

Shenzhen Toby Technology Co., Ltd.

Report No.: TB-FCC150612 1 of 92 Page:

FCC Radio Test Report FCC ID: 2AC5EHP-6250ABT

Original Grant

Report No. TB-FCC150612

HIGH HIT ENTERPRISE CO., LTD. **Applicant**

Equipment Under Test (EUT)

PA ACTIVE STEREO SPEAKER BUILT IN BLUETOOTH **EUT Name**

HP-6250AUBT Model No.

Series Model No. Please see the page of 4

Brand Name HIhits

Receipt Date 2016-11-29

Test Date 2016-11-30 to 2016-12-08

Issue Date 2016-12-09

Standards FCC Part 15: 2016, Subpart C(15.247)

Test Method ANSI C63.10: 2013

Conclusions PASS

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

The EUT technically complies with the FCC requirements

Test/Witness Engineer

Approved& Authorized

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in the report.

TB-RF-074-1.0

Tel: +86 75526509301

Fax: +86 75526509195



Page: 2 of 92

Contents

1EN15	
GENERAL INFORMATION ABOUT EUT	∠
1.1 Client Information	∠
1.2 General Description of EUT (Equipment Under Test)	
1.3 Block Diagram Showing the Configuration of System Tested	5
1.5 Description of Test Mode	6
1.6 Description of Test Software Setting	<i>.</i>
TEST SUMMARY	8
TEST EQUIPMENT	9
CONDUCTED EMISSION TEST	10
4.1 Test Standard and Limit	10
4.4 EUT Operating Mode	11
4.5 Test Data	11
RADIATED EMISSION TEST	16
5.1 Test Standard and Limit	16
5.3 Test Procedure	18
5.4 EUT Operating Condition	18
RESTRICTED BANDS REQUIREMENT	37
6.1 Test Standard and Limit	37
6.2 Test Setup	37
6.3 Test Procedure	37
6.4 EUT Operating Condition	38
6.4 Test Data	38
NUMBER OF HOPPING CHANNEL	51
7.1 Test Standard and Limit	51
7.2 Test Setup	51
7.4 EUT Operating Condition	51
7.5 Test Data	51
AVERAGE TIME OF OCCUPANCY	53
8.1 Test Standard and Limit	53
	GENERAL INFORMATION ABOUT EUT 1.1 Client Information. 1.2 General Description of EUT (Equipment Under Test) 1.3 Block Diagram Showing the Configuration of System Tested 1.4 Description of Support Units 1.5 Description of Test Mode. 1.6 Description of Test Software Setting 1.7 Measurement Uncertainty 1.8 Test Facility. TEST SUMMARY. TEST EQUIPMENT CONDUCTED EMISSION TEST. 4.1 Test Standard and Limit. 4.2 Test Setup. 4.3 Test Procedure. 4.4 EUT Operating Mode 4.5 Test Data. RADIATED EMISSION TEST. 5.1 Test Standard and Limit. 5.2 Test Setup. 5.3 Test Procedure. 5.4 EUT Operating Condition. RESTRICTED BANDS REQUIREMENT 6.1 Test Standard and Limit. 6.2 Test Setup. 6.3 Test Procedure. 6.4 EUT Operating Condition. RESTRICTED BANDS REQUIREMENT 6.1 Test Standard and Limit. 6.2 Test Setup. 7.3 Test Procedure. 7.4 EUT Operating Condition. 7.5 Test Standard and Limit. 7.7 Test Standard and Limit. 7.1 Test Standard and Limit. 7.2 Test Setup. 7.3 Test Procedure. 7.4 EUT Operating Condition. 7.5 Test Data. NUMBER OF HOPPING CHANNEL. 7.1 Test Standard and Limit. 7.2 Test Setup. 7.3 Test Procedure. 7.4 EUT Operating Condition. 7.5 Test Data. AVERAGE TIME OF OCCUPANCY. 8.1 Test Standard and Limit. 8.2 Test Setup. 8.3 Test Procedure.



Report No.: TB-FCC150612
Page: 3 of 92

	8.4 EUT Operating Condition	53
	8.5 Test Data	
9.	CHANNEL SEPARATION AND BANDWIDTH TEST	72
	9.1 Test Standard and Limit	72
	9.2 Test Setup	
	9.3 Test Procedure	
	9.4 EUT Operating Condition	
	9.5 Test Data	
10.	PEAK OUTPUT POWER TEST	85
	10.1 Test Standard and Limit	85
	10.2 Test Setup	85
	10.3 Test Procedure	85
	10.4 EUT Operating Condition	85
	10.5 Test Data	86
11.	ANTENNA REQUIREMENT	
	11.1 Standard Requirement	92
	11.2 Antenna Connected Construction	92



Page: 4 of 92

1. General Information about EUT

1.1 Client Information

Applicant: HIGH HIT ENTERPRISE CO., LTD.

Address: 6F-3,NO.29-1,LANE 169,KANG-NING ST.,SHI-CHIH CITY, TAIPEI

HSIEN, TAIWAN

Manufacturer : HIGH HIT ELECTRONICS(SHENZHEN)CO., LTD

Address : BUILDING 25, AREA C, BUYONG INDUSTRIAL RD., SHAJING

TOWN, BAOAN ZONE, SHENZHEN CITY, CHINA

1.2 General Description of EUT (Equipment Under Test)

EUT Name	A	PA ACTIVE STEREO SPE	AKER BUILT IN BLUETOOTH
Models No.		HP-6250AUBT, HP-6250Abt, HP-6250AU, HP-6250A, HP-5240AU, HP-5240A, HP-5240AUbt, HP-5240Abt, HY-513A40, HY-513A40Ubt	
Model Difference):	and the second s	ntical in the same PCB layout and electrical is model name for commercial.
		Operation Frequency:	Bluetooth: 2402~2480 MHz
		Number of Channel:	Bluetooth: 79 Channels see Note 2
Product		Max Peak Output Power:	Bluetooth: 4.300 dBm(GFSK)
Description		Antenna Gain:	0 dBi PCB Antenna
a Tubb		Modulation Type:	GFSK 1Mbps(1 Mbps) π /4-DQPSK(2 Mbps) 8-DPSK(3 Mbps)
Power Supply	÷	DC Voltage supplied from	Switching Adapter.
Power Rating	:	Input: AC 100-240V~50/60Hz 1.5A Output: 20V3.0A	
Connecting I/O Port(S)	•	Please refer to the User's Manual	

Note:

(1) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

(2) Channel List:

		Bluetooth	Channel List		
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
00	2402	27	2429	54	2456
01	2403	28	2430	55	2457
02	2404	29	2431	56	2458



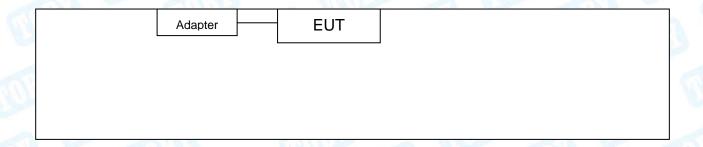
Page: 5 of 92

03	2405	30	2432	57	2459
04	2406	31	2433	58	2460
05	2407	32	2434	59	2461
06	2408	33	2435	60	2462
07	2409	34	2436	61	2463
08	2410	35	2437	62	2464
09	2411	36	2438	63	2465
10	2412	37	2439	64	2466
11	2413	38	2440	65	2467
12	2414	39	2441	66	2468
13	2415	40	2442	67	2469
14	2416	41	2443	68	2470
15	2417	42	2444	69	2471
16	2418	43	2445	70	2472
17	2419	44	2446	71	2473
18	2420	45	2447	72	2474
19	2421	46	2448	73	2475
20	2422	47	2449	74	2476
21	2423	48	2450	75	2477
22	2424	49	2451	76	2478
23	2425	50	2452	77	2479
24	2426	51	2453	78	2480
25	2427	52	2454	Millon	
26	2428	53	2455	511	- C4:1

(3) The Antenna information about the equipment is provided by the applicant.

1.3 Block Diagram Showing the Configuration of System Tested

AC Charging with TX Mode



1.4 Description of Support Units

The EUT has been test as an independent unit



Page: 6 of 92

1.5 Description of Test Mode

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned follow was evaluated respectively.

For	Conducted Test
Final Test Mode	Description
Mode 1	AC Charging with TX GFSK Mode

For Radiated Test		
Final Test Mode	Description	
Mode 1	AC Charging with TX GFSK Mode	
Mode 2	TX Mode(GFSK) Channel 00/39/78	
Mode 3	TX Mode(π /4-DQPSK) Channel 00/39/78	
Mode 4	TX Mode(8-DPSK) Channel 00/39/78	
Mode 5	Hopping Mode(GFSK)	
Mode 6	Hopping Mode(π /4-DQPSK)	
Mode 7	Hopping Mode(8-DPSK)	

Note:

(1) For all test, we have verified the construction and function in typical operation. And all the test modes were carried out with the EUT in transmitting operation in maximum power with all kinds of data rate. We have pretested all the test modes above.

According to ANSI C63.10 standards, the measurements are performed at the highest, middle, lowest available channels, and the worst case data rate as follows:

TX Mode: GFSK (1 Mbps)
TX Mode: π /4-DQPSK (2 Mbps)
TX Mode: 8-DPSK (3Mbps)

(2) The EUT is considered a portable unit; it was pre-tested on the positioned of each 3 axis, X-plane, Y-plane and Z-plane. The worst case was found positioned on X-plane as the normal use. Therefore only the test data of this X-plane was used for radiated emission measurement test.

1.6 Description of Test Software Setting

During testing channel power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of Bluetooth mode.



Page: 7 of 92

Test Software Version	Authentication Test Tool For EC/FCC		
Frequency	2402 MHz	2441MHz	2480 MHz
GFSK	DEF	DEF	DEF
π /4-DQPSK	DEF	DEF	DEF
8-DPSK	DEF	DEF	DEF

1.7 Measurement Uncertainty

The reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

Test Item	Parameters	Expanded Uncertainty (U _{Lab})
	Level Accuracy:	
Conducted Emission	9kHz~150kHz	±3.42 dB
UID _ CEL	150kHz to 30MHz	±3.42 dB
Dadiated Emission	Level Accuracy:	.4 CO dD
Radiated Emission	9kHz to 30 MHz	±4.60 dB
Dedicted Emission	Level Accuracy:	.4.40 dD
Radiated Emission	30MHz to 1000 MHz	±4.40 dB
Dadiated Emission	Level Accuracy:	.4.20 dD
Radiated Emission	Above 1000MHz	±4.20 dB

1.8 Test Facility

The testing report were performed by the Shenzhen Toby Technology Co., Ltd., in their facilities located at 1A/F., Bldg.6, Yusheng Industrial Zone, The National Road No.107 Xixiang Section 467, Xixiang, Bao'an, Shenzhen, Guangdong, China. At the time of testing, the following bodies accredited the Laboratory:

CNAS (L5813)

The Laboratory has been accredited by CNAS to ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories for the competence in the field of testing. And the Registration No.: CNAS L5813.

FCC List No.: (811562)

The Laboratory is listed in the United States of American Federal Communications Commission (FCC), and the registration number is 811562.

IC Registration No.: (11950A-1)

The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing. The site registration: Site# 11950A-1.



Page: 8 of 92

2. Test Summary

	F	CC Part 15 Subpart C(15.247)/ RSS	247 Issue 1	
Standard Section FCC IC		T		_
		Test Item	Judgment	Remark
15.203	1	Antenna Requirement	PASS	N/A
15.207	RSS-GEN 7.2.2	Conducted Emission	PASS	N/A
15.205	RSS-Gen 7.2.3	Restricted Bands	PASS	N/A
15.247(a)(1)	RSS 247 5.1 (2)	Hopping Channel Separation	PASS	N/A
15.247(a)(1)	RSS 247 5.1 (4)	Dwell Time	PASS	N/A
15.247(b)(1)	RSS 247 5.4 (2)	Peak Output Power	PASS	N/A
15.247(b)(1)	RSS 247 5.1 (4)	Number of Hopping Frequency	PASS	N/A
15.247(c)& 15.209	RSS 247 5.5	Radiated Spurious Emission	PASS	N/A
15.247(a)	RSS 247 5.1 (1)	99% Occupied Bandwidth & 20dB Bandwidth	PASS	99%OBW GFSK:928.7023kHz π/4-DQPSK: 1189.20kHz 8-DPSK: 1171.30KHz

Note: N/A is an abbreviation for Not Applicable.



Page: 9 of 92

3. Test Equipment

AC Main C	Conducted Emiss	sion			
Description	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due Date
EMI Test Receiver	ROHDE& SCHWARZ	ESCI	100321	Jul. 22, 2016	Jul. 21, 2017
RF Switching Unit	Compliance Direction Systems Inc	RSU-A4	34403	Jul. 22, 2016	Jul. 21, 2017
L.I.S.N	Rohde & Schwarz	ENV216	101131	Jul. 22, 2016	Jul. 21, 2017
L.I.S.N	SCHWARZBECK	NNBL 8226-2	8226-2/164	Jul. 22, 2016	Jul. 21, 2017
Radiation	Spurious Emiss	ion			
Description	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	E4407B	MY45106456	Jul. 22, 2016	Jul. 21, 2017
EMI Test Receiver	Rohde & Schwarz	ESPI	100010/007	Jul. 22, 2016	Jul. 21, 2017
Bilog Antenna	ETS-LINDGREN	3142E	00117537	Mar. 20, 2016	Mar. 19, 2017
Horn Antenna	ETS-LINDGREN	3117	00143207	Mar. 19, 2016	Mar. 18, 2017
Pre-amplifier	Sonoma	310N	185903	Mar. 20, 2016	Mar. 19, 2017
Pre-amplifier	HP	8447B	3008A00849	Mar. 26, 2016	Mar. 25, 2017
Loop Antenna	Laplace instrument	RF300	0701	Mar. 19, 2016	Mar. 18, 2017
Cable	HUBER+SUHNER	100	SUCOFLEX	Mar. 26, 2016	Mar. 25, 2017
Positioning Controller	ETS-LINDGREN	2090	N/A	N/A	N/A
Antenna C	Conducted Emiss	sion			
Description	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	E4407B	MY45106456	Jul. 22, 2016	Jul. 21, 2017
Spectrum Analyzer	Rohde & Schwarz	ESCI	100321	Jul. 22, 2016	Jul. 21, 2017



Page: 10 of 92

4. Conducted Emission Test

4.1 Test Standard and Limit

4.1.1Test Standard FCC Part 15.207

4.1.2 Test Limit

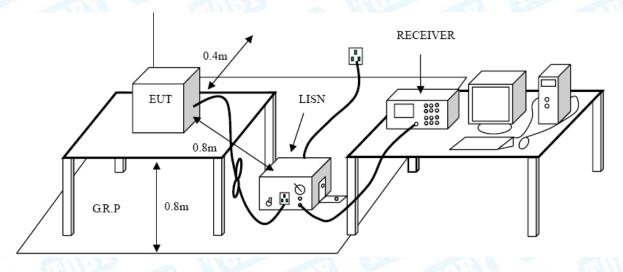
Conducted Emission Test Limit

Eroguanov	Maximum RF Lin	e Voltage (dBμV)
Frequency	Quasi-peak Level	Average Level
150kHz~500kHz	66 ~ 56 *	56 ~ 46 *
500kHz~5MHz	56	46
5MHz~30MHz	60	50

Notes:

- (1) *Decreasing linearly with logarithm of the frequency.
- (2) The lower limit shall apply at the transition frequencies.
- (3) The limit decrease in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

4.2 Test Setup



4.3 Test Procedure

The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/50uH of coupling impedance for the measuring instrument.

Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.



Report No.: TB-FCC150612 11 of 92

Page:

I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

LISN at least 80 cm from nearest part of EUT chassis

The bandwidth of EMI test receiver is set at 9kHz, and the test frequency band is from 0.15MHz to 30MHz.

4.4 EUT Operating Mode

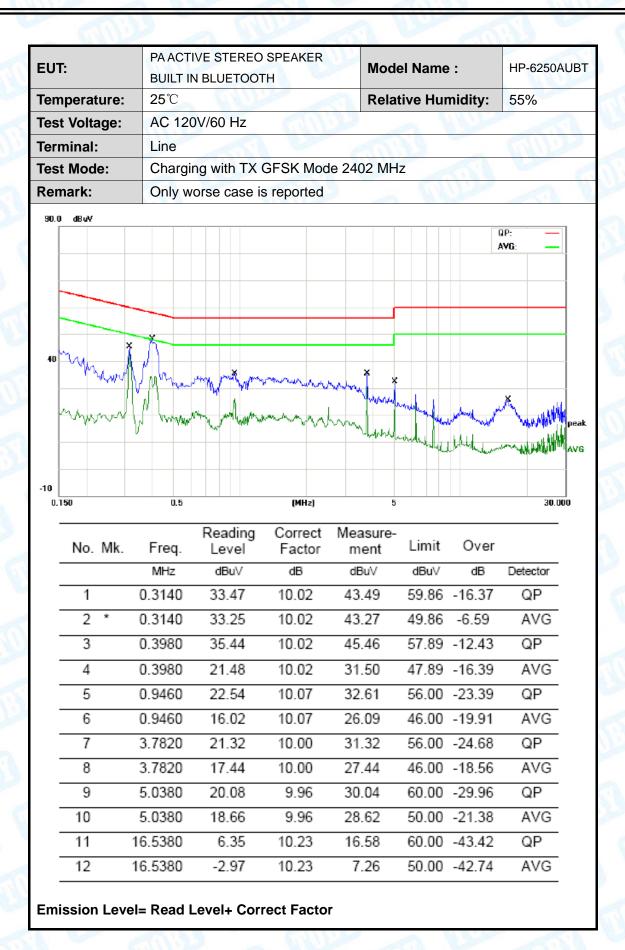
Please refer to the description of test mode.

4.5 Test Data

Test data please refer the following pages.

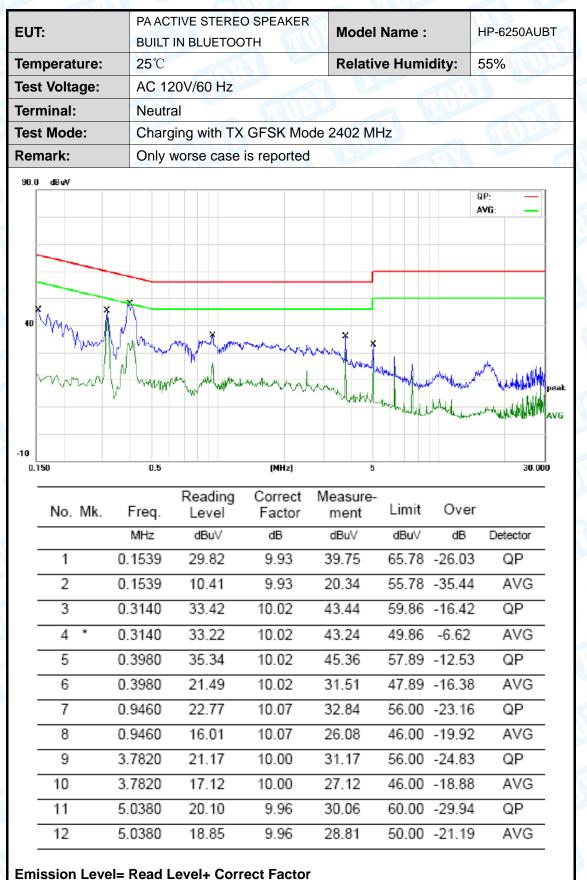


12 of 92 Page:





Page: 13 of 92





14 of 92 Page:

90.0 dBw/ QP: AVG: AVG: AVG AVG	EUT:		VE STEREO		Model Na	me :	HP-6250AUB1
Test Voltage: AC 240V/60 Hz Terminal: Line Charging with TX GFSK Mode 2402 MHz Only worse case is reported No. Mk. Freq. Reading Level Factor Ment Limit Over MHz dBuV dB dBuV dB dBuV dB Detector 1 0.1580 27.96 9.94 37.90 65.56 -27.66 QP 2 0.1580 11.26 9.94 21.20 55.56 -34.36 AVG 3 0.3140 34.26 10.02 44.28 59.86 -15.58 QP 4 * 0.3140 33.30 10.02 43.32 49.86 -6.54 AVG 5 0.4260 35.60 10.02 45.62 57.33 -11.71 QP 6 0.4260 21.98 10.02 32.00 47.33 -15.33 AVG 7 0.9460 26.30 10.07 36.37 56.00 -19.63 QP 8 0.9460 17.60 10.07 27.67 46.00 -18.33 AVG 9 1.3099 24.41 10.06 34.47 56.00 -21.53 QP 10 1.3099 10.70 10.06 20.76 46.00 -25.24 AVG			I BLUETOOT	Н	5.1.41.11		550/
Terminal: Line Test Mode: Charging with TX GFSK Mode 2402 MHz Only worse case is reported 10			1112		Relative F	Humidity:	55%
Test Mode: Charging with TX GFSK Mode 2402 MHz Remark: Only worse case is reported 90.0 delw No. Mk. Freq. Reading Correct Factor ment Limit Over			V/60 Hz	William .		Ribber	
No. Mk. Freq. Reading Correct Measure Limit Over No. Mk. Freq. Level Factor ment Limit Over No. Mk. No. Mk. Freq. Level Factor Measure Limit Over No. Mk. No.			1		ALL DE		CALL STREET
No. Mk. Freq. Reading Correct Measure— Limit Over MHz		Chargin	ng with TX	GFSK Mode	2402 MHz		
No. Mk. Freq. Reading Level Factor Measure Limit Over MHz	Remark:	Only wo	orse case is	s reported	- N	MAL	
No. Mk. Freq. Reading Level Factor Measure ment Limit Over MHz dBuV dB dBuV dB Detector	90.0 dBuV						
No. Mk. Freq. Reading Correct Measurement Limit Over MHz dBuV dB dBuV dB dBuV dB Detector							
No. Mk. Freq. Reading Correct Measurement Limit Over MHz dBuV dB dBuV dB dBuV dB Detector							
No. Mk. Freq. Reading Correct Measurement Limit Over MHz dBuV dB dBuV dB dBuV dB Detector							
No. Mk. Freq. Reading Correct Measurement Limit Over MHz dBuV dB dBuV dB dBuV dB Detector							
No. Mk. Freq. Reading Correct Measurement Limit Over MHz dBuV dB dBuV dB dBuV dB Detector							
No. Mk. Freq. Reading Correct Measurement Limit Over MHz dBuV dB dBuV dB dBuV dB Detector	40 XM		Ų.				
No. Mk. Freq. Reading Level Factor ment Limit Over MHz	10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	MM VM	The same of the same of	A CONTRACTOR OF THE PARTY OF TH	×		
No. Mk. Freq. Reading Level Factor ment Limit Over MHz	MV				7 da 1		
No. Mk. Freq. Reading Level Factor ment Limit Over MHz	, WV	() \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	W N		THE WAY A	ı	. A
No. Mk. Freq. Reading Correct Measure Limit Over	~~~~~			and a	NO.	Angelow Maderial part	contract ANN
No. Mk. Freq. Level Practor Factor Measure-Factor Members Limit Limit Display Over Limit Display 1 0.1580 27.96 9.94 37.90 65.56 -27.66 QP 2 0.1580 11.26 9.94 21.20 55.56 -34.36 AVG 3 0.3140 34.26 10.02 44.28 59.86 -15.58 QP 4 0.3140 33.30 10.02 43.32 49.86 -6.54 AVG 5 0.4260 35.60 10.02 45.62 57.33 -11.71 QP 6 0.4260 21.98 10.02 32.00 47.33 -15.33 AVG 7 0.9460 26.30 10.07 27.67 46.00 -18.33 AVG 9 1.3099 24.41 10.06 34.47 56.00 -21.53 QP 10 1.3099 10.70 10.06 20.76 46.00 -25.24 AVG	****			wand	Mary Mary	handar Mada da	peak
No. Mk. Freq. Reading Level Correct Factor Measurement ment ment Limit Limit Limit Over 1 0.1580 27.96 9.94 37.90 65.56 -27.66 QP 2 0.1580 11.26 9.94 21.20 55.56 -34.36 AVG 3 0.3140 34.26 10.02 44.28 59.86 -15.58 QP 4 * 0.3140 33.30 10.02 43.32 49.86 -6.54 AVG 5 0.4260 35.60 10.02 45.62 57.33 -11.71 QP 6 0.4260 21.98 10.02 32.00 47.33 -15.33 AVG 7 0.9460 26.30 10.07 27.67 46.00 -18.33 AVG 9 1.3099 24.41 10.06 34.47 56.00 -21.53 QP 10 1.3099 10.70 10.06 20.76 46.00 -25.24 AVG	****		War Mary	which	Marine Marine	Landon Maria de Lango de la Constante de la Co	العاملية وروني
No. Mk. Freq. Level Factor ment Limit Over MHz dBuV dB dBuV dBuV dB Detector 1 0.1580 27.96 9.94 37.90 65.56 -27.66 QP 2 0.1580 11.26 9.94 21.20 55.56 -34.36 AVG 3 0.3140 34.26 10.02 44.28 59.86 -15.58 QP 4 * 0.3140 33.30 10.02 43.32 49.86 -6.54 AVG 5 0.4260 35.60 10.02 45.62 57.33 -11.71 QP 6 0.4260 21.98 10.02 32.00 47.33 -15.33 AVG 7 0.9460 26.30 10.07 36.37 56.00 -19.63 QP 8 0.9460 17.60 10.07 27.67 46.00 -18.33 AVG 9 1.3099 24.41			W. J.	white		hander Marie Lander	العاملية بروني
No. Mk. Freq. Level Factor ment Limit Over MHz dBuV dB dBuV dBuV dB Detector 1 0.1580 27.96 9.94 37.90 65.56 -27.66 QP 2 0.1580 11.26 9.94 21.20 55.56 -34.36 AVG 3 0.3140 34.26 10.02 44.28 59.86 -15.58 QP 4 * 0.3140 33.30 10.02 43.32 49.86 -6.54 AVG 5 0.4260 35.60 10.02 45.62 57.33 -11.71 QP 6 0.4260 21.98 10.02 32.00 47.33 -15.33 AVG 7 0.9460 26.30 10.07 36.37 56.00 -19.63 QP 8 0.9460 17.60 10.07 27.67 46.00 -18.33 AVG 9 1.3099 24.41	-10	Wy Com-	War Mary	(MHz)	5	hander who de consider in	AVG
1 0.1580 27.96 9.94 37.90 65.56 -27.66 QP 2 0.1580 11.26 9.94 21.20 55.56 -34.36 AVG 3 0.3140 34.26 10.02 44.28 59.86 -15.58 QP 4 * 0.3140 33.30 10.02 43.32 49.86 -6.54 AVG 5 0.4260 35.60 10.02 45.62 57.33 -11.71 QP 6 0.4260 21.98 10.02 32.00 47.33 -15.33 AVG 7 0.9460 26.30 10.07 36.37 56.00 -19.63 QP 8 0.9460 17.60 10.07 27.67 46.00 -18.33 AVG 9 1.3099 24.41 10.06 34.47 56.00 -21.53 QP 10 1.3099 10.70 10.06 20.76 46.00 -25.24 AVG	-10	Wy Com-	Peading			Land on Market Consideration	AVG
2 0.1580 11.26 9.94 21.20 55.56 -34.36 AVG 3 0.3140 34.26 10.02 44.28 59.86 -15.58 QP 4 0.3140 33.30 10.02 43.32 49.86 -6.54 AVG 5 0.4260 35.60 10.02 45.62 57.33 -11.71 QP 6 0.4260 21.98 10.02 32.00 47.33 -15.33 AVG 7 0.9460 26.30 10.07 36.37 56.00 -19.63 QP 8 0.9460 17.60 10.07 27.67 46.00 -18.33 AVG 9 1.3099 24.41 10.06 34.47 56.00 -21.53 QP 10 1.3099 10.70 10.06 20.76 46.00 -25.24 AVG	-10 0.150	0.5	_	Correct M	easure-	t Over	AVG
3 0.3140 34.26 10.02 44.28 59.86 -15.58 QP 4 * 0.3140 33.30 10.02 43.32 49.86 -6.54 AVG 5 0.4260 35.60 10.02 45.62 57.33 -11.71 QP 6 0.4260 21.98 10.02 32.00 47.33 -15.33 AVG 7 0.9460 26.30 10.07 36.37 56.00 -19.63 QP 8 0.9460 17.60 10.07 27.67 46.00 -18.33 AVG 9 1.3099 24.41 10.06 34.47 56.00 -21.53 QP 10 1.3099 10.70 10.06 20.76 46.00 -25.24 AVG	-10 0.150	0.5	Level	Correct M Factor	easure- ment Limi		30.000
3 0.3140 34.26 10.02 44.28 59.86 -15.58 QP 4 * 0.3140 33.30 10.02 43.32 49.86 -6.54 AVG 5 0.4260 35.60 10.02 45.62 57.33 -11.71 QP 6 0.4260 21.98 10.02 32.00 47.33 -15.33 AVG 7 0.9460 26.30 10.07 36.37 56.00 -19.63 QP 8 0.9460 17.60 10.07 27.67 46.00 -18.33 AVG 9 1.3099 24.41 10.06 34.47 56.00 -21.53 QP 10 1.3099 10.70 10.06 20.76 46.00 -25.24 AVG	-10 0.150 No. Mk.	0.5 Freq. MHz	Level dBu∀	Correct M Factor	easure- ment Limi dBuV dBu\	/ dB	30.000 Detector
4 * 0.3140 33.30 10.02 43.32 49.86 -6.54 AVG 5 0.4260 35.60 10.02 45.62 57.33 -11.71 QP 6 0.4260 21.98 10.02 32.00 47.33 -15.33 AVG 7 0.9460 26.30 10.07 36.37 56.00 -19.63 QP 8 0.9460 17.60 10.07 27.67 46.00 -18.33 AVG 9 1.3099 24.41 10.06 34.47 56.00 -21.53 QP 10 1.3099 10.70 10.06 20.76 46.00 -25.24 AVG	-10 0.150 No. Mk.	0.5 Freq. MHz 0.1580	dBuV 27.96	Correct M Factor dB	easure- ment Limi dBuV dBu\ 37.90 65.5	/ dB 6 -27.66	30.000 Detector QP
5 0.4260 35.60 10.02 45.62 57.33 -11.71 QP 6 0.4260 21.98 10.02 32.00 47.33 -15.33 AVG 7 0.9460 26.30 10.07 36.37 56.00 -19.63 QP 8 0.9460 17.60 10.07 27.67 46.00 -18.33 AVG 9 1.3099 24.41 10.06 34.47 56.00 -21.53 QP 10 1.3099 10.70 10.06 20.76 46.00 -25.24 AVG	No. Mk.	0.5 Freq. MHz 0.1580 0.1580	dBuV 27.96 11.26	Correct M Factor dB 9.94 3	dBuV dBu\ 37.90 65.50	/ dB 6 -27.66 6 -34.36	Jetector QP AVG
6 0.4260 21.98 10.02 32.00 47.33 -15.33 AVG 7 0.9460 26.30 10.07 36.37 56.00 -19.63 QP 8 0.9460 17.60 10.07 27.67 46.00 -18.33 AVG 9 1.3099 24.41 10.06 34.47 56.00 -21.53 QP 10 1.3099 10.70 10.06 20.76 46.00 -25.24 AVG	No. Mk. 1 2 3	0.5 Freq. MHz 0.1580 0.1580 0.3140	Level dBuV 27.96 11.26 34.26	Correct M Factor dB 9.94 3 9.94 2 10.02	leasure- ment Limi dBuV dBu\ 37.90 65.5 21.20 55.5 44.28 59.8	/ dB 6 -27.66 6 -34.36 6 -15.58	Detector QP AVG
7 0.9460 26.30 10.07 36.37 56.00 -19.63 QP 8 0.9460 17.60 10.07 27.67 46.00 -18.33 AVG 9 1.3099 24.41 10.06 34.47 56.00 -21.53 QP 10 1.3099 10.70 10.06 20.76 46.00 -25.24 AVG	No. Mk. 1 2 3 4 *	0.5 Freq. MHz 0.1580 0.1580 0.3140 0.3140	Level dBuV 27.96 11.26 34.26 33.30	Correct M Factor dB 9.94 3 9.94 2 10.02 4	leasure- ment Limi dBuV dBuV 37.90 65.5 21.20 55.5 44.28 59.8 43.32 49.8	/ dB 6 -27.66 6 -34.36 6 -15.58 6 -6.54	Detector QP AVG QP AVG
8 0.9460 17.60 10.07 27.67 46.00 -18.33 AVG 9 1.3099 24.41 10.06 34.47 56.00 -21.53 QP 10 1.3099 10.70 10.06 20.76 46.00 -25.24 AVG	No. Mk. 1 2 3 4 * 5	0.5 Freq. MHz 0.1580 0.3140 0.3140 0.4260	Level dBuV 27.96 11.26 34.26 33.30 35.60	Correct Factor dB 9.94 3 9.94 2 10.02 4 10.02 4 10.02	leasure- ment dBuV dBuV 37.90 65.5 21.20 55.5 44.28 59.8 43.32 49.8 45.62 57.3	/ dB 6 -27.66 6 -34.36 6 -15.58 6 -6.54 3 -11.71	Detector QP AVG QP AVG
9 1.3099 24.41 10.06 34.47 56.00 -21.53 QP 10 1.3099 10.70 10.06 20.76 46.00 -25.24 AVG	No. Mk. 1 2 3 4 * 5	0.5 Freq. MHz 0.1580 0.3140 0.3140 0.4260	Level dBuV 27.96 11.26 34.26 33.30 35.60	Correct Factor dB 9.94 3 9.94 2 10.02 4 10.02 4 10.02	leasure- ment dBuV dBuV 37.90 65.5 21.20 55.5 44.28 59.8 43.32 49.8 45.62 57.3	/ dB 6 -27.66 6 -34.36 6 -15.58 6 -6.54 3 -11.71	Detector QP AVG QP AVG
10 1.3099 10.70 10.06 20.76 46.00 -25.24 AVG	No. Mk. 1 2 3 4 * 5 6	0.5 Freq. MHz 0.1580 0.1580 0.3140 0.3140 0.4260 0.4260	Level dBuV 27.96 11.26 34.26 33.30 35.60 21.98	Correct M Factor dB 9.94 3 9.94 2 10.02 4 10.02 4 10.02 3	leasure- ment dBuV dBuV 37.90 65.5 21.20 55.5 44.28 59.8 43.32 49.8 45.62 57.3 32.00 47.3	dB 6 -27.66 6 -34.36 6 -15.58 6 -6.54 3 -11.71 3 -15.33	Detector QP AVG QP AVG QP AVG
	No. Mk. 1 2 3 4 * 5 6 7	0.5 Freq. MHz 0.1580 0.3140 0.3140 0.4260 0.4260 0.9460	Level dBuV 27.96 11.26 34.26 33.30 35.60 21.98 26.30	Correct Factor dB 9.94 3 9.94 2 10.02 4 10.02 4 10.02 3 10.07 3	leasure- ment dBuV dBuV 37.90 65.5 21.20 55.5 44.28 59.8 43.32 49.8 45.62 57.3 32.00 47.3	dB 6 -27.66 6 -34.36 6 -15.58 6 -6.54 3 -11.71 3 -15.33 0 -19.63	Detector QP AVG QP AVG QP AVG QP AVG
	No. Mk. 1 2 3 4 * 5 6 7 8	0.5 Freq. MHz 0.1580 0.3140 0.3140 0.4260 0.4260 0.9460 0.9460	Level dBuV 27.96 11.26 34.26 33.30 35.60 21.98 26.30 17.60	Correct Factor dB 9.94 3.994 10.02 4.10.02 4.10.02 10.02 10.07 3.10.07	leasure- ment dBuV dBuV 37.90 65.5 21.20 55.5 44.28 59.8 43.32 49.8 45.62 57.3 32.00 47.3 36.37 56.0 27.67 46.0	/ dB 6 -27.66 6 -34.36 6 -15.58 6 -6.54 3 -11.71 3 -15.33 0 -19.63 0 -18.33	Detector QP AVG QP AVG QP AVG QP AVG
	No. Mk. 1 2 3 4 * 5 6 7 8 9	0.5 Freq. MHz 0.1580 0.3140 0.3140 0.4260 0.4260 0.9460 0.9460 1.3099	Level dBuV 27.96 11.26 34.26 33.30 35.60 21.98 26.30 17.60 24.41	Correct Factor dB 9.94 3 9.94 2 10.02 4 10.02 4 10.02 3 10.07 3 10.07 3 10.06 3	leasure- ment dBuV dBuV 37.90 65.5 21.20 55.5 44.28 59.8 43.32 49.8 45.62 57.3 32.00 47.3 36.37 56.0 27.67 46.0	/ dB 6 -27.66 6 -34.36 6 -15.58 6 -6.54 3 -11.71 3 -15.33 0 -19.63 0 -18.33 0 -21.53	Detector QP AVG QP AVG QP AVG QP AVG

Emission Level= Read Level+ Correct Factor

8.14

10.02

18.16

46.00 -27.84

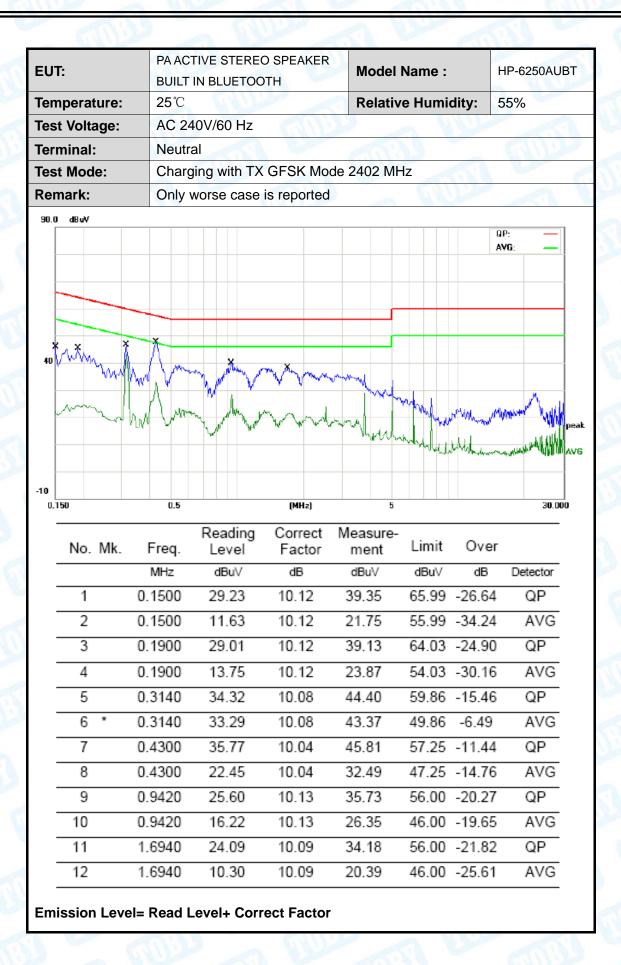
AVG

3.1980

12



15 of 92 Page:





Page: 16 of 92

5. Radiated Emission Test

5.1 Test Standard and Limit

5.1.1 Test Standard FCC Part 15.209

5.1.2 Test Limit

Radiated Emission Limit (9 kHz~1000MHz)

Frequency (MHz	Field Strength (microvolt/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

Radiated Emission Limit (Above 1000MHz)

Frequency	Class B (dBuV/m)(at 3m)				
(MHz)	Peak	Average			
Above 1000	74	54			

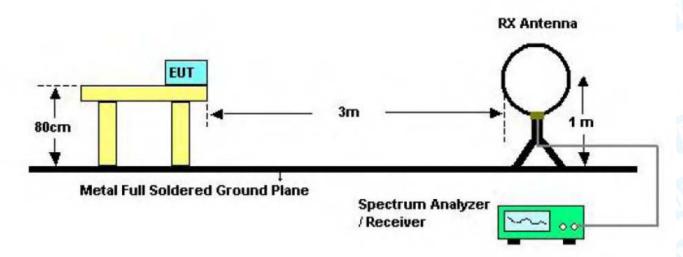
Note:

- (1) The tighter limit applies at the band edges.
- (2) Emission Level (dBuV/m)=20log Emission Level (uV/m)

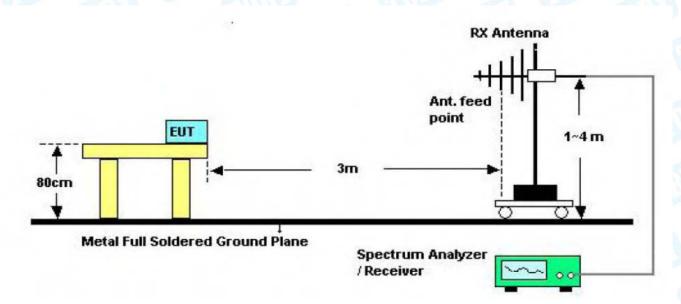


Page: 17 of 92

5.2 Test Setup



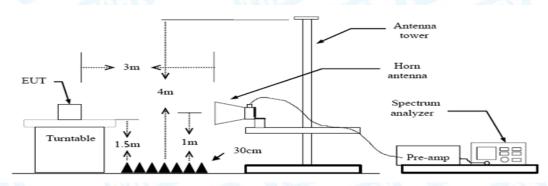
Below 30MHz Test Setup



Below 1000MHz Test Setup



Page: 18 of 92



Above 1GHz Test Setup

5.3 Test Procedure

- (1) The measuring distance of 3m shall be used for measurements at frequency up to 1GHz and above 1 GHz. The EUT was placed on a rotating 0.8m high above ground, the table was rotated 360 degrees to determine the position of the highest radiation.
- (2) Measurements at frequency above 1GHz. The EUT was placed on a rotating 1.5m high above the ground. RF absorbers covered the ground plane with a minimum area of 3.0m by 3.0m between the EUT and measurement receiver antenna. The RF absorber shall not exceed 30cm in high above the conducting floor. The table was rotated 360 degrees to determine the position of the highest radiation.
- (3) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.
- (4) The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- (5) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit Bellow 1 GHz, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed. But the Peak Value and average value both need to comply with applicable limit above 1 GHz.
- (6) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.
- (7) Testing frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.
- (8) For the actual test configuration, please see the test setup photo.

5.4 EUT Operating Condition

The Equipment Under Test was set to Continual Transmitting in maximum power in TX mode.

5.5 Test Data

Remark: During testing above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=1 kHz with Peak Detector for Average Values.

Test data please refer the following pages.



 ${\tt Report\ No.:\ TB-FCC150612}$

Page: 19 of 92

9 KHz~30 MHz

From 9 KHz to 30 MHz: Conclusion: PASS

Note: The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

30MHz~1GHz

BUILT IN BLUETO	REO SPEAKER DOTH	Model N	lame :	HP-628	50AUBT
25℃	CAND S	Relative	Humidity:	55%	
AC120V/60Hz	13	CEEPS.		CALLED .	
Horizontal			T.	6	
TX GFSK Mode	e 2402MHz		100		187
Only worse cas	se is reported	2.7		11193	,
			5 X	Margin -6	
60 70 80	(MHz)	300	400 500	600 700	1000.000
Reading req. Level		300 leasure- ment	400 500 Limit	600 700 Over	1000.00
Reading	g Correct M	leasure-		Over	1000.00
Reading req. Level	g Correct M Factor	leasure- ment	Limit	Over	Detector
Reading req. Level Hz dBuV	G Correct M Factor dB/m	leasure- ment dBuV/m	Limit dBuV/m	Over dB	Detector peak
Reading req. Level Hz dBuV 3721 55.69	Correct N Factor dB/m -23.78	Measure- ment dBuV/m	Limit dBuV/m 40.00	Over dB -8.09	Detector peak peak
Reading Level Hz dBuV 8721 55.69 6443 55.13	Correct N Factor dB/m -23.78 -21.84	Measure- ment dBuV/m 31.91 33.29	Limit dBuV/m 40.00 43.50 43.50	Over dB -8.09 -10.21	Detector peak peak peak
Reading Level Hz dBuV 8721 55.69 6443 55.13 8241 55.43	Correct N Factor dB/m -23.78 -21.84 -20.78	Measure- ment dBuV/m 31.91 33.29 34.65	Limit dBuV/m 40.00 43.50 43.50 46.00	Over dB -8.09 -10.21 -8.85	
	Horizontal TX GFSK Mode Only worse cas	Horizontal TX GFSK Mode 2402MHz Only worse case is reported	Horizontal TX GFSK Mode 2402MHz Only worse case is reported	Horizontal TX GFSK Mode 2402MHz Only worse case is reported (RF)FCC 150	Horizontal TX GFSK Mode 2402MHz Only worse case is reported (RF)FCC 15C 3M Radiation Margin -6



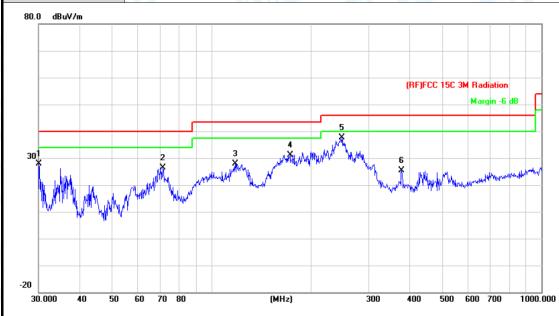
Page: 20 of 92

EUT:	PA ACTIVE STEREO		Model N	ame :	HP-6250AUBT	
Temperature:	25℃		Relative I	Humidity:	55%	
Гest Voltage:	AC120V60Hz			ORT.		
Ant. Pol.	Vertical		100			M.D.
Test Mode:	TX GFSK Mode 2	2402MHz	All Designation		V F	
Remark:	Only worse case	is reported		DAIL DE		
80.0 dBuV/m						
-20	2 X X X X X X X X X X X X X X X X X X X	(MHz)	300	(RF)FCC 15		dB [
	Reading	Correct	Measure-			
	Freq. Level	Factor	ment	Limit	Over	
	MHz dBuV	dB/m	dBuV/m	dBuV/m	dB	Detecto
1 43	.9658 54.48	-21.97	32.51	40.00	-7.49	peak
2 66	.0340 55.44	-24.06	31.38	40.00	-8.62	peak
3 * 100	0.2286 58.75	-21.85	36.90	43.50	-6.60	peak
4 222	2.1698 54.35	-19.02	35.33	46.00	-10.67	peak
5 432	2.5457 48.29	-12.30	35.99	46.00	-10.01	peak
6 779	9.6068 36.39	-5.52	30.87	46.00	-15.13	peak
	x:Over limit !:over margin					



Page: 21 of 92

EUT:	PA ACTIVE STEREO SPEAKER BUILT IN BLUETOOTH	Model Name :	HP-6250AUBT					
Temperature:	25℃	Relative Humidity:	55%					
Test Voltage:	AC 120V/60Hz							
Ant. Pol.	Horizontal		COLUMN TO SERVICE SERV					
Test Mode:	TX π/4-DQPSK Mode 2402M	TX π/4-DQPSK Mode 2402MHz						
Remark:	Only worse case is reported							
80.0 dBuV/m								



No	. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		30.1052	42.18	-14.22	27.96	40.00	-12.04	peak
2		71.3298	50.09	-23.64	26.45	40.00	-13.55	peak
3		118.1860	50.14	-22.34	27.80	43.50	-15.70	peak
4		173.2050	51.92	-20.70	31.22	43.50	-12.28	peak
5	*	248.5517	55.29	-17.77	37.52	46.00	-8.48	peak
6		377.2590	39.12	-13.85	25.27	46.00	-20.73	peak

^{*:}Maximum data x:Over limit !:over margin



Page: 22 of 92

EUT	:		7.79.7			STERE	OTH	R	Mod	lel N	lame :		Н	HP-6250AUBT	
Temi	peratu	re:	25°C		DL	JETO	OTT		Relat	tive	Humid	itv:	5	5%	T. B. C. B.
	Voltag		AC		V/6	0Hz	6711		110101		100	,.		0 70	
Ant.			Vert				1 100								
	Mode:	 !			I-D0	QPSk	K Mode 24	02M	Hz				N.	10	
Rem							e is reporte				ON I				a 1
80.0	dBu∀/π			,			1111112								1 10
	dourn.														
											(RF)FC	: 150	3M Ra	diation	
													Ma	rgin -6 r	#B [
						3 X		4		F					
30		ı X	2			Mertingly	hand hand hand	, phyliq _{i, p}	arthorth House	~ X	6 X	Lal			
	, under	Media Meni	LW Y Y Y Y Y	ind What	NAMA,		m An			1997	Market Market	JAPAN YELV	Mary and a	الفلفيسية ومالورو	aday to account the
	MAY HAN	(m)													
-20 30	.000 4	0 50	60	70 8	30		(MHz)			300	400	500	600	700	1000.000
					000	dina	Corroct	· N/	leasur						
No	o. Mk	Fr	eq.		ead Lev	ding el	Correct Factor		ment		Limit		Ov	er	
			Hz		dBı		dB/m		dBuV/r		dBuV/	m	dl	В	Detecto
1		45.6	948		51.	77	-22.69		29.08	3	40.0	<u> </u>	-10	.92	peak
2		67.2			51.		-23.95		27.96		40.0			2.04	
	*														peak
3	*	106.7			59.		-21.85		37.85		43.5			65	peak
4	į	204.9	9550	,	57.	43	-19.77		37.66	6	43.5	0	-5.	.84	peak
5		312.	1792	4	49.	38	-16.19		33.19	9	46.0	0	-12	.81	peak
6		459.	1143	-	42.	77	-11.66		31.11	l	46.0	0	-14	.89	peak
*:Ma	ximum da	ıta x:C	Over limi	t !:	over	margin	_ I								
Emis	ssion L	_evel=	Read	Le	vel-	- Cor	rect Facto	or							



Page: 23 of 92

EUT:	1811	TIVE STERECT IN BLUETOO		Model I	Name :	HP-628	50AUBT
Temperature	: 25°C	UM.		Relative	Humidity:	55%	
Test Voltage:	AC 12	20V/60Hz	(all b)		I BAN		1
Ant. Pol.	Horiz	ontal		CITE OF	9		1
Test Mode:	TX 8-	DPSK Mode	2402MHz	Alle			
Remark:	Only	worse case	s reported		anne		
80.0 dBuV/m							
30 phylodians		Martin College	**************************************		(RF)FCC 15C	3M Radiation Margin -6	
30.000 40	50 60 70	80	(MHz)	300	400 500	600 700	1000.00
NI- MI-	F	Reading		Measure-	Limit	Over	
No. Mk.	Freq.	Level	Factor	ment			D
	MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detecto
	70.0901	59.70	-23.68	36.02	40.00	-3.98	peal
2!	100.2286	60.49	-21.85	38.64	43.50	-4.86	peal
3 * ′	155.9099	61.42	-20.58	40.84	43.50	-2.66	peal
4 2	228.4902	58.43	-18.74	39.69	46.00	-6.31	peal
5 ! 2	252.0627	58.62	-17.65	40.97	46.00	-5.03	peal
6 3	378.5842	49.27	-13.76	35.51	46.00	-10.49	peal
*:Maximum data	x:Over limit	!:over margin	ect Factor				



Page: 24 of 92

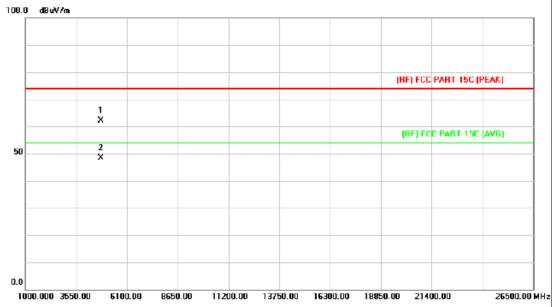
EUT:	1812	VE STERE I BLUETOC	O SPEAKER OTH	Model	Name :	HP-62	50AUBT
Temperature:	25℃	V DEGE 100	2111	Relative	Humidity:	55%	
Test Voltage:		V/60Hz	CIII:				
Ant. Pol.	Vertical		183			671	
Test Mode:	TX 8-D	PSK Mode	e 2402MHz	MA		10	
Remark:	Only wo	orse case	is reported		MAIN		1
80.0 dBuV/m							
-20	50 60 70	Jan	(MHz)	300	6 × × V	C 3M Radiation Margin	6 dB
No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
	MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detecto
1 42	2.7496	51.79	-21.45	30.34	40.00	-9.66	peak
2 71	.8319	54.16	-23.63	30.53	40.00	-9.47	peak
	0.2286	55.56	-21.85	33.71	43.50	-9.79	peak
	3.5629	57.31	-22.13	35.18	43.50	-8.32	peak
		56.31	-19.29	37.02	46.00	-8.98	peak
		45.65	-12.07	33.58		-12.42	peak
							FOOI
*:Maximum data		over margin	ect Factor				



Page: 25 of 92

Above 1GHz

EUT:	PA ACTIVE STEREO SPEAKER BUILT IN BLUETOOTH	Model Name :	HP-6250AUBT					
Temperature:	25℃	Relative Humidity:	55%					
Test Voltage:	AC 120V/60Hz							
Ant. Pol.	Horizontal		Millian					
Test Mode:	TX GFSK Mode 2402MHz	TX GFSK Mode 2402MHz						
Remark:	No report for the emission which more than 10 dB below the prescribed limit.							

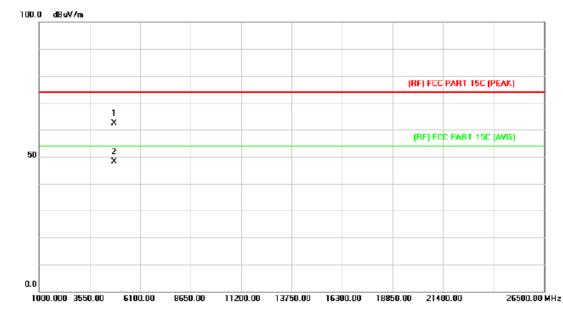


	No.	Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
			MHz	dBu∀	dB/m	dBu∀/m	dBu∀/m	dB	Detector
1			4803.690	48.57	13.44	62.01	74.00	-11.99	peak
2		*	4803.904	34.86	13.44	48.30	54.00	-5.70	AVG



Page: 26 of 92

EUT:	PA ACTIVE STEREO SPEAKER BUILT IN BLUETOOTH	Model Name :	HP-6250AUBT				
Temperature:	25℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60Hz	AC 120V/60Hz					
Ant. Pol.	Vertical						
Test Mode:	TX GFSK Mode 2402MHz	100					
Remark:	No report for the emission which prescribed limit.	th more than 10 dB bel	ow the				



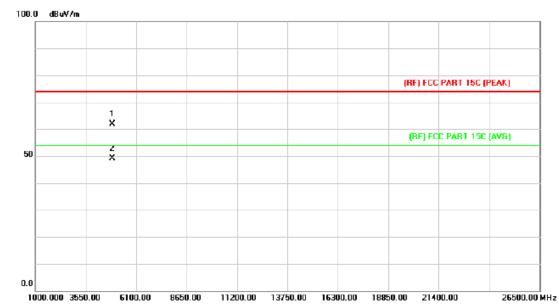
No	o. Mk	Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBu∀/m	dBu\//m	dB	Detector
1		4804.426	48.87	13.44	62.31	74.00	-11.69	peak
2	*	4804.840	34.68	13.44	48.12	54.00	-5.88	AVG



 ${\tt Report\ No.:\ TB-FCC150612}$

Page: 27 of 92

EUT:	PA ACTIVE STEREO SPEAKER BUILT IN BLUETOOTH	Model Name :	HP-6250AUBT				
Temperature:	25℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60Hz	AC 120V/60Hz					
Ant. Pol.	Horizontal						
Test Mode:	TX GFSK Mode 2441MHz	100					
Remark:	No report for the emission which prescribed limit.	th more than 10 dB bel	ow the				

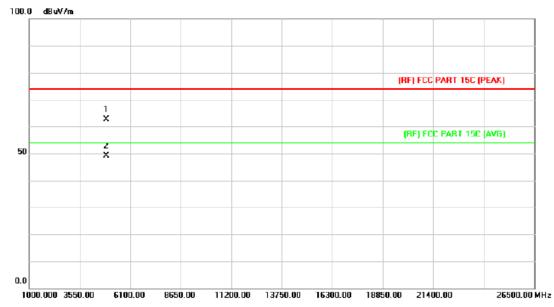


No	. Mk.	Freq.		Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBu∀/m	dBu∀/m	dB	Detector
1		4881.930	48.04	13.90	61.94	74.00	-12.06	peak
2	*	4882.414	35.13	13.90	49.03	54.00	-4.97	AVG



Page: 28 of 92

EUT:	PA ACTIVE STEREO SPEAKER BUILT IN BLUETOOTH	Model Name :	HP-6250AUBT				
Temperature:	25℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60Hz	AC 120V/60Hz					
Ant. Pol.	Vertical		MILLER				
Test Mode:	TX GFSK Mode 2441MHz						
Remark: No report for the emission which more than 10 dB below the prescribed limit.							

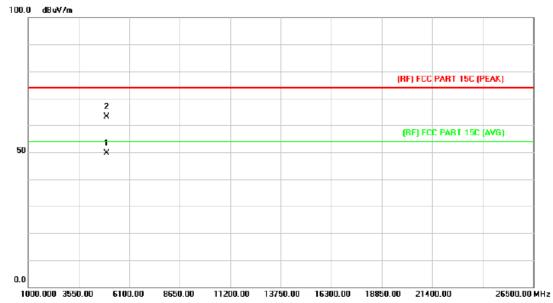


No	o. Mk	. Freq.		Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBu∀/m	dBu∀/m	dB	Detector
1		4881.242	48.72	13.90	62.62	74.00	-11.38	peak
2	*	4881.802	35.15	13.90	49.05	54.00	-4.95	AVG



Page: 29 of 92

EUT:	PA ACTIVE STEREO SPEAKER BUILT IN BLUETOOTH	Model Name :	HP-6250AUBT	
Temperature:	25℃	Relative Humidity:	55%	
Test Voltage:	AC 120V/60Hz			
Ant. Pol.	Horizontal			
Test Mode:	TX GFSK Mode 2480MHz	100		
Remark: No report for the emission which more than 10 dB below the prescribed limit.				

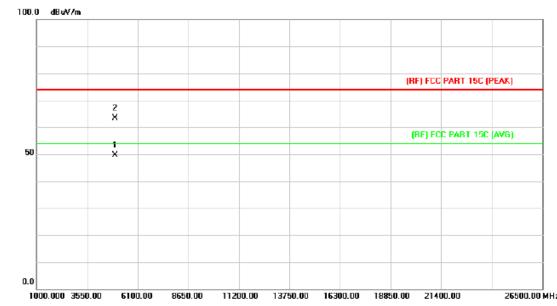


No	o. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBu∀/m	dBu∀/m	dB	Detector
1	*	4959.292	35.21	14.36	49.57	54.00	-4.43	AVG
2		4959.868	48.66	14.36	63.02	74.00	-10.98	peak



Page: 30 of 92

EUT:	PA ACTIVE STEREO SPEAKER BUILT IN BLUETOOTH	Model Name :	HP-6250AUBT
Temperature:	25℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60Hz	A MARCH	
Ant. Pol.	Vertical		WILLIAM STATE
Test Mode:	TX GFSK Mode 2480MHz		
Remark:	No report for the emission which prescribed limit.	h more than 10 dB bel	ow the



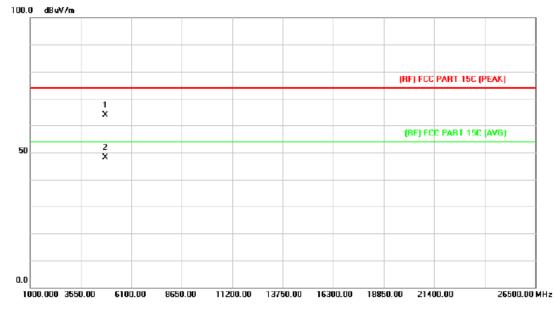
No	. MI	k. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBu∀/m	dBu\//m	dB	Detector
1	*	4960.122	35.35	14.36	49.71	54.00	-4.29	AVG
2		4960.702	48.99	14.36	63.35	74.00	-10.65	peak



 ${\tt Report\ No.:\ TB-FCC150612}$

Page: 31 of 92

EUT:	PA ACTIVE STEREO SPEAKER BUILT IN BLUETOOTH	Model Name :	HP-6250AUBT				
Temperature:	25℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60Hz	AC 120V/60Hz					
Ant. Pol.	Horizontal						
Test Mode:	TX 8-DPSK Mode 2402MHz	The same					
Remark: No report for the emission which more than 10 dB below the prescribed limit.							

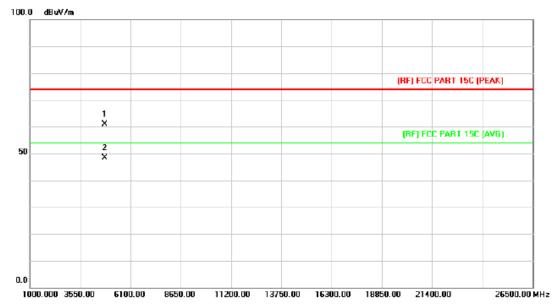


No	. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBu∀/m	dBu\//m	dB	Detector
1		4803.846	50.35	13.44	63.79	74.00	-10.21	peak
2	*	4804.082	34.68	13.44	48.12	54.00	-5.88	AVG



Page: 32 of 92

EUT:	PA ACTIVE STEREO SPEAKER BUILT IN BLUETOOTH Model Name:		HP-6250AUBT			
Temperature: 25℃ Relative Hu		Relative Humidity:	55%			
Test Voltage:	AC 120V/60Hz					
Ant. Pol.	Vertical		CHILD TO SERVICE			
Test Mode:	TX 8-DPSK Mode 2402MHz					
Remark:	No report for the emission which more than 10 dB below the prescribed limit.					

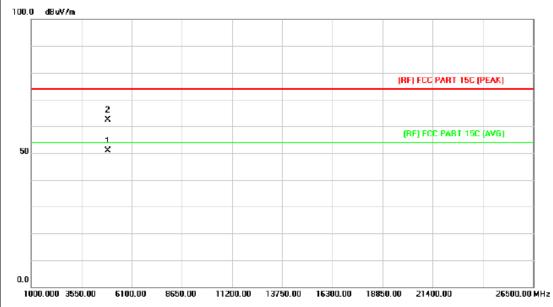


No	. Mk	Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBu∀/m	dBu∀/m	dB	Detector
1		4803.440	47.45	13.44	60.89	74.00	-13.11	peak
2	*	4804.628	34.82	13.44	48.26	54.00	-5.74	AVG



Page: 33 of 92

EUT:	PA ACTIVE STEREO SPEAKER BUILT IN BLUETOOTH Model Name:		HP-6250AUBT			
Temperature:	25℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60Hz					
Ant. Pol.	Horizontal		MILLIAM			
Test Mode:	TX 8-DPSK Mode 2441MHz					
Remark:	No report for the emission which more than 10 dB below the prescribed limit.					



No	. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBu∀/m	dBu\//m	dB	Detector
1	*	4881.266	37.01	13.90	50.91	54.00	-3.09	AVG
2		4882.928	48.53	13.90	62.43	74.00	-11.57	peak



Page: 34 of 92

EUT:	PA ACTIVE STEREO SPEAKER BUILT IN BLUETOOTH Model Name:		HP-6250AUBT			
Temperature:	25℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60Hz					
Ant. Pol.	Vertical		WILLIAM STATE			
Test Mode:	TX 8-DPSK Mode 2441MHz	100				
Remark:	No report for the emission which more than 10 dB below the prescribed limit.					

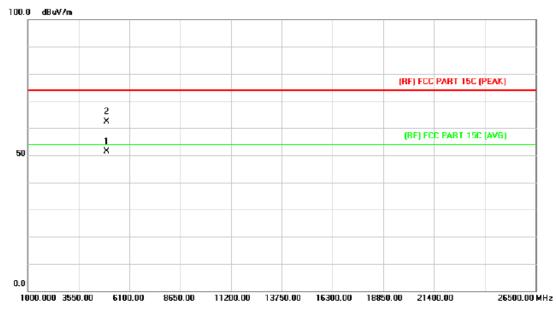


No	o. Mk	Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBu∀/m	dBu\//m	dB	Detector
1		4882.412	48.38	13.90	62.28	74.00	-11.72	peak
2	*	4882.882	37.48	13.90	51.38	54.00	-2.62	AVG



Page: 35 of 92

EUT:	PA ACTIVE STEREO SPEAKER BUILT IN BLUETOOTH Model Name:		HP-6250AUBT		
Temperature:	25℃	Relative Humidity:	55%		
Test Voltage:	AC 120V/60Hz				
Ant. Pol.	Horizontal		CHILL STORY		
Test Mode:	TX 8-DPSK Mode 2480MHz	The same of the sa			
Remark:	No report for the emission which more than 10 dB below the prescribed limit.				



No.	. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBu∀/m	dBu∀/m	dB	Detector
1	*	4959.516	36.97	14.36	51.33	54.00	-2.67	AVG
2		4960.916	48.12	14.36	62.48	74.00	-11.52	peak



Page: 36 of 92

EUT:	PA ACTIVE STEREO SPEAKER BUILT IN BLUETOOTH Model Name:		HP-6250AUBT			
Temperature:	25℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60Hz					
Ant. Pol.	Vertical					
Test Mode:	TX 8-DPSK Mode 2480MHz		-			
Remark:	No report for the emission which more than 10 dB below the prescribed limit.					



No). M	lk.	Freq.	Reading Level		Measure- ment	Limit	Over	
			MHz	dBu∀	dB/m	dBu∀/m	dBu\/m	dB	Detector
1	*	4	959.690	37.43	14.36	51.79	54.00	-2.21	AVG
2		4	960.846	49.58	14.36	63.94	74.00	-10.06	peak



Page: 37 of 92

6. Restricted Bands Requirement

6.1 Test Standard and Limit

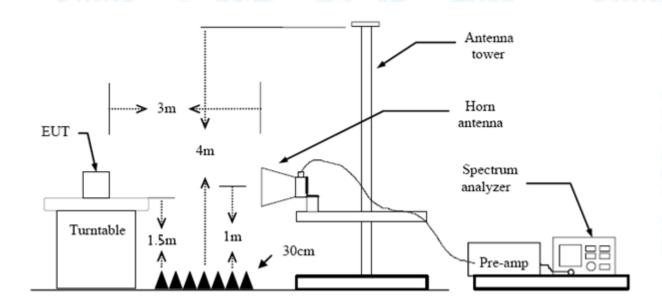
6.1.1 Test Standard FCC Part 15.209 FCC Part 15.205

6.1.2 Test Limit

Restricted Frequency	Class B (dBuV/m)(at 3m)		
Band (MHz)	Peak	Average	
2310 ~2390	74	54	
2483.5 ~2500	74	54	

Note: All restriction bands have been tested, only the worst case is reported.

6.2 Test Setup



6.3 Test Procedure

- (1) The measuring distance of 3m shall be used for measurements at frequency up to 1GHz and above 1 GHz. The EUT was placed on a rotating 0.8m high above ground, the table was rotated 360 degrees to determine the position of the highest radiation.
- (2) Measurements at frequency above 1GHz. The EUT was placed on a rotating 1.5m high above the ground. RF absorbers covered the ground plane with a minimum area of 3.0m by 3.0m between the EUT and measurement receiver antenna. The RF absorber shall not exceed 30cm in high above the conducting floor. The table was rotated 360 degrees to determine the position of the highest radiation.



Report No.: TB-FCC150612 Page: 38 of 92

(3) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.

- (4) The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- (5) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit Bellow 1 GHz, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed. But the Peak Value and average value both need to comply with applicable limit above 1 GHz.
- (6) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.
- (7) Testing frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.
- (8) For the actual test configuration, please see the test setup photo.

6.4 EUT Operating Condition

The Equipment Under Test was set to Continual Transmitting in maximum power.

6.4 Test Data

Remark: During testing above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=1 KHz with Peak Detector for Average Values.

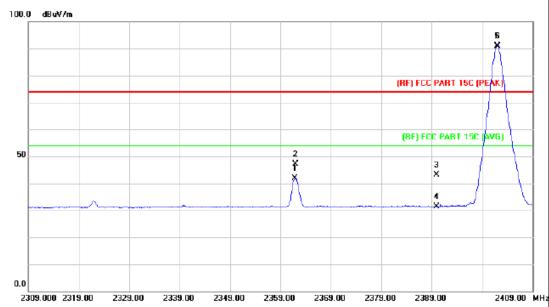
All restriction bands have been tested, only the worst case is reported.



Page: 39 of 92

(1) Radiation Test

EUT:	PA ACTIVE STEREO SPEAKER BUILT IN BLUETOOTH	Model Name:			
Temperature:	25℃	Relative Humidity:	55%		
Test Voltage:	AC 120V/60Hz				
Ant. Pol.	Horizontal				
Test Mode: TX GFSK Mode 2402MHz					
Remark:	N/A				

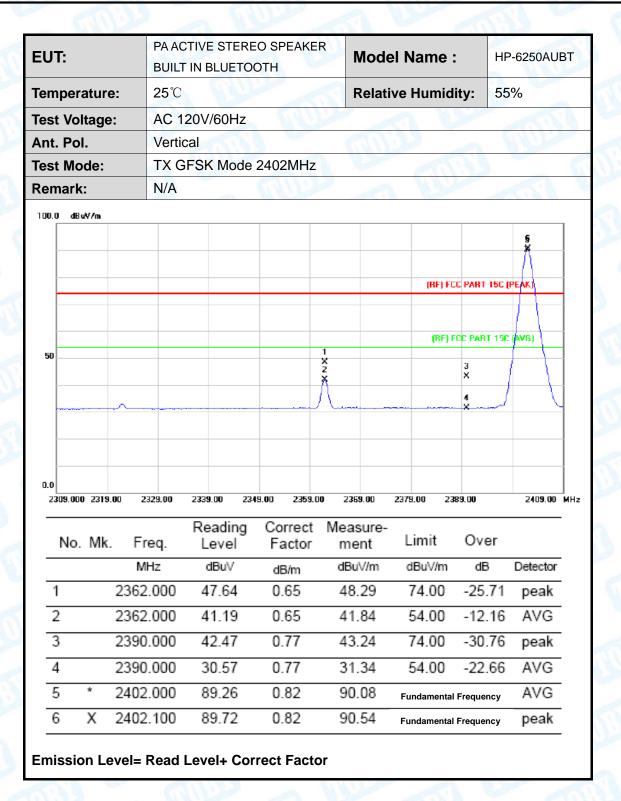


No.	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBu∀/m	dBu∀/m	dB	Detector
1		2361.900	41.26	0.65	41.91	54.00	-12.09	AVG
2		2362.000	46.51	0.65	47.16	74.00	-26.84	peak
3		2390.000	42.42	0.77	43.19	74.00	-30.81	peak
4		2390.000	30.68	0.77	31.45	54.00	-22.55	AVG
5	*	2402.000	89.99	0.82	90.81	Fundamental I	requency	AVG
6	Χ	2402.100	89.97	0.82	90.79	Fundamental Frequency		peak

Emission Level= Read Level+ Correct Factor



Page: 40 of 92



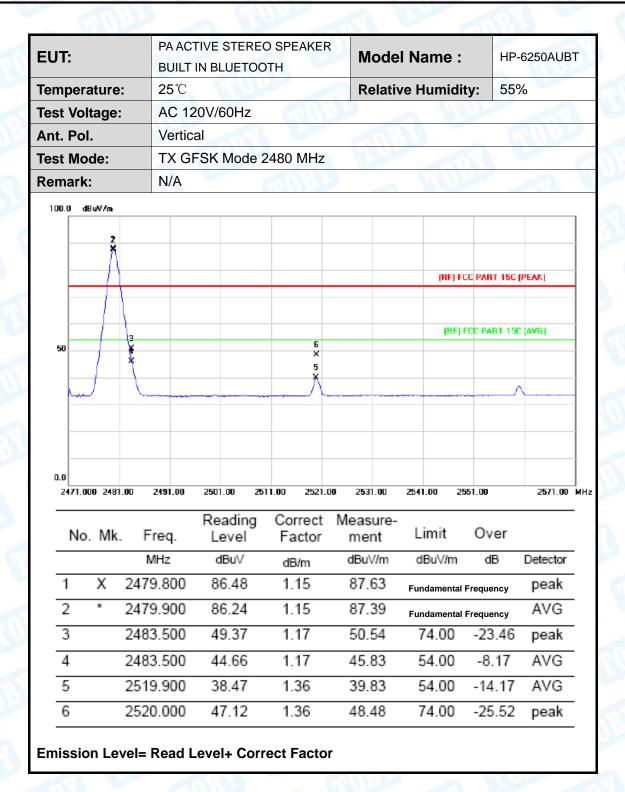


Page: 41 of 92

UT	:		1737	CTIVE STERI	OTH	Mod	el Name :	HP-6250AUBT
em	peratur	e:	25℃			Relat	ive Humidity:	55%
est	Voltag	e:	AC 1	20V/60Hz	THU!			
nt.	Pol.		Horiz	zontal	3	all		Millian
est	Mode:		TX G	SFSK Mode	2480 MHz	6.30		
em	ark:		N/A		WILL STATE		A Killing	Time.
00.0	dBuV/m							
50		*			5 X 6			ART 15C (PEAK)
0.0								
24	71.000 248	1.00	2491.00	2501.00 25	511.00 2521.00	2531.00	2541.00 2551.00	2571.00 M
1	lo. Mk	. F	req.	Reading Level	Correct N Factor	leasure- ment		/er
		M	ИHz	dBu∀	dB/m	dBu∀/m	dBu\//m o	IB Detector
1	Х	2479	9.800	86.84	1.15	87.99	Fundamental Frequ	_{iency} peak
2	*	2479	9.900	86.24	1.15	87.39	Fundamental Frequ	_{iency} AVG
3		2483	3.500	49.07	1.17	50.24	74.00 -23	3.76 peak
4		2483	3.500	44.60	1.17	45.77	54.00 -8	.23 AVG
5		2519	9.800	46.36	1.36	47.72	74.00 -20	6.28 peak
6		2520	0.000	37.63	1.36	38.99	54.00 -1	5.01 AVG

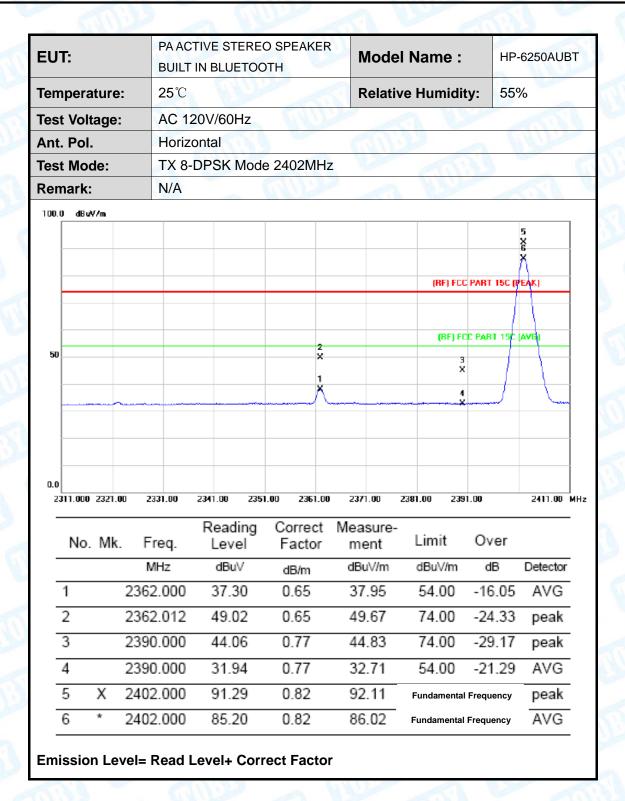


Page: 42 of 92



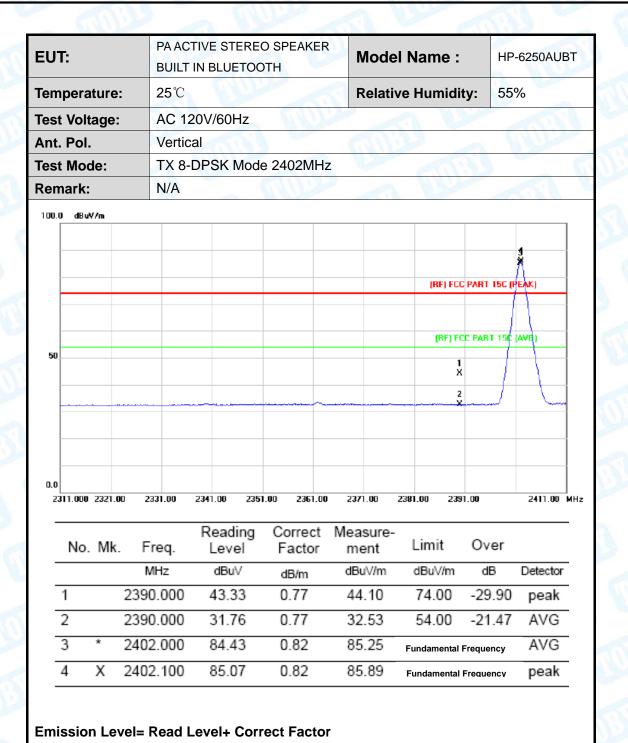


Page: 43 of 92



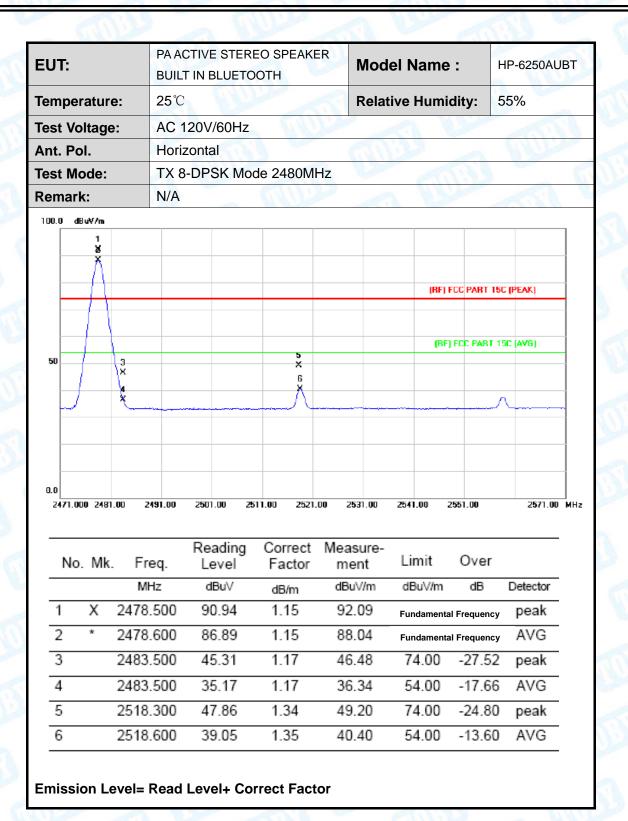


Page: 44 of 92



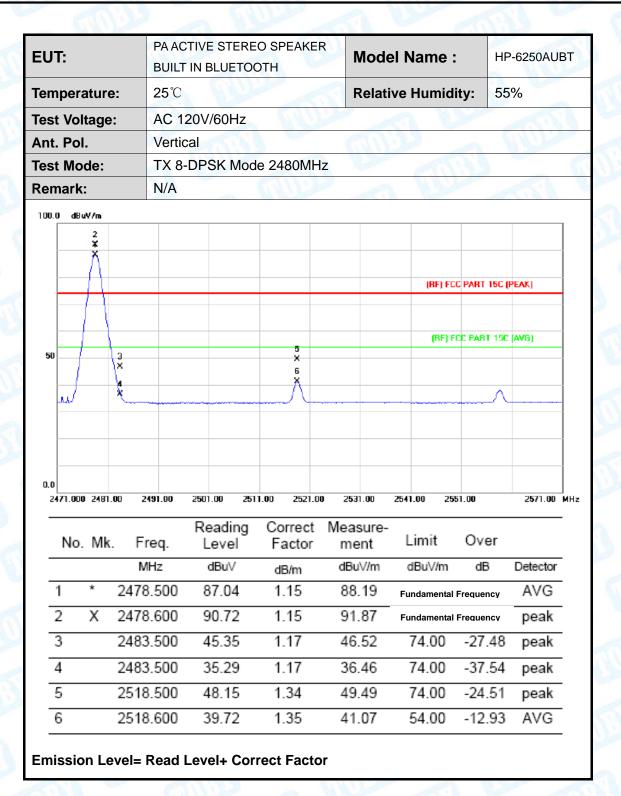


Page: 45 of 92





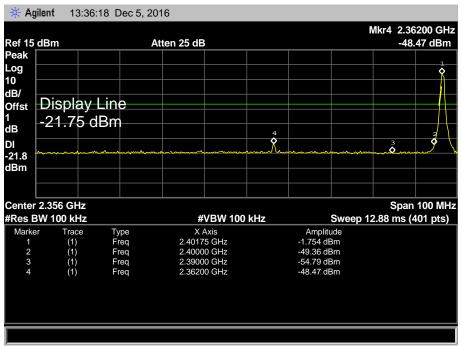
Page: 46 of 92

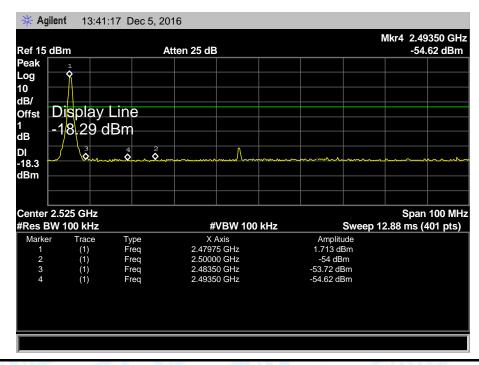




(2) Conducted Test









EUT:

PA ACTIVE STEREO SPEAKER
BUILT IN BLUETOOTH

Model Name:
HP-6250AUBT

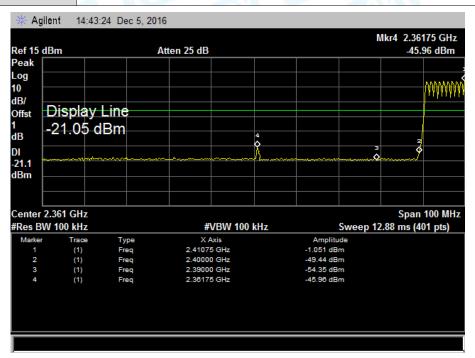
HP-6250AUBT

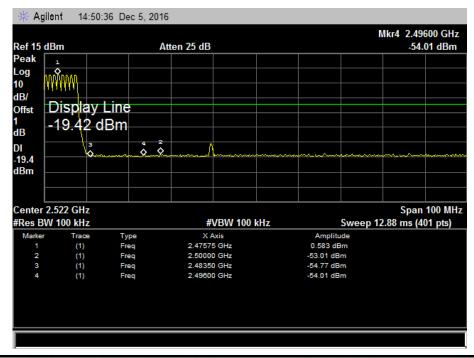
Relative Humidity:
55%

Test Voltage:
AC 120V/60Hz

Test Mode:
GFSK Hopping Mode

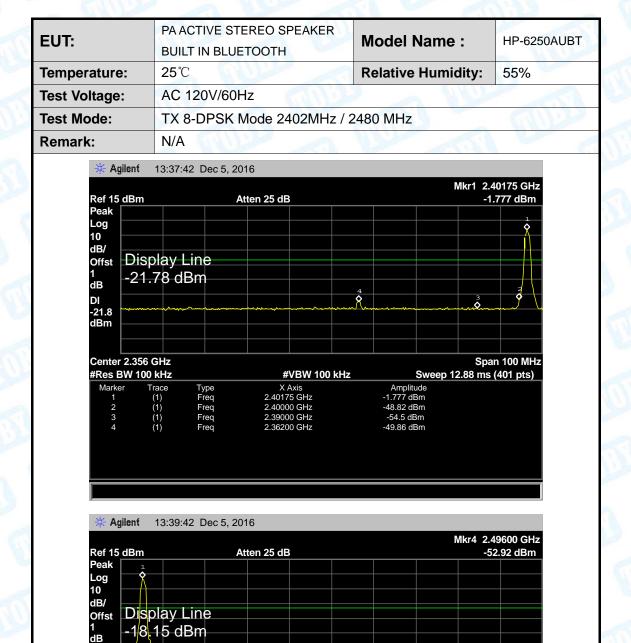
Remark:
N/A







Page: 49 of 92



#VBW 100 kHz

X Axis 2.47975 GHz

2.50000 GHz 2.48350 GHz

DI -18.2

dBm

Center 2.525 GHz #Res BW 100 kHz

(1) (1) (1) (1)

¢ 2

Type Freq

Freq Freq Freq

Span 100 MHz

Sweep 12.88 ms (401 pts)

Amplitude 1.849 dBm

-55.12 dBm -55 dBm -52.92 dBm



EUT:

PA ACTIVE STEREO SPEAKER
BUILT IN BLUETOOTH

Temperature:

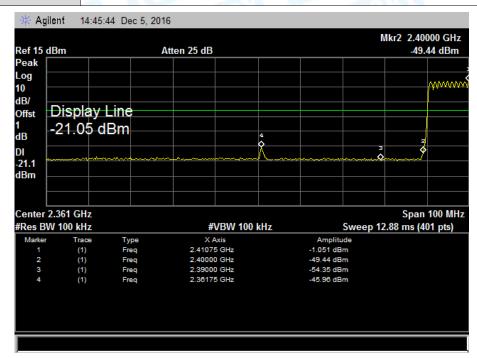
25 °C
Relative Humidity:

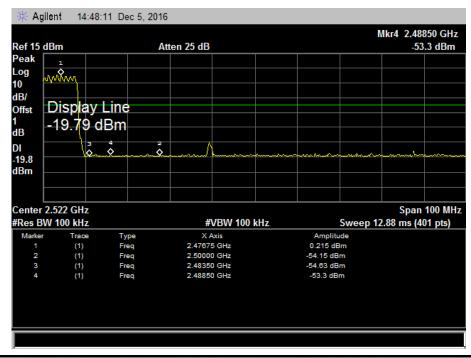
55%

Test Voltage:
AC 120V/60Hz

Test Mode:
8-DPSK Hopping Mode

Remark:
N/A







Page: 51 of 92

7. Number of Hopping Channel

7.1 Test Standard and Limit

6.1.1 Test Standard FCC Part 15.247 (a)(1)

6.1.2 Test Limit

Section	Test Item	Limit
15.247	Number of Hopping Channel	>15

7.2 Test Setup



7.3 Test Procedure

- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) Spectrum Setting: RBW=100 KHz, VBW=100 KHz, Sweep time= Auto.

7.4 EUT Operating Condition

The EUT was set to the Hopping Mode by the Customer.

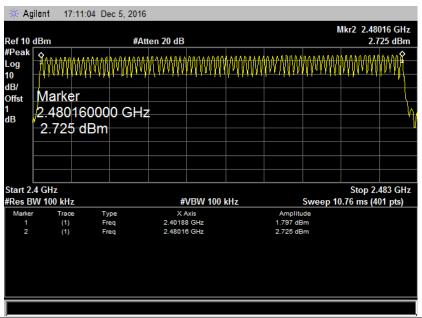
7.5 Test Data



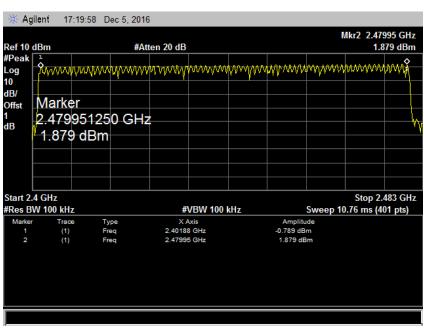
Test Mode:	Hopping Mod	e (GFSK/8-DPSK) y of Hopping	Ellino .
Test Voltage:	AC 120V/60H	Iz		
Temperature:	25℃		Relative Humidity:	55%
EUT:	PA ACTIVE STE	EREO SPEAKER TOOTH	Model Name :	HP-6250AUBT

Frequency Range	Quantity of Hopping Channel	Limit
2402MH= 2400MH=	79	. 45
2402MHz~2480MHz	79	>15

GFSK Mode



8-DPSK Mode





Page: 53 of 92

8. Average Time of Occupancy

8.1 Test Standard and Limit

8.1.1 Test Standard FCC Part 15.247 (a)(1)

8.1.2 Test Limit

Section	Test Item	Limit
15.247(a)(1)/ RSS-210	Average Time of	0.4.000
Annex 8(A8.1d)	Occupancy	0.4 sec

8.2 Test Setup



8.3 Test Procedure

- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) Spectrum Setting: RBW=1MHz, VBW=1MHz.
- (3) Use video trigger with the trigger level set to enable triggering only on full pulses.
- (4) Sweep Time is more than once pulse time.
- (5) Set the center frequency on any frequency would be measure and set the frequency span to zero.
- (6) Measure the maximum time duration of one single pulse.
- (7) Set the EUT for packet transmitting.
- (8) Measure the maximum time duration of one single pulse.

8.4 EUT Operating Condition

The average time of occupancy on any channel within the Period can be calculated with formulas:

 $\{Total \ of \ Dwell\} = \{Pulse \ Time\} * (1600 / X) / \{Number \ of \ Hopping \ Frequency\} * \{Period\} = 0.4s * \{Number \ of \ Hopping \ Frequency\}$

Note: X=2 or 4 or 6 (1DH1=2, 1DH3=4, 1DH5=6. 2DH1=2, 2DH3=4, 2DH5=6. 3DH1=2,3DH3=4, 3DH5=6)

The lowest, middle and highest channels are selected to perform testing to record the dwell time of each occupation measured in this channel, which is called Pulse Time here.

The EUT was set to the Hopping Mode by the Customer.



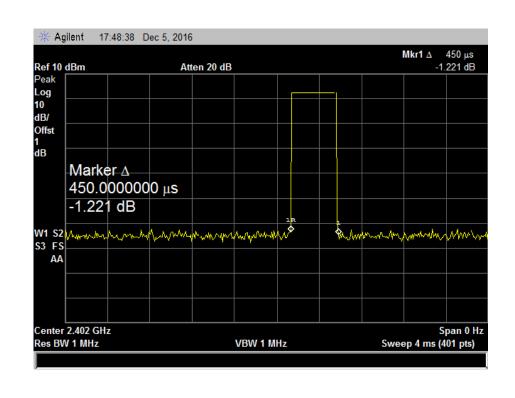
Page: 54 of 92

8.5 Test Data

EUT:	PA ACTIVE ST BUILT IN BLUE	EREO SPEAKER ETOOTH	Model Name :		HP-6250AUBT
Temperature:	25℃	THU:	Relative Humic	dity:	55%
Test Voltage:	AC 120V/60I	Hz	WW.		MADE
Test Mode:	Hopping Mod	de (GFSK DH1)	1	THE STATE OF	
Channel	Pulse Time	Total of Dwell	Period Time	Limit	Result
(MHz)	(ms)	(ms)	(s)	(ms)	Nesuit
2402	0.450	144.00			
2441	0.450	144.00	31.60	400	PASS
2480	0.460	147.20			
Note: Dwell tim	na-Dulca Tima	(me) v (1600 ± 2 ±	70) v31 6		

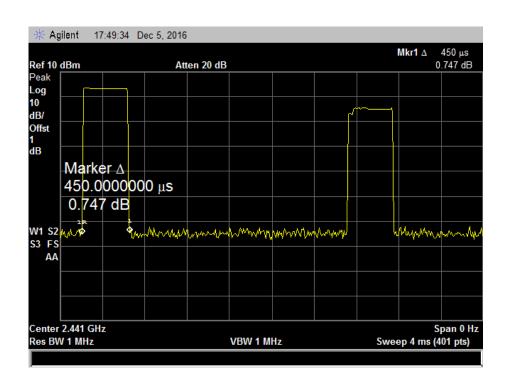
Note: Dwell time=Pulse Time (ms) \times (1600 \div 2 \div 79) \times 31.6

GFSK Hopping Mode DH1

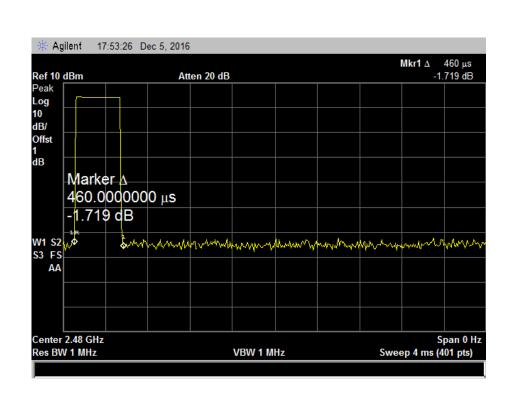








GFSK Hopping Mode DH1





Page: 56 of 92

	EUT:	118415	PA ACTIVE STEREO SPEAKER BUILT IN BLUETOOTH		Model Name :	
	Temperature:	25℃		Relative Hum	idity:	55%
Test Voltage: AC 120V/60Hz			60Hz		BRIDE	
	Test Mode:	Hopping M	lode (GFSK DH3)			CHILL DES
	Channel	Pulse Time	Total of Dwell	Period Time	Limit	Result
	(MHz)	(ms)	(ms)	(s)	(ms)	Nesuit
	2402	1.760	281.60			

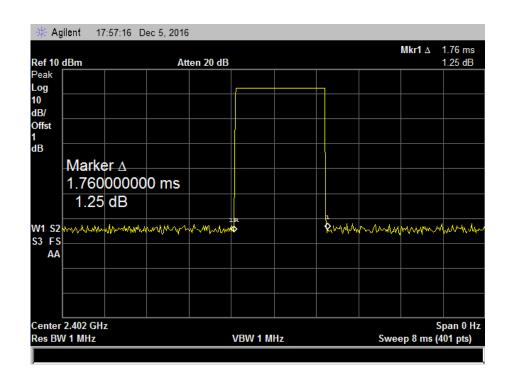
 (MHz)
 (ms)
 (ms)
 (s)
 Result

 2402
 1.760
 281.60
 31.60
 400
 PASS

 2480
 1.760
 281.60
 31.60
 400
 PASS

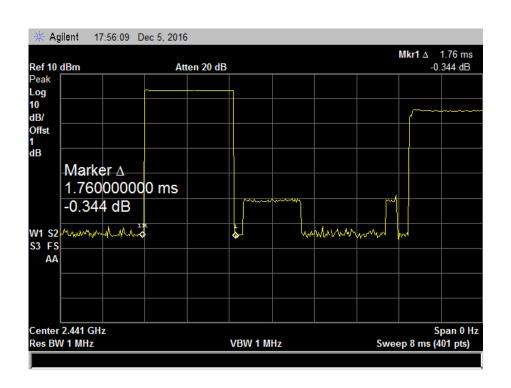
Note: Dwell time=Pulse Time (ms) \times (1600 \div 4 \div 79) \times 31.6

GFSK Hopping Mode DH3

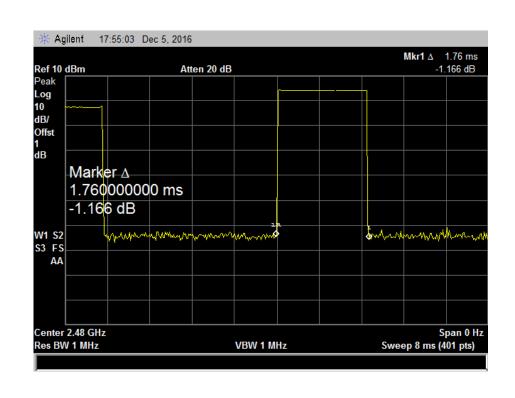








GFSK Hopping Mode DH3





2441

2480

Report No.: TB-FCC150612

PASS

Page: 58 of 92

	EUT:	PA ACTIVE S BUILT IN BL	STEREO SPEAKER UETOOTH	Model Nam	e:	HP-6250AUBT
	Temperature:	25℃	THE PARTY OF THE P	Relative Hum	idity:	55%
	Test Voltage:		BRIDE			
	Test Mode:	Hopping M	ode (GFSK DH5)	COLUMN TO A STATE OF THE PARTY		WILL TO SERVE
	Channel	Pulse Time	Total of Dwell	Period Time	Limit	Result
	(MHz)	(ms)	(ms)	(s)	(ms)	Nesuit
١	2402	3.000	320.00			

Note: Dwell time=Pulse Time (ms) \times (1600 \div 6 \div 79) \times 31.6

3.000

3.000

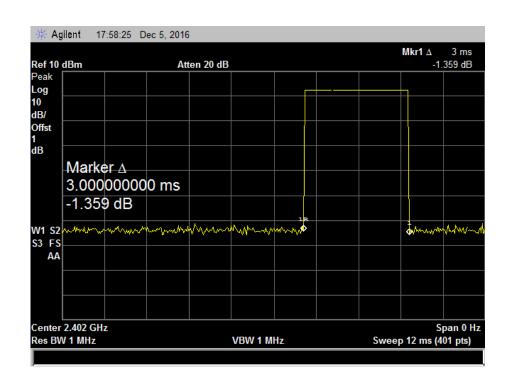
GFSK Hopping Mode DH5

320.00

320.00

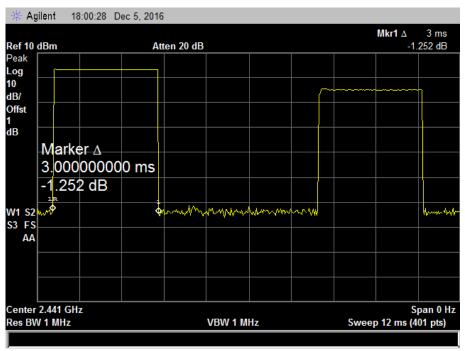
31.60

400

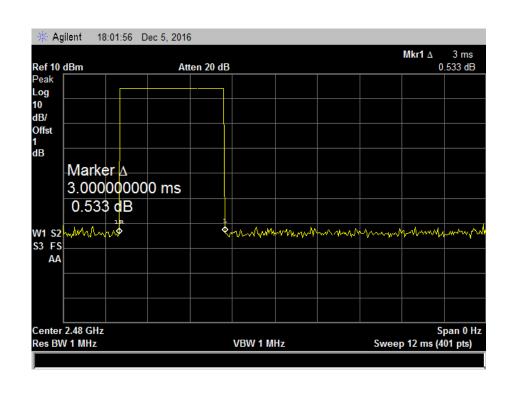








GFSK Hopping Mode DH5 2480 MHz





Page: 60 of 92

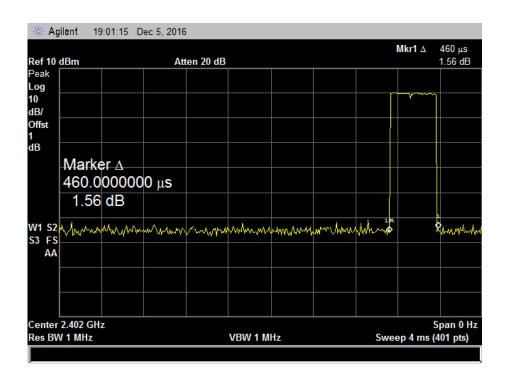
EUT:	PA ACTIVE STEREO SPEAKER BUILT IN BLUETOOTH	Model Name :	HP-6250AUBT		
Temperature:	25℃	Relative Humidity:	55%		
Test Voltage:	AC 120V/60Hz				
Took Made:	Hanning Made / # // DODCK D)U4)			

Test Mode: Hopping Mode (π /4-DQPSK DH1)

Channel (MHz)	Pulse Time (ms)	Total of Dwell (ms)	Period Time (s)	Limit (ms)	Result
2402	0.460	147.20			
2441	0.460	147.20	31.60	400	PASS
2480	0.460	147.20			

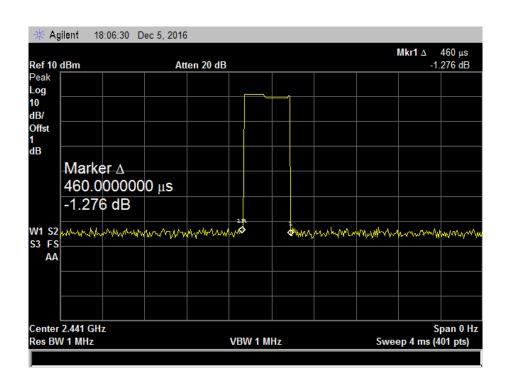
Note: Dwell time=Pulse Time (ms) \times (1600 \div 2 \div 79) \times 31.6

π/4-DQPSK Hopping Mode DH1

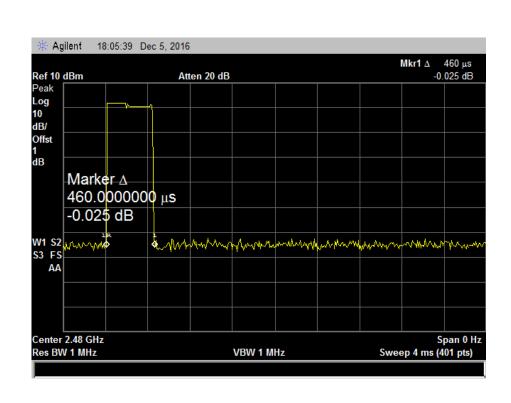








π/4-DQPSK Hopping Mode DH1



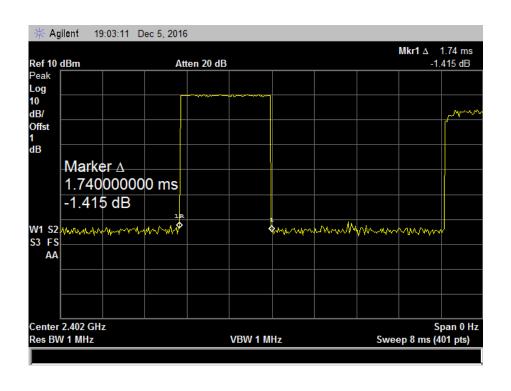


Page: 62 of 92

				25. 10.		
EUT: PA ACTIVE STEREO SPEAKER BUILT IN BLUETOOTH		Model Name :		HP-6250AUBT		
Temperature	:	25℃	The same	Relative Humidity: 55%		55%
Test Voltage:		AC 120V/	60Hz			
Test Mode: Hopping Mode (π /4-DQPSK D		DH3)		MAIL		
Channel	Pu	Ise Time	Total of Dwell	Period Time	Limit	Result
(MHz)		(ms)	(ms)	(s)	(ms)	Result
2402		1.740	278.40			
2441		1.740	278.40	31.60	400	PASS
2480		1.740	278.40			

Note: Dwell time=Pulse Time (ms) \times (1600 \div 4 \div 79) \times 31.6

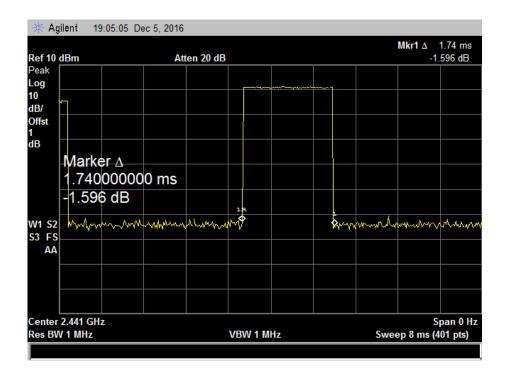
π /4-DQPSK Hopping Mode DH3



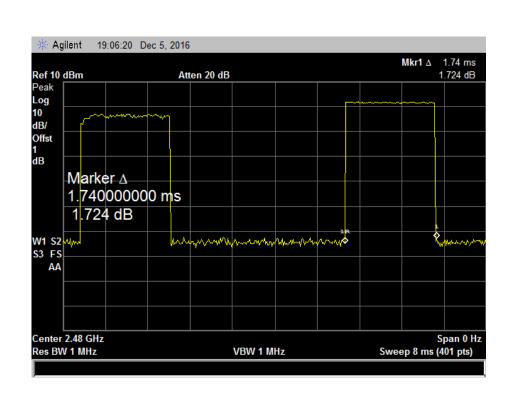




2441 MHz



π/4-DQPSK Hopping Mode DH3





Page: 64 of 92

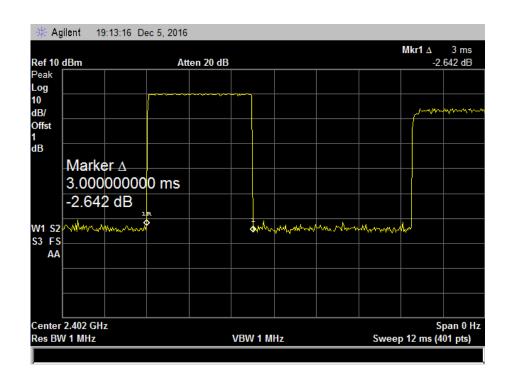
EUT:	PA ACTIVE STEREO SPEAKER BUILT IN BLUETOOTH	Model Name :	HP-6250AUBT		
Temperature:	25℃	Relative Humidity:	55%		
Test Voltage:	AC 120V/60Hz				
Test Mode:	Hopping Mode (T /4-DOPSK DH5)				

Hopping Mode (π/4-DQPSK DH5)

Channel (MHz)	Pulse Time (ms)	Total of Dwell (ms)	Period Time (s)	Limit (ms)	Result
2402	3.000	320.00			
2441	3.000	320.00	31.60	400	PASS
2480	3.000	320.00			

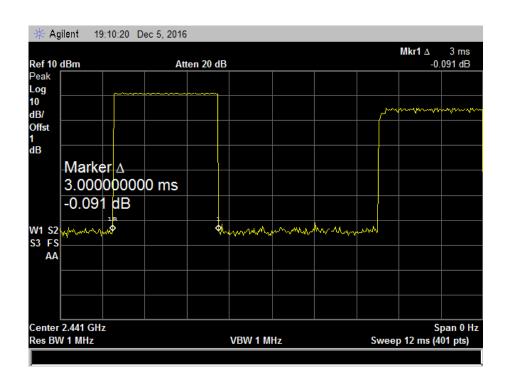
Note: Dwell time=Pulse Time (ms) \times (1600 \div 6 \div 79) \times 31.6

π /4-DQPSK Hopping Mode DH5

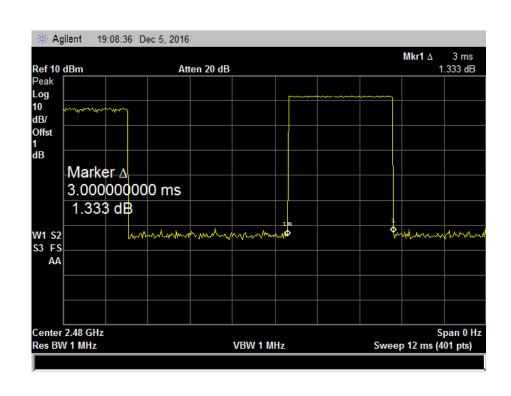








π/4-DQPSK Hopping Mode DH5



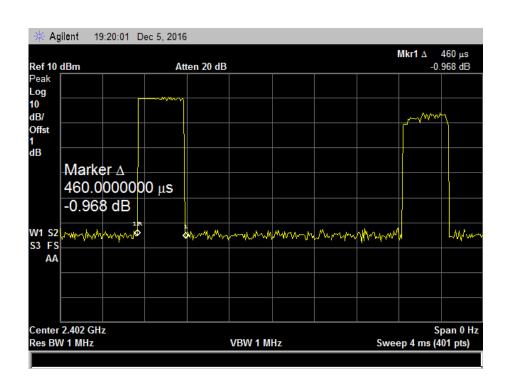


Page: 66 of 92

		ACCUSED TO A STATE OF THE STATE			
EUT:		PA ACTIVE STEREO SPEAKER BUILT IN BLUETOOTH		Model Name :	
Temperature:	25 ℃		Relative Humidity: 55%		55%
Test Voltage:	AC 120V/6	0Hz			
Test Mode:	Hopping M	ode (8-DPSK DH1)		MAN	
Channel	Pulse Time	Total of Dwell	Period Time	Limit	Result
(MHz)	(ms)	(ms)	(s)	(ms)	Result
2402	0.460	147.20			
2441	0.460	147.20	31.60	400	PASS
2480	0.460	147.20			

Note: Dwell time=Pulse Time (ms) \times (1600 \div 2 \div 79) \times 31.6

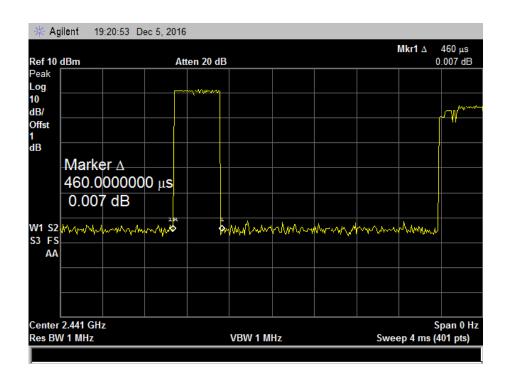
8-DPSK Hopping Mode DH1



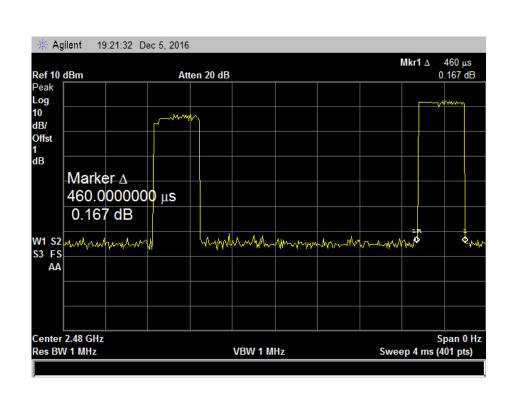


8-DPSK Hopping Mode DH1

2441 MHz



8-DPSK Hopping Mode DH1





2480

Report No.: TB-FCC150612

Page: 68 of 92

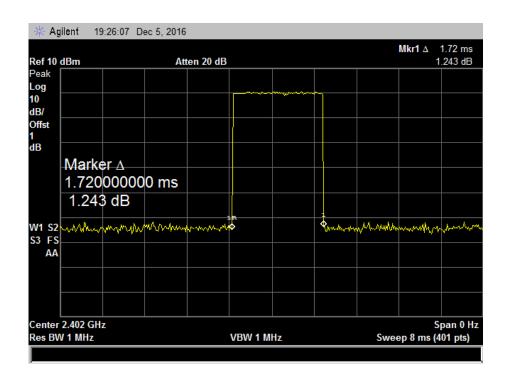
EUT:	11 14 1	PA ACTIVE STEREO SPEAKER BUILT IN BLUETOOTH		Model Name :	
Temperature	25 ℃	25℃ Relative Humidity:		55%	
Test Voltage:	AC 120V/6	AC 120V/60Hz			
Test Mode:	Hopping M	Hopping Mode (8-DPSK DH3)			CHILL STORY
Channel	Pulse Time	ulse Time Total of Dwell		Limit	Result
(MHz)	(ms)	(ms)	(s)	(ms)	Result
2402	1.720	275.20			
2441	1.720	275.20	31.60	400	PASS

Note: Dwell time=Pulse Time (ms) \times (1600 \div 4 \div 79) \times 31.6

1.720

8-DPSK Hopping Mode DH3

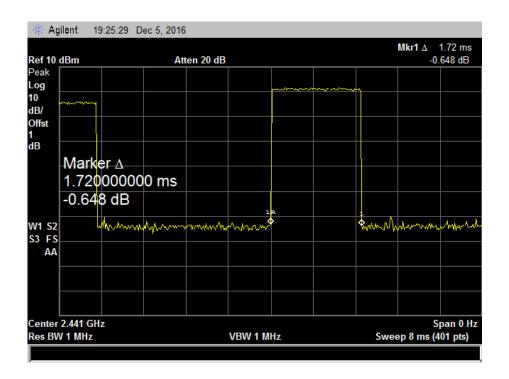
275.20



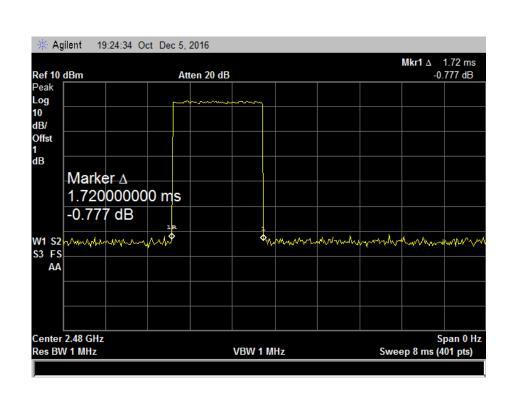








8-DPSK Hopping Mode DH3





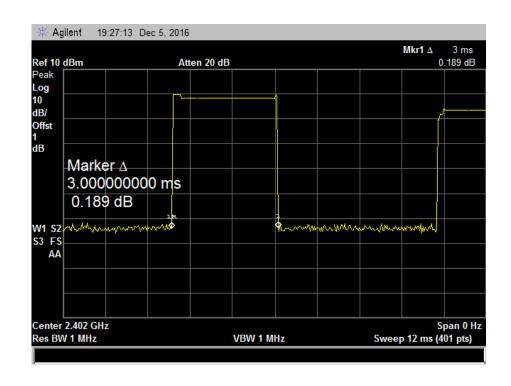
Page: 70 of 92

EUT:		PA ACTIVE S	STEREO SPEAKER UETOOTH	Model Name : HP-6250AUBT		HP-6250AUBT
Temperatur	e:	25℃		Relative Humidity: 55%		
Test Voltage) :	AC 120V/6	0Hz		BRIDE	
Test Mode:		Hopping M	Hopping Mode (8-DPSK DH5)			W. Company
Channel (MHz)	F	Pulse Time (ms)	Total of Dwell (ms)	Period Time (s)	Limit (ms)	Result

Channel (MHz)	Pulse Time (ms)	Total of Dwell (ms)	Period Time (s)	Limit (ms)	Result
2402	3.000	320.00			
2441	3.000	320.00	31.60	400	PASS
2480	3.000	320.00			

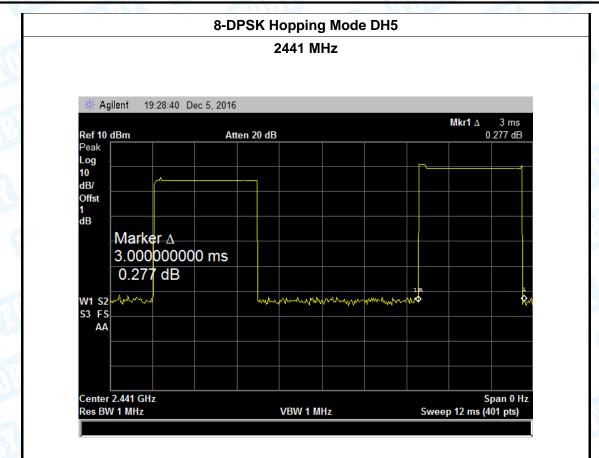
Note: Dwell time=Pulse Time (ms) \times (1600 \div 6 \div 79) \times 31.6

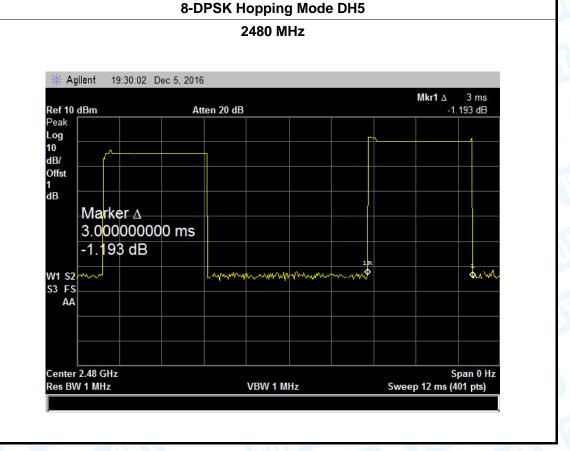
8-DPSK Hopping Mode DH5





Page: 71 of 92







Page: 72 of 92

9. Channel Separation and Bandwidth Test

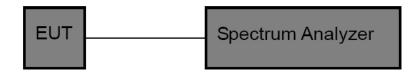
9.1 Test Standard and Limit

9.1.1 Test Standard FCC Part 15.247

9.1.2 Test Limit

Test Item	Limit	Frequency Range(MHz)
Bandwidth	<=1 MHz (20dB bandwidth)	2400~2483.5
Channel Separation	>25KHz or >two-thirds of the 20 dB bandwidth Which is greater	2400~2483.5

9.2 Test Setup



9.3 Test Procedure

- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) Spectrum Setting:

Channel Separation: RBW=30 kHz, VBW=100 kHz.

Bandwidth: RBW=30 kHz, VBW=100 kHz.

- (3) The bandwidth is measured at an amplitude level reduced 20dB from the reference level. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst –case (i.e the widest) bandwidth.
 - (4) Measure the channel separation the spectrum analyzer was set to Resolution Bandwidth:30 kHz, and Video Bandwidth:100 kHz. Sweep Time set auto.

9.4 EUT Operating Condition

The EUT was set to the Hopping Mode for Channel Separation Test and continuously transmitting for the Bandwidth Test.

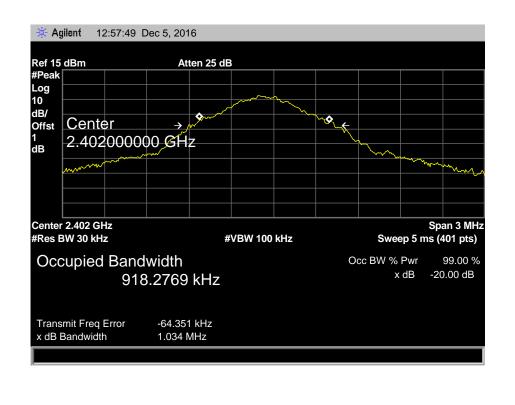


Page: 73 of 92

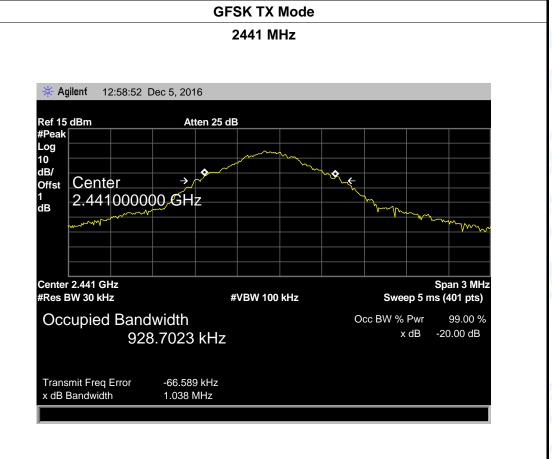
9.5 Test Data

EUT:		CTIVE STEREO SPEAKER T IN BLUETOOTH	Model Name :	HP-6250AUBT
Temperature:	25℃		Relative Humidity:	55%
Test Voltage:	AC	120V/60Hz	COLUMN TO THE PARTY OF THE PART	DATE:
Test Mode:	TXI	Mode (GFSK)		
Channel freque	ncy	99% OBW	20dB Bandwidth	20dB Bandwidth
(MHz)		(kHz)	(kHz)	*2/3 (kHz)
(MHz) 2402		(kHz) 918.2769	(kHz) 1034.00	
. ,		. ,	, ,	*2/3 (kHz)

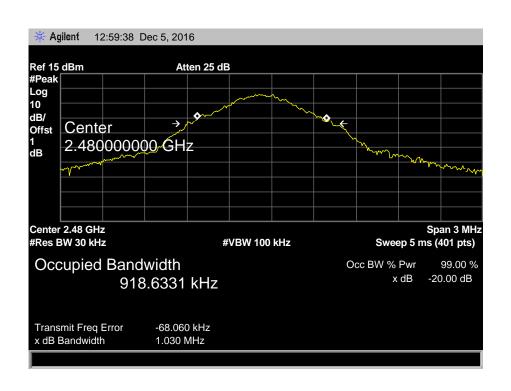
GFSK TX Mode







GFSK TX Mode 2480 MHz





2480

Report No.: TB-FCC150612

872.000

Page: 75 of 92

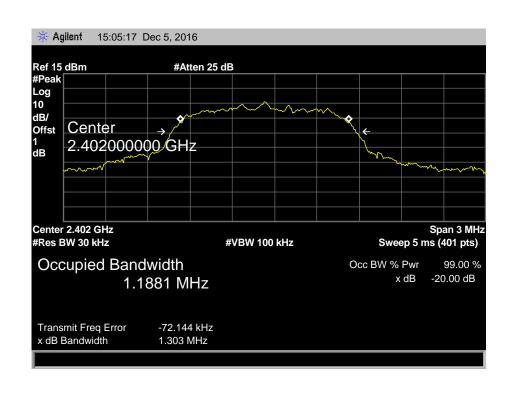
EUT:	PA ACTIVE STEREO SPEAKER BUILT IN BLUETOOTH	Model Name :	HP-6250AUBT
Temperature:	25℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60Hz		
Test Mode:	TX Mode (π/4-DQPSK)		

Channel frequency (MHz)	99% OBW (kHz)	20dB Bandwidth (kHz)	20dB Bandwidth *2/3 (kHz)
2402	1188.10	1303.00	868.667
2441	1189.20	1306.00	870.667

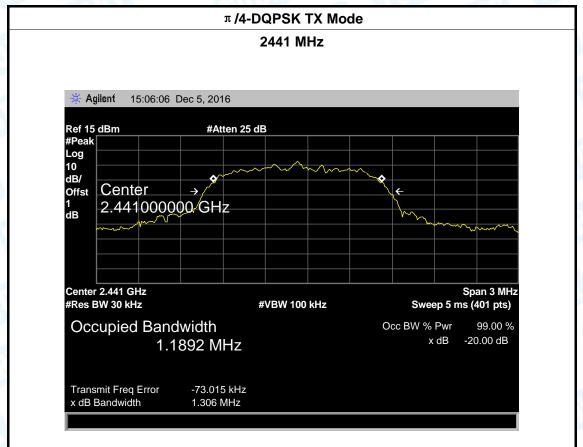
π/4-DQPSK TX Mode

1308.00

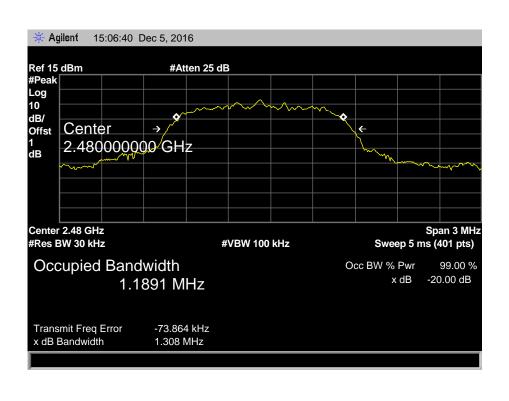
1189.10







π/4-DQPSK TX Mode

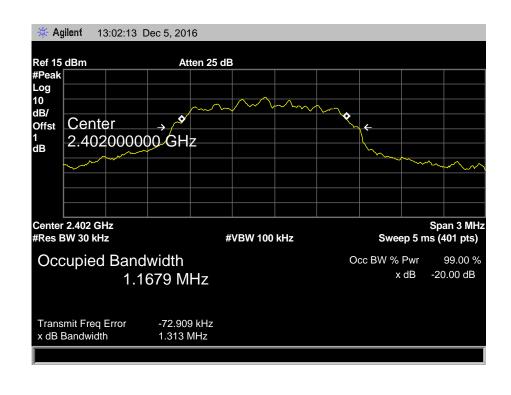




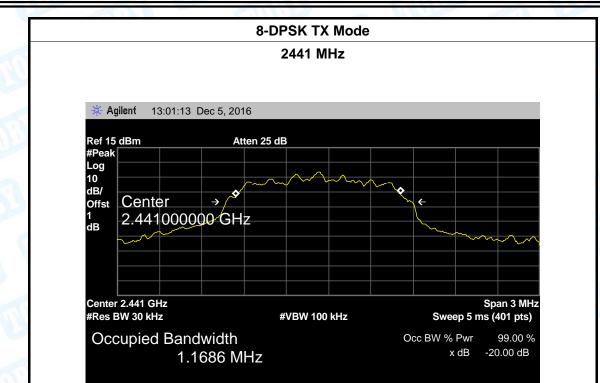
Page: 77 of 92

EUT:	PA ACTIVE STEREO SPEAKER BUILT IN BLUETOOTH	Model Name :	HP-6250AUBT
Temperature:	25℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60Hz		
Test Mode:	TX Mode (8-DPSK)	The same of the sa	
Channel frequence (MHz)	99% OBW (kHz)	20dB Bandwidth	20dB Bandwidth
(141112)	(КП2)	(kHz)	*2/3 (kHz)
2402	1167.90	1313.00	* 2/3 (kHz) 875.33
. ,	` ,	` ,	, ,
2402	1167.90	1313.00	875.33

DI OIL IX MO







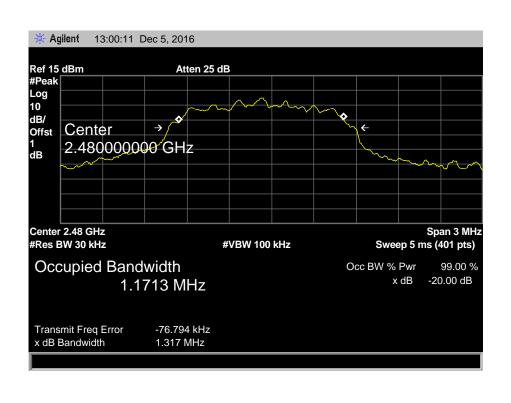
8-DPSK TX Mode

-74.454 kHz

1.312 MHz

Transmit Freq Error

x dB Bandwidth





2441

2480

Report No.: TB-FCC150612

Page: 79 of 92

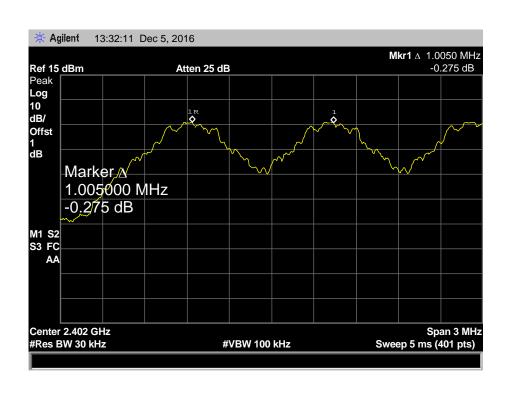
692.00

686.67

EUT:		STEREO SPEAKER	Model	Name :	HP-6250AUBT
Temperature:	25℃	WILL ST	Relative	Humidity:	55%
Test Voltage:	AC 120V/60Hz				
Test Mode:	Hopping I	Mode (GFSK)	Aller		
Channel frequ	uency	Separation Read	Value	Separa	tion Limit
(MHz)		(kHz)		(1	kHz)
2402		1005.00		68	39.33

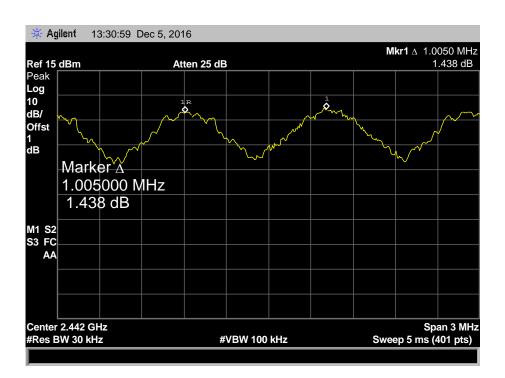
1005.00 GFSK Hopping Mode

1005.00

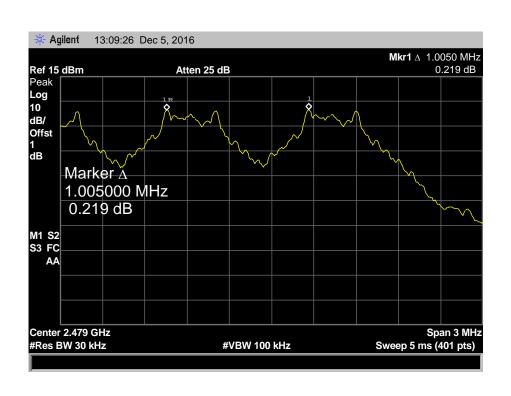








GFSK Hopping Mode



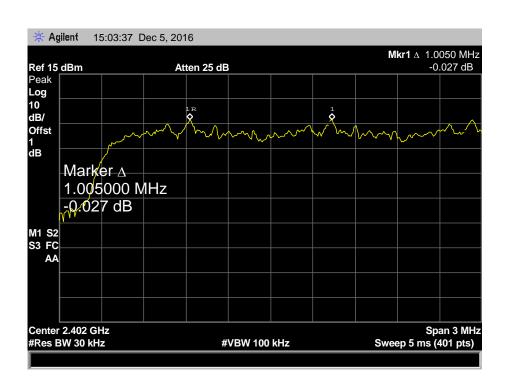


Page: 81 of 92

EUT:		STEREO SPEAKER	Model	Name :	HP-6250AUBT
Temperature:	25℃		Relative	Humidity:	55%
Test Voltage:	AC 120V/60Hz				
Test Mode:	Hopping Mode (π /4-DQPSK)				
Channel frequ	iency	Separation Read	Value	Separa	tion Limit

Channel frequency	Separation Read Value	Separation Limit
(MHz)	(kHz)	(kHz)
2402	1005.00	868.67
2441	1005.00	870.67
2480	1005.00	872.00

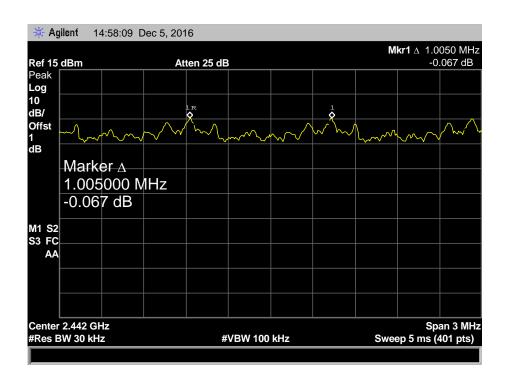
π /4-DQPSK Hopping Mode



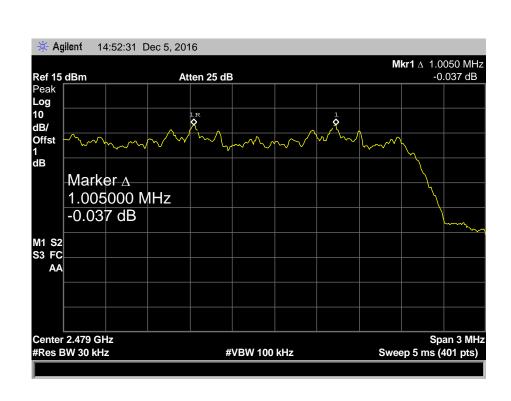




2441 MHz



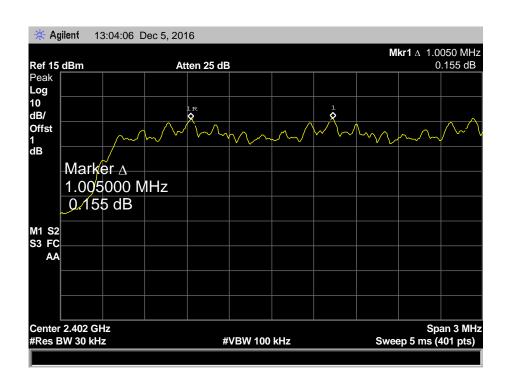
π/4-DQPSK Hopping Mode





Page: 83 of 92

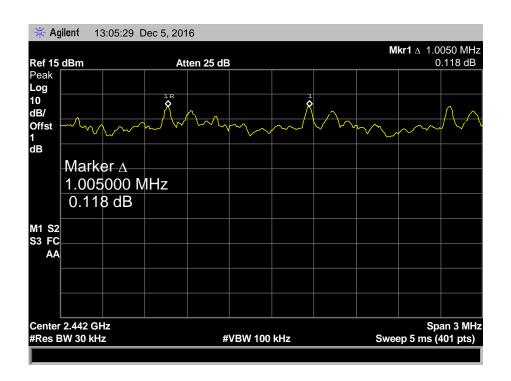
EUT:		STEREO SPEAKER LUETOOTH	Model Name :		HP-6250AUBT
Temperature:	25 ℃	mn b	Relative	Humidity:	55%
Test Voltage:	AC 120V/	0V/60Hz			
Test Mode:	Hopping Mode (8-DPSK)				
Channel frequ	Channel frequency Separation Read Value Separatio		tion Limit		
(MHz)	(MHz) (kHz) (kHz)		kHz)		
2402	2402 1005.00 875.33		75.33		
2441	2441 1005.00 874.6		74.67		
2480		1005.00 878.00		78.00	
8-DPSK Hopping Mode					



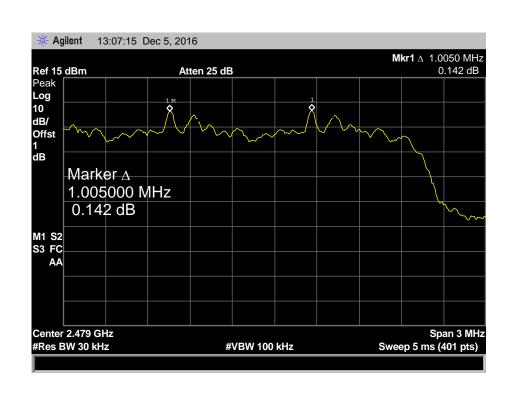




2441 MHz



8-DPSK Hopping Mode





Page: 85 of 92

10. Peak Output Power Test

10.1 Test Standard and Limit

10.1.1 Test Standard FCC Part 15.247 (b) (1)

10.1.2 Test Limit

Test Item	Limit	Frequency Range(MHz)
Peak Output Power	Hopping Channels>75 Power<1W(30dBm)	2400~2483.5
	Other <125 mW(21dBm)	

10.2 Test Setup



10.3 Test Procedure

- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) Spectrum Setting:

Peak Detector: RBW=1 MHz, VBW=3 MHz for bandwidth less than 1MHz. RBW=3 MHz, VBW=3 MHz for bandwidth more than 1MHz.

10.4 EUT Operating Condition

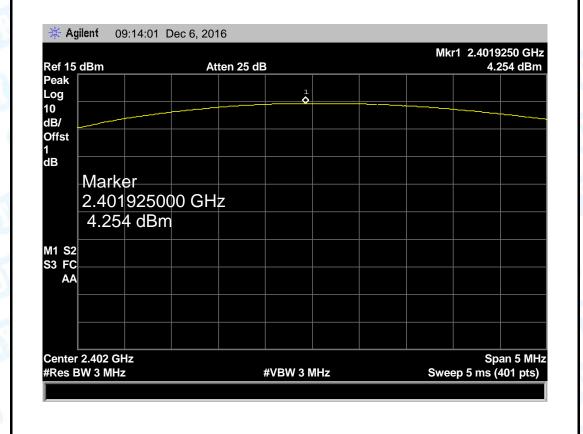
The EUT was set to continuously transmitting in the max power during the test.



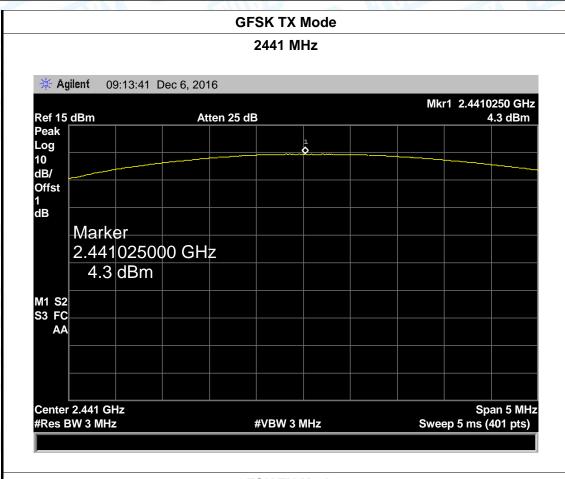
Page: 86 of 92

10.5 Test Data

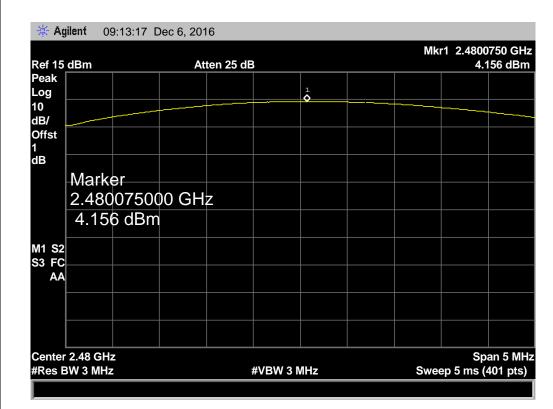
EUT:		E STEREO SPEAKER BLUETOOTH Model Name:		HP-6250AUBT	
Temperature:	25 ℃		Relative	Humidity:	55%
Test Voltage:	AC 120V/60Hz				
Test Mode:	TX Mode	TX Mode (GFSK)			1
Channel frequen	I frequency (MHz) Test Result (dE		3m)	Limi	it (dBm)
2402		4.254			
2441		4.300	4.300 21		21
2480		4.156	3		
	GFSK TX Mode				







GFSK TX Mode





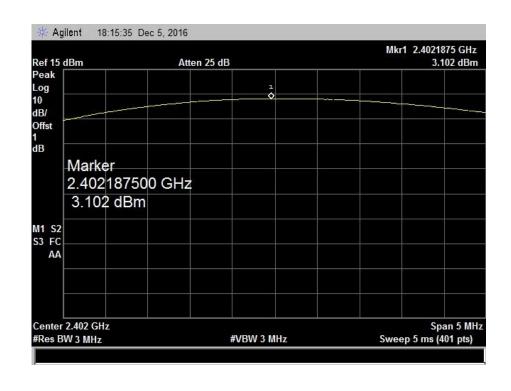
Page: 88 of 92

EUT:	PA ACTIVE STEREO SPEAKER BUILT IN BLUETOOTH	Model Name :	HP-6250AUBT
Temperature:	25℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60Hz		

Test Mode: ΤΧ Mode (π /4-DQPSK)

Channel frequency (MHz)	Test Result (dBm)	Limit (dBm)
2402	3.102	
2441	3.301	21
2480	4.223	

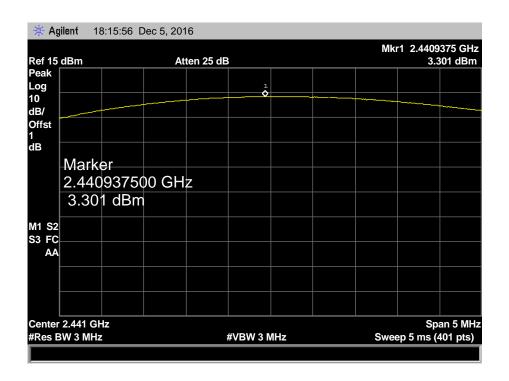
π/4-DQPSK TX Mode



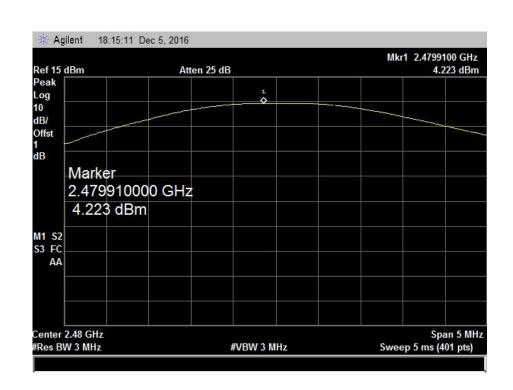




2441 MHz



π/4-DQPSK TX Mode



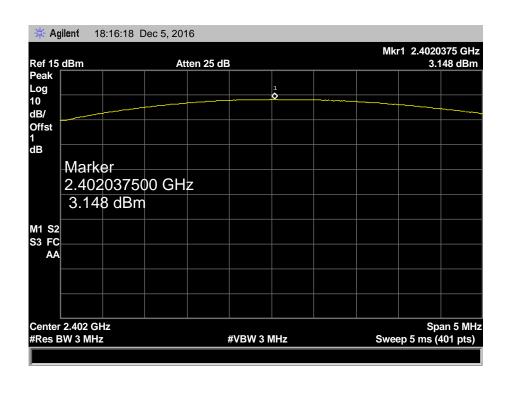


Page: 90 of 92

EUT:	7 19 11 11 11	STEREO SPEAKER	Model	Name :	HP-6250AUBT
Temperature:	25℃		Relative	e Humidity:	55%
Test Voltage:	AC 120V/60Hz				
Test Mode:	TX Mode (8-DPSK)				
Channel frequency (MHz)		Test Result (dBm)		Limit (dBm)	
2402		3.148			

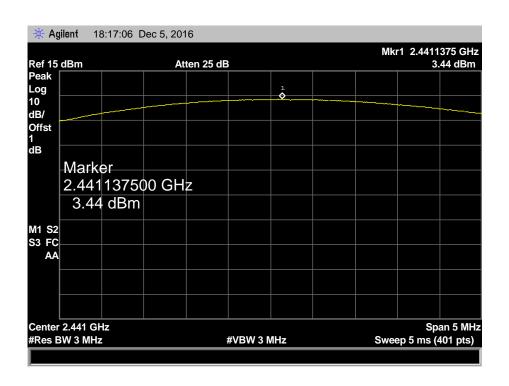
2402 3.148 2441 3.440 **21** 2480 3.300

8-DPSK TX Mode

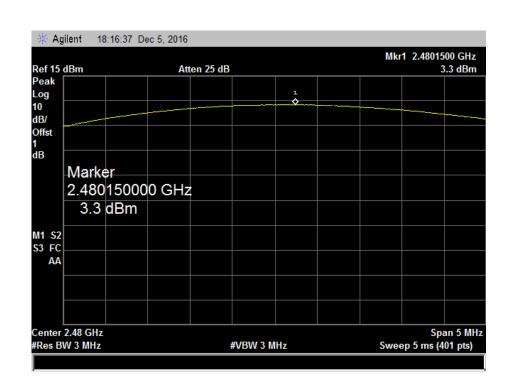








8-DPSK TX Mode





Page: 92 of 92

11. Antenna Requirement

11.1 Standard Requirement

11.1.1 Standard FCC Part 15.203

11.1.2 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 shall be considered sufficient to comply with the provisions of this Section. 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.

11.2 Antenna Connected Construction

The directional gains of the antenna used for transmitting is 0 dBi, and the antenna connector is de-signed with permanent attachment and no consideration of replacement. Please see the EUT photo for details.

The EUT antenna is a PCB antenna. It complies with the standard requirement.

Antenna Type				
	▼ Permanent attached antenna			
	□ Unique connector antenna			
1	□ Professional installation antenna			

----END OF REPORT----