



TEST REPORT

Report Number: C21T00088-EMC01-V01

Applicant	Cipia Vision Ltd
Product Name	Cipia-FS10
Model Name	FS10-LTE/FS10-LTE-ADS
Brand Name	Cipia
FCC ID	2AZIQFS10C

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.

Prepared by

Reviewed by

Approved by

Issue Date

2021-12-09

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

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Test Laboratory:

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

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Tel: +86 21 63843300

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Revision Version

Report Number	Revision	Date	Memo
C21T00088-EMC01-V00	00	2021-10-22	Initial creation of test report
C21T00088-EMC01-V01	01	2021-12-09	Deleting IC Information

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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

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	2021-07-30
Testing End Date	2021-08-29

2. Client Information

2.1. Applicant Information

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

2.2. Manufacturer Information

Company Name	Cipia Vision Ltd
Address	Maskit 8 th 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-LTE/FS10-LTE-ADS
Supported Radio Technology and Bands	GSM850/GSM900/GSM1800/GSM1900 WCDMA Band I /II /IV/V /VI /VIII /XIX LTE Band 1/2/3/4/5/7/8/12/13/18/19/20/25/26/28/38/39/40/41 BT5.0 WLAN 802.11b,g,n WLAN 802.11a,n,ac GPS GLONASS
Hardware Version	Revision F
Software Version	0.0.0.23

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*	Model	IMEI	HW Version	SW Version	Date of Receipt
N06 (Main Supply)	FS10-LTE-ADS	867698043657215	Revision F	0.0.0.23	2021/7/22
N07 (Secondary Supply)	FS10-LTE	867698043658007	Revision F	0.0.0.23	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
AE1	Test Software (VLC)	VLC	N/A
AE2	Storage Battery	6-QW-36(280)-LT1	N/A
AE3	Notebook PC	Lenovo ThinkPad X1	N/A
AE4	Test Software (Tera Term)	Tera Term	N/A

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

*The AE2&AE3 is provided by the lab, the AE1&AE4 is provided by the 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	2020/10/01
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

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-LTE/FS10-LTE-ADS, manufactured by Cipia Vision Ltd is a variant product for testing.

The difference between this certification and the C21T00027 project is add the 2/3/4G module, and the module has been CE/FCC certified. We only tested the relevant parts of the main frequency, and other data related to WLAN/BT are all referenced of C21T00027-EMC01-V00.

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 N06 (Main Supply) and N07 (Secondary Supply) is that N06 (Main 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:

N06 (Main Supply):

Test Item	Test setup and operating modes
Radiated emission (DC power ports)	Mode 1: GSM850 mode+ GPRS+ DC12V+ N06+ EA01 Mode 2: Working mode+ DC12V+ N06+ EA01 Mode 3: Working mode+ DC24V+ N06+ EA01 Mode 7: GPS mode+ DC12V Mode 8: GLONASS mode+ DC12V
Remark: 1. All test modes are performed, only the worst cases test data are recorded in this report. 2. After laboratory verification, GSM850 is the worst mode among all receiving modes of 2G/3G/4G and is recorded in the report. 3. EUT and GPS simulator (SMBV100A) connection is established.	

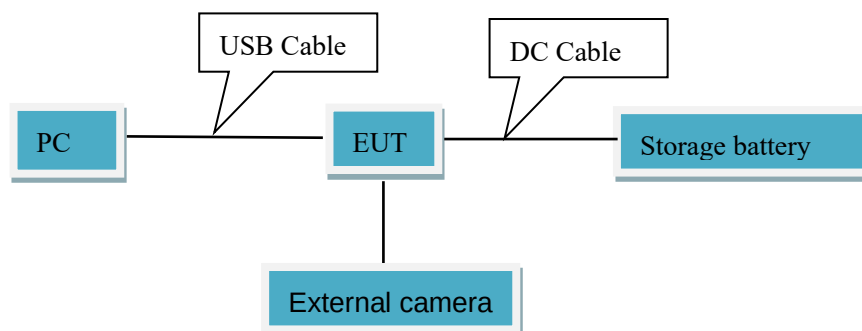
N07 (Secondary Supply)

Test Item	Test setup and operating modes
Radiated emission (DC power ports)	Mode 4: GSM850 mode+ GPRS+ DC12V+ N07 Mode 5: Working mode+ DC12V+ N07 Mode 6: Working mode+ DC24V+ N07
Remark: 1. All test modes are performed, only the worst cases test data are recorded in this report. 2. After laboratory verification, GSM850 is the worst mode among all receiving modes of 2G/3G/4G and is recorded in the report. 3. EUT and GPS simulator (SMBV100A) connection is established.	

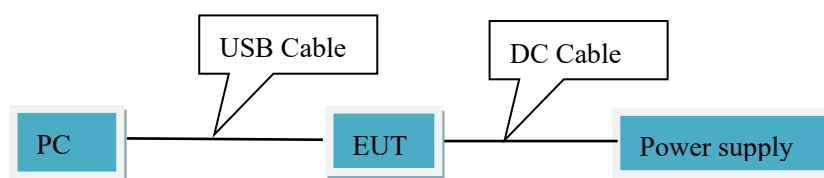
5.4. EUT System Operation

1. Connect the EUT with AE.
2. Setup the EUT according to the standard. EUT is through the Storage battery power supply.
3. Working mode: Through the Software (VLC) to monitor the work of the EUT camera and external camera.
4. GPS/GLONASS Mode: Through the Software (Tera Term) input instructions, connect the EUT with SMBV100A Communication.
5. Start testing and monitoring the function
6. The EUT maintained maximum power emission during the test

5.5. EUT Connection Diagram of Test System



<Figure 1> Mode 1-3,7,8



<Figure 2> Mode 4-6

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:

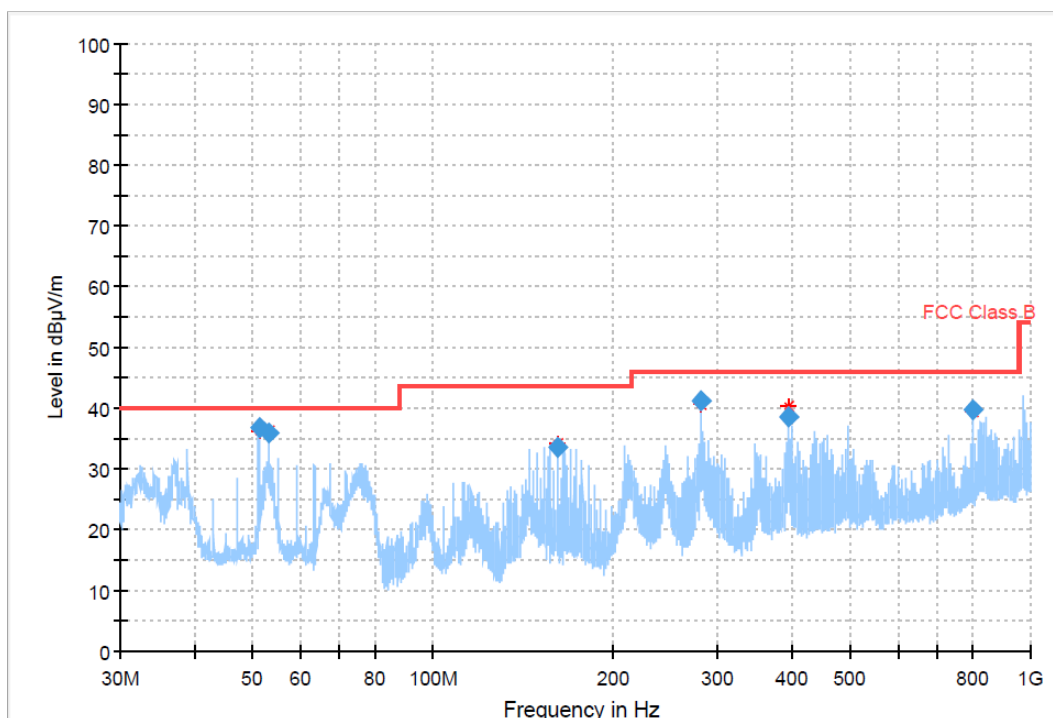
Test conditions

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.

N06 (Main Supply)_Mode 3: Working mode+ DC24V+ N06+ EA01 (30M-1GHz)



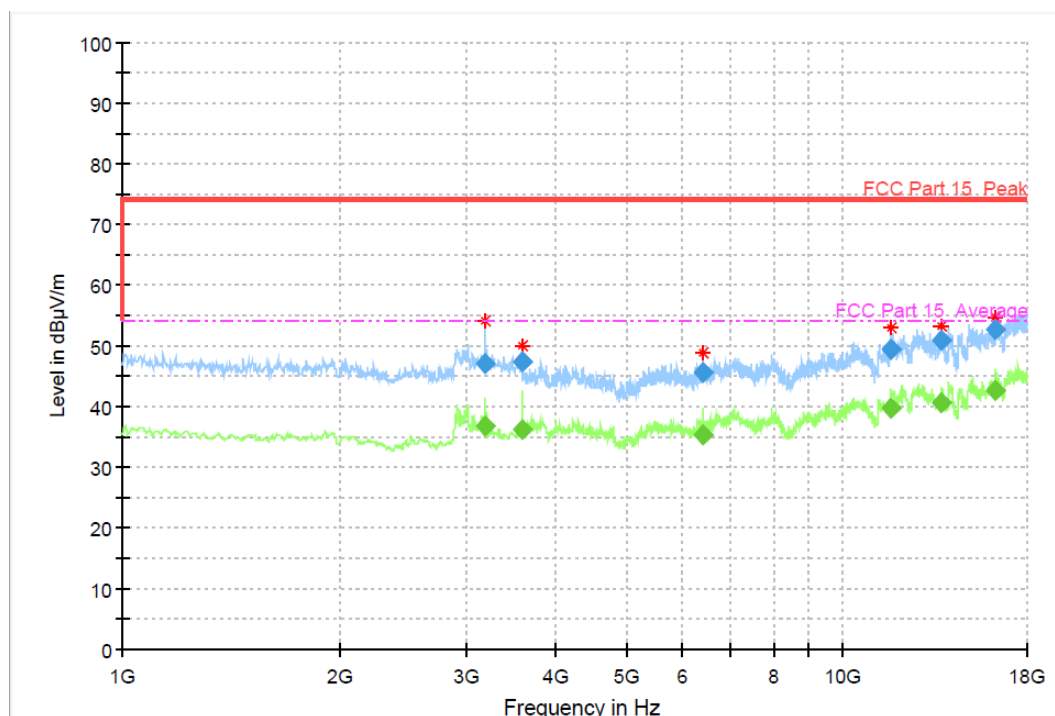
Final Result 1

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
51.200733	36.87	40.00	3.13	1000.0	120.000	100.0	V	-28.0	-12.0
53.240021	36.02	40.00	3.98	1000.0	120.000	100.0	V	247.0	-12.1
161.779379	33.52	43.50	9.98	1000.0	120.000	100.0	V	327.0	-16.2
281.540160	41.12	46.00	4.88	1000.0	120.000	100.0	H	219.0	-11.3
394.620947	38.65	46.00	7.35	1000.0	120.000	100.0	H	-27.0	-8.4
800.017773	39.82	46.00	6.18	1000.0	120.000	100.0	V	224.0	-2.0

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.

N06 (Main Supply)_Mode 2: Working mode+ DC12V+ N06+ EA01 (1GHz –18GHz)

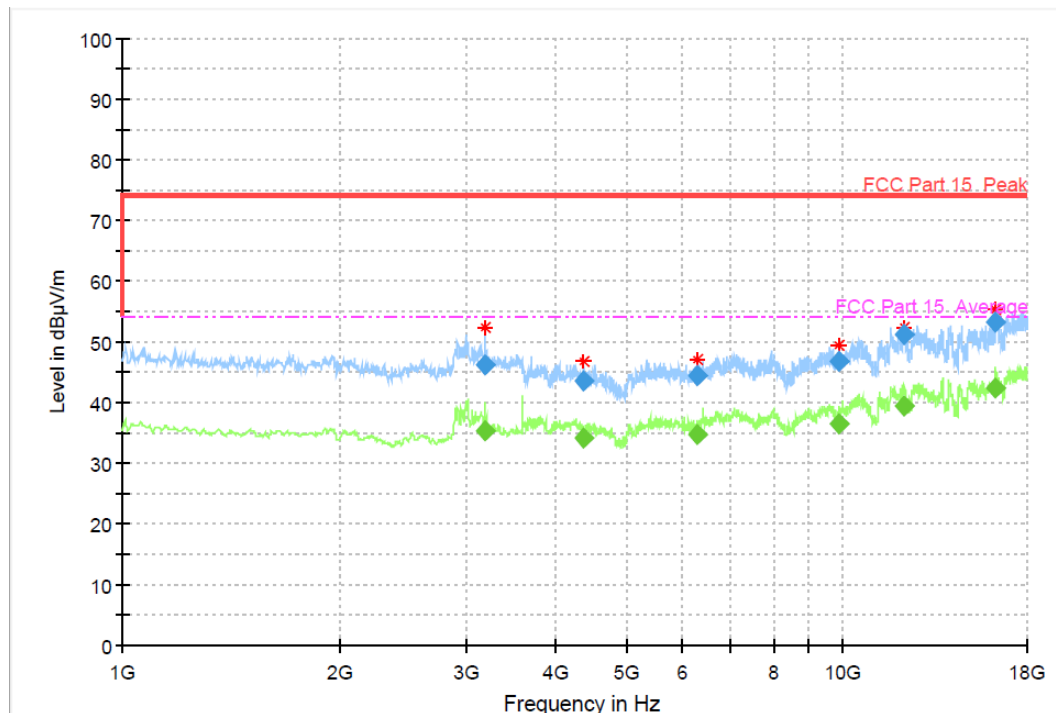


Final Result 1

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)
3189.80000	46.96	---	74.00	27.04	1.0	1000.	200.0	H	218.0	0.5
3189.80000	---	36.80	54.00	17.20	1.0	1000.	200.0	H	218.0	0.5
3591.00000	47.35	---	74.00	26.65	1.0	1000.	200.0	H	0.0	1.2
3591.00000	---	36.12	54.00	17.88	1.0	1000.	200.0	H	0.0	1.2
6383.20000	---	35.34	54.00	18.66	1.0	1000.	100.0	H	227.0	2.8
6383.20000	45.48	---	74.00	28.52	1.0	1000.	100.0	H	227.0	2.8
11655.6000	49.50	---	74.00	24.50	1.0	1000.	100.0	H	160.0	9.9
11655.6000	---	39.80	54.00	14.20	1.0	1000.	100.0	H	160.0	9.9
13699.0000	50.92	---	74.00	23.08	1.0	1000.	200.0	H	44.0	11.6
13699.0000	---	40.52	54.00	13.48	1.0	1000.	200.0	H	44.0	11.6
16313.2000	---	42.79	54.00	11.21	1.0	1000.	200.0	H	321.0	16.1
16313.2000	52.76	---	74.00	21.24	1.0	1000.	200.0	H	321.0	16.1

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.



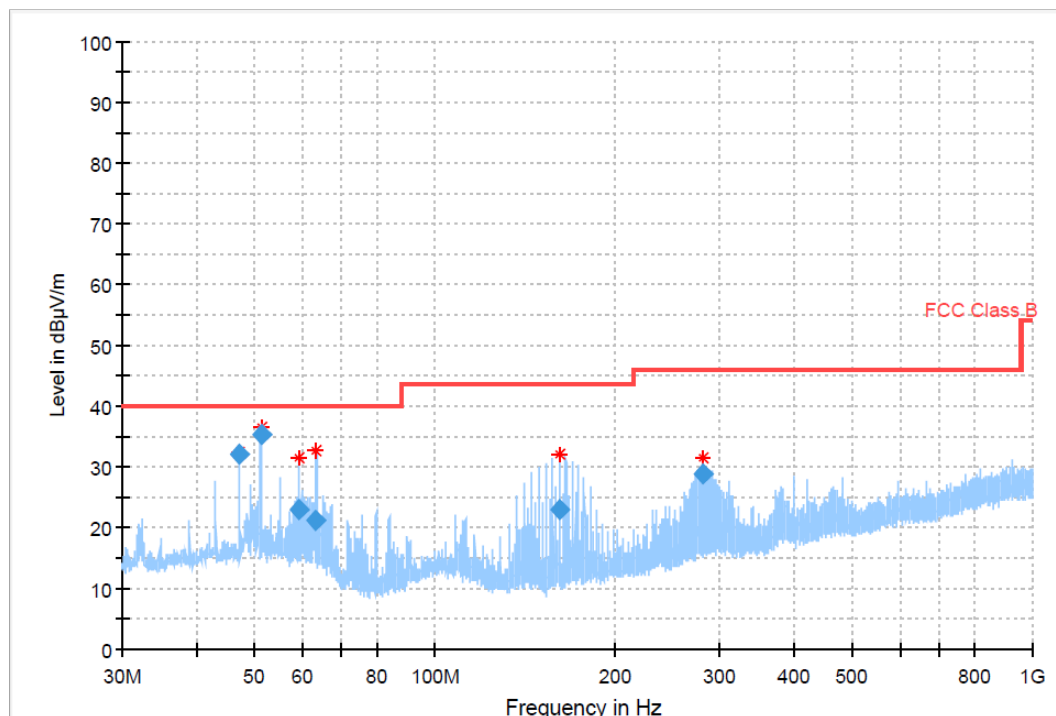
Final Result 1

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Band width (kHz)	Height (cm)	Pol	Azimu th (deg)	Corr. (dB)
3190.60000	46.19	---	74.00	27.81	1.0	1000.	100.0	V	16.0	0.5
3190.60000	---	35.22	54.00	18.78	1.0	1000.	100.0	V	16.0	0.5
4375.60000	---	34.00	54.00	20.00	1.0	1000.	100.0	V	232.0	1.3
4375.60000	43.51	---	74.00	30.49	1.0	1000.	100.0	V	232.0	1.3
6286.80000	---	34.69	54.00	19.31	1.0	1000.	100.0	V	0.0	2.9
6286.80000	44.50	---	74.00	29.50	1.0	1000.	100.0	V	0.0	2.9
9883.60000	46.75	---	74.00	27.25	1.0	1000.	200.0	V	296.0	5.7
9883.60000	---	36.33	54.00	17.67	1.0	1000.	200.0	V	296.0	5.7
12163.2000	51.17	---	74.00	22.83	1.0	1000.	200.0	V	175.0	10.6
12163.2000	---	39.47	54.00	14.53	1.0	1000.	200.0	V	175.0	10.6
16307.8000	53.09	---	74.00	20.91	1.0	1000.	100.0	V	149.0	16.1
16307.8000	---	42.44	54.00	11.56	1.0	1000.	100.0	V	149.0	16.1

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.

N07 (Secondary Supply)_Mode 6: Working mode+ DC24V+ N07 (30M-1GHz)



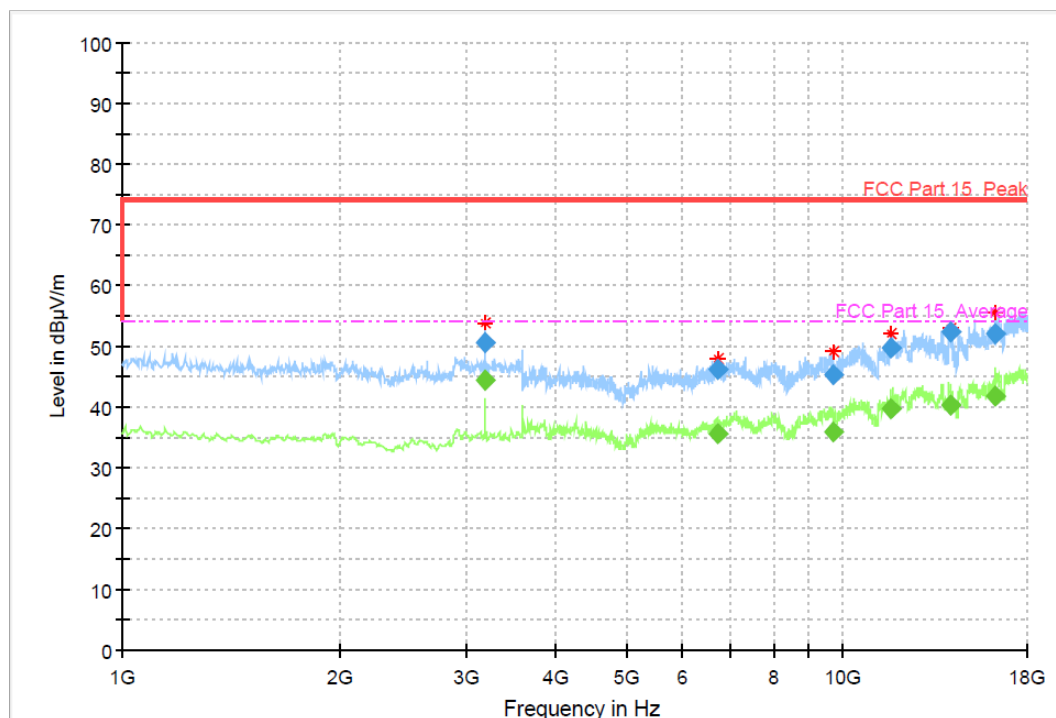
Final Result 1

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
47.102189	32.08	40.00	7.92	1000.0	120.000	100.0	V	287.0	-12.3
51.202549	35.40	40.00	4.60	1000.0	120.000	100.0	V	263.0	-12.0
59.418731	23.03	40.00	16.97	1000.0	120.000	100.0	V	302.0	-12.3
63.460424	21.04	40.00	18.96	1000.0	120.000	100.0	V	301.0	-13.8
161.805005	22.83	43.50	20.67	1000.0	120.000	100.0	V	301.0	-16.2
280.370264	28.84	46.00	17.16	1000.0	120.000	175.0	H	191.0	-11.4

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.

N07 (Secondary Supply)_Mode 6: Working mode+ DC24V+ N07 (1GHz –18GHz)

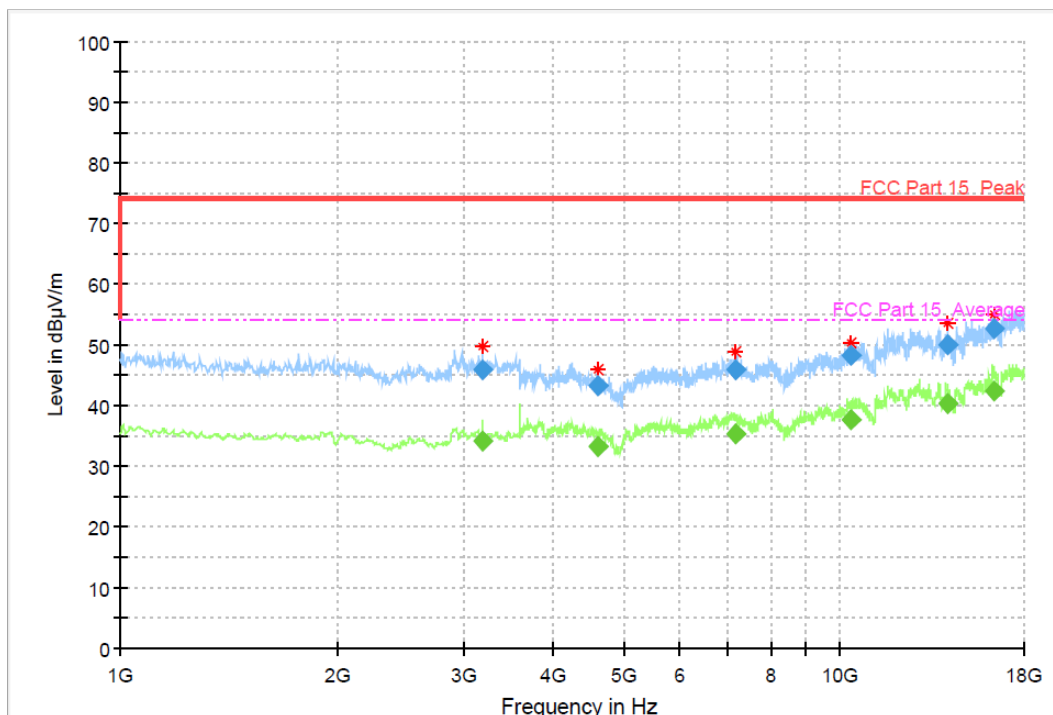


Final Result 1

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)
3192.20000	---	44.40	54.00	9.60	1.0	1000.	100.0	H	46.0	0.5
3192.20000	50.70	---	74.00	23.30	1.0	1000.	100.0	H	46.0	0.5
6691.20000	46.29	---	74.00	27.71	1.0	1000.	100.0	H	225.0	4.0
6691.20000	---	35.61	54.00	18.39	1.0	1000.	100.0	H	225.0	4.0
9689.60000	---	35.84	54.00	18.16	1.0	1000.	100.0	H	258.0	5.6
9689.60000	45.39	---	74.00	28.61	1.0	1000.	100.0	H	258.0	5.6
11668.4000	---	39.68	54.00	14.32	1.0	1000.	200.0	H	305.0	9.9
11668.4000	49.81	---	74.00	24.19	1.0	1000.	200.0	H	305.0	9.9
14131.0000	52.31	---	74.00	21.69	1.0	1000.	100.0	H	242.0	12.4
14131.0000	---	40.19	54.00	13.81	1.0	1000.	100.0	H	242.0	12.4
16317.4000	---	41.84	54.00	12.16	1.0	1000.	200.0	H	159.0	16.2
16317.4000	51.95	---	74.00	22.05	1.0	1000.	200.0	H	159.0	16.2

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	Azimu th (deg)	Corr. (dB)
3190.00000	45.76	---	74.00	28.24	1.0	1000.	200.0	V	321.0	0.5
3190.00000	---	34.12	54.00	19.88	1.0	1000.	200.0	V	321.0	0.5
4609.80000	43.34	---	74.00	30.66	1.0	1000.	200.0	V	46.0	1.2
4609.80000	---	33.20	54.00	20.80	1.0	1000.	200.0	V	46.0	1.2
7143.20000	45.76	---	74.00	28.24	1.0	1000.	200.0	V	228.0	4.1
7143.20000	---	35.16	54.00	18.84	1.0	1000.	200.0	V	228.0	4.1
10371.2000	48.30	---	74.00	25.70	1.0	1000.	200.0	V	295.0	7.8
10371.2000	---	37.76	54.00	16.24	1.0	1000.	200.0	V	295.0	7.8
14107.6000	---	40.16	54.00	13.84	1.0	1000.	100.0	V	0.0	12.4
14107.6000	50.09	---	74.00	23.91	1.0	1000.	100.0	V	0.0	12.4
16358.8000	---	42.42	54.00	11.58	1.0	1000.	100.0	V	41.0	16.3
16358.8000	52.51	---	74.00	21.49	1.0	1000.	100.0	V	41.0	16.3

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	2021-03-03	1 year
6	Universal Radio Communication Tester	CMU200	123102	R&S	2021-05-10	1 year
7	Universal Radio Communication Tester	CMW500	104178	R&S	2021-05-10	1 year

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

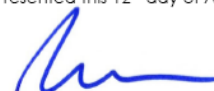
for technical competence in the field of

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*****