



EMC TEST REPORT

Report No.: 20240417G06548X-W1

Product Name: SOLIS GO

FCC ID: 2A9UP-SOL24PB

Model No. : SGO24

Applicant: SIMO Holdings Inc.

Address: PO.Box PO.Box 309, Ugland House, GrandCayman, KY1-1104,
Cayman Islands

Received Date: 2024.04.16

Dates of Testing: 2024.04.23 -2024.05.11

Issued by: CCIC Southern Testing Co., Ltd.

Lab Location: Electronic Testing Building, No. 43 Shahe Road, Xili Street,
Nanshan District, Shenzhen, Guangdong, China.

Tel: 86-755-26627338 **E-Mail:** manager@ccic-set.com

This test report consists of **19** pages in total. It may be duplicated completely for legal use with the approval of the applicant. It should not be reproduced except in full, without the written approval of our laboratory. The client should not use it to claim product endorsement by CCIC-SET. The test results in the report only apply to the tested sample. The test report shall be invalid without all the signatures of testing engineers, reviewer and approver. Any objections must be raised to CCIC-SET within 15 days since the date when the report is received. It will not be taken into consideration beyond this limit.



Test Report

Product Name..... SOLIS GO

Model No. SGO24

Trade name.....



Applicant..... SIMO Holdings Inc.

Applicant Address..... PO.Box PO.Box 309, Ugland House, GrandCayman, KY1-1104,
Cayman Islands

Manufacturer SIMO Holdings Inc.

Manufacturer Address PO.Box PO.Box 309, Ugland House, GrandCayman, KY1-1104,
Cayman Islands

Test Standards..... 47 CFR Part 15 Subpart B

Test Result..... PASS

Tested by Sun Jiaohui

Sun Jiaohui Test Engineer

2024.05.23

Reviewed by Chris You

Chris You Senior Engineer

2024.05.23

Approved by Yang Fan

Yang Fan, Manager

2024.05.23



TABLE OF CONTENTS

1.	GENERAL INFORMATION	4
1.1	EUT Description	4
1.2	Test Standards and Results	5
1.3	Facilities and Accreditations	6
1.3.1	Facilities	6
1.3.2	Test Environment Conditions	6
1.3.3	Measurement Uncertainty	6
2.	TEST CONDITIONS SETTING	7
2.1	Test Peripherals	7
2.2	Test Mode	7
2.3	Test Setup and Equipments List.....	8
2.3.1	Conducted Emission	8
2.3.2	Radiated Emission.....	9
3.	47 CFR PART 15B REQUIREMENTS	11
3.1	Conducted Emission	11
3.1.1	Requirement	11
3.1.2	Test Description	11
3.1.3	Test Result	11
3.2	Radiated Emission	14
3.2.1	Requirement	14
3.2.2	Test Description	15
3.2.3	Test Result	15

Change History		
Issue	Date	Reason for change
1.0	2024.05.23	First edition

1. GENERAL INFORMATION

1.1 EUT Description

EUT Name : SOLIS GO

Trade Name.....:



Brand Name.....: SIMO

Hardware Version..... : YL2326-V1.0-0202

Software Version : yl2326a_a_solis_go_v03_202405110

Note 1: The EUT is a SOLIS GO; It could support the following operating mode and frequency band:

GSM 850/1900; WCDMA BAND 2/4/5; LTE BAND 2/4/5/7/12/17/25/26/41;
2.4G/5G WIFI; Bluetooth; GNSS

Note 2: The EUT have the following typical setups during the test:

Setup1: GSM 850 Link + Charger;
Setup2: GSM 1900 Link + Charger;
Setup3: WCDMA BAND 2 Link + Charger;
Setup4: WCDMA BAND 4 Link + Charger;
Setup5: WCDMA BAND 5 Link + Charger;
Setup6: LTE BAND 2 Link + Charger;
Setup7: LTE BAND 4 Link + Charger;
Setup8: LTE BAND 5 Link + Charger;
Setup9: LTE BAND 7 Link + Charger;
Setup10: LTE BAND 12 Link + Charger;
Setup11: LTE BAND 17 Link + Charger;
Setup12: LTE BAND 25 Link + Charger;
Setup13: LTE BAND 26 Link + Charger;
Setup14: LTE BAND 41 Link + Charger;
Setup15: Adapter + Charger;
Setup16: Charging cabinet + Charger;
Setup17: Electric discharge + rheostat;
Setup18: 2.4G WIFI + Charger;
Setup19: 5G WIFI + Charger;
Setup20: Bluetooth + Charger;
Setup21: GNSS + Charger;
Setup22: Idle + Charger;

Note 3: All the patterns have been tested and only the worst results are recorded in the report.

Note 4: For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.



1.2 Test Standards and Results

The objective of the report is to perform testing according to 47 CFR Part 15 Subpart B:

No.	Identity	Document Title
1	47 CFR Part 15 Subpart B	Radio Frequency Devices

Test detailed items/section required by FCC rules and results are as below:

No.	Section	Description	Result
1	15.107	Conducted Emission	PASS
2	15.109	Radiated Emission	PASS

NOTE:

- (1) The EUT has been tested according to 47 CFR Part 15 Subpart B. The test procedure is according to ANSI C63.4:2014.



1.3 Facilities and Accreditations

1.3.1 Facilities

FCC-Registration No.: CN1283

CCIC Southern Testing Co., Ltd EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. Designation Number: CN1283, valid time is until Jun.30, 2025.

ISED Registration: 11185A-1

CCIC Southern Testing Co., Ltd. EMC Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 11185A-1 on Aug. 04, 2016, valid time is until Jun.30, 2025.

A2LA Code: 5721.01

CCIC-SET is a third party testing organization accredited by A2LA according to ISO/IEC 17025. The accreditation certificate number is 5721.01.

1.3.2 Test Environment Conditions

During the measurement, the environmental conditions were within the listed ranges:

Temperature (°C):	15 °C - 35 °C
Relative Humidity (%):	25% -75%
Atmospheric Pressure (kPa):	86kPa-106kPa

1.3.3 Measurement Uncertainty

The uncertainty is calculated using the methods suggested in the "Guide to the Expression of Uncertainty in Measurement" (GUM) published by ISO.

Uncertainty of Conducted Emission:	Uc = 3.2 dB (k=2)
Uncertainty of Radiated Emission: (30MHz~1GHz)	Uc = 5.8 dB (k=2)
Uncertainty of Radiated Emission: (1~6GHz)	Uc = 5.1 dB (k=2)
Uncertainty of Radiated Emission: (6~18GHz)	Uc = 5.5 dB (k=2)

2. TEST CONDITIONS SETTING

2.1 Test Peripherals

The following is a listing of the EUT and peripherals utilized during the performance of EMC test:

Support Equipment:

Description	Brand name	Model	Serial No.	FCCID
Adapter	/	VC56JBCH	/	/
Charging cabinet	SIMO	CYD-016S	/	/

Support Cable:

Description	Shield Type	Ferrite Core	Length
/	/	/	/

2.2 Test Mode

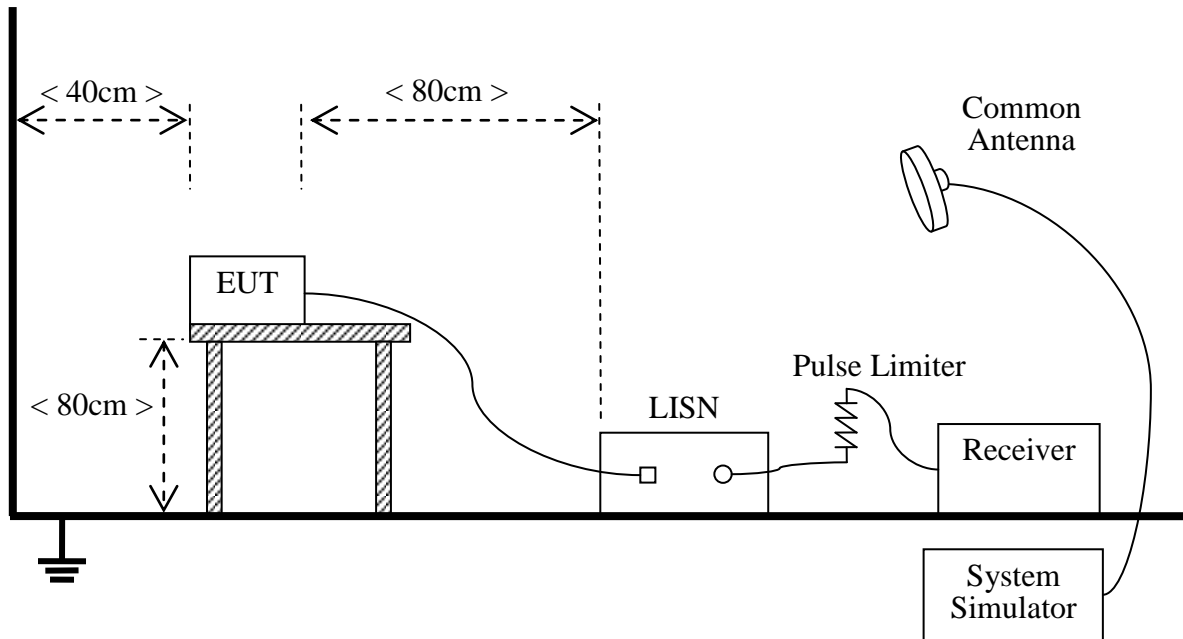
The EUT have the following typical setups during the test:

- Setup1: GSM 850 Link + Charger;
- Setup2: GSM 1900 Link + Charger;
- Setup3: WCDMA BAND 2 Link + Charger;
- Setup4: WCDMA BAND 4 Link + Charger;
- Setup5: WCDMA BAND 5 Link + Charger;
- Setup6: LTE BAND 2 Link + Charger;
- Setup7: LTE BAND 4 Link + Charger;
- Setup8: LTE BAND 5 Link + Charger;
- Setup9: LTE BAND 7 Link + Charger;
- Setup10: LTE BAND 12 Link + Charger;
- Setup11: LTE BAND 17 Link + Charger;
- Setup12: LTE BAND 25 Link + Charger;
- Setup13: LTE BAND 26 Link + Charger;
- Setup14: LTE BAND 41 Link + Charger;
- Setup15: Adapter + Charger;
- Setup16: Charging cabinet + Charger;
- Setup17: Electric discharge + rheostat;
- Setup18: 2.4G WIFI + Charger;
- Setup19: 5G WIFI + Charger;
- Setup20: Bluetooth + Charger;
- Setup21: GNSS + Charger;
- Setup22: Idle + Charger;

2.3 Test Setup and Equipments List

2.3.1 Conducted Emission

A. Test Setup:



The EUT is placed on a 0.8m high insulating table, which stands on the grounded conducting floor, and keeps 0.4m away from the grounded conducting wall. The EUT is connected to the power mains through a LISN which provides $50\Omega/50\mu\text{H}$ of coupling impedance for the measuring instrument. The Common Antenna is used for the call between the EUT and the System Simulator (SS). A Pulse Limiter is used to protect the measuring instrument. The factors of the whole test system are calibrated to correct the reading.

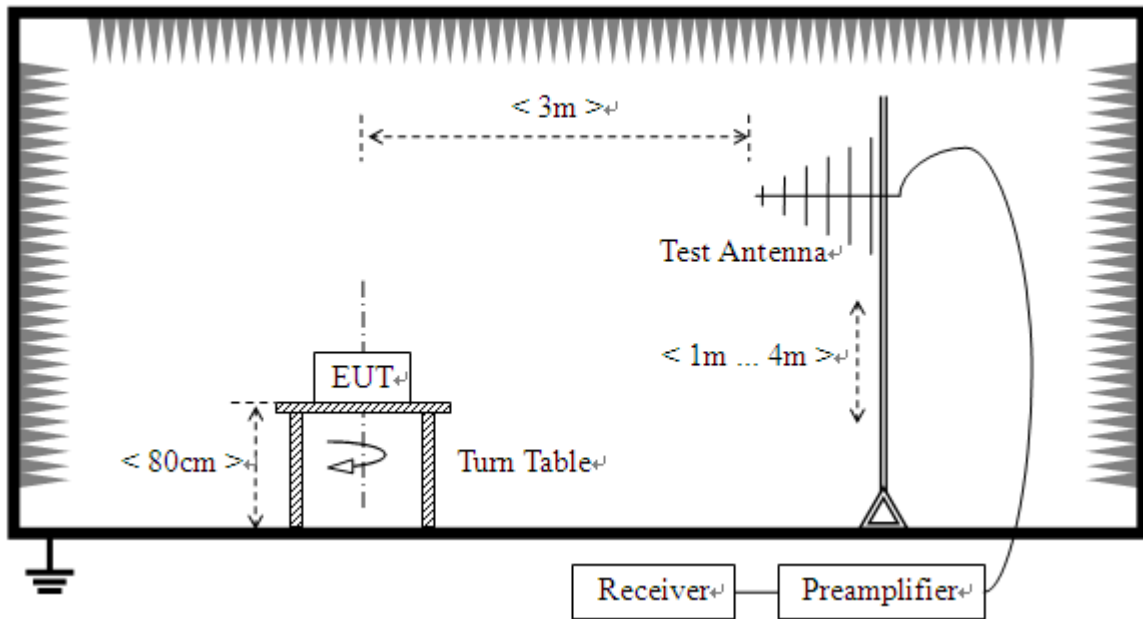
B. Equipments List:

Description	Manufacturer	Model	Serial No.	Calibration Date	Calibration Due. Date
Test Receiver	KEYSIGHT	N9038A	A141202036	2023.06.12	2024.06.11
LISN	ROHDE&SCHWARZ	ENV216	A140701847	2023.06.08	2024.06.07
Cable	MATCHING PAD	W7	/	2023.07.02	2024.07.02

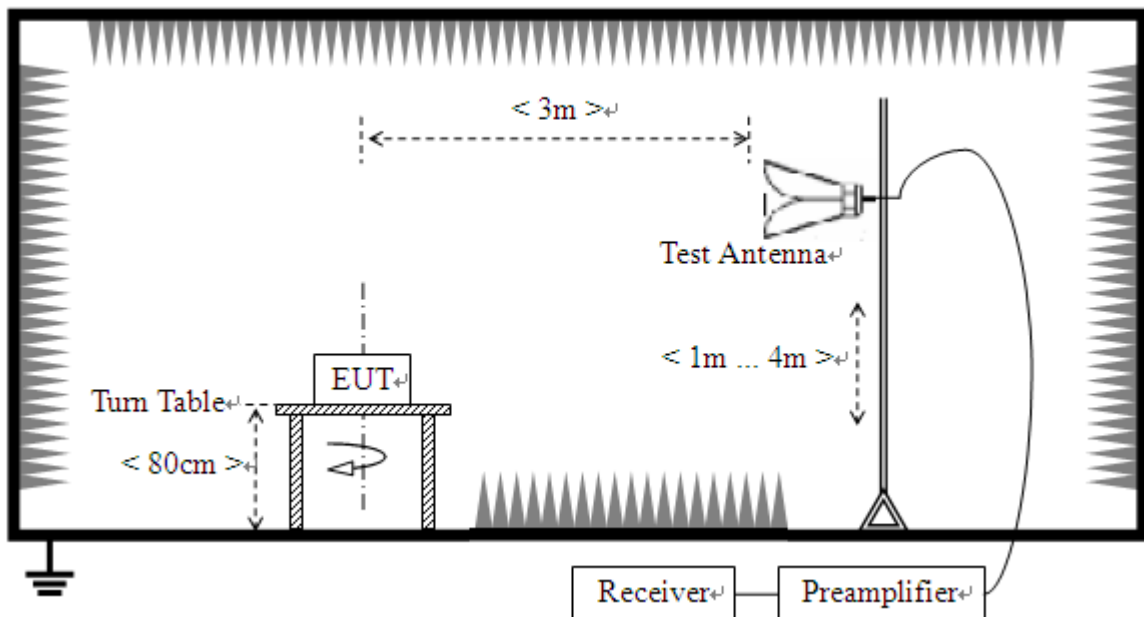
2.3.2 Radiated Emission

A. Test Setup:

- 1) For radiated emissions from 30MHz to 1GHz



- 2) For radiated emissions above 1GHz



**B. Test Procedure**

The test is performed in a 3m Semi-Anechoic Chamber; the antenna factor, cable loss and so on of the site (factors) is calculated to correct the reading. The EUT is placed on a 0.8m high insulating Turn Table, and keeps 3m away from the Test Antenna, which is mounted on a variable-height antenna master tower.

For the test Antenna:

- 1) In the frequency range above 30MHz, Bi-Log Test Antenna (30MHz to 1GHz) and Horn Test Antenna (above 1GHz) are used. Test Antenna is 3m away from the EUT. Test Antenna height is varied from 1m to 4m above the ground to determine the maximum value of the field strength. The emission levels at both horizontal and vertical polarizations should be tested.

C. Equipments List:

Description	Manufacturer	Model	Serial No.	Calibration Date	Calibration Due. Date
EMI Test Receiver	ROHDE&SCHWARZ	ESIB7	A0501375	2024.02.28	2025.02.27
Broadband Ant.	ETC	MCTD2786	A150402239	2021.12.27	2024.12.26
3M Anechoic Chamber	Albatross	SAC-3MAC 9*6*6m	A0412375	2024.02.28	2027.02.27
EMI Test Receiver	ROHDE&SCHWARZ	ESW26	A180502935	2023.06.06	2024.06.07
5M Anechoic Chamber	Albatross	SAC-5MAC 12.8x6.8x6.4m	A0304210	2022.03.25	2025.06.07
EMI Horn Ant.	ROHDE&SCHWARZ	HF906	A0304225	2022.04.12	2025.04.11

3. 47 CFR PART 15B REQUIREMENTS

3.1 Conducted Emission

3.1.1 Requirement

According to FCC section 15.107, the radio frequency voltage that is conducted back onto the AC power line on any frequency within the band 150kHz to 30MHz shall not exceed the limits in the following table, as measured using a 50 μ H/50 Ω line impedance stabilization network (LISN).

Frequency range (MHz)	Conducted Limit (dB μ V)	
	Quasi-peak	Average
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
5 - 30	60	50

Note:

- The limit subjects to the Class B digital device.
- The lower limit shall apply at the band edges.
- The limit decreases linearly with the logarithm of the frequency in the range 0.15 - 0.50MHz.

3.1.2 Test Description

See section 2.3.1 of this report.

3.1.3 Test Result

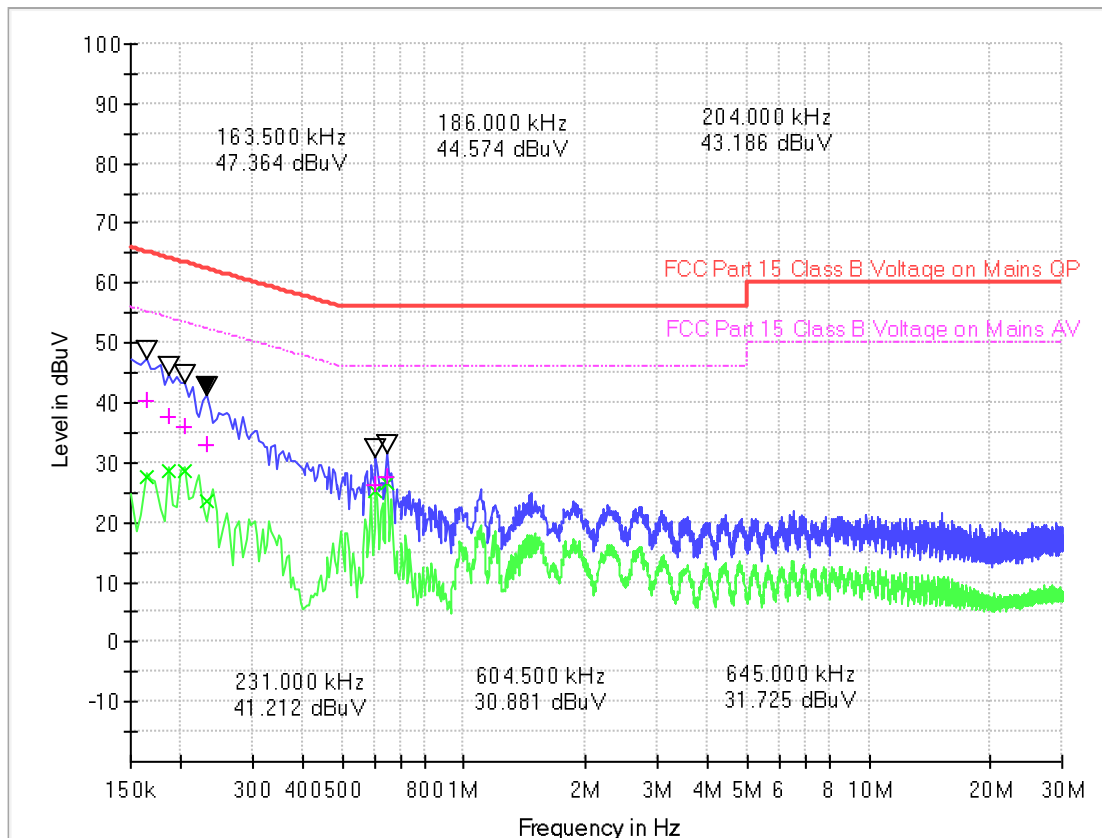
The maximum conducted interference is searched using Peak (PK), Quasi-peak (QP) and Average (AV) detectors; the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed. All test modes are considered, refer to recorded points and plots below.

Note:

Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a Nominal 230V AC,50/60Hz) for which the device is capable of operation. A device rated for 50/60 Hz operation need not be tested at both frequencies provided the radiated and line conducted emissions are the same at both frequencies.

Test voltage and frequency (230V AC, 60Hz)

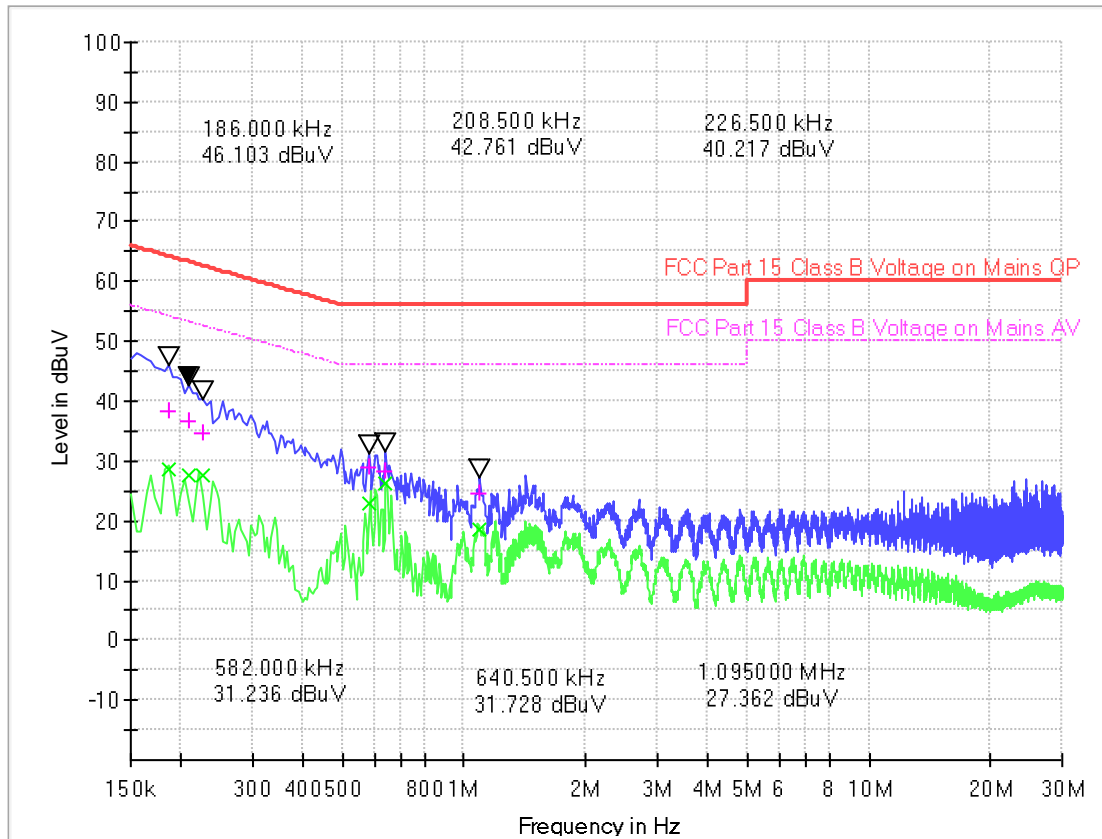
A. Mains terminal disturbance voltage, L phase, Setup 16



(Plot A: L Phase)

Frequency (MHz)	QuasiPeak (dB μ V)	CAverage (dB μ V)	Cabel Loss (dB)	Corr. (dB)	Margin - QPK	Limit - QPK	Margin - AV	Limit - AV (dB μ V)
0.163500	40.41	27.54	0.1	10.1	24.87	65.3	27.74	55.3
0.186000	37.79	28.66	0.1	10.1	26.42	64.2	25.55	54.2
0.204000	36.02	28.72	0.1	10.1	27.43	63.4	24.73	53.4
0.231000	32.90	23.53	0.1	10.1	29.51	62.4	28.88	52.4
0.604500	26.20	25.27	0.1	10.1	29.80	56.0	20.73	46.0
0.645000	27.64	26.69	0.1	10.1	28.36	56.0	19.31	46.0

B. Mains terminal disturbance voltage, N phase, Setup 16



(Plot B: N Phase)

Frequency (MHz)	QuasiPeak (dB μ V)	CAverage (dB μ V)	Cabel Loss (dB)	Corr. (dB)	Margin - QPK	Limit - QPK	Margin - AV	Limit - AV (dB μ V)
0.186000	38.34	28.63	0.1	10.1	25.87	64.2	25.58	54.2
0.208500	36.51	27.69	0.1	10.1	26.75	63.3	25.57	53.3
0.226500	34.68	27.69	0.1	10.1	27.90	62.6	24.89	52.6
0.582000	28.95	22.77	0.1	10.1	27.05	56.0	23.23	46.0
0.640500	28.35	26.33	0.1	10.1	27.65	56.0	19.67	46.0
1.095000	24.62	18.65	0.2	10.2	31.38	56.0	27.35	46.0

3.2 Radiated Emission

3.2.1 Requirement

According to FCC section 15.109, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency range (MHz)	Field Strength		Field Strength Limitation at 3m Measurement Dist	
	$\mu\text{V/m}$	Dist	($\mu\text{V/m}$)	(dBuV/m)
30.0 - 88.0	100	3m	100	$20\log 100$
88.0 - 216.0	150	3m	150	$20\log 150$
216.0 - 960.0	200	3m	200	$20\log 200$
Above 960.0	500	3m	500	$20\log 500$

- For frequencies above 1000MHz, the field strength limits are based on average detector. When average radiated emission measurements are specified in this part, including emission measurements below 1000MHz, there also is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit for the frequency being investigated unless a different peak emission limit is otherwise specified in the rules.
- Test Antenna is 3m away from the EUT. Test Antenna height is varied from 1m to 4m above the ground to determine the maximum value of the field strength.
- For below 1G :QP detector RBW 120kHz ,VBW 300kHz.

For Above 1G: PK detector RBW 1MHz,VBW 3MHz for PK value ;AV detector RBW 1MHz, VBW 10Hz for AV value.

Note:

- The tighter limit shall apply at the boundary between two frequency range.
- Limitation expressed in dBuV/m is calculated by $20\log \text{Emission Level}(\mu\text{V/m})$.
- If measurement is made at 3m distance, then F.S Limitation at 3m distance is adjusted by using the formula of $L_{d1} = L_{d2} * (d_2/d_1)^2$.

Example:

F.S Limit at 30m distance is $30\mu\text{V/m}$, then F.S Limitation at 3m distance is adjusted as

$$L_{d1} = L_1 = 30\mu\text{V/m} * (10)^2 = 100 * 30\mu\text{V/m}.$$

3.2.2 Test Description

See section 2.3.2 of this report.

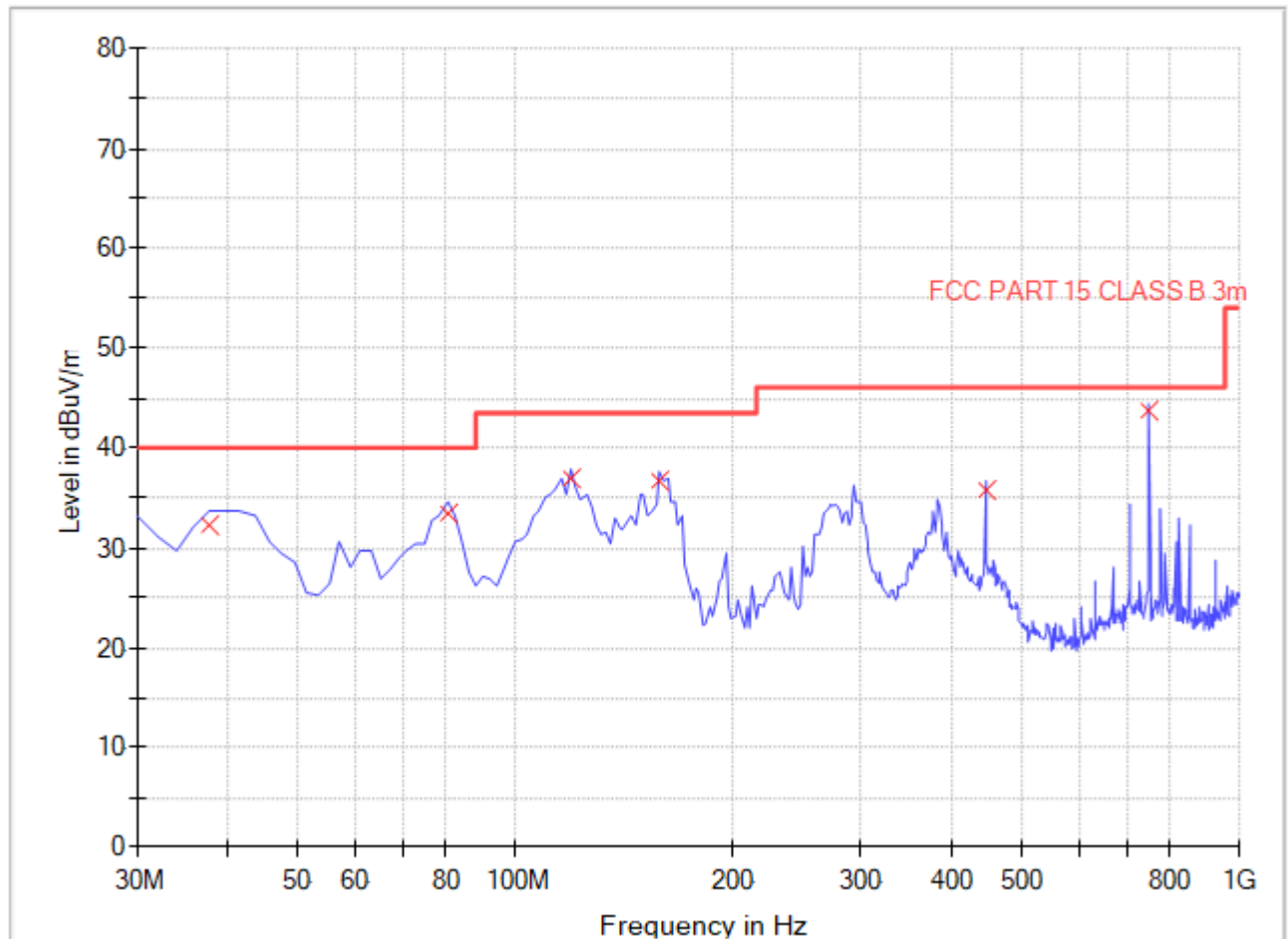
3.2.3 Test Result

The maximum radiated emission is searched using PK, QP and AV detectors; the emission levels more than the limits, and that have narrow margins from the limits will be re-measured with AV and QP detectors. Both the vertical and the horizontal polarizations of the Test Antenna are considered to perform the tests. All test modes are considered, refer to recorded points and plots below.

The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Note: All radiated emission tests were performed in X, Y, Z axis direction, and only the worst axis test condition was recorded in this test report.

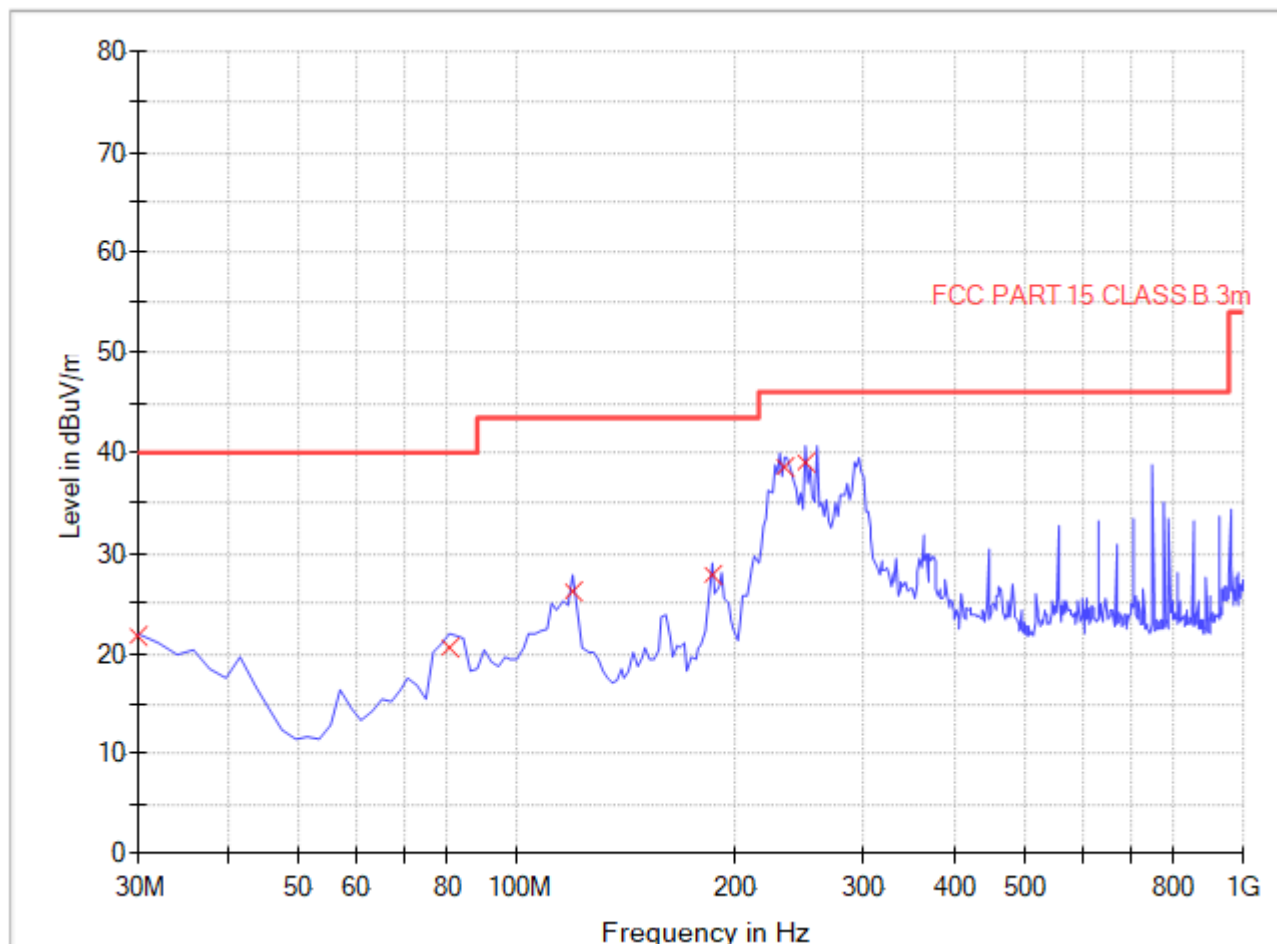
A. Radiation disturbances, antenna polarization: Vertical, Setup16



(Plot C: Test Antenna Vertical 30M - 1G)

Frequency (MHz)	QuasiPeak (dB μ V/m)	Bandwidth (kHz)	Antenna height (cm)	Limit (dB μ V/m)	Margin (dB)	Antenna	Cable Loss(dB)	ANT. Factor(dB)	Verdict
37.76	32.35	120.000	104	40.00	7.65	Vertical	0.5	14.3	Pass
80.56	33.52	120.000	102	40.00	6.48	Vertical	0.8	7.8	Pass
119.40	36.86	120.000	106	43.50	6.64	Vertical	1.0	11.2	Pass
158.28	36.66	120.000	105	43.50	6.84	Vertical	1.1	11.3	Pass
446.00	35.84	120.000	103	46.00	10.16	Vertical	1.5	17.2	Pass
751.20	42.65	120.000	104	46.00	3.35	Vertical	1.8	20.4	Pass

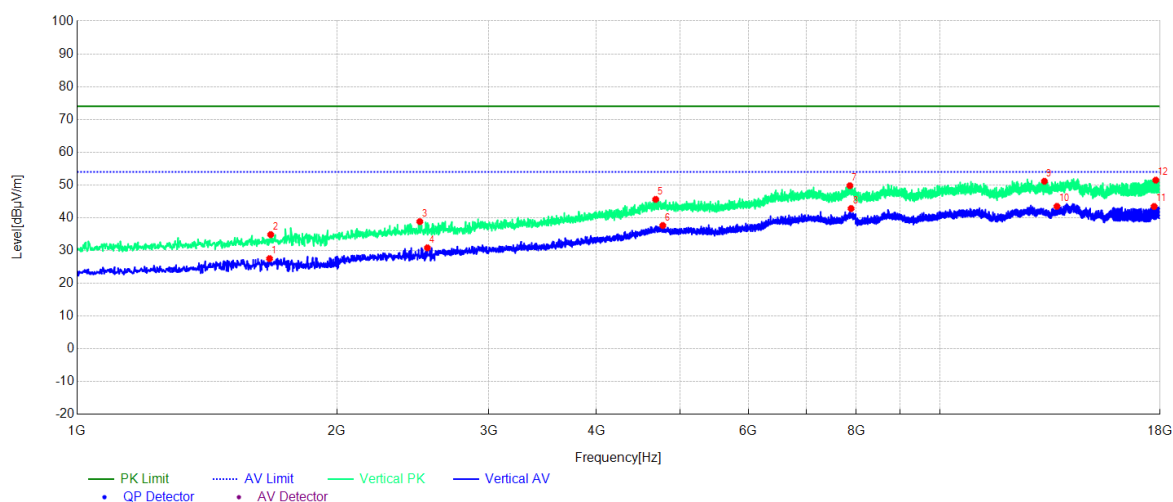
B. Radiation disturbances, antenna polarization: Horizontal, Setup16



(Plot D: Test Antenna Horizontal 30M - 1G)

Frequency (MHz)	QuasiPeak (dB μ V/m)	Bandwidth (kHz)	Antenna height (cm)	Limit (dB μ V/m)	Margin (dB)	Antenna	Cable Loss(dB)	ANT. Factor(dB)	Verdict
30.00	21.66	120.000	105	40.00	18.34	Horizontal	0.5	18.8	Pass
80.56	20.47	120.000	103	40.00	19.53	Horizontal	0.8	7.7	Pass
119.40	26.09	120.000	101	43.50	17.41	Horizontal	1.0	11.2	Pass
185.52	27.74	120.000	102	43.50	15.76	Horizontal	1.2	9.3	Pass
234.12	38.60	120.000	108	46.00	7.40	Horizontal	1.2	10.6	Pass
249.64	39.03	120.000	104	46.00	6.97	Horizontal	1.2	13.8	Pass

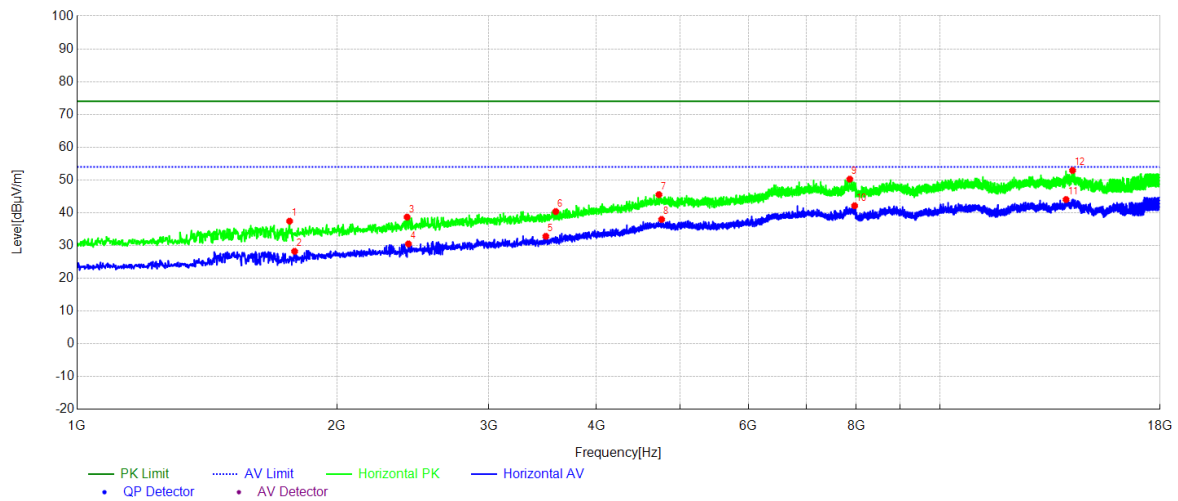
A. Radiation disturbances, antenna polarization: Vertical, Setup1



(Plot M: Test Antenna Horizontal 1G – 18G)

NO	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB μV/m]	Trace	Height [cm]	Angle [°]	Polarity
1	1671.57	27.53	-13.36	54.00	26.47	AV	105	84	Vertical
2	1676.67	34.86	-13.34	74.00	39.14	PK	103	192	Vertical
3	2496.15	38.82	-10.26	74.00	35.18	PK	102	125	Vertical
4	2547.15	30.83	-10.11	54.00	23.17	AV	107	203	Vertical
5	4684.27	45.61	-1.15	74.00	28.39	PK	106	141	Vertical
6	4774.38	37.63	-0.90	54.00	16.37	AV	104	162	Vertical
7	7865.29	49.77	4.05	74.00	24.23	PK	103	284	Vertical
8	7890.79	42.81	4.09	54.00	11.19	AV	102	298	Vertical
9	13219.12	51.13	8.01	74.00	22.87	PK	105	267	Vertical
10	13667.97	43.49	8.78	54.00	10.51	AV	101	145	Vertical
11	17714.37	43.44	13.67	54.00	10.56	AV	103	133	Vertical
12	17795.98	51.47	13.52	74.00	22.53	PK	108	235	Vertical

B. Radiation disturbances, antenna polarization: Horizontal, Setup1



(Plot N: Test Antenna Vertical 1G – 18G)

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin[dB μV/m]	Trace	Height [cm]	Angle [°]	Polarity
1	1763.38	37.44	-12.93	74.00	36.56	PK	104	113	Horizontal
2	1787.18	28.23	-12.80	54.00	25.77	AV	103	254	Horizontal
3	2412.84	38.66	-10.60	74.00	35.34	PK	107	151	Horizontal
4	2421.34	30.49	-10.57	54.00	23.51	AV	105	307	Horizontal
5	3494.15	32.82	-7.32	54.00	21.18	AV	101	216	Horizontal
6	3587.66	40.37	-6.80	74.00	33.63	PK	105	84	Horizontal
7	4725.07	45.52	-1.02	74.00	28.48	PK	103	203	Horizontal
8	4759.08	37.98	-0.94	54.00	16.02	AV	104	252	Horizontal
9	7863.59	50.25	4.05	74.00	23.75	PK	108	285	Horizontal
10	7965.60	42.14	4.07	54.00	11.86	AV	107	93	Horizontal
11	14004.60	44.03	9.44	54.00	9.97	AV	104	131	Horizontal
12	14251.13	52.91	9.66	74.00	21.09	PK	102	64	Horizontal

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