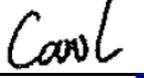
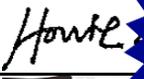
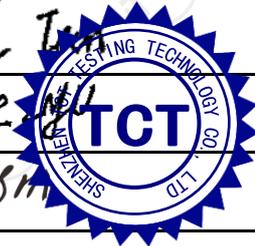


## EMC TEST REPORT

### Multimedia equipment

Test Report No. ....:	TCT230224E001	
Date of issue .....	Mar. 02, 2023	
Testing laboratory.....:	Shenzhen TCT Testing Technology Co., Ltd.	
Testing location/ address.....:	2101 & 2201, Zhenchang Factory, Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China	
Applicant's name .....	Shenzhen Huafurui Technology Co., Ltd	
Address.....:	Unit 1401 & 1402, 14/F, Jinqi Zhigu Mansion (No. 4 Building of Chongwen Garden), Crossing of the Liuxian Street and Tangling Road, Taoyuan Street, Nanshan District, Shenzhen, P.R. China	
Manufacturer's name .....	Shenzhen Huafurui Technology Co., Ltd	
Address.....:	Unit 1401 & 1402, 14/F, Jinqi Zhigu Mansion (No. 4 Building of Chongwen Garden), Crossing of the Liuxian Street and Tangling Road, Taoyuan Street, Nanshan District, Shenzhen, P.R. China	
Standard(s) .....	EN 55032:2015+A11:2020+A1:2020 EN 55035:2017+A11:2020 EN IEC 61000-3-2:2019+A1:2021 EN 61000-3-3:2013+A1:2019+A2:2021	
Test item description.....:	SmartWatch	
Trade Mark.....:	CUBOT	
Model/Type reference .....	C20_Pro	
Rating(s) .....	Battery: DC 3.7 V	
Date of receipt of test item.....:	Feb. 24, 2023	
Date (s) of performance of test:	Feb. 24, 2023 - Mar. 02, 2023	
Tested by (+signature).....:	Carol TAN	
Check by (+signature).....:	Howie LYU	
Approved by (+signature) .....	Tomsin	



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## 1. General Product Information

### 1.1.EUT description

Test item description .....	SmartWatch
Model/Type reference .....	C20_Pro
Rating(s) .....	Battery: DC 3.7 V
Highest internal frequency $F_x$ ..... :	<input type="checkbox"/> $F_x \leq 108$ MHz
	<input type="checkbox"/> $108$ MHz $< F_x \leq 500$ MHz
	<input type="checkbox"/> $500$ MHz $< F_x \leq 1$ GHz
	<input checked="" type="checkbox"/> $F_x > 1$ GHz
DC Line .....	<input type="checkbox"/> Shielded <input checked="" type="checkbox"/> Unshielded, <input checked="" type="checkbox"/> Detachable <input type="checkbox"/> Un-detachable <input type="checkbox"/> No applicable <input checked="" type="checkbox"/> Length: 0.6 m

### 1.2.Model(s) list

None.

## 2. Test Information

### 2.1.EUT operation mode(s)

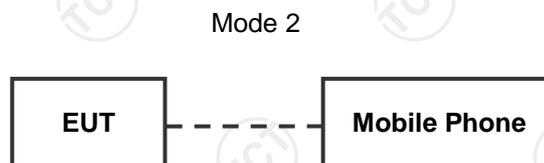
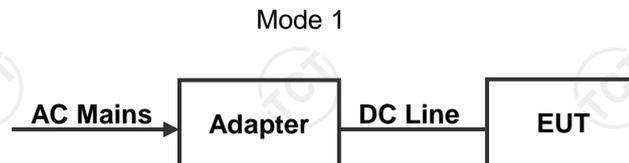
Mode #	Operating mode description	Test voltage
1	Charging	DC 5 V (Adapter Input AC 230 V/ 50 Hz)
2	Normal Operation	DC 3.7 V

Test worst operating mode	
Radiated emission (30 MHz to 1 GHz)	Mode 1
Radiated emission (1 GHz to 6 GHz)	Mode 2
Remark: The worst measurement data and graphical presentation show in this report.	

### 2.2.Special accessories and auxiliary equipment

Product Type	Manufacturer	Model No.	Serial No.
Adapter	SAMSUNG	ETA0U82CBC	RT102C20_ProCS/AE
Mobile Phone	SAMSUNG	SM-G9350	R28HA2ER3GT

### 2.3.Configuration of system under test



(EUT: SmartWatch)

## 2.4. General test conditions

### Environmental reference conditions

The climatic conditions during the tests are within the limits specified by the manufacturer for the operation of the EUT and the test equipment.

The climatic conditions during the tests were within the following limits:

Temperature	Humidity	Atmospheric pressure
15 °C – 35 °C	30 % - 60 %	86 kPa – 106 kPa

If explicitly required in the basic standard or applied product standard the climatic values are recorded and documented separately in this test report.

### Measurement uncertainties

Test Item	Uncertainty
Uncertainty for Disturbance voltage at the mains terminals	3.10 dB
Uncertainty for Disturbance voltage at the telecommunication terminals	4.06 dB
Uncertainty for Radiated emission (30 MHz to 1 GHz)	4.56 dB
Uncertainty for Radiated emission (1 GHz to 6 GHz)	4.22 dB

The overall measurement uncertainty of a measurement is defined as the range of which can be supposed that it contains the true value with a specified probability.

This probability is 95 % for the generally specified measurement uncertainty (so-called expanded measurement uncertainty).

The limits for emission measurements and the Test levels for immunity tests in the applied standards were defined taking into consideration the accuracy limits for measurement and testing equipment required by the Basic standards.

All measurement and test results of the EMC laboratory of Shenzhen TCT Testing Technology Co., Ltd. fulfil the requirements for measurement uncertainties according to the standards applied.

Decision rule for statement(s) of conformity is based on accuracy method specified in Clause 4.4.3 in IEC Guide 115:2021.

### 3. Test Result Summary

EN 55032:2015+A11:2020+A1:2020	
Requirement – Test case	Verdict
Classification Class ( <input type="checkbox"/> A <input checked="" type="checkbox"/> B)	-
Disturbance voltage at mains terminals	Pass
Disturbance voltage at telecommunication terminals	N/A
Disturbance voltage at antenna terminals	N/A
Conducted disturbance between 1 GHz to 18 GHz	N/A
Radiated disturbance 30 MHz –6 GHz	Pass
OUTDOOR UNITS – Limits of radiated disturbance between 1 GHz to 18 GHz	N/A
EN IEC 61000-3-2:2019+A1:2021	
Requirement – Test case	Verdict
Harmonic current emissions	N/A
EN 61000-3-3:2013+A1:2019+A2:2021	
Requirement – Test case	Verdict
Voltage changes, voltage fluctuations and flicker	Pass
EN 55035:2017+A11:2020	
Requirement – Test case	Verdict
Electrostatic discharge immunity (ESD)	Pass
Radiated, radio-frequency, electromagnetic field immunity (RS)	Pass
Electrical fast transient/burst immunity (EFT/B)	Pass
Surge immunity	Pass
Immunity to conducted disturbances, induced by radio-frequency fields (CS)	Pass
Broadband impulse noise disturbances for xDSL ports	N/A
Power frequency magnetic field immunity (PFMF)	Pass
Voltage dips, short interruptions and voltage variations immunity (DIPS)	Pass
Remark:---	

Test case verdicts	
- Test case does not apply to the test object .....	N/A
- Test object does meet the requirement .....	P (Pass)
- Test object does not meet the requirement .....	F (Fail)

## 4. List of Test Equipment

Equipment	Manufacturer	Model No.	Serial No.	Cal. Due
<b>Disturbance voltage at mains terminals</b>				
EMI Test Receiver	R&S	ESCI3	100898	2023/07/03
Line Impedance Stabilisation Newtork(LISN)	Schwarzbeck	NSLK 8126	8126453	2024/02/20
Attenuator	N/A	10dB	164080	2023/07/03
844 Shielded room	SKET	8m*4m*4m	CR4	2024/03/02
Test software	EZ_EMCC	EMEC-3A1	/	/
<b>Disturbance voltage at telecommunication terminals</b>				
EMI Test Receiver	R&S	ESCI3	100898	2023/07/03
Line Impedance Stabilisation Newtork(LISN)	Schwarzbeck	NSLK 8126	8126453	2024/02/20
ISN	Schwarzbeck	CAT5 8158	151	2024/02/20
844 Shielded room	SKET	8m*4m*4m	CR4	2024/03/02
Test software	EZ_EMCC	EMEC-3A1+	/	/
<b>Radiated emission (30 MHz to 1 GHz)</b>				
Broadband Antenna	Schwarzbeck	VULB 9168	01196	2024/02/24
EMI Test Receiver	R&S	ESCI7	100783	2024/02/20
Test software	EZ_EMCC	FA-03A2 RE+	/	/
3m Anechoic Chamber	SKET	9m*6m*6m	SA02	2024/01/25
<b>Radiated emission (1 GHz to 6 GHz)</b>				
Horn Antenna	Schwarzbeck	BBHA 9120 D	02372	2024/02/24
Signal Analyzer	R&S	FSQ40	200061	2023/07/03
Pre-amplifier	SKET	LNPA_0118G-45	SK2021012102	2024/02/20
#3 3m Anechoic Chamber	SKET	9m*6m*6m	SA03	2024/01/25
Test software	EZ_EMCC	FA-03A2 RE+	/	/
<b>Harmonic current emissions &amp; Voltage Fluctuations and Flicker</b>				
AC Power Supply	KIKUSUI	PCR4000M	UC002552	2024/02/20
Harmonic/Flicker Analyzer	KIKUSUI	KHA1000	UD002324	2023/07/03
Line Impedance Network	KIKUSUI	LIN1020JF	UC001738	2023/07/04
Test software	KIKUSUI	HarmoCapture	/	/

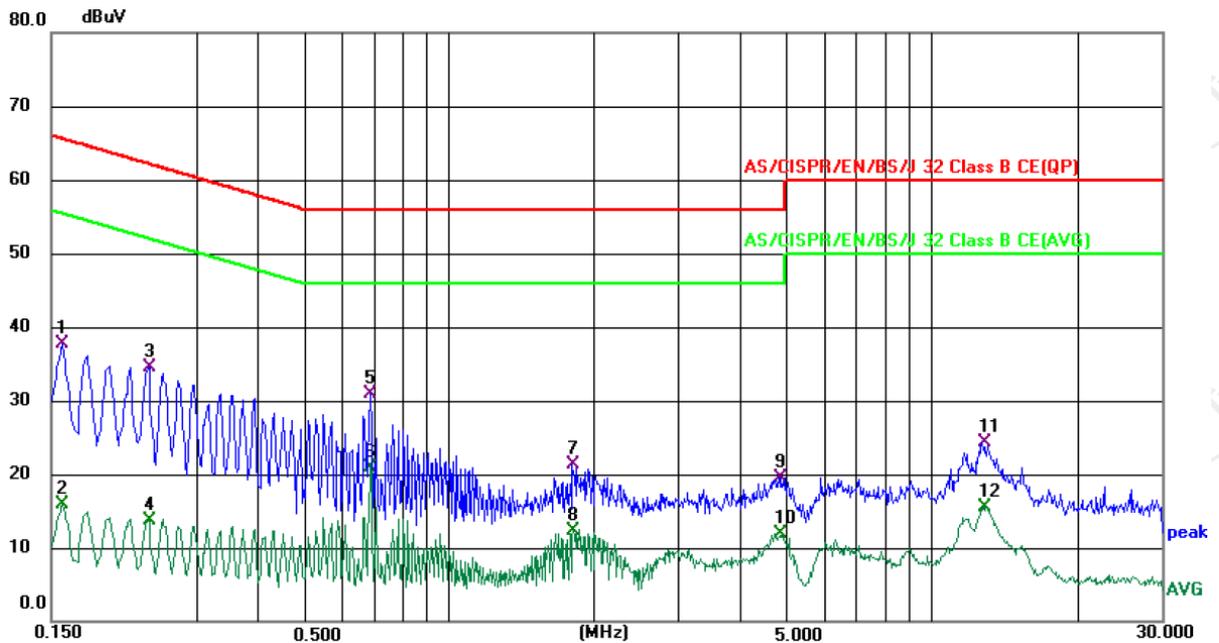
Electrostatic discharge immunity (ESD)				
Electrostatic Discharge Generator	HAEFELY	PESD300	H012056	2023/07/01
Radiated, radio-frequency, electromagnetic field immunity (RS)				
Antenna	SKET	STLP 9129_Plus	/	/
Signal Generator	Agilent	N5181A	MY50141997	2024/02/20
Amplifier	SKET	HAP_80M01G-250W	/	2024/02/23
Amplifier	SKET	HAP_01G03G-75W	202104180	2023/07/03
Amplifier	SKET	HAP_03G06G-80W	202004044	2023/07/03
Field Probe	Narda	EP-601	811ZX01057	2023/07/05
USB Power Sensor	Agilent	U2001A	MY53410013	2024/02/21
USB Power Sensor	Agilent	U2001A	MZ54330012	2024/02/21
743 Anechoic Chamber	SKET	7m*4m*3m	SA04	2024/03/02
Test software	SKET	EMC-S	/	/
Electrical fast transient/burst immunity (EFT/B)				
Fast Transient Burst Simulator	Prima	EFT61004BG	PR12074375	2023/07/03
Capacitive Coupling folder	Prima	EFT-CLAMP	N/A	2024/07/04
Surge immunity				
Lightning Surge Generator	Prima	SUG61005BG	PR12125534	2023/07/03
Immunity to conducted disturbances, induced by radio-frequency fields (CS)				
Conducted Immunity Test System	Schloder	CDG-6000-75	126B1290/2014	2023/05/26
CDN	Schloder	CDN M2+M3-16	A2210281/2014	2023/07/03
EM-Clamp	Schloder	EMCL-20	132A1194/2014	2023/07/03
RF Attenuator	PE	75W 6dB	N/A	2023/07/03
543Shielded room	SKET	5m*4m*3m	SR2	2024/01/25
Test software	HUBERT	IEC/EN61000-4-6	/	/
Power frequency magnetic field immunity (PFMF)				
Power Frequency Magnetic Field Generator	EVERFINE	EMS61000-8K	G121941CS1341114	2023/07/03
Adjustable Magnetic Field Coil	EVERFINE	MFC-4	G1242BBS1341114	2023/07/03
Voltage dips, short interruptions and voltage variations immunity (DIPS)				
Cycle Sag Simulator	Prima	DRP61011AG	PR12106201	2023/07/03

## 5. Test Conditions and Results (Emission)

### 5.1. Disturbance voltage at mains terminals

Test requirement .....	EN 55032:2015+A11:2020+A1:2020		
Test frequency range.....	150 kHz to 30 MHz		
Limits.....	<b>Limits – Class A</b>		
	<b>Frequency (MHz)</b>	<b>dB<math>\mu</math>V Quasi-peak</b>	<b>dB<math>\mu</math>V Average</b>
	0.15 to 0.5	79	66
	0.5 to 30	73	60
	<b>Limits – Class B</b>		
	<b>Frequency (MHz)</b>	<b>dB<math>\mu</math>V Quasi-peak</b>	<b>dB<math>\mu</math>V Average</b>
	0.15 to 0.5	66 to 56	56 to 46
	0.5 to 5	56	46
	5 to 30	60	50
	Test method.....	The AMN placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane. This distance was between the closest points of the AMN and the EUT. All other units of the EUT and associated equipment were at least 0.8 m from the AMN. All power was connected to the system through Artificial Mains Network (AMN). Conducted voltage measurements on mains lines were made at the output of the AMN.	
Ambient temperature.....	25.4 °C		
Relative humidity .....	54 %		
Test location .....	2101 & 2201, Zhenchang Factory, Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China		
Test model(s) .....	C20_Pro		
EUT operation mode.....	Mode 1		
Test results .....	Pass		
Remark.....	/		

## Measurement data and Graphical presentation of the result



Site 844 Shielding Room

Phase: **L1**

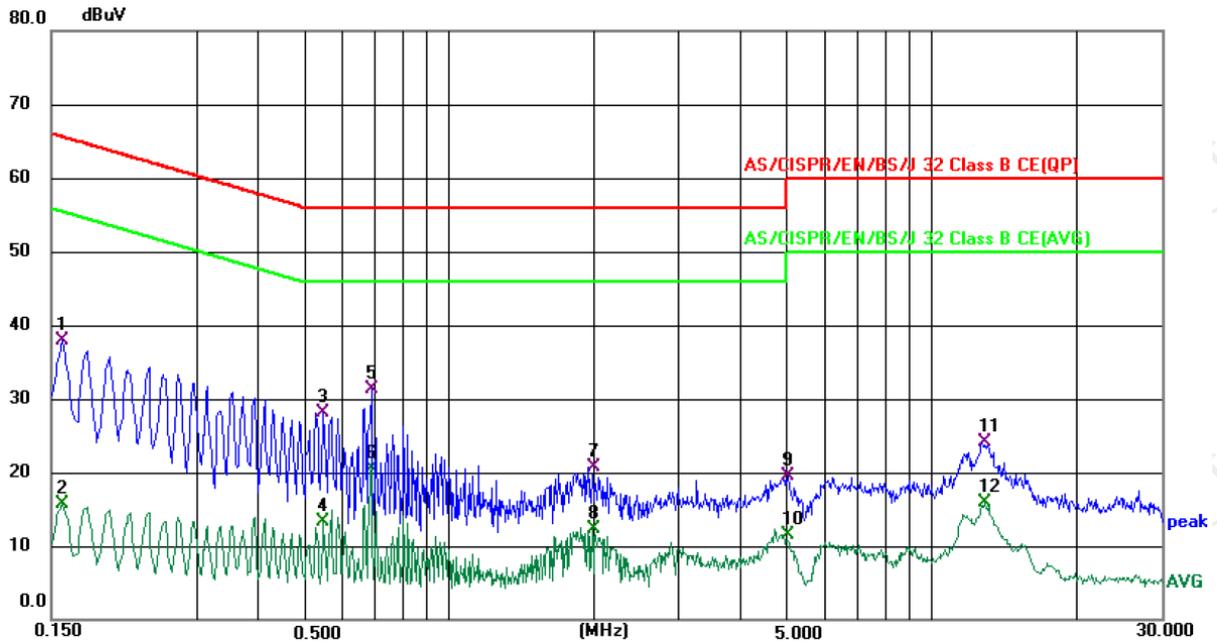
Temperature: 25.4 (°C)

Humidity: 54 %

Limit: AS/CISPR/EN/BS/J 32 Class B CE(QP)

Power: DC 5 V(Adapter Input AC 230V/50Hz)

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1580	27.17	10.53	37.70	65.57	-27.87	QP	
2		0.1580	5.44	10.53	15.97	55.57	-39.60	AVG	
3		0.2379	24.30	10.27	34.57	62.17	-27.60	QP	
4		0.2379	3.50	10.27	13.77	52.17	-38.40	AVG	
5	*	0.6860	20.86	10.10	30.96	56.00	-25.04	QP	
6		0.6860	10.73	10.10	20.83	46.00	-25.17	AVG	
7		1.8100	11.22	10.04	21.26	56.00	-34.74	QP	
8		1.8100	2.33	10.04	12.37	46.00	-33.63	AVG	
9		4.8339	9.44	10.15	19.59	56.00	-36.41	QP	
10		4.8339	1.83	10.15	11.98	46.00	-34.02	AVG	
11		12.8059	14.07	10.27	24.34	60.00	-35.66	QP	
12		12.8059	5.26	10.27	15.53	50.00	-34.47	AVG	



Site 844 Shielding Room

Phase: *N*

Temperature: 25.4 (°C)

Humidity: 54 %

Limit: AS/CISPR/EN/BS/J 32 Class B CE(QP)

Power: DC 5 V(Adapter Input AC 230V/50Hz)

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1580	27.43	10.45	37.88	65.57	-27.69	QP	
2		0.1580	5.18	10.45	15.63	55.57	-39.94	AVG	
3		0.5500	18.04	10.12	28.16	56.00	-27.84	QP	
4		0.5500	3.23	10.12	13.35	46.00	-32.65	AVG	
5	*	0.6900	21.17	10.10	31.27	56.00	-24.73	QP	
6		0.6900	10.35	10.10	20.45	46.00	-25.55	AVG	
7		1.9860	10.60	10.12	20.72	56.00	-35.28	QP	
8		1.9860	2.17	10.12	12.29	46.00	-33.71	AVG	
9		5.0500	9.34	10.17	19.51	60.00	-40.49	QP	
10		5.0500	1.39	10.17	11.56	50.00	-38.44	AVG	
11		12.9180	13.68	10.37	24.05	60.00	-35.95	QP	
12		12.9180	5.59	10.37	15.96	50.00	-34.04	AVG	

## 5.2. Disturbance voltage at telecommunication terminals

Test requirement .....	EN 55032:2015+A11:2020+A1:2020				
Test frequency range.....	150 kHz to 30 MHz				
Limits.....	<b>Limits – Class A</b>				
	<b>Frequency</b>	<b>Voltage Limits</b>		<b>Current Limits</b>	
	<b>MHz</b>	<b>dB<math>\mu</math>V Quasi-peak</b>	<b>dB<math>\mu</math>V Average</b>	<b>dB<math>\mu</math>V Quasi-peak</b>	<b>dB<math>\mu</math>V Average</b>
	0.15 to 0.5	97 to 87	84 to 74	53 to 43	40 to 30
	0.5 to 30	87	74	43	30
	<b>Limits – Class B</b>				
	<b>Frequency</b>	<b>Voltage Limits</b>		<b>Current Limits</b>	
	<b>MHz</b>	<b>dB<math>\mu</math>V Quasi-peak</b>	<b>dB<math>\mu</math>V Average</b>	<b>dB<math>\mu</math>V Quasi-peak</b>	<b>dB<math>\mu</math>V Average</b>
	0.15 to 0.5	84 to 74	74 to 64	40 to 30	30 to 20
	0.5 to 30	74	64	30	20
Test method.....	The AMN placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane. This distance was between the closest points of the AMN and the EUT. All other units of the EUT and associated equipment were at least 0.8 m from the AMN. All power was connected to the system through Artificial Mains Network (AMN). Conducted voltage measurements on mains lines were made at the output of the AMN.				
Ambient temperature.....	/				
Relative humidity .....	/				
Test location .....	/				
Test model(s) .....	/				
EUT operation mode.....	/				
Test results .....	N/A				
Remark.....	According to the electrical construction of the EUT, there is no AC terminal incorporated. Therefore this test is not applicable for this EUT.				

### 5.3. Disturbance voltage at antenna terminals

Test requirement .....	EN 55032:2015+A11:2020+A1:2020						
Test frequency range...	30 MHz to 2150 MHz						
Limits.....	Table clause	Frequency range (MHz)	Detector type/ bandwidth	Class B limits dB $\mu$ V 75 $\Omega$			
				Other	Local Oscillator Fundamental	Local Oscillator Harmonics	
	a	30 to 950	For frequencies $\geq 1$ GHz QP/120 kHz	46	46	46	
		950 to 2150		46	54	54	
	b	950 to 2150		46	54	54	
	c	30 to 300		46	54	50	
		300 to 1000				52	
	d	30 to 300		For frequencies $\geq 1$ GHz Peak/1 MHz	46	66	59
		300 to 1000					52
	e	30 to 950		46	76	46	
950 to 2150		n/a				54	
<p>a Television receivers (analogue or digital), video recorders and PC TV broadcast receiver tuner cards working in channels between 30 MHz and 1 GHz, and digital audio receivers.</p> <p>b Tuner units (not the LNB) for satellite signal reception.</p> <p>c Frequency modulation audio receivers and PC tuner cards.</p> <p>d Frequency modulation car radios.</p> <p>e Applicable to EUTs with RF modulator output ports (for example DVD equipment, video recorders, camcorders and decoders etc.) designed to connect to TV broadcast receiver tuner ports. Limits specified for the LO are for the RF modulator carrier signal and harmonics.</p>							
Test method.....	<p>The measurement was performed in accordance with the requirement set in clause 5.4. The antenna terminal of the sample and the signal generator were connected to the EMI receiver by means of coaxial cables and a resistive combining network having a minimum attenuation of 6dB.</p> <p>The following results were those measured accordingly.</p>						
Ambient temperature...	/						
Relative humidity .....	/						
Test location .....	/						
Test model(s) .....	/						
EUT operation mode....	/						
Test results .....	N/A						
Remark.....	This test isn't applicable because the EUT doesn't have relative function.						

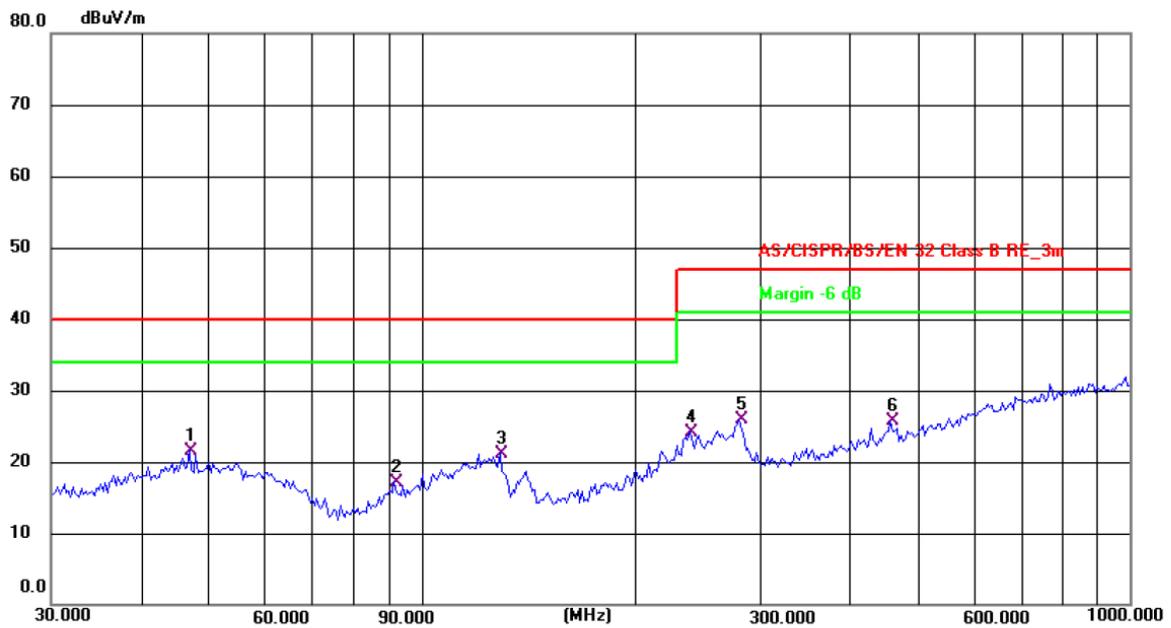
### 5.4. Conducted disturbance between 1 GHz to 18 GHz

Test requirement .....	EN 55032:2015+A11:2020+A1:2020	
Test frequency range.....	1 GHz to 18 GHz	
Limits.....	<b>Frequency (GHz)</b>	<b>Power Limits (dBpW)</b>
		<b>Average</b>
	1 to 18	30
Test method.....	In the case of a detachable feed horn, the radiated emission of the LO leakage within 7° of the main beam axis can be measured directly by a power measurement at the feed horn interface. If a suitable interface (typically types R120, C120) is available, a power meter or spectrum analyzer can be connected to the LNB via a suitable adapter. Due allowance shall be made for the feed losses between the available interface and the antenna flange.	
Ambient temperature.....	/	
Relative humidity .....	/	
Test location .....	/	
Test model(s) .....	/	
EUT operation mode.....	/	
Test results .....	N/A	
Remark.....	This test isn't applicable because the EUT doesn't have relative function.	

### 5.5. Radiated emission

Test requirement .....	EN 55032:2015+A11:2020+A1:2020		
Test frequency range.:	30 MHz to 6 GHz		
Limits.....	<b>Limits – Class A (OATS or SAC)</b>		
	Frequency (MHz)	10 m measurement distance	3 m measurement distance
		dB $\mu$ V/m	
	30 to 230	40 Quasi-peak	50 Quasi-peak
	230 to 1000	47 Quasi-peak	57 Quasi-peak
	<b>Limits – Class B (OATS or SAC)</b>		
	Frequency (MHz)	10 m measurement distance	3 m measurement distance
		dB $\mu$ V/m	
	30 to 230	30 Quasi-peak	40 Quasi-peak
	230 to 1000	37 Quasi-peak	47 Quasi-peak
	<b>Limits – Class A (FSOATS)</b>		
	Frequency (MHz)	Peak	Average
		dB $\mu$ V/m	
	1000 to 6000	80	60
<b>Limits – Class B (FSOATS)</b>			
Frequency (MHz)	Peak	Average	
	dB $\mu$ V/m		
1000 to 6000	74	54	
Test method.....	Measurements were made in a 3/10-meter semi-anechoic chamber that complies to CISPR 16. Preliminary (peak) measurements were performed at an antenna to EUT separation distance of 3/10 meters with the receive antenna located at 1 to 4-meter height in both horizontal and vertical polarities. Final measurements (quasi-peak) were then performed by rotating the EUT 360° and adjusting the receive antenna height from 1 to 4-meters. All frequencies were investigated in both horizontal and vertical antenna polarity, where applicable.		
Ambient temperature.:	24.8 °C		
Relative humidity .....	52 %		
Test location .....	2101 & 2201, Zhenchang Factory, Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China		
Test model(s) .....	C20_Pro		
EUT operation mode..:	Mode 1, Mode 2		
Test results .....	Pass		
Remark.....	/		

## Measurement data and Graphical presentation of the result



Site: #1 3m Anechoic Chamber

Polarization: **Horizontal**

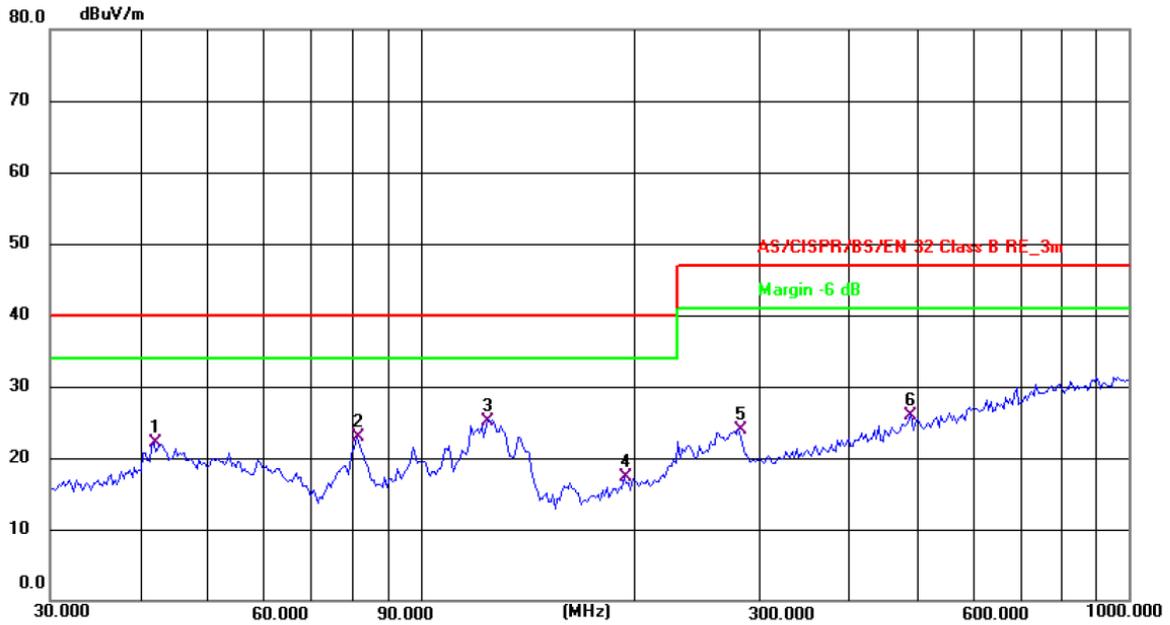
Temperature: 24.8(C)

Humidity: 52 %

Limit: AS/CISPR/BS/EN 32 Class B RE\_3m

Power: DC 5 V(Adapter Input AC 230 V/50 Hz)

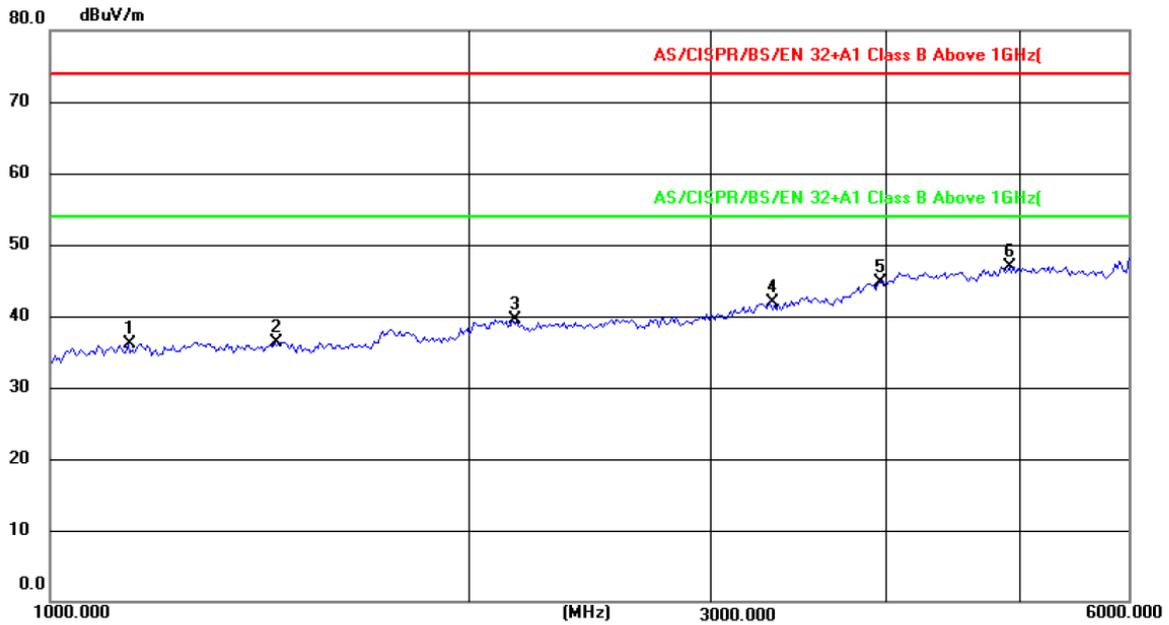
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1 *	46.9948	7.59	13.95	21.54	40.00	-18.46	QP	P	
2	91.4949	6.56	10.55	17.11	40.00	-22.89	QP	P	
3	129.0146	12.58	8.62	21.20	40.00	-18.80	QP	P	
4	239.1473	11.16	13.00	24.16	47.00	-22.84	QP	P	
5	281.0075	11.92	13.92	25.84	47.00	-21.16	QP	P	
6	459.1144	8.00	17.62	25.62	47.00	-21.38	QP	P	



Site: #1 3m Anechoic Chamber      Polarization: **Vertical**      Temperature: 24.8(C)      Humidity: 52 %

Limit: AS/CISPR/BS/EN 32 Class B RE\_3m      Power: DC 5 V(Adapter Input AC 230 V/50 Hz)

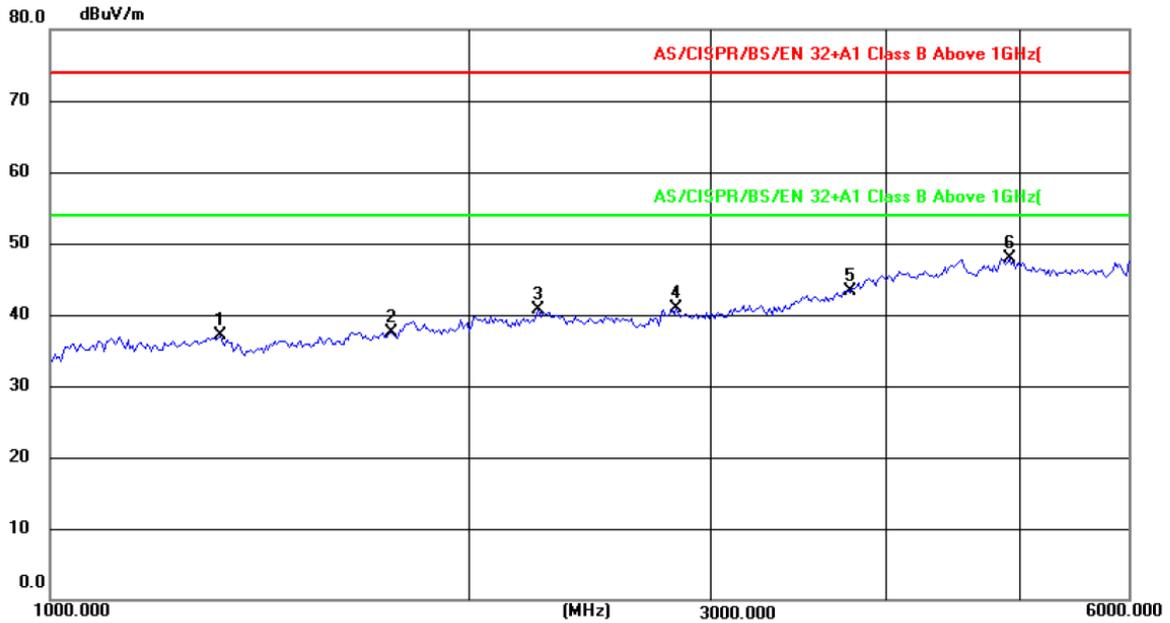
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	42.0066	8.46	13.64	22.10	40.00	-17.90	QP	P	
2	81.2117	14.74	8.15	22.89	40.00	-17.11	QP	P	
3 *	124.5690	16.05	9.15	25.20	40.00	-14.80	QP	P	
4	193.7728	5.96	11.35	17.31	40.00	-22.69	QP	P	
5	281.0075	10.07	13.92	23.99	47.00	-23.01	QP	P	
6	492.4685	7.55	18.29	25.84	47.00	-21.16	QP	P	



Site: #1 3m Anechoic Chamber      Polarization: **Horizontal**      Temperature: 24.8(C)      Humidity: 52 %

Limit: AS/CISPR/BS/EN 32+A1 Class B Above 1GHz(      Power: DC 3.7 V

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	1137.992	48.39	-12.34	36.05	74.00	-37.95	peak	P	
2	1452.713	48.05	-11.73	36.32	74.00	-37.68	peak	P	
3	2156.335	48.20	-8.75	39.45	74.00	-34.55	peak	P	
4	3305.882	46.84	-4.94	41.90	74.00	-32.10	peak	P	
5	3970.249	42.77	1.95	44.72	74.00	-29.28	peak	P	
6 *	4924.737	41.89	4.97	46.86	74.00	-27.14	peak	P	



Site: #1 3m Anechoic Chamber      Polarization: **Vertical**      Temperature: 24.8(C)      Humidity: 52 %

Limit: AS/CISPR/BS/EN 32+A1 Class B Above 1GHz(      Power: DC 3.7 V

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	1327.988	49.04	-11.88	37.16	74.00	-36.84	peak	P	
2	1763.553	49.77	-12.18	37.59	74.00	-36.41	peak	P	
3	2251.278	48.93	-8.24	40.69	74.00	-33.31	peak	P	
4	2832.906	47.16	-6.27	40.89	74.00	-33.11	peak	P	
5	3762.067	44.02	-0.80	43.22	74.00	-30.78	peak	P	
6 *	4924.737	42.89	4.97	47.86	74.00	-26.14	peak	P	

**5.6. OUTDOOR UNITS – Limits of radiated disturbance between 1 GHz to 18 GHz**

Test requirement .....	EN 55032:2015+A11:2020+A1:2020	
Test frequency range.:	1 GHz to 18 GHz	
Limits.....:	<b>Limits – LO leakage and spurious radiated emissions from the EUT, in the region outside +/- 7° of the main beam axis.</b>	
	<b>Frequency (GHz)</b>	<b>Class B limits (dBµV/m)</b>
		<b>Average</b>
	1 to 2.5	50
	2.5 to 18	64
	<b>Limits – LO leakage from the EUT, in the region within +/- 7° of the main beam axis.</b>	
<b>Frequency (GHz)</b>	<b>Class B limits (dBµV/m)</b>	
	<b>Average</b>	
	1 to 18	70
Test method.....:	Measurements were made in a 3-meter Open Area Test Site that complies to CISPR 16. Preliminary (peak) measurements were performed at an antenna to EUT separation distance of 3 meter above 1GHz. The EUT was rotated 360° with the receive antenna located in horizontal and vertical polarities. Final measurements (average detector above 1GHz) were then performed by rotating the EUT 360°. All frequencies were investigated in both horizontal and vertical antenna polarity, where applicable.	
Ambient temperature.:	/	
Relative humidity .....	/	
Test location .....	/	
Test model(s) .....	/	
EUT operation mode..:	/	
Test results .....	N/A	
Remark.....:	This test isn't applicable because the EUT doesn't have relative function.	

### 5.7. Harmonic current emissions

<b>Test requirement</b> .....	EN IEC 61000-3-2:2019+A1:2021		
<b>Limit classification in accordance with the standard</b> .....	<b>Limits - Class A equipment</b>		
	<b>Odd harmonics</b>		
	<b>Harmonic order (n)</b>	<b>Maximum permissible harmonic current (A)</b>	
	3	2.30	
	5	1.14	
	7	0.77	
	9	0.40	
	11	0.33	
	13	0.21	
	$15 \leq n \leq 39$	$0.15 \times 15/n$	
	<b>Even harmonics</b>		
	2	1.08	
	4	0.43	
	6	0.30	
	$8 \leq n \leq 40$	$0.23 \times 8/n$	
	<b>Limits - Class D equipment</b>		
	<b>Harmonic order (n)</b>	<b>Maximum permissible harmonic current per watt Ma/W</b>	<b>Maximum permissible harmonic current A</b>
3	3.4	2.30	
5	1.9	1.14	
7	1.0	0.77	
9	0.5	0.40	
11	0.35	0.33	
$13 \leq n \leq 39$	$3.85/n$	See Class A limits	
<b>Test method</b> .....	This test consists on the measurement of harmonics components of the input current which may be produced by equipment having an input current up to and including 16 A per phase, and intended to be connected to public low-voltage distribution systems. The equipment is tested under specified conditions of operation.		
<b>Ambient temperature</b> .....	/		
<b>Relative humidity</b> .....	/		
<b>Test location</b> .....	/		
<b>Test model(s)</b> .....	/		
<b>EUT operation mode</b> .....	/		
<b>Test results</b> .....	N/A		
<b>Remark</b> .....	According to the electrical construction of the EUT, there is no AC terminal incorporated. Therefore this test is not applicable for this EUT.		

### 5.8.Voltage changes, voltage fluctuations and flicker

<b>Test requirement</b> .....	EN 61000-3-3:2013+A1:2019+A2:2021
<b>Applied limit</b> .....	<p>The value of <math>P_{st}</math> shall be not greater than 1.0  The value of <math>P_{lt}</math> shall be not greater than 0.65  The value of <math>d(t)</math> during a voltage change shall not exceed 3.3 % for more than 500 ms  The relative steady-state voltage change, <math>d_c</math> shall not exceed 3.3 %  The maximum relative voltage change <math>d_{max}</math> shall not exceed:</p> <p>a) 4 % without additional conditions  b) 6 % for equipment which is:</p> <ul style="list-style-type: none"> <li>- switched manually, or</li> <li>- switched automatically more frequently than twice per day, and also has either a delayed restart (the delay being not less than a few tens of seconds), or manual restart, after a power supply interruption</li> </ul> <p>c) 7 % for equipment which is</p> <ul style="list-style-type: none"> <li>- attended whilst in use (for example : hair dryers, vacuum cleaners, kitchen equipment such as mixers, garden equipment such as mowers, portable tools such as electric drills), or</li> <li>- switched on automatically, or is intended to be switched on manually, no more than twice per day, and also has either a delayed restart (the delay being not less than a few tens of seconds) or manual restart, after a power supply interruption.</li> </ul>
<b>Test method</b> .....	This test consists on the measurement of voltage changes, voltage fluctuations and flicker which may be produced by equipment having an input current $\leq 16$ A per phase, and intended to be connected to public low-voltage distribution systems. The equipment is tested under specified conditions of operation.
<b>Observation time</b> .....	10 Minutes
	120 Minutes
	24 times switching according to Annex B
<b>Ambient temperature</b> .....	22.5 °C
<b>Relative humidity</b> .....	45 %
<b>Test location</b> .....	2101 & 2201, Zhenchang Factory, Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China
<b>Test model(s)</b> .....	C20_Pro
<b>EUT operation mode</b> .....	Mode 1
<b>Test results</b> .....	Pass
<b>Remark</b> .....	/

## Measurement data of the result

### Test Data of Voltage Fluctuation and Flicker

Final Test Result **Pass**  
 Nominal Voltage 230 V  
 Nominal Frequency 50 Hz  
 Plt Test Duration 600 s  
 Flicker Margin 100 %  
 d Measurement Margin 100 %

Segment	Pst	dmax(%)	dc(%)	Tmax(ms)	Judge
Limit	1.000	4.000	3.300	500	
Seg. 1	0.012	0.039	0.013	0	Pass

Plt	Value	Judge
Limit	0.650	
Measurement	0.005	Pass

## 6. Test Conditions and Results (Immunity)

### 6.1. General information

Performance criteria as defined by the standard	
Criterion	Description from standard
A	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 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.
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.
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.

## 6.2. Electrostatic discharge immunity

Test requirement .....	EN 55035:2017+A11:2020	
Basic standard .....	EN 61000-4-2:2009	
Test level .....	<b>Discharge type</b>	<b>Discharge voltage</b>
	Contact discharge voltage	± 4 kV
	Air discharge voltage	± 8 kV
Storage capacitor .....	150 pF	
Discharge resistor .....	330 Ω	
Horizontal coupling plate .....	1.6 x 0.8 m	
Vertical coupling plate .....	0.5 x 0.5 m	
Number of discharges .....	Min. 10 per discharge location	
Discharge interval .....	1 second	
Performance criteria .....	B	
Test method .....	The table-top equipment under test is placed on a wooden table, 0.8 m high, standing on the ground reference plane. A horizontal coupling plane (HCP), 1.6 x 0.8 m, is placed on the table. The EUT and the cables are isolated from the coupling plane by an insulating support 0.5 mm thick. The floor standing equipment is isolated from the ground reference plane by an insulating support about 0.1 m thick. The vertical coupling plane (VCP) of dimensions 0.5 m x 0.5 m is placed parallel to, and positioned at a distance of 0.1 m from, the EUT.	
Ambient temperature .....	22.3 °C	
Relative humidity .....	45 %	
Air pressure .....	100.3 kPa	
Test location .....	2101 & 2201, Zhenchang Factory, Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China	
Test model(s) .....	C20_Pro	
EUT operation mode .....	Mode 1, Mode 2	
Test results .....	Pass	
Remark .....	/	

### 6.2.1. Test results for electrostatic discharges

Photos of selected test points:

(  Air Discharge)

(  Contact Discharge)



Contact discharges			
Test point	Positive polarity	Negative polarity	Observations
	4 kV	4 kV	
VCP- Four Sides	Pass	Pass	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3
HCP- Four Sides	Pass	Pass	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3
Points on conductive surface as indicated in the picture above	Pass	Pass	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3

Air discharges			
Test point	Positive polarity	Negative polarity	Observations
	8 kV	8 kV	
Points on non-conductive surface as indicated in the picture above	Pass	Pass	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3

### 6.2.2. Test results of observations description

/ - Not performed or not required.
1 -No obvious change of function was found after the test.
2 -The function stopped during the test, but can be recoverable by itself operation after the test.
3 -The function stopped during the test, but can be recoverable manually after the test.

### 6.3.Radiated, radio-frequency, electromagnetic field immunity

Test requirement .....	EN 55035:2017+A11:2020		
Basic standard .....	EN IEC 61000-4-3:2020		
Test level .....	<b>Frequency (MHz)</b>	<b>Field strength</b>	<b>Modulation</b>
	80 to1000	3 V/m (r.m.s.) (unmodulated)	80% AM (1 kHz)
	1800	3 V/m (r.m.s.) (unmodulated)	80% AM (1 kHz)
	2600	3 V/m (r.m.s.) (unmodulated)	80% AM (1 kHz)
	3500	3 V/m (r.m.s.) (unmodulated)	80% AM (1 kHz)
	5000	3 V/m (r.m.s.) (unmodulated)	80% AM (1 kHz)
Dwell time .....	2; 5 second		
Step size .....	1 %		
Distance antenna to EUT.....	3 m		
Performance criteria.....	A		
Test method.....	Measurements were made in a fully anechoic chamber and the indicated field strength was pre-calibrated prior to placement of the system under test. Tests were performed in both the horizontal and vertical polarities, where applicable. The antenna was placed 3 meters from the product under test. All sides of the EUT were investigated for anomalies.		
Ambient temperature.....	22.3 °C		
Relative humidity .....	45 %		
Air pressure.....	100.3 kPa		
Test location .....	2101 & 2201, Zhenchang Factory, Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China		
Test model(s) .....	C20_Pro		
EUT operation mode.....	Mode 1, Mode 2		
Test results .....	Pass		
Remark.....	/		

### 6.3.1. Test results for radio-frequency electromagnetic field

Frequency	EUT side	Antenna polarity	Field strength	Observation	Results
<input checked="" type="checkbox"/> 80 MHz to 1 GHz <input checked="" type="checkbox"/> 1.8 GHz <input checked="" type="checkbox"/> 2.6 GHz <input checked="" type="checkbox"/> 3.5 GHz <input checked="" type="checkbox"/> 5 GHz	Front	Horizontal	3 V/m	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	Pass
	Left Side	Horizontal	3 V/m	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	Pass
	Right Side	Horizontal	3 V/m	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	Pass
	Rear	Horizontal	3 V/m	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	Pass
	Front	Vertical	3 V/m	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	Pass
	Left Side	Vertical	3 V/m	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	Pass
	Right Side	Vertical	3 V/m	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	Pass
	Rear	Vertical	3 V/m	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	Pass

### 6.3.2. Test results of observations description

/ - Not performed or not required.

1 –No obvious change of function was found after the test.

2 –The function stopped during the test, but can be recoverable by itself operation after the test.

3 –The function stopped during the test, but can be recoverable manually after the test.

### 6.4. Electrical fast transient/burst immunity

Test requirement .....	EN 55035:2017+A11:2020	
Basic standard .....	EN 61000-4-4:2012	
Test level .....	<b>Measurement port</b>	<b>Voltage</b>
	Input a.c. power ports	±1 kV
	Input d.c. power ports	±0.5 kV
	Analogue/digital data ports	±0.5 kV
	xDSI	±0.5 kV
Burst duration .....	15 ms	
Burst period .....	300 ms	
Repetition frequency .....	5 kHz or 100 kHz	
Test time .....	2 minutes per level & polarity	
Performance criteria .....	B	
Test method .....	Measurements were made on a ground plane that extends 0.5-meter minimum beyond all sides of the system under test. Mains power tests were conducted with the product connected to a Coupling/Decoupling Network (CDN). One of each unique interface was tested for a period of 2 minute per polarity. The bursts are applied on the mains supply port by using a coupling decoupling network and on signal and control lines ports by using a capacitive clamp.	
Ambient temperature .....	22.5 °C	
Relative humidity .....	45 %	
Air pressure .....	100.3 kPa	
Test location .....	2101 & 2201, Zhenchang Factory, Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China	
Test model(s) .....	C20_Pro	
EUT operation mode .....	Mode 1	
Test results .....	Pass	
Remark .....	/	

**6.4.1. Test results for electrical fast transient/burst**

Measurement port	Level	Polarity	Observation	Results
AC power port	1 kV	Positive & Negative	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	Pass

**6.4.2. Test results of observations description**

/ - Not performed or not required.
1 –No obvious change of function was found after the test.
2 –The function stopped during the test, but can be recoverable by itself operation after the test.
3 –The function stopped during the test, but can be recoverable manually after the test.

## 6.5.Surge immunity

Test requirement .....	EN 55035:2017+A11:2020		
Basic standard .....	EN 61000-4-5:2014+A1:2017		
Test level .....	<b>Measurement port</b>	<b>Coupling point</b>	<b>Open-circuit peak voltage</b>
	Input a.c. power ports	Line to line	±1 kV
		Line to earth	±2 kV
	Input d.c. power ports	Line to earth	±0.5 kV
	Analogue/digital data ports (a), (b)	Line to earth	±1 kV and ±4 kV Apply when primary protection is intended
	Analogue/digital data ports (b)	Line to earth	±1 kV Apply when primary protection is not intended
	Analogue/digital data ports coaxial or shielded (c)	Line to earth	±0.5 kV
Supplementary information: (a): Surges are applied with primary protection fitted. Where possible, use the actual primary protector intended to be used in the installation. (b): Where the surge coupling network for the 10/700 (5/320) μ s waveform affects the functioning of high speed data ports, the test shall be carried out using a 1.2/50 (8/20) μ s waveform and appropriate coupling network. (c) Surges are applicable to ports which satisfy all the following conditions: -may connect directly to cables that leave the building structure, -defined as an antenna port (3.1.3), a wired network port (3.1.34), or a broadcast receiver tuner port (3.1.8).			
Repetition rate .....	1/min		
Phase angles .....	Positive pulses are applied 90° and negative pulses are applied 270°		
Number of pulses for each coupling .....	5		
Performance criteria .....	B		
Test method .....	Mains power tests were conducted with the product connected to a Coupling/Decoupling Network (CDN). The test voltage was increased from the lowest indicated level up to the maximum level. Five positive polarity pulses at the 90° phase angle, five negative polarity pulses at the 270° phase angle. Each surge was applied 60 seconds after the previous surge. Signal and Telecommunications ports were subject to five (5) positive and five (negative) surges applied through the appropriate Coupling/Decoupling Network (CDN).		
Ambient temperature .....	22.5 °C		
Relative humidity .....	45 %		
Air pressure .....	100.3 kPa		
Test location .....	2101 & 2201, Zhenchang Factory, Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China		
Test model(s) .....	C20_Pro		
EUT operation mode .....	Mode 1		
Test results .....	Pass		
Remark .....	/		

**6.5.1. Test results for surge**

Measurement port		Level	Polarity	Observation	Results
AC power port	L-N	1 kV	Positive	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	Pass
			Negative	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	Pass

**6.5.2. Test results of observations description**

/ - Not performed or not required.
1 –No obvious change of function was found after the test.
2 –The function stopped during the test, but can be recoverable by itself operation after the test.
3 –The function stopped during the test, but can be recoverable manually after the test.

### 6.6. Immunity to conducted disturbances, induced by radio-frequency fields

Test requirement .....	EN 55035:2017+A11:2020	
Basic standard .....	EN 61000-4-6:2014	
Frequency range .....	150 kHz to 80 MHz	
Test level .....	<b>Measurement port</b>	<b>Frequency range / discrete frequencies</b>
	Input a.c. power ports	0.15 MHz to 10 MHz; 3 V 10 MHz to 30 MHz; 3 V to 1 V 30 MHz to 80 MHz; 1 V
	Input d.c. power ports	
	Analogue/digital data ports	
xDSI		
Dwell time .....	1 second	
Step size .....	1 %	
Modulation .....	80% AM (1kHz)	
Performance criteria .....	A	
Test method .....	The test allows estimating of the conducted immunity of electrical and electronic equipment to electromagnetic disturbances coming from intended radio-frequency (RF) transmitters in the frequency range 150 kHz to 80 MHz. The interference is applied on mains supply, signal line and earth connection ports by using coupling decoupling networks or a clamp.	
Ambient temperature .....	22.5 °C	
Relative humidity .....	45 %	
Air pressure .....	100.3 kPa	
Test location .....	2101 & 2201, Zhenchang Factory, Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China	
Test model(s) .....	C20_Pro	
EUT operation mode .....	Mode 1	
Test results .....	Pass	
Remark .....	/	

**6.6.1. Test results for Immunity to injected currents**

Measurement port	Frequency	Coupling type	Level	Observation	Results
AC power port	0.15 MHz to 10 MHz	CDN	3 V	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	Pass
	10 MHz to 30 MHz		3 V to 1 V	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	Pass
	30 MHz to 80 MHz		1 V	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	Pass

**6.6.2. Test results of observations description**

/ - Not performed or not required.

1 –No obvious change of function was found after the test.

2 –The function stopped during the test, but can be recoverable by itself operation after the test.

3 –The function stopped during the test, but can be recoverable manually after the test.

### 6.7. Broadband impulse noise disturbances for xDSI ports

Test requirement .....	EN 55035:2017+A11:2020			
Basic standard .....	EN 61000-4-6:2014			
Frequency range .....	150 kHz to 80 MHz			
Test level.....	Broadband impulse noise disturbances, repetitive			
	Frequency (MHz)	(dBuV)	Burst duration	Burst period
	0.150 – 5	107	0.7 ms	8.3 (for 60 Hz) 10 (for 50 Hz)
	5 – 10	107 to 36		
	10 – 30	36 to 30		
	Broadband impulse noise disturbances, isolated			
	Frequency (MHz)	(dBuV)	Burst duration	Burst period
	0.150 – 30	107	0.24 ms 10 ms 300 ms	/
Performance criteria.....	A(repetitive) B(isolated)			
Test set up description.....	<p>Measurements were made on a ground plane that extends 0.5-meter minimum beyond all sides of the system under test. The EUT was located 10cm above the reference ground plane and any associated I/O cables attached to the EUT were located between 30mm and 50mm above the ground plane. The indicated field was pre-calibrated prior to placement of the system under test.</p> <p>For the repetitive impulse test the disturbance shall be applied for a period of at least 2 min for each port under test.</p> <p>For the isolated impulse test a minimum of 5 isolated impulses shall be applied with an interval of at least 60 s between successive impulses.</p>			
Ambient temperature.....	/			
Relative humidity .....	/			
Air pressure.....	/			
Test location .....	/			
Test model(s) .....	/			
EUT operation mode.....	/			
Test results .....	N/A			
Remark.....	This test isn't applicable because the EUT doesn't have relative function.			

### 6.8. Power frequency magnetic field immunity (PFMF)

Test requirement .....	EN 55035:2017+A11:2020	
Basic standard .....	EN 61000-4-8:2010	
Test level .....	<b>Frequency</b>	<b>A/m</b>
	50/60 Hz	1
Performance criteria .....	A	
Test method .....	Measurements were made on a ground plane that extends 1-meter minimum beyond all sides of the system under test. The EUT was located 80cm above the reference ground plane and the indicated field was pre-calibrated prior to placement of the system under test.	
Ambient temperature .....	22.5 °C	
Relative humidity .....	45 %	
Air pressure .....	100.3 kPa	
Test location .....	2101 & 2201, Zhenchang Factory, Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China	
Test model(s) .....	C20_Pro	
EUT operation mode .....	Mode 1, Mode 2	
Test results .....	Pass	
Remark .....	/	

**6.8.1. Test results for Power frequency magnetic field immunity**

Point of application	Frequency (Hz)	Level	Results
X-Axis	50	1 A/m	Pass
Y-Axis	50	1 A/m	Pass
Z-Axis	50	1 A/m	Pass

**6.8.2. Test results of observations description**

/ - Not performed or not required.
1 -No obvious change of function was found after the test.
2 -The function stopped during the test, but can be recoverable by itself operation after the test.
3 -The function stopped during the test, but can be recoverable manually after the test.

### 6.9.Voltage dips, short interruptions and voltage variations immunity

Test requirement .....	EN 55035:2017+A11:2020		
Basic standard .....	EN IEC 61000-4-11:2020		
Test level.....	Voltage Dips		
	Frequency	Test level in % $U_T$	Duration
	50 Hz	0	0.5 cycle
	50 Hz	70	25 cycles
	60 Hz	70	30 cycles
	Voltage interruptions		
	Frequency	Test level in % $U_T$	Duration
	50 Hz	0	250 cycles
	60 Hz	0	300 cycles
	$U_T$ is the rated voltage of the equipment under test.		
Repetition rate.....	10 seconds		
Number of dips or interruptions.....	3		
Performance criteria.....	B & C		
Test method.....	The test allows estimating of the conducted immunity of electrical and electronic equipment connected to low-voltage power supply networks for voltage dips and short interruptions. The interference is applied on mains supply port by using a testing generator.		
Ambient temperature.....	22.5 °C		
Relative humidity .....	45 %		
Air pressure.....	100.3 kPa		
Test location .....	2101 & 2201, Zhenchang Factory, Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China		
Test model(s) .....	C20_Pro		
EUT operation mode.....	Mode 1		
Test results .....	Pass		
Remark.....	/		

**6.9.1. Test results for Voltage dips**

% of U <sub>T</sub>	Frequency	Duration in cycles	Sync Angle	Observation	Results
0	50 Hz	0.5	0°	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	Pass
70	50 Hz	25	0°	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	Pass

**6.9.2. Test results for Voltage interruptions**

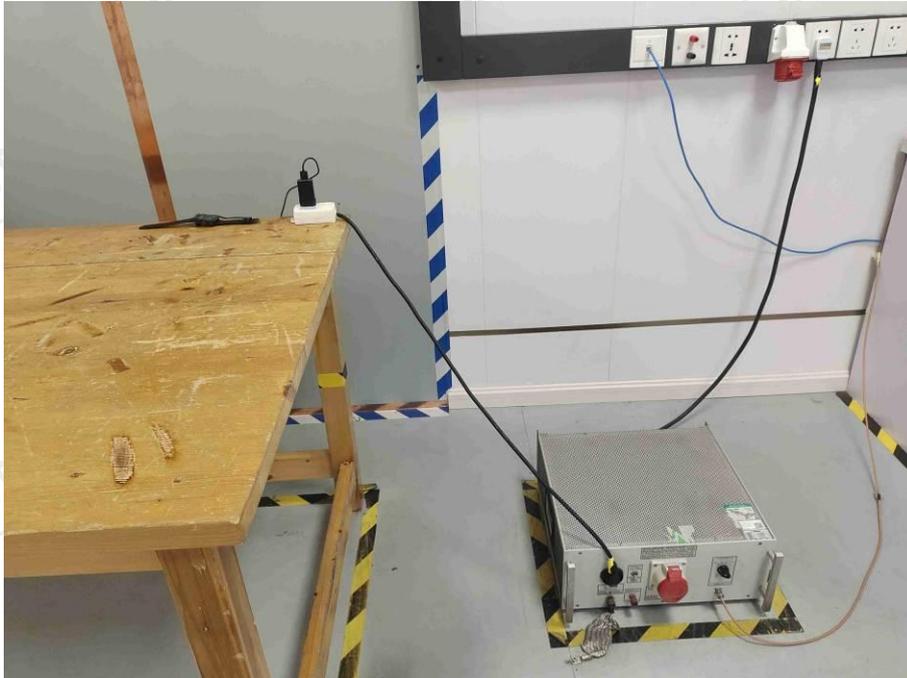
% of U <sub>T</sub>	Frequency	Duration in cycles	Sync Angle	Observation	Results
0	50 Hz	250	0°	<input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3	Pass

**6.9.3. Test results of observations description**

/ - Not performed or not required.
1 –No obvious change of function was found after the test.
2 –The function stopped during the test, but can be recoverable by itself operation after the test.
3 –The function stopped during the test, but can be recoverable manually after the test.

## 7. Test set-up photo

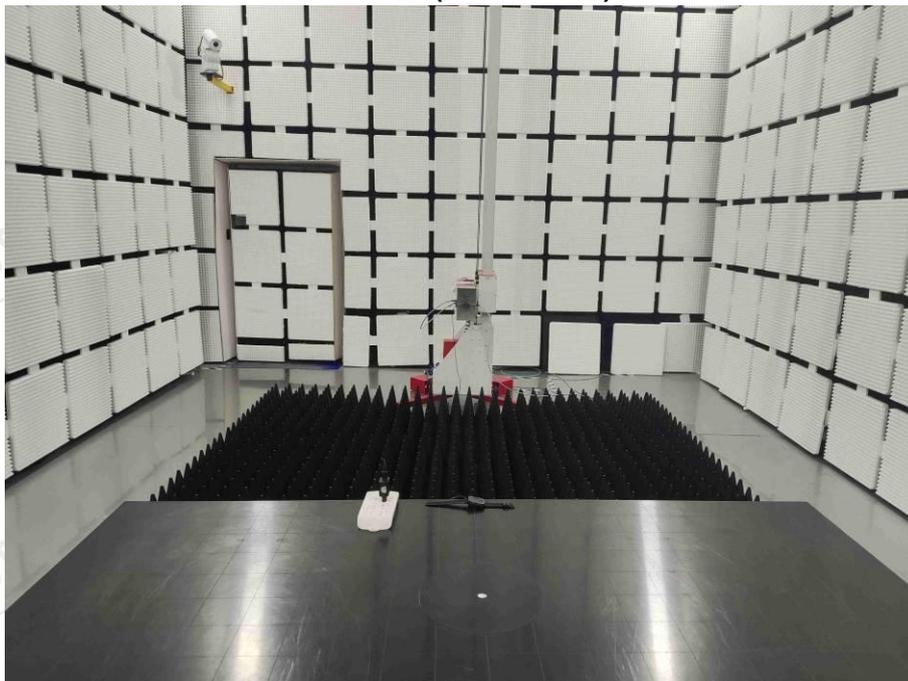
Disturbance voltage at mains terminals test view



Radiated emission (30 MHz-1 GHz) test view



**Radiated emission (1 GHz-6 GHz) test view**



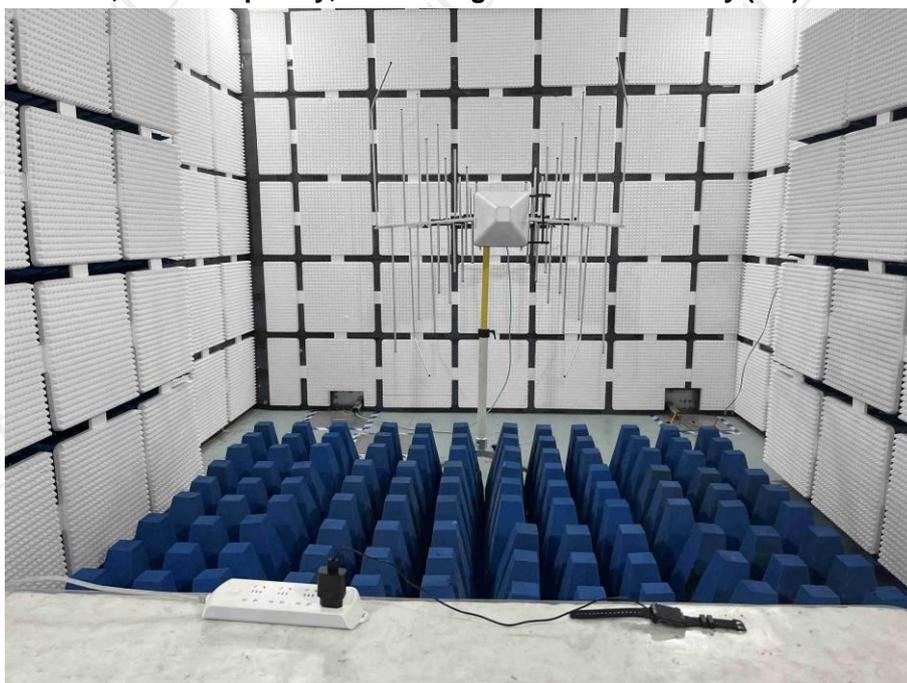
**Voltage changes, voltage fluctuations and flicker test view**



**Electrostatic discharge immunity (ESD) test view**



**Radiated, radio-frequency, electromagnetic field immunity (RS) test view**



**Electrical fast transient/burst immunity (EFT/B) test view**



**Surge immunity test view**



**Immunity to conducted disturbances, induced by radio-frequency fields (CS) test view**



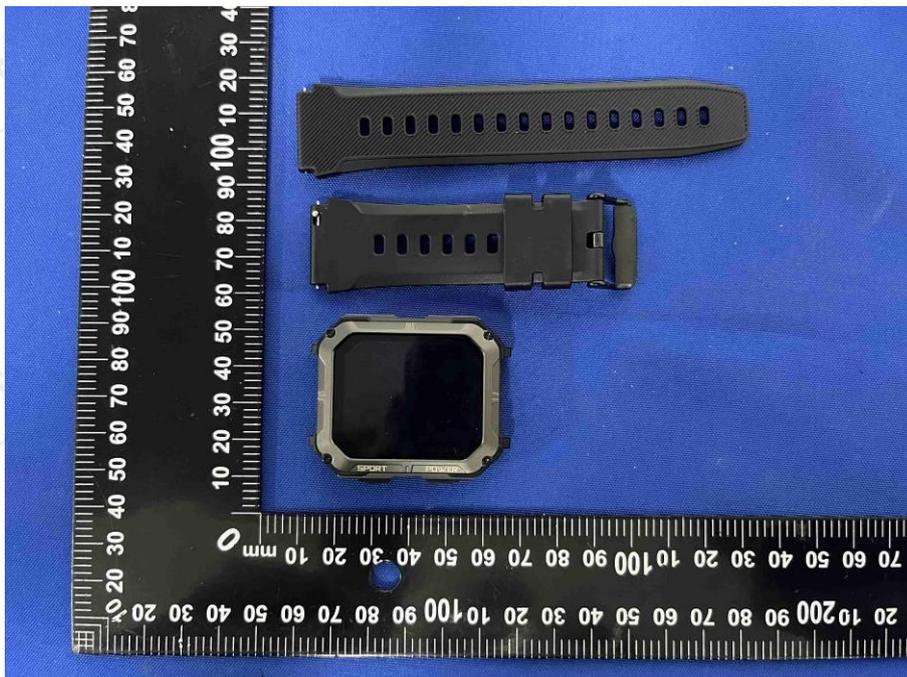
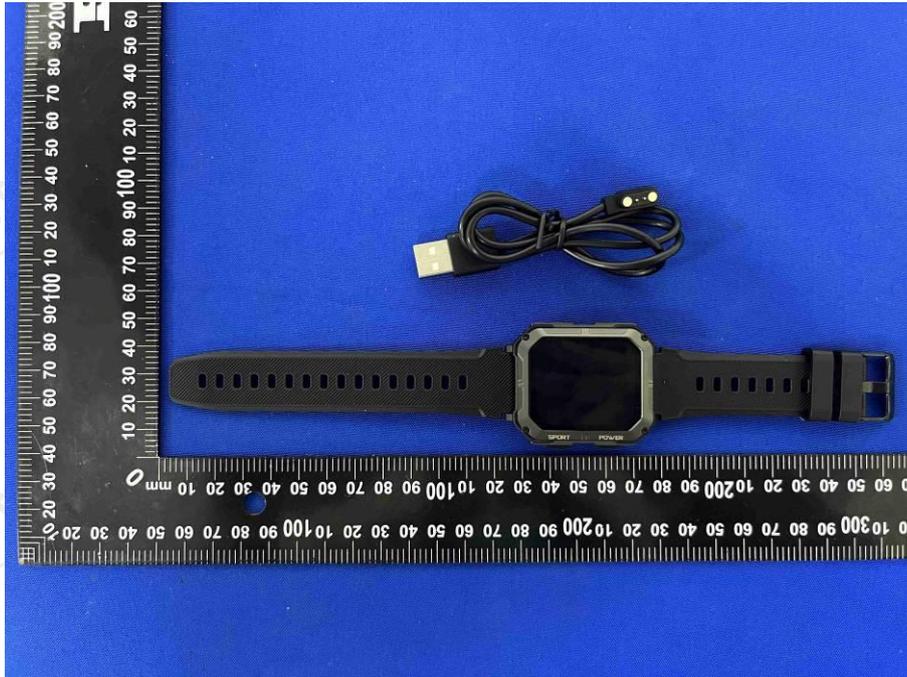
**Power frequency magnetic field immunity test view**

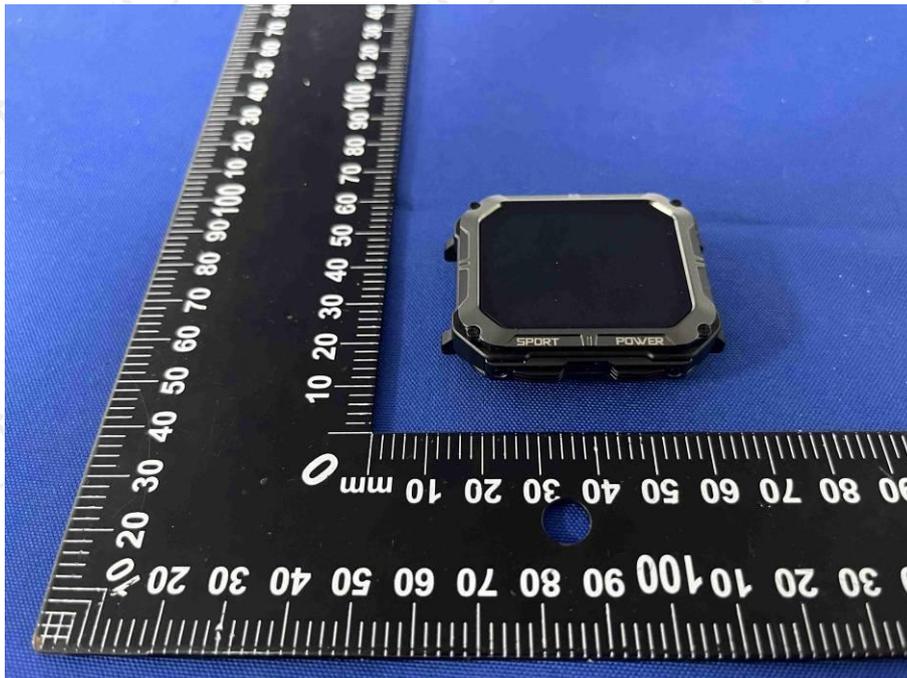
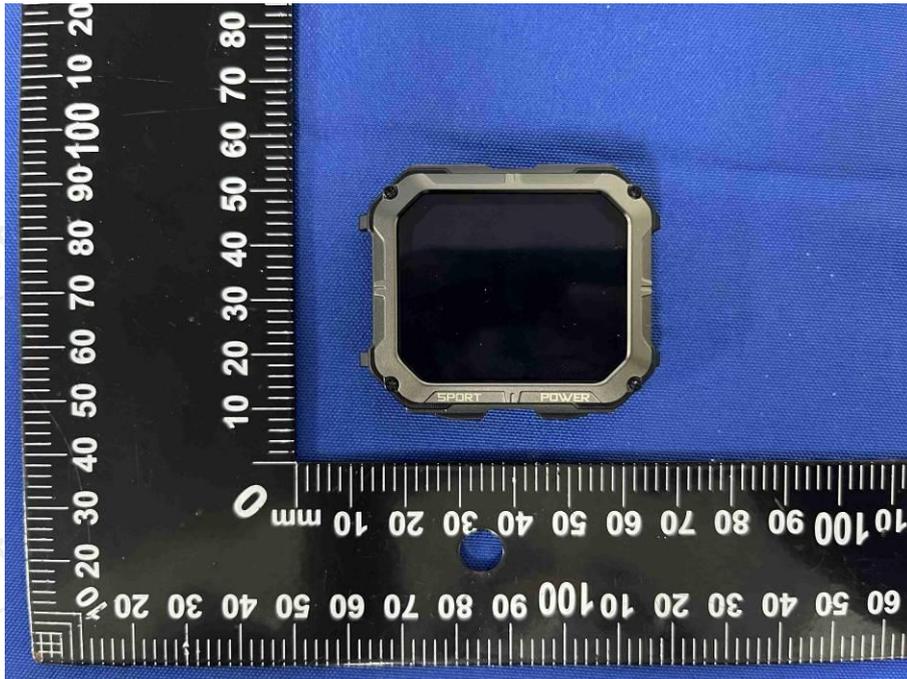


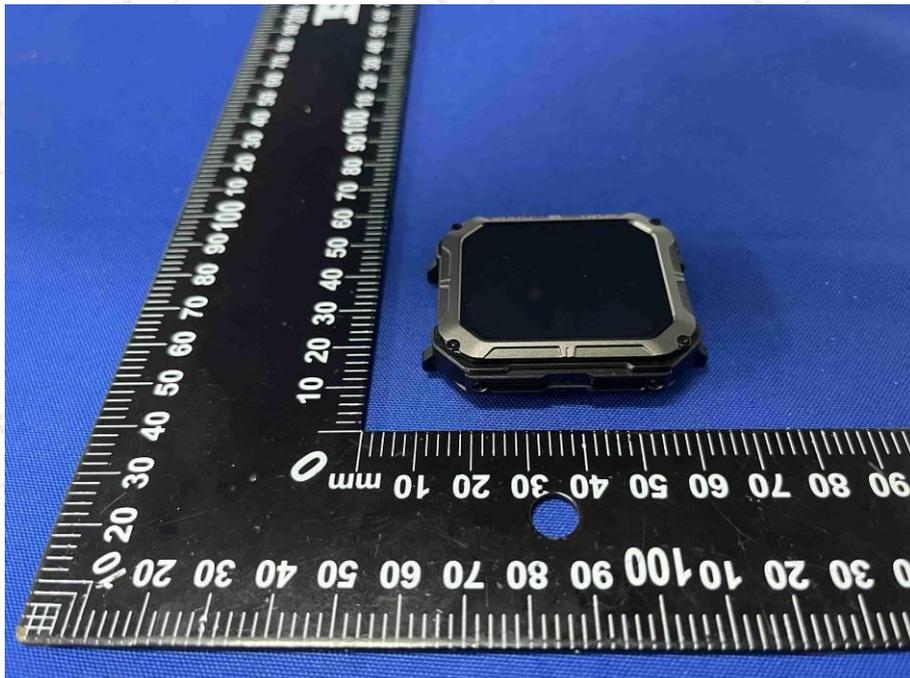
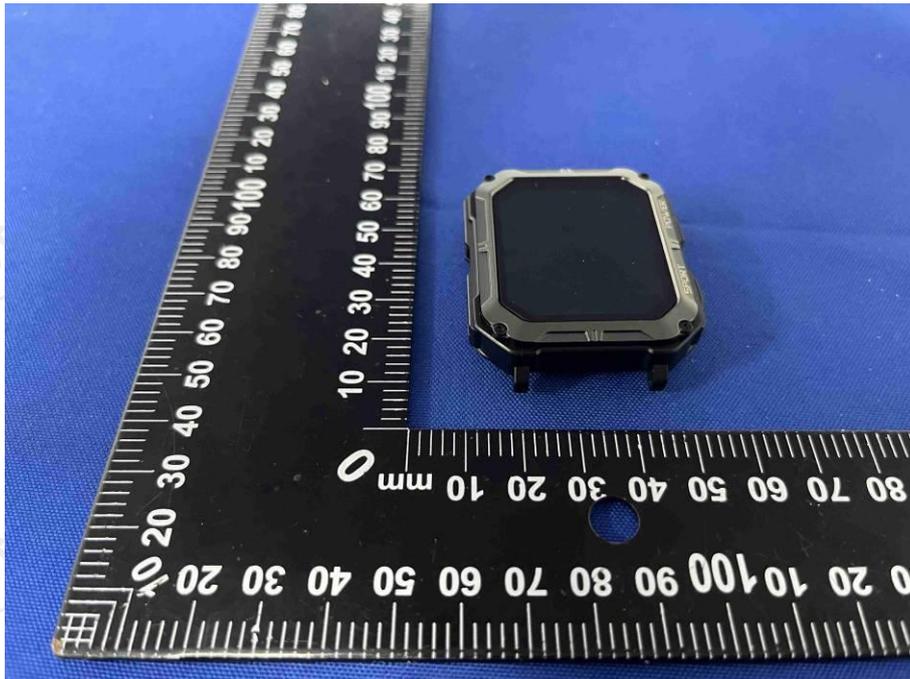
**Voltage dips, short interruptions and voltage variations immunity (DIPS) test view**

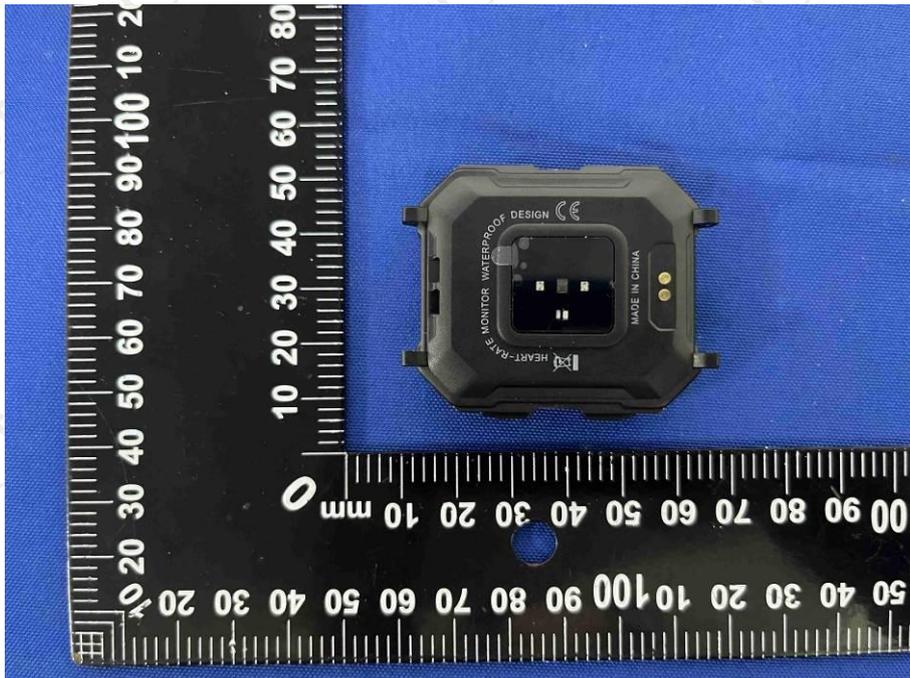
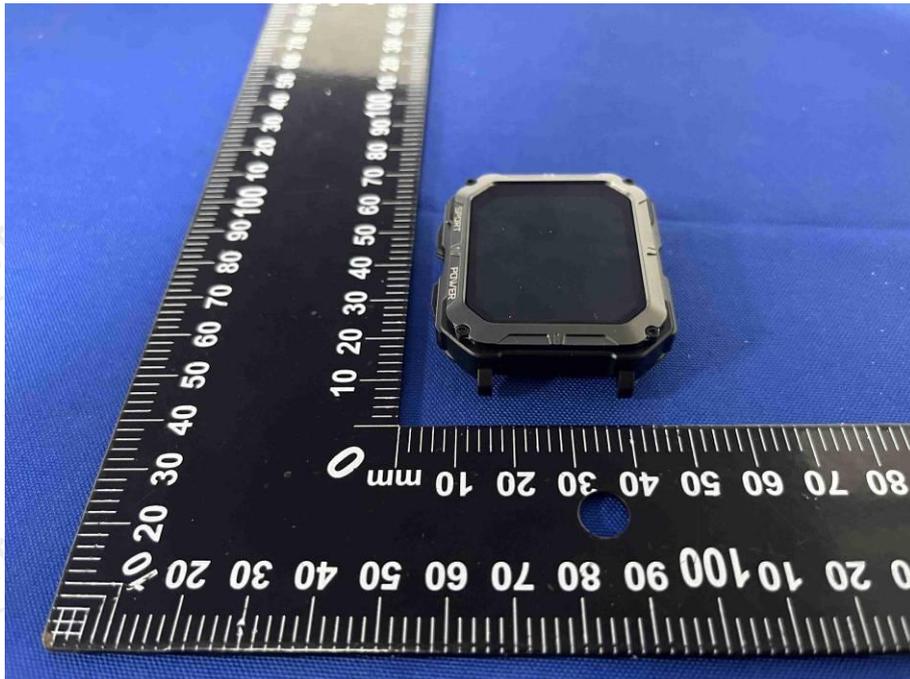


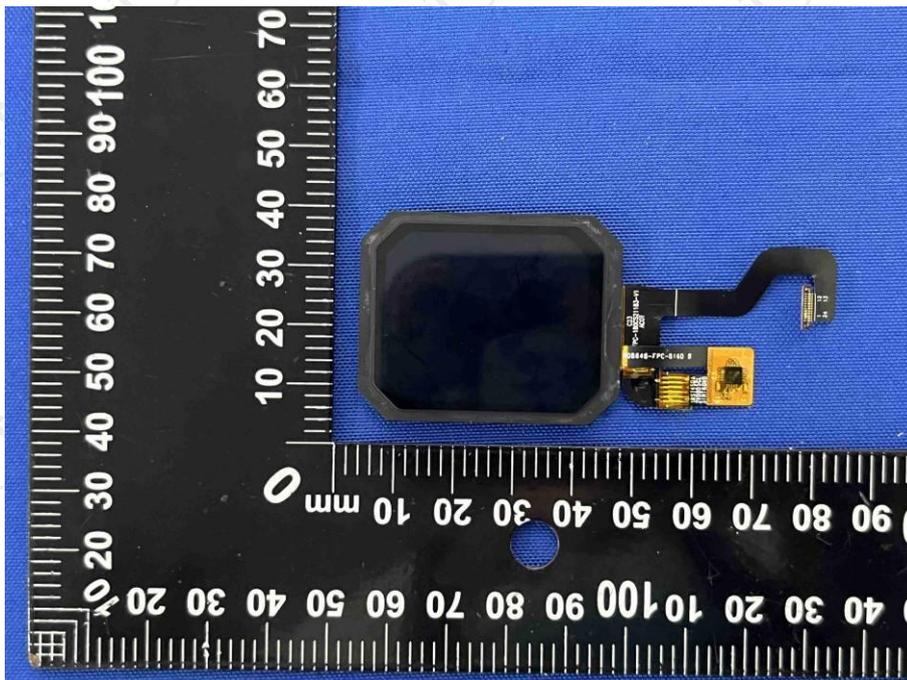
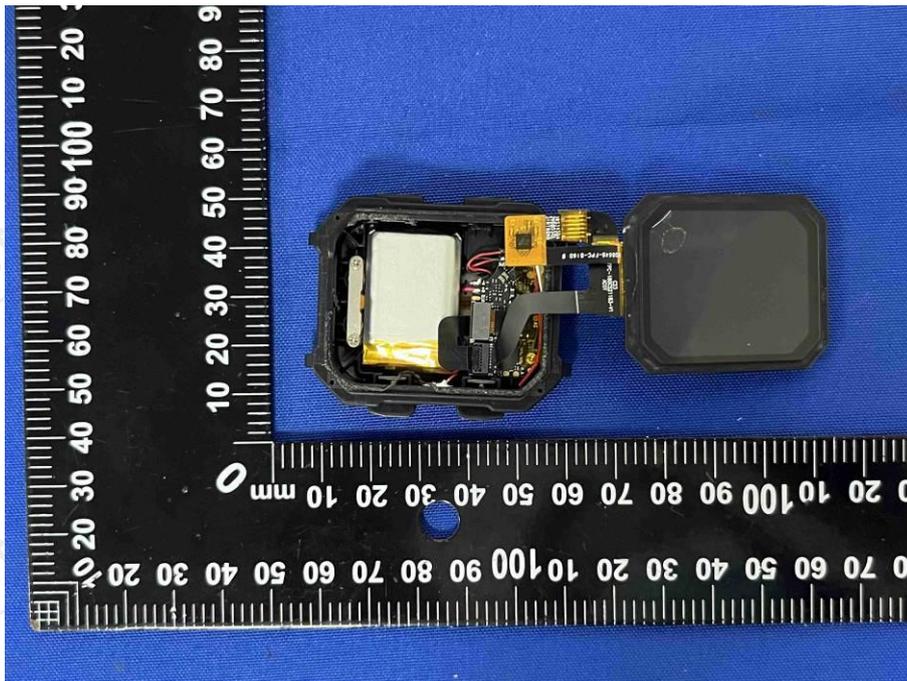
## 8. Photo of the EUT

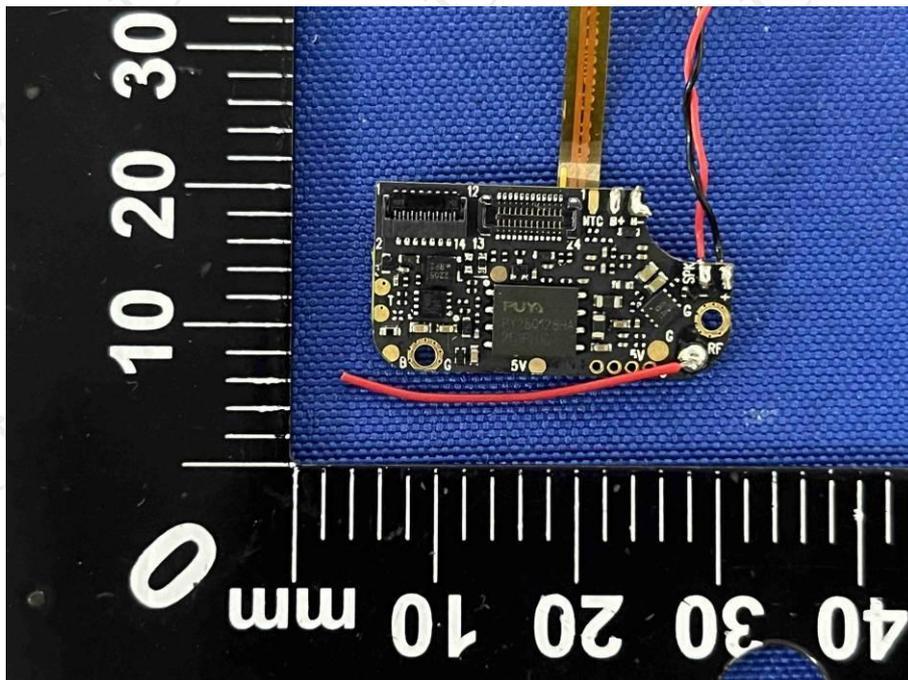
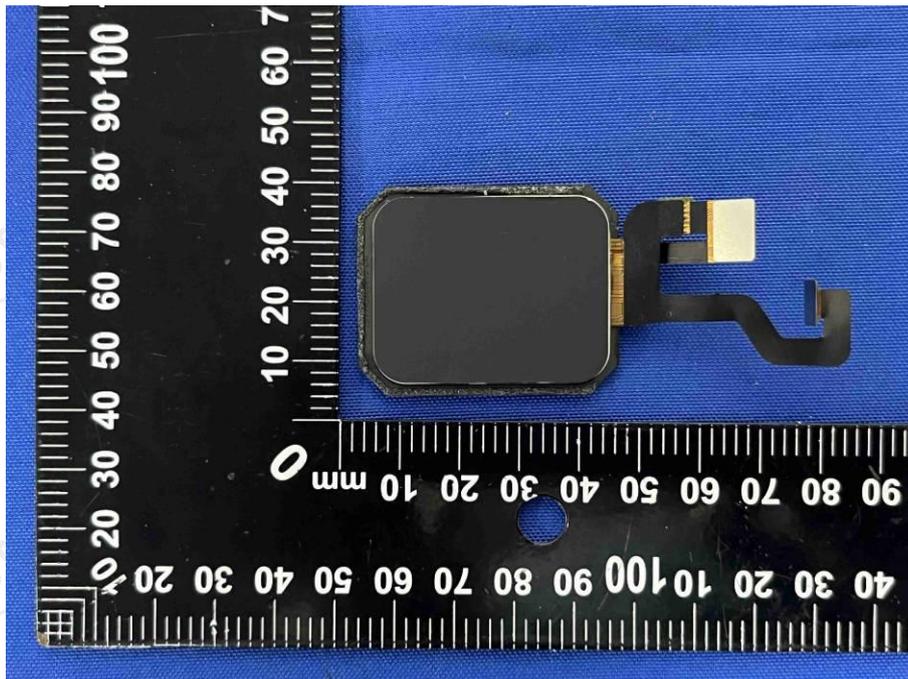


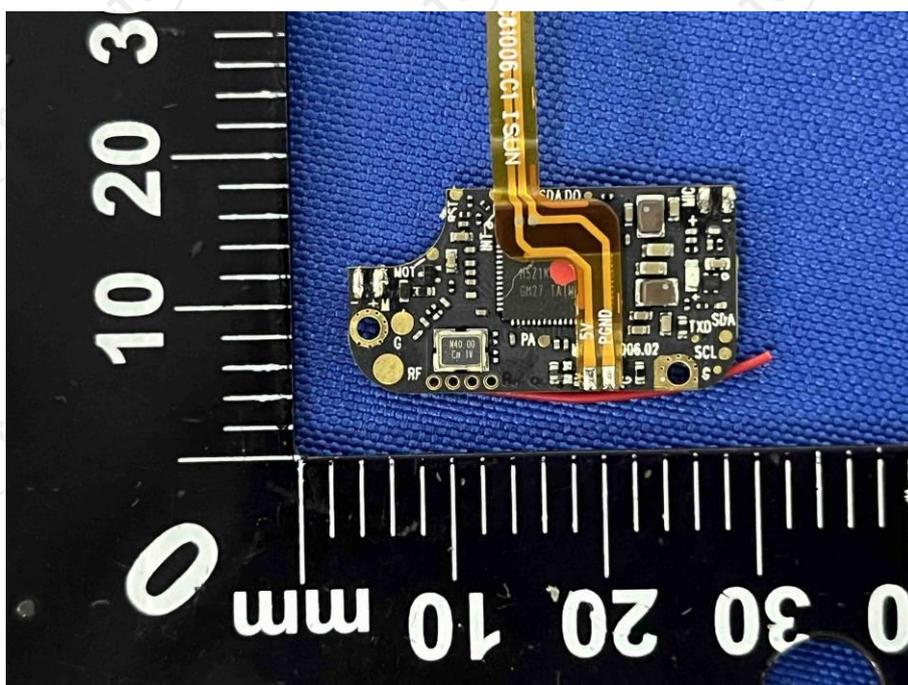
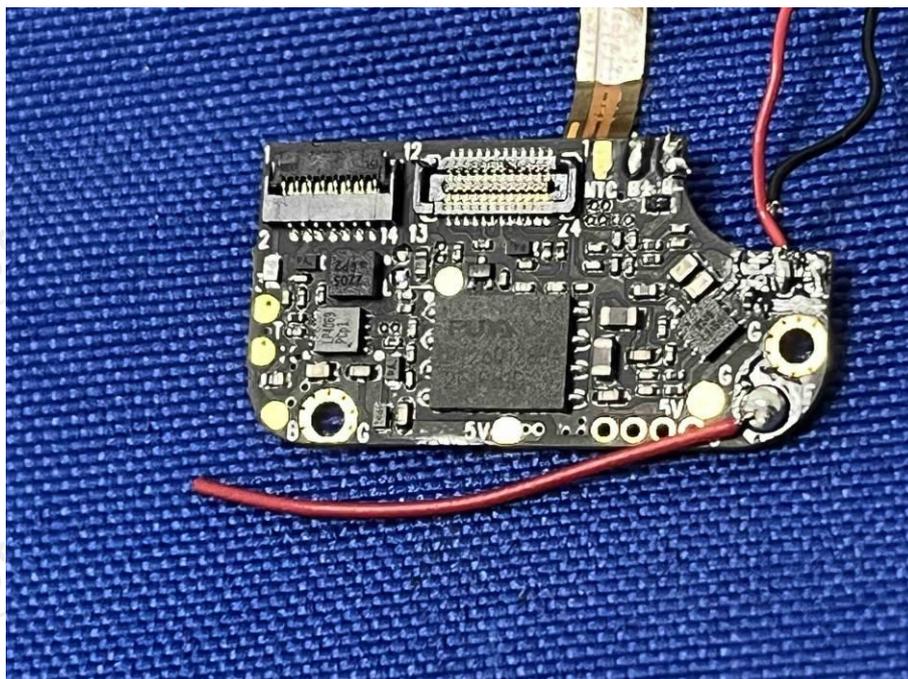


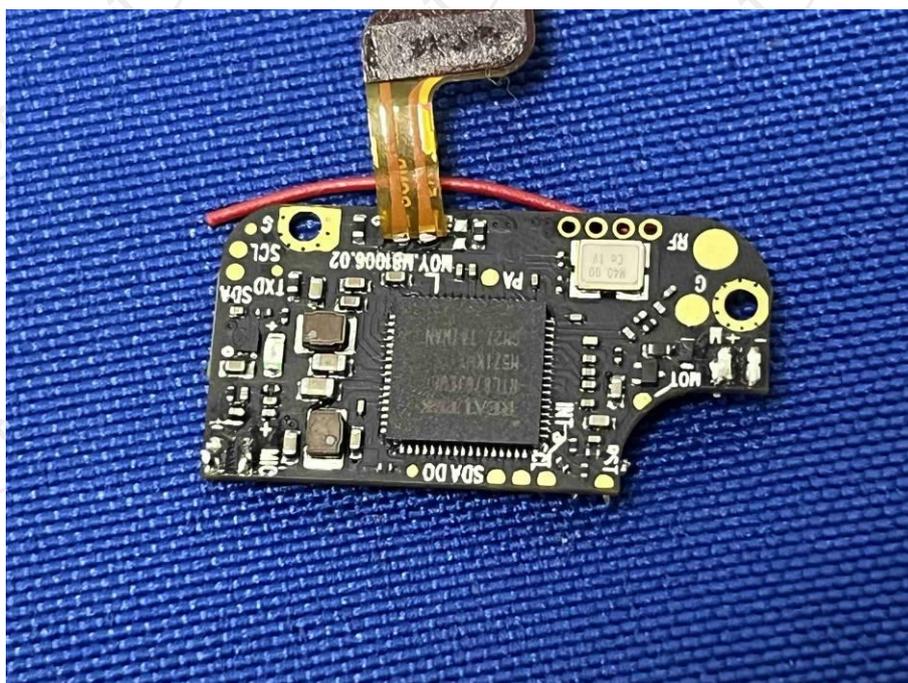
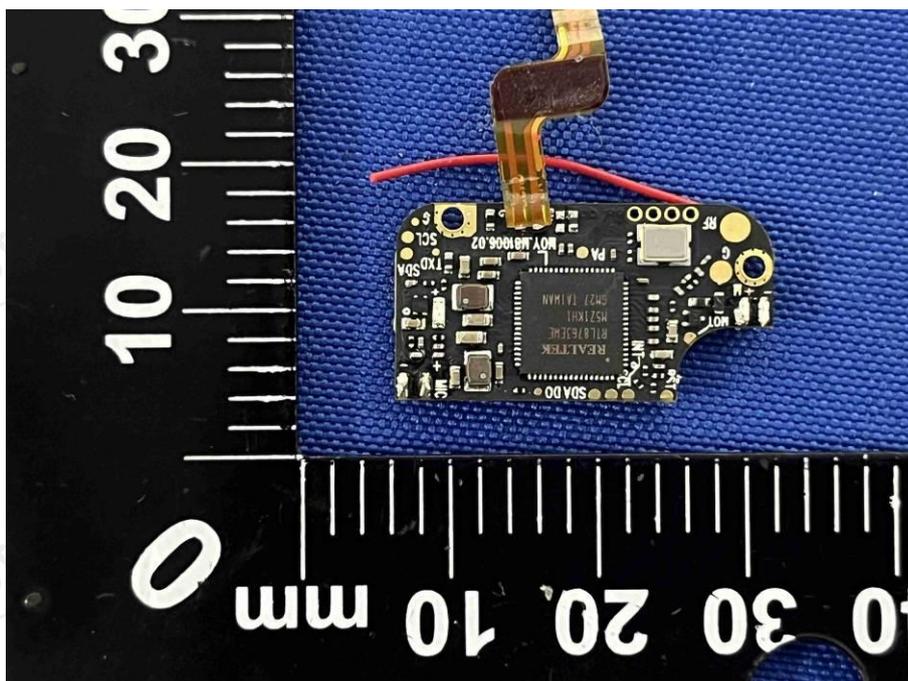


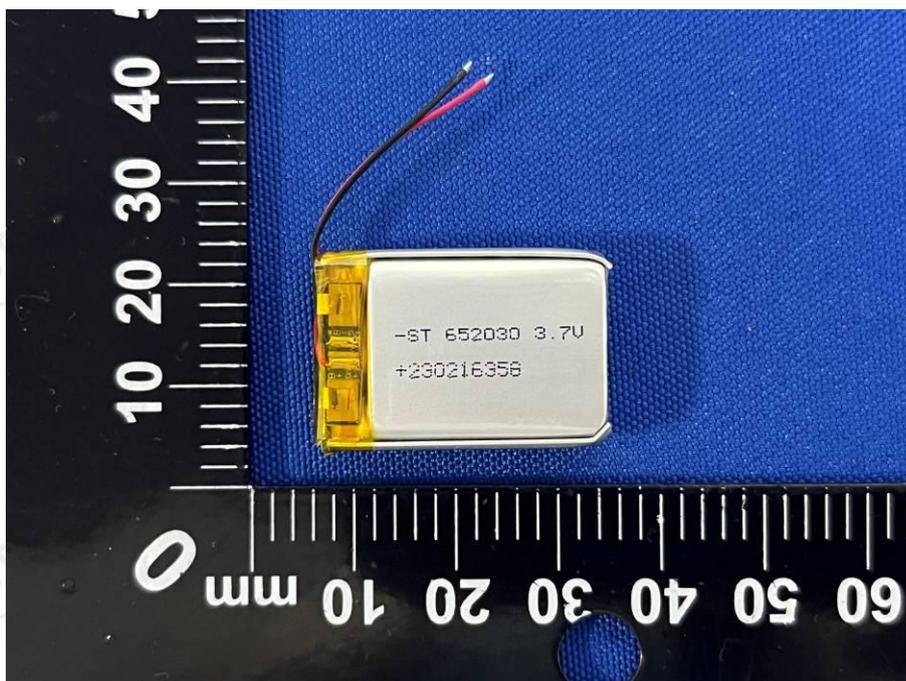












**\*\*\*\*\*End of report\*\*\*\*\***