TEST REPORT

Report No.:	BCTC2412620336E
Applicant:	audio pirates & cammica Europe GmbH
Product Name:	HDMI CABLES
Test Model:	26062024-44
Tested Date:	2024-12-27 to 2025-01-04
Issued Date:	2025-01-13

Shenzhen BCTC Testing Co., Ltd.

Product Name:	HDMI CABLES
Trademark:	audio pirates
Model/Type Reference:	26062024-44 18062024-4, 18062024-2, 18062024-44, 18062024-1, 18062024-3, 12092024-6, 12092024-5, XXXX2025-X, XXXX2025-XX, XXXX2026-X, XXXX2026-XX, XXXX202X-X, XXXX202X-XX.
Prepared For:	audio pirates & cammica Europe GmbH
Address:	Waldstrasse 5a, 37130 Gleichen, Germany
Manufacturer:	audio pirates & cammica Europe GmbH
Address:	Waldstrasse 5a, 37130 Gleichen, Germany
Prepared By:	Shenzhen BCTC Testing Co., Ltd.
Address:	1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China
Sample Received Date:	2024-12-27
Sample Tested Date:	2024-12-27 to 2025-01-04
Issue Date:	2025-01-13
Report No.:	BCTC2412620336E
Test Standards:	EN 55032:2015+A11:2020+A1:2020, EN 55035:2017+A11:2020
Test Results:	PASS

Tested by:

Yangjian /Project Handler

Approved by:

Zero Zhou/Reviewer

The test report is effective only with both signature and specialized stamp.This result(s) shown in this report refer only to the sample(s) tested. Without written approval of Shenzhen BCTC Testing Co., Ltd, this report can't be reproduced except in full.The tested sample(s) and the sample information are provided by the client.

Table Of Content

Test Report Declaration Page
1. Version 4
2. Test Summary 5
3. Measurement Uncertainty 6
4. Product Information And Test Setup 7
4.1 Product Information 7
4.2 Test Setup Configuration 7
4.3 Support Equipment 7
4.4 Test Mode 7
5. Test Facility And Test Instrument Used 8
5.1 Test Facility 8
5.2 Test Instrument Used 8
6. Radiated Emissions Test 10
6.1 Block Diagram Of Test Setup 10
6.2 Limits 10
6.3 Test Procedure 10
6.4 Test Results 11
7. Immunity Test Of General The Performance Criteria 13
8. Electrostatic Discharge (ESD) 14
8.1 Test Specification 14
8.2 Block Diagram of Test Setup 14
8.3 Test Procedure 14
8.4 Test Results 15
9. Continuous RF Electromagnetic Field Disturbances (RS) 16
9.1 Test Specification 16
9.2 Block Diagram of Test Setup 16
9.3 Test Procedure 17
9.4 Test Results 17
10. EUT Photographs 18
11. EUT Test Setup Photographs 20

(Note: N/A Means Not Applicable)

1. Version

Report No.	Issue Date	Description	Approved
BCTC2412620336E	2025-01-13	Original	Valid

2. Test Summary

The Product has been tested according to the following specifications:

Emission		
Standard	**Test Item**	**Test result**
EN 55032	Conducted emissions from the AC mains power ports	N/A[3]
EN 55032	Asymmetric mode conducted emissions	N/A[1]
EN 55032	Conducted differential voltage emissions	N/A[2]
EN 55032	Radiated emissions	Pass

Immunity		
Standard	**Test Item**	**Test result**
EN 55035	Electrostatic discharge (ESD)	Pass
EN 55035	Continuous RF electromagnetic field disturbances(RS)	Pass
EN 55035	Electrical fast transients/burst (EFT)	N/A[3]
EN 55035	Surges	N/A[3]
EN 55035	Continuous induced RF disturbances (CS)	N/A[3]
EN 55035	Broadband impulse noise disturbances, repetitive	N/A[4]
EN 55035	Broadband impulse noise disturbances, isolated	N/A[4]
EN 55035	Power frequency magnetic field (PData transmissionF)	N/A[5]
EN 55035	Voltage dips and interruptions (DIPS)	N/A[3]

Remark:
1. Applicable to ports listed above and intended to connect to cables longer than 3 m.
2. (1) TV broadcast receiver tuner ports with an accessible connector,
   (2) RF modulator output ports;
   (3) FM broadcast receiver tuner ports with an accessible connector.
   But the EUT has no above ports, so this test item is not applicable.
3. The EUT is powered by the DC only , the test item is not applicable
4. Applicable only to CPE xDSL ports.
5. The Product doesn't contain any device susceptible to magnetic fields.

3. Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Test item	Value (dB)
Radiated Emission(30MHz~200MHz)	4.60
Radiated Emission(200MHz~1000MHz)	5.20

4. Product Information And Test Setup

4.1 Product Information

Ratings:	Input : DC 5V from PC
Model differences:	Only the model name is different, the rest is identical.
The highest frequency of the internal sources of the EUT is (less than 108 MHz):	☒ less than 108 MHz, the measurement shall only be made up to 1 GHz. ☐ between 108 MHz and 500 MHz, the measurement shall only be made up to 2 GHz. ☐ between 500 MHz and 1 GHz, the measurement shall only be made up to 5 GHz. ☐ above 1 GHz, the measurement shall be made up to 5 times the highest frequency or 6 GHz, whichever is less.

4.2 Test Setup Configuration

See test photographs attached in EUT TEST SETUP PHOTOGRAPHS for the actual connections between Product and support equipment.

4.3 Support Equipment

No.	Device Type	Brand	Model	Series No.	Note
1.	PC	ACER	N22Q22	---	---
2.	Display	AOC	T2264MD	---	---

Notes:
1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use

4.4 Test Mode

Test item	Test Mode	Test Voltage
Radiated Emissions (30MHz-1GHz) Class B	Video transmission	DC 5V from PC
Electrostatic discharge (ESD) B ☒Air Discharge: ±8kV ☒Contact Discharge: ±4kV ☒HCP & VCP: ±4kV	Video transmission	DC 5V from PC
Continuous RF electromagnetic field disturbances(RS) A 80MHz-1000MHz,1800MHz,2600MHz, 3500MHz,5000MHz, 3V/m,80%	Video transmission	DC 5V from PC

5. Test Facility And Test Instrument Used

5.1 Test Facility

All measurement facilities used to collect the measurement data are located at Shenzhen BCTC Testing Co., Ltd. Address: 1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China. The site and apparatus are constructed in conformance with the requirements of ANSI C63.4 and CISPR 16-1-1 other equivalent standards.

5.2 Test Instrument Used

Radiated Emissions Test (966 Chamber#01)					
Equipment	**Manufacturer**	**Model#**	**Serial#**	**Last Cal.**	**Next Cal.**
966 chamber	ChengYu	966 Room	966	May 15, 2023	May 14, 2026
Receiver	R&S	ESRP	101154	May 16, 2024	May 15, 2025
Receiver	R&S	ESR3	102075	May 16, 2024	May 15, 2025
Amplifier	SKET	LAPA_01G18G-45dB	SK2021040901	May 16, 2024	May 15, 2025
Amplifier	Schwarzbeck	BBV9744	9744-0037	May 16, 2024	May 15, 2025
TRILOG Broadband Antenna	schwarzbeck	VULB9163	942	May 21, 2024	May 20, 2025
Horn Antenna	schwarzbeck	BBHA9120D	1541	May 21, 2024	May 20, 2025
Software	Frad	EZ-EMC	FA-03A2 RE	\	\

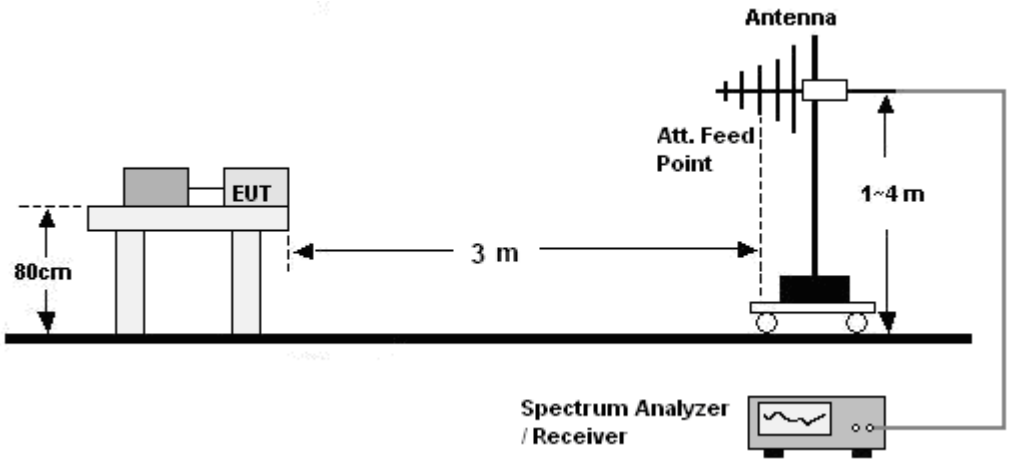
Electrostatic Discharge Test					
Equipment	**Manufacturer**	**Model#**	**Serial#**	**Last Cal.**	**Next Cal.**
Electrostatic Discharge Simulator	3C TEST	EDS 30T	ES031000123059	Mar. 13, 2024	Mar. 12, 2025

Continuous RF Electromagnetic Field Disturbances Test					
Equipment	**Manufacturer**	**Model#**	**Serial#**	**Last Cal.**	**Next Cal.**
Power meter	Keysight	E4419	A00065	May 16, 2024	May 15, 2025
Power sensor	Keysight	E9300A	US39211659	May 16, 2024	May 15, 2025
Power sensor	Keysight	E9300A	US39211305	May 16, 2024	May 15, 2025
Amplifier	SKET	HAP_801000-250W	21201805013	May 16, 2024	May 15, 2025
Amplifier	SKET	HAP_0103-75W	21201805014	May 16, 2024	May 15, 2025
Amplifier	SKET	HAP_0306-50W	21201805015	May 16, 2024	May 15, 2025
Stacked double Log.-Per. Antenna	Schwarzbeck	STLP 9129	00077	\	\
Field Probe	Narda	EP-601	611WX80256	May 25, 2024	May 24, 2025
Signal Generator	Agilent	N5181A	MY50143748	May 16, 2024	May 15, 2025
Software	SKET	EMC-S	1.2.0.18	\	\

6. Radiated Emissions Test

6.1 Block Diagram Of Test Setup

30MHz ~ 1GHz:



6.2 Limits

Limits for radiated disturbance of Class B MME

Frequency (MHz)	Quasi-peak limits at 3m dB(μV/m)
30-230	40
230-1000	47

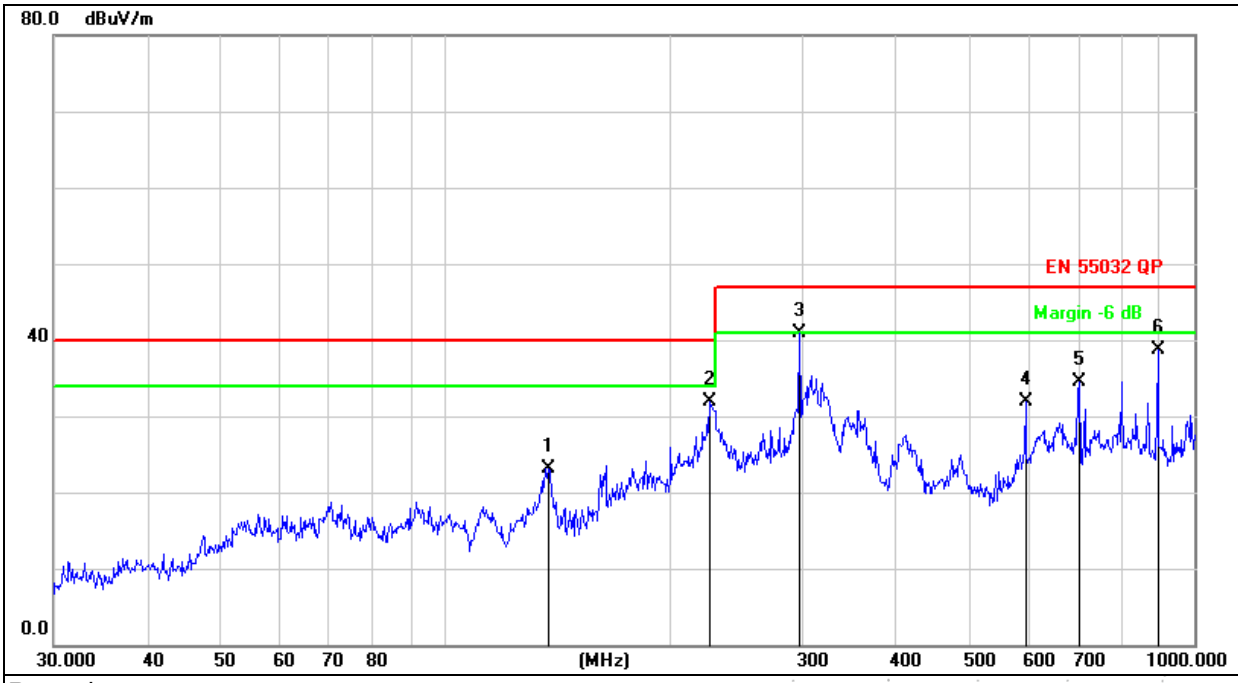
Note: The lower limit shall apply at the transition frequencies.

6.3 Test Procedure

30MHz ~ 1GHz:
a. The Product was placed on the nonconductive turntable 0.8 m above the ground in a semi anechoic chamber.
b. Set the spectrum analyzer/receiver in Peak detector, Max Hold mode, and 120 kHz RBW. Record the maximum field strength of all the pre-scan process in the full band when the antenna is varied between 1~4 m in both horizontal and vertical, and the turntable is rotated from 0 to 360 degrees.
c. For each frequency whose maximum record was higher or close to limit, measure its QP value: vary the antenna's height and rotate the turntable from 0 to 360 degrees to find the height and degree where Product radiated the maximum emission, then set the test frequency analyzer/receiver to QP Detector and specified bandwidth with Maximum Hold Mode, and record the maximum value.

6.4 Test Results

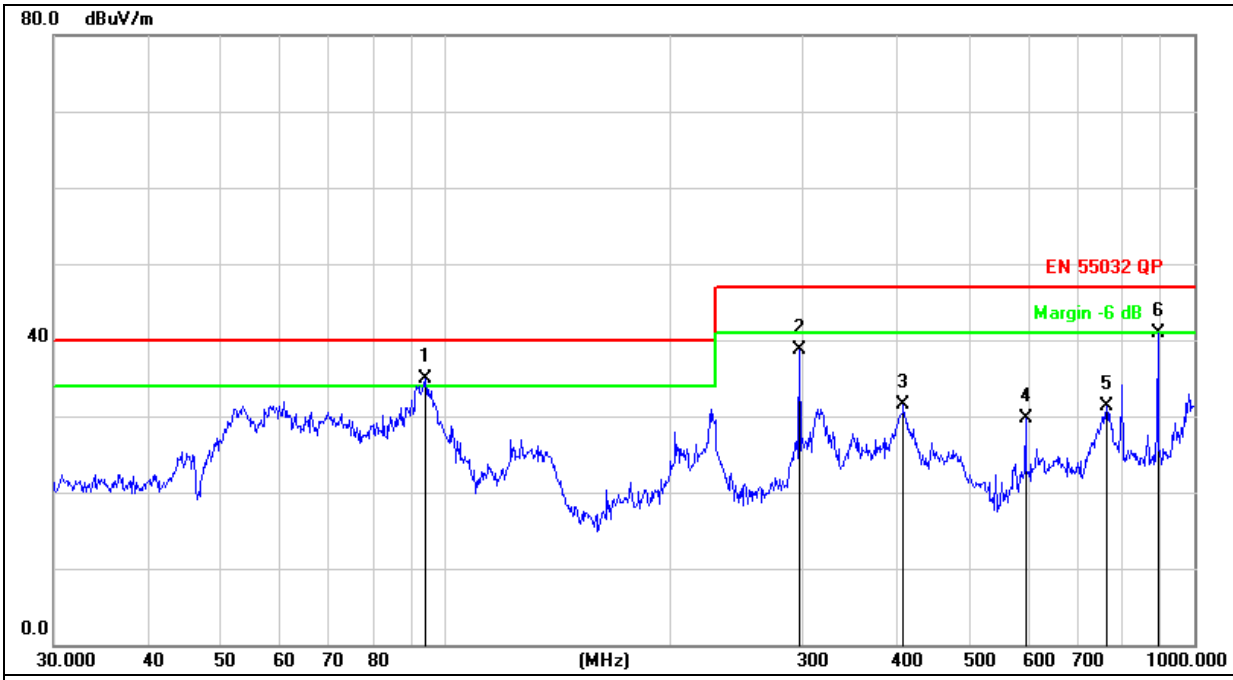
Temperature:	24.4℃	Relative Humidity:	50%RH
Pressure:	101KPa	Phase:	Horizontal
Test Voltage :	DC 5V from PC	Test Mode:	Video transmission



Remark:
1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. Measurement = Reading Level + Correct Factor
3. Over = Measurement - Limit

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1		137.4202	41.68	-18.55	23.13	40.00	-16.87	QP
2		225.3080	46.84	-15.00	31.84	40.00	-8.16	QP
3	*	297.2241	54.15	-13.30	40.85	47.00	-6.15	QP
4		595.1329	39.35	-7.35	32.00	47.00	-15.00	QP
5		701.7610	40.23	-5.68	34.55	47.00	-12.45	QP
6		893.8567	42.00	-3.23	38.77	47.00	-8.23	QP

Temperature:	24.4℃	Relative Humidity:	50%RH
Pressure:	101KPa	Phase:	Vertical
Test Voltage :	DC 5V from PC	Test Mode:	Video transmission



Remark:
1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. Measurement = Reading Level + Correct Factor
3. Over = Measurement - Limit

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1	*	94.0979	51.65	-16.80	34.85	40.00	-5.15	QP
2		297.2241	52.09	-13.30	38.79	47.00	-8.21	QP
3		408.9460	42.22	-10.66	31.56	47.00	-15.44	QP
4		595.1329	37.09	-7.35	29.74	47.00	-17.26	QP
5		763.3757	36.14	-4.83	31.31	47.00	-15.69	QP
6		893.8567	44.06	-3.23	40.83	47.00	-6.17	QP

7. Immunity Test Of General The Performance Criteria

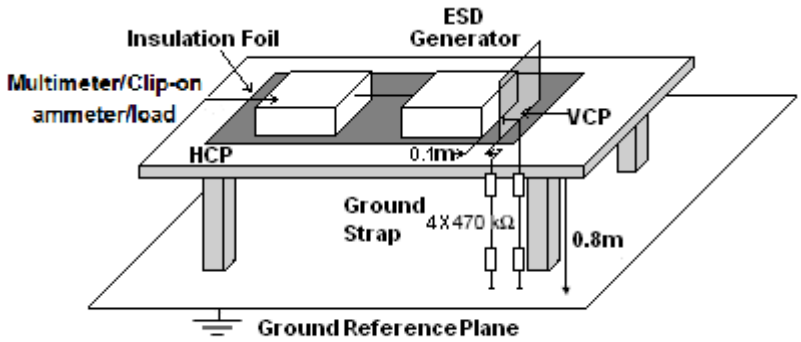
Product Standard	EN 55035:2017+A11:2020 clause 5
CRITERION A	The equipment shall continue to operate as intended without operator intervention. No degradation of performance, loss of function or change of operating state is allowed below a performance level specified by the manufacturer when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.
CRITERION B	During the application of the disturbance, degradation of performance is allowed. However, no unintended change of actual operating state or stored data is allowed to persist after the test. After the test, the equipment shall continue to operate as intended without operator intervention; no degradation of performance or loss of function is allowed, below a performance level specified by the manufacturer, when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance. If the minimum performance level (or the permissible performance loss), or recovery time, is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.
CRITERION C	Loss of function is allowed, provided the function is self-recoverable, or can be restored by the operation of the controls by the user in accordance with the manufacturer's instructions. A reboot or re-start operation is allowed. Information stored in non-volatile memory, or protected by a battery backup, shall not be lost.

8. Electrostatic Discharge (ESD)

8.1 Test Specification

Basic standard	:	IEC 61000-4-2
Test Port	:	Enclosure port
Discharge Impedance	:	330 ohm / 150 pF
Discharge Mode	:	Single Discharge
Discharge Period	:	one second between each discharge

8.2 Block Diagram of Test Setup



8.3 Test Procedure

a. Electrostatic discharges were applied only to those points and surfaces of the Product that are accessible to users during normal operation.
b. The test was performed with at least ten single discharges on the pre-selected points in the most sensitive polarity.
c. The time interval between two successive single discharges was at least 1 second.
d. The ESD generator was held perpendicularly to the surface to which the discharge was applied and the return cable was at least 0.2 meters from the Product.
e. Contact discharges were applied to the non-insulating coating, with the pointed tip of the generator penetrating the coating and contacting the conducting substrate.
f. Air discharges were applied with the round discharge tip of the discharge electrode approaching the Product as fast as possible (without causing mechanical damage) to touch the Product. After each discharge, the ESD generator was removed from the Product and re-triggered for a new single discharge. The test was repeated until all discharges were complete.
g. At least ten single discharges (in the most sensitive polarity) were applied to the Horizontal Coupling Plane at points on each side of the Product. The ESD generator was positioned vertically at a distance of 0.1 meters from the Product with the discharge electrode touching the HCP.
h. At least ten single discharges (in the most sensitive polarity) were applied to the center of one vertical edge of the Vertical Coupling Plane in sufficiently different positions that the four faces of the Product were completely illuminated. The VCP (dimensions 0.5m x 0.5m) was placed vertically to and 0.1 meters from the Product.

8.4 Test Results

Temperature:	24.1 ℃	Relative Humidity:	52%RH
Pressure:	101KPa	Test Mode:	Video transmission
Test Voltage :	DC 5V from PC		

Discharge Method	Discharge Position	Voltage (±kV)	Min. No. of Discharge per polarity (Each Point)	Required Level	Performance Criterion
Contact Discharge	Indirect Discharge HCP	4	10	B	A
	Indirect Discharge VCP	4	10	B	A
	Metal surface	4	10	B	A
Air Discharge	Non-metal part	8	10	B	A

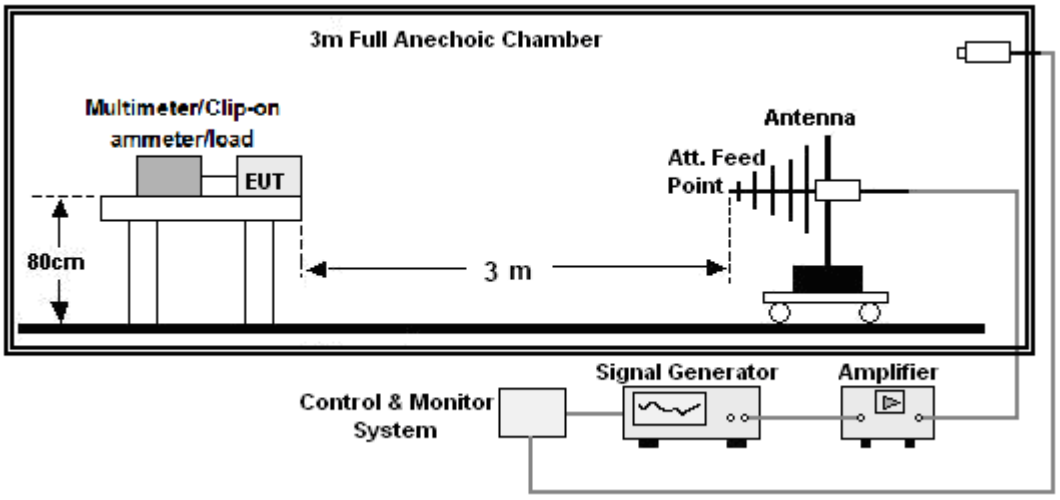
9. Continuous RF Electromagnetic Field Disturbances (RS)

9.1 Test Specification

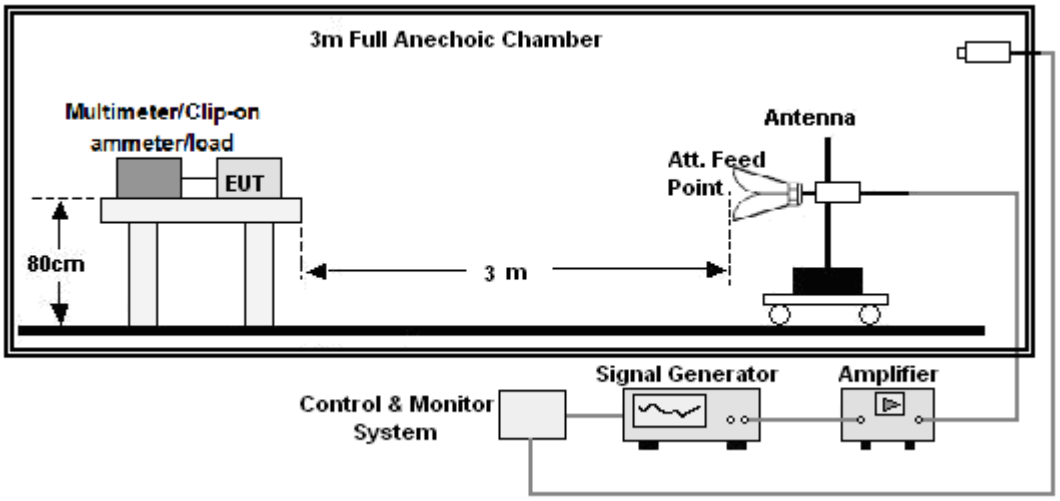
Basic standard	:	IEC 61000-4-3
Test Port	:	Enclosure port
Step Size	:	1%
Modulation	:	1kHz, 80% AM
Dwell Time	:	1 second
Polarization	:	Horizontal & Vertical

9.2 Block Diagram of Test Setup

Below 1GHz:



Above 1GHz:



9.3 Test Procedure

a. The testing was performed in a fully-anechoic chamber. The transmit antenna was located at a distance of 3 meters from the Product.
b. The frequency range is swept from 80MHz to 1000MHz, 1800MHz, 2600MHz, 3500MHz, 5000MHz,with the signal 80% amplitude modulated with a 1 kHz sine wave,and the step size was 1%.
c. The dwell time at each frequency shall not be less than the time necessary for the EUT to be exercised and to be able to respond, but should not exceed 5 s at each of the frequencies during the scan.
d. The test was performed with the Product exposed to both vertically and horizontally polarized fields on each of the four sides.
e. For Broadcast reception function: Group 2 not apply in this test.

9.4 Test Results

Temperature:	23.9 ℃	Relative Humidity:	50%RH
Pressure:	101KPa	Test Mode:	Video transmission
Test Voltage :	DC 5V from PC		

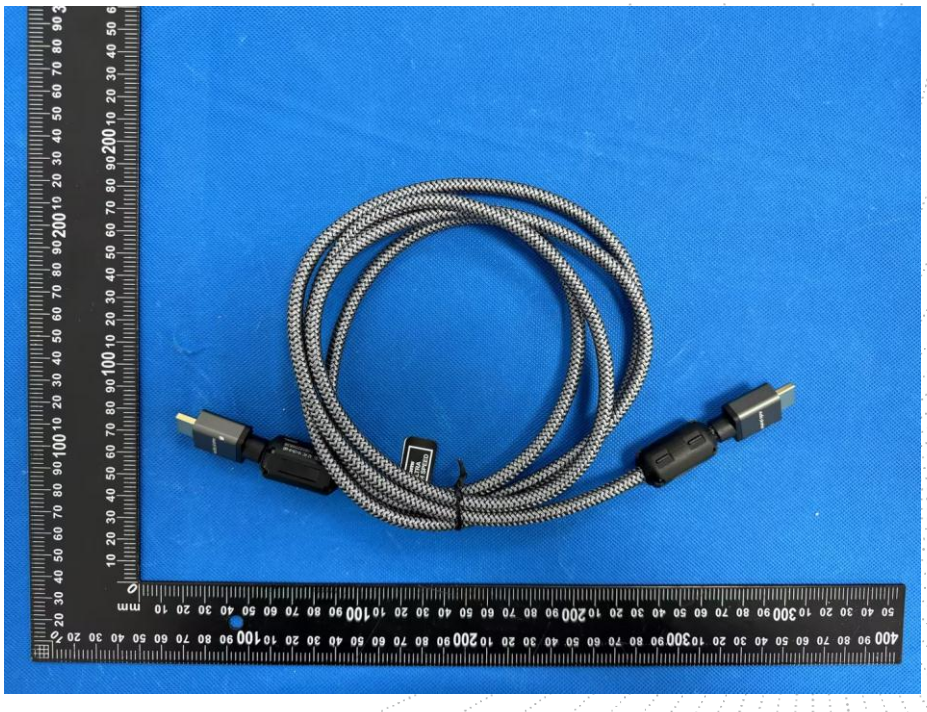
Frequency	Position	Field Strength (V/m)	Required Level	Performance Criterion
80 - 1000MHz, 1800MHz, 2600MHz, 3500MHz, 5000MHz	Front, Right, Back, Left	3	A	A

10. EUT Photographs

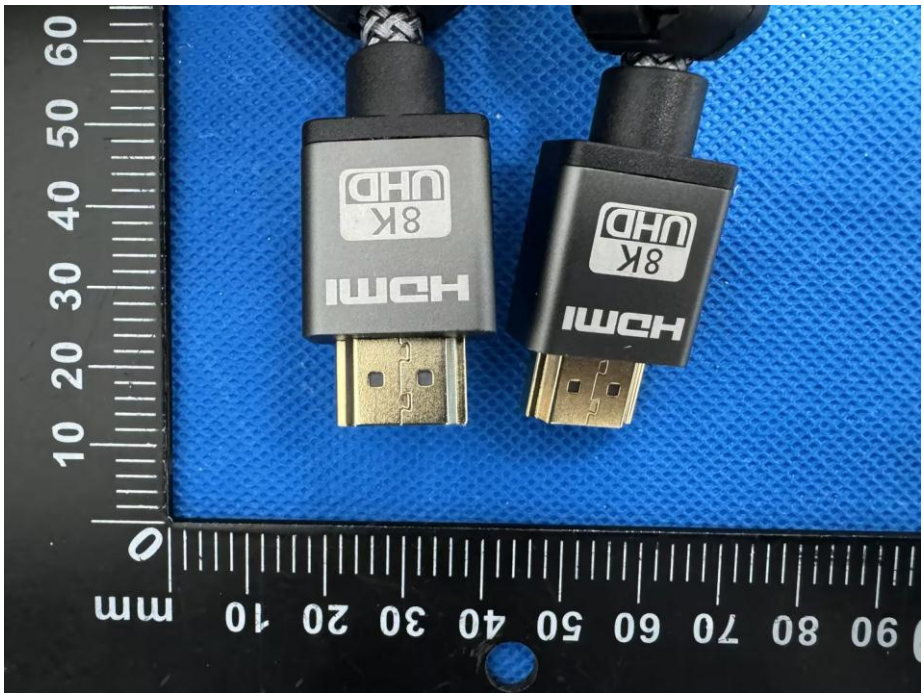
EUT Photo 1



EUT Photo 2

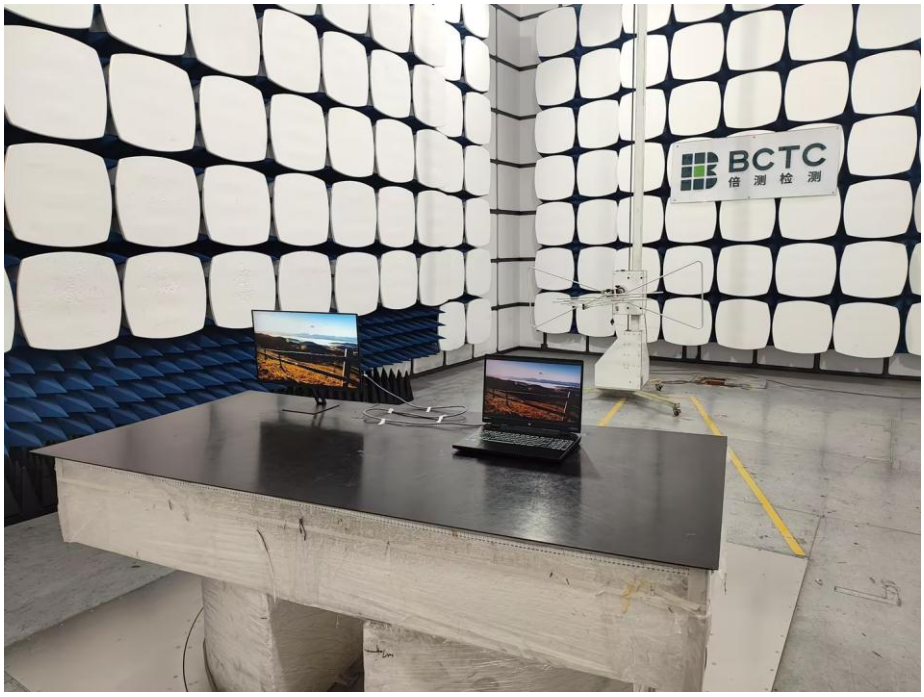


EUT Photo 3


8K UHD
HDMI
8K UHD
HDMI
mm
0 10 20 30 40 50 60
10 20 30 40 50 60 70 80 90

11. EUT Test Setup Photographs

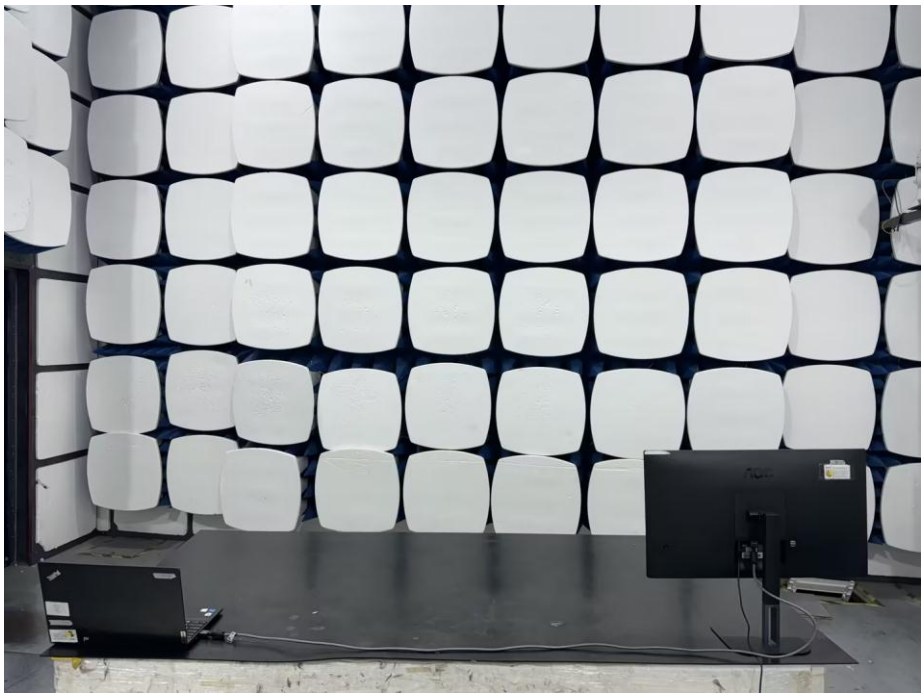
Radiated Emissions



ESD



RS



STATEMENT

1. The equipment lists are traceable to the national reference standards.

2. The test report can not be partially copied unless prior written approval is issued from our lab.

3. The test report is invalid without the "special seal for inspection and testing".

4. The test report is invalid without the signature of the approver.

5. The test process and test result is only related to the Unit Under Test.

6. Sample information is provided by the client and the laboratory is not responsible for its authenticity.

7. The quality system of our laboratory is in accordance with ISO/IEC17025.

8. If there is any objection to this test report, the client should inform issuing laboratory within 15 days from the date of receiving test report.

Address:
1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China

TEL: 400-788-9558

P.C.: 518103

FAX: 0755-33229357

Website: http://www.chnbctc.com

Consultation E-mail: bctc@bctc-lab.com.cn

Complaint/Advice E-mail: advice@bctc-lab.com.cn

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