

Prüfbericht-Nr.: <i>Test Report No.:</i>	50069022 001	Auftrags-Nr.: <i>Order No.:</i>	164083177	Seite 1 von 28 <i>Page 1 of 28</i>	
Kunden-Referenz-Nr.: <i>Client Reference No.:</i>	N/A	Auftragsdatum: <i>Order date:</i>	30.12.2016		
Auftraggeber: <i>Client:</i>	Country Mate Technology Ltd 5/F, Blk E, Hing Yip Center. 31 Hing Yip Street, Kwun Tong, Kln, Hong Kong				
Prüfgegenstand: <i>Test item:</i>	Bluetooth In-ear Headphones				
Bezeichnung / Typ-Nr.: <i>Identification / Type No.:</i>	NS-CAHBTEB02-BLK, NS-CAHBTEB02-BLK-C				
Auftrags-Inhalt: <i>Order content:</i>	FCC Certification				
Prüfgrundlage: <i>Test specification:</i>	CFR47 FCC Part 15: Subpart C Section 15.247 CFR47 FCC Part 15: Subpart C Section 15.207 CFR47 FCC Part 15: Subpart C Section 15.209 FCC KDB Publication 447498 v06 CFR47 FCC Part 15: Subpart B Section 15.107 CFR47 FCC Part 15: Subpart B Section 15.109 RSS-247 Issue 1 May 2015 RSS-102 Issue 5 March 2015 RSS-Gen Issue 4 November 2014				
Wareneingangsdatum: <i>Date of receipt:</i>	13.01.2017				
Prüfmuster-Nr.: <i>Test sample No.:</i>	A000482052-010, 011, 012				
Prüfzeitraum: <i>Testing period:</i>	23.01.2017 - 24.02.2017				
Ort der Prüfung: <i>Place of testing:</i>	Shenzhen Accurate Technology Co., Ltd.				
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland (Shenzhen) Co., Ltd.				
Prüfergebnis*: <i>Test result*:</i>	Pass				
geprüft von / tested by: 	kontrolliert von / reviewed by: 				
07.03.2017	Andy Yan / Project Manager	08.03.2017	Winnie Hou / Technical Certifier		
Datum <i>Date</i>	Name / Stellung <i>Name / Position</i>	Unterschrift <i>Signature</i>	Datum <i>Date</i>	Name / Stellung <i>Name / Position</i>	Unterschrift <i>Signature</i>
Sonstiges / Other: FCC ID: MV3-CAHBTEB02, IC: 9029A-CAHBTEB02					
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>			Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>		
<p>* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(fail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet</p> <p>Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specification(s) F(fail) = failed a.m. test specification(s) N/A = not applicable N/T = not tested</p>					
<p>Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i></p>					

Prüfbericht - Nr.: 50069022 001
Test Report No.

Seite 2 von 28
Page 2 of 28

TEST SUMMARY

5.1.1 ANTENNA REQUIREMENT

RESULT: Passed

5.1.2 PEAK OUTPUT POWER

RESULT: Passed

5.1.3 99% BANDWIDTH

RESULT: Passed

5.1.4 CONDUCTED SPURIOUS EMISSIONS MEASURED IN 100kHz BANDWIDTH

RESULT: Passed

5.1.5 SPURIOUS EMISSION

RESULT: Passed

5.1.6 20dB BANDWIDTH

RESULT: Passed

5.1.7 FREQUENCY SEPARATION

RESULT: Passed

5.1.8 NUMBER OF HOPPING FREQUENCY

RESULT: Passed

5.1.9 TIME OF OCCUPANCY

RESULT: Passed

5.1.10 CONDUCTED EMISSIONS

RESULT: Passed

5.1.11 RADIATED EMISSION

RESULT: Passed

Contents

1.	GENERAL REMARKS	4
1.1	COMPLEMENTARY MATERIALS	4
2.	TEST SITES	4
2.1	TEST FACILITIES.....	4
2.2	LIST OF TEST AND MEASUREMENT INSTRUMENTS.....	5
2.3	TRACEABILITY	6
2.4	CALIBRATION	6
2.5	MEASUREMENT UNCERTAINTY.....	6
2.6	LOCATION OF ORIGINAL DATA.....	6
2.7	STATUS OF FACILITY USED FOR TESTING.....	6
3.	GENERAL PRODUCT INFORMATION	7
3.1	PRODUCT FUNCTION AND INTENDED USE.....	7
3.2	RATINGS AND SYSTEM DETAILS	7
3.3	INDEPENDENT OPERATION MODES	8
3.4	NOISE GENERATING AND NOISE SUPPRESSING PARTS	9
3.5	SUBMITTED DOCUMENTS	9
4.	TEST SET-UP AND OPERATION MODES	10
4.1	PRINCIPLE OF CONFIGURATION SELECTION.....	10
4.2	TEST OPERATION AND TEST SOFTWARE	10
4.3	SPECIAL ACCESSORIES AND AUXILIARY EQUIPMENT	10
4.4	COUNTERMEASURES TO ACHIEVE EMC COMPLIANCE.....	10
4.5	TEST SETUP DIAGRAM	11
5.	TEST RESULTS	13
5.1	TRANSMITTER REQUIREMENT & TEST SUITES	13
5.1.1	Antenna Requirement	13
5.1.2	Peak Output Power	14
5.1.3	99% Bandwidth	15
5.1.4	Conducted spurious emissions measured in 100kHz Bandwidth.....	16
5.1.5	Spurious Emission	17
5.1.6	20dB Bandwidth	18
5.1.7	Frequency Separation.....	19
5.1.8	Number of hopping frequency.....	20
5.1.9	Time of Occupancy	21
5.1.10	Conducted emissions	22
5.1.11	Radiated Emission.....	23
6.	PHOTOGRAPHS OF THE TEST SET-UP	24
7.	LIST OF TABLES	28
8.	LIST OF PHOTOGRAPHS	28

Prüfbericht - Nr.: 50069022 001
Test Report No.

Seite 4 von 28
Page 4 of 28

1. General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:
Appendix 1: Test Result

2. Test Sites

2.1 Test Facilities

Shenzhen Accurate Technology Co., Ltd.

F1, Bldg. A, Changyuan New Material Port, Keyuan Rd., Science & Industry Park Nanshan District, Shenzhen 518057, P.R. China

FCC Registration No.: 752051

Test site Industry Canada No.: 5077A-2

The tests at the test site have been conducted under the supervision of a TÜV engineer.

Prüfbericht - Nr.: 50069022 001
Test Report No.

Seite 5 von 28
Page 5 of 28

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Kind of Equipment	Manufacturer	Type	S/N	Calibrated until
Spurious emission and Radiated emission				
Spectrum Analyzer	Rohde&Schwarz	FSV40	101495	06-01-2018
Test Receiver	Rohde&Schwarz	ESCS30	100307	06-01-2018
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	09-01-2018
Loop Antenna	Schwarzbeck	FMZB1516	1516131	09-01-2018
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	09-01-2018
Horn Antenna	Schwarzbeck	BBHA9170	9170-359	09-01-2018
RF Switching Unit+PreAMP	Compliance Direction	RSU-M2	38322	06-01-2018
Pre-Amplifier	Rohde&Schwarz	CBLU11835 40-01	3791	06-01-2018
Radio Spectrum Test				
Spectrum Analyzer	Rohde & Schwarz	ESPI3	100396/003	06-01-2018
Conducted Emission				
Test Receiver	Rohde & Schwarz	ESCS30	100307	06-01-2018
L.I.S.N.	Schwarzbeck	NLSK8126	8126431	06-01-2018
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100815	06-01-2018
50Ω Coaxial Switch	Anritsu Corp	MP59B	6200283933	06-01-2018

Prüfbericht - Nr.: 50069022 001
Test Report No.

Seite 6 von 28
Page 6 of 28

2.3 Traceability

All measurement equipment calibrations are traceable to NIM (National Institute of Metrology) or where calibration is performed in other countries, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basics using in house standards or comparisons.

2.5 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements are $\pm 3\text{dB}$.

2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix1 of this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Shenzhen) file for certification follow-up purposes.

2.7 Status of Facility Used for Testing

The Shenzhen Accurate Technology Co., Ltd. test facility located at F1, Bldg. A, Changyuan New Material Port, Keyuan Rd., Science & Industry Park Nanshan District, Shenzhen 518057, P.R. China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

3. General Product Information

3.1 Product Function and Intended Use

The EUT is Bluetooth in- ear headphones which supports Bluetooth wireless technology. Both models are identical except model number for different regions.

For details refer to the User Manual, Technical Description and Circuit Diagram.

3.2 Ratings and System Details

Table 2: Rating of EUT

Kind of Equipment:	Bluetooth in- ear headphones
Type Designation:	NS-CAHBTEB02-BLK, NS-CAHBTEB02-BLK-C
FCC ID	MV3-CAHBTEB02
IC	9029A-CAHBTEB02

Table 3: Technical Specification of Bluetooth (BDR & EDR)

Technical Specification	Value
Operating Frequency band	2402 – 2480 MHz
Bluetooth Core Version	4.1
Channel Number	79 channels
Channel separation	1MHz
Extreme Temperature Range	-10°C to +50°C
Operation Voltage	DC3.7V via Lithium Battery DC5V via USB port for charging
Modulation	GFSK, 8DPSK, π/4DQPSK
Antenna Type	Internal Antenna, Non-User Replaceable
Antenna Gain	1.92dBi
RF Output Power	0.00313W (4.95dBm)

Prüfbericht - Nr.: 50069022 001
Test Report No.

Seite 8 von 28
Page 8 of 28

Table 4: RF channel and frequency of Bluetooth (BDR & EDR mode)

RF Channel	Frequency (MHz)						
0	2402.00	20	2422.00	40	2442.00	60	2462.00
1	2403.00	21	2423.00	41	2443.00	61	2463.00
2	2404.00	22	2424.00	42	2444.00	62	2464.00
3	2405.00	23	2425.00	43	2445.00	63	2465.00
4	2406.00	24	2426.00	44	2446.00	64	2466.00
5	2407.00	25	2427.00	45	2447.00	65	2467.00
6	2408.00	26	2428.00	46	2448.00	66	2468.00
7	2409.00	27	2429.00	47	2449.00	67	2469.00
8	2410.00	28	2430.00	48	2450.00	68	2470.00
9	2411.00	29	2431.00	49	2451.00	69	2471.00
10	2412.00	30	2432.00	50	2452.00	70	2472.00
11	2413.00	31	2433.00	51	2453.00	71	2473.00
12	2414.00	32	2434.00	52	2454.00	72	2474.00
13	2415.00	33	2435.00	53	2455.00	73	2475.00
14	2416.00	34	2436.00	54	2456.00	74	2476.00
15	2417.00	35	2437.00	55	2457.00	75	2477.00
16	2418.00	36	2438.00	56	2458.00	76	2478.00
17	2419.00	37	2439.00	57	2459.00	77	2479.00
18	2420.00	38	2440.00	58	2460.00	78	2480.00
19	2421.00	39	2441.00	59	2461.00		

3.3 Independent Operation Modes

The basic operation modes are:

- A. On, Bluetooth mode (BDR & EDR)
 - 1. Transmitting on low channel
 - 2. Transmitting on middle channel
 - 3. Transmitting on high channel
- B. On, Bluetooth hopping mode
- C. Charging
- D. Off

Prüfbericht - Nr.: 50069022 001
Test Report No.

Seite 9 von 28
Page 9 of 28

3.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

3.5 Submitted Documents

- Bill of Material
- PCB Layout
- Photo Document
- Technical Description
- Circuit Diagram
- Instruction Manual
- Rating Label

4. Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

The equipment under test (EUT) was configured to measure its maximum power level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All testing were performed according to the procedures in ANSI C63.4: 2014 and ANSI C63.10: 2013.

Due to models difference indicated in clause 3.1, full test was applied on model NS-CAHBTEB02-BLK only.

4.3 Special Accessories and Auxiliary Equipment

The EUT was tested with following accessories:

Description	Manufacturer	Type	S/N
iPhone6S PLUS	Apple	ML6D2 CH/A	C35QJ76JGRWM
Notebook	LENOVO	ThinkPad X240	N/A

4.4 Countermeasures to achieve EMC Compliance

The test sample, which has been tested, contained the noise suppression parts as described in the Constructional Data Form or the Technical Construction File. No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test (Below 1GHz)

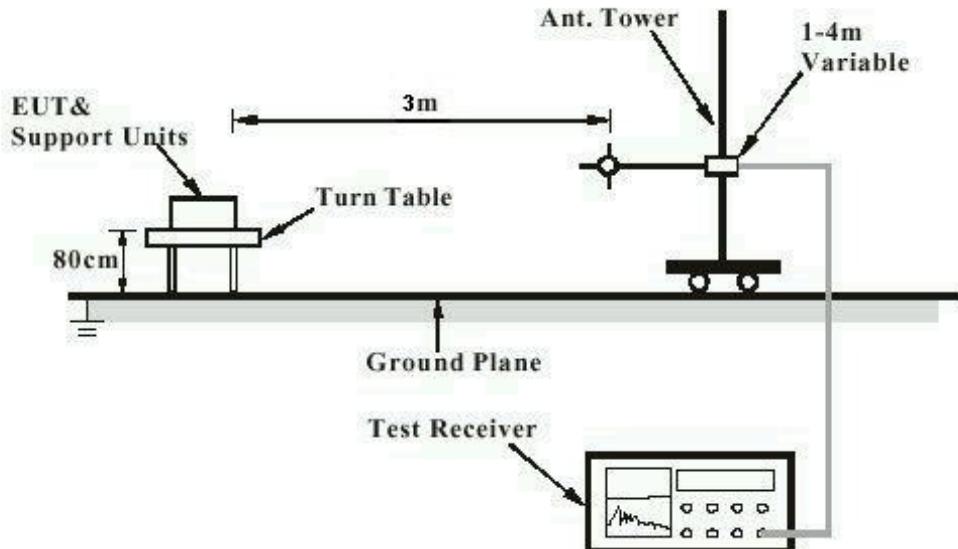
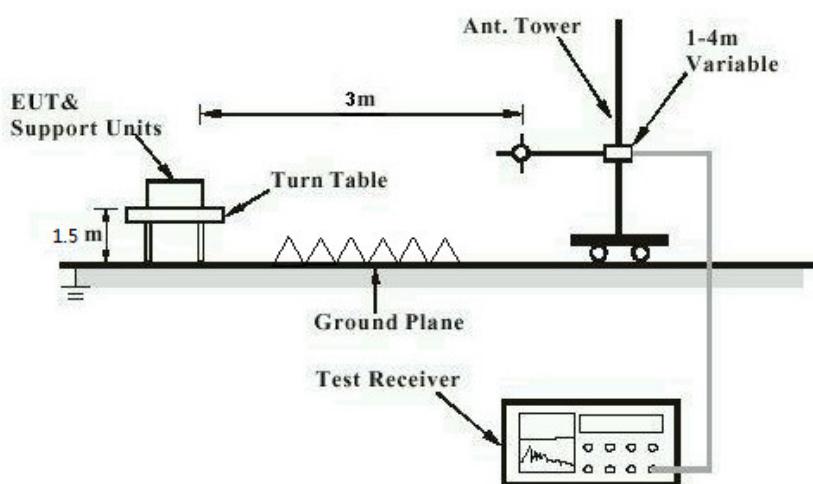


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)



Prüfbericht - Nr.: 50069022 001
Test Report No.

Seite 12 von 28
Page 12 of 28

Diagram of Measurement Equipment Configuration for Mains Conduction Measurement

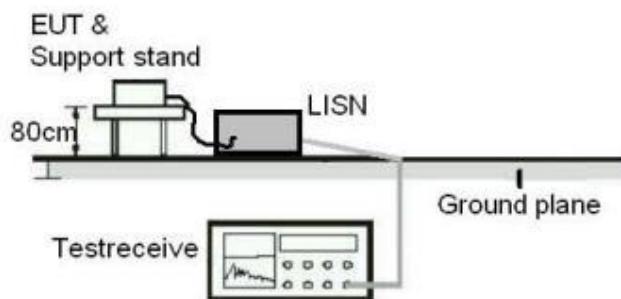
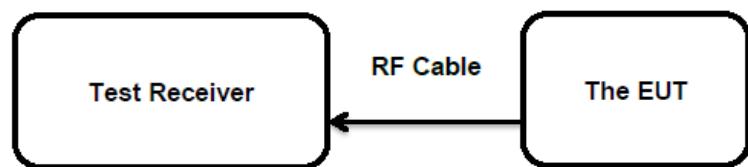


Diagram of Measurement Equipment Configuration for Conducted Transmitter Measurement



5. Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT:**Passed**

Test standard	:	FCC Part 15.247(b)(4) and Part 15.203 RSS-Gen 6.7
Limit	:	the use of antennas with directional gains that do not exceed 6 dBi

According to the manufacturer declared, the EUT has an internal antenna, the directional gain of antenna is 1.92dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply with the provision.

Refer to EUT photo for details.

Prüfbericht - Nr.: **50069022 001**
Test Report No.Seite 14 von 28
Page 14 of 28

5.1.2 Peak Output Power

RESULT:**Passed**

Test date	:	2017-02-24
Test standard	:	FCC Part 15.247(b)(1) RSS-247 Clause 5.4(2)
Basic standard	:	ANSI C63.10: 2013
Limit	:	FHSS < 0.125 Watts
Kind of test site	:	Shielded room

Test setup

Test Channel	:	Low/ Middle/ High
Operation Mode	:	A
Ambient temperature	:	25°C
Relative humidity	:	55%
Atmospheric pressure	:	101 kPa

Table 5: Test result of Peak Output Power

Test Mode	Channel Frequency (MHz)	Measured Peak Output Power		Limit (W)
		(dBm)	(W)	
BDR	2402	1.14	0.00130	< 0.125
	2441	4.38	0.00274	
	2480	4.95	0.00313	
EDR	2402	-0.32	0.00093	< 0.125
	2441	3.64	0.00231	
	2480	-0.14	0.00097	

Note: The cable loss is taken into account in results.

Prüfbericht - Nr.: 50069022 001
Test Report No.Seite 15 von 28
Page 15 of 28

5.1.3 99% Bandwidth

RESULT:**Passed**

Date of testing : 2017-02-24
Test standard : RSS-Gen clause 6.6
Basic standard : ANSI C63.10: 2013
Kind of test site : Shielded room

Test setup

Test Channel : Low/ Middle/ High
Operation Mode : A
Ambient temperature : 25°C
Relative humidity : 55%
Atmospheric pressure : 101 kPa

Table 6: Test result of 99% Bandwidth

Test Mode	Channel Frequency (MHz)	99% Bandwidth (kHz)	Limit (kHz)
BDR	2402	1081.04	/
	2441	1111.43	
	2480	1094.07	
EDR	2402	1198.26	/
	2441	1193.92	
	2480	1198.26	

Note: The cable loss is taken into account in results.

Prüfbericht - Nr.: 50069022 001
*Test Report No.*Seite 16 von 28
*Page 16 of 28***5.1.4 Conducted spurious emissions measured in 100kHz Bandwidth****RESULT:****Passed**

Date of testing	:	2017-02-24
Test standard	:	FCC part 15.247(d) RSS-247 Clause 5.5
Basic standard	:	ANSI C63.10: 2013
Limit	:	20dB (below that in the 100kHz bandwidth within the band that contains the highest level of the desired power); In addition, radiated emissions which fall in the restricted bands, must also comply with the radiated emission limits specified in 15.209(a)
Kind of test site	:	Shield room

Test setup

Test Channel	:	Low/ High
Operation mode	:	A
Ambient temperature	:	25°C
Relative humidity	:	55%
Atmospheric pressure	:	101 kPa

All emissions are more than 20dB below fundamental, details refer to Appendix 1, and compliance is achieved as well.

Prüfbericht - Nr.: 50069022 001
Test Report No.

Seite 17 von 28
Page 17 of 28

5.1.5 Spurious Emission

RESULT:

Passed

Date of testing	:	2017-01-23
Test standard	:	FCC part 15.247(d) FCC Part 15.205 RSS-247 Clause 3.3
Basic standard	:	ANSI C63.10: 2013
Limits	:	Refer to 15.209(a) of FCC part 15.247(d) RSS-Gen Table 4 & Table 5
Kind of test site	:	3m Semi-Anechoic Chamber

Test setup

Test Channel	:	Low/ Middle/ High
Operation mode	:	A
Ambient temperature	:	25°C
Relative humidity	:	55%
Atmospheric pressure	:	101 kPa

Remark:

During the pretest the EUT was rotated through three orthogonal axes to determine the attitude that maximizes the emissions. After that the EUT was manually handled to find the orientation that has the maximum emission, which is the orientation shown in the test setup photos.

Testing was carried out within frequency range 9kHz to the tenth harmonics.

For details refer to Appendix 1.

Prüfbericht - Nr.: 50069022 001
Test Report No.

Seite 18 von 28
Page 18 of 28

5.1.6 20dB Bandwidth

RESULT:

Passed

Date of testing	:	2017-02-23
Test standard	:	FCC Part 15.247(a)(1) RSS-247 Clause 5.1(1)
Basic standard	:	ANSI C63.10: 2013
Kind of test site	:	Shielded room

Test setup

Test Channel	:	Low/ Middle/ High
Operation Mode	:	A
Ambient temperature	:	25°C
Relative humidity	:	55%
Atmospheric pressure	:	101 kPa

Table 7: Test result of 20dB Bandwidth

Test Mode	Channel Frequency (MHz)	20dB Bandwidth (kHz)	2/3 of 20dB Bandwidth (kHz)	Limit (MHz)
BDR	2402	929.1	619.400	/
	2441	929.1	619.400	
	2480	937.8	625.200	
EDR	2402	1207.0	804.667	/
	2441	1207.0	804.667	
	2480	1206.9	804.600	

Prüfbericht - Nr.: **50069022 001**
Test Report No.Seite 19 von 28
Page 19 of 28

5.1.7 Frequency Separation

RESULT:**Passed**

Date of testing	:	2017-02-23
Test standard	:	FCC part 15.247(a)(1) RSS-210 A8.1 (b)
Basic standard	:	ANSI C63.4: 2003
Limit	:	≥ 25kHz or 2/3 of 20dB bandwidth, whichever is greater

Test setup

Test Channel	:	Low/ Middle/ High
Operation Mode	:	B
Ambient temperature	:	25°C
Relative humidity	:	55%
Atmospheric pressure	:	101 kPa

Table 8: Test result of Frequency Separation

Channel	Channel Frequency (MHz)	Measured Channel Separation (MHz)	Limit (kHz)	Result
Low Channel	2402	1	≥ 25kHz or 2/3 of 20dB bandwidth	Pass
Adjacency Channel	2403			
Mid Channel	2441	1	≥ 25kHz or 2/3 of 20dB bandwidth	Pass
Adjacency Channel	2442			
High Channel	2480	1	≥ 25kHz or 2/3 of 20dB bandwidth	Pass
Adjacency Channel	2479			

5.1.8 Number of hopping frequency

RESULT:**Passed**

Date of testing	:	2017-02-23
Test standard	:	FCC part 15.247(a)(1)(iii) RSS-247 Clause 5.1(4)
Basic standard	:	ANSI C63.10: 2013
Limits	:	≥ 15 non-overlapping channels
Kind of test site	:	Shield room

Test setup

Test Channel	:	Low/ Middle/ High
Operation Mode	:	B
Ambient temperature	:	25°C
Relative humidity	:	55%
Atmospheric pressure	:	101 kPa

Table 9: Test result of Number of hopping frequency

Frequency Range	Measured Quantity of Hopping Channel	Limit	Result
2400 to 2483.5 MHz	79	≥15	Pass

5.1.9 Time of Occupancy

RESULT:

Passed

Date of testing	:	2017-02-23
Test standard	:	FCC part 15.247(a)(1)(iii) RSS-247 Clause 5.1(4)
Basic standard	:	ANSI C63.10: 2013
Limits	:	<0.4s
Kind of test site	:	Shield room

Test setup

Test Channel	:	Low/ Middle/ High
Operation Mode	:	A
Ambient temperature	:	25°C
Relative humidity	:	55%
Atmospheric pressure	:	101 kPa

Table 10: Test result of Time of Occupancy

Test Mode	Channel	Data Packet	Pulse width (ms)	Measured Dwell time(s)	Limit (s)
BDR mode	2402	DH1	0.449	0.144	< 0.4s
		DH3	1.710	0.274	
		DH5	2.978	0.318	
	2441	DH1	0.449	0.144	
		DH3	1.710	0.274	
		DH5	2.978	0.318	
	2480	DH1	0.442	0.141	
		DH3	1.710	0.274	
		DH5	2.978	0.318	
EDR mode	2402	3DH1	0.449	0.144	< 0.4s
		3DH3	1.710	0.274	
		3DH5	2.978	0.318	
	2441	3DH1	0.457	0.146	
		3DH3	1.725	0.276	
		3DH5	2.978	0.318	
	2480	3DH1	0.457	0.146	
		3DH3	1.710	0.274	
		3DH5	2.978	0.318	

Note:

Dwell time = Pulse width x (Hopping rate / Number of channels) x Period

Period = 0.4 (seconds/ channel) x 79 (channel) = 31.6 seconds

Prüfbericht - Nr.: 50069022 001
Test Report No.

Seite 22 von 28
Page 22 of 28

5.1.10 Conducted emissions

RESULT:

Passed

Date of testing	:	2017-01-23
Test standard	:	FCC Part 15.107(a) & FCC Part 15.207(a) RSS-Gen Clause 8.8
Basic standard	:	ANSI C63.10: 2013 & ANSI C63.4: 2014
Frequency range	:	0.15 – 30MHz
Limits	:	FCC Part 15.107(a) & FCC Part 15.207(a) RSS-Gen Table 3
Kind of test site	:	Shield room

Test setup

Input Voltage	:	AC 120V, 60Hz via AC/DC Adapter of notebook
Operation Mode	:	B, C
Earthing	:	Not connected
Ambient temperature	:	25°C
Relative humidity	:	55%
Atmospheric pressure	:	101 kPa

For details refer to Appendix 1.

Prüfbericht - Nr.: 50069022 001
Test Report No.

Seite 23 von 28
Page 23 of 28

5.1.11 Radiated Emission

RESULT:

Passed

Date of testing	:	2017-01-23
Test standard	:	FCC Part 15.109(a) & FCC Part 15.209(a) RSS-Gen 8.9
Basic standard	:	ANSI C63.4: 2014
Frequency range	:	30 - 6000MHz
Classification	:	Class B
Limit	:	FCC Part 15.109(a) & FCC Part 15.209(a) RSS-Gen Table 4
Kind of test site	:	3m Semi-Anechoic Chamber

Test setup

Input Voltage	:	AC 120V, 60Hz via AC/DC Adapter of notebook
Operation mode	:	C
Earthing	:	Not connected
Ambient temperature	:	Refer to Appendix 1
Relative humidity	:	Refer to Appendix 1
Atmospheric pressure	:	Refer to Appendix 1

Test data refer to Appendix 1.

7. List of Tables

Table 1: List of Test and Measurement Equipment	5
Table 2: Rating of EUT	7
Table 3: Technical Specification of Bluetooth (BDR & EDR)	7
Table 4: RF channel and frequency of Bluetooth (BDR & EDR mode).....	8
Table 5: Test result of Peak Output Power	14
Table 6: Test result of 99% Bandwidth.....	15
Table 7: Test result of 20dB Bandwidth	18
Table 8: Test result of Frequency Separation	19
Table 9: Test result of Number of hopping frequency	20
Table 10: Test result of Time of Occupancy.....	21

8. List of Photographs

Photograph 1: Set-up for Radio Spectrum Test	24
Photograph 2: Set-up for Spurious Emissions (9kHz-30MHz)	24
Photograph 3: Set-up for Spurious Emissions (30MHz-1GHz)	25
Photograph 4: Set-up for Spurious Emissions (1GHz-18GHz)	25
Photograph 5: Set-up for Spurious Emissions (18GHz-26GHz)	26
Photograph 6: Set-up for Conducted Emissions	26
Photograph 7: Set-up for Radiated Emissions, below 1GHz	27
Photograph 8: Set-up for Radiated Emissions, above 1GHz	27

List of Figures

Figure 1: Test figure of spurious emissions, mode A.1, Horizontal polarity (9kHz – 30MHz)	2
Figure 2: Test figure of spurious emissions, mode A.1, Vertical polarity (9kHz – 30MHz)	3
Figure 3: Test figure of spurious emissions, mode A.1, Horizontal polarity (30MHz – 1GHz)	4
Figure 4: Test figure of spurious emissions, mode A.1, Vertical polarity (30MHz – 1GHz)	5
Figure 5: Test figure of spurious emissions, mode A.1, Horizontal polarity (1GHz – 18GHz)	6
Figure 6: Test figure of spurious emissions, mode A.1, Vertical polarity (1GHz – 18GHz)	7
Figure 7: Test figure of spurious emissions, mode A.1, Horizontal polarity (18GHz – 25GHz)	8
Figure 8: Test figure of spurious emissions, mode A.1, Vertical polarity (18GHz – 25GHz)	9
Figure 9: Test figure of spurious emissions, mode A.2, Horizontal polarity (9kHz – 30MHz)	10
Figure 10: Test figure of spurious emissions, mode A.2, Vertical polarity (9kHz – 30MHz)	11
Figure 11: Test figure of spurious emissions, mode A.2, Horizontal polarity (30MHz – 1GHz)	12
Figure 12: Test figure of spurious emissions, mode A.2, Vertical polarity (30MHz – 1GHz)	13
Figure 13: Test figure of spurious emissions, mode A.2, Horizontal polarity (1GHz – 18GHz)	14
Figure 14: Test figure of spurious emissions, mode A.2, Vertical polarity (1GHz – 18GHz)	15
Figure 15: Test figure of spurious emissions, mode A.2, Horizontal polarity (18GHz – 25GHz)	16
Figure 16: Test figure of spurious emissions, mode A.2, Vertical polarity (18GHz – 25GHz)	17
Figure 17: Test figure of spurious emissions, mode A.3, Horizontal polarity (9kHz – 30MHz)	18
Figure 18: Test figure of spurious emissions, mode A.3, Vertical polarity (9kHz – 30MHz)	19
Figure 19: Test figure of spurious emissions, mode A.3, Horizontal polarity (30MHz – 1GHz)	20
Figure 20: Test figure of spurious emissions, mode A.3, Vertical polarity (30MHz – 1GHz)	21
Figure 21: Test figure of spurious emissions, mode A.3, Horizontal polarity (1GHz – 18GHz)	22
Figure 22: Test figure of spurious emissions, mode A.3, Vertical polarity (1GHz – 18GHz)	23
Figure 23: Test figure of spurious emissions, mode A.3, Horizontal polarity (18GHz – 25GHz)	24
Figure 24: Test figure of spurious emissions, mode A.3, Vertical polarity (18GHz – 25GHz)	25
Figure 25: Test figure of Radiated emissions in restricted bands, Mode A.1, Horizontal	26
Figure 26: Test figure of Radiated emissions in restricted bands, Mode A.1, Vertical	27
Figure 27: Test figure of Radiated emissions in restricted bands, Mode A.3, Horizontal	28
Figure 28: Test figure of Radiated emissions in restricted bands, Mode A.3, Vertical	29
Figure 29: Test figure of conducted emissions in 100kHz Bandwidth, Mode A.1	30
Figure 30: Test figure of conducted emissions in 100kHz Bandwidth, Mode A.2	31
Figure 31: Test figure of conducted emissions in 100kHz Bandwidth, Mode A.3	32
Figure 32: Test figure of Frequency Band Edge in 100kHz Bandwidth, Mode A.1	33
Figure 33: Test figure of Frequency Band Edge in 100kHz Bandwidth, Mode A.3	34
Figure 36: Test figure of Conducted emissions, Mode B+C, line live	35
Figure 37: Test figure of Conducted emissions, Mode B+C, line neutral	38
Figure 34: Test figure of Conducted emissions, Mode D, line live	35
Figure 35: Test figure of Conducted emissions, Mode D, line neutral	36
Figure 38: Test figure of Radiated emissions, Mode C, Below 1GHz, Horizontal	39
Figure 39: Test figure of Radiated emissions, Mode C, Below 1GHz, Vertical	40
Figure 40: Test figure of Radiated emissions, Mode C, Above 1GHz, Horizontal	41
Figure 41: Test figure of Radiated emissions, Mode C, Above 1GHz, Vertical	42
Figure 38: Test figure of Radiated emissions, Mode D, Below 1GHz, Horizontal	Error! Bookmark not defined.
Figure 39: Test figure of Radiated emissions, Mode D, Below 1GHz, Vertical	Error! Bookmark not defined.
Figure 40: Test figure of Radiated emissions, Mode D, Above 1GHz, Horizontal	Error! Bookmark not defined.
Figure 41: Test figure of Radiated emissions, Mode D, Above 1GHz, Vertical	Error! Bookmark not defined.

Figure 1: Test figure of spurious emissions, mode A.1, Horizontal polarity (9kHz – 30MHz)

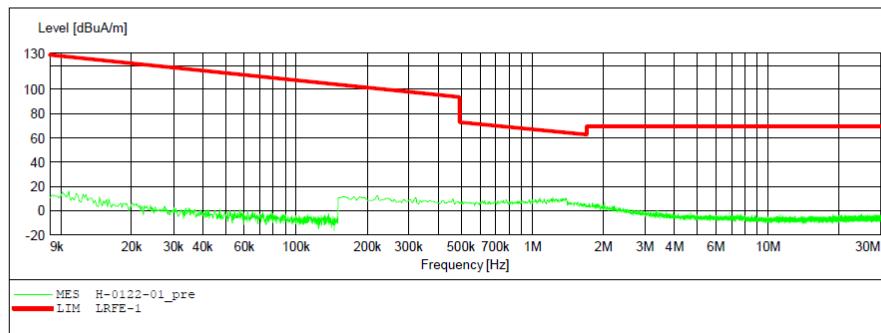
ACCURATE TECHNOLOGY CO., LTD

FCC Class B 3m Radiated

EUT: Bluetooth In-Ear Headphones M/N: NS-CAHBTEB02-BLK
Manufacturer:
Operating Condition: TX 2402MHz
Test Site: 2# Chamber
Operator: LGWADE
Test Specification: DC 3.7V
Comment: X

SCAN TABLE: "LFRE Fin"

Short Description: _SUB_STD_VTERM2 1.70
Start Stop Step Détector Meas. IF Transducer
Frequency Frequency Width Time Bandw.
9.0 kHz 150.0 kHz 100.0 Hz QuasiPeak 1.0 s 200 Hz 1516M
150.0 kHz 30.0 MHz 5.0 kHz QuasiPeak 1.0 s 9 kHz 1516M



**Figure 2: Test figure of spurious emissions, mode A.1, Vertical polarity
(9kHz – 30MHz)**

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FCC Class B 3m Radiated

EUT: Bluetooth In-Ear Headphones M/N: NS-CAHBTEB02-BLK
Manufacturer:
Operating Condition: TX 2402MHz
Test Site: 2# Chamber
Operator: LGWADE
Test Specification: DC 3.7V
Comment: Y

SCAN TABLE: "LFRE_Fin"

Start Frequency	Stop Frequency	Step Width	Detector	Meas.	IF Time	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M

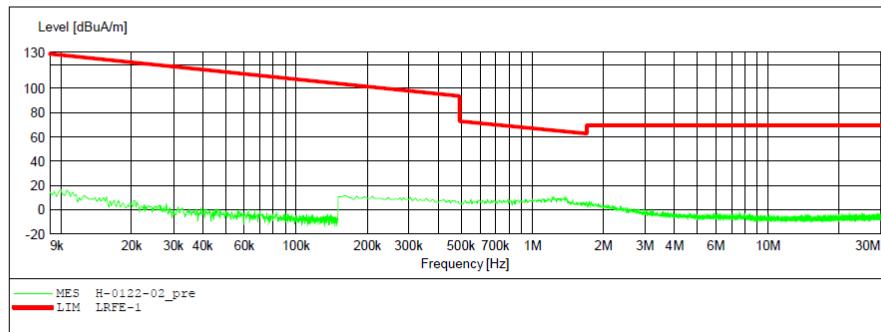


Figure 3: Test figure of spurious emissions, mode A.1, Horizontal polarity (30MHz – 1GHz)

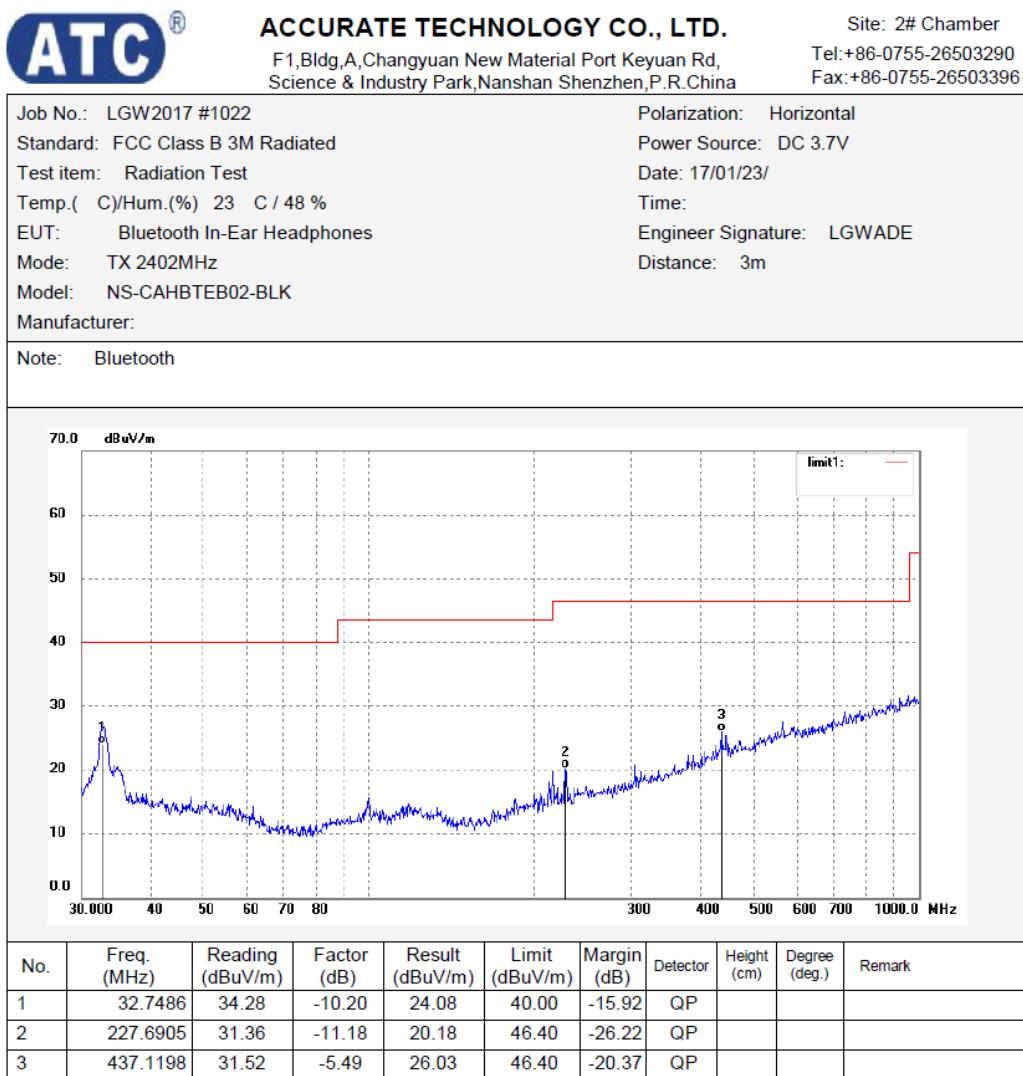


Figure 4: Test figure of spurious emissions, mode A.1, Vertical polarity (30MHz – 1GHz)



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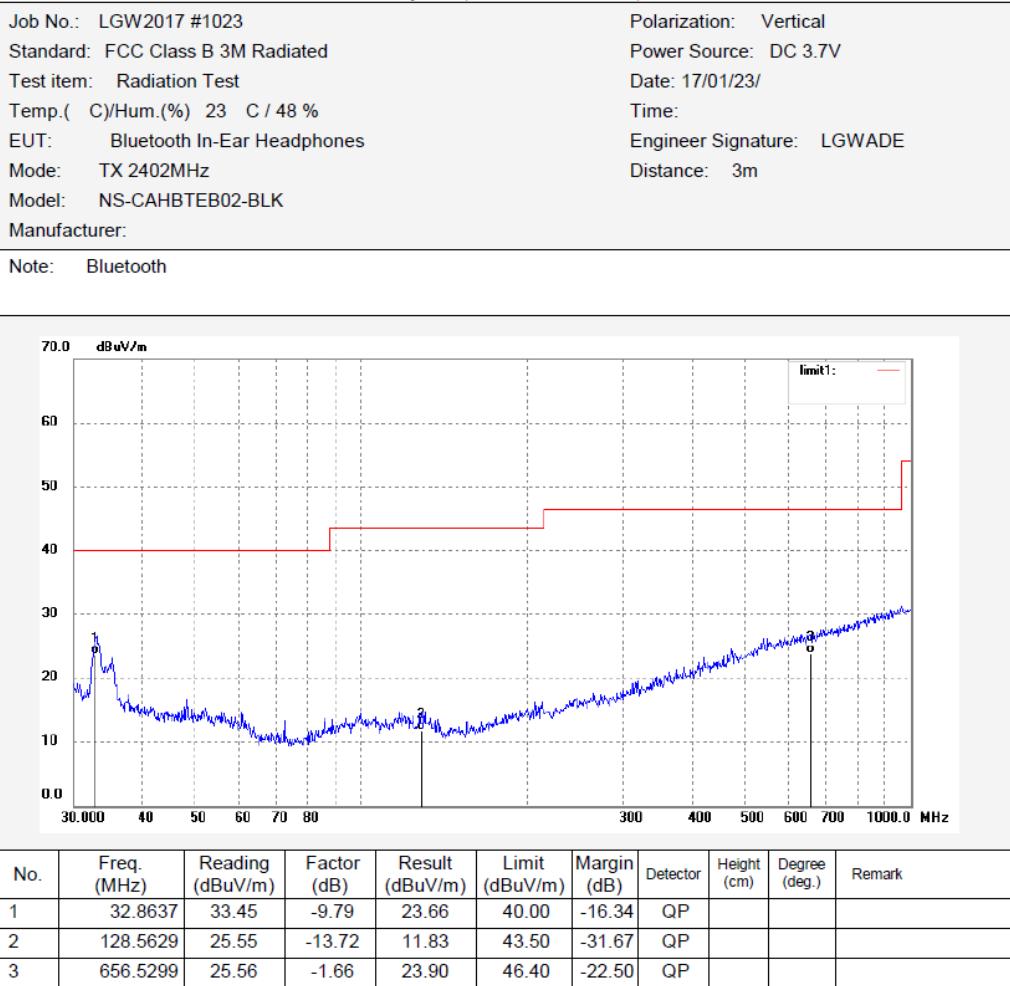


Figure 5: Test figure of spurious emissions, mode A.1, Horizontal polarity (1GHz –18GHz)



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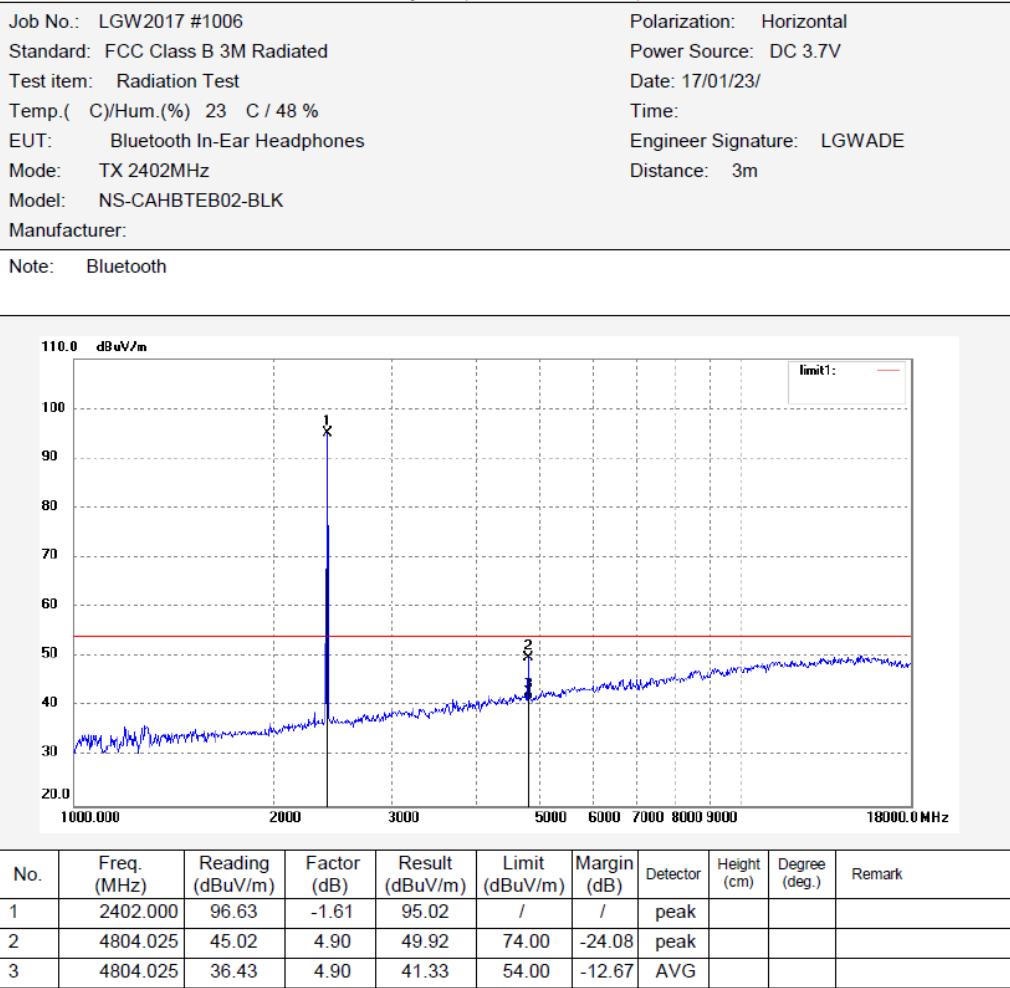


Figure 6: Test figure of spurious emissions, mode A.1, Vertical polarity (1GHz – 18GHz)



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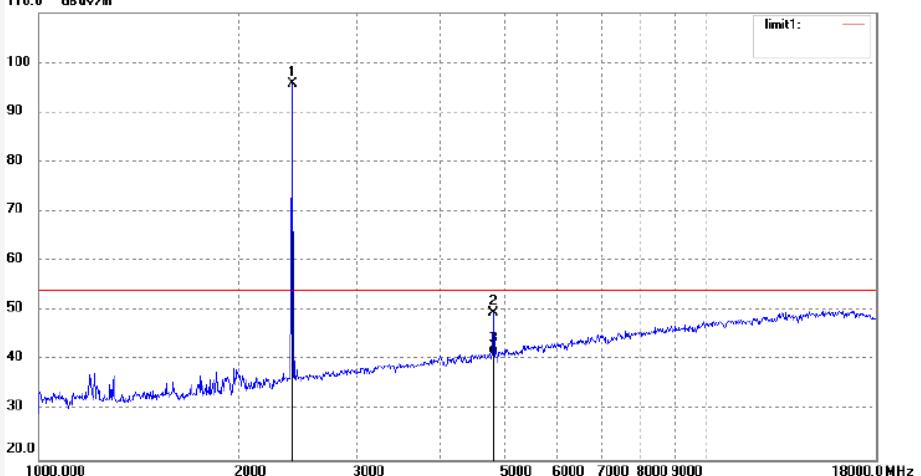
Job No.: LGW2017 #1007	Polarization: Vertical									
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V									
Test item: Radiation Test	Date: 17/01/23/									
Temp.(C)/Hum.(%) 23 C / 48 %	Time:									
EUT: Bluetooth In-Ear Headphones	Engineer Signature: LGWADE									
Mode: TX 2402MHz	Distance: 3m									
Model: NS-CAHBTEB02-BLK										
Manufacturer:										
Note: Bluetooth										
										
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2402.000	97.25	-1.61	95.64	/	/	peak			
2	4804.028	44.76	4.90	49.66	74.00	-24.34	peak			
3	4804.028	36.45	4.90	41.35	54.00	-12.65	AVG			

Figure 7: Test figure of spurious emissions, mode A.1, Horizontal polarity (18GHz –25GHz)



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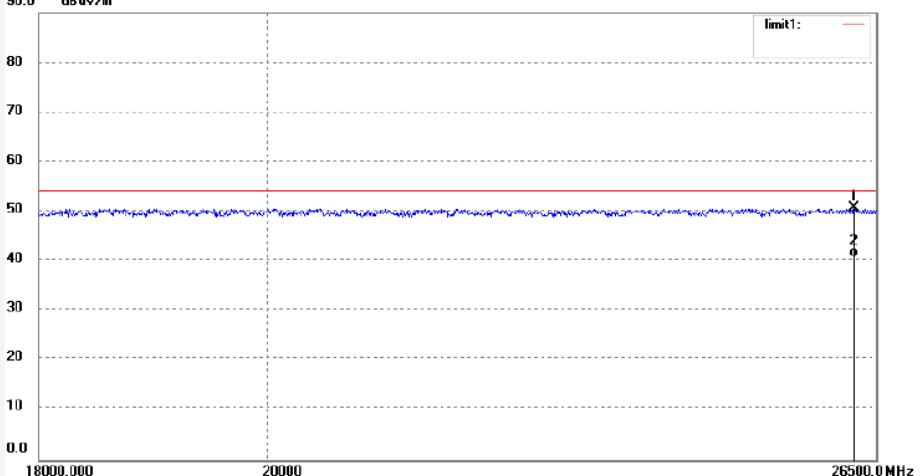
Job No.: LGW2017 #1017	Polarization: Horizontal									
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V									
Test item: Radiation Test	Date: 17/01/23/									
Temp.(C)/Hum.(%) 23 C / 48 %	Time:									
EUT: Bluetooth In-Ear Headphones	Engineer Signature: LGWADE									
Mode: TX 2402MHz	Distance: 3m									
Model: NS-CAHBTEB02-BLK										
Manufacturer:										
Note: Bluetooth										
										
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	26234.849	10.39	40.37	50.76	74.00	-23.24	peak			
2	26234.849	0.40	40.37	40.77	54.00	-13.23	AVG			

Figure 8: Test figure of spurious emissions, mode A.1, Vertical polarity (18GHz – 25GHz)



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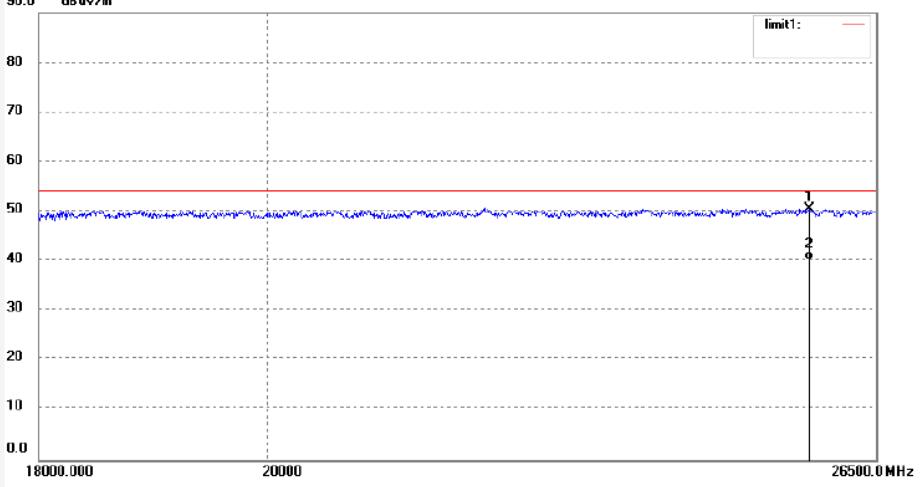
Job No.: LGW2017 #1016	Polarization: Vertical									
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V									
Test item: Radiation Test	Date: 17/01/23/									
Temp.(C)/Hum.(%) 23 C / 48 %	Time:									
EUT: Bluetooth In-Ear Headphones	Engineer Signature: LGWADE									
Mode: TX 2402MHz	Distance: 3m									
Model: NS-CAHBTEB02-BLK										
Manufacturer:										
Note: Bluetooth										
										
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	25692.597	9.45	41.03	50.48	74.00	-23.52	peak			
2	25692.597	-0.89	41.03	40.14	54.00	-13.86	AVG			

Figure 9: Test figure of spurious emissions, mode A.2, Horizontal polarity (9kHz – 30MHz)

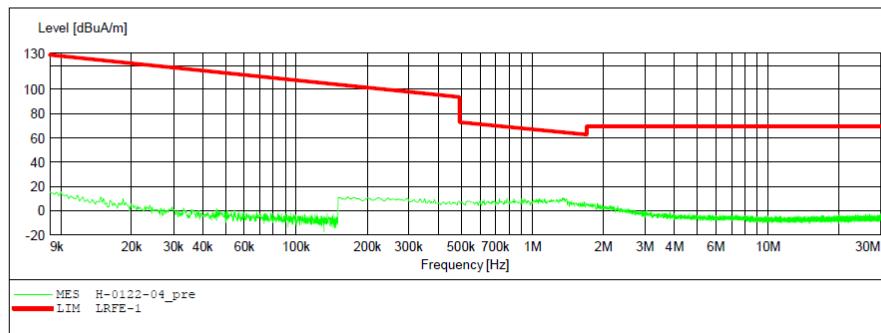
ACCURATE TECHNOLOGY CO., LTD

FCC Class B 3m Radiated

EUT: Bluetooth In-Ear Headphones M/N: NS-CAHBTEB02-BLK
Manufacturer:
Operating Condition: TX 2441MHz
Test Site: 2# Chamber
Operator: LGWADE
Test Specification: DC 3.7V
Comment: X

SCAN TABLE: "LFRE Fin"

Short Description: _SUB_STD_VTERM2 1.70
Start Stop Step Détector Meas. IF Transducer
Frequency Frequency Width Time Bandw.
9.0 kHz 150.0 kHz 100.0 Hz QuasiPeak 1.0 s 200 Hz 1516M
150.0 kHz 30.0 MHz 5.0 kHz QuasiPeak 1.0 s 9 kHz 1516M



**Figure 10: Test figure of spurious emissions, mode A.2, Vertical polarity
(9kHz – 30MHz)**

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FCC Class B 3m Radiated

EUT: Bluetooth In-Ear Headphones M/N: NS-CAHBTEB02-BLK
Manufacturer:
Operating Condition: TX 2441MHz
Test Site: 2# Chamber
Operator: LGWADE
Test Specification: DC 3.7V
Comment: Y

SCAN TABLE: "LFRE_Fin"

Start Frequency	Stop Frequency	Step Width	Detector	Meas.	IF Time	Transducer Bandw.
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M

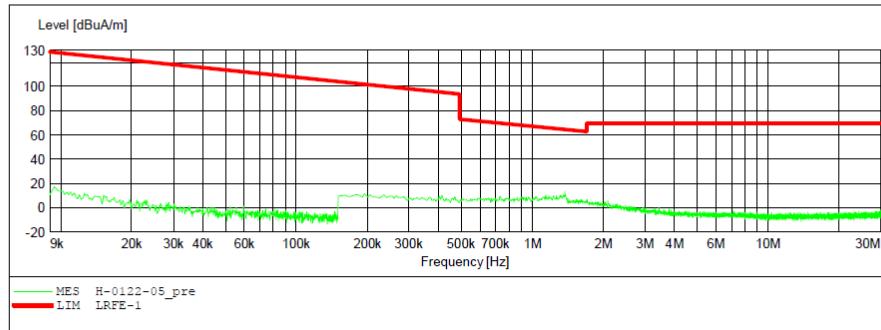


Figure 11: Test figure of spurious emissions, mode A.2, Horizontal polarity (30MHz – 1GHz)

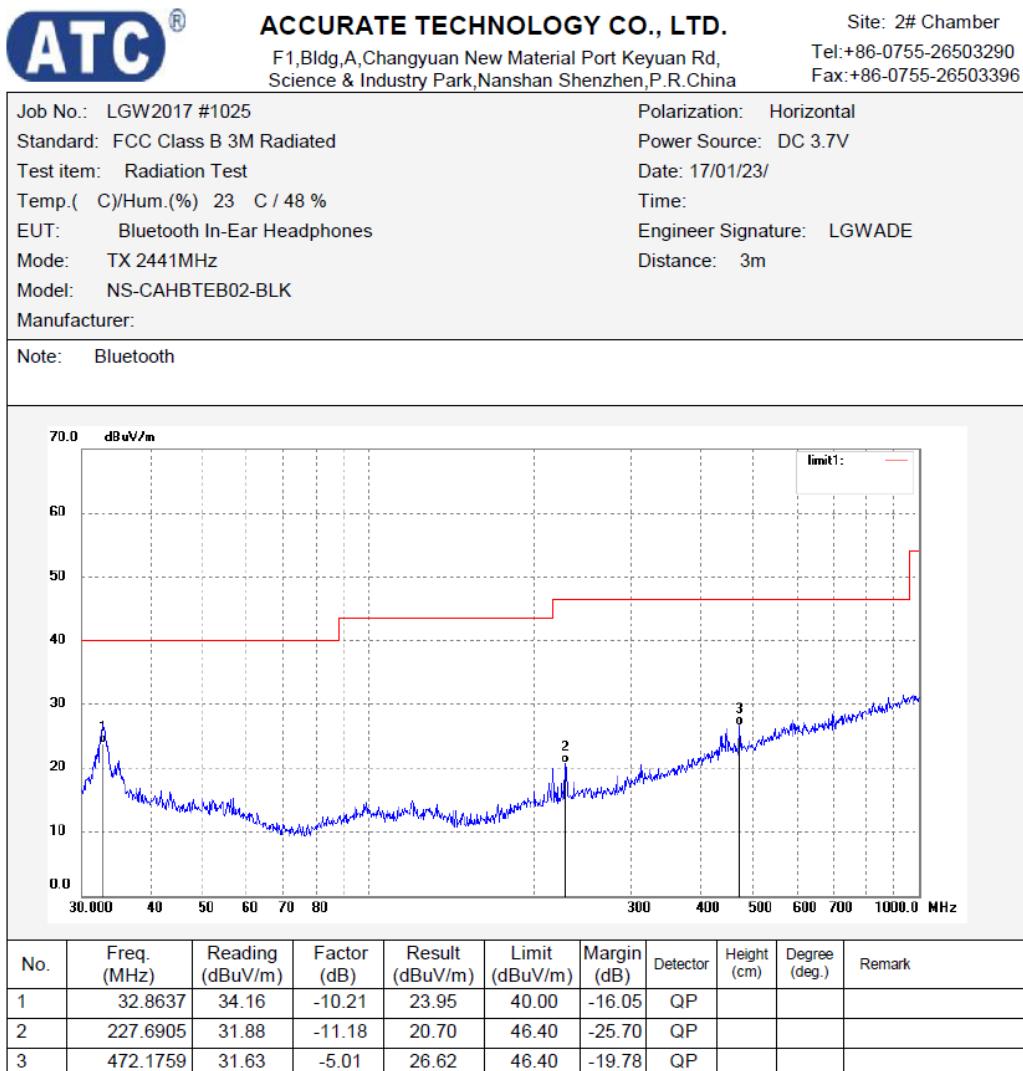


Figure 12: Test figure of spurious emissions, mode A.2, Vertical polarity (30MHz – 1GHz)



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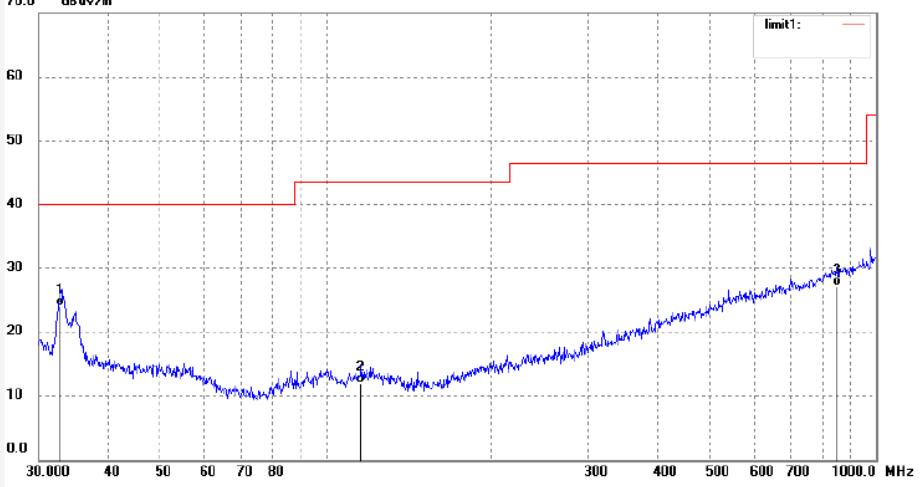
Job No.: LGW2017 #1024	Polarization: Vertical									
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V									
Test item: Radiation Test	Date: 17/01/23/									
Temp.(C)/Hum.(%) 23 C / 48 %	Time:									
EUT: Bluetooth In-Ear Headphones	Engineer Signature: LGWADE									
Mode: TX 2441MHz	Distance: 3m									
Model: NS-CAHBTEB02-BLK										
Manufacturer:										
Note: Bluetooth										
										
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	32.8637	33.90	-9.79	24.11	40.00	-15.89	QP			
2	115.7256	25.05	-13.06	11.99	43.50	-31.51	QP			
3	851.0353	25.73	1.57	27.30	46.40	-19.10	QP			

Figure 13: Test figure of spurious emissions, mode A.2, Horizontal polarity (1GHz – 18GHz)



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Job No.: LGW2017 #1010	Polarization: Horizontal									
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V									
Test item: Radiation Test	Date: 17/01/23/									
Temp.(C)/Hum.(%) 23 C / 48 %	Time:									
EUT: Bluetooth In-Ear Headphones	Engineer Signature: LGWADE									
Mode: TX 2441MHz	Distance: 3m									
Model: NS-CAHBTEB02-BLK										
Manufacturer:										
Note: Bluetooth										
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2441.000	95.65	-1.44	94.21	/	/	peak			
2	4882.028	44.34	5.61	49.95	74.00	-24.05	peak			
3	4882.028	35.73	5.61	41.34	54.00	-12.66	AVG			

Figure 14: Test figure of spurious emissions, mode A.2, Vertical polarity (1GHz – 18GHz)



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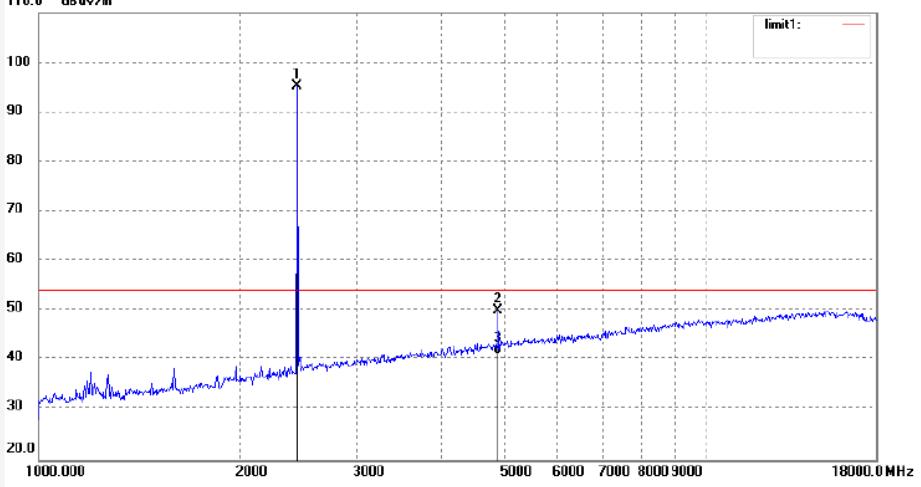
Job No.: LGW2017 #1011	Polarization: Vertical									
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V									
Test item: Radiation Test	Date: 17/01/23/									
Temp.(C)/Hum.(%) 23 C / 48 %	Time:									
EUT: Bluetooth In-Ear Headphones	Engineer Signature: LGWADE									
Mode: TX 2441MHz	Distance: 3m									
Model: NS-CAHBTEB02-BLK										
Manufacturer:										
Note: Bluetooth										
										
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2441.000	96.80	-1.44	95.36	/	/	peak			
2	4882.029	44.50	5.61	50.11	74.00	-23.89	peak			
3	4882.029	35.73	5.61	41.34	54.00	-12.66	AVG			

Figure 15: Test figure of spurious emissions, mode A.2, Horizontal polarity (18GHz – 25GHz)



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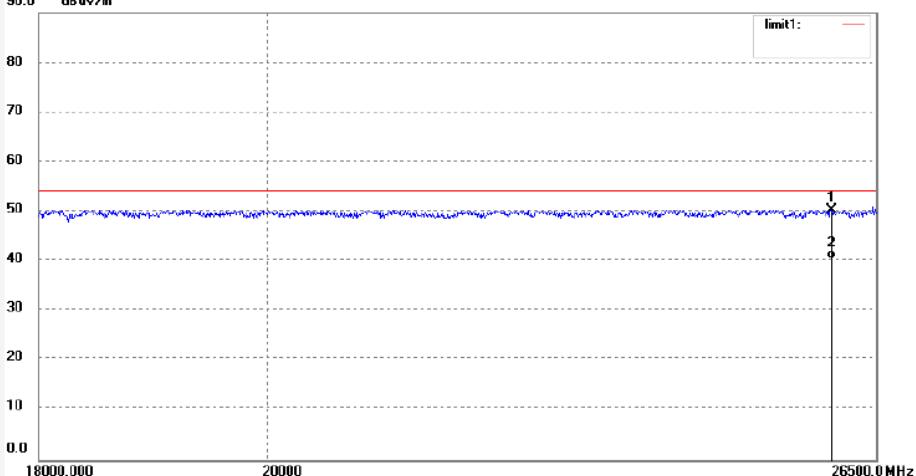
Job No.: LGW2017 #1018	Polarization: Horizontal									
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V									
Test item: Radiation Test	Date: 17/01/23/									
Temp.(C)/Hum.(%) 23 C / 48 %	Time:									
EUT: Bluetooth In-Ear Headphones	Engineer Signature: LGWADE									
Mode: TX 2441MHz	Distance: 3m									
Model: NS-CAHBTEB02-BLK										
Manufacturer:										
Note: Bluetooth										
										
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	25962.307	10.03	40.23	50.26	74.00	-23.74	peak			
2	25962.307	0.11	40.23	40.34	54.00	-13.66	AVG			

Figure 16: Test figure of spurious emissions, mode A.2, Vertical polarity (18GHz – 25GHz)

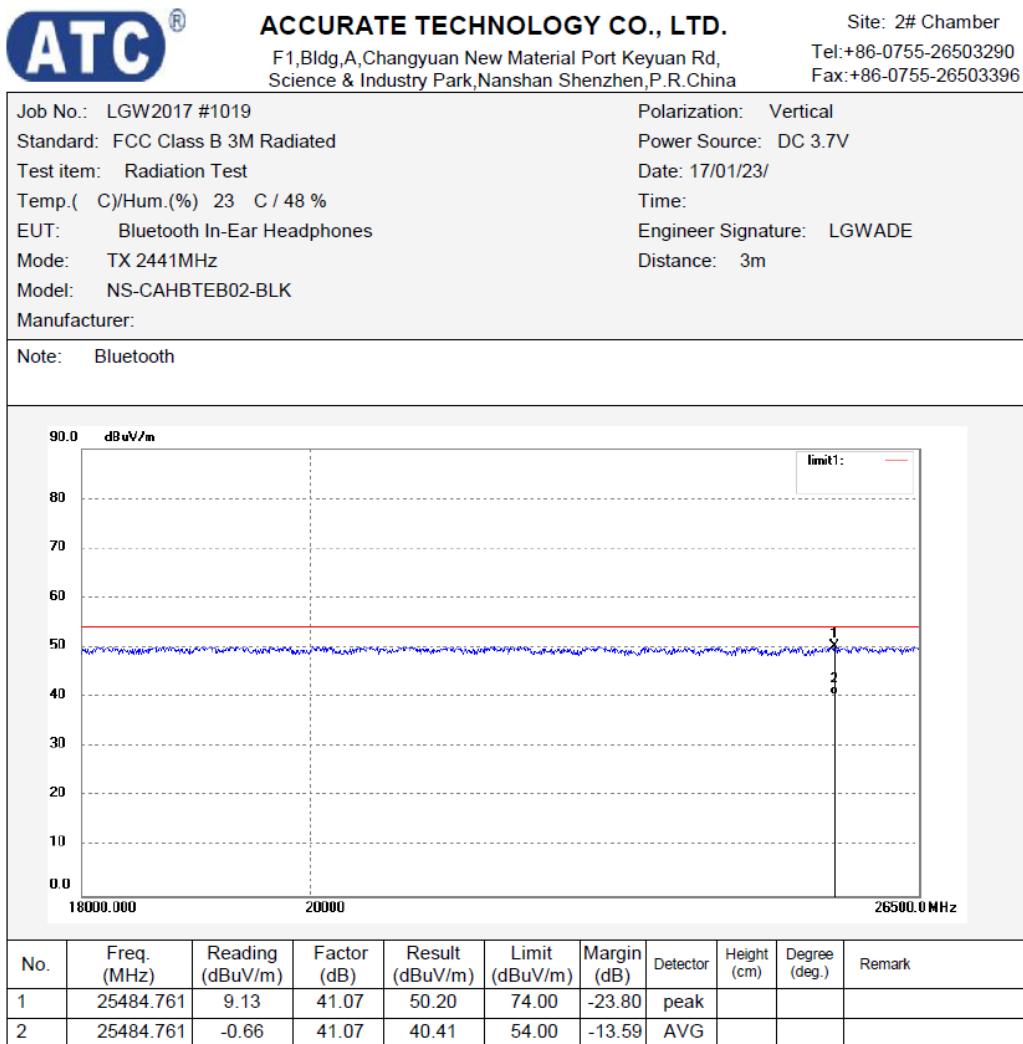


Figure 17: Test figure of spurious emissions, mode A.3, Horizontal polarity (9kHz – 30MHz)

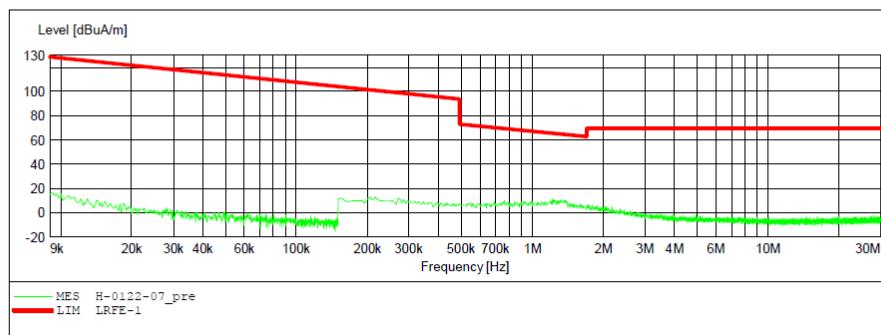
ACCURATE TECHNOLOGY CO., LTD

FCC Class B 3m Radiated

EUT: Bluetooth In-Ear Headphones M/N: NS-CAHBTEB02-BLK
Manufacturer:
Operating Condition: TX 2480MHz
Test Site: 2# Chamber
Operator: LGWADE
Test Specification: DC 3.7V
Comment: X

SCAN TABLE: "LFRE Fin"

Short Description: _SUB_STD_VTERM2 1.70
Start Stop Step Détector Meas. IF Transducer
Frequency Frequency Width Time Bandw.
9.0 kHz 150.0 kHz 100.0 Hz QuasiPeak 1.0 s 200 Hz 1516M
150.0 kHz 30.0 MHz 5.0 kHz QuasiPeak 1.0 s 9 kHz 1516M



**Figure 18: Test figure of spurious emissions, mode A.3, Vertical polarity
(9kHz – 30MHz)**

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FCC Class B 3m Radiated

EUT: Bluetooth In-Ear Headphones M/N: NS-CAHBTEB02-BLK
Manufacturer:
Operating Condition: TX 2480MHz
Test Site: 2# Chamber
Operator: LGWADE
Test Specification: DC 3.7V
Comment: Y

SCAN TABLE: "LFRE_Fin"

Start Frequency	Stop Frequency	Step Width	Detector	Meas.	IF Time	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M

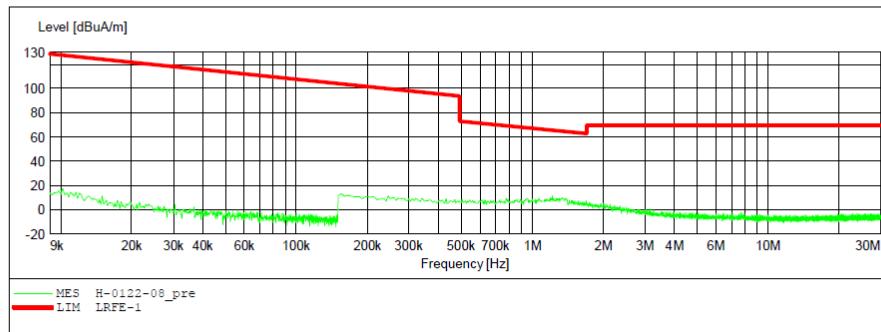


Figure 19: Test figure of spurious emissions, mode A.3, Horizontal polarity (30MHz – 1GHz)

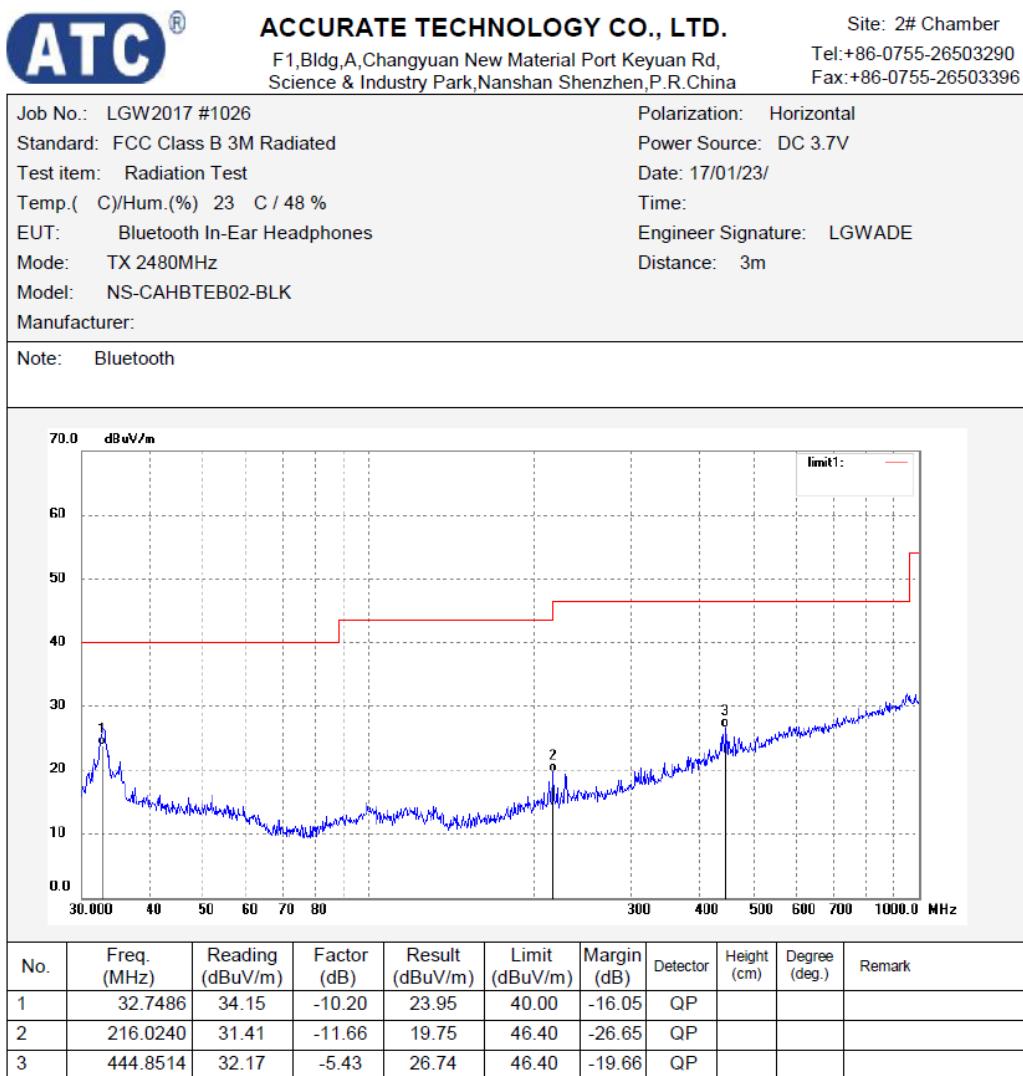


Figure 20: Test figure of spurious emissions, mode A.3, Vertical polarity (30MHz – 1GHz)

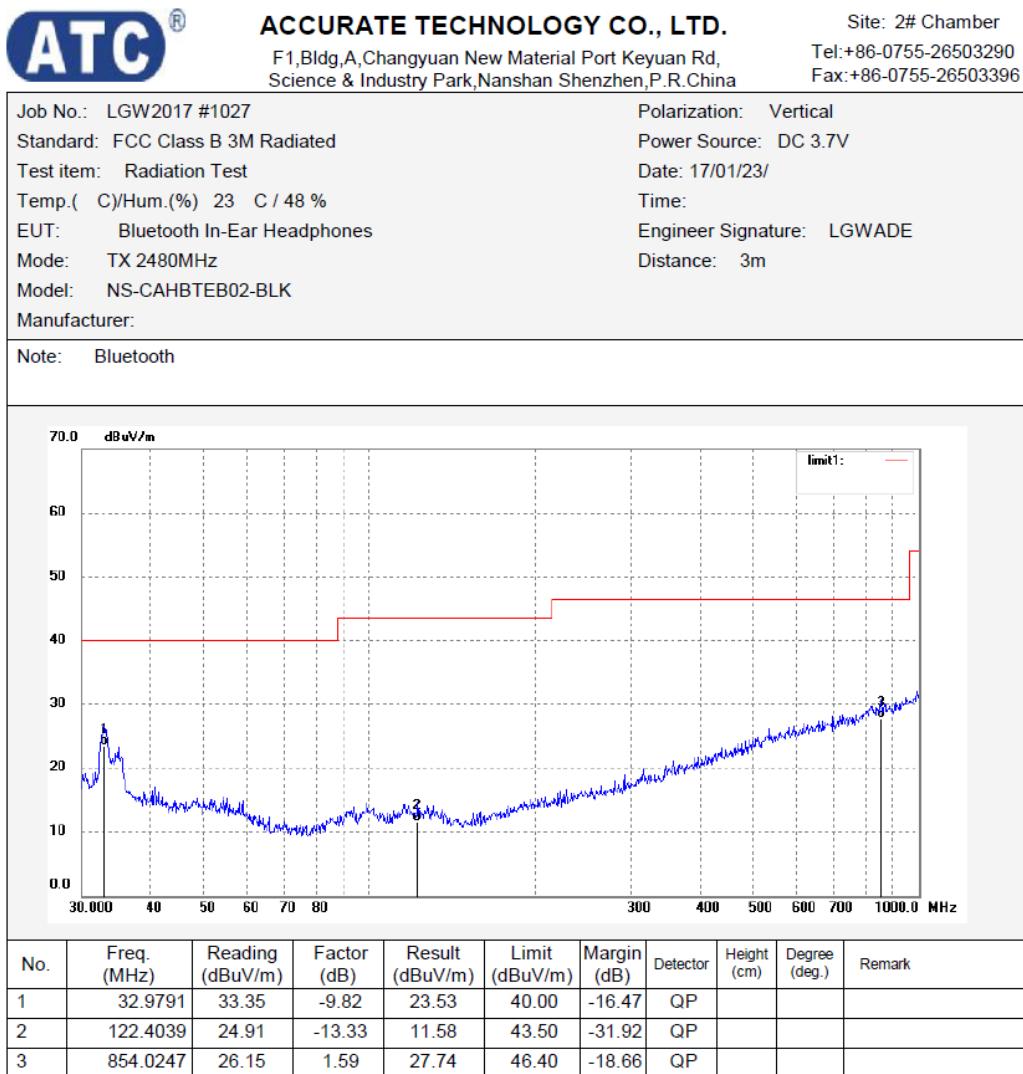


Figure 21: Test figure of spurious emissions, mode A.3, Horizontal polarity (1GHz –18GHz)



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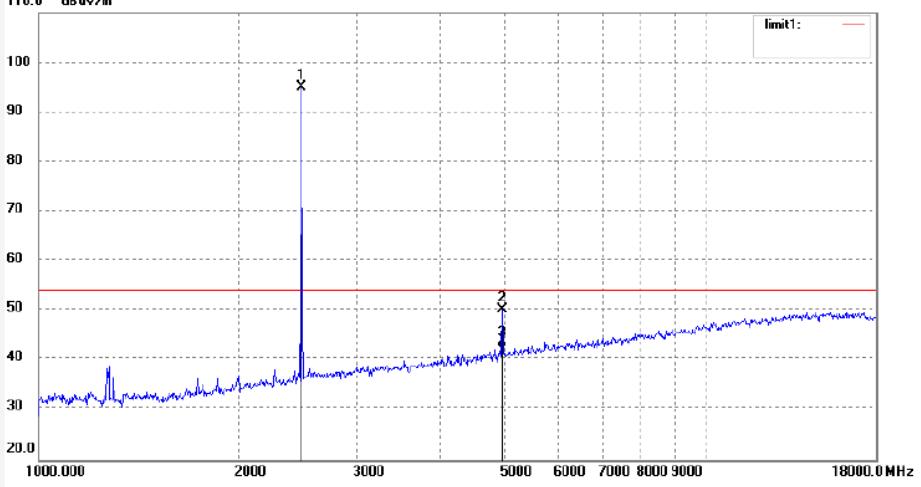
Job No.: LGW2017 #1013	Polarization: Horizontal									
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V									
Test item: Radiation Test	Date: 17/01/23/									
Temp.(C)/Hum.(%) 23 C / 48 %	Time:									
EUT: Bluetooth In-Ear Headphones	Engineer Signature: LGWADE									
Mode: TX 2480MHz	Distance: 3m									
Model: NS-CAHBTEB02-BLK										
Manufacturer:										
Note: Bluetooth										
										
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2480.000	96.50	-1.40	95.10	/	/	peak			
2	4960.026	44.15	6.10	50.25	74.00	-23.75	peak			
3	4960.026	36.27	6.10	42.37	54.00	-11.63	AVG			

Figure 22: Test figure of spurious emissions, mode A.3, Vertical polarity (1GHz – 18GHz)



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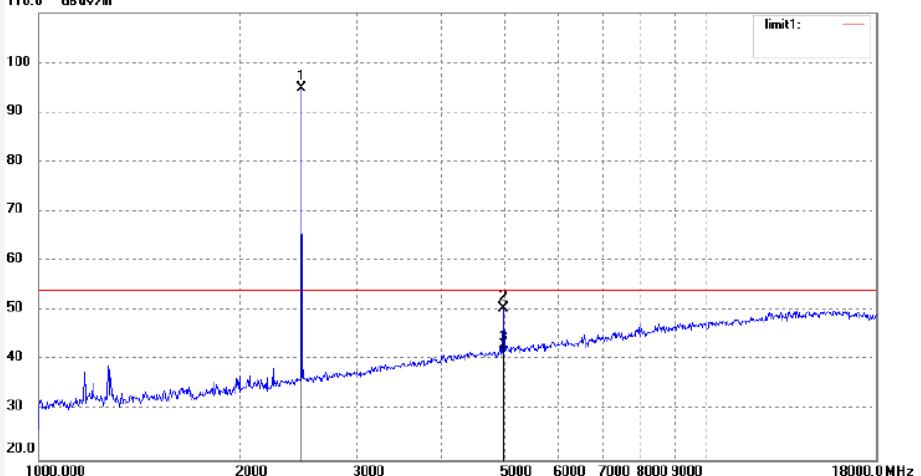
Job No.: LGW2017 #1012	Polarization: Vertical									
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V									
Test item: Radiation Test	Date: 17/01/23/									
Temp.(C)/Hum.(%) 23 C / 48 %	Time:									
EUT: Bluetooth In-Ear Headphones	Engineer Signature: LGWADE									
Mode: TX 2480MHz	Distance: 3m									
Model: NS-CAHBTEB02-BLK										
Manufacturer:										
Note: Bluetooth										
										
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2480.000	96.25	-1.40	94.85	/	/	peak			
2	4960.030	44.29	6.10	50.39	74.00	-23.61	peak			
3	4960.030	35.34	6.10	41.44	54.00	-12.56	AVG			

Figure 23: Test figure of spurious emissions, mode A.3, Horizontal polarity (18GHz –25GHz)



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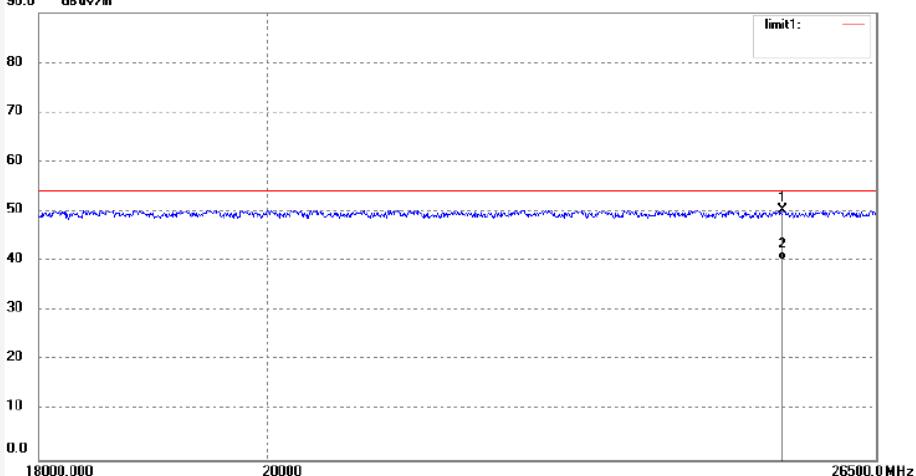
Job No.: LGW2017 #1021	Polarization: Horizontal									
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V									
Test item: Radiation Test	Date: 17/01/23/									
Temp.(C)/Hum.(%) 23 C / 48 %	Time:									
EUT: Bluetooth In-Ear Headphones	Engineer Signature: LGWADE									
Mode: TX 2480MHz	Distance: 3m									
Model: NS-CAHBTEB02-BLK										
Manufacturer:										
Note: Bluetooth										
										
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	25386.383	10.24	39.94	50.18	74.00	-23.82	peak			
2	25386.383	0.30	39.94	40.24	54.00	-13.76	AVG			

Figure 24: Test figure of spurious emissions, mode A.3, Vertical polarity (18GHz – 25GHz)

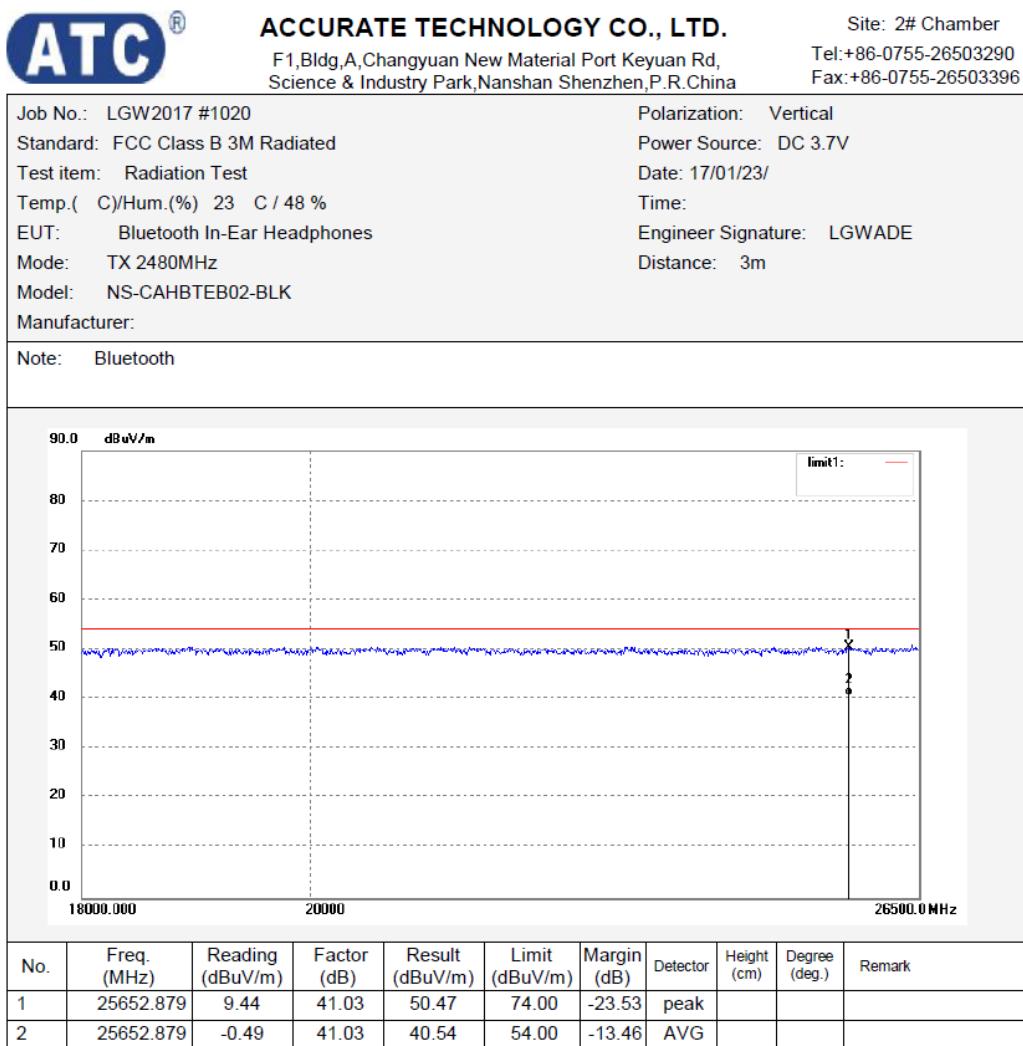


Figure 25: Test figure of Radiated emissions in restricted bands, Mode A.1, Horizontal



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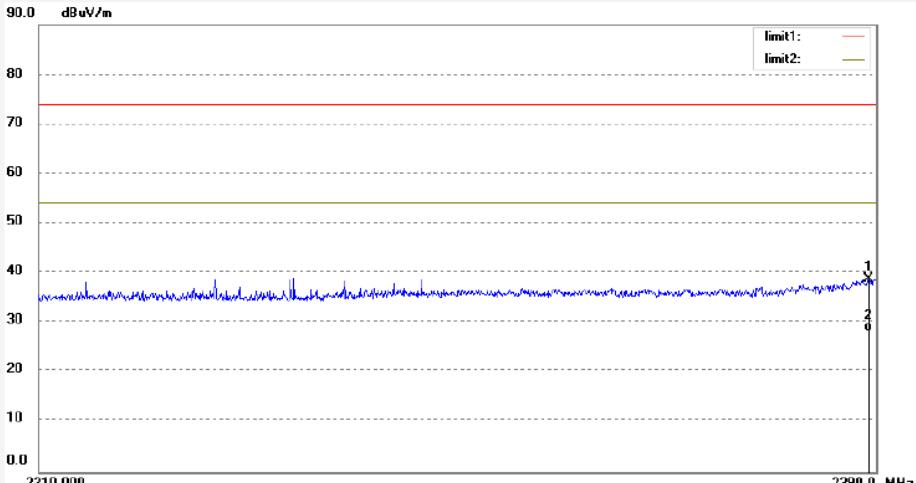
Job No.: LGW2017 #1009	Polarization: Horizontal									
Standard: FCC (Band Edge)	Power Source: DC 3.7V									
Test item: Radiation Test	Date: 17/01/23/									
Temp.(C)/Hum.(%) 23 C / 48 %	Time:									
EUT: Bluetooth In-Ear Headphones	Engineer Signature: LGWADE									
Mode: TX 2402MHz	Distance: 3m									
Model: NS-CAHBTEB02-BLK										
Manufacturer:										
Note: Bluetooth										
										
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2389.280	40.44	-1.71	38.73	74.00	-35.27	peak			
2	2389.280	30.05	-1.71	28.34	54.00	-25.66	AVG			

Figure 26: Test figure of Radiated emissions in restricted bands, Mode A.1, Vertical

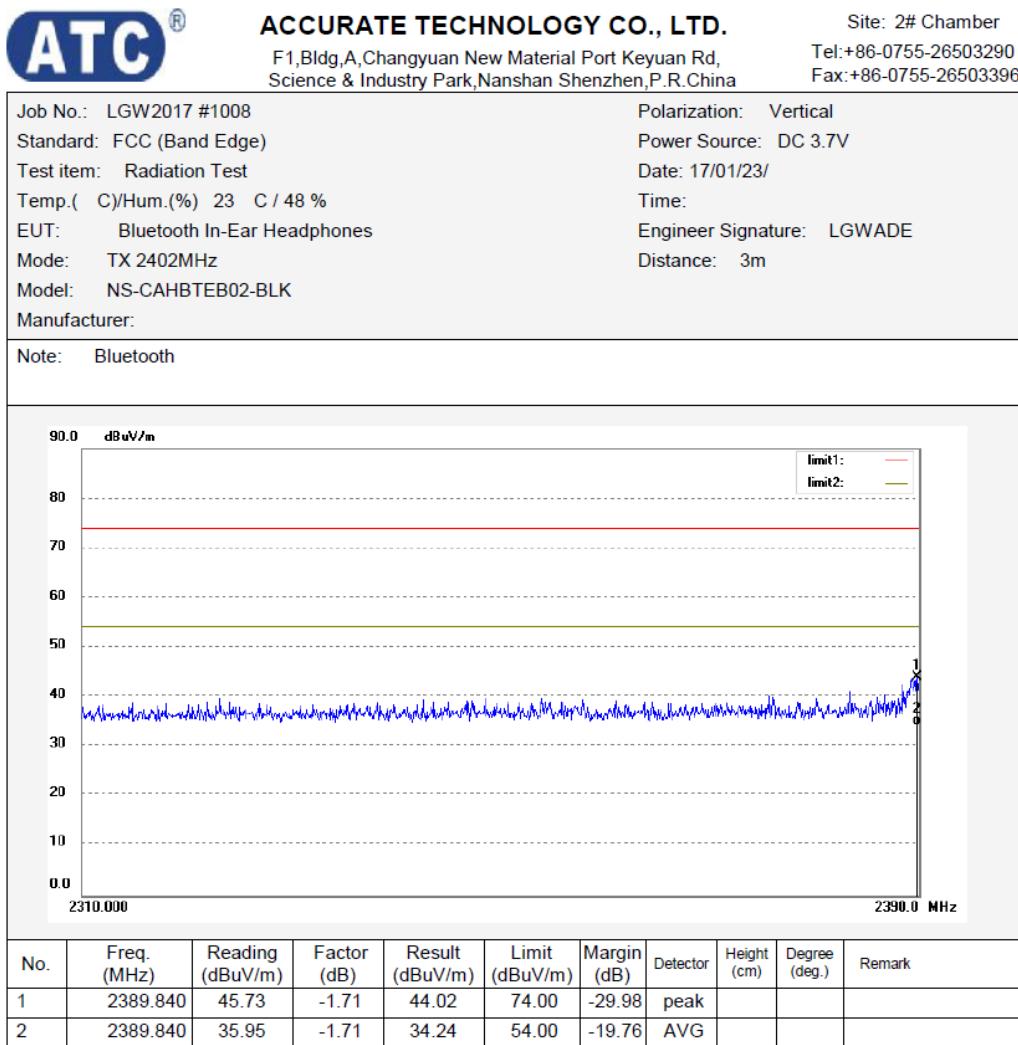


Figure 27: Test figure of Radiated emissions in restricted bands, Mode A.3, Horizontal

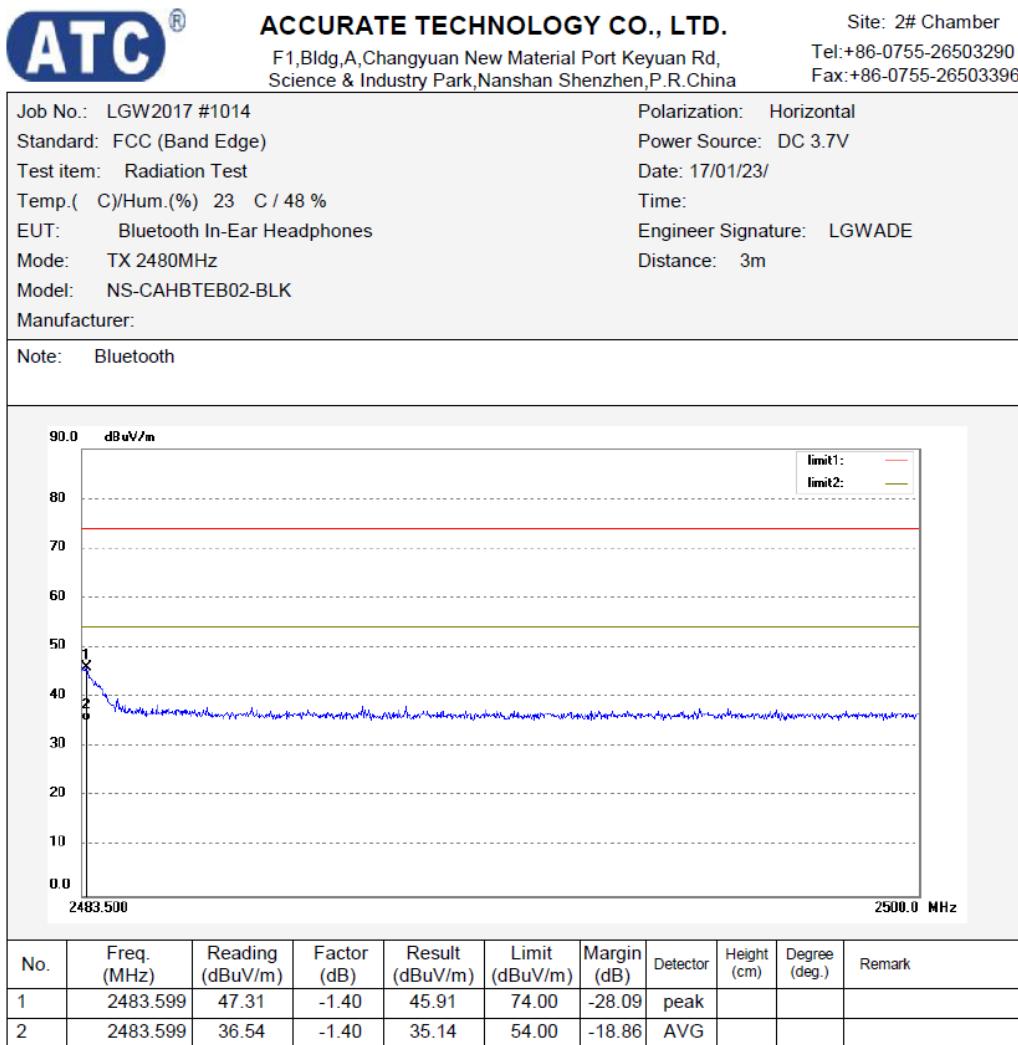


Figure 28: Test figure of Radiated emissions in restricted bands, Mode A.3, Vertical



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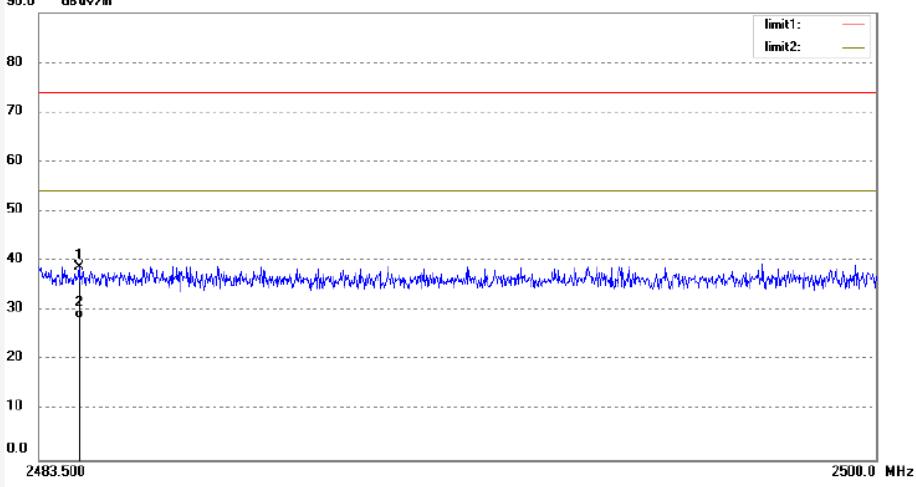
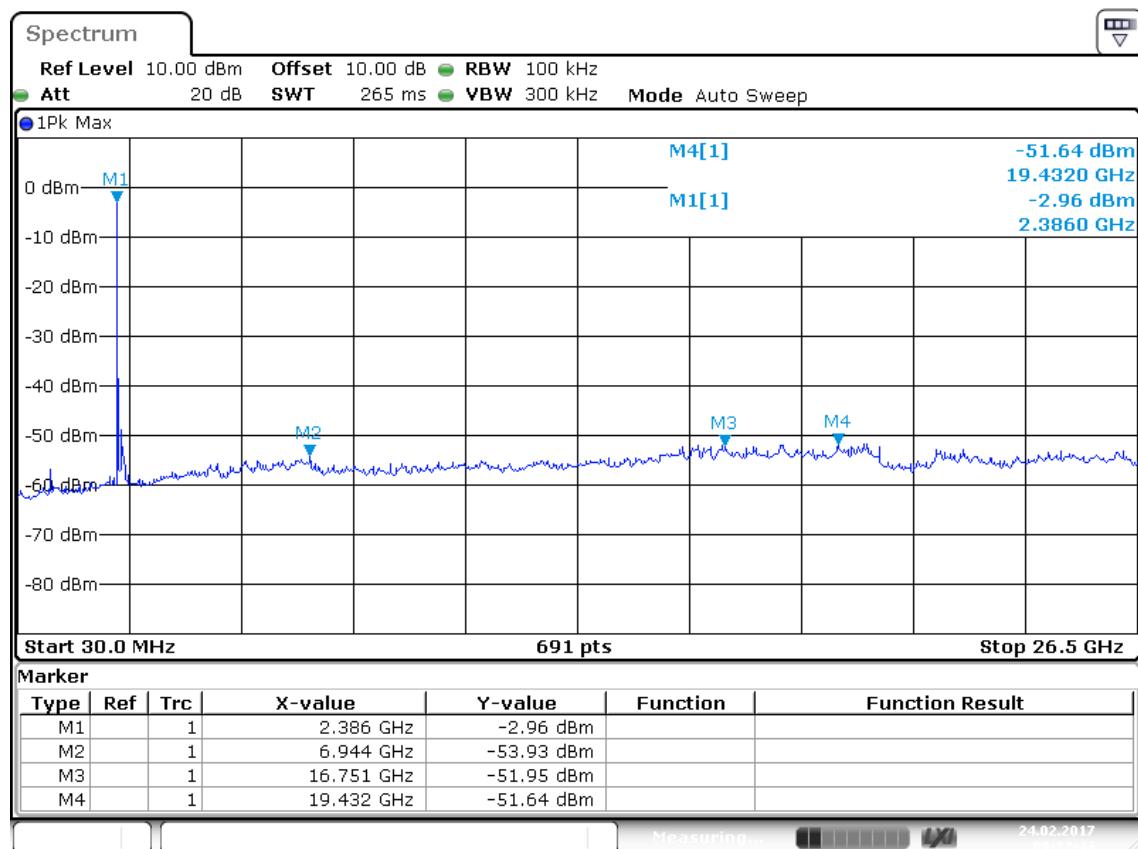
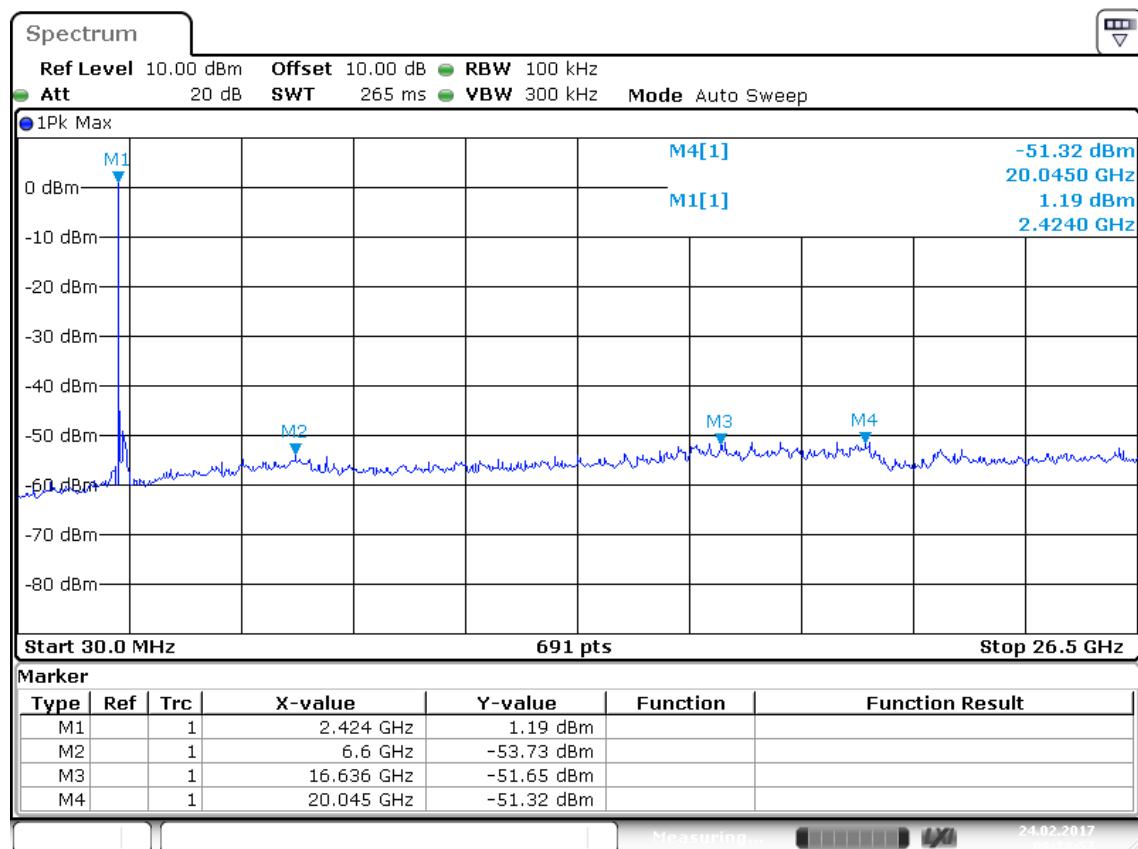
Job No.:	LGW2017 #1015	Polarization:	Vertical							
Standard:	FCC (Band Edge)	Power Source:	DC 3.7V							
Test item:	Radiation Test	Date:	17/01/23/							
Temp.(C)/Hum.(%)	23 C / 48 %	Time:								
EUT:	Bluetooth In-Ear Headphones	Engineer Signature:	LGWADE							
Mode:	TX 2480MHz	Distance:	3m							
Model:	NS-CAHBTEB02-BLK									
Manufacturer:										
Note:	Bluetooth									
										
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2484.292	40.20	-1.41	38.79	74.00	-35.21	peak			
2	2484.292	29.95	-1.41	28.54	54.00	-25.46	AVG			

Figure 29: Test figure of conducted emissions in 100kHz Bandwidth, Mode A.1



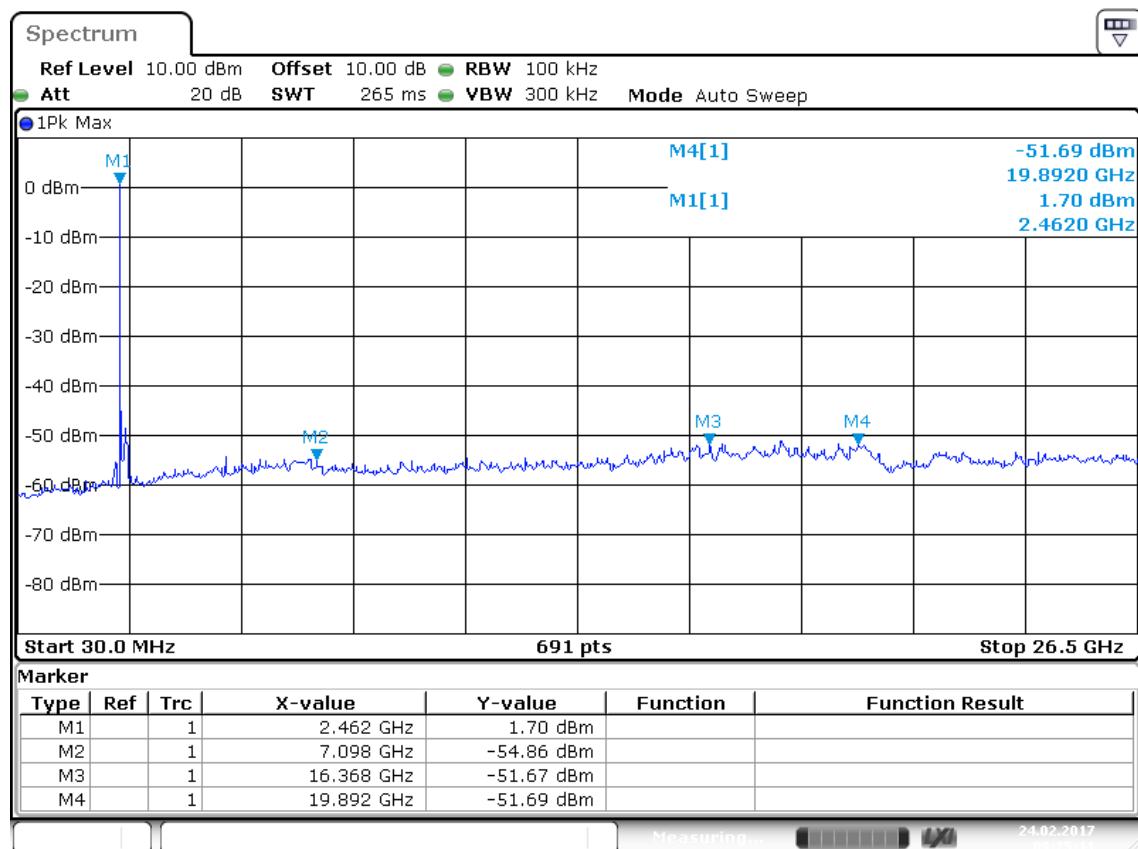
Date: 24.FEB.2017 09:22:44

Figure 30: Test figure of conducted emissions in 100kHz Bandwidth, Mode A.2



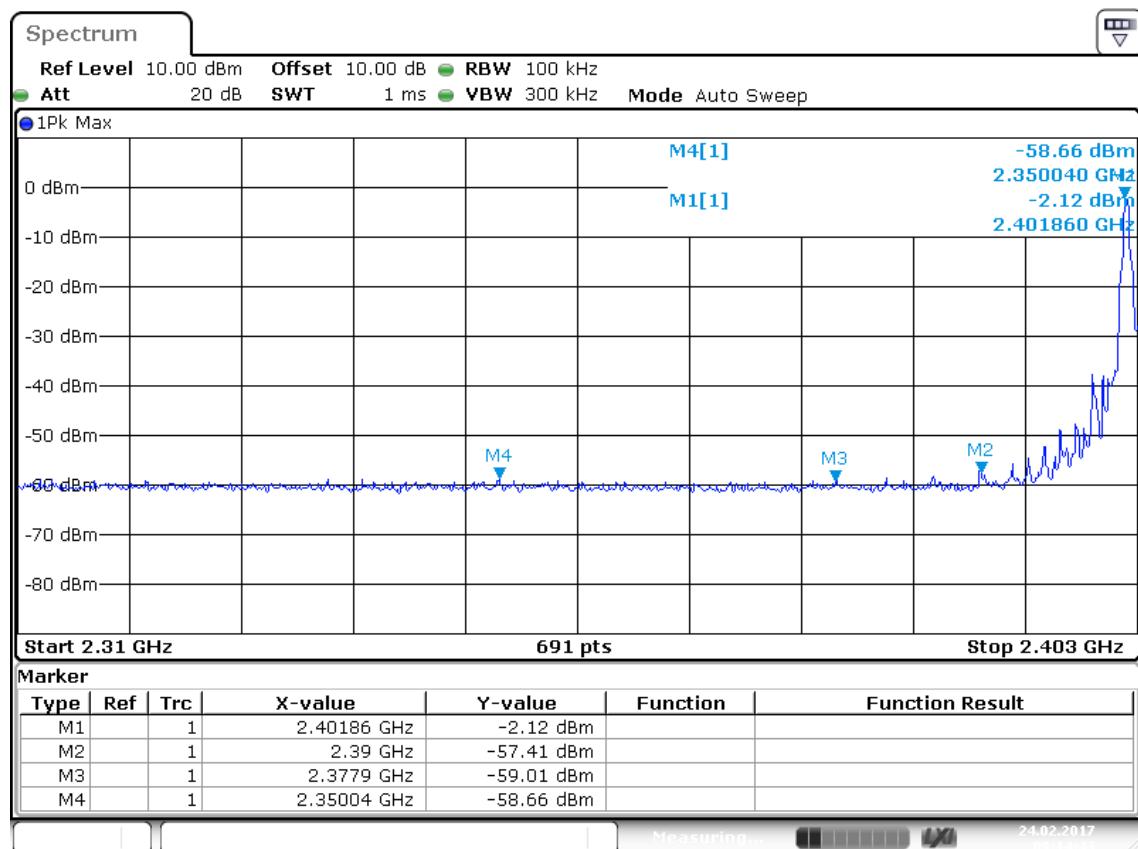
Date: 24.FEB.2017 09:23:58

Figure 31: Test figure of conducted emissions in 100kHz Bandwidth, Mode A.3



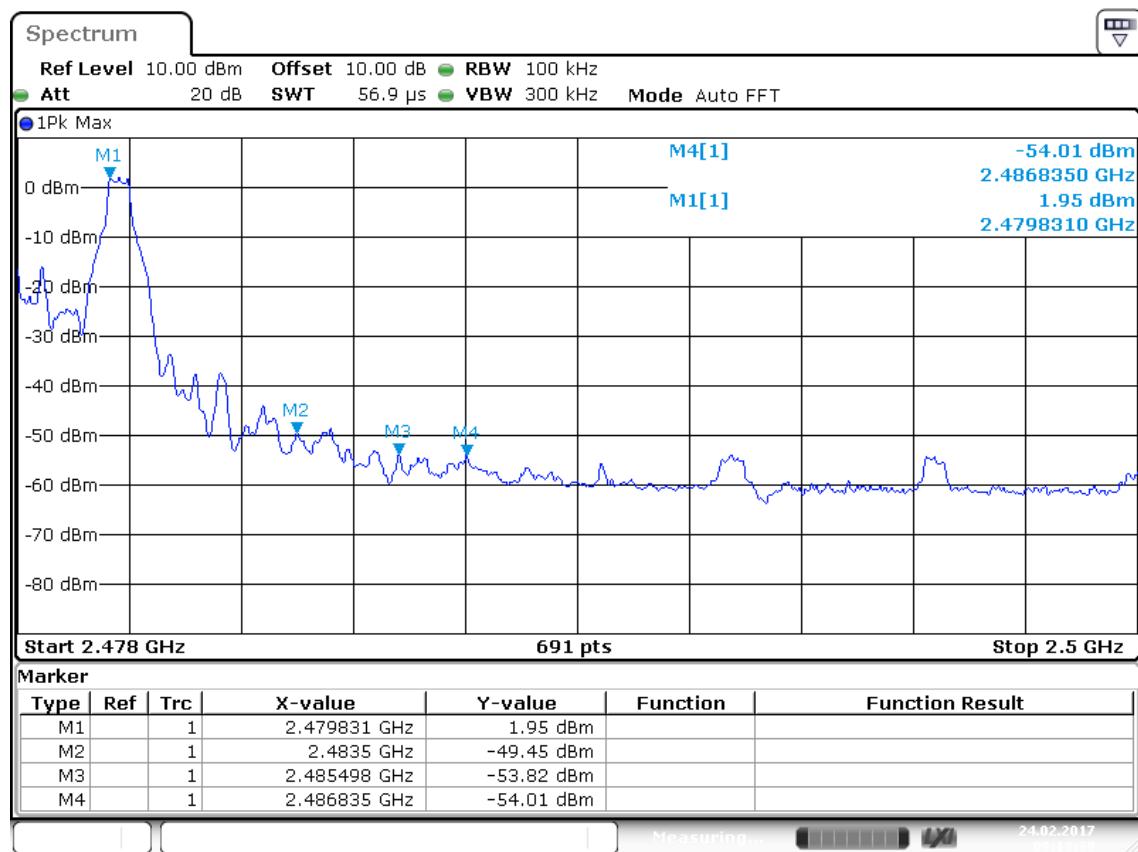
Date: 24.FEB.2017 09:25:11

Figure 32: Test figure of Frequency Band Edge in 100kHz Bandwidth, Mode A.1



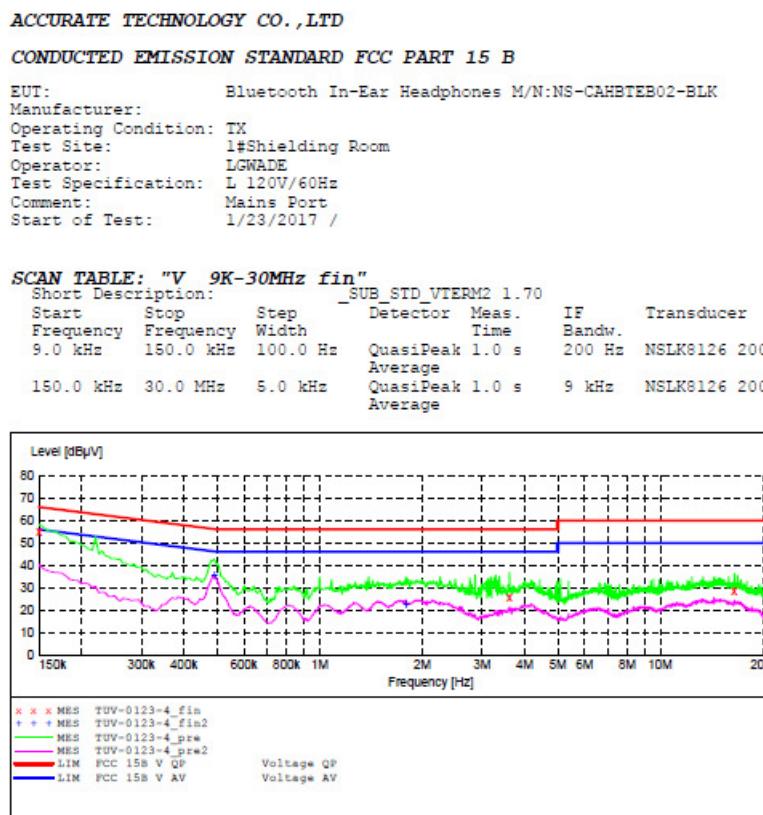
Date: 24.FEB.2017 09:14:44

Figure 33: Test figure of Frequency Band Edge in 100kHz Bandwidth, Mode A.3



Date: 24.FEB.2017 09:13:39

Figure 34: Test figure of Conducted emissions, Mode B, line live



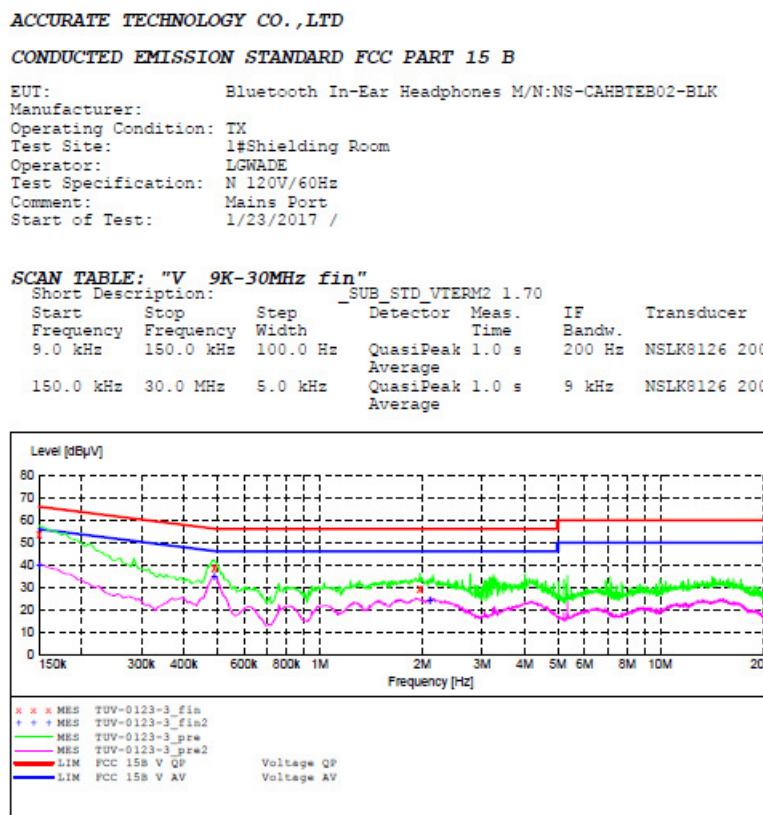
MEASUREMENT RESULT: "TUV-0123-4_fin"

1/23/2017	Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
	MHz	dB μ V	dB	dB μ V	dB			
	0.150000	54.70	10.5	66	11.3	QP	L1	GND
	3.610000	25.30	11.1	56	30.7	QP	L1	GND
	16.495000	28.10	11.4	60	31.9	QP	L1	GND

MEASUREMENT RESULT: "TUV-0123-4_fin2"

1/23/2017	Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
	MHz	dB μ V	dB	dB μ V	dB			
	0.490000	35.30	10.7	46	10.9	AV	L1	GND
	1.790000	22.80	11.0	46	23.2	AV	L1	GND
	23.995000	27.50	11.5	50	22.5	AV	L1	GND

Figure 35: Test figure of Conducted emissions, Mode B, line neutral



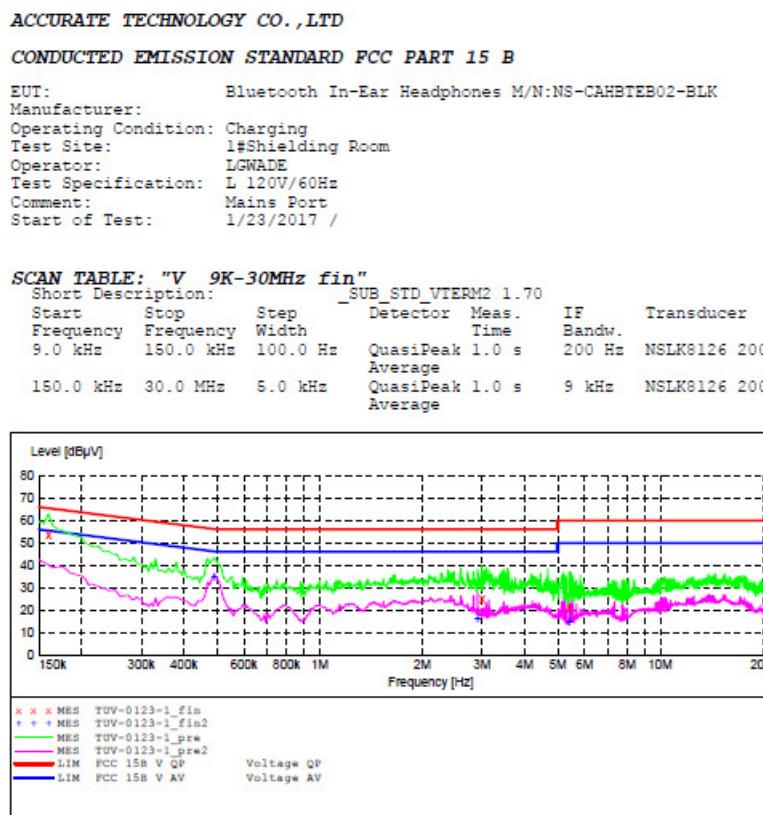
MEASUREMENT RESULT: "TUV-0123-3_fin"

1/23/2017	Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
	MHz	dB _{PtV}	dB	dB _{PtV}	dB			
	0.150000	53.60	10.5	66	12.4	QP	N	GND
	0.490000	38.60	10.7	56	17.6	QP	N	GND
	1.970000	29.20	11.0	56	26.8	QP	N	GND

MEASUREMENT RESULT: "TUV-0123-3_fin2"

1/23/2017	Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
	MHz	dB _{PtV}	dB	dB _{PtV}	dB			
	0.150000	39.60	10.5	56	16.4	AV	N	GND
	0.490000	35.00	10.7	46	11.2	AV	N	GND
	2.110000	24.40	11.0	46	21.6	AV	N	GND

Figure 36: Test figure of Conducted emissions, Mode C, line live



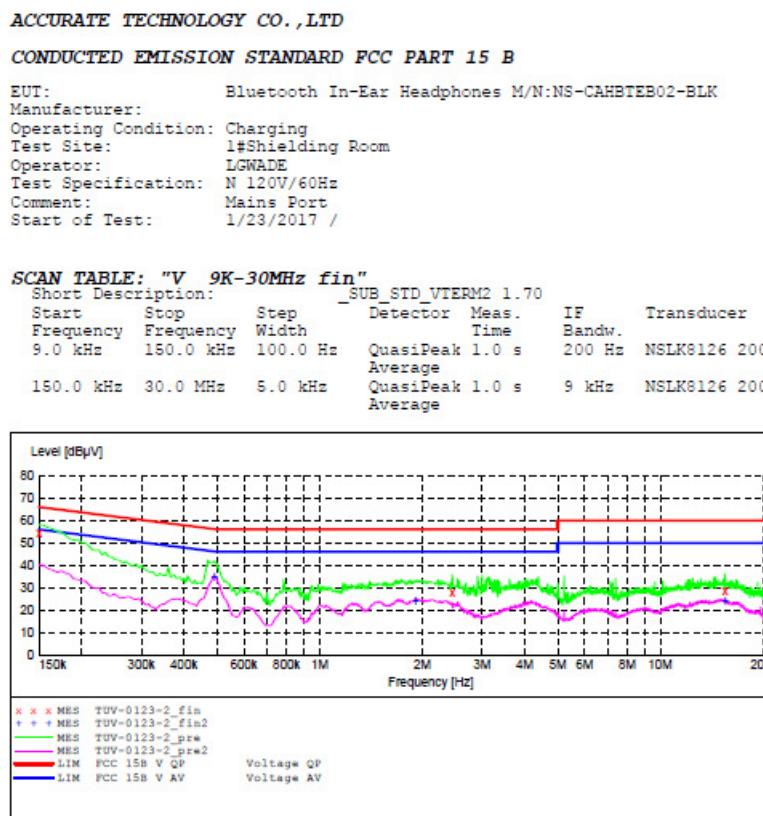
MEASUREMENT RESULT: "TUV-0123-1_fin"

1/23/2017	Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
	MHz	dB _P V	dB	dB _P V	dB			
	0.160000	53.60	10.5	66	11.9	QP	L1	GND
	3.000000	24.90	11.1	56	31.1	QP	L1	GND
	5.410000	20.90	11.2	60	39.1	QP	L1	GND

MEASUREMENT RESULT: "TUV-0123-1_fin2"

1/23/2017	Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
	MHz	dB _P V	dB	dB _P V	dB			
	0.490000	34.90	10.7	46	11.3	AV	L1	GND
	2.910000	16.30	11.0	46	29.7	AV	L1	GND
	5.410000	14.50	11.2	50	35.5	AV	L1	GND

Figure 37: Test figure of Conducted emissions, Mode C, line neutral



MEASUREMENT RESULT: "TUV-0123-2_fin"

1/23/2017	Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
	MHz	dB _P V	dB	dB _P V	dB			
	0.150000	54.30	10.5	66	11.7	QP	N	GND
	2.450000	28.00	11.0	56	28.0	QP	N	GND
	15.490000	28.20	11.4	60	31.8	QP	N	GND

MEASUREMENT RESULT: "TUV-0123-2_fin2"

1/23/2017	Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
	MHz	dB _P V	dB	dB _P V	dB			
	0.490000	34.80	10.7	46	11.4	AV	N	GND
	1.910000	24.40	11.0	46	21.6	AV	N	GND
	15.490000	23.80	11.4	50	26.2	AV	N	GND

Figure 38: Test figure of Radiated emissions, Mode C, below 1GHz, Horizontal

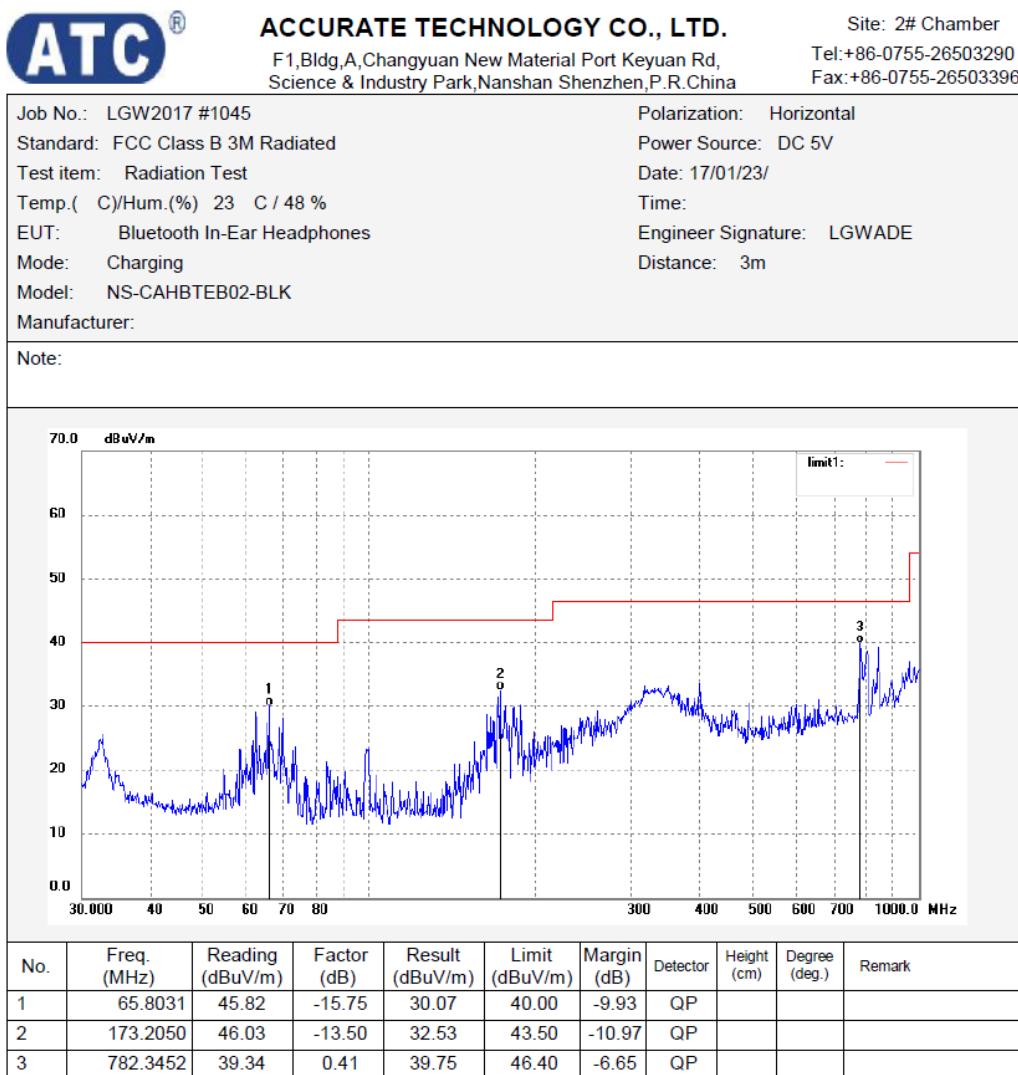


Figure 39: Test figure of Radiated emissions, Mode C, below 1GHz, Vertical



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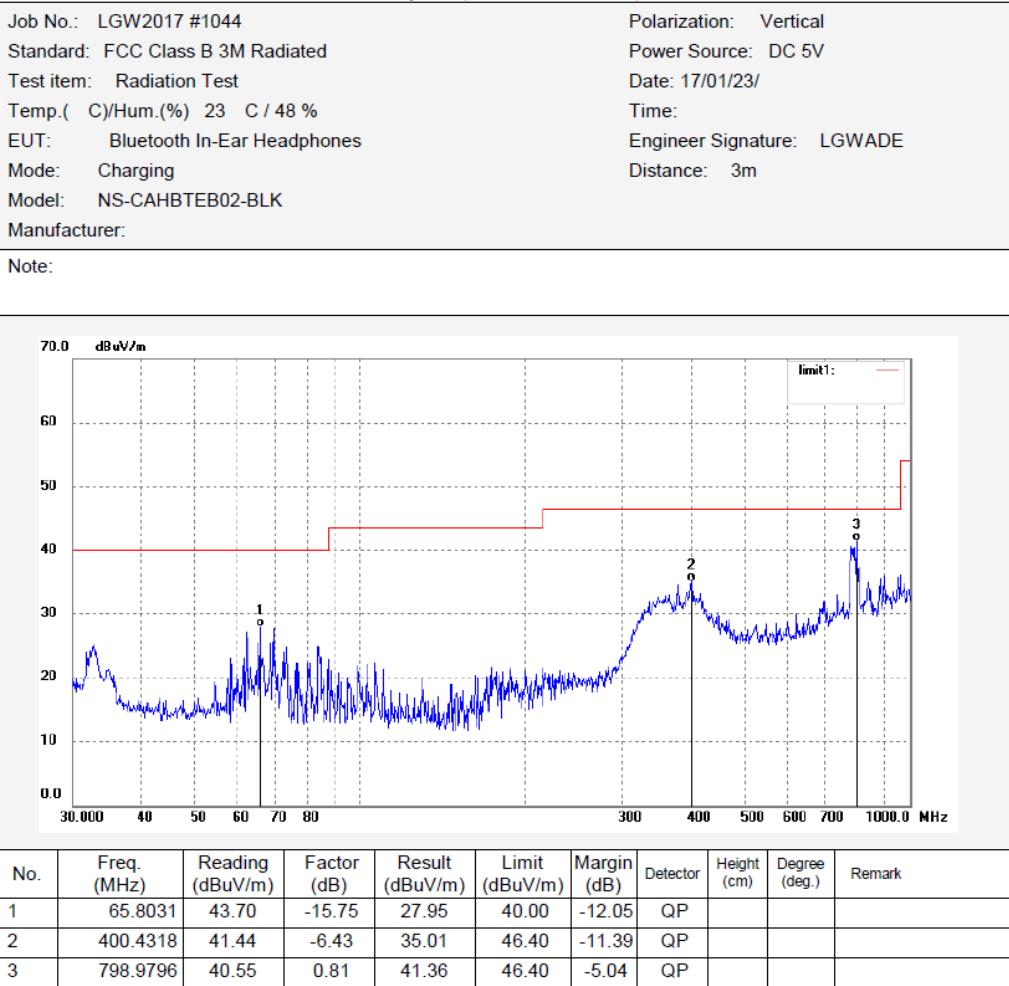


Figure 40: Test figure of Radiated emissions, Mode C, above 1GHz, Horizontal



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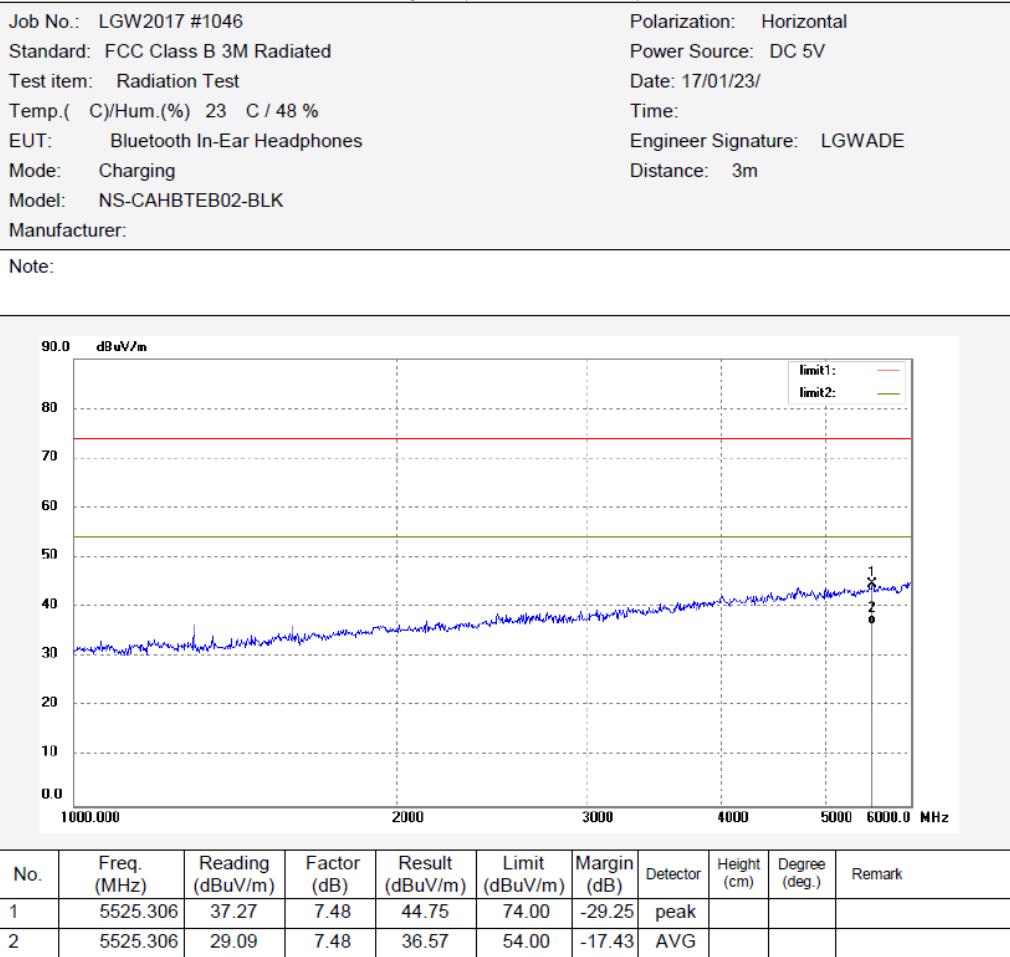


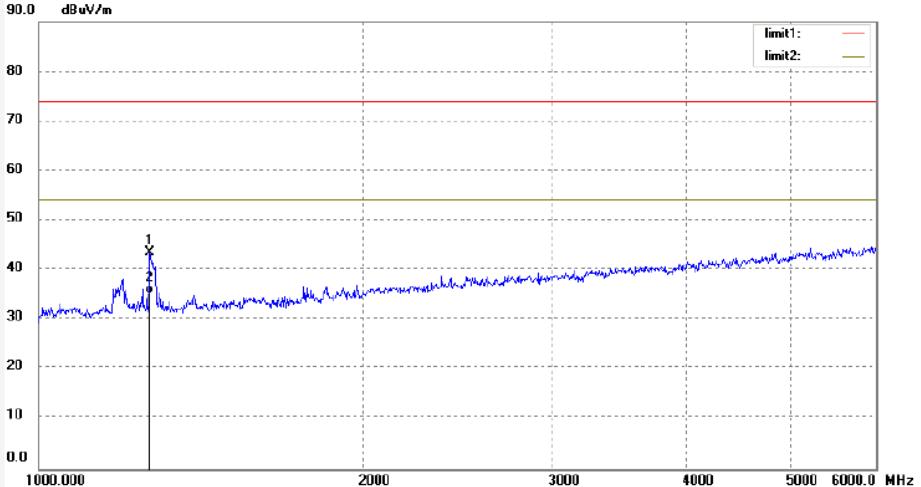
Figure 41: Test figure of Radiated emissions, Mode C, above 1GHz, Vertical



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Job No.:	LGW2017 #1047	Polarization:	Vertical							
Standard:	FCC Class B 3M Radiated	Power Source:	DC 5V							
Test item:	Radiation Test	Date:	17/01/23/							
Temp.(C)/Hum.(%)	23 C / 48 %	Time:								
EUT:	Bluetooth In-Ear Headphones	Engineer Signature:	LGWADE							
Mode:	Charging	Distance:	3m							
Model:	NS-CAHBTEB02-BLK									
Manufacturer:										
Note:										
										
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	1269.095	52.13	-8.69	43.44	74.00	-30.56	peak			
2	1269.095	43.92	-8.69	35.23	54.00	-18.77	AVG			