



FCC TEST REPORT

FCC ID:2AVZV-S1A01

Product	:	POS SYSTEM
Model Name	:	S1A01, S1A02, S1A03, S1A01-X, S1A02-X, S1A03-X ("X" can be represented 1~9)
Brand	:	CITAQ
Report No.	:	PTC22062406203E-FC04
Prepared for		
CITAQ CO., LTD		
9F&13F., Chuangye Bldg., Keji Middle Road., Hi-Tech Zone, Shantou., Guangdong		
Prepared by		
Precise Testing & Certification Co., Ltd		
Building 1, No. 6, Tongxin Road, Dongcheng Street, Dongguan, Guangdong, China		



1 TEST RESULT CERTIFICATION

Applicant's name : CITAQ CO., LTD

Address : 9F&13F., Chuangye Bldg., Keji Middle Road., Hi-Tech Zone,
Shantou., Guangdong

Manufacture's name : CITAQ CO., LTD

Address : 9F&13F., Chuangye Bldg., Keji Middle Road., Hi-Tech Zone,
Shantou., Guangdong

Product name : POS SYSTEM

Model name : S1A01, S1A02, S1A03, S1A01-X, S1A02-X, S1A03-X ("X" can be
represented 1~9)

Standards : FCC CFR47 Part 15 Section 15.407

Test procedure : ANSI C63.10:2013

Test Date : Aug. 04, 2022 to Sep. 05, 2022

Date of Issue : Jul. 10, 2023

Test Result : Pass

This device described above has been tested by PTC, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Test Engineer:

A handwritten signature in black ink that reads "Simon Pu".

Simon Pu / Engineer

Technical Manager:

A handwritten signature in black ink that reads "Ronnie Liu".

Ronnie Liu / Manager



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2 Test Summary

Test Items	Test Requirement	Result
Conduct Emission	15.207	PASS
Radiated Spurious Emissions	15.205(a) 15.209 15.407(b)	PASS
Emission and Occupied Bandwidth	15.407(a)(e)	PASS
Maximum Conducted Output Power	15.407(a)(1)	PASS
Power Spectral Density	15.407(a)	PASS
Frequency stability	15.407 (g)	PASS
Antenna Requirement	15.203	PASS



3 General Information

3.1 General Description of E.U.T.

Product Name	:	POS SYSTEM
Model Name	:	S1A01
Additional model	:	S1A02, S1A03, S1A01-X, S1A02-X, S1A03-X ("X" can be represented 1~9)
Specification	:	802.11a/n HT20/HT40/ac20/ac40/ac80
Operation Frequency	:	5G Wifi:5150-5250 MHz 5.8G Wifi:5725MHz~5850MHz
Number of Channel	:	4 channels for 802.11a/n20/ac20 5150-5250 MHz 5 channels for 802.11a/n20/ac20 5725MHz~5850MHz 2 channels for 802.11n40/ac40 5150-5250 MHz 2 channels for 802.11n40/ac40 5725MHz~5850MHz 1 channels for 802.11 ac80
Type of Modulation	:	DSSS with DBPSK/DQPSK/CCK for 802.11b; OFDM with BPSK/QPSK/16QAM/64QAM for 802.11g/n/a/ac
Antenna installation	:	IFA Antenna
Antenna Gain	:	5G WiFi Band 1:2.37dBi; 5G WiFi Band 4: 3.74dBi
Power supply	:	Input:24V  2.5A
Hardware Version	:	N/A
Software Version	:	N/A

Model difference:

Model	Model difference
S1A01, S1A02, S1A03, S1A01-X, S1A02-X, S1A03-X ("X" can be represented 1~9)	S1A01, S1A02, S1A03, S1A01-X, S1A02-X, S1A03-X ("X" can be represented 1~9) only the model name is different, the test model is S1A01.



3.2 Channel List

The EUT has been tested under its typical operating condition.

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.

Test of channel included the lowest and middle and highest frequency to perform the test, then record on this report.

Those data rates (802.11a: 6 Mbps; 802.11n (HT20): MCS0; 802.11ac: MCS0) were used for all test.

Pre-defined engineering program for regulatory testing used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

Frequency and Channel list for 802.11 a/N20/N40/AC20/AC40

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	46	5230	153	5765
38	5190	48	5240	157	5785
40	5200	149	5745	159	5795
44	5220	151	5755	161	5805
				165	5825

Frequency and Channel list for 802.11 ac80:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
42	5210	155	5775	/	/



The maximum duty cycle as following table:

Test Mode	Duty Cycle(%)
802.11a	100%
802.11n/ac20	100%
802.11n/ac40	100%
802.11ac80	100%

3.3 Test Site

Precise Testing & Certification Co., Ltd

Address: Building 1, No. 6, Tongxin Road, Dongcheng Street, Dongguan, Guangdong, China

FCC Registration Number: 790290

A2LA Certificate No.: 4408.01

IC Registration Number: 12191A



4 Equipment During Test

4.1 Equipments List

RF Conducted Test

Name of Equipment	Manufacturer	Model	Serial No.	Characteristics	Calibration Due	Calibration period
MXG Signal Analyzer	Agilent	N9020A	SER MY5111038	10Hz-30GHz	Aug. 22, 2022	1 year
					Aug. 21, 2023	
Coaxial Cable	CDS	79254	46107086	10Hz-30GHz	Aug. 22, 2022	1 year
					Aug. 21, 2023	
Power Meter	Anritsu	ML2495A	0949003	300MHz-40GHz	Aug. 22, 2022	1 year
					Aug. 21, 2023	
Power Sensor	Anritsu	MA2411B	0917017	300MHz-40GHz	Aug. 22, 2022	1 year
					Aug. 21, 2023	
Signal Analyzer 40GHz	Rohde&Schwarz	FSV40	101456	10Hz-40GHz	Aug. 22, 2022	1 year
					Aug. 21, 2023	

Remark: The temporary antenna connector is soldered on the PCB board in order to perform conducted tests and this temporary antenna connector is listed in the equipment list.

Name of Equipment	Manufacturer	Model	Serial No.	Characteristics	Calibration Due	Calibration period
EMI Test Receiver	Rohde&Schwarz	ESCI	101417	9KHz-3GHz	Aug. 22, 2022	1 year
					Aug. 21, 2023	
Loop Antenna	Schwarzbeck	FMZB 1519	012	9 KHz -30MHz	Aug. 22, 2022	1 year
					Aug. 21, 2023	
Bilog Antenna	SCHWARZBECK	VULB9160	9160-3355	25MHz-2GHz	Aug. 22, 2022	1 year
					Aug. 21, 2023	



Preamplifier (low frequency)	SCHWARZBEC K	BBV 9475	9745-0013	1MHz-1GHz	Aug. 22, 2022	1 year
					Aug. 21, 2023	
Cable	Schwarzbeck	PLF-100	549489	9KHz-3GHz	Aug. 22, 2022	1 year
					Aug. 21, 2023	
Spectrum Analyzer	Agilent	E4407B	MY45109572	9KHz-40GHz	Aug. 22, 2022	1 year
					Aug. 21, 2023	
Horn Antenna	SCHWARZBEC K	9120D	9120D-1246	1GHz-18GHz	Aug. 22, 2022	1 year
					Aug. 21, 2023	
Power Amplifier	LUNAR EM	LNA1G18-40	J1010000008 1	1GHz-26.5GHz	Aug. 22, 2022	1 year
					Aug. 21, 2023	
Horn Antenna	SCHWARZBEC K	BBHA 9170	9170-181	14GHz-40GHz	Aug. 22, 2022	1 year
					Aug. 21, 2023	
Amplifier	SCHWARZBEC K	BBV 9721	9721-205	18GHz-40GHz	Aug. 22, 2022	1 year
					Aug. 21, 2023	
Cable	H+S	CBL-26	N/A	1GHz-26.5GHz	Aug. 22, 2022	1 year
					Aug. 21, 2023	
RF Cable	R&S	R204	R21X	1GHz-40GHz	Aug. 22, 2022	1 year
					Aug. 21, 2023	



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Conducted Emissions

Name of Equipment	Manufacturer	Model	Serial No.	Characteristics	Calibration Due	Calibration period
EMI Test Receiver	Rohde&Schwarz	ESCI	101417	9KHz-3GHz	Aug. 22, 2022	1 year
					Aug. 21, 2023	
Artificial Mains Network	Rohde&Schwarz	ENV216	102453	9KHz-300MHz	Aug. 22, 2022	1 year
					Aug. 21, 2023	
Artificial Mains Network	Rohde&Schwarz	ENV216	101342	9KHz-300MHz	Aug. 22, 2022	1 year
					Aug. 21, 2023	



4.2 Measurement Uncertainty

Parameter	Uncertainty
RF output power, conducted	$\pm 1.0\text{dB}$
Power Spectral Density, conducted	$\pm 2.2\text{dB}$
Radio Frequency	$\pm 1 \times 10^{-6}$
Bandwidth	$\pm 1.5 \times 10^{-6}$
Time	$\pm 2\%$
Duty Cycle	$\pm 2\%$
Temperature	$\pm 1^\circ\text{C}$
Humidity	$\pm 5\%$
DC and low frequency voltages	$\pm 3\%$
Conducted Emissions (150kHz~30MHz)	$\pm 3.64\text{dB}$
Radiated Emission(9kHz~30MHz)	$\pm 3.15\text{dB}$
Radiated Emission(30MHz~1GHz)	$\pm 5.03\text{dB}$
Radiated Emission(1GHz~18GHz)	$\pm 4.74\text{dB}$
Radiated Emission(18GHz~40GHz)	$\pm 3.20\text{dB}$



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4.3 Description of Support Units

Equipment	Model No.	Series No.
Adapter	ADP-65JH-DB	N/A

5 Conducted Emission

Test Requirement:	: FCC CFR 47 Part 15 Section 15.207
Test Method	: ANSI C63.10: 2013
Test Result	: PASS
Frequency Range	: 150kHz to 30MHz
Class/Severity	: Class B

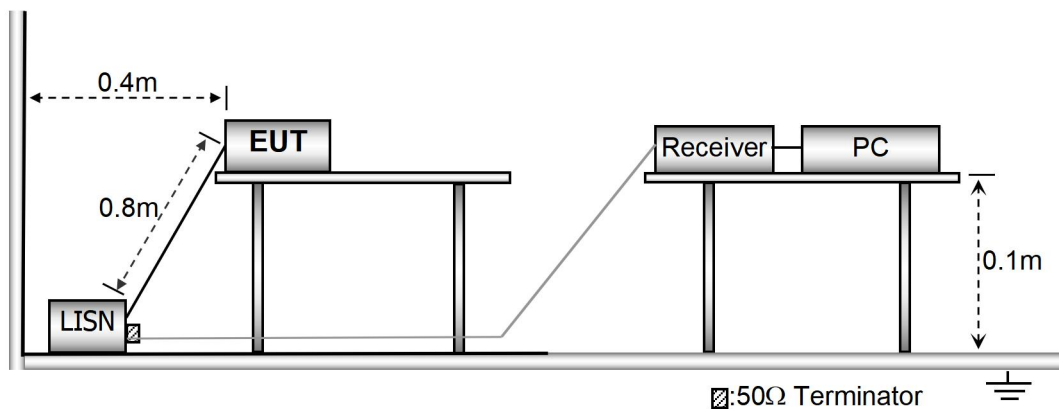
5.1 E.U.T. Operation

Operating Environment :

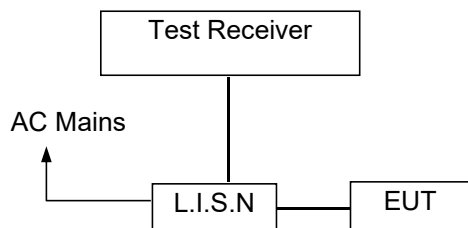
Temperature	: 23.9 °C
Humidity	: 51.4 % RH
Atmospheric Pressure	: 101.21kPa

5.2 EUT Setup

The conducted emission tests were performed using the setup accordance with the ANSI C63.10:2013.



5.3 Test SET-UP (Block Diagram of Configuration)



5.4 Measurement Procedure

1. The EUT was placed on a table, which is 0.1m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured was complete.

5.5 Conducted Emission Limit

Conducted Emission

Frequency(MHz)	Quasi-peak	Average
0.15-0.5	66-56	56-46
0.5-5.0	56	46
5.0-30.0	60	50

Note:

1. The lower limit shall apply at the transition frequencies
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

5.6 Measurement Description

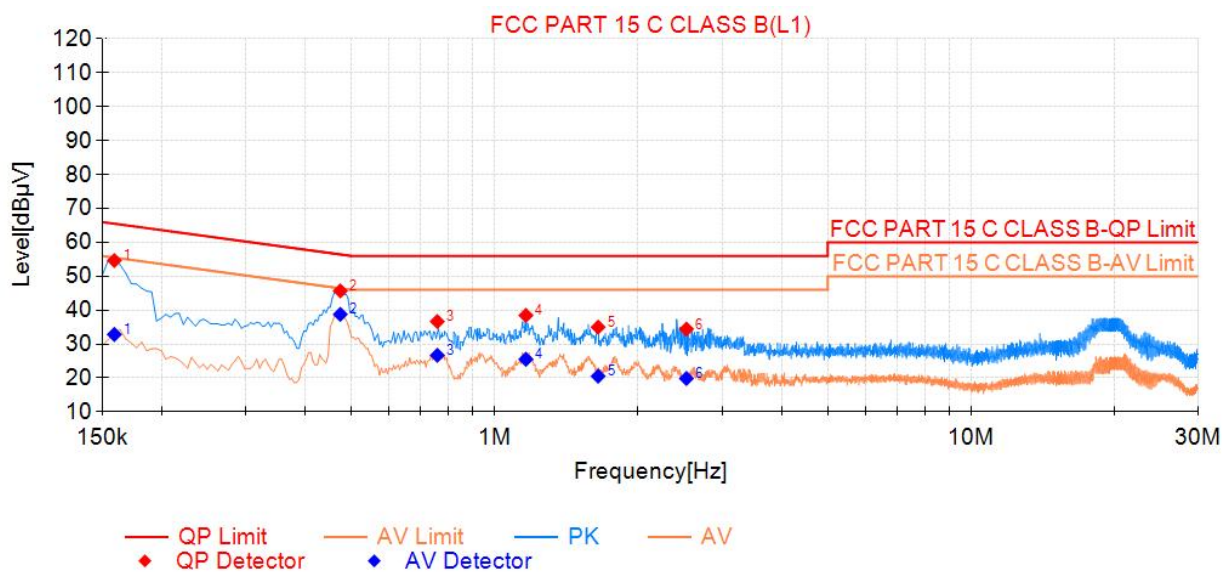
The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line.

5.7 Conducted Emission Test Result

Pass.

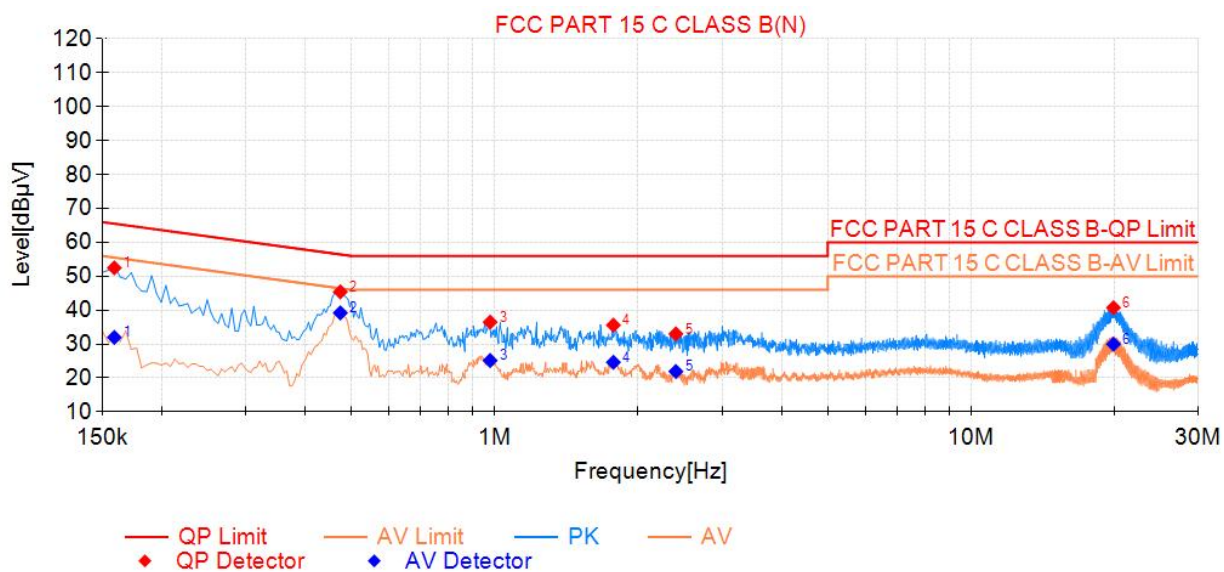
All the modulation modes were tested the data of the worst mode (AC 120V/60Hz, TX 5180MHz) are recorded in the following pages and the others modulation methods do not exceed the limits.

Line-AC 120V/60Hz



Final Data List								
NO.	Freq. [MHz]	QP Value [dBμV]	QP Limit [dBμV]	QP Margin [dB]	AV Value [dBμV]	AV Limit [dBμV]	AV Margin [dB]	Verdict
1	0.159	54.64	65.52	10.88	32.84	55.52	22.68	PASS
2	0.474	45.69	56.44	10.75	38.77	46.44	7.67	PASS
3	0.758	36.67	56.00	19.33	26.70	46.00	19.30	PASS
4	1.163	38.46	56.00	17.54	25.52	46.00	20.48	PASS
5	1.649	35.01	56.00	20.99	20.54	46.00	25.46	PASS
6	2.526	34.43	56.00	21.57	19.87	46.00	26.13	PASS

Neutral-AC 120V/60Hz



Final Data List

NO.	Freq. [MHz]	QP Value [dBμV]	QP Limit [dBμV]	QP Margin [dB]	AV Value [dBμV]	AV Limit [dBμV]	AV Margin [dB]	Verdict
1	0.159	52.49	65.52	13.03	31.97	55.52	23.55	PASS
2	0.474	45.40	56.44	11.04	39.20	46.44	7.24	PASS
3	0.978	36.48	56.00	19.52	25.16	46.00	20.84	PASS
4	1.775	35.58	56.00	20.42	24.63	46.00	21.37	PASS
5	2.400	33.01	56.00	22.99	21.92	46.00	24.08	PASS
6	19.905	40.73	60.00	19.27	29.97	50.00	20.03	PASS



6 Radiated Spurious Emissions

Test Requirement	:	FCC CFR47 Part 15 Section 15.209 & 15.407(b)
Test Method	:	ANSI C63.10:2013
Test Result	:	PASS
Measurement Distance	:	3m
Limit		

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

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

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

(4) For transmitters operating in the 5.725-5.85 GHz band:

(i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

(ii) Devices certified before March 2, 2017 with antenna gain greater than 10 dBi may demonstrate compliance with the emission limits in §15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease by March 2, 2018. Devices certified before March 2, 2018 with antenna gain of 10 dBi or less may demonstrate compliance with the emission limits in §15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease before March 2, 2020.

(5) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.

(6) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209.

Further.

(7) The provisions of §15.205 apply to intentional radiators operating under this section.

(8) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency band edges as the design of the equipment permits. As per FCC §15.35(d): Unless otherwise specified, on any frequency or frequencies above 1000 MHz, the radiated emission limits are based on the use of measurement instrumentation employing an average detector function. Unless otherwise specified, measurements above 1000 MHz shall be performed using a minimum resolution bandwidth of 1MHz



As per FCC §15.209(a): Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength		Field Strength Limit at 3m Measurement Dist	
	uV/m	Distance (m)	uV/m	dBuV/m
0.009 ~ 0.490	$2400/F(\text{kHz})$	300	$10000 * 2400/F(\text{kHz})$	$20\log^{(2400/F(\text{kHz}))} + 80$
0.490 ~ 1.705	$24000/F(\text{kHz})$	30	$100 * 24000/F(\text{kHz})$	$20\log^{(24000/F(\text{kHz}))} + 40$
1.705 ~ 30	30	30	$100 * 30$	$20\log^{(30)} + 40$
30 ~ 88	100	3	100	$20\log^{(100)}$
88 ~ 216	150	3	150	$20\log^{(150)}$
216 ~ 960	200	3	200	$20\log^{(200)}$
Above 960	500	3	500	$20\log^{(500)}$

6.1 EUT Operation

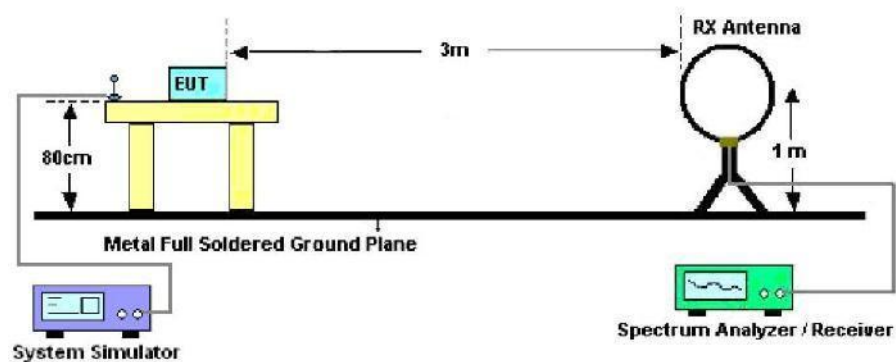
Operating Environment :

Temperature: : 24.5 °C
 Humidity: : 52 % RH
 Atmospheric Pressure: : 101.3kPa
 Test Voltage : AC 120V 60Hz

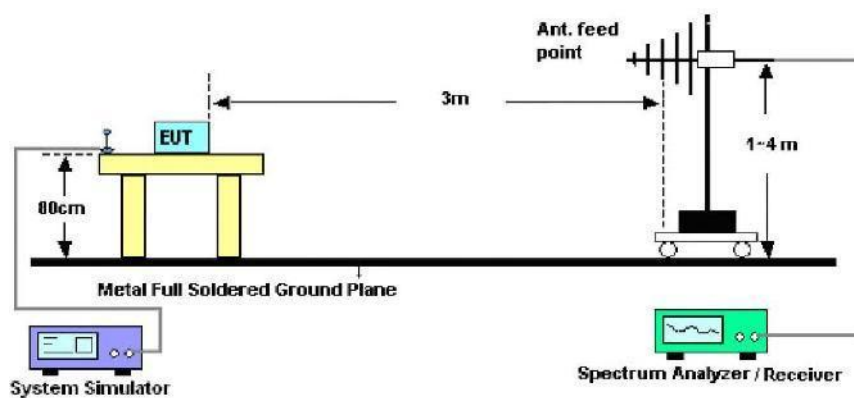
6.2 Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site

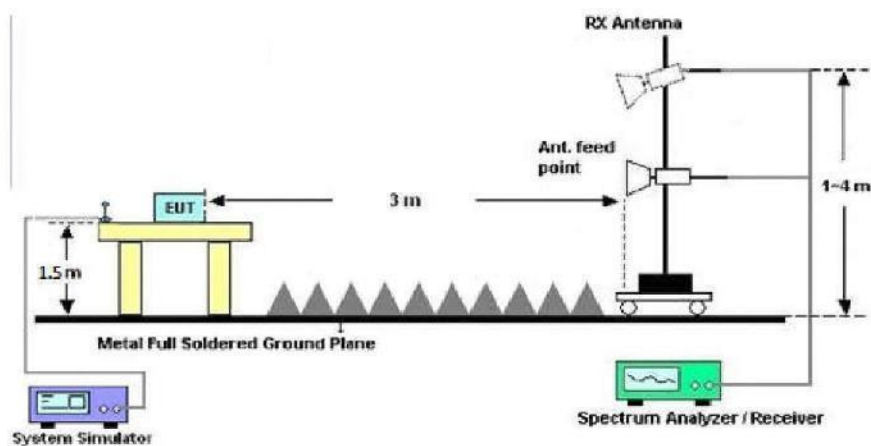
The test setup for emission measurement below 30MHz



The test setup for emission measurement from 30 MHz to 1 GHz.



The test setup for emission measurement above 1 GHz



6.3 Spectrum Analyzer Setup

	Frequency	Detector	RBW	VBW	Remark
Receiver Setup	Below 30MHz	--	10kHz	10kHz	--
	30MHz ~ 1GHz	Quasi-peak	120kHz	300kHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		RMS	1MHz	3MHz	Average Value



6.4 Test Procedure

1. Below 1000MHz, The EUT was placed on a turn table which is 0.8m above ground plane, And above 1000MHz, The EUT was placed on a styrofoam table which is 1.5m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is moved from 1m to 4m to find out the maximum emissions. The spectrum was investigated from the lowest radio frequency signal generated in the device, without going below 9 kHz, up to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.
7. The radiation measurements are tested under 3-axes(X,Y,Z) position(X denotes lying on the table, Y denotes side stand and Z denotes vertical stand), After pre-test, It was found that the worse radiation emission was get at the X position. So the data shown was the X position only.
8. The test above 1GHz must be use the fully anechoic room, and the test below 1GHz use the half anechoic room



6.5 Summary of Test Results

Test Frequency: 9KHz-30MHz

Freq. (MHz)	Ant.Pol. H/V	Emission Level (dBuV/m)	Limit 3m (dBuV/m)	Over (dB)
--	--	--	--	>20

Note:

The amplitude of spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.

Distance extrapolation factor = $40\log(\text{Specific distance} / \text{test distance})$ (dB);

Limit line = Specific limits (dBuV) + distance extrapolation factor.

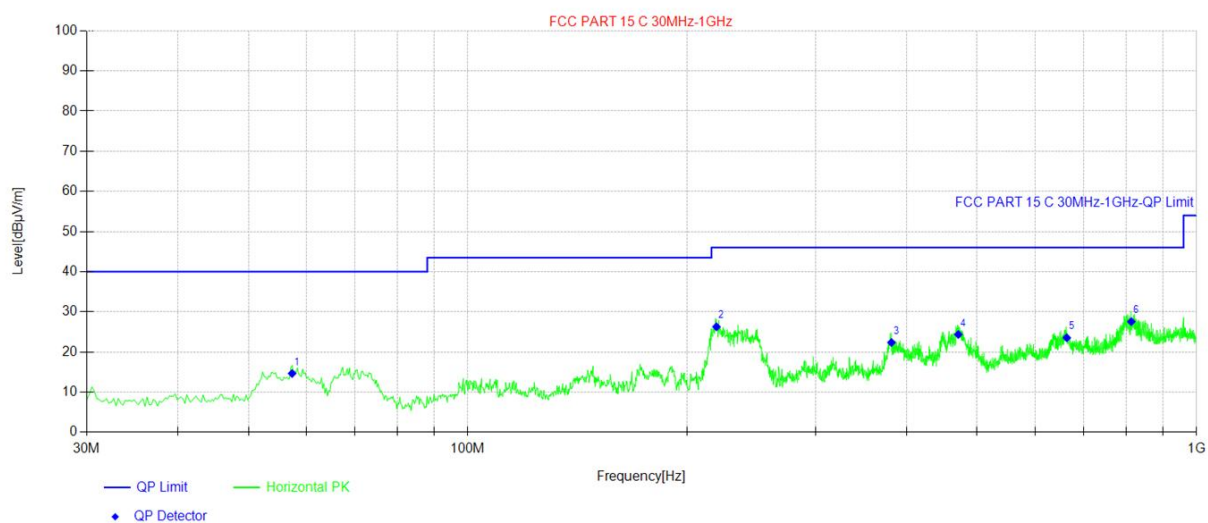
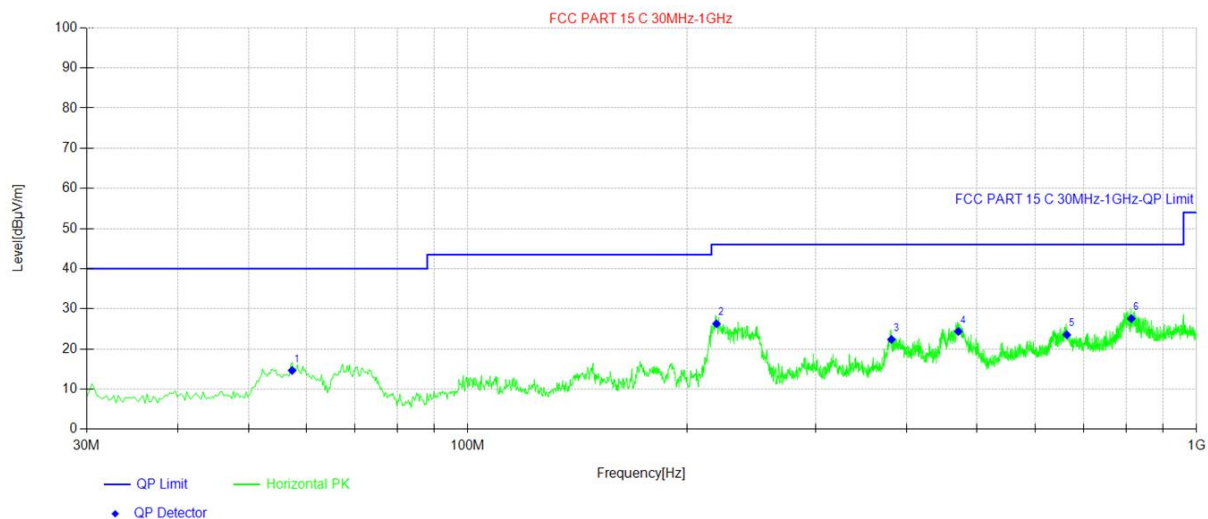
Test Frequency: 30MHz ~ 1GHz

All the modulation modes were tested the data of the worst mode (TX 802.11a Channel 36, CH149) are recorded in the following pages and the others modulation methods do not exceed the limits.

Please refer to the following test plots:



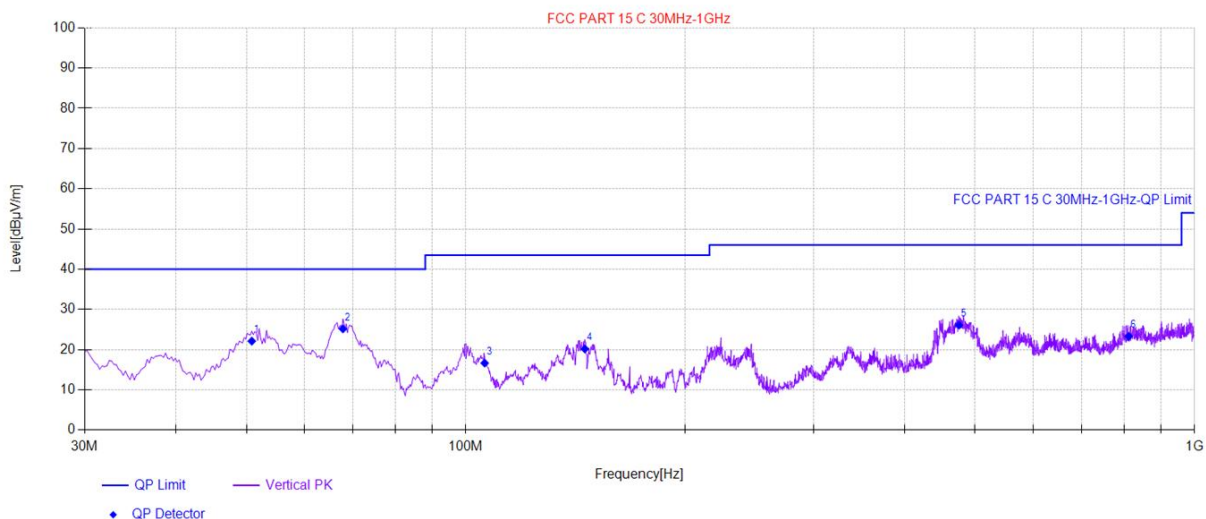
Antenna Polarization: Horizontal(CH36)



Remark:Emission Level=Reading+Cable Loss+ANT Factor-AMP Factor



Antenna Polarization: Vertical (CH36)



Final Data List[QP]							
NO.	Freq. [MHz]	QP Reading [dBμV/m]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Polarity
1	50.86	39.89	-17.77	22.12	40.00	17.88	Vertical
2	67.83	44.09	-18.93	25.16	40.00	14.84	Vertical
3	106.15	35.55	-18.89	16.66	43.50	26.84	Vertical
4	145.67	36.59	-16.40	20.19	43.50	23.31	Vertical
5	475.23	37.56	-11.47	26.09	46.00	19.91	Vertical
6	812.31	27.58	-4.25	23.33	46.00	22.67	Vertical

Remark: Emission Level = Reading + Cable Loss + ANT Factor - AMP Factor

Note: only the worst case recorded in the report.



Test Frequency: From 1GHz to 40GHz

Pre-scan all test modes

Only the worst case Main test data.

802.11a

Test Mode: 5180					Test channel: Lowest			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10360	40.27	41.03	5.36	31.25	55.41	68.23	-12.82	V
15540	40.15	39.43	7.85	30.63	56.80	68.23	-11.43	V
20720	43.29	37.96	8.56	34.95	54.86	68.23	-13.37	V
10360	42.28	41.03	5.36	31.25	57.42	68.23	-10.81	H
15540	39.98	39.43	7.85	30.63	56.63	68.23	-11.60	H
20720	42.75	37.96	8.56	34.95	54.32	68.23	-13.91	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10360	28.12	41.03	5.36	31.25	43.26	54	-10.74	V
15540	27.26	39.43	7.85	30.63	43.91	54	-10.09	V
20720	28.12	37.96	8.56	34.95	39.69	54	-14.31	V
10360	28.81	41.03	5.36	31.25	43.95	54	-10.05	H
15540	24.61	39.43	7.85	30.63	41.26	54	-12.74	H
20720	26.99	37.96	8.56	34.95	38.56	54	-15.44	H



802.11a

Test Mode:5220					Test channel: Middle			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10440	41.86	41.13	5.35	31.25	57.09	68.23	-11.14	V
15660	41.22	39.21	7.85	30.63	57.65	68.23	-10.58	V
20880	44.46	37.92	8.56	34.95	55.99	68.23	-12.24	V
10440	40.91	41.13	5.36	31.25	56.15	68.23	-12.08	H
15660	40.12	39.21	7.85	30.63	56.55	68.23	-11.68	H
20880	43.27	37.92	8.56	34.95	54.80	68.23	-13.43	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10440	27.55	41.13	5.36	31.25	42.79	54	-11.21	V
15660	25.78	39.21	7.85	30.63	42.21	54	-11.79	V
20880	29.68	37.92	8.56	34.95	41.21	54	-12.79	V
10440	27.93	41.13	5.36	31.25	43.17	54	-10.83	H
15660	27.28	39.21	7.85	30.63	43.71	54	-10.29	H
20880	29.91	37.92	8.56	34.95	41.44	54	-12.56	H



802.11a

Test Mode:5240					Test channel: High			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10480	39.51	41.18	5.36	31.25	54.80	68.23	-13.43	V
17520	37.06	43.17	7.85	30.63	57.45	68.23	-10.78	V
20960	44.00	37.91	8.56	34.95	55.52	68.23	-12.71	V
10480	39.44	41.18	5.36	31.25	54.73	68.23	-13.50	H
17520	37.04	43.17	7.85	30.63	57.43	68.23	-10.80	H
20960	43.88	37.91	8.56	34.95	55.40	68.23	-12.83	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10480	27.45	41.18	5.36	31.25	42.74	54	-11.26	V
17520	22.13	43.17	7.85	30.63	42.52	54	-11.48	V
20960	30.18	37.91	8.56	34.95	41.70	54	-12.30	V
10480	25.21	41.18	5.36	31.25	40.50	54	-13.50	H
17520	21.26	43.17	7.85	30.63	41.65	54	-12.35	H
20960	29.16	37.91	8.56	34.95	40.68	54	-13.32	H



802.11a

Test Mode: 5745					Test channel: Lowest			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11490	42.63	40.51	5.42	31.75	56.81	68.23	-11.42	V
17235	37.14	41.73	7.32	30.96	55.23	68.23	-13.00	V
22980	44.13	38.48	8.85	35.25	56.21	68.23	-12.02	V
11490	43.61	40.51	5.42	31.75	57.79	68.23	-10.44	H
17235	40.45	41.73	7.32	30.96	58.54	68.23	-9.69	H
22980	44.34	38.48	8.85	35.25	56.42	68.23	-11.81	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11490	27.51	40.51	5.42	31.75	41.69	54	-12.31	V
17235	25.66	41.73	7.32	30.96	43.75	54	-10.25	V
22980	29.30	38.48	8.85	35.25	41.38	54	-12.62	V
11490	25.64	40.51	5.42	31.75	39.82	54	-14.18	H
17235	23.99	41.73	7.32	30.96	42.08	54	-11.92	H
22980	28.95	38.48	8.85	35.25	41.03	54	-12.97	H



802.11a

Test Mode:5785					Test channel: Middle			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11570	43.46	40.43	5.42	31.75	57.56	68.23	-10.67	V
17355	39.56	42.3	7.32	30.96	58.22	68.23	-10.01	V
23140	45.52	38.44	8.85	35.25	57.56	68.23	-10.67	V
11570	42.47	40.43	5.42	31.75	56.57	68.23	-11.66	H
17355	37.23	42.3	7.32	30.96	55.89	68.23	-12.34	H
23140	43.48	38.44	8.85	35.25	55.52	68.23	-12.71	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11570	26.09	40.43	5.42	31.75	40.19	54	-13.81	V
17355	23.63	42.3	7.32	30.96	42.29	54	-11.71	V
23140	28.41	38.44	8.85	35.25	40.45	54	-13.55	V
11570	28.88	40.43	5.42	31.75	42.98	54	-11.02	H
17355	23.57	42.3	7.32	30.96	42.23	54	-11.77	H
23140	29.30	38.44	8.85	35.25	41.34	54	-12.66	H



802.11a

Test Mode:5825					Test channel: High			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11650	43.72	40.35	5.42	31.75	57.74	68.23	-10.49	V
17475	38.23	42.88	7.32	30.96	57.47	68.23	-10.76	V
23300	45.55	38.38	8.85	35.25	57.53	68.23	-10.70	V
11650	43.64	40.35	5.42	31.75	57.66	68.23	-10.57	H
17475	39.21	42.88	7.32	30.96	58.45	68.23	-9.78	H
23300	45.17	38.38	8.85	35.25	57.15	68.23	-11.08	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11650	28.98	40.35	5.42	31.75	43.00	54	-11.00	V
17475	22.59	42.88	7.32	30.96	41.83	54	-12.17	V
23300	30.03	38.38	8.85	35.25	42.01	54	-11.99	V
11650	27.98	40.35	5.42	31.75	42.00	54	-12.00	H
17475	22.31	42.88	7.32	30.96	41.55	54	-12.45	H
23300	28.79	38.38	8.85	35.25	40.77	54	-13.23	H



802.11n20

Test Mode: 5180					Test channel: Lowest			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10360	39.53	41.03	5.36	31.25	54.67	68.23	-13.56	V
15540	40.20	39.43	7.85	30.63	56.85	68.23	-11.38	V
20720	43.90	37.96	8.56	34.95	55.47	68.23	-12.76	V
10360	41.02	41.03	5.36	31.25	56.16	68.23	-12.07	H
15540	40.44	39.43	7.85	30.63	57.09	68.23	-11.14	H
20720	42.00	37.96	8.56	34.95	53.57	68.23	-14.66	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10360	26.20	41.03	5.36	31.25	41.34	54	-12.66	V
15540	25.34	39.43	7.85	30.63	41.99	54	-12.01	V
20720	28.08	37.96	8.56	34.95	39.65	54	-14.35	V
10360	24.30	41.03	5.36	31.25	39.44	54	-14.56	H
15540	26.93	39.43	7.85	30.63	43.58	54	-10.42	H
20720	28.11	37.96	8.56	34.95	39.68	54	-14.32	H



802.11n20

Test Mode:5220					Test channel: Middle			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10440	41.91	41.13	5.35	31.25	57.14	68.23	-11.09	V
15660	41.12	39.21	7.85	30.63	57.55	68.23	-10.68	V
20880	44.48	37.92	8.56	34.95	56.01	68.23	-12.22	V
10440	40.92	41.13	5.36	31.25	56.16	68.23	-12.07	H
15660	39.75	39.21	7.85	30.63	56.18	68.23	-12.05	H
20880	43.19	37.92	8.56	34.95	54.72	68.23	-13.51	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10440	27.84	41.13	5.36	31.25	43.08	54	-10.92	V
15660	25.76	39.21	7.85	30.63	42.19	54	-11.81	V
20880	29.54	37.92	8.56	34.95	41.07	54	-12.93	V
10440	28.32	41.13	5.36	31.25	43.56	54	-10.44	H
15660	27.12	39.21	7.85	30.63	43.55	54	-10.45	H
20880	29.83	37.92	8.56	34.95	41.36	54	-12.64	H



802.11n20

Test Mode:5240					Test channel: High			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10480	39.45	41.18	5.36	31.25	54.74	68.23	-13.49	V
17520	37.48	43.17	7.85	30.63	57.87	68.23	-10.36	V
20960	43.00	37.91	8.56	34.95	54.52	68.23	-13.71	V
10480	39.39	41.18	5.36	31.25	54.68	68.23	-13.55	H
17520	37.97	43.17	7.85	30.63	58.36	68.23	-9.87	H
20960	44.04	37.91	8.56	34.95	55.56	68.23	-12.67	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10480	25.85	41.18	5.36	31.25	41.14	54	-12.86	V
17520	21.84	43.17	7.85	30.63	42.23	54	-11.77	V
20960	28.52	37.91	8.56	34.95	40.04	54	-13.96	V
10480	23.69	41.18	5.36	31.25	38.98	54	-15.02	H
17520	21.29	43.17	7.85	30.63	41.68	54	-12.32	H
20960	29.40	37.91	8.56	34.95	40.92	54	-13.08	H



802.11n20

Test Mode: 5745					Test channel: Lowest			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11490	44.38	40.51	5.42	31.75	58.56	68.23	-9.67	V
17235	37.39	41.73	7.32	30.96	55.48	68.23	-12.75	V
22980	43.44	38.48	8.85	35.25	55.52	68.23	-12.71	V
11490	42.56	40.51	5.42	31.75	56.74	68.23	-11.49	H
17235	39.93	41.73	7.32	30.96	58.02	68.23	-10.21	H
22980	44.83	38.48	8.85	35.25	56.91	68.23	-11.32	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11490	28.68	40.51	5.42	31.75	42.86	54	-11.14	V
17235	24.99	41.73	7.32	30.96	43.08	54	-10.92	V
22980	29.78	38.48	8.85	35.25	41.86	54	-12.14	V
11490	26.27	40.51	5.42	31.75	40.45	54	-13.55	H
17235	23.14	41.73	7.32	30.96	41.23	54	-12.77	H
22980	29.20	38.48	8.85	35.25	41.28	54	-12.72	H



802.11n20

Test Mode:5785					Test channel: Middle			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11570	41.01	40.43	5.42	31.75	55.11	68.23	-13.12	V
17355	39.16	42.30	7.32	30.96	57.82	68.23	-10.41	V
23140	44.89	38.44	8.85	35.25	56.93	68.23	-11.30	V
11570	42.14	40.43	5.42	31.75	56.24	68.23	-11.99	H
17355	38.67	42.30	7.32	30.96	57.33	68.23	-10.90	H
23140	42.27	38.44	8.85	35.25	54.31	68.23	-13.92	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11570	27.46	40.43	5.42	31.75	41.56	54	-12.44	V
17355	25.00	42.3	7.32	30.96	43.66	54	-10.34	V
23140	29.81	38.44	8.85	35.25	41.85	54	-12.15	V
11570	27.44	40.43	5.42	31.75	41.54	54	-12.46	H
17355	23.78	42.3	7.32	30.96	42.44	54	-11.56	H
23140	29.47	38.44	8.85	35.25	41.51	54	-12.49	H



802.11n20

Test Mode:5825					Test channel: High			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11650	42.50	40.35	5.42	31.75	56.52	68.23	-11.71	V
17475	38.24	42.88	7.32	30.96	57.48	68.23	-10.75	V
23300	45.31	38.38	8.85	35.25	57.29	68.23	-10.94	V
11650	43.15	40.35	5.42	31.75	57.17	68.23	-11.06	H
17475	38.69	42.88	7.32	30.96	57.93	68.23	-10.30	H
23300	45.32	38.38	8.85	35.25	57.30	68.23	-10.93	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11650	30.45	40.35	5.42	31.75	44.47	54	-9.53	V
17475	22.74	42.88	7.32	30.96	41.98	54	-12.02	V
23300	28.06	38.38	8.85	35.25	40.04	54	-13.96	V
11650	26.13	40.35	5.42	31.75	40.15	54	-13.85	H
17475	22.27	42.88	7.32	30.96	41.51	54	-12.49	H
23300	28.95	38.38	8.85	35.25	40.93	54	-13.07	H



802.11ac20

Test Mode: 5180					Test channel: Lowest			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10360	39.86	41.03	5.36	31.25	55.00	68.23	-13.23	V
15540	40.12	39.43	7.85	30.63	56.77	68.23	-11.46	V
20720	43.25	37.96	8.56	34.95	54.82	68.23	-13.41	V
10360	42.49	41.03	5.36	31.25	57.63	68.23	-10.60	H
15540	39.99	39.43	7.85	30.63	56.64	68.23	-11.59	H
20720	43.02	37.96	8.56	34.95	54.59	68.23	-13.64	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10360	27.90	41.03	5.36	31.25	43.04	54	-10.96	V
15540	27.42	39.43	7.85	30.63	44.07	54	-9.93	V
20720	28.21	37.96	8.56	34.95	39.78	54	-14.22	V
10360	28.79	41.03	5.36	31.25	43.93	54	-10.07	H
15540	24.91	39.43	7.85	30.63	41.56	54	-12.44	H
20720	27.41	37.96	8.56	34.95	38.98	54	-15.02	H



802.11ac20

Test Mode:5220					Test channel: Middle			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10440	41.66	41.13	5.35	31.25	56.89	68.23	-11.34	V
15660	41.57	39.21	7.85	30.63	58.00	68.23	-10.23	V
20880	44.15	37.92	8.56	34.95	55.68	68.23	-12.55	V
10440	40.93	41.13	5.36	31.25	56.17	68.23	-12.06	H
15660	40.26	39.21	7.85	30.63	56.69	68.23	-11.54	H
20880	43.17	37.92	8.56	34.95	54.70	68.23	-13.53	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10440	27.60	41.13	5.36	31.25	42.84	54	-11.16	V
15660	25.91	39.21	7.85	30.63	42.34	54	-11.66	V
20880	29.75	37.92	8.56	34.95	41.28	54	-12.72	V
10440	27.90	41.13	5.36	31.25	43.14	54	-10.86	H
15660	27.30	39.21	7.85	30.63	43.73	54	-10.27	H
20880	30.31	37.92	8.56	34.95	41.84	54	-12.16	H



802.11ac20

Test Mode:5240					Test channel: High			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10480	39.89	41.18	5.36	31.25	55.18	68.23	-13.05	V
17520	37.59	43.17	7.85	30.63	57.98	68.23	-10.25	V
20960	44.42	37.91	8.56	34.95	55.94	68.23	-12.29	V
10480	39.84	41.18	5.36	31.25	55.13	68.23	-13.10	H
17520	37.36	43.17	7.85	30.63	57.75	68.23	-10.48	H
20960	44.08	37.91	8.56	34.95	55.60	68.23	-12.63	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10480	27.27	41.18	5.36	31.25	42.56	54	-11.44	V
17520	21.88	43.17	7.85	30.63	42.27	54	-11.73	V
20960	29.81	37.91	8.56	34.95	41.33	54	-12.67	V
10480	25.03	41.18	5.36	31.25	40.32	54	-13.68	H
17520	21.08	43.17	7.85	30.63	41.47	54	-12.53	H
20960	29.47	37.91	8.56	34.95	40.99	54	-13.01	H



802.11ac20

Test Mode: 5745					Test channel: Lowest			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11490	42.50	40.51	5.42	31.75	56.68	68.23	-11.55	V
17235	37.49	41.73	7.32	30.96	55.58	68.23	-12.65	V
22980	43.90	38.48	8.85	35.25	55.98	68.23	-12.25	V
11490	43.33	40.51	5.42	31.75	57.51	68.23	-10.72	H
17235	39.99	41.73	7.32	30.96	58.08	68.23	-10.15	H
22980	44.43	38.48	8.85	35.25	56.51	68.23	-11.72	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11490	26.98	40.51	5.42	31.75	41.16	54	-12.84	V
17235	25.65	41.73	7.32	30.96	43.74	54	-10.26	V
22980	29.74	38.48	8.85	35.25	41.82	54	-12.18	V
11490	25.55	40.51	5.42	31.75	39.73	54	-14.27	H
17235	23.74	41.73	7.32	30.96	41.83	54	-12.17	H
22980	29.02	38.48	8.85	35.25	41.10	54	-12.90	H



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Test Mode:5785					Test channel: Middle			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11570	43.51	40.43	5.42	31.75	57.61	68.23	-10.62	V
17355	39.44	42.3	7.32	30.96	58.10	68.23	-10.13	V
23140	45.56	38.44	8.85	35.25	57.60	68.23	-10.63	V
11570	42.55	40.43	5.42	31.75	56.65	68.23	-11.58	H
17355	36.96	42.3	7.32	30.96	55.62	68.23	-12.61	H
23140	43.12	38.44	8.85	35.25	55.16	68.23	-13.07	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11570	26.17	40.43	5.42	31.75	40.27	54	-13.73	V
17355	23.59	42.3	7.32	30.96	42.25	54	-11.75	V
23140	28.58	38.44	8.85	35.25	40.62	54	-13.38	V
11570	28.83	40.43	5.42	31.75	42.93	54	-11.07	H
17355	23.62	42.3	7.32	30.96	42.28	54	-11.72	H
23140	29.28	38.44	8.85	35.25	41.32	54	-12.68	H



802.11ac20

Test Mode:5825					Test channel: High			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11650	43.39	40.35	5.42	31.75	57.41	68.23	-10.82	V
17475	38.39	42.88	7.32	30.96	57.63	68.23	-10.60	V
23300	45.35	38.38	8.85	35.25	57.33	68.23	-10.90	V
11650	43.54	40.35	5.42	31.75	57.56	68.23	-10.67	H
17475	39.60	42.88	7.32	30.96	58.84	68.23	-9.39	H
23300	44.81	38.38	8.85	35.25	56.79	68.23	-11.44	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11650	29.16	40.35	5.42	31.75	43.18	54	-10.82	V
17475	22.46	42.88	7.32	30.96	41.70	54	-12.30	V
23300	30.25	38.38	8.85	35.25	42.23	54	-11.77	V
11650	27.81	40.35	5.42	31.75	41.83	54	-12.17	H
17475	22.64	42.88	7.32	30.96	41.88	54	-12.12	H
23300	28.65	38.38	8.85	35.25	40.63	54	-13.37	H



802.11n40

Test Mode:5190					Test channel: High			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10380	40.82	41.06	5.42	31.75	55.55	68.23	-12.68	V
15570	39.45	39.37	7.32	30.96	55.18	68.23	-13.05	V
20760	35.91	37.95	8.85	35.25	47.46	68.23	-20.77	V
10380	39.50	41.06	5.42	31.75	54.23	68.23	-14.00	H
15570	41.51	39.37	7.32	30.96	57.24	68.23	-10.99	H
20760	45.25	37.95	8.85	35.25	56.80	68.23	-11.43	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10380	29.75	41.06	5.42	31.75	44.48	54	-9.52	V
15570	25.74	39.37	7.32	30.96	41.47	54	-12.53	V
20760	27.62	37.95	8.85	35.25	39.17	54	-14.83	V
10380	26.24	41.06	5.42	31.75	40.97	54	-13.03	H
15570	25.33	39.37	7.32	30.96	41.06	54	-12.94	H
20760	29.13	37.95	8.85	35.25	40.68	54	-13.32	H



802.11n40

Test Mode:5230					Test channel: High			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10460	41.59	41.15	5.42	31.75	56.41	68.23	-11.82	V
15690	41.40	39.16	7.32	30.96	56.92	68.23	-11.31	V
20920	44.22	37.92	8.85	35.25	55.74	68.23	-12.49	V
10460	42.37	41.15	5.42	31.75	57.19	68.23	-11.04	H
15690	42.53	39.16	7.32	30.96	58.05	68.23	-10.18	H
20920	46.27	37.92	8.85	35.25	57.79	68.23	-10.44	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10460	29.47	41.15	5.42	31.75	44.29	54	-9.71	V
15690	27.00	39.16	7.32	30.96	42.52	54	-11.48	V
20920	29.06	37.92	8.85	35.25	40.58	54	-13.42	V
10460	26.01	41.15	5.42	31.75	40.83	54	-13.17	H
15690	25.42	39.16	7.32	30.96	40.94	54	-13.06	H
20920	29.34	37.92	8.85	35.25	40.86	54	-13.14	H



Band 4 – 802.11n(HT40)								
Test Mode:5755					Test channel: Lowest channel			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11,510	38.61	40.49	5.39	31.75	52.74	74	-21.26	V
11,510	38.2	40.49	5.39	31.75	52.33	74	-21.67	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11,510	28.65	40.49	5.39	31.75	42.78	54	-11.22	V
11,510	30.42	40.49	5.39	31.75	44.55	54	-9.45	H
Test Mode: 5795					Test channel: Highest channel			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11,590	37.15	40.00	5.43	31.75	50.83	74	-23.17	V
11,590	33.55	40.00	5.43	31.75	47.23	74	-26.77	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11,590	29.67	40.00	5.43	31.75	43.35	54	-10.65	V
11,590	30.97	40.00	5.43	31.75	44.65	54	-9.35	H
Remark: The emission levels of other frequencies are very lower than the limit and not show in test report.								



802.11ac40

Test Mode:5190					Test channel:LOW			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10380	40.42	41.06	5.42	31.75	55.15	68.23	-13.08	V
15570	39.68	39.37	7.32	30.96	55.41	68.23	-12.82	V
20760	36.18	37.95	8.85	35.25	47.73	68.23	-20.50	V
10380	39.19	41.06	5.42	31.75	53.92	68.23	-14.31	H
15570	41.84	39.37	7.32	30.96	57.57	68.23	-10.66	H
20760	45.35	37.95	8.85	35.25	56.90	68.23	-11.33	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10380	29.60	41.06	5.42	31.75	44.33	54	-9.67	V
15570	26.02	39.37	7.32	30.96	41.75	54	-12.25	V
20760	28.08	37.95	8.85	35.25	39.63	54	-14.37	V
10380	26.28	41.06	5.42	31.75	41.01	54	-12.99	H
15570	25.76	39.37	7.32	30.96	41.49	54	-12.51	H
20760	29.03	37.95	8.85	35.25	40.58	54	-13.42	H



802.11ac40

Test Mode:5230					Test channel: High			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10460	41.89	41.15	5.42	31.75	56.71	68.23	-11.52	V
15690	41.79	39.16	7.32	30.96	57.31	68.23	-10.92	V
20920	44.05	37.92	8.85	35.25	55.57	68.23	-12.66	V
10460	42.31	41.15	5.42	31.75	57.13	68.23	-11.10	H
15690	42.57	39.16	7.32	30.96	58.09	68.23	-10.14	H
20920	46.51	37.92	8.85	35.25	58.03	68.23	-10.20	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10460	29.52	41.15	5.42	31.75	44.34	54	-9.66	V
15690	26.94	39.16	7.32	30.96	42.46	54	-11.54	V
20920	28.82	37.92	8.85	35.25	40.34	54	-13.66	V
10460	26.18	41.15	5.42	31.75	41.00	54	-13.00	H
15690	25.58	39.16	7.32	30.96	41.10	54	-12.90	H
20920	29.09	37.92	8.85	35.25	40.61	54	-13.39	H



Band 4 – 802.11ac 40								
Test Mode:5755					Test channel: Lowest channel			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11,510	38.41	40.49	5.39	31.75	52.54	74	-21.46	V
11,510	38.38	40.49	5.39	31.75	52.51	74	-21.49	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11,510	28.49	40.49	5.39	31.75	42.62	54	-11.38	V
11,510	30.67	40.49	5.39	31.75	44.80	54	-9.2	H
Test Mode: 5795					Test channel: Highest channel			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11,590	36.7	40.00	5.43	31.75	50.38	74	-23.62	V
11,590	34.33	40.00	5.43	31.75	48.01	74	-25.99	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11,590	29.53	40.00	5.43	31.75	43.21	54	-10.79	V
11,590	31.33	40.00	5.43	31.75	45.01	54	-8.99	H
Remark: The emission levels of other frequencies are very lower than the limit and not show in test report.								


Band 1 802.11ac HT80:

Test Mode:5210					Test channel: Middle channel			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10420	42.04	41.10	5.38	31.75	56.77	74	-17.23	V
10420	41.78	41.10	5.39	31.75	56.52	74	-17.48	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10420	29.66	41.10	5.38	31.75	44.39	54	-9.61	V
10420	25.28	41.10	5.39	31.75	40.02	54	-13.98	H
Remark: The emission levels of other frequencies are very lower than the limit and not show in test report.								

Band 4 802.11ac HT80

Test Mode:5775					Test channel: middle channel			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11,550	43.65	40.45	5.39	31.75	57.74	68.23	-10.49	V
11,550	43.46	40.45	5.39	31.75	57.55	68.23	-10.68	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11,550	28.39	40.45	5.39	31.75	42.48	54	-11.52	V
11,550	28.26	40.45	5.39	31.75	42.35	54	-11.65	H
Remark: The emission levels of other frequencies are very lower than the limit and not show in test report.								



Note:

1. The testing has been conformed to 10*5825MHz=58250MHz.
2. All other emissions more than 30dB below the limit.
3. Factor = Antenna Factor + Cable Loss – Pre-amplifier.
Emission Level = Reading + Factor
Margin=Emission Level-Limit
4. X-Axis, Y-Axis and Z-Axis were investigated. The results above show only the worst case.

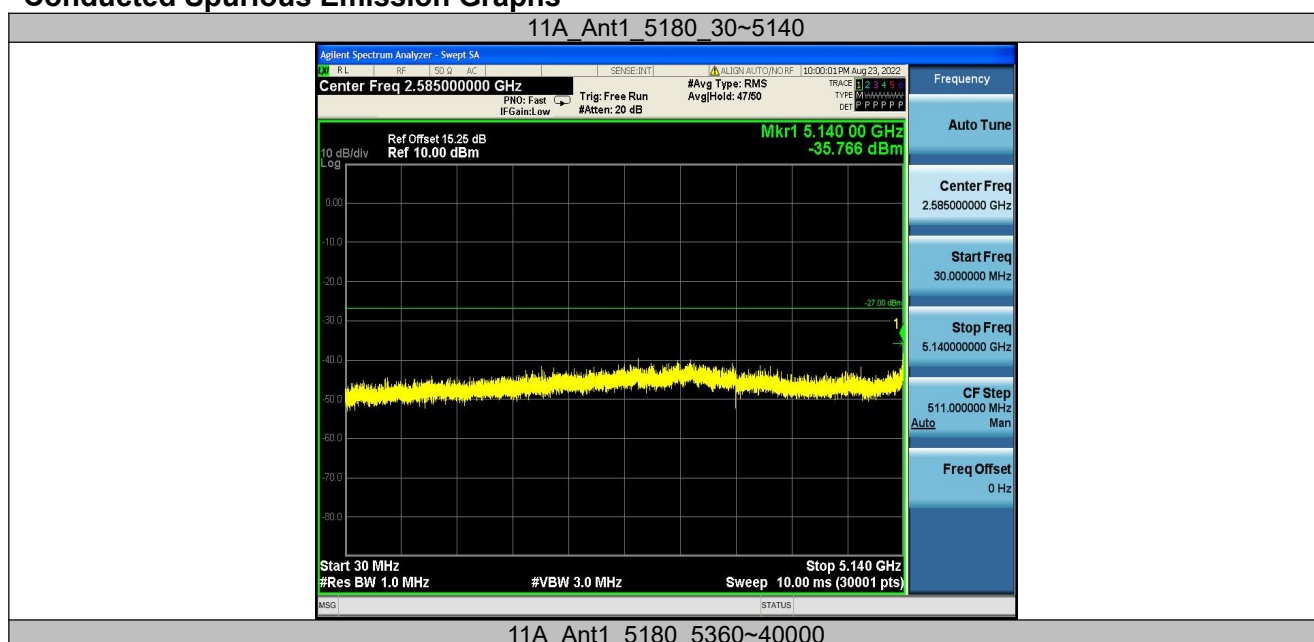
Undesirable emission:

TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	Max. Fre [MHz]	Max. Level [dBm]	Limit [dBm]	Verdict
11A	Ant1	5180	30~5140	5140	-36.29	≤-27	PASS
			5360~40000	25827.11	-33.13	≤-27	PASS
		5220	30~5140	3173.67	-40.2	≤-27	PASS
			5360~40000	25211.09	-33.5	≤-27	PASS
		5240	30~5140	3189.85	-39.54	≤-27	PASS
			5360~40000	25198.83	-33.05	≤-27	PASS
		5745	30~5650	2602.09	-41.41	≤-27	PASS
			5925~40000	25195.98	-29.66	≤-27	PASS
		5785	30~5650	2660.16	-40.5	≤-27	PASS
			5925~40000	25722.86	-30.1	≤-27	PASS
		5825	30~5650	2672.71	-40.94	≤-27	PASS
			5925~40000	25696.16	-30.51	≤-27	PASS
11N20SISO	Ant1	5180	30~5140	5137.45	-33.78	≤-27	PASS
			5360~40000	25690.78	-33.23	≤-27	PASS
		5220	30~5140	3324.25	-39.69	≤-27	PASS
			5360~40000	25765.08	-32.67	≤-27	PASS
		5240	30~5140	3203.65	-38.91	≤-27	PASS
			5360~40000	25742.72	-32.56	≤-27	PASS
		5745	30~5650	3381.58	-41.06	≤-27	PASS
			5925~40000	25733.39	-30.59	≤-27	PASS
		5785	30~5650	2833.63	-41.06	≤-27	PASS
			5925~40000	25766.41	-30.37	≤-27	PASS
		5825	30~5650	3223.85	-41.35	≤-27	PASS
			5925~40000	25221.97	-30.37	≤-27	PASS
11N40SISO	Ant1	5190	30~5140	5139.15	-34.73	≤-27	PASS
			5360~40000	26242.6	-33.18	≤-27	PASS
		5230	30~5140	5126.54	-38.41	≤-27	PASS
			5360~40000	25705.93	-32.68	≤-27	PASS
		5755	30~5650	2728.35	-41.73	≤-27	PASS
			5925~40000	25658.93	-30.53	≤-27	PASS
		5795	30~5650	3048.5	-40.39	≤-27	PASS
			5925~40000	25705.29	-29.61	≤-27	PASS
11AC20SISO	Ant1	5180	30~5140	5139.49	-36.07	≤-27	PASS
			5360~40000	25754.98	-33.66	≤-27	PASS
		5220	30~5140	3071.81	-39.49	≤-27	PASS
			5360~40000	25679.96	-32.96	≤-27	PASS
		5240	30~5140	3035.87	-39.57	≤-27	PASS
			5360~40000	25211.81	-32.53	≤-27	PASS
		5745	30~5650	3059.55	-41.63	≤-27	PASS
			5925~40000	25125.03	-30.81	≤-27	PASS
		5785	30~5650	3326.13	-41.16	≤-27	PASS
			5925~40000	26260.27	-30.3	≤-27	PASS
		5825	30~5650	3311.33	-41.04	≤-27	PASS



			5925~40000	25777.65	-29.93	≤ -27	PASS
11AC40SISO	Ant1	5190	30~5140	3082.88	-40.52	≤ -27	PASS
			5360~40000	25760.75	-31.81	≤ -27	PASS
		5230	30~5140	2688.9	-38.86	≤ -27	PASS
			5360~40000	25748.49	-32.79	≤ -27	PASS
		5755	30~5650	3077.91	-40.96	≤ -27	PASS
			5925~40000	25720.75	-30.49	≤ -27	PASS
11AC80SISO	Ant1	5795	30~5650	3180.38	-40.87	≤ -27	PASS
			5925~40000	25837.36	-30.4	≤ -27	PASS
		5210	30~5140	3177.76	-39.66	≤ -27	PASS
			5360~40000	25802.59	-32.29	≤ -27	PASS
		5775	30~5650	3071.54	-41.59	≤ -27	PASS
			5925~40000	25698.27	-29.15	≤ -27	PASS

Test Graphs: Conducted Spurious Emission Graphs





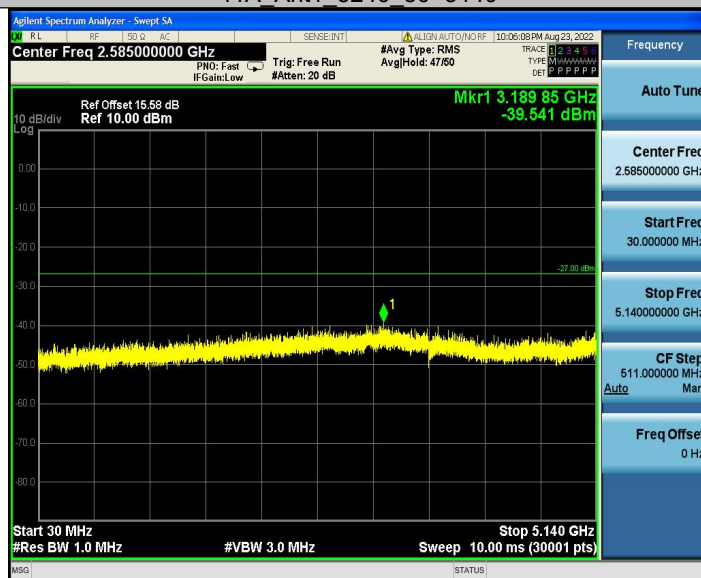
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11A_Ant1_5220_5360~40000



11A_Ant1_5240_30~5140



11A_Ant1_5240_5360~40000



11A_Ant1_5745_30~5650



11A_Ant1_5745_5925~40000



11A_Ant1_5785_30~5650



11A_Ant1_5785_5925~40000





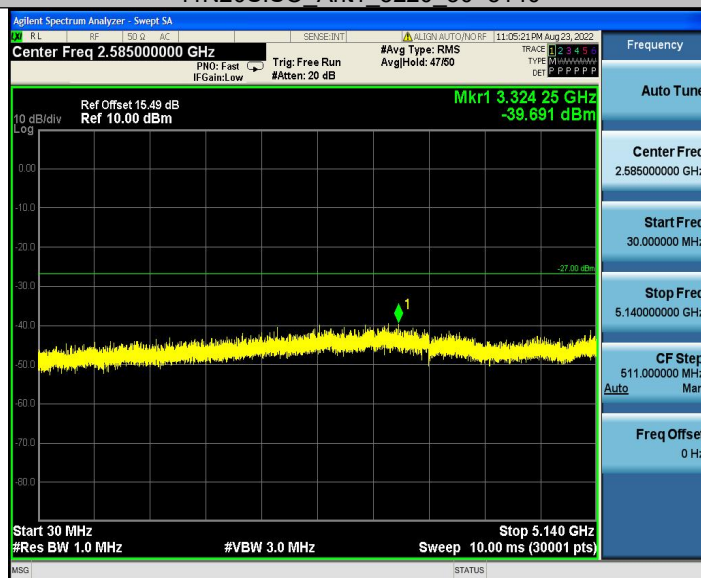
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11N20SISO Ant1 5180 5360~40000



11N20SISO Ant1 5220 30~5140



11N20SISO Ant1 5220 5360~40000











11N40SISO Ant1 5190 30~5140



11N40SISO Ant1 5190 5360~40000



11N40SISO Ant1 5230 30~5140



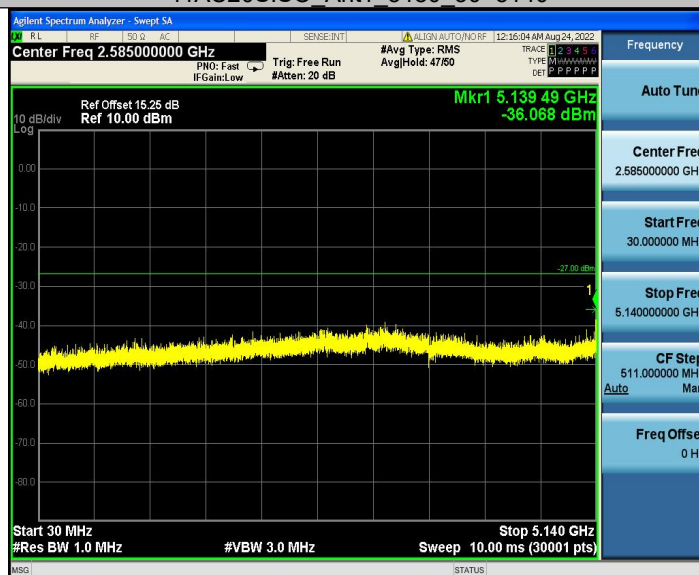
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11AC20SISO Ant1 5180 30~5140



11AC20SISO Ant1 5180 5360~40000



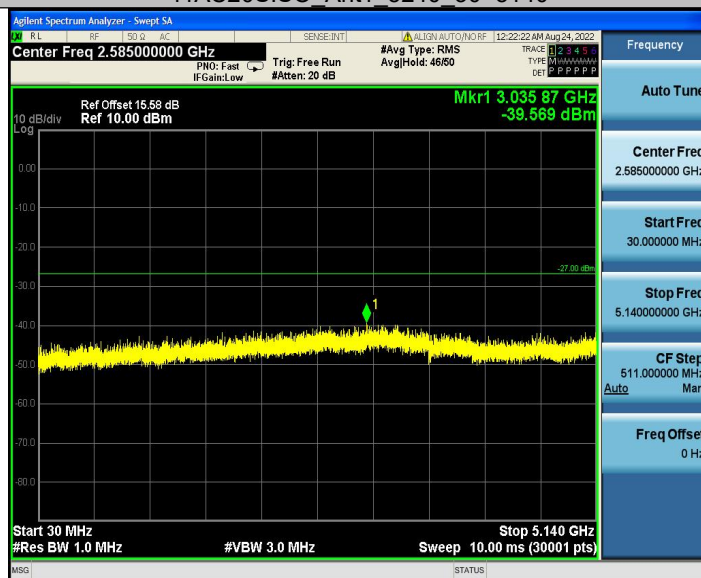
11AC20SISO Ant1 5220 30~5140



11AC20SISO Ant1 5220 5360~40000



11AC20SISO Ant1 5240 30~5140



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