

File Reference No.: 2022-04-14

Applicant: Shenzhen Chenxi Electronic Technology Co., Ltd.

Product: Game Controller

Model No.: CX-299

Trademark: N/A

Test Standards: FCC Part 15.247

Test Result:

It is herewith confirmed and found to comply with the

requirements set up by ANSI C63.10, FCC Part 15.247 for

the evaluation of electromagnetic compatibility

Approved By

Terry long

Terry Tang

Manager

Dated: April 14, 2022

Results appearing herein relate only to the sample tested

The technical reports is issued errors and omissions exempt and is subject to withdrawal at

SHENZHEN TIMEWAY TESTING LABORATORIES

Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le Village, Nanshan District, Shenzhen, China

Tel (755) 83448688, Fax (755) 83442996, E-Mail:info@timeway-lab.com

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Special Statement:

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19.

The testing quality system of our laboratory meet with ISO/IEC-17025 requirements, which is approved by CNAL. This approval result is accepted by MRA of APLAC.

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

CNAS-LAB Code: L2292

The EMC Laboratory has been assessed and in compliance with CNAS-CL01 accreditation criteria for testing Laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of testing Laboratories.

FCC-Registration No.: 744189

The EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 744189.

Industry Canada (IC) — Registration No.:5205A

The EMC Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 5205A.

A2LA (Certification Number:5013.01)

The EMC Laboratory has been accredited by the American Association for Laboratory Accreditation (A2LA). Certification Number:5013.01

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Test Report Conclusion

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1.0 General Details

1.1 Test Lab Details

Name: SHENZHEN TIMEWAY TESTING LABORATORIES.

Address: Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le

Village, Nanshan District, Shenzhen, China

Telephone: (755) 83448688 Fax: (755) 83442996

1.2 Applicant Details

Applicant: Shenzhen Chenxi Electronic Technology Co., Ltd.

Address: 401D, Building 3, Jiuyang Industrial Park, Fuhai Street, Bao'an Area, Shenzhen

Telephone: --Fax: ---

1.3 Description of EUT

Product: Game Controller

Manufacturer: Shenzhen Chenxi Electronic Technology Co., Ltd.

Address: 401D, Building 3, Jiuyang Industrial Park, Fuhai Street, Bao'an Area, Shenzhen

Trademark: N/A
Additional Trademark: N/A
Model Number: CX-299
Additional Model Number: N/A
Hardware Version: V1.0
Software Version: V1.1
Serial No.: 00000001

Type of Modulation GFSK (Bluetooth BLE)

Frequency range 2402-2480MHz Frequency Selection By software

Channel Number 40

Antenna: PCB antenna. The gain of the antennas is -0.58dBi (Declared by the applicant)

Rating: DC5V, 1A

Battery: DC3.7V, 1000mAh Li-ion battery

1.4 Submitted Sample: 1 Samples

1.5 Test Duration

2022-04-11 to 2022-04-14

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1.6 Test Uncertainty

Conducted Emissions Uncertainty = 3.6dB

Radiated Emissions below 1GHz Uncertainty =4.7dB

Radiated Emissions above 1GHz Uncertainty =6.0dB

Conducted Power Uncertainty =6.0dB

Occupied Channel Bandwidth Uncertainty = 5%

Note: The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.

1.7 Test Engineer

Andy-xing

The sample tested by

Print Name: Andy Xing

Date: 2022-04-14



2.0 Test Equipment					
Instrument Type	Manufacturer	Model	Serial No.	Date of Cal.	Due Date
ESPI Test Receiver	R&S	ESPI 3	100379	2021-06-18	2022-06-17
TWO Line-V-NETW	R&S	EZH3-Z5	100294	2021-06-18	2022-06-17
TWO Line-V-NETW	R&S	EZH3-Z5	100253	2021-06-18	2022-06-17
Impuls-Begrenzer	R&S	ESH3-Z2	100281	2021-06-18	2022-06-17
Loop Antenna	EMCO	6507	00078608	2021-06-18	2022-06-17
Spectrum	R&S	FSIQ26	100292	2021-06-18	2022-06-17
Horn Antenna	A-INFO	LB-180400-KF	J211060660	2021-06-18	2022-06-17
Horn Antenna	R&S	BBHA 9120D	9120D-631	2021-07-02	2024-07-01
Power meter	Anritsu	ML2487A	6K00003613	2021-06-18	2022-06-17
Power sensor	Anritsu	MA2491A	32263	2021-06-18	2022-06-17
Bilog Antenna	Schwarebeck	VULB9163	9163/340	2021-07-02	2024-07-01
9*6*6 Anechoic			N/A	2021-07-02	2022-07-01
EMI Test Receiver	RS	ESVB	826156/011	2021-06-18	2022-06-17
EMI Test Receiver	RS	ESH3	860904/006	2021-06-18	2022-06-17
Spectrum	HP/Agilent	ESA-L1500A	US37451154	2021-06-18	2022-06-17
Spectrum	HP/Agilent	E4407B	MY50441392	2021-06-18	2022-06-17
Spectrum	RS	FSP	1164.4391.38	2022-01-14	2023-01-13
RF Cable	Zhengdi	ZT26-NJ-NJ-8M/F A		2021-06-18	2022-06-17
RF Cable	Zhengdi	7m		2021-06-18	2022-06-17
RF Switch	EM	EMSW18	060391	2021-06-18	2022-06-17
Pre-Amplifier	Schwarebeck	BBV9743	#218	2021-06-18	2022-06-17
Pre-Amplifier	HP/Agilent	8449B	3008A00160	2021-06-18	2022-06-17
LISN	SCHAFFNER	NNB42	00012	2022-01-14	2023-01-13

2.2 Automation Test Software

For Conducted Emission Test

Name	Version
EZ-EMC	Ver.EMC-CON 3A1.1
For Radiated Emissions	
Name	Version
EMI Test Software BL410-EV18.91	V18.905
EMI Test Software BL410-EV18.806 High Frequency	V18.06

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3.0 Technical Details

3.1 Summary of test results

Standard	Test Type	Result	Notes
FCC Part 15, Paragraph 15.203	Antenna Requirement	Pass	Complies
FCC Part 15, Paragraph 15.207	Conducted Emission Test	Pass	Complies
FCC Part 15 Subpart C Paragraph 15.247(a)(2) Limit	Spectrum bandwidth of a Orthogonal Frequency Division Multiplex System Limit: 6dB bandwidth>500kHz	Pass	Complies
FCC Part 15, Paragraph 15.247(b)	Maximum peak output power Limit: max. 30dBm	Pass	Complies
FCC Part 15, Paragraph 15.205 & 15.209	Transmitter Radiated Emission Limit: Table 15.209	Pass	Complies
FCC Part 15, Paragraph 15.247(e)	Power Spectral Density Limit: max. 8dBm/3kHz	Pass	Complies
FCC Part 15, Paragraph 15.247(d)	Out of Band Emission and Restricted Band Radiation Limit: 20dB less than peak value of fundamental frequency Restricted band limit: Table 15.209	Pass	Complies

3.2 Test Standards

FCC Part 15 Subpart & Subpart C, Paragraph 15.247

4.0 EUT Modification

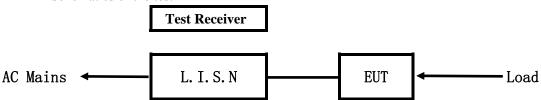
No modification by SHENZHEN TIMEWAY TESTING LABORATORIES.

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5.Power Line Conducted Emission Test

5.1 Schematics of the test

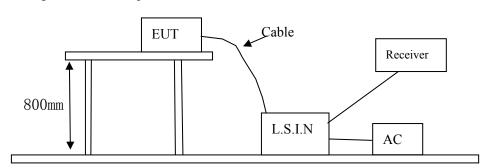


EUT: Equipment Under Test

5.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.10-2013. The Frequency spectrum From 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.10 –2013.

Test Voltage: 120V~, 60Hz Block diagram of Test setup



5.3 Configuration of The EUT

The EUT was configured according to ANSI C63.10-2013. All interface ports were connected to the appropriate peripherals. All peripherals and cables are listed below.

A. EUT

Device	Manufacturer	Model	FCC ID	
Game Controller	Shenzhen Chenxi Electronic	CX-299	2A6BTCX-299	
Game Controller	Technology Co., Ltd.	CA-299	2A0D1CA-299	

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B. Internal Device

Device	Manufacturer	Model	Rating

C. Peripherals

Device	Manufacturer	Model	Rating
Power Supply	KEYU	KA23-0502000DEU	Input: 100-240V~, 50/60Hz, 0.35A;
			Output: DC5V, 2A

5.4 EUT Operating Condition

Operating condition is according to ANSI C63.10-2013.

- A Setup the EUT and simulators as shown on follow
- B Enable AF signal and confirm EUT active to normal condition

5.5 Power line conducted Emission Limit according to Paragraph 15.207

Frequency	Limits (dB μ V)			
(MHz)	Quasi-peak Level	Average Level		
0.15 ~ 0.50	66.0~56.0*	56.0~46.0*		
$0.50 \sim 5.00$	56.0	46.0		
5.00 ~ 30.00	60.0	50.0		

Notes:

- 1. *Decreasing linearly with logarithm of frequency.
- 2. The tighter limit shall apply at the transition frequencies

5.6 Test Results

The frequency spectrum from 0.15MHz to 30MHz was investigated. All reading are quasi-peak values with a resolution bandwidth of 9kHz.

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A: Conducted Emission on Live Terminal (150kHz to 30MHz)

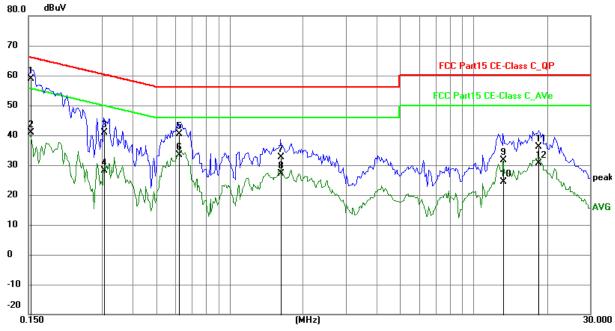
EUT Operating Environment

Temperature: 26°C Humidity: 65%RH Atmospheric Pressure: 101 kPa

EUT set Condition: Keep Bluetooth Transmitting

Results: Pass

Please refer to following diagram for individual



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1539	49.08	9.78	58.86	65.79	-6.93	QP	П
2	0.1539	31.20	9.78	40.98	55.79	-14.81	AVG	Ъ
3	0.3060	31.14	9.76	40.90	60.08	-19.18	QP	Р
4	0.3060	18.35	9.76	28.11	50.08	-21.97	AVG	Р
5	0.6180	30.65	9.78	40.43	56.00	-15.57	QP	Р
6	0.6180	23.59	9.78	33.37	46.00	-12.63	AVG	Л
7	1.6242	22.83	9.80	32.63	56.00	-23.37	QP	Р
8	1.6242	17.30	9.80	27.10	46.00	-18.90	AVG	Р
9	13.2141	21.38	10.30	31.68	60.00	-28.32	QP	Р
10	13.2141	13.99	10.30	24.29	50.00	-25.71	AVG	Р
11	18.4791	25.66	10.59	36.25	60.00	-23.75	QP	Р
12	18.4791	20.04	10.59	30.63	50.00	-19.37	AVG	Р

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B: Conducted Emission on Neutral Terminal (150kHz to 30MHz)

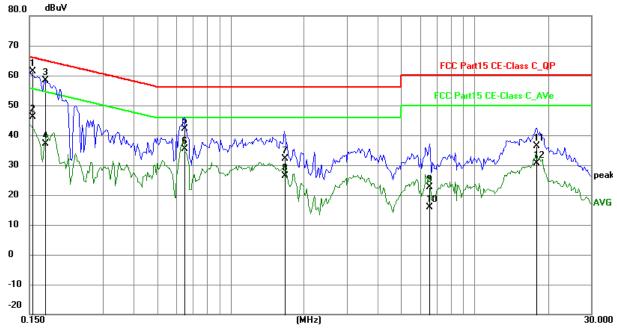
EUT Operating Environment

Temperature: 26°C Humidity: 65%RH Atmospheric Pressure: 101 kPa

EUT set Condition: Keep Bluetooth Transmitting

Results: Pass

Please refer to following diagram for individual



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1548	51.53	9.78	61.31	65.74	-4.43	QP	Р
2	0.1548	36.47	9.78	46.25	55.74	-9.49	AVG	Р
3	0.1734	48.64	9.77	58.41	64.80	-6.39	QP	Р
4	0.1734	27.43	9.77	37.20	54.80	-17.60	AVG	Р
5	0.6492	32.40	9.78	42.18	56.00	-13.82	QP	Р
6	0.6492	25.70	9.78	35.48	46.00	-10.52	AVG	Р
7	1.6632	22.34	9.80	32.14	56.00	-23.86	QP	Р
8	1.6632	16.60	9.80	26.40	46.00	-19.60	AVG	Р
9	6.5256	12.64	9.99	22.63	60.00	-37.37	QP	Р
10	6.5256	5.85	9.99	15.84	50.00	-34.16	AVG	Р
11	17.9136	25.80	10.55	36.35	60.00	-23.65	QP	Р
12	17.9136	20.08	10.55	30.63	50.00	-19.37	AVG	Р

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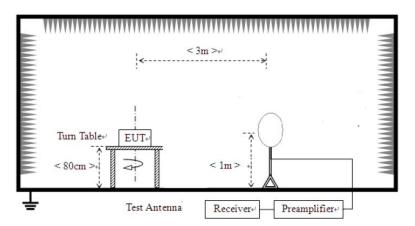


6 Radiated Emission Test

- 6.1 Test Method and test Procedure:
- (1) The EUT was tested according to ANSI C63.10-2013. The radiated test was performed at Timeway EMC Laboratory. This site is on file with the FCC laboratory division, Registration No.744189
- (2) The EUT, peripherals were put on the turntable which table size is 1m x 1.5 m, table high 0.8 m. All set up is according to ANSI C63.10-2013.
- (3) The frequency spectrum from 30 MHz to 25 GHz was investigated. All readings from 30 MHz to 1 GHz are Quasi-peak values with a resolution bandwidth of 120 kHz. For measurement above 1GHz, peak values with RBW=1MHz VBW=3MHz and PK detector. AV value with RBW=1MHz, VBW=3MHz and RMS detector. Measurements were made at 3 meters.
- (4) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.
- (5) Maximizing procedure was performed on the six (6) highest emissions to ensure EUT compliance is with all installation combinations. All data was recorded in the peak detection mode. Quasi-peak readings was performed only when an emission was found to be marginal (within -4 dB of specification limit), and are distinguished with a "**QP**" in the data table.
- (6) The antenna polarization: Vertical polarization and Horizontal polarization.

Block diagram of Test setup

For radiated emissions from 9kHz to 30MHz



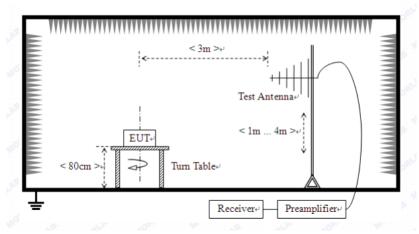
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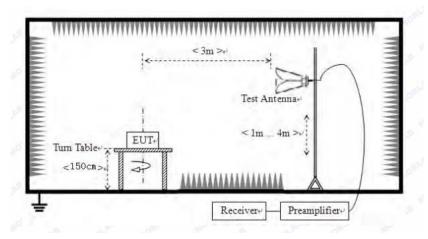
Date: 2022-04-14



For radiated emissions from 30MHz to1GHz



For radiated emissions above 1GHz



- 6.2 Configuration of The EUT
 Same as section 5.3 of this report
- 6.3 EUT Operating Condition
 Same as section 5.4 of this report.
- 6.4 Radiated Emission Limit

All emission from a digital device, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strength specified below:

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Frequencies in restricted band are complied to limit on Paragraph 15.209

Frequency Range (MHz)	Distance (m)	Field strength (dB μ V/m)
0.009-0.490	3	20log(2400/F(kHz)) +40log (300/3)
0.490-1.705	3	20log(24000/F(kHz)) +40log (30/3)
1.705-30	3	69.5
30-88	3	40.0
88-216	3	43.5
216-960	3	46.0
Above 960	3	54.0

Note:

- 1. RF Voltage (dBuV) = 20 log RF Voltage (uV)
- 2. In the Above Table, the tighter limit applies at the band edges.
- 3. Distance refers to the distance in meters between the measuring instrument antenna and the EUT
- 4. All scanning using PK detector. And the final emission level was get using QP detector for frequency range from 30-1000MHz.As to 1G-25G, the final emission level got using PK. For fundamental measurement, PK detector used.
- 5. This is a handhold device. The radiated emissions should be tested under 3-axes position (Lying, Side, and Stand), After pre-test. It was found that the worse radiated emission was get at the lying position.
- 6. For radiated emissions from 9kHz to 30MHz, the emission level is much less than the limit for more than 20dB. No necessary to take down the record.
- 7. Battery full charged during tests.

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Test result

General Radiated Emission Data and Harmonics Radiated Emission Data

Radiated Emission In Horizontal (30MHz----1000MHz)

EUT set Condition: Keep Bluetooth Transmitting

Results: Pass

Test Figure:

50- 40- 20- M1 10- M2M3 M4			Laster Metan	3 31/40	4 4 4 4 1		
40- 30- M2 M3 M4	10-	mpara.	Manual Strong Popular State Comments	Marine Hang Hand	And have a start for the latest to the start of the start		
M5 M2 M3 M4			My	ds .	and the second	ווייאריאריוערו (דייווייארייאריוער די	
M5 M2 M3 M4					WWW	A DE LANGE DE LA COMPANION DE	The life of the same of the sa
10					.† †	vita a laka a an	
					M2 ^{M3}	3 M4	الفارين ا
						м	5
	0-						
0-							
	0-						
0-	0-						

No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	48.425	16.04	-11.22	40.0	-23.96	Peak	163.00	100	Horizontal	Pass
2	241.650	22.77	-12.31	46.0	-23.23	Peak	254.00	100	Horizontal	Pass
3	257.166	23.28	-11.92	46.0	-22.72	Peak	267.00	100	Horizontal	Pass
4	347.353	22.91	-9.42	46.0	-23.09	Peak	280.00	100	Horizontal	Pass
5	500.090	25.89	-6.91	46.0	-20.11	Peak	233.00	100	Horizontal	Pass
6	954.664	26.43	-1.69	46.0	-19.57	Peak	144.00	100	Horizontal	Pass

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Test result

General Radiated Emission Data and Harmonics Radiated Emission Data

Radiated Emission In Vertical (30MHz----1000MHz)

EUT set Condition: **Keep Transmitting**

Results: Pass

Test Figure:

No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
1	52.789	16.42	-11.48	40.0	-23.58	Peak	251.00	100	Vertical	Pass
2	230.255	18.63	-12.67	46.0	-27.37	Peak	30.00	100	Vertical	Pass
3	346.141	20.35	-9.48	46.0	-25.65	Peak	0.00	100	Vertical	Pass
4	442.632	26.66	-7.94	46.0	-19.34	Peak	171.00	100	Vertical	Pass
5	500.090	32.60	-6.91	46.0	-13.40	Peak	171.00	100	Vertical	Pass
6	998.303	27.33	-1.19	54.0	-26.67	Peak	336.00	100	Vertical	Pass

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Operation Mode: Transmitting under Low Channel (2402MHz)

	8	· · · · · · · · · · · · · · · · · · ·	
Frequency (MHz)	Level@3m (dB \u03b4 V/m)	Antenna Polarity	Limit@3m (dB μ V/m)
4804	52.36	Н	74(Peak)/ 54(AV)
4804	49.31	V	74(Peak)/ 54(AV)
7206		H/V	74(Peak)/ 54(AV)
9608		H/V	74(Peak)/ 54(AV)
12010		H/V	74(Peak)/ 54(AV)
14412		H/V	74(Peak)/ 54(AV)
16814		H/V	74(Peak)/ 54(AV)
19216		H/V	74(Peak)/ 54(AV)
21618		H/V	74(Peak)/ 54(AV)
24020		H/V	74(Peak)/ 54(AV)

Operation Mode: Transmitting g under Middle Channel (2440MHz)

-		0.0		
	Frequency (MHz)	Level@3m (dB \u03b4 V/m)	Antenna Polarity	Limit@3m (dB \(\mu \)V/m)
	4880	51.72	Н	74(Peak)/ 54(AV)
	4880	49.03	V	74(Peak)/ 54(AV)
	7320		H/V	74(Peak)/ 54(AV)
	9760		H/V	74(Peak)/ 54(AV)
	12200		H/V	74(Peak)/ 54(AV)
	14640		H/V	74(Peak)/ 54(AV)
	17080		H/V	74(Peak)/ 54(AV)
	19520		H/V	74(Peak)/ 54(AV)
	21960		H/V	74(Peak)/ 54(AV)
	24400		H/V	74(Peak)/ 54(AV)

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Operation Mode: Transmitting under High Channel (2480MHz)

Frequency (MHz)	Level@3m (dB \u03b4 V/m)	Antenna Polarity	Limit@3m (dB \(\mu \)V/m)
4960	50.29	Н	74(Peak)/ 54(AV)
4960	46.93	V	74(Peak)/ 54(AV)
7440		H/V	74(Peak)/ 54(AV)
9920		H/V	74(Peak)/ 54(AV)
12400		H/V	74(Peak)/ 54(AV)
14880		H/V	74(Peak)/ 54(AV)
17360		H/V	74(Peak)/ 54(AV)
19840		H/V	74(Peak)/ 54(AV)
22320		H/V	74(Peak)/ 54(AV)
24800		H/V	74(Peak)/ 54(AV)

Note: 1. Level = Reading + AF + Cable - Preamp

- 2. For the radiated emissions above 18G and Below 30MHz, it is the floor noise.
- 3. The measured PK value less than the AV limit, no necessary to take down the AV measurement result.
- 4. Remark "---" means that the emissions level is too low to be measured

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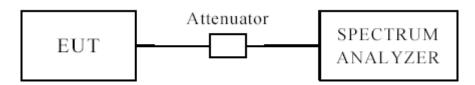
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7.0 6dB Bandwidth Measurement

7.1 Test Setup



7.2 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is >500 kHz

7.3 Test Procedure

- 1. Set resolution bandwidth (RBW) = 100 kHz
- 2. Set the video bandwidth (VBW) \geq 3 x RBW.
- 3. Detector = Peak.
- 4. Trace mode = \max hold.
- 5. Sweep = auto couple.
- 6. Allow the trace to stabilize.
- 7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

7.4 Test Result

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6dB BW

EUT	EUT Game Con		ontroller Model		CX-299		
Mode Keep Tra		Keep Trans	smitting Input Voltage		e	DC3.7V	
Temperat	Temperature 24 deg. C,		. C,	Humidity		56% RH	
Channel	Channel Frequency (MHz)		6 dB Bandwidth Mi (MHz)		inimum Limit (kHz)	Pass/ Fail	
Low		2402	0.651			0.5	Pass
Middle		2440	0.0	651		0.5	Pass
High		2480 0.6		662		0.5	Pass

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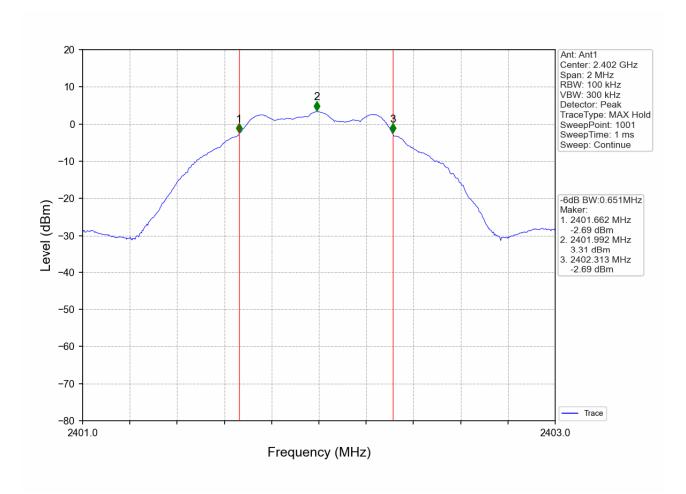
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Test Figure:

1. Condition: Low Channel



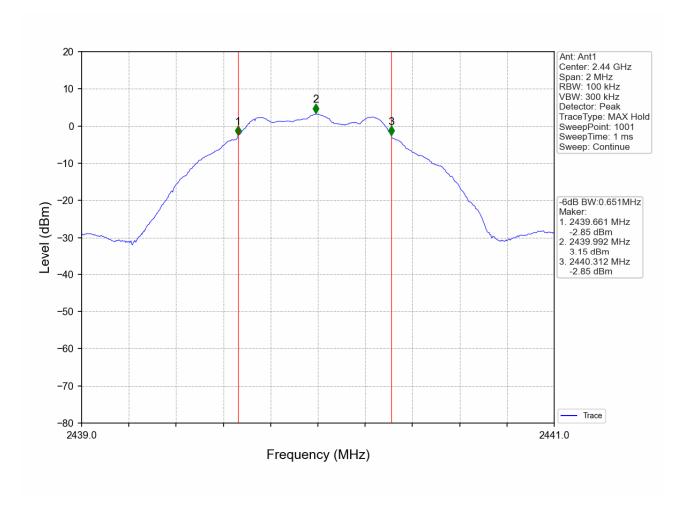
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2. Condition: Middle Channel



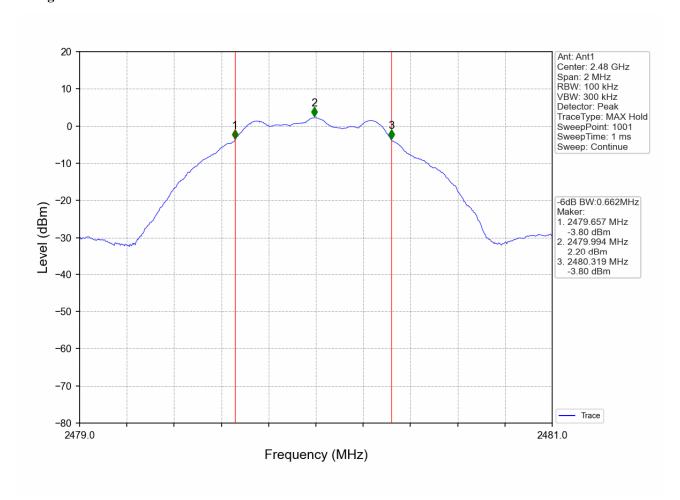
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3. High Channel



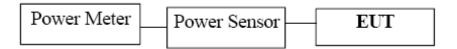
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8. Maximum Output Power

8.1 Test Setup



8.2 Limits of Maximum Output Power

The Maximum Output Power Measurement is 30dBm.

8.3 Test Procedure

The RF power output was measured with a Power meter connected to the RF Antenna connector (conducted measurement) while EUT was operating in transmit mode at the appropriate centre frequency.

Note: the Peak power were measured.

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8.4Test Results

EUT		Game Contr	ontroller Model		CX-299		
Mode	Mode Keep Transmitting		Input Voltage	DC3.7V		7	
Temperatu	mperature 24 deg. C, Humidity			56% RH			
Channel Fro		nannel Frequency	Max. Power Output (dBn		m)	Peak Power Limit	Pass/ Fail
Chamie		(MHz)		Peak		(dBm)	
Low		2402		3.37		30	Pass
Middle		2440	3.20			30	Pass
High		2480		2.26		30	Pass

Note: 1. the result basic equation calculation as follow:

Max. Power Output = Power Reading + Cable loss + Attenuator

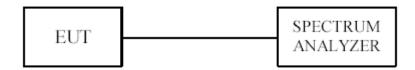
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9. Power Spectral Density Measurement

9.1 Test Setup



9.2 Limits of Power Spectral Density Measurement

The Maximum Power Spectral Density Measurement is 8dBm/3kHz.

9.3 Test Procedure

- 1. Use this procedure when the maximum peak conducted output power in the fundamental emission is used to demonstrate compliance.
- 2. Set the RBW = 3 kHz.
- 3. Set the VBW = 10 kHz.
- 4. Set the span to 1.5 times the DTS channel bandwidth.
- 5. Detector = peak.
- 6. Sweep time = auto couple.
- 7. Trace mode = max hold.
- 8. Allow trace to fully stabilize.
- 9. Use the peak marker function to determine the maximum amplitude level.
- 10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.
- 11. The resulting peak PSD level must be $\leq 8 \text{ dBm/3kHz}$.

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9.4Test Result

EUT Ga		ame Control	ler	Model		CX-299			
Mode	Mode Ke		eep Transmitt	ting	Input Voltage		DC3.7V		
Temperati	emperature 24 deg. C, Humidity		у		56% RH				
	Peak I		Cable	Final Power Spectral		Max	ximum		
Channel	Re	ading	Loss	Density		L	imit	Pass/ Fail	
	(d	lBm)	(dB)	(dBn	n/10kHz) (dB		n/3kHz)		
Low	-1	1.95	0.2	-11.75			8	Pass	
Middle	-1	2.19	0.2	-11.99			8	Pass	
High	-1	2.99	0.2	-	12.79		8	Pass	

Note: The result basic equation calculation as follow:

Peak Power Output = Peak Power Reading + Cable loss

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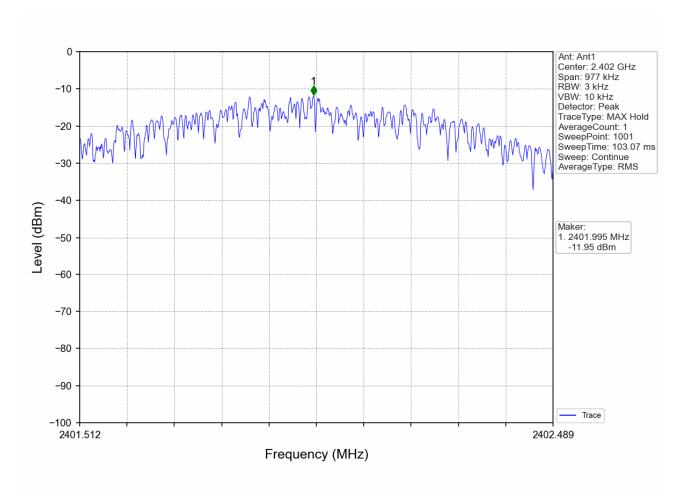
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Test Figure:

1. Condition: Low Channel



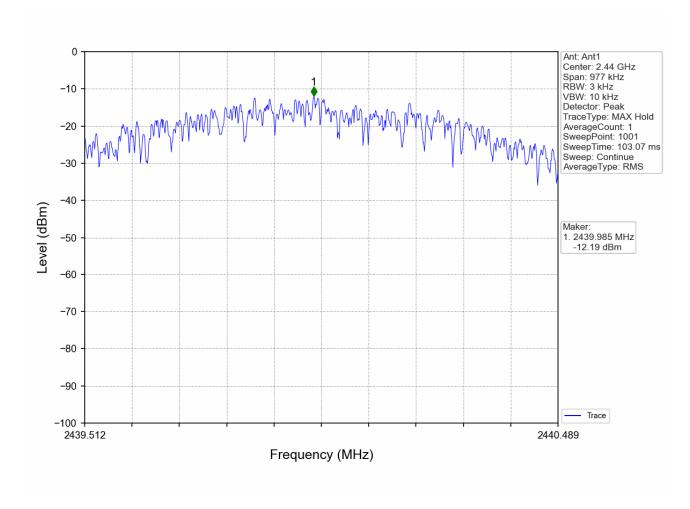
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2. Condition: Middle Channel



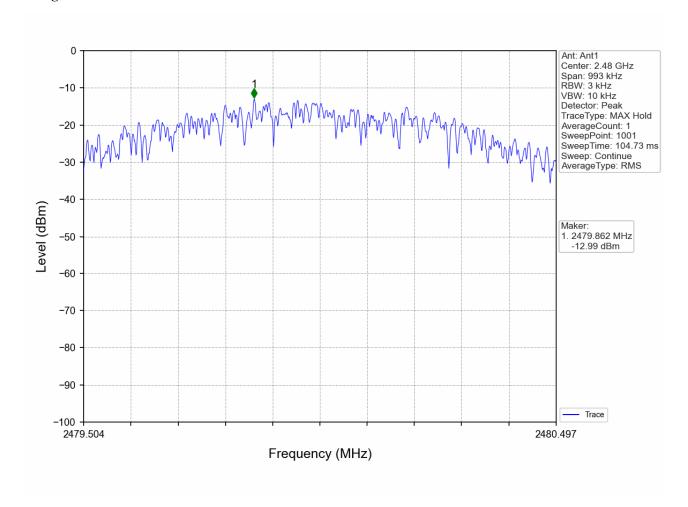
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3. High Channel

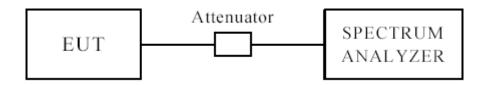


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10 Out of Band Measurement 10.1 Test Setup for band edge



The restricted band requirement based on radiated emission test; please see the clause 6 for the test setup

10.2 Limits of Out of Band Emissions Measurement

- 1. Below –20dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).
- 2. Fall in the restricted bands listed in section 15.205. The maximum permitted average field strength is listed in section 15.209.

10.3 Test Procedure

For signals in the restricted bands above and below the 2.4-2.483GHz allocated band a measurement was made of Radiated emission test. (Peak values with RBW=1MHz, VBW=3MHz and PK detector. AV value with RBW=1MHz, VBW=3MHz and RMS detector)

For bandage test, the spectrum set as follows: RBW=100 kHz, VBW=300 kHz. A conducted measurement used

10.4 Test Result

Please see next pages

Note: For band-edge measurement, the frequency from 30MHz-25GHz was tested. And It met the FCC rule.

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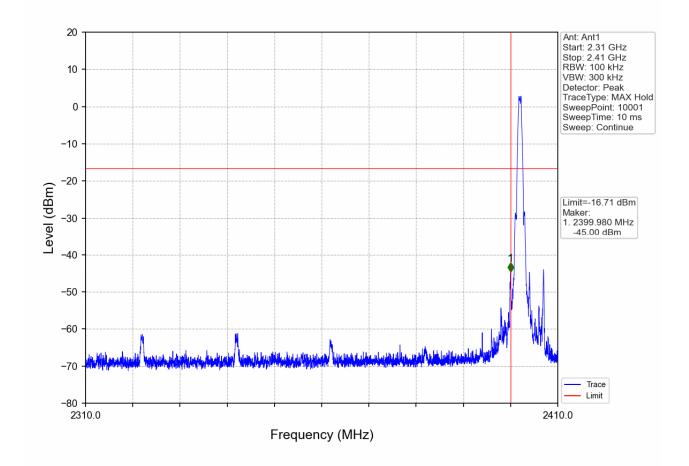
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10.4 Band-edge Measurement

EUT	Game Controller	Model	CX-299
Mode	Keep Transmitting	Input Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



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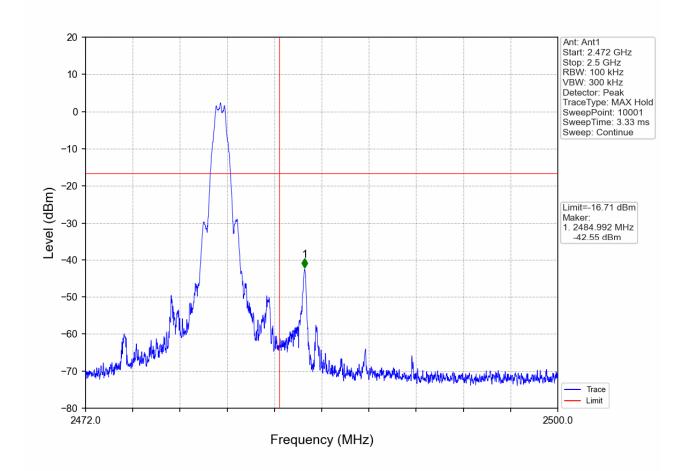
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10.4 Band-edge Measurement

EUT	Game Controller	Model	CX-299
Mode	Keeping Transmitting	Input Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



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10.4 Restricted band Measurement

EUT	Game	Controller	Model	CX-299				
Mode	Кеер Т	Transmitting	Input Voltage	DC3.7V				
Temperature	24	deg. C,	Humidity	56% RH				
Test Result:		Pass	Detector	PK				
	Low Channel, Horizontal							
2390	PK (dBµV/m)	43.30	Timit	$74(dB\mu V/m)$				
	AV (dBμV/m)		Limit	54(dBμV/m)				
	Low Channel, Vertical							
2390	PK (dBµV/m)	42.59	Limit	74(dBμV/m)				
	AV (dBμV/m)		Limit	$54(dB\mu V/m)$				

10.4 Restricted band Measurement

EUT	Gam	e Controller	Model	CX-299			
Mode	Keep	Transmitting	Input Voltage	DC3.7V			
Temperature	24	4 deg. C,	Humidity	56% RH			
Test Result:		Pass	Detector	PK			
High Channel, Horizontal							
2483.5	PK (dBµV/m)	56.15	Limit	$74(dB\mu V/m)$			
	AV (dBμV/m)	47.06	Limit	$54(dB\mu V/m)$			
High Channel, Vertical							
2483.5	PK (dBμV/m)	53.25	T ::4	$74(dB\mu V/m)$			
	AV $(dB\mu V/m)$	44.18	Limit	$54(dB\mu V/m)$			

Note: 1. The measured PK value less than the AV limit, no necessary to take down the AV measurement result.

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11.0 Antenna Requirement

11.1 Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, 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.

And according to FCC 47 CFR Section 15.247 (b), if transmitter antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the mount in dB that the directional gain of the antenna exceeds 6 dBi.

11.2 Antenna Connected construction

PCB antenna with gain -0.58dBi maximum

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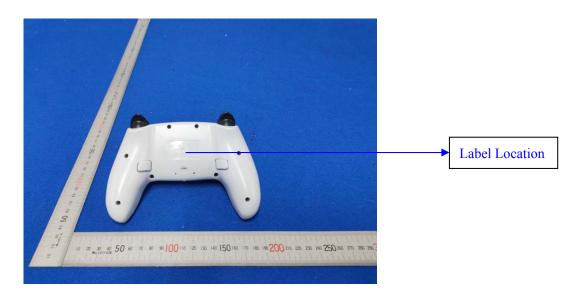


12.0 FCC ID Label

FCC ID: 2A6BTCX-299

The label must not be a stick-on paper label. The label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

Mark Location:



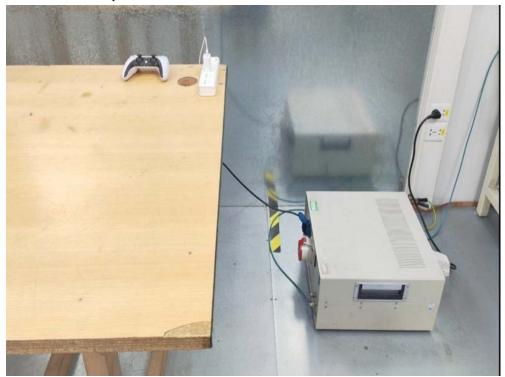
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13.0 Photo of testing

Conducted Emission Test Setup:



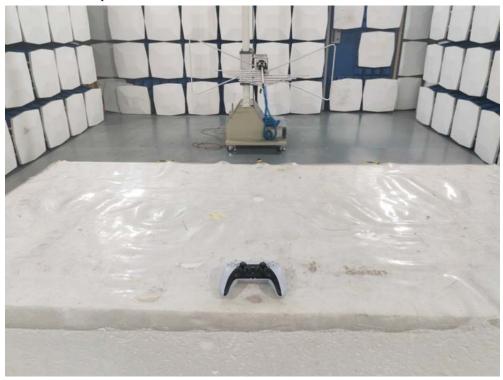
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Radiated Emission Test Setup:





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Outside View



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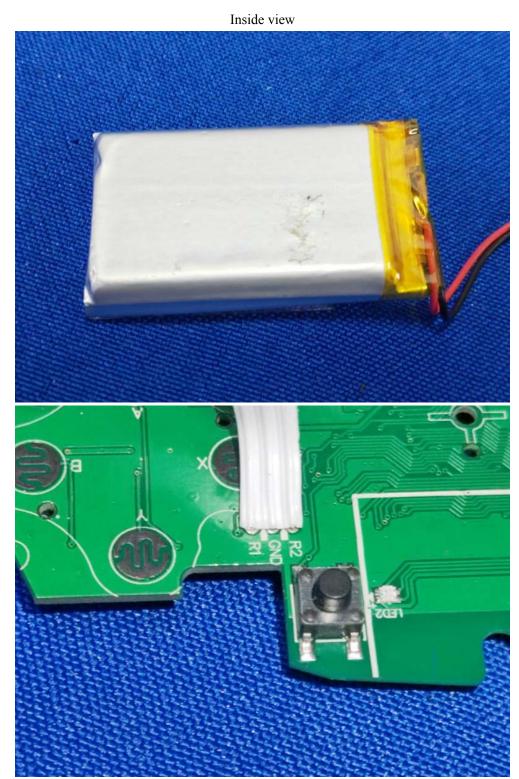
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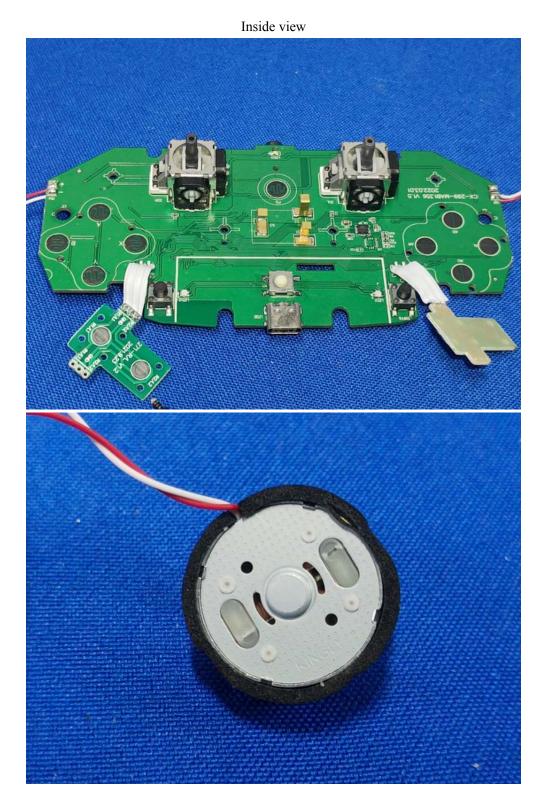
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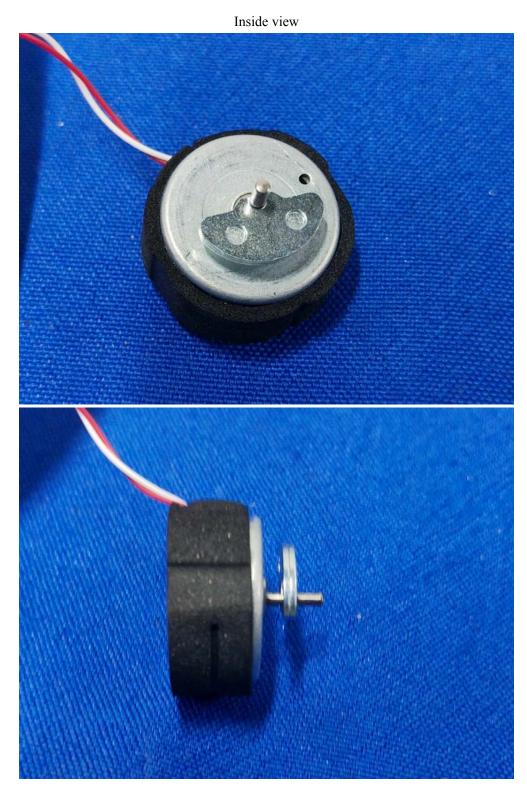
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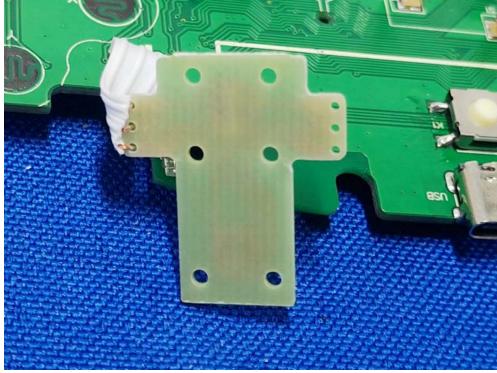
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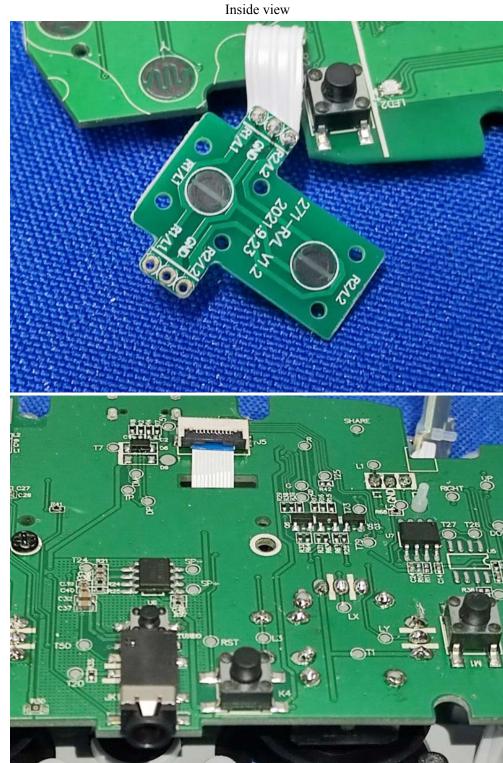
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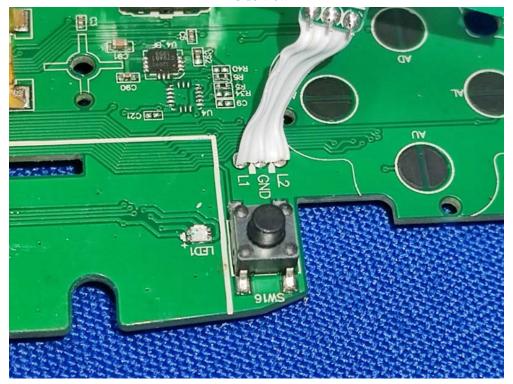
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Inside view



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