

Global United Technology Services Co., Ltd.

Report No.: GTS201812000143F

FCC REPORT

Applicant: Monoprice, Inc.

Address of Applicant: 1 Pointe Dr Suite# 400 Brea, CA92821, USA

Manufacturer/Factory: Guangzhou DSPPA Audio Co., Ltd.

No.1 Xiahe Rd, Jianggao Town, Baiyun District, Guangzhou, Address of

Manufacturer/Factory:

Equipment Under Test (EUT)

Product Name: 80W Mini Bluetooth Amplifier

Model No.: 36376

Trade Mark: Monoprice

FCC ID: 2ADDH-36376

FCC CFR Title 47 Part 15 Subpart C Section 15.249 **Applicable standards:**

Date of sample receipt: December 17, 2018

Date of Test: December 17-December 24, 2018

Date of report issued: December 25, 2018

Test Result: PASS *

In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Robinson Lo **Laboratory Manager**

This results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.



2 Version

Version No.	Date	Description
00	December 25, 2018	Original

Prepared By:	Joseph Du	Date:	December 25, 2018
	Project Engineer	<u> </u>	
Check By:	Andy w	Date:	December 25, 2018
	Reviewer		



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4 Test Summary

Test Item	Section in CFR 47	Result
Antenna requirement	15.203	Pass
AC Power Line Conducted Emission	15.207	Pass
Field strength of the fundamental signal	15.249 (a)	Pass
Spurious emissions	15.249 (a) (d)/15.209	Pass
Band edge	15.249 (d)/15.205	Pass
20dB Occupied Bandwidth	15.215 (c)	Pass

Pass: The EUT complies with the essential requirements in the standard.

Remark: Test according to ANSI C63.4:2014 and ANSI C63.10:2013.

4.1 Measurement Uncertainty

Test Item	Frequency Range	Measurement Uncertainty	Notes		
Radiated Emission	9kHz ~ 30MHz	± 4.34dB	(1)		
Radiated Emission	30MHz ~ 1000MHz	± 4.24dB	(1)		
Radiated Emission	1GHz ~ 26.5GHz	± 4.68dB	(1)		
AC Power Line Conducted Emission	0.15MHz ~ 30MHz	± 3.45dB	(1)		
Note (1): The measurement unce	ertainty is for coverage factor of k	=2 and a level of confidence of	95%.		



5 General Information

5.1 General Description of EUT

80W Mini Bluetooth Amplifier
36376
MIN40100YQI270057
GTS201812000143
Engineered sample
HV1.0
SV1.0
2402MHz~2480MHz
79
1MHz
GFSK, π/4-DQPSK, 8-DPSK
PCB antenna
0dBi(declare by applicant)
AC 100-240V 50/60Hz 1A
AC 120V/60Hz



Operation Frequency each of channel							
Channel	el Frequency Chann		annel Frequency Channe	equency Channel Frequency Channel	Frequency	Channel	Frequency
1	2402MHz	21	2422MHz	41	2442MHz	61	2462MHz
2	2403MHz	22	2423MHz	42	2443MHz	62	2463MHz
19	2420MHz	39	2440MHz	59	2460MHz	79	2480MHz
20	2421MHz	40	2441MHz	60	2461MHz		

Note:

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	2402MHz
The middle channel	2441MHz
The Highest channel	2480MHz



5.2 Test mode

Transmitting mode Keep the EUT in continuously transmitting mode.

Remark: During the test, the dutycycle >98%, the test voltage was tuned from 85% to 115% of the nominal rated supply voltage, and found that the worst case was under the nominal rated supply condition. So the report just shows that condition's data.

Pre-test mode.

We have verified the construction and function in typical operation, The EUT was placed on three different polar directions; i.e. X axis, Y axis, Z axis. which was shown in this test report and defined as follows:

Axis	Х	Y	Z
Field Strength(dBuV/m)	95.11	96.96	96.42

Final Test Mode:

According to ANSI C63.4 standards, the test results are both the "worst case" and "worst setup":

Y axis (see the test setup photo)

5.3 Description of Support Units

None.

5.4 Test Facility

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

• FCC —Registration No.: 381383

Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files. Registration 381383, January 08, 2018.

• Industry Canada (IC) —Registration No.: 9079A-2

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 9079A-2, August 15, 2016

5.5 Test Location

All tests were performed at:

Global United Technology Services Co., Ltd.

No. 301-309, 3/F., Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102

Tel: 0755-27798480 Fax: 0755-27798960

5.6 Additional instructions

Software (Used for test) from client

Mode Special test SW was built-in by manufacturer.	
Power set	Default



6 Test Instruments list

Radia	Radiated Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)	
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	July 03 2015	July 02 2020	
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A	
3	Spectrum Analyzer	Agilent	E4440A	GTS533	June 28 2018	June 27 2019	
4	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	June 28 2018	June 27 2019	
5	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	June 28 2018	June 27 2019	
6	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	9120D-829	GTS208	June 28 2018	June 27 2019	
7	Horn Antenna	ETS-LINDGREN	3160	GTS217	June 28 2018	June 27 2019	
8	EMI Test Software	AUDIX	E3	N/A	N/A	N/A	
9	Coaxial Cable	GTS	N/A	GTS213	June 28 2018	June 27 2019	
10	Coaxial Cable	GTS	N/A	GTS211	June 28 2018	June 27 2019	
11	Coaxial cable	GTS	N/A	GTS210	June 28 2018	June 27 2019	
12	Coaxial Cable	GTS	N/A	GTS212	June 28 2018	June 27 2019	
13	80W Mini Bluetooth Amplifier(100kHz-3GHz)	HP	8347A	GTS204	June 28 2018	June 27 2019	
14	80W Mini Bluetooth Amplifier(2GHz-20GHz)	HP	8349B	GTS206	June 28 2018	June 27 2019	
15	80W Mini Bluetooth Amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	June 28 2018	June 27 2019	
16	Band filter	Amindeon	82346	GTS219	June 28 2018	June 27 2019	
17	Power Meter	Anritsu	ML2495A	GTS540	June 28 2018	June 27 2019	
18	Power Sensor	Anritsu	MA2411B	GTS541	June 28 2018	June 27 2019	
19	Loop Antenna	Zhinan	ZN30900A	GTS215	June 28 2018	June 27 2019	

Cond	Conducted Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)	
1	Shielding Room	ZhongYu Electron	7.3(L)x3.1(W)x2.9(H)	GTS252	May.16 2014	May.15 2019	
2	EMI Test Receiver	R&S	ESCI 7	GTS552	June 28 2018	June 27 2019	
3	Coaxial Switch	ANRITSU CORP	MP59B	GTS225	June 28 2018	June 27 2019	
4	Artificial Mains Network	SCHWARZBECK MESS	NSLK8127	GTS226	June 28 2018	June 27 2019	
5	Coaxial Cable	GTS	N/A	GTS227	N/A	N/A	
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A	
7	Thermo meter	KTJ	TA328	GTS233	June 28 2018	June 27 2019	

Gene	General used equipment:										
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)					
1	Barometer	ChangChun	DYM3	GTS257	June 28 2018	June 27 2019					



7 Test results and Measurement Data

7.1 Antenna requirement

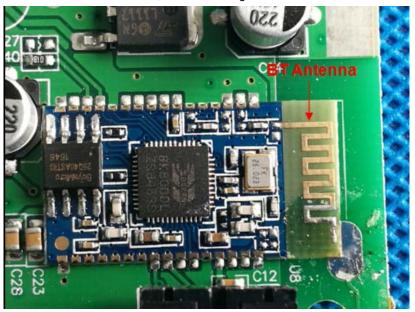
Standard requirement: FCC Part15 C Section 15.203

15.203 requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

EUT Antenna:

The antenna is PCB antenna, the best case gain of the antenna is OdBi.





7.2 Conducted Emissions

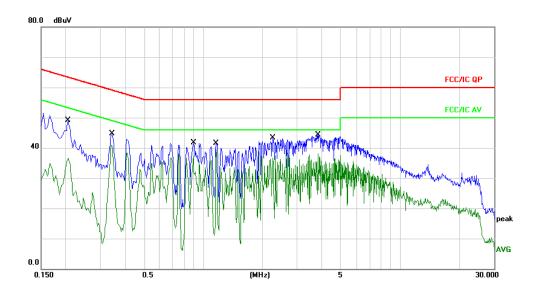
Test Requirement:	FCC Part15 C Section 15.207								
Test Method:	ANSI C63.10:2013								
Test Frequency Range:	150KHz to 30MHz								
Class / Severity:	Class B								
Receiver setup:	RBW=9KHz, VBW=30KHz, Sv	weep time=auto							
Limit:	F(A411-)	Limit (d	BuV)						
	Frequency range (MHz)	Quasi-peak	Average						
	0.15-0.5	66 to 56*	56 to 46*						
	0.5-5	56	46						
	5-30	60	50						
	* Decreases with the logarithm of the frequency.								
Test setup: Reference Plane									
	AUX Filter AC power Equipment E.U.T Test table/Insulation plane Remark EUT Equipment Under Test LISN: Line impedence Stabilization Network Test table height=0.8m								
Test procedure:	The EUT and simulators ar line impedance stabilization 50ohm/50uH coupling impe	n network (L.I.S.N.). Th	is provides a						
	2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs).								
	3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2013 on conducted measurement.								
Test Instruments:	Refer to section 6.0 for details	•							
Test mode:	Refer to section 5.2 for details								
Test results:	Pass								



Measurement data

The EUT was tested in GFSK, $\pi/4$ -DQPSK, 8-DPSK modulation, and found the GFSK modulation is the worst case.

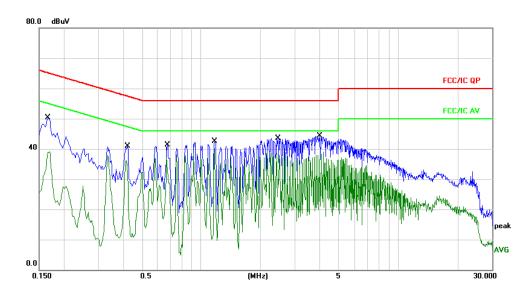
EUT:	80W Mini Bluetooth Amplifier	Model Name. :	36376
Temperature :	26 ℃	Relative Humidity:	54%
Pressure :	1010hPa	Phase :	L
Test Voltage :	AC120V/60Hz	Test Mode:	Worst mode-GFSK



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBu∀	dB	dBu∀	dBu∀	dB	Detector	Comment
1		0.2060	39.52	9.63	49.15	63.36	-14.21	QP	
2		0.2060	26.88	9.63	36.51	53.36	-16.85	AVG	
3		0.3420	31.17	9.65	40.82	49.15	-8.33	AVG	
4		0.3460	34.99	9.65	44.64	59.06	-14.42	QP	
5		0.8900	31.99	9.70	41.69	56.00	-14.31	QP	
6		0.8900	27.68	9.70	37.38	46.00	-8.62	AVG	
7		1.1620	31.82	9.71	41.53	56.00	-14.47	QP	
8	*	1.1620	29.75	9.71	39.46	46.00	-6.54	AVG	
9		2.2580	33.54	9.72	43.26	56.00	-12.74	QP	
10		2.2580	27.82	9.72	37.54	46.00	-8.46	AVG	
11		3.8300	34.57	9.73	44.30	56.00	-11.70	QP	
12		3.8300	28.33	9.73	38.06	46.00	-7.94	AVG	



EUT:	80W Mini Bluetooth Amplifier	Model Name. :	36376
Temperature :	26 ℃	Relative Humidity:	54%
Pressure :	1010hPa	Phase :	N
Test Voltage :	AC120V/60Hz	Test Mode:	Worst mode-GFSK



No. Mk	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over			
	MHz	dBu∀	dB	dBu∀	dBu∀	dB	Detector	Comment	
1	0.1660	40.67	9.70	50.37	65.15	-14.78	QP		
2	0.1660	29.33	9.70	39.03	55.15	-16.12	AVG		
3	0.4220	31.23	9.67	40.90	57.41	-16.51	QP		
4	0.4220	26.52	9.67	36.19	47.41	-11.22	AVG		
5	0.6740	31.63	9.67	41.30	56.00	-14.70	QP		
6	0.6740	27.51	9.67	37.18	46.00	-8.82	AVG		
7	1.1660	32.76	9.71	42.47	56.00	-13.53	QP		
8 *	1.1660	30.47	9.71	40.18	46.00	-5.82	AVG		
9	2.4580	33.77	9.72	43.49	56.00	-12.51	QP		
10	2.4580	28.78	9.72	38.50	46.00	-7.50	AVG		
11	3.9980	34.55	9.73	44.28	56.00	-11.72	QP		
12	3.9980	28.60	9.73	38.33	46.00	-7.67	AVG		

Notes:

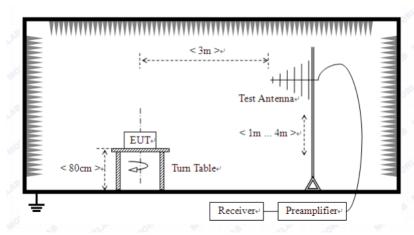
- 1. An initial pre-scan was performed on the line and neutral lines with peak detector.
- 2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
- 3. Final Level =Receiver Read level + LISN Factor
- 4. If the average limit is met when using a quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.



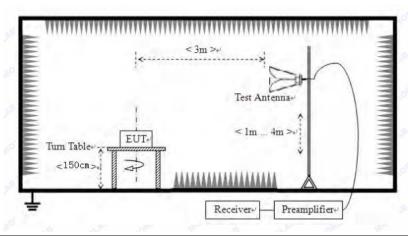
7.3 Radiated Emission Method

 7.3 Radiated Emission Method										
Test Requirement:	FCC Part15 C S	Section 15.20	9							
Test Method:	ANSI C63.10:20	013								
Test Frequency Range:	9kHz to 25GHz									
Test site:	Measurement D	Distance: 3m								
Receiver setup:	Frequency	Detector	RBW	VBW	Remark					
	9kHz- 150kHz	Quasi-peal	200Hz	300Hz	Quasi-peak Value					
	150kHz- 30MHz	Quasi-peal	9kHz	10kHz	Quasi-peak Value					
	30MHz- 1GHz			300KHz	Quasi-peak Value					
	Above 1011	Peak	1MHz	3MHz	Peak Value					
	Above 1GHz	Peak	1MHz	10Hz	Average Value					
Limit:	Frequency Limit (dBuV/m @3m) Rema									
(Field strength of the	2400MHz-24	183 5MHz	94.0		Average Value					
fundamental signal)	2400WII 12-2-	100.0IVII 12	114.0	00	Peak Value					
Limit:	Freque	ency	Limit (u		Remark					
(Spurious Emissions)	0.009MHz-0).490MHz	2400/F(kHz) @300m	Quasi-peak Value					
(Spaniodo Elifficolorio)	0.490MHz-1	.705MHz	24000/F(kH	z) @30m	Quasi-peak Value					
	1.705MHz-	30.0MHz	30 @3	30m	Quasi-peak Value					
	30MHz-8	88MHz	100 @)3m	Quasi-peak Value					
	88MHz-2	16MHz	150 @)3m	Quasi-peak Value					
	216MHz-9		200 @		Quasi-peak Value					
	960MHz-	-1GHz	500 @		Quasi-peak Value					
	Above ²	IGHz	500 @		Average Value					
	715070	10112	5000 @	2)3m	Peak Value					
Limit: (band edge)	harmonics, sha	II be attenuate to the genera	ed by at least Il radiated em	50 dB belov	bands, except for w the level of the s in Section 15.209,					
Test setup:	Below 1GHz									
	Turntable EUT 0.8 m Test Received Coaxcial Cable									





Above 1GHz



Test Procedure:

- 1. The EUT was placed on the top of a rotating table (0.8m for below 1G and 1.5m for above 1G) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
- 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- 3. 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.
- 4. 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 rota table was turned from 0 degrees to 360 degrees to find the maximum reading.
- 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- 6. 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.



Test Instruments:	Refer to section 6.0 for details				
Test mode:	Refer to section 5.2 for details				
Test results:	Pass				

Measurement data:

7.3.1 Field Strength of The Fundamental Signal

GFSK

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2402.00	94.85	27.58	5.39	30.18	97.64	114.00	-16.36	Vertical
2402.00	93.38	27.58	5.39	30.18	96.17	114.00	-17.83	Horizontal
2441.00	92.71	27.55	5.43	30.06	95.63	114.00	-18.37	Vertical
2441.00	88.36	27.55	5.43	30.06	91.28	114.00	-22.72	Horizontal
2480.00	93.07	27.52	5.47	29.93	96.13	114.00	-17.87	Vertical
2480.00	91.42	27.52	5.47	29.93	94.48	114.00	-19.52	Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2402.00	82.63	27.58	5.39	30.18	85.42	94.00	-8.58	Vertical
2402.00	80.88	27.58	5.39	30.18	83.67	94.00	-10.33	Horizontal
2441.00	79.16	27.55	5.43	30.06	82.08	94.00	-11.92	Vertical
2441.00	75.70	27.55	5.43	30.06	78.62	94.00	-15.38	Horizontal
2480.00	83.42	27.52	5.47	29.93	86.48	94.00	-7.52	Vertical
2480.00	80.90	27.52	5.47	29.93	83.96	94.00	-10.04	Horizontal



π /4-DQPSK

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2402.00	92.42	27.58	5.39	30.18	95.21	114.00	-18.79	Vertical
2402.00	91.67	27.58	5.39	30.18	94.46	114.00	-19.54	Horizontal
2441.00	91.78	27.55	5.43	30.06	94.70	114.00	-19.30	Vertical
2441.00	88.95	27.55	5.43	30.06	91.87	114.00	-22.13	Horizontal
2480.00	92.02	27.52	5.47	29.93	95.08	114.00	-18.92	Vertical
2480.00	90.76	27.52	5.47	29.93	93.82	114.00	-20.18	Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2402.00	83.14	27.58	5.39	30.18	85.93	94.00	-8.07	Vertical
2402.00	78.30	27.58	5.39	30.18	81.09	94.00	-12.91	Horizontal
2441.00	80.79	27.55	5.43	30.06	83.71	94.00	-10.29	Vertical
2441.00	76.32	27.55	5.43	30.06	79.24	94.00	-14.76	Horizontal
2480.00	83.57	27.52	5.47	29.93	86.63	94.00	-7.37	Vertical
2480.00	81.12	27.52	5.47	29.93	84.18	94.00	-9.82	Horizontal



8-DPSK

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2402.00	91.32	27.58	5.39	30.18	94.11	114.00	-19.89	Vertical
2402.00	87.85	27.58	5.39	30.18	90.64	114.00	-23.36	Horizontal
2441.00	88.19	27.55	5.43	30.06	91.11	114.00	-22.89	Vertical
2441.00	87.37	27.55	5.43	30.06	90.29	114.00	-23.71	Horizontal
2480.00	91.62	27.52	5.47	29.93	94.68	114.00	-19.32	Vertical
2480.00	90.03	27.52	5.47	29.93	93.09	114.00	-20.91	Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization		
2402.00	77.84	27.58	5.39	30.18	80.63	94.00	-13.37	Vertical		
2402.00	76.29	27.58	5.39	30.18	79.08	94.00	-14.92	Horizontal		
2441.00	76.39	27.55	5.43	30.06	79.31	94.00	-14.69	Vertical		
2441.00	76.24	27.55	5.43	30.06	79.16	94.00	-14.84	Horizontal		
2480.00	78.38	27.52	5.47	29.93	81.44	94.00	-12.56	Vertical		
2480.00	77.56	27.52	5.47	29.93	80.62	94.00	-13.38	Horizontal		



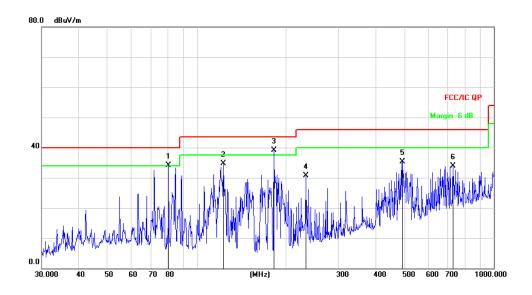
7.3.2 Spurious emissions

■ Below 30MHz

The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o), the test result no need to reported.

- Below 1GHz
- The EUT was tested in GFSK, π/4-DQPSK, 8-DPSK modulation, and found the GFSK modulation is the worst case.

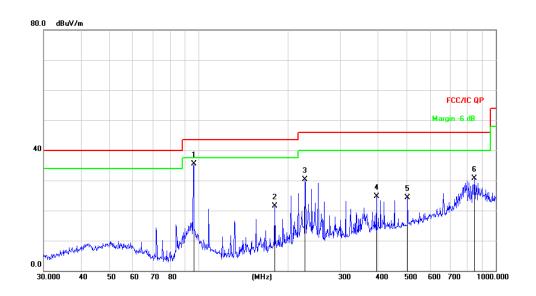
Mode:Transmitting modeTest by:JasonTemp./Hum.(%H):26℃/56%RHPolarziation:Horizontal



No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB	dBuV/m	dB/m	dB	Detector
1	ļ	80.3619	54.70	-20.57	34.13	40.00	-5.87	QP
2		122.8340	53.33	-18.68	34.65	43.50	-8.85	QP
3	*	181.9202	56.68	-17.57	39.11	43.50	-4.39	QP
4		232.5318	45.13	-14.45	30.68	46.00	-15.32	QP
5		492.4685	42.67	-7.39	35.28	46.00	-10.72	QP
6		729.3583	36.23	-2.30	33.93	46.00	-12.07	QP



Mode:Transmitting modeTest by:JasonTemp./Hum.(%H):26 ℃/56%RHPolarziation:Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1	*	96.0986	52.50	-17.07	35.43	43.50	-8.07	peak
2	1	80.0165	39.34	-17.76	21.58	43.50	-21.92	peak
3	2	27.6906	45.10	-14.75	30.35	46.00	-15.65	peak
4	3	96.2415	34.28	-9.53	24.75	46.00	-21.25	peak
5	5	04.7062	31.35	-7.07	24.28	46.00	-21.72	peak
6	8	48.0563	31.08	-0.33	30.75	46.00	-15.25	peak



■ Above 1GHz

Test channel: Lowest channel-GFSK

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4804.00	42.35	31.78	8.60	32.09	50.64	74.00	-23.36	Vertical
7206.00	34.90	36.15	11.65	32.00	50.70	74.00	-23.30	Vertical
9608.00	32.91	37.95	14.14	31.62	53.38	74.00	-20.62	Vertical
12010.00	*					74.00		Vertical
14412.00	*					74.00		Vertical
4804.00	46.40	31.78	8.60	32.09	54.69	74.00	-19.31	Horizontal
7206.00	39.06	36.15	11.65	32.00	54.86	74.00	-19.14	Horizontal
9608.00	35.38	37.95	14.14	31.62	55.85	74.00	-18.15	Horizontal
12010.00	*					74.00		Horizontal
14412.00	*					74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4804.00	29.58	31.78	8.60	32.09	37.87	54.00	-16.13	Vertical
7206.00	24.22	36.15	11.65	32.00	40.02	54.00	-13.98	Vertical
9608.00	24.72	37.95	14.14	31.62	45.19	54.00	-8.81	Vertical
12010.00	*					54.00		Vertical
14412.00	*					54.00		Vertical
4804.00	33.16	31.78	8.60	32.09	41.45	54.00	-12.55	Horizontal
7206.00	24.36	36.15	11.65	32.00	40.16	54.00	-13.84	Horizontal
9608.00	23.89	37.95	14.14	31.62	44.36	54.00	-9.64	Horizontal
12010.00	*					54.00		Horizontal
14412.00	*					54.00		Horizontal

- 1. Final Level =Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor
- 2. The emission levels of other frequencies are very lower than the limit and not show in test report.
- 3. "*", means this data is the too weak instrument of signal is unable to test.



Test channel: Middle channel -GFSK

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4882.00	39.70	31.85	8.67	32.12	48.10	74.00	-25.90	Vertical
7323.00	33.81	36.37	11.72	31.89	50.01	74.00	-23.99	Vertical
9764.00	31.54	38.35	14.25	31.62	52.52	74.00	-21.48	Vertical
12205.00	*					74.00		Vertical
14646.00	*					74.00		Vertical
4882.00	41.31	31.85	8.67	32.12	49.71	74.00	-24.29	Horizontal
7323.00	33.19	36.37	11.72	31.89	49.39	74.00	-24.61	Horizontal
9764.00	30.78	38.35	14.25	31.62	51.76	74.00	-22.24	Horizontal
12205.00	*					74.00		Horizontal
14646.00	*					74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4882.00	27.73	31.85	8.67	32.12	36.13	54.00	-17.87	Vertical
7323.00	23.39	36.37	11.72	31.89	39.59	54.00	-14.41	Vertical
9764.00	21.43	38.35	14.25	31.62	42.41	54.00	-11.59	Vertical
12205.00	*					54.00		Vertical
14646.00	*					54.00		Vertical
4882.00	33.85	31.85	8.67	32.12	42.25	54.00	-11.75	Horizontal
7323.00	25.40	36.37	11.72	31.89	41.60	54.00	-12.40	Horizontal
9764.00	22.56	38.35	14.25	31.62	43.54	54.00	-10.46	Horizontal
12205.00	*					54.00		Horizontal
14646.00	*					54.00		Horizontal

- 1. Final Level =Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor
- 2. The emission levels of other frequencies are very lower than the limit and not show in test report.
- 3. "*", means this data is the too weak instrument of signal is unable to test.



Test channel: Highest channel -GFSK

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4960.00	38.62	31.93	8.73	32.16	47.12	74.00	-26.88	Vertical
7440.00	34.03	36.59	11.79	31.78	50.63	74.00	-23.37	Vertical
9920.00	31.74	38.81	14.38	31.88	53.05	74.00	-20.95	Vertical
12400.00	*					74.00		Vertical
14880.00	*					74.00		Vertical
4960.00	40.67	31.93	8.73	32.16	49.17	74.00	-24.83	Horizontal
7440.00	33.17	36.59	11.79	31.78	49.77	74.00	-24.23	Horizontal
9920.00	32.56	38.81	14.38	31.88	53.87	74.00	-20.13	Horizontal
12400.00	*					74.00		Horizontal
14880.00	*					74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4960.00	29.60	31.93	8.73	32.16	38.10	54.00	-15.90	Vertical
7440.00	24.83	36.59	11.79	31.78	41.43	54.00	-12.57	Vertical
9920.00	22.57	38.81	14.38	31.88	43.88	54.00	-10.12	Vertical
12400.00	*					54.00		Vertical
14880.00	*					54.00		Vertical
4960.00	32.84	31.93	8.73	32.16	41.34	54.00	-12.66	Horizontal
7440.00	25.12	36.59	11.79	31.78	41.72	54.00	-12.28	Horizontal
9920.00	24.23	38.81	14.38	31.88	45.54	54.00	-8.46	Horizontal
12400.00	*					54.00		Horizontal
14880.00	*					54.00		Horizontal

- 1. Final Level =Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor
- 2. The emission levels of other frequencies are very lower than the limit and not show in test report.
- 3. "*", means this data is the too weak instrument of signal is unable to test.



Test channel: Lowest channel- π /4-DQPSK

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4804.00	40.24	31.78	8.60	32.09	48.53	74.00	-25.47	Vertical
7206.00	33.96	36.15	11.65	32.00	49.76	74.00	-24.24	Vertical
9608.00	30.50	37.95	14.14	31.62	50.97	74.00	-23.03	Vertical
12010.00	*					74.00		Vertical
14412.00	*					74.00		Vertical
4804.00	43.73	31.78	8.60	32.09	52.02	74.00	-21.98	Horizontal
7206.00	34.28	36.15	11.65	32.00	50.08	74.00	-23.92	Horizontal
9608.00	32.41	37.95	14.14	31.62	52.88	74.00	-21.12	Horizontal
12010.00	*					74.00		Horizontal
14412.00	*					74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4804.00	31.27	31.78	8.60	32.09	39.56	54.00	-14.44	Vertical
7206.00	26.61	36.15	11.65	32.00	42.41	54.00	-11.59	Vertical
9608.00	25.12	37.95	14.14	31.62	45.59	54.00	-8.41	Vertical
12010.00	*					54.00		Vertical
14412.00	*					54.00		Vertical
4804.00	33.65	31.78	8.60	32.09	41.94	54.00	-12.06	Horizontal
7206.00	28.05	36.15	11.65	32.00	43.85	54.00	-10.15	Horizontal
9608.00	27.18	37.95	14.14	31.62	47.65	54.00	-6.35	Horizontal
12010.00	*					54.00		Horizontal
14412.00	*					54.00		Horizontal

- 4. Final Level =Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor
- 5. The emission levels of other frequencies are very lower than the limit and not show in test report.
 6. "*", means this data is the too weak instrument of signal is unable to test.



Test channel: Middle channel - π /4-DQPSK

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4882.00	38.52	31.85	8.67	32.12	46.92	74.00	-27.08	Vertical
7323.00	35.88	36.37	11.72	31.89	52.08	74.00	-21.92	Vertical
9764.00	34.26	38.35	14.25	31.62	55.24	74.00	-18.76	Vertical
12205.00	*					74.00		Vertical
14646.00	*					74.00		Vertical
4882.00	42.32	31.85	8.67	32.12	50.72	74.00	-23.28	Horizontal
7323.00	35.61	36.37	11.72	31.89	51.81	74.00	-22.19	Horizontal
9764.00	31.90	38.35	14.25	31.62	52.88	74.00	-21.12	Horizontal
12205.00	*					74.00		Horizontal
14646.00	*					74.00		Horizontal

Average value:

5								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4882.00	30.35	31.85	8.67	32.12	38.75	54.00	-15.25	Vertical
7323.00	24.47	36.37	11.72	31.89	40.67	54.00	-13.33	Vertical
9764.00	24.16	38.35	14.25	31.62	45.14	54.00	-8.86	Vertical
12205.00	*					54.00		Vertical
14646.00	*					54.00		Vertical
4882.00	33.29	31.85	8.67	32.12	41.69	54.00	-12.31	Horizontal
7323.00	26.96	36.37	11.72	31.89	43.16	54.00	-10.84	Horizontal
9764.00	24.57	38.35	14.25	31.62	45.55	54.00	-8.45	Horizontal
12205.00	*					54.00		Horizontal
14646.00	*					54.00		Horizontal

- 4. Final Level =Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor
- 5. The emission levels of other frequencies are very lower than the limit and not show in test report.
- 6. "*", means this data is the too weak instrument of signal is unable to test.



Test channel: Highest channel - π /4-DQPSK

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4960.00	39.72	31.93	8.73	32.16	48.22	74.00	-25.78	Vertical
7440.00	34.51	36.59	11.79	31.78	51.11	74.00	-22.89	Vertical
9920.00	32.14	38.81	14.38	31.88	53.45	74.00	-20.55	Vertical
12400.00	*					74.00		Vertical
14880.00	*					74.00		Vertical
4960.00	44.13	31.93	8.73	32.16	52.63	74.00	-21.37	Horizontal
7440.00	33.03	36.59	11.79	31.78	49.63	74.00	-24.37	Horizontal
9920.00	33.28	38.81	14.38	31.88	54.59	74.00	-19.41	Horizontal
12400.00	*					74.00		Horizontal
14880.00	*					74.00		Horizontal

Average value:

		1		1	1			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4960.00	27.83	31.93	8.73	32.16	36.33	54.00	-17.67	Vertical
7440.00	23.16	36.59	11.79	31.78	39.76	54.00	-14.24	Vertical
9920.00	20.40	38.81	14.38	31.88	41.71	54.00	-12.29	Vertical
12400.00	*					54.00		Vertical
14880.00	*					54.00		Vertical
4960.00	32.58	31.93	8.73	32.16	41.08	54.00	-12.92	Horizontal
7440.00	25.42	36.59	11.79	31.78	42.02	54.00	-11.98	Horizontal
9920.00	19.79	38.81	14.38	31.88	41.10	54.00	-12.90	Horizontal
12400.00	*					54.00		Horizontal
14880.00	*					54.00		Horizontal

- 4. Final Level =Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor
- 5. The emission levels of other frequencies are very lower than the limit and not show in test report.
 6. "*", means this data is the too weak instrument of signal is unable to test.



Test channel: Lowest channel-8-DPSK

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4804.00	40.64	31.78	8.60	32.09	48.93	74.00	-25.07	Vertical
7206.00	32.88	36.15	11.65	32.00	48.68	74.00	-25.32	Vertical
9608.00	29.27	37.95	14.14	31.62	49.74	74.00	-24.26	Vertical
12010.00	*					74.00		Vertical
14412.00	*					74.00		Vertical
4804.00	37.63	31.78	8.60	32.09	45.92	74.00	-28.08	Horizontal
7206.00	34.57	36.15	11.65	32.00	50.37	74.00	-23.63	Horizontal
9608.00	34.39	37.95	14.14	31.62	54.86	74.00	-19.14	Horizontal
12010.00	*					74.00		Horizontal
14412.00	*					74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4804.00	30.31	31.78	8.60	32.09	38.60	54.00	-15.40	Vertical
7206.00	24.83	36.15	11.65	32.00	40.63	54.00	-13.37	Vertical
9608.00	22.04	37.95	14.14	31.62	42.51	54.00	-11.49	Vertical
12010.00	*					54.00		Vertical
14412.00	*					54.00		Vertical
4804.00	33.69	31.78	8.60	32.09	41.98	54.00	-12.02	Horizontal
7206.00	25.72	36.15	11.65	32.00	41.52	54.00	-12.48	Horizontal
9608.00	24.21	37.95	14.14	31.62	44.68	54.00	-9.32	Horizontal
12010.00	*					54.00		Horizontal
14412.00	*					54.00		Horizontal

- 7. Final Level =Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor
- 8. The emission levels of other frequencies are very lower than the limit and not show in test report.
- 9. "*", means this data is the too weak instrument of signal is unable to test.



Test channel: Middle channel -8-DPSK

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4882.00	40.20	31.85	8.67	32.12	48.60	74.00	-25.40	Vertical
7323.00	35.70	36.37	11.72	31.89	51.90	74.00	-22.10	Vertical
9764.00	32.83	38.35	14.25	31.62	53.81	74.00	-20.19	Vertical
12205.00	*					74.00		Vertical
14646.00	*					74.00		Vertical
4882.00	37.46	31.85	8.67	32.12	45.86	74.00	-28.14	Horizontal
7323.00	30.39	36.37	11.72	31.89	46.59	74.00	-27.41	Horizontal
9764.00	30.17	38.35	14.25	31.62	51.15	74.00	-22.85	Horizontal
12205.00	*					74.00		Horizontal
14646.00	*					74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4882.00	30.36	31.85	8.67	32.12	38.76	54.00	-15.24	Vertical
7323.00	24.05	36.37	11.72	31.89	40.25	54.00	-13.75	Vertical
9764.00	22.43	38.35	14.25	31.62	43.41	54.00	-10.59	Vertical
12205.00	*					54.00		Vertical
14646.00	*					54.00		Vertical
4882.00	35.02	31.85	8.67	32.12	43.42	54.00	-10.58	Horizontal
7323.00	27.18	36.37	11.72	31.89	43.38	54.00	-10.62	Horizontal
9764.00	24.32	38.35	14.25	31.62	45.30	54.00	-8.70	Horizontal
12205.00	*					54.00		Horizontal
14646.00	*					54.00		Horizontal

- 7. Final Level =Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor
- 8. The emission levels of other frequencies are very lower than the limit and not show in test report.
- 9. "*", means this data is the too weak instrument of signal is unable to test.



Test channel: Highest channel -8DPSK

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4960.00	38.30	31.93	8.73	32.16	46.80	74.00	-27.20	Vertical
7440.00	35.66	36.59	11.79	31.78	52.26	74.00	-21.74	Vertical
9920.00	30.24	38.81	14.38	31.88	51.55	74.00	-22.45	Vertical
12400.00	*					74.00		Vertical
14880.00	*					74.00		Vertical
4960.00	41.28	31.93	8.73	32.16	49.78	74.00	-24.22	Horizontal
7440.00	36.74	36.59	11.79	31.78	53.34	74.00	-20.66	Horizontal
9920.00	34.89	38.81	14.38	31.88	56.20	74.00	-17.80	Horizontal
12400.00	*					74.00		Horizontal
14880.00	*					74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4960.00	29.92	31.93	8.73	32.16	38.42	54.00	-15.58	Vertical
7440.00	25.38	36.59	11.79	31.78	41.98	54.00	-12.02	Vertical
9920.00	24.25	38.81	14.38	31.88	45.56	54.00	-8.44	Vertical
12400.00	*					54.00		Vertical
14880.00	*					54.00		Vertical
4960.00	34.70	31.93	8.73	32.16	43.20	54.00	-10.80	Horizontal
7440.00	27.19	36.59	11.79	31.78	43.79	54.00	-10.21	Horizontal
9920.00	23.16	38.81	14.38	31.88	44.47	54.00	-9.53	Horizontal
12400.00	*					54.00		Horizontal
14880.00	*					54.00		Horizontal

- 7. Final Level =Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor
- 8. The emission levels of other frequencies are very lower than the limit and not show in test report.
- 9. "*", means this data is the too weak instrument of signal is unable to test.



7.3.3 Bandedge emissions

Test channe	el:			Lo	west channe	el -GFSK		
Peak value:								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	43.02	27.59	5.38	30.18	45.81	74.00	-28.19	Horizontal
2400.00	45.67	27.58	5.39	30.18	48.46	74.00	-25.54	Horizontal
2390.00	44.75	27.59	5.38	30.18	47.54	74.00	-26.46	Vertical
2400.00	43.12	27.58	5.39	30.18	45.91	74.00	-28.09	Vertical
Average val	ue:				-			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	33.49	27.59	5.38	30.18	36.28	54.00	-17.72	Horizontal
2400.00	33.03	27.58	5.39	30.18	35.82	54.00	-18.18	Horizontal
2390.00	33.85	27.59	5.38	30.18	36.64	54.00	-17.36	Vertical
2400.00	36.08	27.58	5.39	30.18	38.87	54.00	-15.13	Vertical

Test channel:	Highest channel -GFSK
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Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	44.71	27.53	5.47	29.93	47.78	74.00	-26.22	Horizontal
2500.00	42.88	27.55	5.49	29.93	45.99	74.00	-28.01	Horizontal
2483.50	44.12	27.53	5.47	29.93	47.19	74.00	-26.81	Vertical
2500.00	44.65	27.55	5.49	29.93	47.76	74.00	-26.24	Vertical

Average value:

7. Volago Valao.									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	
2483.50	34.45	27.53	5.47	29.93	37.52	54.00	-16.48	Horizontal	
2500.00	35.99	27.55	5.49	29.93	39.10	54.00	-14.90	Horizontal	
2483.50	34.74	27.53	5.47	29.93	37.81	54.00	-16.19	Vertical	
2500.00	34.28	27.55	5.49	29.93	37.39	54.00	-16.61	Vertical	

^{1.} Final Level =Receiver Read level + Antenna Factor + Cable Loss - Preamplifier Factor



Test channel:

Report No.: GTS201812000143F

Lowest channel - π /4-DQPSK

1 Oot onami	J				Woot on anni	51, 1 D Q1	O. C			
Peak value:										
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization		
2390.00	41.92	27.59	5.38	30.18	44.71	74.00	-29.29	Horizontal		
2400.00	48.44	27.58	5.39	30.18	51.23	74.00	-22.77	Horizontal		
2390.00	42.74	27.59	5.38	30.18	45.53	74.00	-28.47	Vertical		
2400.00	48.35	27.58	5.39	30.18	51.14	74.00	-22.86	Vertical		
Average val	ue:									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization		
2390.00	30.80	27.59	5.38	30.18	33.59	54.00	-20.41	Horizontal		
2400.00	41.65	27.58	5.39	30.18	44.44	54.00	-9.56	Horizontal		
2390.00	30.23	27.59	5.38	30.18	33.02	54.00	-20.98	Vertical		
2400.00	43.87	27.58	5.39	30.18	46.66	54.00	-7.34	Vertical		
Test channel: Peak value:				Hi	Highest channel - π /4-DQPSK					
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization		
2483.50	40.93	27.53	5.47	29.93	44.00	74.00	-30.00	Horizontal		
2500.00	40.55	27.55	5.49	29.93	43.66	74.00	-30.34	Horizontal		
2483.50	41.79	27.53	5.47	29.93	44.86	74.00	-29.14	Vertical		
2500.00	41.72	27.55	5.49	29.93	44.83	74.00	-29.17	Vertical		
Average val	ue:									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization		
2483.50	34.39	27.53	5.47	29.93	37.46	54.00	-16.54	Horizontal		
2500.00	36.41	27.55	5.49	29.93	39.52	54.00	-14.48	Horizontal		
2483.50	34.08	27.53	5.47	29.93	37.15	54.00	-16.85	Vertical		
2700.00	JT.00	27.00	0.47	20.00	07.10	0 1.00	10.00	Vortioai		

2500.00 Remark: 32.75

29.93

35.86

54.00

-18.14

5.49

27.55

Vertical

^{1.} Final Level = Receiver Read level + Antenna Factor + Cable Loss - Preamplifier Factor



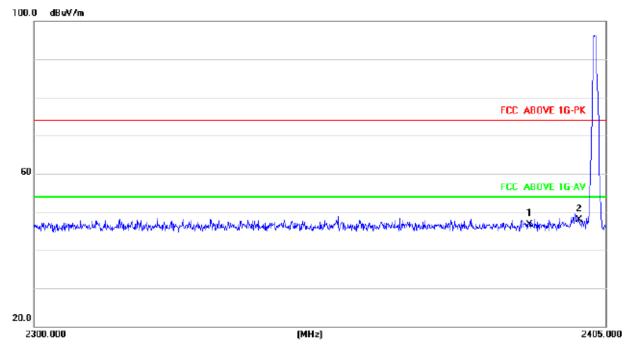
Test channe	d:			Lo	Lowest channel -8-DPSK				
Peak value:				<u> </u>					
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	
2390.00	39.62	27.59	5.38	30.18	42.41	74.00	-31.59	Horizontal	
2400.00	53.69	27.58	5.39	30.18	56.48	74.00	-17.52	Horizontal	
2390.00	40.41	27.59	5.38	30.18	43.20	74.00	-30.80	Vertical	
2400.00	53.73	27.58	5.39	30.18	56.52	74.00	-17.48	Vertical	
Average value	ue:	•		-	•				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	
2390.00	33.25	27.59	5.38	30.18	36.04	54.00	-17.96	Horizontal	
2400.00	41.65	27.58	5.39	30.18	44.44	54.00	-9.56	Horizontal	
2390.00	33.03	27.59	5.38	30.18	35.82	54.00	-18.18	Vertical	
2400.00	43.97	27.58	5.39	30.18	46.76	54.00	-7.24	Vertical	
Test channel: Peak value:				Highest channel -8-DPSK					
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	
2483.50	43.71	27.53	5.47	29.93	46.78	74.00	-27.22	Horizontal	
2500.00	44.81	27.55	5.49	29.93	47.92	74.00	-26.08	Horizontal	
2483.50	43.24	27.53	5.47	29.93	46.31	74.00	-27.69	Vertical	
2500.00	41.03	27.55	5.49	29.93	44.14	74.00	-29.86	Vertical	
Average value	ue:								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	
2483.50	32.91	27.53	5.47	29.93	35.98	54.00	-18.02	Horizontal	
2500.00	33.04	27.55	5.49	29.93	36.15	54.00	-17.85	Horizontal	
2483.50	34.26	27.53	5.47	29.93	37.33	54.00	-16.67	Vertical	

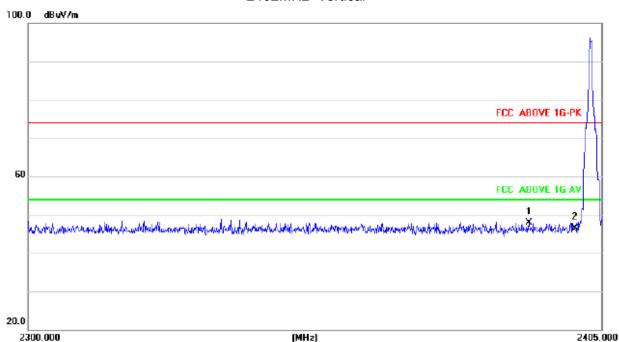
^{1.}Final Level =Receiver Read level + Antenna Factor + Cable Loss - Preamplifier Factor



GFSK

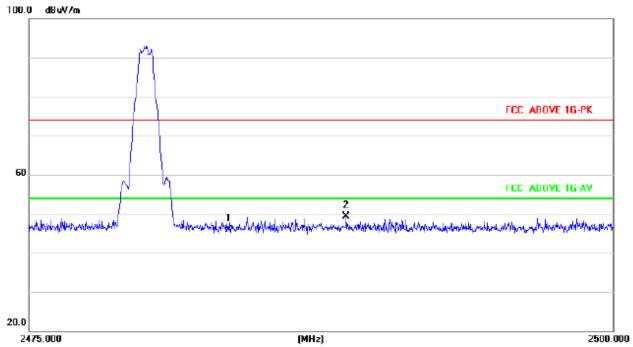
2402MHz Horizontal

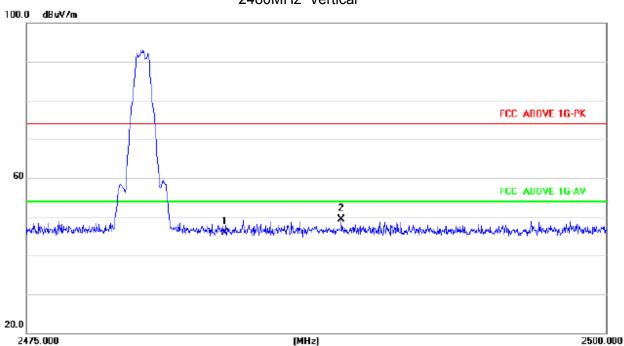






2480MHz Horizontal

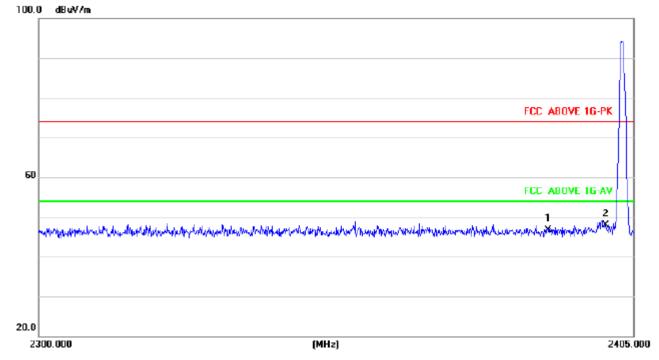


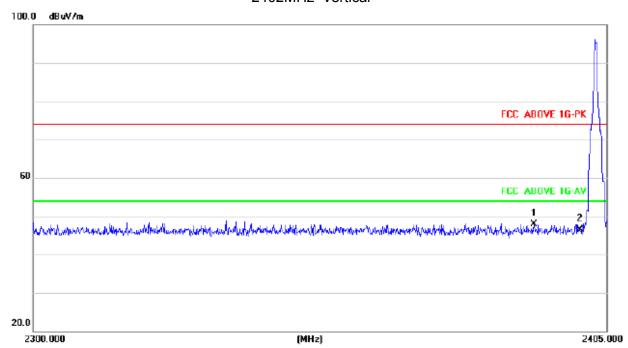




PI/4 DPSK

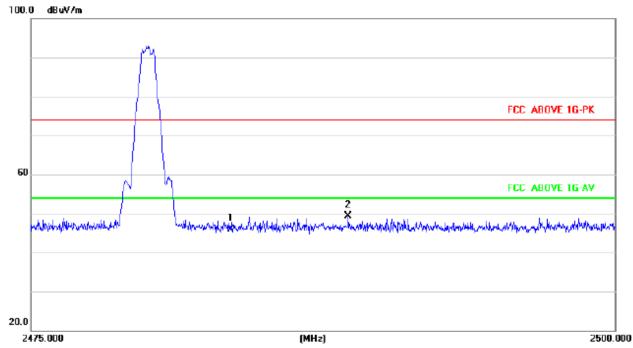
2402MHz Horizontal

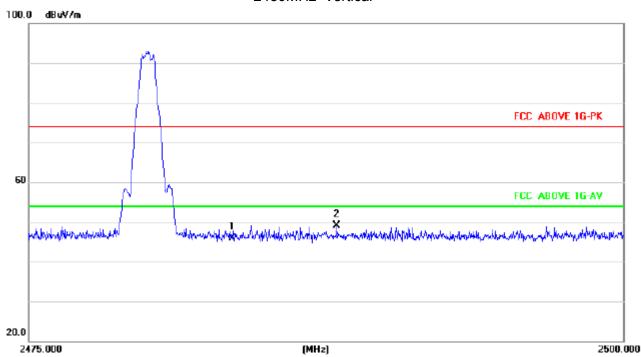






2480MHz Horizonta

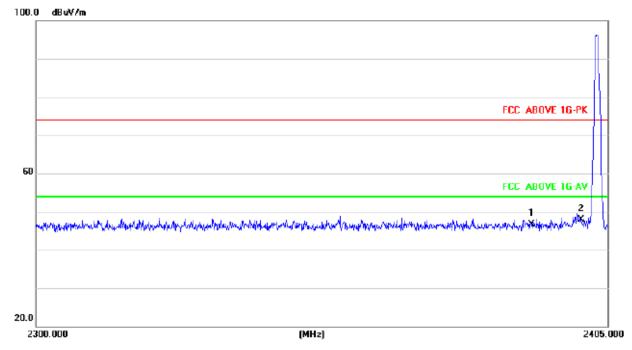




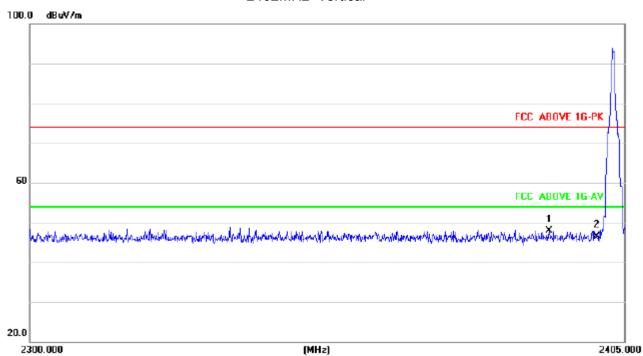


8DPSK

2402MHz Horizontal

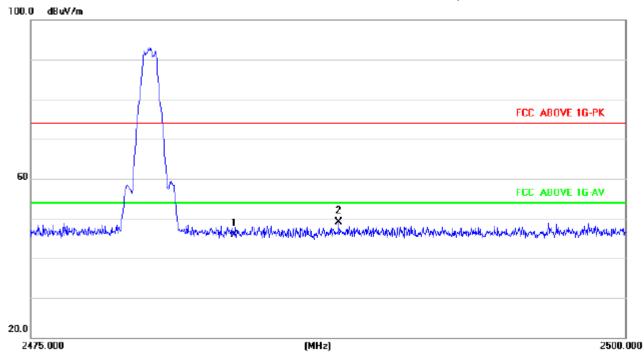


2402MHz Vertical

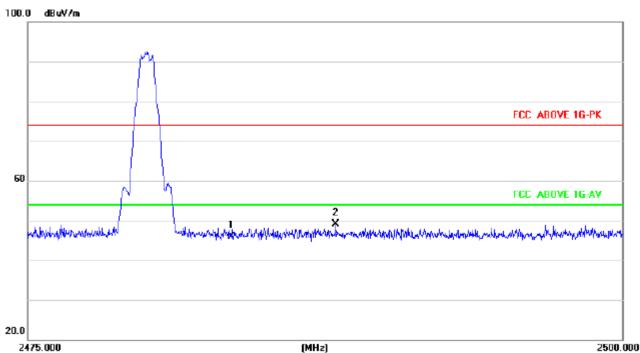


2480MHz Horizonta





2480MHz Vertical





7.4 20dB Occupy Bandwidth

Test Requirement:	FCC Part15 C Section 15.249/15.215	
Test Method:	ANSI C63.10:2013	
Limit:	Operation Frequency range 2400MHz~2483.5MHz	
Test setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane	
Test Instruments:	Refer to section 6.0 for details	
Test mode:	Refer to section 5.2 for details	
Test results:	Pass	

Measurement Data

EUT:	80W Mini Bluetooth Amplifier	Model Name. :	36376
Temperature :	26 ℃	Relative Humidity:	54%
Test Voltage :	AC 120V/60Hz	Pressure :	1010hPa
Test Mode:	Transmitting mode(GFSK, π /4-DQPSK, 8-DPSK)		

	Test channel	20dB bandwidth(MHz)	Result
GFSK	Lowest	1.079	Pass
	Middle	1.105	Pass
	Highest	1.095	Pass

	Test channel	20dB bandwidth(MHz)	Result
	Lowest	1.376	Pass
π /4-DQPSK	Middle	1.383	Pass
	Highest	1.381	Pass

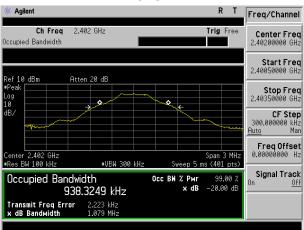
	Test channel	20dB bandwidth(MHz)	Result
	Lowest	1.388	Pass
8-DPSK	Middle	1.414	Pass
	Highest	1.408	Pass



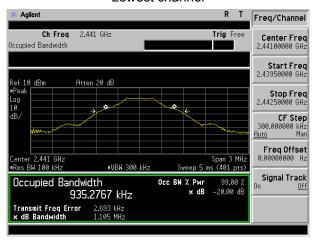
Test plot as follows:

Report No.: GTS201812000143F

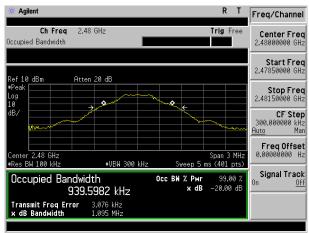
GFSK



Lowest channel



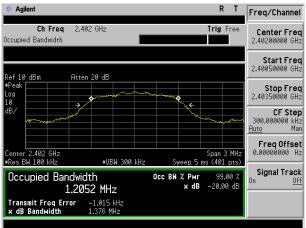
Middle channel



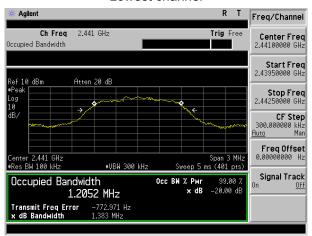
Highest channel



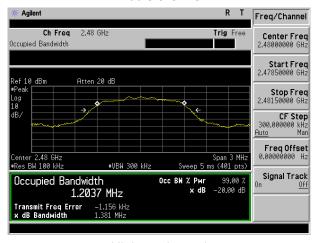
π /4-DQPSK



Lowest channel



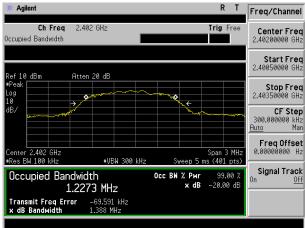
Middle channel



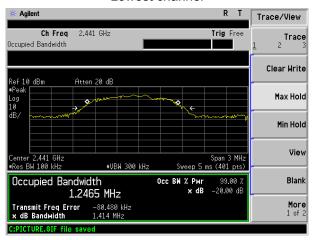
Highest channel



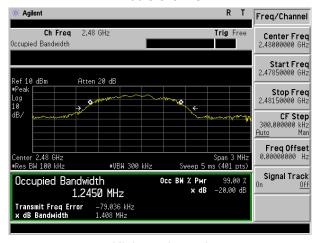
8-DPSK



Lowest channel



Middle channel

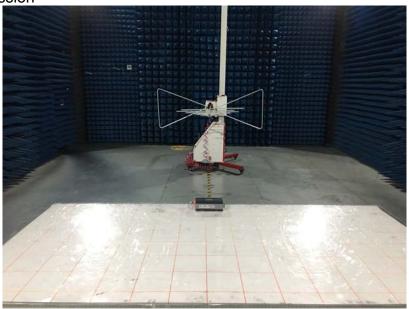


Highest channel



8 Test Setup Photo

Radiated Emission







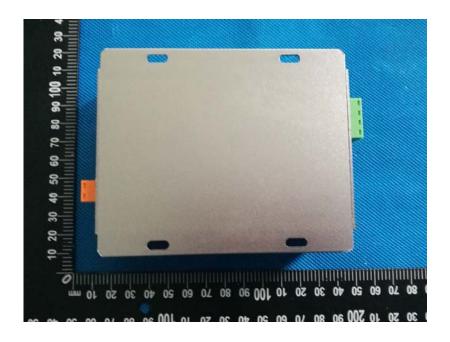
Conducted Emission





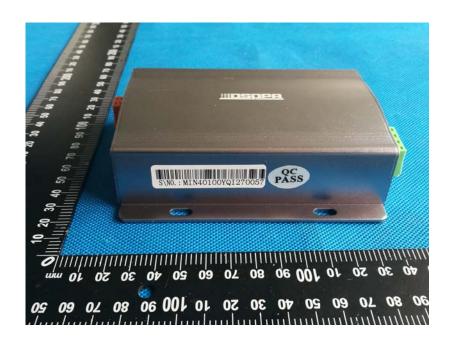
9 EUT Constructional Details



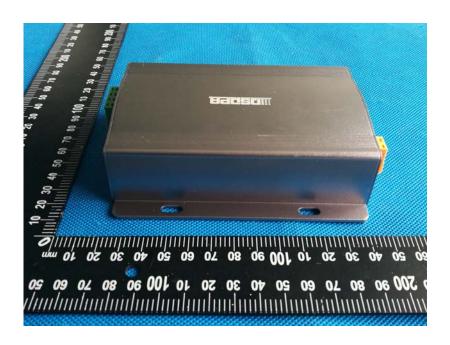




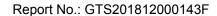






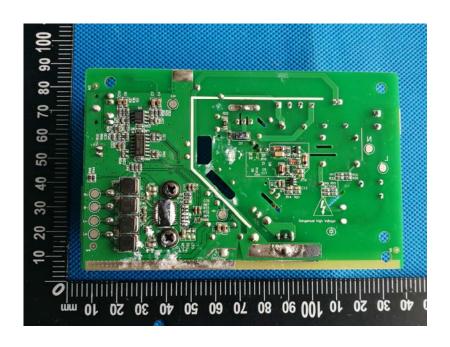




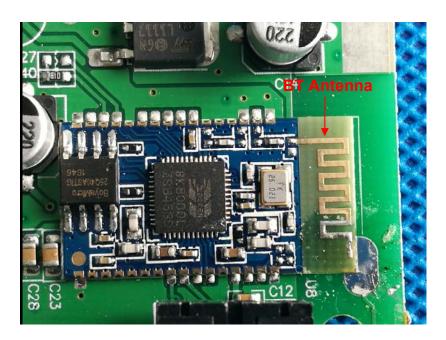












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