



RF MEASUREMENT REPORT

FCC PART 15.247 WLAN 802.11b/g/n

FCC ID: TK4WLE1216V220

Applicant: Compex Systems Pte Ltd

Product: 4x4 Wave-2 802.11BGN Mini PCIe WiFi Module

Model No.: WLE1216V2-20, WLE1216V2-20-I

Brand Name: COMPEX

FCC Classification: Digital Transmission System (DTS)

FCC Rule Part(s): Part 15 Subpart C (Section 15.247)

Test Date: February 12, 2022

Reviewed By:

Jame Yuan

Approved By:

Robin Wu



The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.10-2013. Test results reported herein relate only to the item(s) tested.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou) Co., Ltd.

Revision History

Report No.	Version	Description	Issue Date	Note
2201RSU059-U1	Rev. 01	Initial Report	03-25-2022	Valid

Note: This report is based on MRT original report (Report No. : 1801RSU037-U1) to change the chip (from QCA9984 to QCA9994) and only radiated emission was verified in this report as per manufacturer's requirement.

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1. General Information

1.1.Applicant

Complex Systems Pte Ltd

No:9 Harrison Road, Harrison Industrial Building, #05-01, Singapore 369651

1.2.Manufacturer

Complex Systems Pte Ltd

No:9 Harrison Road, Harrison Industrial Building, #05-01, Singapore 369651

1.3. Testing Facility

☒	Test Site – MRT Suzhou Laboratory				
	Laboratory Location (Suzhou - Wuzhong)				
	D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China				
	Laboratory Location (Suzhou - SIP)				
	4b Building, Liando U Valley, No.200 Xingpu Rd., Shengpu Town, Suzhou Industrial Park, China				
	Laboratory Accreditations				
A2LA: 3628.01		CNAS: L10551			
FCC: CN1166		ISED: CN0001			
VCCI:	☐ R-20025	☐ G-20034	☐ C-20020	☐ T-20020	
	☐ R-20141	☐ G-20134	☐ C-20103	☐ T-20104	
☐	Test Site – MRT Shenzhen Laboratory				
	Laboratory Location (Shenzhen)				
	1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China				
	Laboratory Accreditations				
	A2LA: 3628.02		CNAS: L10551		
	FCC: CN1284		ISED: CN0105		
☐	Test Site – MRT Taiwan Laboratory				
	Laboratory Location (Taiwan)				
	No. 38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)				
	Laboratory Accreditations				
	TAF: L3261-190725		FCC: 291082, TW3261		
ISED: TW3261					

1.4.Product Information

Product Name	4x4 Wave-2 802.11BGN Mini PCIe WiFi Module
Model No.	WLE1216V2-20
Brand Name	COMPEX
Serial No.	30737434
Wi-Fi Specification	802.11b/g/n
Antenna information	Refer to section 1.6
Antenna Delivery	4*TX + 4*RX
Remark: The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer.	

1.5.Radio Specification

Frequency Range	802.11b/g/n-HT20: 2412 ~ 2462MHz 802.11n-HT40: 2422 ~ 2452 MHz
Channel Number	802.11b/g/n-HT20: 11 802.11n-HT40: 7
Type of Modulation	802.11b: DSSS 802.11g/n: OFDM
Data Rate	802.11b: 1/2/5.5/11Mbps 802.11g: 6/9/12/18/24/36/48/54Mbps 802.11n: up to 600Mbps
Antenna Type	Dipole Antenna & Panel Antenna

Note: For other features of this EUT, test report will be issued separately.

1.6. Description of Available Antennas

Antenna Type	Frequency Band (GHz)	TX Paths	Max Peak Gain (dBi)
Dipole Antenna	2.4	4	5
Panel Antenna	2.4	4	11

Note: The device didn't support beam-forming technology and Cyclic Delay Diversity (CDD) technology, and the transmit signals are uncorrected, so no add array gain to the band power and band PSD

1.7.Working Frequencies

802.11b/g/n-HT20

Channel	Frequency	Channel	Frequency	Channel	Frequency
01	2412 MHz	02	2417 MHz	03	2422 MHz
04	2427 MHz	05	2432 MHz	06	2437 MHz
07	2442 MHz	08	2447 MHz	09	2452 MHz
10	2457 MHz	11	2462 MHz	--	--

802.11n-HT40

Channel	Frequency	Channel	Frequency	Channel	Frequency
03	2422 MHz	04	2427 MHz	05	2432 MHz
06	2437 MHz	07	2442 MHz	08	2447 MHz
09	2452 MHz	--	--	--	--

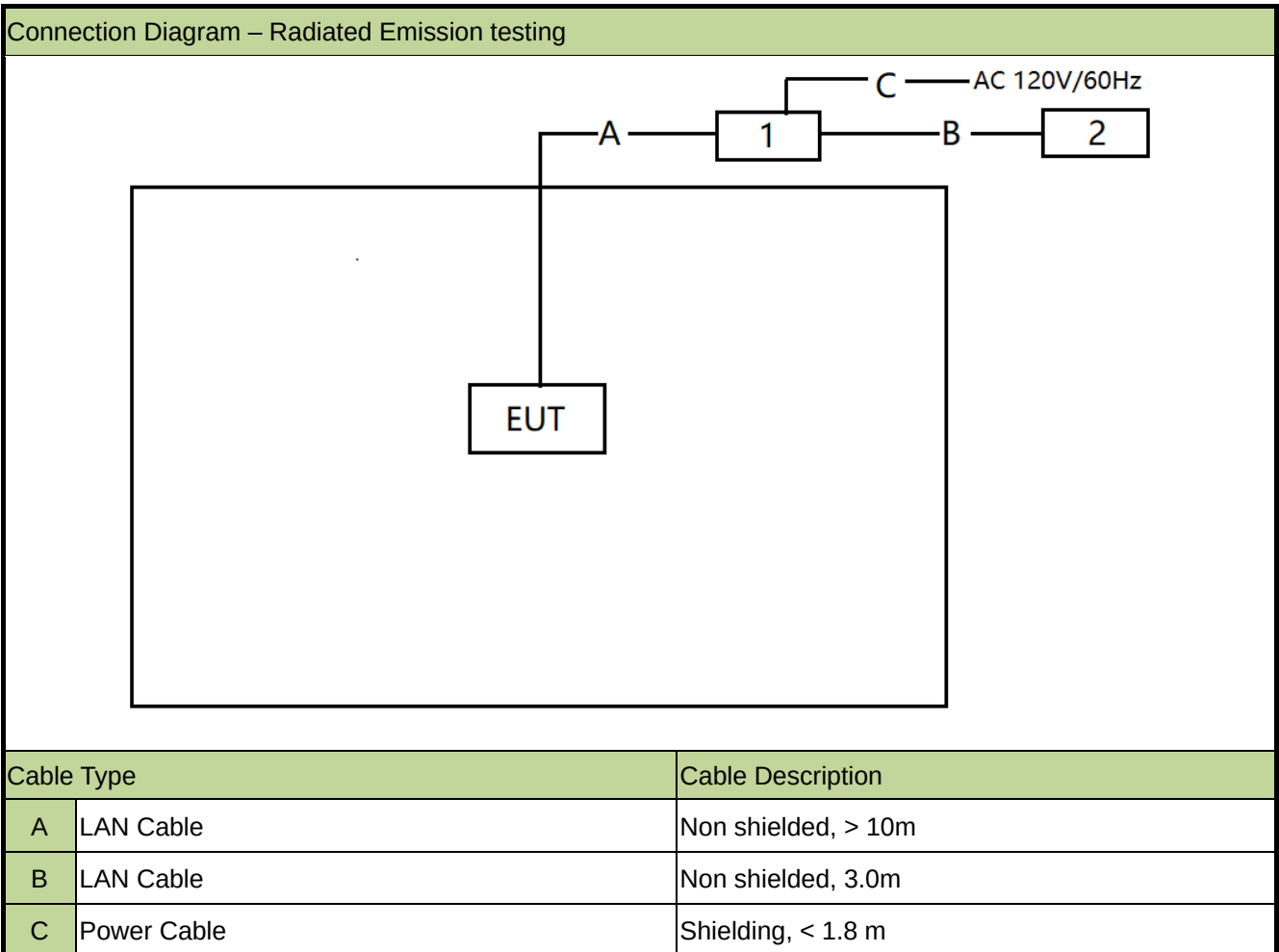
2. Test Configuration

2.1. Test Mode

Mode 1: Transmit by 802.11b (1Mbps)
Mode 2: Transmit by 802.11g (6Mbps)
Mode 3: Transmit by 802.11n-HT20 (MCS0)
Mode 4: Transmit by 802.11n-HT40 (MCS0)

2.2. Test System Connection Diagram

The device was tested per the guidance ANSI C63.10: 2013 was used to reference the appropriate EUT setup for radiated emissions testing.



2.3. Test System Details

Product	Manufacturer	Model No.
1	POE	N/A
2	Notebook	Lenovo

2.4. Test Software

The test utility software used during testing was “QRCT”, and the version was 4.0.00182.0.

Final Power Parameter Value

Test Mode	Test Channel (MHz)	Power Parameter Value				
		SISO Mode				MIMO Mode
		Ant 0	Ant 1	Ant 2	Ant 3	Ant 0+1+2+3
For Dipole Antenna						
802.11b	2412	20.0	18.5	20.0	20.0	Not Support
	2437	20.0	20.0	20.0	20.0	
	2462	20.0	20.0	20.0	20.0	
802.11g	2412	17.5	19.0	19.0	18.5	
	2437	20.0	20.0	20.0	20.0	
	2462	18.5	19.0	19.0	19.0	
802.11n-HT20	2412	Not Support				14.0
	2437					20.0
	2462					14.5
802.11n-HT40	2422					13.5
	2437					14.0
	2452					13.0
For Panel Antenna						
802.11b	2412	17.0	18.0	17.0	17.5	Not Support
	2437	20.0	20.0	20.0	20.0	
	2462	17.0	20.0	20.0	20.0	
802.11g	2412	12.5	12.0	11.0	11.0	
	2437	20.0	20.0	20.0	20.0	
	2462	15.0	17.0	15.0	16.5	
802.11n-HT20	2412	Not Support				7.0
	2437					17.0
	2462					11.0
802.11n-HT40	2422					5.5
	2437					10.0
	2452					11.0

2.5. Applied Standards

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

- FCC Part 15.247
- KDB 558074 D01v05r02
- ANSI C63.10-2013

2.6. Test Environment Condition

Ambient Temperature	15 ~ 35°C
Relative Humidity	20 ~ 75%RH

3. Antenna Requirements

Excerpt from §15.203 of the FCC Rules/Regulations:

“An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.”

- The antenna of the device uses the **unique I-PEX** connector.

Conclusion:

The unit complies with the requirement of §15.203.

4. Measuring Instrument

Instrument	Manufacturer	Model No.	Asset No.	Cali. Interval	Cali. Due Date	Test Site
Anechoic Chamber	RIKEN	SIP-AC1	MRTSUE06554	1 year	2022/12/23	SIP-AC1
Preamplifier	EMCI	EMC051845SE	MRTSUE06600	1 year	2022/11/8	SIP-AC1
Horn Antenna	R&S	HF907	MRTSUE06610	1 year	2022/8/5	SIP-AC1
Thermohygrometer	testo	608-H1	MRTSUE06616	1 year	2022/11/2	SIP-AC1
Thermohygrometer	testo	608-H1	MRTSUE06620	1 year	2022/11/28	SIP-AC1
TRILOG Antenna	Schwarzbeck	VULB 9168	MRTSUE06645	1 year	2022/8/26	SIP-AC1
EMI Test Receiver	R&S	ESR3	MRTSUE06185	1 year	2022/12/29	SIP-AC1/SIP-AC2
EMI Test Receiver	R&S	ESR3	MRTSUE06613	1 year	2022/6/24	SIP-AC1/SIP-AC2
Preamplifier	EMCI	EMC001330	MRTSUE06643	1 year	2023/1/13	SIP-AC1/SIP-AC2
Loop Antenna	Schwarzbeck	FMZB 1519 B	MRTSUE06937	1 year	2022/3/9	SIP-AC1/SIP-AC2
Signal Analyzer	Keysight	N9010B	MRTSUE07028	1 year	2022/12/9	SIP-AC1/SIP-AC2
Signal Analyzer	Keysight	N9010B	MRTSUE06559	1 year	2022/6/24	SIP-AC1/SIP-AC2
Signal Analyzer	Keysight	N9010B	MRTSUE06603	1 year	2022/10/31	SIP-AC1/SIP-AC2
Signal Analyzer	Keysight	N9020B	MRTSUE06604	1 year	2022/9/7	SIP-AC1/SIP-AC2
Horn Antenna	Schwarzbeck	BBHA 9170	MRTSUE06599	1 year	2022/10/20	SIP-AC2
Preamplifier	EMCI	EMC184045SE	MRTSUE06602	1 year	2022/10/11	SIP-AC2
Thermohygrometer	testo	608-H1	MRTSUE06623	1 year	2022/11/28	SIP-AC2
Thermohygrometer	testo	608-H1	MRTSUE06624	1 year	2022/11/28	SIP-AC2
Preamplifier	EMCI	EMC051845SE	MRTSUE06644	1 year	2022/11/8	SIP-AC2
TRILOG Antenna	Schwarzbeck	VULB 9168	MRTSUE06647	1 year	2022/8/5	SIP-AC2
Anechoic Chamber	RIKEN	SIP-AC2	MRTSUE06781	1 year	2022/12/23	SIP-AC2
Horn Antenna	Schwarzbeck	BBHA 9120D	MRTSUE06648	1 year	2022/11/9	SIP-AC2

Software	Version	Function
EMI Software	V3	EMI Test Software

5. Measurement Uncertainty

Where relevant, the following test uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

AC Conducted Emission Measurement
Measurement Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 9kHz~150kHz: 3.74dB 150kHz~30MHz: 3.44dB
Radiated Disturbance
Measurement Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): Horizontal: 30MHz~300MHz: 5.04dB 300MHz~1GHz: 4.95dB 1GHz~40GHz: 6.40dB Vertical: 30MHz~300MHz: 5.24dB 300MHz~1GHz: 6.03dB 1GHz~40GHz: 6.40dB
Spurious Emissions, Conducted
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 0.78dB

6. Test Result

6.1. Summary

FCC Section(s)	Test Description	Test Condition	Verdict
15.205, 15.209	General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	Radiated	Pass

Remark:

1. For radiated emission tests, every axis (X, Y, Z) was also verified. The test results shown in the following sections represent the worst-case emissions.

6.2. Radiated Spurious Emission Measurement

6.2.1. Test Limit

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [uV/m]	Measured Distance [Meters]
0.009 - 0.490	2400/F (kHz)	300
0.490 - 1.705	24000/F (kHz)	30
1.705 - 30	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

6.2.2. Test Procedure

ANSI C63.10 - 2013 - Section 11.11 & 11.12

ANSI C63.10 - 2013 - Section 6.3 (General Requirements)

ANSI C63.10 - 2013 - Section 6.4 (Standard test method below 30MHz)

ANSI C63.10 - 2013 - Section 6.5 (Standard test method above 30MHz to 1GHz)

ANSI C63.10 - 2013 - Section 6.6 (Standard test method above 1GHz)

6.2.3. Test Setting

Table 1 - RBW as a function of frequency

Frequency	RBW
9 ~ 150 kHz	200 ~ 300 Hz
0.15 ~ 30 MHz	9 ~ 10 kHz
30 ~ 1000 MHz	100 ~ 120 kHz
> 1000MHz	1MHz

Quasi-Peak Measurements below 1GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Span was set greater than 1MHz
3. RBW = as specified in Table 1
4. Detector = CISPR quasi-peak
5. Sweep time = auto couple
6. Trace was allowed to stabilize

Peak Measurements above 1GHz

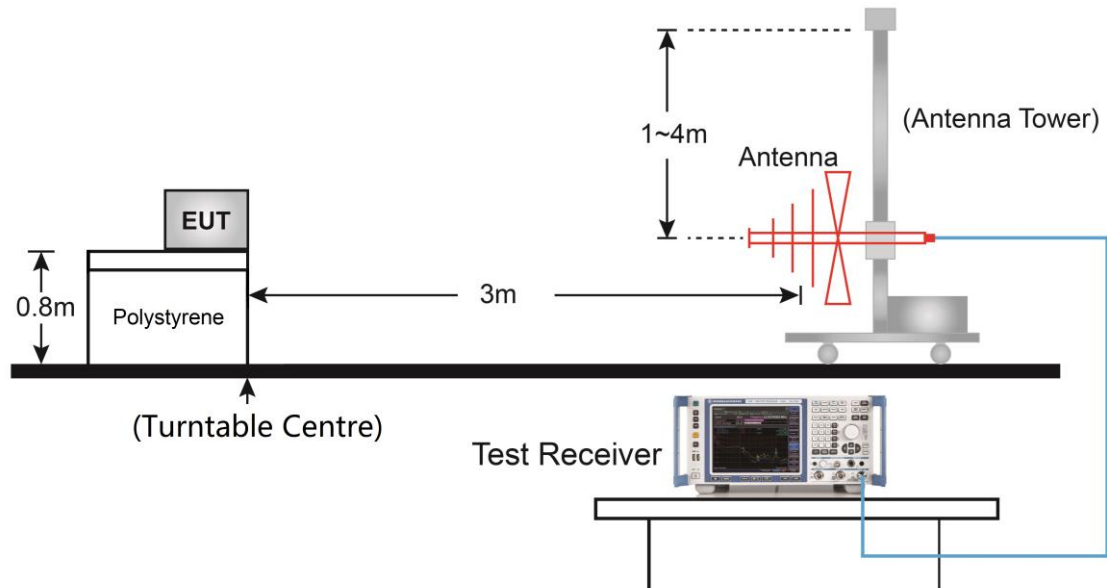
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

Average Measurements above 1GHz (Method VB)

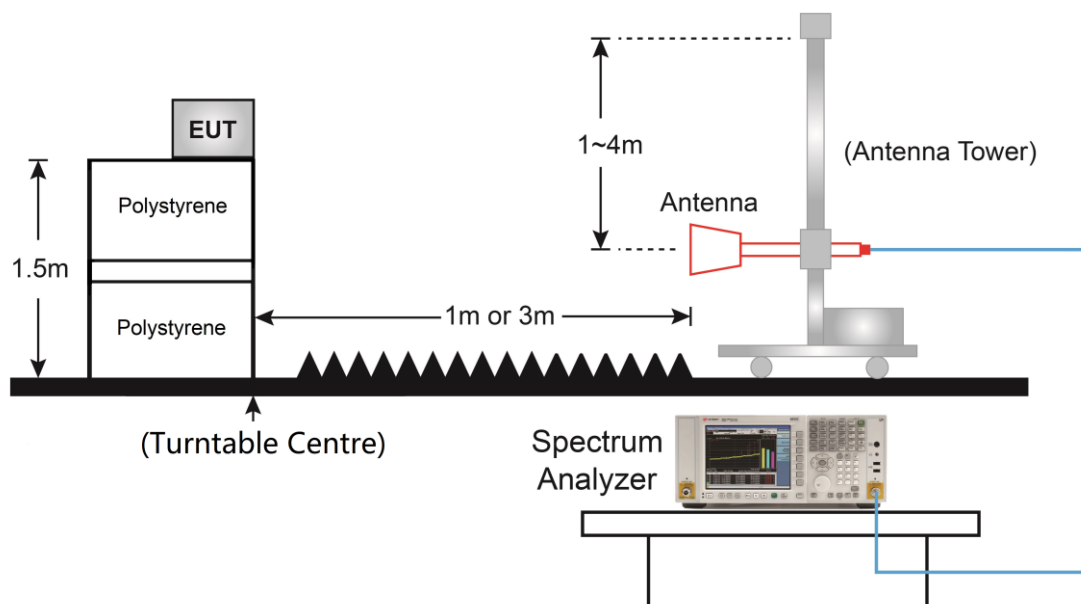
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW; If the EUT is configured to transmit with duty cycle $\geq 98\%$, set VBW = 10 Hz.
If the EUT duty cycle is $< 98\%$, set VBW $\geq 1/T$. T is the minimum transmission duration.
4. Detector = Peak
5. Sweep time = auto
6. Trace mode = max hold
7. Trace was allowed to stabilize

6.2.4. Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



6.2.5. Test Result

Test Site	SIP-AC1	Test Engineer	Kyrie Xie
Test Date	2022/02/12	Test Mode:	802.11b – Ant 0
Antenna Type	Dipole Antenna		
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 30dB below limit line within 1-18GHz, there is not show in the report.		

Test Channel	Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
01	7723.5	48.7	-5.7	43.0	74.0	-31.0	Peak	Horizontal
	8420.5	48.3	-4.8	43.5	74.0	-30.5	Peak	Horizontal
	11523.0	46.8	-2.9	43.9	74.0	-30.1	Peak	Horizontal
	7706.5	48.5	-5.5	42.9	74.0	-31.1	Peak	Vertical
	8310.0	47.7	-4.9	42.9	74.0	-31.1	Peak	Vertical
	11846.0	47.4	-2.5	44.9	74.0	-29.1	Peak	Vertical
06	7579.0	48.0	-5.4	42.7	74.0	-31.3	Peak	Horizontal
	8233.5	48.3	-4.9	43.4	74.0	-30.6	Peak	Horizontal
	11174.5	48.5	-3.5	45.0	74.0	-29.0	Peak	Horizontal
	7349.5	49.1	-6.3	42.8	74.0	-31.2	Peak	Vertical
	8242.0	47.5	-4.9	42.6	74.0	-31.4	Peak	Vertical
	12458.0	46.7	-2.2	44.5	74.0	-29.5	Peak	Vertical
11	7706.5	47.9	-5.5	42.4	74.0	-31.6	Peak	Horizontal
	8412.0	48.0	-4.9	43.1	74.0	-30.9	Peak	Horizontal
	11370.0	47.4	-2.6	44.8	74.0	-29.2	Peak	Horizontal
	4927.0	51.4	-9.3	42.1	74.0	-31.9	Peak	Vertical
	8293.0	47.5	-4.8	42.7	74.0	-31.3	Peak	Vertical
	11659.0	47.1	-2.6	44.5	74.0	-29.5	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Test Site	SIP-AC1	Test Engineer	Kyrie Xie
Test Date	2022/02/12	Test Mode:	802.11g – Ant 0
Antenna Type	Dipole Antenna		
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 30dB below limit line within 1-18GHz, there is not show in the report.		

Test Channel	Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
01	7562.0	47.7	-5.9	41.8	74.0	-32.2	Peak	Horizontal
	8284.5	48.3	-5.0	43.3	74.0	-30.7	Peak	Horizontal
	11472.0	46.9	-2.8	44.1	74.0	-29.9	Peak	Horizontal
	7562.0	48.0	-5.9	42.1	74.0	-31.9	Peak	Vertical
	8174.0	48.1	-5.2	43.0	74.0	-31.0	Peak	Vertical
	11659.0	47.2	-2.6	44.6	74.0	-29.4	Peak	Vertical
06	7638.5	48.0	-5.9	42.0	74.0	-32.0	Peak	Horizontal
	8242.0	47.9	-4.9	43.0	74.0	-31.0	Peak	Horizontal
	11693.0	47.6	-2.6	45.0	74.0	-29.0	Peak	Horizontal
	7579.0	47.8	-5.4	42.5	74.0	-31.5	Peak	Vertical
	8208.0	47.5	-4.7	42.8	74.0	-31.2	Peak	Vertical
	11803.5	47.2	-2.9	44.3	74.0	-29.7	Peak	Vertical
11	7409.0	48.7	-6.2	42.5	74.0	-31.5	Peak	Horizontal
	8327.0	48.9	-5.0	43.9	74.0	-30.1	Peak	Horizontal
	11897.0	48.2	-2.5	45.8	74.0	-28.2	Peak	Horizontal
	7570.5	47.7	-5.7	42.1	74.0	-31.9	Peak	Vertical
	8335.5	48.8	-5.1	43.8	74.0	-30.2	Peak	Vertical
	11361.5	47.3	-2.6	44.7	74.0	-29.3	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Test Site	SIP-AC1	Test Engineer	Kyrie Xie
Test Date	2022/02/12	Test Mode:	802.11b – Ant 1
Antenna Type	Dipole Antenna		
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 30dB below limit line within 1-18GHz, there is not show in the report.		

Test Channel	Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
01	7732.0	49.7	-5.8	43.9	74.0	-30.1	Peak	Horizontal
	8378.0	50.0	-5.1	44.9	74.0	-29.1	Peak	Horizontal
	11863.0	49.4	-2.8	46.6	74.0	-27.5	Peak	Horizontal
	7579.0	48.2	-5.4	42.8	74.0	-31.2	Peak	Vertical
	8361.0	48.1	-5.1	43.0	74.0	-31.0	Peak	Vertical
	12483.5	47.4	-2.2	45.3	74.0	-28.7	Peak	Vertical
06	7689.5	48.5	-5.6	43.0	74.0	-31.0	Peak	Horizontal
	8327.0	48.0	-5.0	43.0	74.0	-31.0	Peak	Horizontal
	11667.5	46.8	-3.0	43.9	74.0	-30.1	Peak	Horizontal
	7579.0	48.0	-5.4	42.7	74.0	-31.3	Peak	Vertical
	8199.5	48.9	-4.9	44.0	74.0	-30.0	Peak	Vertical
	11098.0	48.4	-3.4	45.0	74.0	-29.1	Peak	Vertical
11	7664.0	48.4	-6.2	42.2	74.0	-31.8	Peak	Horizontal
	8335.5	48.5	-5.1	43.4	74.0	-30.6	Peak	Horizontal
	11897.0	46.8	-2.5	44.3	74.0	-29.7	Peak	Horizontal
	7715.0	48.3	-5.7	42.6	74.0	-31.4	Peak	Vertical
	8403.5	48.7	-5.1	43.7	74.0	-30.3	Peak	Vertical
	11659.0	47.3	-2.6	44.8	74.0	-29.2	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Test Site	SIP-AC1	Test Engineer	Kyrie Xie
Test Date	2022/02/12	Test Mode:	802.11g – Ant 1
Antenna Type	Dipole Antenna		
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 30dB below limit line within 1-18GHz, there is not show in the report.		

Test Channel	Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
01	7468.5	48.3	-5.9	42.4	74.0	-31.6	Peak	Horizontal
	8284.5	47.8	-5.0	42.8	74.0	-31.2	Peak	Horizontal
	11659.0	46.6	-2.6	44.0	74.0	-30.0	Peak	Horizontal
	7732.0	48.7	-5.8	43.0	74.0	-31.0	Peak	Vertical
	8429.0	48.1	-4.8	43.3	74.0	-30.7	Peak	Vertical
	12101.0	46.7	-2.4	44.4	74.0	-29.6	Peak	Vertical
06	7460.0	47.8	-5.9	41.9	74.0	-32.1	Peak	Horizontal
	8318.5	48.5	-4.9	43.5	74.0	-30.5	Peak	Horizontal
	11370.0	46.6	-2.6	44.0	74.0	-30.0	Peak	Horizontal
	7579.0	48.7	-5.4	43.4	74.0	-30.6	Peak	Vertical
	8318.5	47.5	-4.9	42.6	74.0	-31.4	Peak	Vertical
	11013.0	49.3	-3.5	45.8	74.0	-28.2	Peak	Vertical
11	7723.5	48.9	-5.7	43.2	74.0	-30.8	Peak	Horizontal
	8480.0	48.4	-5.0	43.4	74.0	-30.6	Peak	Horizontal
	11463.5	47.2	-3.1	44.1	74.0	-29.9	Peak	Horizontal
	7664.0	49.1	-6.2	42.9	74.0	-31.1	Peak	Vertical
	8335.5	47.7	-5.1	42.7	74.0	-31.3	Peak	Vertical
	11038.5	48.0	-3.7	44.3	74.0	-29.7	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Test Site	SIP-AC1	Test Engineer	Kyrie Xie
Test Date	2022/02/12	Test Mode:	802.11b – Ant 2
Antenna Type	Dipole Antenna		
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 30dB below limit line within 1-18GHz, there is not show in the report.		

Test Channel	Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
01	7519.5	48.4	-6.3	42.1	74.0	-31.9	Peak	Horizontal
	8437.5	48.0	-5.0	43.0	74.0	-31.0	Peak	Horizontal
	11905.5	47.3	-2.5	44.7	74.0	-29.3	Peak	Horizontal
	7698.0	47.8	-5.4	42.5	74.0	-31.5	Peak	Vertical
	8344.0	47.7	-5.1	42.5	74.0	-31.5	Peak	Vertical
	11854.5	47.1	-2.7	44.5	74.0	-29.5	Peak	Vertical
06	7638.5	48.3	-5.9	42.3	74.0	-31.7	Peak	Horizontal
	8208.0	47.7	-4.7	43.0	74.0	-31.0	Peak	Horizontal
	11174.5	47.9	-3.5	44.4	74.0	-29.6	Peak	Horizontal
	7494.0	48.8	-5.9	43.0	74.0	-31.0	Peak	Vertical
	8361.0	48.3	-5.1	43.2	74.0	-30.8	Peak	Vertical
	10741.0	48.1	-3.4	44.7	74.0	-29.3	Peak	Vertical
11	7604.5	48.2	-5.8	42.4	74.0	-31.6	Peak	Horizontal
	8429.0	47.8	-4.8	43.0	74.0	-31.0	Peak	Horizontal
	11778.0	47.2	-3.0	44.2	74.0	-29.8	Peak	Horizontal
	7426.0	48.6	-6.5	42.1	74.0	-31.9	Peak	Vertical
	8106.0	48.1	-4.6	43.5	74.0	-30.5	Peak	Vertical
	11616.5	47.5	-3.2	44.3	74.0	-29.7	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Test Site	SIP-AC1	Test Engineer	Kyrie Xie
Test Date	2022/02/12	Test Mode:	802.11g – Ant 2
Antenna Type	Dipole Antenna		
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 30dB below limit line within 1-18GHz, there is not show in the report.		

Test Channel	Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
01	7511.0	48.6	-5.9	42.7	74.0	-31.3	Peak	Horizontal
	8310.0	47.9	-4.9	43.0	74.0	-31.0	Peak	Horizontal
	11948.0	46.9	-2.2	44.7	74.0	-29.3	Peak	Horizontal
	7409.0	48.0	-6.2	41.8	74.0	-32.2	Peak	Vertical
	8216.5	47.8	-4.8	43.0	74.0	-31.0	Peak	Vertical
	11327.5	49.1	-3.5	45.6	74.0	-28.4	Peak	Vertical
06	7587.5	47.8	-5.5	42.3	74.0	-31.7	Peak	Horizontal
	8267.5	48.3	-5.2	43.1	74.0	-30.9	Peak	Horizontal
	10919.5	48.1	-3.8	44.3	74.0	-29.7	Peak	Horizontal
	7655.5	48.2	-6.1	42.0	74.0	-32.0	Peak	Vertical
	8437.5	48.1	-5.0	43.0	74.0	-31.0	Peak	Vertical
	10911.0	48.4	-3.8	44.6	74.0	-29.4	Peak	Vertical
11	7706.5	48.2	-5.5	42.6	74.0	-31.4	Peak	Horizontal
	8301.5	48.3	-4.9	43.5	74.0	-30.5	Peak	Horizontal
	10834.5	47.5	-3.6	43.9	74.0	-30.1	Peak	Horizontal
	7451.5	49.0	-6.1	42.9	74.0	-31.1	Peak	Vertical
	8361.0	47.4	-5.1	42.3	74.0	-31.7	Peak	Vertical
	11735.5	47.8	-2.6	45.2	74.0	-28.8	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Test Site	SIP-AC1	Test Engineer	Kyrie Xie
Test Date	2022/02/12	Test Mode:	802.11b – Ant 3
Antenna Type	Dipole Antenna		
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 30dB below limit line within 1-18GHz, there is not show in the report.		

Test Channel	Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
01	7647.0	49.7	-6.0	43.6	74.0	-30.4	Peak	Horizontal
	8310.0	47.9	-4.9	43.0	74.0	-31.0	Peak	Horizontal
	11684.5	47.2	-3.0	44.2	74.0	-29.8	Peak	Horizontal
	7579.0	48.1	-5.4	42.8	74.0	-31.2	Peak	Vertical
	8344.0	48.2	-5.1	43.0	74.0	-31.0	Peak	Vertical
	12160.5	47.7	-2.4	45.4	74.0	-28.6	Peak	Vertical
06	7502.5	48.2	-5.9	42.3	74.0	-31.7	Peak	Horizontal
	8199.5	47.6	-4.9	42.7	74.0	-31.3	Peak	Horizontal
	11217.0	48.3	-3.1	45.2	74.0	-28.8	Peak	Horizontal
	7434.5	48.4	-6.4	42.1	74.0	-31.9	Peak	Vertical
	8361.0	48.4	-5.1	43.3	74.0	-30.7	Peak	Vertical
	11684.5	48.2	-3.0	45.2	74.0	-28.8	Peak	Vertical
11	7681.0	48.6	-5.8	42.9	74.0	-31.1	Peak	Horizontal
	8437.5	47.8	-5.0	42.7	74.0	-31.3	Peak	Horizontal
	10834.5	48.1	-3.6	44.6	74.0	-29.4	Peak	Horizontal
	7460.0	48.0	-5.9	42.1	74.0	-31.9	Peak	Vertical
	8276.0	48.0	-5.2	42.8	74.0	-31.2	Peak	Vertical
	12322.0	48.0	-2.2	45.8	74.0	-28.2	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Test Site	SIP-AC1	Test Engineer	Kyrie Xie
Test Date	2022/02/12	Test Mode:	802.11g – Ant 3
Antenna Type	Dipole Antenna		
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 30dB below limit line within 1-18GHz, there is not show in the report.		

Test Channel	Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
01	7426.0	48.8	-6.5	42.3	74.0	-31.7	Peak	Horizontal
	8412.0	47.3	-4.9	42.4	74.0	-31.6	Peak	Horizontal
	11472.0	47.1	-2.8	44.4	74.0	-29.6	Peak	Horizontal
	7689.5	48.8	-5.6	43.3	74.0	-30.7	Peak	Vertical
	8250.5	47.4	-5.1	42.3	74.0	-31.7	Peak	Vertical
	11625.0	47.7	-3.2	44.5	74.0	-29.5	Peak	Vertical
06	7477.0	48.8	-5.8	43.0	74.0	-31.0	Peak	Horizontal
	8403.5	47.5	-5.1	42.4	74.0	-31.6	Peak	Horizontal
	11710.0	46.6	-2.7	43.9	74.0	-30.1	Peak	Horizontal
	7579.0	48.2	-5.4	42.9	74.0	-31.1	Peak	Vertical
	8318.5	47.5	-4.9	42.5	74.0	-31.5	Peak	Vertical
	11140.5	48.2	-3.3	44.8	74.0	-29.2	Peak	Vertical
11	7579.0	48.2	-5.4	42.9	74.0	-31.1	Peak	Horizontal
	8199.5	47.6	-4.9	42.7	74.0	-31.3	Peak	Horizontal
	12211.5	47.4	-2.3	45.1	74.0	-28.9	Peak	Horizontal
	7400.5	48.9	-6.2	42.7	74.0	-31.3	Peak	Vertical
	8437.5	48.4	-5.0	43.4	74.0	-30.6	Peak	Vertical
	12313.5	47.6	-2.2	45.5	74.0	-28.5	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Test Site	SIP-AC1	Test Engineer	Kyrie Xie
Test Date	2022/02/12	Test Mode:	802.11n-HT20-Ant 0+1+2+3
Antenna Type	Dipole Antenna		
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 30dB below limit line within 1-18GHz, there is not show in the report.		

Test Channel	Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
01	7579.0	47.7	-5.4	42.4	74.0	-31.7	Peak	Horizontal
	8488.5	48.5	-5.1	43.4	74.0	-30.6	Peak	Horizontal
	11897.0	46.4	-2.5	43.9	74.0	-30.1	Peak	Horizontal
	7579.0	48.0	-5.4	42.7	74.0	-31.3	Peak	Vertical
	8352.5	47.8	-5.1	42.7	74.0	-31.3	Peak	Vertical
	11973.5	46.9	-2.6	44.4	74.0	-29.6	Peak	Vertical
06	7672.5	48.6	-6.0	42.6	74.0	-31.4	Peak	Horizontal
	8165.5	48.4	-5.1	43.2	74.0	-30.8	Peak	Horizontal
	11922.5	47.2	-2.6	44.6	74.0	-29.4	Peak	Horizontal
	7579.0	48.0	-5.4	42.6	74.0	-31.4	Peak	Vertical
	8182.5	47.9	-5.1	42.8	74.0	-31.2	Peak	Vertical
	12177.5	48.8	-2.2	46.6	74.0	-27.4	Peak	Vertical
11	7451.5	48.5	-6.1	42.4	74.0	-31.6	Peak	Horizontal
	8378.0	48.1	-5.1	43.0	74.0	-31.0	Peak	Horizontal
	11659.0	47.1	-2.6	44.5	74.0	-29.5	Peak	Horizontal
	7460.0	47.9	-5.9	42.0	74.0	-32.0	Peak	Vertical
	8318.5	47.7	-4.9	42.8	74.0	-31.2	Peak	Vertical
	11183.0	47.6	-3.2	44.4	74.0	-29.6	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Test Site	SIP-AC1	Test Engineer	Kyrie Xie
Test Date	2022/02/12	Test Mode:	802.11n-HT40-Ant 0+1+2+3
Antenna Type	Dipole Antenna		
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 30dB below limit line within 1-18GHz, there is not show in the report.		

Test Channel	Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
03	8344.0	47.8	-5.1	42.7	74.0	-31.3	Peak	Horizontal
	10979.0	48.5	-3.3	45.2	74.0	-28.8	Peak	Horizontal
	11718.5	47.5	-2.6	44.9	74.0	-29.1	Peak	Horizontal
	7596.0	48.1	-5.7	42.4	74.0	-31.6	Peak	Vertical
	8208.0	47.4	-4.7	42.7	74.0	-31.3	Peak	Vertical
	11744.0	47.4	-2.8	44.6	74.0	-29.4	Peak	Vertical
06	7562.0	48.4	-5.9	42.5	74.0	-31.5	Peak	Horizontal
	8429.0	48.6	-4.8	43.8	74.0	-30.2	Peak	Horizontal
	11727.0	47.1	-2.4	44.7	74.0	-29.3	Peak	Horizontal
	7562.0	48.5	-5.9	42.6	74.0	-31.4	Peak	Vertical
	8429.0	47.1	-4.8	42.3	74.0	-31.7	Peak	Vertical
	10792.0	47.9	-3.4	44.5	74.0	-29.5	Peak	Vertical
09	7477.0	47.9	-5.8	42.1	74.0	-31.9	Peak	Horizontal
	8242.0	47.6	-4.9	42.7	74.0	-31.3	Peak	Horizontal
	11353.0	47.3	-2.7	44.6	74.0	-29.4	Peak	Horizontal
	7681.0	48.6	-5.8	42.9	74.0	-31.1	Peak	Vertical
	8420.5	47.8	-4.8	43.0	74.0	-31.0	Peak	Vertical
	11693.0	47.1	-2.6	44.5	74.0	-29.5	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Test Site	SIP-AC1	Test Engineer	Kyrie Xie
Test Date	2022/02/12	Test Mode:	802.11b – Ant 0
Antenna Type	Panel Antenna		
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 30dB below limit line within 1-18GHz, there is not show in the report.		

Test Channel	Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
01	7630.0	48.4	-5.9	42.5	74.0	-31.5	Peak	Horizontal
	8284.5	49.2	-5.0	44.2	74.0	-29.8	Peak	Horizontal
	11472.0	47.1	-2.8	44.4	74.0	-29.6	Peak	Horizontal
	7502.5	48.4	-5.9	42.5	74.0	-31.5	Peak	Vertical
	8293.0	48.0	-4.8	43.1	74.0	-30.9	Peak	Vertical
	11098.0	48.2	-3.4	44.8	74.0	-29.2	Peak	Vertical
06	7579.0	48.5	-5.4	43.1	74.0	-30.9	Peak	Horizontal
	8242.0	48.0	-4.9	43.1	74.0	-30.9	Peak	Horizontal
	11557.0	47.6	-3.2	44.5	74.0	-29.5	Peak	Horizontal
	7477.0	48.9	-5.8	43.1	74.0	-30.9	Peak	Vertical
	8293.0	48.3	-4.8	43.4	74.0	-30.6	Peak	Vertical
	11897.0	46.8	-2.5	44.4	74.0	-29.6	Peak	Vertical
11	7587.5	48.7	-5.5	43.2	74.0	-30.8	Peak	Horizontal
	8429.0	48.1	-4.8	43.3	74.0	-30.7	Peak	Horizontal
	12500.5	47.2	-1.9	45.3	74.0	-28.7	Peak	Horizontal
	7681.0	48.6	-5.8	42.8	74.0	-31.2	Peak	Vertical
	8403.5	48.1	-5.1	43.0	74.0	-31.0	Peak	Vertical
	12186.0	46.6	-2.3	44.3	74.0	-29.7	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Test Site	SIP-AC1	Test Engineer	Kyrie Xie
Test Date	2022/02/12	Test Mode:	802.11g – Ant 0
Antenna Type	Panel Antenna		
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 30dB below limit line within 1-18GHz, there is not show in the report.		

Test Channel	Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
01	7485.5	48.2	-5.9	42.3	74.0	-31.7	Peak	Horizontal
	8242.0	48.1	-4.9	43.2	74.0	-30.8	Peak	Horizontal
	12211.5	47.6	-2.3	45.3	74.0	-28.7	Peak	Horizontal
	7477.0	47.6	-5.8	41.8	74.0	-32.2	Peak	Vertical
	8369.5	48.1	-5.1	43.0	74.0	-31.0	Peak	Vertical
	11489.0	46.9	-3.0	44.0	74.0	-30.0	Peak	Vertical
06	7681.0	48.5	-5.8	42.7	74.0	-31.3	Peak	Horizontal
	8233.5	48.0	-4.9	43.1	74.0	-30.9	Peak	Horizontal
	11659.0	47.1	-2.6	44.5	74.0	-29.5	Peak	Horizontal
	7664.0	48.9	-6.2	42.7	74.0	-31.3	Peak	Vertical
	8335.5	48.1	-5.1	43.1	74.0	-30.9	Peak	Vertical
	11693.0	47.4	-2.6	44.8	74.0	-29.2	Peak	Vertical
11	7698.0	47.8	-5.4	42.4	74.0	-31.6	Peak	Horizontal
	8208.0	48.0	-4.7	43.4	74.0	-30.6	Peak	Horizontal
	11557.0	47.6	-3.2	44.5	74.0	-29.5	Peak	Horizontal
	7485.5	48.8	-5.9	42.9	74.0	-31.1	Peak	Vertical
	8454.5	50.0	-5.3	44.7	74.0	-29.3	Peak	Vertical
	12101.0	47.2	-2.4	44.8	74.0	-29.2	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Test Site	SIP-AC1	Test Engineer	Kyrie Xie
Test Date	2022/02/12	Test Mode:	802.11b – Ant 1
Antenna Type	Panel Antenna		
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 30dB below limit line within 1-18GHz, there is not show in the report.		

Test Channel	Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
01	7468.5	48.3	-5.9	42.4	74.0	-31.6	Peak	Horizontal
	8327.0	47.7	-5.0	42.7	74.0	-31.3	Peak	Horizontal
	12577.0	47.6	-2.2	45.4	74.0	-28.6	Peak	Horizontal
	7604.5	48.3	-5.8	42.4	74.0	-31.6	Peak	Vertical
	8403.5	47.7	-5.1	42.7	74.0	-31.3	Peak	Vertical
	11650.5	48.0	-2.8	45.1	74.0	-28.9	Peak	Vertical
06	7358.0	49.5	-6.3	43.2	74.0	-30.8	Peak	Horizontal
	8174.0	48.9	-5.2	43.7	74.0	-30.3	Peak	Horizontal
	11378.5	47.6	-3.1	44.5	74.0	-29.5	Peak	Horizontal
	7460.0	48.7	-5.9	42.8	74.0	-31.2	Peak	Vertical
	8412.0	48.0	-4.9	43.1	74.0	-30.9	Peak	Vertical
	11829.0	47.9	-2.7	45.3	74.0	-28.7	Peak	Vertical
11	7681.0	48.3	-5.8	42.6	74.0	-31.4	Peak	Horizontal
	8208.0	48.0	-4.7	43.3	74.0	-30.7	Peak	Horizontal
	12211.5	47.7	-2.3	45.4	74.0	-28.6	Peak	Horizontal
	7485.5	48.2	-5.9	42.4	74.0	-31.6	Peak	Vertical
	8318.5	48.3	-4.9	43.4	74.0	-30.6	Peak	Vertical
	12492.0	46.9	-2.0	44.9	74.0	-29.1	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Test Site	SIP-AC1	Test Engineer	Kyrie Xie
Test Date	2022/02/12	Test Mode:	802.11g – Ant 1
Antenna Type	Panel Antenna		
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 30dB below limit line within 1-18GHz, there is not show in the report.		

Test Channel	Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
01	7409.0	48.7	-6.2	42.5	74.0	-31.5	Peak	Horizontal
	11225.5	47.6	-3.1	44.5	74.0	-29.5	Peak	Horizontal
	15926.0	43.1	5.4	48.5	74.0	-25.5	Peak	Horizontal
	7689.5	48.0	-5.6	42.5	74.0	-31.5	Peak	Vertical
	8437.5	48.2	-5.0	43.1	74.0	-30.9	Peak	Vertical
	11837.5	46.8	-2.6	44.2	74.0	-29.8	Peak	Vertical
06	7502.5	48.1	-5.9	42.2	74.0	-31.8	Peak	Horizontal
	8216.5	47.5	-4.8	42.7	74.0	-31.3	Peak	Horizontal
	11667.5	47.4	-3.0	44.4	74.0	-29.6	Peak	Horizontal
	7579.0	48.1	-5.4	42.7	74.0	-31.3	Peak	Vertical
	8208.0	47.8	-4.7	43.1	74.0	-30.9	Peak	Vertical
	11676.0	47.8	-3.3	44.5	74.0	-29.5	Peak	Vertical
11	7587.5	47.9	-5.5	42.4	74.0	-31.6	Peak	Horizontal
	8216.5	48.1	-4.8	43.3	74.0	-30.7	Peak	Horizontal
	11659.0	46.8	-2.6	44.2	74.0	-29.8	Peak	Horizontal
	7579.0	48.4	-5.4	43.1	74.0	-30.9	Peak	Vertical
	8403.5	49.0	-5.1	44.0	74.0	-30.0	Peak	Vertical
	11642.0	47.9	-3.1	44.8	74.0	-29.2	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Test Site	SIP-AC1	Test Engineer	Kyrie Xie
Test Date	2022/02/12	Test Mode:	802.11b – Ant 2
Antenna Type	Panel Antenna		
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 30dB below limit line within 1-18GHz, there is not show in the report.		

Test Channel	Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
01	7570.5	48.7	-5.7	43.1	74.0	-30.9	Peak	Horizontal
	8293.0	48.0	-4.8	43.2	74.0	-30.8	Peak	Horizontal
	12143.5	47.1	-2.6	44.5	74.0	-29.5	Peak	Horizontal
	7477.0	48.6	-5.8	42.8	74.0	-31.2	Peak	Vertical
	8276.0	48.6	-5.2	43.4	74.0	-30.6	Peak	Vertical
	11659.0	47.8	-2.6	45.3	74.0	-28.7	Peak	Vertical
06	7664.0	49.3	-6.2	43.1	74.0	-30.9	Peak	Horizontal
	8318.5	47.7	-4.9	42.7	74.0	-31.3	Peak	Horizontal
	11982.0	46.6	-2.6	44.0	74.0	-30.0	Peak	Horizontal
	7485.5	48.4	-5.9	42.6	74.0	-31.4	Peak	Vertical
	8284.5	47.7	-5.0	42.7	74.0	-31.3	Peak	Vertical
	11786.5	47.3	-3.1	44.3	74.0	-29.7	Peak	Vertical
11	7664.0	48.3	-6.2	42.0	74.0	-32.0	Peak	Horizontal
	8267.5	48.2	-5.2	43.0	74.0	-31.0	Peak	Horizontal
	11693.0	47.1	-2.6	44.5	74.0	-29.5	Peak	Horizontal
	7417.5	48.7	-6.3	42.4	74.0	-31.6	Peak	Vertical
	8369.5	49.8	-5.1	44.7	74.0	-29.3	Peak	Vertical
	12211.5	46.9	-2.3	44.6	74.0	-29.4	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Test Site	SIP-AC1	Test Engineer	Kyrie Xie
Test Date	2022/02/12	Test Mode:	802.11g – Ant 2
Antenna Type	Panel Antenna		
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 30dB below limit line within 1-18GHz, there is not show in the report.		

Test Channel	Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
01	7587.5	47.9	-5.5	42.4	74.0	-31.6	Peak	Horizontal
	8318.5	48.3	-4.9	43.4	74.0	-30.6	Peak	Horizontal
	11659.0	47.0	-2.6	44.4	74.0	-29.6	Peak	Horizontal
	7587.5	48.4	-5.5	42.8	74.0	-31.2	Peak	Vertical
	8437.5	48.1	-5.0	43.1	74.0	-30.9	Peak	Vertical
	11956.5	47.5	-2.3	45.2	74.0	-28.8	Peak	Vertical
06	7689.5	48.0	-5.6	42.5	74.0	-31.5	Peak	Horizontal
	8378.0	48.0	-5.1	42.9	74.0	-31.1	Peak	Horizontal
	11642.0	48.2	-3.1	45.1	74.0	-28.9	Peak	Horizontal
	7698.0	48.2	-5.4	42.8	74.0	-31.2	Peak	Vertical
	8327.0	48.4	-5.0	43.4	74.0	-30.6	Peak	Vertical
	11361.5	47.2	-2.6	44.5	74.0	-29.5	Peak	Vertical
11	7409.0	48.5	-6.2	42.4	74.0	-31.6	Peak	Horizontal
	8293.0	48.6	-4.8	43.7	74.0	-30.3	Peak	Horizontal
	11370.0	47.5	-2.6	44.9	74.0	-29.1	Peak	Horizontal
	7706.5	49.0	-5.5	43.5	74.0	-30.5	Peak	Vertical
	8208.0	48.3	-4.7	43.6	74.0	-30.4	Peak	Vertical
	12271.0	47.7	-2.2	45.5	74.0	-28.5	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Test Site	SIP-AC1	Test Engineer	Kyrie Xie
Test Date	2022/02/12	Test Mode:	802.11b – Ant 3
Antenna Type	Panel Antenna		
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 30dB below limit line within 1-18GHz, there is not show in the report.		

Test Channel	Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
01	7579.0	49.0	-5.4	43.6	74.0	-30.4	Peak	Horizontal
	8403.5	48.2	-5.1	43.1	74.0	-30.9	Peak	Horizontal
	11837.5	47.1	-2.6	44.6	74.0	-29.4	Peak	Horizontal
	7485.5	49.3	-5.9	43.5	74.0	-30.5	Peak	Vertical
	8199.5	48.2	-4.9	43.3	74.0	-30.7	Peak	Vertical
	11693.0	47.2	-2.6	44.6	74.0	-29.4	Peak	Vertical
06	7502.5	48.3	-5.9	42.4	74.0	-31.6	Peak	Horizontal
	8344.0	48.2	-5.1	43.1	74.0	-30.9	Peak	Horizontal
	11897.0	46.8	-2.5	44.3	74.0	-29.7	Peak	Horizontal
	7409.0	48.7	-6.2	42.5	74.0	-31.5	Peak	Vertical
	8412.0	48.5	-4.9	43.6	74.0	-30.4	Peak	Vertical
	11072.5	47.9	-3.4	44.6	74.0	-29.4	Peak	Vertical
11	7579.0	47.8	-5.4	42.4	74.0	-31.6	Peak	Horizontal
	8446.0	48.4	-5.3	43.1	74.0	-30.9	Peak	Horizontal
	10987.5	48.5	-3.5	45.0	74.0	-29.0	Peak	Horizontal
	7587.5	47.9	-5.5	42.4	74.0	-31.6	Peak	Vertical
	8378.0	48.9	-5.1	43.8	74.0	-30.2	Peak	Vertical
	11659.0	46.6	-2.6	44.0	74.0	-30.0	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Test Site	SIP-AC1	Test Engineer	Kyrie Xie
Test Date	2022/02/12	Test Mode:	802.11g – Ant 3
Antenna Type	Panel Antenna		
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 30dB below limit line within 1-18GHz, there is not show in the report.		

Test Channel	Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
01	7502.5	48.5	-5.9	42.6	74.0	-31.4	Peak	Horizontal
	8106.0	48.6	-4.6	44.0	74.0	-30.0	Peak	Horizontal
	11370.0	46.6	-2.6	44.0	74.0	-30.0	Peak	Horizontal
	7706.5	48.0	-5.5	42.5	74.0	-31.5	Peak	Vertical
	8429.0	48.5	-4.8	43.7	74.0	-30.3	Peak	Vertical
	12050.0	47.4	-2.9	44.5	74.0	-29.5	Peak	Vertical
06	7502.5	48.3	-5.9	42.4	74.0	-31.6	Peak	Horizontal
	8327.0	47.9	-5.0	42.9	74.0	-31.1	Peak	Horizontal
	12177.5	47.4	-2.2	45.1	74.0	-28.9	Peak	Horizontal
	7698.0	48.0	-5.4	42.7	74.0	-31.3	Peak	Vertical
	8208.0	48.0	-4.7	43.3	74.0	-30.7	Peak	Vertical
	11837.5	47.6	-2.6	45.0	74.0	-29.0	Peak	Vertical
11	7400.5	49.1	-6.2	42.9	74.0	-31.1	Peak	Horizontal
	8250.5	48.6	-5.1	43.5	74.0	-30.5	Peak	Horizontal
	11404.0	47.9	-3.6	44.3	74.0	-29.7	Peak	Horizontal
	7502.5	48.6	-5.9	42.7	74.0	-31.3	Peak	Vertical
	8242.0	48.6	-4.9	43.6	74.0	-30.4	Peak	Vertical
	11769.5	47.2	-2.9	44.3	74.0	-29.7	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Test Site	SIP-AC1	Test Engineer	Kyrie Xie
Test Date	2022/02/12	Test Mode:	802.11n-HT20-Ant 0+1+2+3
Antenna Type	Panel Antenna		
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 30dB below limit line within 1-18GHz, there is not show in the report.		

Test Channel	Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
01	7621.5	48.4	-5.9	42.5	74.0	-31.5	Peak	Horizontal
	8327.0	48.3	-5.0	43.3	74.0	-30.7	Peak	Horizontal
	11710.0	47.5	-2.7	44.8	74.0	-29.2	Peak	Horizontal
	7417.5	48.4	-6.3	42.1	74.0	-31.9	Peak	Vertical
	8344.0	49.1	-5.1	43.9	74.0	-30.1	Peak	Vertical
	12101.0	46.9	-2.4	44.5	74.0	-29.5	Peak	Vertical
06	7477.0	48.2	-5.8	42.4	74.0	-31.6	Peak	Horizontal
	8293.0	47.8	-4.8	43.0	74.0	-31.0	Peak	Horizontal
	11565.5	47.4	-3.2	44.2	74.0	-29.8	Peak	Horizontal
	7579.0	48.5	-5.4	43.1	74.0	-30.9	Peak	Vertical
	8446.0	48.4	-5.3	43.1	74.0	-30.9	Peak	Vertical
	11361.5	47.6	-2.6	45.0	74.0	-29.0	Peak	Vertical
11	7477.0	48.0	-5.8	42.2	74.0	-31.8	Peak	Horizontal
	8437.5	48.8	-5.0	43.7	74.0	-30.3	Peak	Horizontal
	11693.0	46.8	-2.6	44.2	74.0	-29.8	Peak	Horizontal
	7604.5	49.0	-5.8	43.2	74.0	-30.8	Peak	Vertical
	8174.0	48.9	-5.2	43.7	74.0	-30.3	Peak	Vertical
	11693.0	48.2	-2.6	45.6	74.0	-28.4	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Test Site	SIP-AC1	Test Engineer	Kyrie Xie
Test Date	2022/02/12	Test Mode:	802.11n-HT40-Ant 0+1+2+3
Antenna Type	Panel Antenna		
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 30dB below limit line within 1-18GHz, there is not show in the report.		

Test Channel	Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
03	7366.5	48.8	-6.4	42.5	74.0	-31.5	Peak	Horizontal
	8361.0	48.6	-5.1	43.5	74.0	-30.5	Peak	Horizontal
	11667.5	48.2	-3.0	45.2	74.0	-28.8	Peak	Horizontal
	7587.5	47.6	-5.5	42.1	74.0	-31.9	Peak	Vertical
	8420.5	48.0	-4.8	43.2	74.0	-30.8	Peak	Vertical
	11225.5	48.1	-3.1	45.1	74.0	-28.9	Peak	Vertical
06	7698.0	47.7	-5.4	42.4	74.0	-31.6	Peak	Horizontal
	8208.0	47.9	-4.7	43.2	74.0	-30.8	Peak	Horizontal
	11735.5	46.8	-2.6	44.2	74.0	-29.8	Peak	Horizontal
	7672.5	48.7	-6.0	42.7	74.0	-31.3	Peak	Vertical
	8412.0	47.9	-4.9	43.1	74.0	-30.9	Peak	Vertical
	11557.0	47.4	-3.2	44.2	74.0	-29.8	Peak	Vertical
09	7579.0	47.8	-5.4	42.4	74.0	-31.6	Peak	Horizontal
	8480.0	48.7	-5.0	43.7	74.0	-30.3	Peak	Horizontal
	11565.5	48.4	-3.2	45.2	74.0	-28.8	Peak	Horizontal
	7698.0	48.2	-5.4	42.9	74.0	-31.1	Peak	Vertical
	8327.0	47.8	-5.0	42.9	74.0	-31.1	Peak	Vertical
	11684.5	47.9	-3.0	45.0	74.0	-29.0	Peak	Vertical

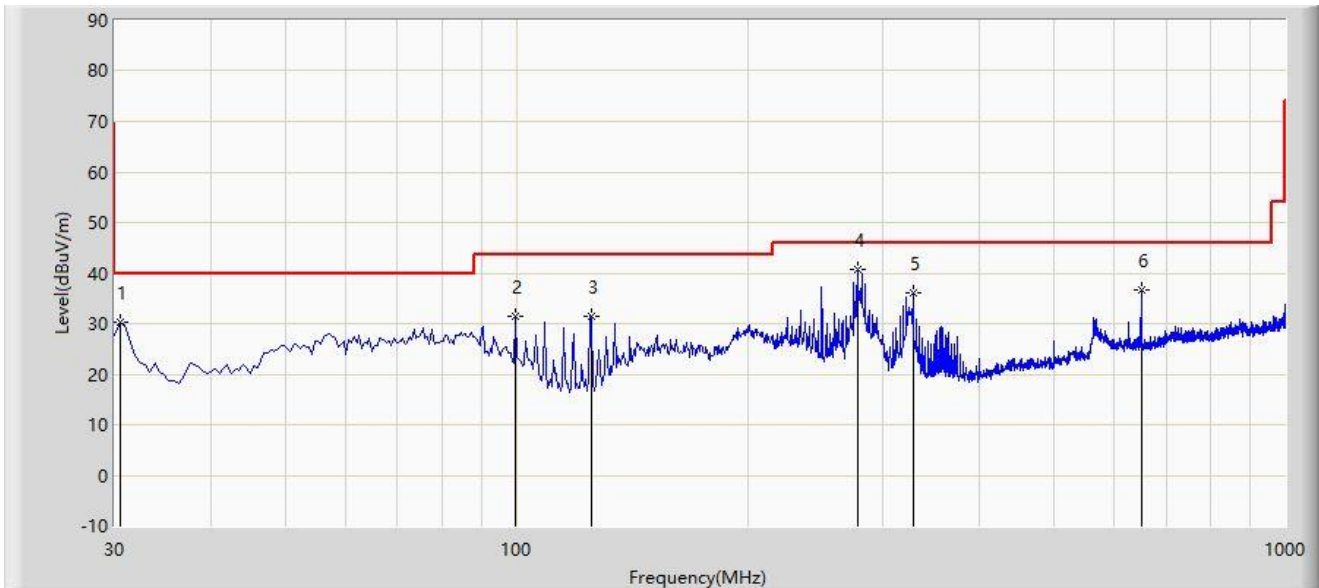
Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

The Result of Radiated Emission below 1GHz:

Dipole Antenna:

Site: SIP-AC2	Time: 2022/02/12
Limit: FCC_Part15.209_RE(3m)	Engineer: Kyrie Xie
Probe: SIP-AC2_VULB 9168_30-1000MHz	Polarity: Horizontal
EUT: WLE1216V2-20	Power: By POE
Test Mode: Transmit at 2437MHz by 802.11n-HT20 with Ant 0+1+2+3	



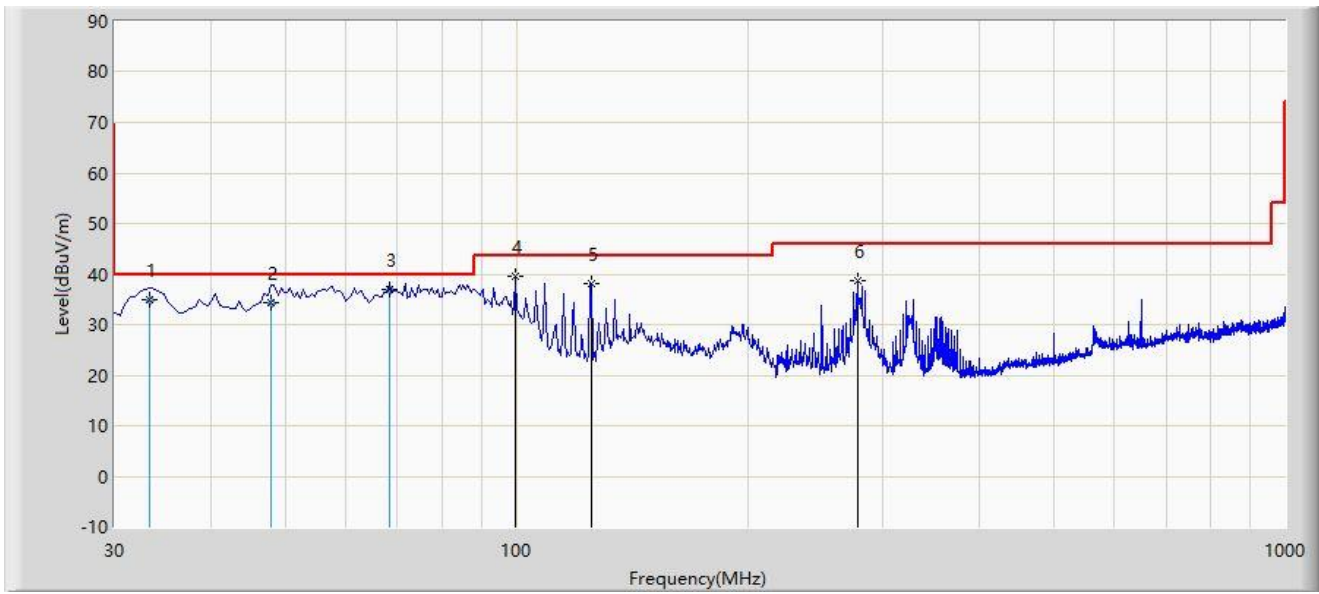
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB/m)	Type
1			30.485	30.393	13.391	-9.607	40.000	17.002	PK
2			99.840	31.476	17.399	-12.024	43.500	14.077	PK
3			125.060	31.451	14.473	-12.049	43.500	16.978	PK
4		*	277.835	40.721	22.170	-5.279	46.000	18.551	PK
5			327.790	35.973	16.180	-10.027	46.000	19.793	PK
6			649.830	36.630	10.138	-9.370	46.000	26.492	PK

Note 1: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

Note 2: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 25GHz), therefore no data appear in the report.

Site: SIP-AC2	Time: 2022/02/12
Limit: FCC_Part15.209_RE(3m)	Engineer: Stephen Dong
Probe: SIP-AC2_VULB 9168_30-1000MHz	Polarity: Vertical
EUT: WLE1216V2-20	Power: By POE
Test Mode: Transmit at 2437MHz by 802.11n-HT20 with Ant 0+1+2+3	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1			33.395	35.047	17.600	-4.953	40.000	17.448	QP
2			47.945	34.204	16.240	-5.796	40.000	17.964	QP
3		*	68.315	36.964	20.180	-3.036	40.000	16.783	QP
4			99.840	39.574	25.497	-3.926	43.500	14.077	PK
5			125.060	38.154	21.176	-5.346	43.500	16.978	PK
6			277.835	38.778	20.227	-7.222	46.000	18.551	PK

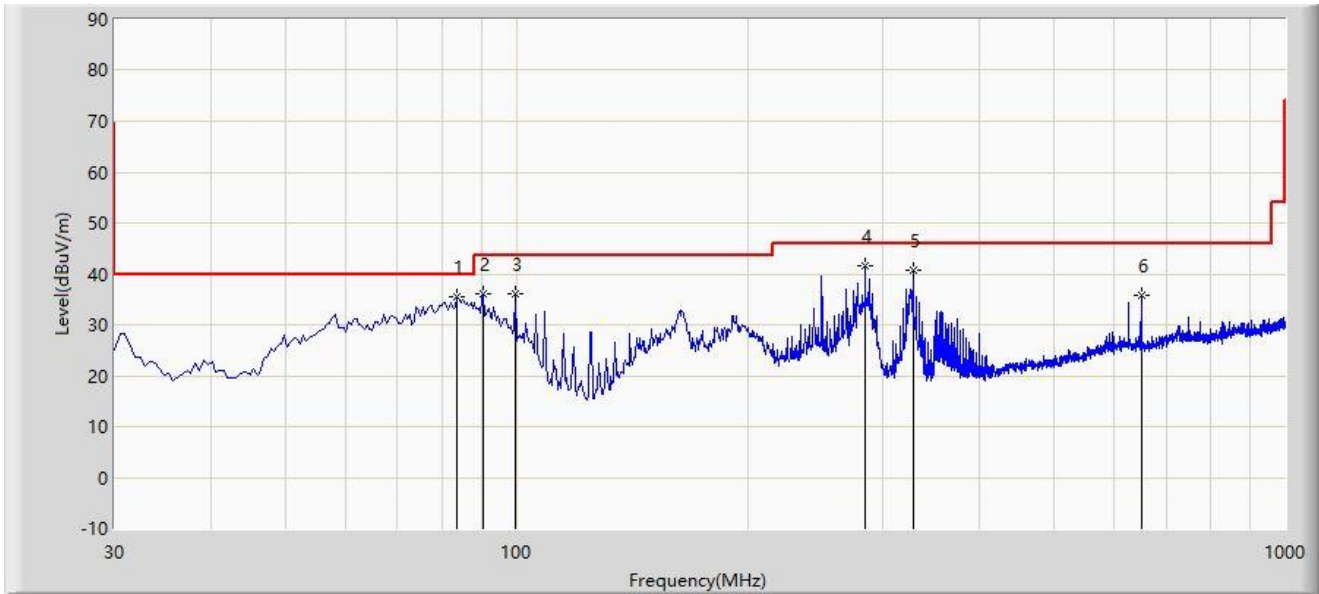
Note 1: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

Note 2: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 25GHz), therefore no data appear in the report.

Panel Antenna:

Site: SIP-AC2	Time: 2022/02/12
Limit: FCC_Part15.209_RE(3m)	Engineer: Stephen Dong
Probe: SIP-AC2_VULB 9168_30-1000MHz	Polarity: Horizontal
EUT: WLE1216V2-20	Power: By POE
Test Mode: Transmit at 2412MHz by 802.11g with Ant 1	



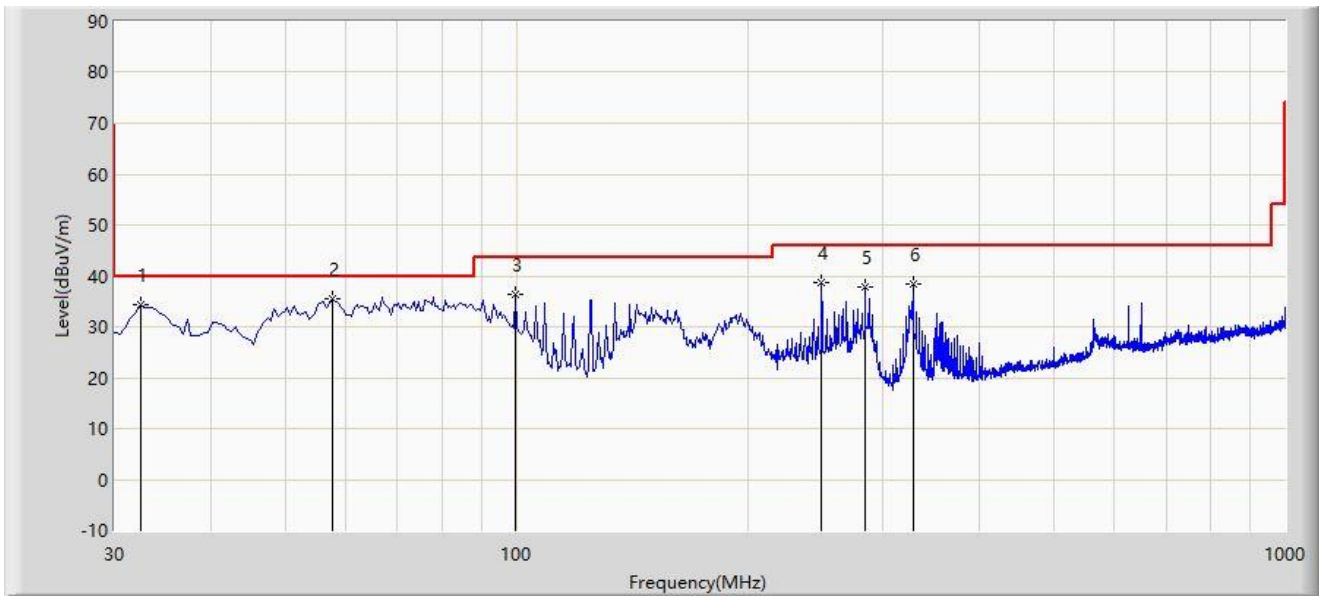
No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1			83.835	35.492	21.993	-4.508	40.000	13.499	PK
2			90.625	36.032	23.028	-7.468	43.500	13.004	PK
3			99.840	36.123	22.046	-7.377	43.500	14.077	PK
4		*	284.140	41.659	22.856	-4.341	46.000	18.803	PK
5			327.790	40.832	21.039	-5.168	46.000	19.793	PK
6			649.830	35.781	9.289	-10.219	46.000	26.492	PK

Note 1: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

Note 2: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 25GHz), therefore no data appear in the report.

Site: SIP-AC2	Time: 2022/02/12
Limit: FCC_Part15.209_RE(3m)	Engineer: Stephen Dong
Probe: SIP-AC2_VULB 9168_30-1000MHz	Polarity: Vertical
EUT: WLE1216V2-20	Power: By POE
Test Mode: Transmit at 2412MHz by 802.11g with Ant 1	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1			32.425	34.263	16.966	-5.737	40.000	17.297	PK
2		*	57.645	35.472	17.303	-4.528	40.000	18.168	PK
3			99.840	36.310	22.233	-7.190	43.500	14.077	PK
4			249.705	38.591	21.169	-7.409	46.000	17.422	PK
5			284.140	37.949	19.146	-8.051	46.000	18.803	PK
6			327.790	38.366	18.573	-7.634	46.000	19.793	PK

Note 1: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

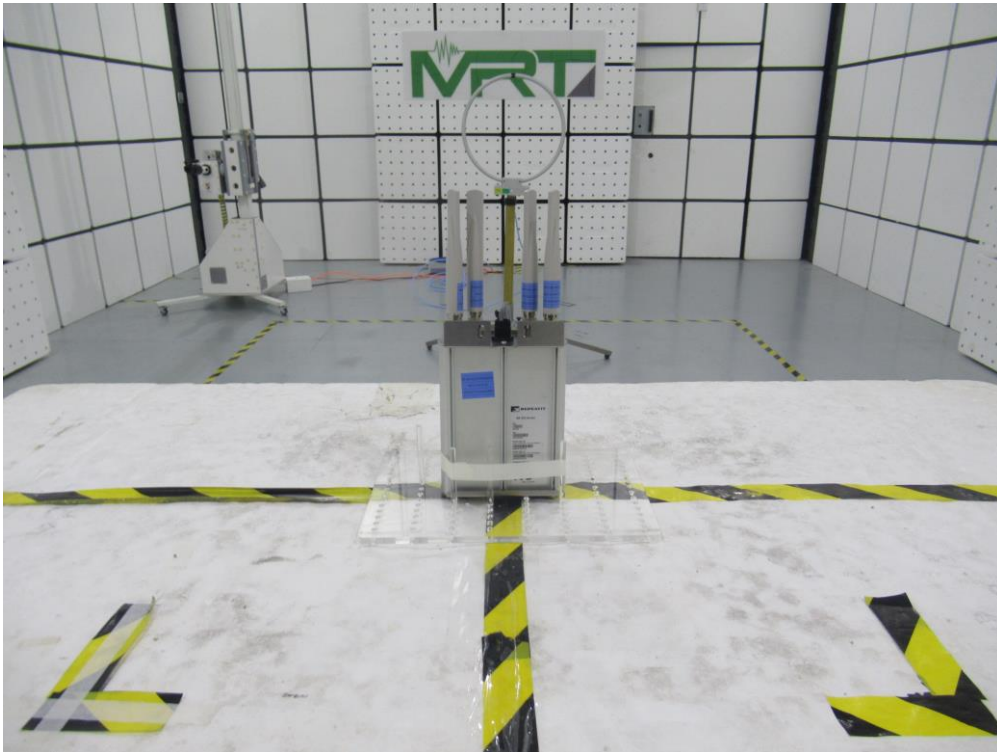
Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

Note 2: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 25GHz), therefore no data appear in the report.

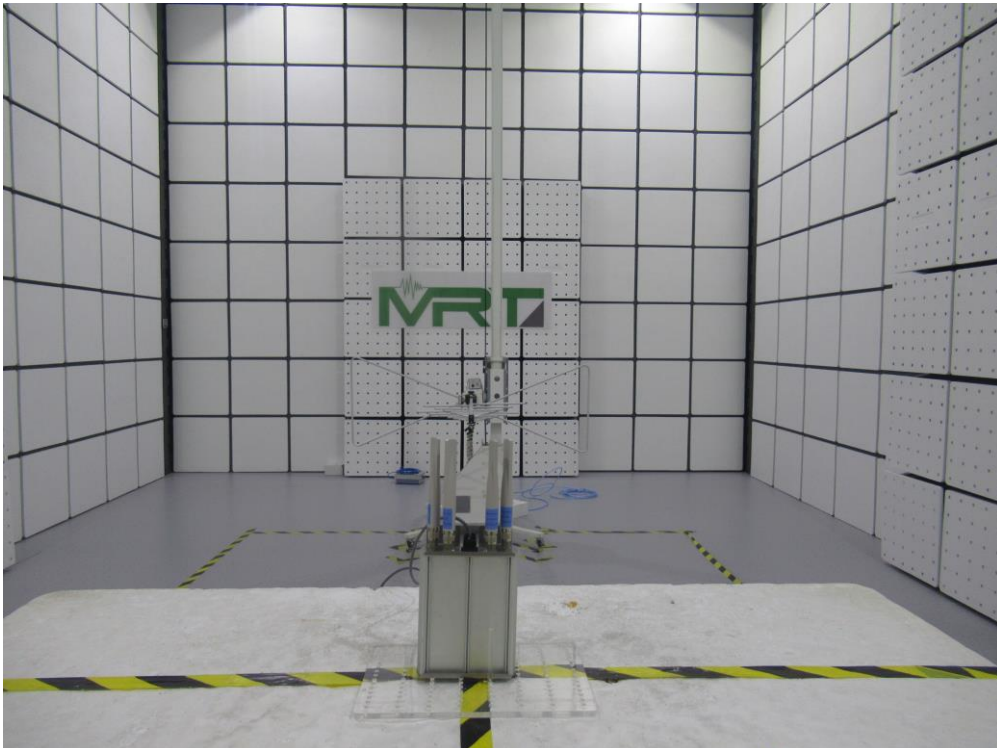
The End

Appendix A – Test Setup Photograph

Description: Radiated Spurious Emission Test Setup for Below 9k~30MHz -Dipole Antenna



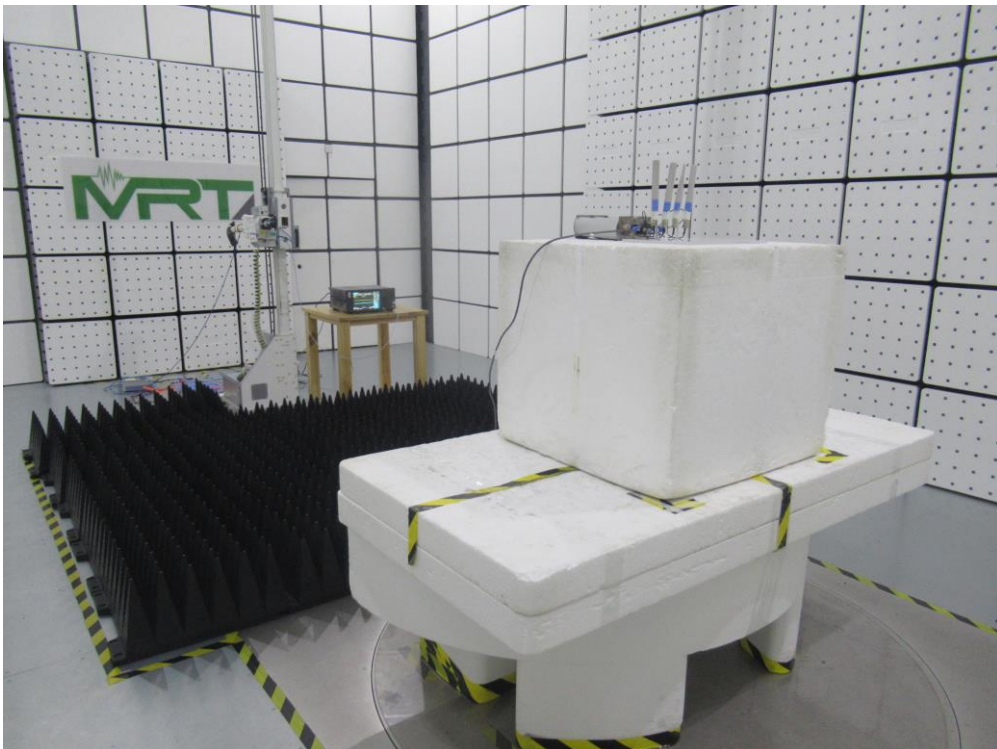
Description: Radiated Spurious Emission Test Setup for 30M~1GHz -Dipole Antenna



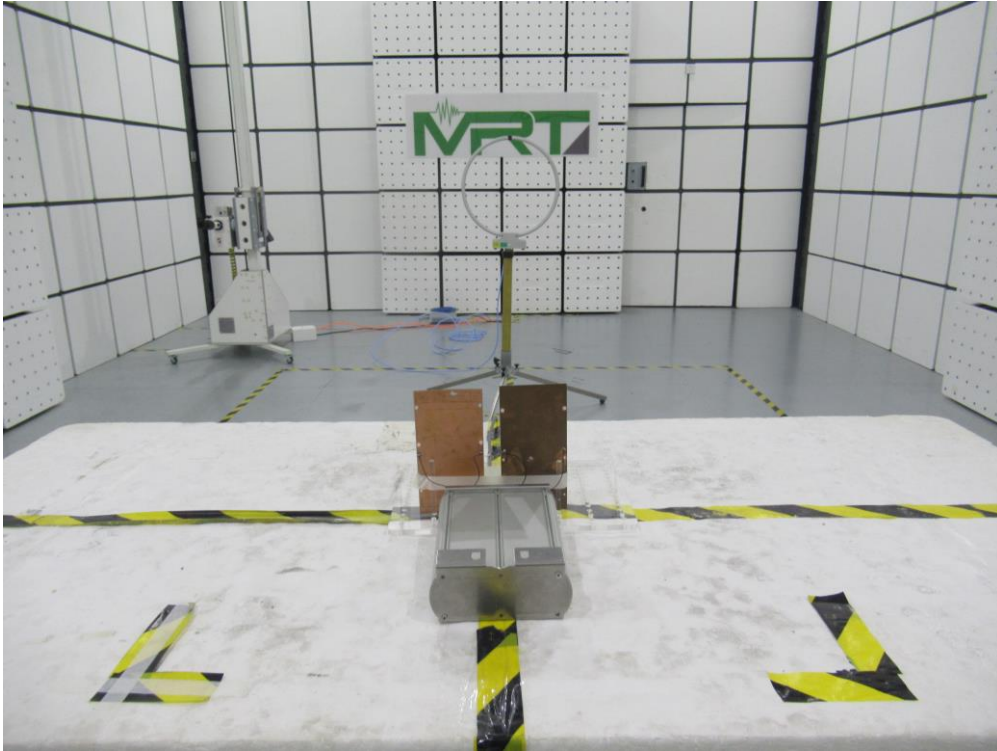
Description: Radiated Spurious Emission Test Setup for 1G~18GHz -Dipole Antenna



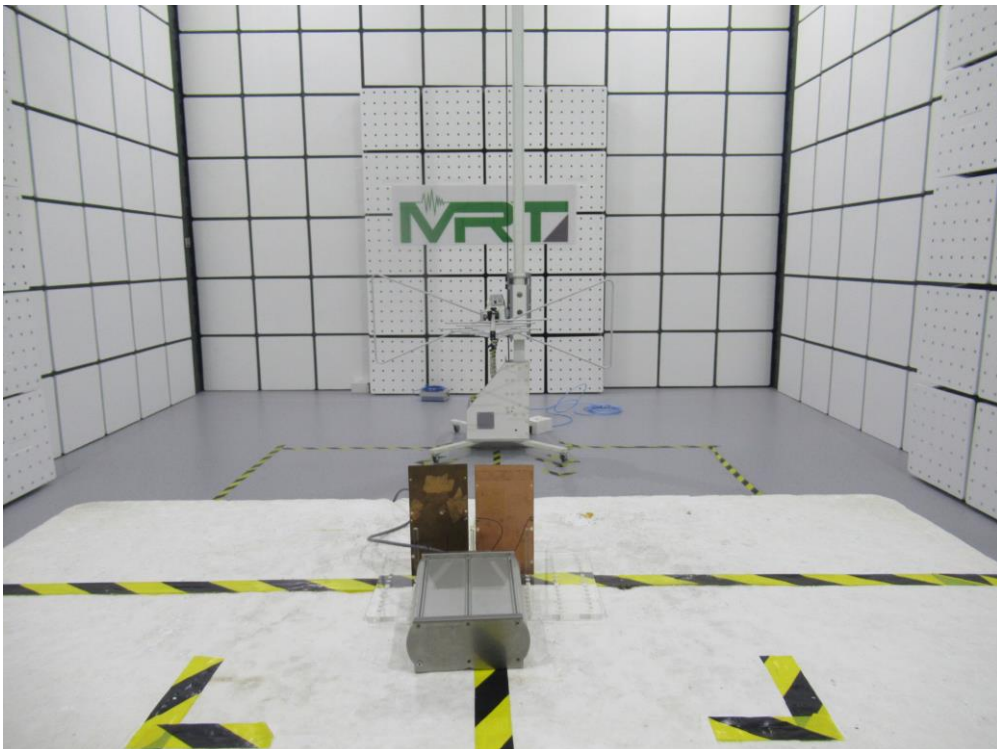
Description: Radiated Spurious Emission Test Setup for Above 18GHz -Dipole Antenna



Description: Radiated Spurious Emission Test Setup for Below 9k~30MHz -Panel Antenna



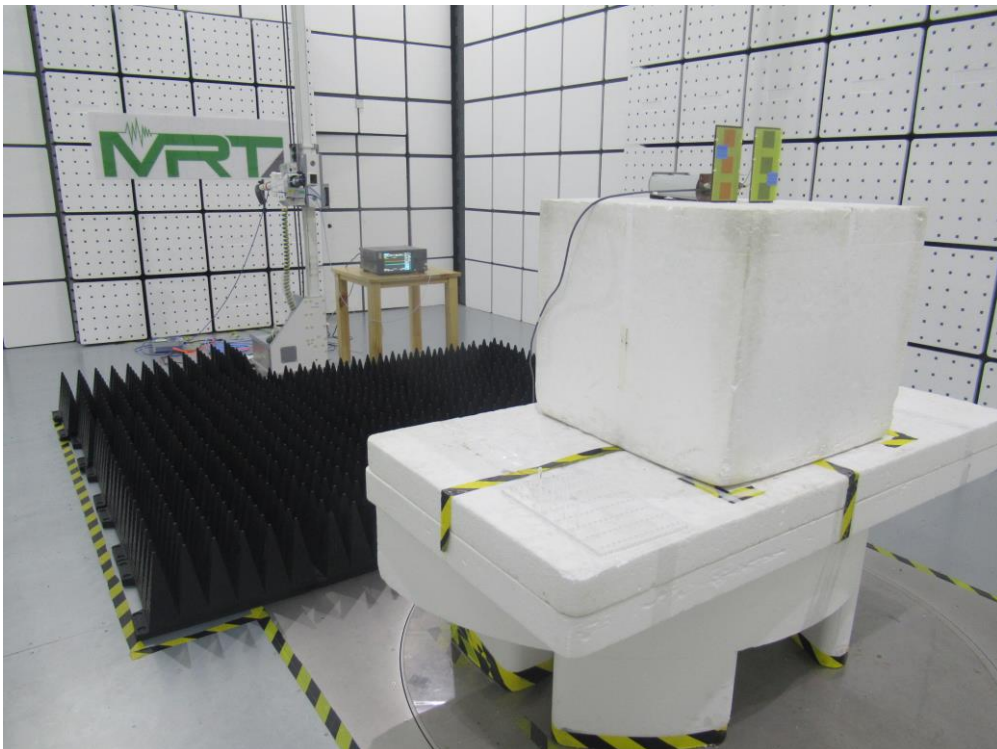
Description: Radiated Spurious Emission Test Setup for 30M~1GHz -Panel Antenna



Description: Radiated Spurious Emission Test Setup for 1G~18GHz -Panel Antenna

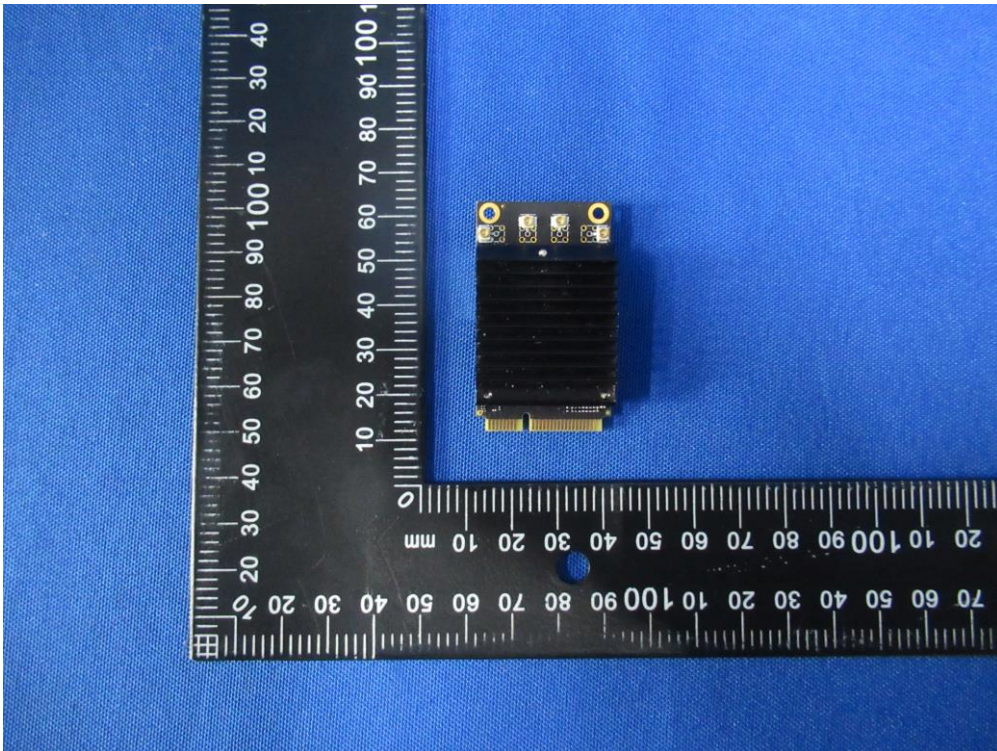


Description: Radiated Spurious Emission Test Setup for Above 18GHz -Panel Antenna

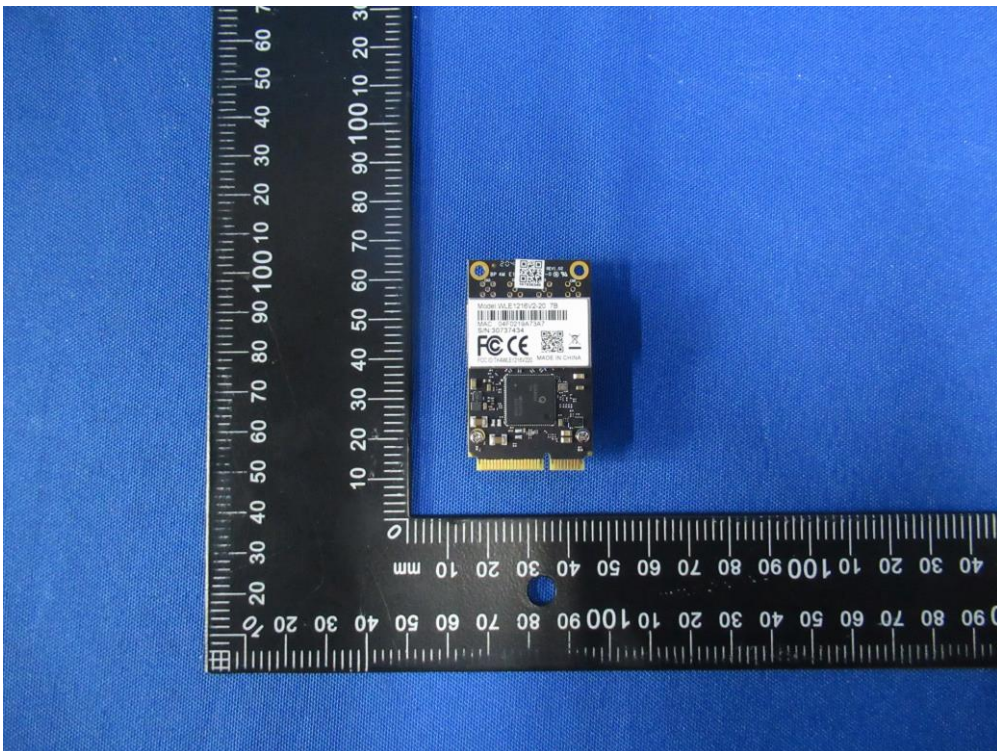


Appendix B – EUT Photograph

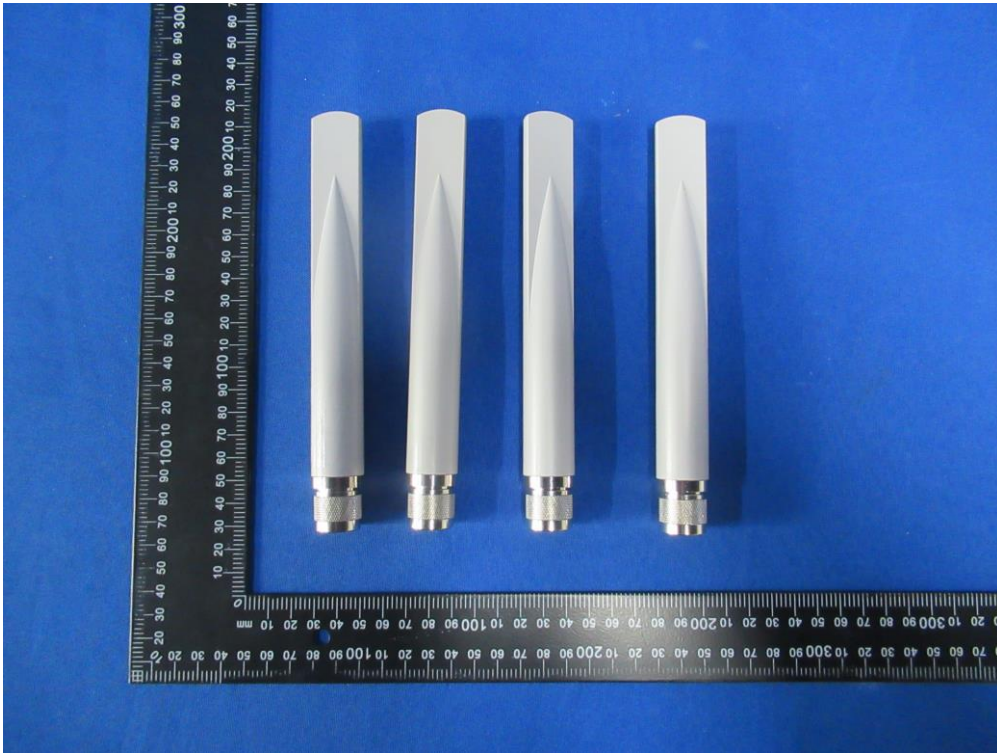
(1) EUT Photo



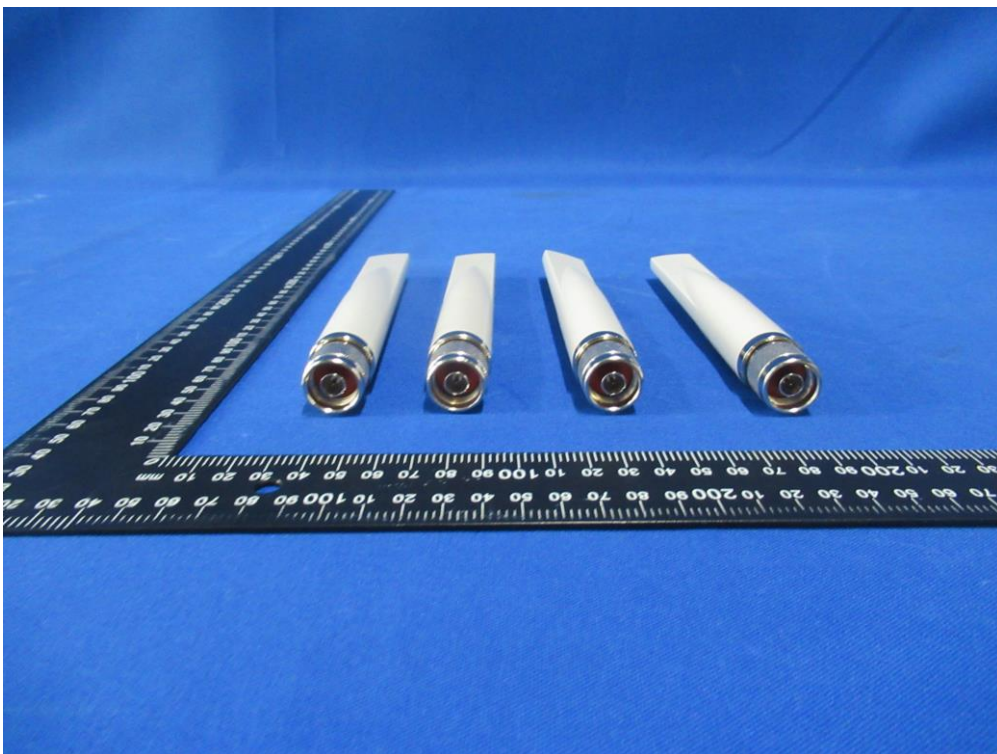
(2) EUT Photo



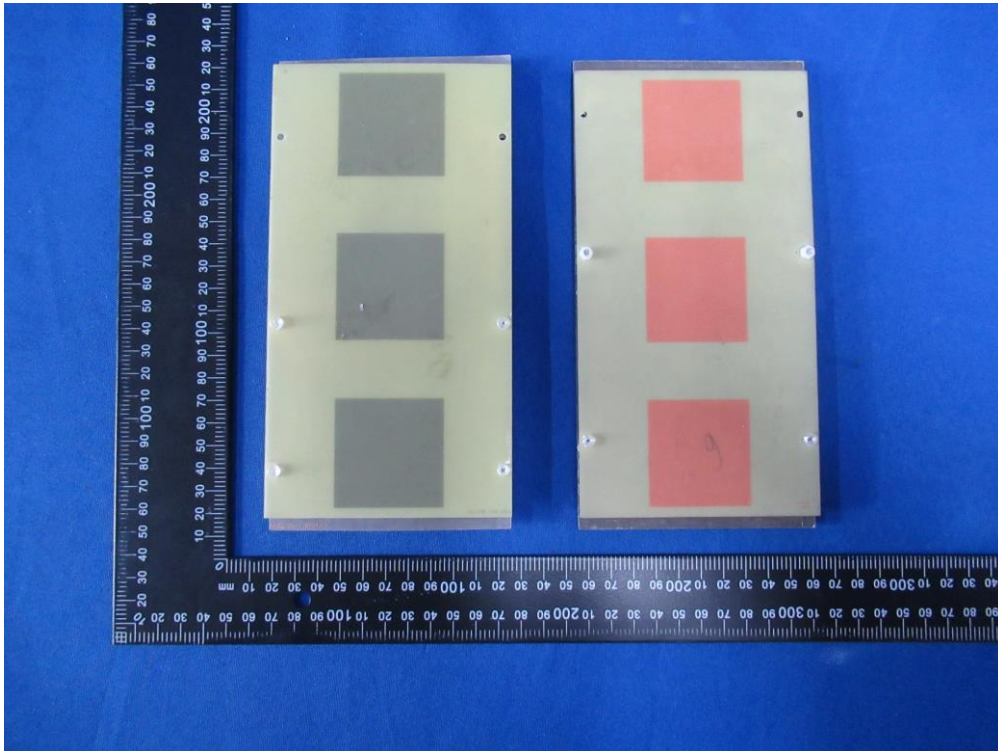
(3) EUT Photo



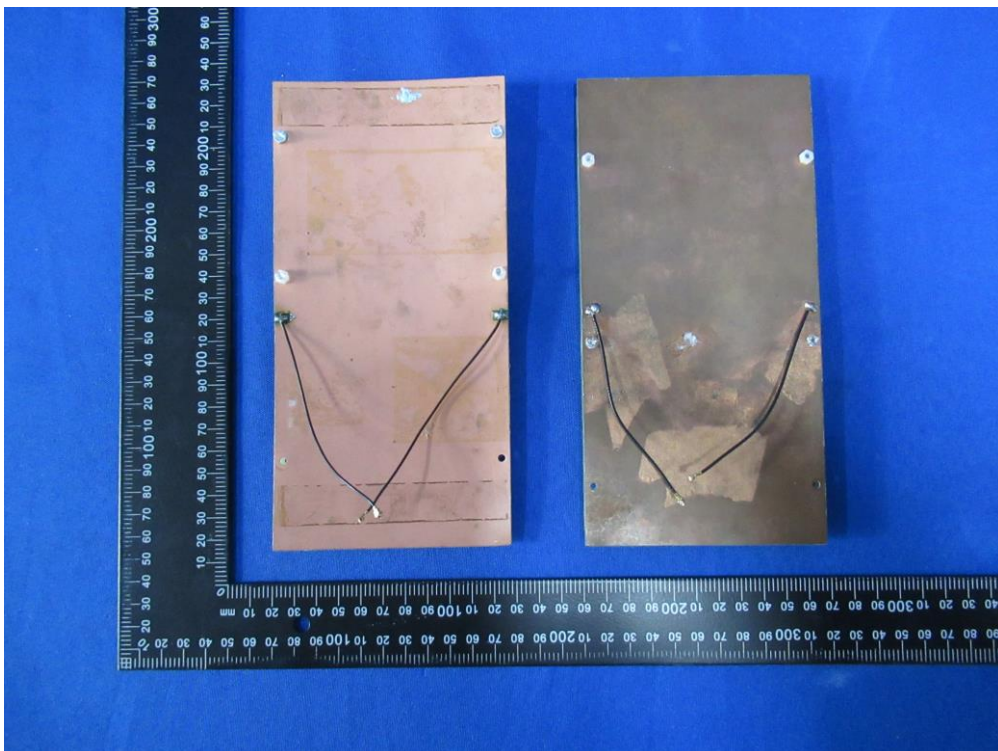
(4) EUT Photo



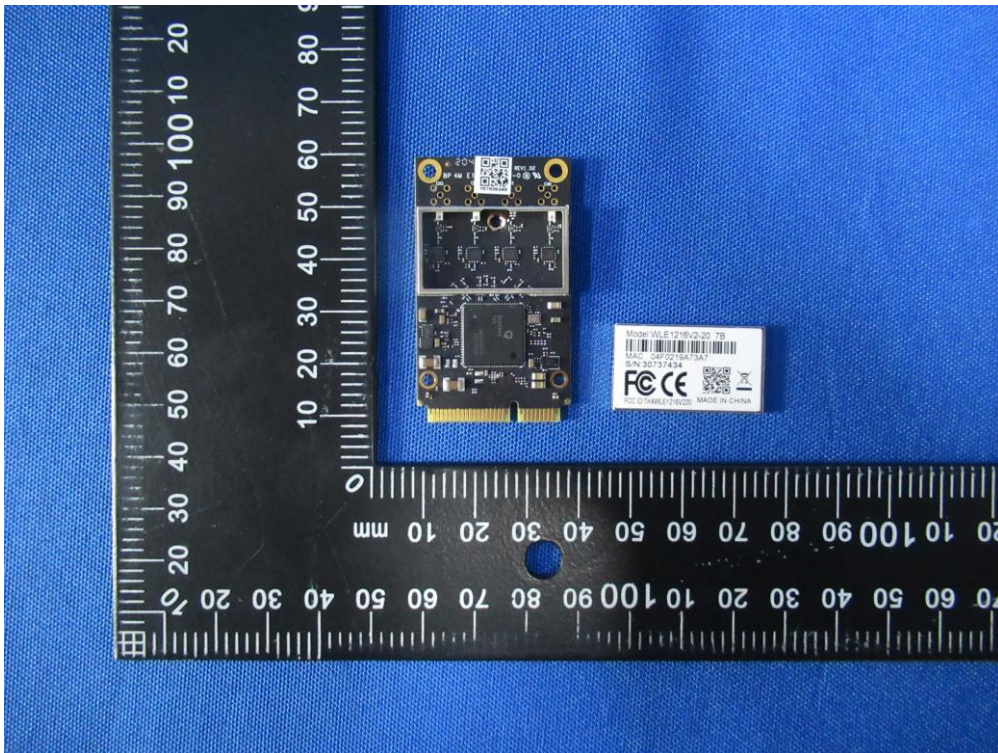
(5) EUT Photo



(6) EUT Photo



(7) EUT Photo



(8) EUT Photo

