ETSI EN 300 440 V2.2.1 (2018-07)

TEST REPORT

For

Renesas Design Korea Inc.

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Tested Model: RRQ61051-008

Report Type:	**Product Type:**
Original Report	RRQ61051 Module

Report Number:	2602P42652E-22E
Report Date:	2026/3/11
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TABLE OF CONTENTS

DOCUMENT REVISION HISTORY **3**

GENERAL INFORMATION **4**

PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT) 4
TECHNICAL SPECIFICATION 4
OBJECTIVE 4
TEST METHODOLOGY 4
TEST FACILITY 4
MEASUREMENT UNCERTAINTY 5
DECLARATIONS 5

SYSTEM TEST CONFIGURATION **6**

DESCRIPTION OF TEST CONFIGURATION 6
EQUIPMENT MODIFICATIONS 6
EUT EXERCISE SOFTWARE 6
SUPPORT EQUIPMENT LIST AND DETAILS 7
BLOCK DIAGRAM OF TEST SETUP 7
TEST EQUIPMENT LIST 8
ENVIRONMENTAL CONDITIONS 9

SUMMARY OF TEST RESULTS **10**

1 - EQUIVALENT ISOTROPICALLY RADIATED POWER **11**

APPLICABLE STANDARD 11
TEST PROCEDURE 11
TEST DATA 12

2 - PERMITTED RANGE OF OPERATING FREQUENCIES **15**

APPLICABLE STANDARD 15
TEST PROCEDURE 15
TEST DATA 16

3 - UNWANTED EMISSION IN THE SPURIOUS EMISSIONS DOMAIN **21**

APPLICABLE STANDARD 21
EUT SETUP 21
TEST PROCEDURE 21
TEST DATA 22

7 -BLOCKING OR DESENSITIZATION **23**

APPLICABLE STANDARD 23
TEST PROCEDURE 23
TEST DATA 23

8 - SPURIOUS EMISSION **24**

APPLICABLE STANDARD 24
EUT SETUP 24
TEST PROCEDURE 24
TEST DATA 24

EXHIBIT A - EUT PHOTOGRAPHS **25**

EXHIBIT B - TEST SETUP PHOTOGRAPHS **26**

DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
1.0	2602P42652E-22E	Original Report	2026/3/11

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Product Name:	RRQ61051 Module
EUT Model:	RRQ61051-008
Rated Input Voltage:	1.8~3.6Vdc (Typical:3.3Vdc)
Serial Number:	3GDB-2 (For RF Conducted Test: RRQ61051-008) 3GDB-1 (For Radiated Test: RRQ61051-008)
EUT Received Date:	2026/1/20
EUT Received Status:	Good

Technical Specification

Operation Frequency Range (MHz):		802.11 a/n20/ac20/ax20: 5745-5825
RF Output Power (EIRP) (dBm):		13.840
Number of Chains	**Transmit:**	1
	Receive:	1
Antenna Gain (dBi)▲:		3.4
Modulation Type:		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 300 440 V2.2.1 (2018-07) Short Range Devices (SRD); Radio equipment to be used in the 1 GHz to 40 GHz frequency range; Harmonised Standard for access to radio spectrum.

The objective is to determine the EUT complies with: ETSI EN 300 440 V2.2.1 (2018-07).

Test Methodology

All measurements contained in this report were conducted with ETSI EN 300 440 V2.2.1 (2018-07) Short Range Devices (SRD); Radio equipment to be used in the 1 GHz to 40 GHz frequency range; Harmonised Standard for access to radio spectrum.

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	F_{lab}	Maximum allow uncertainty
Radio Frequency	$\pm 0.076\times10^{-6}$	$\pm 1\times10^{-7}$
RF Power (Conducted)	±0.55dB	±2,5dB
Radiated emission of transmitter, valid to 26,5 GHz	±5.61dB	±6dB
Radiated emission of transmitter, valid between 26,5 GHz and 66 GHz	±5.65dB	±8dB
Radiated emission of receiver, valid to 26,5 GHz	±5.61dB	±6dB
Radiated emission of receiver, valid between 26,5 GHz and 66 GHz	±5.65dB	±8dB
Humidity	±5%	±5%
Temperature	±1℃	±1℃
Voltage(DC)	±0.4%	±1%
Voltage(AC,<10kHz)	±1%	±2%

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 EUT was configured for testing in an engineering mode, which is provided by manufacture.
The device supports 802.11a/n ht20/ac vht20/ax he20.

For 802.11a, 802.11n ht20, 802.11ac ht20, and 802.11ax he20, channel 149, 157 and 165 were tested.

Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	161	5805
153	5765	165	5825
157	5785	/	/

The extreme temperature test conditions which were declared by the manufacturer and the normal conditions are as below:

Extreme test Temperature(℃)		Extreme test Voltage(Vdc)	
NT, Normal Temperature:	25	NV, Normal Voltage:	3.3
LT, Low Temperature:	-40	LV, Low Voltage:	1.8
HT, High Temperature:	85	HV, High Voltage:	3.6

Equipment Modifications

No modification was made to the EUT.

EUT Exercise Software

Software: "Tera Term 5▲", and the maximum power level is configured as below 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 a	5745	6	7
	5785	6	7
	5825	6	7
802.11 n20	5745	HT MCS0	7
	5785	HT MCS0	7
	5825	HT MCS0	7
802.11 ac20	5745	VHT MCS0	7
	5785	VHT MCS0	7
	5825	VHT MCS0	7
802.11 ax20	5745	HE MCS0	7
	5785	HE MCS0	7
	5825	HE MCS0	7

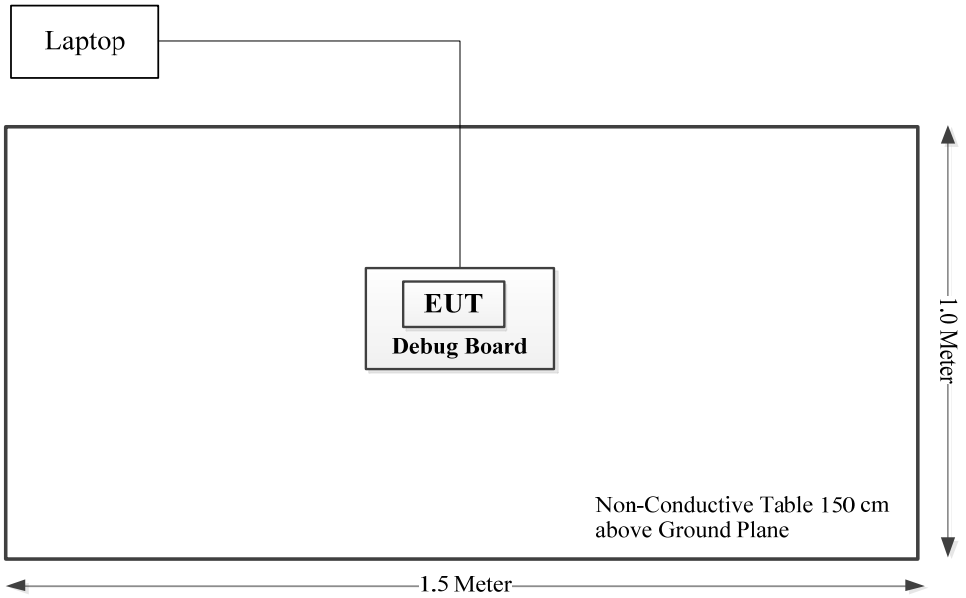
Support Equipment List and Details

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 1GHz					
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
Ducommun Technologies	Horn Antenna	ARH-4223-02	1007726-02 1304	2026/2/21	2029/2/20
Ducommun Technologies	Horn Antenna	ARH-4223-02	1007726-03 1304	2026/2/6	2029/2/5
Ducommun Technologies	Horn Antenna	ARH-2823-02	1007726-01 1302	2026/2/6	2029/2/5
Ducommun Technologies	Horn Antenna	ARH-2823-02	1007726-02 1302	2026/2/21	2029/2/20
Xinhang Macrowave	Coaxial Cable	XH750A-N/J-SMA/J-10M	20231117004 #0001	2025/11/14	2026/11/13
Xinhang Macrowave	Coaxial Cable	XH360A-2.92/J-2.92/J-6M-A	20231208001 #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
AH	Preamplifier	PAM-1840VH	191	2025/7/31	2026/7/30
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

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
GLOBAL	TEMP&HUMI Test Chamber	BTH-150-40	30173	2025/08/01	2026/07/31
All-sun	Multimeter	EM305A	8348897	2025/08/18	2026/08/17
TDK-Lambda	DC Power Supply	Z+60-14	F-08-EM038-1	N/A	N/A

** 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 Item:	Radiated emissions below 1GHz	Radiated emissions above 1GHz	RF conducted
Temperature:	23℃	24.4℃	20.5℃
Relative Humidity:	47%	54%	46%
ATM Pressure:	101.5kPa	100.8kPa	102kPa
Tester:	Lancer Zhang	Alan Xie, Willem Qiu	Cooper Zhou
Test Date:	2026/1/30	2026/2/25	2026/2/3

SUMMARY OF TEST RESULTS

SN	ETSI EN 300 440 V2.2.1 Rule and Clause	Description of Test	Test Result
1	4.2.2	Equivalent isotropically radiated power	Compliant
2	4.2.3	Permitted range of operating frequencies	Compliant
3	4.2.4	Unwanted emission in the spurious emissions domain	Compliant
4	4.2.5	Duty cycle	Not Applicable
5	4.2.6	Additional requirements for FHSS equipment	Not applicable*
6	4.3.3	Adjacent channel selectivity	Not applicable**
7	4.3.4	Blocking or desensitization	Compliant
8	4.3.5	Spurious emission	Compliant
9	4.4	Spectrum access techniques	Not applicable***
10	4.6.4	GBSAR antenna pattern	Not applicable****
11	Annex I	Limits for GBSAR	Not applicable****

Note:
The manufacturer declared that the equipment belongs to category 2 receiver.
Not Applicable: Testing has no required for 5725-5875MHz.
Not Applicable: The device is not FHSS equipment.*
*Not Applicable**: Testing is not required for equipment category 2 receiver.*
*Not Applicable***: Testing is only required for media access equipment.*
*Not Applicable****: Testing is only required for GBSAR systems.*

1 - EQUIVALENT ISOTROPICALLY RADIATED POWER

Applicable Standard

According to ETSI EN 300 440 section 4.2.2, the equivalent isotropically radiated power requirement shall apply to all transmitters.

The transmitter maximum e.i.r.p. under normal and extreme test conditions is provided in table 2.

Table 2: Maximum radiated peak power (e.i.r.p.)

Frequency Bands	Power	Application	Notes
2 400 MHz to 2 483,5 MHz	10 mW e.i.r.p.	Non-specific short range devices	
2 400 MHz to 2 483,5 MHz	25 mW e.i.r.p.	Radio determination devices	
(a) 2 446 MHz to 2 454 MHz	500 mW e.i.r.p.	Radio Frequency Identification (RFID) devices	See also table 4 and annex D
(b) 2 446 MHz to 2 454 MHz	4 W e.i.r.p.	Radio Frequency Identification (RFID) devices	See also table 4 and annex D
5 725 MHz to 5 875 MHz	25 mW e.i.r.p.	Non-specific short range devices	
9 200 MHz to 9 500 MHz	25 mW e.i.r.p.	Radio determination devices	
9 500 MHz to 9 975 MHz	25 mW e.i.r.p.	Radio determination devices	
10,5 GHz to 10,6 GHz	500 mW e.i.r.p.	Radio determination devices	
13,4 GHz to 14,0 GHz	25 mW e.i.r.p.	Radio determination devices	
17,1 GHz to 17,3 GHz	400 mW e.i.r.p.	Radio determination devices	See annex F
24,00 GHz to 24,25 GHz	100 mW e.i.r.p.	Non-specific short range devices and Radio determination devices	

Test Procedure

According to ETSI EN 300 440 V2.2.1 (2018-07) §4.2.2.3

Test Data

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

Test Condition: NT/NV

Test Mode	Antenna	Freq. (MHz)	EIRP (dBm)	EIRP Limit (dBm)	Verdict
802.11a	Chain 0	5745	13.374	13.98	Pass
		5785	13.397	13.98	Pass
		5825	13.383	13.98	Pass
802.11n20	Chain 0	5745	13.264	13.98	Pass
		5785	13.339	13.98	Pass
		5825	13.192	13.98	Pass
802.11ac20	Chain 0	5745	13.282	13.98	Pass
		5785	13.306	13.98	Pass
		5825	13.260	13.98	Pass
802.11ax20_RU_Full	Chain 0	5745	13.312	13.98	Pass
		5785	13.300	13.98	Pass
		5825	13.247	13.98	Pass

Test Condition: LT/LV

Test Mode	Antenna	Freq. (MHz)	EIRP (dBm)	EIRP Limit (dBm)	Verdict
802.11a	Chain 0	5745	13.602	13.98	Pass
		5785	13.531	13.98	Pass
		5825	13.576	13.98	Pass
802.11n20	Chain 0	5745	13.489	13.98	Pass
		5785	13.469	13.98	Pass
		5825	13.376	13.98	Pass
802.11ac20	Chain 0	5745	13.458	13.98	Pass
		5785	13.531	13.98	Pass
		5825	13.460	13.98	Pass
802.11ax20_RU_Full	Chain 0	5745	13.543	13.98	Pass
		5785	13.504	13.98	Pass
		5825	13.381	13.98	Pass

Test Condition: LT/HV

Test Mode	Antenna	Freq. (MHz)	EIRP (dBm)	EIRP Limit (dBm)	Verdict
802.11a	Chain 0	5745	13.754	13.98	Pass
		5785	13.840	13.98	Pass
		5825	13.679	13.98	Pass
802.11n20	Chain 0	5745	13.695	13.98	Pass
		5785	13.719	13.98	Pass
		5825	13.463	13.98	Pass
802.11ac20	Chain 0	5745	13.721	13.98	Pass
		5785	13.706	13.98	Pass
		5825	13.572	13.98	Pass
802.11ax20_RU_Full	Chain 0	5745	13.610	13.98	Pass
		5785	13.560	13.98	Pass
		5825	13.697	13.98	Pass

Test Condition: HT/LV

Test Mode	Antenna	Freq. (MHz)	EIRP (dBm)	EIRP Limit (dBm)	Verdict
802.11a	Chain 0	5745	12.993	13.98	Pass
		5785	12.928	13.98	Pass
		5825	12.958	13.98	Pass
802.11n20	Chain 0	5745	12.903	13.98	Pass
		5785	13.028	13.98	Pass
		5825	12.860	13.98	Pass
802.11ac20	Chain 0	5745	12.886	13.98	Pass
		5785	12.946	13.98	Pass
		5825	12.903	13.98	Pass
802.11ax20_RU_Full	Chain 0	5745	13.007	13.98	Pass
		5785	13.011	13.98	Pass
		5825	12.847	13.98	Pass

Test Condition: HT/HV

Test Mode	Antenna	Freq. (MHz)	EIRP (dBm)	EIRP Limit (dBm)	Verdict
802.11a	Chain 0	5745	13.145	13.98	Pass
		5785	13.276	13.98	Pass
		5825	13.239	13.98	Pass
802.11n20	Chain 0	5745	13.116	13.98	Pass
		5785	13.094	13.98	Pass
		5825	13.031	13.98	Pass
802.11ac20	Chain 0	5745	13.069	13.98	Pass
		5785	13.134	13.98	Pass
		5825	13.020	13.98	Pass
802.11ax20_RU_Full	Chain 0	5745	13.120	13.98	Pass
		5785	13.169	13.98	Pass
		5825	13.117	13.98	Pass

Note:
The duty cycle factor and antenna gain were added into the EIRP.

2 - PERMITTED RANGE OF OPERATING FREQUENCIES

Applicable Standard

Per EN 300 440 section 4.2.3, the permitted range of operating frequencies includes all frequencies on which the equipment may operate within an assigned frequency band. The operating frequency range shall be declared by the manufacturer.

The frequency range of the equipment is determined by the lowest and highest frequencies occupied by the power envelope in accordance with clause 4.2.2.4, table 2. FH is the highest frequency of the power envelope, it is the frequency furthest above the frequency of maximum power where the output power envelope drops below the level of -75 dBm/Hz spectral power density (e.g. -30 dBm if measured in a 30 kHz reference bandwidth) e.i.r.p.

FL is the lowest frequency of the power envelope; it is the frequency furthest below the frequency of maximum power where the output power drops below the level of -75 dBm/Hz spectral power density (e.g. -30 dBm if measured in a 30 kHz reference bandwidth) e.i.r.p.

The occupied bandwidths and OCW of the transmitter shall be declared. Where differing modes of emission are available, all modes and their associated bandwidths shall be stated.

Test Procedure

According to ETSI EN 300 440 V2.2.1 (2018-07) §4.2.3.3

Test Data

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

OFR:

Test Condition: NT/NV

Test Mode	Frequency(MHz)			
	F_L at Low Channel	F_H at High Channel	F_L Limit	F_H Limit
802.11a	5736.4515	5833.5485	5725	5875
802.11n20	5735.8509	5833.9890	5725	5875
802.11ac20	5736.0110	5834.1491	5725	5875
802.11ax20	5735.3704	5834.6296	5725	5875

Test Condition: LT/LV

Test Mode	Frequency(MHz)			
	F_L at Low Channel	F_H at High Channel	F_L Limit	F_H Limit
802.11a	5736.6025	5833.6695	5725	5875
802.11n20	5736.0629	5834.1510	5725	5875
802.11ac20	5736.1690	5834.3021	5725	5875
802.11ax20	5735.5454	5834.8236	5725	5875

Test Condition: LT/HV

Test Mode	Frequency(MHz)			
	F_L at Low Channel	F_H at High Channel	F_L Limit	F_H Limit
802.11a	5736.7625	5833.9395	5725	5875
802.11n20	5736.1989	5834.3140	5725	5875
802.11ac20	5736.3390	5834.4831	5725	5875
802.11ax20	5735.6944	5834.9476	5725	5875

Test Condition: HT/LV

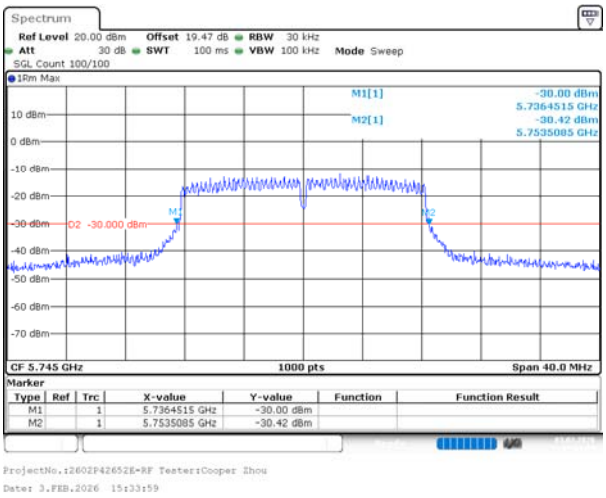
Test Mode	Frequency(MHz)			
	F_L at Low Channel	F_H at High Channel	F_L Limit	F_H Limit
802.11a	5736.2065	5833.1775	5725	5875
802.11n20	5735.5179	5833.6910	5725	5875
802.11ac20	5735.6960	5833.8551	5725	5875
802.11ax20	5735.0424	5834.3186	5725	5875

Test Condition: HT/HV

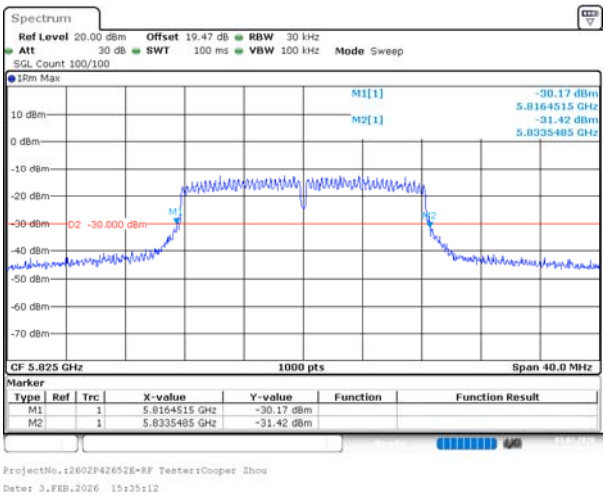
Test Mode	Frequency(MHz)			
	F_L at Low Channel	F_H at High Channel	F_L Limit	F_H Limit
802.11a	5736.3395	5833.3935	5725	5875
802.11n20	5735.6889	5833.8210	5725	5875
802.11ac20	5735.8160	5833.9741	5725	5875
802.11ax20	5735.1854	5834.4416	5725	5875

5725-5850MHz, Test Condition: Normal

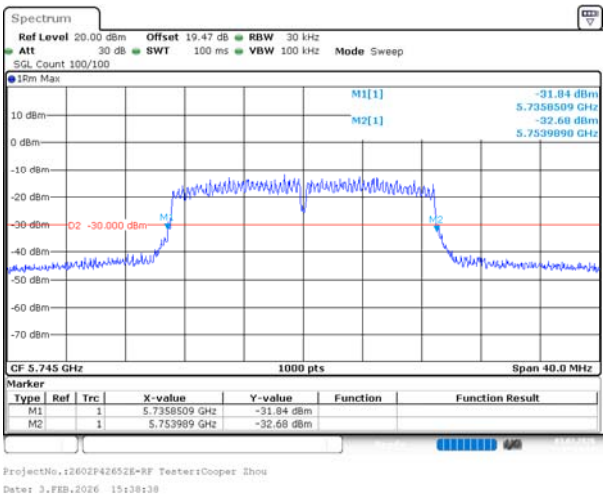
802.11a_5745MHz



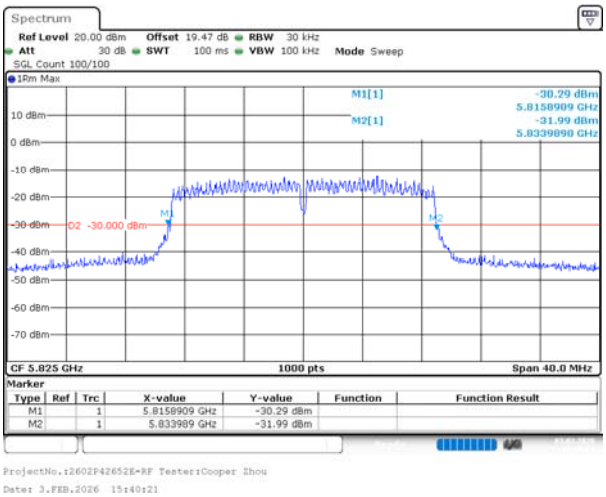
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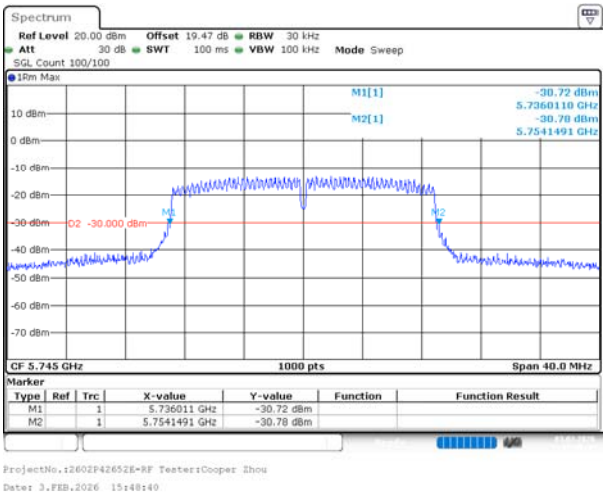
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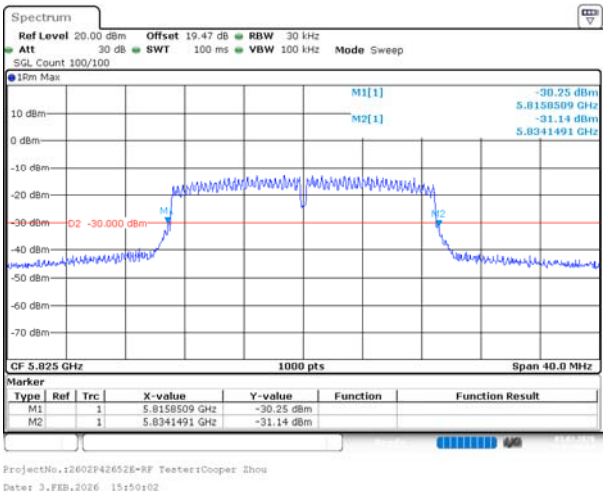
802.11n20_5825MHz



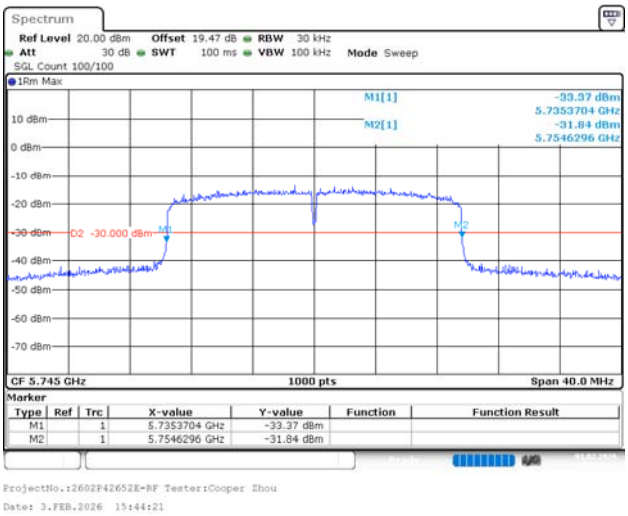
802.11ac20_5745MHz



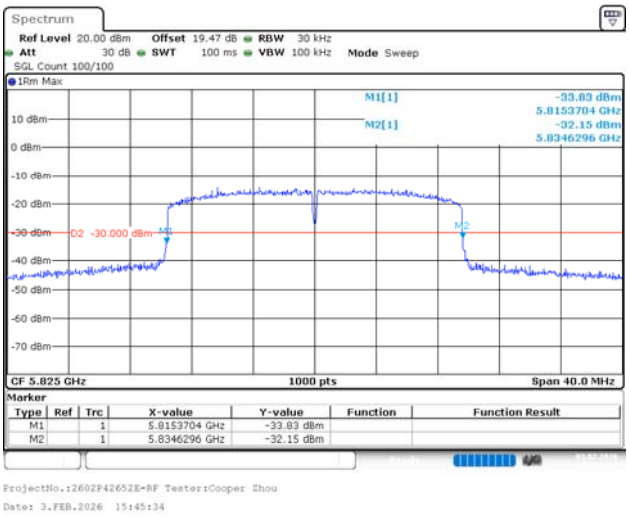
802.11ac20_5825MHz



802.11ax20_5745MHz_RU_Full



802.11ax20_5825MHz_RU_Full



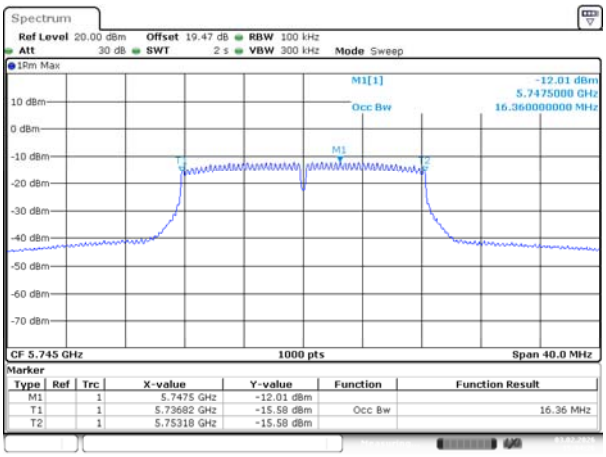
Note: The offset is equal to the attenuation of the Broadband Wireless Access Device Test Control box plus the cable loss.

Occupied Channel Bandwidth:

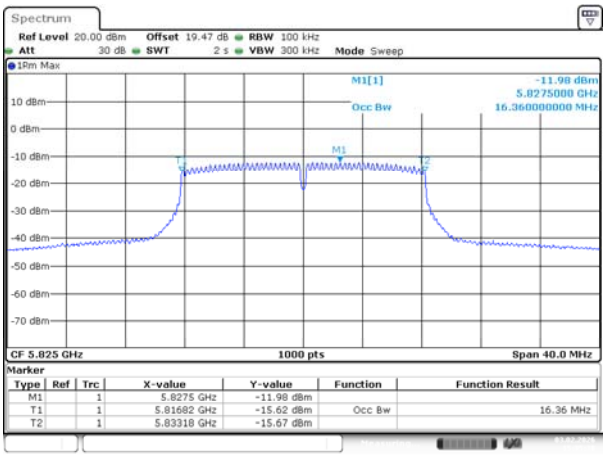
Test Mode	Antenna	Freq. (MHz)	OCB (MHz)	F_L (MHz)	F_H (MHz)	Limit (MHz)	Verdict
802.11a	Chain 0	5745	16.36	5736.82	5753.18	The whole OBW fall full within 5725~5875MHz range	Pass
		5825	16.36	5816.82	5833.18		Pass
802.11n20	Chain 0	5745	17.56	5736.22	5753.78		Pass
		5825	17.56	5816.22	5833.78		Pass
802.11ac20	Chain 0	5745	17.56	5736.22	5753.78		Pass
		5825	17.56	5816.22	5833.78		Pass
802.11ax20_RU_Full	Chain 0	5745	18.76	5735.62	5754.38		Pass
		5825	18.76	5815.62	5834.38		Pass

5725-5850MHz, Test Condition: Normal

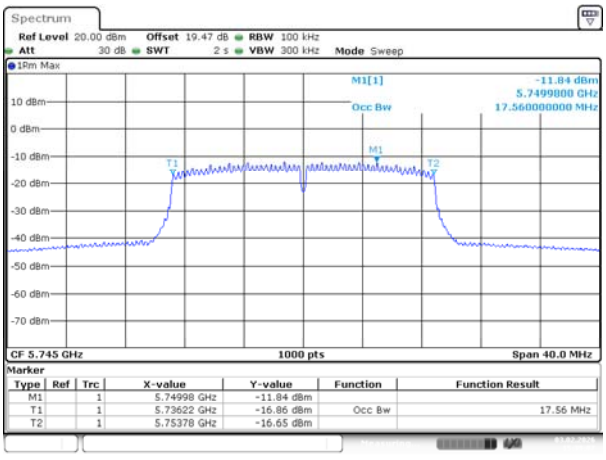
802.11a_5745MHz



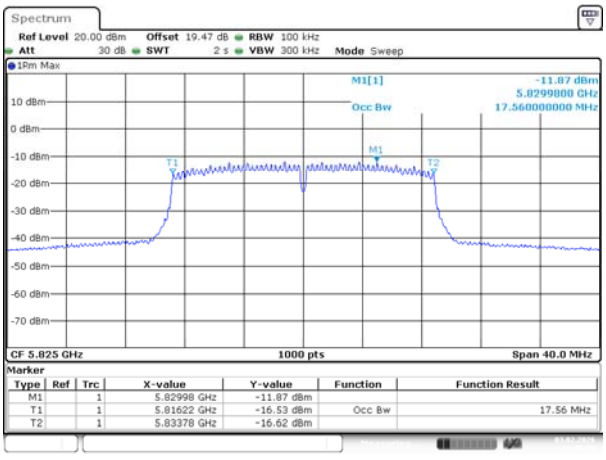
802.11a_5825MHz



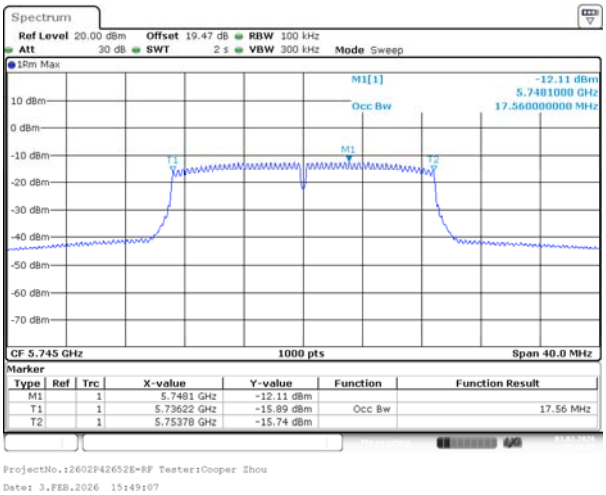
802.11n20_5745MHz



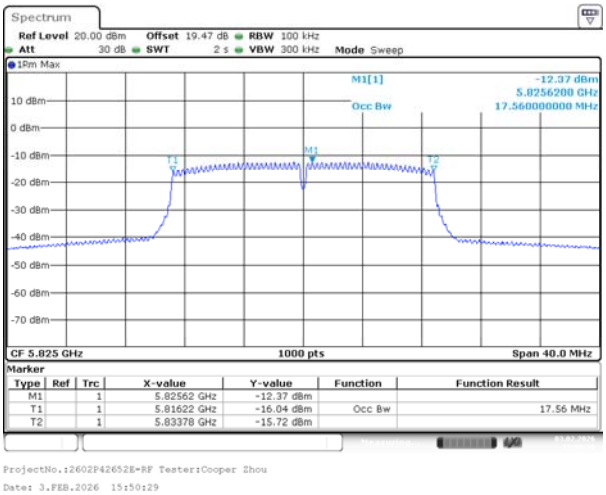
802.11n20_5825MHz



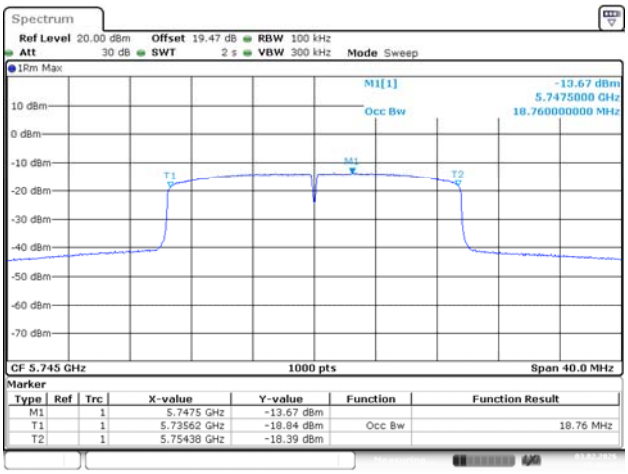
802.11ac20_5745MHz



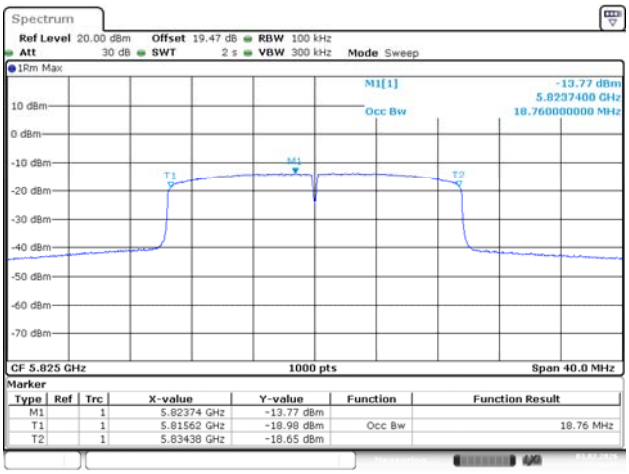
802.11ac20_5825MHz



802.11ax20_5745MHz_RU_Full



802.11ax20_5825MHz_RU_Full



Note: The offset is equal to the attenuation of the Broadband Wireless Access Device Test Control box plus the cable loss.

3 - UNWANTED EMISSION IN THE SPURIOUS EMISSIONS DOMAIN

Applicable Standard

Per EN 300 440 section 4.2.4, the maximum power limits of any unwanted emissions in the spurious domain are given in following table.

Frequency Ranges / State	47 to 74 MHz 87.5 to 108 MHz 174 to 230 MHz 470 to 862 MHz	Other frequencies ≤ 1000 MHz	Frequencies > 1000 MHz
Operating	4 nW	250 nW	1 µW
Standby	2 nW	2 nW	20 nW

EUT Setup

The radiated emission tests were performed in the 3-meter Chamber, using the setup accordance with ETSI EN 300 440. The specifications used were the ETSI EN 300 440 limits.

Test Procedure

According to ETSI EN 300 440 V2.2.1 (2018-07) §4.2.4.3

Test Data

Test Result: Compliant. *Pre-scan all test modes and the worst case as below:*

802.11 a_Low Channel

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)			
98.65	H	51.74	-61.13	0.00	0.27	-61.40	-54.00	7.40
102.61	V	50.69	-67.92	0.00	0.27	-68.19	-54.00	14.19
11490.00	H	48.02	-55.66	11.69	1.56	-45.53	-30.00	15.53
11490.00	V	48.01	-54.91	11.69	1.56	-44.78	-30.00	14.78
4667.80	H	55.29	-57.05	10.80	0.91	-47.16	-30.00	17.16
4667.80	V	50.74	-61.15	10.80	0.91	-51.26	-30.00	21.26

802.11 a_High Channel

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)			
99.64	H	50.84	-61.61	0.00	0.26	-61.87	-54.00	7.87
103.61	V	51.88	-66.61	0.00	0.27	-66.88	-54.00	12.88
11650.00	H	49.08	-54.63	11.55	1.58	-44.66	-30.00	14.66
11650.00	V	48.24	-54.82	11.55	1.58	-44.85	-30.00	14.85
4732.80	H	54.82	-57.29	10.72	0.91	-47.48	-30.00	17.48
4732.80	V	51.70	-60.03	10.72	0.91	-50.22	-30.00	20.22

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

7 -BLOCKING OR DESENSITIZATION

Applicable Standard

According to EN 300 440§4.3.4, blocking is a measure of the capability of the receiver to receive a wanted modulated signal without exceeding a given degradation due to the presence of an unwanted input signal at any frequencies other than those of the spurious responses or the occupied bandwidth.

Limits:

The blocking level, for any frequency within the specified ranges, shall not be less than the values given in table 6, except at frequencies on which spurious responses are found.

Table 6: Limits for blocking or desensitization

Receiver category	Limit
1	-30 dBm + k
2	-45 dBm + k
3	-60 dBm + k

The correction factor, k, is as follows:

$$k = -20\log f - 10\log BW$$

Where:

- f is the frequency in GHz;
- BW is the occupied bandwidth in MHz.

The factor k is limited within the following:

- -40 dB < k < 0 dB.

The measured blocking level shall be stated in the test report.

Test Procedure

According to ETSI EN 300 440 V2.2.1 (2018-07) §4.3.4.3

Test Data

Test Result: Compliant. *EUT operation mode: Receiving (802.11a was the worst). Please refer to following table:*

Frequency (MHz)	BW (MHz)	Blocking Signal Frequency (MHz)		Blocking Signal (dBm)		Limit (dBm)
5745	16.36	5573.22	5916.78	-67	-68	-72.32
		5409.62	6080.38	-64	-66	-72.32
		4918.82	6571.18	-62	-67	-72.32
5825	16.36	5653.22	5996.78	-67	-64	-72.44
		5489.62	6160.38	-62	-62	-72.44
		4998.82	6651.18	-60	-61	-72.44

Note: CMW500 was used to monitor PER

8 - SPURIOUS EMISSION

Applicable Standard

According to EN 300 440§4.3.5, the power of any spurious emission shall not exceed 2 nW in the range 25 MHz to 1 GHz and shall not exceed 20 nW on frequencies above 1 GHz.

EUT Setup

The radiated emission tests were performed in the 3-meter Chamber, using the setup accordance with ETSI EN 300 440. The specifications used were the ETSI EN 300 440 limits.

Test Procedure

According to ETSI EN 300 440 V2.2.1 (2018-07) §4.3.5.3

Test Data

Test Result: Compliant. *Pre-scan all test modes and the worst case as below:*

802.11 a_Low Channel

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)			
89.65	H	43.61	-73.11	0.00	0.36	-73.47	-57	16.47
101.45	V	40.71	-78.04	0.00	0.26	-78.30	-57	21.30
1323.20	H	49.27	-64.76	8.17	0.37	-56.96	-47.00	9.96
1428.50	V	49.34	-66.50	8.79	0.38	-58.09	-47.00	11.09

802.11 a_High Channel

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)			
97.85	H	39.68	-73.53	0.00	0.28	-73.81	-57	16.81
101.52	V	41.77	-76.98	0.00	0.26	-77.24	-57	20.24
1426.30	H	49.43	-66.63	8.77	0.38	-58.24	-47.00	11.24
1544.80	V	49.50	-67.32	9.27	0.41	-58.46	-47.00	11.46

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

EXHIBIT A - EUT PHOTOGRAPHS

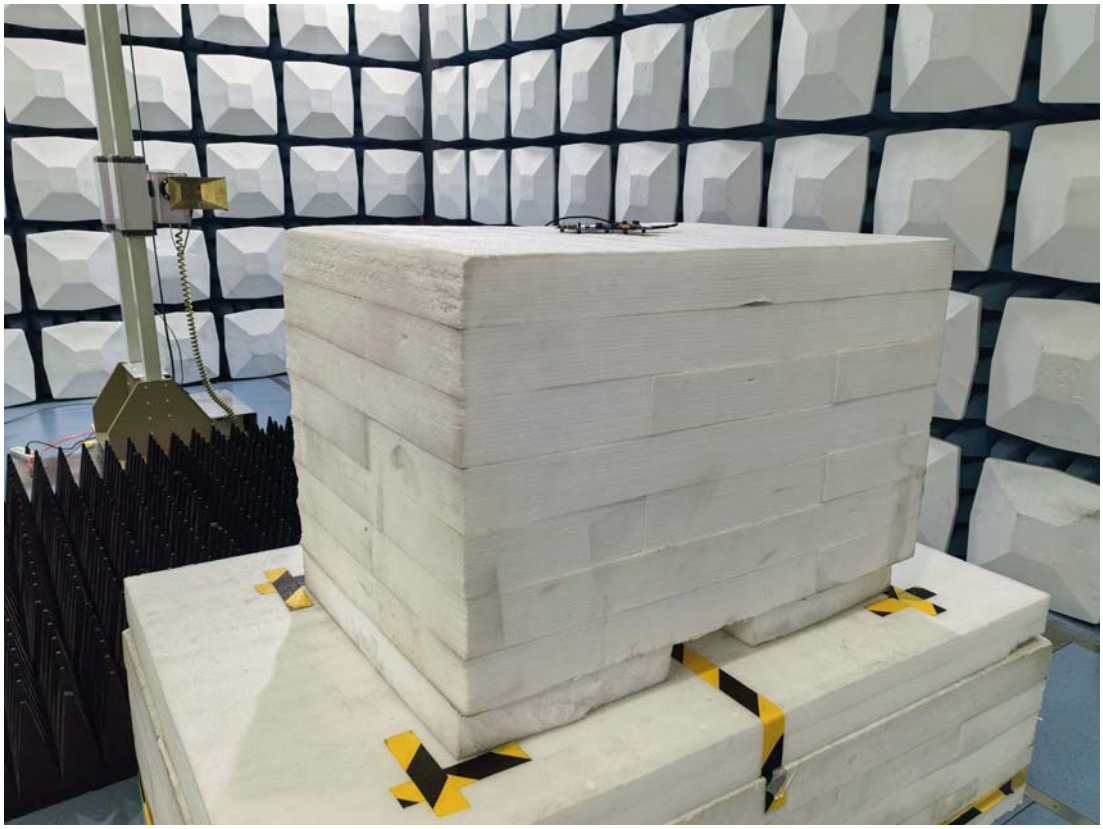
For photos in this section, please refer to report No.: 2602P42652E-22A EXHIBIT A.

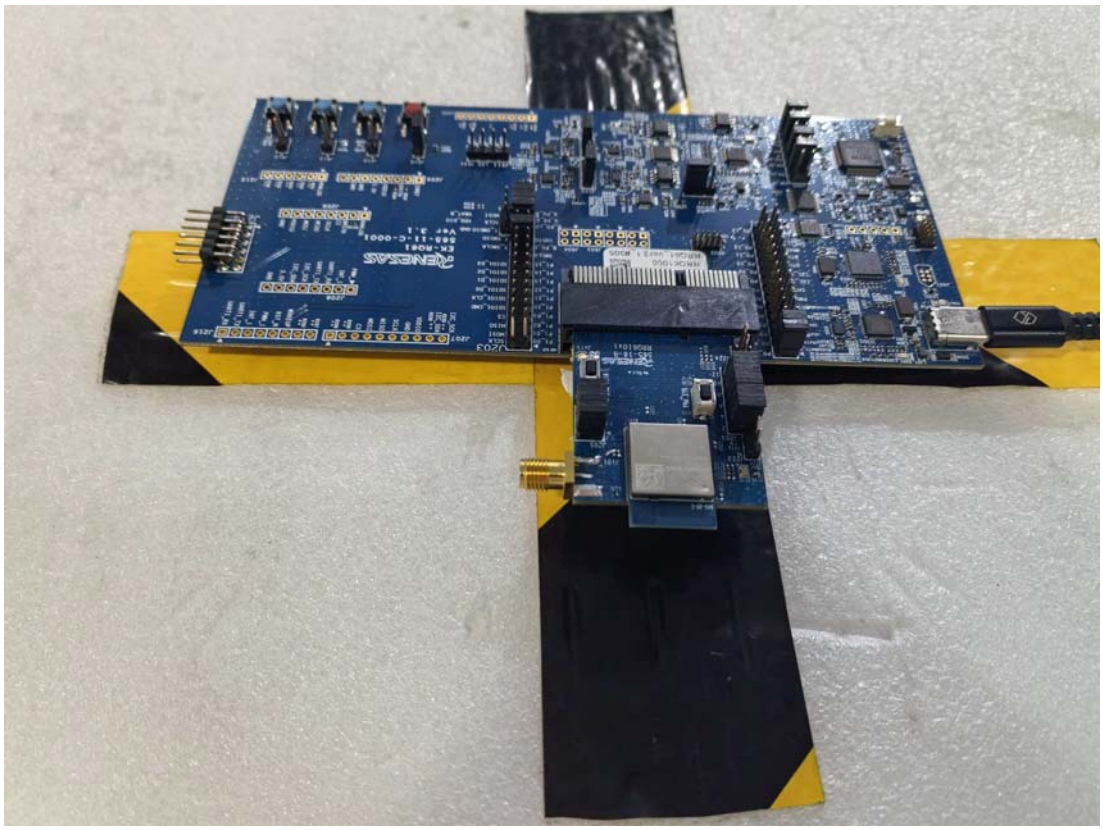
EXHIBIT B - TEST SETUP PHOTOGRAPHS

Radiated Emissions Below 1GHz View



Radiated Emissions Above 1GHz View





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