



# FCC TEST REPORT

**Application No:** ZR/2019/90020  
**Applicant:** Qualcomm Atheros, Inc.  
**Address of Applicant:** 1700 Technology Drive, San Jose, CA 95110  
**Manufacturer:** Qualcomm Atheros, Inc.  
**Address of Manufacturer:** 1700 Technology Drive, San Jose, CA 95110  
**EUT Description:** 2x2 802.11A/B/G/N/AC WiFi + Bluetooth Module  
**Model No.:** QCNFA324  
**Trade Mark:** Qualcomm  
**FCC ID:** PPD-QCNFA324  
**Standards:** 47 CFR FCC Part 2, Subpart J  
47 CFR Part 15, Subpart C  
**Test Method:** KDB558074 D01 15.247 Meas Guidance v05r02  
ANSI C63.10 (2013)  
**Date of Receipt:** 2019/11/30  
**Date of Test:** 2019/12/1 to 2019/12/16  
**Date of Issue:** 2021/5/11

<b>Test Result:</b>	<b>PASS *</b>
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\* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Derek Yang  
Wireless Laboratory Manager

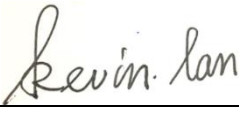



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# 1 Version

Revision Record				
Version	Chapter	Date	Modifier	Remark
00		2019/12/16		Original
01		2020/1/6		Modified limit for Unwanted Emissions in the Restricted Bands (Radiated)
02		2020/1/8		Updated the peak power
03		2021/5/11	Kevin.Lan	1.Add test site Information 2.Modify data conversion error of antenna height 3.Update equipment list

\*This report supersedes our previous report ZR/2019/9002005, issued on 2020/1/8, which is hereby deemed null and void.

<b>Authorized for issue by:</b>		
<b>Prepared By</b>		 <b>(Kevin.Lan) /Engineer</b>
<b>Checked By</b>		 <b>(David Chen) /Reviewer</b>

Remark:

This is to request a Class II permissive change for 2x2 802.11a/b/g/n/ac + Bluetooth Module, Model Name: QCNFA324, FCC ID: PPD-QCNFA324.

The major change filed under this application is:

- The subject approved module is being used in a specific host (portable category configuration, brand name/model: Lenovo/Lenovo CT-X636F).
- Power reduction in order to comply with SAR and RSE requirements.

So only conducted output power and unwanted emissions that fall Out of the Restricted Bands (Radiated), unwanted emissions in the Restricted Bands (Radiated) spot checked, and the data displayed in this report, other data can refer to the original report (Report No.: RF140808E04-2) .



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## 2 Test Summary

Test Item	Test Requirement	Test method	Test Result	Result	Test Lab*
Conducted Output Power	15.247 (b)(3)	ANSI C63.10 2013	Clause 4.1	PASS	A
Radiated Spurious Emissions	15.205/15.209	ANSI C63.10 2013	Clause 4.2	PASS	B
Restricted bands around fundamental frequency (Radiated Emission)	15.205/15.209	ANSI C63.10 2013	Clause 4.3	PASS	B

Remark: All test were performed by Lab A and B.

Parts of test items above were subcontracted to Lab B.

Lab A SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

Lab B SGS-CSTC STANDARDS TECHNICAL SERVICES (XI 'AN) CO., LTD.



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### 3 General Information

#### 3.1 Client Information

Applicant:	Qualcomm Atheros, Inc.
Address of Applicant:	1700 Technology Drive, San Jose, CA 95110
Manufacturer:	Qualcomm Atheros, Inc.
Address of Manufacturer:	1700 Technology Drive, San Jose, CA 95110

#### 3.2 Test Location

##### Lab A:

Company:	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch
Address:	No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China
Post code:	518057
Test Engineer	Adam Liang, Mike Hu

##### Lab B:

Company:	SGS-CSTC STANDARDS TECHNICAL SERVICES (XI 'AN) CO., LTD.
Address:	1/F, Unit D, Building 1, Kanghong Orange Technology Park, No.137, Keyuan 3rd Road, Fengdong New City, Xi'an, Shaanxi China
Post code:	710086
Test Engineer	Ben Huang

#### 3.3 Test Facility

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

##### Lab A:

##### • A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

##### • VCCI

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

##### • FCC –Designation Number: CN1178

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.



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Designation Number: CN1178. Test Firm Registration Number: 406779.

**• Innovation, Science and Economic Development Canada**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.

**Lab B:**

**• A2LA (Certificate No. 4854.01)**

SGS-CSTC STANDARDS TECHNICAL SERVICES (XI 'AN) CO., LTD. is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 4854.01.

**• FCC –Designation Number: CN1271**



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### 3.4 General Description of EUT

EUT Description:		2x2 802.11A/B/G/N/AC WiFi + Bluetooth Module
Model No.:		QCNFA324
Trade Mark:		Qualcomm
Product Description of Host		Portable Tablet Computer
Model No. of Host:		Lenovo CT-X636F
Trade Mark of Host:		Lenovo
Host	Hardware Version:	Google Chrome 79.0.3940.0 (Platform 12601.0.0-19.10.16)
	Software Version:	Lenovo Tablet CT-X636F
Operation Frequency:		2400MHz~2483.5MHz $f_c = 2402 \text{ MHz} + N * 2 \text{ MHz}$ , where: $-f_c$ = "Operating Frequency" in MHz, $-N$ = "Channel Number" with the range from 0 to 39.
Bluetooth Version:		BT-LE
Modulation Type:		GFSK
Number of Channel:		40
Sample Type:		<input checked="" type="checkbox"/> Portable Device, <input type="checkbox"/> Module
Antenna Type:		<input type="checkbox"/> External, <input checked="" type="checkbox"/> Integrated
Antenna Gain:		-0.8dBi
Power Supply:		<input type="checkbox"/> AC/DC Adapter; <input checked="" type="checkbox"/> Battery; <input type="checkbox"/> PoE; <input type="checkbox"/> Other:

Operation Frequency of each channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
0	2402MHz	10	2422MHz	20	2442MHz	30	2462MHz
1	2404MHz	11	2424MHz	21	2444MHz	31	2464MHz
2	2406MHz	12	2426MHz	22	2446MHz	32	2466MHz
3	2408MHz	13	2428MHz	23	2448MHz	33	2468MHz
4	2410MHz	14	2430MHz	24	2450MHz	34	2470MHz
5	2412MHz	15	2432MHz	25	2452MHz	35	2472MHz
6	2414MHz	16	2434MHz	26	2454MHz	36	2474MHz
7	2416MHz	17	2436MHz	27	2456MHz	37	2476MHz
8	2418MHz	18	2438MHz	28	2458MHz	38	2478MHz
9	2420MHz	19	2440MHz	29	2460MHz	39	2480MHz

Remark:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Channel	Frequency
The lowest channel (CH0)	2402MHz



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The middle channel (CH19)	2440MHz
The highest channel (CH39)	2480MHz

### 3.5 Test Environment

Operating Environment	
Temperature:	25.0 °C
Humidity:	50 % RH
Atmospheric Pressure:	101.32 KPa

### 3.6 Description of Support Units

The EUT has been tested independent unit.

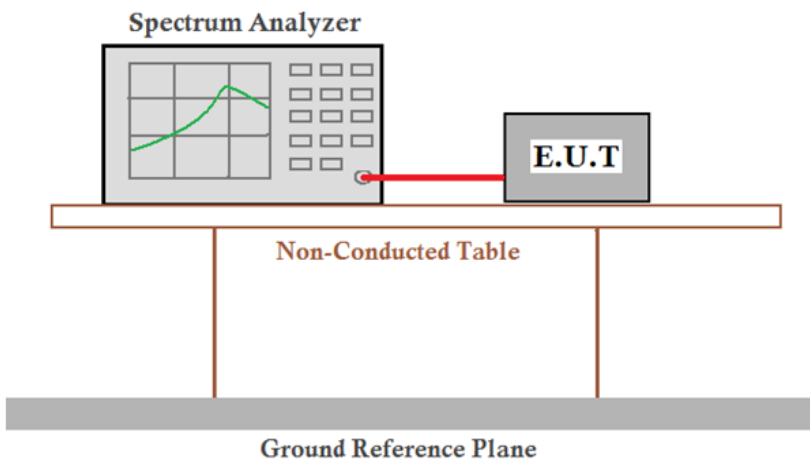


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## 4 Test results and Measurement Data

### 4.1 Conducted Output Power

Test Requirement:	47 CFR Part 15C Section 15.247 (b)(3)
Test Method:	ANSI C63.10 :2013 Section 11.9.1.1
Test Setup:	
Limit:	30dBm
Test Mode:	Transmitting with GFSK modulation.
Instruments Used:	Refer to section 5.10 for details.
Test Results:	Pass

#### 4.1.1 Test Results Measurement Data of Average Power

GFSK mode		
Test channel	Average Output Power (dBm)	Result
Lowest	0.81	Pass
Middle	1.28	Pass
Highest	1.58	Pass

#### Measurement Data of Peak Power:

GFSK mode			
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	1.74	30.00	Pass
Middle	2.44	30.00	Pass
Highest	2.89	30.00	Pass

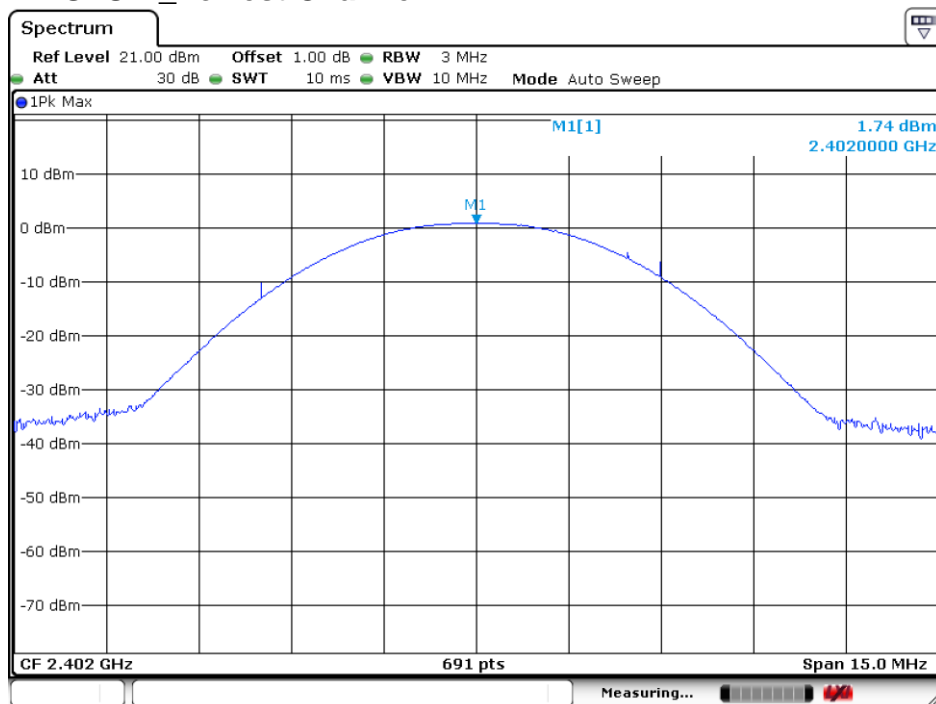


#### 4.1.2

#### Test plots:

##### 4.1.2.1

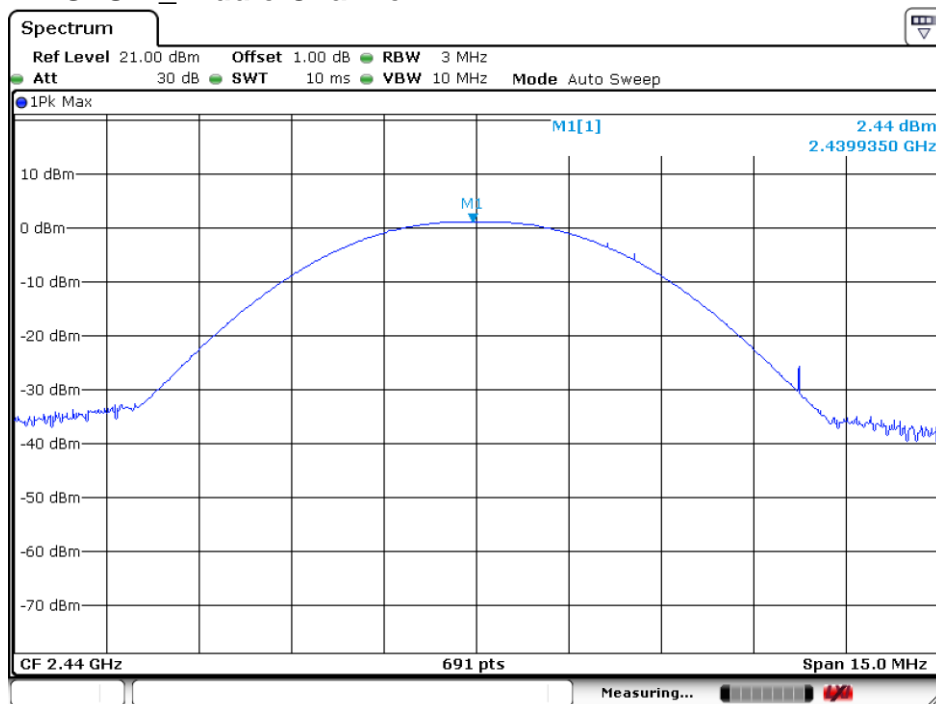
##### GFSK\_Lowest Channel



Date: 16.DEC.2019 08:58:28

##### 4.1.2.2

##### GFSK\_Middle Channel



Date: 16.DEC.2019 08:58:55

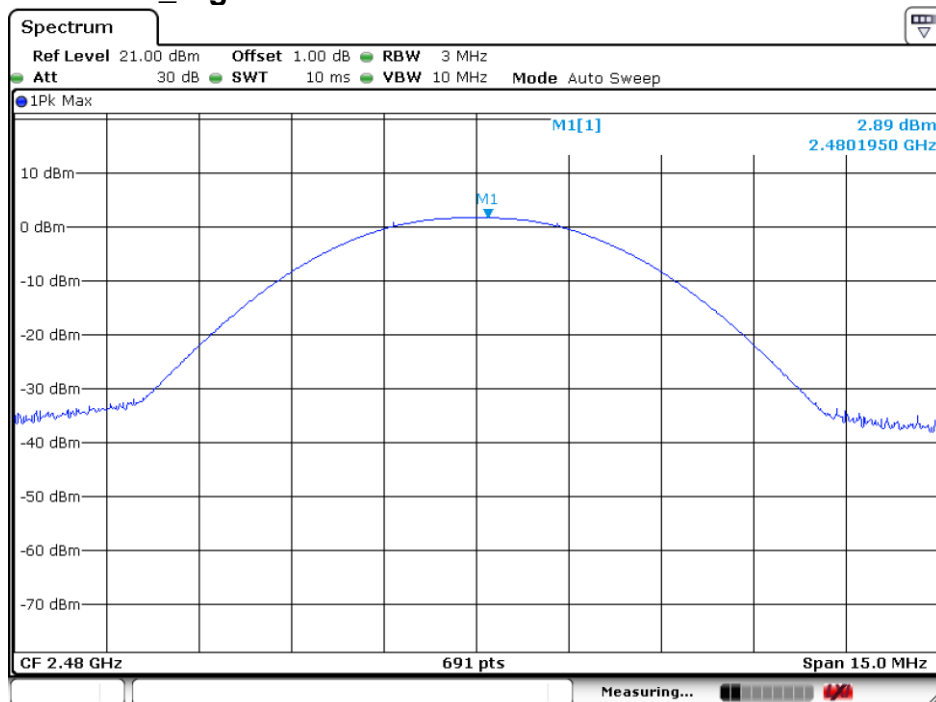


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### 4.1.2.3 GFSK\_Highest Channel



Date: 16.DEC.2019 08:59:19



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## 4.2 Radiated Spurious Emission

Test Requirement:	47 CFR Part 15C Section 15.209 and 15.205				
Test Method:	ANSI C63.10 :2013 Section 11.12				
Test Site:	Measurement Distance: 3m or 10m (Semi-Anechoic Chamber)				
Receiver Setup:	Frequency	Detector	RBW	VBW	Remark
	0.009MHz-0.090MHz	Peak	10kHz	30kHz	Peak
	0.009MHz-0.090MHz	Average	10kHz	30kHz	Average
	0.090MHz-0.110MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
	0.110MHz-0.490MHz	Peak	10kHz	30kHz	Peak
	0.110MHz-0.490MHz	Average	10kHz	30kHz	Average
	0.490MHz -30MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
	30MHz-1GHz	Quasi-peak	100 kHz	300kHz	Quasi-peak
	Above 1GHz	Peak	1MHz	3MHz	Peak
		Peak	1MHz	10Hz	Average
Limit:	Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
	0.009MHz-0.490MHz	2400/F(kHz)	-	-	300
	0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
	1.705MHz-30MHz	30	-	-	30
	30MHz-88MHz	100	40.0	Quasi-peak	3
	88MHz-216MHz	150	43.5	Quasi-peak	3
	216MHz-960MHz	200	46.0	Quasi-peak	3
	960MHz-1GHz	500	54.0	Quasi-peak	3
	Above 1GHz	500	54.0	Average	3
Remark: 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.					



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**Test Setup:**

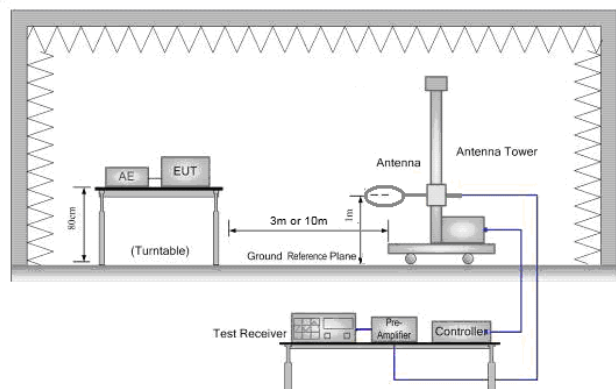


Figure 1. Below 30MHz

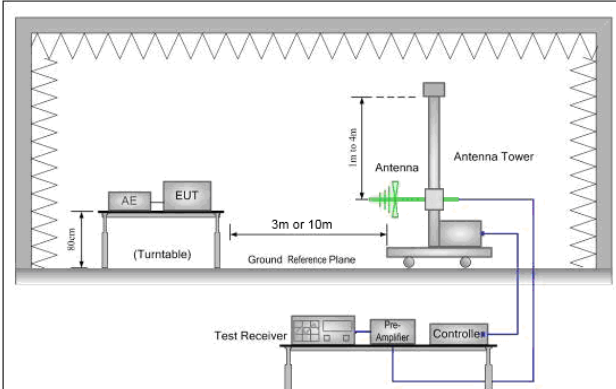


Figure 2. 30MHz to 1GHz

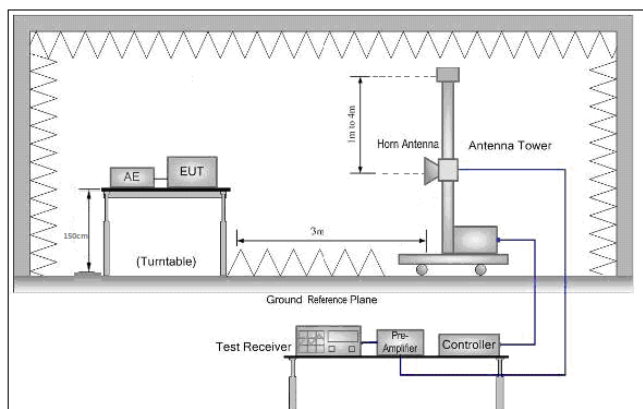


Figure 3. Above 1 GHz

**Test Procedure:**

- For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Peak Detect Function and Specified



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	<p>Bandwidth with Maximum Hold Mode.</p> <p>g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.</p> <p>h. Test the EUT in the lowest channel (2402MHz), the middle channel (2440MHz), the highest channel (2480MHz)</p> <p>i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.</p> <p>j. Repeat above procedures until all frequencies measured was complete.</p>
Exploratory Test Mode:	<p>Transmitting with GFSK modulation.</p> <p>Charge + Transmitting mode.</p>
Final Test Mode:	<p>Transmitting with GFSK modulation.</p> <p>Pretest the EUT at Charge + Transmitting mode,</p> <p>For below 1GHz part, through pre-scan, the worst case is the lowest channel. Only the worst case is recorded in the report.</p>
Instruments Used:	Refer to section 5.10 for details.
Test Results:	Pass

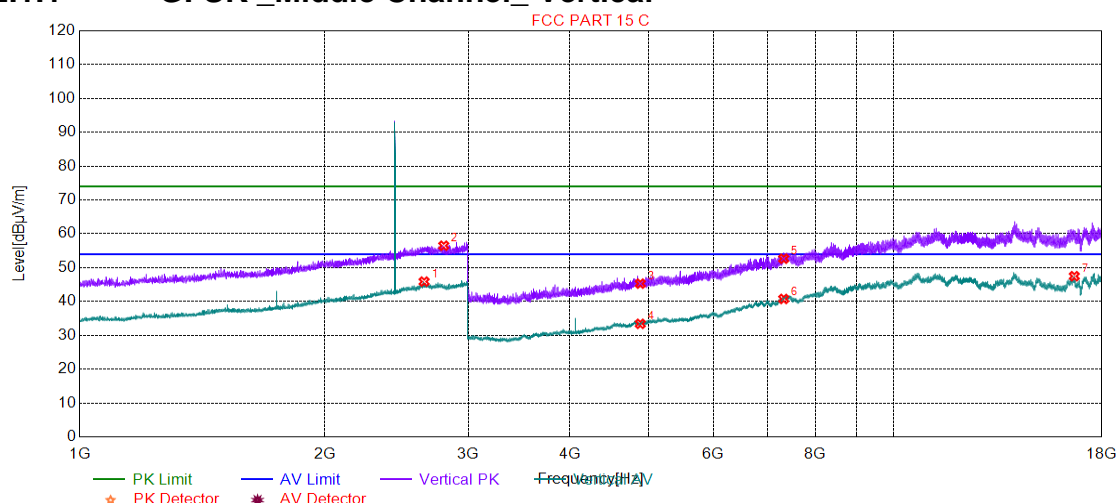


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## 4.2.1 Transmitter Emission above 1GHz

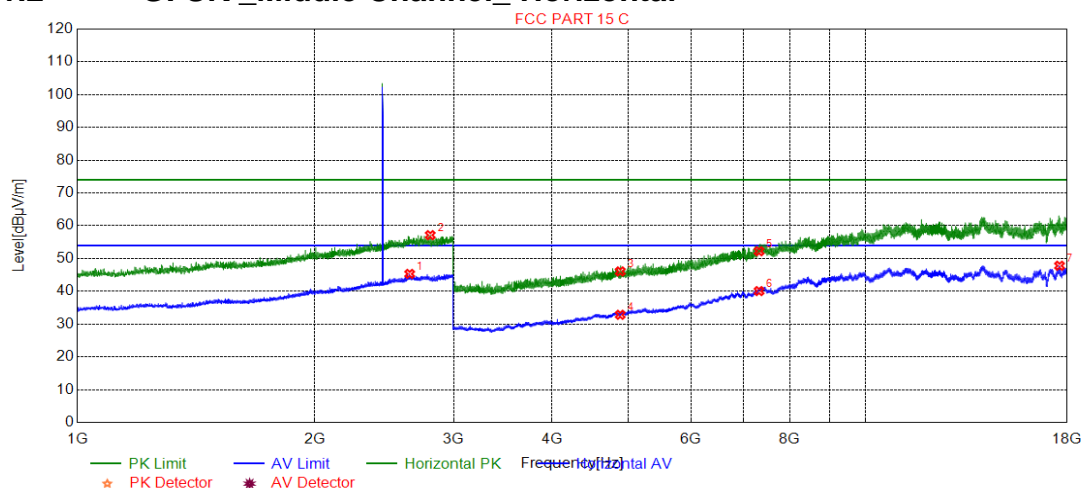
## 4.2.1.1 GFSK\_Middle Channel\_Vertical



NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
1	2648.4121	45.88	10.83	54.00	8.12	226	329	AV	Vertical
2	2799.4499	56.49	11.10	74.00	17.51	152	0	PK	Vertical
3	4880.0000	45.28	-14.65	74.00	28.72	352	210	PK	Vertical
4	4880.0000	33.41	-14.65	54.00	20.59	254	290	AV	Vertical
5	7320.0000	52.65	-6.17	74.00	21.35	159	101	PK	Vertical
6	7320.0000	40.76	-6.17	54.00	13.24	298	318	AV	Vertical
7	16646.4323	47.48	2.75	54.00	6.52	297	0	AV	Vertical



## 4.2.1.2 GFSK \_Middle Channel\_ Horizontal



NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
1	2638.9097	45.32	10.78	54.00	8.68	224	196	AV	Horizontal
2	2802.4506	57.14	11.12	74.00	16.86	118	18	PK	Horizontal
3	4880.0000	46.07	-14.65	74.00	27.93	251	352	PK	Horizontal
4	4880.0000	32.84	-14.65	54.00	21.16	254	104	AV	Horizontal
5	7320.0000	52.23	-6.17	74.00	21.77	204	325	PK	Horizontal
6	7320.0000	40.07	-6.17	54.00	13.93	108	104	AV	Horizontal
7	17599.9800	47.80	4.31	54.00	6.20	124	342	AV	Horizontal

## Remark:

- 1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:  
Final Test Level = Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor
- 2) Scan from 9kHz to 25GHz, the disturbance between 9KHz to 30MHz was very low, and the above harmonics were the highest point could be found when testing, The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.
- 3) As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. So, only the peak measurements were shown in the report.
- 4) All Modes have been tested, but only the worst case data displayed in this report.



### 4.3 Restricted bands around fundamental frequency

Test Requirement:	47 CFR Part 15C Section 15.209 and 15.205		
Test Method:	ANSI C63.10: 2013 Section 11.12		
Test Site:	Measurement Distance: 3m or 10m (Semi-Anechoic Chamber)		
Limit:	Frequency	Limit (dBuV/m @3m)	Remark
	30MHz-88MHz	40.0	Quasi-peak Value
	88MHz-216MHz	43.5	Quasi-peak Value
	216MHz-960MHz	46.0	Quasi-peak Value
	960MHz-1GHz	54.0	Quasi-peak Value
	Above 1GHz	54.0	Average Value
		74.0	Peak Value
Test Setup:			

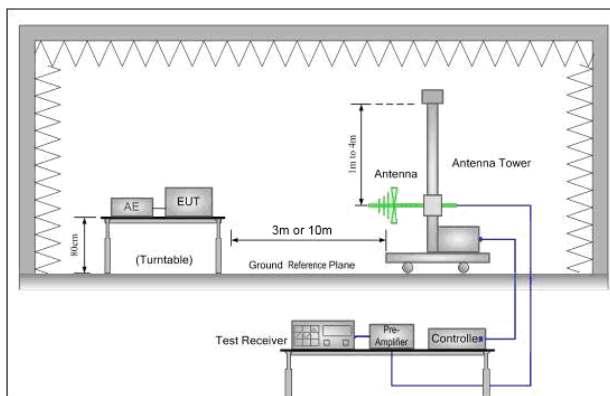


Figure 1. 30MHz to 1GHz

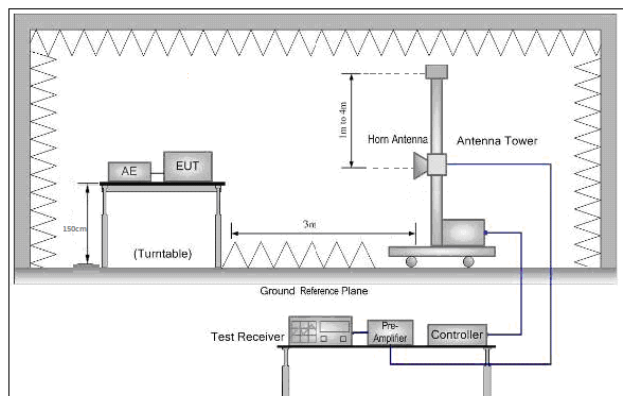


Figure 2. Above 1 GHz

Test Procedure:	a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
	b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
	c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
	d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
	e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
	f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
	g. Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands. Save the spectrum analyzer plot. Repeat for each power and modulation for lowest and highest channel
	h. Test the EUT in the lowest channel, the Highest channel



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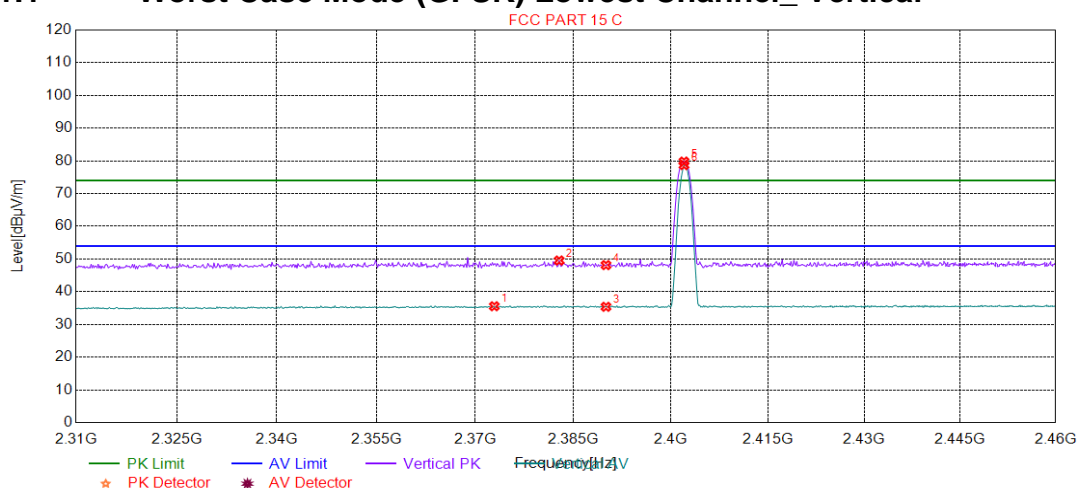
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	i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case. j. Repeat above procedures until all frequencies measured was complete.
Exploratory Test Mode:	Transmitting with GFSK modulation. Charge + Transmitting mode.
Final Test Mode:	Transmitting with GFSK modulation. Pretest the EUT at Charge + Transmitting mode. Only the worst case is recorded in the report.
Instruments Used:	Refer to section 5.10 for details.
Test Results:	Pass

## 4.3.1 Test plots

### 4.3.1.1 Worst Case Mode (GFSK) Lowest Channel\_ Vertical



NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
1	2372.9129	35.57	9.62	54.00	18.43	254	318	AV	Vertical
2	2382.8228	49.54	9.64	74.00	24.46	294	237	PK	Vertical
3	2390.0000	35.40	9.65	54.00	18.60	223	250	AV	Vertical
4	2390.0000	48.14	9.65	74.00	25.86	182	331	PK	Vertical
5	2402.0000	79.80	9.67	---	---	384	130	AV	Vertical
6	2402.0000	78.71	9.67	---	---	248	126	PK	Vertical

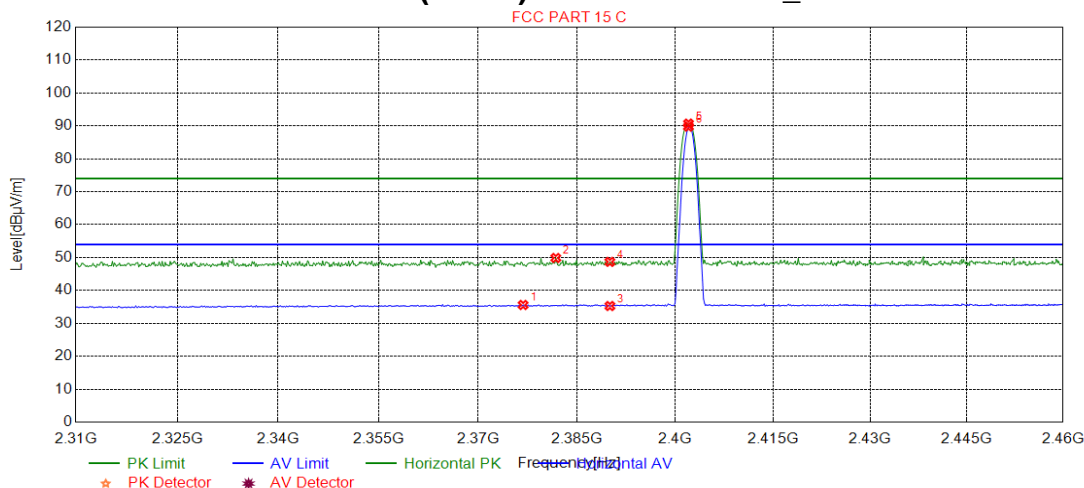


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#### 4.3.1.2 Worst Case Mode (GFSK) Lowest Channel\_ Horizontal



NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
1	2376.8168	35.60	9.63	54.00	18.40	118	163	AV	Horizontal
2	2381.7718	49.87	9.63	74.00	24.13	241	223	PK	Horizontal
3	2390.0000	35.28	9.65	54.00	18.72	214	354	AV	Horizontal
4	2390.0000	48.69	9.65	74.00	25.31	225	292	PK	Horizontal
5	2402.0000	90.71	9.67	---	---	119	235	AV	Horizontal
6	2402.0000	89.78	9.67	---	---	218	67	PK	Horizontal

#### Remark:

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor

All Modes have been tested, but only the worst case data displayed in this report.



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

Lab A:

No.	Item	Measurement Uncertainty
1	Total RF power, conducted	$\pm 0.75\text{dB}$
2	RF power density, conducted	$\pm 2.84\text{dB}$
3	Spurious emissions, conducted	$\pm 0.75\text{dB}$
4	Temperature test	$\pm 1^\circ\text{C}$
5	Humidity test	$\pm 3\%$
6	DC and low frequency voltages	$\pm 0.5\%$

Lab B:

No.	Item	Measurement Uncertainty
1	Conduction Emission	$\pm 3.0\text{dB}$ (150kHz to 30MHz)
2	Radiated Emission	$\pm 4.8\text{dB}$ (Below 1GHz)
		$\pm 4.8\text{dB}$ (1GHz to 6GHz)
		$\pm 4.5\text{dB}$ (6GHz to 18GHz)
		$\pm 5.02\text{dB}$ (Above 18GHz)



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## 6 Equipment List

RF conducted test					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date	Cal. Due date
				(yyyy-mm-dd)	(yyyy-mm-dd)
DC Power Supply	Agilent Technologies Inc	66311B	W009-09	2019/7/15	2020/7/15
Signal Analyzer	Rohde & Schwarz	FSV	W025-05	2019/1/13	2020/1/12
Coaxial Cable	SGS	N/A	SEM031-01	2019/6/12	2020/6/11
Attenuator	Weinschel Associates	WA41	SEM021-09	N/A	N/A
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2019/7/14	2020/7/14
Temperature Chamber	GIANT FORCE	ICT-150-40-CP-AR	W027-03	2019/10/27	2020/10/27
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2019/7/14	2020/7/14

CE Test System					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Shielding Room	Brilliant-emc	N/A	XAW03-35-01	2019-09-11	2022-09-10
Test receiver	ROHDE&SCHWARZ	ESR	XAW01-08-01	2019-09-07	2020-09-06
Artificial network	ROHDE&SCHWARZ	ENV216	XAW01-04-01	2019-07-16	2020-07-15
Temperature and humidity meter	MingGao	TH101B	XAW01-01-01	2018-12-16	2019-12-15
				2019-12-06	2020-12-05
Measurement Software	Tonscend	TS+ CE V2.5	XAW02-05-02	NCR	NCR



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RSE Test System					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Semi-Anechoic Chamber	Brilliant-emc	N/A	XAW03-35-01	2019-09-11	2022-09-10
MXA signal analyzer	Keysight	N9020A	XAW01-06-01	2019-06-27	2020-06-26
Test receiver	ROHDE&SCHWARZ	ESR	XAW01-08-01	2019-09-07	2020-09-06
Receiving antenna (30MHz-3GHz)	Schwarzbeck	VULB 9163	XAW01-09-01	2019-10-13	2021-10-12
Receiving antenna (1GHz~18GHz)	Schwarzbeck	BBHA 9120D	XAW01-09-02	2019-10-13	2021-10-12
Receiving antenna (15GHz~40GHz)	Schwarzbeck	BBHA 9170	XAW01-09-03	2019-10-13	2021-10-12
Directional antenna rack controller	Max-Full	MF-7802BS	XAW03-03-01	NCR	NCR
High-speed antenna rack controller	Max-Full	MF-7802	XAW03-04-01	NCR	NCR
Filter bank	Tonscend	JS0806-F	XAW03-05-01	NCR	NCR
Filter bank	Tonscend	JS0806s	XAW03-05-02	NCR	NCR
Amplifier	Tonscend	TAP00903040	XAW01-41-01	2019-11-18	2020-11-17
Amplifier	Tonscend	TAP01018048	XAW01-41-02	2019-11-18	2020-11-17
Amplifier	Tonscend	TAP18040048	XAW01-41-03	2018-12-10	2019-12-09
				2019-12-03	2020-12-02
Amplifier	Shanghai Steed	YX28980930	XAW01-41-06	2019-11-18	2020-11-17
Temperature and humidity meter	MingGao	TH101B	XAW01-01-01	2018-12-16	2019-12-15
				2019-12-06	2020-12-05
Measurement Software	Tonscend	TS+ RSE V3.0.0.2	XAW02-05-01	NCR	NCR

## 7 Photographs - EUT Test Setup Details

Refer to Appendix A - Photographs of Set-Up for ZR/2019/90020.

The End



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