

# Co-location Report



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**FCC ID:** Q9DAPINR605

**Application:** Hewlett Packard Enterprise Company

**Product:** ACCESS POINT

**Model No.:** APINR605

**Trademark:**  

**FCC Rule Part(s):** Part 2, 22 (H), 24 (E), 27  
Part 15 Subpart C (Section 15.247)  
Part 15 Subpart E (Section 15.407)

**Result:** Complies

**Received Date:** 2022-09-30

**Test Date:** 2023-01-03 ~ 2023-01-06

**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 C63.26-2015. 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.

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### Revision History

Report No.	Version	Description	Issue Date	Note
2209RSU069-U9	Rev. 01	Initial Report	2023-01-12	Valid

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## 1. General Information

### 1.1. Applicant

Hewlett Packard Enterprise Company  
6280 America Center Drive, San Jose CA 95002, United States

### 1.2. Manufacturer

Hewlett Packard Enterprise Company  
6280 America Center Drive, San Jose CA 95002, United States

### 1.3. Testing Facility

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

#### 1.4. Product Information

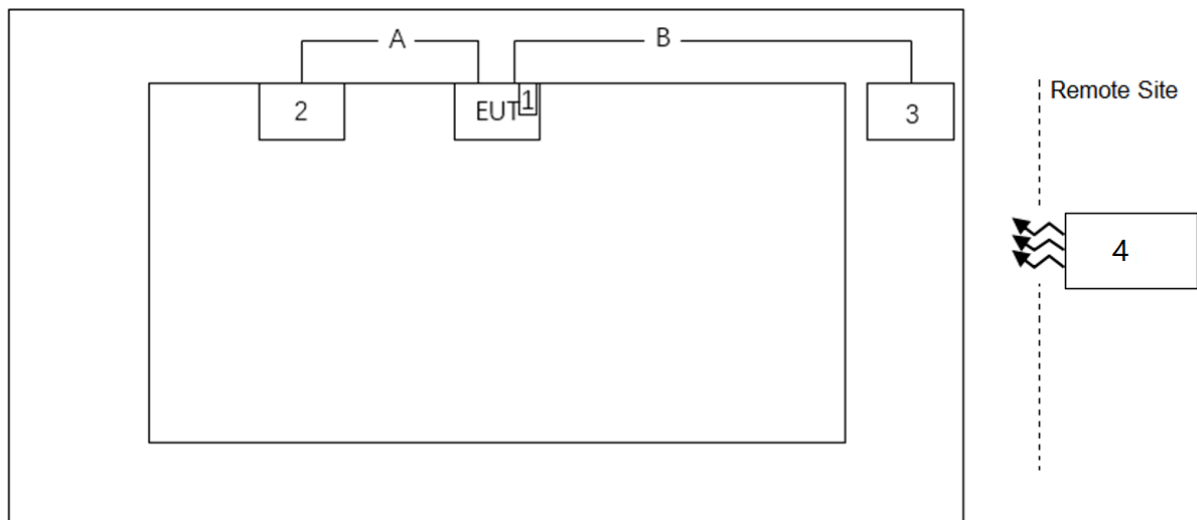
Product Name	ACCESS POINT
Model No.	APINR605
Serial No.	CNP6L8M00G
Software Version	RAJB-AB05 V1.6.2
Wi-Fi Specification	802.11a/b/g/n/ac/ax
Bluetooth Specification	v5.0 single mode, BLE only
Zigbee Specification	802.15.4
GNSS Specification	GPS, GLONASS, Galileo
Power Type	AC/DC Adapter input
Accessory	
AC/DC adapter	Model No.: ADP-50GR BD LPS Input: 100-240V ~ 1.3A 50/60Hz Output: 48V=1.042A 50.016W
Optional Integrated Modular	Modular Name: LTE-A Cat 12 M.2 Module Mode No.: APINCM12 Contain FCC ID: XMR201901EM12G Supported UTRA Band: 2, 4, 5 Supported E-UTRA Band: FDD Band: 2, 4, 5, 7, 12, 13, 14, 17, 25, 26, 30, 66, TDD Band: 38, 41
Remark: The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer.	

## 2. Test Configuration

### 2.1. Test Mode

Test Mode 1: Transmit at Channel 2412MHz by 802.11g + Transmit at Channel 5955MHz by 802.11ax-HE20 + 2480MHz by ZigBee + LTE Band 4 traffic at 1712.5 MHz
Test Mode 2: Transmit at Channel 2412MHz by 802.11g + Transmit at Channel 5955MHz by 802.11ax-HE20 + 2480MHz by BLE + WCDMA Band 2 traffic at 1852.4 MHz
Test Mode 3: Transmit at Channel 2472MHz by 802.11b + Transmit at Channel 5955MHz by 802.11ax-HE20 + 2402MHz by BLE + WCDMA Band IV traffic at 1712.4 MHz
Test Mode 4: Transmit at Channel 2412MHz by 802.11b + Transmit at Channel 5180MHz by 802.11a + 2480MHz by BLE + LTE Band 2 traffic at 1900 MHz
Test Mode 5: Transmit at Channel 2472MHz by 802.11b + Transmit at Channel 5180MHz by 802.11a + 2402MHz by ZigBee + LTE Band 5 traffic at 829 MHz
Test Mode 6: Transmit at Channel 2472MHz by 802.11b + Transmit at Channel 5180MHz by 802.11a + 2402MHz by BLE + LTE Band 12 traffic at 704 MHz
Test Mode 7: Transmit at Channel 5180MHz by 802.11a + Transmit at Channel 5955MHz by 802.11ax-HE20 + 2402MHz by BLE + LTE Band 41 traffic at 2593 MHz

### 1.5. Test System Connection Diagram



Cable Type		Cable Spec.	Length
A	Power Cable	Non-Shielding	1.5m
B	Ethernet Cable	Non-Shielding, Cat 5e	>10.0m
Product		Manufacturer	Model No.
1	USB Flash Disk	SanDisk	N/A
2	AC Adapter	APD	WB-18Q12R

3	Notebook	Dell	Latitude 5491
4	Radio Communication Analyzer	Anritsu	MT8821C

## 2.2. Applied Standards

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

- FCC Part 15 Subpart C §15.247
- FCC Part 15 Subpart E §15.407
- KDB 558074 D01v05r02
- ANSI C63.10-2013
- FCC KDB 414788 D01v01r01
- FCC KDB 412172 D01v01r01

## 2.3. Test Environment Condition

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

### 3. Measuring Instrument

Instrument Name	Manufacturer	Model No.	Asset No.	Cali. Interval	Cal. Due Date	Test Site
TRILOG Antenna	Schwarzbeck	VULB 9162	MRTSUE06022	1 year	2023-05-20	WZ-AC2
EMI Test Receiver	Agilent	N9038A	MRTSUE06125	1 year	2023-06-04	WZ-AC2
Thermohygrometer	Mingle	ETH529	MRTSUE06170	1 year	2023-11-27	WZ-AC2
Horn Antenna	Schwarzbeck	BBHA 9120D	MRTSUE06171	1 year	2023-10-13	WZ-AC2
Preamplifier	Schwarzbeck	BBV 9718	MRTSUE06176	1 year	2023-05-08	WZ-AC2
Anechoic Chamber	RIKEN	WZ-AC2	MRTSUE06213	1 year	2023-04-21	WZ-AC2
Thermohygrometer	testo	608-H1	MRTSUE11038	1 year	2023-11-01	WZ-AC2
5G Wireless Test Platform	Keysight	E7515B	MRTSUE06942	1 year	2023-03-03	WZ
Radio Communication Analyzer	Anritsu	MT8821C	MRTSUE06960	1 year	2023-07-08	WZ
Radio Communication Test Station	Anritsu	MT8000A	MRTSUE06961	1 year	2023-06-30	WZ

Software	Version	Manufacturer	Function	Date	Location
EMI V3	V 3.0.0	Quietek	EMI Test Software	2010.01	EMC-WZ
Controller_MF 7802	1.02	MF	RE Antenna & Turntable	2015-07-05	EMC-WZ-AC2



## 4. Decision Rules and Measurement Uncertainty

### 4.1. Decision Rules

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4: 2012 Clause 8.2. (Measurement uncertainty is not taken into account when stating conformity with a specified requirement.)

### 4.2. 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  $k = 2$ .

#### Radiated Spurious Emissions

Measurement Uncertainty for a Level of Confidence of 95% ( $U=2Uc(y)$ ):

Horizontal: 9kHz ~ 300MHz: 5.04dB

300MHz ~ 1GHz: 4.95dB

1GHz ~ 40GHz: 6.40dB

Vertical: 9kHz ~ 300MHz: 5.24dB

300MHz ~ 1GHz: 6.03dB

1GHz ~ 40GHz: 6.40dB

## 5. Radiated Spurious Emissions Measurement (Co-location)

### 5.1. Test Limit

#### For 15.247(d) requirement

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

#### For 15.407(b) requirement

For transmitters operating in the 5.15–5.25 GHz band: All emissions outside of the 5.15–5.35 GHz band shall not exceed an e.i.r.p. of  $-27$  dBm/MHz.

For transmitters operating in the 5.25–5.35 GHz band: All emissions outside of the 5.15–5.35 GHz band shall not exceed an e.i.r.p. of  $-27$  dBm/MHz.

For transmitters operating in the 5.47–5.725 GHz band: All emissions outside of the 5.47–5.725 GHz band shall not exceed an e.i.r.p. of  $-27$  dBm/MHz.

For transmitters operating solely in the 5.725–5.850 GHz band: All emissions shall be limited to a level of  $-27$  dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

For transmitters operating solely in the 5.850–5.895 GHz band or operating on a channel that spans across 5.725–5.895 GHz: For an indoor access point or subordinate device, all emissions at or above 5.895 GHz shall not exceed an e.i.r.p. of 15 dBm/MHz and shall decrease linearly to an e.i.r.p. of  $-7$  dBm/MHz at or above

5.925 GHz.

For transmitters operating within the 5.925-7.125 GHz band: Any emissions outside of the 5.925-7.125 GHz band must not exceed an e.i.r.p. of -27 dBm/MHz.

FCC Part 22 (H) & 24 (E) & 27

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB. The emission limit equal to -13dBm.

For Band 7: For mobile digital stations, the attenuation factor shall be not less than  $40 + 10 \log(P)$  dB on all frequencies between the channel edge and 5 megahertz from the channel edge,  $43 + 10 \log(P)$  dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and  $55 + 10 \log(P)$  dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth.

For LTE Band 13, For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz (-40dBm/MHz) equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW (-50dBm) EIRP for discrete emissions of less than 700 Hz bandwidth.

$E$  (dB $\mu$ V/m) = EIRP (dBm) - 20 log D + 104.8; where D is the measurement distance in meters. The emission limit equal to 82.3dB $\mu$ V/m or 70.3dB $\mu$ V/m.

Note: Spurious emissions from the Part 15 device, is subject to the Part 15 rules.

Spurious emissions from the Part 22 & 24 & 27 device, is subject to the Part 22 & 24 & 27 rules.

If the spurious emission is caused by the simultaneous operation of more radio devices, the limit is the highest level allowed by either rule part.

## **5.2. 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)

ANSI C63.26-2015 - Section 5.2.7 & 5.5

### 5.3. Test Setting

1. RBW = 1MHz
2. VBW  $\geq 3 \times$  RBW
3. Sweep time  $\geq 10 \times$  (number of points in sweep)  $\times$  (transmission symbol period)
4. Detector = Peak
5. Trace mode = max hold
6. The trace was allowed to stabilize

#### Peak Measurements above 1GHz

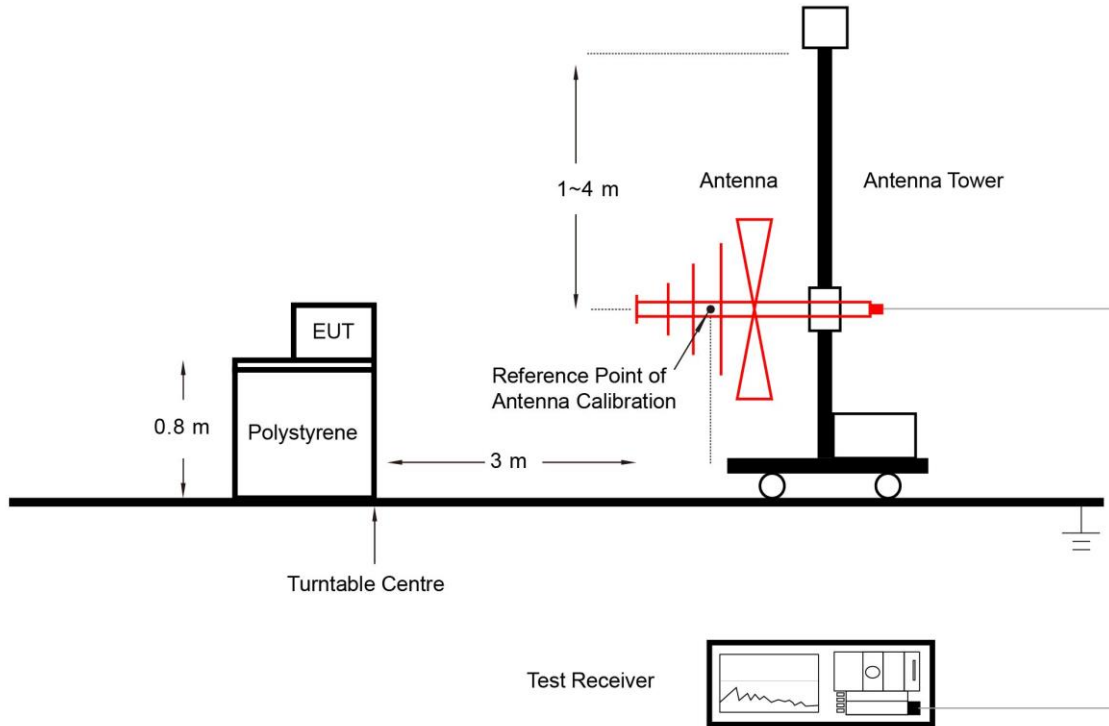
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

#### Average Measurements above 1GHz (Method VB)

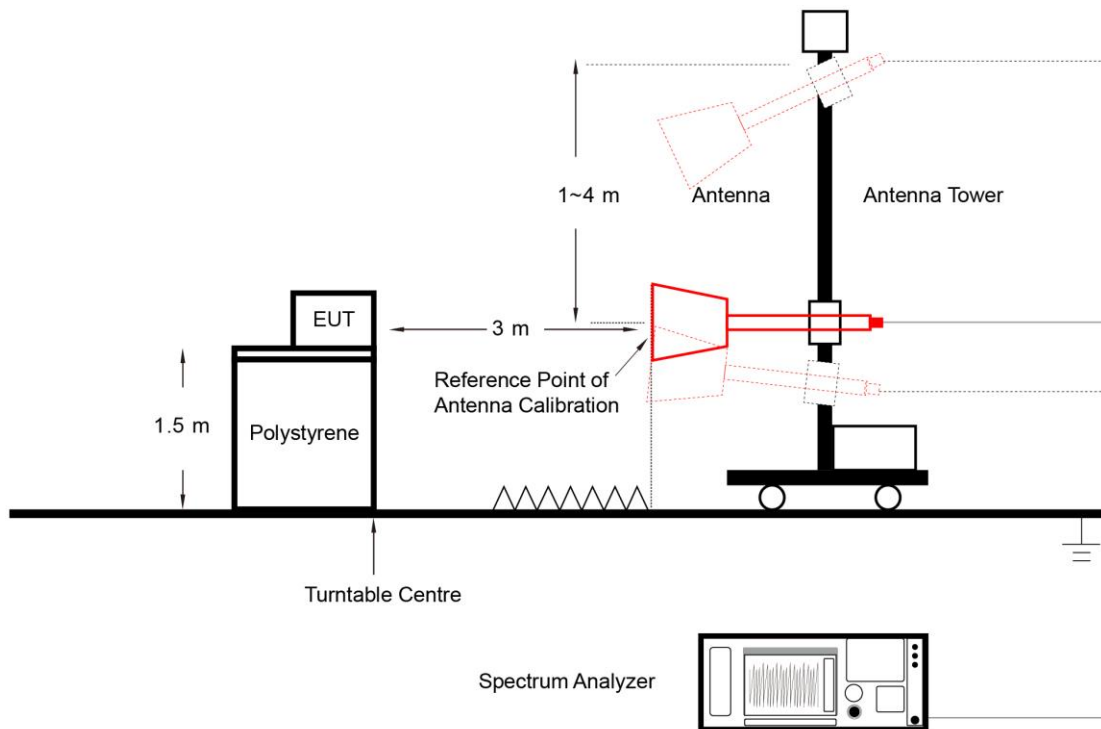
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW; If the EUT is configured to transmit with duty cycle  $\geq 98\%$ , set VBW = 10 Hz.  
If the EUT duty cycle is  $< 98\%$ , set VBW  $\geq 1/T$ . T is the minimum transmission duration.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

### 5.4. Test Setup

#### Below 1GHz Test Setup:



#### Above 1GHz Test Setup:



**5.5. Test Result**

Test Site	WZ-AC2	Test Engineer	Bob Zhang
Test Date	2023-01-03 ~ 2023-01-06	Test Configuration	Test Mode 1

Frequency (MHz)	Reading Level (dB $\mu$ V)	Factor (dB/m)	Measure Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Detector	Polarization
106.6	1.9	18.5	20.4	43.5	-23.1	Peak	Horizontal
864.2	12.2	30.7	42.9	46.0	-3.1	Quasi-peak	Horizontal
41.2	9.5	19.1	28.6	40.0	-11.4	Peak	Vertical
58.1	7.8	19.9	27.7	40.0	-12.3	Peak	Vertical
11149.0	32.2	17.3	49.5	74.0	-24.5	Peak	Horizontal
14328.0	32.8	19.8	52.6	74.0	-21.4	Peak	Horizontal
10843.0	31.9	17.3	49.2	74.0	-24.8	Peak	Vertical
14464.0	31.8	20.0	51.8	74.0	-22.2	Peak	Vertical

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB/m).

Test Site	WZ-AC2	Test Engineer	Bob Zhang
Test Date	2023-01-03 ~ 2023-01-06	Test Configuration	Test Mode 2

Frequency (MHz)	Reading Level (dB $\mu$ V)	Factor (dB/m)	Measure Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Detector	Polarization
300.6	3.3	20.9	24.2	46.0	-21.8	Peak	Horizontal
574.2	1.5	26.4	27.9	46.0	-18.1	Peak	Horizontal
45.0	7.7	20.0	27.7	40.0	-12.3	Peak	Vertical
57.6	7.7	20.0	27.7	40.0	-12.3	Peak	Vertical
11115.0	32.0	17.5	49.5	74.0	-24.5	Peak	Horizontal
14396.0	32.3	19.6	51.9	74.0	-22.1	Peak	Horizontal
11123.5	31.3	17.4	48.7	74.0	-25.3	Peak	Vertical
14268.5	31.7	19.8	51.5	74.0	-22.5	Peak	Vertical

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB/m).

Test Site	WZ-AC2	Test Engineer	Bob Zhang
Test Date	2023-01-03 ~ 2023-01-06	Test Configuration	Test Mode 3

Frequency (MHz)	Reading Level (dB $\mu$ V)	Factor (dB/m)	Measure Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Detector	Polarization
300.6	3.2	20.9	24.2	46.0	-21.8	Peak	Horizontal
627.5	0.8	27.3	28.1	46.0	-17.9	Peak	Horizontal
41.2	9.5	19.1	28.6	40.0	-11.4	Peak	Vertical
58.1	7.8	19.9	27.7	40.0	-12.3	Peak	Vertical
11064.0	31.5	17.3	48.8	74.0	-25.2	Peak	Horizontal
14183.5	31.6	20.2	51.8	74.0	-22.2	Peak	Horizontal
11608.0	32.1	17.6	49.7	74.0	-24.3	Peak	Vertical
14328.0	31.3	19.8	51.1	74.0	-22.9	Peak	Vertical

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB/m).



Test Site	WZ-AC2	Test Engineer	Bob Zhang
Test Date	2023-01-03 ~ 2023-01-06	Test Configuration	Test Mode 4

Frequency (MHz)	Reading Level (dB $\mu$ V)	Factor (dB/m)	Measure Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Detector	Polarization
487.4	2.9	25.2	28.2	46.0	-17.8	Peak	Horizontal
654.2	4.1	27.8	31.9	46.0	-14.1	Peak	Horizontal
40.7	10.8	19.0	29.8	40.0	-10.2	Peak	Vertical
904.5	6.0	31.3	37.3	46.0	-8.8	Peak	Vertical
10605.0	32.6	16.4	49.0	74.0	-25.0	Peak	Horizontal
14370.5	32.3	19.1	51.4	74.0	-22.6	Peak	Horizontal
10792.0	31.7	16.9	48.6	74.0	-25.4	Peak	Vertical
15535.0	38.1	18.3	56.4	82.3	-25.9	Peak	Vertical

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB/m).

Test Site	WZ-AC2	Test Engineer	Bob Zhang
Test Date	2023-01-03 ~ 2023-01-06	Test Configuration	Test Mode 5

Frequency (MHz)	Reading Level (dB $\mu$ V)	Factor (dB/m)	Measure Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Detector	Polarization
585.8	9.3	26.9	36.3	46.0	-9.7	Peak	Horizontal
709.0	10.8	28.6	39.4	46.0	-6.6	Peak	Horizontal
712.4	10.4	28.6	38.9	46.0	-7.1	Peak	Vertical
904.0	10.0	31.2	41.3	46.0	-4.7	Peak	Vertical
10409.5	33.1	16.0	49.1	74.0	-24.9	Peak	Horizontal
13716.0	32.4	19.5	51.9	74.0	-22.1	Peak	Horizontal
11140.5	31.9	17.2	49.1	74.0	-24.9	Peak	Vertical
15535.0	37.8	18.3	56.1	82.3	-26.2	Peak	Vertical

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB/m).

Test Site	WZ-AC2	Test Engineer	Bob Zhang
Test Date	2023-01-03 ~ 2023-01-06	Test Configuration	Test Mode 6

Frequency (MHz)	Reading Level (dB $\mu$ V)	Factor (dB/m)	Measure Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Detector	Polarization
583.9	9.3	26.9	36.2	46.0	-9.8	Peak	Horizontal
851.6	9.1	30.5	39.6	46.0	-6.4	Peak	Horizontal
589.7	9.7	27.0	36.7	46.0	-9.3	Peak	Vertical
849.2	9.1	30.4	39.6	46.0	-6.4	Peak	Vertical
10545.5	32.3	16.0	48.3	74.0	-25.7	Peak	Horizontal
14268.5	30.8	19.8	50.6	74.0	-23.4	Peak	Horizontal
9109.0	32.4	13.9	46.3	74.0	-27.7	Peak	Vertical
13775.5	31.6	19.4	51.0	74.0	-23.0	Peak	Vertical

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB/m).

Test Site	WZ-AC2	Test Engineer	Bob Zhang
Test Date	2023-01-03 ~ 2023-01-06	Test Configuration	Test Mode 7

Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
591.6	9.3	27.0	36.3	46.0	-9.7	Peak	Horizontal
711.4	10.7	28.6	39.3	46.0	-6.7	Peak	Horizontal
723.6	10.2	28.8	39.0	46.0	-7.0	Peak	Vertical
904.0	9.5	31.2	40.8	46.0	-5.2	Peak	Vertical
8446.0	33.0	12.1	45.1	70.3	-25.2	Peak	Horizontal
10979.0	31.6	17.4	49.0	70.3	-21.3	Peak	Horizontal
10851.5	32.5	16.7	49.2	70.3	-21.1	Peak	Vertical
14200.5	31.5	20.1	51.6	70.3	-18.7	Peak	Vertical

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

## Appendix A - Test Setup Photograph

Refer to "2209RSU069-UT" file.

## Appendix B - EUT Photograph

Refer to "2209RSU069-UE" file.

————— The End —————