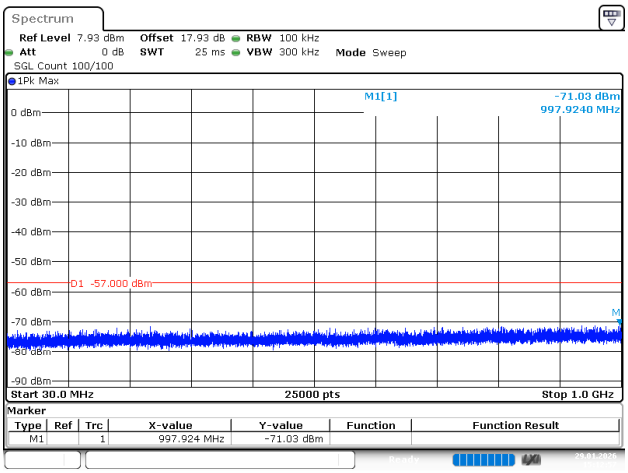
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802.11n20_2412MHz(1GHz~12.75GHz)



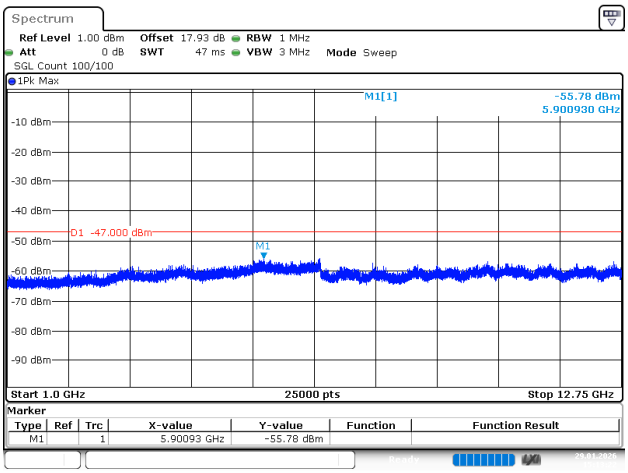
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802.11n20_2472MHz(30MHz~1GHz)



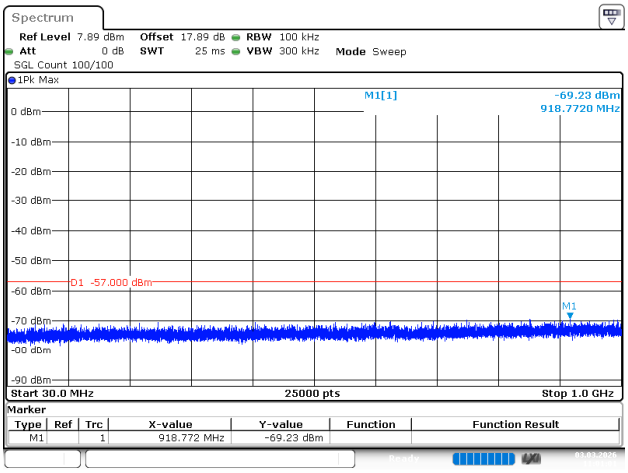
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802.11n20_2472MHz(1GHz~12.75GHz)



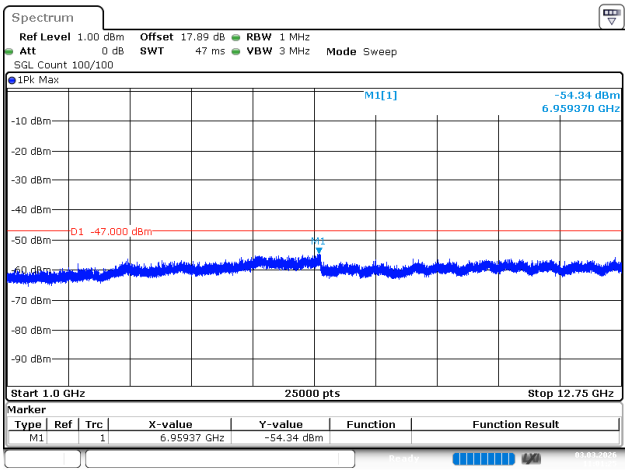
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Date: 29.JAN.2026 15:13:22

802.11ax20_2412MHz_RU_Full(30MHz~1GHz)



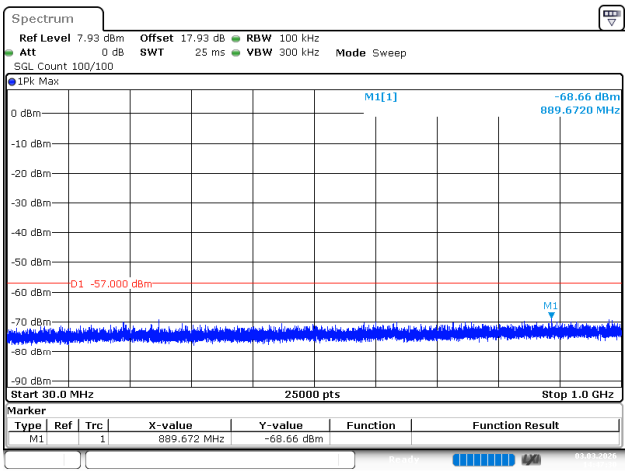
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Date: 3.MAR.2026 11:01:01

802.11ax20_2412MHz_RU_Full(1GHz~12.75GHz)



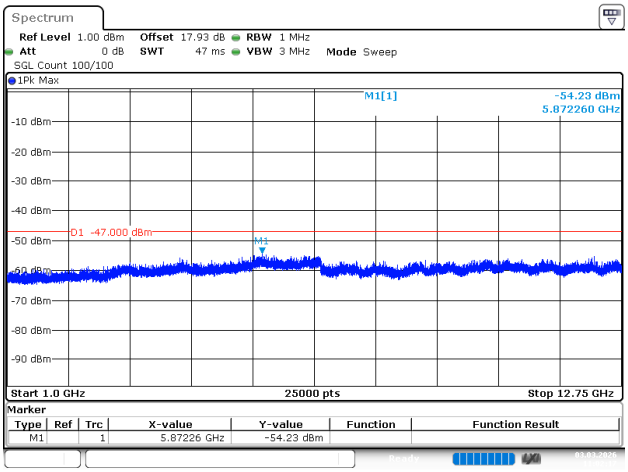
ProjectNo.:2602P42655E-RF Tester:Cooper Zhou
Date: 3.MAR.2026 11:01:26

802.11ax20_2472MHz_RU_Full(30MHz~1GHz)



ProjectNo.:2602P42655E-RF Tester:Cooper Zhou
Date: 3.MAR.2026 14:47:31

802.11ax20_2472MHz_RU_Full(1GHz~12.75GHz)



ProjectNo.:2602P42655E-RF Tester:Cooper Zhou
Date: 3.MAR.2026 11:02:18

10 - RECEIVER BLOCKING

Definition

Receiver blocking is a measure of the ability of the equipment to receive a wanted signal on its operating channel without exceeding a given degradation due to the presence of an unwanted input signal (blocking signal) on frequencies other than those of the operating band and spurious responses.

Limit

For equipment that supports a PER or FER test to be performed, the minimum performance criterion shall be a PER or FER less than or equal to 10 %.

For equipment that does not support a PER or a FER test to be performed, the minimum performance criterion shall be no loss of the wireless transmission function needed for the intended use of the equipment.

While maintaining the minimum performance criteria as defined in clause 4.3.2.11.3, the blocking levels at specified frequency offsets shall be equal to or greater than the limits defined for the applicable receiver category provided in table 14, table 15 or table 16.

Table 14: Receiver Blocking parameters for Receiver Category 1 equipment

Wanted signal mean power from companion device (dBm) (see notes 1 and 4)	Blocking signal frequency (MHz)	Blocking signal power (dBm) (see note 4)	Type of blocking signal
(-133 dBm + 10 × $\log_{10}$(OCBW)) or -68 dBm whichever is less (see note 2)	2 380 2 504	-34	CW
(-139 dBm + 10 × $\log_{10}$(OCBW)) or -74 dBm whichever is less (see note 3)	2 300 2 330 2 360 2 524 2 584 2 674		

NOTE 1: OCBW is in Hz.

NOTE 2: In case of radiated measurements using a companion device and the level of the wanted signal from the companion device cannot be determined, a relative test may be performed using a wanted signal up to P_{min} + 26 dB where P_{min} is the minimum level of wanted signal required to meet the minimum performance criteria as defined in clause 4.3.1.12.3 in the absence of any blocking signal.

NOTE 3: In case of radiated measurements using a companion device and the level of the wanted signal from the companion device cannot be determined, a relative test may be performed using a wanted signal up to P_{min} + 20 dB where P_{min} is the minimum level of wanted signal required to meet the minimum performance criteria as defined in clause 4.3.1.12.3 in the absence of any blocking signal.

NOTE 4: The level specified is the level at the UUT receiver input assuming a 0 dBi antenna assembly gain. In case of conducted measurements, this level has to be corrected for the (in-band) antenna assembly gain (G). In case of radiated measurements, this level is equivalent to a power flux density (PFD) in front of the UUT antenna with the UUT being configured/positioned as recorded in clause 5.4.3.2.2.

Table 15: Receiver Blocking parameters receiver Category 2 equipment

Wanted signal mean power from companion device (dBm) (see notes 1 and 3)	Blocking signal frequency (MHz)	Blocking signal power (dBm) (see note 3)	Type of blocking signal
(-139 dBm + 10 × $\log_{10}$(OCBW) + 10 dB) or (-74 dBm + 10 dB) whichever is less (see note 2)	2 380 2 504 2 300 2 584	-34	CW
NOTE 1: OCBW is in Hz. NOTE 2: In case of radiated measurements using a companion device and the level of the wanted signal from the companion device cannot be determined, a relative test may be performed using a wanted signal up to P_{min} + 26 dB where P_{min} is the minimum level of wanted signal required to meet the minimum performance criteria as defined in clause 4.3.1.12.3 in the absence of any blocking signal. NOTE 3: The level specified is the level at the UUT receiver input assuming a 0 dBi antenna assembly gain. In case of conducted measurements, this level has to be corrected for the (in-band) antenna assembly gain (G). In case of radiated measurements, this level is equivalent to a power flux density (PFD) in front of the UUT antenna with the UUT being configured/positioned as recorded in clause 5.4.3.2.2.			

Table 16: Receiver Blocking parameters receiver Category 3 equipment

Wanted signal mean power from companion device (dBm) (see notes 1 and 3)	Blocking signal frequency (MHz)	Blocking signal power (dBm) (see note 3)	Type of blocking signal
(-139 dBm + 10 × $\log_{10}$(OCBW) + 20 dB) or (-74 dBm + 20 dB) whichever is less (see note 2)	2 380 2 504 2 300 2 584	-34	CW
NOTE 1: OCBW is in Hz. NOTE 2: In case of radiated measurements using a companion device and the level of the wanted signal from the companion device cannot be determined, a relative test may be performed using a wanted signal up to P_{min} + 30 dB where P_{min} is the minimum level of wanted signal required to meet the minimum performance criteria as defined in clause 4.3.1.12.3 in the absence of any blocking signal. NOTE 3: The level specified is the level at the UUT receiver input assuming a 0 dBi antenna assembly gain. In case of conducted measurements, this level has to be corrected for the (in-band) antenna assembly gain (G). In case of radiated measurements, this level is equivalent to a power flux density (PFD) in front of the UUT antenna with the UUT being configured/positioned as recorded in clause 5.4.3.2.2.			

Test Setup Block diagram

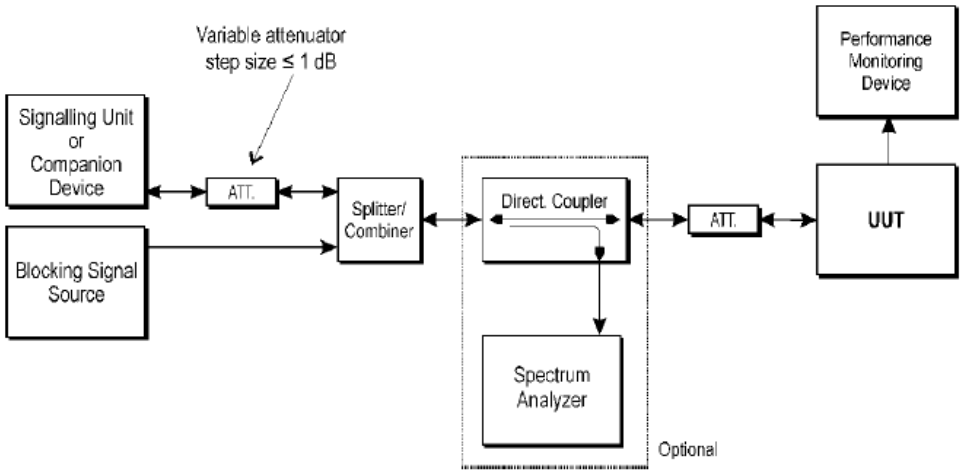


Figure 6: Test Set-up for receiver blocking

Test Procedure

The measurement procedure refer to ETSI EN 300 328 V2.2.2 (2019-07) §5.4.11

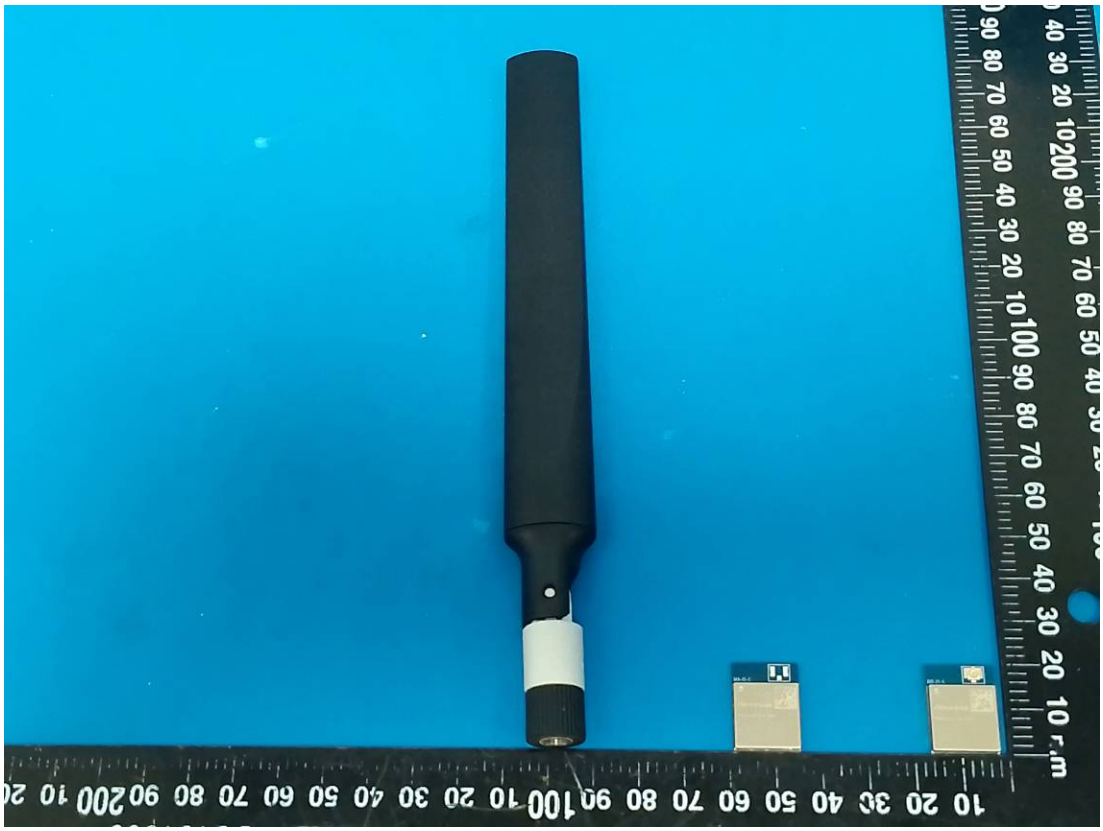
Test Data

Test Result: *Compliant. Please refer to following tables.*

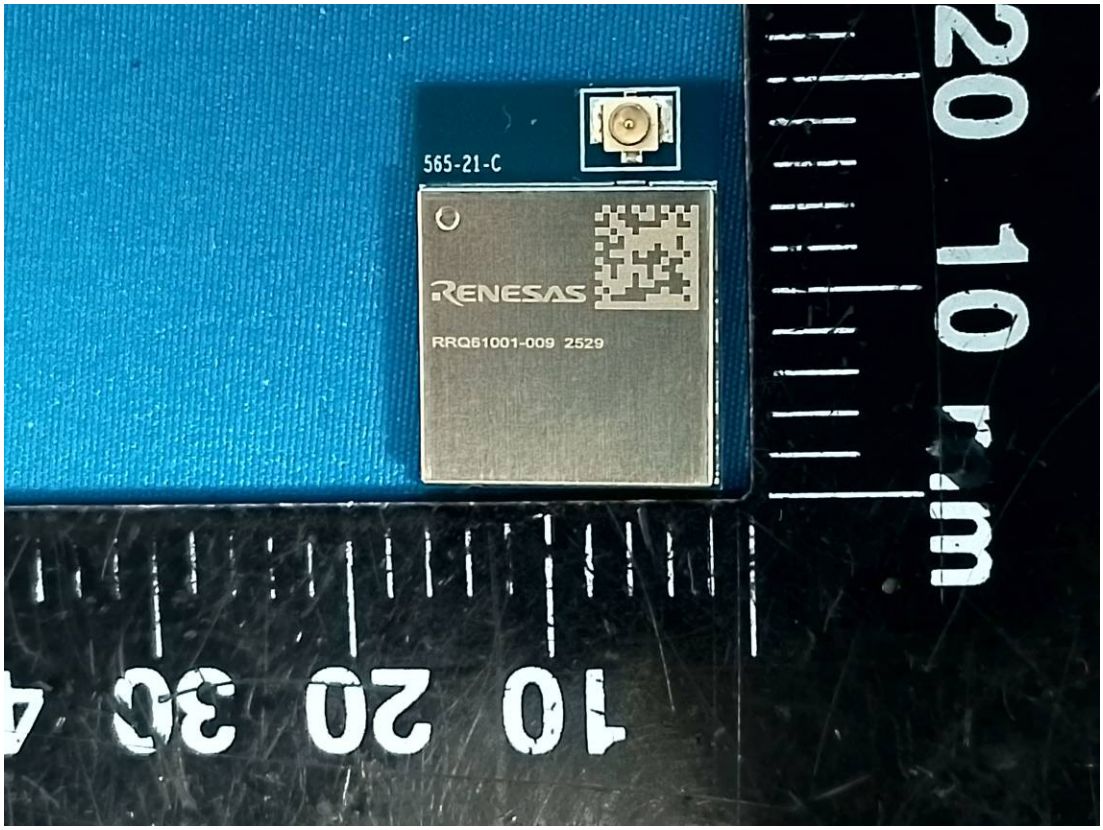
Mode	Receiver Category	Channel	Frequency (MHz)	Blocking Signal Frequency (MHz)	PER (%)	Limit (%)
802.11b	1	Low	2412	2380	4.3	≤10
				2300	3.5	
				2330	2.9	
				2360	5.1	
		High	2472	2504	4.4	≤10
				2524	4.8	
				2584	3.6	
				2674	5.3	

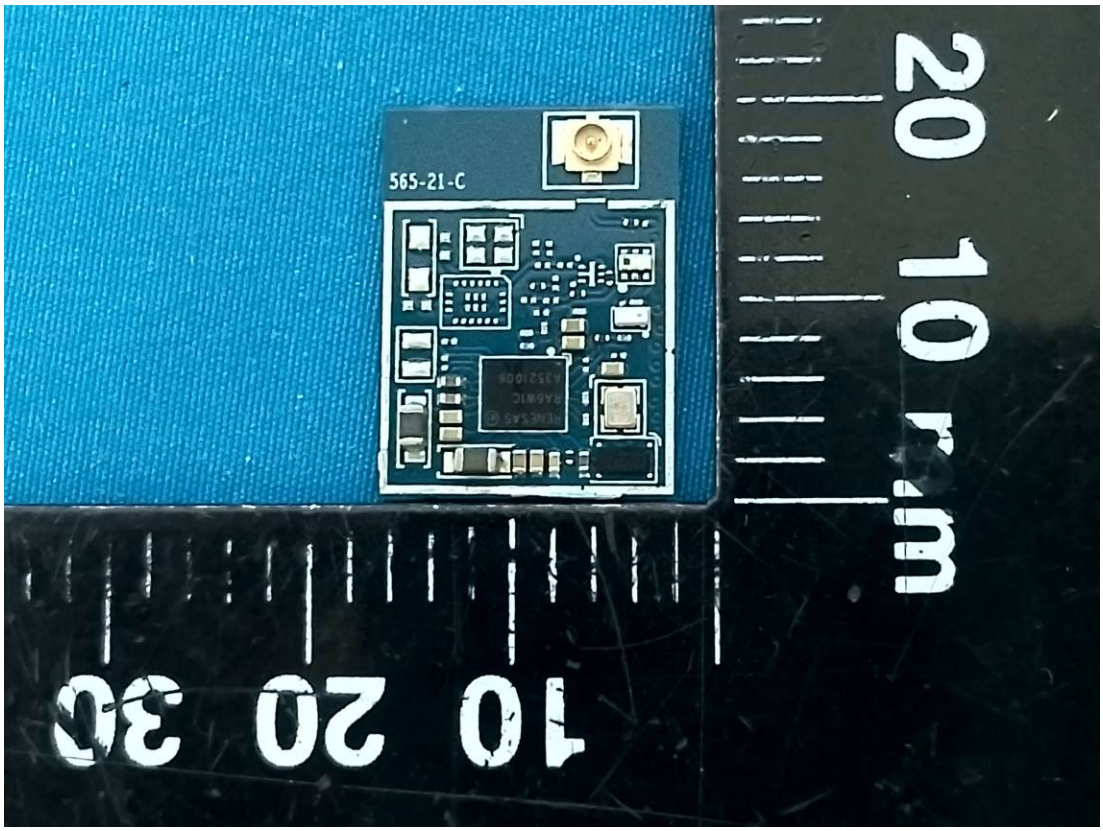
Note: The PER was monitored with CMW500.

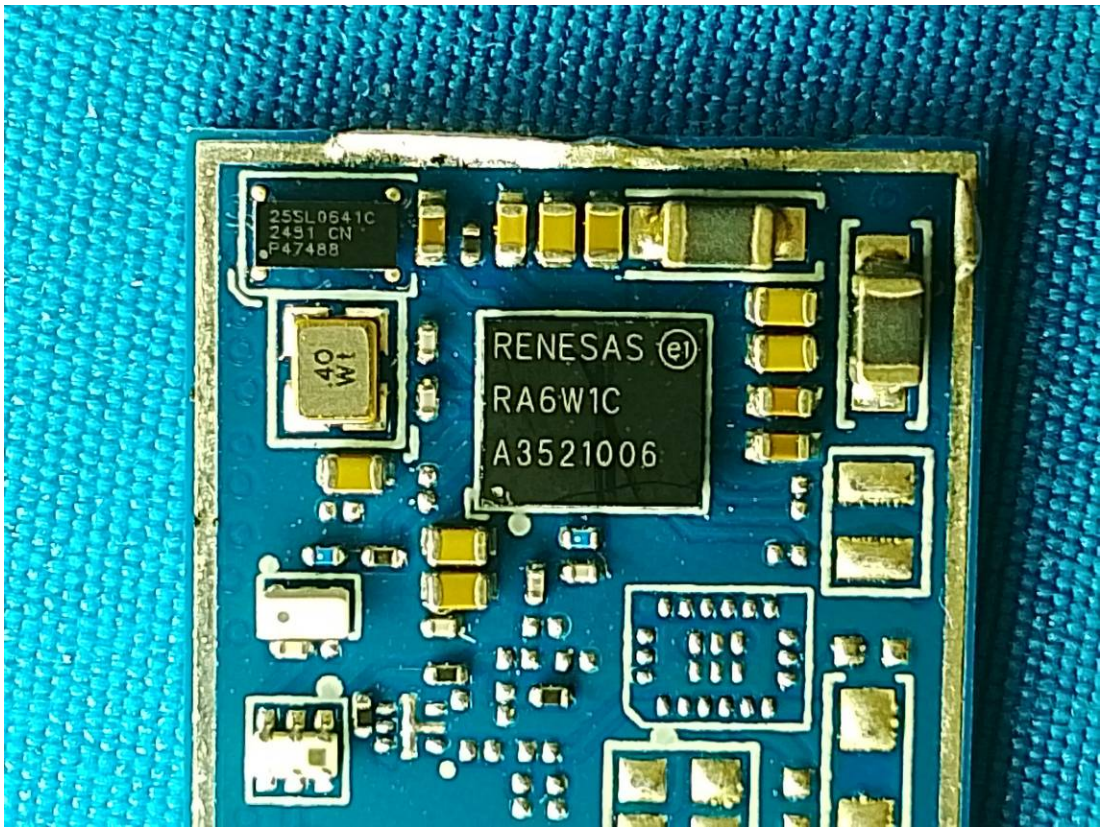
EXHIBIT A - EUT PHOTOGRAPHS

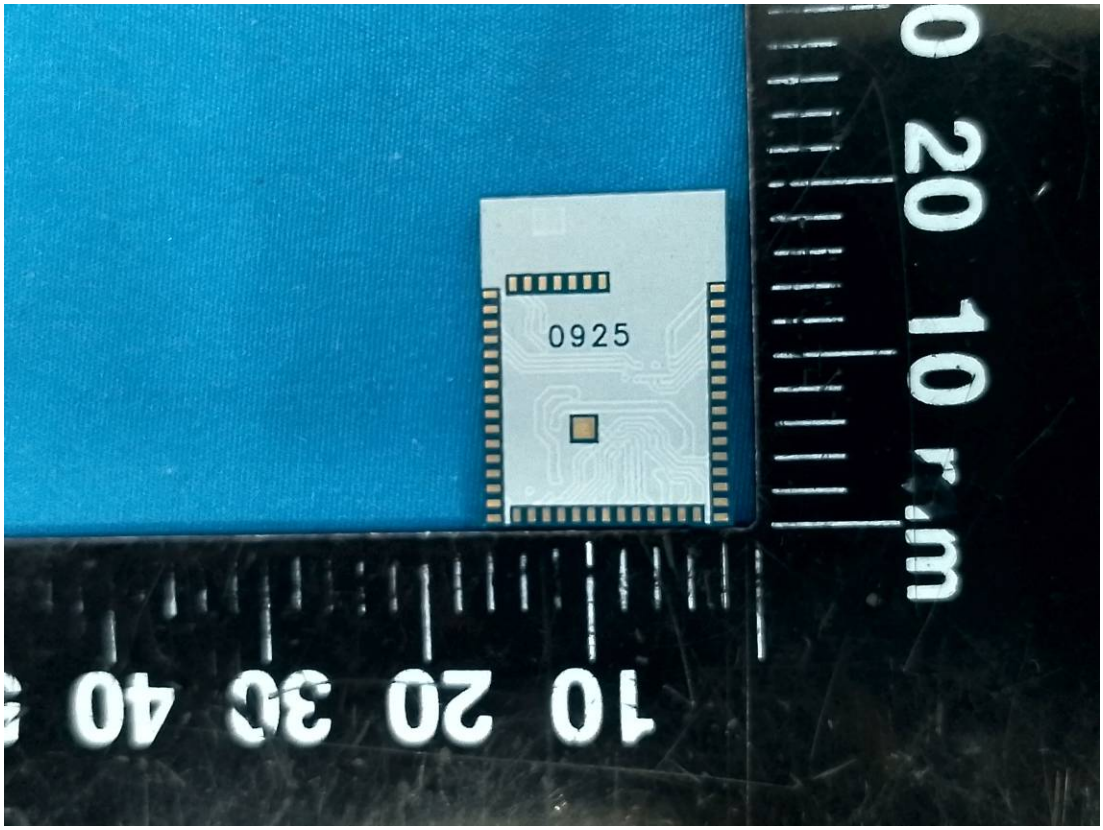


RRQ61001-009

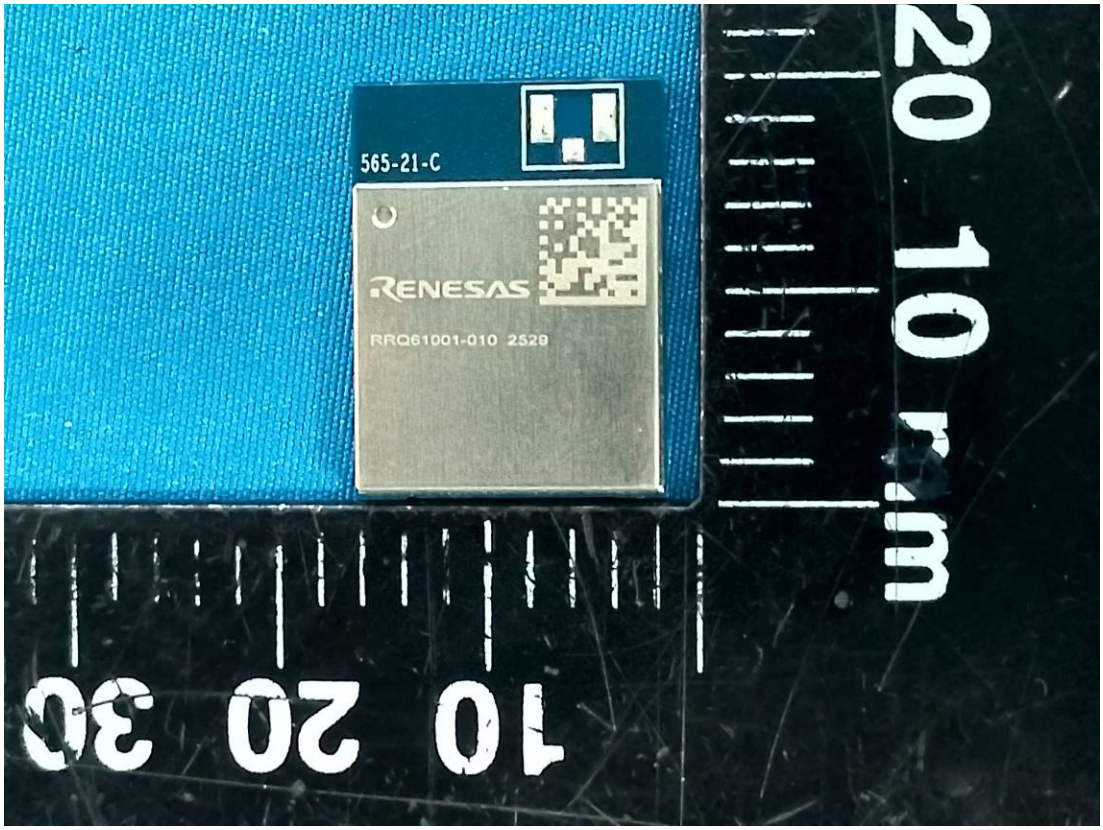


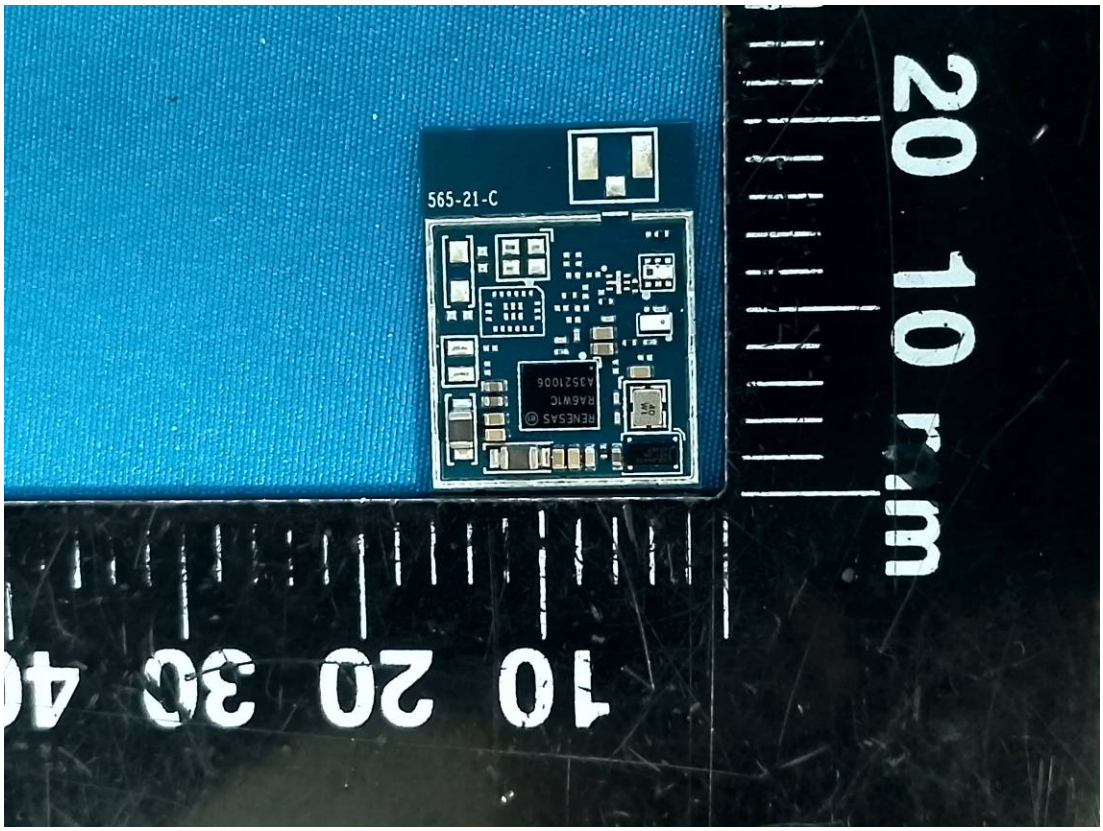


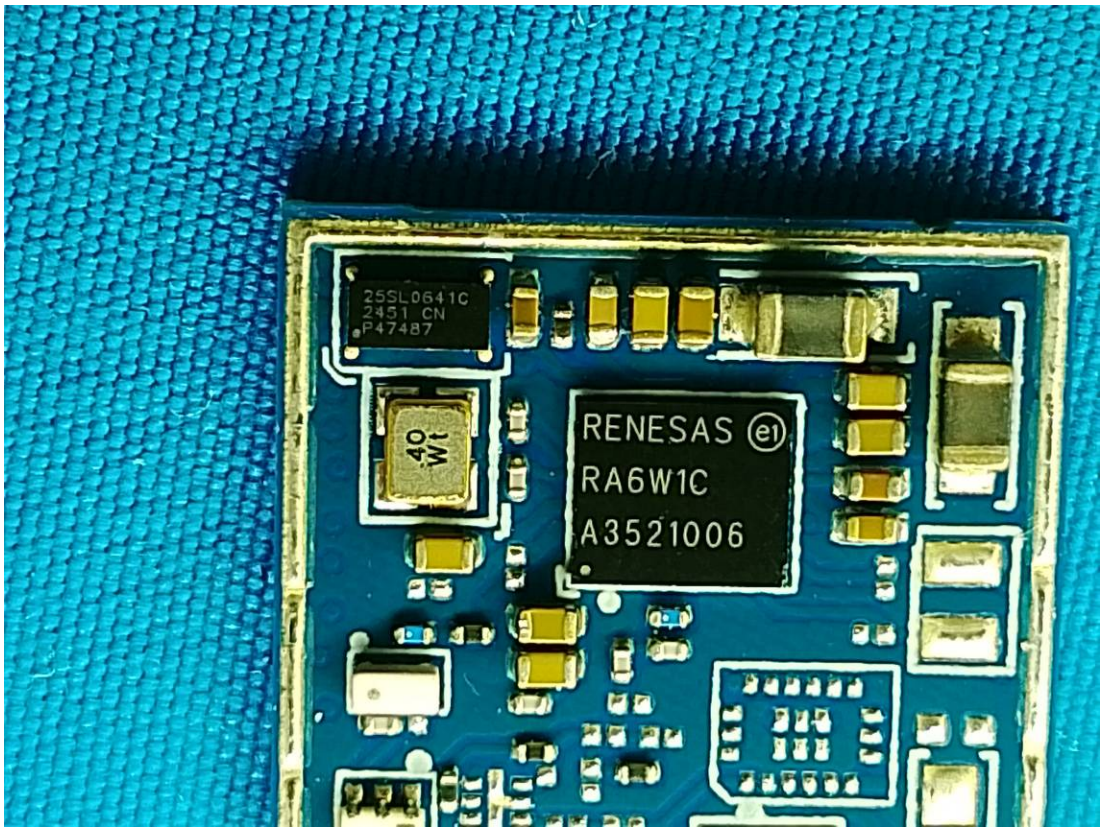

25SL0641C
2491 CN
P47488
40
RENESAS
RA6W1C
A3521006

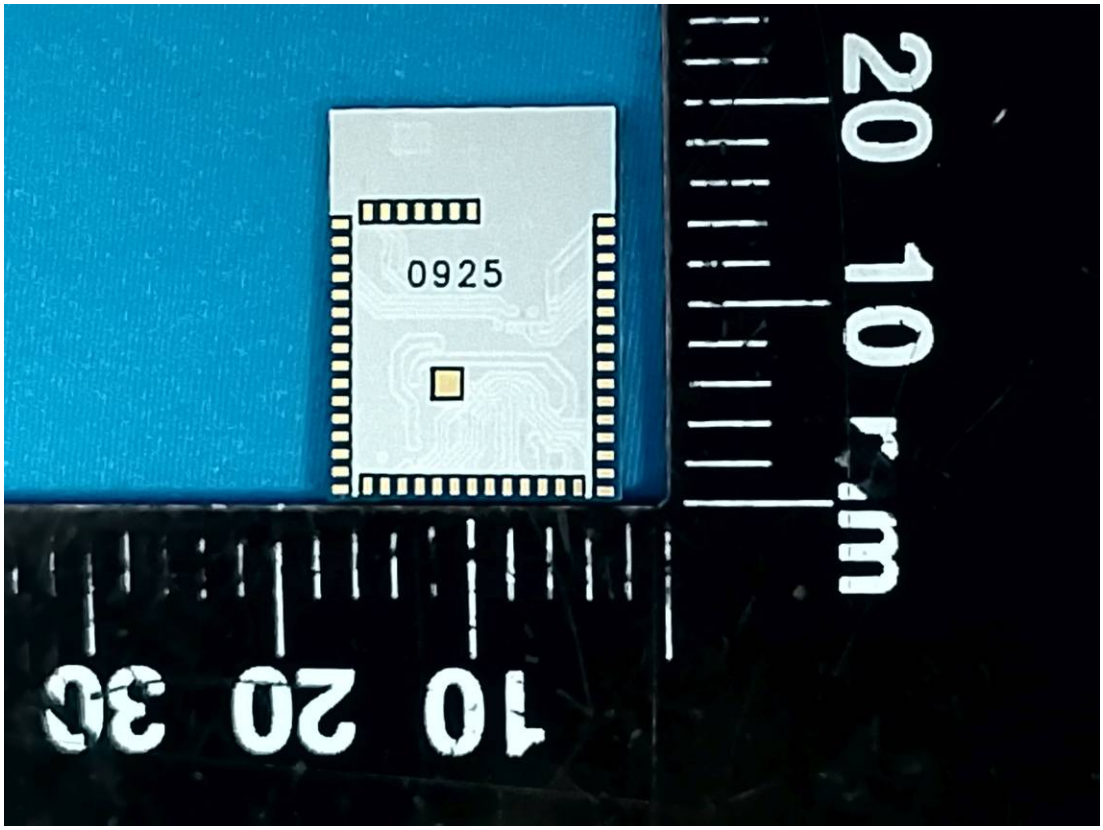

0925
0 20 10
10 20 30 40

RRQ61001-010

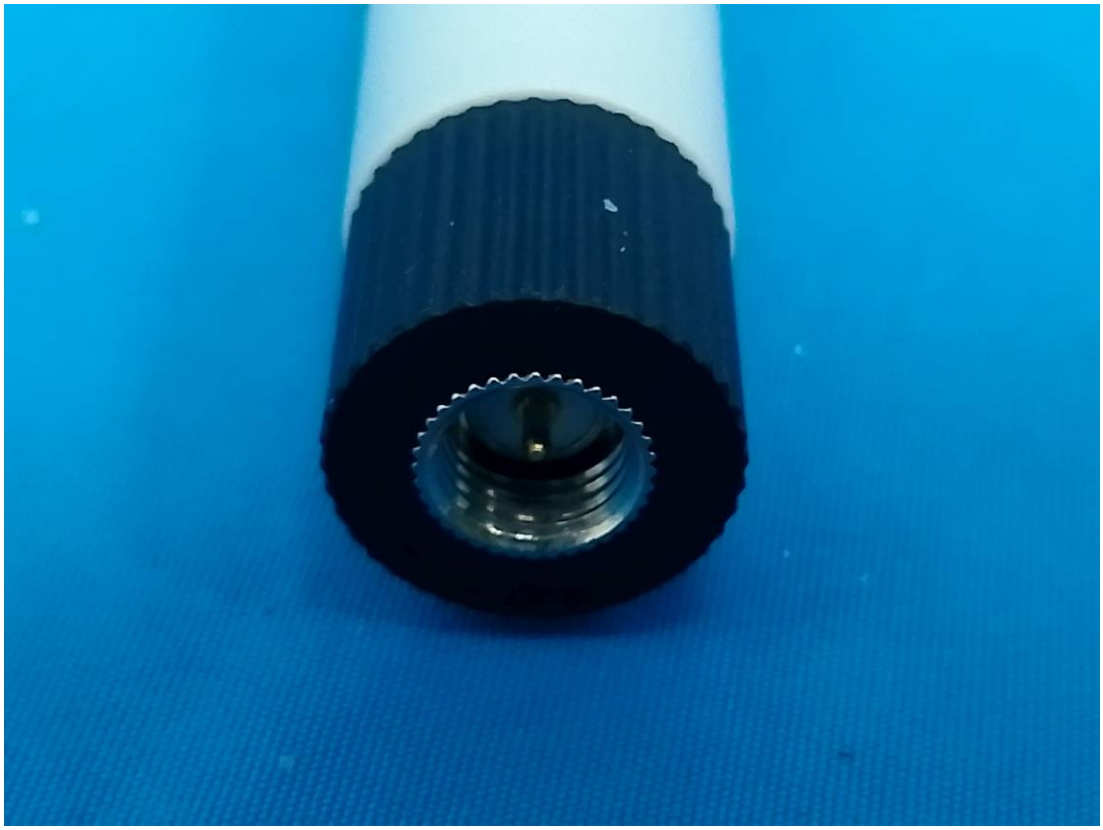





25SL0641C
2451 CN
P47487
40
Wt
RENESAS
RA6W1C
A3521006


0925
10 20 30
20 10 cm





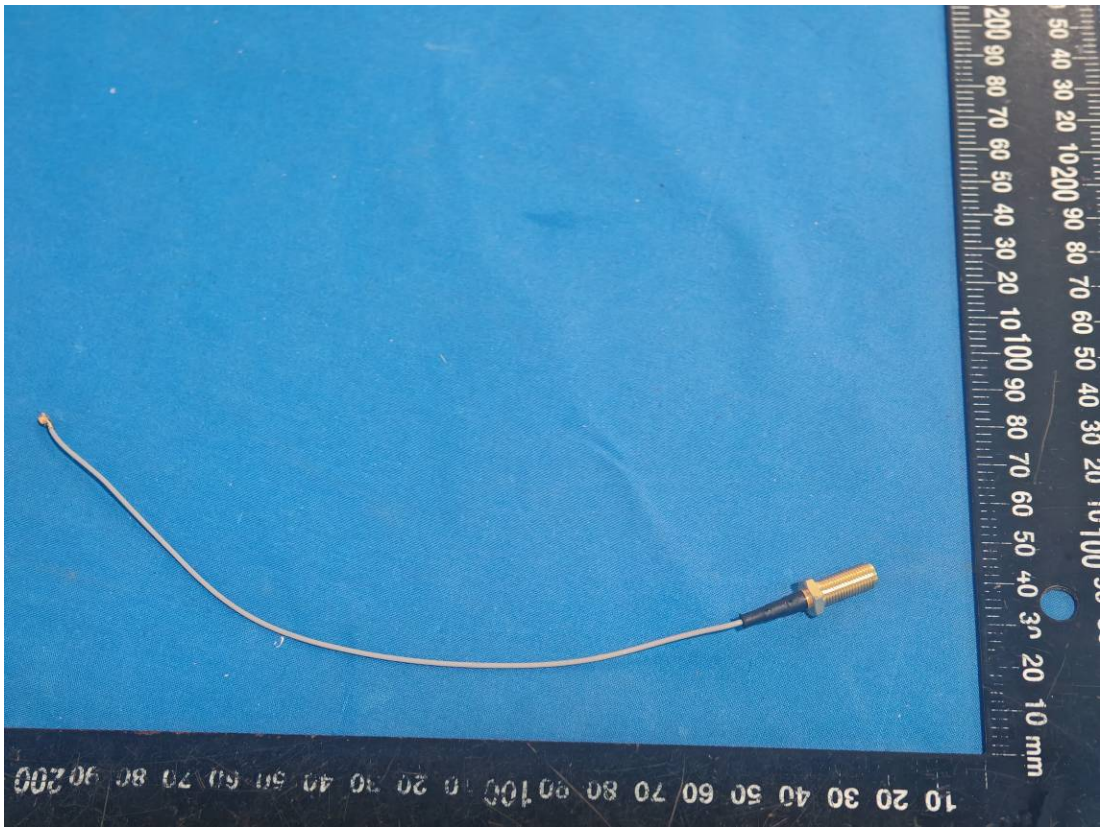
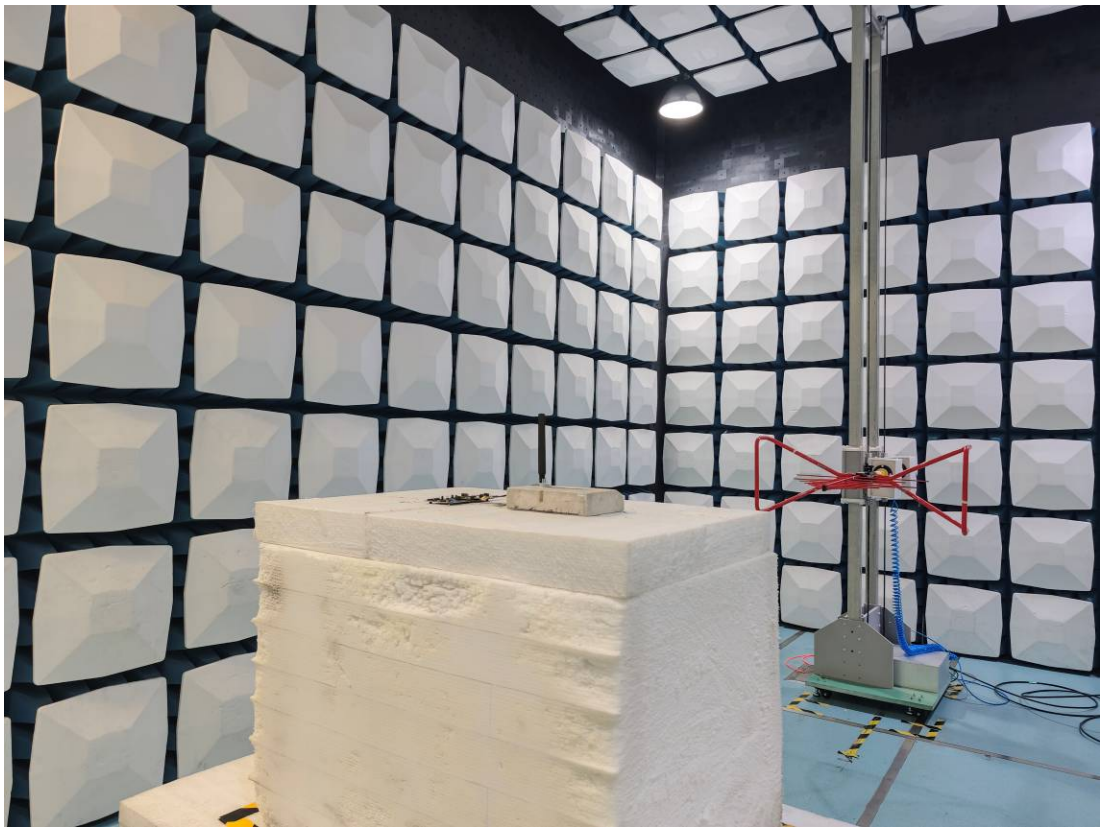


EXHIBIT B – TEST SETUP PHOTOGRAPHS

Radiated Emission Below 1GHz View



Radiated Emission Above 1GHz View

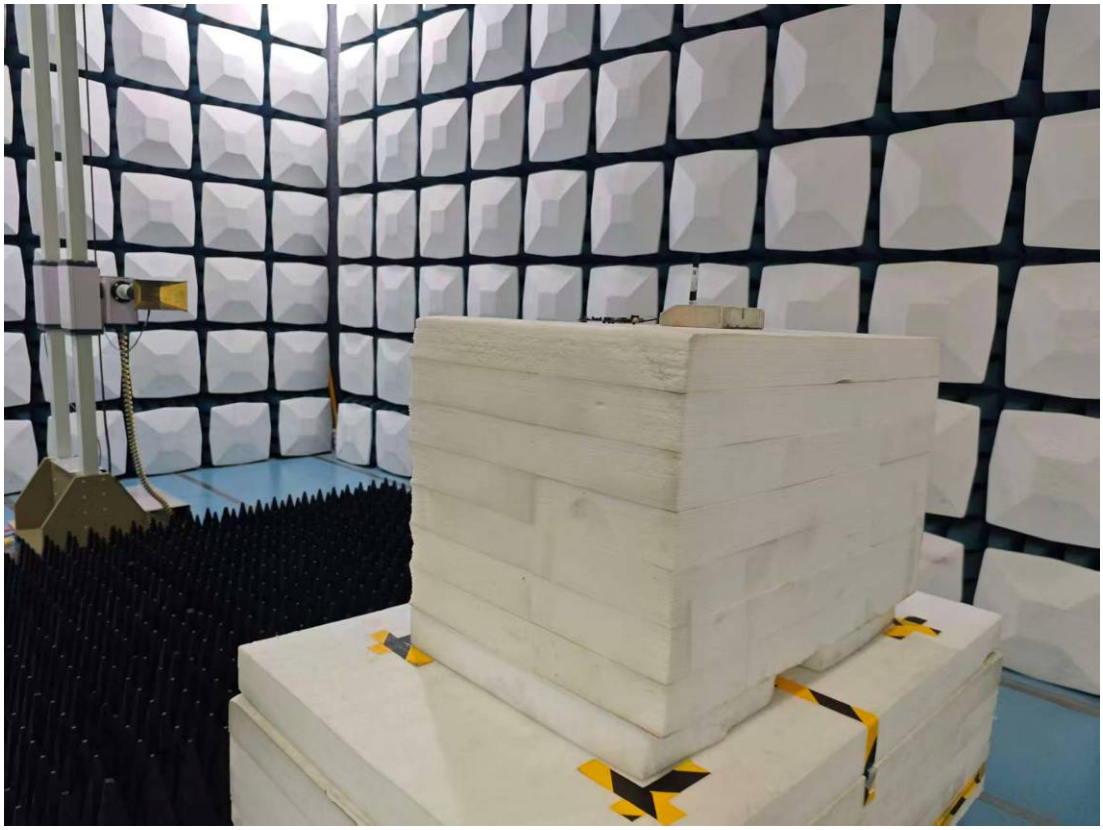


EXHIBIT C - E.2 INFORMATION AS REQUIRED BY EN 300 328 V2.2.2, CLAUSE 5.4.1

In accordance with EN 300 328, clause 5.4.1, the following information is provided by the supplier.

a) The type of modulation used by the equipment:

☐ FHSS
☒ non-FHSS

b) In case of FHSS:

In case of non-Adaptive **FHSS** equipment:
The number of Hopping Frequencies:_____.

In case of Adaptive **FHSS** Equipment:
The maximum number of Hopping Frequencies:_____;
The minimum number of Hopping Frequencies:_____ ;

The (average) Dwell Time:_____;

c) Adaptive / non-adaptive equipment:

☐ non-adaptive Equipment
☒ adaptive Equipment without the possibility to switch to a non-adaptive mode
☐ adaptive Equipment which can also operate in a non-adaptive mode

d) In case of adaptive equipment:

The maximum Channel Occupancy Time implemented by the equipment:__0.81_ms

☐ The equipment has implemented an LBT mechanism

In case of equipment using modulation different from FHSS:

☐ The equipment is Frame Based equipment
☒ The equipment is Load Based equipment
☐ The equipment can switch dynamically between Frame Based and Load Based equipment

The CCA time implemented by the equipment:__0.035_ms

☐ The equipment has implemented an non-LBT based DAA mechanism
☐ The equipment can operate in more than one adaptive mode

e) In case of non-adaptive Equipment:

The maximum RF Output Power (e.i.r.p.):_____dBm
The maximum (corresponding) Duty Cycle:_____%

Equipment with dynamic behaviour, that behaviour is described here. (e.g. the different combinations of duty cycle and corresponding power levels to be declared):

f) The worst case operational mode for each of the following tests:

RF Output Power: 19.97 dBm ;
Power Spectral Density 9.74 dBm/MHz ;
Duty cycle, Tx-Sequence, Tx-gap N/A ;
Accumulated Transmit Time, Minimum Frequency Occupation & Hopping Sequence (only for FHSS equipment) N/A ;
Hopping Frequency Separation (only for FHSS equipment) N/A ;
Medium Utilisation N/A ;
Adaptivity Pass ;
Receiver Blocking Pass ;
Nominal Channel Bandwidth 20 MHz ;
Transmitter unwanted emissions in the OOB domain -13.12 dBm/MHz ;
Transmitter unwanted emissions in the spurious domain -36.64 dBm ;
Receiver spurious emissions -55.63 dBm ;

g) The different transmit operating modes (tick all that apply):

☒ Operating mode 1: Single Antenna Equipment
- ☒ Equipment with only 1 antenna
- ☐ Equipment with 2 diversity antennas but only 1 antenna active at any moment in time
- ☐ Smart Antenna Systems with 2 or more antennas, but operating in a (legacy) mode where only 1antenna is used. (e.g. IEEE 802.11™ [i.3] legacy mode in smart antenna systems)

☐ Operating mode 2: Smart Antenna Systems - Multiple Antennas without beam forming
- ☐ Single spatial stream / Standard throughput / (e.g. IEEE 802.11™ [i.3] legacy mode)
- ☐ High Throughput (> 1 spatial stream) using Occupied Channel Bandwidth 1
- ☐ High Throughput (> 1 spatial stream) using Occupied Channel Bandwidth 2

Note: Add more lines if more channel bandwidths are supported.

☐ Operating mode 3: Smart Antenna Systems - Multiple Antennas with beam forming
- ☐ Single spatial stream / Standard throughput (e.g. IEEE 802.11™ [i.3] legacy mode)
- ☐ High Throughput (> 1 spatial stream) using Occupied Channel Bandwidth 1
- ☐ High Throughput (> 1 spatial stream) using Occupied Channel Bandwidth 2

Note: Add more lines if more channel bandwidths are supported.

h) In case of Smart Antenna Systems:

The number of Receive chains: ;
The number of Transmit chains: ;

- ☐ symmetrical power distribution
- ☐ asymmetrical power distribution

In case of beam forming, the maximum (additional) beam forming gain: dB ;

Note: The additional beam forming gain does not include the basic gain of a single antenna.

i) Operating Frequency Range(s) of the equipment:

Operating Frequency Range 1: 2412 MHz to 2472 MHz
Operating Frequency Range 2: MHz to MHz

Note: Add more lines if more Frequency Ranges are supported.

j) Nominal Channel Bandwidth(s):

Nominal Channel Bandwidth 1:____20____MHz
Nominal Channel Bandwidth 2:_____MHz

Note: Add more lines if more channel bandwidths are supported.

k) Type of Equipment (stand-alone, combined, plug-in radio device, etc.):

☒ Stand-alone
☐ Combined Equipment
☐ Plug-in radio device
☐ Other____ ;

l) The normal and the extreme operating conditions that apply to the equipment:

Normal operating conditions (if applicable):

Operating temperature:__+25__ ° C
Other (please specify if applicable):

Extreme operating conditions:

Operating temperature range: Minimum:__-40__ ° C Maximum __85__ ° C
Other (please specify if applicable): Minimum:____ Maximum

Details provided are for the:
☒ stand-alone equipment
☐ combined (or host) equipment
☐ test jig

m) The intended combination(s) of the radio equipment power settings and one or more antenna assemblies and their corresponding e.i.r.p levels:

Antenna Type:

☒ Integral Antenna (information to be provided in case of conducted measurements)

Antenna Gain:__3.3__dBi

If applicable, additional beamforming gain (excluding basic antenna gain): ____dB

☐ Temporary RF connector provided
☐ No temporary RF connector provided

☐ Dedicated Antennas (equipment with antenna connector)
☐ Single power level with corresponding antenna(s)
☐ Multiple power settings and corresponding antenna(s)

Number of different Power Levels:____;
Power Level 1:____dBm
Power Level 2:____dBm
Power Level 3:____dBm

Note 1: Add more lines in case the equipment has more power levels.
Note 2: These power levels are conducted power levels (at antenna connector).

For each of the Power Levels, provide the intended antenna assemblies, their corresponding gains (G) and the resulting e.i.r.p. levels also taking into account the beamforming gain (Y) if applicable

Power Level 1:____dBm

Number of antenna assemblies provided for this power level:

Assembly #	Gain (dBi)	e.i.r.p. (dBm)	Part number or model name
1			
2			
3			
4			

Note 3: Add more rows in case more antenna assemblies are supported for this power level.

Power Level 2:____dBm

Number of antenna assemblies provided for this power level:

Assembly #	Gain (dBi)	e.i.r.p. (dBm)	Part number or model name
1			
2			
3			
4			

Note4: Add more rows in case more antenna assemblies are supported for this power level.

Power Level 2:____dBm

Number of antenna assemblies provided for this power level:

Assembly #	Gain (dBi)	e.i.r.p. (dBm)	Part number or model name
1			
2			
3			
4			

Note5: Add more rows in case more antenna assemblies are supported for this power level.

n) The nominal voltages of the stand-alone radio equipment or the nominal voltages of the combined (host) equipment or test jig in case of plug-in devices:

Details provided are for the:
☒ stand-alone equipment
☐ combined (or host) equipment
☐ test jig

Supply Voltage
☐ AC mains State AC voltage ____V
☒ DC State DC voltage 1.8~3.6 V

In case of DC, indicate the type of power source
☐ Internal Power Supply
☒ External Power Supply or AC/DC adapter
☐ Battery
☐ Other:_____.

o) Describe the test modes available which can facilitate testing:

The measurements shall be performed during continuously transmitting .

p) The equipment type (e.g. Bluetooth®, IEEE 802.11™,IEEE 802.15.4™, proprietary, etc.):

IEEE 802.11™.

q) If applicable, the statistical analysis referred to in clause 5.4.1 q)

(to be provided as separate attachment)

r) If applicable, the statistical analysis referred to in clause 5.4.1 r)

(to be provided as separate attachment)

s) Geo-location capability supported by the equipment:

☐ Yes

☐ The geographical location determined by the equipment as defined in clause 4.3.1.13.2 or clause 4.3.2.12.2 is not accessible to the user.

☒ No

DECLARATION OF SIMILARITY LETTER

Renesas Design Korea Inc.
Add: 7th SiliconPark, 35 Pangyo-ro 255 beon-gil Bundang-gu, Seongnam-si, Gyeonggi-do, 13486 Republic of Korea
Tel: + 82-2-567-1903
Email: kn.kim.pv@renesas.com

DECLARATION OF SIMILARITY

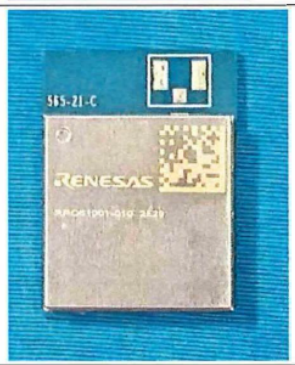
Date: 2026-01-19

To whom it may concern

Dear Sir or Madam:

We, Renesas Design Korea Inc., hereby declare that the product, named RRQ61001 Module, model RRQ61001-010 is electrically similar with the model RRQ61001-009 which was tested by Bay Area Compliance Laboratories Corp.(Dongguan).

The differences between those models and that are declared similar are as follows:

Model	Difference		Other
RRQ61001-009		With external antenna port	Only the different model name and with or without external antenna port. The software is same.
RRQ61001-010		Without external antenna port	

Please contact me should there be need for any additional clarification or information.

Best Regards,

Signature:
Printed Name: Kui Nam Kim
Title: Vice President

*******END OF REPORT*******