FCC PART 15B

TEST REPORT

For

MPOW TECHNOLOGY CO.,LIMITED

FLAT/RM 605 6/F FA YUEN COMMERCIAL BUILDING 75-77 FA YUEN STREET
MONGKOK KL HONG KONG

Test Model:BH432B
Multiple Model: BH432A

Report Type: Original Report	**Product Type:** TRUE WIRELESS EARBUDS
Report Number:	RDG200904001-00A
Report Date:	2020-10-13
Reviewed By:	Ivan Cao Assistant Manager
Test Laboratory:	Bay Area Compliance Laboratories Corp. (Dongguan) No.69 Pulongcun, Puxinhu Industry Area, Tangxia, Dongguan, Guangdong, China Tel: +86-769-86858888 Fax: +86-769-86858891 www.baclcorp.com.cn

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

EUT Name:	TRUE WIRELESS EARBUDS
EUT Model:	BH432B
Multiple Models:	BH432A
Highest Operation Frequency:	2480MHz
Rated Input Voltage:	DC 3.7V from battery or DC 5V from Charger
Serial Number:	RDG200904001-RF-S1
EUT Received Date:	2020.9.4
EUT Received Status:	Good

Note: The series product, models BH432A and BH432B are electrically identical, The difference between them please refer to the declaration letter for details. BH432B was fully tested.

Objective

This report is prepared on behalf of ***MPOW TECHNOLOGY CO.,LIMITED*** in accordance with FCC Part 15B Part 2, Part J, and Part 15, Subpart A and B of the Federal Communications Commission's rules..

The objective is to determine the compliance of EUT with: FCC Part 15B.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2014 American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz.

Measurement Uncertainty

Parameter	Measurement Uncertainty
Unwanted Emissions, radiated	30M~200MHz: 4.58 dB for Horizontal, 4.59 dB for Vertical 200M~1GHz: 4.83 dB for Horizontal, 5.85 dB for Vertical 1G~6GHz: 4.45 dB, 6G~13GHz: 5.23 dB
Temperature	±1℃
Humidity	±5%
AC Power Lines Conducted Emission	3.12 dB (150 kHz to 30 MHz)

Note: Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.69 Pulongcun, Puxinhu Industry Area, Tangxia, Dongguan, Guangdong, China.

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 897218, the FCC Designation No. : CN1220.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: CN0022.

Declarations

BACL is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with a triangle symbol "△". Customer model name, addresses, names, trademarks etc. are not considered data.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

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This report may contain data that are not covered by the accreditation scope and shall be marked with an asterisk "★".

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SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in Charging mode.

EUT Exercise Software

No software was tested in test.

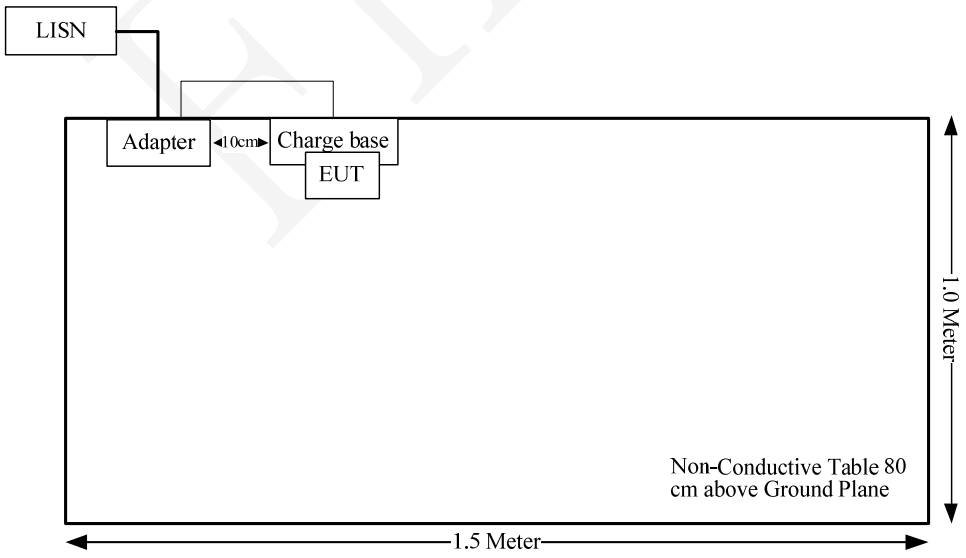
Local Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
Huawei	Smartphone	EVR-AL00	A000009E3F501E

Support Cable List and Details

Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	To
USB Cable	No	No	0.16	Adapter	EUT

Block Diagram of Test Setup



Test Equipment List

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Conducted emissions					
R&S	LISN	ENV 216	101614	2019-09-12	2020-09-12
R&S	EMI Test Receiver	ESCI	101121	2020-07-07	2021-07-07
MICRO-COAX	Coaxial Cable	C-NJNJ-50	C-0200-01	2020-09-05	2021-09-05
R&S	Test Software	EMC32	Version 9.10.00	N/A	N/A
Radiated emissions Below 1GHz					
Sunol Sciences	Antenna	JB3	A060611-1	2017-11-10	2020-11-10
R&S	EMI Test Receiver	ESR3	102453	2020-09-12	2021-09-12
Unknown	Coaxial Cable	C-NJNJ-50	C-0075-01	2020-09-05	2021-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-0400-01	2020-09-05	2021-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-1400-01	2020-05-06	2021-05-06
HP	Amplifier	8447D	2727A05902	2020-09-05	2021-09-05
Farad	Test Software	EZ-EMC	V1.1.4.2	N/A	N/A
Radiated emissions Above 1GHz					
TDK RF	Horn Antenna	HRN-0118	130 084	2018-10-12	2021-10-12
R&S	Spectrum Analyzer	FSP 38	100478	2020-07-07	2021-07-07
MICRO-COAX	Coaxial Cable	UFA147-1-2362-100100	64639 231029-001	2020-02-24	2021-02-24
Mini	Pre-amplifier	ZVA-183-S+	5969001149	2020-09-05	2021-09-05
Farad	Test Software	EZ-EMC	V1.1.4.2	N/A	N/A

* Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Environmental Conditions

Test Item:	Conducted emissions	Radiated emissions (Below 1GHz)	Radiated emissions (Above 1GHz)
Temperature:	26.0℃	26.2 °C	29.0°C
Relative Humidity:	66%	35%	40%
ATM Pressure:	100.9kPa	100.6kPa	100.8kPa
Tester:	Leo Long	Jackson Zhang	Hanson Li
Test Date:	2020-09-08	2020-09-07	2020-09-25

SUMARY OF TEST RESULTS

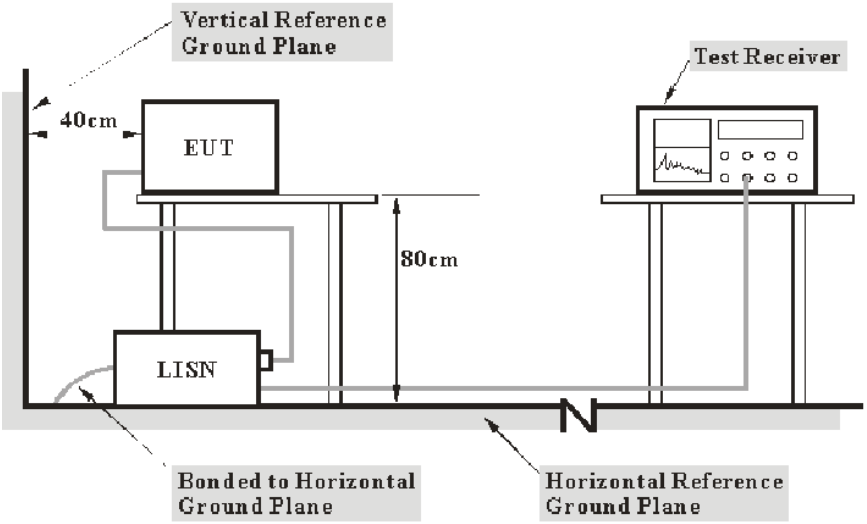
FCC Part 15B

Clause	Description of Test	Test Result
§15.107	Conducted emissions	Compliance
§15.109	Radiated emissions	Compliance

FINAL

FCC PART 15B §15.107 – CONDUCTED EMISSIONS

EUT Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.4-2014 measurement procedure. The specification used was with the FCC Part 15 B Class B limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The adapter was connected to the main LISN with a 120 V/60 Hz AC power source.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	IF B/W
150 kHz – 30 MHz	9 kHz

Test Procedure

During the conducted emission test, the adapter or EUT was connected to the first LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data was recorded in the Quasi-peak and average detection mode.

Corrected Amplitude & Margin Calculation

The basic equation is as follows:

Result (QuasiPeak or Average) = Meter Reading + Corr.

Note:
Corr. = Cable loss + Factor of coupling device

The "**Margin**" column of the following data tables indicates the degree of compliance within the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

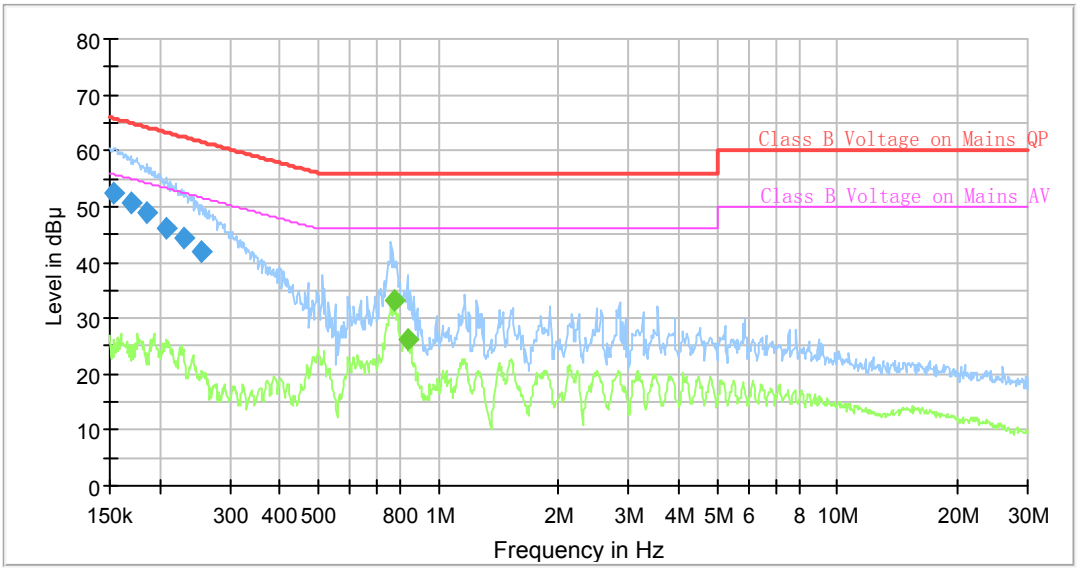
Margin = Limit – Result

FINAL

Test Data

Please refer to following table and plots:

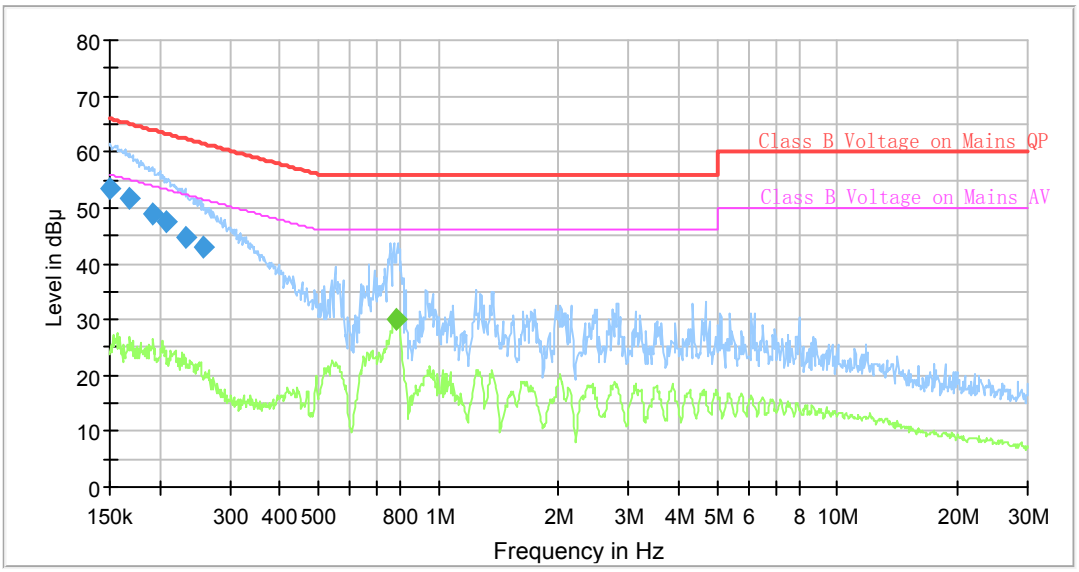
Port:	L
Test Mode:	Charging
Power Source:	AC 120V/60Hz
Note:	



Final_Result

Frequency (MHz)	QuasiPeak (dB µ V)	Average (dB µ V)	Limit (dB µ V)	Margin (dB)	Bandwidth (kHz)	Line	Corr. (dB)
0.153788	52.40	---	65.79	13.39	9.000	L1	9.6
0.169074	50.67	---	65.01	14.34	9.000	L1	9.6
0.185880	48.89	---	64.22	15.33	9.000	L1	9.6
0.208474	46.00	---	63.27	17.27	9.000	L1	9.6
0.229196	44.37	---	62.48	18.11	9.000	L1	9.6
0.255776	41.99	---	61.57	19.58	9.000	L1	9.6
0.773973	---	33.19	46.00	12.81	9.000	L1	9.7
0.838267	---	26.21	46.00	19.79	9.000	L1	9.7

Port: N
Test Mode: Charging
Power Source: AC 120V/60Hz
Note:



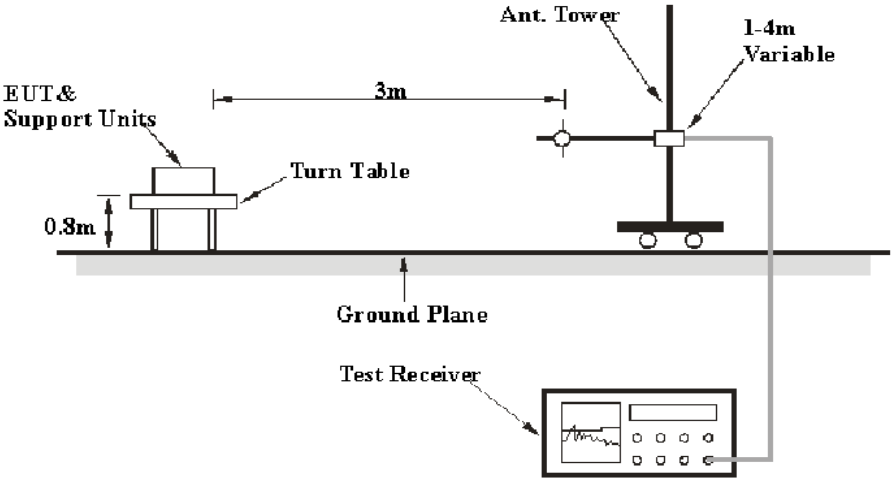
Final_Result

Frequency (MHz)	QuasiPeak (dB µ V)	Average (dB µ V)	Limit (dB µ V)	Margin (dB)	Bandwidth (kHz)	Line	Corr. (dB)
0.150750	53.40	---	65.96	12.56	9.000	N	9.6
0.168233	51.53	---	65.05	13.52	9.000	N	9.6
0.191526	48.75	---	63.97	15.22	9.000	N	9.6
0.207437	47.44	---	63.31	15.87	9.000	N	9.6
0.231493	44.78	---	62.40	17.62	9.000	N	9.6
0.257055	42.81	---	61.53	18.72	9.000	N	9.6
0.785640	---	30.04	46.00	15.96	9.000	N	9.6

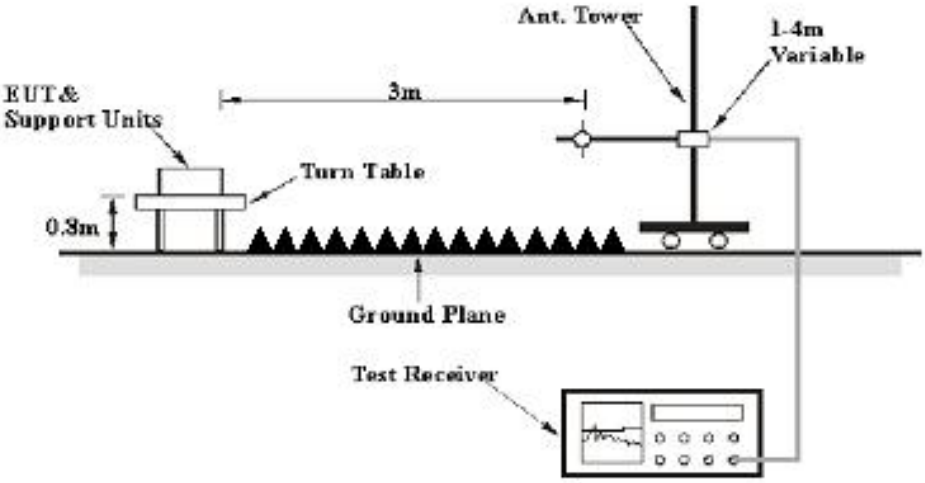
FCC PART 15B §15.109 – RADIATED EMISSIONS

EUT Setup

Below 1GHz:



Above 1GHz:



The radiated emission tests were performed at the 3 meters distance, above 1GHz were performed at the 3 meters, using the setup accordance with the ANSI C63.4-2014. The specification used was the FCC Part 15.109 Class B limits.

EMI Test Receiver Setup

The system was investigated from 30 MHz to 13 GHz.

During the radiated emission test, the EMI test receiver was set with the following configurations:

Frequency Range	RBW	Video B/W	IF B/W	Measurement
30 MHz – 1000 MHz	120 kHz	300 kHz	120 kHz	QP
Above 1 GHz	1 MHz	3 MHz	/	Peak
	1 MHz	Reduced video bandwidth	/	AVG

Test Procedure

During the radiated emissions, the adapter was connected to the first AC floor outlet.

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

The data was recorded in the Quasi-peak detection mode for below 1 GHz, peak and average detection mode above 1 GHz.

Corrected Amplitude & Margin Calculation

The basic equation is as follows:

Result = Meter Reading+ Corrected

Note:
Corrected = Antenna Factor + Cable Loss - Amplifier Gain
or
Corrected = Antenna Factor + Cable Loss + Insertion loss of attenuator - Amplifier Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7 dB means the emission is 7 dB below the limit. The equation for margin calculation
is as follows:

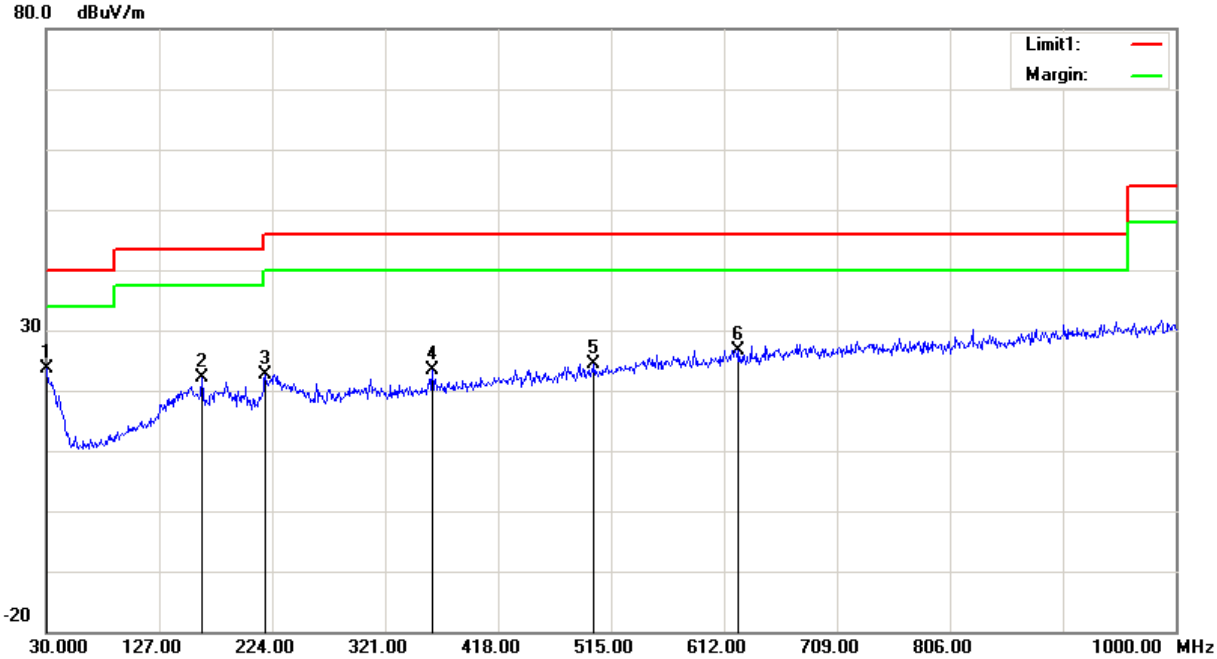
Margin = Limit – Result

FINAL

Test Data

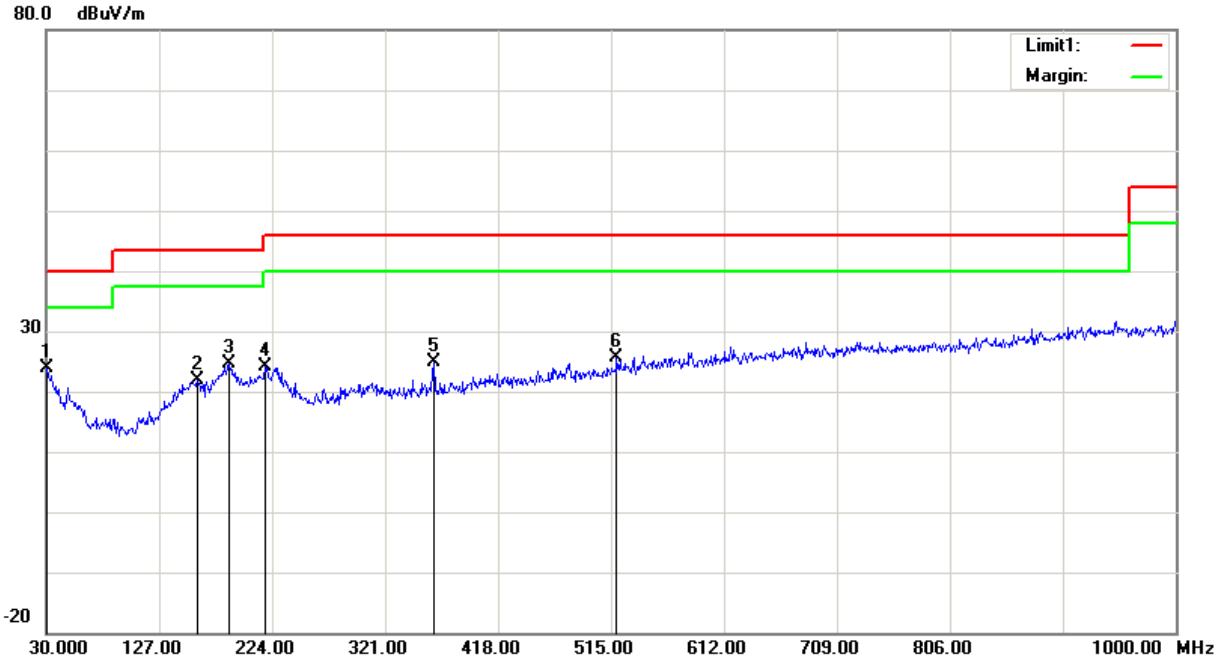
Please refer to following table and plots:

Condition:	**FCC Part 15B Class B**	**Polarization:**	**Horizontal**
EUT:	TRUE WIRELESS EARBUDS	**Power:**	AC 120V/60Hz
Model:	**BH432B**	**Distance:**	3m
Test Mode:	**Charging**		
Note:			



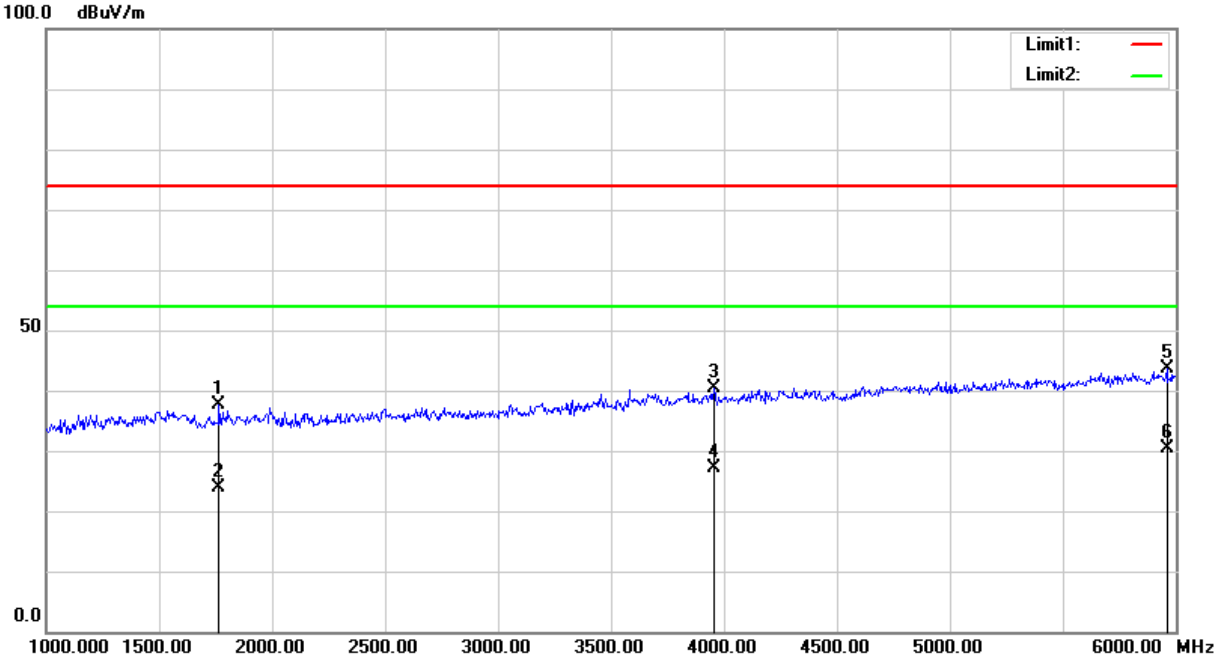
No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	30.0000	27.94	peak	-4.33	23.61	40.00	16.39
2	163.8600	31.46	peak	-9.40	22.06	43.50	21.44
3	218.1800	33.84	peak	-11.18	22.66	46.00	23.34
4	361.7400	29.36	peak	-6.05	23.31	46.00	22.69
5	500.4500	27.82	peak	-3.45	24.37	46.00	21.63
6	624.6100	27.45	peak	-0.76	26.69	46.00	19.31

Condition:	**FCC Part 15B Class B**	**Polarization:**	**Vertical**
EUT:	TRUE WIRELESS EARBUDS	**Power:**	AC 120V/60Hz
Model:	**BH432B**	**Distance:**	3m
Test Mode:	**Charging**		
Note:			



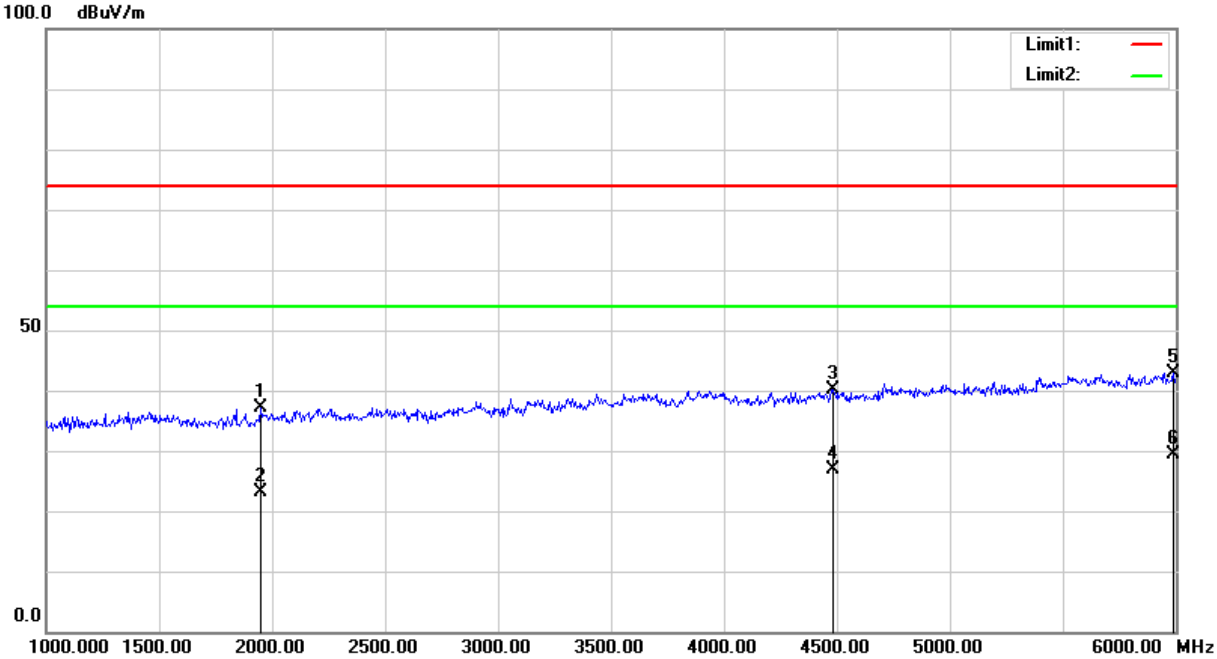
No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	30.9700	28.65	peak	-4.88	23.77	40.00	16.23
2	159.9800	31.45	peak	-9.53	21.92	43.50	21.58
3	187.1400	35.09	peak	-10.42	24.67	43.50	18.83
4	218.1800	35.32	peak	-11.18	24.14	46.00	21.86
5	362.7100	30.90	peak	-6.08	24.82	46.00	21.18
6	519.8500	28.14	peak	-2.63	25.51	46.00	20.49

Condition:	**FCC Part 15B Class B**	**Polarization:**	**Horizontal**
EUT:	MPOW MBITS S TRUE WIRELESS EARBUDS	**Power:**	AC 120V/60Hz
Model:	**BH432B**	**Distance:**	3m
Test Mode:	**Charging**		
Note:			



No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	1765.000	38.53	peak	-1.01	37.52	74.00	36.48
2	1765.000	24.96	AVG	-1.01	23.95	54.00	30.05
3	3955.000	35.20	peak	5.24	40.44	74.00	33.56
4	3955.000	21.87	AVG	5.24	27.11	54.00	26.89
5	5960.000	33.08	peak	10.50	43.58	74.00	30.42
6	5960.000	19.92	AVG	10.50	30.42	54.00	23.58

Condition:	**FCC Part 15B Class B**	**Polarization:**	**Vertical**
EUT:	MPOW MBITS S TRUE WIRELESS EARBUDS	**Power:**	AC 120V/60Hz
Model:	**BH432B**	**Distance:**	3m
Test Mode:	**Charging**		
Note:			



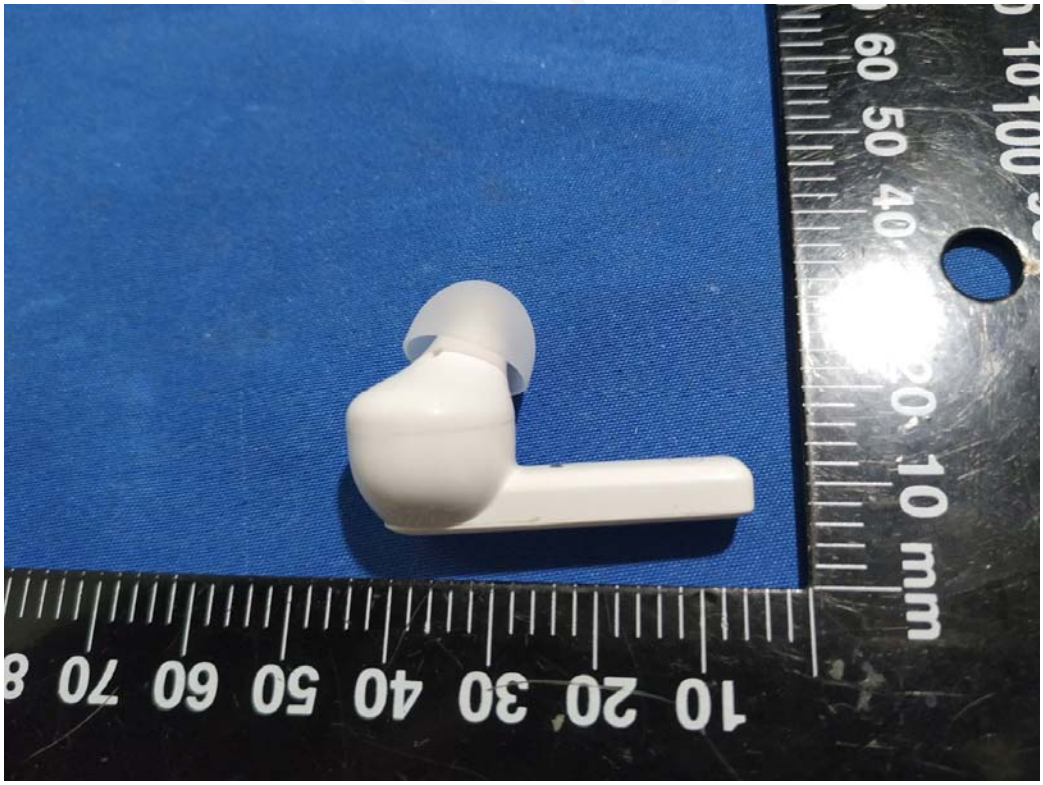
No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	1950.000	37.78	peak	-0.66	37.12	74.00	36.88
2	1950.000	23.89	AVG	-0.66	23.23	54.00	30.77
3	4485.000	34.31	peak	5.93	40.24	74.00	33.76
4	4485.000	20.89	AVG	5.93	26.82	54.00	27.18
5	5990.000	32.39	peak	10.47	42.86	74.00	31.14
6	5990.000	18.93	AVG	10.47	29.40	54.00	24.60

EXHIBIT A – EUT PHOTOGRAPHS

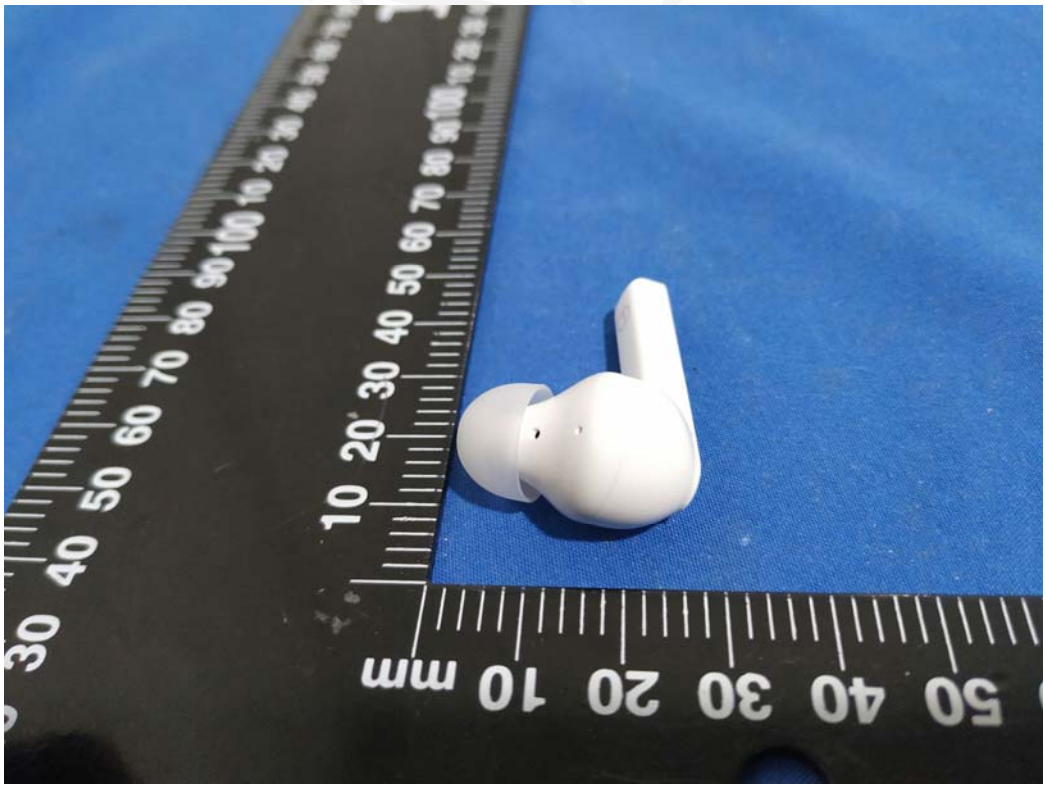
10 20 30 40 50 60 70
10 20 30 40 50 60 mm
40 50 60 70 80 90 10

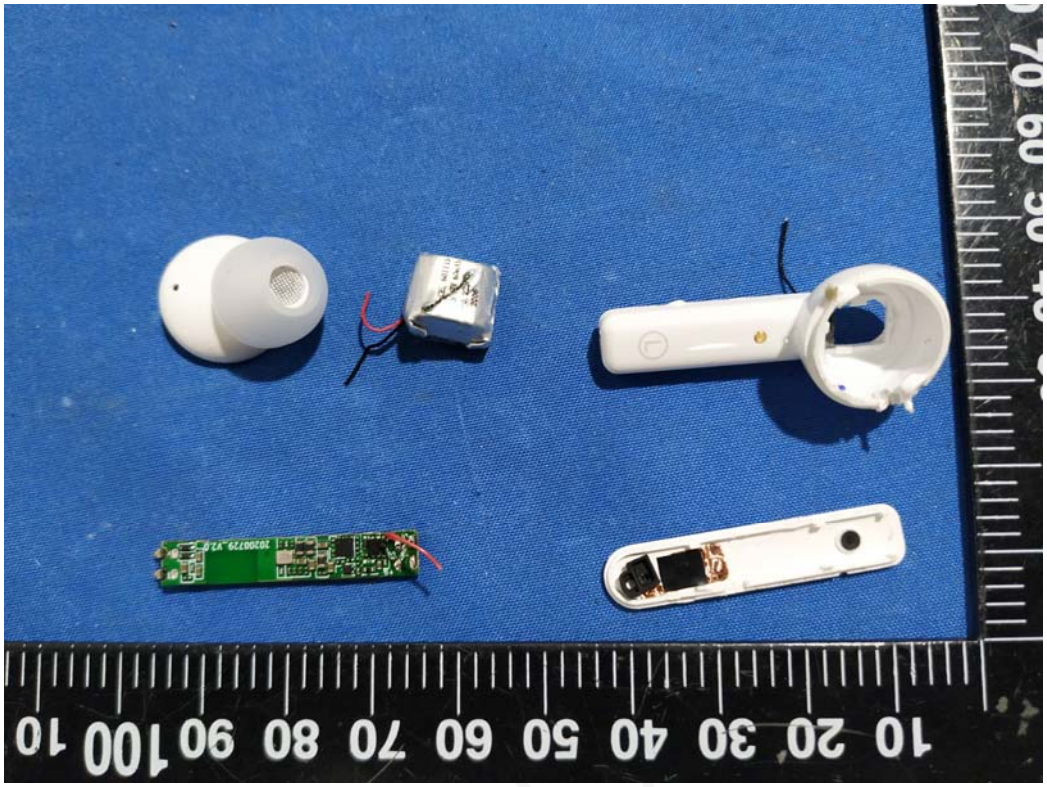
10 20 30 40 50 60 70 80
10 20 30 40 50 60 mm
WOW

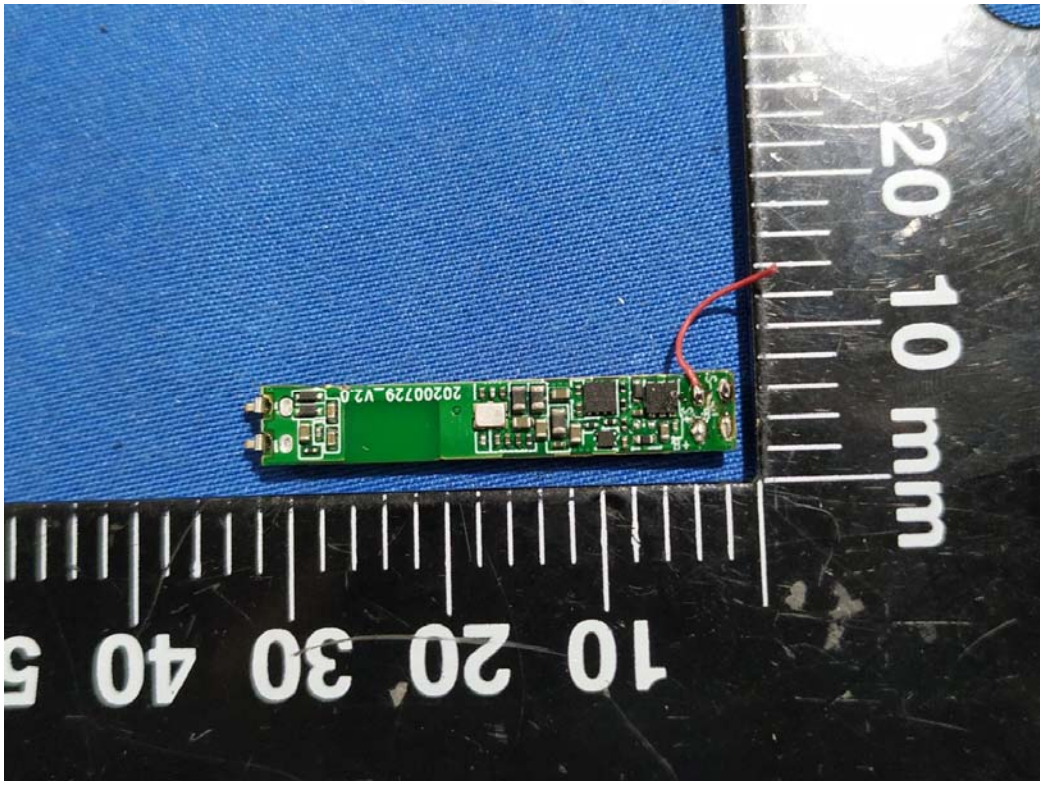
10 20 30 40 50 60 70 80
10 mm
30 40 50

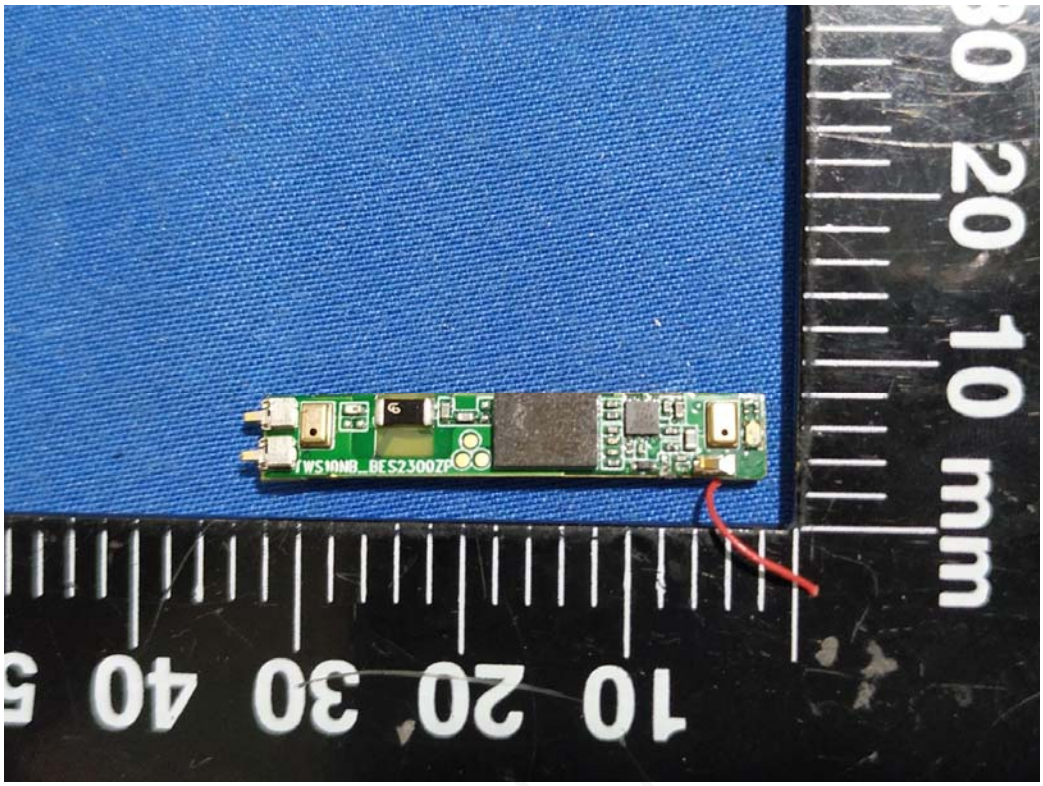

10 20 30 40 50 60 70 8
10 mm
20 30 40 50 60

mm


mm


10 20 30 40 50 60 70 80 90 100 10


10 20 30 40 5
20 10 mm


TWS10NB_BES2300ZP
10 20 30 40
10 20 mm

BES2300
7FAT
002495

Antenna

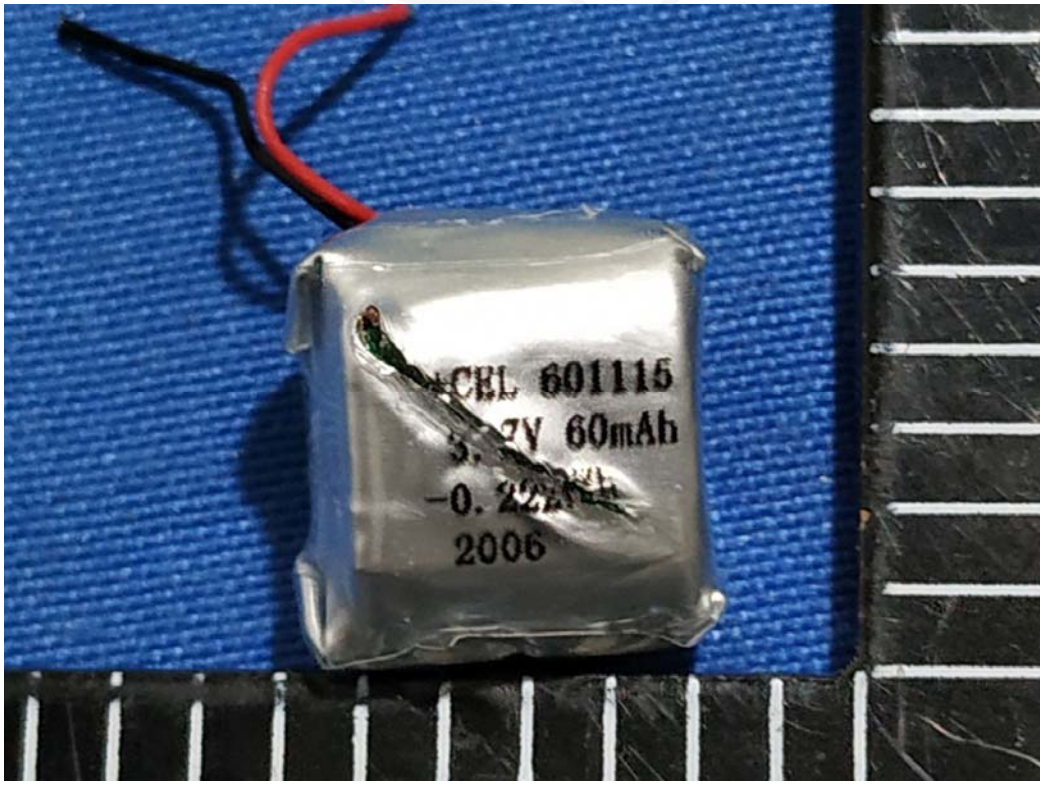
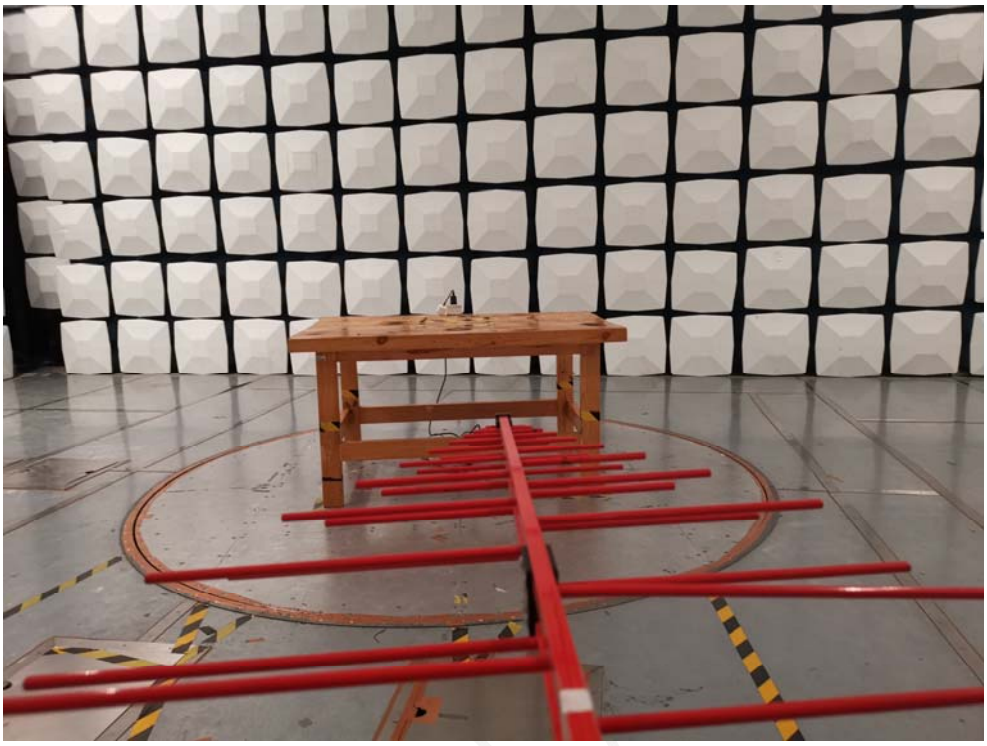


EXHIBIT B – TEST SETUP PHOTOGRAPHS

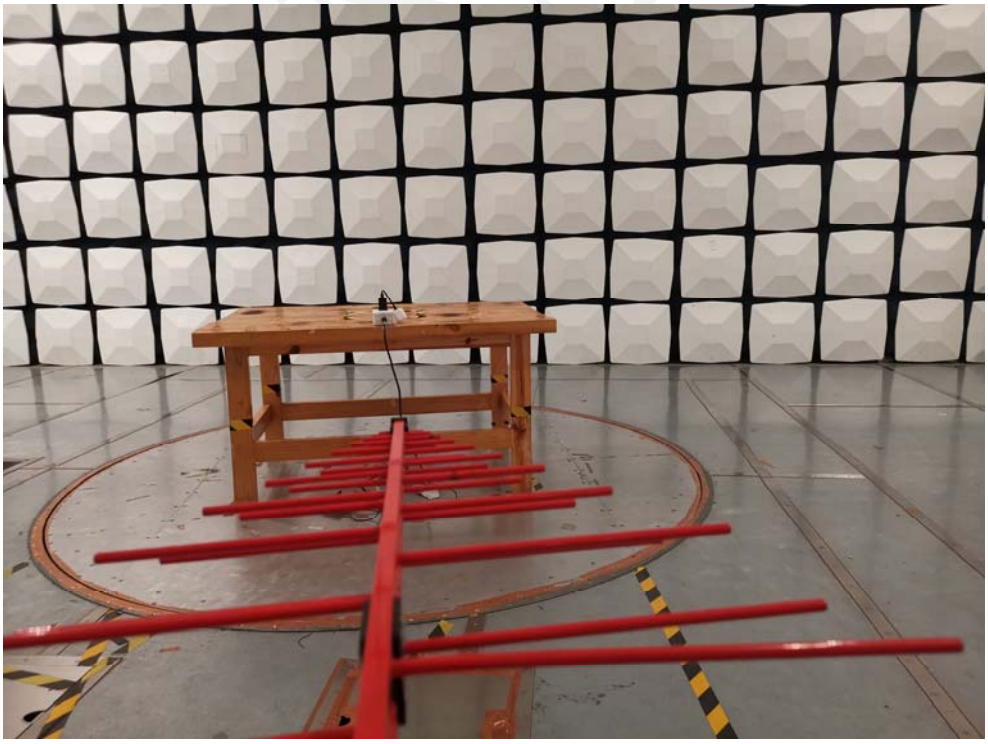
Conducted Emission -front View

Conducted Emission -Side View

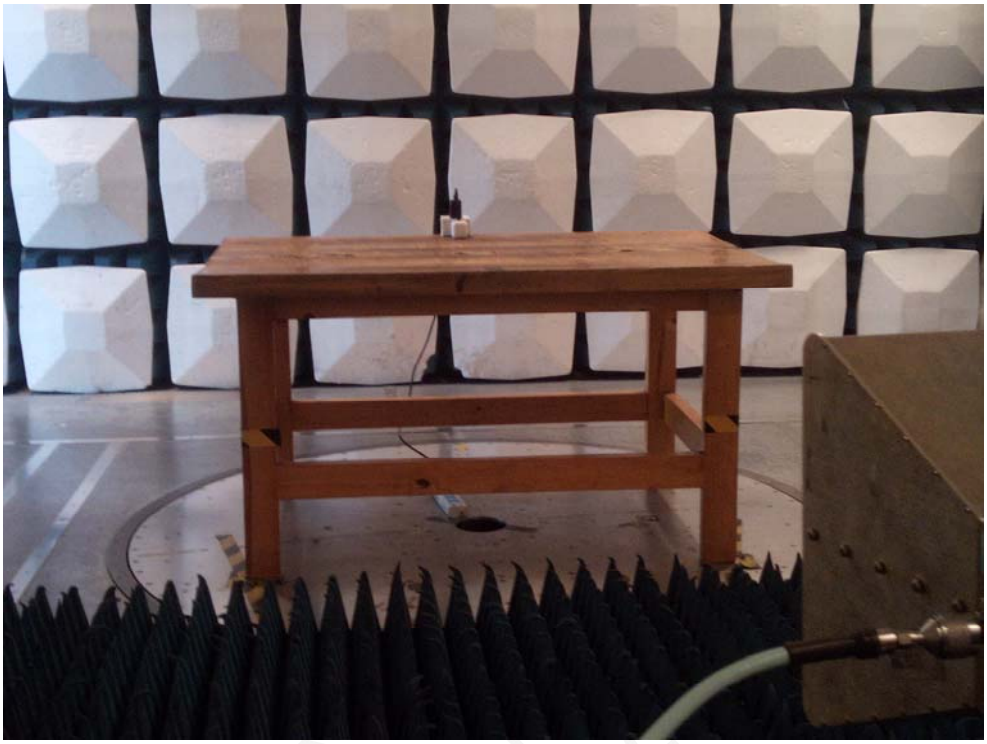
Radiated Emission Below 1G -front View



Radiated Emission Below 1G -rear View



Radiated Emission Above 1G -front View



Radiated Emission Above 1G -rear View

EXHIBIT C – DECLARATION LETTER

MPOW TECHNOLOGY CO.,LIMITED
Add: FLAT/RM 605 6/F FA YUEN COMMERCIAL BUILDING 75-77 FA YUEN STREET MONGKOK KL HONG KONG
Tel: 18566621145 Fax: +86-755-26008484
Email: Derric_bai@patazon.net

DECLARATION OF SIMILARITY

Date: 2020-09-24

FEDERAL COMMUNICATIONS COMMISSION
Authorization and Evaluation Division
7435 Oakland Mills Road
Columbia, MD 21046

Dear Sir or Madam:

We, MPOW TECHNOLOGY CO.,LIMITED, hereby declare that the product: TRUE WIRELESS EARBUDS, FCC ID: 2AMH2-BH432B, model: BH432A is electrically identical with the model: BH432B which was tested by BACL with the same electromagnetic emissions and electromagnetic compatibility characteristics.

A description of the differences between those models and that are declared similar are as follows: They are the same product, and just the different model name, the rest are the same.

Please contact me should there be need for any additional clarification or information.

Best Regards,

Signature: Derric Bai

Derric Bai
Compliance Manager

*******END OF REPORT*******