2/F., Garment Centre,
576 Castle Peak Road, Kowloon,
Hong Kong SAR, China.

Telephone: (852) 2173 8888
Facsimile: (852) 2785 5487
www.intertek.com

TEST REPORT

Report Number: 20031489HKG-003

Embodied, Inc.

Application for Original Grant of 47 CFR Part 15 Certification

This report contains the data of 5GHz WLAN (WiFi) portion only.

FCC ID: 2AV9NEMBODIEDMOXIEA

Prepared and Checked by:	**Approved by:**
Signed On File Chan Hin Man, Oscar Assistant Engineer	Digitally signed by Tim Lee Location: Intertek Testing Services Hong Kong Ltd. Lee Shui Tim, Tim Assistant Supervisor Date: July 13, 2020

TEST REPORT

GENERAL INFORMATION

Applicant Name:	Embodied, Inc.
Applicant Address:	385 E Colorado Blvd Ste 110 Pasadena California 91101 United States
FCC Specification Standard:	FCC Part 15, October 1, 2018 Edition
FCC ID:	2AV9NEMBODIEDMOXIEA
FCC Model:	101300
Type of EUT:	Unlicensed National Information Infrastructure Transmitter
Description of EUT:	Embodied Moxie
Serial Number:	N/A
Sample Receipt Date:	May 01, 2020
Date of Test:	May 01, 2020 to June 23, 2020
Report Date:	July 13, 2020
Environmental Conditions:	Temperature: +10 to 40°C Humidity: 10 to 90%
Conclusion:	Test was conducted by client submitted sample. The submitted sample as after modification complied with the 47 CFR Part 15 Certification

TABLE OF CONTENTS

1.0 TEST RESULTS SUMMARY & STATEMENT OF COMPLIANCE

1.1 Summary of Test Results

Test Items	Fcc Part 15 Section	Results	Details See Section
Antenna Requirement	15.407(a)	Pass	2.1
Max. Conducted Output Power (Peak)	15.407(a)	Pass	4.1
Transmit Power Control (TPC)	15.407(h)	N/A	See Remark
Min. 6dB RF Bandwidth	15.407(e)	Pass	4.2
26 dB emission bandwidth	15.407(a)	Pass	4.3
Occupied Bandwidth	N/A	Pass	4.3
Max. Power Density (average)	15.407(a)	Pass	4.4
Radiated Emission in Restricted Bands and Spurious Emissions	15.407(b), 15.209 & 15.109	Pass	4.5
AC Power Line Conducted Emission	15.207 & 15.107	Pass	4.7
Dynamic Frequency Selection(DFS)	15.407	Pass	4.8

Remark: not applicable if the EUT is <500mW (27dBm)

Note: Pursuant to FCC Part 15 Section 15.215(c), the 20dB bandwidth of the emission was contained within the frequency band designated (mentioned as above) which the EUT operated. The effects, if any, from frequency sweeping, frequency hopping, other modulation techniques and frequency stability over expected variations in temperature and supply voltage were considered.

1.2 Statement of Compliance

The equipment under test is found to be complying with the following standard:

FCC Part 15, October 1, 2018 Edition

2.0 GENERAL DESCRIPTION

2.1 Product Description

This device is a robot with Wifi function.The Bluetooth function of this device had been disabled.

For 2.4 GHz ISM Band:

- For 802.11b mode, it operates at frequency range of 2.412 GHz to 2.462 GHz with 11 Channels. It transmits via DQPSK, DBPSK and CCK. Maximum bit rate can be up to 11Mbps.
- For 802.11g mode, it operates at frequency range of 2.412 GHz to 2.462 GHz with 11 Channels. It transmits via OFDM/64-QAM, 16-QAM, QPSK and BPSK. Maximum bit rate can be up to 54Mbps.
- For 802.11n mode (With 20MHz Bandwidth), it operates at frequency range of 2.412 GHz to 2.462 GHz with 11 Channels. It transmits via OFDM/64-QAM, 16-QAM, QPSK and BPSK. Maximum bit rate can be up to MCS7 65Mbps.

For 5.15GHz to 5.24GHz Band:

The module operates at Frequency range of 5.18GHz to 5.24GHz with 4 channels.

- For 802.11a mode, it operates at frequency range of 5.18GHz to 5.24GHz with 4 channels. It transmits via OFDM/64-QAM, 16-QAM, QPSK and BPSK. Maximum bit rate can be up to 54Mbps.
- For 802.11n mode (20 MHz Bandwidth), it operates at frequency range of 5.18GHz to 5.24GHz with 4 channels. It transmits via OFDM/64-QAM, 16-QAM, QPSK and BPSK. Maximum bit rate can be up to MCS7 65Mbps.
- For 802.11n mode (40 MHz Bandwidth), it operates at frequency range of 5.19GHz to 5.23GHz with 2 channels. It transmits via OFDM/64-QAM, 16-QAM, QPSK and BPSK. Maximum bit rate can be up to MCS7 135Mbps.
- For 802.11ac mode (20 MHz Bandwidth), it operates at frequency range of 5.18GHz to 5.24GHz with 4 channels. It transmits via OFDM/256-QAM, OFDM/64-QAM, 16-QAM, QPSK and BPSK. Maximum bit rate can be up to MCS8 78Mbps.
- For 802.11ac mode (40 MHz Bandwidth), it operates at frequency range of 5.18GHz to 5.24GHz with 2 channels. It transmits via OFDM/256-QAM, OFDM/64-QAM, 16-QAM, QPSK and BPSK. Maximum bit rate can be up to MCS9 162Mbps.
- For 802.11ac mode (80 MHz Bandwidth), it operates at 5.21GHz with 1 channels. It transmits via OFDM/256-QAM, OFDM/64-QAM, 16-QAM, QPSK and BPSK. Maximum bit rate can be up to MCS9 390 Mbps.

For 5.725GHz to 5.85GHz Band:

The module operates at Frequency range of 5.745GHz to 5.825GHz with 4 channels.

- For 802.11a mode, it operates at frequency range of 5.745GHz to 5.825GHz with 4 channels. It transmits via OFDM/64-QAM, 16-QAM, QPSK and BPSK. Maximum bit rate can be up to 54Mbps.

- For 802.11n mode (20 MHz Bandwidth), it operates at frequency range of 5.745GHz to 5.825GHz with 4 channels. It transmits via OFDM/64-QAM, 16-QAM, QPSK and BPSK. Maximum bit rate can be up to MCS7 65Mbps.
- For 802.11n mode (40 MHz Bandwidth), it operates at frequency range of 5.755GHz to 5.795GHz with 2 channels. It transmits via OFDM/64-QAM, 16-QAM, QPSK and BPSK. Maximum bit rate can be up to MCS7 135Mbps.
- For 802.11ac mode (20 MHz Bandwidth), it operates at frequency range of 5.745GHz to 5.825GHz with 4 channels. It transmits via OFDM/256-QAM, OFDM/64-QAM, 16-QAM, QPSK and BPSK. Maximum bit rate can be up to MCS8 78Mbps.
- For 802.11ac mode (40 MHz Bandwidth), it operates at frequency range of 5.755GHz to 5.795GHz with 2 channels. It. It transmits via OFDM/256-QAM, OFDM/64-QAM, 16-QAM, QPSK and BPSK. Maximum bit rate can be up to MCS9 162 Mbps.
- For 802.11ac mode (80 MHz Bandwidth), it operates at 5775MHz with 1 channels. It transmits via OFDM/256-QAM, OFDM/64-QAM, 16-QAM, QPSK and BPSK. Maximum bit rate can be up to MCS9 390 Mbps.

Antenna Information:

- PCB Antenna
- WLAN 802.11 a/b/g/n/ac
- For operating frequency of 2.4GHz , antenna has maximum gain of 2.28dBi
- For operating frequency of 5GHz , antenna has maximum gain of 1.82dBi

2.2 Test Methodology

Both AC power line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.10 (2013). Preliminary radiated scans and all radiated measurements were performed in radiated emission test sites. All Radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the "**Justification Section**" of this Application. Antenna port conducted measurements were performed according to ANSI C63.10 (2013) and KDB Publication No.789033 D02 v01r04 (02-May-2017) All other measurements were made in accordance with the procedures in 47 CFR Part 2.

2.3 Test Facility

The radiated emission test site and antenna port conducted measurement facility used to collect the radiated data and conductive data are at Workshop No. 3, G/F., World-Wide Industrial Centre, 43-47 Shan Mei Street, Fo Tan, Sha Tin, N.T., Hong Kong SAR, China. This test facility and site measurement data have been fully placed on file with the FCC.

2.4 Related Submittal(s) Grants

This is a single application for certification of a transceiver (WiFi portion only).

3.0 SYSTEM TEST CONFIGURATION

3.1 Justification

For radiated emissions testing, the equipment under test (EUT) was setup to transmit / receive continuously to simplify the measurement methodology. Care was taken to ensure proper power supply voltages during testing. During testing, all cables (if any) were manipulated to produce worst case emissions.

The EUT is power by a 10.8VDC Li-PO battery / 120VAC (Adaptor Model: AD0651-1404000D).

For the measurements, the EUT was attached to a plastic stand if necessary and placed on the wooden turntable. If the base unit attached to peripherals, they were connected and operational (as typical as possible).

The signal was maximized through rotation and placement in the three orthogonal axes. The antenna height and polarization were varied during the search for maximum signal level. The antenna height was varied from 1 to 4 meters. Radiated emissions were taken at three meters unless the signal level was too low for measurement at that distance. If necessary, a pre-amplifier was used and/or the test was conducted at a closer distance.

For any intentional radiator powered by AC power line, measurements of the radiated signal level of the fundamental frequency component of the emission was performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage.

Radiated emission measurement for transmitter were performed from the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

Emission that are directly caused by digital circuits in the transmit path and transmitter portion were measured, and the limit are according to FCC Part 15 Section 15.209. Digital circuitries used to control additional functions other than the operation of the transmitter are subject to FCC Part 15 Section 15.109.

3.1 Justification – Cont'd

Detector function for radiated emissions was in peak mode. Average readings, when required, were taken by measuring the duty cycle of the equipment under test and subtracting the corresponding amount in dB from the measured peak readings. A detailed description for the calculation of the average factor can be found in section 4.8.3.

Determination of pulse desensitization was made according to *Hewlett Packard Application Note 150-2, Spectrum Analysis... Pulsed RF.* The effective period (Teff) was referred to Exhibit 4.8.3. With the resolution bandwidth 1MHz and spectrum analyzer IF bandwidth 3dB, the pulse desensitization factor was 0dB.

For AC line conducted emission test, the EUT along with its peripherals were placed on a 1.0m(W)x1.5m(L) and 0.8m in height wooden table and the EUT was adjusted to maintain a 0.4 meter space from a vertical reference plane. The EUT was connected to power mains through a line impedance stabilization network (LISN), which provided 50ohm coupling impedance for measuring instrument. The LISN housing, measuring instrument case, reference ground plane, and vertical ground plane were bounded together. The excess power cable between the EUT and the LISN was bundled.

All connecting cables of EUT and peripherals were manipulated to find the maximum emission.

Different data rates have been tested. Worst case is reported only.

All relevant operation modes have been tested, and the worst case data is included in this report.

All data rates were tested under normal mode of WiFi. Only the worst-case data is shown in the report for OFDM.

3.2 EUT Exercising Software

The EUT exercise program (if any) used during radiated and conducted testing was designed to exercise the various system components in a manner similar to a typical use.

3.3 Details of EUT and Description of Accessories

An adaptor (provided with the unit) was used to power the device. Its description is listed below.

(1) An AC adaptor (AC Input: 100-240V 50/60Hz / Output: 14VDC 4000A, Model: AD0651-1404000D)
(Provided by Client)

w

3.4 Measurement Uncertainty

When determining of the test conclusion, the Measurement Uncertainty of test at a level of confidence of 95% has been considered. The values of the Measurement uncertainty:

No.	Item	Measurement Uncertainty
1	Conducted emission 9KHz-150KHz	±3.8 dB
2	Conducted emission 150KHz-30MHz	±3.4 dB
3	Radiated emission 9KHz-30MHz	±4.9 dB
4	Radiated emission 30MHz-1GHz	±4.7 dB
5	Radiated emission 1GHz-18GHz	±5.1 dB
6	Radiated emission 18GHz-26GHz	±5.2 dB
7	Radiated emission 26GHz-40GHz	±5.2 dB

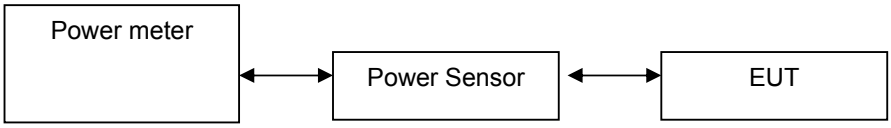
Uncertainty and Compliance - Unless the standard specifically states that measured values are to be extended by the measurement uncertainty in determining compliance, all compliance determinations are based on the actual measured value.

4.0 TEST RESULTS

4.1 Maximum Conducted (Avg) Output Power at Antenna Terminals

RF Conduct Measurement Test Setup

The figure below shows the test setup, which is utilized to make these measurements.



The antenna port of the EUT was connected to the input of a spectrum analyzer.

☒ The antenna power of the EUT was connected to the input of a power meter. Power was read directly and cable loss correction was added to the reading to the obtain power at the EUT antenna terminals. The measurement procedure E.3.A (789033 D02 General UNII Test Procedures New Rules v02r01) was used.

☐ The EUT should be configured to transmit continuously (at a minimum duty cycle of 98%) at full power over the measurement duration. The measurement procedure AVG1 was used.

IEEE 802.11ac (20MHz) (MCS0) Antenna Gain = 1.82 dBi

Frequency (MHz)	Conducted output power in dBm	Conducted output power in mWatt
5180	19.1	81.3
5200	18.3	67.6
5240	16.9	49.0
5745	16.1	40.7
5785	15.2	33.1
5825	14.2	26.3

IEEE 802.11ac (40MHz) (MCS0) Antenna Gain = 1.82 dBi

Frequency (MHz)	Conducted output power in dBm	Conducted output power in mWatt
5190	18.6	72.4
5230	17.4	55
5755	16.1	40.7
5795	15.2	33.1

IEEE 802.11ac (80MHz) (MCS0) Antenna Gain = 1.82 dBi

Frequency (MHz)	Conducted output power in dBm	Conducted output power in mWatt
5210	17.4	55
5775	15.2	33.1

IEEE 802.11a (20MHz) (OFDM, 6 Mbps) Antenna Gain = 1.82 dBi

Frequency (MHz)	Conducted output power in dBm	Conducted output power in mWatt
5180	19.1	81.3
5200	18.5	70.8
5240	16.9	49
5745	16.2	41.7
5785	15.2	33.1
5825	14.8	30.2

IEEE 802.11n (20MHz) (OFDM, MCS0) Antenna Gain = 1.82 dBi

Frequency (MHz)	Conducted output power in dBm	Conducted output powein mWatt
5180	19.1	81.3
5200	18.5	70.8
5240	17	50.1
5745	16.3	42.7
5785	15	31.6
5825	14.6	28.8

IEEE 802.11n (40MHz) (OFDM, MCS0) Antenna Gain = 1.82 dBi

Frequency (MHz)	Conducted output power in dBm	Conducted output power in mWatt
5190	18.5	70.8
5230	17.5	56.2
5755	16.1	40.7
5795	15.2	33.1

For maximum e.i.r.p.

IEEE 802.11ac (20MHz) (MCS0) Antenna Gain = 1.82 dBi

Frequency (MHz)	Conducted output power in dBm	EIRP in dBm	EIRP in mWatt
5180	6.25	8.07	6.41
5220	6.31	8.13	6.50
5240	6.46	8.28	6.73

IEEE 802.11ac (40MHz) (MCS0) Antenna Gain = 1.82 dBi

Frequency (MHz)	Conducted output power in dBm	EIRP in dBm	EIRP in mWatt
5190	6.08	7.9	6.17
5230	6.12	7.94	6.22

IEEE 802.11ac (80MHz) (MCS0) Antenna Gain = 1.82 dBi

Frequency (MHz)	Conducted output power in dBm	EIRP in dBm	EIRP in mWatt
5210	5.29	7.11	5.14

IEEE 802.11a (20MHz) (OFDM, 6 Mbps) Antenna Gain = 1.82 dBi

Frequency (MHz)	Conducted output power in dBm	EIRP in dBm	EIRP in mWatt
5180	6.67	8.49	7.06
5220	6.76	8.58	7.21
5240	6.89	8.71	7.43

IEEE 802.11n (20MHz) (OFDM, MCS0) Antenna Gain = 1.82 dBi

Frequency (MHz)	Conducted output power in dBm	EIRP in dBm	EIRP in mWatt
5180	6.4	8.22	6.64
5220	6.42	8.24	6.67
5240	6.48	8.3	6.76

IEEE 802.11n (40MHz) (OFDM, MCS0) Antenna Gain = 1.82 dBi

Frequency (MHz)	Conducted output power in dBm	EIRP in dBm	EIRP in mWatt
5190	6.37	8.19	6.59
5230	6.48	8.3	6.76

Cable loss : 1.02 dB External Attenuation : 10 dB

Cable loss, external attenuation: ☒ included in OFFSET function
☐ added to SA raw reading

IEEE 802.11ac (20MHz) (OFDM, MCS0)
max. conducted output level = 19.1 dBm

IEEE 802.11ac (40MHz) (OFDM, MCS0)
max. conducted output level = 18.6 dBm

IEEE 802.11ac (80MHz) (OFDM, MCS0)
max. conducted output level = 17.4dBm

IEEE 802.11a (20MHz) (OFDM, 6 Mbps)
max. conducted output level = 19.1 dBm

IEEE 802.11n (20MHz) (OFDM, MCS0)
max. conducted output level = 19.1 dBm

IEEE 802.11n (40MHz) (OFDM, MCS0)
max. conducted output level = 18.5 dBm

TEST REPORT

Remark:
1. Maximum e.i.r.p = Maximum conducted output power + Duty Cycle Factor + Antenna Gain
2. Maximum conducted output power = Conducted output power + Duty Cycle Factor
3. Duty cycle= On Time/ Period;
   Duty Cycle factor = 10 * log(1/ Duty cycle);
   Average factor = 20 log10 Duty Cycle.
4. Limits for FCC:

5150-5250MHz:
250mW (24dBm) for antennas with gains of 6dBi or less. (Client device)
5250-5350MHz:
250mW (24dBm)
5470-5725MHz:
250mW (24dBm)
5725-5850MHz:
1W (30dBm) for antennas with gains of 6dBi or less.

Limits for RSS:
5150-5250MHz:
200mW (23dBm) for antennas with gains of 6dBi or less.
5250-5350MHz:
250mW (24dBm)
5470-5725MHz:
250mW (24dBm)
5725-5850MHz:
1W (30dBm) for antennas with gains of 6dBi or less.

4.2 Minimum 6dB RF Bandwidth

The antenna port of the EUT was connected to the input of a spectrum analyzer. The EBW measurement procedure was used. A PEAK output reading was taken, a DISPLAY line was drawn 6dB lower than PEAK level. The 6dB bandwidth was determined from where the channel output spectrum intersected the display line.

IEEE 802.11ac (20MHz) (MCS0)

Frequency (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)
5745	17.1	18.4
5785	17.4	18.4
5825	17.4	18.4

IEEE 802.11ac (40MHz) (MCS0)

Frequency (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)
5755	35.9	36.854
5795	36.2	36.854

IEEE 802.11ac (80MHz) (MCS0)

Frequency (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)
5775	75.3	76.5

IEEE 802.11a (20MHz) (OFDM, 6Mbps)

Frequency (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)
5745	16.5	17.4
5785	16.5	17.4
5825	16.5	17.6

IEEE 802.11n (40MHz) (OFDM, MCS0)

Frequency (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)
5755	35.9	36.854
5795	36.2	37.154

IEEE 802.11n (20MHz) (OFDM, MCS0)

Frequency (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)
5745	17.4	18.2
5785	17.4	18.4
5825	17.7	18.4

Limits:

For 5725-5850MHz:

6 db bandwidth shall be at least 500kHz

The plots of 6db RF bandwidth and occupied bandwidth are saved with filename : UNII-1&2 test data.pdf

4.3 26 dB BANDWIDTH & OCCUPIED BANDWIDTH

The antenna port of the EUT was connected to the input of a spectrum analyzer. The EBW measurement procedure was used. A PEAK output reading was taken, a DISPLAY line was drawn 26dB lower than PEAK level. The 26dB bandwidth was determined from where the channel output spectrum intersected the display line.

IEEE 802.11ac (20MHz) (MCS0)

Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
5180	27.8	18.2
5200	29.2	18.2
5240	29.6	18.2
5745	30.4	18.4
5785	32.2	18.4
5825	33.4	18.4

IEEE 802.11ac (40MHz) (MCS0)

Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
5190	58.727	37.154
5230	53.333	36.554
5755	61.423	36.85
5795	70.112	36.85

IEEE 802.11ac (80MHz) (MCS0)

Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
5210	111	76
5775	136.5	76.5

IEEE 802.11a (20MHz) (OFDM, 6Mbps)

Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
5180	25.8	17
5200	28.4	17.4
5240	28.8	17
5745	31.2	17.4
5785	31.2	17.4
5825	34.4	17.6

IEEE 802.11n (20MHz) (OFDM, MCS0)

Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
5180	29.8	18.2
5200	28.4	18.4
5240	28.6	18
5745	32.8	18.2
5785	31.6	18.4
5825	32	18.4

IEEE 802.11N (40MHz) (OFDM, MCS0)

Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
5190	58.727	37.154
5230	53.333	36.554
5755	62.622	36.854
5795	66.816	37.154

4.4 Maximum Power Spectral Density

The output from the transmitter was connected to an attenuator and then to the input of the RF Spectrum Analyzer.

Spectrum analyser according to the following Settings:

For U-NII-1, U-NII-2A, U-NII-2C band:
Using method SA-2
a) Set span to encompass the entire emission bandwidth (EBW) of the signal.
b) Set RBW = 1 MHz, Set VBW ≥ 3 RBW, Detector = RMS
c) Sweep time = auto, trigger set to “free run”.
d) Trace average at least 100 traces in power averaging mode.
e) Record the max value and add 10 log (1/duty cycle)

For U-NII-3 band:
a) Set span to encompass the entire emission bandwidth (EBW) of the signal.
b) Set RBW = 500 kHz, Set VBW ≥ 3 RBW, Detector = RMS
c) Use the peak marker function to determine the maximum power level in any 500 kHz band segment within the fundamental EBW.
d) Sweep time = auto, trigger set to “free run”.
e) Trace average at least 100 traces in power averaging mode.
f) Record the max value and add 10 log (1/duty cycle)

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

IEEE 802.11a (20MHz) (OFDM, 6 Mbps)

Frequency (MHz)	Conducted PSD in 1MHz (dBm)
5180	1.326
5200	0.876
5240	1.284
Frequency (MHz)	**Conducted PSD in 500kHz (dBm)**
5745	-1.927
5785	-2.191
5825	-3.691

IEEE 802.11ac (20MHz) (MCS0)

Frequency (MHz)	Conducted PSD in 1MHz (dBm)
5180	0.436
5200	0.395
5240	0.833
Frequency (MHz)	**Conducted PSD in 500kHz (dBm)**
5745	-2.335
5785	-2.762
5825	-3.570

IEEE 802.11ac (40MHz) (MCS0)

Frequency (MHz)	Conducted PSD in 1MHz (dBm)
5190	-2.725
5230	-1.837
Frequency (MHz)	**Conducted PSD in 500kHz (dBm)**
5755	-4.5
5795	-5.78

IEEE 802.11ac (80MHz) (MCS0)

Frequency (MHz)	Conducted PSD in 1MHz (dBm)
5210	-4.781
Frequency (MHz)	**Conducted PSD in 500kHz (dBm)**
5775	-7.889

IEEE 802.11n (20MHz) (OFDM, MCS0)

Frequency (MHz)	Conducted PSD in 1MHz (dBm)
5180	-0.226
5200	0.219
5240	0.6
Frequency (MHz)	**Conducted PSD in 500kHz (dBm)**
5745	-2.564
5785	-2.947
5825	-4.298

IEEE 802.11n (40MHz) (OFDM, MCS0)

Frequency (MHz)	Conducted PSD in 1MHz (dBm)
5190	-2.813
5230	-2.072
Frequency (MHz)	**Conducted PSD in 500kHz (dBm)**
5755	-5.127
5795	-6.337

For maximum e.i.r.p.

IEEE 802.11a (20MHz) (OFDM, 6 Mbps)

Frequency (MHz)	EIRP PSD in 1MHz (dBm)
5180	0.892
5220	0.805
5240	0.884

IEEE 802.11ac (20MHz) (MCS0)

Frequency (MHz)	EIRP PSD in 1MHz (dBm)
5180	0.727
5220	0.72
5240	0.797

IEEE 802.11ac (40MHz) (MCS0)

Frequency (MHz)	EIRP PSD in 1MHz (dBm)
5190	0.351
5230	0.431

IEEE 802.11ac (80MHz) (MCS0)

Frequency (MHz)	EIRP PSD in 1MHz (dBm)
5210	0.219

IEEE 802.11n (20MHz) (OFDM, MCS0)

Frequency (MHz)	EIRP PSD in 1MHz (dBm)
5180	0.624
5220	0.692
5240	0.755

IEEE 802.11n (40MHz) (OFDM, MCS0)

Frequency (MHz)	EIRP PSD in 1MHz (dBm)
5190	0.344
5230	0.408

Remark:
1. Cable Loss: 1.02 dB
2. **Error! Reference source not found.**e.i.r.p. spectral density = Power spectral density + Duty Cycle Factor + Antenna Gain
3. Power spectral density = Conducted power spectral density + Duty Cycle Factor
5. Duty cycle= On Time/ Period;
   Duty Cycle factor = 10 * log(1/ Duty cycle);
   Average factor = 20 log10 Duty Cycle.
6. Limit:

For U-NII-1:

☒ FCC:
11dBm/MHz for mobile/portable device.
RSS:
10dBm/MHz E.I.R.P

For U-NII-2:

☒ FCC:
11dBm/MHz
RSS:
11dBm/MHz

For U-NII-3:

☒ FCC:
30dBm/500kHz.
RSS:
30dBm/500kHz.

The test data are saved with filename: UNII-1&2 test data.pdf

4.5 Field Strength Calculation

The field strength is calculated by adding the reading on the Spectrum Analyzer to the factors associated with preamplifiers (if any), antennas, cables, pulse desensitization and average factors (when specified limit is in average and measurements are made with peak detectors). A sample calculation is included below.

FS = RA + AF + CF - AG + PD + AV

Where FS = Field Strength in dBμV/m
RA = Receiver Amplitude (including preamplifier) in dBμV
CF = Cable Attenuation Factor in dB
AF = Antenna Factor in dB
AG = Amplifier Gain in dB
PD = Pulse Desensitization in dB
AV = Average Factor in -dB

In the radiated emission table which follows, the reading shown on the data table may reflect the preamplifier gain. An example of the calculations, where the reading does not reflect the preamplifier gain, follows:

FS = RA + AF + CF - AG + PD + AV

Example

Assume a receiver reading of 62.0 dBμV is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB is added. The amplifier gain of 29.0 dB is subtracted. The pulse desensitization factor of the spectrum analyzer is 0.0 dB, and the resultant average factor is -10.0 dB. The net field strength for comparison to the appropriate emission limit is 32.0 dBμV/m. This value in dBμV/m is converted to its corresponding level in μV/m.

RA = 62.0 dBμV
AF = 7.4 dB
CF = 1.6 dB
AG = 29.0 dB
PD = 0.0 dB
AV = -10 dB

FS = 62.0 + 7.4 + 1.6 – 29.0 + 0.0 + (-10.0) = 32.0 dBμV/m

Level in μV/m = Common Antilogarithm [(32.0 dBμV/m)/20] = 39.8 μV/m

4.6 Transmitter Radiated Emissions in Restricted Bands and Spurious Emissions

Data is included of the worst case configuration (the configuration which resulted in the highest emission levels). A sample calculation, configuration photographs and data tables of the emissions are included.

The data on the following pages list the significant emission frequencies, the limit and the margin of compliance.

4.6.1 Radiated Emission Configuration Photograph

Worst Case Restricted Band Radiated Emission
at

11510 MHz

The worst case radiated emission configuration photographs are saved with filename: Radiated Photo.pdf

4.6.2 Radiated Emission Data

The data in below tables list the significant emission frequencies, the limit and the margin of compliance.

Judgement -

Passed by 0.1 dB margin

IEEE 802.11A (20MHz) (OFDM,6MBs)

Radiated Emission Data

5180MHz

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Average Factor (dB)	Calculated at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
V	5150.000	26.5	33	35.7	31.2	0	31.2	54.0	-24.8
H	10360.000	32.7	33	40.5	40.2	0	40.2	54.0	-13.9
V	15540.000	28.0	33	37.7	33.7	0	33.7	54.0	-21.3
H	20720.000	26.5	33	37.7	37.9	0	37.9	54.0	-30.1
H	25900.000	32.7	33	39.3	39.6	0	39.6	54.0	-14.4
H	31080.000	28.0	33	42.1	42.3	0	42.3	54.0	-11.7

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
V	5150.000	52.7	33	35.7	53.4	74.0	-18.7
H	10360.000	65.8	33	40.5	73.3	74.0	-0.7
V	15540.000	60.6	33	37.7	51.8	74.0	-8.7
H	20720.000	47.1	33	37.7	45.6	74.0	-28.4
H	25900.000	39.3	33	39.3	41.9	74.0	-32.1
H	31080.000	32.8	33	42.1	50.4	74.0	-23.7

5240MHz

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Average Factor (dB)	Calculated at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
H	10480.000	30.6	33	40.5	38.1	0	38.1	54.0	-15.9
V	15720.000	29.0	33	37.7	33.7	0	33.7	54.0	-20.3
H	20960.000	35.0	33	37.7	39.7	0	39.7	54.0	-14.3
V	26200.000	36.1	33	39.2	42.3	0	42.3	54.0	-11.7
H	31440.000	36.6	33	42.1	45.7	0	45.7	54.0	-8.3
H	36680.000	39.3	33	41.7	48.0	0	48.0	54.0	-6.0

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
H	10480.000	50.6	33	40.5	68.5	74.0	-5.5
V	15720.000	46.3	33	37.7	51.0	74.0	-23.0
H	20960.000	63.4	33	37.7	51.5	74.0	-22.5
V	26200.000	49.7	33	39.2	46.3	74.0	-27.7
H	31440.000	44.3	33	42.1	43.6	74.0	-30.4
H	36680.000	43.7	33	41.7	50.4	74.0	-23.7

TEST REPORT

5200MHz

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Average Factor (dB)	Calculated at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
V	10400.000	30.2	33	40.5	37.7	0	37.7	54.0	-16.3
H	15600.000	28.7	33	37.7	33.4	0	33.4	54.0	-20.6
V	20800.000	29.7	33	37.7	34.4	0	34.4	54.0	-19.6
H	26000.000	29.9	33	39.2	36.1	0	36.1	54.0	-17.9
V	31200.000	34.5	33	42.1	43.6	0	43.6	54.0	-10.4
H	36400.000	38.3	33	41.7	47.0	0	47.0	54.0	-7.0

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
V	10400.000	64.6	33	40.5	72.1	74.0	-1.9
H	15600.000	45.9	33	37.7	50.6	74.0	-23.4
V	20800.000	45.0	33	37.7	49.7	74.0	-24.3
H	26000.000	38.1	33	39.2	44.3	74.0	-29.7
V	31200.000	34.6	33	42.1	43.7	74.0	-30.3
H	36400.000	41.8	33	41.7	50.5	74.0	-23.5

5745MHz

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Average Factor (dB)	Calculated at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
V	5725.000	32.5	33	36.6	36.1	0	36.1	54.0	-17.9
H	11490.000	31.1	33	40.8	38.9	0	38.9	54.0	-15.1
V	17235.000	35.4	33	37.6	40.0	0	40.0	54.0	-14.0
V	22980.000	33.2	33	38.3	38.5	0	38.5	54.0	-15.5
H	28725.000	35.8	33	40.1	42.9	0	42.9	54.0	-11.1
H	34470.000	38.8	33	41.1	46.9	0	46.9	54.0	-7.1

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
V	5725.000	48.3	33	36.6	51.9	74.0	-22.1
H	11490.000	65.6	33	40.8	73.4	74.0	-0.6
V	17235.000	49.3	33	37.6	53.9	74.0	-20.1
V	22980.000	37.7	33	38.3	43.0	74.0	-31.0
H	28725.000	39.1	33	40.1	46.2	74.0	-27.8
H	34470.000	43.9	33	41.1	52.0	74.0	-22.0

TEST REPORT

5785MHz

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Average Factor (dB)	Calculated at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
H	5725.000	29.8	33	36.6	33.4	0	33.4	54.0	-20.6
H	11570.000	31.5	33	40.5	39.0	0	39.0	54.0	-15.0
H	17355.000	39.3	33	37.6	43.9	0	43.9	54.0	-10.1
V	23140.000	39.5	33	38.6	45.1	0	45.1	54.0	-8.9
H	28925.000	40.9	33	40.1	48.0	0	48.0	54.0	-6.0
H	34710.000	44.5	33	41.3	52.8	0	52.8	54.0	-1.2

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
H	5725.000	47.4	33	36.6	51.0	74.0	-23.0
H	11570.000	64.9	33	40.5	72.4	74.0	-1.6
H	17355.000	44.9	33	37.6	49.5	74.0	-24.5
V	23140.000	39.5	33	38.6	45.1	74.0	-29.0
H	28925.000	40.9	33	40.1	48.0	74.0	-26.0
H	34710.000	44.5	33	41.3	52.8	74.0	-21.2

5825MHz

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Average Factor (dB)	Calculated at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
H	5850.000	28.8	33	36.6	32.4	0	32.4	54.0	-21.6
H	11650.000	30.5	33	40.5	38.0	0	38.0	54.0	-16.0
H	17475.000	30.4	33	37.6	35.0	0	35.0	54.0	-19.0
V	23300.000	31.2	33	38.6	36.8	0	36.8	54.0	-17.2
H	29125.000	41.4	33	40.0	48.4	0	48.4	54.0	-5.6
H	34950.000	42.3	33	41.3	50.6	0	50.6	54.0	-3.4

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
H	5850.000	49.3	33	36.6	52.9	74.0	-21.1
H	11650.000	63.4	33	40.5	70.9	74.0	-3.1
H	17475.000	46.6	33	37.6	51.2	74.0	-22.8
V	23300.000	39.1	33	38.6	44.7	74.0	-29.3
H	29125.000	35.7	33	40.0	42.7	74.0	-31.3
H	34950.000	44.9	33	41.3	53.2	74.0	-20.9

NOTES:

1. Peak detector is used for the emission measurement.
2. Average detector is used for the average data of emission measurement
3. All measurements were made at 3 meters.
4. Value in the margin column shows emission below limit.
5. Horn antenna is used for the emission over 1000MHz.
6. Emission (the row indicated by ***bold italic***) within the restricted band meets the requirement of FCC Part 15 Section 15.205.
7. For the measurement of radiated emission, summation method was used which numerical integrating (in terms of linear power) over the transmitter occupied bandwidth.
8. For the linear power measurement, data in 1MHz spacing was collected by spectrum analyzer with 1MHz resolution bandwidth.

IEEE 802.11N (HT20MHz) (MCS0)

Radiated Emission Data

5180MHz

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Average Factor (dB)	Calculated at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
H	5150.000	35.5	33	35.7	38.2	0	38.2	54.0	-15.9
H	10360.000	32.8	33	40.5	40.3	0	40.3	54.0	-13.7
H	15540.000	38.9	33	37.7	43.6	0	43.6	54.0	-10.4
H	20720.000	36.6	33	37.7	41.3	0	41.3	54.0	-12.7
H	25900.000	33.1	33	39.3	39.4	0	39.4	54.0	-14.6
V	31080.000	36.1	33	42.1	45.2	0	45.2	54.0	-8.8

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
H	5150.000	48.5	33	35.7	51.2	74.0	-22.8
H	10360.000	55.6	33	40.5	63.1	74.0	-10.9
H	15540.000	44.4	33	37.7	49.1	74.0	-24.9
H	20720.000	39.0	33	37.7	43.7	74.0	-30.3
H	25900.000	35.2	33	39.3	41.5	74.0	-32.5
V	31080.000	38.6	33	42.1	47.7	74.0	-26.3

5240MHz

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Average Factor (dB)	Calculated at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
H	10480.000	28.9	33	40.5	36.4	0	36.4	54.0	-17.6
V	15720.000	25.6	33	37.7	30.3	0	30.3	54.0	-23.7
H	20960.000	25.3	33	37.7	30.0	0	30.0	54.0	-24.0
H	26200.000	27.1	33	39.2	33.3	0	33.3	54.0	-20.7
V	31440.000	30.3	33	42.1	39.4	0	39.4	54.0	-14.6
H	36680.000	36.5	33	41.7	45.2	0	45.2	54.0	-8.8

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
H	10480.000	60.2	33	40.5	67.7	74.0	-6.3
V	15720.000	41.0	33	37.7	45.7	74.0	-28.3
H	20960.000	58.3	33	37.7	63.0	74.0	-11.0
H	26200.000	37.5	33	39.2	43.7	74.0	-30.3
V	31440.000	36.4	33	42.1	45.5	74.0	-28.5
H	36680.000	41.2	33	41.7	49.9	74.0	-24.1

TEST REPORT

5200MHz

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Average Factor (dB)	Calculated at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
V	10400.000	32.8	33	40.5	40.3	0	40.3	54.0	-13.7
H	15600.000	31.7	33	37.7	36.4	0	36.4	54.0	-17.6
V	20800.000	31.3	33	37.7	36.0	0	36.0	54.0	-18.0
H	26000.000	33.1	33	39.2	39.3	0	39.3	54.0	-14.7
H	31200.000	30.3	33	42.1	39.4	0	39.4	54.0	-14.6
H	36400.000	38.8	33	41.7	47.5	0	47.5	54.0	-6.5

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
V	10400.000	66.3	33	40.5	73.8	74.0	-0.2
H	15600.000	47.3	33	37.7	52.0	74.0	-22.0
V	20800.000	47.0	33	37.7	51.7	74.0	-22.3
H	26000.000	38.0	33	39.2	44.2	74.0	-29.8
H	31200.000	35.2	33	42.1	44.3	74.0	-29.7
H	36400.000	41.7	33	41.7	50.4	74.0	-23.6

5745MHz

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Average Factor (dB)	Calculated at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
V	5725.000	32.3	33	36.6	35.9	0	35.9	54.0	-18.1
H	11490.000	32.5	33	40.8	40.3	0	40.3	54.0	-13.7
H	17235.000	32.7	33	37.6	37.3	0	37.3	54.0	-16.7
H	22980.000	32.6	33	38.3	37.9	0	37.9	54.0	-16.1
H	28725.000	36.6	33	40.1	43.7	0	43.7	54.0	-10.3
H	34470.000	37.1	33	41.1	45.2	0	45.2	54.0	-8.8

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
V	5725.000	49.3	33	36.6	52.9	74.0	-21.1
H	11490.000	66.0	33	40.8	73.8	74.0	-0.2
H	17235.000	36.7	33	37.6	41.3	74.0	-32.7
H	22980.000	39.6	33	38.3	44.9	74.0	-29.1
H	28725.000	40.6	33	40.1	47.7	74.0	-26.3
H	34470.000	42.3	33	41.1	50.4	74.0	-23.6

TEST REPORT

5785MHz

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Average Factor (dB)	Calculated at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
H	5725.000	31.9	33	36.6	35.5	0	35.5	54.0	-18.5
H	11570.000	32.0	33	40.5	39.5	0	39.5	54.0	-14.5
V	17355.000	32.7	33	37.6	37.3	0	37.3	54.0	-16.7
V	23140.000	35.0	33	38.6	40.6	0	40.6	54.0	-13.4
H	28925.000	36.2	33	40.1	43.3	0	43.3	54.0	-10.7
H	34710.000	39.1	33	41.3	47.4	0	47.4	54.0	-6.6

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
H	5725.000	48.6	33	36.6	52.2	74.0	-21.8
H	11570.000	65.8	33	40.5	73.3	74.0	-0.7
V	17355.000	44.0	33	37.6	48.6	74.0	-25.4
V	23140.000	36.5	33	38.6	42.1	74.0	-31.9
H	28925.000	38.4	33	40.1	45.5	74.0	-28.5
H	34710.000	41.0	33	41.3	49.3	74.0	-24.7

5825MHz

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Average Factor (dB)	Calculated at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
V	5850.000	27.2	33	36.6	30.8	0	30.8	54.0	-23.2
H	11650.000	32.4	33	40.5	39.9	0	39.9	54.0	-14.1
V	17475.000	32.7	33	37.6	37.3	0	37.3	54.0	-16.7
H	23300.000	32.0	33	38.6	37.6	0	37.6	54.0	-16.4
H	29125.000	35.1	33	40.0	42.1	0	42.1	54.0	-11.9
H	34950.000	37.1	33	41.3	45.4	0	45.4	54.0	-8.6

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
V	5850.000	58.1	33	36.6	61.7	74.0	-12.3
H	11650.000	65.7	33	40.5	73.2	74.0	-0.8
V	17475.000	46.3	33	37.6	50.9	74.0	-23.1
H	23300.000	38.6	33	38.6	44.2	74.0	-29.8
H	29125.000	43.8	33	40.0	50.8	74.0	-23.2
H	34950.000	45.3	33	41.3	53.6	74.0	-20.4

NOTES:

1. Peak detector is used for the emission measurement.
5. Average detector is used for the average data of emission measurement
6. All measurements were made at 3 meters.
4. Value in the margin column shows emission below limit.
5. Horn antenna is used for the emission over 1000MHz.
6. Emission (the row indicated by ***bold italic***) within the restricted band meets the requirement of FCC Part 15 Section 15.205.
7. For the measurement of radiated emission, summation method was used which numerical integrating (in terms of linear power) over the transmitter occupied bandwidth.
8. For the linear power measurement, data in 1MHz spacing was collected by spectrum analyzer with 1MHz resolution bandwidth.

IEEE 802.11n (40MHz) (MCS0)

Radiated Emission Data

5190MHz

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Average Factor (dB)	Calculated at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
V	5150.000	30.6	33	35.7	33.3	0	33.3	54.0	-20.7
H	10380.000	31.7	33	40.5	39.2	0	39.2	54.0	-14.8
H	15570.000	31.2	33	37.7	35.9	0	35.9	54.0	-18.1
V	20760.000	32.7	33	37.7	37.4	0	37.4	54.0	-16.6
H	25950.000	36.2	33	39.3	42.5	0	42.5	54.0	-11.5
H	31140.000	37.2	33	42.1	46.3	0	46.3	54.0	-7.7

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
V	5150.000	48.3	33	35.7	51.0	74.0	-23.0
H	10380.000	65.0	33	40.5	72.5	74.0	-1.5
H	15570.000	45.8	33	37.7	50.5	74.0	-23.5
V	20760.000	40.2	33	37.7	44.9	74.0	-29.1
H	25950.000	38.4	33	39.3	44.7	74.0	-29.3
H	31140.000	39.4	33	42.1	48.5	74.0	-25.5

5230MHz

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Average Factor (dB)	Calculated at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
V	10460.000	32.2	33	40.5	39.7	0	39.7	54.0	-14.3
H	15690.000	28.1	33	37.7	32.8	0	32.8	54.0	-21.2
H	20920.000	31.8	33	37.7	36.5	0	36.5	54.0	-17.5
V	26150.000	34.2	33	39.2	40.4	0	40.4	68.0	-27.6
H	31380.000	33.7	33	42.1	42.8	0	42.8	54.0	-11.2
H	36610.000	38.5	33	41.7	47.2	0	47.2	54.0	-6.8

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
V	10460.000	66.0	33	40.5	73.5	74.0	-0.5
H	15690.000	48.5	33	37.7	53.2	74.0	-20.8
H	20920.000	37.0	33	37.7	41.7	74.0	-32.4
V	26150.000	43.6	33	39.2	49.8	68.0	-18.2
H	31380.000	36.1	33	42.1	45.2	74.0	-28.8
H	36610.000	39.8	33	41.7	48.5	74.0	-25.6

TEST REPORT

5755MHz

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Average Factor (dB)	Calculated at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
V	5725.000	30.2	33	36.6	33.8	0	33.8	54.0	-20.2
H	11510.000	28.3	33	40.5	35.8	0	35.8	54.0	-18.2
V	17265.000	32.1	33	37.6	36.7	0	36.7	54.0	-17.3
V	23020.000	35.8	33	38.6	41.4	0	41.4	54.0	-12.6
V	28775.000	35.7	33	40.1	42.8	0	42.8	54.0	-11.2
H	34530.000	40.2	33	41.3	48.5	0	48.5	54.0	-5.5

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
V	5725.000	47.2	33	36.6	50.8	74.0	-23.2
H	11510.000	58.7	33	40.5	66.2	74.0	-7.8
V	17265.000	36.8	33	37.6	41.4	74.0	-32.6
V	23020.000	38.2	33	38.6	43.8	74.0	-30.2
V	28775.000	38.2	33	40.1	45.3	74.0	-28.7
H	34530.000	42.6	33	41.3	50.9	74.0	-23.2

5795MHz

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Average Factor (dB)	Calculated at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
H	5850.000	28.9	33	36.6	32.5	0	32.5	54.0	-21.5
H	11590.000	32.3	33	40.5	39.8	0	39.8	54.0	-14.2
H	17385.000	31.2	33	37.6	35.8	0	35.8	54.0	-18.2
V	23180.000	34.8	33	38.6	40.4	0	40.4	54.0	-13.6
H	28975.000	36.6	33	40.1	43.7	0	43.7	54.0	-10.3
H	34770.000	39.3	33	41.3	47.6	0	47.6	54.0	-6.4

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
H	5850.000	51.9	33	36.6	55.5	74.0	-18.5
H	11590.000	65.4	33	40.5	72.9	74.0	-1.1
H	17385.000	46.0	33	37.6	50.6	74.0	-23.4
V	23180.000	37.5	33	38.6	43.1	74.0	-30.9
H	28975.000	37.6	33	40.1	44.7	74.0	-29.3
H	34770.000	42.0	33	41.3	50.3	74.0	-23.7

NOTES:

1. Peak detector is used for the emission measurement.
2. Average detector is used for the average data of emission measurement
3. All measurements were made at 3 meters.
4. Value in the margin column shows emission below limit.
5. Horn antenna is used for the emission over 1000MHz.
6. Emission (the row indicated by ***bold italic***) within the restricted band meets the requirement of FCC Part 15 Section 15.205.
7. For the measurement of radiated emission, summation method was used which numerical integrating (in terms of linear power) over the transmitter occupied bandwidth.
8. For the linear power measurement, data in 1MHz spacing was collected by spectrum analyzer with 1MHz resolution bandwidth.

TEST REPORT

Ac mode 20MHz

Frequency: 5210MHz
IEEE 802.11ac (80MHz) (MCS0)

Radiated Emission Data

5180MHz

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Average Factor (dB)	Calculated at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
V	5150.000	30.4	33	35.7	33.1	0	33.1	54.0	-20.9
H	10360.000	29.5	33	40.5	37.0	0	37.0	54.0	-17.0
H	15540.000	31.5	33	37.7	36.2	0	36.2	54.0	-17.8
H	20720.000	35.1	33	37.7	39.8	0	39.8	54.0	-14.2
V	25900.000	35.4	33	39.3	41.7	0	41.7	54.0	-12.3
H	31080.000	37.0	33	42.1	46.1	0	46.1	54.0	-7.9

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
V	5150.000	49.5	33	35.7	52.2	74.0	-21.8
H	10360.000	60.5	33	40.5	68.0	74.0	-6.0
H	15540.000	48.3	33	37.7	53.0	74.0	-21.0
H	20720.000	40.4	33	37.7	45.1	74.0	-28.9
V	25900.000	38.5	33	39.3	44.8	74.0	-29.2
H	31080.000	41.9	33	42.1	51.0	74.0	-23.1

5240MHz

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Average Factor (dB)	Calculated at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
V	10480.000	25.8	33	40.5	33.3	0	33.3	54.0	-20.7
H	15720.000	35.0	33	37.7	39.7	0	39.7	54.0	-14.3
H	20960.000	30.5	33	37.7	35.2	0	35.2	54.0	-18.8
H	26200.000	33.3	33	39.2	39.5	0	39.5	54.0	-14.5
V	31440.000	33.5	33	42.1	42.6	0	42.6	54.0	-11.4
H	36680.000	38.8	33	41.7	47.5	0	47.5	54.0	-6.5

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
V	10480.000	44.8	33	40.5	52.3	74.0	-21.7
H	15720.000	68.3	33	37.7	73.0	74.0	-1.0
H	20960.000	44.5	33	37.7	49.2	74.0	-24.8
H	26200.000	38.8	33	39.2	45.0	68.0	-23.0
V	31440.000	34.2	33	42.1	43.3	74.0	-30.7
H	36680.000	41.5	33	41.7	50.2	74.0	-23.8

TEST REPORT

5200MHz

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Average Factor (dB)	Calculated at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
V	10400.000	31.6	33	40.5	39.1	0	39.1	54.0	-14.9
H	15600.000	30.4	33	37.7	35.1	0	35.1	54.0	-19.0
V	20800.000	31.3	33	37.7	36.0	0	36.0	54.0	-18.0
H	26000.000	33.1	33	39.2	39.3	0	39.3	54.0	-14.7
H	31200.000	33.3	33	42.1	42.4	0	42.4	54.0	-11.6
H	36400.000	39.9	33	41.7	48.6	0	48.6	54.0	-5.4

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
V	10400.000	65.9	33	40.5	73.4	74.0	-0.6
H	15600.000	54.0	33	37.7	58.7	74.0	-15.3
V	20800.000	45.0	33	37.7	49.7	74.0	-24.3
H	26000.000	37.6	33	39.2	43.8	74.0	-30.2
H	31200.000	35.4	33	42.1	44.5	74.0	-29.5
H	36400.000	40.8	33	41.7	49.5	74.0	-24.5

5745MHz

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Average Factor (dB)	Calculated at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
V	5725.000	30.7	33	36.6	34.3	0	34.3	54.0	-19.7
H	11490.000	31.1	33	40.8	38.9	0	38.9	54.0	-15.1
H	17235.000	31.7	33	37.6	36.3	0	36.3	54.0	-17.7
H	22980.000	33.5	33	38.3	38.8	0	38.8	54.0	-15.2
H	28725.000	35.0	33	40.1	42.1	0	42.1	54.0	-11.9
H	34470.000	39.5	33	41.1	47.6	0	47.6	54.0	-6.4

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
V	5725.000	48.3	33	36.6	51.9	74.0	-22.1
H	11490.000	65.2	33	40.8	73.0	74.0	-1.0
H	17235.000	49.3	33	37.6	53.9	74.0	-20.1
H	22980.000	37.7	33	38.3	43.0	74.0	-31.0
H	28725.000	39.1	33	40.1	46.2	74.0	-27.8
H	34470.000	43.9	33	41.1	52.0	74.0	-22.0

TEST REPORT

5785MHz

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Average Factor (dB)	Calculated at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
V	5725.000	31.1	33	36.6	34.7	0	34.7	54.0	-19.3
H	11570.000	31.5	33	40.5	39.0	0	39.0	54.0	-15.0
H	17355.000	32.0	33	37.6	36.6	0	36.6	54.0	-17.4
V	23140.000	33.9	33	38.6	39.5	0	39.5	54.0	-14.5
H	28925.000	36.1	33	40.1	43.2	0	43.2	54.0	-10.8
H	34710.000	37.9	33	41.3	46.2	0	46.2	54.0	-7.8

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
V	5725.000	48.6	33	36.6	52.2	74.0	-21.8
H	11570.000	64.9	33	40.5	72.4	74.0	-1.6
H	17355.000	44.9	33	37.6	49.5	74.0	-24.5
V	23140.000	38.5	33	38.6	44.1	74.0	-30.0
H	28925.000	38.9	33	40.1	46.0	74.0	-28.0
H	34710.000	45.5	33	41.3	53.8	74.0	-20.2

5825MHz

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Average Factor (dB)	Calculated at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
V	5850.000	32.0	33	36.6	35.6	0	35.6	54.0	-18.4
H	11650.000	30.5	33	40.5	38.0	0	38.0	54.0	-16.0
H	17475.000	30.6	33	37.6	35.2	0	35.2	54.0	-18.8
H	23300.000	32.3	33	38.6	37.9	0	37.9	54.0	-16.1
V	29125.000	36.0	33	40.0	43.0	0	43.0	54.0	-11.0
H	34950.000	37.5	33	41.3	45.8	0	45.8	54.0	-8.2

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
V	5850.000	49.3	33	36.6	52.9	74.0	-21.1
H	11650.000	63.4	33	40.5	70.9	74.0	-3.1
H	17475.000	46.6	33	37.6	51.2	74.0	-22.8
H	23300.000	39.1	33	38.6	44.7	74.0	-29.3
V	29125.000	35.7	33	40.0	42.7	74.0	-31.3
H	34950.000	42.9	33	41.3	51.2	74.0	-22.9

TEST REPORT

Ac mode 40MHz

Frequency: 5210MHz
IEEE 802.11ac (80MHz) (MCS0)

Radiated Emission Data

5190MHz

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Average Factor (dB)	Calculated at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
V	5150.000	28.5	33	35.7	31.2	0	31.2	54.0	-22.8
H	10380.000	32.0	33	40.5	39.5	0	39.5	54.0	-14.6
V	15570.000	31.0	33	37.7	35.7	0	35.7	54.0	-18.3
H	20760.000	32.1	33	37.7	36.8	0	36.8	54.0	-17.2
H	25950.000	35.7	33	39.3	42.0	0	42.0	54.0	-12.0
H	31140.000	38.0	33	42.1	47.1	0	47.1	54.0	-6.9

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
V	5150.000	62.2	33	35.7	64.9	74.0	-9.1
H	10380.000	66.0	33	40.5	73.5	74.0	-0.5
V	15570.000	45.6	33	37.7	50.3	74.0	-23.7
H	20760.000	41.1	33	37.7	45.8	74.0	-28.3
H	25950.000	39.5	33	39.3	45.8	74.0	-28.2
H	31140.000	42.2	33	42.1	51.3	74.0	-22.7

5230MHz

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Average Factor (dB)	Calculated at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
V	10460.000	29.6	33	40.5	37.1	0	37.1	54.0	-16.9
H	15690.000	29.8	33	37.7	34.5	0	34.5	54.0	-19.5
H	20920.000	30.7	33	37.7	35.4	0	35.4	54.0	-18.6
V	26150.000	31.2	33	39.2	37.4	0	37.4	54.0	-16.6
H	31380.000	31.5	33	42.1	40.6	0	40.6	54.0	-13.4
H	36610.000	38.1	33	41.7	46.8	0	46.8	54.0	-7.2

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
V	10460.000	63.8	33	40.5	71.3	74.0	-2.7
H	15690.000	46.6	33	37.7	51.3	74.0	-22.7
H	20920.000	44.7	33	37.7	49.4	74.0	-24.6
V	26150.000	38.5	33	39.2	44.7	74.0	-29.3
H	31380.000	32.5	33	42.1	41.6	74.0	-32.4
H	36610.000	39.9	33	41.7	48.6	74.0	-25.4

TEST REPORT

5755MHz

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Average Factor (dB)	Calculated at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
V	5725.000	31.0	33	36.6	34.6	0	34.6	54.0	-19.4
H	11510.000	32.4	33	40.5	39.9	0	39.9	54.0	-14.1
V	17265.000	32.3	33	37.6	36.9	0	36.9	54.0	-17.1
V	23020.000	31.9	33	38.6	37.5	0	37.5	54.0	-16.5
V	28775.000	35.7	33	40.1	42.8	0	42.8	54.0	-11.2
H	34530.000	40.0	33	41.3	48.3	0	48.3	54.0	-5.7

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
V	5725.000	48.5	33	36.6	52.1	74.0	-21.9
H	11510.000	66.4	33	40.5	73.9	74.0	-0.1
V	17265.000	46.5	33	37.6	51.1	74.0	-22.9
V	23020.000	38.4	33	38.6	44.0	74.0	-30.0
V	28775.000	39.0	33	40.1	46.1	74.0	-27.9
H	34530.000	43.2	33	41.3	51.5	74.0	-22.5

5795MHz

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Average Factor (dB)	Calculated at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
V	5850.000	30.3	33	36.6	33.9	0	33.9	54.0	-20.1
H	11590.000	31.3	33	40.5	38.8	0	38.8	54.0	-15.2
V	17385.000	31.2	33	37.6	35.8	0	35.8	54.0	-18.2
H	23180.000	34.8	33	38.6	40.4	0	40.4	54.0	-13.6
H	28975.000	35.2	33	40.1	42.3	0	42.3	54.0	-11.7
V	34770.000	40.5	33	41.3	48.8	0	48.8	54.0	-5.2

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
V	5850.000	47.6	33	36.6	51.2	74.0	-22.8
H	11590.000	65.9	33	40.5	73.4	74.0	-0.6
V	17385.000	40.5	33	37.6	45.1	74.0	-28.9
H	23180.000	51.5	33	38.6	57.1	74.0	-16.9
H	28975.000	37.5	33	40.1	44.6	74.0	-29.4
V	34770.000	42.1	33	41.3	50.4	74.0	-23.6

TEST REPORT

Ac mode 80MHz

Frequency: 5210MHz
IEEE 802.11ac (80MHz) (MCS0)

Radiated Emission Data

5210MHz

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Average Factor (dB)	Calculated at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
V	5150.000	31.0	33	35.7	33.7	0	33.7	54.0	-20.3
H	10360.000	29.6	33	40.5	37.1	0	37.1	54.0	-16.9
H	15540.000	30.4	33	37.7	35.1	0	35.1	54.0	-18.9
H	20720.000	33.1	33	37.7	37.8	0	37.8	54.0	-16.2
V	25900.000	33.3	33	39.3	39.6	0	39.6	54.0	-14.4
H	31080.000	32.3	33	42.1	41.4	0	41.4	54.0	-12.6

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
V	5150.000	50.3	33	35.7	53.0	74.0	-21.0
H	10360.000	62.6	33	40.5	70.1	74.0	-3.9
H	15540.000	46.7	33	37.7	51.4	74.0	-22.6
H	20720.000	39.4	33	37.7	44.1	74.0	-30.0
V	25900.000	35.3	33	39.3	41.6	74.0	-32.4
H	31080.000	36.0	33	42.1	45.1	74.0	-28.9

5775MHz

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Average Factor (dB)	Calculated at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
V	5725.000	28.7	33	36.6	32.3	0	32.3	54.0	-21.7
V	5850.000	32.8	33	36.6	36.4	0	36.4	54.0	-17.6
V	11550.000	27.8	33	40.5	35.3	0	35.3	54.0	-18.7
V	17325.000	33.1	33	37.6	37.7	0	37.7	54.0	-16.3
H	23100.000	34.5	33	38.6	40.1	0	40.1	54.0	-13.9
H	28875.000	40.2	33	40.1	47.3	0	47.3	54.0	-6.7

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
V	5725.000	61.8	33	36.6	65.4	74.0	-8.7
V	5850.000	65.9	33	36.6	69.5	74.0	-4.5
V	11550.000	36.4	33	40.5	43.9	74.0	-30.1
V	17325.000	46.9	33	37.6	51.5	74.0	-22.5
H	23100.000	40.6	33	38.6	46.2	74.0	-27.9
H	28875.000	42.5	33	40.1	49.6	74.0	-24.4

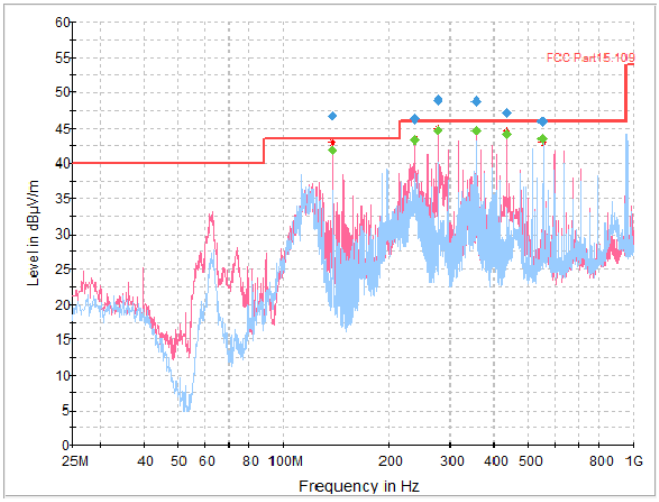
NOTES:

1. Peak detector is used for the emission measurement.
2. Average detector is used for the average data of emission measurement
3. All measurements were made at 3 meters.
4. Value in the margin column shows emission below limit.
5. Horn antenna is used for the emission over 1000MHz.
6. Emission (the row indicated by ***bold italic***) within the restricted band meets the requirement of FCC Part 15 Section 15.205.
7. For the measurement of radiated emission, summation method was used which numerical integrating (in terms of linear power) over the transmitter occupied bandwidth.
8. For the linear power measurement, data in 1MHz spacing was collected by spectrum analyzer with 1MHz resolution bandwidth.

TEST REPORT

Mode: Play + Chargeing

Radiated Emission Data



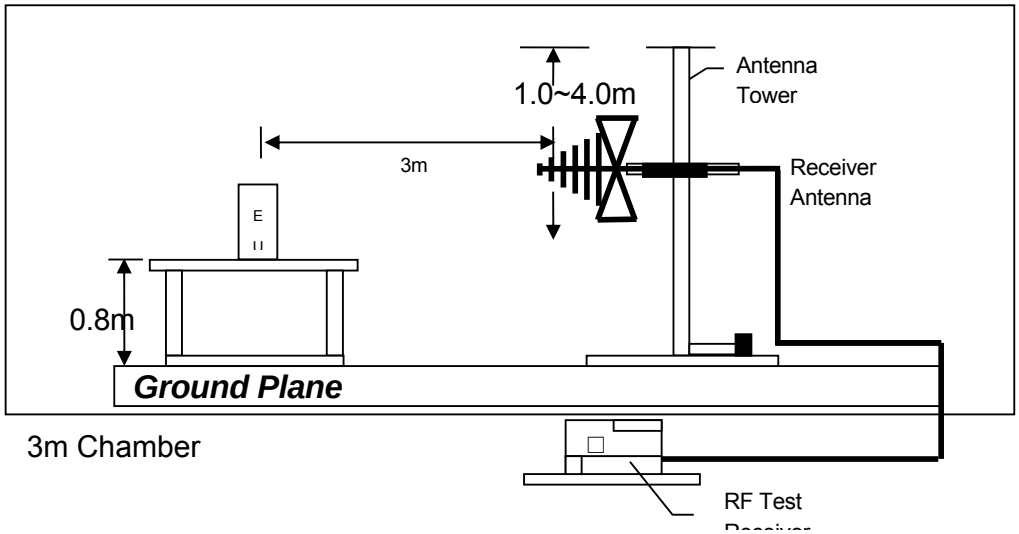
Frequency (MHz)	MaxPeak (dBµV/m)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
138.601970	46.67	41.83	43.50	-1.67	100.000	100.0	V	359.0
237.602820	46.35	43.41	46.00	-2.59	100.000	200.0	V	215.0
277.204275	49.03	44.73	46.00	-1.27	100.000	156.0	V	135.0
356.405045	48.91	44.64	46.00	-1.36	100.000	100.0	V	30.0
435.606135	47.15	44.12	46.00	-1.88	100.000	100.0	V	359.0
554.407630	45.94	43.53	46.00	-2.47	100.000	100.0	H	11.0

NOTES:

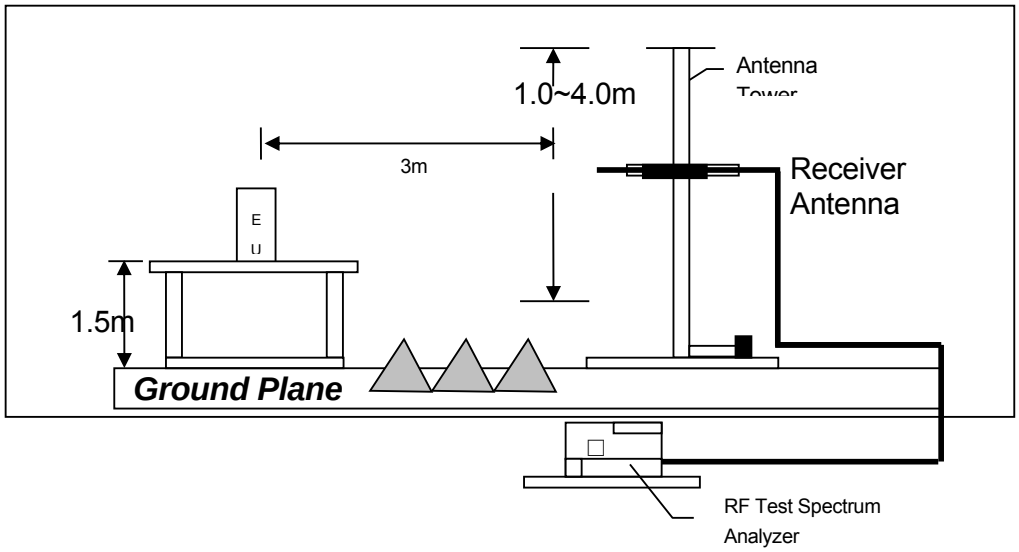
1. Peak detector is used for the emission measurement.
2. All measurements were made at 3 meters.
3. Value in the margin column shows emission below limit.
4. Emission (the row indicated by ***bold italic***) within the restricted band meets the requirement of FCC Part 15 Section 15.205.

4.5.3 Radiated Emission Test Setup

The figure below shows the test setup, which is utilized to make these measurements.



Test setup of radiated emissions up to 1GHz



Test setup of radiated emissions above 1GHz

TEST REPORT

4.7 AC Power Line Conducted Emission

☐ Not applicable – EUT is only powered by battery for operation.

☒ EUT connects to AC power line. Emission Data is listed in following pages.

☐ Base Unit connects to AC power line and has transmission. Handset connects to AC power line but has no transmission. Emission Data of Base Unit is listed in following pages.

4.7.1 AC Power Line Conducted Emission Configuration Photograph

Worst Case Line-Conducted Configuration
at

27.645 MHz

The worst case line conducted configuration photographs are attached in the Appendix and saved with filename: Conduct Photo.pdf

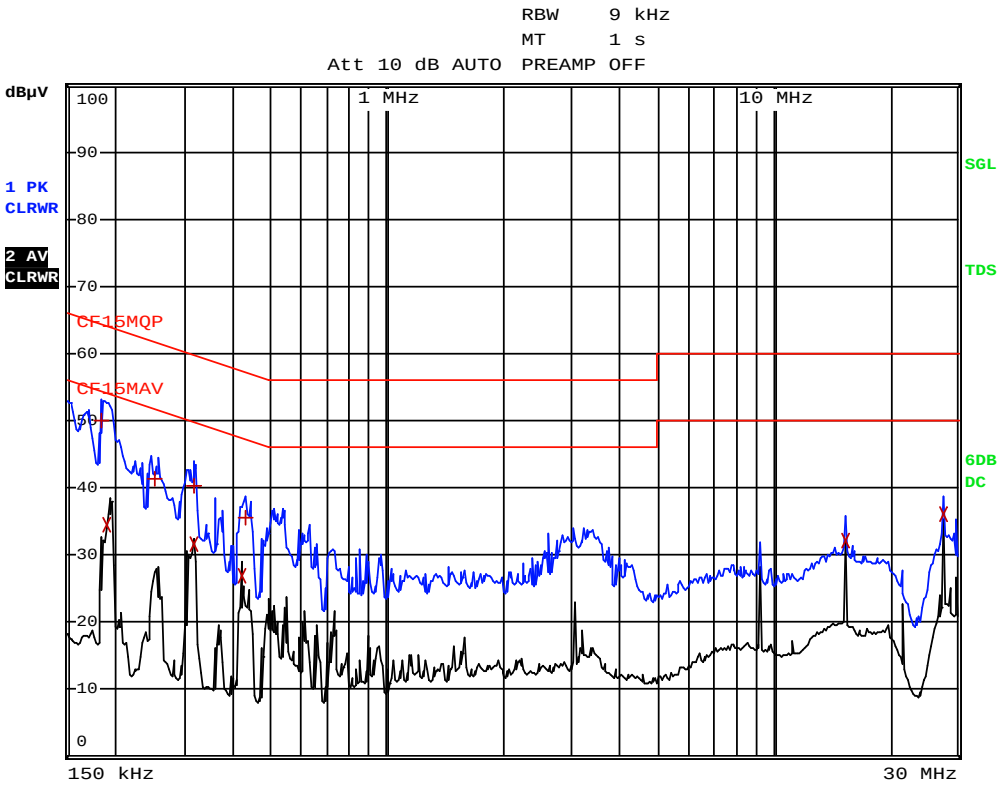
4.7.2 AC Power Line Conducted Emission Data

The plot(s) and data in the following pages list the significant emission frequencies, the limit and the margin of compliance.

Passed by 13.83 dB margin compare with Quasi-peak limit

TEST REPORT

Worst Case: Play + Charging



TEST REPORT

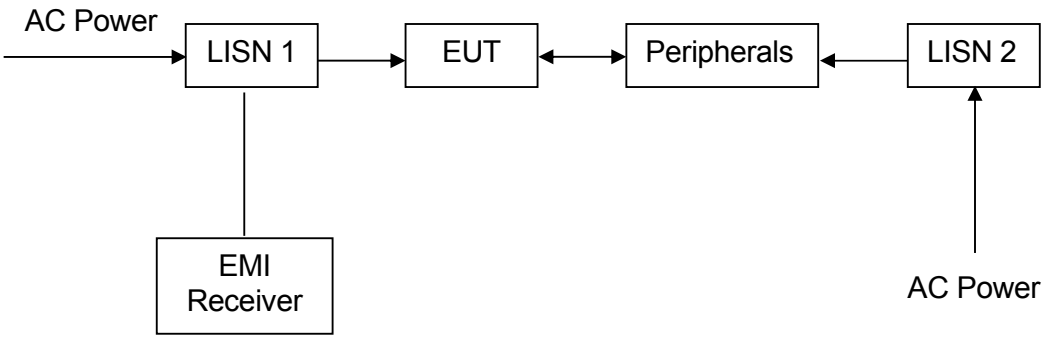
Worst Case: Play + Charging

EDIT PEAK LIST (Final Measurement Results)

Trace1: CF15MQP
Trace2: CF15MAV
Trace3: ---

	TRACE	FREQUENCY	LEVEL dBµV		DELTA LIMIT dB
1	Quasi Peak	186 kHz	49.88	L1	-14.32
2	CISPR Average	190.5 kHz	34.63	L1	-19.37
1	Quasi Peak	253.5 kHz	41.28	N	-20.35
1	Quasi Peak	316.5 kHz	40.18	L1	-19.60
2	CISPR Average	316.5 kHz	31.71	N	-18.08
2	CISPR Average	420 kHz	26.88	N	-20.56
1	Quasi Peak	429 kHz	35.48	N	-21.78
2	CISPR Average	15.36 MHz	32.14	L1	-17.86
2	CISPR Average	27.645 MHz	36.16	N	-13.83

4.7.3 Conducted Emission Test Setup



5.0 EQUIPMENT LIST

1) Radiated Emissions Test

Equipment	EMI Test Receiver	Biconical Antenna	Log Periodic Antenna
Registration No.	EW-2253	EW-0571	EW-1042
Manufacturer	R&S	EMCO	EMCO
Model No.	FSP40	3104C	3148
Calibration Date	November 18, 2019	July 23, 2019	May 23, 2019
Calibration Due Date	November 18, 2020	January 23, 2021	November 23, 2020

Equipment	Spectrum Analyzer	RF Pre-Amplifier 3 pcs (9kHz To 40GHz)	Double Ridged Guide Antenna
Registration No.	EW-2253	EW-3006b	EW-3415
Manufacturer	R&S	SCHWARZBECK	EMCO
Model No.	FSP40	BBV 9718	3115
Calibration Date	November 18, 2019	November 25, 2019	June 07, 2019
Calibration Due Date	November 18, 2020	November 25, 2020	December 07, 2020

Equipment	Active Loop H-Field (9kHz To 30MHz)	RF Cable (up to 40GHz) 1.5m length	14m Double Shield RF Cable (20MHz To 6GHz)
Registration No.	EW-2313	EW-3104	EW-2858
Manufacturer	ELECTROMETRI	N/A	RADIALL
Model No.	EM-6876	SMA-M to SMA-M	nm / br5d / sma 14m
Calibration Date	December 17, 2019	August 26, 2019	September 30, 2019
Calibration Due Date	June 17, 2021	August 26, 2020	September 30, 2020

2) Conducted Emissions Test

Equipment	EMI Test Receiver	Artificial Mains Network	RF Cable 80cm (RG142) (9kHz to 30MHz)
Registration No.	EW-2666	EW-3360	EW-2452
Manufacturer	ROHDESCHWARZ	R&S	RADIALL
Model No.	ESCI7	ENV216	bnc m st / 142 / bnc m st 80cm
Calibration Date	August 28, 2019	August 29, 2019	November 14, 2019
Calibration Due Date	August 28, 2020	August 29, 2020	November 14, 2020

3) Conductive Measurement Test

Equipment	Spectrum Analyzer	Digital Power Meter	RF Cable (up to 40GHz) 1.5m length
Registration No.	EW-2253	EW-2620	EW-3104
Manufacturer	R&S	YOKOGAWA	N/A
Model No.	FSP40	WT210	SMA-M to SMA-M
Calibration Date	November 18, 2019	May 28, 2019	August 26, 2019
Calibration Due Date	November 18, 2020	June 25, 2020	August 26, 2020

TEST REPORT

4) Bandwith/Bandedge Measurement Test

Equipment	Spectrum Analyzer	RF Cable (up to 40GHz) 1.5m length
Registration No.	EW-2253	EW-3104
Manufacturer	R&S	N/A
Model No.	FSP40	SMA-M to SMA-M
Calibration Date	November 18, 2019	August 26, 2019
Calibration Due Date	November 18, 2020	August 26, 2020