Shenzhen Global Test Service Co.,Ltd.
No.7-101 and 8A-104, Building 7 and 8, DCC Cultural and Creative Garden, No.98, Pingxin North Road, Shangmugu Community, Pinghu Street, Longgang District, Shenzhen, Guangdong

FCC PART 15 SUBPART C TEST REPORT

FCC PART 15.407

Report Reference No.....:	**GTS20220215005-1-4**
FCC ID..... :	**2AVE7-D042A**
Compiled by (position+printed name+signature) .:	File administrators Peter Xiao
Supervised by (position+printed name+signature) .:	Test Engineer Oliver Ou
Approved by (position+printed name+signature) .:	Manager Simon Hu
Date of issue .....:	Feb. 22, 2022
Representative Laboratory Name.:	**Shenzhen Global Test Service Co.,Ltd.**
Address .....:	No.7-101 and 8A-104, Building 7 and 8, DCC Cultural and Creative Garden, No.98, Pingxin North Road, Shangmugu Community, Pinghu Street, Longgang District, Shenzhen, Guangdong,China
Applicant's name.....:	**Shenzhen Hotack Technology Co.,Ltd**
Address .....:	Floor 4,Building A1,130 Silicon Valley Power Third Park, Si Li Road,guanlan street,Longhua District, Shenzhen China 518000
Test specification .....:	
Standard .....:	**FCC Part 15.407: General technical requirements**
TRF Originator.....:	Shenzhen Global Test Service Co.,Ltd.
Master TRF .....:	Dated 2014-12

Test item description .....:	**Smart Projector**
Trade Mark .....:	N/A
Manufacturer .....:	Shenzhen Hotack Technology Co.,Ltd
Model/Type reference .....:	D042
Listed Models .....:	D042A, D042S, D042H, D042T, BW-VT2
Operation Frequency.....:	From 5180MHz to 5240MHz/ 5745MHz to 5825MHz
Hardware Version .....:	N/A
Software Version .....:	N/A
Rating .....:	DC 12.0V/2.0A by Adapter
Result .....:	**PASS**

T E S T R E P O R T

Test Report No. : GTS20220215005-1-4	Feb. 22, 2022 Date of issue

Equipment under Test	:	Smart Projector
Model /Type	:	D042
Listed model	:	D042A, D042S, D042H, D042T, BW-VT2
Applicant	:	**Shenzhen Hotack Technology Co.,Ltd**
Address	:	Floor 4,Building A1,130 Silicon Valley Power Third Park, Si Li Road,guanlan street,Longhua District, Shenzhen China 518000
Manufacturer	:	**Shenzhen Hotack Technology Co.,Ltd**
Address	:	Floor 4,Building A1,130 Silicon Valley Power Third Park, Si Li Road,guanlan street,Longhua District, Shenzhen China 518000

Test Result:	**PASS**

The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

Contents

1. TEST STANDARDS

The tests were performed according to following standards:

FCC Rules Part 15.407: General technical requirements.
ANSI C63.10-2013: American National Standard for Testing Unlicensed Wireless Devices
KDB 789033 D02 General U-NII Test Procedures New Rules v02r01: UNII, U-NII, U-NII Test Procedures

2. SUMMARY

2.1. General Remarks

Date of receipt of test sample	:	Feb. 17, 2022
Testing commenced on	:	Feb. 17, 2022
Testing concluded on	:	Feb. 22, 2022

2.2. Product Description

Product Name	Smart Projector
Trade Mark	N/A
Model/Type reference	D042
List Models	D042A, D042S, D042H, D042T, BW-VT2
Model Declaration	PCB board, structure and internal of these model(s) are the same, Only the model name different , So no additional models were tested.
Power supply:	DC 12.0V/2.0A by Adapter
Sample ID	GTS20220215005-1-1# & GTS20220215005-1-2#
Bluetooth	
Operation frequency	2402-2480MHz
Channel Number	79 channels for Bluetooth (DSS) 40 channels for Bluetooth (DTS)
Channel Spacing	1MHz for Bluetooth (DSS) 2MHz for Bluetooth (DTS)
Modulation Type	GFSK, π/4-DQPSK, 8DPSK for Bluetooth (DSS) GFSK for Bluetooth (DTS)
WIFI(2.4G Band)	
Frequency Range	2412MHz ~ 2462MHz
Channel Spacing	5MHz
Channel Number	11 Channel for 20MHz bandwidth(2412~2462MHz) 7 Channel for 40MHz bandwidth(2422~2452MHz)
Modulation Type	802.11b: DSSS; 802.11g/n: OFDM
WIFI(5.2G Band)	
Frequency Range	5180MHz ~ 5240MHz
Channel Number	4 channels for 20MHz bandwidth(5180-5240MHz) 2 channels for 40MHz bandwidth(5190~5230MHz) 1 channels for 80MHz bandwidth(5210MHz)
Modulation Type	802.11a/n/ac: OFDM
WIFI (5.8G Band)	
Frequency Range	5745MHz ~ 5825MHz
Channel Number	5 channels for 20MHz bandwidth(5745-5825MHz) 2 channels for 40MHz bandwidth(5755~5795MHz) 1 channels for 80MHz bandwidth(5775MHz)
Modulation Type	802.11a/n/ac: OFDM
Antenna Description	Internal Antenna, 4.62dBi(Max.) for 2.4G Band and 3.33dBi(Max.) for 5G Band

2.3. Product Difference Description

The difference between D042 is show in the below table:

main information	D042 (with Type-c port)	D042 (without Type-c port)
Main board	with Type-c port	without Type-c port
Frequency bands	support Wi-Fi2.4G&5G support BT;	The same
BT/ Wi-Fi module	EWN-UWE56221AA	The same
BT/ Wi-Fi antenna	2.4G+5G built-in FPC antenna	The same
Appearance	The same	The same
Dimension	72X72X106mm	The same
CPU	RK3228A 4 cores, A7 core, 1.2G	The same
GPU	support	The same
Memory	2GB DDR3	The same
SSD/EMMC	16GB	The same
Adapter	CW1202000US	The same

2.4. Equipment Under Test

Power supply system utilised

Power supply voltage	:	○	230V / 50 Hz	○	120V / 60Hz
		●	12 V DC	○	24 V DC
		○	Other (specified in blank below)		

DC 12.0V

2.5. Short description of the Equipment under Test (EUT)

This is a Smart Projector .
For more details, refer to the user's manual of the EUT.

2.6. EUT operation mode

The application provider specific test software to control sample in continuous TX and RX.

Antenna	Chain0 (ANT0)			Chain1 (ANT1)			Simultaneously
Bandwidth Mode	20MHz	40MHz	80MHz	20MHz	40MHz	80MHz	/
IEEE 802.11a	☑	☐	☐	☐	☐	☐	☐
IEEE 802.11n	☑	☑	☐	☐	☐	☐	☐
IEEE 802.11ac	☑	☑	☑	☐	☐	☐	☐

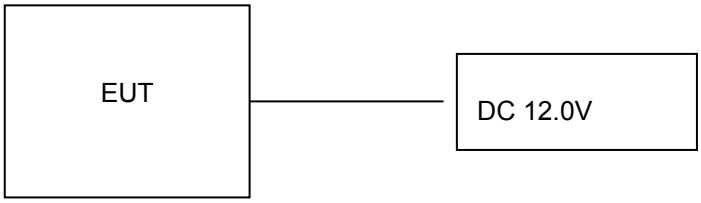
IEEE 802.11a/ac20/ac40/ac80/n20/n40:

UNII-1		UNII-1		UNII-1	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	**5180**	38	5190	42	5210
40	**5200**	46	5230		
44	5220				
48	**5240**				

UNII-3		UNII-3		UNII-3	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	**5745**	151	5755	155	5775
153	5765	159	5795		
157	**5785**				
161	5805				
165	**5825**				

The EUT has been tested under operating condition.
This test was performed with EUT in X, Y, Z position and the worst case was found when EUT in X position.
AC main conducted emission pre-test voltage at both AC 120V/60Hz and AC 240V/60Hz, recorded worst case;
AC main conducted emission pre-test at charge from PC modes, recorded worst case;
Worst-case mode and channel used for 9 KHz-1000 MHz radiated emissions was the mode and channel with the highest output power, that was determined to be IEEE 802.11ac VHT20 mode (HCH).

2.7. Block Diagram of Test Setup



2.8. Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for **FCC ID: 2AVE7-D042A** filing to comply with Section 15.407 of the FCC Part 15, Subpart E Rules.

2.9. EUT Exercise Software

During testing, Channel & Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

2.10. Special Accessories

Manufacturer	Description	Model	Serial Number	Certificate
Shenzhen Canwell Technology Co, Ltd	Adapter	CW1202000US	--	SDOC

2.11. External I/O Cable

I/O Port Description	Quantity	Cable
DC IN Port	1	1.0M, Unscreened Cable
USB Port	2	N/A
HDMI Port	1	1.0M, Unscreened Cable
AUX Port	1	N/A
Earphone Port	1	N/A
Type-C Port	1	N/A

2.12. Modifications

No modifications were implemented to meet testing criteria.

3. TEST ENVIRONMENT

3.1. Address of the test laboratory

Shenzhen Global Test Service Co.,Ltd.
No.7-101 and 8A-104, Building 7 and 8, DCC Cultural and Creative Garden, No.98, Pingxin North Road, Shangmugu Community, Pinghu Street, Longgang District, Shenzhen, Guangdong, China.

3.2. Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

CNAS (No. CNAS L8169)
Shenzhen Global Test Service Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC 17025: 2019 General Requirements) for the Competence of Testing and Calibration Laboratories.
A2LA (Certificate No. 4758.01)
Shenzhen Global Test Service Co., Ltd. has been assessed by the American Association for Laboratory Accreditation (A2LA). Certificate No. 4758.01.
Industry Canada Registration Number. is 24189.
FCC Designation Number is CN1234.
FCC Registered Test Site Number is165725.

3.3. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15-35 ° C
Humidity:	30-60 %
Atmospheric pressure:	950-1050mbar

3.4. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 „Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements“ and is documented in the Shenzhen Global Test Service Co.,Ltd quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Shenzhen GTS laboratory is reported:

Test	Range	Measurement Uncertainty	Notes
Radiated Emission	30~1000MHz	4.10 dB	(1)
Radiated Emission	1~18GHz	4.32 dB	(1)
Radiated Emission	18-40GHz	5.54 dB	(1)
Conducted Disturbance	0.15~30MHz	3.12 dB	(1)

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

3.5. Test Description

Applied Standard: FCC Part 15 Subpart E				
FCC Rules	Description of Test	Test Sample	Result	Remark
/	On Time and Duty Cycle	GTS20220215005-1-1#	Compliant	Note 1
§15.407(a)	Maximum Conducted Output Power	GTS20220215005-1-1#	Compliant	Note 1
§15.407(a)	Power Spectral Density	GTS20220215005-1-1#	Compliant	Note 1
§15.407(a)	26dB&6dB Bandwidth and 99% Bandwidth	GTS20220215005-1-1#	Compliant	Note 1
§15.209, §15.407(b)	Radiated Emissions	GTS20220215005-1-1# GTS20220215005-1-2#	Compliant	Note 1
§15.209, §15.407(b)	Emissions at Restricted Band	GTS20220215005-1-1# GTS20220215005-1-2#	Compliant	Note 1
§15.407(g)	Frequency Stability	GTS20220215005-1-1#	Compliant	Note 1
§15.207(a)	AC Mians Line Conducted Emissions	GTS20220215005-1-2#	Compliant	Note 1
§15.203 §15.407(h)	Antenna Requirements	GTS20220215005-1-1#	Compliant	Note 1
§15.407 §2.1091	RF Exposure	/	Compliant	Note 2

Remark:
1. The measurement uncertainty is not included in the test result.
2. NA = Not Applicable; NP = Not Performed
3. Note 1 – Test results inside test report;
4. Note 2 – Test results in other test report (MPE Report).
5. We tested all test mode and recorded worst case in report

PrelN/Aary tests were performed in different data rate to find the worst radiated emission. The data rate shown in the table below is the worst-case rate with respect to the specific test item. Investigation has been done on all the possible configurations for searching the worst cases. The following table is a list of the test modes shown in this test report.

Test Items	Mode	Data Rate
Maximum Peak Conducted Output Power Power Spectral Density 6dB Bandwidth 26dB Bandwidth Radiated Emission30M~1GHz& Radiated Emission 1GHz~10th Harmonic	802.11a	6 Mbps
	802.11ac20/ac40/ac80 802.11n HT20/40	MCS0
Band Edge	802.11a	6 Mbps
	802.11ac20/ac40/ac80 802.11n HT20/40	MCS0

3.6. Equipments Used during the Test

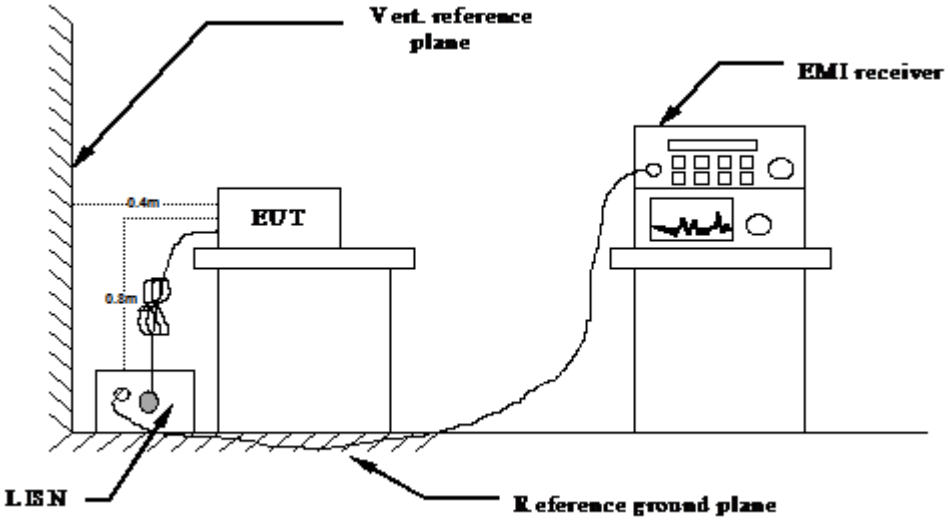
Test Equipment	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Due Date
LISN	CYBERTEK	EM5040A	E1850400105	2021/07/17	2022/07/16
LISN	R&S	ESH2-Z5	893606/008	2021/07/17	2022/07/16
EMI Test Receiver	R&S	ESPI3	101841-cd	2021/07/17	2022/07/16
EMI Test Receiver	R&S	ESCI7	101102	2021/09/19	2022/09/18
Spectrum Analyzer	Agilent	N9020A	MY48010425	2021/09/19	2022/09/18
Spectrum Analyzer	R&S	FSV40	100019	2021/07/17	2022/07/16
Vector Signal generator	Agilent	N5181A	MY49060502	2021/07/17	2022/07/16
Signal generator	Agilent	N5182A	3610AO1069	2021/09/19	2022/09/18
Climate Chamber	ESPEC	EL-10KA	A20120523	2021/09/19	2022/09/18
Controller	EM Electronics	Controller EM 1000	N/A	N/A	N/A
Horn Antenna	Schwarzbeck	BBHA 9120D	01622	2021/11/07	2022/11/06
Active Loop Antenna	Beijing Da Ze Technology Co.,Ltd.	ZN30900C	15006	2021/10/10	2022/11/09
Bilog Antenna	Schwarzbeck	VULB9163	000976	2021/07/23	2022/07/22
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	791	2021/11/07	2022/11/06
Amplifier	Schwarzbeck	BBV 9743	#202	2021/08/08	2022/08/07
Amplifier	Schwarzbeck	BBV9179	9719-025	2021/07/17	2022/07/16
Amplifier	EMCI	EMC051845B	980355	2021/07/17	2022/07/16
Temperature/Humidity Meter	Gangxing	CTH-608	02	2021/07/17	2022/07/16
High-Pass Filter	K&L	9SH10-2700/X12750-O/O	KL142031	2021/07/17	2022/07/16
High-Pass Filter	K&L	41H10-1375/U12750-O/O	KL142032	2021/07/17	2022/07/16
RF Cable(below 1GHz)	HUBER+SUHNER	RG214	RE01	2021/07/17	2022/07/16
RF Cable(above 1GHz)	HUBER+SUHNER	RG214	RE02	2021/07/17	2022/07/16
Data acquisition card	Agilent	U2531A	TW53323507	2021/07/17	2022/07/16
Power Sensor	Agilent	U2021XA	MY5365004	2021/07/17	2022/07/16
Test Control Unit	Tonscend	JS0806-1	178060067	2021/07/17	2022/07/16
Automated filter bank	Tonscend	JS0806-F	19F8060177	2021/07/17	2022/07/16
EMI Test Software	Tonscend	JS1120-1	Ver 2.6.8.0518	/	/
EMI Test Software	Tonscend	JS1120-3	Ver 2.5.77.0418	/	/
EMI Test Software	Tonscend	JS32-CE	Ver 2.5	/	/
EMI Test Software	Tonscend	JS32-RE	Ver 2.5.1.8	/	/

Note: The Cal.Interval was one year.

4. TEST CONDITIONS AND RESULTS

4.1. AC Power Conducted Emission

TEST CONFIGURATION



TEST PROCEDURE

1 The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10-2013.
2 Support equipment, if needed, was placed as per ANSI C63.10-2013
3 All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10-2013
4 The EUT received DC24V power, the adapter or POE received AC120V/60Hz or AC 240V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
5 All support equipments received AC power from a second LISN, if any.
6 The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT.The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7 Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.
8 During the above scans, the emissions were maximized by cable manipulation.

AC Power Conducted Emission Limit

For intentional device, according to § 15.207(a) AC Power Conducted Emission Limits is as following：

Frequency range (MHz)	Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50
* Decreases with the logarithm of the frequency.		

TEST RESULTS

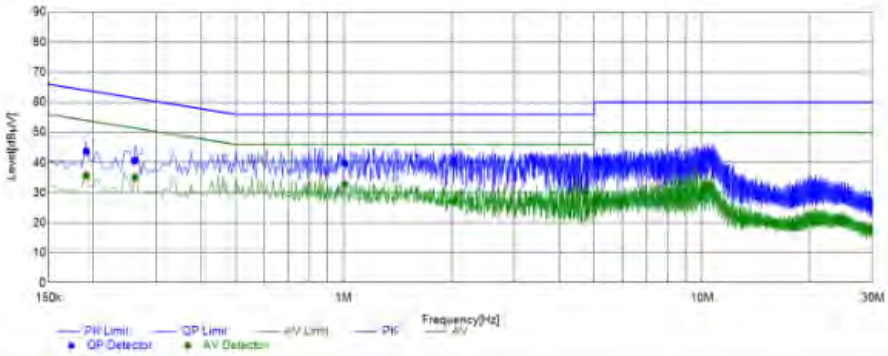
Remark: We measured Conducted Emission at all mode in AC 120V/60Hz, the worst case was recorded .

Temperature	24.5℃	Humidity	53.7%
Test Engineer	Oliver Ou	Configurations	IEEE 802.11ac20 HCH

Mode 1(With TYPE-C port)

Power supply:	AC 120V/60Hz	Polarization	L

Test Graph



Final Data List

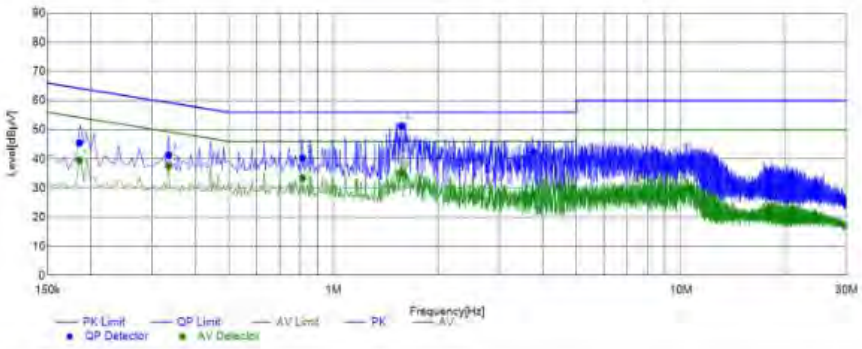
NO.	Frequency [MHz]	QP Reading [dBµV]	AVG. Reading [dBµV]	Factor [dB]	QP Result [dBµV]	AVG. Result [dBµV]	QP Limit [dBµV]	AVG Limit [dBµV]	QP Margin [dB]	AVG. Margin [dB]	Line	Remark
1	0.1913	34.07	26.06	9.57	43.64	35.63	63.98	53.98	20.34	18.35	L1	PASS
2	0.2614	31.19	25.57	9.48	40.67	35.05	61.39	51.39	20.72	16.34	L1	PASS
3	1.0073	30.42	23.37	9.38	39.80	32.75	56.00	46.00	16.20	13.25	L1	PASS
4	2.0249	31.08	17.68	9.35	40.43	27.03	56.00	46.00	15.57	18.97	L1	PASS
5	5.1198	31.38	18.86	9.37	40.75	28.23	60.00	50.00	19.25	21.77	L1	PASS
6	10.3427	32.96	22.97	9.18	42.14	32.15	60.00	50.00	17.86	17.85	L1	PASS

Note:1. Result (dBµV) = Reading (dBµV) + Factor (dB).

2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

Power supply:	AC 120V/60Hz	Polarization	N

Test Graph



Final Data List

NO.	Frequency [MHz]	QP Reading [dBµV]	AVG. Reading [dBµV]	Factor [dB]	QP Result [dBµV]	AVG. Result [dBµV]	QP Limit [dBµV]	AVG. Limit [dBµV]	QP Margin [dB]	AVG. Margin [dB]	Line	Remark
1	0.1852	35.87	29.86	9.60	45.47	39.46	64.25	54.25	18.78	14.79	N	PASS
2	0.3347	31.88	28.08	9.47	41.35	37.55	59.33	49.33	17.98	11.78	N	PASS
3	0.8145	30.83	24.05	9.40	40.23	33.45	56.00	46.00	15.77	12.55	N	PASS
4	1.5680	41.97	25.96	9.36	51.33	35.32	56.00	46.00	4.67	10.68	N	PASS
5	3.7641	32.89	18.22	9.37	42.26	27.59	56.00	46.00	13.74	18.41	N	PASS
6	10.6373	30.22	20.81	9.27	39.49	30.08	60.00	50.00	20.51	19.92	N	PASS

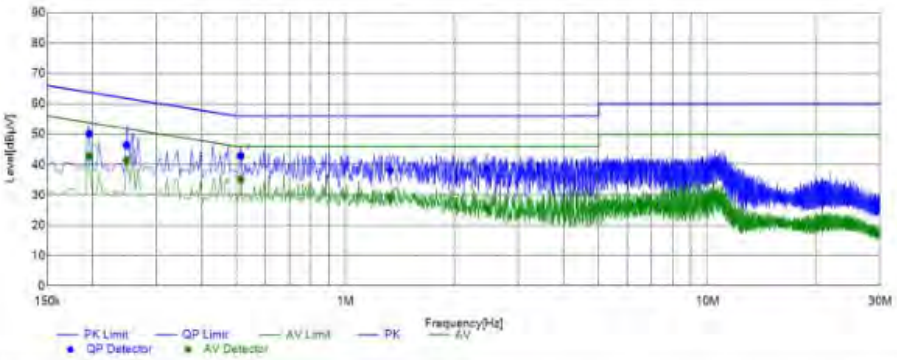
Note:1. Result (dBµV) = Reading (dBµV) + Factor (dB).

2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

Mode 2(Without TYPE-C port)

Power supply:	AC 120V/60Hz	Polarization	L

Test Graph



Final Data List

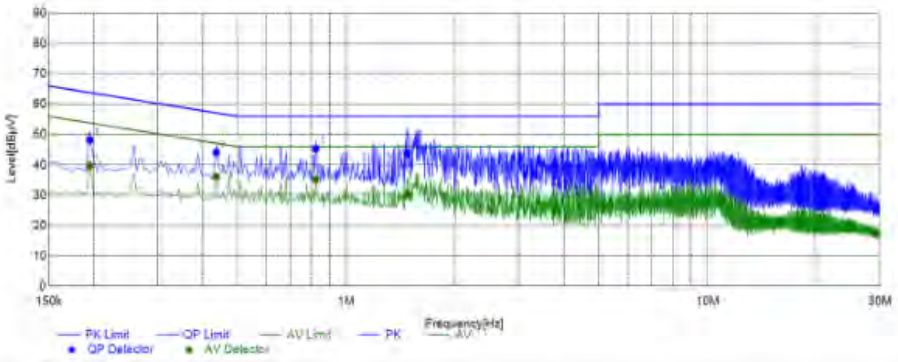
NO.	Frequency [MHz]	QP Reading [dBµV]	AVG. Reading [dBµV]	Factor [dB]	QP Result [dBµV]	AVG. Result [dBµV]	QP Limit [dBµV]	AVG. Limit [dBµV]	QP Margin [dB]	AVG. Margin [dB]	Line	Remark
1	0.1956	40.60	33.20	9.56	50.16	42.76	63.79	53.79	13.63	11.03	L1	PASS
2	0.2482	36.91	31.88	9.49	46.40	41.37	61.82	51.82	15.42	10.45	L1	PASS
3	0.5132	33.42	25.71	9.44	42.86	35.15	56.00	46.00	13.14	10.85	L1	PASS
4	1.3285	28.77	19.90	9.38	38.15	29.28	56.00	46.00	17.85	16.72	L1	PASS
5	2.4586	29.26	16.28	9.36	38.62	25.64	56.00	46.00	17.38	20.36	L1	PASS
6	10.5135	30.86	20.18	9.18	40.04	29.36	60.00	50.00	19.96	20.64	L1	PASS

Note:1. Result (dBµV) = Reading (dBµV) + Factor (dB).

2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

Power supply:	AC 120V/60Hz	Polarization	N

Test Graph



Final Data List

NO.	Frequency [MHz]	QP Reading [dBµV]	AVG. Reading [dBµV]	Factor [dB]	QP Result [dBµV]	AVG. Result [dBµV]	QP Limit [dBµV]	AVG Limit [dBµV]	QP Margin [dB]	AVG. Margin [dB]	Line	Remark
1	0.1946	38.57	30.11	9.60	48.17	39.71	63.84	53.84	15.67	14.13	N	PASS
2	0.4364	34.62	26.60	9.45	44.07	36.05	57.13	47.13	13.06	11.08	N	PASS
3	0.8224	35.90	25.86	9.40	45.30	35.26	56.00	46.00	10.70	10.74	N	PASS
4	1.4755	34.44	20.82	9.37	43.81	30.19	56.00	46.00	12.19	15.81	N	PASS
5	3.7836	30.63	16.04	9.37	40.00	25.41	56.00	46.00	16.00	20.59	N	PASS
6	10.9405	28.94	18.69	9.26	38.20	27.95	60.00	50.00	21.80	22.05	N	PASS

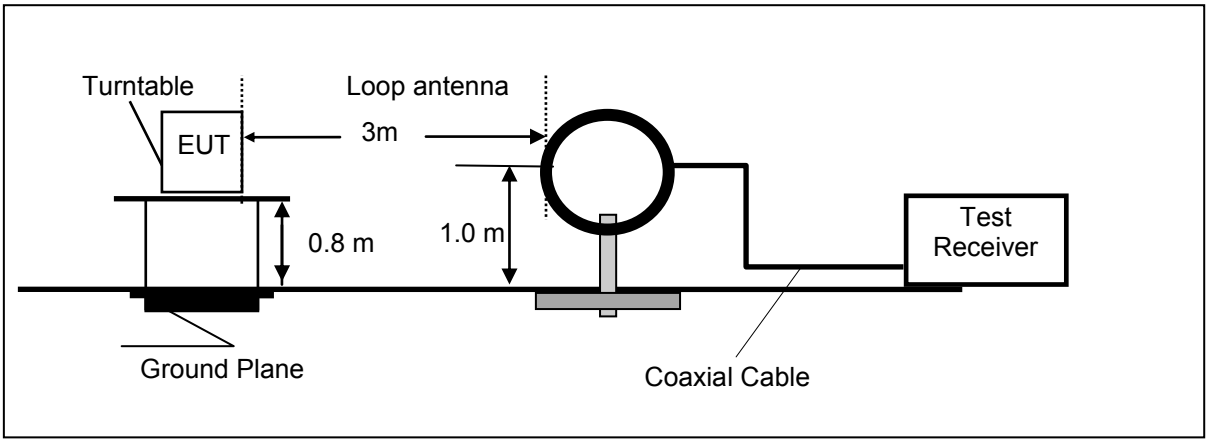
Note:1. Result (dBµV) = Reading (dBµV) + Factor (dB).

2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

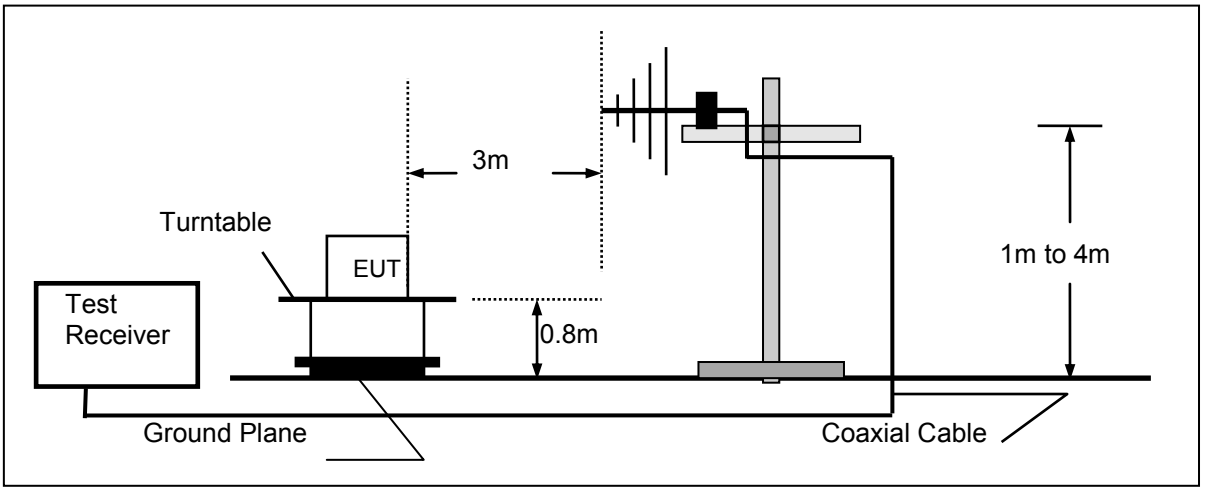
4.2. Radiated Emission

TEST CONFIGURATION

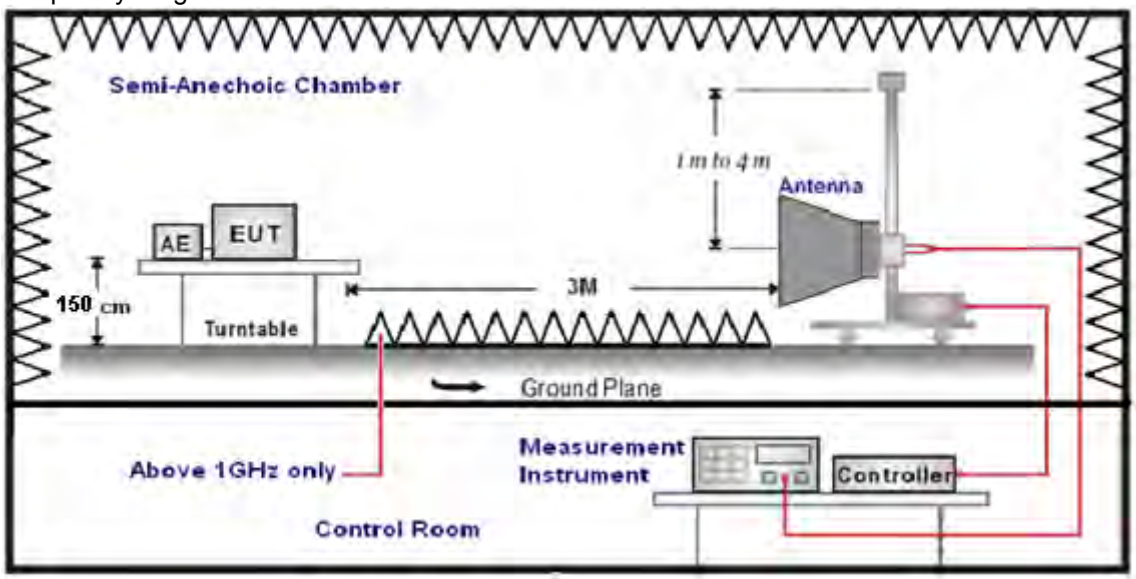
Frequency range 9 KHz – 30MHz



Frequency range 30MHz – 1000MHz



Frequency range above 1GHz



TEST PROCEDURE

1. The EUT was placed on a turn table which is 0.8m above ground plane when testing frequency range 9 KHz –1GHz;the EUT was placed on a turn table which is 1.5m above ground plane when testing above 1GHz.
2. Maximum procedure was performed by raising the receiving antenna from 1m to 4m and rotating the turn table from 0° to 360° to acquire the highest emissions from EUT.
3. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
4. Repeat above procedures until all frequency measurements have been completed.
5. The EUT minimum operation frequency was 24MHz and maximum operation frequency was 5825MHz.so radiated emission test frequency band from 9KHz to 40GHz.
6. The distance between test antenna and EUT as following table states:

Test Frequency range	Test Antenna Type	Test Distance
9KHz-30MHz	Active Loop Antenna	3
30MHz-1GHz	Ultra-Broadband Antenna	3
1GHz-18GHz	Double Ridged Horn Antenna	3
18GHz-25GHz	Horn Anternna	1

7. Setting test receiver/spectrum as following table states:

Test Frequency range	Test Receiver/Spectrum Setting	Detector
9KHz-150KHz	RBW=200Hz/VBW=3KHz,Sweep time=Auto	QP
150KHz-30MHz	RBW=9KHz/VBW=100KHz,Sweep time=Auto	QP
30MHz-1GHz	RBW=120KHz/VBW=1000KHz,Sweep time=Auto	QP
1GHz-40GHz	Peak Value: RBW=1MHz/VBW=3MHz, Sweep time=Auto Average Value: RBW=1MHz/VBW=10Hz, Sweep time=Auto	Peak

Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor(if any) from the measured reading. The basic equation with a sample calculation is as follows:

FS = RA + AF + CL - AG

Where FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
RA = Reading Amplitude	AG = Amplifier Gain
AF = Antenna Factor	

Transd=AF +CL-AG

RADIATION LIMIT

According to §15.407 (b): Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits

Frequency (MHz)	EIRP Limit (dBm)	Equivalent Field Strength at 3m (dBμV/m)
5150-5250	-27	68.2
5250-5350	-27	68.2
5470-5725	-27	682
5725-5850	-27 (beyond 10MHz of the bandedge)	68.2
	-17 (within 10 MHz of band edge)	78.2

Frequency (MHz)	Distance (Meters)	Radiated (dBμV/m)	Radiated (μV/m)
0.009-0.49	3	20log(2400/F(KHz))+40log(300/3)	2400/F(KHz)
0.49-1.705	3	20log(24000/F(KHz))+ 40log(30/3)	24000/F(KHz)
1.705-30	3	20log(30)+ 40log(30/3)	30
30-88	3	40.0	100
88-216	3	43.5	150
216-960	3	46.0	200
Above 960	3	54.0	500

TEST RESULTS

Remark: We measured Radiated Emission at all mode from30MHz to 25GHz in AC 120V/60Hz and the worst case was recorded.

Temperature	23.4℃	Humidity	54.5%
Test Engineer	Oliver Ou	Configurations	IEEE 802.11ac20 HCH

For 9 KHz~30MHz

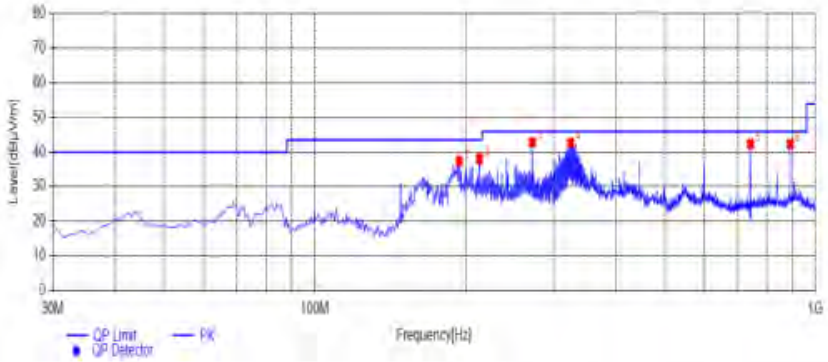
Freq. (MHz)	Level (dBuV)	Over Limit (dB)	Over Limit (dBuV)	Remark
-	-	-	-	See Note

Note:
The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Distance extrapolation factor = 40 log (specific distance / test distance) (dB);
Limit line = specific limits (dBuV) + distance extrapolation factor.

For 30MHz-1GHz
Mode 1(With TYPE-C port)

Horizontal

Test Graph



Suspected List

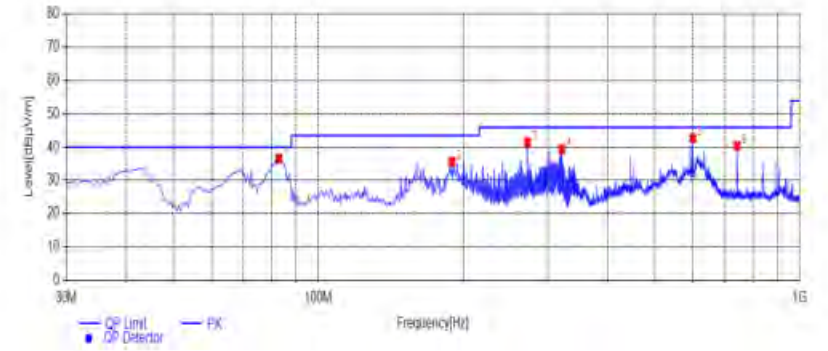
NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	194.4150	46.93	-9.52	37.41	43.50	6.09	100	100	PK	Horizonta	PASS
2	213.3300	47.52	-9.40	38.12	43.50	5.38	100	90	PK	Horizonta	PASS
3	272.0150	51.16	-8.28	42.88	46.00	3.12	100	256	PK	Horizonta	PASS
4	324.3950	49.76	-7.01	42.75	46.00	3.25	100	43	PK	Horizonta	PASS
5	741.9800	41.89	0.49	42.38	46.00	3.62	100	3	PK	Horizonta	PASS
6	890.3900	39.94	2.39	42.33	46.00	3.67	100	73	PK	Horizonta	PASS

Note:1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

Vertical

Test Graph



Suspected List

NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	82.8650	48.68	-12.00	36.68	40.00	3.32	100	64	PK	Vertical	PASS
2	189.5650	45.83	-10.17	35.66	43.50	7.84	100	190	PK	Vertical	PASS
3	272.0150	49.75	-8.28	41.47	46.00	4.53	100	166	PK	Vertical	PASS
4	320.5150	46.35	-6.93	39.42	46.00	6.58	100	59	PK	Vertical	PASS
5	599.8750	44.38	-1.63	42.75	46.00	3.25	100	312	PK	Vertical	PASS
6	741.9800	39.90	0.49	40.39	46.00	5.61	100	149	PK	Vertical	PASS

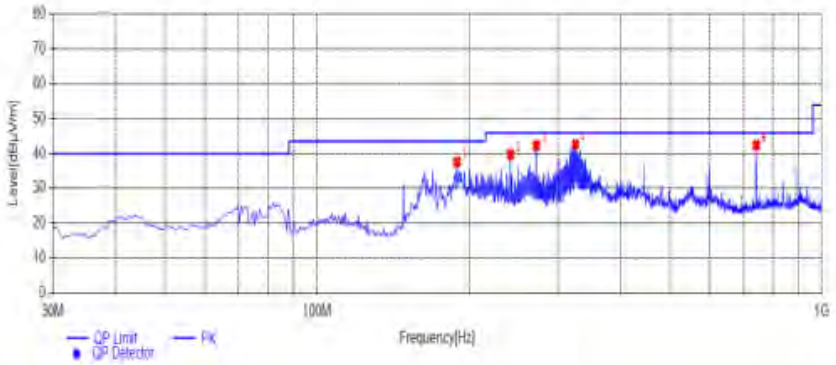
Note:1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

Mode 2(Without TYPE-C port)

Horizontal

Test Graph



Suspected List

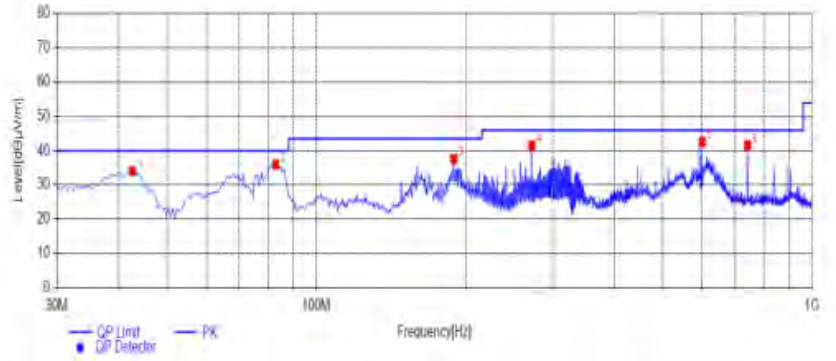
NO	Frequency (MHz)	Reading (dBµV/m)	Factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Angle (°)	Detector	Polarity	Remark
1	189.5650	47.81	-10.17	37.64	43.50	5.86	100	106	PK	Horizonta	PASS
2	241.9450	48.22	-8.50	39.72	46.00	6.28	100	90	PK	Horizonta	PASS
3	272.0150	50.60	-8.28	42.32	46.00	3.68	100	307	PK	Horizonta	PASS
4	325.3650	49.67	-7.00	42.67	46.00	3.33	100	28	PK	Horizonta	PASS
5	741.9800	41.97	0.49	42.46	46.00	3.54	100	3	PK	Horizonta	PASS
6	741.9800	41.97	0.49	42.46	46.00	3.54	100	3	PK	Horizonta	PASS

Note:1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

Vertical

Test Graph



Suspected List

NO.	Frequency (MHz)	Reading (dBµV/m)	Factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Angle (°)	Detector	Polarity	Remark
1	42.6100	40.98	-6.99	33.99	40.00	6.01	100	358	PK	Vertical	PASS
2	82.8650	47.95	-12.00	35.95	40.00	4.05	100	32	PK	Vertical	PASS
3	189.5650	47.80	-10.17	37.63	43.50	5.87	100	358	PK	Vertical	PASS
4	272.0150	49.85	-8.28	41.57	46.00	4.43	100	146	PK	Vertical	PASS
5	600.3600	44.23	-1.63	42.60	46.00	3.40	100	124	PK	Vertical	PASS
6	741.9800	41.06	0.49	41.55	46.00	4.45	100	209	PK	Vertical	PASS

Note:1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

For 1GHz to 40GHz
Mode 1(With TYPE-C port)
5150-5250MHz:

802.11a Mode_Channel 36 _5180 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	10360	40.14	38.55	33.13	11.26	56.82	68.20	-11.38	Peak	Horizontal
1	10360	32.26	38.55	33.13	11.26	48.94	54.00	-5.06	AV	Horizontal
1	10360	42.64	38.55	33.13	11.26	59.32	68.20	-8.88	Peak	Vertical
1	10360	28.45	38.55	33.13	11.26	45.13	54.00	-8.87	AV	Vertical

802.11a Mode_Channel 40 _ 5200 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	10400	39.57	38.55	33.13	11.26	56.25	68.20	-11.95	Peak	Horizontal
1	10400	31.29	38.55	33.13	11.26	47.97	54.00	-6.03	AV	Horizontal
1	10400	41.96	38.55	33.13	11.26	58.64	68.20	-9.56	Peak	Vertical
1	10400	27.53	38.55	33.13	11.26	44.21	54.00	-9.79	AV	Vertical

802.11a Mode_ Channel 48_ 5240 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	10480	39.86	38.55	33.13	11.26	56.54	68.20	-11.66	Peak	Horizontal
1	10480	31.85	38.55	33.13	11.26	48.53	54.00	-5.47	AV	Horizontal
1	10480	41.46	38.55	33.13	11.26	58.14	68.20	-10.06	Peak	Vertical
1	10480	28.75	38.55	33.13	11.26	45.43	54.00	-8.57	AV	Vertical

802.11n20 Mode_Channel 36 _5180 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	10360	42.07	38.55	33.13	11.26	58.75	68.20	-9.45	Peak	Horizontal
1	10360	31.29	38.55	33.13	11.26	47.97	54.00	-6.03	AV	Horizontal
1	10360	40.79	38.55	33.13	11.26	57.47	68.20	-10.73	Peak	Vertical
1	10360	30.63	38.55	33.13	11.26	47.31	54.00	-6.69	AV	Vertical

802.11n20 Mode_Channel 40 _ 5200 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	10400	39.65	38.55	33.13	11.26	56.33	68.20	-11.87	Peak	Horizontal
1	10400	30.67	38.55	33.13	11.26	47.35	54.00	-6.65	AV	Horizontal
1	10400	40.87	38.55	33.13	11.26	57.55	68.20	-10.65	Peak	Vertical
1	10400	29.42	38.55	33.13	11.26	46.10	54.00	-7.90	AV	Vertical

802.11n20 Mode_ Channel 48_ 5240 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	10480	40.06	38.55	33.13	11.26	56.74	68.20	-11.46	Peak	Horizontal
1	10480	32.28	38.55	33.13	11.26	48.96	54.00	-5.04	AV	Horizontal
1	10480	41.86	38.55	33.13	11.26	58.54	68.20	-9.66	Peak	Vertical
1	10480	28.64	38.55	33.13	11.26	45.32	54.00	-8.68	AV	Vertical

802.11n40 Mode_Channel 38 _5190 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	10380	40.10	38.55	33.13	11.26	56.78	68.20	-11.42	Peak	Horizontal
1	10380	31.19	38.55	33.13	11.26	47.87	54.00	-6.13	AV	Horizontal
1	10380	41.37	38.55	33.13	11.26	58.05	68.20	-10.15	Peak	Vertical
1	10380	29.20	38.55	33.13	11.26	45.88	54.00	-8.12	AV	Vertical

802.11n40 Mode_Channel 46 _ 5230 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	10460	40.47	38.55	33.13	11.26	57.15	68.20	-11.05	Peak	Horizontal
1	10460	30.88	38.55	33.13	11.26	47.56	54.00	-6.44	AV	Horizontal
1	10460	41.66	38.55	33.13	11.26	58.34	68.20	-9.86	Peak	Vertical
1	10460	29.78	38.55	33.13	11.26	46.46	54.00	-7.54	AV	Vertical

802.11ac20 Mode_Channel 36 _5180 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	10360	39.43	38.55	33.13	11.26	56.11	68.20	-12.09	Peak	Horizontal
1	10360	32.47	38.55	33.13	11.26	49.15	54.00	-4.85	AV	Horizontal
1	10360	41.48	38.55	33.13	11.26	58.16	68.20	-10.04	Peak	Vertical
1	10360	28.23	38.55	33.13	11.26	44.91	54.00	-9.09	AV	Vertical

802.11ac20 Mode_Channel 40 _ 5200 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	10400	39.94	38.55	33.13	11.26	56.62	68.20	-11.58	Peak	Horizontal
1	10400	31.92	38.55	33.13	11.26	48.60	54.00	-5.40	AV	Horizontal
1	10400	40.18	38.55	33.13	11.26	56.86	68.20	-11.34	Peak	Vertical
1	10400	28.21	38.55	33.13	11.26	44.89	54.00	-9.11	AV	Vertical

802.11ac20 Mode_ Channel 48_ 5240 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	10480	39.79	38.55	33.13	11.26	56.47	68.20	-11.73	Peak	Horizontal
1	10480	29.65	38.55	33.13	11.26	46.33	54.00	-7.67	AV	Horizontal
1	10480	41.38	38.55	33.13	11.26	58.06	68.20	-10.14	Peak	Vertical
1	10480	28.96	38.55	33.13	11.26	45.64	54.00	-8.36	AV	Vertical

802.11ac40 Mode_Channel 38 _5190 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	10380	40.92	38.55	33.13	11.26	57.60	68.20	-10.60	Peak	Horizontal
1	10380	31.26	38.55	33.13	11.26	47.94	54.00	-6.06	AV	Horizontal
1	10380	42.39	38.55	33.13	11.26	59.07	68.20	-9.13	Peak	Vertical
1	10380	29.35	38.55	33.13	11.26	46.03	54.00	-7.97	AV	Vertical

802.11ac40 Mode_Channel 46 _ 5230 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	10460	40.24	38.55	33.13	11.26	56.92	68.20	-11.28	Peak	Horizontal
1	10460	31.84	38.55	33.13	11.26	48.52	54.00	-5.48	AV	Horizontal
1	10460	40.27	38.55	33.13	11.26	56.95	68.20	-11.25	Peak	Vertical
1	10460	29.02	38.55	33.13	11.26	45.70	54.00	-8.30	AV	Vertical

802.11ac80 Mode_Channel 42 _5210 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	10420	38.65	38.55	33.13	11.26	55.33	68.20	-12.87	Peak	Horizontal
1	10420	31.32	38.55	33.13	11.26	48.00	54.00	-6.00	AV	Horizontal
1	10420	41.12	38.55	33.13	11.26	57.80	68.20	-10.40	Peak	Vertical
1	10420	28.19	38.55	33.13	11.26	44.87	54.00	-9.13	AV	Vertical

5725-5850MHz:

802.11a Mode_Channel 149 _5745 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	11490	41.18	38.55	33.13	11.26	57.86	68.20	-10.34	Peak	Horizontal
1	11490	29.51	38.55	33.13	11.26	46.19	54.00	-7.81	AV	Horizontal
1	11490	41.68	38.55	33.13	11.26	58.36	68.20	-9.84	Peak	Vertical
1	11490	27.78	38.55	33.13	11.26	44.46	54.00	-9.54	AV	Vertical

802.11a Mode_Channel 157 _ 5785 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	11570	39.38	38.55	33.13	11.26	56.06	68.20	-12.14	Peak	Horizontal
1	11570	30.50	38.55	33.13	11.26	47.18	54.00	-6.82	AV	Horizontal
1	11570	41.48	38.55	33.13	11.26	58.16	68.20	-10.04	Peak	Vertical
1	11570	29.24	38.55	33.13	11.26	45.92	54.00	-8.08	AV	Vertical

802.11a Mode_ Channel 165_ 5825 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	11650	39.05	38.55	33.13	11.26	55.73	68.20	-12.47	Peak	Horizontal
1	11650	30.42	38.55	33.13	11.26	47.10	54.00	-6.90	AV	Horizontal
1	11650	40.86	38.55	33.13	11.26	57.54	68.20	-10.66	Peak	Vertical
1	11650	28.89	38.55	33.13	11.26	45.57	54.00	-8.43	AV	Vertical

802.11n20 Mode_Channel 149 _5745 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	11490	40.96	38.55	33.13	11.26	57.64	68.20	-10.56	Peak	Horizontal
1	11490	29.72	38.55	33.13	11.26	46.40	54.00	-7.60	AV	Horizontal
1	11490	39.97	38.55	33.13	11.26	56.65	68.20	-11.55	Peak	Vertical
1	11490	30.04	38.55	33.13	11.26	46.72	54.00	-7.28	AV	Vertical

802.11n20 Mode_Channel 157 _ 5785 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	11570	41.76	38.55	33.13	11.26	58.44	68.20	-9.76	Peak	Horizontal
1	11570	31.36	38.55	33.13	11.26	48.04	54.00	-5.96	AV	Horizontal
1	11570	41.27	38.55	33.13	11.26	57.95	68.20	-10.25	Peak	Vertical
1	11570	27.92	38.55	33.13	11.26	44.60	54.00	-9.40	AV	Vertical

802.11n20 Mode_ Channel 165_ 5825 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	11650	39.91	38.55	33.13	11.26	56.59	68.20	-11.61	Peak	Horizontal
1	11650	30.87	38.55	33.13	11.26	47.55	54.00	-6.45	AV	Horizontal
1	11650	41.32	38.55	33.13	11.26	58.00	68.20	-10.20	Peak	Vertical
1	11650	28.36	38.55	33.13	11.26	45.04	54.00	-8.96	AV	Vertical

802.11n40 Mode_Channel 151 _5755 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	11510	40.11	38.55	33.13	11.26	56.79	68.20	-11.41	Peak	Horizontal
1	11510	29.64	38.55	33.13	11.26	46.32	54.00	-7.68	AV	Horizontal
1	11510	40.36	38.55	33.13	11.26	57.04	68.20	-11.16	Peak	Vertical
1	11510	30.03	38.55	33.13	11.26	46.71	54.00	-7.29	AV	Vertical

802.11n40 Mode_Channel 159 _ 5795MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	11590	39.31	38.55	33.13	11.26	55.99	68.20	-12.21	Peak	Horizontal
1	11590	32.24	38.55	33.13	11.26	48.92	54.00	-5.08	AV	Horizontal
1	11590	39.70	38.55	33.13	11.26	56.38	68.20	-11.82	Peak	Vertical
1	11590	29.30	38.55	33.13	11.26	45.98	54.00	-8.02	AV	Vertical

802.11ac20 Mode_Channel 149 _5745 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	11490	38.61	38.55	33.13	11.26	55.29	68.20	-12.91	Peak	Horizontal
1	11490	29.59	38.55	33.13	11.26	46.27	54.00	-7.73	AV	Horizontal
1	11490	41.68	38.55	33.13	11.26	58.36	68.20	-9.84	Peak	Vertical
1	11490	28.05	38.55	33.13	11.26	44.73	54.00	-9.27	AV	Vertical

802.11ac20 Mode_Channel 157 _ 5785 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	11570	39.75	38.55	33.13	11.26	56.43	68.20	-11.77	Peak	Horizontal
1	11570	30.53	38.55	33.13	11.26	47.21	54.00	-6.79	AV	Horizontal
1	11570	41.44	38.55	33.13	11.26	58.12	68.20	-10.08	Peak	Vertical
1	11570	29.04	38.55	33.13	11.26	45.72	54.00	-8.28	AV	Vertical

802.11ac20 Mode_ Channel 165_ 5825 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	11650	40.67	38.55	33.13	11.26	57.35	68.20	-10.85	Peak	Horizontal
1	11650	30.59	38.55	33.13	11.26	47.27	54.00	-6.73	AV	Horizontal
1	11650	41.34	38.55	33.13	11.26	58.02	68.20	-10.18	Peak	Vertical
1	11650	29.13	38.55	33.13	11.26	45.81	54.00	-8.19	AV	Vertical

802.11ac40 Mode_Channel 151 _5755 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	11510	40.27	38.55	33.13	11.26	56.95	68.20	-11.25	Peak	Horizontal
1	11510	31.28	38.55	33.13	11.26	47.96	54.00	-6.04	AV	Horizontal
1	11510	42.23	38.55	33.13	11.26	58.91	68.20	-9.29	Peak	Vertical
1	11510	28.93	38.55	33.13	11.26	45.61	54.00	-8.39	AV	Vertical

802.11ac40 Mode_Channel 159 _ 5795MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	11590	41.07	38.55	33.13	11.26	57.75	68.20	-10.45	Peak	Horizontal
1	11590	30.34	38.55	33.13	11.26	47.02	54.00	-6.98	AV	Horizontal
1	11590	41.24	38.55	33.13	11.26	57.92	68.20	-10.28	Peak	Vertical
1	11590	28.32	38.55	33.13	11.26	45.00	54.00	-9.00	AV	Vertical

802.11ac80 Mode_Channel 155 _5775 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	11550	40.49	38.55	33.13	11.26	57.17	68.20	-11.03	Peak	Horizontal
1	11550	30.08	38.55	33.13	11.26	46.76	54.00	-7.24	AV	Horizontal
1	11550	40.20	38.55	33.13	11.26	56.88	68.20	-11.32	Peak	Vertical
1	11550	29.98	38.55	33.13	11.26	46.66	54.00	-7.34	AV	Vertical

Mode 2(Without TYPE-C port)
5150-5250MHz:

802.11a Mode_Channel 36 _5180 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	10360	40.73	38.55	33.13	11.26	57.41	68.20	-10.79	Peak	Horizontal
1	10360	31.51	38.55	33.13	11.26	48.19	54.00	-5.81	AV	Horizontal
1	10360	42.55	38.55	33.13	11.26	59.23	68.20	-8.97	Peak	Vertical
1	10360	28.87	38.55	33.13	11.26	45.55	54.00	-8.45	AV	Vertical

802.11a Mode_Channel 40 _ 5200 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	10400	38.93	38.55	33.13	11.26	55.61	68.20	-12.59	Peak	Horizontal
1	10400	30.74	38.55	33.13	11.26	47.42	54.00	-6.58	AV	Horizontal
1	10400	41.58	38.55	33.13	11.26	58.26	68.20	-9.94	Peak	Vertical
1	10400	29.22	38.55	33.13	11.26	45.90	54.00	-8.10	AV	Vertical

802.11a Mode_ Channel 48_ 5240 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	10480	39.21	38.55	33.13	11.26	55.89	68.20	-12.31	Peak	Horizontal
1	10480	32.71	38.55	33.13	11.26	49.39	54.00	-4.61	AV	Horizontal
1	10480	42.18	38.55	33.13	11.26	58.86	68.20	-9.34	Peak	Vertical
1	10480	27.67	38.55	33.13	11.26	44.35	54.00	-9.65	AV	Vertical

802.11n20 Mode_Channel 36 _5180 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	10360	41.48	38.55	33.13	11.26	58.16	68.20	-10.04	Peak	Horizontal
1	10360	30.00	38.55	33.13	11.26	46.68	54.00	-7.32	AV	Horizontal
1	10360	41.70	38.55	33.13	11.26	58.38	68.20	-9.82	Peak	Vertical
1	10360	29.32	38.55	33.13	11.26	46.00	54.00	-8.00	AV	Vertical

802.11n20 Mode_Channel 40 _ 5200 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	10400	39.09	38.55	33.13	11.26	55.77	68.20	-12.43	Peak	Horizontal
1	10400	31.58	38.55	33.13	11.26	48.26	54.00	-5.74	AV	Horizontal
1	10400	40.73	38.55	33.13	11.26	57.41	68.20	-10.79	Peak	Vertical
1	10400	29.73	38.55	33.13	11.26	46.41	54.00	-7.59	AV	Vertical

802.11n20 Mode_ Channel 48_ 5240 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	10480	38.89	38.55	33.13	11.26	55.57	68.20	-12.63	Peak	Horizontal
1	10480	30.64	38.55	33.13	11.26	47.32	54.00	-6.68	AV	Horizontal
1	10480	41.23	38.55	33.13	11.26	57.91	68.20	-10.29	Peak	Vertical
1	10480	28.89	38.55	33.13	11.26	45.57	54.00	-8.43	AV	Vertical

802.11n40 Mode_Channel 38 _5190 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	10380	40.28	38.55	33.13	11.26	56.96	68.20	-11.24	Peak	Horizontal
1	10380	31.28	38.55	33.13	11.26	47.96	54.00	-6.04	AV	Horizontal
1	10380	41.95	38.55	33.13	11.26	58.63	68.20	-9.57	Peak	Vertical
1	10380	30.40	38.55	33.13	11.26	47.08	54.00	-6.92	AV	Vertical

802.11n40 Mode_Channel 46 _ 5230 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	10460	40.15	38.55	33.13	11.26	56.83	68.20	-11.37	Peak	Horizontal
1	10460	29.87	38.55	33.13	11.26	46.55	54.00	-7.45	AV	Horizontal
1	10460	40.32	38.55	33.13	11.26	57.00	68.20	-11.20	Peak	Vertical
1	10460	29.18	38.55	33.13	11.26	45.86	54.00	-8.14	AV	Vertical

802.11ac20 Mode_Channel 36 _5180 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	10360	40.54	38.55	33.13	11.26	57.22	68.20	-10.98	Peak	Horizontal
1	10360	32.47	38.55	33.13	11.26	49.15	54.00	-4.85	AV	Horizontal
1	10360	41.05	38.55	33.13	11.26	57.73	68.20	-10.47	Peak	Vertical
1	10360	27.79	38.55	33.13	11.26	44.47	54.00	-9.53	AV	Vertical

802.11ac20 Mode_Channel 40 _ 5200 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	10400	40.65	38.55	33.13	11.26	57.33	68.20	-10.87	Peak	Horizontal
1	10400	31.76	38.55	33.13	11.26	48.44	54.00	-5.56	AV	Horizontal
1	10400	41.83	38.55	33.13	11.26	58.51	68.20	-9.69	Peak	Vertical
1	10400	28.05	38.55	33.13	11.26	44.73	54.00	-9.27	AV	Vertical

802.11ac20 Mode_ Channel 48_ 5240 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	10480	39.99	38.55	33.13	11.26	56.67	68.20	-11.53	Peak	Horizontal
1	10480	31.07	38.55	33.13	11.26	47.75	54.00	-6.25	AV	Horizontal
1	10480	40.81	38.55	33.13	11.26	57.49	68.20	-10.71	Peak	Vertical
1	10480	29.03	38.55	33.13	11.26	45.71	54.00	-8.29	AV	Vertical

802.11ac40 Mode_Channel 38 _5190 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	10380	40.23	38.55	33.13	11.26	56.91	68.20	-11.29	Peak	Horizontal
1	10380	31.39	38.55	33.13	11.26	48.07	54.00	-5.93	AV	Horizontal
1	10380	41.17	38.55	33.13	11.26	57.85	68.20	-10.35	Peak	Vertical
1	10380	29.46	38.55	33.13	11.26	46.14	54.00	-7.86	AV	Vertical

802.11ac40 Mode_Channel 46 _ 5230 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	10460	39.61	38.55	33.13	11.26	56.29	68.20	-11.91	Peak	Horizontal
1	10460	30.94	38.55	33.13	11.26	47.62	54.00	-6.38	AV	Horizontal
1	10460	40.21	38.55	33.13	11.26	56.89	68.20	-11.31	Peak	Vertical
1	10460	30.53	38.55	33.13	11.26	47.21	54.00	-6.79	AV	Vertical

802.11ac80 Mode_Channel 42 _5210 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	10420	39.20	38.55	33.13	11.26	55.88	68.20	-12.32	Peak	Horizontal
1	10420	31.95	38.55	33.13	11.26	48.63	54.00	-5.37	AV	Horizontal
1	10420	42.62	38.55	33.13	11.26	59.30	68.20	-8.90	Peak	Vertical
1	10420	27.81	38.55	33.13	11.26	44.49	54.00	-9.51	AV	Vertical

5725-5850MHz:

802.11a Mode_Channel 149 _5745 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	11490	40.99	38.55	33.13	11.26	57.67	68.20	-10.53	Peak	Horizontal
1	11490	30.48	38.55	33.13	11.26	47.16	54.00	-6.84	AV	Horizontal
1	11490	41.12	38.55	33.13	11.26	57.80	68.20	-10.40	Peak	Vertical
1	11490	27.95	38.55	33.13	11.26	44.63	54.00	-9.37	AV	Vertical

802.11a Mode_Channel 157 _ 5785 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	11570	40.25	38.55	33.13	11.26	56.93	68.20	-11.27	Peak	Horizontal
1	11570	29.54	38.55	33.13	11.26	46.22	54.00	-7.78	AV	Horizontal
1	11570	41.47	38.55	33.13	11.26	58.15	68.20	-10.05	Peak	Vertical
1	11570	28.94	38.55	33.13	11.26	45.62	54.00	-8.38	AV	Vertical

802.11a Mode_ Channel 165_ 5825 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	11650	38.36	38.55	33.13	11.26	55.04	68.20	-13.16	Peak	Horizontal
1	11650	30.98	38.55	33.13	11.26	47.66	54.00	-6.34	AV	Horizontal
1	11650	40.84	38.55	33.13	11.26	57.52	68.20	-10.68	Peak	Vertical
1	11650	28.95	38.55	33.13	11.26	45.63	54.00	-8.37	AV	Vertical

802.11n20 Mode_Channel 149 _5745 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	11490	41.05	38.55	33.13	11.26	57.73	68.20	-10.47	Peak	Horizontal
1	11490	30.95	38.55	33.13	11.26	47.63	54.00	-6.37	AV	Horizontal
1	11490	40.19	38.55	33.13	11.26	56.87	68.20	-11.33	Peak	Vertical
1	11490	29.35	38.55	33.13	11.26	46.03	54.00	-7.97	AV	Vertical

802.11n20 Mode_Channel 157 _ 5785 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	11570	40.67	38.55	33.13	11.26	57.35	68.20	-10.85	Peak	Horizontal
1	11570	31.74	38.55	33.13	11.26	48.42	54.00	-5.58	AV	Horizontal
1	11570	40.03	38.55	33.13	11.26	56.71	68.20	-11.49	Peak	Vertical
1	11570	28.62	38.55	33.13	11.26	45.30	54.00	-8.70	AV	Vertical

802.11n20 Mode_ Channel 165_ 5825 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	11650	39.04	38.55	33.13	11.26	55.72	68.20	-12.48	Peak	Horizontal
1	11650	30.94	38.55	33.13	11.26	47.62	54.00	-6.38	AV	Horizontal
1	11650	40.60	38.55	33.13	11.26	57.28	68.20	-10.92	Peak	Vertical
1	11650	28.64	38.55	33.13	11.26	45.32	54.00	-8.68	AV	Vertical

802.11n40 Mode_Channel 151 _5755 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	11510	39.81	38.55	33.13	11.26	56.49	68.20	-11.71	Peak	Horizontal
1	11510	31.02	38.55	33.13	11.26	47.70	54.00	-6.30	AV	Horizontal
1	11510	40.15	38.55	33.13	11.26	56.83	68.20	-11.37	Peak	Vertical
1	11510	29.53	38.55	33.13	11.26	46.21	54.00	-7.79	AV	Vertical

802.11n40 Mode_Channel 159 _ 5795MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	11590	38.64	38.55	33.13	11.26	55.32	68.20	-12.88	Peak	Horizontal
1	11590	31.89	38.55	33.13	11.26	48.57	54.00	-5.43	AV	Horizontal
1	11590	41.08	38.55	33.13	11.26	57.76	68.20	-10.44	Peak	Vertical
1	11590	28.89	38.55	33.13	11.26	45.57	54.00	-8.43	AV	Vertical

802.11ac20 Mode_Channel 149 _5745 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	11490	38.52	38.55	33.13	11.26	55.20	68.20	-13.00	Peak	Horizontal
1	11490	30.24	38.55	33.13	11.26	46.92	54.00	-7.08	AV	Horizontal
1	11490	40.78	38.55	33.13	11.26	57.46	68.20	-10.74	Peak	Vertical
1	11490	27.61	38.55	33.13	11.26	44.29	54.00	-9.71	AV	Vertical

802.11ac20 Mode_Channel 157 _ 5785 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	11570	39.61	38.55	33.13	11.26	56.29	68.20	-11.91	Peak	Horizontal
1	11570	30.60	38.55	33.13	11.26	47.28	54.00	-6.72	AV	Horizontal
1	11570	41.44	38.55	33.13	11.26	58.12	68.20	-10.08	Peak	Vertical
1	11570	29.66	38.55	33.13	11.26	46.34	54.00	-7.66	AV	Vertical

802.11ac20 Mode_ Channel 165_ 5825 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	11650	40.73	38.55	33.13	11.26	57.41	68.20	-10.79	Peak	Horizontal
1	11650	32.12	38.55	33.13	11.26	48.80	54.00	-5.20	AV	Horizontal
1	11650	40.63	38.55	33.13	11.26	57.31	68.20	-10.89	Peak	Vertical
1	11650	28.98	38.55	33.13	11.26	45.66	54.00	-8.34	AV	Vertical

802.11ac40 Mode_Channel 151 _5755 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	11510	40.46	38.55	33.13	11.26	57.14	68.20	-11.06	Peak	Horizontal
1	11510	30.21	38.55	33.13	11.26	46.89	54.00	-7.11	AV	Horizontal
1	11510	40.67	38.55	33.13	11.26	57.35	68.20	-10.85	Peak	Vertical
1	11510	28.27	38.55	33.13	11.26	44.95	54.00	-9.05	AV	Vertical

802.11ac40 Mode_Channel 159 _ 5795MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	11590	41.12	38.55	33.13	11.26	57.80	68.20	-10.40	Peak	Horizontal
1	11590	31.56	38.55	33.13	11.26	48.24	54.00	-5.76	AV	Horizontal
1	11590	40.02	38.55	33.13	11.26	56.70	68.20	-11.50	Peak	Vertical
1	11590	27.65	38.55	33.13	11.26	44.33	54.00	-9.67	AV	Vertical

802.11ac80 Mode_Channel 155 _5775 MHz

Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector	Polarization
1	11550	40.92	38.55	33.13	11.26	57.60	68.20	-10.60	Peak	Horizontal
1	11550	29.54	38.55	33.13	11.26	46.22	54.00	-7.78	AV	Horizontal
1	11550	40.18	38.55	33.13	11.26	56.86	68.20	-11.34	Peak	Vertical
1	11550	30.27	38.55	33.13	11.26	46.95	54.00	-7.05	AV	Vertical

REMARKS:

1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. Margin = Result Level - Limit
3. The other emission levels were very low against the limit.
4. Detector AV is setting spectrum/receiver. RBW=1MHz/VBW=10Hz/Sweep time=Auto/Detector=Peak;