



TESTING LABORATORY
CERTIFICATE #4820.01



FCC PART 15B

TEST REPORT

For

HONG KONG IPRO TECHNOLOGY CO., LIMITED

12/F 3 LOCKHART ROAD WANCHAI HK

FCC ID: PQ4IPROA6MINI


| | |
|--|---|
| Report Type: Original Report | Product Type: Mobile Phone |
| Report Number: | RDG200910001-00B |
| Report Date: | 2020-09-29 |
| Reviewed By: | Ivan Cao Assistant Manager  |
| Test Laboratory: | Bay Area Compliance Laboratories Corp. (Dongguan) No.69 Pulongcun, Puxinhu Industry Area, Tangxia, Dongguan, Guangdong, China Tel: +86-769-86858888 Fax: +86-769-86858891 www.baclcorp.com.cn |

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

| | | |
|-------------------------------------|----------------|--|
| EUT Name: | | Mobile Phone |
| EUT Model: | | A6mini |
| Highest Operation Frequency: | | 2480 MHz |
| Rated Input Voltage: | | DC 3.7V from battery or DC 5V from Adapter |
| Adapter Information | Input: | 100Vac-240Vac 50/60Hz 0.2A |
| | Output: | 5.0Vdc 1A |
| Serial Number: | | RDG200910001-RF-S1 |
| EUT Received Date: | | 2020.09.11 |
| EUT Received Status: | | Good |

Objective

This report is prepared on behalf of **HONG KONG IPRO TECHNOLOGY CO.,LIMITED** in accordance with FCC Part 15B Part 2, Part J, and Part 15, Subpart A and B of the Federal Communications Commission's rules.

The objective is to determine the compliance of EUT with: FCC Part 15B.

Related Submittal(s)/Grant(s)

FCC Part 22H, 24E PCE submissions with FCC ID: PQ4IPROA6MINI
FCC Part 15C DSS submissions with FCC ID: PQ4IPROA6MINI

Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2014 American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz.

Measurement Uncertainty

| Parameter | Measurement Uncertainty |
|-----------------------------------|--|
| Unwanted Emissions, radiated | 30M~200MHz: 4.58 dB for Horizontal, 4.59 dB for Vertical 200M~1GHz: 4.83 dB for Horizontal, 5.85 dB for Vertical 1G~6GHz: 4.45 dB, 6G~13GHz: 5.23 dB |
| Temperature | ±1°C |
| Humidity | ±5% |
| AC Power Lines Conducted Emission | 3.12 dB (150 kHz to 30 MHz) |

Note: Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.69 Pulongcun, Puxinhu Industry Area, Tangxia, Dongguan, Guangdong, China.

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 897218, the FCC Designation No. : CN1220.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: CN0022.

Declarations

BACL is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with a triangle symbol “△”. Customer model name, addresses, names, trademarks etc. are not considered data.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

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SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in Charging& Camera recording mode.

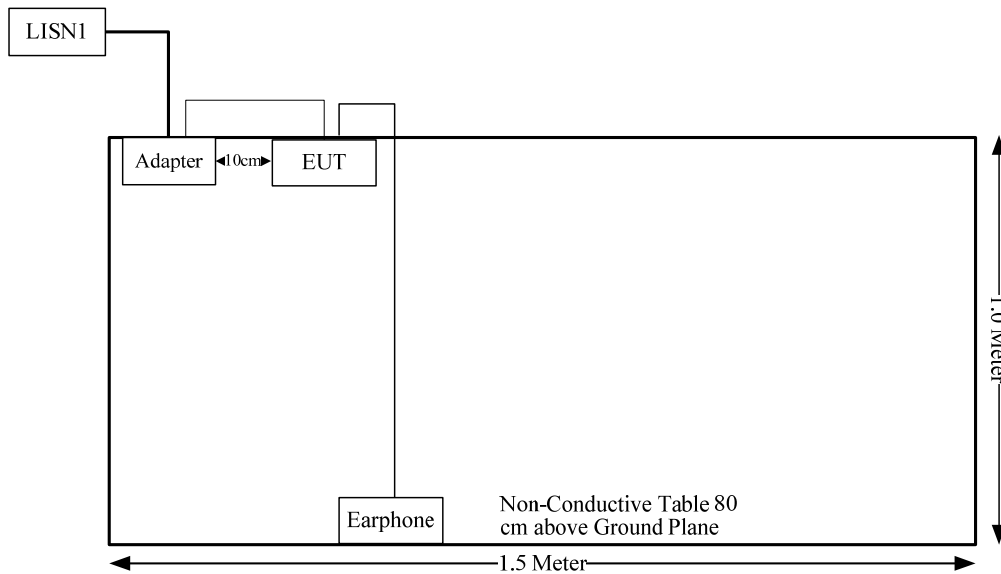
EUT Exercise Software

No software was used during test.

Support Cable List and Details

| Cable Description | Shielding Type | Ferrite Core | Length (m) | From Port | To |
|-------------------|----------------|--------------|------------|-----------|----------|
| DC Cable | No | No | 1.0 | Adapter | EUT |
| Earphone Cable | No | No | 1.5 | EUT | Earphone |

Block Diagram of Test Setup



Test Equipment List

| Manufacturer | Description | Model | Serial Number | Calibration Date | Calibration Due Date |
|------------------------------------|-------------------|------------|-----------------|------------------|----------------------|
| AC Line Conducted Emissions | | | | | |
| R&S | LISN | ENV 216 | 101614 | 2019-09-12 | 2020-09-12 |
| R&S | EMI Test Receiver | ESCI | 101121 | 2020-07-07 | 2021-07-07 |
| Unknown | Coaxial Cable | C-NJNJ-50 | C-0200-01 | 2019-09-05 | 2020-09-05 |
| R&S | Test Software | EMC32 | Version 9.10.00 | N/A | N/A |
| R&S | L.I.S.N | ESH2-Z5 | 892107/021 | 2020-09-05 | 2021-09-05 |
| Spurious Emissions | | | | | |
| Sunol Sciences | Antenna | JB3 | A060611-1 | 2017-11-10 | 2020-11-10 |
| R&S | EMI Test Receiver | ESR3 | 102453 | 2019-09-12 | 2020-09-12 |
| Unknown | Coaxial Cable | C-NJNJ-50 | C-0075-01 | 2020-09-05 | 2021-09-05 |
| Unknown | Coaxial Cable | C-NJNJ-50 | C-0400-01 | 2020-09-05 | 2021-09-05 |
| Unknown | Coaxial Cable | C-NJNJ-50 | C-1400-01 | 2020-05-06 | 2021-05-06 |
| HP | Amplifier | 8447D | 2727A05902 | 2020-09-05 | 2021-09-05 |
| Farad | Test Software | EZ-EMC | V1.1.4.2 | N/A | N/A |
| ETS-Lindgren | Horn Antenna | 3115 | 000 527 35 | 2018-10-12 | 2021-10-12 |
| Agilent | Spectrum Analyzer | E4440A | SG43360054 | 2020-07-07 | 2021-07-07 |
| Unknown | Coaxial Cable | C-SJSJ-50 | C-0800-01 | 2020-09-05 | 2021-09-05 |
| Mini-Circuit | Amplifier | ZVA-213-S+ | 54201245 | 2020-09-05 | 2021-09-05 |
| Farad | Test Software | EZ-EMC | V1.1.4.2 | N/A | N/A |

* Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Environmental Conditions

| Test Item: | Conducted emissions | Radiated emissions (Below 1GHz) | Radiated emissions (Above 1GHz) |
|--------------------|---------------------|---------------------------------|---------------------------------|
| Temperature: | 25.8 °C | 27.8°C | 29 °C |
| Relative Humidity: | 65% | 42% | 45% |
| ATM Pressure: | 100.7kPa | 101kPa | 100.7kPa |
| Tester: | Leo Long | Jalon Liu | Carlos Jia |
| Test Date: | 2020-09-11 | 2020-09-20 | 2020-09-15 |

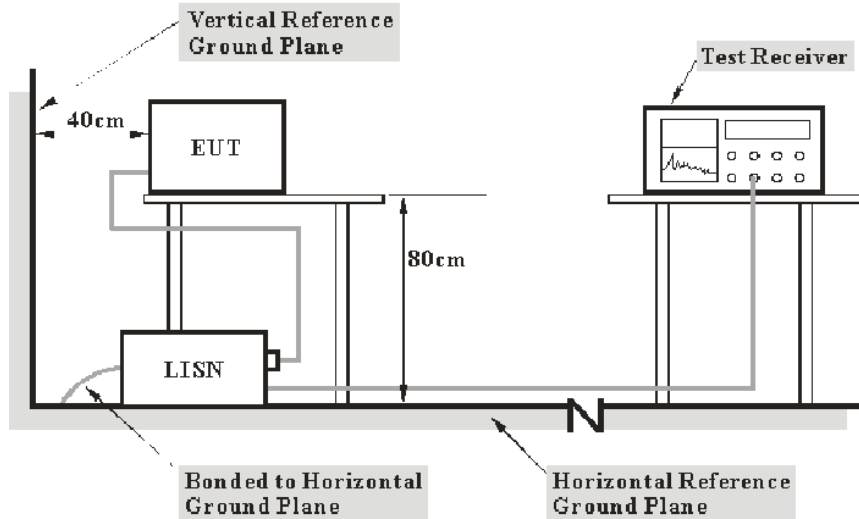
SUMMARY OF TEST RESULTS

FCC Part 15B

| Clause | Description of Test | Test Result |
|---------|---------------------|-------------|
| §15.107 | Conducted emissions | Compliance |
| §15.109 | Radiated emissions | Compliance |

FCC PART 15B §15.107 – CONDUCTED EMISSIONS

EUT Setup



- Note: 1. Support units were connected to second LISN.
 2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.4-2014 measurement procedure. The specification used was with the FCC Part 15 B Class B limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The adapter was connected to the main LISN with a 120 V/60 Hz AC power source.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

| Frequency Range | IF B/W |
|------------------|--------|
| 150 kHz – 30 MHz | 9 kHz |

Test Procedure

During the conducted emission test, the adapter or EUT was connected to the first LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT. The report shall list the six emissions with the smallest margin relative to the limit, unless the margin is greater than 20 dB.

All data was recorded in the Quasi-peak and average detection mode.

Corrected Amplitude & Margin Calculation

The basic equation is as follows:

Result (QuasiPeak or Average) = Meter Reading + Corr.

Note:

Corr. = Cable loss + Factor of coupling device

The “**Margin**” column of the following data tables indicates the degree of compliance within the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

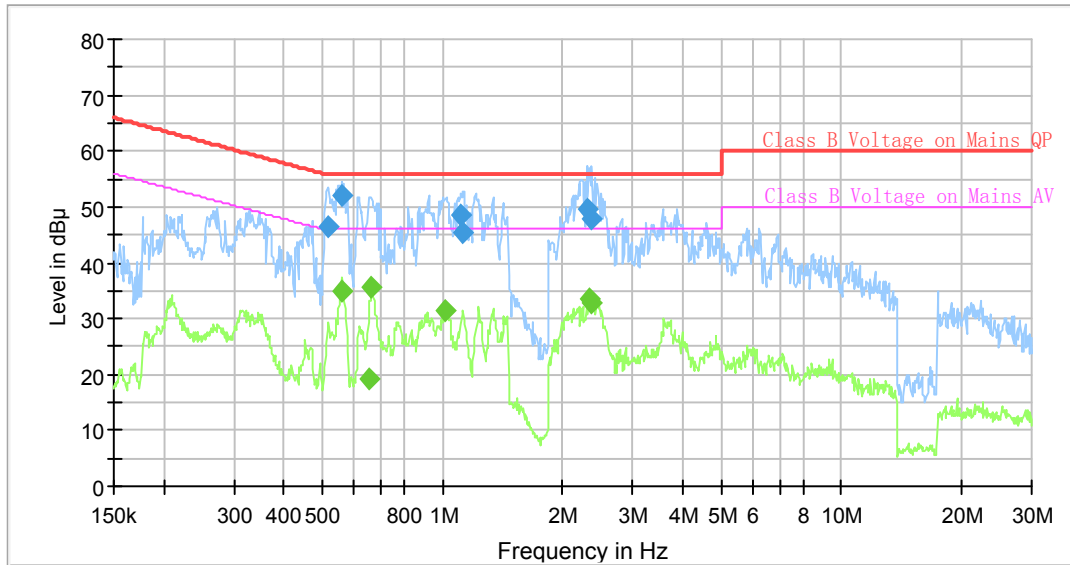
Margin = Limit – Result

Test Data

Test mode: Charging& Camera recording

Test Result: Compliance, Please refer to following table and plots:

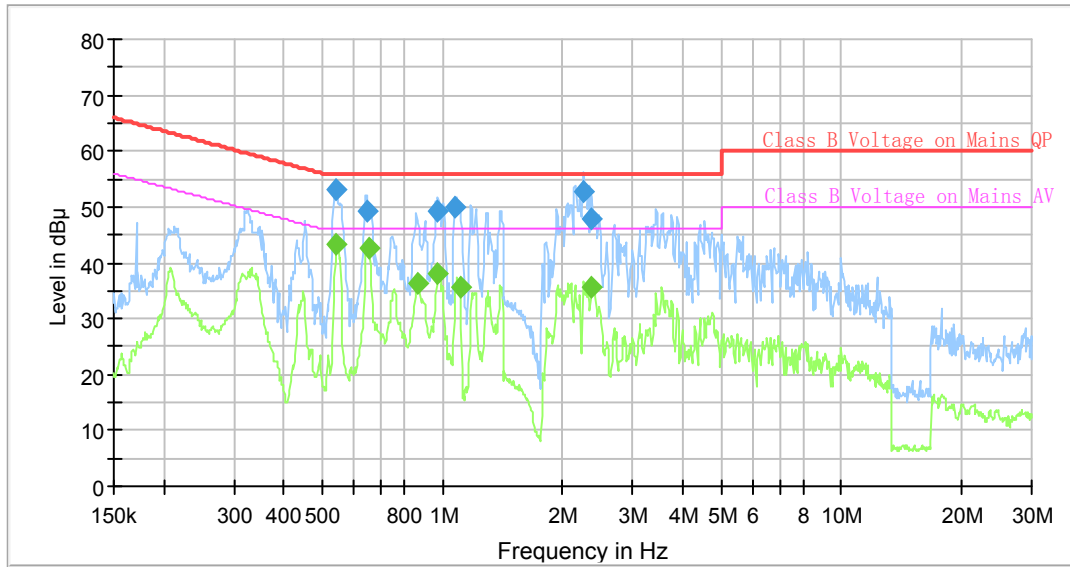
AC120V, 60 Hz, Line:



Final Result

| Frequency (MHz) | QuasiPeak (dB µ V) | Average (dB µ V) | Limit (dB µ V) | Margin (dB) | Bandwidth (kHz) | Line | Corr. (dB) |
|-----------------|--------------------|------------------|----------------|-------------|-----------------|------|------------|
| 0.519327 | 46.36 | --- | 56.00 | 9.64 | 9.000 | L1 | 9.6 |
| 0.559669 | 52.15 | --- | 56.00 | 3.85 | 9.000 | L1 | 9.6 |
| 0.562468 | --- | 34.91 | 46.00 | 11.09 | 9.000 | L1 | 9.6 |
| 0.656516 | --- | 19.28 | 46.00 | 26.72 | 9.000 | L1 | 9.6 |
| 0.663098 | --- | 35.50 | 46.00 | 10.50 | 9.000 | L1 | 9.6 |
| 1.013195 | --- | 31.50 | 46.00 | 14.50 | 9.000 | L1 | 9.7 |
| 1.113905 | 48.73 | --- | 56.00 | 7.27 | 9.000 | L1 | 9.7 |
| 1.125072 | 45.33 | --- | 56.00 | 10.67 | 9.000 | L1 | 9.7 |
| 2.307242 | 49.64 | --- | 56.00 | 6.36 | 9.000 | L1 | 9.7 |
| 2.330372 | --- | 33.39 | 46.00 | 12.61 | 9.000 | L1 | 9.7 |
| 2.365502 | --- | 32.68 | 46.00 | 13.32 | 9.000 | L1 | 9.7 |
| 2.365502 | 47.90 | --- | 56.00 | 8.10 | 9.000 | L1 | 9.7 |

AC120V, 60 Hz, Neutral:



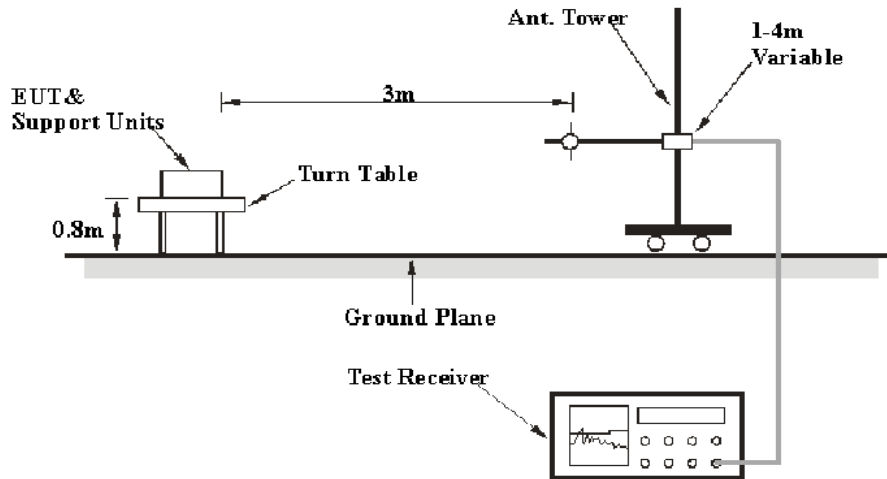
Final Result

| Frequency (MHz) | QuasiPeak (dB µ V) | Average (dB µ V) | Limit (dB µ V) | Margin (dB) | Bandwidth (kHz) | Line | Corr. (dB) |
|-----------------|--------------------|------------------|----------------|-------------|-----------------|------|------------|
| 0.540467 | --- | 43.27 | 46.00 | 2.73 | 9.000 | N | 9.6 |
| 0.540467 | 53.02 | --- | 56.00 | 2.98 | 9.000 | N | 9.6 |
| 0.646766 | 49.30 | --- | 56.00 | 6.70 | 9.000 | N | 9.6 |
| 0.653250 | --- | 42.57 | 46.00 | 3.43 | 9.000 | N | 9.6 |
| 0.868051 | --- | 36.25 | 46.00 | 9.75 | 9.000 | N | 9.6 |
| 0.973564 | 49.13 | --- | 56.00 | 6.87 | 9.000 | N | 9.6 |
| 0.973564 | --- | 37.95 | 46.00 | 8.05 | 9.000 | N | 9.6 |
| 1.075686 | 49.87 | --- | 56.00 | 6.13 | 9.000 | N | 9.6 |
| 1.108363 | --- | 35.48 | 46.00 | 10.52 | 9.000 | N | 9.6 |
| 2.250416 | 52.85 | --- | 56.00 | 3.15 | 9.000 | N | 9.6 |
| 2.365502 | --- | 35.50 | 46.00 | 10.50 | 9.000 | N | 9.6 |
| 2.365502 | 47.86 | --- | 56.00 | 8.14 | 9.000 | N | 9.6 |

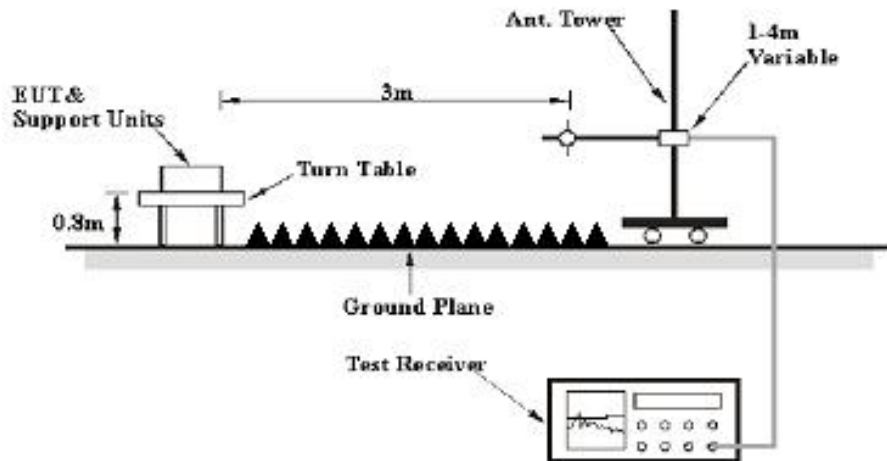
FCC PART 15B §15.109 – RADIATED EMISSIONS

EUT Setup

Below 1GHz:



Above 1GHz:



The radiated emission tests were performed at the 3 meters distance, above 1GHz were performed at the 3 meters, using the setup accordance with the ANSI C63.4-2014. The specification used was the FCC Part 15.109 Class B limits.

EMI Test Receiver Setup

The system was investigated from 30 MHz to 13 GHz.

During the radiated emission test, the EMI test receiver was set with the following configurations:

| Frequency Range | RBW | Video B/W | IF B/W | Measurement |
|-------------------|---------|-------------------------|---------|-------------|
| 30 MHz – 1000 MHz | 120 kHz | 300 kHz | 120 kHz | QP |
| Above 1 GHz | 1 MHz | 3 MHz | / | Peak |
| | 1 MHz | Reduced video bandwidth | / | AVG |

Test Procedure

During the radiated emissions, the adapter was connected to the first AC floor outlet.

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

The data was recorded in the Quasi-peak detection mode for below 1 GHz, peak and average detection mode above 1 GHz.

Corrected Amplitude & Margin Calculation

The basic equation is as follows:

Result = Meter Reading + Corrected

Corrected = Antenna Factor + Cable Loss - Amplifier Gain

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7 dB means the emission is 7 dB below the limit. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Limit} - \text{Result}$$

Test Data

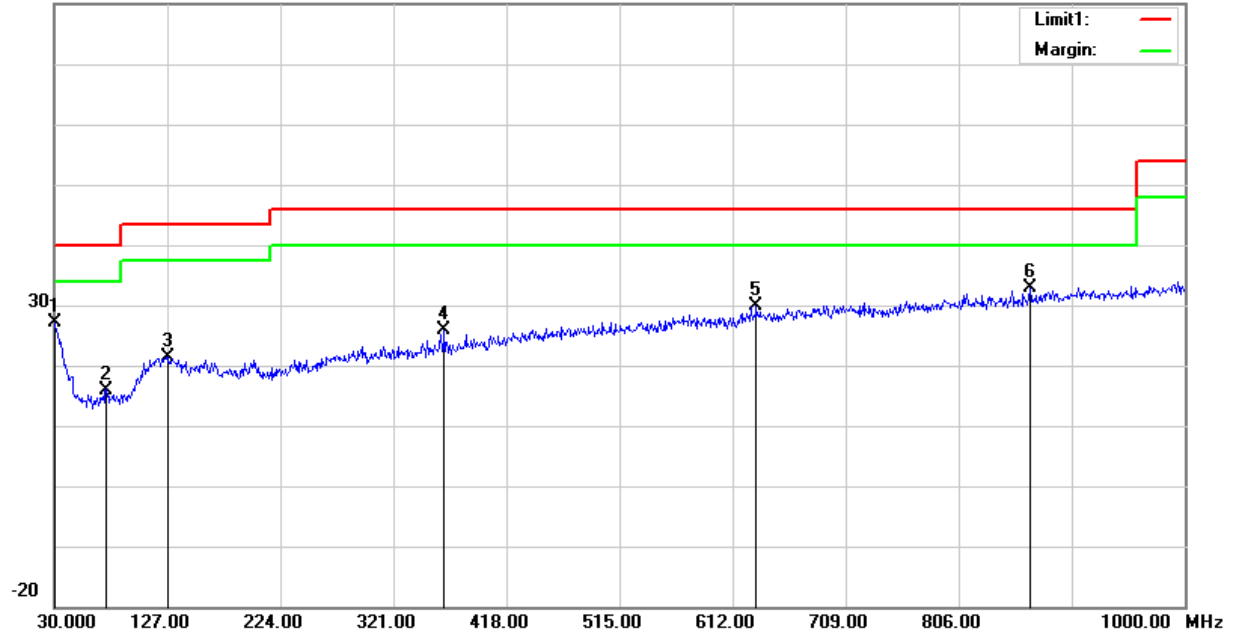
Please refer to following table and plots:

Test Mode: Charging & Camera recording

1) 30MHz-1GHz:

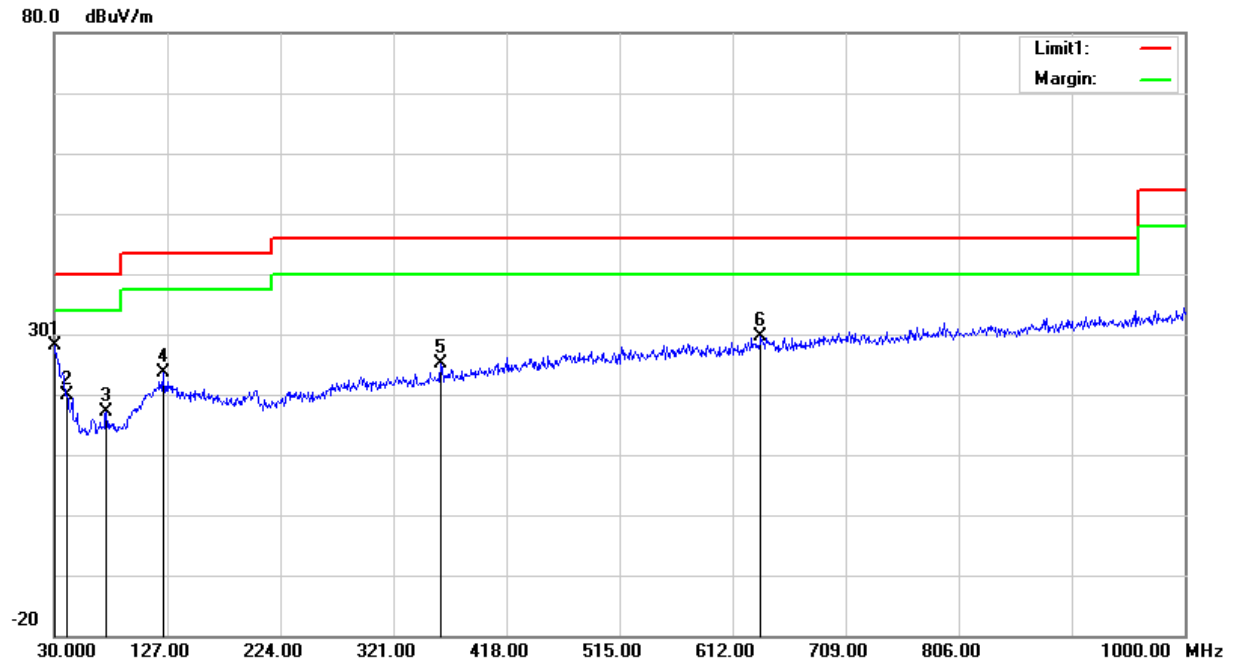
Horizontal:

80.0 dB μ V/m



| No. | Frequency (MHz) | Reading (dB μ V) | Detector | Corrected (dB/m) | Result (dB μ V/m) | Limit (dB μ V/m) | Margin (dB) |
|-----|-----------------|----------------------|----------|------------------|-----------------------|----------------------|-------------|
| 1 | 30.0000 | 25.65 | peak | 1.46 | 27.11 | 40.00 | 12.89 |
| 2 | 74.6200 | 27.24 | peak | -11.24 | 16.00 | 40.00 | 24.00 |
| 3 | 127.9700 | 26.32 | peak | -4.94 | 21.38 | 43.50 | 22.12 |
| 4 | 364.6500 | 28.71 | peak | -2.72 | 25.99 | 46.00 | 20.01 |
| 5 | 632.3700 | 28.08 | peak | 1.81 | 29.89 | 46.00 | 16.11 |
| 6 | 867.1100 | 28.06 | peak | 4.72 | 32.78 | 46.00 | 13.22 |

Vertical:

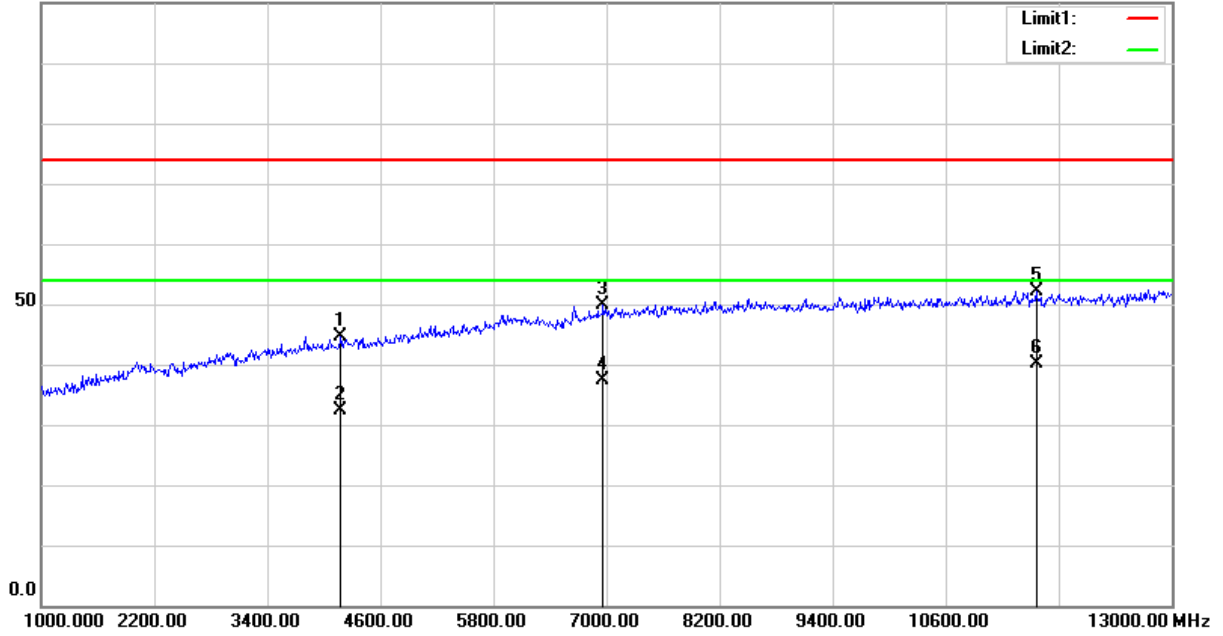


| No. | Frequency (MHz) | Reading (dBμV) | Detector | Corrected (dB/m) | Result (dBμV/m) | Limit (dBμV/m) | Margin (dB) |
|-----|-----------------|----------------|----------|------------------|-----------------|----------------|-------------|
| 1 | 30.0000 | 26.72 | peak | 1.46 | 28.18 | 40.00 | 11.82 |
| 2 | 40.6700 | 26.45 | peak | -6.51 | 19.94 | 40.00 | 20.06 |
| 3 | 74.6200 | 28.30 | peak | -11.24 | 17.06 | 40.00 | 22.94 |
| 4 | 123.1200 | 28.44 | peak | -4.76 | 23.68 | 43.50 | 19.82 |
| 5 | 361.7400 | 27.81 | peak | -2.76 | 25.05 | 46.00 | 20.95 |
| 6 | 636.2500 | 27.71 | peak | 1.92 | 29.63 | 46.00 | 16.37 |

2) 1GHz-13GHz:

Horizontal:

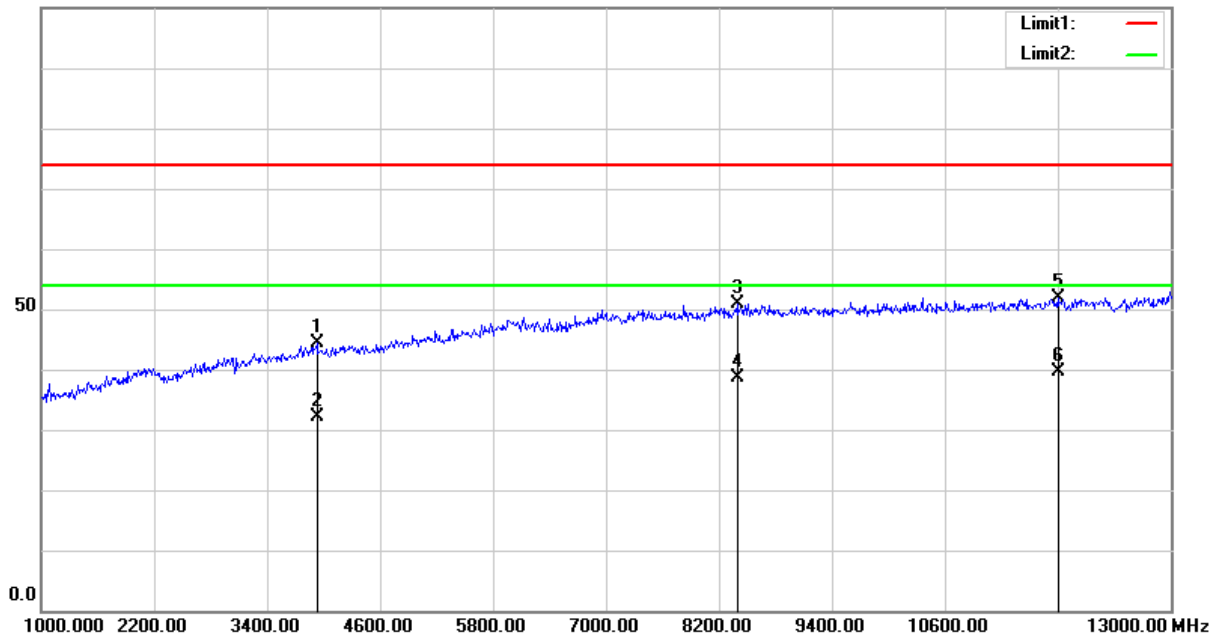
100.0 dB μ V/m



| No. | Frequency (MHz) | Reading (dB μ V) | Detector | Corrected (dB/m) | Result (dB μ V/m) | Limit (dB μ V/m) | Margin (dB) |
|-----|-----------------|----------------------|----------|------------------|-----------------------|----------------------|-------------|
| 1 | 4180.000 | 35.41 | peak | 9.28 | 44.69 | 74.00 | 29.31 |
| 2 | 4180.000 | 23.20 | AVG | 9.28 | 32.48 | 54.00 | 21.52 |
| 3 | 6964.000 | 35.04 | peak | 14.90 | 49.94 | 74.00 | 24.06 |
| 4 | 6964.000 | 22.58 | AVG | 14.90 | 37.48 | 54.00 | 16.52 |
| 5 | 11566.000 | 32.03 | peak | 20.14 | 52.17 | 74.00 | 21.83 |
| 6 | 11566.000 | 20.00 | AVG | 20.14 | 40.14 | 54.00 | 13.86 |

Vertical:

100.0 dBuV/m



| No. | Frequency (MHz) | Reading (dBμV) | Detector | Corrected (dB/m) | Result (dBμV/m) | Limit (dBμV/m) | Margin (dB) |
|-----|-----------------|----------------|----------|------------------|-----------------|----------------|-------------|
| 1 | 3934.000 | 35.24 | peak | 9.04 | 44.28 | 74.00 | 29.72 |
| 2 | 3934.000 | 23.12 | AVG | 9.04 | 32.16 | 54.00 | 21.84 |
| 3 | 8398.000 | 34.63 | peak | 16.30 | 50.93 | 74.00 | 23.07 |
| 4 | 8398.000 | 22.41 | AVG | 16.30 | 38.71 | 54.00 | 15.29 |
| 5 | 11806.000 | 31.42 | peak | 20.39 | 51.81 | 74.00 | 22.19 |
| 6 | 11806.000 | 19.21 | AVG | 20.39 | 39.60 | 54.00 | 14.40 |

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