

FCC RADIO TEST REPORT FCC ID: 2AAE3BT300

Product: Bluetooth Headphone

Trade Name: KOPPO

Model Name: BT300

Serial Model: BT100, BT200, BT506, BT508, BT512, BT513,

BT538, BT531, BT020, BT021

Report No.: STT-20130529005F

Prepared for

Dongguan Koppo Electronic.,Ltd

Xingyinning Industrial Park, Hongshiqiao Industiral Area, Yantian Village, Fenggang Town, Dongguan City, Guangdong Province, China 523703

Prepared by

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TEST RESULT CERTIFICATION

Report No.: STT-20130529005F

Applicant's name:	Dongguan Koppo Electronic.,Ltd		
Address:	Xingyinning Industrial Park, Hongshiqiao Industiral Area, Yantian Village, Fenggang Town, Dongguan City, Guangdong		
	_	China 523703	
Manufacture's Name:			
Address:		ng Industrial Park, Hongshiqiao Industiral Area, Yantian	
	•	enggang Town, Dongguan City, Guangdong	
Draduat description	Province,	China 523703	
Product description			
Product name:			
Model and/or type reference :	BT538, B	T100, BT200, BT506, BT508, BT512, BT513, T531, BT020, BT021	
Standards:	FCC Part	15.247	
Test procedure	ANSI C6	3.4-2003	
		ted by STT, and the test results show that the equipment FCC requirements. And it is applicable only to the tested	
This report shall not be reproduc	ced excep	t in full, without the written approval of STT, this	
document may be altered or rev	ised by ST	T, personal only, and shall be noted in the revision of the	
document.			
Date of Test	:		
Date (s) of performance of tests	:	20 May 2013 ~29 May 2013	
Date of Issue	:	29 May 2013	
Test Result	:	Pass	
Testing Engine	eer :	(on live	
		(Can Liu)	
		(Gail Liu)	
Technical Man	ager ·	Terry you	
reormical Wan	90		
		(Jenny You)	

(Jim He)

Authorized Signatory:



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1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 (15.247) , Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	
15.247(a)(1)	Hopping Channel Separation	PASS	
15.247(b)(1)	Peak Output Power	PASS	
15.247(c)	Radiated Spurious Emission PASS		
15.247(a)(iii)	Number of Hopping Frequency	PASS	
15.247(a)(iii)	Dwell Time	PASS	
15.247(a)(1)	Bandwidth	PASS	
15.205	Band Edge Emission	PASS	
15.203	Antenna Requirement	PASS	

NOTE:

(1)" N/A" denotes test is not applicable in this Test Report



1.1 TEST FACILITY

NTEK Testing Technology Co., Ltd

Add.: 1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street, Bao'an District, Shenzhen P.R. China.

Report No.: STT-20130529005F

FCC Registration No.:238937; IC Registration No.:9270A-1

CNAS Registration No.:L5516

1.2 MEASUREMENT UNCERTAINTY

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

No.	Item	Uncertainty
1	Conducted Emission Test	±1.38dB
2	RF power,conducted	±0.16dB
3	Spurious emissions,conducted	±0.21dB
4	All emissions,radiated(<1G)	±4.68dB
5	All emissions,radiated(>1G)	±4.89dB
6	Temperature	±0.5°C
7	Humidity	±2%

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2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	Bluetooth Headphone		
Trade Name	KOPPO		
Model Name	BT300		
Serial Model	BT100, BT200, BT506, BT531, BT020, BT021	BT508, BT512, BT513, BT538,	
Model Difference	All the model are the sa except the appearance	me circuit and RF module, colour .	
	The EUT is a Bluetooth	Headphone	
	Operation Frequency:	2402~2480 MHz	
	Modulation Type:	BT(1Mbps): GFSK	
		BT EDR(2Mbps):∏/4-DQPSK	
		BT EDR(3Mbps): 8-DPSK	
	Bit Rate of Transmitter	1Mbps/2Mbps/3Mbps	
	Number Of Channel 79 CH		
Product Description	Antenna Designation:	Please see Note 3.	
•	Output	BT(1Mbps): -1.709dBm	
	Power(Conducted):	BT EDR(2Mbps): -0.736dBm	
		BT EDR(3Mbps): -0.569dBm	
	Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual.		
Channel List	Please refer to the Note 2.		
Adapter	N/A		
Battery	DC 3.7V		

Note:

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



2

	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
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		
26	2428	53	2455		

3. Table for Filed Antenna

Ant	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
1	N/A	N/A	PCB Antenna	N/A	0	BT Antenna



2.2 DESCRIPTION OF TEST MODES

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 above was evaluated respectively.

Pretest Mode	Description
Mode 1	CH00
Mode 2	CH39
Mode 3	CH78
Mode 4	Charging

For Conducted Emission			
Final Test Mode Description			
Mode 4	Charging		

For Radiated Emission			
Final Test Mode	Description		
Mode 1	CH00		
Mode 2	CH39		
Mode 3	CH78		

Note:

(1) The measurements are performed at the highest, middle, lowest available channels.

2.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

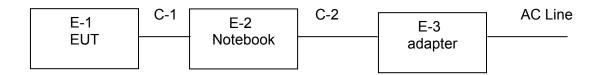
During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final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

Test software Version	Test program: N/A		
Frequency	2402 MHz	2441 MHz	2480 MHz
Parameters(1Mbps)	DEF	DEF	DEF
Parameters(2Mbps)	DEF	DEF	DEF
Parameters(3Mbps)	DEF	DEF	DEF



2.4 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Conducted Emission Test



Radiated Emission Test

E-1 EUT



2.5 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

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Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E-1	EUT	KOPPO	BT300	N/A	EUT
E-2	Notebook	DELL	PP10L	N/A	
E-3	Adapter	DELL	HA65NS1-00	N/A	

Item	Shielded Type	Ferrite Core	Length	Note
C-1	NO	NO	100	
C-2	NO	NO	120	

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in <code>"Length_"</code> column.
- (3) "YES" is means "shielded" "with core"; "NO" is means "unshielded" "without core".



2.6 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibratio n period
1	Spectrum Analyzer	Agilent	E4407B	MY4510804 0	2012.07.06	2013.07.05	1 year
2	Test Receiver	R&S	ESPI	101318	2012.06.07	2013.06.06	1 year
3	Bilog Antenna	TESEQ	CBL6111D	31216	2012.07.06	2013.07.05	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	620026441 6	2012.06.07	2013.06.06	1 year
5	Spectrum Analyzer	ADVANTEST	R3132	150900201	2012.06.07	2013.06.06	1 year
6	Horn Antenna	EM	EM-AH-101 80	2011071402	2012.07.06	2013.07.05	1 year
7	Horn Ant	Schwarzbeck	BBHA 9170	9170-181	2012.07.06	2013.07.05	1 year
8	Amplifier	EM	EM-30180	060538	2012.12.22	2013.12.21	1 year
9	Loop Antenna	ARA	PLA-1030/B	1029	2012.06.08	2013.06.07	1 year
10	Power Meter	R&S	NRVS	100696	2012.07.06	2013.07.05	1 year
11	Power Sensor	R&S	URV5-Z4	0395.1619. 05	2012.07.06	2013.07.05	1 year

Conduction Test equipment

Item	Kind of Equipment	Manufactu rer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Test Receiver	R&S	ESCI	101160	2012.06.06	2013.06.05	1 year
2	LISN	R&S	ENV216	101313	2012.08.24	2013.08.23	1 year
3	LISN	EMCO	3816/2	00042990	2012.08.24	2013.08.23	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264417	2012.06.07	2013.06.06	1 year
5	Passive Voltage Probe	R&S	ESH2-Z3	100196	2012.06.07	2013.06.06	1 year
6	Absorbing clamp	R&S	MOS-21	100423	2012.06.08	2013.06.07	1 year



3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150KHz-30MHz)

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)		Standard	
TREQUENCT (MITZ)	Quasi-peak	Average	Quasi-peak	Average	Standard	
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *	CISPR	
0.50 -5.0	73.00	60.00	56.00	46.00	CISPR	
5.0 -30.0	73.00	60.00	60.00	50.00	CISPR	

0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	73.00	60.00	56.00	46.00	FCC
5.0 -30.0	73.00	60.00	60.00	50.00	FCC

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

Receiver Parameters	Setting		
Attenuation	10 dB		
Start Frequency	0.15 MHz		
Stop Frequency	30 MHz		
IF Bandwidth	9 kHz		



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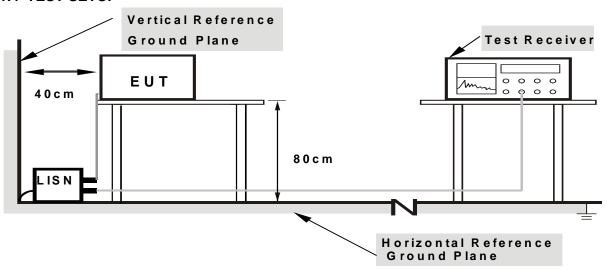
3.1.2 TEST PROCEDURE

- a. The EUT was placed 0.4 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.
- b. 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.
- c. 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.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.1.3 DEVIATION FROM TEST STANDARD

No deviation

3.1.4 TEST SETUP



Note: 1.Support units were connected to second LISN.

2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

3.1.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.



3.1.6 TEST RESULTS

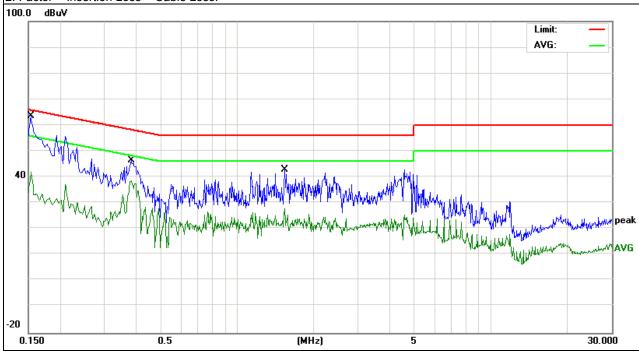
EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature :	26 ℃	Relative Humidity:	54%
Pressure :	1010hPa	Phase :	L
Test Voltage :	DC 5V from PC AC 120V/60Hz	Test Mode:	Mode 4

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Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Dotostor Type
(MHz)	(dBµV)	(dB)	(dBµV)	(dBµV)	(dB)	Detector Type
0.1539	53.81	9.82	63.63	65.78	-2.15	QP
0.1539	42.38	9.82	52.20	55.78	-3.58	AVG
0.3820	36.56	10.03	46.59	58.23	-11.64	QP
0.3820	28.62	10.03	38.65	48.23	-9.58	AVG
1.5420	32.67	10.20	42.87	56.00	-13.13	QP
1.5420	17.71	10.20	27.91	46.00	-18.09	AVG

Remark:

- 1. All readings are Quasi-Peak and Average values.
- 2. Factor = Insertion Loss + Cable Loss.

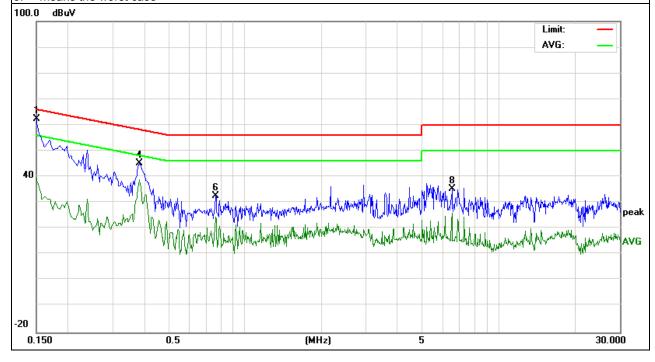




EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature:	26 ℃	Relative Humidity:	54%
Pressure :	1010hPa	Phase :	N
Test Voltage :	DC 5V from PC AC 120V/60Hz	Test Mode:	Mode 4

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV)	(dBµV)	(dB)	Detector Type
0.1499	41.98	9.82	51.80	66.00	-14.20	QP
0.1499	29.66	9.82	39.48	56.00	-16.52	AVG
0.3820	35.07	10.20	45.27	58.23	-12.96	QP
0.3820	28.69	10.20	38.89	48.23	-9.34	AVG
0.7660	22.52	10.23	32.75	56.00	-23.25	QP
0.7660	14.19	10.23	24.42	46.00	-21.58	AVG
6.5300	24.96	10.34	35.30	60.00	-24.70	QP
6.5300	15.83	10.34	26.17	50.00	-23.83	AVG

- 1. All readings are Quasi-Peak and Average values.
- 2. Factor = Insertion Loss + Cable Loss.
- 3. '*' means the worst case





3.2 RADIATED EMISSION MEASUREMENT

3.2.1 RADIATED EMISSION LIMITS (Frequency Range 9kHz-1000MHz)

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies	Field Strength	Measurement Distance
(MHz)	(micorvolts/meter)	(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

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	Class A (dBu	ıV/m) (at 3M)	Class B (dBuV/m) (at 3M)		
PREQUENCT (WITZ)	PEAK	AVERAGE	PEAK	AVERAGE	
Above 1000	80	60	74	54	

Notes:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

FREQUENCY RANGE OF RADIATED MEASUREMENT (For unintentional radiators)

Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes (MHz)	Range (MHz)
Below 1.705	30
1.705 – 108	1000
108 – 500	2000
500 – 1000	5000
Above 1000	5 th harmonic of the highest frequency or 40 GHz, whichever is lower



Spectrum Parameter	Setting	
Attenuation	Auto	
Start Frequency	1000 MHz	
Stop Frequency	10th carrier harmonic	
RB / VB (emission in restricted	1 MHz / 1 MHz for Dook 1 MHz / 10Hz for Average	
band)	1 MHz / 1 MHz for Peak, 1 MHz / 10Hz for Average	

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

3.2.2 TEST PROCEDURE

- a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. 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.
- e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- f. For the actual test configuration, please refer to the related Item –EUT Test Photos. Note:

Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

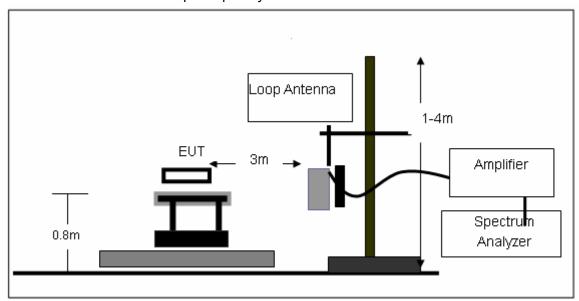
3.2.3 DEVIATION FROM TEST STANDARD

No deviation

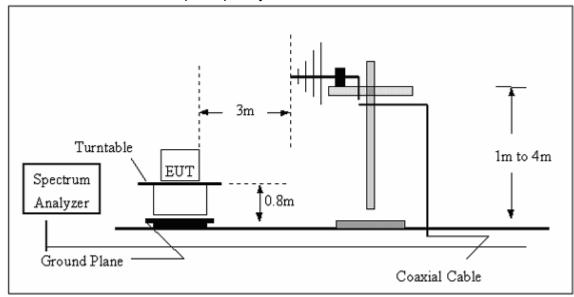


3.2.4 TEST SETUP

(A) Radiated Emission Test-Up Frequency Below 30MHz



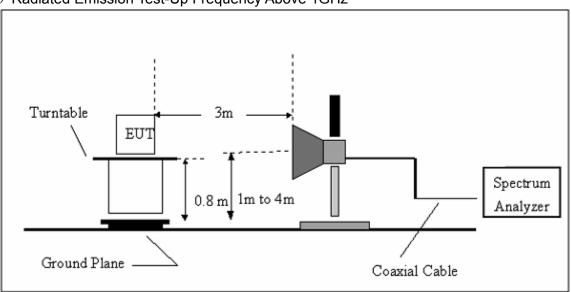
(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



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(C) Radiated Emission Test-Up Frequency Above 1GHz



3.2.5 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.



3.2.6 TEST RESULTS (BELOW 30 MHZ)

EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature :	20 ℃	Relative Humidity:	48%
Pressure:	1010 hPa	Polarization :	
Test Voltage :	DC 3.7V		
Test Mode :	Mode 1		

Report No.: STT-20130529005F

Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
				PASS
				PASS

NOTE:

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

Distance extrapolation factor =40 log (specific distance/test distance)(dB);

Limit line = specific limits(dBuv) + distance extrapolation factor.



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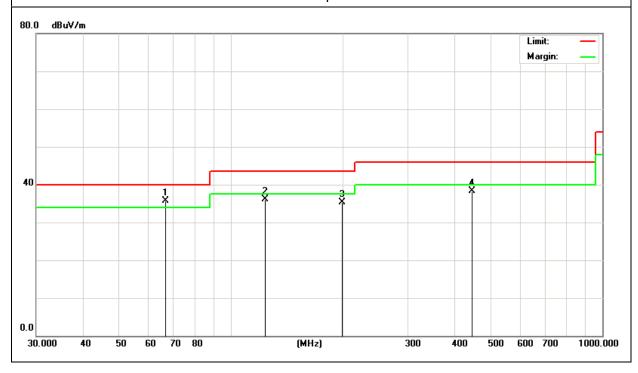
3.2.7 TEST RESULTS (BETWEEN 30M - 1000 MHZ)

EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature :	20 ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Polarization :	Horizontal
Test Voltage :	DC 3.7V		
Test Mode :	Mode 1		

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
66.87	30.21	5.51	35.72	40	-4.28	QP
123.57	24.16	11.86	36.02	43.5	-7.48	QP
198.74	26.66	8.7	35.36	43.5	-8.14	QP
445.23	20.18	18.09	38.27	46	-7.73	QP

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

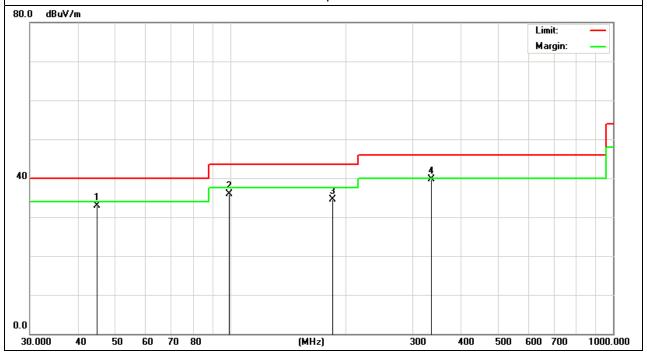




EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature :	20 ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Polarization :	Vertical
Test Voltage :	DC 3.7V		
Test Mode :	Mode 1		

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
44.88	22.21	10.68	32.89	40	-7.11	QP
99.33	25.44	10.53	35.97	43.5	-7.53	QP
184.74	25.16	9.38	34.54	43.5	-8.96	QP
335.14	24.65	15.03	39.68	46	-6.32	QP

Factor = Antenna Factor + Cable Loss – Pre-amplifier.





3.2.8 TEST RESULTS (ABOVE 1000 MHZ)

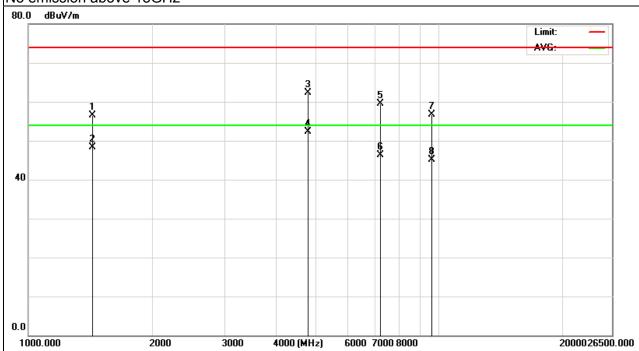
EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature :	20 ℃	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX 2402MHz - CH 00(1Mbps)	Polarization :	Horizontal

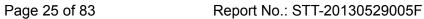
Report No.: STT-20130529005F

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotostor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
1431.21	31.12	25.44	56.56	74	-17.44	peak
1431.21	22.78	25.44	48.22	54	-5.78	AVG
4804.14	26.77	35.6	62.37	74	-11.63	peak
4804.14	16.78	35.6	52.38	54	-1.62	AVG
7206.51	23.22	36.26	59.48	74	-14.52	peak
7206.51	9.98	36.26	46.24	54	-7.76	AVG
9608.53	18.69	37.94	56.63	74	-17.37	peak
9608.53	7.12	37.94	45.06	54	-8.94	AVG

Remark:

Factor = Antenna Factor + Cable Loss - Pre-amplifier.



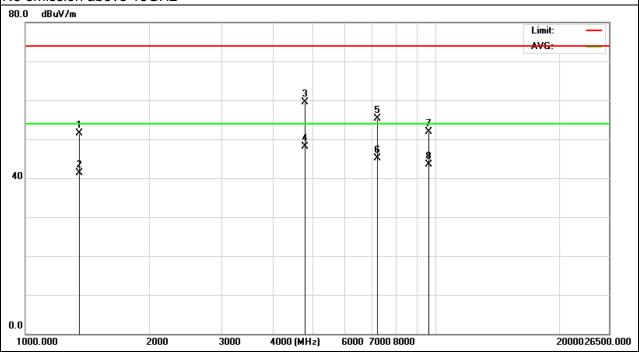




EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature:	20 ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX 2402MHz - CH 00(1Mbps)	Polarization :	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Datastar Tuna
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
1354.12	26.08	25.5	51.58	74	-22.42	peak
1354.12	15.8	25.5	41.3	54	-12.7	AVG
4804.28	23.88	35.6	59.48	74	-14.52	peak
4804.28	12.54	35.6	48.14	54	-5.86	AVG
7206.554	19.12	36.26	55.38	74	-18.62	peak
7206.554	8.87	36.26	45.13	54	-8.87	AVG
9608.15	13.87	37.95	51.82	74	-22.18	peak
9608.15	5.54	37.95	43.49	54	-10.51	AVG

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

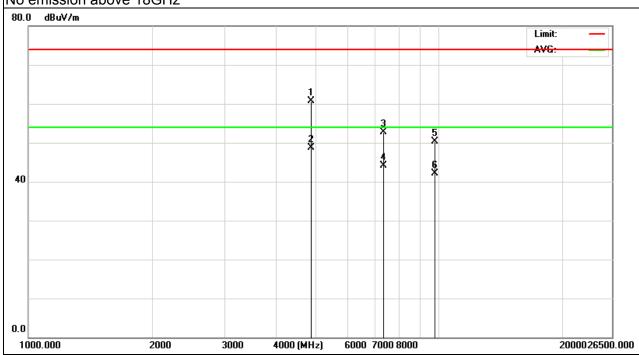




EUT: Bluetooth Headphone		Model Name :	BT300
Temperature :	20 ℃	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX 2441MHz – CH 39(1Mbps)	Polarization :	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotostor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
4882.157	25.25	35.46	60.71	74	-13.29	peak
4882.157	13.17	35.46	48.63	54	-5.37	AVG
7322.87	16.18	36.51	52.69	74	-21.31	peak
7322.87	7.66	36.51	44.17	54	-9.83	AVG
9764.8	13.21	37.02	50.23	74	-23.77	peak
9764.8	5	37.02	42.02	54	-11.98	AVG

Factor = Antenna Factor + Cable Loss – Pre-amplifier.







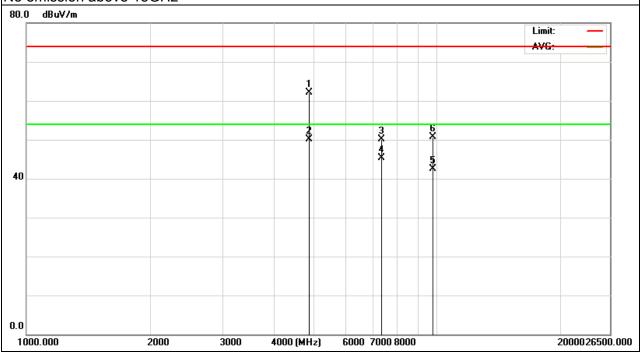
EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature :	20 ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX 2441MHz – CH 39(1Mbps)	Polarization :	Horizontal

Report No.: STT-20130529005F

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotostor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
4882.32	26.57	35.46	62.03	74	-11.97	peak
4882.32	14.74	35.46	50.2	54	-3.8	AVG
7323.111	13.54	36.51	50.05	74	-23.95	peak
7323.111	8.85	36.51	45.36	54	-8.64	AVG
9764.3	5.47	37.01	42.48	54	-11.52	AVG
9764.35	13.74	37.01	50.75	74	-23.25	peak

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

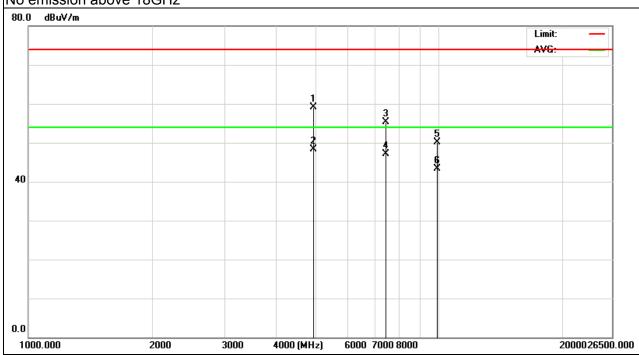




EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature :	20 ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX 2480MHz – CH 78(1Mbps)	Polarization :	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotostor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
4954.88	23.54	35.48	59.02	74	-14.98	peak
4954.88	12.74	35.48	48.22	54	-5.78	AVG
7431.62	18.65	36.66	55.31	74	-18.69	peak
7431.62	10.35	36.66	47.01	54	-6.99	AVG
9908.72	12.66	37.53	50.19	74	-23.81	peak
9908.72	5.74	37.53	43.27	54	-10.73	AVG

Factor = Antenna Factor + Cable Loss – Pre-amplifier.







EUT: Bluetooth Headphone Model Name: BT300

Temperature: 20 ℃ Relative Humidity: 48%

Pressure: 1010 hPa Test Voltage: DC 3.7V

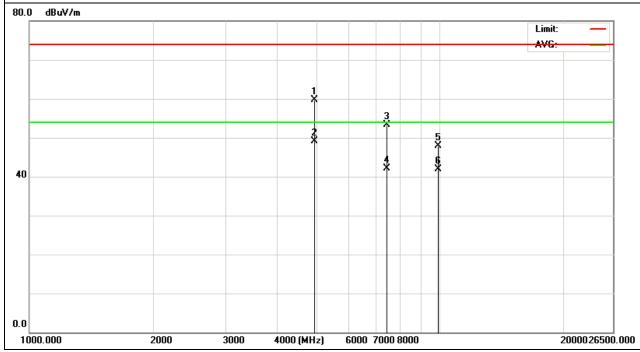
Test Mode: TX 2480MHz – CH 78(1Mbps) Polarization: Vertical

Report No.: STT-20130529005F

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotostor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
4956.88	24.32	35.47	59.79	74	-14.21	peak
4956.88	13.54	35.47	49.01	54	-4.99	AVG
7434.32	16.57	36.69	53.26	74	-20.74	peak
7434.32	5.33	36.69	42.02	54	-11.98	AVG
9920.64	10.25	37.74	47.99	74	-26.01	peak
9920.64	4.22	37.74	41.96	54	-12.04	AVG

Remark:

Factor = Antenna Factor + Cable Loss - Pre-amplifier.

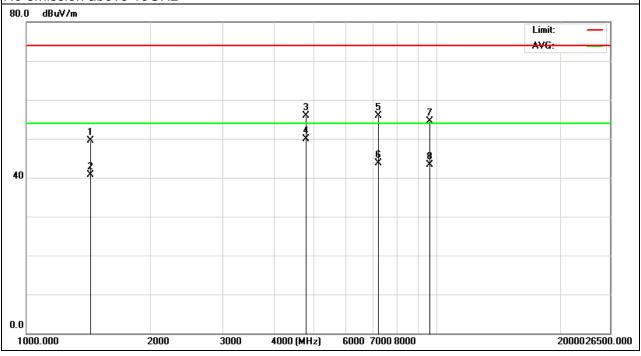




EUT: Bluetooth Headphone		Model Name :	BT300
Temperature:	20 ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX 2402MHz - CH 00(2Mbps)	Polarization :	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
1431.21	24.12	25.44	49.56	74	-24.44	peak
1431.21	15.35	25.44	40.79	54	-13.21	AVG
4804.14	20.32	35.6	55.92	74	-18.08	peak
4804.14	14.22	35.6	49.82	54	-4.18	AVG
7206.51	19.74	36.26	56	74	-18	peak
7206.51	7.35	36.26	43.61	54	-10.39	AVG
9608.53	16.54	37.94	54.48	74	-19.52	peak
9608.53	5.36	37.94	43.3	54	-10.7	AVG

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

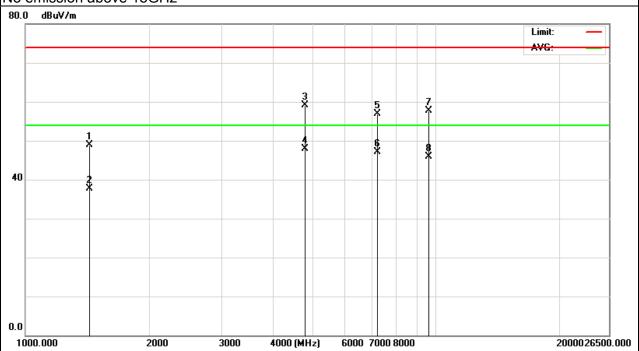




EUT: Bluetooth Headphone		Model Name :	BT300
Temperature:	20 ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX 2402MHz - CH 00(2Mbps)	Polarization :	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
1431.21	23.54	25.44	48.98	74	-25.02	peak
1431.21	12.35	25.44	37.79	54	-16.21	AVG
4804.14	23.57	35.6	59.17	74	-14.83	peak
4804.14	12.27	35.6	47.87	54	-6.13	AVG
7206.51	20.74	36.26	57	74	-17	peak
7206.51	10.75	36.26	47.01	54	-6.99	AVG
9608.53	19.78	37.94	57.72	74	-16.28	peak
9608.53	7.88	37.94	45.82	54	-8.18	AVG

Factor = Antenna Factor + Cable Loss – Pre-amplifier.



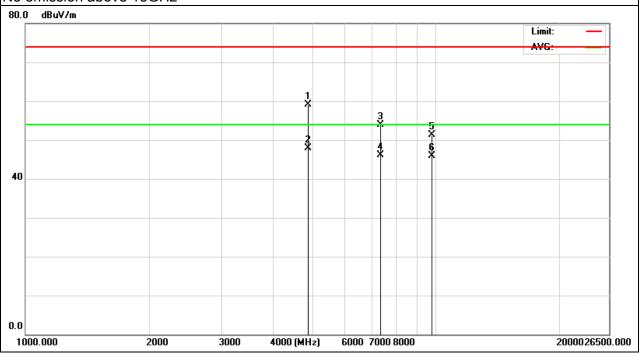


EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature :	20 ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX 2441MHz – CH 39(2Mbps)	Polarization :	Horizontal

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Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
4882.157	23.71	35.46	59.17	74	-14.83	peak
4882.157	12.54	35.46	48	54	-6	AVG
7322.87	17.35	36.51	53.86	74	-20.14	peak
7322.87	9.65	36.51	46.16	54	-7.84	AVG
9764.8	14.25	37.02	51.27	74	-22.73	peak
9764.8	8.88	37.02	45.9	54	-8.1	AVG

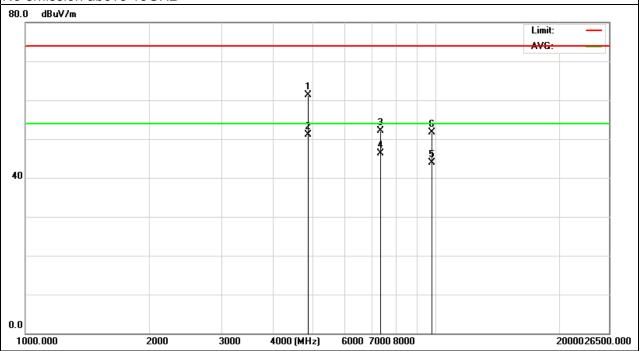
Remark:





EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature :	20 ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX 2441MHz – CH 39(2Mbps)	Polarization :	Vertical

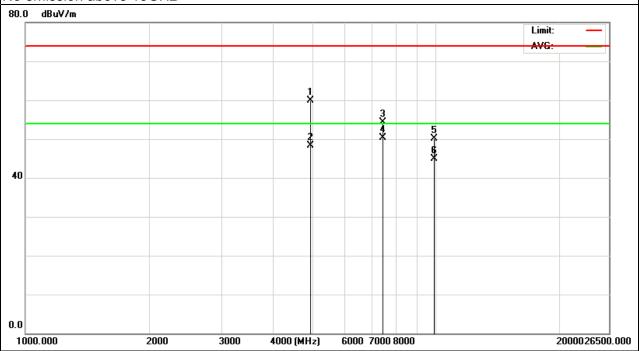
Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotostor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
4882.32	25.78	35.46	61.24	74	-12.76	peak
4882.32	15.74	35.46	51.2	54	-2.8	AVG
7323.111	15.67	36.51	52.18	74	-21.82	peak
7323.111	9.87	36.51	46.38	54	-7.62	AVG
9764.3	6.88	37.01	43.89	54	-10.11	AVG
9764.35	14.65	37.01	51.66	74	-22.34	peak





EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature :	20 ℃	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX 2480MHz – CH 78(2Mbps)	Polarization :	Horizontal

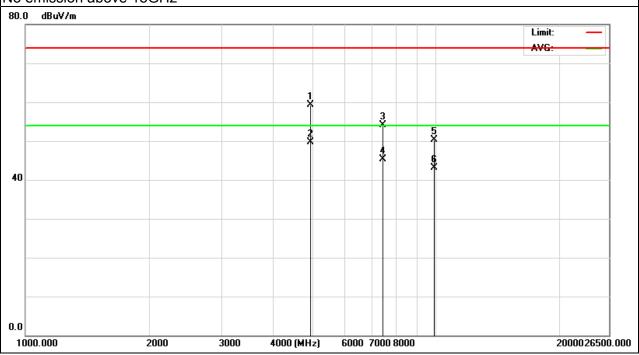
Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotostor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
4954.88	24.35	35.48	59.83	74	-14.17	peak
4954.88	12.85	35.48	48.33	54	-5.67	AVG
7431.62	17.68	36.66	54.34	74	-19.66	peak
7431.62	13.66	36.66	50.32	54	-3.68	AVG
9908.72	12.66	37.53	50.19	74	-23.81	peak
9908.72	7.43	37.53	44.96	54	-9.04	AVG





EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature :	20 ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX 2480MHz - CH 78(2Mbps)	Polarization :	Vertical

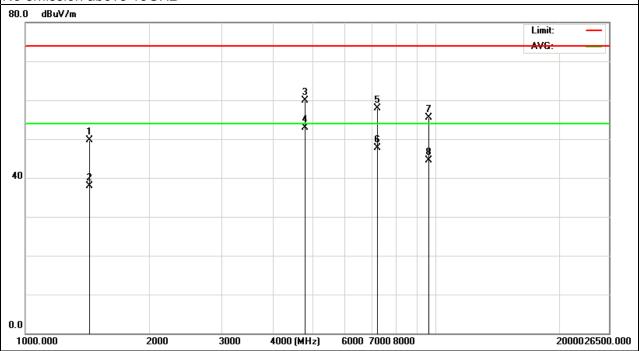
Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
4956.81	23.74	35.47	59.21	74	-14.79	peak
4956.81	14.29	35.47	49.76	54	-4.24	AVG
7434.32	17.35	36.69	54.04	74	-19.96	peak
7434.32	8.67	36.69	45.36	54	-8.64	AVG
9920.64	12.64	37.74	50.38	74	-23.62	peak
9920.64	5.32	37.74	43.06	54	-10.94	AVG





EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature :	20 ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX 2402MHz - CH00 (3Mbps)	Polarization :	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotostor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
1431.21	24.32	25.44	49.76	74	-24.24	peak
1431.21	12.4	25.44	37.84	54	-16.16	AVG
4804.14	24.37	35.6	59.97	74	-14.03	peak
4804.14	17.35	35.6	52.95	54	-1.05	AVG
7206.51	21.57	36.26	57.83	74	-16.17	peak
7206.51	11.38	36.26	47.64	54	-6.36	AVG





EUT: Bluetooth Headphone		Model Name :	BT300
Temperature:	20 ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX 2402MHz - CH00 (3Mbps)	Polarization :	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
1431.21	23.57	25.44	49.01	74	-24.99	peak
1431.21	15.67	25.44	41.11	54	-12.89	AVG
4804.14	24.78	35.6	60.38	74	-13.62	peak
4804.14	14.36	35.6	49.96	54	-4.04	AVG
7206.51	22.41	36.26	58.67	74	-15.33	peak
7206.51	10.35	36.26	46.61	54	-7.39	AVG
9608.53	17.64	37.94	55.58	74	-18.42	peak
9608.53	7.35	37.94	45.29	54	-8.71	AVG

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No emission above 18GHz





EUT: Bluetooth Headphone		Model Name :	BT300
Temperature :	20 ℃	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX 2441MHz – CH39(3Mbps)	Polarization :	Horizontal

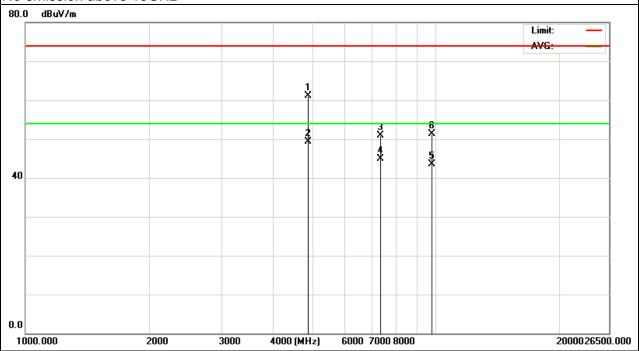
Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotostor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
4882.157	24.12	35.46	59.58	74	-14.42	peak
4882.157	12.87	35.46	48.33	54	-5.67	AVG
7322.87	15.8	36.51	52.31	74	-21.69	peak
7322.87	7.12	36.51	43.63	54	-10.37	AVG
9764.8	14.25	37.02	51.27	74	-22.73	peak
9764.8	6.55	37.02	43.57	54	-10.43	AVG





EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature :	20 ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX 2441MHz – CH39 (3Mbps)	Polarization :	Vertical

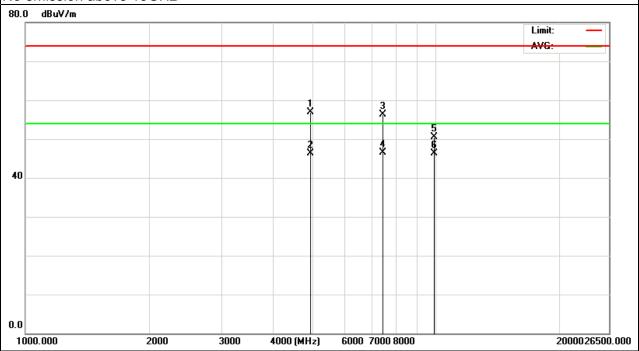
Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
4882.32	25.74	35.46	61.2	74	-12.8	peak
4882.32	13.76	35.46	49.22	54	-4.78	AVG
7323.111	14.32	36.51	50.83	74	-23.17	peak
7323.111	8.41	36.51	44.92	54	-9.08	AVG
9764.3	6.47	37.01	43.48	54	-10.52	AVG
9764.35	14.25	37.01	51.26	74	-22.74	peak





EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature :	20 ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX 2480MHz – CH78 (3Mbps)	Polarization :	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotostor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
4954.88	21.35	35.48	56.83	74	-17.17	peak
4954.88	10.74	35.48	46.22	54	-7.78	AVG
7431.62	19.74	36.66	56.4	74	-17.6	peak
7431.62	9.88	36.66	46.54	54	-7.46	AVG
9908.72	13.02	37.53	50.55	74	-23.45	peak
9908.72	8.74	37.53	46.27	54	-7.73	AVG



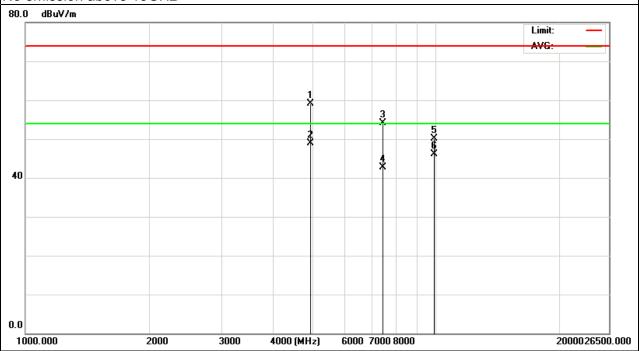


EUT : Bluetooth Headphone		Model Name :	BT300
Temperature:	20 ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX 2480MHz – CH78 (3Mbps)	Polarization :	Vertical

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Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotostor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
4956.88	23.57	35.47	59.04	74	-14.96	peak
4956.88	13.47	35.47	48.94	54	-5.06	AVG
7434.32	17.35	36.69	54.04	74	-19.96	peak
7434.32	6.11	36.69	42.8	54	-11.2	AVG
9920.64	12.45	37.74	50.19	74	-23.81	peak
9920.64	8.33	37.74	46.07	54	-7.93	AVG

Remark:





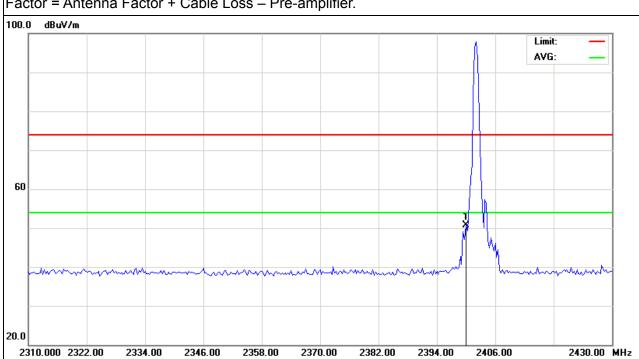
3.2.9 TEST RESULTS (RESTRICTED BANDS REQUIREMENTS)

EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature:	20 ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX /2402MHz-1Mbps	Polarization :	Vertical

Report No.: STT-20130529005F

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotostor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2400	63.14	-12.99	50.15	74	-23.85	peak

Remark:



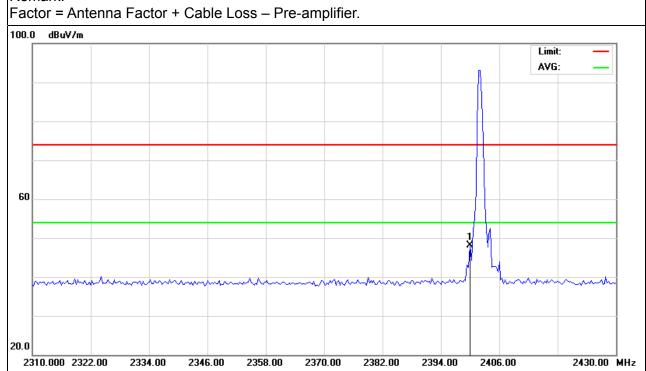


EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature :	20 ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX /2402MHz-1Mbps	Polarization :	Horizontal

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Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotostor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2400	62.32	-12.99	49.33	74	-24.67	peak

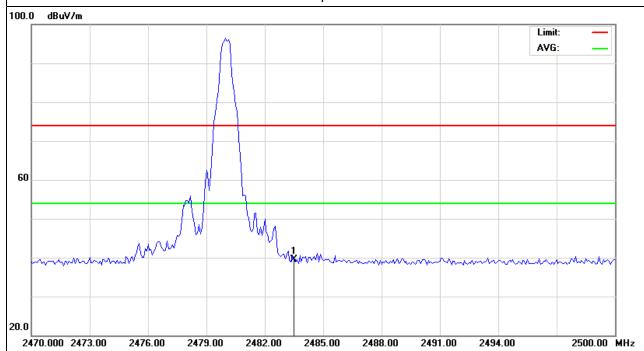
Remark:





EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature :	20 ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX /2480MHz-1Mbps	Polarization :	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotostor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2483.5	53.12	-12.78	40.34	74	-33.66	peak



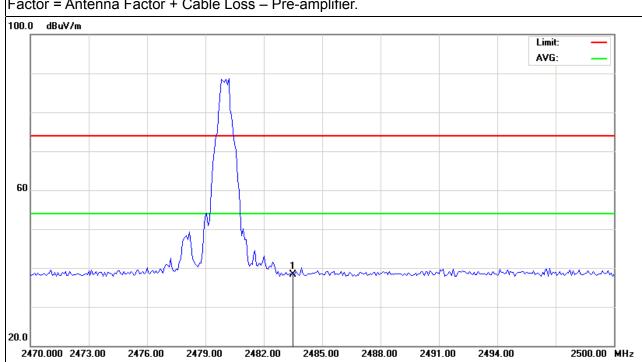


EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature :	20 ℃	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX /2480MHz-1Mbps	Polarization :	Horizontal

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Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotostor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2483.5	50.87	-12.78	38.09	74	-35.91	peak

Remark:



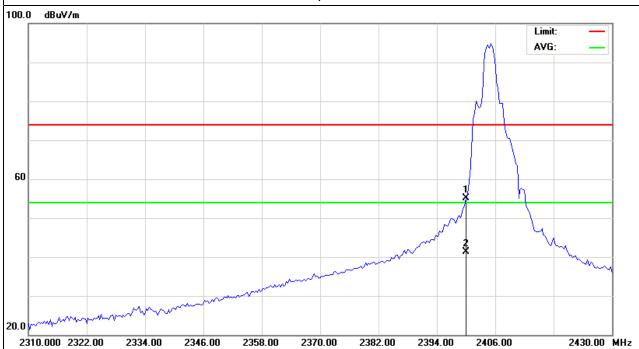


EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature :	20 ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX /2402MHz-2Mbps	Polarization :	Vertical

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Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotostor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2400	68.43	-12.99	55.44	74	-18.56	peak
2400	54.19	-12.99	41.2	74	-32.8	AVG

Remark:



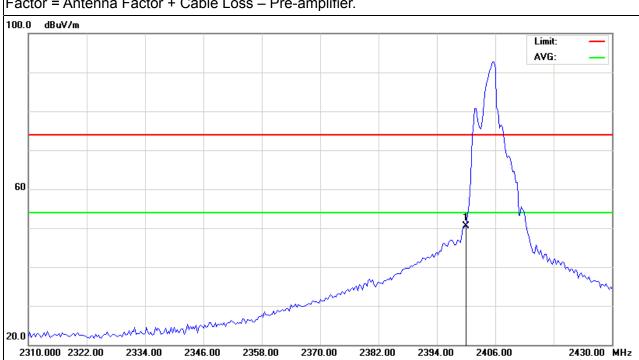


EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature:	20 ℃	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX /2402MHz-2Mbps	Polarization :	Horizontal

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Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotostor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2400	64.09	-12.99	51.1	74	-22.9	peak

Remark:



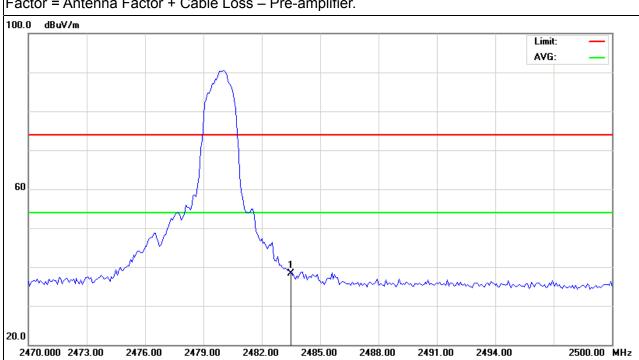


EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature :	20 ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX /2480MHz-2Mbps	Polarization :	Vertical

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Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotostor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2483.5	51.16	-12.78	38.38	74	-35.62	peak

Remark:



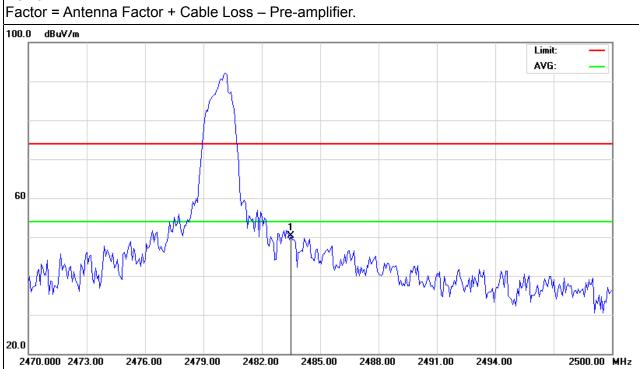


EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature :	20 ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX /2480MHz-2Mbps	Polarization :	Horizontal

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Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotostor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2483.5	63.08	-12.78	50.3	74	-23.7	peak

Remark:



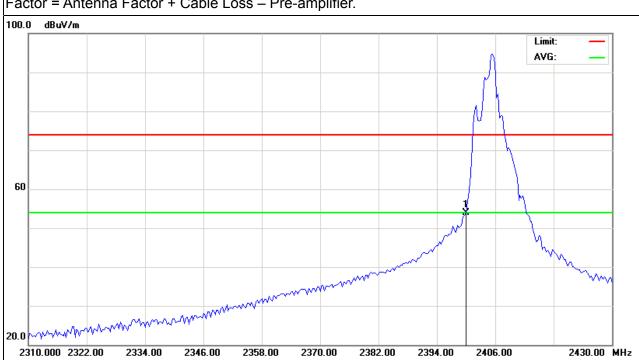


EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature :	20 ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX /2402MHz-3Mbps	Polarization :	Vertical

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Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotostor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2400	66.13	-12.99	53.14	74	-20.86	peak

Remark:



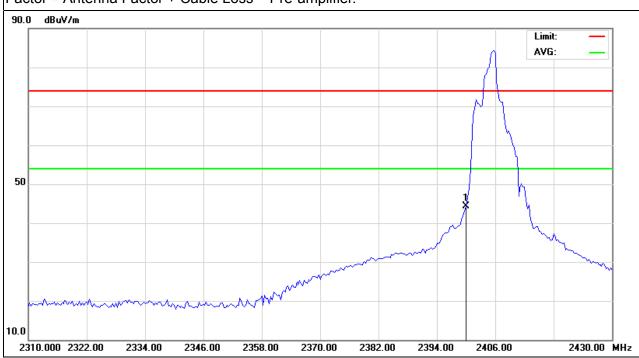


EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature :	20 ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX /2402MHz-3Mbps	Polarization :	Horizontal

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Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotostor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2400	56.88	-12.99	43.89	74	-30.11	peak

Remark:



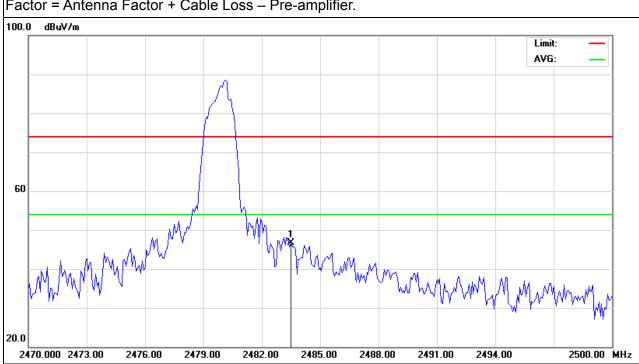


EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature:	20 ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX /2480MHz-3Mbps	Polarization :	Vertical

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Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotostor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2483.5	59.51	-12.78	46.73	74	-27.27	peak

Remark:



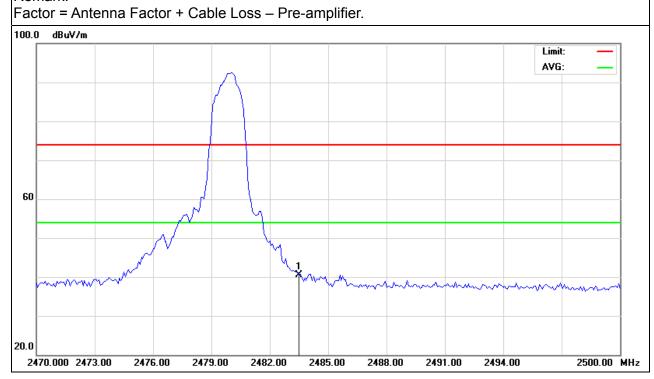


EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature :	20 ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX /2480MHz-3Mbps	Polarization :	Horizontal

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Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotostor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2483.5	53.21	-12.78	40.43	74	-33.57	peak

Remark:





4. NUMBER OF HOPPING CHANNEL

4.1 APPLIED PROCEDURES / LIMIT

_						
	FCC Part15 (15.247) , Subpart C					
-	Section	Test Item	Limit	Frequency Range (MHz)	Result	
	15.247 (a)(1)(iii)	Number of Hopping Channel	≥15	2400-2483.5	PASS	

Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	= the frequency band of operation
RB	RBW ≥ 1% of the span
VB	VBW ≥ RBW
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

4.1.1 TEST PROCEDURE

4.1.2 DEVIATION FROM STANDARD

No deviation.

4.1.3 TEST SETUP



4.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,

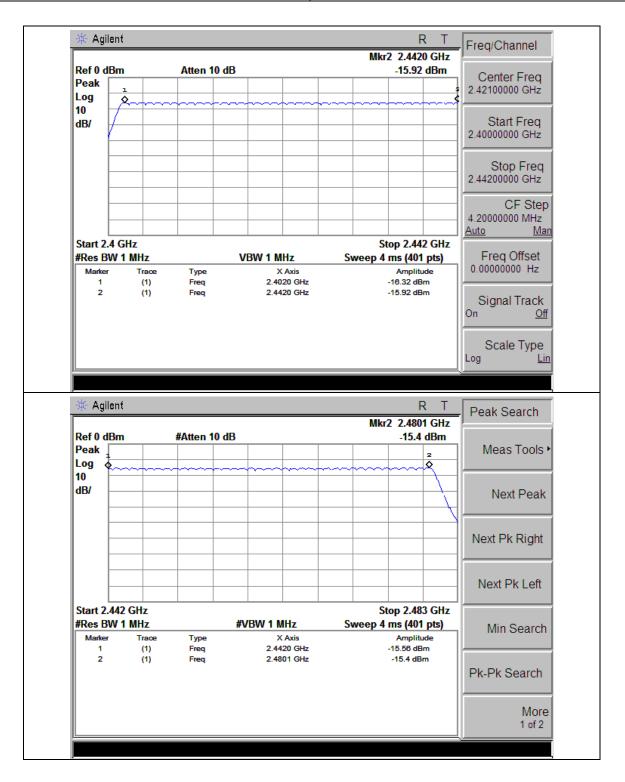
b. Spectrum Setting: RBW= 1MHz, VBW=1MHz, Sweep time = Auto.



4.1.5 TEST RESULTS

EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature:	25 ℃	Relative Humidity:	60%
Pressure :	1015 hPa	Test Voltage :	DC 3.7V
Test Mode :	Hopping Mode		







5. AVERAGE TIME OF OCCUPANCY

5.1 APPLIED PROCEDURES / LIMIT

***************************************	/			
	FCC Part15 (15.247), Subpart C			
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247 (a)(1)(iii)	Average Time of Occupancy	0.4sec	2400-2483.5	PASS

5.1.1 TEST PROCEDURE

- a. The transmitter output (antenna port) was connected to the spectrum analyzer
- b. Set RBW of spectrum analyzer to 1MHz and VBW to 1MHz.
- c. Use a video trigger with the trigger level set to enable triggering only on full pulses.
- d. Sweep Time is more than once pulse time.
- e. Set the center frequency on any frequency would be measure and set the frequency span to zero span.
- f. Measure the maximum time duration of one single pulse.
- g. Set the EUT for DH5, DH3 and DH1 packet transmitting.
- h. Measure the maximum time duration of one single pulse.
- i. A Period Time = (channel number)*0.4

 - DH1 Time Slot: Reading * (1600/2)*31.6/(channel number)
 DH3 Time Slot: Reading * (1600/4)*31.6/(channel number)
 DH5 Time Slot: Reading * (1600/6)*31.6/(channel number)

5.1.2 DEVIATION FROM STANDARD

No deviation.



5.1.3 TEST SETUP

EUT	SPECTRUM
	ANALY7ER

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5.1.4 EUT OPERATION CONDITIONS

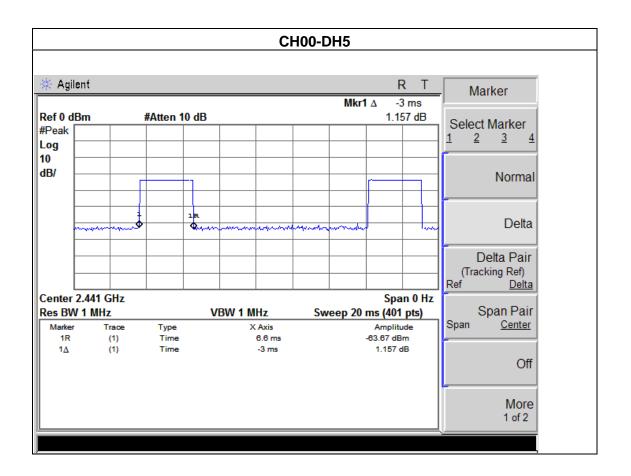
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.



5.1.5 TEST RESULTS

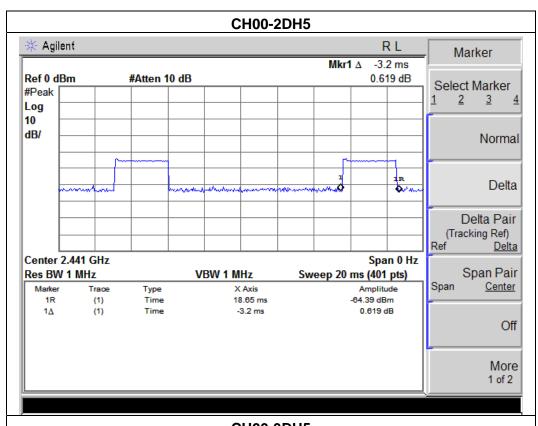
EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature :	25 ℃	Relative Humidity:	60%
Pressure:	1012 hPa	Test Voltage :	DC 3.7V
Test Mode :	CH00-DH5 (1M/2M/3Mbps Mode)		

Data	Frequency	Pulse Duration	Dwell Time	Limits
Packet	rrequency	(ms)	(s)	(s)
DH5	2441MHz	3.00	0.32	0.40
2DH5	2441MHz	3. 20	0.34	0.40
3DH5	2441MHz	3. 25	0.35	0.40





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CH00-3DH5 🔆 Agilent R Т Marker Mkr1 A 3.25 ms Ref 0 dBm #Atten 10 dB -7.246 dB Select Marker #Peak 1 2 3 4 Log 10 dB/ Normal Dupok Delta -W 14 Delta Pair (Tracking Ref) Ref <u>Delta</u> Center 2.441 GHz Span 0 Hz Span Pair Res BW 1 MHz Sweep 20 ms (401 pts) VBW 1 MHz Span Center Marker Trace Type X Axis Amplitude -55.58 dBm 1R (1) Time 1.05 ms -7.246 dB 1∆ (1) Time 3.25 ms Off More 1 of 2

NOTE: The dwell time is showed the maximum data of all data(DH1,2DH1,3DH1, DH3,2DH3,3DH3, DH5,2DH5,3DH5), (DH5,2DH5,3DH5) of mode have the maximum dwell time.



6. HOPPING CHANNEL SEPARATION MEASUREMENT

6.1 APPLIED PROCEDURES / LIMIT

Frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater.

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Spectrum Parameter	Setting	
Attenuation	Auto	
Span Frequency	wide enough to capture the peaks of two adjacent channels	
RB	≥ 1% of the span	
VB	≥ RBW	
Detector	Peak	
Trace	Max Hold	
Sweep Time	Auto	

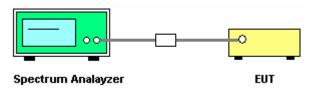
6.1.1 TEST PROCEDURE

- a. The transmitter output (antenna port) was connected to the spectrum analyser in peak hold mode.
- b. The resolution bandwidth of 100 kHz and the video bandwidth of 100 kHz were utilised for channel separation measurement.

6.1.2 DEVIATION FROM STANDARD

No deviation.

6.1.3 TEST SETUP



6.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

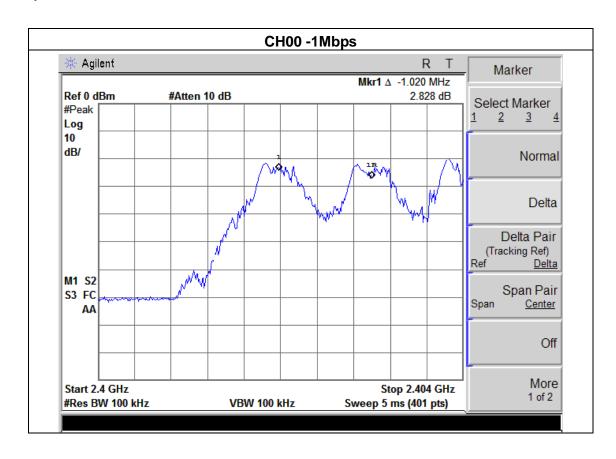


6.1.5 TEST RESULTS

EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature :	25 ℃	Relative Humidity:	60%
Pressure:	1012 hPa	Test Voltage :	DC 3.7V
Test Mode :	CH00 / CH39 /CH78 (1Mbps Mode)		

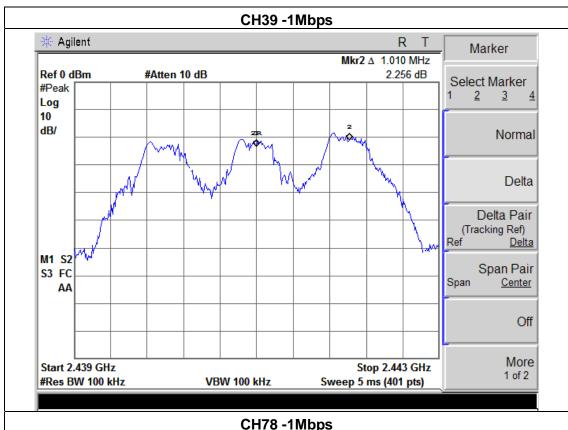
Frequency	Ch. Separation (MHz)	Result
2402 MHz	1.02	Complies
2441 MHz	1.01	Complies
2480 MHz	1.00	Complies

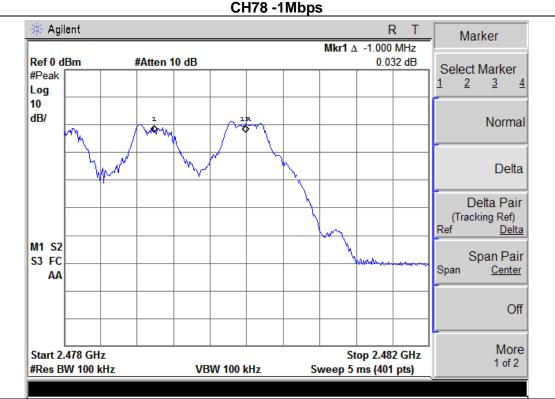
Ch. Separation Limits: >20dB bandwidth





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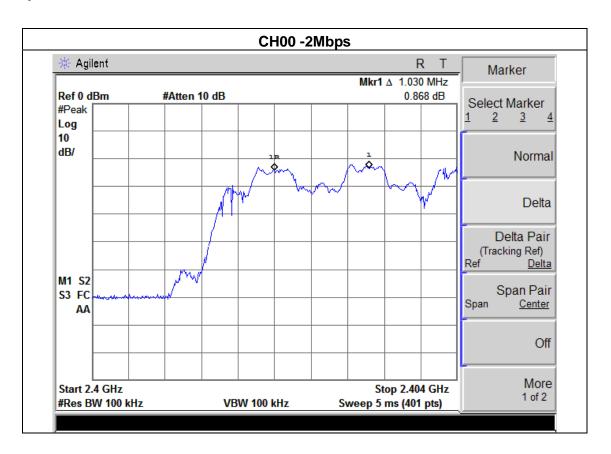




EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature :	25 ℃	Relative Humidity:	60%
Pressure:	1012 hPa	Test Voltage :	DC 3.7V
Test Mode :	CH00 / CH39 /CH78 (2Mbps Mode)		

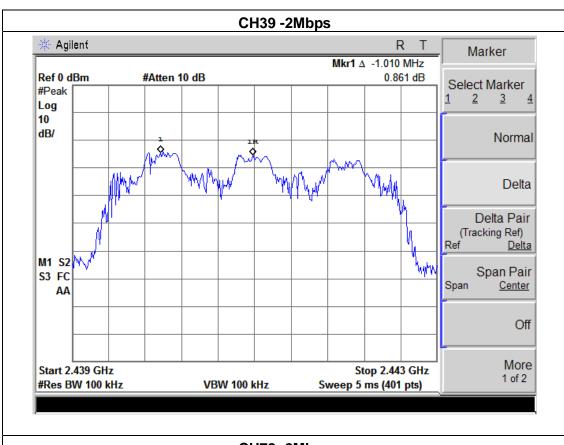
Frequency	Ch. Separation (MHz)	Result
2402 MHz	1.03	Complies
2441 MHz	1.01	Complies
2480 MHz	1.01	Complies

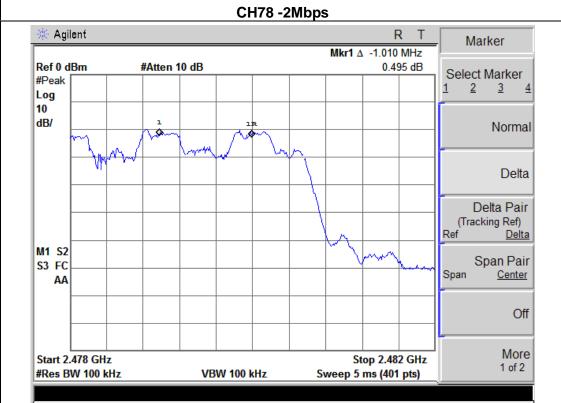
Ch. Separation Limits: >2/3 of 20dB bandwidth





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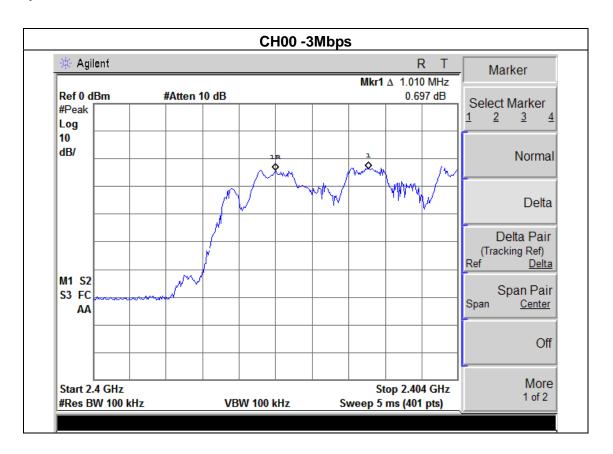




EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature:	25 ℃	Relative Humidity:	60%
Pressure :	1012 hPa	Test Voltage :	DC 3.7V
Test Mode :	CH00 / CH39 /CH78 (3Mbps Mode)		

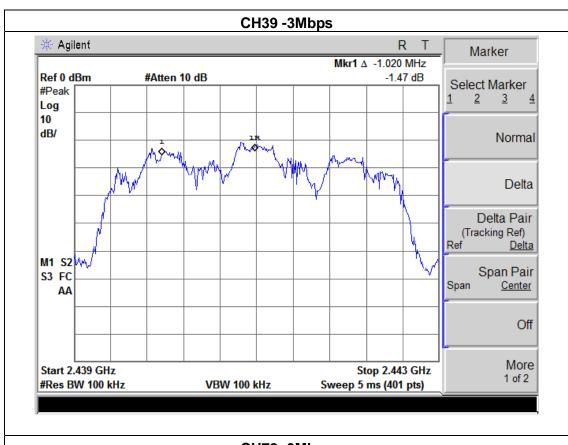
Frequency	Ch. Separation (MHz)	Result
2402 MHz	1.01	Complies
2441 MHz	1.02	Complies
2480 MHz	1.01	Complies

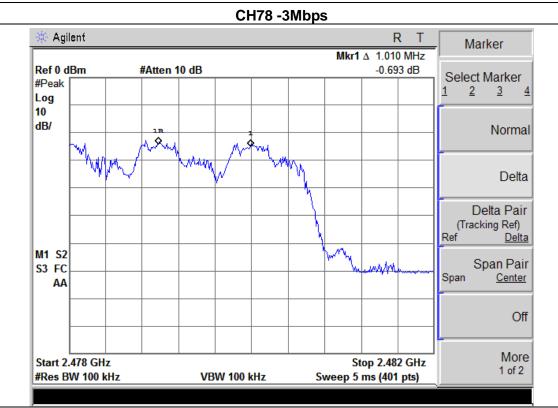
Ch. Separation Limits: >2/3 of 20dB bandwidth





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7. BANDWIDTH TEST

7.1 APPLIED PROCEDURES / LIMIT

	FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit Frequency Range (MHz) Resu			
15.247 (a)(1)	Bandwidth	(20dB bandwidth)	2400-2483.5	PASS	

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	> Measurement Bandwidth or Channel Separation
RB	30 kHz
VB	100 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

7.1.1 TEST PROCEDURE

7.1.2 DEVIATION FROM STANDARD

No deviation.

7.1.3 TEST SETUP



7.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,

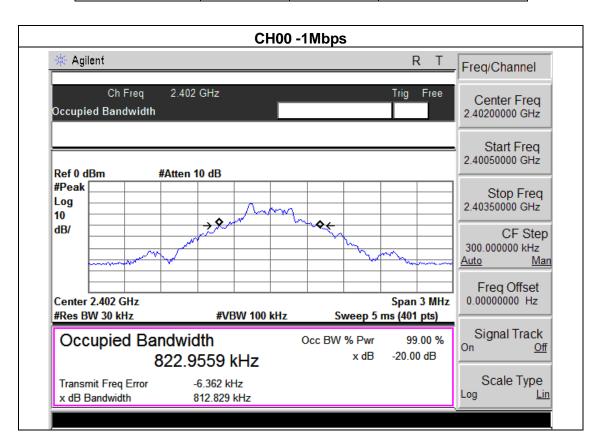
b. Spectrum Setting: RBW= 30KHz, VBW=100KHz, Sweep time = Auto.



7.1.5 TEST RESULTS

EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature :	25 ℃	Relative Humidity:	60%
Pressure :	1012 hPa	Test Voltage :	DC 3.7V
Test Mode :	CH00 / CH39 /C78(1Mbps)		

Channel	Channel Frequency (MHz)	20dB Bandwidth (MHz)	Result
Low Channel	2402	812.829	PASS
Mid Channel	2441	821.04	PASS
High Channel	2480	739.89	PASS





Center 2.48 GHz

#Res BW 30 kHz

Transmit Freq Error

x dB Bandwidth

Occupied Bandwidth

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OBW Spar 3.00000000 MHz

-20.00 dB

Optimize

Ref Level

x dB

Span 3 MHz

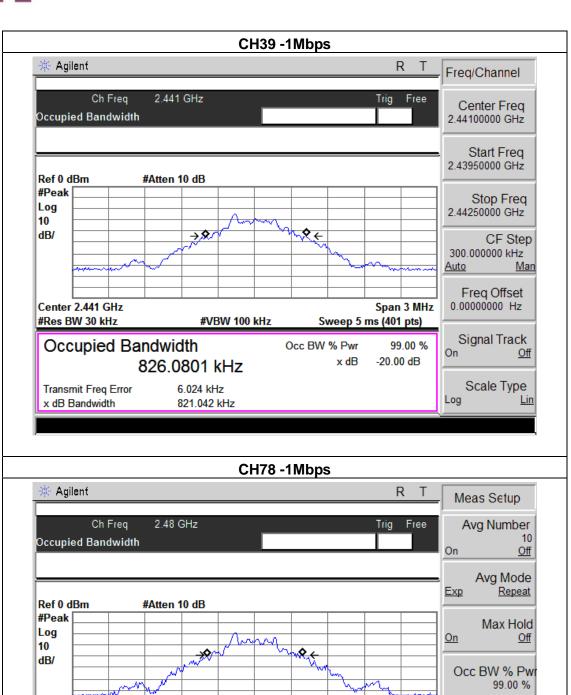
99.00 %

-20.00 dB

Sweep 5 ms (401 pts)

Occ BW % Pwr

x dB



#VBW 100 kHz

782.4431 kHz

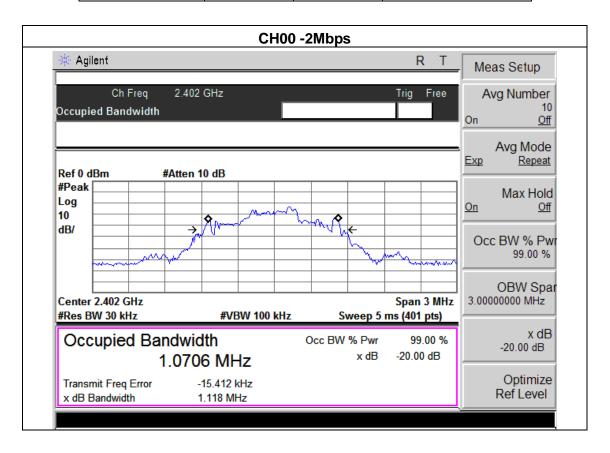
-2.519 kHz

739.890 kHz

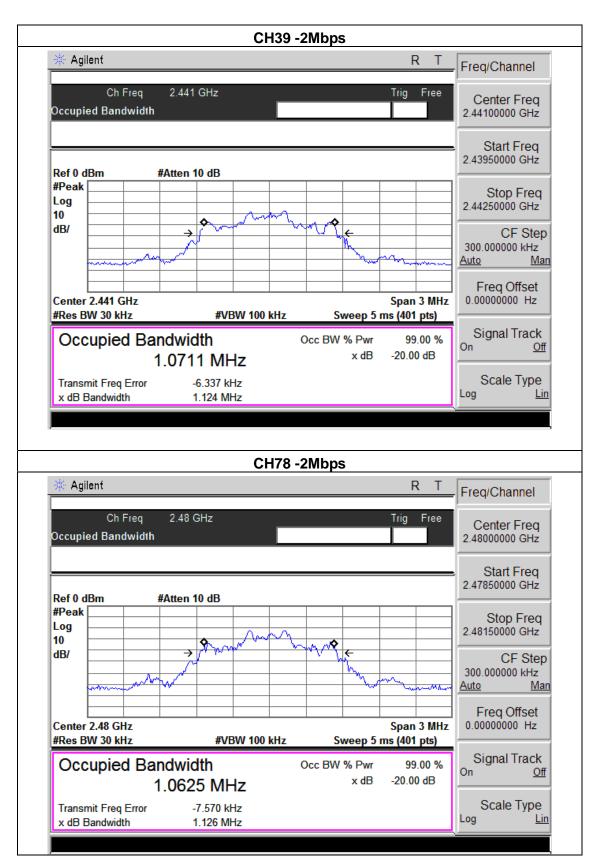


EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature :	25 ℃	Relative Humidity:	60%
Pressure :	1012 hPa	Test Voltage :	DC 3.7V
Test Mode :	CH00 / CH39 /C78(2Mbps)		

Channel	Channel Frequency (MHz)	20dB Bandwidth (MHz)	Result
Low Channel	2402	1.118	PASS
Mid Channel	2441	1.124	PASS
High Channel	2480	1.126	PASS





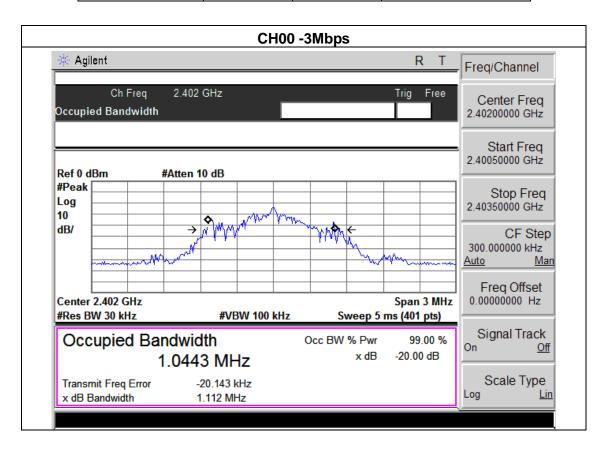




EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature :	25 ℃	Relative Humidity:	60%
Pressure :	1012 hPa	Test Voltage :	DC 3.7V
Test Mode :	CH00 / CH39 /C78(3Mbps)		

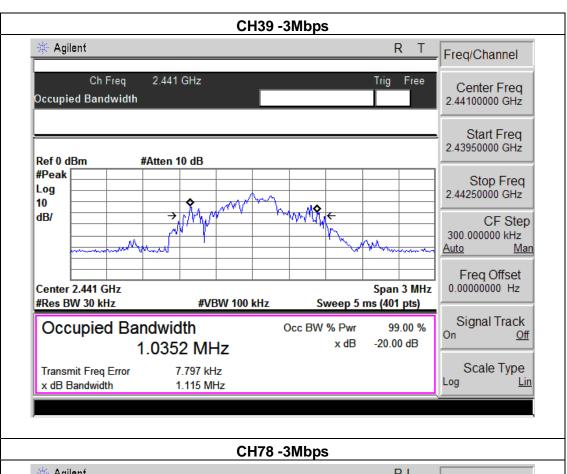
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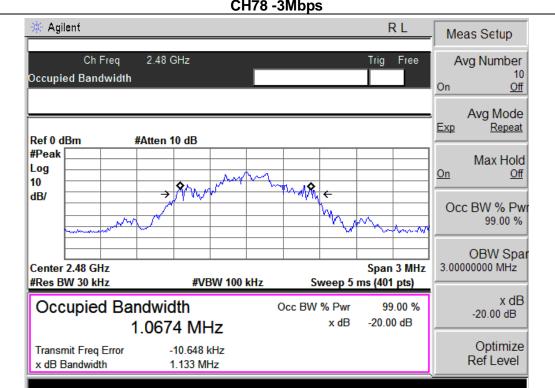
Channel	Channel Frequency (MHz)	20dB Bandwidth (MHz)	Result
Low Channel	2402	1.12	PASS
Mid Channel	2441	1.113	PASS
High Channel	2480	1.33	PASS





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8. PEAK OUTPUT POWER TEST

8.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section Test Item Limit Frequency Range (MHz) Result				Result
15.247 (b)(i)	Peak Output Power	30dBm or 20.96dBm	2400-2483.5	PASS

8.1.1 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- b. Spectrum Setting: RBW > the 20 dB bandwidth of the emission being measured

Span = approximately 5 times the 20 dB bandwidth, centered on a hopping channel

 $VBW \geq RBW$

Sweep = auto

Detector function = peak

Trace = max hold

8.1.2 DEVIATION FROM STANDARD

No deviation.

8.1.3 TEST SETUP

EUT	SPECTRUM
	ANALYZER

8.1.4 EUT OPERATION CONDITIONS

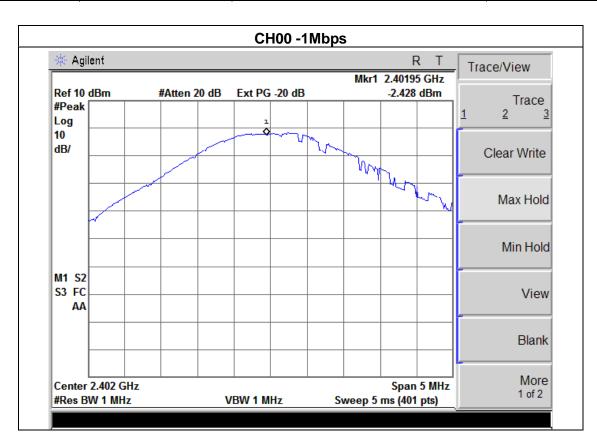
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.



8.1.5 TEST RESULTS

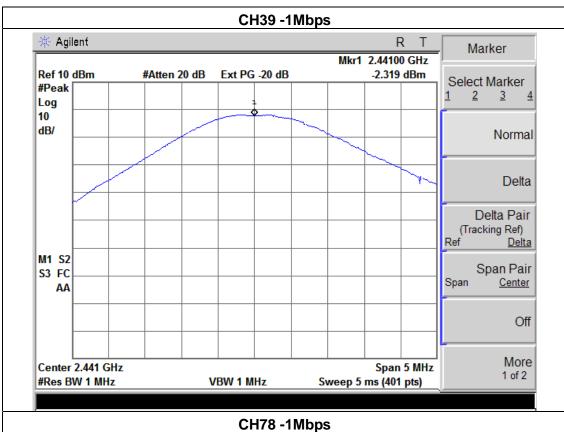
EUT:	Bluetooth Headphone	Model Name :	BT300
Temperature :	25 ℃	Relative Humidity:	60%
Pressure :	1012 hPa	Test Voltage :	DC 3.7V
Test Mode :	CH00/ CH39 /CH78 (1M/2M/3Mbps Mode)		

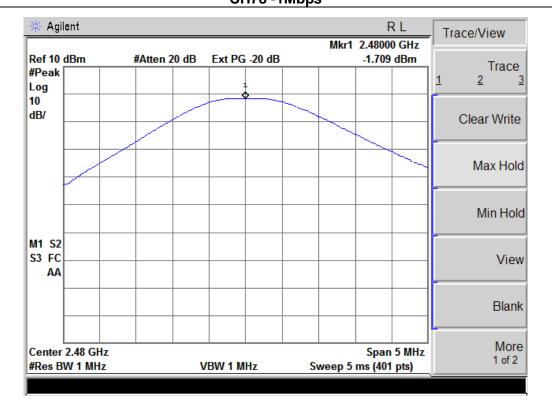
Channel	Frequency (MHz)	Output Power (mW)	Limit (mW)	
		BDR mode (GFSK)		
Low	2402	-2.428	1000	
Middle	2441	-2.319	1000	
High	2480	-1.709	1000	
	EDR Mode (π/4-DQPSK)			
Low	2402	-1.321	1000	
Middle	2441	-1.257	1000	
High	2480	-0.736	1000	
	EDR Mode (8 DPSK)			
Low	2402	-1.368	1000	
Middle	2441	-0.872	1000	
High	2480	-0.569	1000	



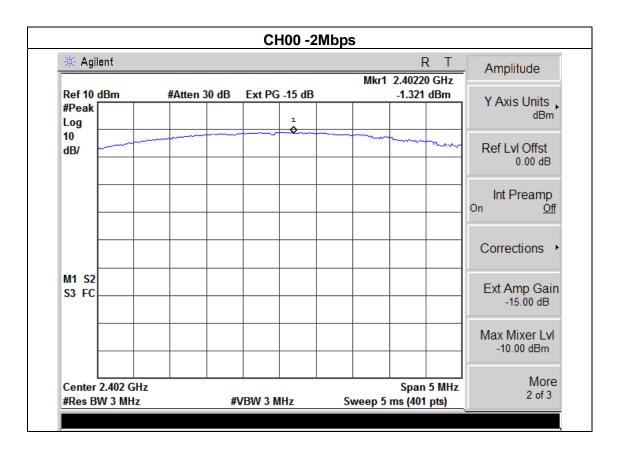


Report No.: STT-20130529005F







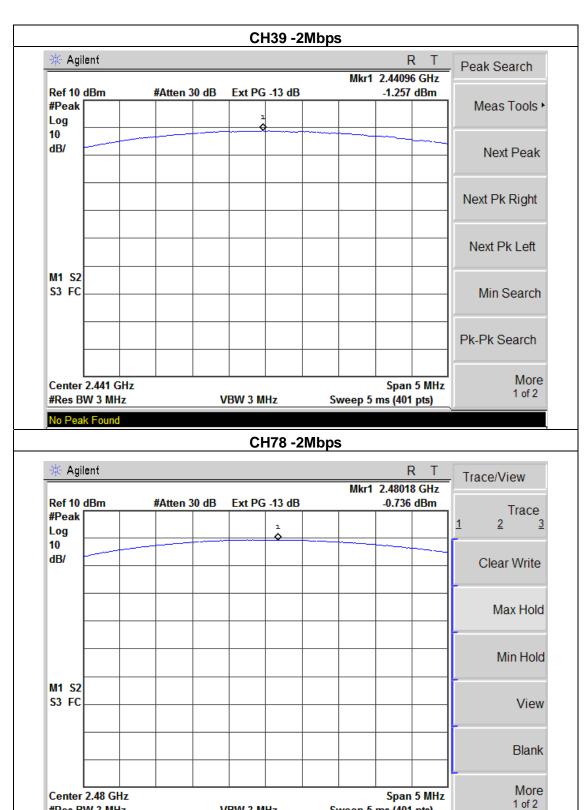




#Res BW 3 MHz

No Peak Found

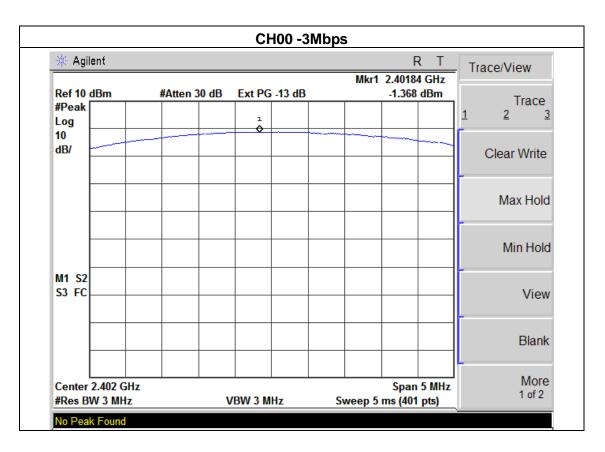
Report No.: STT-20130529005F



VBW 3 MHz

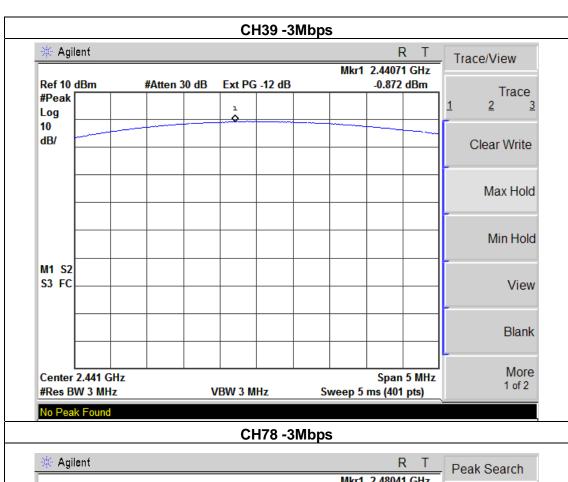
Sweep 5 ms (401 pts)

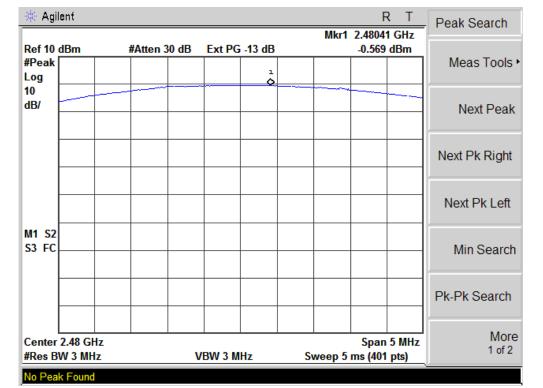






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9. ANTENNA REQUIREMENT

9.1 STANDARD REQUIREMENT

15.203 requirement: For intentional device, according to 15.203: 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.

9.2 EUT ANTENNA

The EUT antenna is PCB antenna. It comply with the standard requirement.

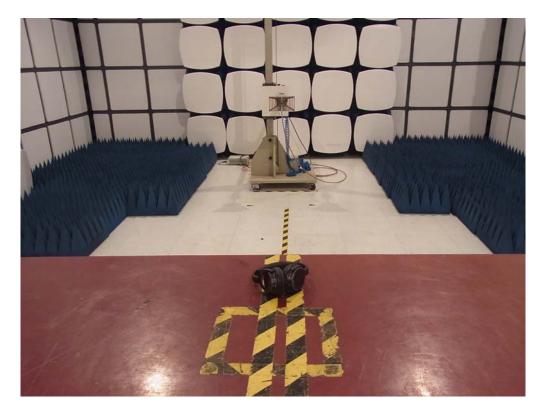


10. EUT TEST PHOTO

Radiated Measurement Photos

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CONDUCTED EMISSION Photos

