FCC- TEST REPORT

Report Number	:	**68.950.20.0650.01**	Date of Issue:	December 17, 2020
Model	:	PI7L		
Product Type	:	In-ear True Wireless Headphone		
Applicant	:	B&W Group Ltd.		
Address	:	Dale Road Worthing United Kingdom BN11 2BH		
Factory	:	Charter Media (Dongguan) Co., Ltd.		
Address	:	Dabandi Industrial Zone, Daning District, Humen Town,		
	:	523930 Dongguan City, Guangdong Province,		
	:	PEOPLE'S REPUBLC OF CHINA		
Test Result	:	**n Positive o Negative**		
Total pages including Appendices	:	13		

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2 Details about the Test Laboratory

Details about the Test Laboratory

Test Site 1

Company name:	TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch Building 12&13, Zhiheng Wisdomland Business Park, Nantou Checkpoint Road 2, Nanshan District, Shenzhen City, 518052, P. R. China
FCC Registration Number:	514049
Telephone:	86 755 8828 6998
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3 Description of the Equipment Under Test

Product:	In-ear True Wireless Headphone
Model no:	PI7L
FCC ID：	2ACIX-PI7L
Options and accessories:	Type-C Cable, Charging Case, Aux in Cable
Rating:	Earbud: 3.7VDC, 55mAh, 0.204Wh (Supplied by Built Li-ion battery)
RF Transmission Frequency:	10.6MHz
No. of Operated Channel:	1
Description of the EUT:	The Equipment Under Test (EUT) is an In-ear True Wireless Headphone support NFMI function.

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4 Summary of Test Standards

Test Standards	
FCC Part 15 Subpart C 10-1-2019 Edition	PART 15 - RADIO FREQUENCY DEVICES Subpart C - Intentional Radiators

All the test methods were according to ANSI C63.10-2013.

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5 Summary of Test Results

Technical Requirements			
FCC Part 15 Subpart C			
Test Condition		**Test Site**	**Test Result**
§15.207	**Conducted emission AC power port**	**N/A**	**N/A**
§15.215	**20dB & 99%Bandwidth**	**Site 1**	**Pass**
§15.209	**Radiated emission**	**Site 1**	**Pass**
§15.203	**Antenna requirement**	**See Note 2**	**Pass**

Note 1: N/A=Not Applicable.
Note 2: The EUT uses a Coil antenna, which gain is 0dBi. In accordance to §15.203, It is considered sufficiently to comply with the provisions of this section.

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6 General Remarks

Remarks

This submittal(s) (test report) is intended for FCC ID: 2ACIX-PI7L complies with Section 15.205, 15.209, 15.215 of the FCC Part 15, Subpart C.

SUMMARY:

All tests according to the regulations cited on page 5 were

n - Performed

o - **Not** Performed

The Equipment Under Test

n - **Fulfills** the general approval requirements.

o - **Does not** fulfill the general approval requirements.

Sample Received Date: August 27, 2020

Testing Start Date: August 27, 2020

Testing End Date: October 23, 2020

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch

Reviewed by:	Prepared by:	Tested by:
John Zhi	Mark Chen	Tree Zhan
EMC Project Manager	EMC Project Engineer	EMC Test Engineer

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7 Systems test configuration

Auxiliary Equipment Used during Test:

Description	Manufacturer	Model no.(sHIELD)	S/N(Length)
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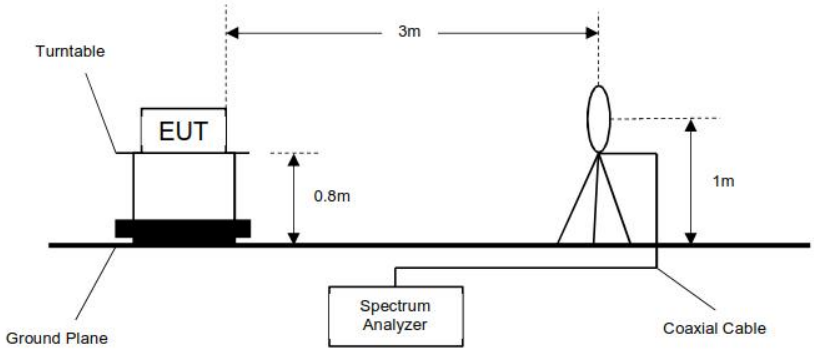
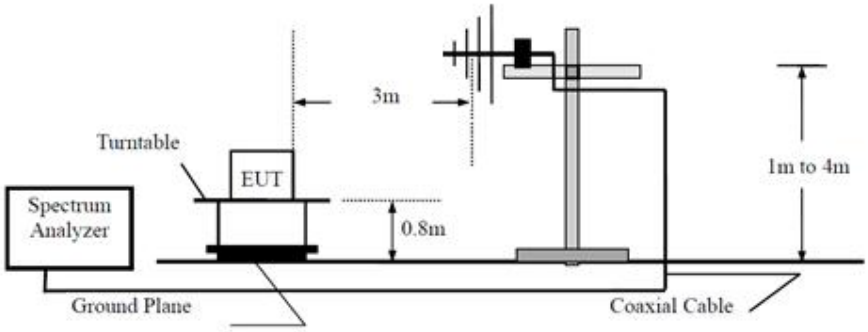
8 Test Setups

8.1 Radiated test setups

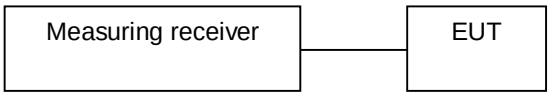
Below 30MHz



Below 1GHz



8.2 Conducted RF test setups



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9 Test Methodology

9.1 Bandwidth Measurement

Test Requirement: FCC part 15 section 15.215
Test Method: ANSI C63.10:2013
Mode of Operation: Transmitting continuously mode
Detector Function: Peak
Trace mode: Max hold

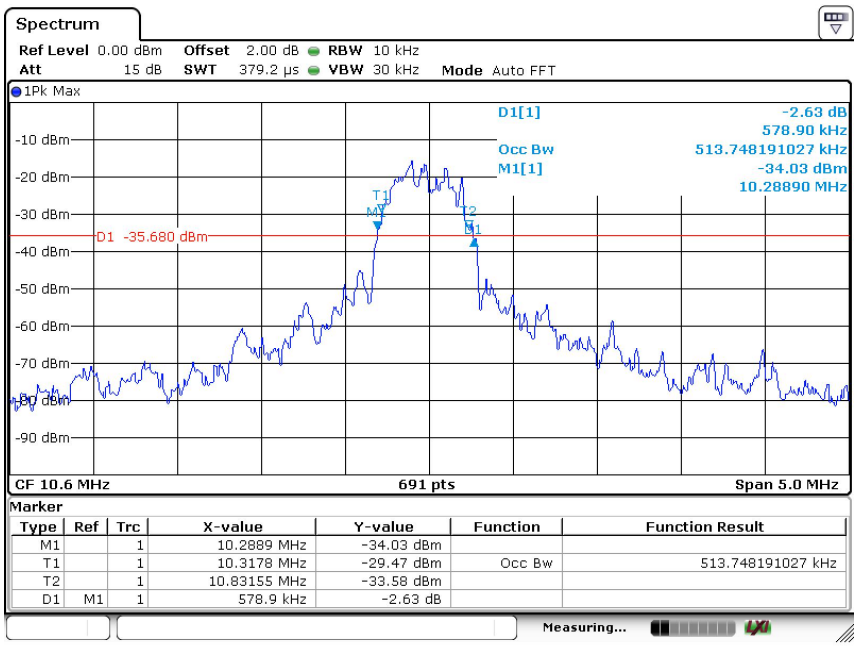
Test setup:

The bandwidth is measured at an amplitude level reduced from the reference level by a specified ratio. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst-case (i.e. the widest) bandwidth.

Test Result: Pass

Result data graph is shown in the following for reference.

	Occupied Bandwidth (KHz)
20dB	578.9
99%	513.748



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9.2 Radiated Emission

Test Method

The EUT was set up in a semi-anechoic chamber on a remotely controlled turntable and placed on a non-conductive table 0.8m above a reference ground plane
A prescan of the EUT emissions profile was made while varying the antenna-to-EUT azimuth and antenna-to-EUT polarization using a peak detector; measurements were taken at a 3m distance. Using the prescan list of the highest emissions detected, their bearing and associated antenna polarization, the EUT was then formally measured using a Quasi-Peak detector. The readings were maximized by adjusting the antenna height, polarization and turntable azimuth, in accordance with the specification.

Limits for Radiated Emission [Section 15.209]:

Frequency MHz	Field Strength μ V/m	Field Strength dBμV/m	Detector	Measurement distance meters
0.009-0.490	2400/F(kHz)	48.5-13.8	QP	300
0.490-1.705	24000/F(kHz)	33.8-23.0	QP	30
1.705-30	30	29.5	QP	30
30-88	100	40	QP	3
88-216	150	43.5	QP	3
216-960	200	46	QP	3
960-1000	500	54	QP	3

Note 1: Limit 3m(dBμV/m)=Limit 300m(dBμV/m)+40Log(300m/3m) (Below 30MHz)
Note 2: Limit 3m(dBμV/m)=Limit 30m(dBμV/m)+40Log(30m/3m) (Below 30MHz)

Radiated Emissions (9KHz-30MHz)						
Frequency(MHz)	**Emissions level (dBμV/m)**	**Polarization**	**Limit (dBμV/m)**	**Detector**	**Margin (dBuV/m)**	**Correct factor(dB/m)**
9.456000	29.71	Horizontal	69.5	QP	39.79	19.92
10.576167	29.42	Horizontal	69.5	QP	40.08	19.94
Other Frequency	--	Horizontal	--	--	--	--
10.589833	30.18	Vertical	69.5	QP	39.32	19.94
11.146500	29.61	Vertical	69.5	QP	39.89	19.93
Other Frequency	- -	Vertical	--	--	--	--
Radiated Emissions(30MHz-1000MHz)						
Frequency(MHz)	**Emissions level (dBμV/m)**	**Polarization**	**Limit (dBμV/m)**	**Detector**	**Margin (dBuV/m)**	**Correct factor(dB/m)**
660.075625	32.53	Horizontal	46	QP	19.65	18
876.810000	35.35	Horizontal	46	QP	10.65	29
Other Frequency	--	Horizontal	--	--	--	--
623.397500	29.97	Vertical	46	QP	16.03	26
928.038125	35.16	Vertical	46	QP	10.84	30
Other Frequency	--	Vertical	--	--	--	--

Remark: Note 1"--" All spurious emission below limit line 20 dB or noise floor which does not be mentioned in the report.

Note 2: Corrector factor = Antenna Factor + Cable Loss

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10 Test Equipment List

List of Test Instruments

Radiated Emission Test

Description	Manufacturer	Model no.	Equipment ID	Serial no.	Calibration interval (year)	cal. due date
EMI Test Receiver	Rohde & Schwarz	ESR 26	68-4-74-14-002	101269	1	2021-6-29
Trilog Super Broadband Test Antenna	Schwarzbeck	VULB 9162	68-4-80-19-003	284	1	2021-2-24
Wave Guide Antenna	ETS	3117	68-4-80-19-001	00218954	1	2021-6-15
Pre-amplifier	Rohde & Schwarz	SCU 18F	68-4-29-19-001	100745	1	2020-12-14
Pre-amplifier	Rohde & Schwarz	SCU 08F2	68-4-29-19-004	08400018	1	2020-12-14
Sideband Horn Antenna	Q-PAR	QWH-SL-18-40-K-SG	68-4-80-14-008	12827	1	2021-8-5
Pre-amplifier	Rohde & Schwarz	SCU 40A	68-4-29-14-002	100432	1	2021-7-30
3m Semi-anechoic chamber	TDK	9X6X6	68-4-90-19-006	----	3	2022-12-29
Test software	Rohde & Schwarz	EMC32	68-4-90-19-006-A01	Version10 .35.02	N/A	N/A

RF Conducted Test

Description	Manufacturer	Model no.	Equipment ID	Serial no.	Calibration interval (year)	cal. due date
Signal Analyzer	Rohde & Schwarz	FSV40	68-4-74-14-004	101030	1	2021-6-21

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11 System Measurement Uncertainty

For a 95% confidence level, the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO 17025 were:

System Measurement Uncertainty	
Test Items	Extended Uncertainty
Uncertainty for Radiated Emission in 3m chamber 9kHz-30MHz	4.60dB
Uncertainty for Radiated Spurious Emission 30MHz-1000MHz	Horizontal: 4.70dB; Vertical: 4.67dB;
RF Conducted test	RF Power Conducted: 1.31dB Frequency test involved: 0.6×10^{-7} or 1%

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