Test Report

Verified code: 411969

Report No.: E20210914342601-1

Customer:	Lumi United Technology Co., Ltd.
Address:	8th Floor, JinQi Wisdom Valley, No.1 Tangling Road, Liuxian Ave, Taoyuan Residential District, Nanshan District, Shenzhen, China
Sample Name:	Camera Hub G2H Pro
Sample Model:	CH-C01
Receive Sample Date:	Sep.15,2021
Test Date:	Sep.16,2021 ~ Oct.12,2021
Reference Document:	ETSI EN 301 489-17 V3.2.4 (2020-09)ElectroMagnetic Compatibility (EMC)standard for radio equipment and services;Part 17: Specific conditions forBroadband Data Transmission Systems;Harmonised Standard covering the essential requirementsof article 3.1(b) of Directive 2014/53/EU ETSI EN 301 489-1 V2.2.3(2019-11)ElectroMagnetic Compatibility (EMC)standard for radio equipment and services;Part 1: Common technical requirements;Harmonised Standard for ElectroMagnetic Compatibility EN55032:2015/A11:2020 Electromagnetic compatibility of multimedia equipment – Emission Requirements EN 55035:2017Electromagnetic compatibility of multimedia equipment - Immunity requirements EN 61000-3-2: 2019 Electromagnetic compatibility(EMC) – Part 3-2: Limits– Limits for harmonic Current emissions (equipment input current ≤16 A per phase) EN 61000-3-3: 2013/A1:2019Electromagnetic compatibility (EMC) – Part 3-3: Limits – Limitation of voltage changes, voltage fluctuations and flickerin public low-voltage supply systems, for equipment with rated current ≤16 Aper phase and not subject to conditional connection
Test Result:	Pass

Prepared By: Reviewed By: Approved By:

GUANGZHOU GRG METROLOGY & TEST CO., LTD

Issued Date: 2021-10-29

GUANGZHOU GRG METROLOGY & TEST CO., LTD
Address: No.163 Xipingyun Road, Huangpu Avenue, Tianhe District, Guangzhou（510656）
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Statement

1. The report is invalid without "special seal for inspection and testing"; some copies are invalid; The report is invalid if it is altered or missing; The report is invalid without the signature of the person who prepared, reviewed and approved it.

2. The sample information is provided by the client and responsible for its authenticity; The content of the report is only valid for the samples sent this time.

3. When there are reports in both Chinese and English, the Chinese version will prevail when the language problems are inconsistent.

4. If there is any objection concerning the report, please inform us within 15 days from the date of receiving the report.

5. Without the agreement of the laboratory, the client is not authorized to use the test results for unapproved propaganda.

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1. TEST RESULT SUMMARY

Emissions

Test Item	Test mode	Equipment test requirement	Test Method	Class / Severity	Test Result
Performance Standard: ETSI EN 301 489-17 V3.2.4 (2020-09))&ETSI EN 301 489-1 V2.2.3 (2019-11)&EN 55032:2015/A11:2020					
Conducted Emission	Mode 1	ETSI EN 301 489-17/7.1.1 ETSI EN 301 489-1/8.4	EN 55032:2015/A11:2020annex A.3	Table A.10 Class B	PASS
Asymmetric mode conducted emissions	/	ETSI EN 301 489-17/7.1.1 ETSI EN 301 489-1/8.7	EN 55032:2015/A11:2020annex A.3	/	Note 2)
Radiated Emission	Mode 1	ETSI EN 301 489-17/7.1.1 ETSI EN 301 489-1/8.2	EN 55032:2015/A11:2020Table A.4 and A.5	Table A.4 Class B Table A.5 Class B	PASS
Harmonic current	Mode 1	ETSI EN 301 489-17/7.1.1 ETSI EN 301 489-1/8.5	EN 61000-3-2:2019	Class A	Note 1)
Voltage fluctuations and flicker	Mode 1	ETSI EN 301 489-17/7.1.1 ETSI EN 301 489-1/8.6	EN 61000-3-3:2013/A1:2019	/	PASS

Immunity

Test Item	Test mode	Equipment test requirement	Test Method	Class / Severity	Test Result
Performance Standard: ETSI EN 301 489-17 V3.2.4 (2020-09)&ETSI EN 301 489-1 V2.2.3 (2019-11)&EN 55035:2017					
Electrostatic discharge (ESD)	Mode 1	ETSI EN 301 489-17/7.2.1 ETSI EN 301 489-1/9.3 EN 55035:2017 Table 1	EN 61000-4-2:2009	Test specification: ±8kV air discharge ±4kV Contact discharge Performance : Criteria B	PASS
RF electromagnetic field (RS)	Mode 1	ETSI EN 301 489-17/7.2.1 ETSI EN 301 489-1/9.2	EN61000-4-3:2006+A1:2008+A2:2010	Test specification: Test level: For the frequency range 80MHz to 6000MHz, test level shall be 3 V/m, 80% AM(1kHz) Performance: Criteria A	PASS
RF electromagnetic field (RS)	Mode 1	EN 55035:2017 Table 1	EN 61000-4-3:2006+A1:2008+A2:2010	Test specification: For the frequency range 80MHz to 1000MHz, 1800MHz, 2600MHz, 3500MHz, 5000MHz test level shall be 3 V/m, 80% AM(1kHz) Performance: Criteria A	PASS
Electrical fast transients(EFT)	Mode 1	ETSI EN 301 489-17/7.2.1 ETSI EN 301 489-1/9.4 EN 55035:2017 Table 4	EN 61000-4-4:2012	Test specification: AC power port: ±1kV, repetition rate: 5 kHz Performance: Criteria B	PASS

Surges	Mode 1	ETSI EN 301 489-17/7.2.1 ETSI EN 301 489-1/9.8	EN 61000-4-5: 2014+ A1:2017	Test specification: AC power port: 1.2/50 us pulse line to line: ±1 kV; Performance : Criteria B	PASS
Surges	Mode 1	EN 55035:2017 Table 4	EN 61000-4-5: 2014	Test specification: AC power port: 1.2/50 us pulse line to line: ±1 kV; Performance : Criteria B	PASS
Radio frequency continuous conducted(CS)	Mode 1	ETSI EN 301 489-17/7.2.1 ETSI EN 301 489-1/9.5	EN 61000-4-6:2014	Test specification: AC power port 0.15~80MHz,3Vrms, 80% AM, 1kHz Performance: Criteria A	PASS
Radio frequency continuous conducted(CS)	Mode 1	EN 55035:2017 Table 4	EN 61000-4-6:2014	AC Input Power: 0.15MHz-10MHz 3V 10MHz-30MHz 3-1V 30MHz-80MHz 1V 80%AM(1kHz) Performance: Criteria A	PASS
Power frequency magnetic field	Mode 1	EN 55035:2017	IEC 61000-4-8:2009	1A/m 50Hz Performance Criterion A	PASS
Voltage Dips & Short Interruptions	Mode 1	ETSI EN 301 489-17/7.2.1 ETSI EN 301 489-1/9.7	EN 61000-4-11:2004	Test specification: 1. Voltage dips: i)0% residual voltage 0.5 cycle. Performance: Criteria B; ii) 0% residual voltage 1 cycle, Performance: Criteria B; iii)70% residual voltage 25 cycle. Performance: Criteria B; 2. Voltage interruption: 0% residual voltage during 250 cycles. Performance: Criteria C	PASS
Voltage Dips & Short Interruptions	Mode 1	EN 55035:2017 Table 4	EN 61000-4-11:2004	Test specification: 1. Voltage dips: i)0% residual voltage 0.5 cycle. Performance: Criteria B ii) 70% residual voltage 25 cycle for 50Hz Performance: Criteria C 2. Voltage interruption: 0% residual voltage during 250 cycles for 50Hz. Performance: Criteria C	PASS

Note [1]: The EUT with a rated power of less 75 W, the result no judgment.
[2]: Without AC power port and telecom port of the EUT.

2. GENERAL DESCRIPTION OF EUT

2.1 APPLICANT

Name:	Lumi United Technology Co., Ltd.
Address:	8th Floor, JinQi Wisdom Valley, No.1 Tangling Road, Liuxian Ave, Taoyuan Residential District, Nanshan District, Shenzhen, China

2.2 MANUFACTURER

Name:	Lumi United Technology Co., Ltd.
Address:	8th Floor, JinQi Wisdom Valley, No.1 Tangling Road, Liuxian Ave, Taoyuan Residential District, Nanshan District, Shenzhen, China

2.3 BASIC DESCRIPTION OF EQUIPMENT UNDER TEST

Product Name:	Camera Hub G2H Pro
Product Model:	CH-C01
Adding Model:	/
Trade Name:	Aqara
Power Supply:	Input: 5V⎓ 1A
Frequency Band:	Zigbee: 2405MHz-2475MHz 2.4G Wi-Fi: 2412MHz-2472MHz for 802.11b/g/n HT20
Modulation Type:	Zigbee: OQPSK 2.4G Wi-Fi: DSSS(CCK, DQPSK, DBPSK) for 802.11b OFDM for 802.11g/n HT20
Antenna Type:	Internal antenna
Hardware Version:	X1
Software Version:	V1.0.3_0006.0004
Sample submitting way:	■Provided by customer □Sampling
Sample No:	E20210914342601-0001; E20210914342601-0003
Note:	/

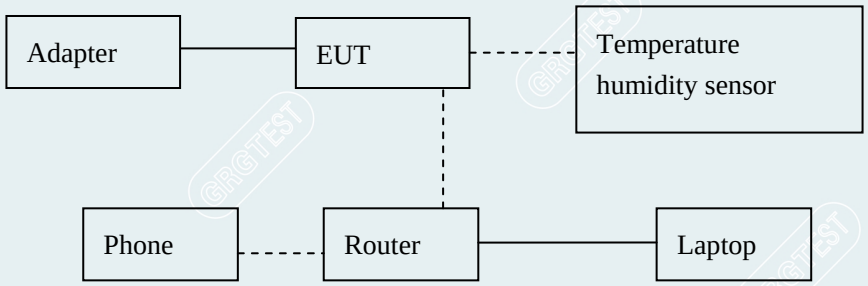
2.4 TEST MODE

Mode No.	Description of the modes
1	Test that the peripheral mobile phone is connected to the router Wi-Fi-2.4G, connect the EUT to the mobile phone's APP, add sub-devices, then turn on the APP software to enable the wireless hotspot function, and finally use the laptop to connect to the router and perform ping data packet transmission

2.5 LOCAL SUPPORTIVE INSTRUMENTS

Name of Equipment	Manufacturer	Model	Serial Number	Note
Mercury Router	Mercury	D128G	1193219002978	/
Phone	VIVO	VIVO Y79	/	/
Temperature humidity sensor	Aqara	WSDCGQ11LM	2016DP6443	/
Travel Charger	Dongguan Aohai power technology Co.,Ltd.	A8A-050200U-US1	/	/
Laptop	Dell	Latitude3400	/	/

2.6 CONFIGURATION OF SYSTEM UNDER TEST



3. LABORATORY AND ACCREDITATIONS

3.1 LABORATORY

The tests & measurements refer to this report were performed by Shenzhen EMC Laboratory of Guangzhou GRG Metrology & Test Co., Ltd.

Add.:	No.1301 Guanguang Road Xinlan Community, Guanlan Street, Longhua District Shenzhen, 518110, People's Republic of China.
P.C.:	518000
Tel :	0755-61180008
Fax:	0755-61180008

3.2 ACCREDITATIONS

Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

USA	A2LA(Certificate#:2861.01)
China	CNAS(L0446)

The measuring facility of laboratories has been authorized or registered by the following approval agencies.

Canada	ISED (Company Number: 24897, CAB identifier:CN0069)
USA	FCC (Registration Number: 759402, Designation Number:CN1198)

Copies of granted accreditation certificates are available for downloading from our web site, http://www.grgtest.com

3.3 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Frequency	Uncertainty
Conduction Emission	9 KHz ~ 150 KHz	2.2 dB
	150 KHz ~ 30 MHz	2.8 dB
Radiated Emission（3m）	30MHz～200MHz(H)	4.3 dB
	200MHz～1000MHz(H)	4.5 dB
	30MHz～200MHz(V)	4.4 dB
	200MHz～1000MHz(V)	4.5 dB
	1GHz～6GHz(H)	4.5 dB
	1GHz～6GHz(V)	4.5 dB
Harmonic Current	/	1)
Voltage Fluctuation and Flicks	/	1)
Electrostatic discharge	/	1)
Radio-Frequency Electromagnetic Field	/	1)
Electrical fast transient/burst	/	1)
Surge	/	1)
Conducted radio frequency disturbances	/	1)
Power frequency magnetic field	/	1)
Voltage Dip & Voltage Interruptions	/	1)

This uncertainty represents an expanded uncertainty factor of k=2.

4. LIST OF USED TEST EQUIPMENT AT GRGT

4.1 LIST OF USED TEST EQUIPMENT

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Conduction Emission				
EZ-EMC	EZ	CCS-3A1-CE	/	/
EMI Receiver	R&S	ESCI	100783	2022-09-13
LISN(EUT)	R&S	ENV216	101543	2022-03-21
Radiated Emission (Below 1GHz)				
Test S/W	EZ	CCS-2ANT	/	/
Test Receiver	R&S	ESCI	I00266	2022-09-13
Preamplifier	EMEC	EM330	/	2022-03-21
Bi-log Antenna	TESEQ	CBL6143A	26039	2021-11-25
Radiated Emission (Above 1GHz)				
Test software	Tonscend	JS32-RE	/	/
Spectrum Analyzer	Agilent	N9010A	MY52221469	2022-04-16
Preamplifiers	Tonscend	TAP037030	AP20E8060081	2022-06-03
Preamplifiers	Tonscend	TAP01018048	AP20E8060075	2022-06-07
Horn antenna	Schwarzbeck	BBHA 9120D	02143	2021-12-17
Harmonic Current				
Test S/W	/	CTS4	/	/
Power Source	SCHAFFNER	NSG1007	54789	2022-03-21
Harmonic & Flicker Tester	SCHAFFNER	CCN1000	72045	2021-11-15
Voltage Fluctuation and Flicks				
Test S/W	/	CTS4	/	/
Power Source	SCHAFFNER	NSG1007	54789	2022-03-21
Harmonic & Flicker Tester	SCHAFFNER	CCN1000	72045	2021-11-15
Electrostatic discharge				
Dito ESD Simulator	EM Test	dito	V0809103493	2021-11-18

Radio-Frequency Electromagnetic Field				
Test S/W	Tonscend	JS35-RS	/	/
Signal generator	R&S	SMA100A	100434	2022-09-04
Switch	TOYO	BS5000	/	/
Power Amplifier	SCHAFFNER	CBA9433	3007	2022-03-21
Power Amplifier	TESEQ	CBA 3G-050	T44161	2022-04-16
Power Amplifier	Milmega	AS1860-50	1079232	2021-11-15
Dual directional Coupler	AR	DC 6180A	0328212	2022-09-22
Dual directional Coupler	AR	DC 7144A	327057	2022-09-22
Log-periodic broadband antenna	Schaffner	CBL6143	5082	2022-02-04
Microwave Log.-Per. Antenna	Schwarzbeck	STLP9149	9149-163	2022-09-18
Power Meter	Keysight	N1914A	I00697	2022-10-11
Power Probe	Keysight	E9301A	MY57060008	2022-09-04
Electrical fast transient/burst				
Test S/W	/	Win3025 Version 4.00	/	/
Fast Transients/Burst Generator	TESEQ	NSG 3025	26861	2022-09-04
Surge				
Combined wave lightning surge simulator	3ctest	CWS 600G	ES0381813	2021-11-15
Lightning surge coupling decoupling network	3ctest	SPN 3618T	ES0941720	2021-11-15
Conducted radio frequency disturbances				
Test S/W	Tonscend	JS35-CS	/	/
Conduction and radiation immunity testing system	TESEQ	NSG4070	25807	2022-04-16
Attenuator	weinschelcorp	40-6-34	QQ986	2022-09-08
CDN	Luthi	CDN801-M2	1897	2022-09-11

Power frequency magnetic field				
Test S/W	TESEQ	Win2120 Ver6.00	/	/
Power Source	SCHAFFNER	NSG1007	54789	2022-03-21
Harmonic & Flicker Tester	SCHAFFNER	CCN1000	72045	2021-11-15
Induction coil Interface	SCHAFFNER	INA2141	6003	2022-09-08
Induction coil Interface	SCHAFFNER	INA-702	711-1115	2022-09-08
Voltage Dip & Voltage Interruptions				
Test S/W	AMETEK	AC Source CIGuiSII-500lix	2.0.0.7-No v.2006	/
Power Source	SCHAFFNER	NSG1007	54789	2022-03-21
current switchgear	TESEQ	NSG2200-1	A17820	2022-09-24
Harmonic & Flicker Tester	SCHAFFNER	CCN1000	72045	2021-11-15

5. EMISSION TEST

5.1 RADIATED EMISSION MEASUREMENT (RE)

Test Requirement:	ETSI EN 301 489-17 V3.2.4/7.1.1 ETSI EN 301 489-1 V2.2.3/8.2 EN55032:2015/A11:2020
Test Method:	EN 55032 /annex A.2

5.1.1 LIMITS

The ancillary equipment shall meet the class B limits given in CENELEC EN 55032 [1], annex A tables A.4 and A.5.

Table A.4 – Requirements for radiated emissions at frequencies up to 1 GHz for class B equipment

Frequency range(MHz)	Distance (m)	bandwidth	Limits dB(uV/m)		
			Peak (PK)	Quasi-peak (QP)	Average (Avg)
30 to 230	3	120 KHz	/	40	/
230 to 1000	3	120 KHz	/	47	/

Table A.5 – Requirements for radiated emissions at frequencies above 1 GHz for class B equipment

Frequency range(MHz)	Distance (m)	bandwidth	Limits dB(uV/m)		
			Peak (PK)	Quasi-peak (QP)	Average (Avg)
1000~3000	3	1MHz	70	/	50
3000~6000	3	1MHz	74	/	54

5.1.2 TEST PROCEDURE

(1) Procedure of Preliminary Test

Radiated emission tests shall be made with the receive or transmit antenna located at a horizontal distance of 3m plus half of the maximum width of the EUT being tested, measured from the centre of the EUT. The tests shall be performed with the equipment configured as closely as possible to its typical, practical operation. Unless stated otherwise, cables and wiring shall be as specified by the manufacturer and the equipment shall be in its housing (or cabinet) with all covers and access panels in place. Any deviation from normal EUT operating conditions shall be included in the test report.

The EUT (on a non-conductive support structure, where applicable) shall be placed on a remotely operated turntable, to allow the EUT to be rotated. The height of the EUT above the ground plane shall be according to the following requirements.

-- Table-top equipment is placed on a non-conductive set-up table with height 0.8 m ± 0.01 m, CISPR 16-1-4 specifies the method to determine the impact of the non-conductive set-up table on test results.

-- Floor-standing equipment is placed on a non-conductive support, as specified in the applicable product standard. If there are no EUT height placement requirements in the product standard, the EUT shall be placed on a non-conductive support at a height of 5 cm to 15 cm above the ground plane.

Note: This is table-top equipment.

Interface cables, loads, and devices should be connected to at least one of each type of the interface ports of the EUT and, where practical, each cable shall be terminated in a device typical for its actual use. Where there are multiple interface ports of the same type, a typical number of these devices shall be connected to devices or loads. It is sufficient to connect only one of the loads, provided that it can be shown, for example by preliminary testing, that the connection of further ports would not significantly increase the level of disturbance (that is, more than 2 dB) or significantly degrade the immunity level.

The test mode(s) were scanned during the preliminary test. After the preliminary scan, we found the test mode producing the highest emission level. The EUT and cable configuration, antenna position, polarization and turntable position of the above highest emission level were recorded for the final test.

(2) Procedure of Final Test

EUT and support equipment were set up on the turntable as per the configuration with highest emission level in the preliminary test. The Analyzer/ Receiver scanned from 30MHz to 1000MHz and 1000MHz to 6000MHz. Emissions were scanned and measured rotating the EUT to 360 degrees, varying cable placement and positioning the antenna 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.

Record at least six highest emissions. Emission frequency, amplitude, antenna position, polarization and turntable position were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit and for 30MHz~1000MHz only QP reading is presented，for 1000MHz~6000 MHz Peak and AVG reading is presented.

5.1.3 TEST SETUP

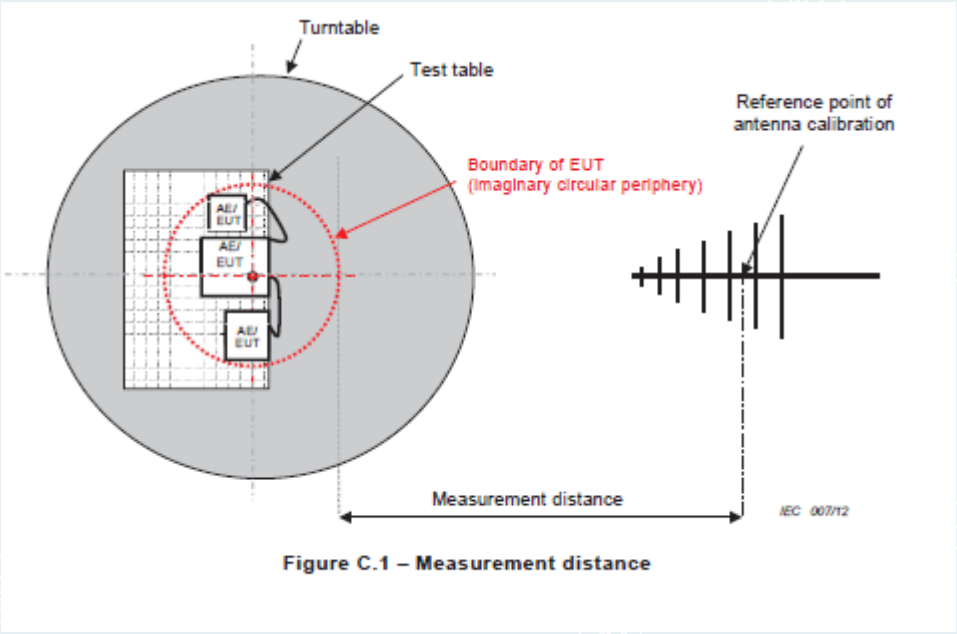


Figure C.1 – Measurement distance

Below the frequency of 1GHz

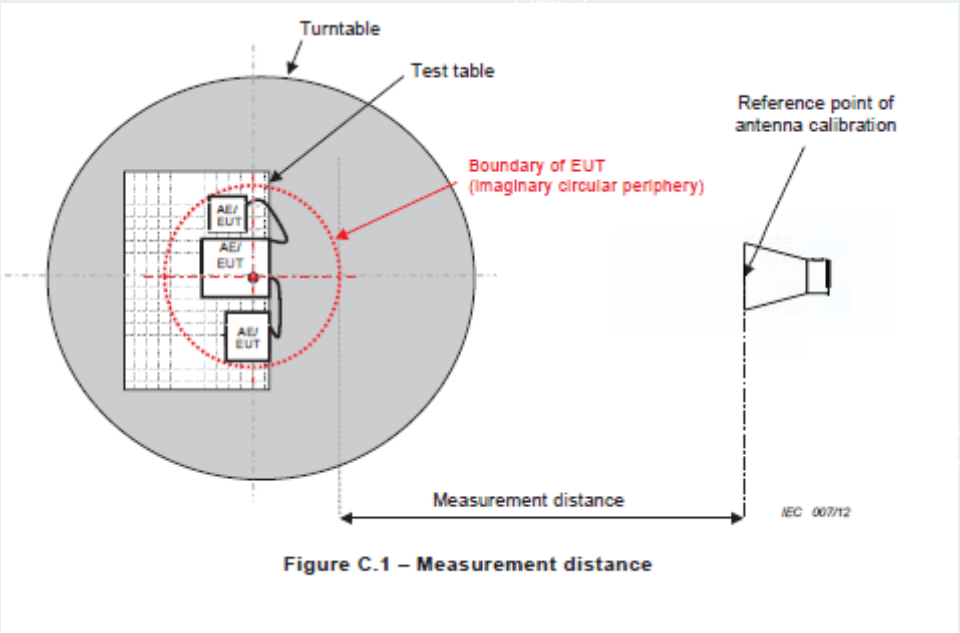


Figure C.1 – Measurement distance

Above the frequency of 1GHz(1GHz-6GHz)

5.1.4 DATA SAMPLE

Below 1GHz

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over (dB)	Remark
XXX.XXXX	48.49	-9.91	38.58	47.00	-8.42	QP

Frequency (MHz) = Emission frequency in MHz

Reading (dBuV) = Uncorrected Analyzer / Receiver reading

Correct Factor (dB/m) = Antenna factor + Cable loss – Amplifier gain

Result (dBuV/m) = Reading (dBuV) + Corr. Factor (dB/m)

Limit (dBuV/m) = Limit stated in standard

Over (dB) = Result (dBuV/m) – Limit(dBuV/m)

QP = Quasi-peak Reading

Above 1GHz

Frequency (MHz)	Reading (dBuV)	Level (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Remark
XXXX	56.70	34.18	-22.52	74	39.82	Peak
XXXX	46.34	23.80	-22.54	54	30.20	AVG

Frequency (MHz) = Emission frequency in MHz

Reading (dBuV) = Uncorrected Analyzer / Receiver reading

Correction Factor (dB/m) = Antenna factor + Cable loss – Amplifier gain

Result (dBuV/m) = Reading (dBuV) + Correction Factor (dB/m)

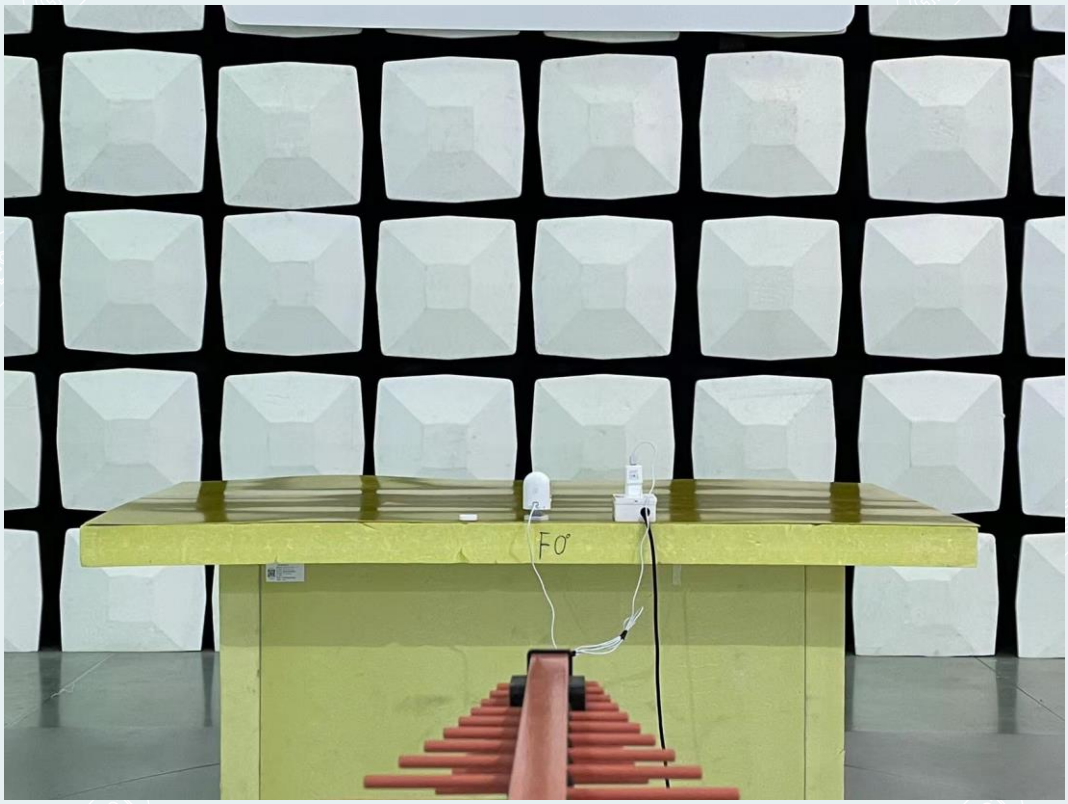
Limit (dBuV/m) = Limit stated in standard

Margin (dB) =Limit(dBuV/m)- Level(dBuV/m)

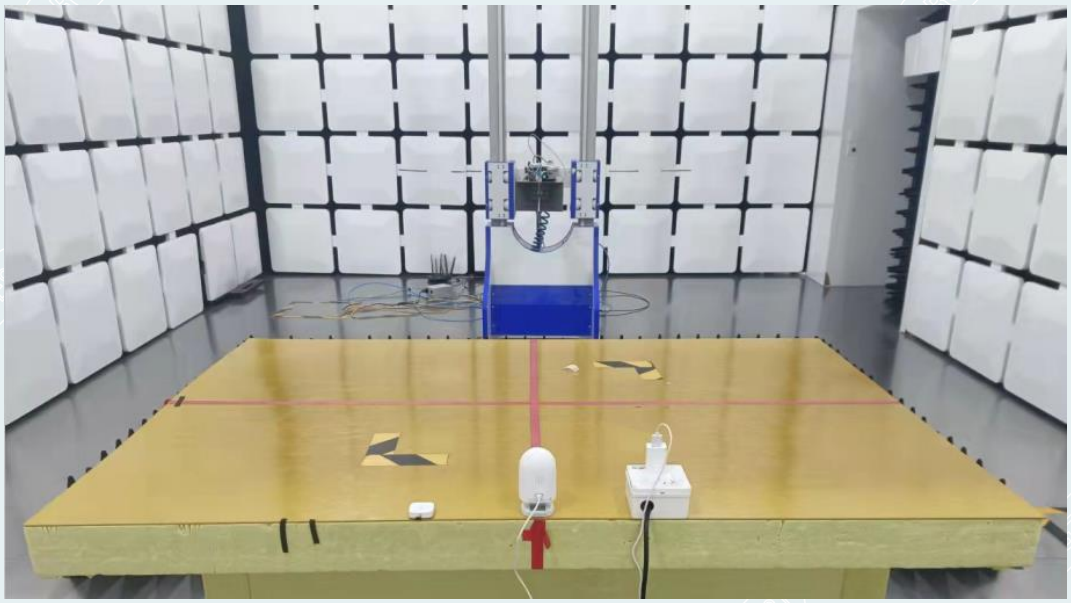
Peak = Peak Reading

AVG = Average Reading

5.1.5 PHOTOGRAPH OF THE TEST ARRANGEMENT



Below 1GHz



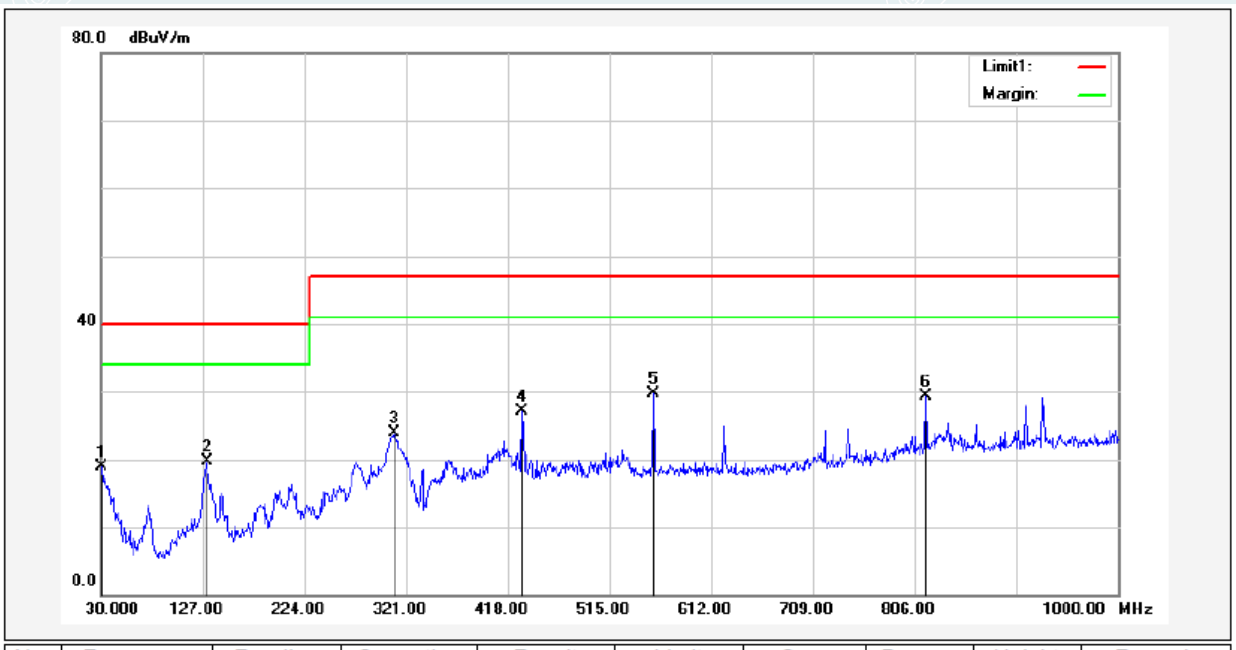
Above 1GHz

5.1.6 TEST RESULTS

Below 1GHz

EUT Name	Camera Hub G2H Pro	Model	CH-C01
Environmental Conditions	23.7℃/43%RH/101.0kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Wang Xinyuan
Test Date	2021-09-29	Sample No.	E20210914342601-0001

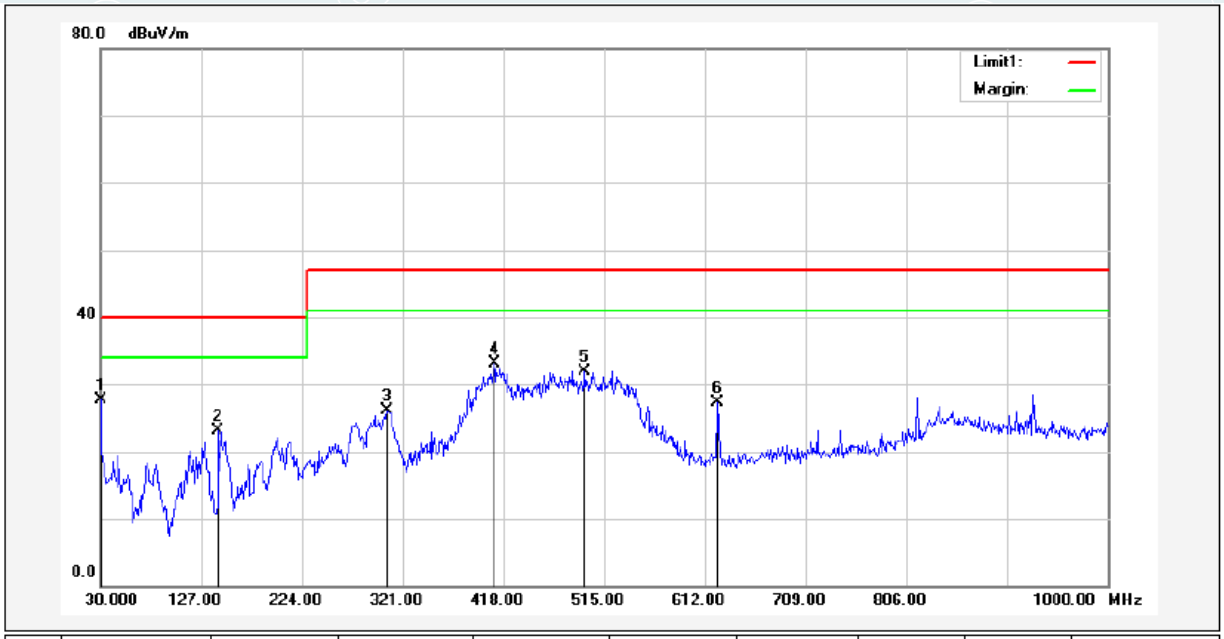
Polarity: Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over (dB)	Degree (deg.)	Height (cm)	Remark
1	30.9700	36.03	-17.21	18.82	40.00	-21.18	295	100	QP
2	130.8800	45.57	-25.91	19.66	40.00	-20.34	182	300	QP
3	309.3600	47.69	-23.74	23.95	47.00	-23.05	1	100	QP
4	431.5800	47.22	-20.20	27.02	47.00	-19.98	45	100	QP
5*	556.7100	46.80	-17.10	29.70	47.00	-17.30	30	300	QP
6	816.6700	43.97	-14.72	29.25	47.00	-17.75	21	100	QP

EUT Name	Camera Hub G2H Pro	Model	CH-C01
Environmental Conditions	23.7℃/43%RH/101.0kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Wang Xinyuan
Test Date	2021-09-29	Sample No.	E20210914342601-0001

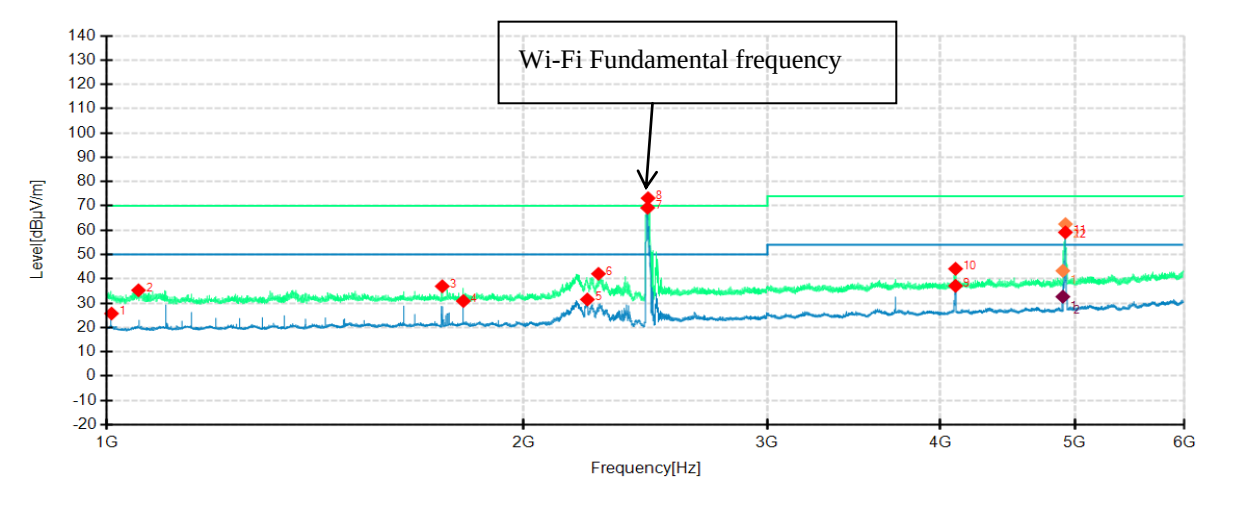
Polarity: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over (dB)	Degree (deg.)	Height (cm)	Remark
1*	30.0000	44.44	-16.77	27.67	40.00	-12.33	360	242	QP
2	143.4900	49.42	-26.41	23.01	40.00	-16.99	345	100	QP
3	305.4800	50.01	-23.89	26.12	47.00	-20.88	232	100	QP
4	409.2700	53.55	-20.46	33.09	47.00	-13.91	218	100	QP
5	496.5700	51.03	-19.03	32.00	47.00	-15.00	289	100	QP
6	624.6100	44.07	-16.84	27.23	47.00	-19.77	204	100	QP

Above 1GHz

EUT Name	Camera Hub G2H Pro	Model	CH-C01
Environmental Conditions	25℃/60%RH/101kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Lu Qiang
Test Date	2021-10-11	Sample No.	E20210914342601-0001



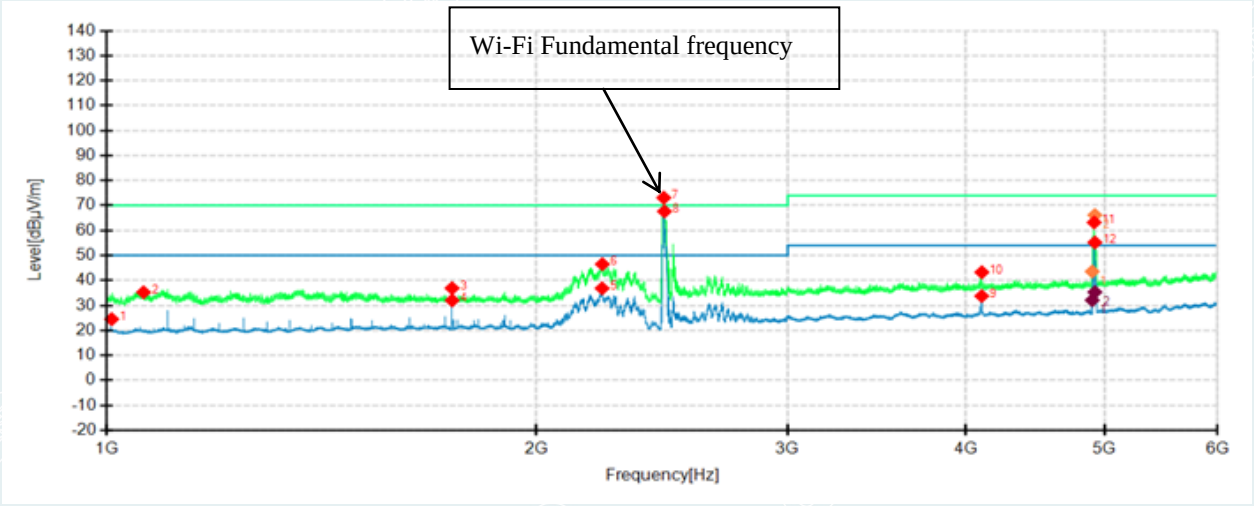
Suspected Data List									
NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1008.2000	50.86	25.71	-25.15	50.00	24.29	100	329	Horizontal
2	1054.4000	60.33	35.28	-25.05	70.00	34.72	100	81	Horizontal
3	1747.2000	59.35	36.91	-22.44	70.00	33.09	200	126	Horizontal
4	1809.6000	52.87	30.85	-22.02	50.00	19.15	100	334	Horizontal
5	2224.0000	52.10	31.49	-20.61	50.00	18.51	100	235	Horizontal
6	2265.4000	62.43	42.06	-20.37	70.00	27.94	100	76	Horizontal
7	2458.4000	88.82	69.20	-19.62	50.00	-19.20	100	5	Horizontal
8	2460.2000	92.78	73.16	-19.62	70.00	-3.16	100	66	Horizontal
9	4101.9000	50.95	37.09	-13.86	54.00	16.91	200	264	Horizontal
10	4101.9000	57.98	44.12	-13.86	74.00	29.88	200	264	Horizontal
11	4923.9000	69.18	59.11	-10.07	74.00	14.89	100	259	Horizontal
12	4924.2000	67.61	57.54	-10.07	54.00	-3.54	100	259	Horizontal

PK Final Data List									
NO.	Freq. [MHz]	Factor [dB]	PK Reading [dBµV/m]	PK Value [dBµV/m]	PK Limit [dBµV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4902.9275	-10.07	53.36	43.29	74.00	30.71	171	188	Horizontal
2	4924.6924	-10.07	72.57	62.50	74.00	11.50	152	0	Horizontal

AV Final Data List									
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBµV/m]	AV Value [dBµV/m]	AV Limit [dBµV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4902.9275	-10.07	42.70	32.63	54.00	21.37	171	188	Horizontal
2	4924.6924	-10.07	41.22	31.15	54.00	22.85	152	0	Horizontal

---------- The following blanks ----------

EUT Name	Camera Hub G2H Pro	Model	CH-C01
Environmental Conditions	25℃/60%RH/101kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Lu Qiang
Test Date	2021-10-11	Sample No.	E20210914342601-0001



Suspected Data List									
NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1008.2000	49.65	24.50	-25.15	50.00	25.50	200	130	Vertical
2	1061.4000	60.28	35.25	-25.03	70.00	34.75	200	286	Vertical
3	1746.0000	59.32	36.89	-22.43	70.00	33.11	100	356	Vertical
4	1746.2000	54.44	32.01	-22.43	50.00	17.99	100	356	Vertical
5	2224.0000	57.43	36.82	-20.61	50.00	13.18	100	336	Vertical
6	2224.8000	67.11	46.50	-20.61	70.00	23.50	100	107	Vertical
7	2456.4000	92.72	73.10	-19.62	70.00	-3.10	100	137	Vertical
8	2459.4000	87.26	67.64	-19.62	50.00	-17.64	100	82	Vertical
9	4102.8000	47.62	33.76	-13.86	54.00	20.24	100	289	Vertical
10	4103.4000	57.12	43.27	-13.85	74.00	30.73	200	307	Vertical
11	4918.5000	73.29	63.22	-10.07	74.00	10.78	100	64	Vertical
12	4924.2000	65.27	55.20	-10.07	54.00	-1.20	100	351	Vertical

PK Final Data List									
NO.	Freq. [MHz]	Factor [dB]	PK Reading [dBµV/m]	PK Value [dBµV/m]	PK Limit [dBµV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4902.7797	-10.07	53.63	43.56	74.00	30.44	102	4	Vertical
2	4924.3231	-10.07	76.25	66.18	74.00	7.82	154	80	Vertical

AV Final Data List									
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBμV/m]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4902.7797	-10.07	42.16	32.09	54.00	21.91	102	4	Vertical
2	4924.3231	-10.07	45.37	35.30	54.00	18.70	154	80	Vertical

Remark: The fundamental frequency or multiple of fundamental frequency's limit is controlled to the standard of Radio frequency.

---------- The following blanks ----------

5.2 CONDUCTED EMISSION MEASUREMENT (CE)

Test Requirement: ETSI EN 301 489-17 V3.2.4/7.1.1
ETSI EN 301 489-1 V2.2.3/8.4
EN55032:2015/A11:2020

Test Method: EN 55032 /annex A.3

5.2.1 LIMITS

Frequency (MHz)	Quasi-peak（dBμV）	Average（dBμV）
0.15 ~ 0.5	66~56	56~46
0.5 ~ 5	56	46
5 ~ 30	60	50

NOTE: (1) The lower limit shall apply at the transition frequencies.

(2) The limit decreases in line with the logarithm of the frequency in the range of 0.15 ～0.5 MHz.

5.2.2 TEST PROCEDURES

The test method shall be in accordance with CENELEC EN 55032 [1] annex A.3 and the Artificial Mains Networks (AMNs) shall be connected to the AC mains power source.

The measurement frequency range extends from 150 KHz to 30 MHz. When the EUT is a transmitter operating at frequencies below 30 MHz, then the exclusion band for transmitters applies for measurements in the transmit mode of operation.

(1) Procedure of Preliminary Test

For measurement of the disturbance voltage the equipment under test (EUT) is connected to the power supply mains and any other extended network via one or more artificial network(s). A EUT, whether intended to be grounded or not, and which is to be used on a table is configured as follows:

--Either the bottom or the rear of the EUT shall be at a controlled distance of 40 cm from a reference ground plane. This ground plane is normally the wall or floor of a shielded room. It may also be a grounded metal plane of at least 2m by 2m. This is physically accomplished as follows:

1) Place the EUT on a table of non-conducting material which is at least 80 cm high. Place the EUT so that it is 40 cm from the wall of the shielded room, or
2) Place the EUT on a table of non-conducting material which is 40 cm high so that the bottom of the EUT is 40 cm above the ground plane.

-- All other conductive surfaces of the EUT shall be at least 80 cm from the reference ground plane.

-- The AANs are placed on the floor that one side of the AAN housings is 40 cm from the vertical reference ground plane and other metallic parts.

-- Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth forming a bundle 30 cm to 40 cm long, hanging approximately in the middle between the ground plane and the table.

-- I/O cables that are connected to a peripheral shall be bundled in the centre. The end of the cable may be terminated if required using correct terminating impedance. The total length shall not exceed 1 m.

The test mode(s) were scanned during the preliminary test. After the preliminary scan, we found the test mode producing the highest emission level. The EUT configuration and cable configuration of the above highest emission levels were recorded for reference of the final test.

(2) Procedure of Final Test

EUT and support equipment were set up on the test bench as per the configuration with highest emission level in the preliminary test. A scan was taken on both power lines, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit.

5.2.3 TEST SETUP

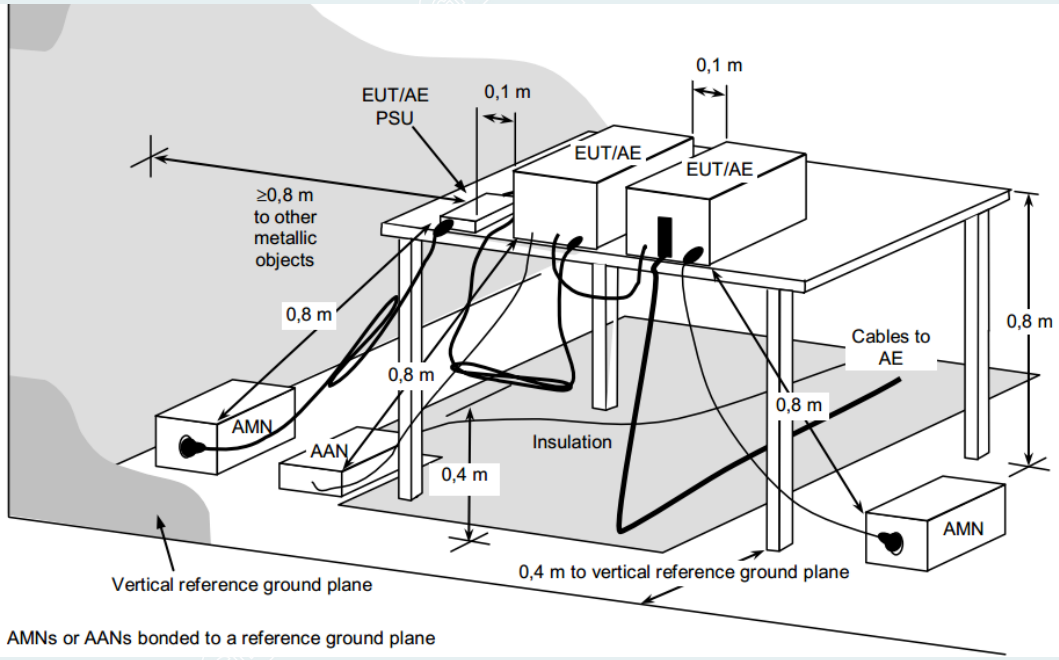


Figure 7.2-1: Test arrangement for Conducted emission measurement

5.2.4 DATE SAMPLE

Frequency (MHz)	QuasiPeak Reading (dBuV)	Average Reading (dBuV)	Correction Factor (dB)	QuasiPeak Result (dBuV)	Average Result (dBuV)	QuasiPeak Limit (dBuV)	Average Limit (dBuV)	QuasiPeak Margin (dB)	Average Margin (dB)
X.XXXX	32.69	25.65	11.52	44.21	37.17	65.78	55.79	-21.57	-18.62

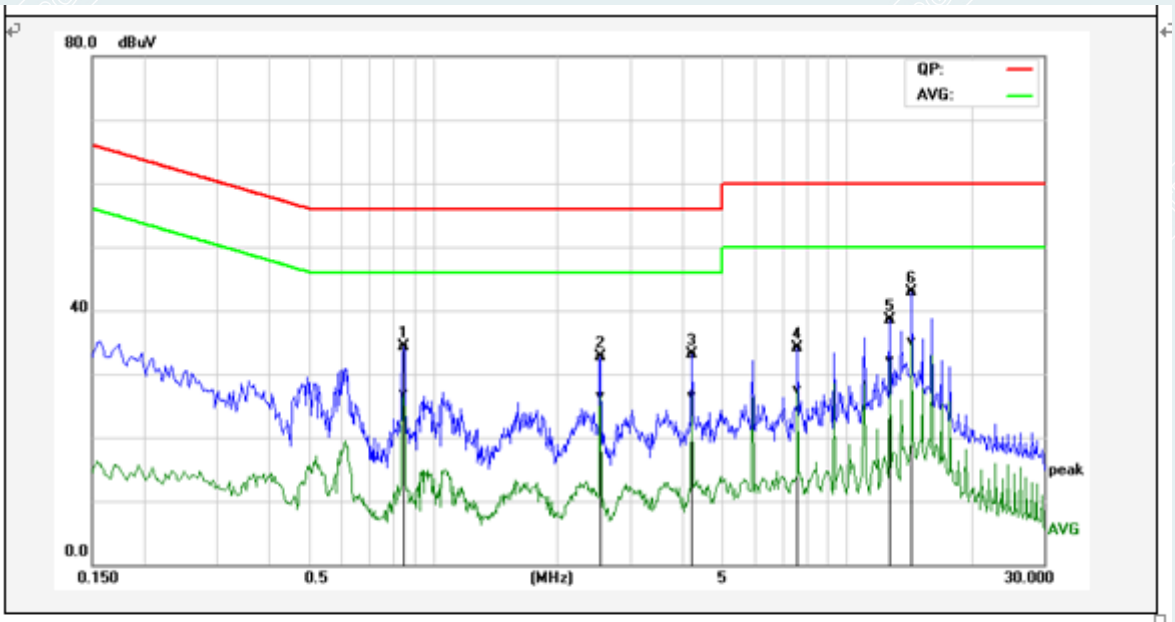
Factor = Insertion loss of LISN + Cable Loss
Result = Quasi-peak Reading/ Average Reading + Factor
Limit = Limit stated in standard
Margin = Result (dBuV) – Limit (dBuV)

5.2.5 PHOTOGRAPH OF THE TEST ARRANGEMENT

5.2.6 TEST RESULTS

EUT Name	Camera Hub G2H Pro	Model:	CH-C01
Environmental Conditions	23.7℃/43%RH/101kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Zeng Xianglong
Test Date	2021-09-27	Sample No.	E20210914342601-0001

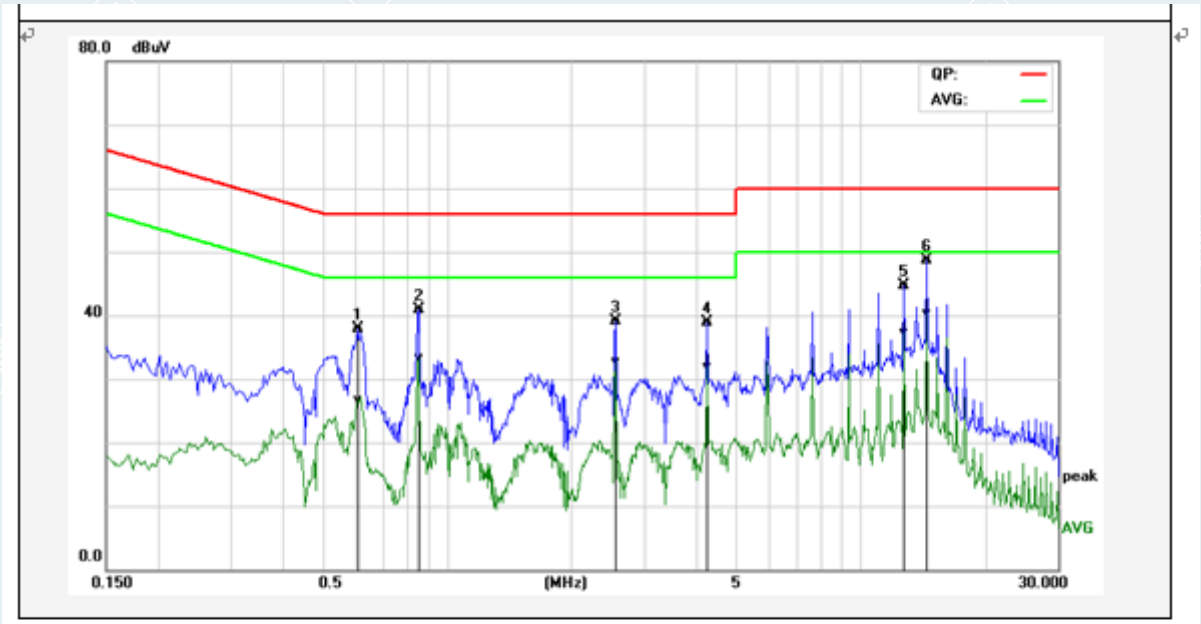
Line: **L1**



No.	Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
1	0.8500	24.61	17.16	9.67	34.28	26.83	56.00	46.00	-21.72	-19.17	Pass
2	2.5420	23.05	16.89	9.67	32.72	26.56	56.00	46.00	-23.28	-19.44	Pass
3	4.2380	23.49	16.82	9.71	33.20	26.53	56.00	46.00	-22.80	-19.47	Pass
4	7.6300	24.20	17.74	9.82	34.02	27.56	60.00	50.00	-25.98	-22.44	Pass
5	12.7220	28.67	22.14	9.91	38.58	32.05	60.00	50.00	-21.42	-17.95	Pass
6*	14.4220	32.92	25.25	9.94	42.86	35.19	60.00	50.00	-17.14	-14.81	Pass

EUT Name	Camera Hub G2H Pro	Model:	CH-C01
Environmental Conditions	23.7℃/43%RH/101kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Zeng Xianglong
Test Date	2021-09-27	Sample No.	E20210914342601-0001

Line: **N**



No.	Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
1	0.6100	28.19	17.00	9.66	37.85	26.66	56.00	46.00	-18.15	-19.34	Pass
2	0.8540	31.17	23.60	9.67	40.84	33.27	56.00	46.00	-15.16	-12.73	Pass
3	2.5540	29.49	23.05	9.67	39.16	32.72	56.00	46.00	-16.84	-13.28	Pass
4	4.2540	29.16	22.10	9.73	38.89	31.83	56.00	46.00	-17.11	-14.17	Pass
5	12.7739	34.76	27.32	9.91	44.67	37.23	60.00	50.00	-15.33	-12.77	Pass
6*	14.4820	38.79	30.46	9.94	48.73	40.40	60.00	50.00	-11.27	-9.60	Pass

5.3 HARMONIC CURRENT

Test Requirement: ETSI EN 301 489-17 V3.2.4/7.1.1
ETSI EN 301 489-1 V2.2.3/8.5

Test Method: EN 61000-3-2:2019

5.3.1. LIMITS

Limits for Class A equipment	
Harmonics Order n	Max. permissible harmonics current A
Odd harmonics	
3	2.30
5	1.14
7	0.77
9	0.40
11	0.33
13	0.21
15<=n<=39	0.15x15/n
Even harmonics	
2	1.08
4	0.43
6	0.30
8<=n<=40	0.23x8/n

Limits for Class D equipment		
Harmonics Order n	Max. permissible harmonics current per watt mA/W	Max. permissible harmonics current A
Odd Harmonics only		
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	0.30	0.21
15<=n<=39	3.85/n	0.15x15/n

Note:

1. *Class A and Class D are classified according to item 7.4.3.*
2. *According to section 7 of EN 61000-3-2, the above limits for all equipment except for lighting equipment having an active input power > 75 W and no limits apply for equipment with an active input power up to and including 75 W.*

5.3.2. TEST PROCEDURE

The EUT was placed on the top of a wooden table 0.8 meters above the ground and operated to produce the maximum harmonic components under normal operating conditions for each successive harmonic component in turn.

The classification of EUT is according to section 5 of EN 61000-3-2.

The EUT is classified as follows:

Class A: Balanced three-phase equipment, Household appliances excluding equipment as Class D, Tools excluding portable tools, Dimmers for incandescent lamps, audio equipment, equipment not specified in one of the three other classes.

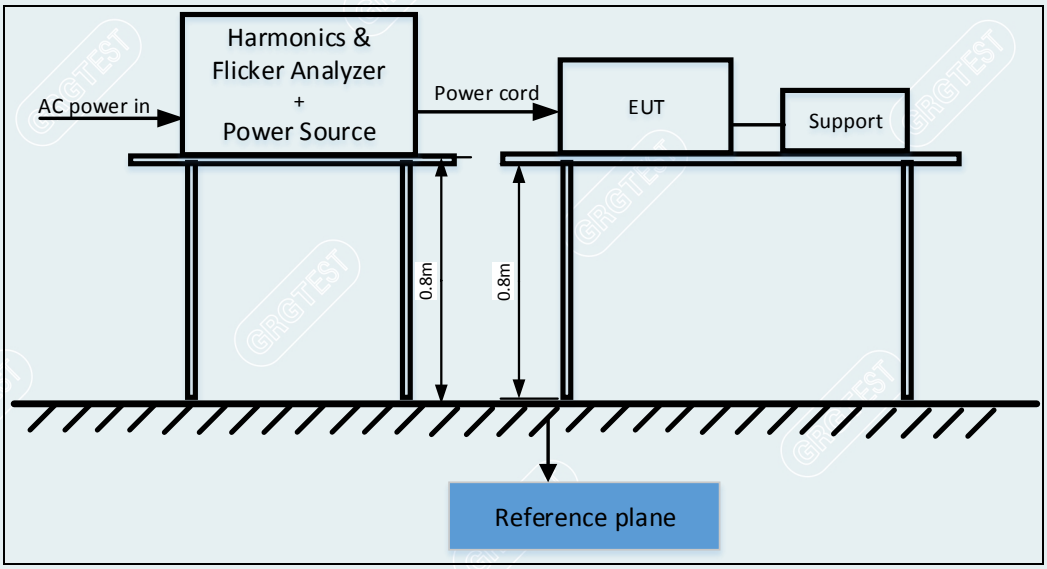
Class B: Portable tools; Arc welding equipment which is not professional equipment.

Class C: Lighting equipment.

Class D: Equipment having a specified power less than or equal to 600 W of the following types: Personal computers and personal computer monitors and television receivers.

The correspondent test program of test instrument to measure the current harmonics emanated from EUT is chosen. The measure time shall be not less than the time necessary for the EUT to be exercised.

5.3.3. TEST SETUP



5.3.4. PHOTOGRAPH OF THE TEST ARRANGEMENT

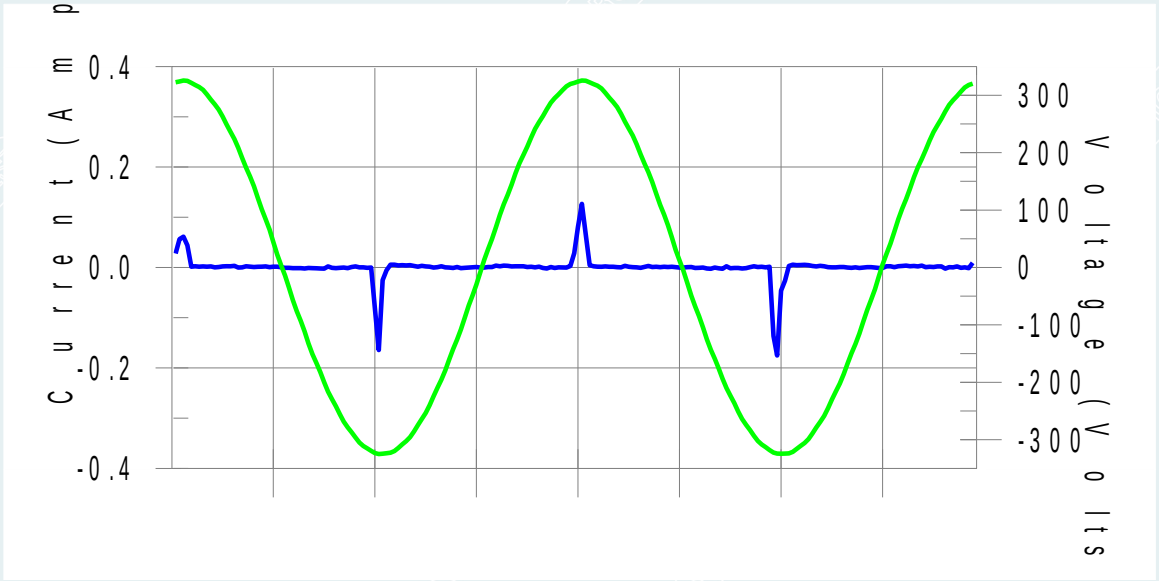
5.3.5. TEST RESULTS

EUT Name	Camera Hub G2H Pro	Model	CH-C01
Environmental Conditions	24.1℃/51%RH/101 kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Zhou Wen
Test Date	2021-10-09	Sample No.	E20210914342601-0001

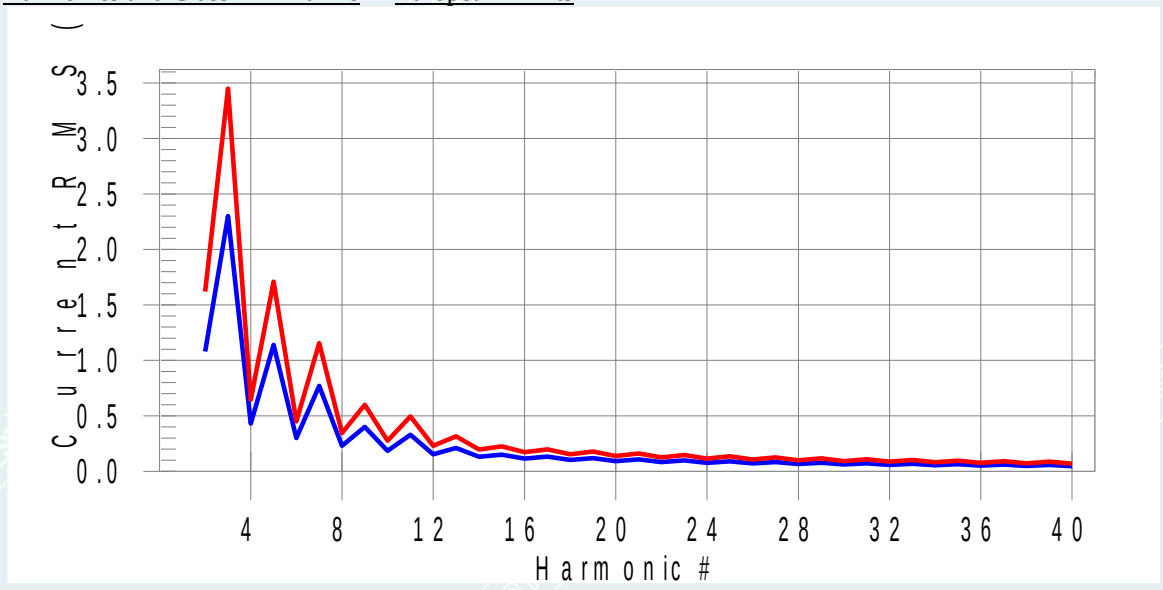
Test category: Class-A per Ed. 5.0 (2018) (European limits) Test Margin: 100
Test date: 2021/10/09 Start time: 19:50:26 End time: 19:53:07
Test duration (min): 2.5 Data file name: H-000763.cts_data

Test Result: Pass Source qualification: Normal

Current & voltage waveforms



Harmonics and Class A limit line European Limits



Test result: Pass Worst harmonics H13-1.8% of 150% limit, H13-2.6% of 100% limit

Current Test Result Summary (Run time)

Test category: Class-A per Ed. 5.0 (2018) (European limits) Test Margin: 100
Test date: 2021/10/09 Start time: 19:50:26 End time: 19:53:07
Test duration (min): 2.5 Data file name: H-000763.cts_data

Test Result: Pass Source qualification: Normal
THC(A): 0.019 I-THD(%): 246.4 POHC(A): 0.006 POHC Limit(A): 0.251

Highest parameter values during test:

V_RMS (Volts):	230.02	Frequency(Hz):	49.99
I_Peak (Amps):	0.256	I_RMS (Amps):	0.025
I_Fund (Amps):	0.008	Crest Factor:	10.695
Power (Watts):	1.7	Power Factor:	0.326

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.001	1.080	N/A	0.001	1.620	N/A	Pass
3	0.007	2.300	0.3	0.008	3.450	0.2	Pass
4	0.001	0.430	N/A	0.001	0.645	N/A	Pass
5	0.007	1.140	0.6	0.007	1.710	0.4	Pass
6	0.000	0.300	N/A	0.001	0.450	N/A	Pass
7	0.007	0.770	0.9	0.007	1.155	0.6	Pass
8	0.000	0.230	N/A	0.000	0.345	N/A	Pass
9	0.006	0.400	1.6	0.007	0.600	1.1	Pass
10	0.000	0.184	N/A	0.000	0.276	N/A	Pass
11	0.006	0.330	1.8	0.006	0.495	1.3	Pass
12	0.000	0.153	N/A	0.000	0.230	N/A	Pass
13	0.006	0.210	2.6	0.006	0.315	1.8	Pass
14	0.000	0.131	N/A	0.000	0.197	N/A	Pass
15	0.005	0.150	N/A	0.005	0.225	N/A	Pass
16	0.000	0.115	N/A	0.000	0.173	N/A	Pass
17	0.004	0.132	N/A	0.005	0.198	N/A	Pass
18	0.000	0.102	N/A	0.001	0.153	N/A	Pass
19	0.004	0.118	N/A	0.004	0.178	N/A	Pass
20	0.000	0.092	N/A	0.001	0.138	N/A	Pass
21	0.003	0.107	N/A	0.003	0.161	N/A	Pass
22	0.000	0.084	N/A	0.001	0.125	N/A	Pass
23	0.003	0.098	N/A	0.003	0.147	N/A	Pass
24	0.000	0.077	N/A	0.001	0.115	N/A	Pass
25	0.002	0.090	N/A	0.002	0.135	N/A	Pass
26	0.000	0.071	N/A	0.001	0.107	N/A	Pass
27	0.002	0.083	N/A	0.002	0.125	N/A	Pass
28	0.000	0.066	N/A	0.001	0.099	N/A	Pass
29	0.001	0.078	N/A	0.001	0.116	N/A	Pass
30	0.000	0.061	N/A	0.001	0.092	N/A	Pass
31	0.001	0.073	N/A	0.001	0.109	N/A	Pass
32	0.000	0.058	N/A	0.000	0.086	N/A	Pass
33	0.001	0.068	N/A	0.001	0.102	N/A	Pass
34	0.000	0.054	N/A	0.000	0.081	N/A	Pass
35	0.001	0.064	N/A	0.001	0.096	N/A	Pass
36	0.000	0.051	N/A	0.000	0.077	N/A	Pass
37	0.001	0.061	N/A	0.001	0.091	N/A	Pass
38	0.000	0.048	N/A	0.000	0.073	N/A	Pass
39	0.001	0.058	N/A	0.001	0.087	N/A	Pass
40	0.000	0.046	N/A	0.000	0.069	N/A	Pass

Voltage Source Verification Data (Run time)

Test category: Class-A per Ed. 5.0 (2018) (European limits) Test Margin: 100
Test date: 2021/10/09 Start time: 19:50:26 End time: 19:53:07
Test duration (min): 2.5 Data file name: H-000763.cts_data

Test Result: Pass Source qualification: Normal

Highest parameter values during test:

Voltage (Vrms):	230.02	Frequency(Hz):	49.99
I_Peak (Amps):	0.256	I_RMS (Amps):	0.025
I_Fund (Amps):	0.008	Crest Factor:	10.695
Power (Watts):	1.7	Power Factor:	0.326

Harm#	Harmonics V-rms	Limit V-rms	% of Limit	Status
2	0.155	0.460	33.76	OK
3	0.459	2.070	22.19	OK
4	0.071	0.460	15.47	OK
5	0.049	0.920	5.30	OK
6	0.035	0.460	7.65	OK
7	0.028	0.690	4.01	OK
8	0.025	0.460	5.44	OK
9	0.018	0.460	3.88	OK
10	0.026	0.460	5.63	OK
11	0.019	0.230	8.10	OK
12	0.020	0.230	8.84	OK
13	0.016	0.230	7.00	OK
14	0.011	0.230	4.91	OK
15	0.011	0.230	4.63	OK
16	0.013	0.230	5.64	OK
17	0.017	0.230	7.35	OK
18	0.017	0.230	7.24	OK
19	0.009	0.230	4.07	OK
20	0.014	0.230	6.15	OK
21	0.010	0.230	4.52	OK
22	0.008	0.230	3.33	OK
23	0.011	0.230	4.63	OK
24	0.006	0.230	2.77	OK
25	0.008	0.230	3.68	OK
26	0.011	0.230	4.57	OK
27	0.008	0.230	3.60	OK
28	0.008	0.230	3.66	OK
29	0.005	0.230	2.36	OK
30	0.007	0.230	3.13	OK
31	0.008	0.230	3.53	OK
32	0.007	0.230	2.98	OK
33	0.010	0.230	4.42	OK
34	0.004	0.230	1.60	OK
35	0.008	0.230	3.55	OK
36	0.004	0.230	1.59	OK
37	0.010	0.230	4.15	OK
38	0.003	0.230	1.10	OK
39	0.007	0.230	3.02	OK
40	0.005	0.230	2.20	OK

5.4 VOLTAGE FLUCTUATIONS AND FLICKER

Test Requirement: ETSI EN 301 489-17 V3.2.4/7.1.1
ETSI EN 301 489-1 V2.2.3/8.6

Test Method: EN 61000-3-3:2013

5.4.1 LIMITS

Test Item	Limit	Remark
P_{st}	1.0	P_{st}means short-term flicker indicator.
P_{lt}	0.65	P_{lt} means long-term flicker indicator.
T_{dt} (ms)	500	T_{dt}means maximum time that dt exceeds 3 %.
d_{max} (%)	4%	d_{max} means maximum relative voltage change.
dc (%)	3.3%	dc means relative steady-state voltage change

5.4.2 TEST PROCEDURES

The EUT was placed on the top of a wooden table 0.8 meters above the ground and operated to produce the most unfavorable sequence of voltage changes under normal operating conditions.

During the flick measurement, the measure time shall include that part of whole operation cycle in which the EUT produce the most unfavorable sequence of voltage changes. The observation period for short-term flicker indicator is 10 minutes and the observation period for long-term flicker indicator is 2 hours.

5.4.3 TEST SETUP

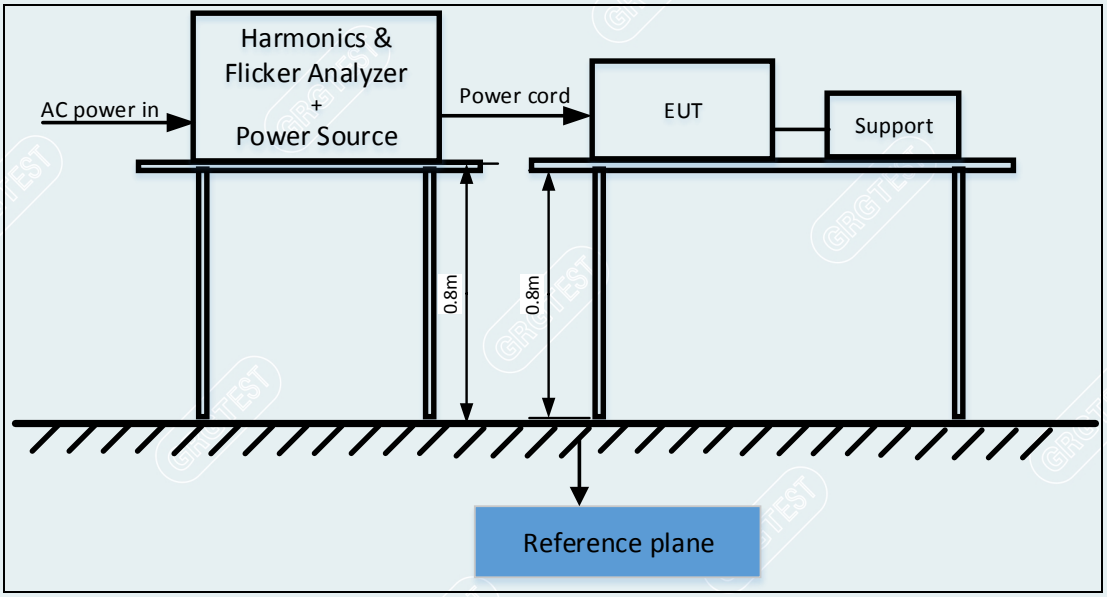


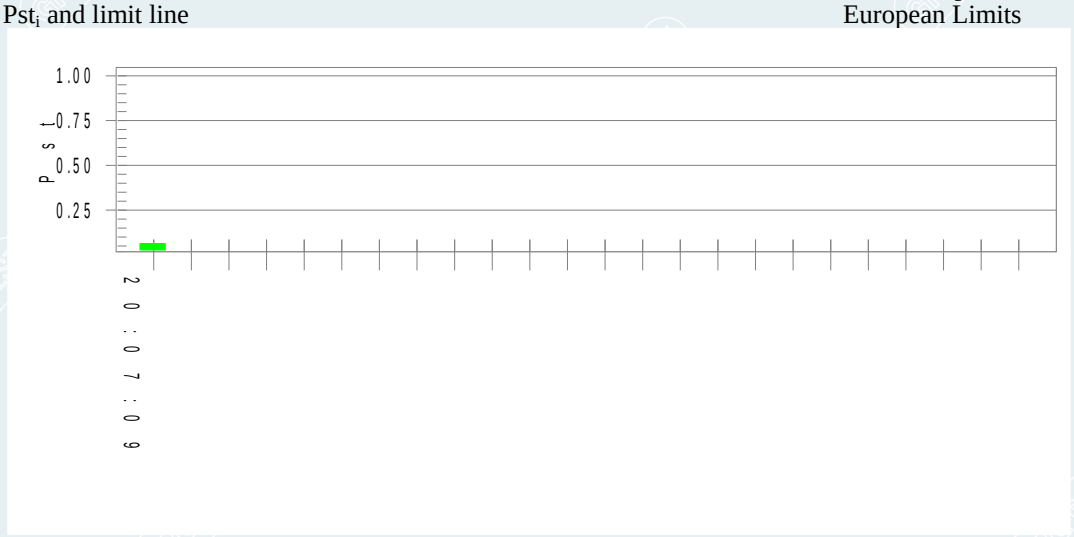
Figure 7.4-1: Test arrangement for Voltage fluctuations and flicker measurement.

5.4.4 PHOTOGRAPH OF THE TEST ARRANGEMENT

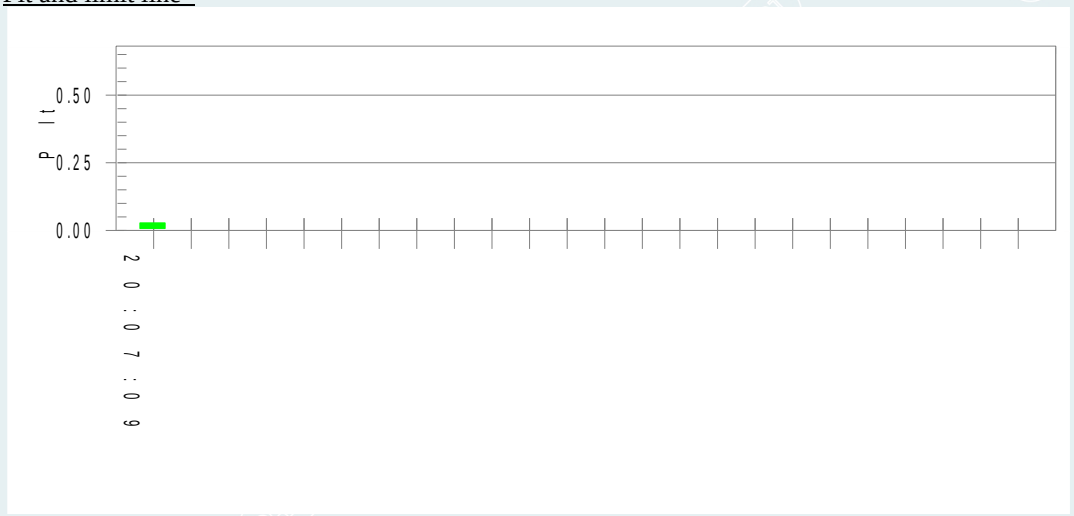
5.4.5 TEST RESULTS

EUT Name	Camera Hub G2H Pro	Model	CH-C01
Environmental Conditions	24.1℃/51%RH/101 kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Zhou Wen
Test Date	2021-10-09	Sample No.	E20210914342601-0001

Test category: All parameters (European limits) Test Margin: 100
Test date: 2021/10/09 Start time: 19:56:48 End time: 20:07:15
Test duration (min): 10 Data file name: F-000764.cts_data
Test Result: Pass Status: Test Completed
Pst_i and limit line European Limits



Plt and limit line



Parameter values recorded during the test:

Vrms at the end of test (Volt):	229.95			
T-max (mS):	0	Test limit (mS):	500.0	Pass
Highest dc (%):	0.00	Test limit (%):	3.30	Pass
Highest dmax (%):	0.00	Test limit (%):	4.00	Pass
Highest Pst (10 min. period):	0.064	Test limit:	1.000	Pass
Highest Plt (2 hr. period):	0.028	Test limit:	0.650	Pass

6. IMMUNITY TEST

6.1 GENERAL DESCRIPTION

EMC Immunity					
ETSI EN 301 489-17 V3.2.4&ETSI EN 301 489-1 V2.2.3&EN 55035:2017					
Item	Application port	Basic Standard	Test method	Performance Criterion	Result
Electrostatic discharge (ESD)	Enclosure port	ETSI EN 301 489-17 V3.2.4 /7.2.1 ETSI EN 301 489-1 V2.2.3/9.3 EN 55035:2017 Table 1	EN 61000-4-2	Test specification: ±8kV air discharge ±4kV Contact discharge Performance : Criteria B	PASS
Radiated radio-frequency electromagnetic (RS)	Enclosure port	ETSI EN 301 489-1 V2.2.3/9.2 ETSI EN 301 489-17 V3.2.4 /7.2.1	EN 61000-4-3	Test specification: Test level: For the frequency range 80MHz to 6000MHz, test level shall be 3 V/m, 80% AM(1kHz) Performance: Criteria A	PASS
Radiated radio-frequency electromagnetic (RS)	Enclosure port	EN 55035:2017 Table 1	EN 61000-4-3	Test specification: Test level: For the frequency range 80MHz to 1000MHz, 1800MHz, 2600MHz, 3500MHz, 5000MHz test level shall be 3 V/m, 80% AM(1kHz) Performance: Criteria A	PASS
Electrical fast transients(EFT)	AC mains power input port/signal ports	EN 301 489-17 V3.2.2 /7.2.1 EN 301 489-1 V2.2.3 /9.4 EN 55035:2017 Table 4	EN 61000-4-4	Test specification: AC power Port: ±1kV repetition rate: 5 kHz Performance: Criteria B	PASS
Surge	AC mains power input port	EN 301 489-17 V3.2.4 /7.2.1 EN 301 489-1 V2.2.3 /9.8	EN 61000-4-5	Test specification: AC Power Port: 1.2/50 us pulse line to line: ±1 kV; Performance : Criteria B	PASS
Surge	AC mains power input port	EN 55035:2017 Table 4	EN 61000-4-5	Test specification: AC Power Port: 1.2/50 us pulse line to line: ±1 kV; Performance : Criteria B	PASS
Radio frequency continuous conducted(CS)	AC mains power input port	EN 301 489-17 V3.2.4 /7.2.1 EN 301 489-1 V2.2.3 /9.5	EN 61000-4-6	Test specification: AC power port 0.15~80 MHz, 3Vrms, 80% AM, 1kHz Performance: Criteria A	PASS

Radio frequency continuous conducted(CS)	AC mains power input port	EN 55035:2017 Table 4	EN 61000-4-6	Test specification: AC power port 0.15~10 MHz, 3Vrms, 80% AM, 1kHz 10MHz ~ 30MHz, 3-1Vrms, 80% AM, 1kHz 30MHz ~ 80MHz, 1Vrms, 80% AM, 1kHz Performance: Criteria A	PASS
Power frequency magnetic field(PFMF)	Enclosure ports	EN 55035:2017 Table 1	IEC 61000-4-8	1A/m 50Hz Performance Criterion A	PASS
Voltage Dips & Short Interruptions	AC mains power input port	EN 301 489-17 V3.2.4 /7.2.1 EN 301 489-1 V2.2.3 /9.7	EN 61000-4-11	Test specification: 1. Voltage dips: i)0% residual voltage 0.5 cycle. Performance: Criteria B; ii) 0% residual voltage 1 cycle, Performance: Criteria B; iii)70% residual voltage 25 cycle. Performance: Criteria B; 2. Voltage interruption: 0% residual voltage during 250 cycles. Performance: Criteria C;	PASS
Voltage Dips & Short Interruptions	AC mains power input port	EN 55035:2017 Table 4	EN 61000-4-11	Test specification: 1. Voltage dips: i)0% residual voltage 0.5 cycle. Performance: Criteria B; ii) 70% residual voltage 25 cycle for 50Hz, 2. Voltage interruption: 0% residual voltage during 250 cycles for 50Hz.Performance: Criteria C;	PASS

6.2 GENERAL PERFORMANCE CRITERIA DESCRIPTION (ETSI EN 301 489-1/17)

6.2.1 GENERAL PERFORMANCE CRITERIA

The performance criteria are:

- Performance criteria A for immunity tests with phenomena of a continuous nature;
- Performance criteria B for immunity tests with phenomena of a transient nature;
- Performance criteria C for immunity tests with power interruptions exceeding a certain time.

The equipment shall meet the minimum performance criteria as specified in the following clauses.

Performance table

Criteria	During Test	After test (i.e. as a result of the application of the test)
A	Shall operate as intended. (See note). Shall be no loss of function. Shall be no unintentional transmissions.	Shall operate as intended. Shall be no degradation of performance. Shall be no loss of function. Shall be no loss of critical stored data.
B	May be loss of function.	Functions shall be self-recoverable. Shall operate as intended after recovering. Shall be no loss of critical stored data.
C	May be loss of function.	Functions shall be recoverable by the operator. Shall operate as intended after recovering. Shall be no loss of critical stored data.
NOTE: Operate as intended during the test allows a level of degradation in accordance with clause 6.2.2.		

Performance Criteria	Description
Performance criteria for continuous phenomena applied to transmitters and receivers	If no further details are given in the relevant part of EN 301 489 series [i.13] dealing with the particular type of radio equipment, the following general performance criteria for continuous phenomena shall apply. During and after the test, the apparatus shall continue to operate as intended. No degradation of performance or loss of function is allowed below a permissible performance level specified by the manufacturer when the apparatus is used as intended. In some cases this permissible performance level may be replaced by a permissible loss of performance. During the test the EUT shall not unintentionally transmit or change its actual operating state and stored data. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be deduced from the product description and documentation and what the user may reasonably expect from the apparatus if used as intended.
Performance criteria for transient	If no further details are given in the relevant part of EN 301 489 series [i.13] dealing with the particular type of radio equipment, the following general performance criteria for transient

phenomena applied to transmitters and receivers	phenomena shall apply. For surges applied to symmetrically operated wired network ports intended to be connected directly to outdoor lines the following criteria applies: • For products with only one symmetrical port intended for connection to outdoor lines, 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 SW reboot is not allowed. Information stored in non-volatile memory, or protected by a battery backup, shall not be lost. • For products with more than one symmetrical port intended for connection to outdoor lines, loss of function on the port under test is allowed, provided the function is self-recoverable. A SW reboot is not allowed. Information stored in non-volatile memory, or protected by a battery backup, shall not be lost. For all other ports the following applies: • After the test, the equipment shall continue to operate as intended. No degradation of performance or loss of function is allowed below a permissible performance level specified by the manufacturer, when the equipment is used as intended. In some cases this permissible performance level may be replaced by a permissible loss of performance. • During the EMC exposure to an electromagnetic phenomenon, a degradation of performance is, however, allowed. No change of the actual mode of operation (e.g. unintended transmission) or stored data is allowed. • If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be deduced from the product description and documentation and what the user may reasonably expect from the equipment if used as intended.
Performance criteria for equipment which does not provide a continuous communication link	For radio equipment which does not provide a continuous communication link, the performance criteria described in clauses 6.1 and 6.2 are not appropriate, in these cases the manufacturer shall declare, for inclusion in the test report, his own specification for an acceptable level of performance or degradation of performance during and/or after the immunity tests. The performance specification shall be included in the product description and documentation. The related specifications set out in clause 5.3 have also to be taken into account. The performance criteria specified by the manufacturer shall give the same degree of immunity protection as called for in clauses 6.1 and 6.2.
Performance criteria for ancillary equipment tested on a stand alone basis	If ancillary equipment is intended to be tested on a stand alone basis, the performance criteria described in clauses 6.1 and 6.2 are not appropriate, in these cases the manufacturer shall declare, for inclusion in the test report, his own specification for an acceptable level of performance or degradation of performance during and/or after the immunity tests. The performance specification shall be included in the product description and documentation. The related specifications set out in clause 5.3 have also to be taken into account. The performance criteria specified by the manufacturer shall give the same degree of immunity protection as called for in clauses 6.1 and 6.2.

Performance Criteria	Description
CT	The performance criteria A shall apply. Tests shall be repeated with the EUT in standby mode (if applicable) to ensure that unintentional transmission does not occur. In systems using acknowledgement signals, it is recognized that an ACKnowledgement (ACK) or Not ACKnowledgement (NACK) transmission may occur, and steps should be taken to ensure that any transmission resulting from the application of the test is correctly interpreted.
TT	The performance criteria B shall apply, except for voltage dips of 100 ms and voltage interruptions of 5 000 ms duration, for which performance criteria C shall apply. Tests shall be repeated with the EUT in standby mode (if applicable) to ensure that unintentional transmission does not occur. In systems using acknowledgement signals, it is recognized that an acknowledgement (ACK) or not-acknowledgement (NACK) transmission may occur, and steps should be taken to ensure that any transmission resulting from the application of the test is correctly interpreted.
CR	The performance criteria A shall apply. Where the EUT is a transceiver, under no circumstances, shall the transmitter operate unintentionally during the test. In systems using acknowledgement signals, it is recognized that an ACK or NACK transmission may occur, and steps should be taken to ensure that any transmission resulting from the application of the test is correctly interpreted.
TR	The performance criteria B shall apply, except for voltage dips of 100 ms and voltage interruptions of 5 000 ms duration for which performance criteria C shall apply. Where the EUT is a transceiver, under no circumstances, shall the transmitter operate unintentionally during the test. In systems using acknowledgement signals, it is recognized that an ACK or NACK transmission may occur, and steps should be taken to ensure that any transmission resulting from the application of the test is correctly interpreted.

Note:
Criterion A applies for immunity tests with phenomena of a continuous nature. (CT, CR)
Criterion B applies for immunity tests with phenomena of a transient nature. (TT, TR)
Criterion C for immunity tests with power interruptions exceeding a certain time.

6.2.2 MINIMUM PERFORMANCE LEVEL

For equipment that supports a PER or FER, the minimum performance level shall be a PER or FER less than or equal to10 %.
For equipment that does not support a PER or a FER, the minimum performance level shall be no loss of the wireless transmission function needed for the intended use of the equipment.

6.2.3 PERFORMANCE CRITERIA FOR CONTINUOUS PHENOMENA

The performance criteria A shall apply.
Where the EUT is a transmitter in standby mode, unintentional transmission shall not occur during the test.
Where the EUT is a transceiver in receive mode, unintentional transmission shall not occur during the test.

6.2.4 PERFORMANCE CRITERIA FOR TRANSIENT PHENOMENA

The performance criteria B shall apply, except for voltage dips greater than or equal to 100 ms and voltage interruptions of 5 000 ms duration, for which performance criteria C shall apply.
Where the EUT is a transmitter in standby mode, unintentional transmission shall not occur as a result of the application of the test.

Where the EUT is a transceiver in receive mode, unintentional transmission shall not occur as a result of the application of the test.

---------- The following blanks ----------

6.3 GENERAL PERFORMANCE CRITERIA DESCRIPTION (EN 55035)

6.3.1 GENERAL PERFORMANCE CRITERIA

Performance 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.

Performance 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.

Performance 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.

6.4 ELECTROSTATIC DISCHARGE(ESD)

6.4.1 TEST SPECIFICATION

Test Requirement:	ETSI EN 301 489-17 V3.2.4 /7.2.1 ETSI EN 301 489-1 V2.2.3/9.3 EN 55035:2017 Table 1
Test Method:	EN 61000-4-2:2009
Discharge Impedance:	330 ohm / 150 pF
Discharge Voltage:	Air Discharge : ±2 kV, ±4 kV , ±8 kV; Contact Discharge: ±2 kV, ±4 kV
Polarity:	Positive & Negative
Number of Discharge:	10 times at each test point
Discharge Mode:	Single Discharge 1 second

6.4.2 TEST PROCEDURE

The basic test procedure was in accordance with EN 61000-4-2:

The test generator necessary to perform direct and indirect application of discharges to the EUT in the following manner:

(1) The test shall be performed with single discharges. On each pre-selected point at least 10single discharges (in the most sensitive polarity) shall be applied.

NOTE 1 The minimum number of discharges applied is depending on the EUT; for products with synchronized circuits the number of discharges should be larger.

For the time interval between successive single discharges an initial value of 1 s is recommended. Longer intervals may be necessary to determine whether a system failure has occurred.

NOTE 2 The points to which the discharges should be applied may be selected by means of an exploration carried out at a repetition rate of 20 discharges per second, or more.

Vertical Coupling Plane (VCP):

The coupling plane, of dimensions 0.5m x 0.5m, is placed parallel to, and positioned at a distance 0.1m from, the EUT, with the Discharge Electrode touching the coupling plane.

The four faces of the EUT will be performed with electrostatic discharge.

Horizontal Coupling Plane (HCP):

The coupling plane is placed under to the EUT. The generator shall be positioned vertically at a distance of 0.1m from the EUT, with the Discharge Electrode touching the coupling plane.

The four faces of the EUT will be performed with electrostatic discharge.

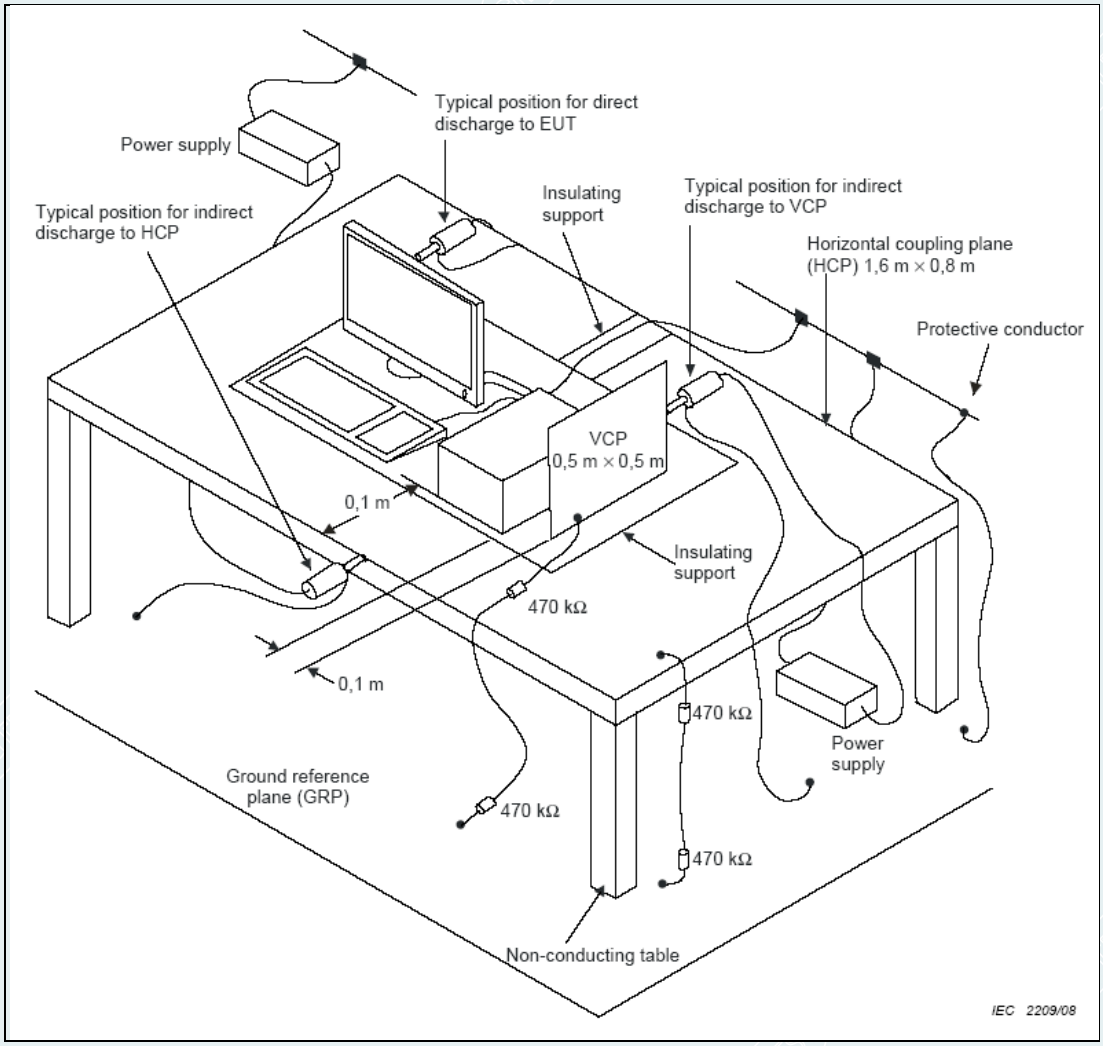
(2) Air discharges at insulation surfaces of the EUT.

It was at least ten single discharges with positive and negative at the same selected point.

(3) For TABLE-TOP equipment:

The configuration consisted of a wooden table 0.8 meters high standing on the Ground Reference Plane. The GRP consisted of a sheet of aluminum at least 0.25mm thick, and 2.5 meters square connected to the protective grounding system. A Horizontal Coupling Plane (1.6m x 0.8m) was placed on the table and attached to the GRP by means of a cable with 940k total impedance. The equipment under test was installed in a representative system as described in EN 61000-4-2, and its cables were placed on the HCP and isolated by an insulating support of 0.5mm thickness. A distance of1-meter minimum was provided between the EUT and the walls of the laboratory and any other metallic structure.

6.4.3 TEST SETUP



6.4.4 PHOTOGRAPH OF THE TEST ARRANGEMENT

6.4.5 TEST RESULTS

EUT Name	Camera Hub G2H Pro	Model	CH-C01
Environmental Conditions	23.7℃/47%RH/101kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Zhou Wen
Test Date	2021-10-09	Sample No.	E20210914342601-0001

For EN55035:

Discharge point	Discharge voltage	C-Conduct A-Air	Required Performance	Actual performance	Result
Vertical coupling plane	±2kV, ±4kV	C	Criterion B	Criterion B[1)]	PASS
Horizontal coupling plane	±2kV, ±4kV	C	Criterion B	Criterion B[1)]	PASS
Screw	±2kV, ±4kV	C	Criterion B	Criterion B[1)]	PASS
Shell gaps	±2kV, ±4kV, ±8kV	A	Criterion B	Criterion B[1)]	PASS
Card slot	±2kV, ±4kV, ±8kV	A	Criterion B	Criterion B[1)]	PASS
NOTE: [1)] Before test, after test, the EUT function is normal. During the test the EUT Short time jamming appears on the monitoring screen.					

For EN 301489-1/ EN301489-17:

Discharge point	Discharge voltage	C-Conduct A-Air	Required Performance	Actual performance	Result
Vertical coupling plane	±2kV, ±4kV	C	Criterion B	Criterion B[1)]	PASS
Horizontal coupling plane	±2kV, ±4kV	C	Criterion B	Criterion B[1)]	PASS
Screw	±2kV, ±4kV	C	Criterion B	Criterion B[1)]	PASS
Shell gaps	±2kV, ±4kV, ±8kV	A	Criterion B	Criterion B[1)]	PASS
Card slot	±2kV, ±4kV, ±8kV	A	Criterion B	Criterion B[1)]	PASS
NOTE: [1)] Before test, after test, the EUT function is normal. During the test the EUT Short time jamming appears on the monitoring screen.					

6.5 RADIATED RADIO-FREQUENCY ELECTROMAGNETIC FIELD (RS)

6.5.1 TEST SPECIFICATION

Test Requirement:	ETSI EN 301 489-17 V3.2.4 /7.2.1 ETSI EN 301 489-1 V2.2.3/9.2 EN 55035:2017 Table 1
Test Method:	EN 61000-4-3:2006+A1:2008+A2:2010
Frequency Range:	EN 55035: 80MHz~1000MHz,1800MHz, 2600MHz, 3500MHz, 5000MHz ETSI EN 301 489-17，ETSI EN 301 489-1 80MHz ~ 6000MHz
Field Strength:	3 V/m
Modulation:	1kHz Sine Wave, 80%, AM Modulation
Polarity of Antenna:	Horizontal and Vertical
Test Distance:	3 m
Antenna Height:	1.55m

6.5.2 TEST PROCEDURE

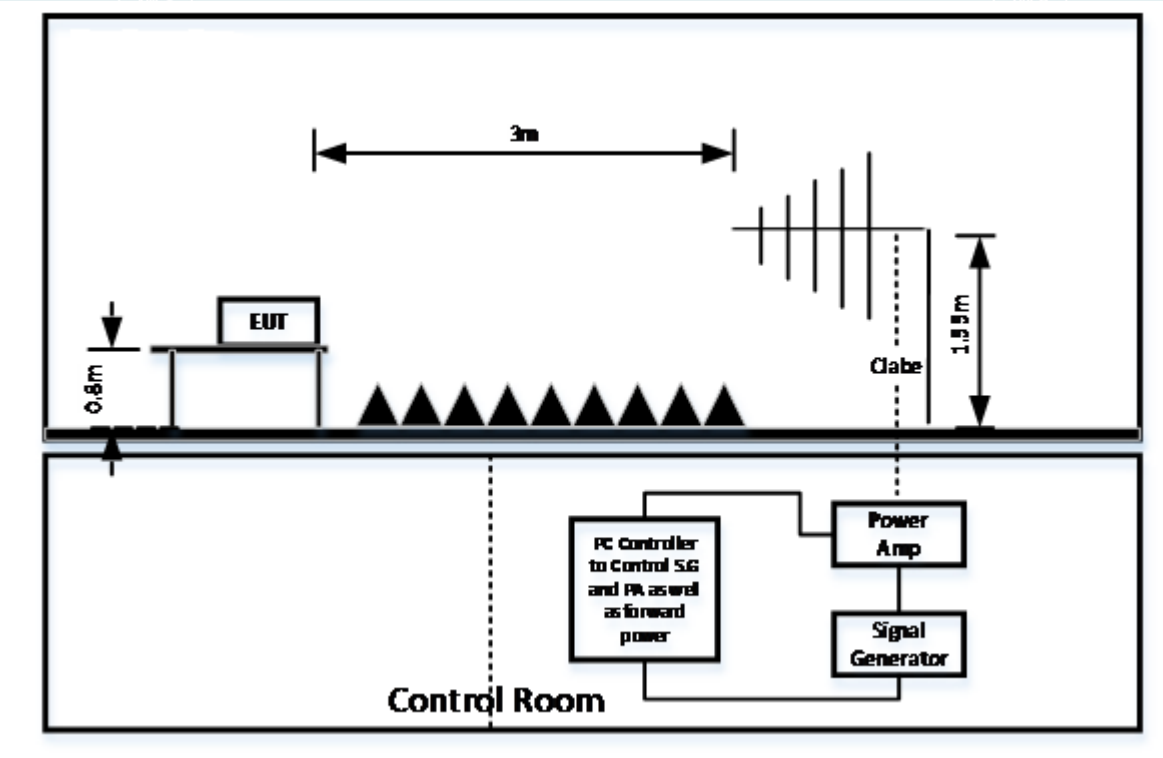
(1) The testing is performed in a fully anechoic chamber. The transmit antenna was located at a distance of 3 meters from the EUT.

(2) The frequency range is swept from 80 MHz ~6000 MHz, with the signal 80% amplitude modulated with a 1 KHz sine-wave. The rate of sweep did not exceed 1.5×10-3 decade/s, where the frequency range is swept incrementally; the step size is 1% of preceding frequency value.

(3) The dwell time at each frequency shall be not less than the time necessary for the EUT to be able to respond.

(4) The test is performed with the EUT exposed to both vertically and horizontally polarized fields on each of the four sides.

6.5.3 TEST SETUP



NOTE:

(1) Table-top equipment

The EUT installed in a representative system as described in section 7 of IEC 61000-4-3 was placed on a non-conductive table 0.8 meters in height. The system under test was connected to the power and signal wire according to relevant installation instructions.

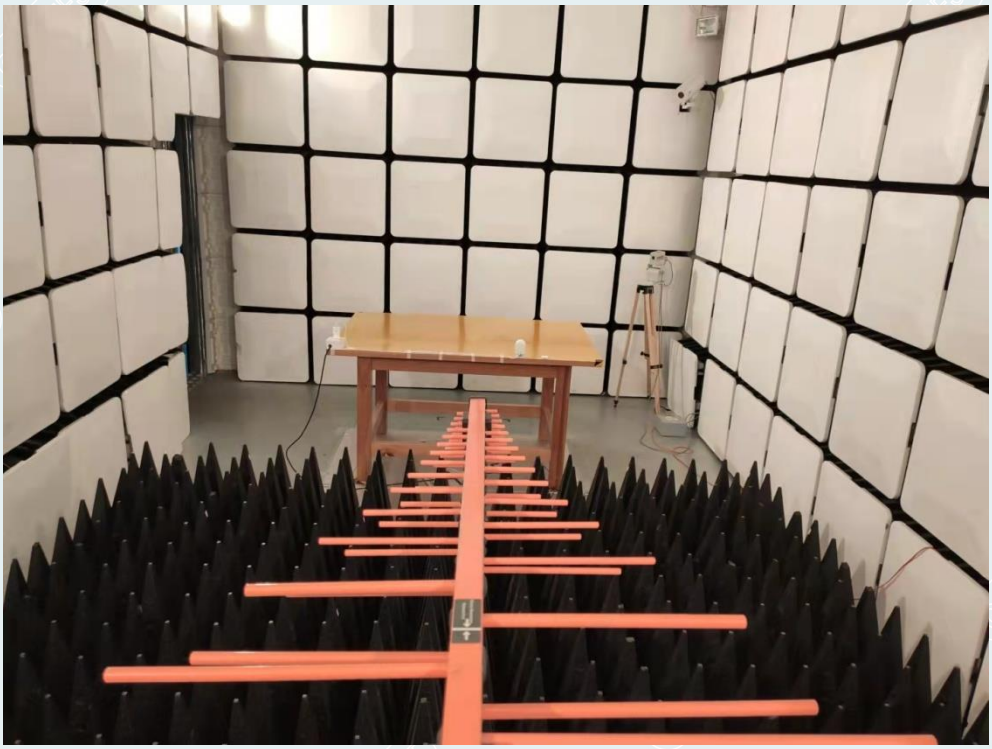
(2) Floor-standing equipment

The EUT installed in a representative system as described in section 7 of IEC 61000-4-3 was placed on a non-conductive wood support 0.1 meters in height. The system under test was connected to the power and signal wire according to relevant installation instructions.

Note: the EUT is a Table-top equipment.

Note: the EUT is a table-top equipment.

6.5.4 PHOTOGRAPH OF THE TEST ARRANGEMENT



80MHz~1000MHz

1000MHz~6000MHz

6.5.5 TEST RESULTS

EUT Name	Camera Hub G2H Pro	Model	CH-C01
Environmental Conditions	23.7℃/47%RH/101kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Tang Shenghui
Test Date	2021-10-08	Sample No.	E20210914342601-0001

For EN 301489-1/ EN301489-17:

Frequency (MHz)	Field strength (V/m)	EUT orientation	Antenna polarization	Required criterion	Actual performance	Result
80MHz~6000MHz	3	Front	H	Criterion A	Criterion A[1)]	pass
			V	Criterion A	Criterion A[1)]	pass
		Left	H	Criterion A	Criterion A[1)]	pass
			V	Criterion A	Criterion A[1)]	pass
		Right	H	Criterion A	Criterion A[1)]	pass
			V	Criterion A	Criterion A[1)]	pass
		Rear	H	Criterion A	Criterion A[1)]	pass
			V	Criterion A	Criterion A[1)]	pass
NOTE: [1)]Before test, during the test, and after test, the EUT function is normal.						

For EN 55035:

Frequency (MHz)	Field strength (V/m)	EUT orientation	Antenna polarization	Required criterion	Actual performance	Result
80MHz~1000MHz	3	Front	H	Criterion A	Criterion A[1)]	pass
			V	Criterion A	Criterion A[1)]	pass
		Left	H	Criterion A	Criterion A[1)]	pass
			V	Criterion A	Criterion A[1)]	pass
		Right	H	Criterion A	Criterion A[1)]	pass
			V	Criterion A	Criterion A[1)]	pass
		Rear	H	Criterion A	Criterion A[1)]	pass
			V	Criterion A	Criterion A[1)]	pass
1800MHz, 2600MHz, 3500MHz, 5000MHz	3	Front	H	Criterion A	Criterion A[1)]	pass
			V	Criterion A	Criterion A[1)]	pass
		Left	H	Criterion A	Criterion A[1)]	pass
			V	Criterion A	Criterion A[1)]	pass
		Right	H	Criterion A	Criterion A[1)]	pass
			V	Criterion A	Criterion A[1)]	pass
		Rear	H	Criterion A	Criterion A[1)]	pass
			V	Criterion A	Criterion A[1)]	pass
NOTE: [1)]Before test, during the test, and after test, the EUT function is normal.						

6.6 ELECTRICAL FAST TRANSIENTS (EFT)

6.6.1 TEST SPECIFICATION

Test Requirement:	ETSI EN 301 489-17 V3.2.4 /7.2.1 ETSI EN 301 489-1 V2.2.3/9.4 EN 55035:2017 Table 4
Test Method:	EN 61000-4-4:2012
Test Voltage:	AC power Port: ±1kV
Polarity:	Positive and Negative
Impulse Frequency:	5 kHz
Impulse Wave-shape:	5 ns/50ns for voltage
Burst Duration:	15 ms
Burst Period:	300 ms
Test Duration:	1 min for each polarity

6.6.2 TEST PROCEDURE

(1) EUTs, whether stationary floor-mounted or table top, and equipment designed to be mounted in other configurations, shall be placed on a ground reference plane and shall be insulated from it by an insulating support 0.1 m ±0.01 m thick. The test generator and the coupling/ decoupling network shall be placed directly on, and bonded to, the ground reference plane.

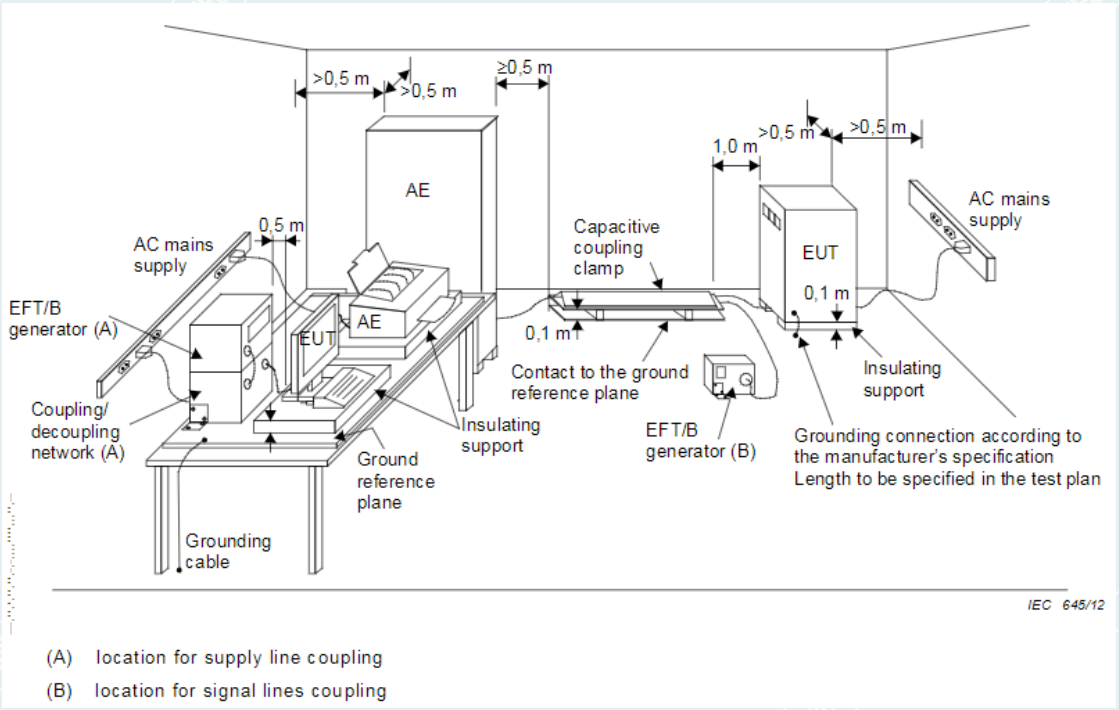
(2) The minimum distance between the EUT and all other conductive structures (e.g. the walls of a shielded room), except the ground reference plane shall be more than 0.5 m. If the manufacturer provides a non-detachable supply cable more than 0.5 m ±0.05 m long with the equipment, the excess length of this cable shall be folded to avoid a flat coil and situated at a distance of 0,1 m above the ground reference plane.

(3) For input and AC power ports:

The EUT is connected to the power mains by using a coupling device which couples the EFT interference signal to AC power lines. Both polarities of the test voltage should be applied during compliance test and the duration of the test can't less than 1min.

(4) The transient/burst waveform was in accordance with EN 61000-4-4, 5/50ns.

6.6.3 TEST SETUP



(A) location for supply line coupling

(B) location for signal lines coupling

6.6.4 PHOTOGRAPH OF THE TEST ARRANGEMENT

6.6.5 TEST RESULTS

EUT Name	Camera Hub G2H Pro	Model	CH-C01
Environmental Conditions	24.1℃/51%RH/101kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Zhou Wen
Test Date	2021-10-09	Sample No.	E20210914342601-0001

For EN55035:

Test Point	Polarity	Test Level (kV)	Required Performance	Actual performance	Result
L	+	1	Criterion B	Criterion A[1)]	PASS
	-	1	Criterion B	Criterion A[1)]	PASS
N	+	1	Criterion B	Criterion A[1)]	PASS
	-	1	Criterion B	Criterion A[1)]	PASS
L-N	+	1	Criterion B	Criterion A[1)]	PASS
	-	1	Criterion B	Criterion A[1)]	PASS
NOTE: [1)]Before test, during the test, and after test, the EUT function is normal.					

For EN301489-1/ EN301489-17:

Test Point	Polarity	Test Level (kV)	Required Performance	Actual performance	Result
L	+	1	Criterion B	Criterion A[1)]	PASS
	-	1	Criterion B	Criterion A[1)]	PASS
N	+	1	Criterion B	Criterion A[1)]	PASS
	-	1	Criterion B	Criterion A[1)]	PASS
L-N	+	1	Criterion B	Criterion A[1)]	PASS
	-	1	Criterion B	Criterion A[1)]	PASS
NOTE: [1)]Before test, during the test, and after test, the EUT function is normal.					

6.7 SURGES

6.7.1 TEST SPECIFICATION

Test Requirement:	ETSI EN 301 489-17 V3.2.4 /7.2.1 ETSI EN 301 489-1 V2.2.3/9.8 EN 55035:2017 Table 4
Test Method:	EN 61000-4-5: 2014+ A1:2017
Wave-Shape:	AC power supply port: 1.2/50(8/20) Tr/Th μs combination wave
Test Voltage:	AC Port: line to line: ±1 kV Performance Criterion B
Generator Source Impedance:	AC power supply port: Line to line 2ohm, Line to PE12ohm
Polarity:	Positive and Negative
Phase Angle:	ETSI EN 301 489-17/ ETSI EN 301 489-1: 0 °, 90 °, 180 °, 270 ° EN 55035: +90 °, -270 °
Pulse Repetition Rate:	1 minute
Number of tests:	5 positive and 5 negative at the selected points

6.7.2 TEST PROCEDURE

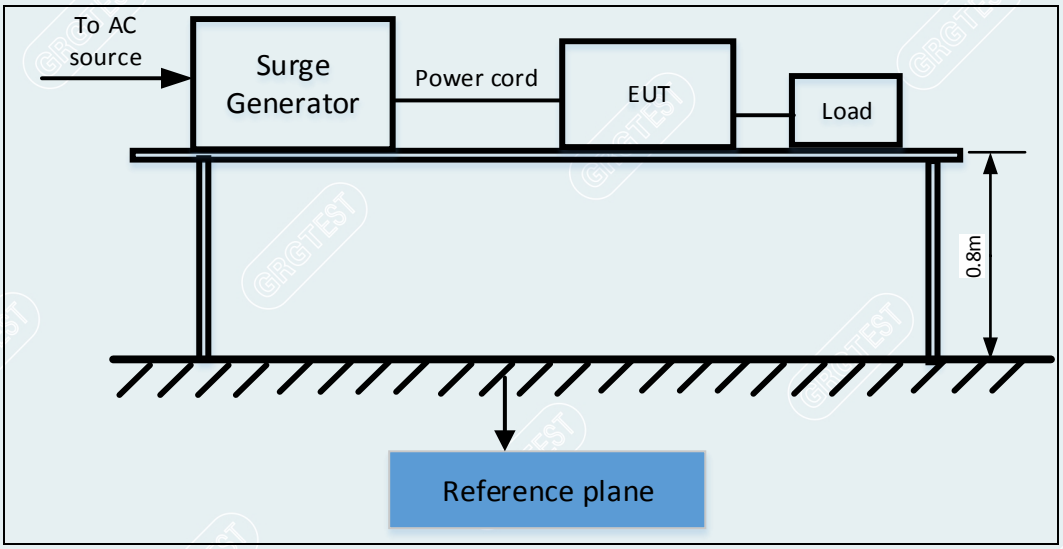
(1) For EUT power supply:

The surge is applied to the EUT power supply terminals via the capacitive coupling network. Decoupling networks are required in order to avoid possible adverse effects on equipment not under test that may be powered by the same lines, and to provide sufficient decoupling impedance to the surge wave. The power cord between the EUT and the coupling/decoupling networks was shorter than 2 meters in length.

(2) For test applied to unshielded un-symmetrically operated interconnection lines of EUT: The surge was applied to the lines via the capacitive coupling. The coupling / decoupling networks didn't influence the specified functional conditions of the EUT. The interconnection line between the EUT and the coupling/decoupling networks was shorter than 2 meters in length.

(3) For test applied to unshielded symmetrically operated interconnection / telecommunication lines of EUT: The surge was applied to the lines via gas arrestors coupling. Test levels below the ignition point of the coupling arrestors were not specified. The interconnection line between the EUT and the coupling/decoupling networks was shorter than 2 meters in length.

6.7.3 TEST SETUP



6.7.4 PHOTOGRAPH OF THE TEST ARRANGEMENT

6.7.5 TEST RESULTS

EUT Name	Camera Hub G2H Pro	Model	CH-C01
Environmental Conditions	24.1℃/50%RH/101kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Zhou Wen
Test Date	2021-10-08	Sample No.	E20210914342601-0001

For EN55035:

Test port	Polarity	Test Level	Phase	Required Performance	Actual performance	Result
L-N	+	1kV	90 °	Criterion B	Criterion A [1)]	PASS
	-	1kV	270 °	Criterion B	Criterion A [1)]	PASS
NOTE: [1)] Before test, during the test, and after test, the EUT function is normal.						

For EN301489-1/ EN301489-17:

Test port	Polarity	Test Level	Phase	Required Performance	Actual performance	Result
L-N	+/-	1kV	0 °	Criterion B	Criterion A [1)]	PASS
	+/-	1kV	90 °	Criterion B	Criterion A [1)]	PASS
	+/-	1kV	180 °	Criterion B	Criterion A [1)]	PASS
	+/-	1kV	270 °	Criterion B	Criterion A [1)]	PASS
NOTE: [1)] Before test, during the test, and after test, the EUT function is normal.						

6.8 RADIO FREQUENCY CONTINUOUS CONDUCTED (CS)

6.8.1 TEST SPECIFICATION

Test Requirement:	ETSI EN 301 489-17 V3.2.4 /7.2.1 ETSI EN 301 489-1 V2.2.3/9.5 EN 55035:2017 Table 4
Test Method:	EN 61000-4-6:2014
Frequency Range:	0.15 MHz~80 MHz
Field Strength:	EN 301 489-1/ EN 301 489-17: 3V (r.m.s), 80%, 1kHz EN 55035: 3-1V (r.m.s), 80%, 1kHz
Modulation:	1 kHz, 80% AM
Frequency Step:	1% of the preceding frequency value
Dwell Time:	2s

6.8.2 TEST PROCEDURE

(1) Set up the EUT, CDN and Injection clamp as shown on Section 8.5.3

(2) Let the EUT work in test mode and measure it.

(3) The EUT are placed on an insulating support 0.1m high above a ground reference plane. CDN (coupling and decoupling device) is placed on the ground plane about 0.3m from EUT. Cables between CDN and EUT are as short as possible, and their height above the ground reference plane shall be between 30 and 50 mm (where possible).

(4) The disturbance signal described below is injected to EUT through CDN.

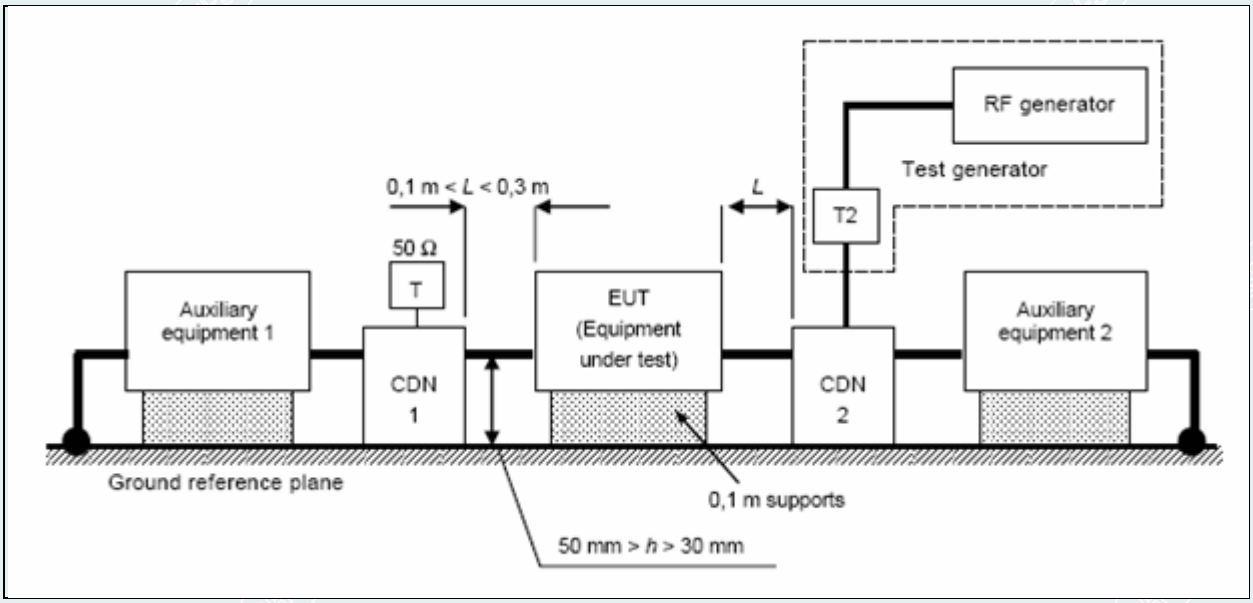
(5) The EUT operates within its operational mode(s) under intended climatic conditions after power on.

(6) The frequency range is swept from 150 kHz to 80MHz using 3V signal level, and with the disturbance signal 80% amplitude modulated with a 1 kHz sine wave.

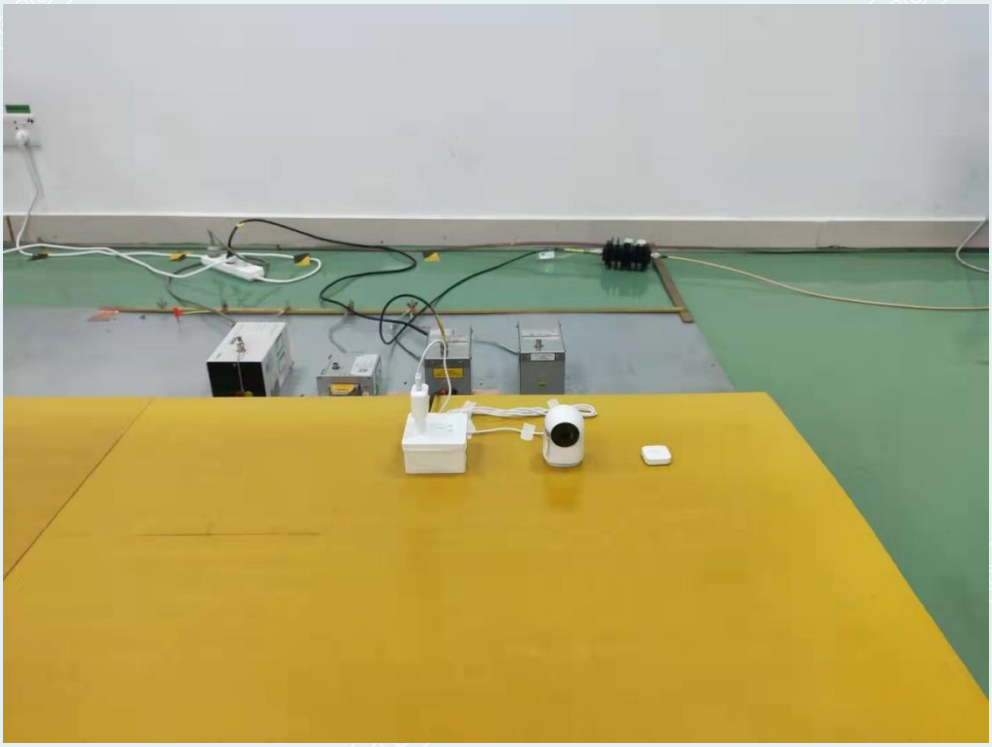
(7) The rate of sweep shall not exceed 1.5×10-3decades/s. Where the frequency is swept incrementally, the step size shall not exceed 1% of the start and thereafter 1% of the preceding frequency value.

(8) Recording the EUT operating situation during compliance testing and decide the EUT immunity criterion.

6.8.3 TEST SETUP



6.8.4 PHOTOGRAPH OF THE TEST ARRANGEMENT



6.8.5 TEST RESULTS

EUT Name	Camera Hub G2H Pro	Model	CH-C01
Environmental Conditions	24.1℃/51%RH/101kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Zhou Wen
Test Date	2021-10-09	Sample No.	E20210914342601-0001

For EN301489-1/ EN301489-17:

Test Ports	Frequency Band(MHz)	Field Strength (Vrms)	Injection Method	Required Performance	Actual performance	Result
Power port	0.15~80	3	CDN	Criterion A	Criterion A[1)]	Pass
NOTE: [1)]Before test, during the test, and after test, the EUT function is normal.						

For EN55035:

Test Ports	Frequency Band(MHz)	Field Strength (Vrms)	Injection Method	Required Performance	Actual performance	Result
Power port	0.15~10	3	CDN	Criterion A	Criterion A[1)]	Pass
	10~30	3 to 1[2)]	CDN	Criterion A	Criterion A[1)]	Pass
	30~80	1	CDN	Criterion A	Criterion A[1)]	Pass
NOTE: [1)]Before test, during the test, and after test, the EUT function is normal. [2)]The limit decreases linearly with the logarithm of the frequency in the range 10MHz to 30MHz.						

6.9 POWER FREQUENCY MAGNETIC FIELD IMMUNITY TEST

6.9.1 TEST SPECIFICATION

Test Requirement	EN 55035:2017
Test Method	IEC 61000-4-8:2009
Frequency	50Hz
Field Strength	1 A/m
Observation Time	5 min
Inductance Coil	Rectangular type, 1mx1m
Direction	X-axis, Y -axis, Z -axis

6.9.2 TEST PROCEDURE

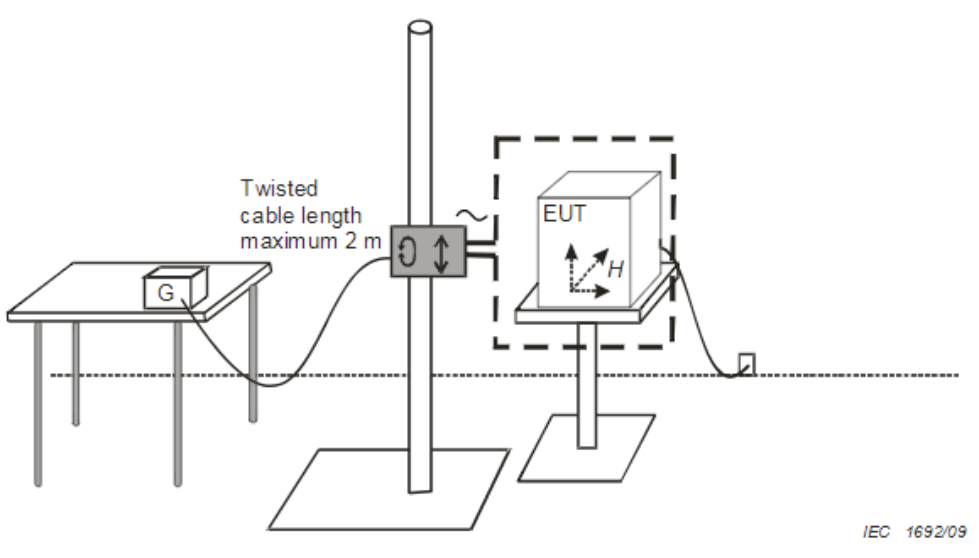
a) The equipment is configured and connected to satisfy its functional requirements. It shall be placed on the GRP with the interposition of a 0.1m-thick insulating support.

b) The equipment cabinets shall be connected to the safety earth directly on the GRP via the earth terminal of the EUT.

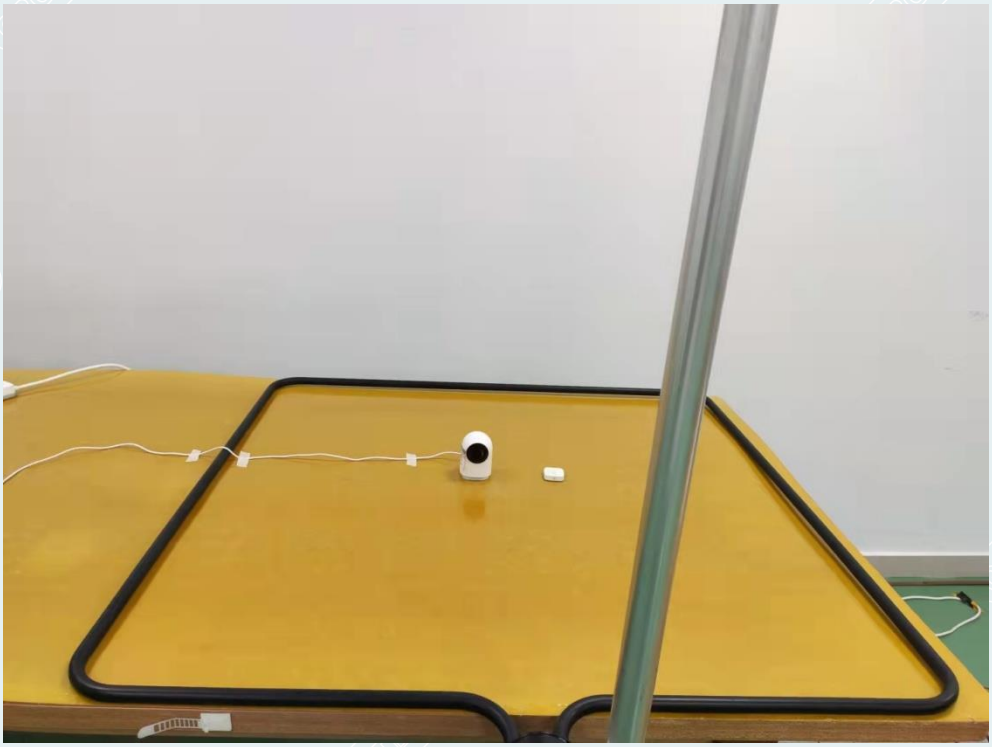
c) The power supply, input and output circuits shall be connected to the sources of power supply, control and signal.

d) The cables supplied or recommended by the equipment manufacturer shall be used. 1 meter of all cables used shall be exposed to the magnetic field.

6.9.3 TEST SETUP



6.9.4 PHOTOGRAPH OF THE TEST ARRANGEMENT



6.9.5 TEST RESULTS

EUT Name	Camera Hub G2H Pro	Model	CH-C01
Environmental Conditions	24.1℃/50%RH/101kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Zhou Wen
Test Date	2021-10-11	Sample No.	E20210914342601-0001

Field Strength (A/m)	Frequency (Hz)	Observation Time （min）	Direction	Required Performance	Actual performance	Result
1	50	5	X	A	A[1)]	PASS
1	50	5	Y	A	A[1)]	PASS
1	50	5	Z	A	A[1)]	PASS
Note:[1)]Before test, during the test, and after test, the EUT function is normal.						

6.10 VOLTAGE DIPS & SHORT INTERRUPTIONS

6.10.1 TEST SPECIFICATION

Test Requirement:	ETSI EN 301 489-17 V3.2.4 /7.2.1 ETSI EN 301 489-1 V2.2.3/9.7 EN 55035:2017 Table 4
Test Method:	EN 61000-4-11:2004
Test duration time:	ETSI EN 301 489-17 / ETSI EN 301 489-1 Test specification: 1. Voltage dips: i)0% residual voltage 0.5 cycle. Performance: Criteria B; ii) 0% residual voltage 1 cycle, Performance: Criteria B; iii)70% residual voltage 25 cycle. Performance: Criteria B; 2. Voltage interruption: 0% residual voltage during 250 cycles. Performance: Criteria C; EN 55035:2017 Test specification: 1. Voltage dips: i)0% residual voltage 0.5 cycle. Performance: Criteria B; ii) 70% residual voltage 25 cycle. Performance: Criteria C; 2. Voltage interruption: 0% residual voltage during 250 cycles. Performance: Criteria C
Interval between event:	10s for each dips at each test angle
Phase Angle:	EN 55035: 0 °, 180 °
	EN 301 489-1/ EN 301 489-17: 0 °, 45 °, 90 °, 135 °, 180 °, 225 °, 270 °, 315 °
Test cycle:	3

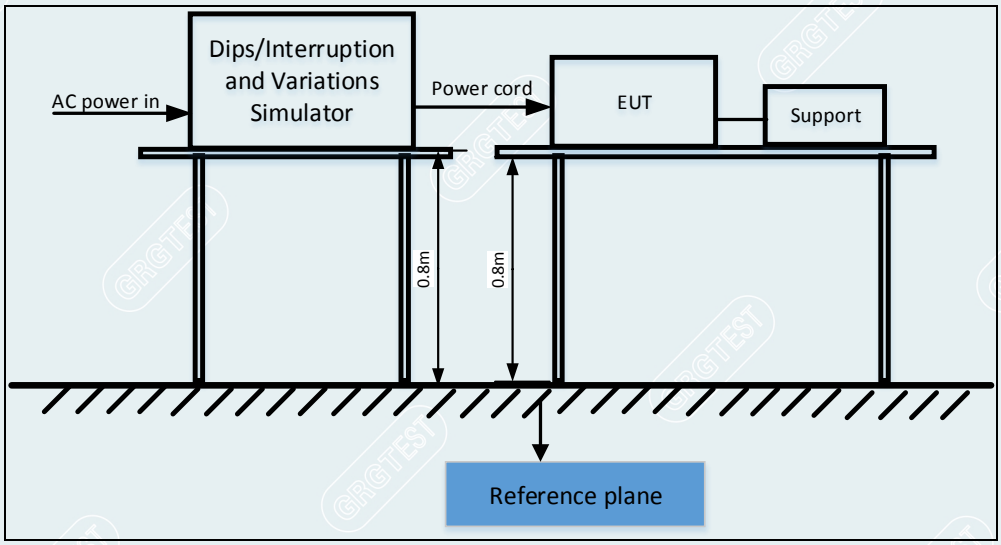
6.10.2 TEST PROCEDURE

(1) The EUT and test generator were setup as shown on Section

(2) The interruption is introduced at selected phase angles with specified duration.

(3) Record any degradation of performance.

6.10.3 TEST SETUP



6.10.4 PHOTOGRAPH OF THE TEST ARRANGEMENT

6.10.5 TEST RESULTS

EUT Name	Camera Hub G2H Pro	Model	CH-C01
Environmental Conditions	24.1℃/51%RH/101kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Tang Shenghui
Test Date	2021-10-09	Sample No.	E20210914342601-0001

For EN 301489-1/ EN301489-17:

Voltage(%Residual)		Duration (Period)	Angle	Required Performance	Actual performance	Result
Voltage dips	0	0.5	0 °, 45 °, 90 °, 135 °, 180 °, 225 °, 270 °, 315 °	Criterion B	Criterion A[1)]	PASS
	0	1	0 °, 45 °, 90 °, 135 °, 180 °, 225 °, 270 °, 315 °	Criterion B	Criterion A[1)]	PASS
	70	25	0 °, 45 °, 90 °, 135 °, 180 °, 225 °, 270 °, 315 °	Criterion B	Criterion A[1)]	PASS
Voltage interruptions	0	250	0 °, 45 °, 90 °, 135 °, 180 °, 225 °, 270 °, 315 °	Criterion C	Criterion B[2)]	PASS
NOTE: [1)]Before test, during the test, and after test, the EUT function is normal. [2)] The EUT can work normally before the test, Power failure during test and the EUT can automatic restores normally.						

For EN 55035:

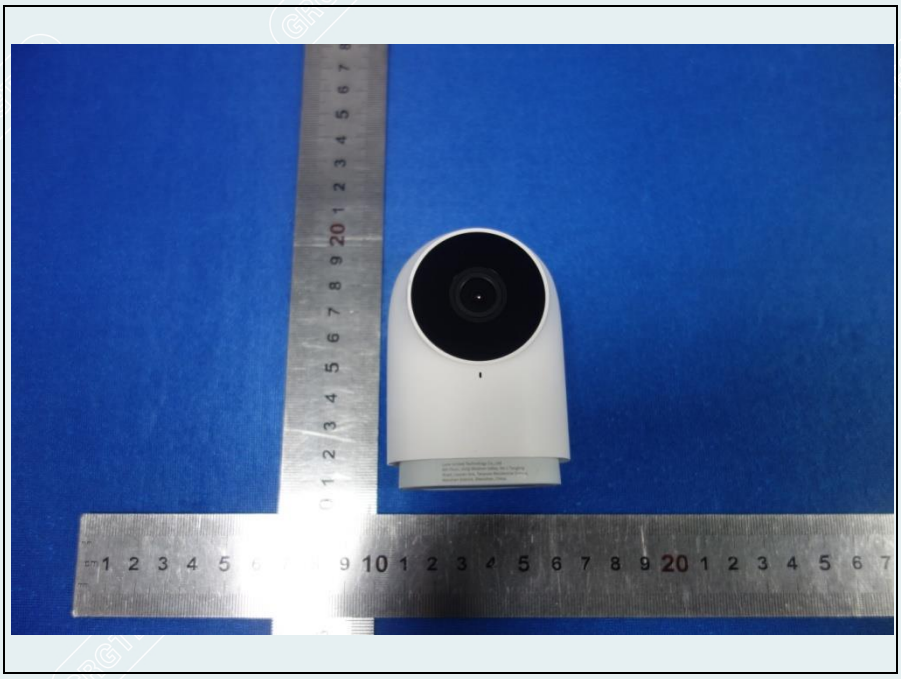
Voltage(%Residual)		Duration (Period)	Angle	Required Performance	Actual performance	Result
Voltage dips	0	0.5	0 °, 180 °	Criterion B	Criterion A[1)]	PASS
	70	25	0 °, 180 °	Criterion C	Criterion B[2)]	PASS
Voltage interruptions	0	250	0 °, 180 °	Criterion C	Criterion B[2)]	PASS
NOTE: [1)]Before test, during the test, and after test, the EUT function is normal. [2)] The EUT can work normally before the test, Power failure during test and the EUT can automatic restores normally.						

7. APPENDIX A. PHOTOGRAPHS OF EUT

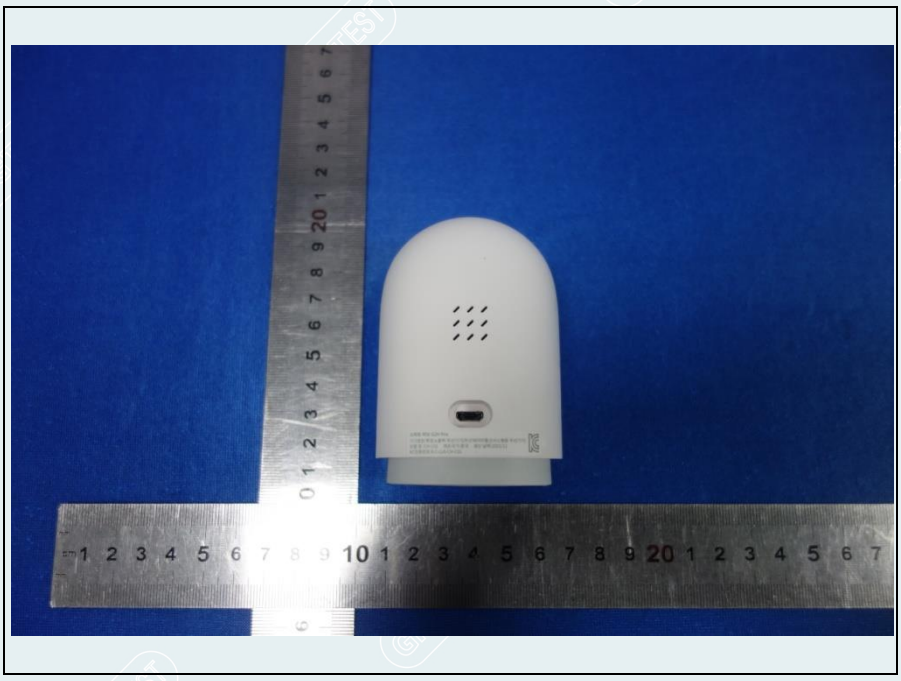
External Photos of EUT

EUT-1

EUT-2

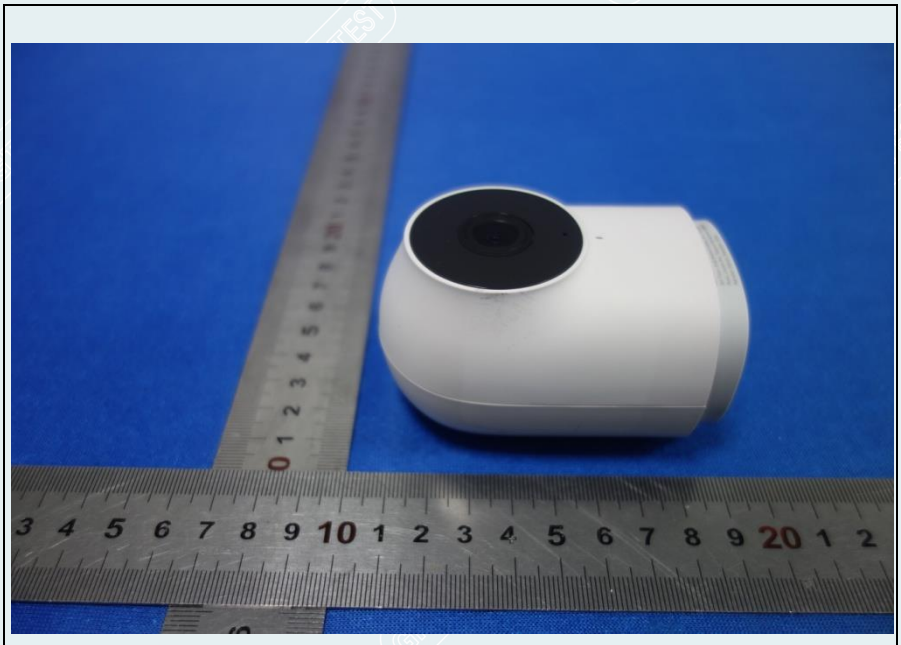


EUT-3

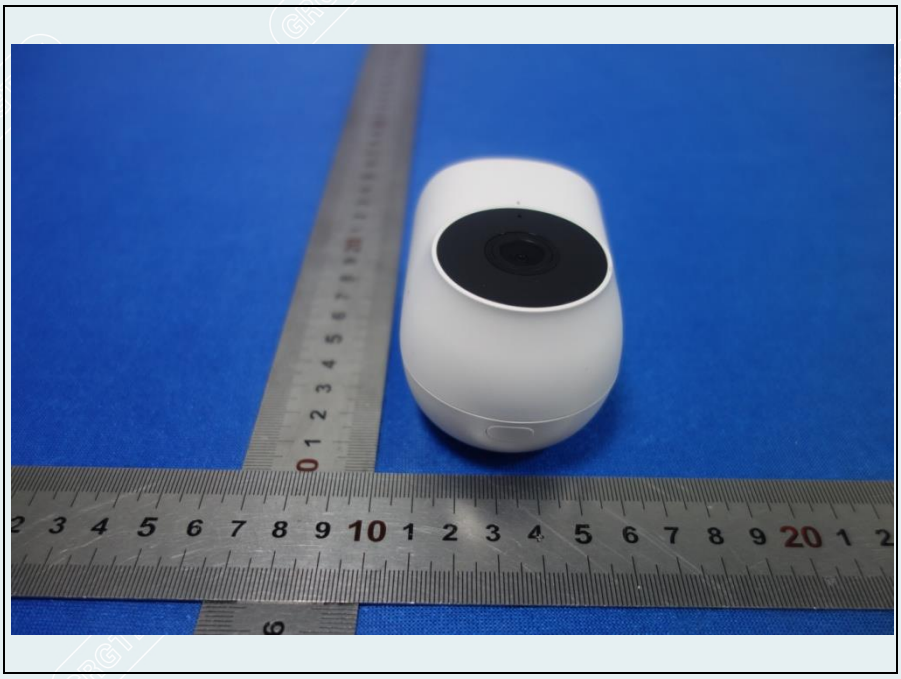


EUT-4

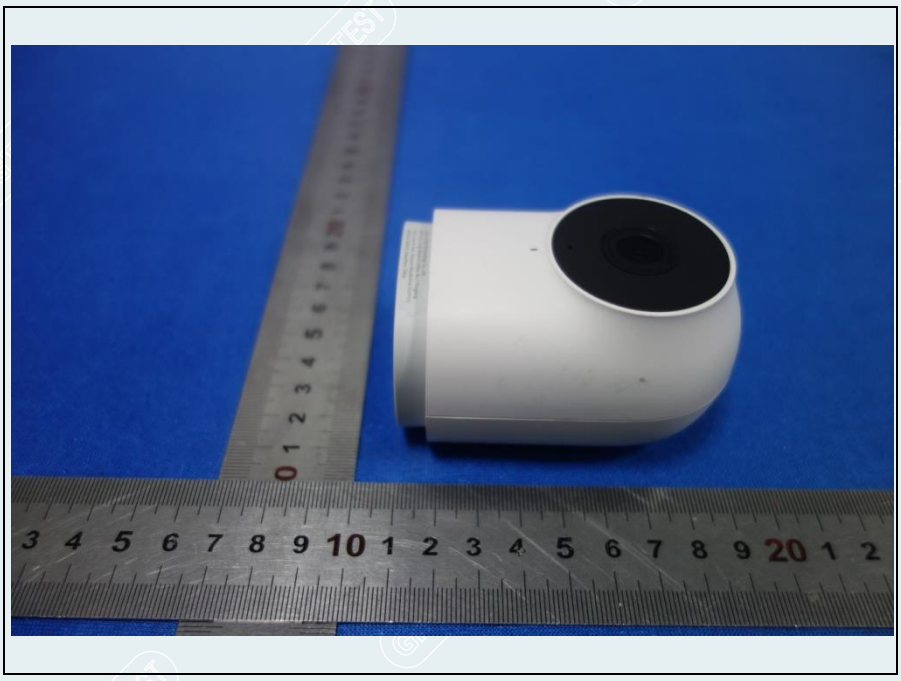
EUT-5



EUT-6



EUT-7



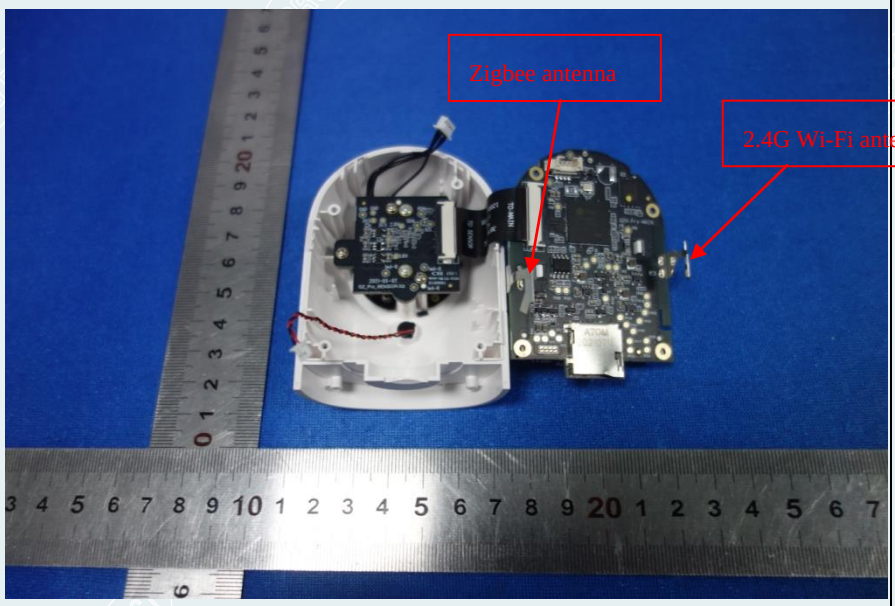
EUT-8


Aqara
Camera Hub G2H Pro
5902
7908
Model: CH-C01
Input: 5V⎓1A
IC: 22635-CHC01
FCC: 2AKIT-CHC01
UK CA
CE
EAC
Lumi United Technology Co., Ltd
Made in China

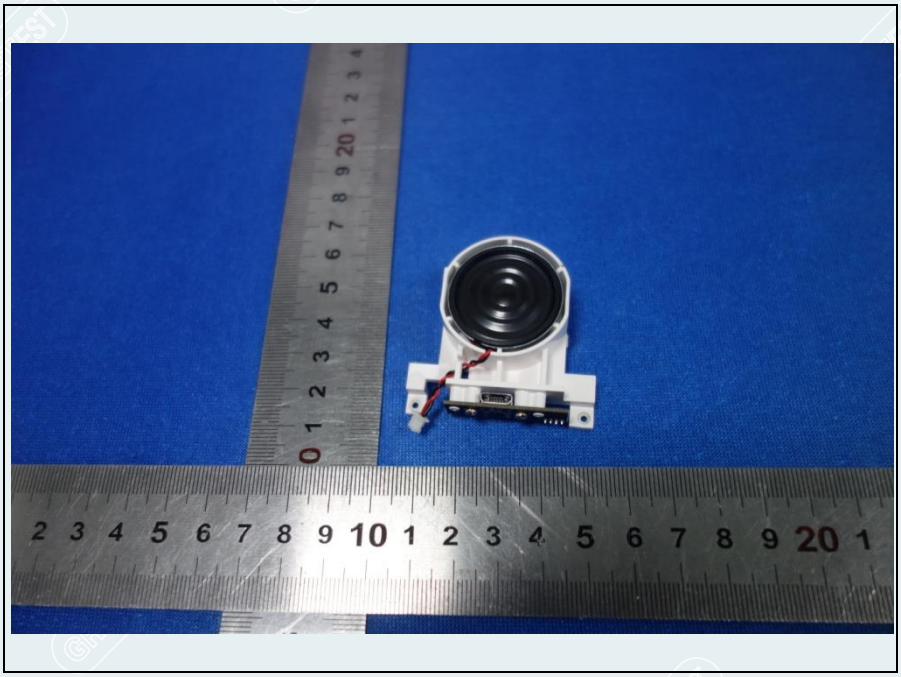
EUT-9

Internal Photos of EUT

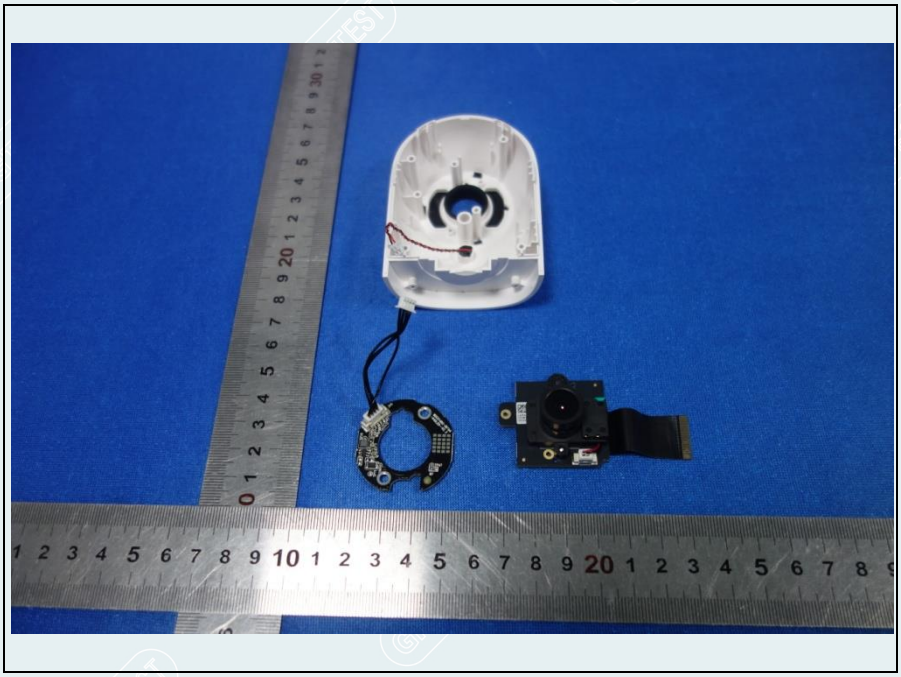
EUT-1



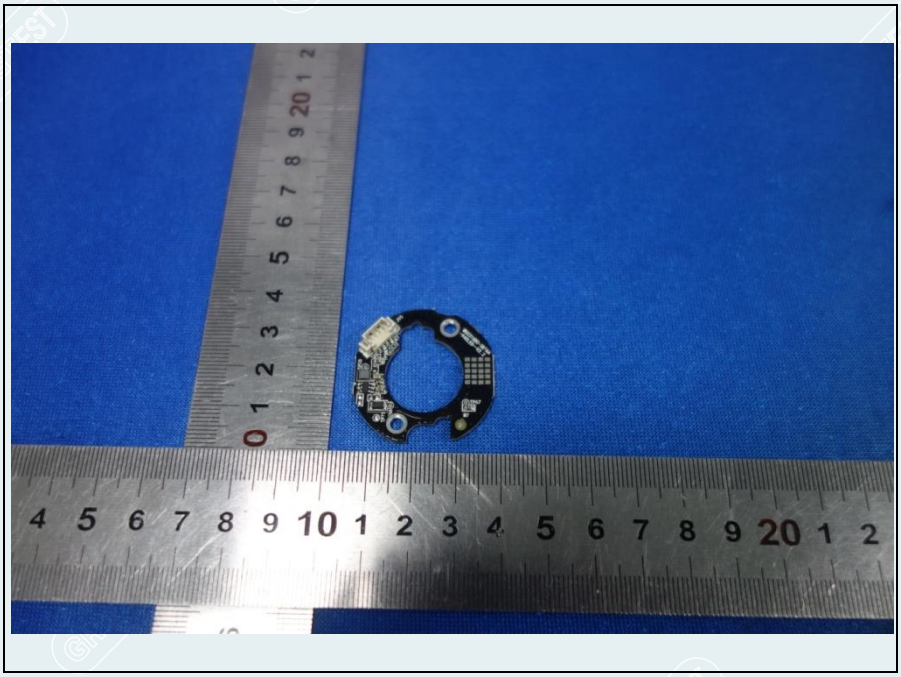
EUT-2



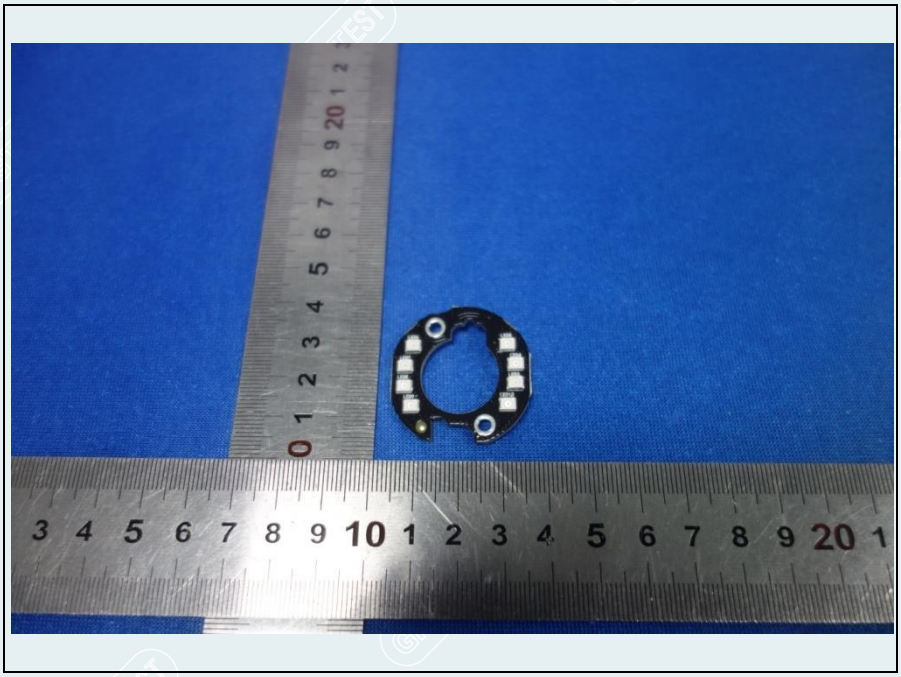
EUT-3



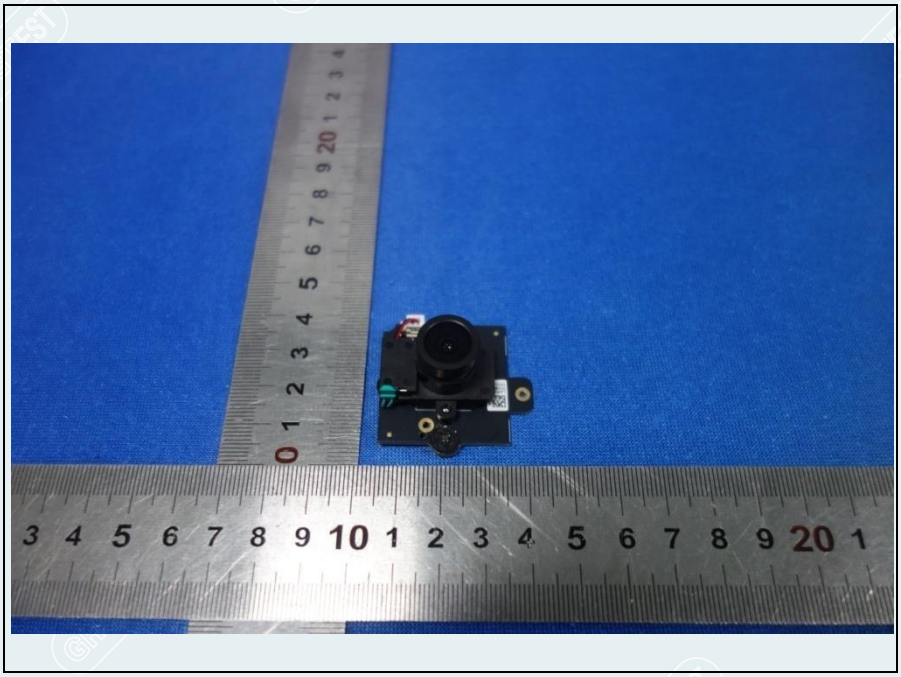
EUT-4



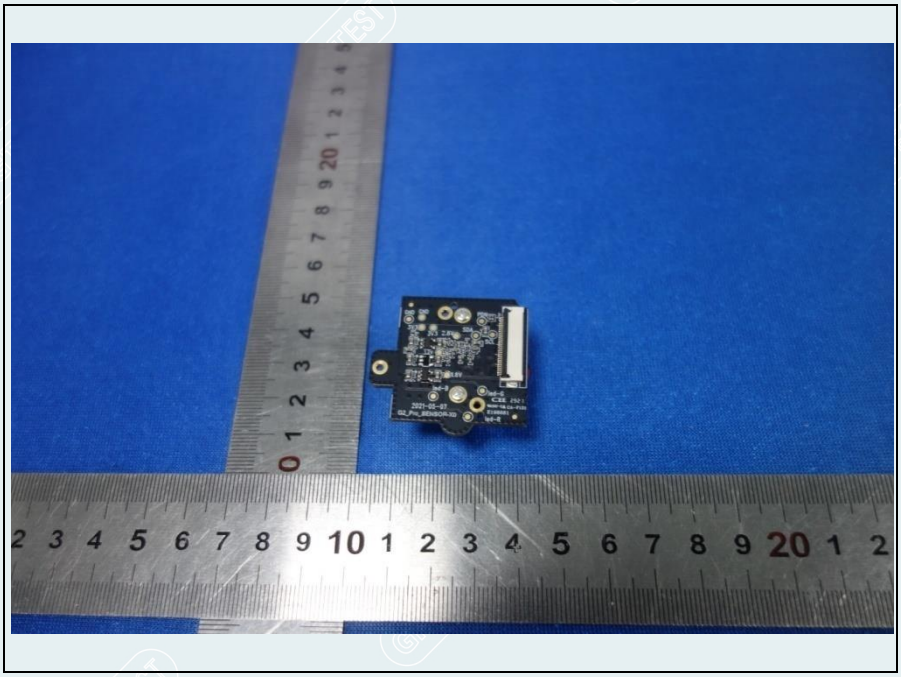
EUT-5



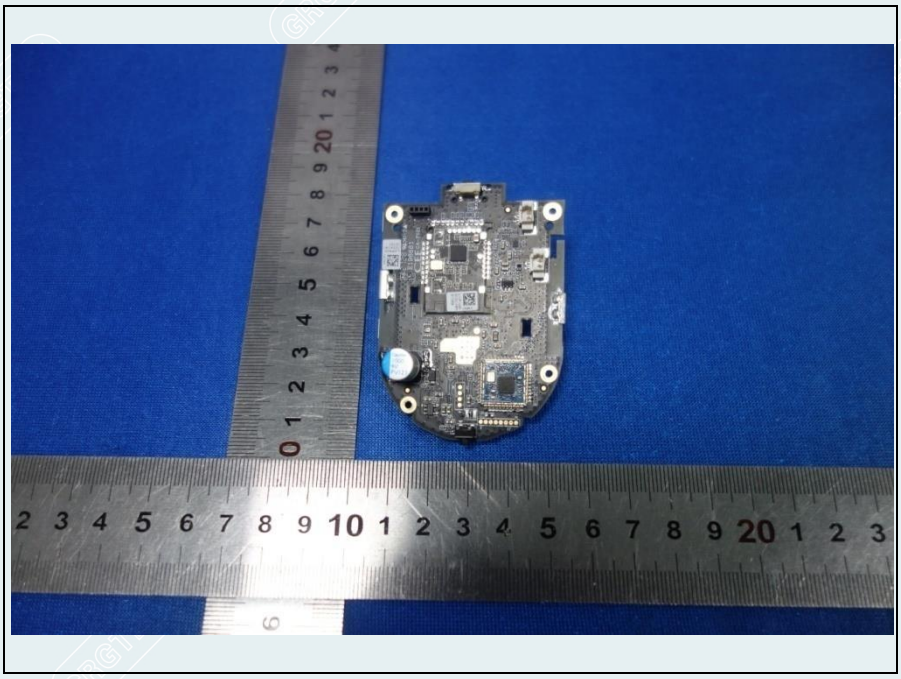
EUT-6



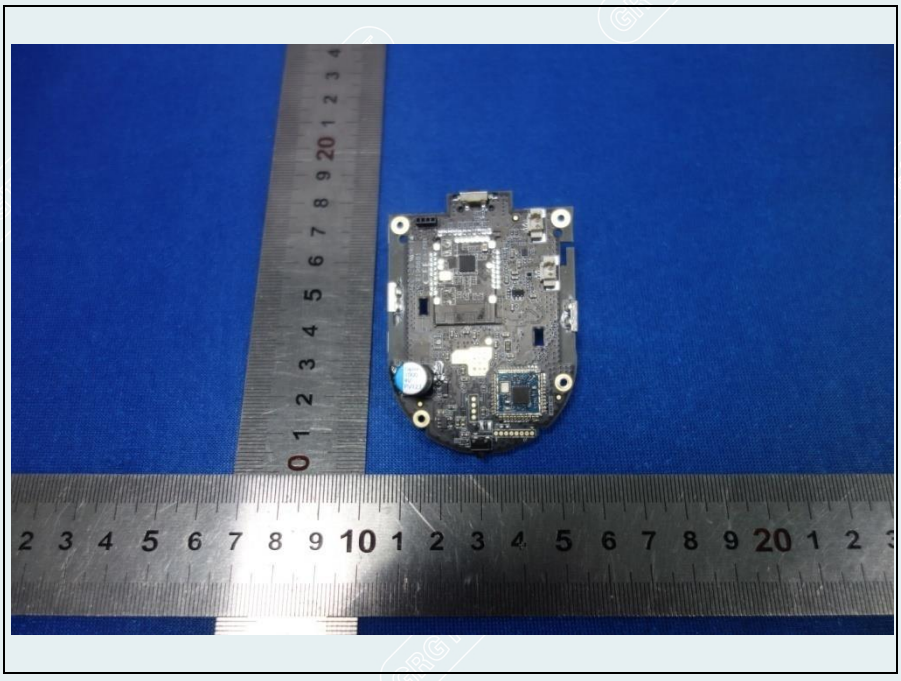
EUT-7



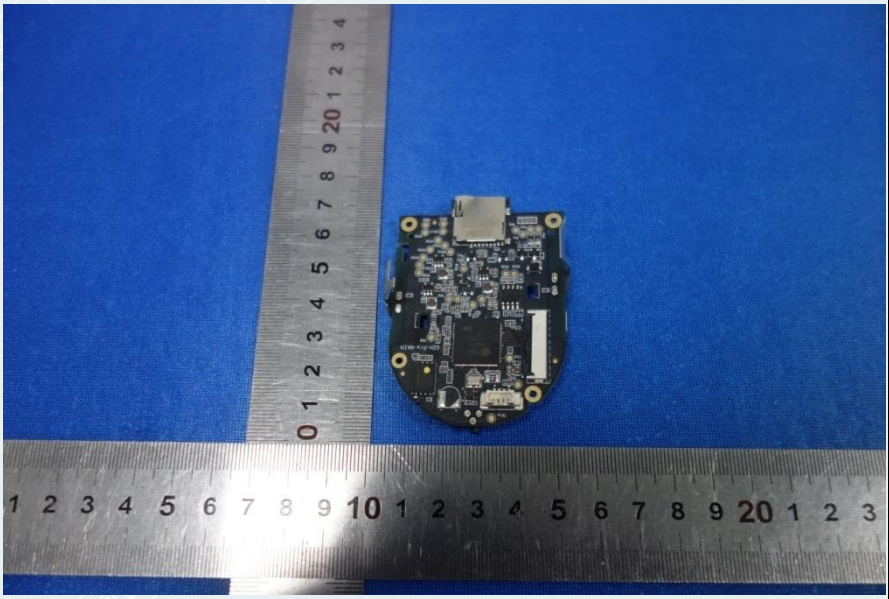
EUT-8



EUT-9



EUT-10



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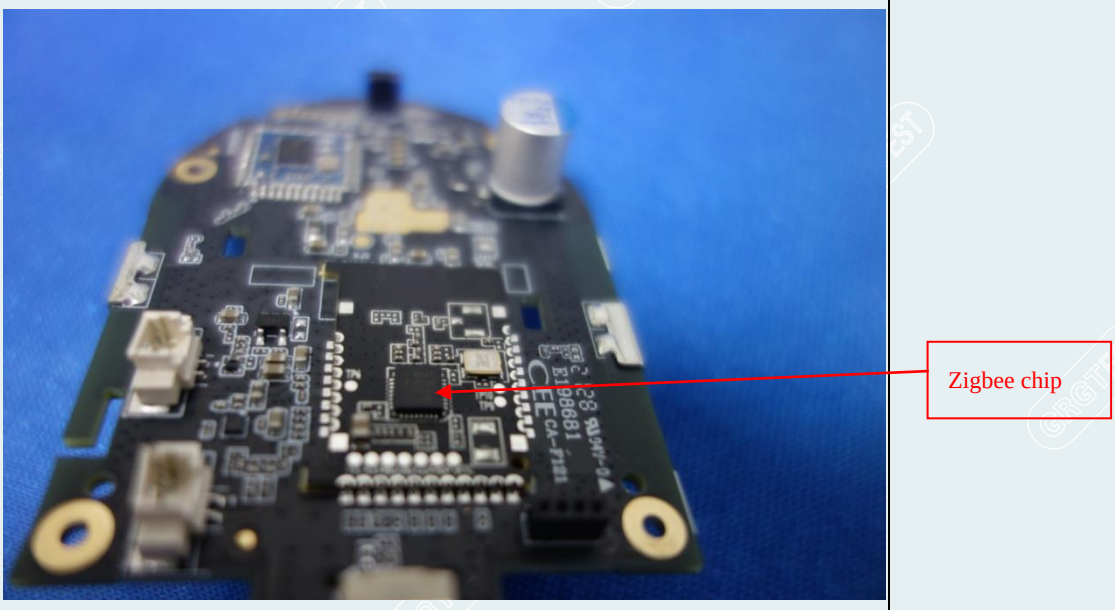
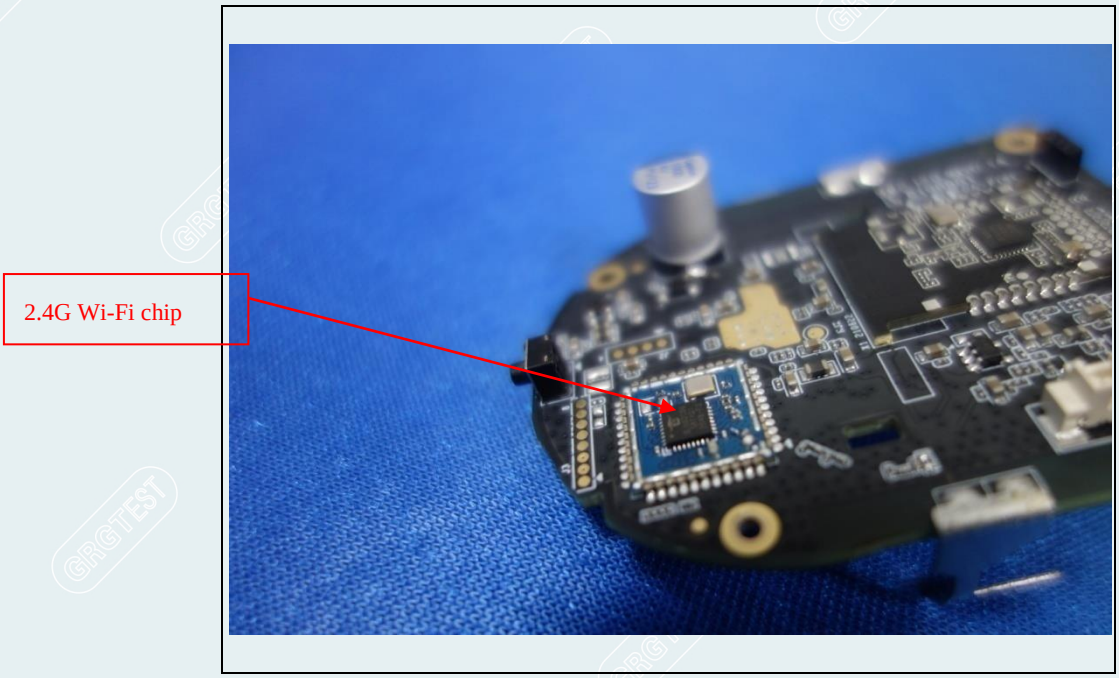
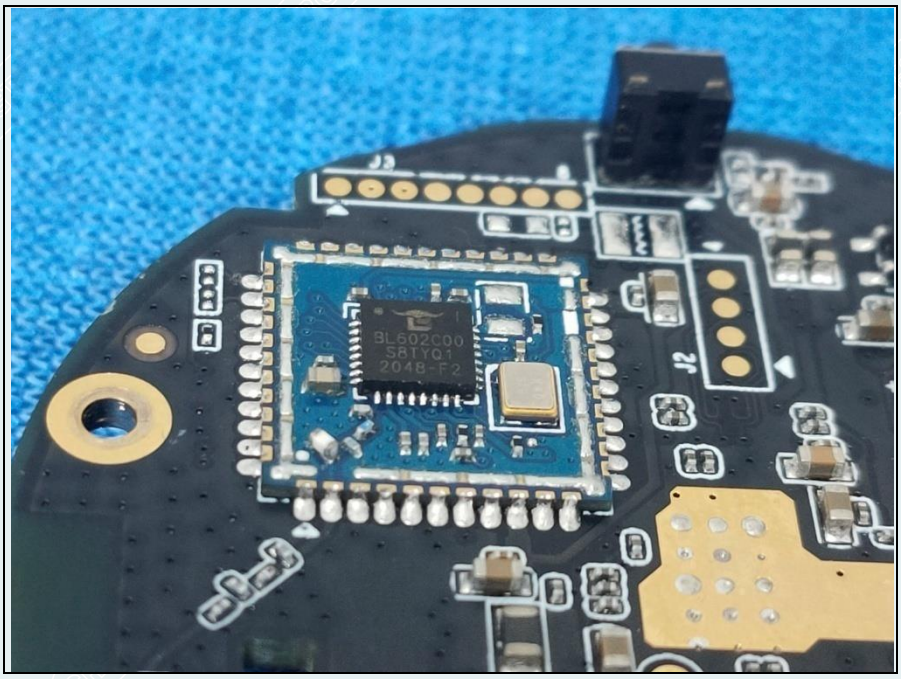


EUT-12

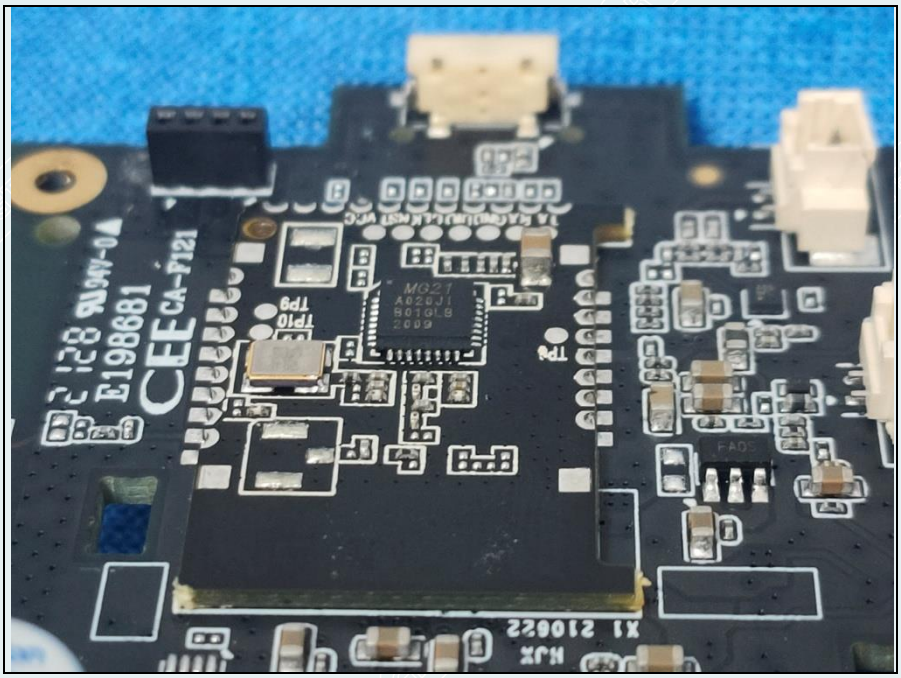
EUT-13



EUT-14



EUT-15



EUT-16

---------- End of Report ----------