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Test Report

Applicant	:	PEAG, LLC dba JLab Audio
Address	:	5927 LANDAU CT, Carlsbad, CA 92008, United States
Product Name	:	Open Wireless Earbuds/AIR CONDUCTION WIRELESS EARBUS
Brand Mark	:	JLAB
Model	:	JBuds Open Sport
Series model	:	N/A
Report Number	:	BLA-EMC-202406-A6903
FCC ID	:	2AHYV-OPSPRT
Date of Receipt	:	2024.06.25
Date of Test	:	2024.06.26 to 2024.07.03
Test Standard	:	47 CFR Part 15, Subpart C 15.247
Test Result	:	Pass

Compiled by: charlie **Review by:** Sweely **Approved by:** Jue Zheng

Issued Date: 2024.07.05

BlueAsia of Technical Services(Shenzhen) Co.,Ltd.
Address: Building C, No. 107, Shihuan Road, Shiyan Sub-District, Baoan District, Shenzhen, Guangdong Province, China

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Revise Record

Version No.	Date	Description
01	2024.07.05	Original

1 General information

1.1 General information

Applicant	PEAG, LLC dba JLab Audio
Address	5927 LANDAU CT, Carlsbad, CA 92008, United States
Manufacturer	GuangDong Simpreal Intelligent Technology Co., Ltd
Address	Room 2408, JiaHong ZhenXing DaSha, DongGuan Avenue #13, DongCheng District, DongGuan City, GuangDong Province, P.R. China
Factory	GuangDong Simpreal Intelligent Technology Co., Ltd
Address	Room 2408, JiaHong ZhenXing DaSha, DongGuan Avenue #13, DongCheng District, DongGuan City, GuangDong Province, P.R. China

1.2 General description of EUT

Product Name	Open Wireless Earbuds/AIR CONDUCTION WIRELESS EARBUS
Model No.	JBuds Open Sport
Series model	N/A
Differences of Series model	N/A
Operation Frequency:	2402MHz-2480MHz
Modulation Type:	GFSK
Rate data:	1Mbps; 2Mbps
Channel Spacing:	2MHz
Number of Channels:	40
Antenna Type:	Internal Antenna
Antenna Gain:	L:0.99dBi(Provided by customer) R:0.51dBi(Provided by customer)
Power supply or adapter information	Earphone Battery:DC3.85V
Hardware Version	V0B
Software Version	N/A
Engineer sample no	BLA-EMC-202406-A69
Note: For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.	

2 Test summary

No.	Test item	Result	Remark
1	Antenna Requirement	Pass	
2	Conducted Emissions at AC Power Line (150kHz-30MHz)	Pass	
3	Conducted Peak Output Power	Pass	
4	Minimum 6dB Bandwidth	Pass	
5	Power Spectrum Density	Pass	
6	Conducted Band Edges Measurement	Pass	
7	Conducted Spurious Emissions	Pass	
8	Radiated Spurious Emissions	Pass	
9	Radiated Emissions which fall in the restricted bands	Pass	

3 Test Configuration

3.1 Test mode

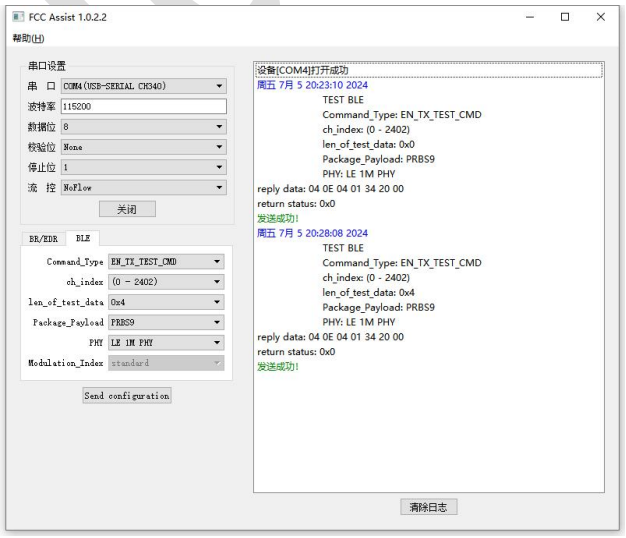
Test Mode Note 1	Description
TX	Keep the EUT in continuously transmitting with modulation mode.
RX	Keep the EUT in receiving mode
TX Low channel	Keep the EUT in continuously transmitting mode in low channel
TX middle channel	Keep the EUT in continuously transmitting mode in middle channel
TX high channel	Keep the EUT in continuously transmitting mode in high channel

Note 1: The EUT was configured to measure its highest possible emission and/or immunity level. The test modes were adapted according to the operation manual for use; the EUT was operated in the engineering mode Note 2 to fix the TX or Rx frequency that was for the purpose of the measurements.

Note 2: Special software is used. The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

Power level setup in software			
Test Software Name	FCC Assist 1.1.3		
Mode	Channel	Frequency (MHz)	Soft Set
GFSK	CH0	2402	TX level : 0X04
	CH20	2442	
	CH39	2480	

Run Software



3.2 Operation Frequency each of channel

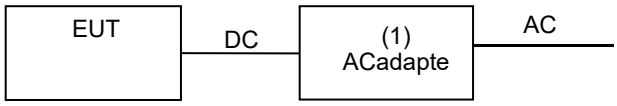
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
0	2402MHz	10	2422MHz	20	2442MHz	30	2462MHz
1	2404MHz	11	2424MHz	21	2444MHz	31	2464MHz
…	…	…	…	…	…	…	…
8	2418MHz	18	2438MHz	28	2458MHz	38	2478MHz
9	2420MHz	19	2440MHz	29	2460MHz	39	2480MHz

3.3 Test channel

Channel	Frequency
The lowest channel	2402MHz
The middle channel	2442MHz
The Highest channel	2480MHz

3.4 Configuration diagram of EUT

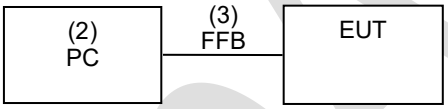
AC conducted emission:



Radiated emission:

Note: see test photographs attached in APPENDIX A for the actual connections between Product and support equipment.

RF Test:



Support equipment:

Name	Device type	Brand	Mode	Series No	Remark
(1)	AC Adapter	UGREEN	CD112	N/A	N/A
(2)	PC	lenovo	E460C	N/A	N/A
(3)	Fixed frequency board	N/A	N/A	N/A	N/A

3.5 Auxiliary equipment

Device Type	Manufacturer	Model Name	Serial No.	Remark
N/A	N/A	N/A	N/A	N/A
Note: "--" mean no any auxiliary device during testing.				

3.6 Test environment

Environment	Temperature	Voltage
Normal	25°C	DC 3.85V

4 Laboratory information

4.1 Laboratory and accreditations

The test facility is recognized, certified, or accredited by the following organizations:

Company name:	BlueAsia of Technical Services(Shenzhen) Co., Ltd.
Address:	Building C, No. 107, Shihuan Road, Shiyan Sub-District, Baoan District, Shenzhen, Guangdong Province, China
CNAS accredited No.:	L9788
A2LA Cert. No.:	5071.01
FCC Designation No.:	CN1252
ISED CAB identifier No.:	CN0028
Telephone:	+86-755-28682673
FAX:	+86-755-28682673

4.2 Measurement uncertainty

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96.

Parameter	Expanded Uncertainty
Radiated Emission(9kHz-30MHz)	±4.34dB
Radiated Emission(30Mz-1000MHz)	±4.24dB
Radiated Emission(1GHz-18GHz)	±4.68dB
AC Power Line Conducted Emission(150kHz-30MHz)	±3.45dB
Occupied Channel Bandwidth	±5 %
RF output power, conducted	±1.5 dB
Power Spectral Density, conducted	±3.0 dB
Unwanted Emissions, conducted	±3.0 dB
Temperature	±3 °C
Supply voltages	±3 %
Time	±5 %

5 Test equipment

Equipment No.	Equipment Name	Model No.	Manufacture	S/N	Cal. Date	Next Cal. Date
BLA-EMC-008	Spectrum	FSP40	R&S	100817	2023/08/30	2024/08/29
BLA-EMC-009	EMI Receiver	ESR7	R&S	101199	2023/08/30	2024/08/29
BLA-EMC-012	broad band Antenna	VULB9168	Schwarz beck	00836 P:00227	2022/10/12	2025/10/11
BLA-EMC-013	Horn Antenna	BBHA9120D	Schwarz beck	01892	2022/09/13	2025/09/12
BLA-EMC-014	Amplifier	PA_000318G-45	SKET	PA2018043003	2023/08/30	2024/08/29
BLA-EMC-016	Signal Generator	N5182A	Agilent	MY52420567	2023/11/16	2024/11/15
BLA-EMC-028	Spectrum	N9020A	Agilent	MY53420839	2023/11/16	2024/11/15
BLA-EMC-038	Spectrum	N9020A	Agilent	MY49100060	2023/08/30	2024/08/29
BLA-EMC-042	Power sensor	RPR3006W	DARE	14I00889SN042	2023/09/01	2024/08/31
BLA-EMC-043	Loop antenna	FMZB1519B	SCHNARZBECK	00102	2022/09/14	2025/09/13
BLA-EMC-044	Wideband radio communication tester	CMW500	R&S	132429	2023/08/30	2024/08/29
BLA-EMC-046	Filter bank	2.4G/5G Filter bank	SKET	N/A	2023/07/07	2024/07/06
BLA-EMC-061	Receiver	ESPI7	R&S	101477	2023/07/07	2024/07/06
BLA-EMC-062	Signal Generator	N5181A	Agilent	MY46240904	2023/07/07	2024/07/06
BLA-EMC-064	Signal Generator	N5182B	KEYSIGHT	MY58108892	2023/07/07	2024/07/06
BLA-EMC-065	broadband Antenna	VULB9168	Schwarz beck	01065P	2022/12/12	2025/12/11
BLA-EMC-066	Amplifier	LNPA_30M01G-30	SKET	SK2021060801	2023/07/07	2024/07/06
BLA-EMC-079	Spectrum	N9020A	Agilent	MY54420161	2023/08/30	2024/08/29
BLA-EMC-080	Signal Generator	N5182A	Agilent	MY47420955	2023/08/30	2024/08/29
BLA-EMC-086	Amplifier	LNPA_18G40G-50dB	SKET	SK2022071301	2023/08/14	2024/08/13

6 Test result

6.1 Antenna requirement

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	N/A

6.1.1 Requirement

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit permanently attached antenna or of a so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

EUT antenna:
The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is L:0.99,R:0.51 dBi.

L

R

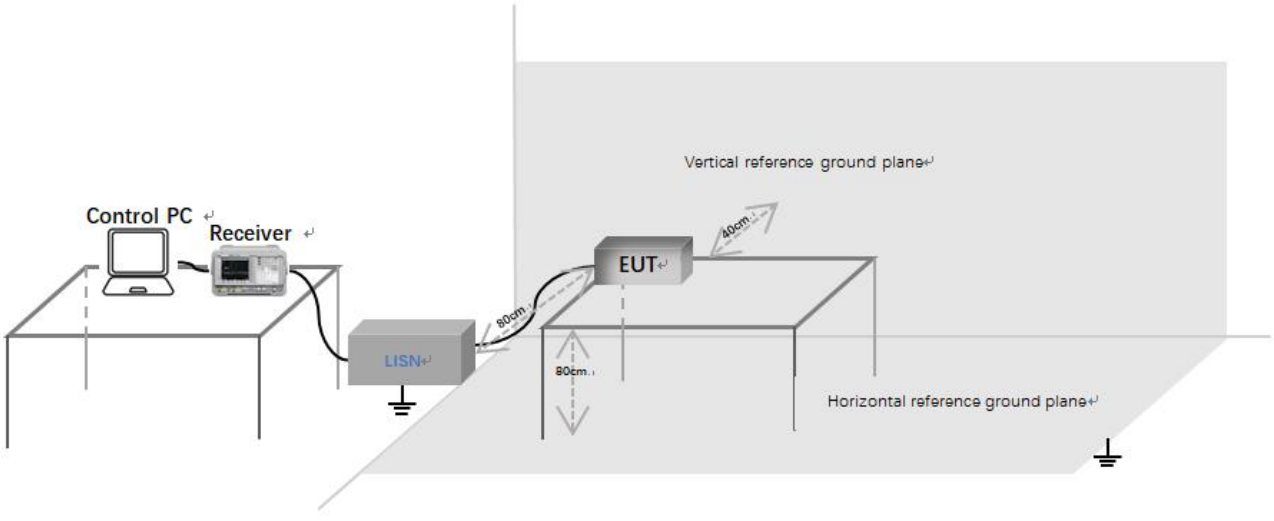
6.2 Conducted emissions at AC power line (150 kHz-30 MHz)

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 6.2
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX

6.2.1 Limit

Frequency of emission(MHz)	**Conducted limit(dBμV)**	
	Quasi-peak	**Average**
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50
*Decreases with the logarithm of the frequency.		

6.2.2 Test setup



Description of test setup connection:

a) Connect the control PC to the receiver through a USB to GPIB cable;

b) The receiver is connected to the LISN through a coaxial line;

c) Connect the power port of LISN to the EUT.

6.2.3 Procedure

1) The mains terminal disturbance voltage test was conducted in a shielded room.

2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50ohm/50H + 5ohm linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.

3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,

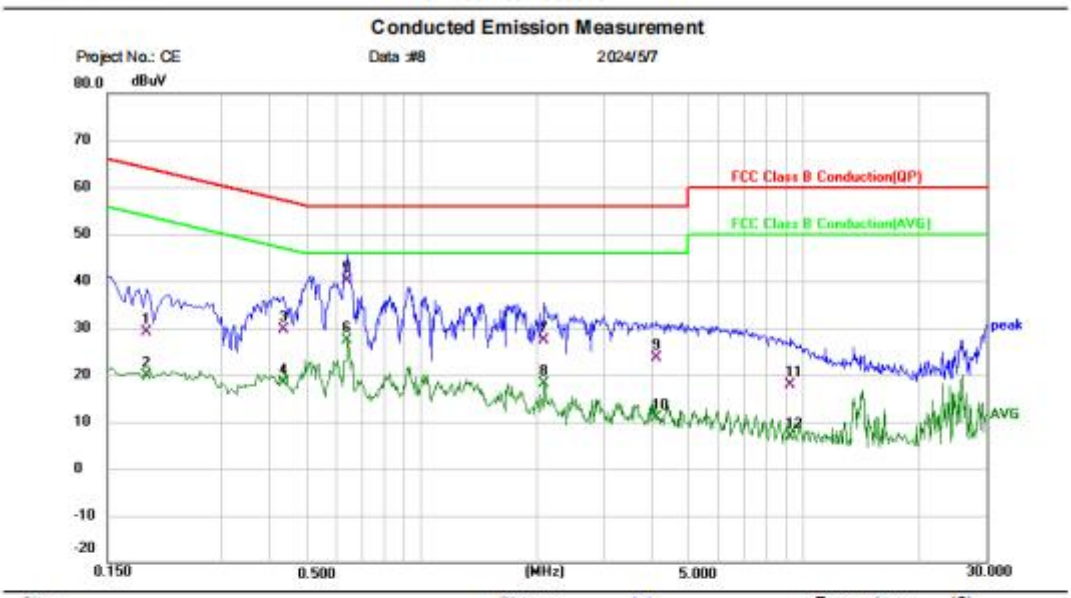
4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.

5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

LISN=Read Level+ Cable Loss+ LISN Factor

6.2.4 Test data

[Test mode: TX]; [Line: Line];[Power:AC120V/60Hz]



Site
Limit: FCC Class B Conduction(QP)
EUT:
M/N:
Mode: BLE 1M TX
Note:

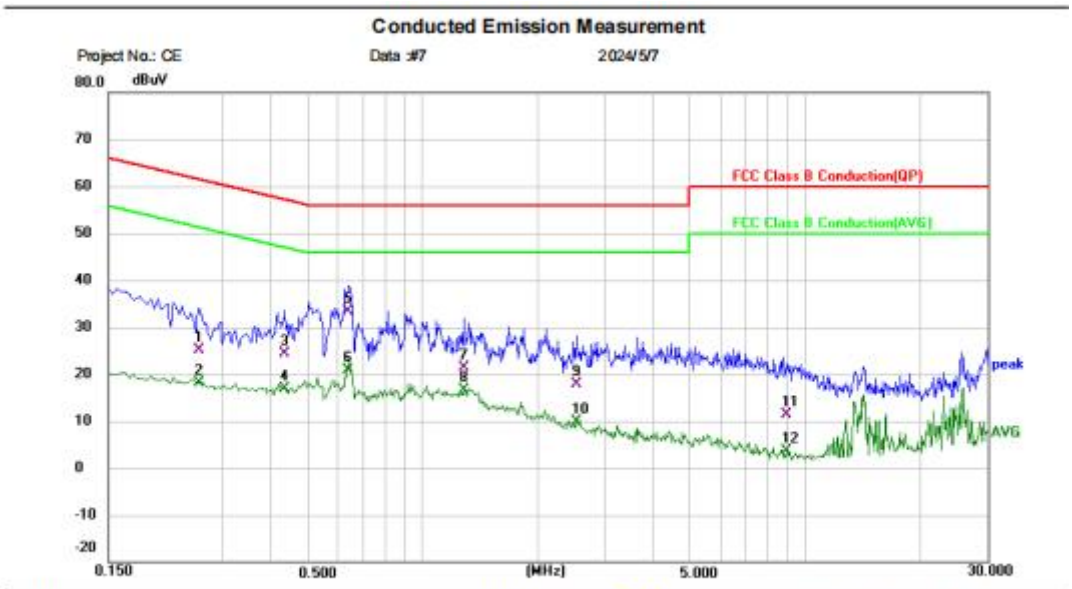
Phase: L1
Power:
Distance:
RBW: 9 KHz
VBW: 30 KHz

Temperature: (C)
Humidity: %RH
Sweep Time: 10 ms

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	cm	degree	Comment
1		0.1900	18.82	10.27	29.09	64.04	-34.95	QP			
2		0.1900	9.65	10.27	19.92	54.04	-34.12	AVG			
3		0.4340	19.58	9.93	29.51	57.18	-27.67	QP			
4		0.4340	8.49	9.93	18.42	47.18	-28.76	AVG			
5	*	0.6380	30.19	9.96	40.15	56.00	-15.85	QP			
6		0.6380	17.44	9.96	27.40	46.00	-18.60	AVG			
7		2.0900	17.27	10.14	27.41	56.00	-28.59	QP			
8		2.0900	7.97	10.14	18.11	46.00	-27.89	AVG			
9		4.1300	13.62	9.99	23.61	56.00	-32.39	QP			
10		4.1300	0.83	9.99	10.82	46.00	-35.18	AVG			
11		9.2500	6.51	11.36	17.87	60.00	-42.13	QP			
12		9.2500	-4.48	11.36	6.88	50.00	-43.12	AVG			

Test Result: Pass

[Test mode: TX]; [Line: Neutral];[Power:AC120V/60Hz]



Site
Limit: FCC Class B Conduction(QP)
EUT:
M/N:
Mode: BLE 1M TX
Note:

Phase: N
Power:
Distance:
RBW: 9 KHz
VBW: 30 KHz

Temperature: (C)
Humidity: %RH
Sweep Time: 10 ms

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	cm	degree	Comment
1		0.2580	14.71	10.40	25.11	61.50	-36.39	QP			
2		0.2580	7.82	10.40	18.22	51.50	-33.28	AVG			
3		0.4340	14.69	9.81	24.50	57.18	-32.68	QP			
4		0.4340	7.11	9.81	16.92	47.18	-30.26	AVG			
5	*	0.6419	23.51	9.90	33.41	56.00	-22.59	QP			
6		0.6419	10.91	9.90	20.81	46.00	-25.19	AVG			
7		1.2820	11.47	9.91	21.38	56.00	-34.62	QP			
8		1.2820	6.71	9.91	16.62	46.00	-29.38	AVG			
9		2.5300	7.80	10.04	17.84	56.00	-38.16	QP			
10		2.5300	-0.21	10.04	9.83	46.00	-36.17	AVG			
11		8.9220	0.10	11.30	11.40	60.00	-48.60	QP			
12		8.9220	-7.71	11.30	3.59	50.00	-46.41	AVG			

Test Result: Pass

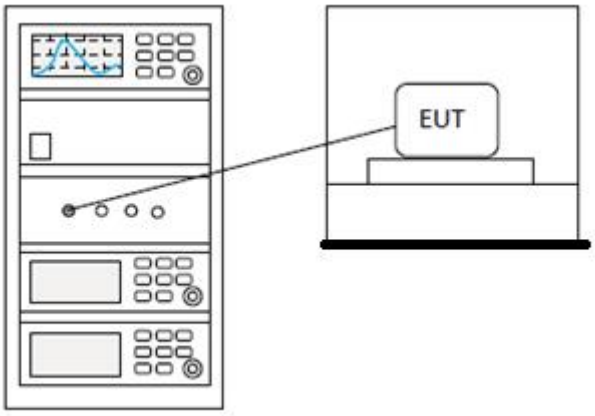
6.3 Conducted peak output Power

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 7.8.5
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX

6.3.1 Limit

Frequency range(MHz)	Output power of the intentional radiator(watt)
902-928	1 for ≥50 hopping channels
	0.25 for 25≤ hopping channels <50
	1 for digital modulation
2400-2483.5	1 for ≥75 non-overlapping hopping channels
	0.125 for all other frequency hopping systems
	1 for digital modulation
5725-5850	1 for frequency hopping systems and digital modulation

6.3.2 Test setup



6.3.3 Test data

Pass: Please refer to appendix A for details

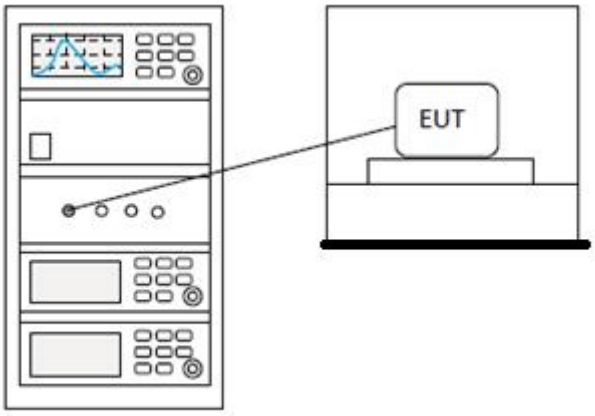
6.4 Minimum 6dB bandwidth

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 11.8.1
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX

6.4.1 Limit

≥500 kHz

6.4.2 Test setup



6.4.3 Test data

Pass: Please refer to appendix A for details