



TEST REPORT

Report Number: C21T00027-EMC01-V00

Applicant	Cipia Vision Ltd
Product Name	Cipia-FS10
Model Name	FS10-LOC / FS10-LOC-ADS
Brand Name	Cipia
FCC ID	2AZIQFS10C
IC	27633FS10L

Industrial Internet Innovation Center (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in FCC Part 15, Subpart B, ANSI C63.4-2014. ICES-003 Issue 7.

Prepared by

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Reviewed by

李五真

Approved by

李柳凯

Issue Date

2021-09-07

Industrial Internet Innovation Center (Shanghai) Co., Ltd.

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Test Laboratory:

Industrial Internet Innovation Center (Shanghai) Co., Ltd.

Add: Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China

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Revision Version

Report Number	Revision	Date	Memo
C21T00027-EMC01-V00	00	2021-09-07	Initial creation of test report

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1. Test Laboratory

1.1. Testing Location

Primary Lab:

Company Name	Industrial Internet Innovation Center (Shanghai) Co., Ltd.
Address	Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
FCC Registration No.	958356
FCC Designation No.	CN1177
IC designation No.	CN0067

Subcontracting Lab #1:

Company Name	N/A
Address	N/A

1.2. Testing Environment

Normal Temperature	15°C~35°C
Relative Humidity	30%RH~60%RH
Supply Voltage	DC 12V/24V

1.3. Project Information

Project Leader	Chen Minfei
Testing Start Date	2021-03-19
Testing End Date	2021-08-06



2. Client Information

2.1. Applicant Information

Company Name	Cipia Vision Ltd
Address	Maskit 8th st. Hertzelia, Israel
Telephone	+972-77-5047760

2.2. Manufacturer Information

Company Name	Cipia Vision Ltd
Address	Maskit 8th st. Hertzelia, Israel
Telephone	+972-77-5047760

3. Equipment under Test (EUT) and Ancillary Equipment (AE)

3.1. About EUT

Product Name	Cipia-FS10
Model name	FS10-LOC / FS10-LOC-ADS
Supported Radio Technology and Bands	BT5.0 WLAN 802.11b,g,n WLAN 802.11a,n,ac GPS GLONASS
Hardware Version	Revision D
Software Version	0.0.0.19B

Note: Photographs of EUT are shown in ANNEX B of this test report.

3.2. Internal Identification of EUT used during the test

EUT ID*	IMEI or SN	HW Version	SW Version	Date of Receipt
N04 (Mainly Supply)	N/A	Revision D	0.0.0.19B	2021/3/19
N22 (Secondary Supply)	N/A	Revision D	0.0.0.19B	2021/7/22

*EUT ID: is internally used to identify the test sample in the lab.

3.3. Internal Identification of AE used during the test

AE ID*	Description	Model	SN/Remark
UA01	USB Cable	N/A	N/A
EA01	External camera	N/A	N/A
UB04	RS232 Cable	N/A	N/A
AE1	Software (VLC)	N/A	N/A
AE2	Storage Battery	6-QW-36(280)-LT1	N/A
AE3	Notebook PC	Lenovo ThinkPad X1 Carbon 3 rd Signature Edition	N/A
AE4	Software (Tera Term)	N/A	N/A

*AE ID: is internally used to identify the test sample in the lab.

*The AE is provided by the lab/client.

4. Reference Documents

4.1. Reference Documents for testing

The following documents listed in this section are referred for testing.

Reference	Title	Version
FCC Part 15, Subpart B	Radio frequency devices	2019/10/01
ANSI C63.4	Method of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	2014
ICES-003	Information Technology Equipment(Including Digital Apparatus)-Limits and Methods of Measurement	Issue 7

5. Test Summary

5.1. Summary of Test Results

Items	Test List	Standard	Verdict
1	Radiated Emission(DC power ports)	15.107(a)	Pass

5.2. Statements

The FS10-LOC / FS10-LOC-ADS, manufactured by Cipia Vision Ltd is a new product for testing.

Industrial Internet Innovation Center (Shanghai) Co., Ltd. only performed test cases which identified with Pass/Fail/Inc result in section 5.1.

Industrial Internet Innovation Center (Shanghai) Co., Ltd. has verified that the compliance of the tested device specified in section 3 of this test report is successfully evaluated according to the procedure and test methods as defined in type certification requirement listed in section 4 of this test report.

Note: The difference between N04 (Mainly Supply) and N22 (Secondary Supply) is that N22 (Secondary Supply) can be connected with an external camera.

5.3. Decision of final test mode

The EUT was tested together with the above additional components, and a configuration, which produced the worst emission levels, was selected and recorded in this report.

The test configuration modes are as the following:

N04 (Mainly Supply):

Test Item	Test setup and operating modes
Radiated emission (DC power ports)	Mode 1: Camera mode+ DC12V Mode 2: BT3.0 mode+ DC12V Mode 3: BLE mode+ DC12V Mode 4: 2.4G WLAN mode+ DC12V Mode 5: 5G WLAN mode+ DC12V Mode 6: GPS mode+ DC12V Mode 7: 5G WLAN + DC12V Mode 8: Camera mode+ DC24V

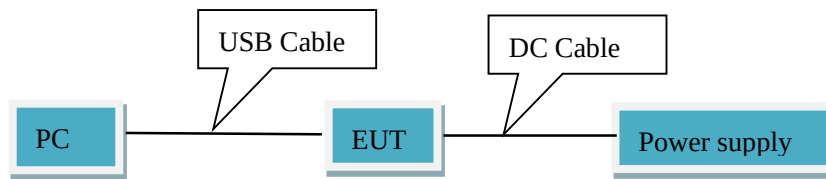
N22 (Secondary Supply)

Test Item	Test setup and operating modes
Radiated emission (DC power ports)	Mode 9: Camera mode+ DC12V+ EA01 Mode 10: Camera mode+ DC24V+ EA01

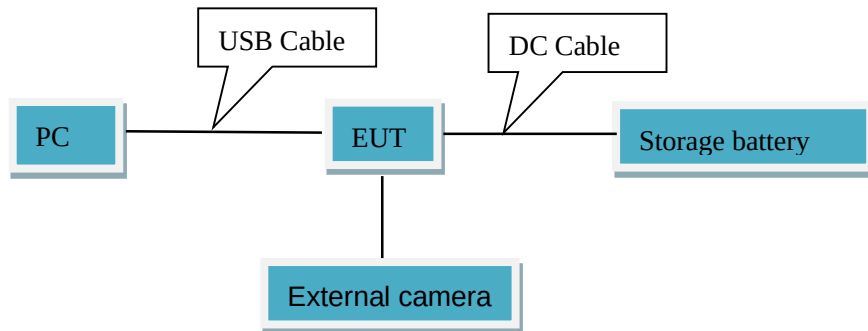
5.4. EUT System Operation

1. Connect the EUT with AE.
2. Setup the EUT according to the standard. EUT is through the Storage battery power supply.
3. Camera mode: Through the Software (VLC) to monitor the work of the EUT camera and external camera.
4. BT/BLE/2.4G WLAN/5G WLAN mode: Through the Software (Tera Term) input instructions to control EUT.
5. GPS/GLONASS Mode: Through the Software (Tera Term) input instructions, connect the EUT with SMBV100A Communication.
6. Start testing and monitoring the function

5.5. EUT Connection Diagram of Test System



<Figure 1> Mode 1-8



<Figure 2> Mode 9-10

6. Measurement Results

6.1. Radiated Emission

Method of Measurement

- For 30MHz -1000MHz, the EUT was placed on the top of a rotating 0.8m table above the ground at a semi-anechoic chamber. The distance between the EUT and the received antenna was 3 meters. The table was rotated 360 degree and the received antenna mounted on a variable-height antenna tower was varied from 1m to 4m to find the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna were set during the measurement.
- For 1000MHz-18000MHz, the maximal emission value was acquired by adjusting the antenna height, the table was rotated 360 degree to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna were set during the measurement.

Limits for Radiated Emission at a measuring distance of 3m

Table 1:

Frequency Range (MHz)	Quasi-Peak (dB μ V/m)
30-88	40
88-216	43.5
216-960	46
Above 960	54

Table 2:

Frequency Range (MHz)	Peak (dB μ V/m)	Average (dB μ V/m)
Above 1000	74	54

Table 3:

Test conditions

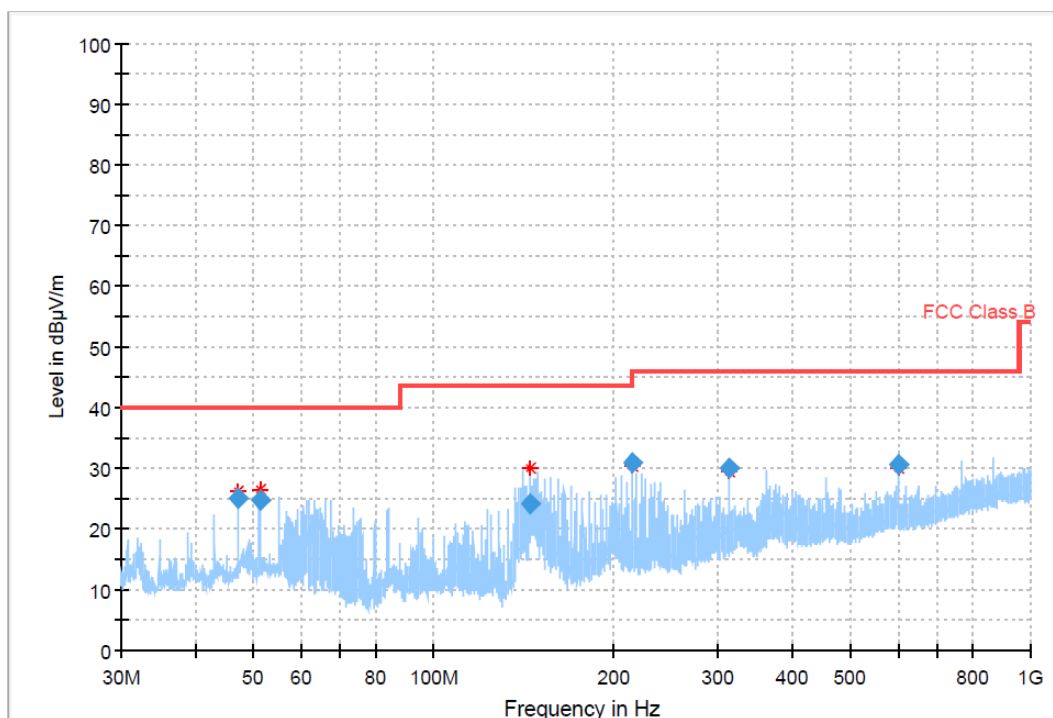
Frequency Range (MHz)	RBW/VBW	Sweep Time (s)
30-1000	120kHz/300kHz	Auto
1000-18000	1MHz/3MHz	Auto

Test Results

Sweep the whole frequency band through the range from 30MHz to the 5th harmonic of the carrier, the Emissions in the frequency band 18GHz-40GHz is more than 20dB below the limit are not report.

The following radiation emission test data also meet the limit of ICES-003 Issue 7.

N04 (Mainly Supply)_Mode 1: Camera mode+ DC12V (30M-1GHz)



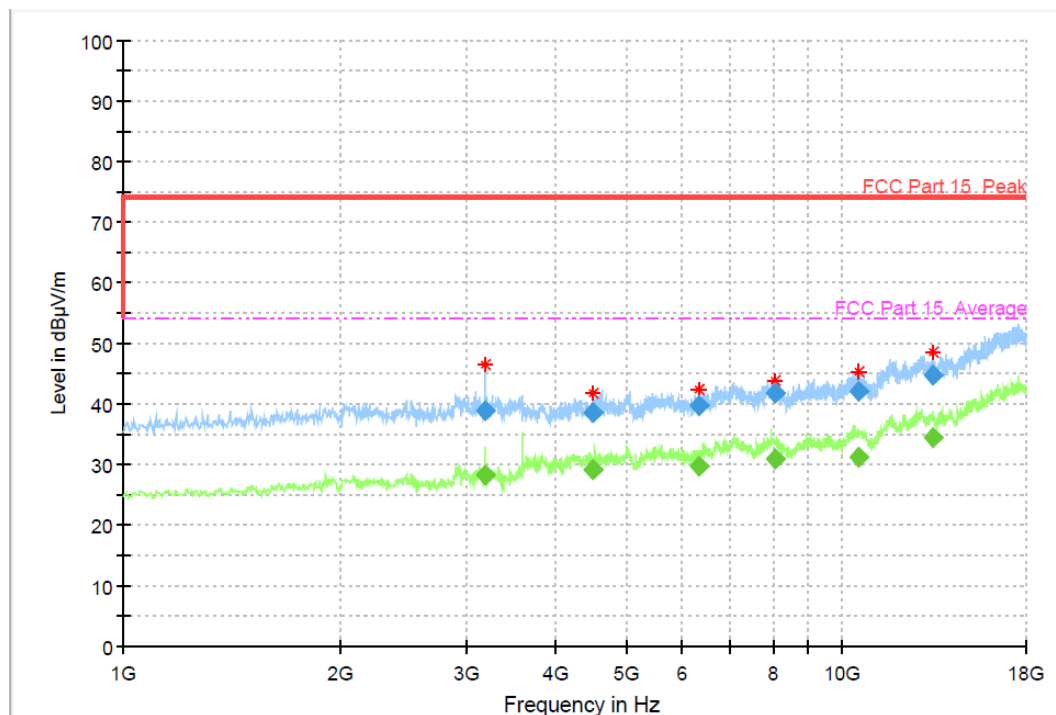
Final Result 1

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
47.101784	25.02	40.00	14.98	1000.0	120.000	114.3	V	23.0	-15.6
51.194357	24.72	40.00	15.28	1000.0	120.000	225.0	H	-18.0	-15.3
145.381635	24.11	43.50	19.39	1000.0	120.000	99.9	V	106.0	-19.7
215.996909	30.74	43.50	12.76	1000.0	120.000	125.0	H	137.0	-15.1
311.997288	30.08	46.00	15.92	1000.0	120.000	100.0	H	96.0	-12.2
599.994165	30.48	46.00	15.52	1000.0	120.000	100.0	V	122.0	-4.9

Note:

1. Emission level(QP)=Raw value by receiver + Corr(Antenna factor + cable loss - preamplifier gain)
2. The raw value is used to calculate by software which is not shown in the sheet.
3. Margin=limit value – emission level.

N04 (Mainly Supply)_Mode 1: Camera mode+ DC12V (1GHz –18GHz)

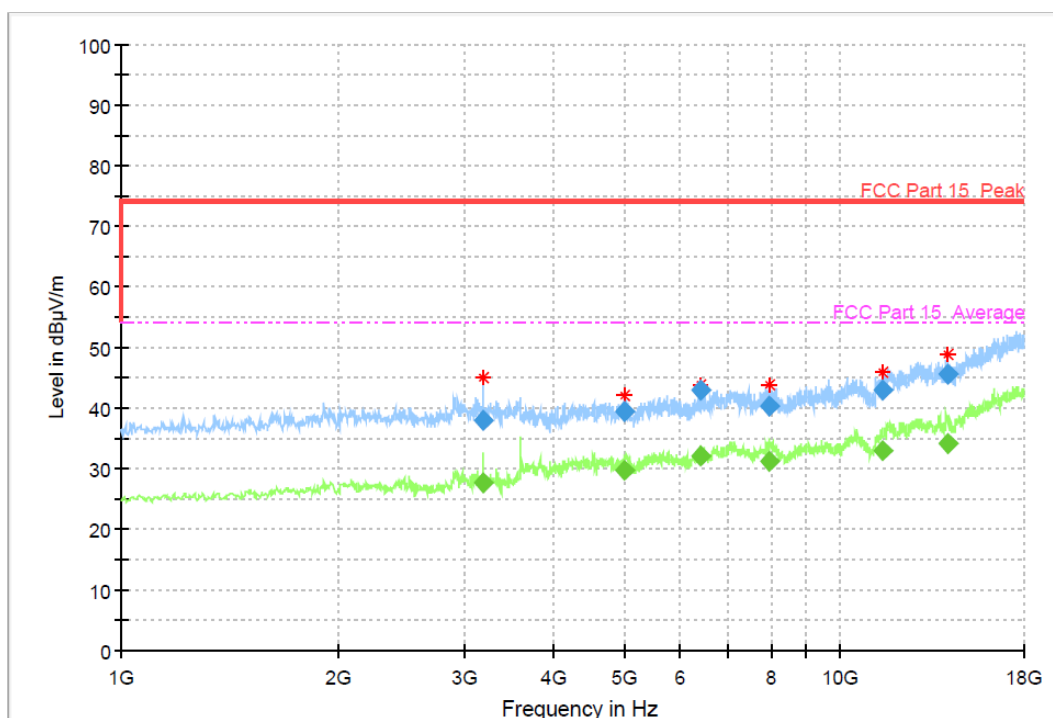


Final Result 1

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Band width (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
3190.60000	38.76	---	74.00	35.24	1.0	1000.	199.9	H	196.0	1.7
3190.60000	---	28.25	54.00	25.75	1.0	1000.	199.9	H	196.0	1.7
4501.80000	---	29.05	54.00	24.95	1.0	1000.	199.9	H	132.0	2.1
4501.80000	38.65	---	74.00	35.35	1.0	1000.	199.9	H	132.0	2.1
6315.20000	39.78	---	74.00	34.22	1.0	1000.	100.1	H	282.0	3.6
6315.20000	---	29.57	54.00	24.43	1.0	1000.	100.1	H	282.0	3.6
8058.40000	---	30.94	54.00	23.06	1.0	1000.	199.9	H	65.0	5.3
8058.40000	41.78	---	74.00	32.22	1.0	1000.	199.9	H	65.0	5.3
10526.8000	42.19	---	74.00	31.81	1.0	1000.	100.1	H	189.0	7.9
10526.8000	---	31.32	54.00	22.68	1.0	1000.	100.1	H	189.0	7.9
13382.8000	44.59	---	74.00	29.41	1.0	1000.	100.1	H	178.0	12.0
13382.8000	---	34.55	54.00	19.45	1.0	1000.	100.1	H	178.0	12.0

Note:

1. Emission level (peak or average)=Raw value by receiver + Corr (Antenna factor+ cable loss- preamplifier gain)
2. The raw value is used to calculate by software which is not shown in the sheet.
3. Margin=limit value – emission level.



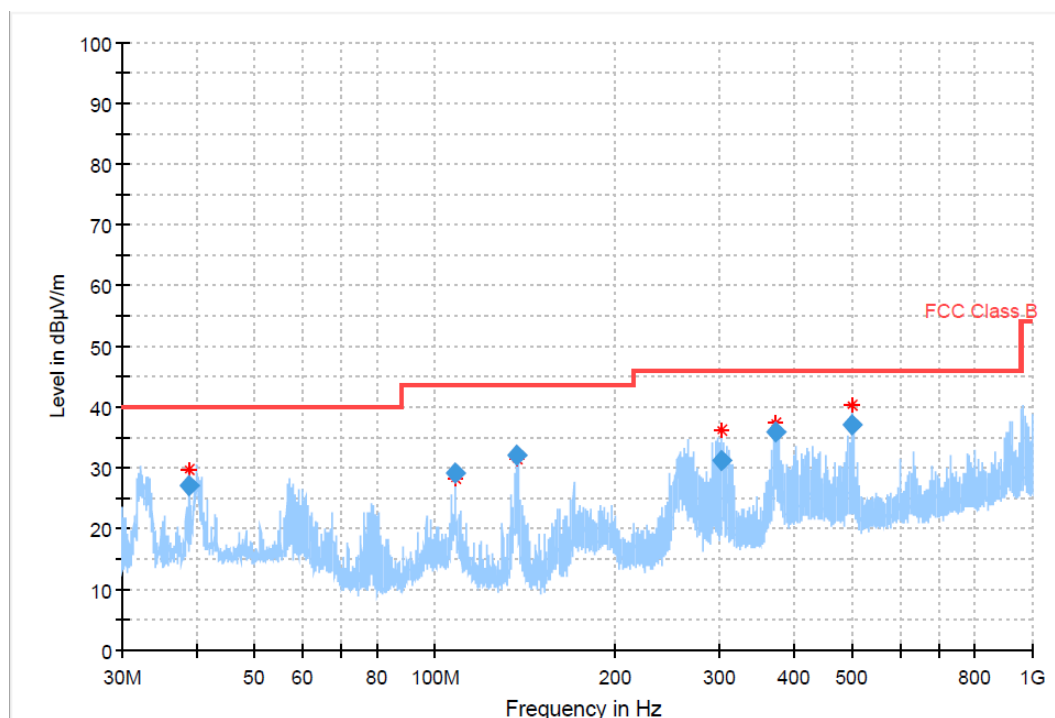
Final Result 1

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Band width (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
3190.60000	37.81	---	74.00	36.19	1.0	1000.	199.9	V	68.0	1.7
3190.60000	---	27.51	54.00	26.49	1.0	1000.	199.9	V	68.0	1.7
5022.40000	---	29.65	54.00	24.35	1.0	1000.	100.1	V	163.0	6.0
5022.40000	39.50	---	74.00	34.50	1.0	1000.	100.1	V	163.0	6.0
6383.20000	42.95	---	74.00	31.05	1.0	1000.	199.9	V	158.0	3.5
6383.20000	---	32.12	54.00	21.88	1.0	1000.	199.9	V	158.0	3.5
7952.00000	---	31.32	54.00	22.68	1.0	1000.	100.1	V	84.0	5.4
7952.00000	40.43	---	74.00	33.57	1.0	1000.	100.1	V	84.0	5.4
11485.6000	---	33.02	54.00	20.98	1.0	1000.	199.9	V	0.0	9.7
11485.6000	42.92	---	74.00	31.08	1.0	1000.	199.9	V	0.0	9.7
14109.4000	---	34.05	54.00	19.95	1.0	1000.	100.1	V	92.0	12.7
14109.4000	45.61	---	74.00	28.39	1.0	1000.	100.1	V	92.0	12.7

Note:

1. Emission level (peak or average) = Raw value by receiver + Corr (Antenna factor+ cable loss- preamplifier gain)
2. The raw value is used to calculate by software which is not shown in the sheet.
3. Margin=limit value – emission level.

N22 (Secondary Supply)_Mode 9: Camera mode+ DC12V+ EA01 (30M-1GHz)



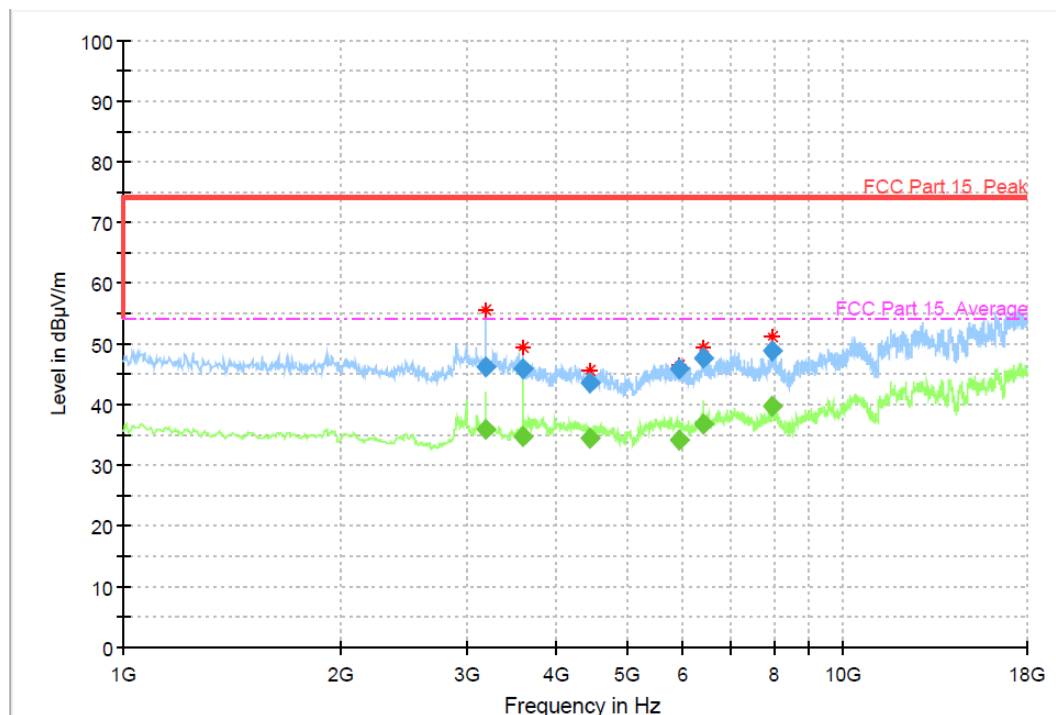
Final Result 1

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
38.937101	27.10	40.00	12.90	1000.0	120.000	100.0	V	234.0	-12.9
108.452147	29.15	43.50	14.35	1000.0	120.000	225.0	H	156.0	-13.4
136.920376	31.92	43.50	11.58	1000.0	120.000	175.0	H	178.0	-16.8
302.211368	31.10	46.00	14.90	1000.0	120.000	105.0	V	29.0	-10.9
370.750464	36.00	46.00	10.00	1000.0	120.000	100.0	H	264.0	-9.1
499.995293	37.17	46.00	8.83	1000.0	120.000	100.0	H	290.0	-6.7

Note:

1. Emission level(QP)=Raw value by receiver + Corr(Antenna factor + cable loss - preamplifier gain)
2. The raw value is used to calculate by software which is not shown in the sheet.
3. Margin=limit value – emission level.

N22 (Secondary Supply)_Mode 9: Camera mode+ DC12V+ EA01 (1GHz –18GHz)

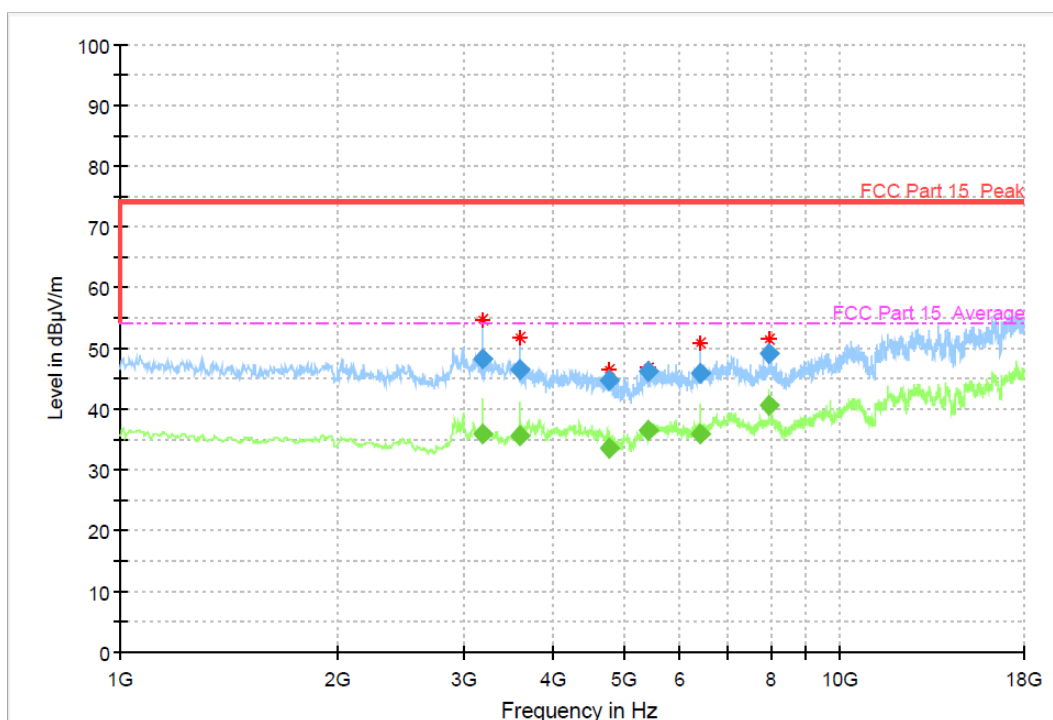


Final Result 1

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Band width (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
3190.60000	46.32	---	74.00	27.68	1.0	1000.	100.0	H	225.0	0.5
3190.60000	---	36.00	54.00	18.00	1.0	1000.	100.0	H	225.0	0.5
3591.40000	45.84	---	74.00	28.16	1.0	1000.	200.0	H	340.0	1.2
3591.40000	---	34.70	54.00	19.30	1.0	1000.	200.0	H	340.0	1.2
4443.80000	43.60	---	74.00	30.40	1.0	1000.	100.0	H	45.0	1.5
4443.80000	---	34.30	54.00	19.70	1.0	1000.	100.0	H	45.0	1.5
5909.20000	46.02	---	74.00	27.98	1.0	1000.	200.0	H	255.0	2.3
5909.20000	---	34.01	54.00	19.99	1.0	1000.	200.0	H	255.0	2.3
6383.20000	47.62	---	74.00	26.38	1.0	1000.	100.0	H	241.0	2.8
6383.20000	---	36.78	54.00	17.22	1.0	1000.	100.0	H	241.0	2.8
7979.80000	48.91	---	74.00	25.09	1.0	1000.	200.0	H	221.0	4.4
7979.80000	---	39.84	54.00	14.16	1.0	1000.	200.0	H	221.0	4.4

Note:

1. Emission level (peak or average)=Raw value by receiver + Corr (Antenna factor+ cable loss- preamplifier gain)
2. The raw value is used to calculate by software which is not shown in the sheet.
3. Margin=limit value – emission level.



Final Result 1

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Band width (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
3190.60000	48.27	---	74.00	25.73	1.0	1000.	100.0	V	236.0	0.5
3190.60000	---	36.02	54.00	17.98	1.0	1000.	100.0	V	236.0	0.5
3587.60000	---	35.51	54.00	18.49	1.0	1000.	100.0	V	351.0	1.2
3587.60000	46.39	---	74.00	27.61	1.0	1000.	100.0	V	351.0	1.2
4784.80000	44.64	---	74.00	29.36	1.0	1000.	100.0	V	103.0	1.5
4784.80000	---	33.58	54.00	20.42	1.0	1000.	100.0	V	103.0	1.5
5400.00000	46.29	---	74.00	27.71	1.0	1000.	100.0	V	194.0	2.0
5400.00000	---	36.39	54.00	17.61	1.0	1000.	100.0	V	194.0	2.0
6383.20000	---	35.75	54.00	18.25	1.0	1000.	200.0	V	289.0	2.8
6383.20000	45.96	---	74.00	28.04	1.0	1000.	200.0	V	289.0	2.8
7979.80000	49.10	---	74.00	24.90	1.0	1000.	100.0	V	236.0	4.4
7979.80000	---	40.48	54.00	13.52	1.0	1000.	100.0	V	236.0	4.4

Note:

1. Emission level (peak or average) = Raw value by receiver + Corr (Antenna factor+ cable loss- preamplifier gain)
2. The raw value is used to calculate by software which is not shown in the sheet.
3. Margin=limit value – emission level.

7. Test Equipment List

Item	Equipment Name	Type	Serial Number	Manufacturer	Cal. Date	Cal. interval
1	Test Receiver	ESU40	100307	R&S	2021-03-03	1 year
2	Trilog Antenna	VULB9163	VULB9163-515	Schwarzbeck	2021-02-03	2 years
3	Double Ridged Guide Antenna	ETS-3117	00135890	ETS	2020-02-28	2 years
4	EMI Test Software	EMC32 V9.15	N/A	R&S	N/A	N/A
5	Vector signal generator	SMBV100A	257904	R&S	2020-03-18	1 year
					2021-03-03	

Annex A: Measurement Uncertain

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

Case	Uncertainty
Radiated Emission 30MHz-1000MHz	4.96 dB
Radiated Emission 1000MHz-18000MHz	5.18 dB

Annex B: Accreditation Certificate



Accredited Laboratory

A2LA has accredited

INDUSTRIAL INTERNET INNOVATION CENTER (SHANGHAI) CO., LTD.

Shanghai, People's Republic of China

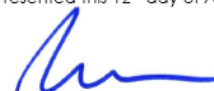
for technical competence in the field of

Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).



Presented this 12th day of April 2021.



Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 3682.01
Valid to February 28, 2023

For the tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.

*****END OF REPORT*****