

FCC PART 15E & RSS-247 TEST REPORT FOR CERTIFICATION  
On Behalf of

BLOCKSI LLC

Blocksi Parental Control Router

GEAC-200

FCC ID: 2ALT8GEAC200

IC: 23205-GEAC200

Prepared for : BLOCKSI LLC

228 Hamilton avenue 3rd floor, Palo Alto, CA, USA

Prepared By : AUDIX Technology Corp.

No. 53-11, Dingfu, Linkou Dist., New Taipei City 244, Taiwan

Tel: (0755) 26639496

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## TEST REPORT CERTIFICATION

Applicant : BLOCKSI LLC  
Manufacturer : BLOCKSI LLC  
Product : Blocksi Parental Control Router  
FCC ID : 2ALT8GEAC200  
IC : 23205-GEAC200  
(A) Model No. : GEAC-200  
(B) Serial No. : N/A  
(C) Test Voltage : AC 120V/60Hz

Tested for comply with:  
FCC CFR47 Part 15 Subpart E  
RSS-247, ISSUE 2, Feb 2017

Test procedure used:  
ANSI C63.10: 2013  
KDB 789033 D02v01r04  
KDB 662911 D01v02r01

The device described above is tested by AUDIX Technology Corp. to confirm comply with all the FCC Part 15 Subpart E and RSS-247, ISSUE 2 requirements. The test results are contained in this test report and AUDIX Technology Corp. is assumed full responsibility for the accuracy and completeness of these tests. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC and ISED requirements. This report contains data that are not covered by the NVLAP accreditation.

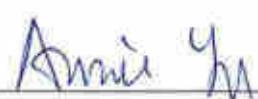
This Report is made under FCC Part 2.1075. No modifications were required during testing to bring this product into compliance.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of AUDIX Technology Corp.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

Date of Test : Aug.22~Sep.01, 2017 Report of date: Sep.07, 2017

Reviewed by:



(Annie Yu/Administrator)

Approved by:



(Ben Cheng/Manager)

## 1. SUMMARY OF STANDARDS AND RESULTS

### 1.1. Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

EMISSION		
Description of Test Item	Standard	Results
Power Line Conducted Emission	FCC Part 15: 15.207 RSS-247, ISSUE 2 ANSI C63.10	PASS
Radiated Emission	FCC Part 15: 15.209 RSS-247, ISSUE 2 ANSI C63.10	PASS
Band Edge Compliance	FCC Part 15: 15.407 RSS-247, ISSUE 2 ANSI C63.10	PASS
Conducted spurious emissions	FCC Part 15: 15.407 RSS-247, ISSUE 2 ANSI C63.10	PASS
99%&26Bandwidth Test	FCC Part 15: 15.407(a) RSS-247, ISSUE 2 ANSI C63.10	PASS
Output Power Test	FCC Part 15: 15.407(a) RSS-247, ISSUE 2 ANSI C63.10	PASS
Equivalent Isotropic Radiated Power Test	RSS-247, ISSUE 2 ANSI C63.10	PASS
Power Spectral Density Test	FCC Part 15: 15.407(a) RSS-247, ISSUE 2 ANSI C63.10	PASS
Frequency Stability	FCC Part 15: 15.407(g) RSS-247, ISSUE 2 ANSI C63.10	PASS
Antenna requirement	FCC Part 15: 15.203	PASS

## 2. GENERAL INFORMATION

### 2.1. Description of Device (EUT)

Product	: Blocksi Parental Control Router
Model No.	: GEAC-200
FCC ID	: 2ALT8GEAC200
IC	: 23205-GEAC200
Radio	: IEEE802.11 a/b/g/n/ac
Operation Frequency	: IEEE 802.11a:5180MHz—5240MHz IEEE 802.11ac VHT20: 5180MHz—5240MHz IEEE 802.11ac VHT40: 5190MHz—5230MHz IEEE 802.11ac VHT80: 5210MHz IEEE 802.11b: 2412MHz—2462MHz IEEE 802.11g: 2412MHz—2462MHz IEEE802.11nHT20: 2412MHz—2462MHz;5180MHz—5240MHz IEEE802.11nHT40: 2422MHz—2452MHz; 5190MHz—5230MHz
Modulation Technology	: IEEE 802.11b: DSSS(CCK,DQPSK,DBPSK) IEEE 802.11a/g: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ac VHT20, VHT40, VHT80: OFDM(16QAM, 64QAM, 256QAM, QPSK, BPSK) IEEE 802.11n HT20, HT40: OFDM (64QAM, 16QAM,QPSK,BPSK)
Antenna Assembly Gain	: Antenna Type: Dipole WIFI 2.4GHz:4.42dBi WIFI 5GHz: 5.08dBi
Applicant	: BLOCKSI LLC 228 Hamilton avenue 3rd floor, Palo Alto, CA, USA
Manufacturer	: BLOCKSI LLC 228 Hamilton avenue 3rd floor, Palo Alto, CA, USA
Factory	: BLOCKSI LLC 228 Hamilton avenue 3rd floor, Palo Alto, CA, USA
Power Adapter	: Manufacturer: Shenzhen City Hong Ben Electronic Co., Ltd. M/N: HB40-120200SPA; Cable: Unshielded, Detachable, 0.8m
LAN Cable	: Unshielded, Detachable, 1.2m
Date of Test	: Aug.22~Sep.01, 2017
Date of Receipt	: Jun.30, 2017

## 2.2. Test Information

A special test software was used to control EUT work in Continuous TX mode (The duty cycle of the test signal is 100%), and select test channel, wireless mode and data rate.

Tested mode, channel, and data rate information			
Mode	data rate (Mbps)(see Note)	Channel	Frequency (MHz)
IEEE 802.11a	6	Low :CH36	5180
	6	Middle: CH40	5200
	6	High: CH48	5240
IEEE 802.11nHT20	MCS0	Low :CH36	5180
	MCS0	Middle: CH40	5200
	MCS0	High: CH48	5240
IEEE 802.11nHT40	MCS0	Low :CH38	5190
	MCS0	High: CH46	5230
IEEE 802.11acVHT20	MCS0	Low :CH36	5180
	MCS0	Middle: CH40	5200
	MCS0	High: CH48	5240
IEEE 802.11acVHT40	MCS0	Low :CH38	5190
	MCS0	High: CH46	5230
IEEE 802.11acVHT80	MCS0	CH42	5210

Note 1: According exploratory test, EUT will have maximum output power in those data rate, so those data rate were used for all test.

Note 2: The output power of worst case is MIMO(ant0+ant1) so we test all in MIMO configuration

## 2.3. Tested Supporting System Details

### 2.3.1. Support Peripheral Unit

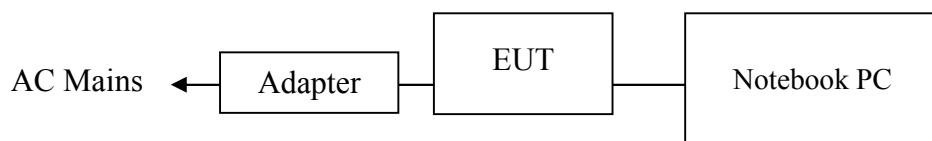
No.	Product	Brand	Model No.	Serial No.	FCC ID
<b>For AC Conduction Test</b>					
1.	Notebook PC	ASUS	X5502E	N/A	Contains FCC ID: PPD-AAR5B225
2.	USB3.0 HDD	WD	WDBUZG5000 ABK-05	WX61A44S1219	By DoC
<b>For Radiated Spurious Emission and RF Conducted Test</b>					
1.	Notebook PC	ASUS	X5502E	N/A	Contains FCC ID: PPD-AAR5B225

### 2.3.2. Cable Lists

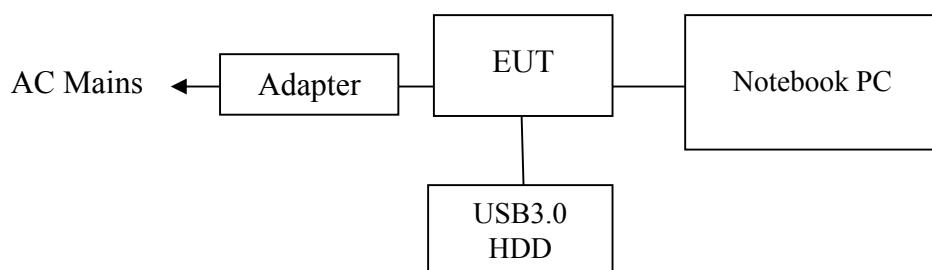
No.	Cable Description Of The Above Support Units
<b>For AC Conduction Test</b>	
1.	LAN Cable: Unshielded, Detachable, 1.0m Adapter: Enerironix, M/N EXA1208UH DC Power Cord: Unshielded, Detachable, 1.8m, Bonded a ferrite core AC Power Cord: Unshielded, Detachable, 1.8m
2.	USB Cable: Shielded, Detachable, 0.5m
<b>For Radiated Spurious Emission and RF Conducted Test</b>	
1.	LAN Cable: Unshielded, Detachable, 1.0m Adapter: Enerironix, M/N EXA1208UH DC Power Cord: Unshielded, Detachable, 1.8m, Bonded a ferrite core AC Power Cord: Unshielded, Detachable, 1.8m

## 2.4. Block diagram of connection between the EUT and simulators

### 2.4.1. EUT Configuration for Radiated Emission & Conducted Test



### 2.4.2. EUT Configuration for Power Line Test



**(EUT: Blocksi Parental Control Router)**

## 2.5. Test Facility

Name of Test Firm	Audix Technology Corporation / EMC Department No. 53-11, Dingfu, Linkou Dist., New Taipei City 244, Taiwan  Tel: +886-2-26092133 Fax: +886-2-26099303 Website : <a href="http://www.audixtech.com">www.audixtech.com</a> Contact e-mail: <a href="mailto:sales@audixtech.com">sales@audixtech.com</a>
Accreditations	The laboratory is accredited by following organizations under ISO/IEC 17025:2005  (1) NVLAP(USA) NVLAP Lab Code 200077-0  (2) TAF(Taiwan) No. 1724  (3) FCC OET Designation No. TW1004 & TW1090 & TW1724
Test Facilities	(1) No. 7 Shielding Room  (2) Semi-Anechoic Chamber (IC Test Site Registration No.: 5183B-1)  (3) Fully Anechoic Chamber (IC Test Site Registration No.: 5183B-4)

## 2.6. Measurement Uncertainty (95% confidence levels, k=2)

Test Item	Frequency Range	Uncertainty
Conduction Test	150kHz~30MHz	±3.50dB
Radiation Test (Distance: 3m)	9kHz~30MHz	± 0.5dB
	30MHz~1000MHz	± 3.68dB
	Above 1GHz	± 5.82dB

Remark : Uncertainty =  $ku_c(y)$

Test Item	Uncertainty
Emission Bandwidth	± 0.2kHz
Maximum output power	± 0.33dB
Power spectral density	± 0.13dB
Conducted Emission Limitations	± 0.13dB
Frequency stability	± $2.8 \times 10^{-4}$ MHz

### 3. TEST EQUIPMENTS

#### 3.1. Conducted Emission Measurement

Item	Type	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
1.	Test Receiver	R&S	ESCI	101276	2017. 03. 23	1 Year
2.	A.M.N.	R&S	ESH2-Z5	100366	2017. 07. 20	1 Year
3.	L.I.S.N.	Kyoritsu	KNW-407	8-881-13	2016. 12. 28	1 Year
4.	Pulse Limiter	R&S	ESH3-Z2	101495	2017. 01. 16	1 Year
5.	Test Software	Audix	e3	V.120619C	N.C.R.	N.C.R.

#### 3.2. Radiated Emission Measurement

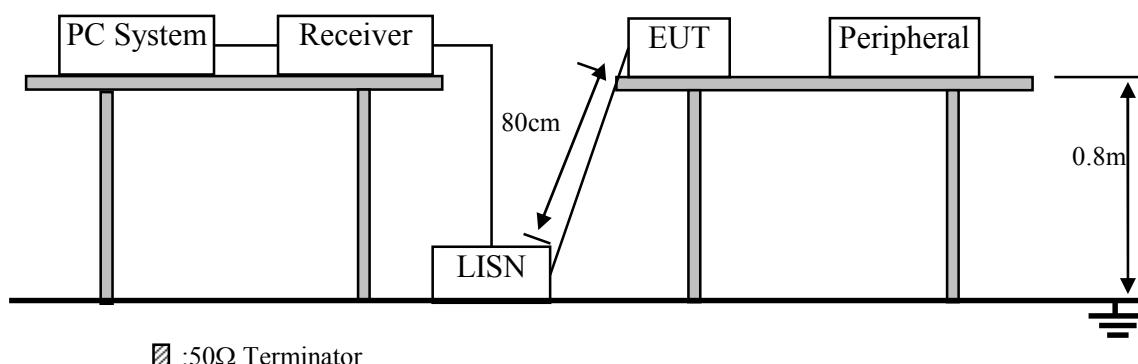
Item	Type	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
1.	Spectrum Analyzer	Agilent	N9010A-526	MY53400071	2016. 09. 19	1 Year
2.	Spectrum Analyzer	Keysight	N9010B-544	MY55460198	2017. 04. 18	1 Year
3.	Test Receiver	R & S	ESCS30	100338	2017. 06. 19	1 Year
4.	Amplifier	HP	8447D	2944A06305	2017. 02. 16	1 Year
5.	Amplifier	Sonoma	310N	187161	2017. 06. 08	1 Year
6.	Bilog Antenna	CHASE	CBL6112D	33821	2017. 01. 21	1 Year
7.	Loop Antenna	R&S	HFH2-Z2	891847/27	2016. 12. 23	1 Year
8.	Double-Ridged Waveguide Horn	ETS-Lindgren	3117	00135902	2017. 03. 08	1 Year
9.	Horn Antenna	EMCO	3116	2653	2016. 10. 24	1 Year
10.	5G Notch Filter	Microware Circuits	N0452502	459775	2016. 12. 28	1 Year
11.	Test Software	Audix	e3	V.6.110601	N.C.R.	N.C.R.
12.	Test Software	Audix	e3	V.6.1206197	N.C.R.	N.C.R.

#### 3.3. RF Conducted Measurement

Item	Type	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
1.	Spectrum Analyzer	Agilent	N9010A-507	MY52220264	2017. 08. 10	1 Year

## 4. POWER LINE CONDUCTED EMISSION TEST

### 4.1. Block Diagram of Test Setup



### 4.2. Power Line Conducted Emission Test Limits

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level dB(μV)	Average Level dB(μV)
150kHz ~ 500kHz	66 ~ 56*	56 ~ 46*
500kHz ~ 5MHz	56	46
5MHz ~ 30MHz	60	50

Notes: 1. \* Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

### 4.3. Configuration of EUT on Test

The following equipment are installed on Power Line Conducted Emission Test to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

#### 4.3.1. Blocksi Parental Control Router (EUT)

Model No. : GEAC-200

Serial No. : N/A

#### 4.3.2. Support Equipment: As Tested Supporting System Details, in Section 2.3.

### 4.4. Operating Condition of EUT

4.4.1. Setup the EUT and simulator as shown as Section 4.1.

4.4.2. Turn on the power of all equipments.

4.4.3. PC run test software to control EUT work in Tx mode.

#### 4.5. Test Procedure

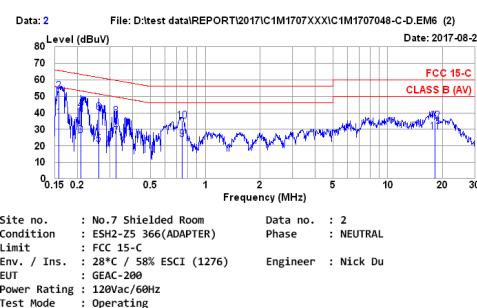
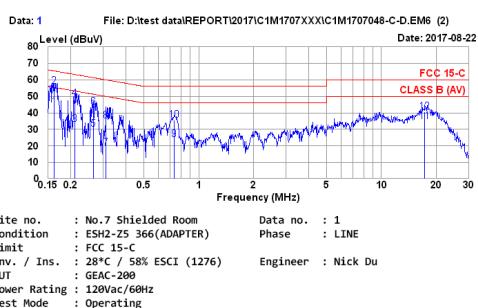
The EUT was placed on a non-metallic table, 80cm above the ground plane. The EUT Power Via PC connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm coupling impedance for the EUT (Please refer the block diagram of the test setup and photographs). The AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.10: 2013 on Conducted Emission Test.

The bandwidth of test receiver (R & S ESCI) is set at 9kHz.

The frequency range from 150kHz to 30MHz is checked.

#### 4.6. Power Line Conducted Emission Test Results

**PASS.** (All emissions not reported below are too low against the prescribed limits.)



	AMN	Cable	Pulse	Reading	Emission				
Freq.	Factor	Loss	Att.	Level	Level	Limits	Margin	Remark	
(MHz)	(dB)	(dB)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dB)		
1	0.162	0.17	8.03	9.86	33.45	43.51	55.34	11.83	Average
2	0.162	0.17	8.03	9.86	45.95	56.01	65.34	9.33	OP
3	0.211	0.16	8.04	9.86	23.15	33.21	53.18	19.97	Average
4	0.211	0.16	8.04	9.86	38.54	48.60	63.18	14.58	OP
5	0.266	0.17	8.04	9.86	20.29	30.36	51.25	20.89	Average
6	0.266	0.17	8.04	9.86	33.50	43.57	61.25	17.68	OP
7	0.312	0.17	8.04	9.86	8.62	18.79	49.92	31.23	Average
8	0.312	0.17	8.04	9.86	25.32	35.39	59.93	24.54	OP
9	0.735	0.20	8.05	9.86	13.65	23.76	46.00	22.24	Average
10	0.735	0.20	8.05	9.86	25.34	35.45	56.00	20.55	OP
11	17.291	1.00	8.29	9.93	23.54	34.76	58.00	15.24	Average
12	17.291	1.00	8.29	9.93	29.37	40.59	60.00	19.41	OP

Remarks: 1. Emission Level= AMN Factor + Cable Loss + Pulse Att. + Reading.  
2. If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

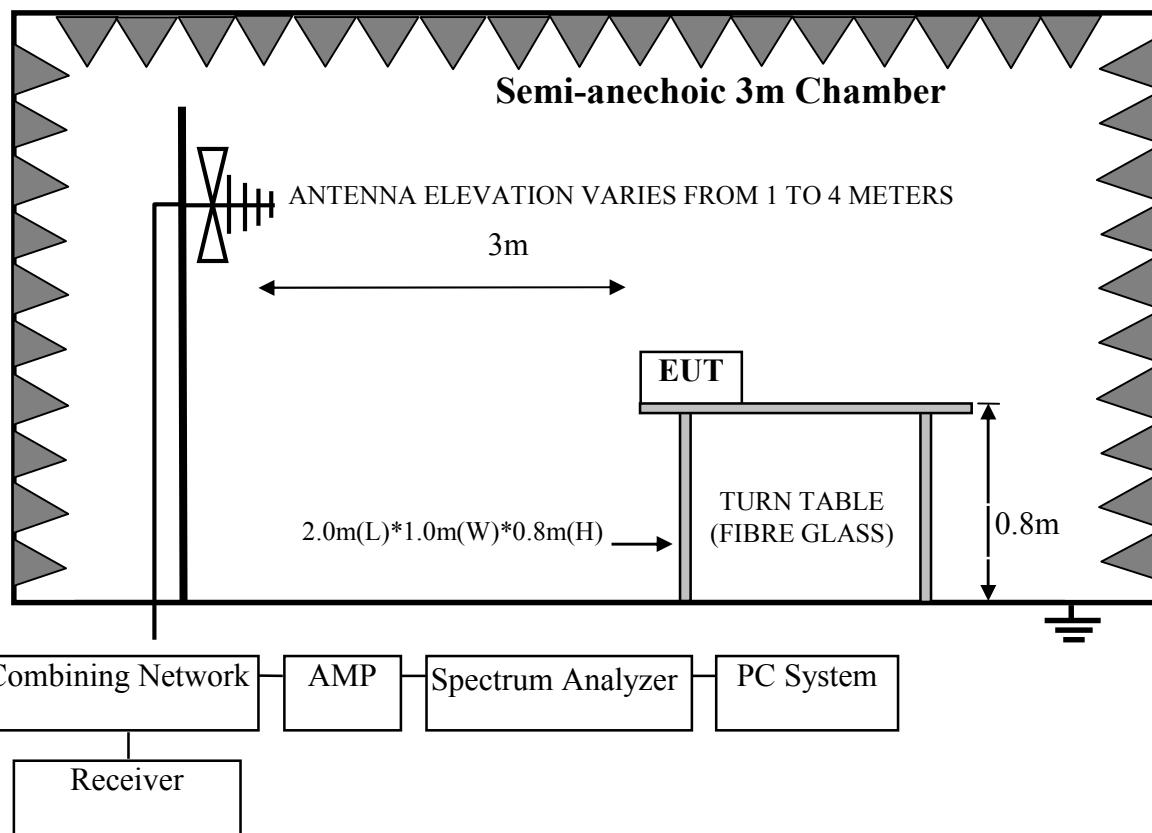
	AMN	Cable	Pulse	Reading	Emission				
Freq.	Factor	Loss	Att.	Level	Level	Limits	Margin	Remark	
(MHz)	(dB)	(dB)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dB)		
1	0.157	0.19	8.03	9.86	26.79	36.87	55.60	18.73	Average
2	0.157	0.19	8.03	9.86	43.28	53.36	65.60	12.24	OP
3	0.208	0.17	8.04	9.86	16.23	26.39	53.27	26.97	Average
4	0.208	0.17	8.04	9.86	31.55	41.62	63.27	21.65	OP
5	0.262	0.18	8.04	9.86	18.96	28.98	51.38	30.40	Average
6	0.262	0.18	8.04	9.86	30.17	40.25	61.38	21.13	OP
7	0.323	0.18	8.04	9.86	15.88	25.06	49.62	23.66	Average
8	0.323	0.18	8.04	9.86	28.05	38.13	59.62	21.49	OP
9	0.747	0.21	8.05	9.86	13.77	23.89	46.00	22.11	Average
10	0.747	0.21	8.05	9.86	24.96	35.08	56.00	20.92	OP
11	18.135	0.93	8.29	9.93	17.25	28.48	58.00	21.60	Average
12	18.135	0.93	8.29	9.93	23.98	35.13	68.00	24.87	OP

Remarks: 1. Emission Level= AMN Factor + Cable Loss + Pulse Att. + Reading.  
2. If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

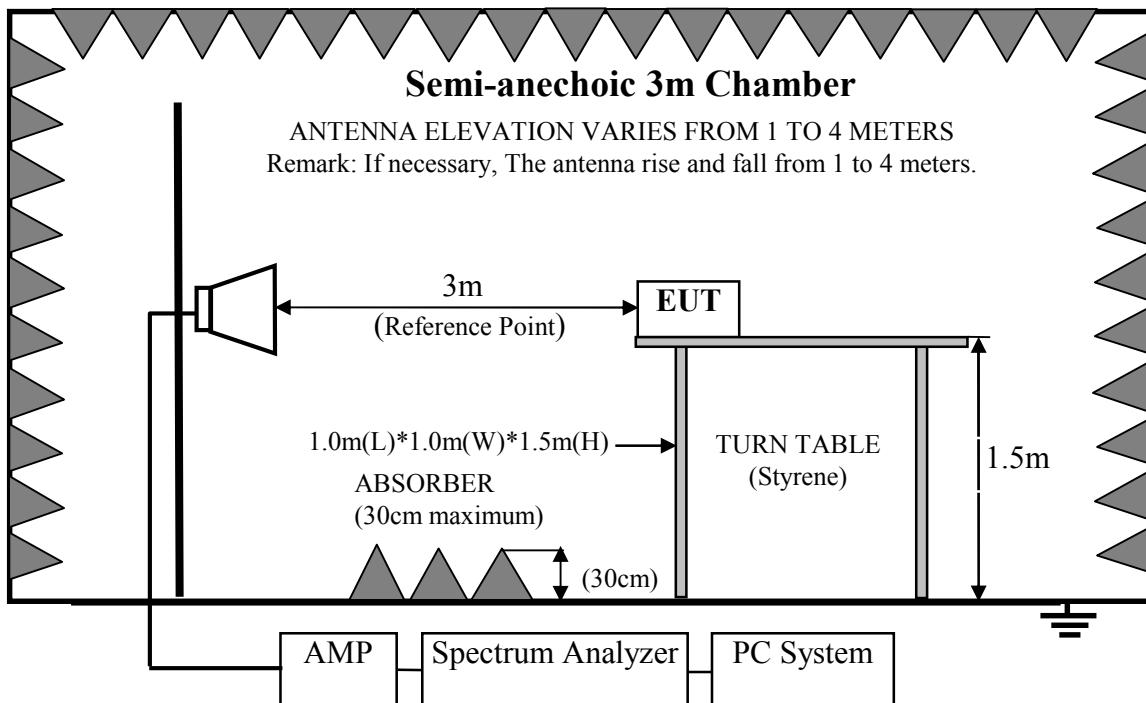
## 5. RADIATED EMISSION TEST

### 5.1. Block Diagram of Test Setup

For frequency range 30MHz-1000MHz



For frequency range 1GHz-40GHz



## 5.2.Radiated Emission Limit

For transmitters operating in the 5.15-5.25 GHz; 5.25-5.35GHz; 5.47-5.725GHz, 5.725-5.850GHz band: all emissions outside of those band shall not exceed an EIRP of -27 dBm/MHz. Unwanted emissions below 1 GHz and those emissions appearing within 15.205 restricted frequency bands must comply with the general field strength limits set forth in Section 15.209

### 5.2.1.15.209 limits

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		µV/m	dB(µV)/m
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0
Above 1000	3	74.0 dB(µV)/m (Peak) 54.0 dB(µV)/m (Average)	

Remarks : (1) Emission level dB $\mu$ V = 20 log Emission level  $\mu$ V/m

- (2) The smaller limit shall apply at the cross point between two frequency bands.
- (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

### 5.2.2.15.205 Restricted bands of operation

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
<sup>1</sup> 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	( <sup>2</sup> )

## 5.3.EUT Configuration on Test

The following equipment are installed on Power Line Conducted Emission Test to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

### 5.3.1. Blocksi Parental Control Router (EUT)

Model No. : GEAC-200

Serial No. : N/A

5.3.2. Support Equipment: As Tested Supporting System Details, in Section 2.3.

## 5.4. Operating Condition of EUT

5.4.1. Setup the EUT and simulator as shown as Section 5.1.

5.4.2. Turn on the power of all equipments.

5.4.3. Let EUT work in Tx mode.

## 5.5. Test Procedure

### **Frequency below 30MHz:**

The EUT setup on the turn table which has 0.8 m height to the ground. The turn table rotated 360 degrees and antenna fixed to 1 m to find the maximum emission level. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10-2013 regulation.

EUT and its simulators are placed on a turn table, which is 0.8 meter high above ground for frequency 30MHz~1000MHz, 1.5 meter high above ground for frequency above 1GHz and put the absorbing on the ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. Power on the EUT and let it working in test mode, then test it. EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna for frequency 30MHz~1000MHz, and the Horm antenna is used as receiving antenna for frequency above 1GHz. Both horizontal and vertical polarization of the antenna is set on Test. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.10-2013 on radiated emission Test.

For emissions below 1GHz and those emissions appearing within 15.205 restricted frequency bands use below procedure:

The bandwidth of the EMI test receiver (R&S ESCS30) is set at 120kHz for frequency range from 30MHz to 1000 MHz.

The bandwidth of the Spectrum's VBW is set at 1MHz and RBW is set at 1MHz for peak emissions measurement above 1GHz and 1MHz RBW, 10Hz VBW for average emissions measure above 1GHz

For the emissions above 1GHz and not appearing within 15.205 restricted frequency bands use below procedure:

- (1). The maximum emission at 3m distance was measured and recorded with receive antenna in both vertical and horizontal by rotating the turntable and by lowering the receive antenna.
- (2). The EUT was then removed and replaced with a substitution antenna in the same position and the substitution antenna must have the same polarization with the receive antenna.
- (3). A signal which have the same frequency obtained in step 2 was fed to the substitution, the receive antenna was raised and lowered to obtain a maximum reading at the test receiver, the level of the signal generator was adjusted until the measured field strength level in step 2 was obtained, recorded the level of the signal generator.
- (4). Repeated step 4 with both antenna polarizations
- (5). The spurious emissions is equal to the power supplied by the signal generator and corrections due to the gain of the substitution antenna and the cable loss between the signal generator and the substitution antenna. or use procedure (6).

(6). Per KDB789033 clause H 2)d).if the test distance is 3m, the EIRP(dBm)=E(dBuv/m)-95.2  
Get the result of all unwanted emission outside the restricted band is less than the  
-27dBm/MHz.  
We had checked frequency range that is 30MHz to 10<sup>th</sup> harmonic (40GHz) and no any  
emissions were found from 18GHz to 40GHz.

## 5.6.Radiated Emission Test Results

**PASS.**

All the emissions from 30MHz to 1 GHz were comply with 15.209 limits.

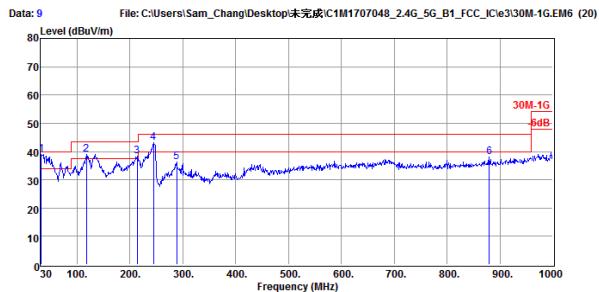
All other emission comply with 15.407 (b)(1) requirements.

Note 1: The duty cycle of the test signal is 100%.

Note 2: The emissions (9kHz~30MHz) not reported for there is no emission be found.

Note 3: The EUT were tested both EUT is Horizontal and EUT is Vertical, but the EUT is  
Horizontal is worse, and selected the worst case to issue report.

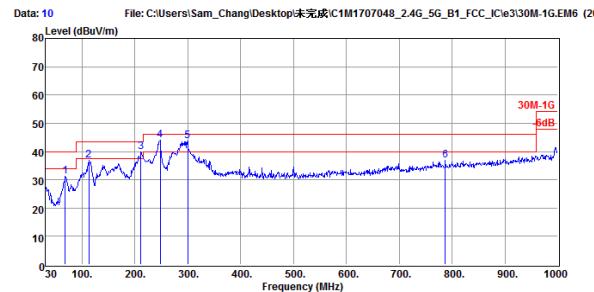
## 5180-5240MHz Band: Frequency: 30MHz~1GHz



Site no. : AUDIX No.1 3m Chamber Data no. : 9  
Diz. / Ant. : 3m CBL8112D 33821(PAD) Ant. pol. : VERTICAL  
Limit : 30M-1G  
Env. / Ins. : 25°C / 51% N9010A Engineer : Sam  
EUT : GEAC-200  
Power Rating : AC 120V  
Test Mode : Tx 5200MHz(802.11a)

	Freq.	Ant. Factor	Cable Loss	Emission Reading	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
	(MHz)	(dB/m)	(dB)	(dB $\mu$ V)	(dB $\mu$ V/m)	(dB $\mu$ V/m)	(dB)	
1	31.84	23.78	1.25	13.88	38.00	40.00	1.00	Peak
2	117.30	18.66	2.47	17.81	38.84	43.50	4.58	Peak
3	213.33	18.71	3.47	18.28	38.44	43.50	5.08	Peak
4	244.37	18.79	3.76	20.58	43.13	46.00	2.87	Peak
5	288.02	19.44	4.19	12.85	38.25	46.00	9.75	Peak
6	878.72	28.65	8.05	3.38	38.03	46.00	7.97	Peak

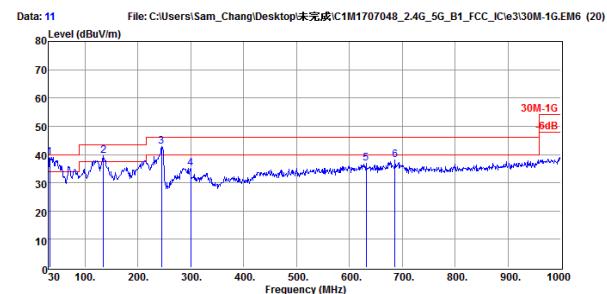
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
2. The emissions not reported are 20 dB lower than the specified limit.



Site no. : AUDIX No.1 3m Chamber Data no. : 10  
Diz. / Ant. : 3m CBL8112D 33821(PAD) Ant. pol. : HORIZONTAL  
Limit : 30M-1G  
Env. / Ins. : 25°C / 51% N9010A Engineer : Sam  
EUT : GEAC-200  
Power Rating : AC 120V  
Test Mode : Tx 5200MHz(802.11a)

	Freq.	Ant. Factor	Cable Loss	Emission Reading	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
	(MHz)	(dB/m)	(dB)	(dB $\mu$ V)	(dB $\mu$ V/m)	(dB $\mu$ V/m)	(dB)	
1	87.83	12.73	1.85	18.54	31.12	40.00	8.88	Peak
2	112.45	13.35	2.42	18.05	36.92	42.50	6.68	Peak
3	211.38	18.80	3.46	19.88	39.74	43.50	3.76	Peak
4	247.28	18.00	3.79	21.18	43.98	46.00	2.02	Peak
5	299.88	19.48	4.30	19.95	43.73	46.00	2.27	Peak
6	787.57	25.88	7.55	3.44	36.79	46.00	9.21	Peak

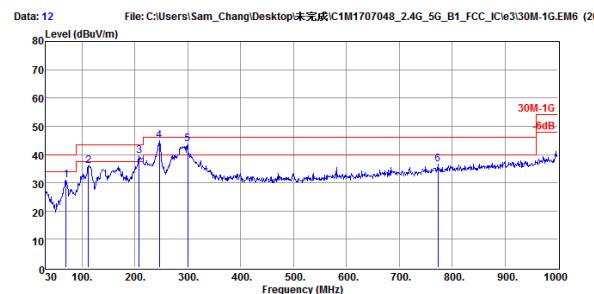
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
2. The emissions not reported are 20 dB lower than the specified limit.



Site no. : AUDIX No.1 3m Chamber Data no. : 11  
Diz. / Ant. : 3m CBL8112D 33821(PAD) Ant. pol. : VERTICAL  
Limit : 30M-1G  
Env. / Ins. : 25°C / 51% N9010A Engineer : Sam  
EUT : GEAC-200  
Power Rating : AC 120V  
Test Mode : Tx 5240MHz(802.11n20)

	Freq.	Ant. Factor	Cable Loss	Emission Reading	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
	(MHz)	(dB/m)	(dB)	(dB $\mu$ V)	(dB $\mu$ V/m)	(dB $\mu$ V/m)	(dB)	
1	32.91	23.32	1.28	14.47	38.05	40.00	0.95	Peak
2	134.70	18.87	2.86	18.37	38.41	43.50	4.08	Peak
3	244.67	13.79	3.16	20.18	42.74	46.00	3.23	Peak
4	288.68	19.43	4.20	11.37	38.15	48.00	10.85	Peak
5	831.40	24.72	8.88	5.25	38.83	46.00	9.17	Peak
6	886.89	24.84	7.04	6.22	38.10	46.00	7.80	Peak

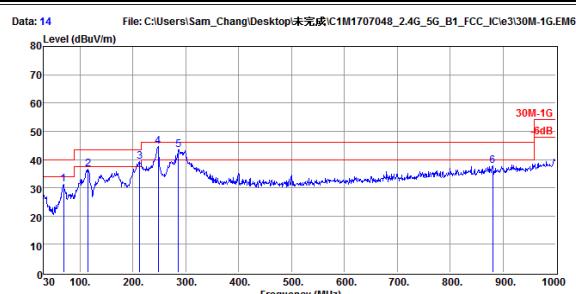
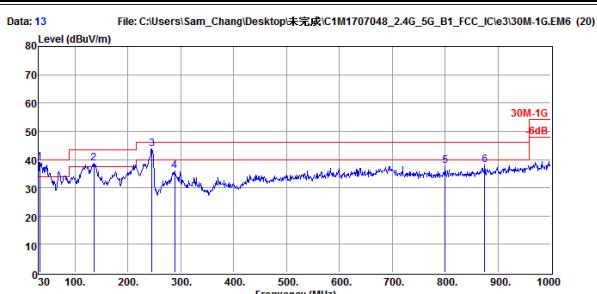
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
2. The emissions not reported are 20 dB lower than the specified limit.



Site no. : AUDIX No.1 3m Chamber Data no. : 12  
Diz. / Ant. : 3m CBL8112D 33821(PAD) Ant. pol. : HORIZONTAL  
Limit : 30M-1G  
Env. / Ins. : 25°C / 51% N9010A Engineer : Sam  
EUT : GEAC-200  
Power Rating : AC 120V  
Test Mode : Tx 5240MHz(802.11n20)

	Freq.	Ant. Factor	Cable Loss	Emission Reading	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
	(MHz)	(dB/m)	(dB)	(dB $\mu$ V)	(dB $\mu$ V/m)	(dB $\mu$ V/m)	(dB)	
1	89.77	12.77	1.88	18.20	30.85	40.00	9.15	Peak
2	117.10	18.87	2.41	15.32	36.00	42.50	7.50	Peak
3	207.51	16.34	3.42	19.87	38.43	43.50	4.67	Peak
4	248.31	18.89	3.77	20.41	43.77	46.00	1.33	Peak
5	299.88	19.48	4.30	19.93	43.71	46.00	2.29	Peak
6	773.02	25.88	7.43	3.54	38.83	46.00	9.32	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
2. The emissions not reported are 20 dB lower than the specified limit.

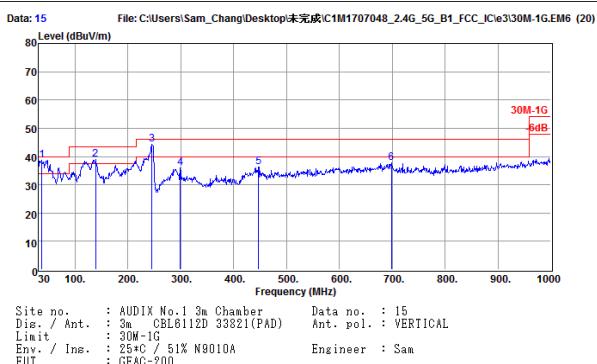


	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Remark
1	32.91	23.32	1.26	14.28	38.38	40.00	1.14	Peak
2	135.73	18.02	2.67	17.91	38.60	43.50	4.90	Peak
3	245.34	18.84	3.77	21.03	43.84	46.00	2.36	Peak
4	288.02	19.41	4.19	12.23	36.39	46.00	10.11	Peak
5	800.18	25.91	7.80	4.13	37.64	46.00	8.36	Peak
6	874.87	28.00	8.04	3.57	38.21	46.00	7.78	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emissions not reported are 20 dB lower than the specified limit.

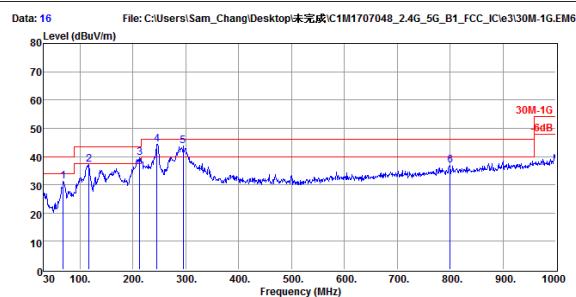
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Remark
1	88.80	12.75	1.88	18.59	31.20	40.00	8.80	Peak
2	115.36	18.53	2.45	15.47	36.45	42.50	7.05	Peak
3	212.38	18.88	3.48	19.25	39.37	42.50	4.13	Peak
4	247.28	19.00	3.79	21.85	44.74	46.00	1.26	Peak
5	288.08	19.40	4.18	19.84	43.42	46.00	2.58	Peak
6	880.89	28.65	8.07	3.08	37.81	46.00	8.19	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emissions not reported are 20 dB lower than the specified limit.



	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Remark
1	38.79	21.33	1.34	18.14	38.78	40.00	1.22	Peak
2	180.24	17.87	2.16	19.49	39.07	43.50	4.43	Peak
3	245.34	18.84	3.77	21.72	44.33	46.00	1.67	Peak
4	292.69	19.43	4.29	12.12	36.39	46.00	10.11	Peak
5	447.10	22.60	5.98	7.75	36.33	46.00	9.67	Peak
6	882.33	24.87	7.08	5.90	37.85	46.00	8.15	Peak

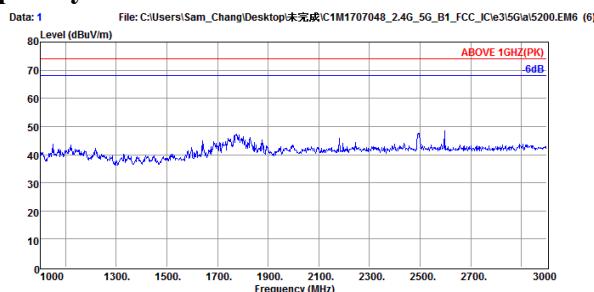
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emissions not reported are 20 dB lower than the specified limit.



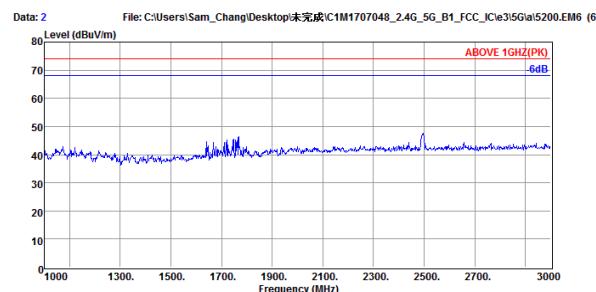
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Remark
1	67.33	12.73	1.88	18.88	31.24	40.00	8.76	Peak
2	118.31	18.53	2.48	16.24	37.28	43.50	6.24	Peak
3	212.38	18.88	3.48	19.25	39.37	43.50	4.11	Peak
4	245.34	18.84	3.77	21.69	44.30	46.00	1.70	Peak
5	294.81	19.48	4.28	19.90	43.82	46.00	2.38	Peak
6	800.18	25.81	7.80	3.41	38.92	46.00	9.08	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emissions not reported are 20 dB lower than the specified limit.

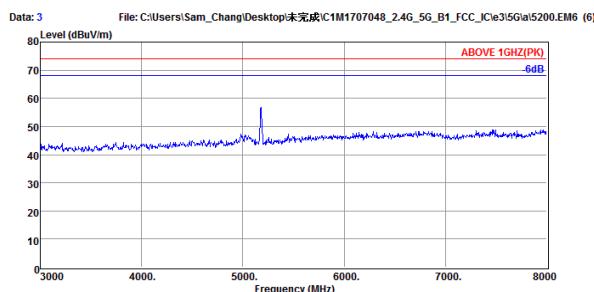
## Frequency: 1GHz~25GHz



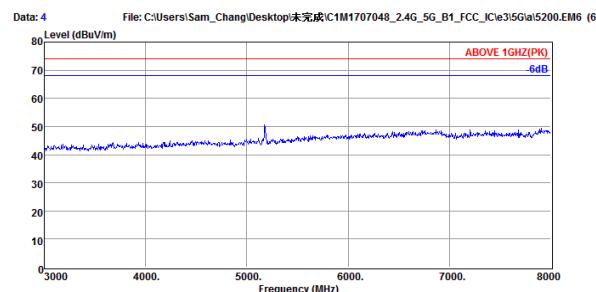
Site no. : Fully Chamber Site Data no. : 1  
 Dis. / Ant. : 3m 3117(00135902) Ant. pol. : VERTICAL  
 Limit : ABOVE 1GHZ(PK)  
 Env. / Ins. : 22°C / 58% N9010B Engineer : Sam  
 EUT : GEAC-200  
 Power Rating : AC 120W  
 Test Mode : Tx 5200MHz(802.11a)



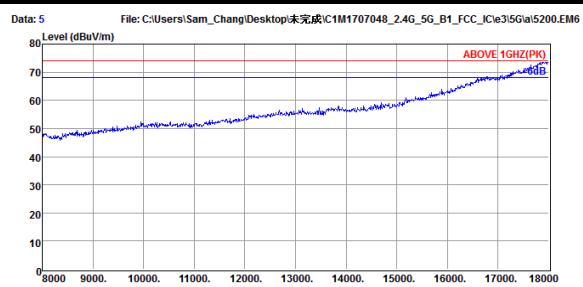
Site no. : Fully Chamber Site Data no. : 2  
 Dis. / Ant. : 3m 3117(00135902) Ant. pol. : HORIZONTAL  
 Limit : ABOVE 1GHZ(PK)  
 Env. / Ins. : 22°C / 58% N9010B Engineer : Sam  
 EUT : GEAC-200  
 Power Rating : AC 120W  
 Test Mode : Tx 5200MHz(802.11a)



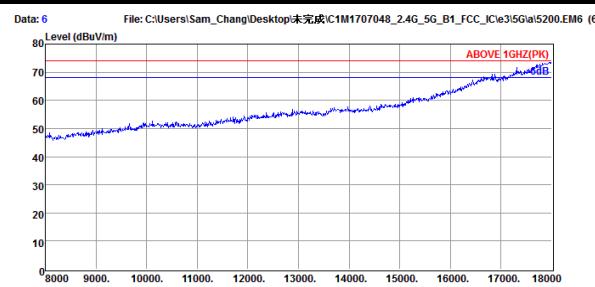
Site no. : Fully Chamber Site Data no. : 3  
 Dis. / Ant. : 3m 3117(00135902) Ant. pol. : VERTICAL  
 Limit : ABOVE 1GHZ(PK)  
 Env. / Ins. : 22°C / 58% N9010B Engineer : Sam  
 EUT : GEAC-200  
 Power Rating : AC 120W  
 Test Mode : Tx 5200MHz(802.11a)



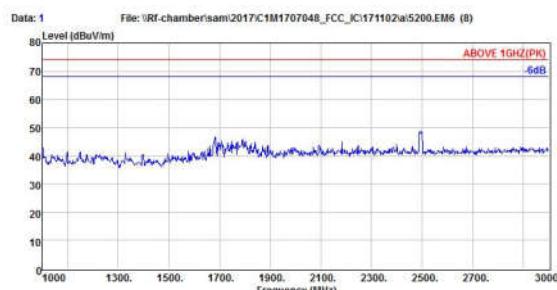
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 Limit : ABOVE 1GHZ(PK)  
 Env. / Ins. : 22°C / 58% N9010B Engineer : Sam  
 EUT : GEAC-200  
 Power Rating : AC 120W  
 Test Mode : Tx 5200MHz(802.11a)



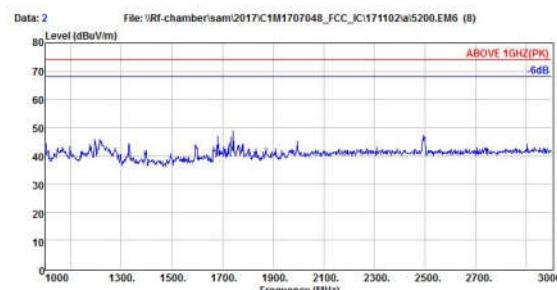
Site no. : Fully Chamber Site Data no. : 5  
 Dis. / Ant. : 3m 3117(00135802) Ant. pol. : VERTICAL  
 Limit : ABOVE 1GHZ(PK)  
 Env. / Ins. : 22°C / 58% N9010B Engineer : Sam  
 EUT : GEAC-200  
 Power Rating : AC 120V  
 Test Mode : Tx 5200MHz(802.11a)



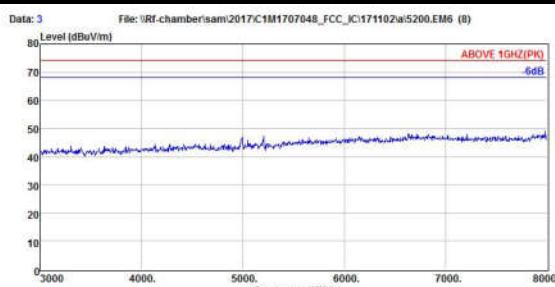
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 Dis. / Ant. : 3m 3117(00135802) Ant. pol. : HORIZONTAL  
 Limit : ABOVE 1GHZ(PK)  
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 EUT : GEAC-200  
 Power Rating : AC 120V  
 Test Mode : Tx 5200MHz(802.11a)



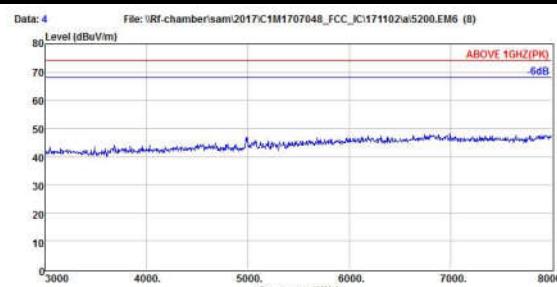
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 Dis. / Ant. : 3m 3117(00135802) Ant. pol. : VERTICAL  
 Limit : ABOVE 1GHZ(PK)  
 Env. / Ins. : 22°C / 58% N9010B Engineer : Sam  
 EUT : GEAC-200  
 Power Rating : AC 120V/80Hz  
 Test Mode : Tx 5200MHz(802.11a)



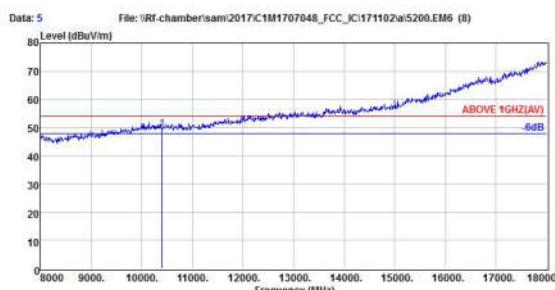
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 Dis. / Ant. : 3m 3117(00135802) Ant. pol. : HORIZONTAL  
 Limit : ABOVE 1GHZ(PK)  
 Env. / Ins. : 22°C / 58% N9010B Engineer : Sam  
 EUT : GEAC-200  
 Power Rating : AC 120V/80Hz  
 Test Mode : Tx 5200MHz(802.11a)



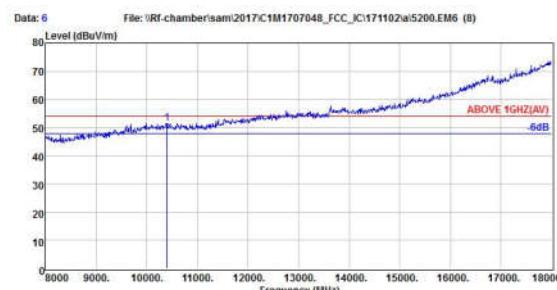
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 Dis. / Ant. : 3m 3117(00135802) Ant. pol. : VERTICAL  
 Limit : ABOVE 1GHZ(PK)  
 Env. / Ins. : 22°C / 58% RH010B  
 EUT : GEAC-200  
 Power Rating : AC 120V/60Hz  
 Test Mode : Tx 5200MHz(802.11a)



Site no. : Fully Chamber Site Data no. : 4  
 Dis. / Ant. : 3m 3117(00135802) Ant. pol. : HORIZONTAL  
 Limit : ABOVE 1GHZ(PK)  
 Env. / Ins. : 22°C / 58% RH010B  
 EUT : GEAC-200  
 Power Rating : AC 120V/60Hz  
 Test Mode : Tx 5200MHz(802.11a)



Site no. : Fully Chamber Site Data no. : 5  
 Dis. / Ant. : 3m 3117(00135802) Ant. pol. : VERTICAL  
 Limit : ABOVE 1GHZ(AV)  
 Env. / Ins. : 22°C / 58% RH010B  
 EUT : GEAC-200  
 Power Rating : AC 120V/60Hz  
 Test Mode : Tx 5200MHz(802.11a)



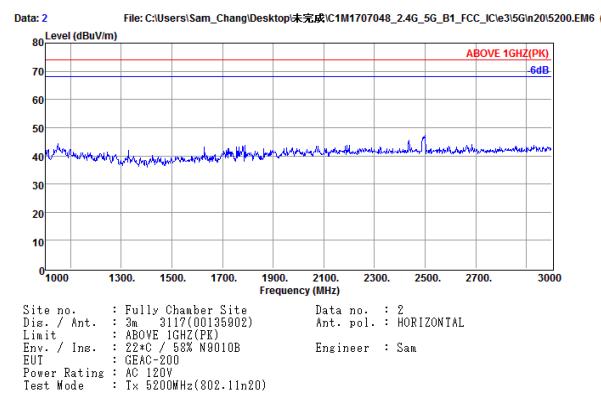
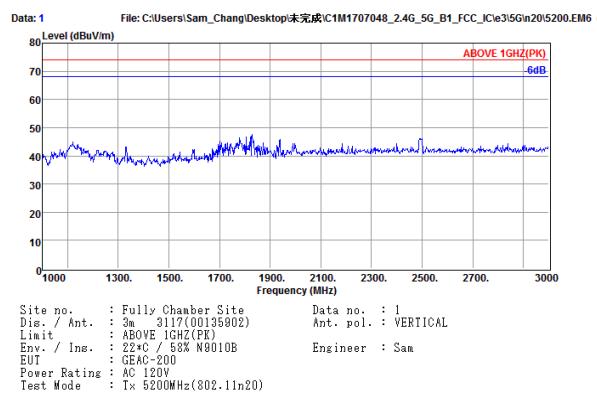
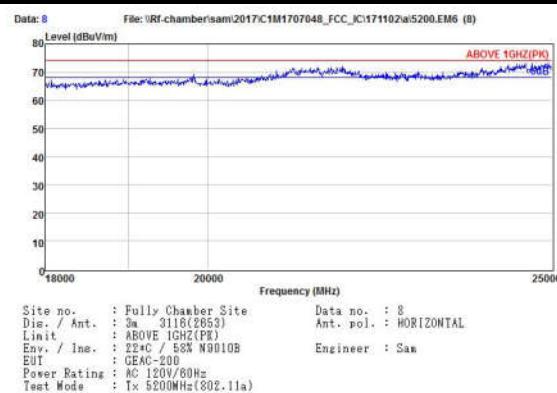
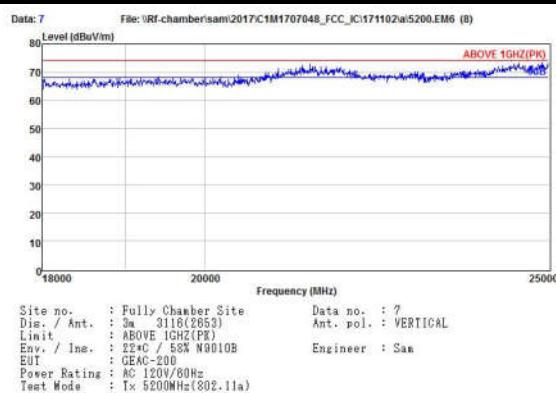
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 Env. / Ins. : 22°C / 58% RH010B  
 EUT : GEAC-200  
 Power Rating : AC 120V/60Hz  
 Test Mode : Tx 5200MHz(802.11a)

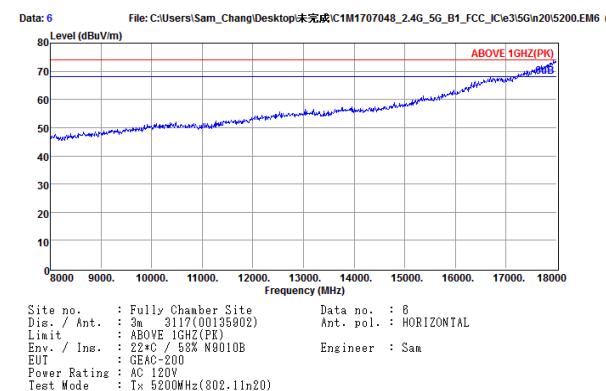
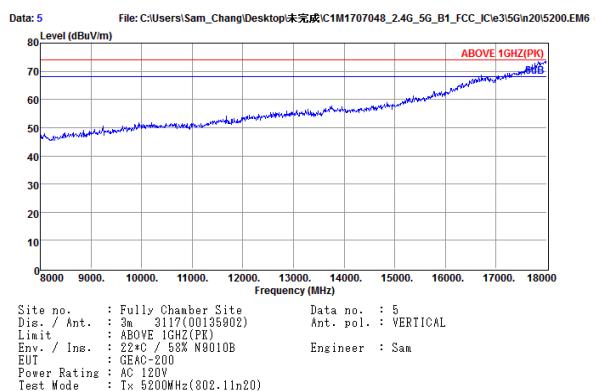
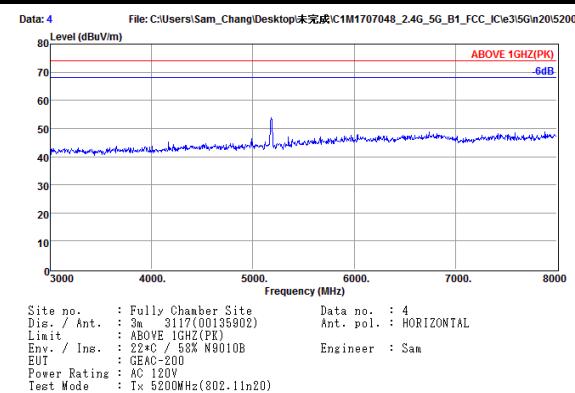
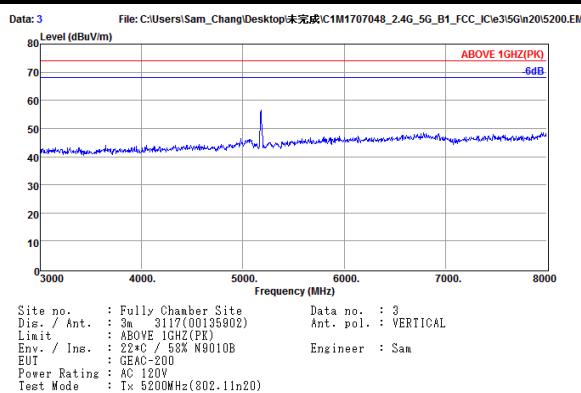
	Ant. Cable	Emission					
Freq. (MHz)	Factor (dB/m)	Loss (dB)	Reading (dB $\mu$ V)	Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Remark
1 10400.00	37.62	15.77	-4.05	49.34	54.00	4.66	Peak

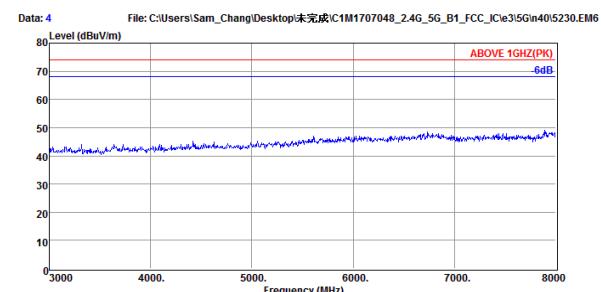
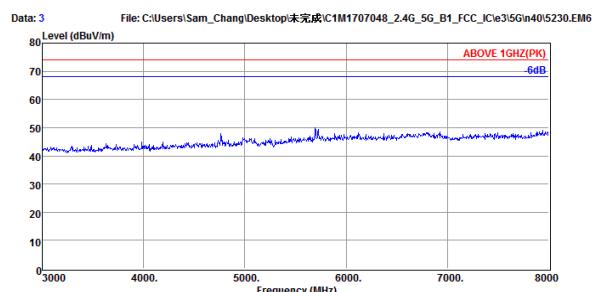
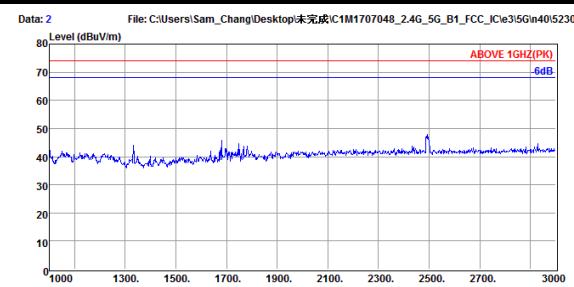
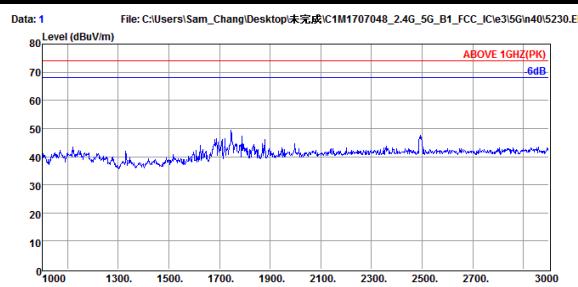
Remarks: 1. Emission Level = Antenna Factor + Cable Loss + Reading  
 2. The emissions not reported are 20 dB lower than the specified limit.

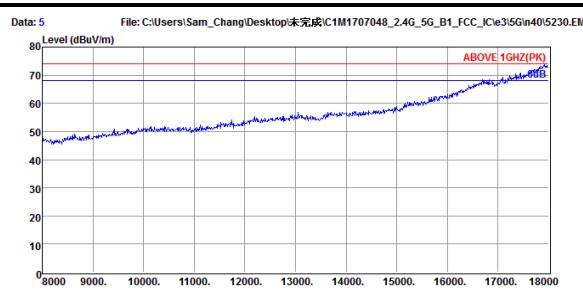
	Ant. Cable	Emission					
Freq. (MHz)	Factor (dB/m)	Loss (dB)	Reading (dB $\mu$ V)	Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Remark
1 10400.00	37.62	15.77	-2.03	51.39	54.00	2.64	Peak

Remarks: 1. Emission Level = Antenna Factor + Cable Loss + Reading  
 2. The emissions not reported are 20 dB lower than the specified limit.

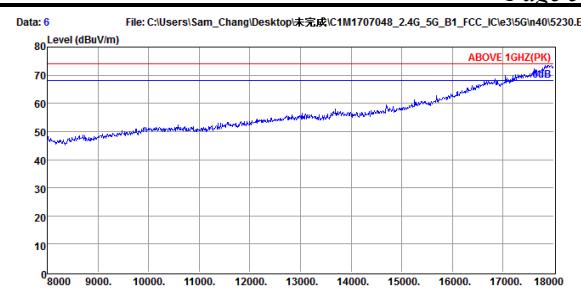




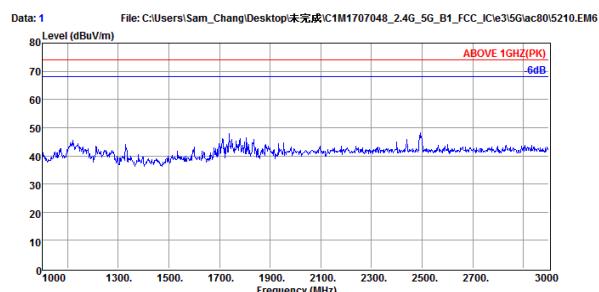




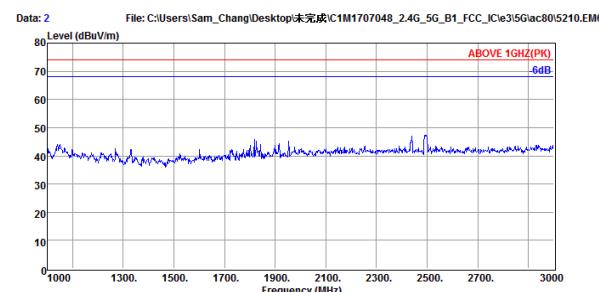
Site no. : Fully Chamber Site Data no. : 5  
Diz. / Ant. : 3m 3117(00135802) Ant. pol. : VERTICAL  
Limit : ABOVE 1GHZ(PK)  
Env. / Ins. : 22°C / 58% N9010B  
EUT : GEAC-200  
Power Rating : AC 120W  
Test Mode : Tx 5230MHz(802.11n40)



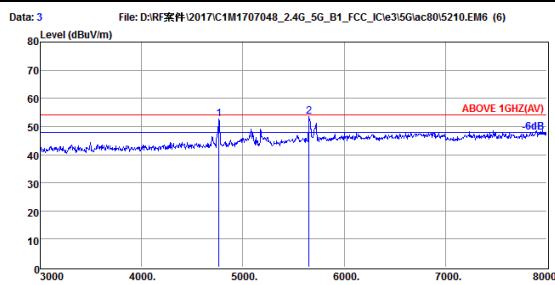
Site no. : Fully Chamber Site Data no. : 6  
Diz. / Ant. : 3m 3117(00135802) Ant. pol. : HORIZONTAL  
Limit : ABOVE 1GHZ(PK)  
Env. / Ins. : 22°C / 58% N9010B  
EUT : GEAC-200  
Power Rating : AC 120W  
Test Mode : Tx 5230MHz(802.11n40)



Site no. : Fully Chamber Site Data no. : 1  
Diz. / Ant. : 3m 3117(00135802) Ant. pol. : VERTICAL  
Limit : ABOVE 1GHZ(PK)  
Env. / Ins. : 22°C / 58% N9010B  
EUT : GEAC-200  
Power Rating : AC 120W  
Test Mode : Tx 5210MHz(802.11ac80)

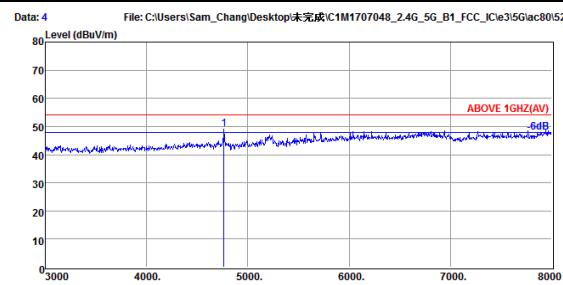


Site no. : Fully Chamber Site Data no. : 2  
Diz. / Ant. : 3m 3117(00135802) Ant. pol. : HORIZONTAL  
Limit : ABOVE 1GHZ(PK)  
Env. / Ins. : 22°C / 58% N9010B  
EUT : GEAC-200  
Power Rating : AC 120W  
Test Mode : Tx 5210MHz(802.11ac80)



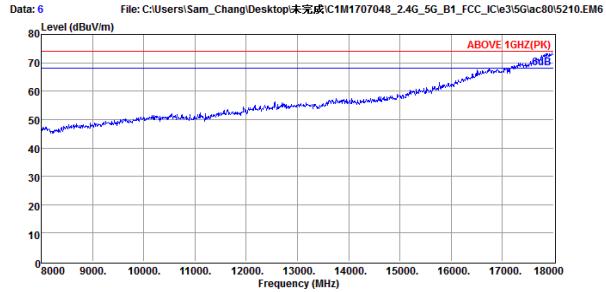
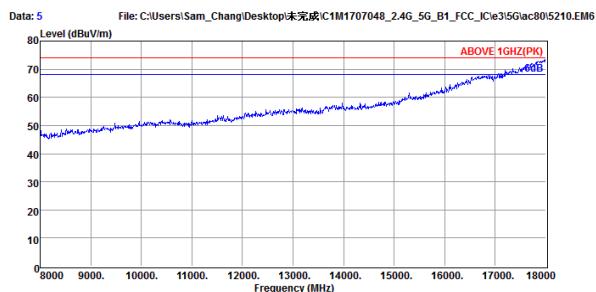
	Freq.	Ant. Cable	Emission	Level	Limits	Margin	Remark
	(MHz)	(dB/n)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	4765.00	34.20	9.52	8.94	52.66	54.00	1.34 Peak
2	5855.00	34.99	10.47	8.11	53.57	54.00	0.43 Peak

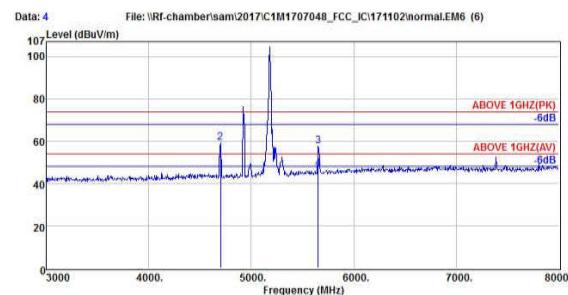
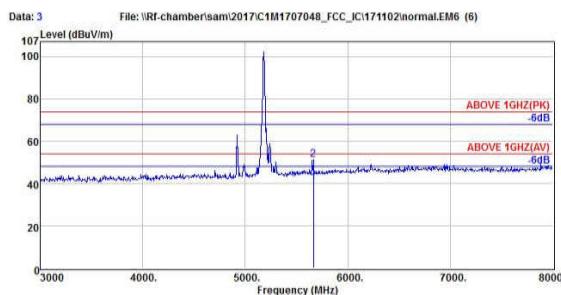
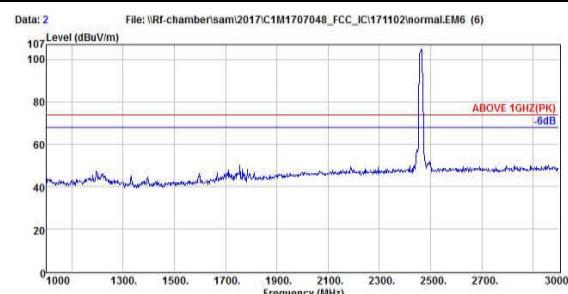
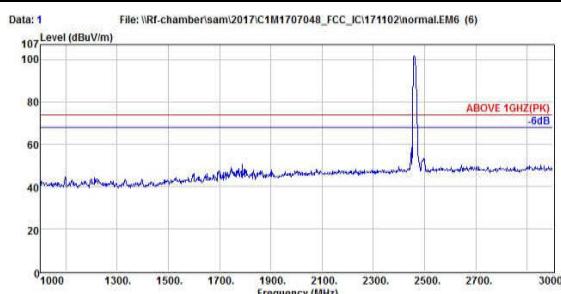
Remarks: 1. Emission Level=Antenna Factor+Cable Loss+Reading  
 2. The emissions not reported are 20 dB lower than the specified limit.



	Freq.	Ant. Cable	Emission	Level	Limits	Margin	Remark
	(MHz)	(dB/n)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	4765.00	34.20	9.52	5.21	48.93	54.00	5.07 Peak

Remarks: 1. Emission Level=Antenna Factor+Cable Loss+Reading  
 2. The emissions not reported are 20 dB lower than the specified limit.





Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Emission Reading (dB $\mu$ V)		Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Remark
			Level	Margin				
1 5865.00	34.99	10.47	-5.45	40.01	54.00	13.88	Average	
2 5865.00	34.99	10.47	5.87	51.13	74.00	22.87	Peak	

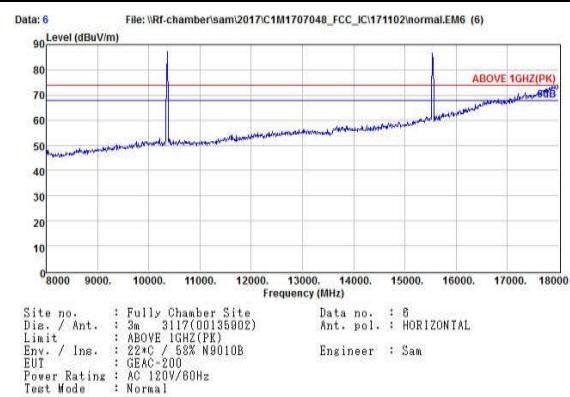
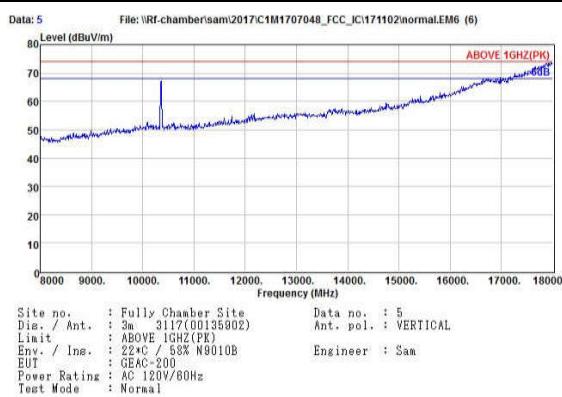
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading

2. The emissions not reported are 20 dB lower than the specified limit.

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Emission Reading (dB $\mu$ V)		Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Remark
			Level	Margin				
1 4700.00	34.18	9.50	5.24	48.92	54.00	5.00	Average	
2 4700.00	34.18	9.50	15.43	61.51	74.00	14.88	Peak	
3 6865.00	34.99	10.47	18.08	57.82	74.00	16.48	Peak	
4 6865.00	34.99	10.47	1.67	47.13	74.00	26.37	Peak	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading

2. The emissions not reported are 20 dB lower than the specified limit.



## 6. BAND EDGE COMPLIANCE TEST

### 6.1. Limit

For transmitters operating in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p.

For devices with both operating frequencies and channel bandwidths contained within the band 5250-5350 MHz,

All emissions outside the band 5250-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p.

For transmitters operating in the band 5470-5725MHz,Emissions outside the band 5470-5725 MHz shall not exceed -27 dBm/MHz e.i.r.p.

For the band 5725-5850 MHz, emissions at frequencies from the band edges to 10 MHz above or below the band edges shall not exceed -17 dBm/MHz e.i.r.p.

For emissions at frequencies more than 10 MHz above or below the band edges, the emissions power shall not exceed -27 dBm/MHz.

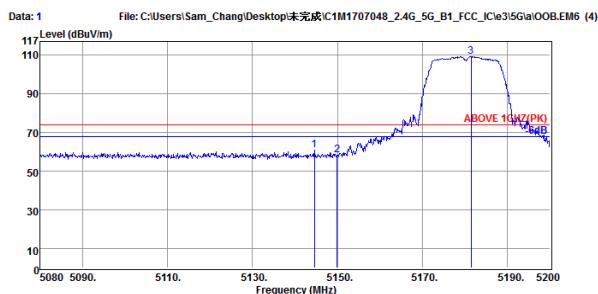
### 6.2. Test Procedure

1. The EUT is placed on a turntable, which is 0.8m above the ground plane and worked at highest radiated power.
2. The turntable was rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
4. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:
  - (a) PEAK: RBW=1MHz; VBW=3MHz; Sweep=AUTO
  - (b) AVERAGE: RBW=1MHz; VBW=10Hz; Sweep=AUTO
5. Per KDB789033 clause H 2)d).if the test distance is 3m,the EIRP(dBm)=E(dBuv/m)-95.2  
Get the final compare with limit.

### 6.3. Test Results

Pass (The testing data was attached in the next pages.)

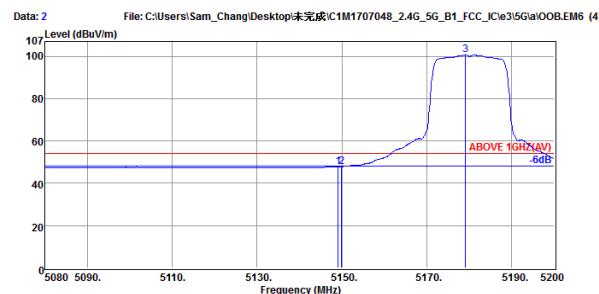
## 5180-5240MHz Band:



Site no. : Fully Chamber Site Data no. : 1  
 Dis. / Ant. : 3m 311700135902 Ant. pol. : VERTICAL  
 Limit : ABOVE 1GHZ(PK)  
 Env. / Ins. : 22°C / 58% N9010B Engineer : Sam  
 EUT : GEAC-200  
 Power Rating : AC 120V  
 Test Mode : Tx 5180MHz(802.11a)

Emission						
Freq. (MHz)	Ant. Factor	Cable Loss (dB)	Reading (dB $\mu$ V)	Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)
1 5144.56	34.45	9.83	16.50	60.78	74.00	13.22 Peak
2 5149.90	34.45	9.83	14.19	58.47	74.00	15.53 Peak
3 5181.40	34.48	9.88	64.83	109.19	74.00	-36.19 Peak

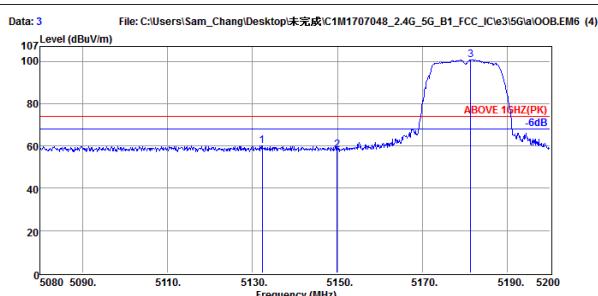
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emissions not reported are 20 dB lower than the specified limit.



Site no. : Fully Chamber Site Data no. : 2  
 Dis. / Ant. : 3m 311700135902 Ant. pol. : VERTICAL  
 Limit : ABOVE 1GHZ(AV)  
 Env. / Ins. : 22°C / 58% N9010B Engineer : Sam  
 EUT : GEAC-200  
 Power Rating : AC 120V  
 Test Mode : Tx 5180MHz(802.11a)

Emission						
Freq. (MHz)	Ant. Factor	Cable Loss (dB)	Reading (dB $\mu$ V)	Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)
1 5140.12	34.45	9.83	3.53	47.81	54.00	6.19 Average
2 5149.90	34.45	9.83	3.82	47.90	54.00	6.10 Average
3 5179.12	34.48	9.88	56.25	100.81	54.00	-46.81 Average

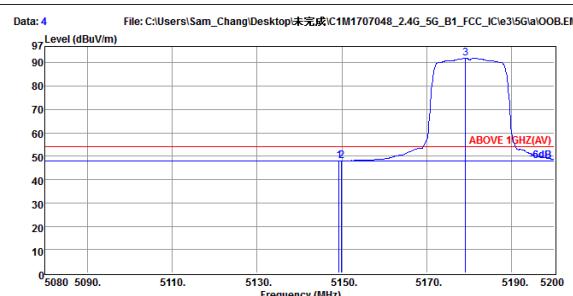
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emissions not reported are 20 dB lower than the specified limit.



Site no. : Fully Chamber Site Data no. : 3  
 Dis. / Ant. : 3m 311700135902 Ant. pol. : HORIZONTAL  
 Limit : ABOVE 1GHZ(PK)  
 Env. / Ins. : 22°C / 58% N9010B Engineer : Sam  
 EUT : GEAC-200  
 Power Rating : AC 120V  
 Test Mode : Tx 5180MHz(802.11a)

Emission						
Freq. (MHz)	Ant. Factor	Cable Loss (dB)	Reading (dB $\mu$ V)	Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)
1 5132.32	34.43	9.81	16.00	60.24	74.00	13.78 Peak
2 5149.90	34.45	9.83	13.95	58.23	74.00	15.77 Peak
3 5181.28	34.48	9.88	58.39	100.75	74.00	-26.75 Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emissions not reported are 20 dB lower than the specified limit.



Site no. : Fully Chamber Site Data no. : 4  
 Dis. / Ant. : 3m 311700135902 Ant. pol. : HORIZONTAL  
 Limit : ABOVE 1GHZ(AV)  
 Env. / Ins. : 22°C / 58% N9010B Engineer : Sam  
 EUT : GEAC-200  
 Power Rating : AC 120V  
 Test Mode : Tx 5180MHz(802.11a)

Emission						
Freq. (MHz)	Ant. Factor	Cable Loss (dB)	Reading (dB $\mu$ V)	Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)
1 5149.36	34.45	9.83	3.80	48.08	54.00	5.92 Average
2 5149.90	34.45	9.83	3.78	48.08	54.00	5.94 Average
3 5179.12	34.48	9.88	47.87	92.03	54.00	-38.03 Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emissions not reported are 20 dB lower than the specified limit.