



FCC TEST REPORT

Report No.: STS2304061W02

Issued for

Shenzhen Yize Innovation Technology Co., Ltd.

201, 2nd Floor, Building 3, Yunli Smart Park, Bantian Street,  
Longgang District, Shenzhen, CN

|                  |                       |
|------------------|-----------------------|
| Product Name:    | Fast Wireless Charger |
| Brand:           | N/A                   |
| Model Number:    | K2                    |
| Series Model(s): | N/A                   |
| FCC ID:          | 2BA6N-K2              |
| Test Standard:   | FCC Part 15 Subpart C |

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**TEST RESULT CERTIFICATION**

Applicant's Name .....: Shenzhen Yize Innovation Technology Co., Ltd.  
Address.....: 201, 2nd Floor, Building 3, Yunli Smart Park, Bantian Street,  
Longgang District, Shenzhen, CN  
Manufacturer's Name .....: DongGuan RuiHong Lian Technology Co.,Ltd.  
Address.....: Floor 3, building 2, No.12, Yongqiang Road, Huangjiang Town,  
Dongguan City, Guangdong Province, China

**Product Description**

Product Name .....: Fast Wireless Charger  
Brand .....: N/A  
Model Number.....: K2  
Series Model(s) .....: N/A

**Test Standards**.....: FCC Part 15 Subpart C

Test Procedure .....: ANSI C63.10-2013

This device described above has been tested by STS, the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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**Date of Test**.....:

Date of receipt of test item .....: 19 Apr. 2023

Date (s) of performance of tests : 19 Apr. 2023 ~ 07 June 2023

Date of Issue .....: 07 June 2023

Test Result .....: **Pass**

Testing Engineer :

(Chris Chen)

Technical Manager :

(Sean She)

Authorized Signatory :

(Bovey Yang)





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**Revision History**

| Rev. | Issue Date   | Report NO.    | Effect Page | Contents      |
|------|--------------|---------------|-------------|---------------|
| 00   | 07 June 2023 | STS2304061W02 | ALL         | Initial Issue |
|      |              |               |             |               |





## 1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

| FCC Part15 , Subpart C |                                      |          |        |
|------------------------|--------------------------------------|----------|--------|
| Standard Section       | Test Item                            | Judgment | Remark |
| 15.207                 | Conducted Emission                   | PASS     |        |
| 15.209(a)              | Radiated emission, Spurious Emission | PASS     |        |
| 15.215                 | 20 dB Bandwidth                      | PASS     |        |

### 1.1 TEST FACTORY

SHENZHEN STS TEST SERVICES CO., LTD

Add. : A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China

FCC test Firm Registration Number: 625569

IC test Firm Registration Number: 12108A

A2LA Certificate No.: 4338.01

### 1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement  $y \pm U$ , where expended uncertainty  $U$  is based on a standard uncertainty multiplied by a coverage factor of  $k=2$ , providing a level of confidence of approximately **95 %**.

| No. | Item                              | Uncertainty          |
|-----|-----------------------------------|----------------------|
| 1   | RF output power, conducted        | $\pm 1.197\text{dB}$ |
| 2   | Unwanted Emissions, conducted     | $\pm 2.896\text{dB}$ |
| 3   | All emissions, radiated 9K-30MHz  | $\pm 3.84\text{dB}$  |
| 4   | All emissions, radiated 30M-1GHz  | $\pm 3.94\text{dB}$  |
| 5   | All emissions, radiated 1G-6GHz   | $\pm 4.59\text{dB}$  |
| 6   | All emissions, radiated >6G       | $\pm 5.22\text{dB}$  |
| 7   | Conducted Emission (9KHz-150KHz)  | $\pm 2.14\text{dB}$  |
| 8   | Conducted Emission (150KHz-30MHz) | $\pm 2.54\text{dB}$  |
| 9   | Occupied Channel Bandwidth        | $\pm 3.5\%$          |



## 2. GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF THE EUT

|                         |                                                                       |
|-------------------------|-----------------------------------------------------------------------|
| Product Name            | Fast Wireless Charger                                                 |
| Brand                   | N/A                                                                   |
| Model Number            | K2                                                                    |
| Series Model(s)         | N/A                                                                   |
| Model Difference        | N/A                                                                   |
| Channel List            | Please refer to the Note 2.                                           |
| Antenna Type            | Please refer to the Note 3.                                           |
| Equipemnt Category      | Non-ISM frequency                                                     |
| Operating frequency     | 110.5-205KHz                                                          |
| Modulation Type         | Load modulation                                                       |
| Rating:                 | Input: DC 5V 3A, DC 9V 2A, DC 12V 1.5A<br>Output: 15W Max/10W/7.5W/5W |
| Hardware version number | N/A                                                                   |
| Software version number | N/A                                                                   |
| Connecting I/O Port(s)  | Please refer to the Note 1.                                           |

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User Manual.
2. Coil 1

| Channel List |                 |         |                 |         |                 |
|--------------|-----------------|---------|-----------------|---------|-----------------|
| Channel      | Frequency (KHz) | Channel | Frequency (KHz) | Channel | Frequency (KHz) |
| 00           | 128.4           | /       | /               | /       | /               |

Coil 2

| Channel List |                 |         |                 |         |                 |
|--------------|-----------------|---------|-----------------|---------|-----------------|
| Channel      | Frequency (KHz) | Channel | Frequency (KHz) | Channel | Frequency (KHz) |
| 01           | 128.4           | /       | /               | /       | /               |

3. Table for Filed Antenna

| Ant. | Brand | Model Name | Antenna Type | Connector | NOTE    |
|------|-------|------------|--------------|-----------|---------|
| 1    | N/A   | K2         | Coil 1       | N/A       | Antenna |
| 2    | N/A   | K2         | Coil 2       | N/A       | Antenna |

## 2.2 DESCRIPTION OF THE TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

| Pretest Mode | Description                                      |
|--------------|--------------------------------------------------|
| Mode 1       | Standby (No load)                                |
| Mode 2       | Coil antenna 1_Charging+TX Mode (Low load_5W)    |
| Mode 3       | Coil antenna 1_Charging+TX Mode (Half load_7.5W) |
| Mode 4       | Coil antenna 1_Charging+TX Mode (Full load_15W)  |
| Mode 5       | Coil antenna 2_Charging+TX Mode (Low load_5W)    |
| Mode 6       | Coil antenna 2_Charging+TX Mode (Half load_7.5W) |
| Mode 7       | Coil antenna 2_Charging+TX Mode (Full load_15W)  |

| For Conducted Emission |                                                 |
|------------------------|-------------------------------------------------|
| Final Test Mode        | Description                                     |
| Mode 4                 | Coil antenna 1_Charging+TX Mode (Full load_15W) |
| Mode 7                 | Coil antenna 2_Charging+TX Mode (Full load_15W) |

| For Radiated Emission |                                                 |
|-----------------------|-------------------------------------------------|
| Final Test Mode       | Description                                     |
| Mode 4                | Coil antenna 1_Charging+TX Mode (Full load_15W) |
| Mode 7                | Coil antenna 2_Charging+TX Mode (Full load_15W) |

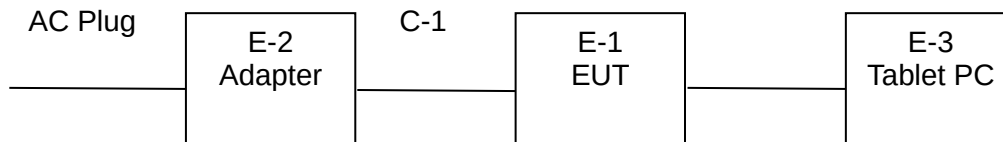
Note:

- All modes have been tested, and the worst-case mode is Mode 4(Coil 1) and Mode 7(Coil 2). The report only reflects the worst-case mode.
- Coil 1 or Coil 2:  
Input: DC 5V 3A, Output: 5W.  
Input: DC 9V 2A, Output: 7.5W/10W.  
Input: DC 12V 1.5A, Output: 15W.
- Coil 1 and coil 2 cannot work simultaneously, the double coils at the transmitting end is to ensure that the plate can be charged at any position.

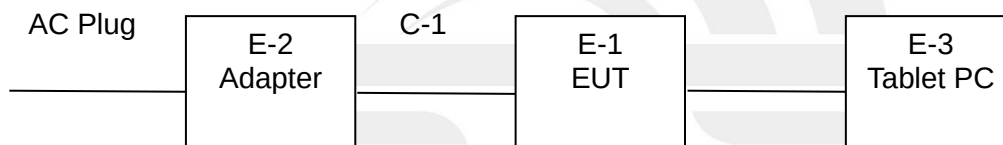
### 2.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters

#### Radiated Emission Test



#### Conducted Emission Test





## 2.4 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

### Necessary accessories

| Item | Equipment | Mfr/Brand | Model/Type No. | Length | Note |
|------|-----------|-----------|----------------|--------|------|
| C-1  | DC Cable  | N/A       | N/A            | 100cm  | NO   |
| E-3  | Tablet PC | kindle    | N/A            | N/A    | NO   |
|      |           |           |                |        |      |
|      |           |           |                |        |      |

### Support units

| Item | Equipment | Mfr/Brand | Model/Type No. | Length | Note |
|------|-----------|-----------|----------------|--------|------|
| E-2  | Adapter   | HUAWEI    | HW-050450C00   | N/A    | N/A  |
|      |           |           |                |        |      |
|      |           |           |                |        |      |
|      |           |           |                |        |      |
|      |           |           |                |        |      |

Note:

- (1) For detachable type I/O cable should be specified the length in cm in 『Length』 column.
- (2) “YES” is means “with core”; “NO” is means “without core”.



## 2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

## Radiation Test equipment

| Kind of Equipment         | Manufacturer | Type No.       | Serial No. | Last calibration | Calibrated until |
|---------------------------|--------------|----------------|------------|------------------|------------------|
| Test Receiver             | R&S          | ESCI           | 101427     | 2022.09.29       | 2023.09.28       |
| Signal Analyzer           | R&S          | FSV 40-N       | 101823     | 2022.09.29       | 2023.09.28       |
| Active loop Antenna       | ZHINAN       | ZN30900C       | 16035      | 2023.02.28       | 2024.02.27       |
| Bilog Antenna             | TESEQ        | CBL6111D       | 34678      | 2022.09.30       | 2024.09.29       |
| Pre-Amplifier (0.1M-3GHz) | EM           | EM330          | 060665     | 2022.07.04       | 2023.07.03       |
| Temperature & Humidity    | HH660        | Mieo           | N/A        | 2022.09.30       | 2023.09.29       |
| Test SW                   | BALUN        | BL410-E/18.905 |            |                  |                  |

## Conduction Test equipment

| Kind of Equipment      | Manufacturer | Type No.                   | Serial No. | Last calibration | Calibrated until |
|------------------------|--------------|----------------------------|------------|------------------|------------------|
| Test Receiver          | R&S          | ESCI                       | 101427     | 2022.09.29       | 2023.09.28       |
| LISN                   | R&S          | ENV216                     | 101242     | 2022.09.28       | 2023.09.27       |
| LISN                   | EMCO         | 3810/2NM                   | 23625      | 2022.09.28       | 2023.09.27       |
| Temperature & Humidity | HH660        | Mieo                       | N/A        | 2022.09.30       | 2023.09.29       |
| Test SW                | FARAD        | EZ-EMC(Ver.STSLAB-03A1 CE) |            |                  |                  |



### 3. CONDUCTED EMISSION TEST RESULT (SECTION 15.207)

#### 3.1 POWER LINE CONDUCTED EMISSION LIMITS

The radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table.

| FREQUENCY (MHz) | Class B (dBuV) |           |
|-----------------|----------------|-----------|
|                 | Quasi-peak     | Average   |
| 0.15 -0.5       | 66 - 56 *      | 56 - 46 * |
| 0.50 -5.0       | 56.00          | 46.00     |
| 5.0 -30.0       | 60.00          | 50.00     |

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of "\*" marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

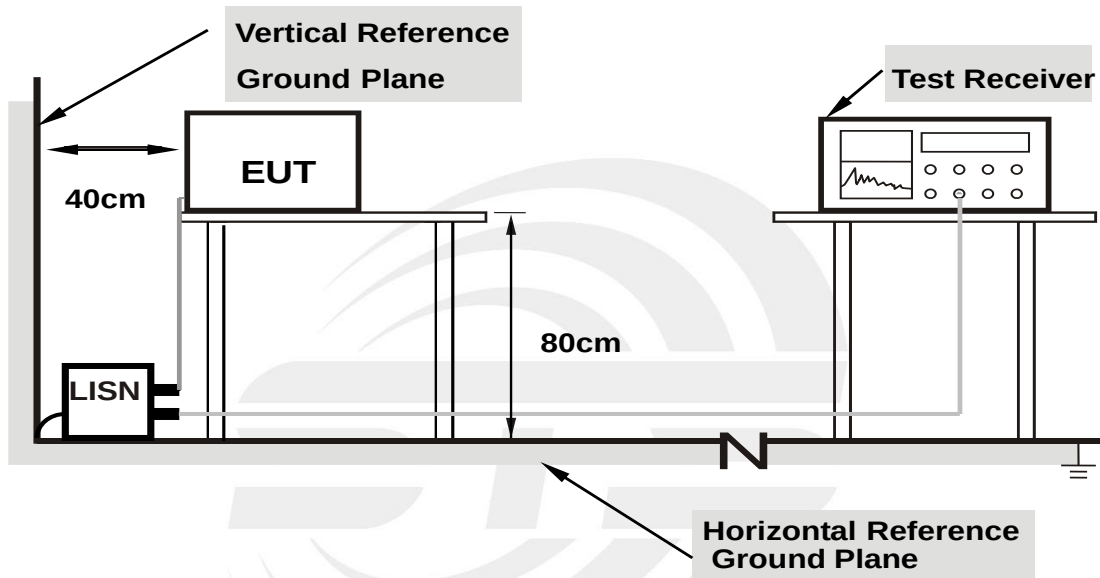
The following table is the setting of the receiver

| Receiver Parameters | Setting  |
|---------------------|----------|
| Attenuation         | 10 dB    |
| Start Frequency     | 0.15 MHz |
| Stop Frequency      | 30 MHz   |
| IF Bandwidth        | 9 kHz    |

### 3.2 TEST PROCEDURE

- The EUT is 0.8 m from the horizontal ground plane and 0.4 m from the vertical ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments are powered from additional LISN(s). The LISN provides 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- LISN is at least 80 cm from the nearest part of EUT chassis.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

### 3.3 TEST SETUP



**Note: 1. Support units were connected to second LISN.**

**2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes support units.**

### 3.4 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.



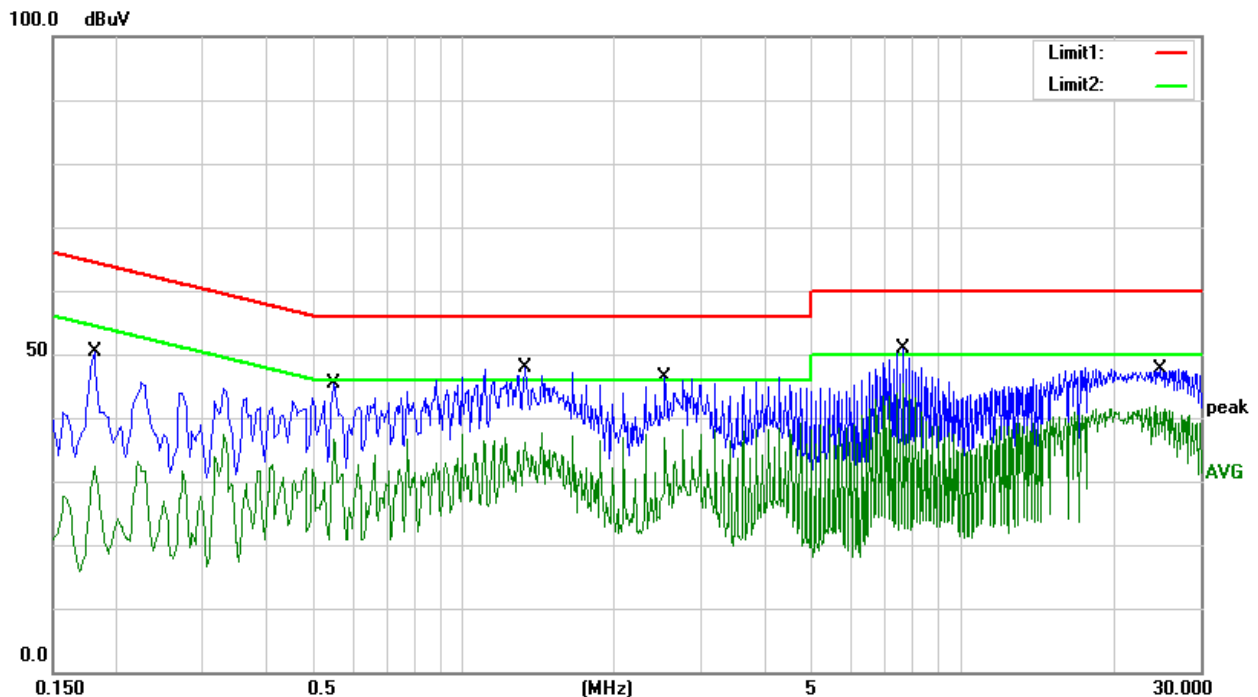
## 3.5 TEST RESULTS

|               |              |                    |     |
|---------------|--------------|--------------------|-----|
| Temperature:  | 25.1 °C      | Relative Humidity: | 52% |
| Test Voltage: | AC 120V/60Hz | Phase:             | L   |
| Test Mode:    | Mode 4       |                    |     |
| Description:  | Coil 1       |                    |     |

| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB) | Result (dBuV) | Limit (dBuV/m) | Margin (dB) | Detector |
|-----|-----------------|----------------|-------------|---------------|----------------|-------------|----------|
| 1   | 0.1820          | 39.97          | 10.31       | 50.28         | 64.39          | -14.11      | QP       |
| 2   | 0.1820          | 22.10          | 10.31       | 32.41         | 54.39          | -21.98      | AVG      |
| 3   | 0.5500          | 34.92          | 10.49       | 45.41         | 56.00          | -10.59      | QP       |
| 4   | 0.5500          | 26.12          | 10.49       | 36.61         | 46.00          | -9.39       | AVG      |
| 5   | 1.3300          | 37.55          | 10.30       | 47.85         | 56.00          | -8.15       | QP       |
| 6   | 1.3300          | 27.44          | 10.30       | 37.74         | 46.00          | -8.26       | AVG      |
| 7   | 2.5380          | 36.04          | 10.33       | 46.37         | 56.00          | -9.63       | QP       |
| 8   | 2.5380          | 27.85          | 10.33       | 38.18         | 46.00          | -7.82       | AVG      |
| 9   | 7.6140          | 40.22          | 10.70       | 50.92         | 60.00          | -9.08       | QP       |
| 10  | 7.6140          | 34.62          | 10.70       | 45.32         | 50.00          | -4.68       | AVG      |
| 11  | 24.8180         | 35.04          | 12.61       | 47.65         | 60.00          | -12.35      | QP       |
| 12  | 24.8180         | 29.19          | 12.61       | 41.80         | 50.00          | -8.20       | AVG      |

## Remark:

1. All readings are Quasi-Peak and Average values
2. Margin = Result (Result = Reading + Factor) – Limit
3. Factor = LISN factor + Cable loss + Limiter (10dB)





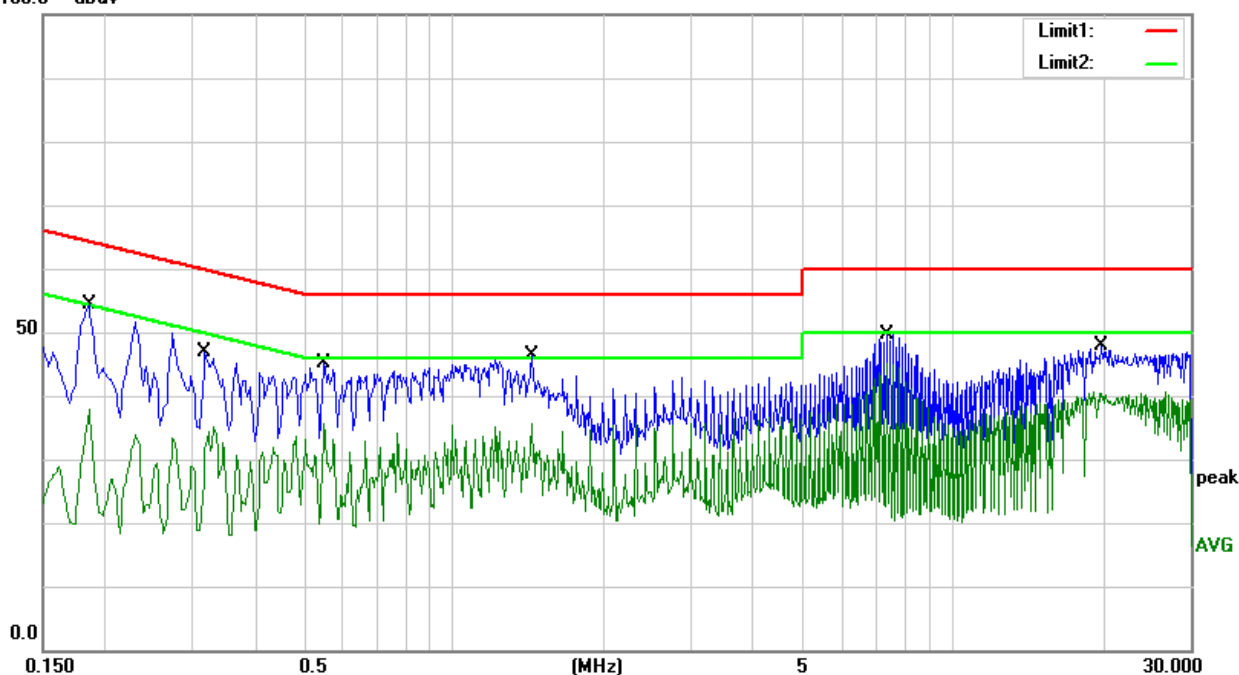
|               |              |                    |     |
|---------------|--------------|--------------------|-----|
| Temperature:  | 25.1 °C      | Relative Humidity: | 52% |
| Test Voltage: | AC 120V/60Hz | Phase:             | N   |
| Test Mode:    | Mode 4       |                    |     |
| Description:  | Coil 1       |                    |     |

| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB) | Result (dBuV) | Limit (dBuV/m) | Margin (dB) | Detector |
|-----|-----------------|----------------|-------------|---------------|----------------|-------------|----------|
| 1   | 0.1860          | 43.96          | 10.31       | 54.27         | 64.21          | -9.94       | QP       |
| 2   | 0.1860          | 27.67          | 10.31       | 37.98         | 54.21          | -16.23      | AVG      |
| 3   | 0.3180          | 36.10          | 10.71       | 46.81         | 59.76          | -12.95      | QP       |
| 4   | 0.3180          | 24.42          | 10.71       | 35.13         | 49.76          | -14.63      | AVG      |
| 5   | 0.5500          | 34.60          | 10.49       | 45.09         | 56.00          | -10.91      | QP       |
| 6   | 0.5500          | 25.03          | 10.49       | 35.52         | 46.00          | -10.48      | AVG      |
| 7   | 1.4340          | 36.08          | 10.30       | 46.38         | 56.00          | -9.62       | QP       |
| 8   | 1.4340          | 25.26          | 10.30       | 35.56         | 46.00          | -10.44      | AVG      |
| 9   | 7.3940          | 38.96          | 10.66       | 49.62         | 60.00          | -10.38      | QP       |
| 10  | 7.3940          | 34.51          | 10.66       | 45.17         | 50.00          | -4.83       | AVG      |
| 11  | 19.8700         | 35.04          | 12.87       | 47.91         | 60.00          | -12.09      | QP       |
| 12  | 19.8700         | 27.82          | 12.87       | 40.69         | 50.00          | -9.31       | AVG      |

## Remark:

1. All readings are Quasi-Peak and Average values
2. Margin = Result (Result = Reading + Factor) – Limit
3. Factor = LISN factor + Cable loss + Limiter (10dB)

100.0 dBuV



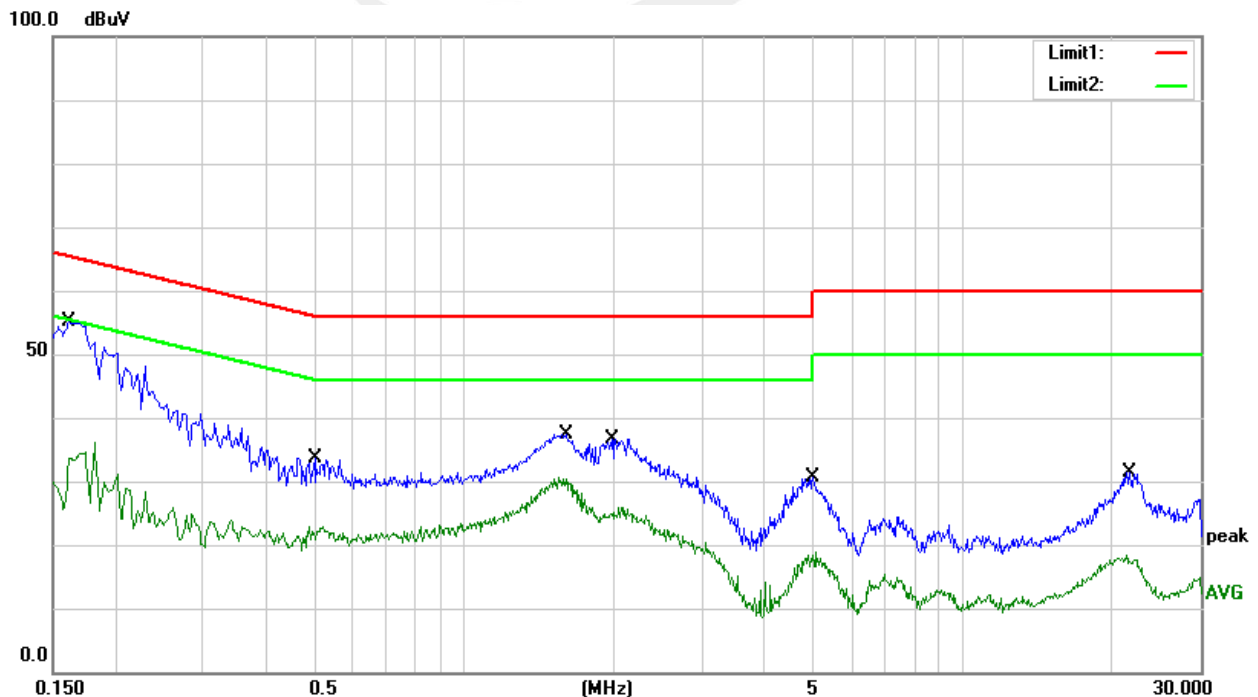


|               |              |                    |     |
|---------------|--------------|--------------------|-----|
| Temperature:  | 25.6 °C      | Relative Humidity: | 45% |
| Test Voltage: | AC 120V/60Hz | Phase:             | L   |
| Test Mode:    | Mode 7       |                    |     |
| Description:  | Coil 2       |                    |     |

| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB) | Result (dBuV) | Limit (dBuV/m) | Margin (dB) | Detector |
|-----|-----------------|----------------|-------------|---------------|----------------|-------------|----------|
| 1   | 0.1620          | 44.71          | 10.33       | 55.04         | 65.36          | -10.32      | QP       |
| 2   | 0.1620          | 25.71          | 10.33       | 36.04         | 55.36          | -19.32      | AVG      |
| 3   | 0.5020          | 23.05          | 10.54       | 33.59         | 56.00          | -22.41      | QP       |
| 4   | 0.5020          | 12.29          | 10.54       | 22.83         | 46.00          | -23.17      | AVG      |
| 5   | 1.6100          | 27.15          | 10.30       | 37.45         | 56.00          | -18.55      | QP       |
| 6   | 1.6100          | 20.29          | 10.30       | 30.59         | 46.00          | -15.41      | AVG      |
| 7   | 1.9900          | 26.42          | 10.30       | 36.72         | 56.00          | -19.28      | QP       |
| 8   | 1.9900          | 15.68          | 10.30       | 25.98         | 46.00          | -20.02      | AVG      |
| 9   | 5.0260          | 20.12          | 10.46       | 30.58         | 60.00          | -29.42      | QP       |
| 10  | 5.0260          | 8.42           | 10.46       | 18.88         | 50.00          | -31.12      | AVG      |
| 11  | 21.6300         | 18.65          | 12.80       | 31.45         | 60.00          | -28.55      | QP       |
| 12  | 21.6300         | 5.60           | 12.80       | 18.40         | 50.00          | -31.60      | AVG      |

## Remark:

1. All readings are Quasi-Peak and Average values
2. Margin = Result (Result = Reading + Factor) – Limit
3. Factor = LISN factor + Cable loss + Limiter (10dB)



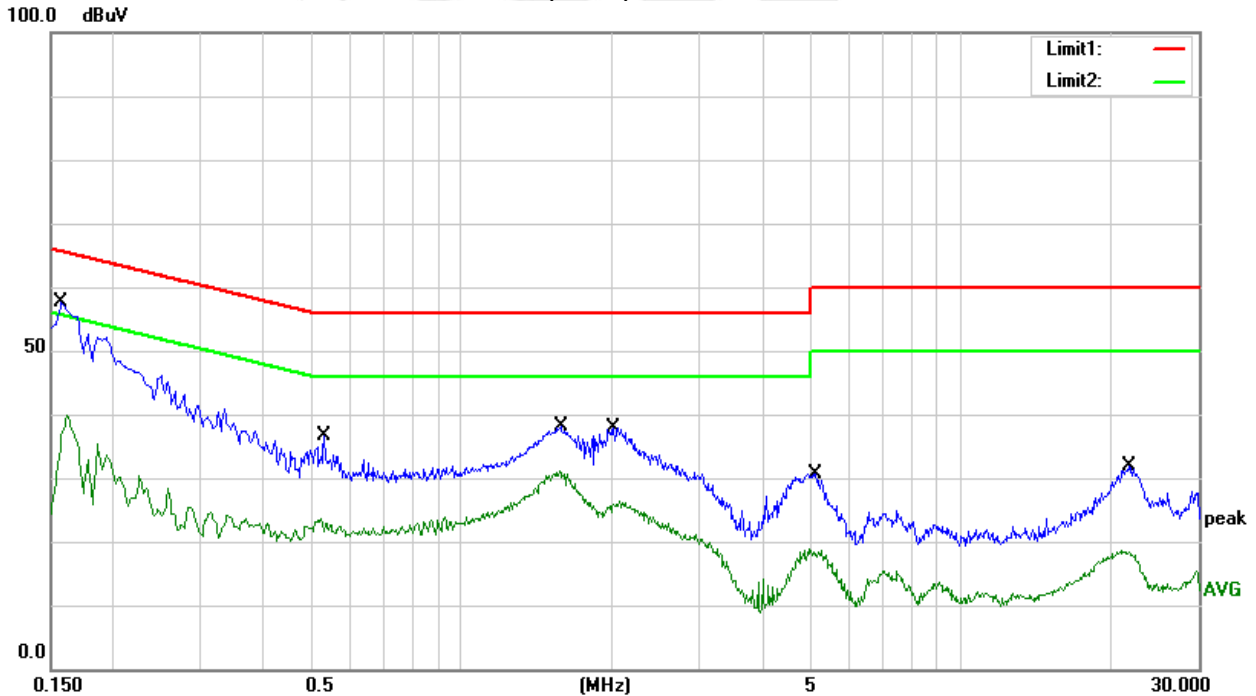


|               |              |                    |     |
|---------------|--------------|--------------------|-----|
| Temperature:  | 25.6 °C      | Relative Humidity: | 45% |
| Test Voltage: | AC 120V/60Hz | Phase:             | N   |
| Test Mode:    | Mode 7       |                    |     |
| Description:  | Coil 2       |                    |     |

| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB) | Result (dBuV) | Limit (dBuV/m) | Margin (dB) | Detector |
|-----|-----------------|----------------|-------------|---------------|----------------|-------------|----------|
| 1   | 0.1580          | 47.19          | 10.33       | 57.52         | 65.57          | -8.05       | QP       |
| 2   | 0.1580          | 29.49          | 10.33       | 39.82         | 55.57          | -15.75      | AVG      |
| 3   | 0.5300          | 26.07          | 10.51       | 36.58         | 56.00          | -19.42      | QP       |
| 4   | 0.5300          | 13.03          | 10.51       | 23.54         | 46.00          | -22.46      | AVG      |
| 5   | 1.5780          | 27.70          | 10.30       | 38.00         | 56.00          | -18.00      | QP       |
| 6   | 1.5780          | 20.80          | 10.30       | 31.10         | 46.00          | -14.90      | AVG      |
| 7   | 2.0180          | 27.59          | 10.30       | 37.89         | 56.00          | -18.11      | QP       |
| 8   | 2.0180          | 16.02          | 10.30       | 26.32         | 46.00          | -19.68      | AVG      |
| 9   | 5.1140          | 20.20          | 10.47       | 30.67         | 60.00          | -29.33      | QP       |
| 10  | 5.1140          | 8.37           | 10.47       | 18.84         | 50.00          | -31.16      | AVG      |
| 11  | 21.7380         | 19.15          | 12.80       | 31.95         | 60.00          | -28.05      | QP       |
| 12  | 21.7380         | 5.73           | 12.80       | 18.53         | 50.00          | -31.47      | AVG      |

## Remark:

1. All readings are Quasi-Peak and Average values
2. Margin = Result (Result = Reading + Factor) – Limit
3. Factor = LISN factor + Cable loss + Limiter (10dB)



Note: All modes have been tested, and the worst-case mode is Mode 4(Coil 1) and Mode 7(Coil 2).

The report only reflects the worst-case mode.

#### 4. RADIATED& FIELD EMISSION TEST RESULT (SECTION 15.209)

##### 4.1 LIMIT

| Frequency<br>[MHz] | Field Strength<br>[uV/m] | Measurement Distance<br>[Meters] |
|--------------------|--------------------------|----------------------------------|
| 0.009 ~ 0.490      | 2400/F (kHz)             | 300                              |
| 0.490 ~ 1.705      | 24000/F (kHz)            | 30                               |
| 1.705 ~ 30         | 30                       | 30                               |
| 30 ~ 88            | 100                      | 3                                |
| 88 ~ 216           | 150                      | 3                                |
| 216 ~ 960          | 200                      | 3                                |
| Above 960          | 500                      | 3                                |

Note:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

| Receiver Parameter     | Setting                          |
|------------------------|----------------------------------|
| Attenuation            | Auto                             |
| Start ~ Stop Frequency | 9kHz~90kHz / RB 200Hz for AV     |
| Start ~ Stop Frequency | 90kHz~110kHz / RB 200Hz for QP   |
| Start ~ Stop Frequency | 110kHz~490kHz / RB 200Hz for AV  |
| Start ~ Stop Frequency | 490kHz~30MHz / RB 9kHz for QP    |
| Start ~ Stop Frequency | 30MHz~1000MHz / RB 120kHz for QP |

§ 15.209(d) The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

##### 4.2 TEST PROCEDURE

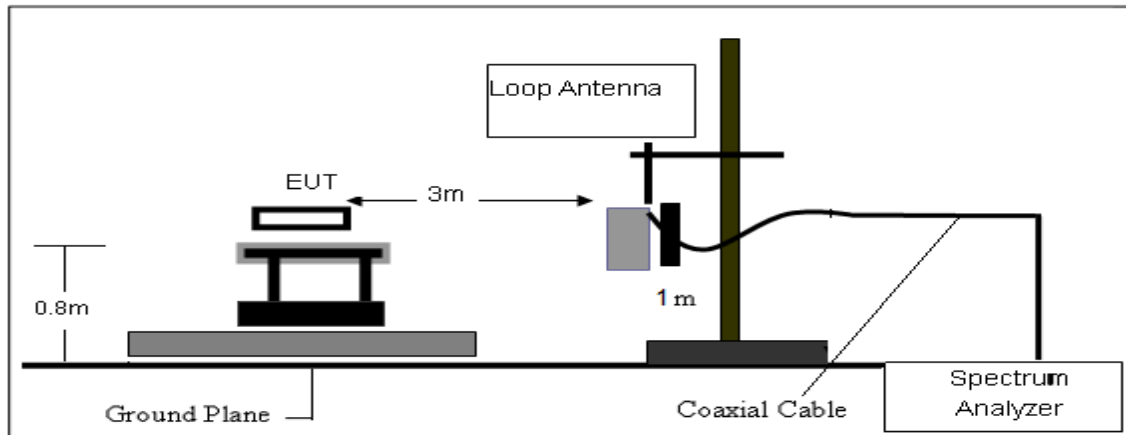
- a. The measuring distance of at 3 m shall be used for measurements at frequency 0.009MHz up to 1GHz.
- b. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- d. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

Note:

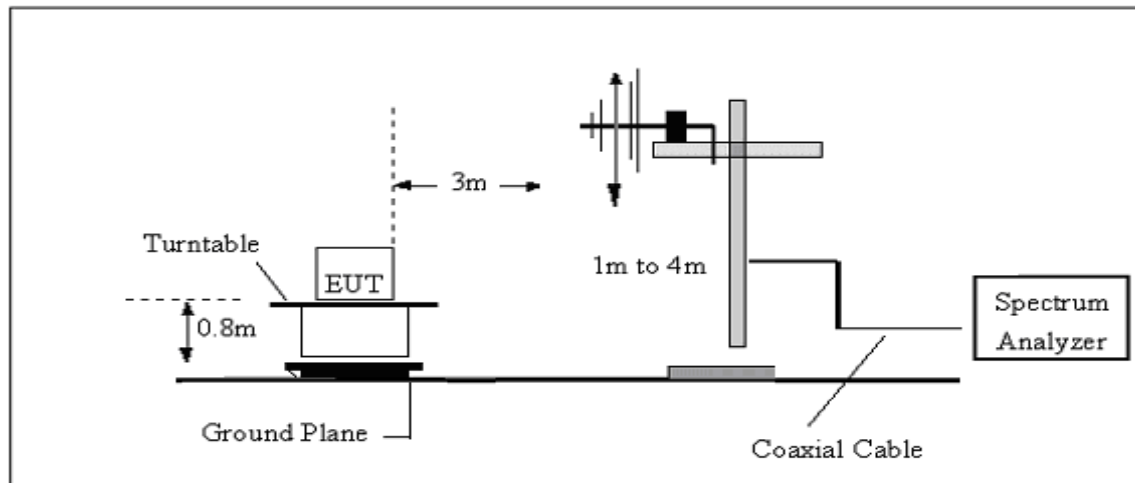
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported.

### 4.3 TEST SETUP

#### (A) Radiated Emission Test-Up Frequency Below 30MHz



#### (B) Radiated Emission Test-Up Frequency 30MHz~1GHz





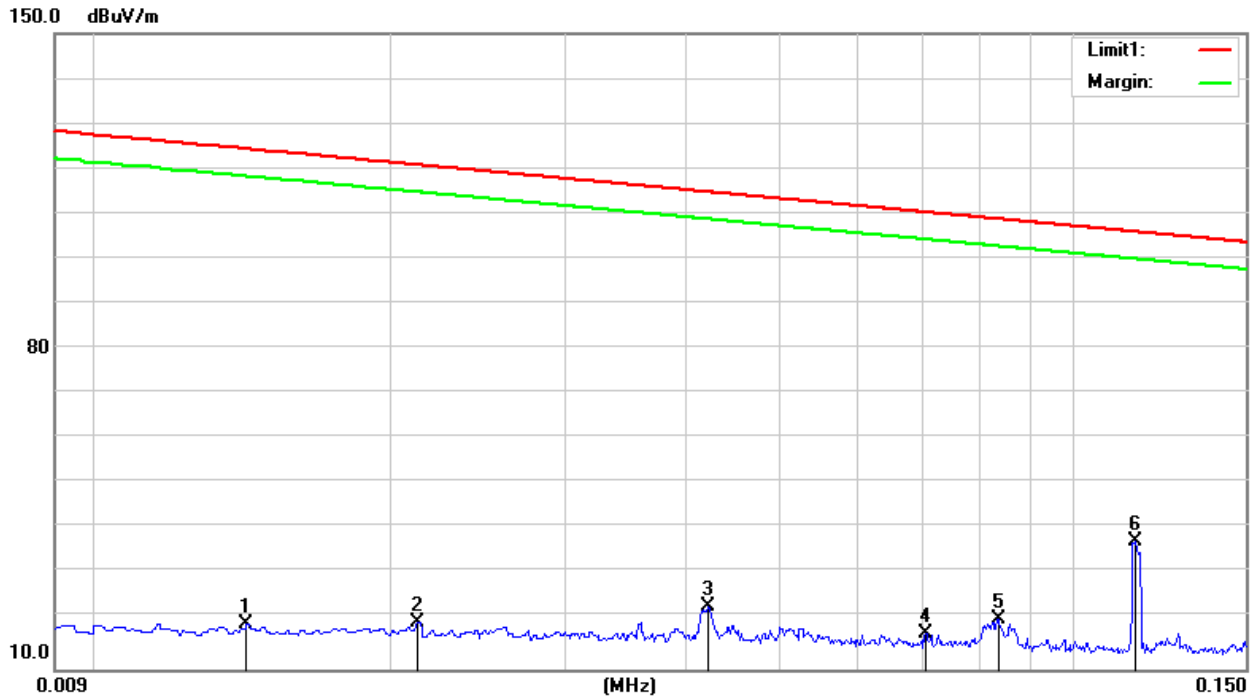
## 4.4 TEST RESULTS

|                |              |                     |                                   |
|----------------|--------------|---------------------|-----------------------------------|
| Temperature :  | 23.1℃        | Relative Humidity : | 60%                               |
| Test Voltage : | AC 120V/60Hz | Test Mode :         | Mode 4(Coil 1) and Mode 7(Coil 2) |

## 4.4.1 Spurious Radiated Emission Below 30 MHz

Coil 1

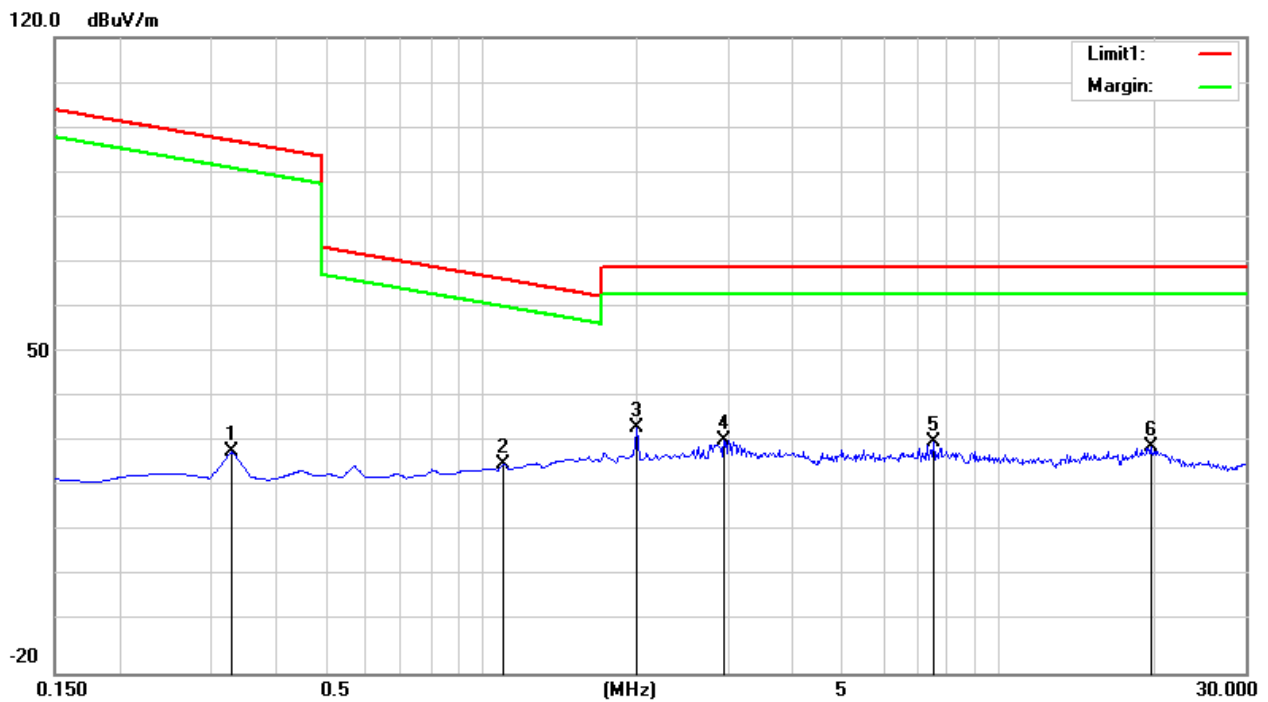
9KHz-150KHz



| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>Factor(dB/m) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-------------------------|--------------------|-------------------|----------------|--------|
| 1   | 0.0142             | 0.34              | 19.68                   | 20.02              | 124.56            | -104.54        | peak   |
| 2   | 0.0212             | 0.18              | 20.08                   | 20.26              | 121.08            | -100.82        | peak   |
| 3   | 0.0421             | 4.02              | 19.66                   | 23.68              | 115.12            | -91.44         | peak   |
| 4   | 0.0704             | -1.01             | 18.93                   | 17.92              | 110.65            | -92.73         | peak   |
| 5   | 0.0836             | 2.65              | 18.39                   | 21.04              | 109.16            | -88.12         | peak   |
| 6   | 0.1157             | 20.62             | 17.57                   | 38.19              | 106.34            | -68.15         | peak   |



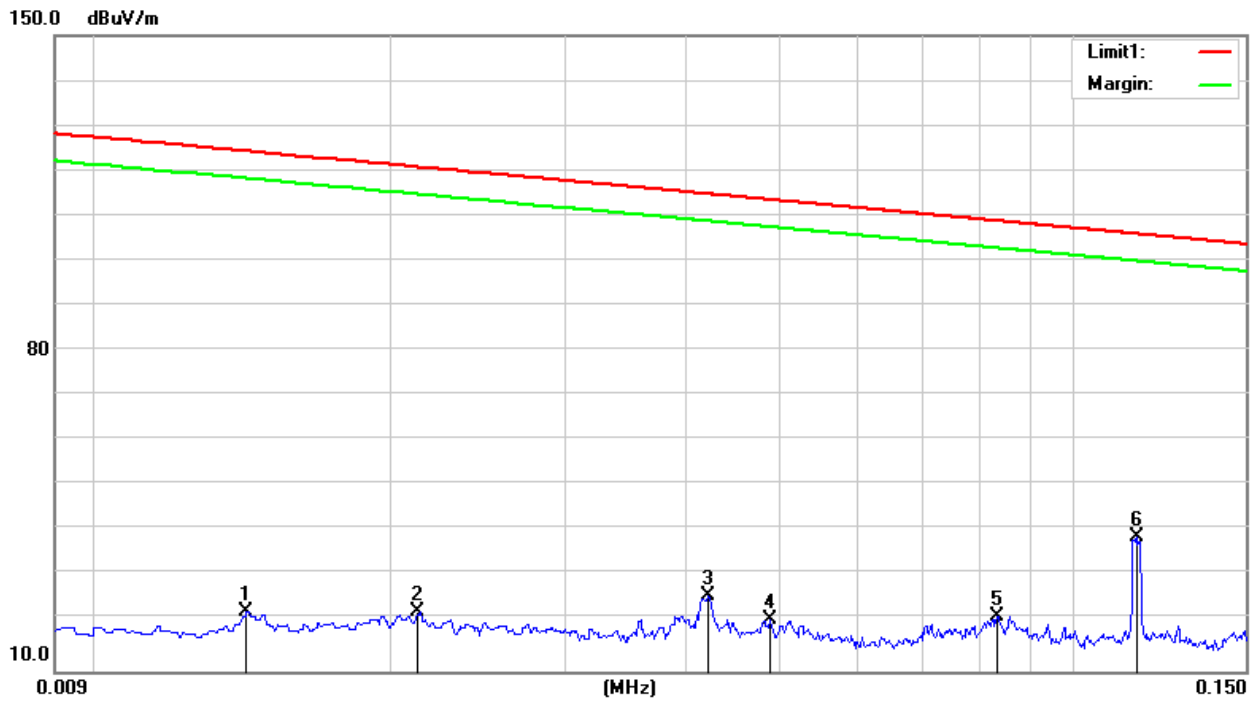
150KHz-30MHz



| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>Factor(dB/m) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-------------------------|--------------------|-------------------|----------------|--------|
| 1   | 0.3291             | 8.74              | 20.13                   | 28.87              | 97.26             | -68.39         | peak   |
| 2   | 1.1052             | 5.90              | 20.22                   | 26.12              | 66.74             | -40.62         | peak   |
| 3   | 2.0007             | 13.60             | 20.40                   | 34.00              | 69.50             | -35.50         | peak   |
| 4   | 2.9558             | 11.26             | 20.11                   | 31.37              | 69.50             | -38.13         | peak   |
| 5   | 7.4931             | 10.50             | 20.35                   | 30.85              | 69.50             | -38.65         | peak   |
| 6   | 19.6421            | 7.48              | 22.41                   | 29.89              | 69.50             | -39.61         | peak   |



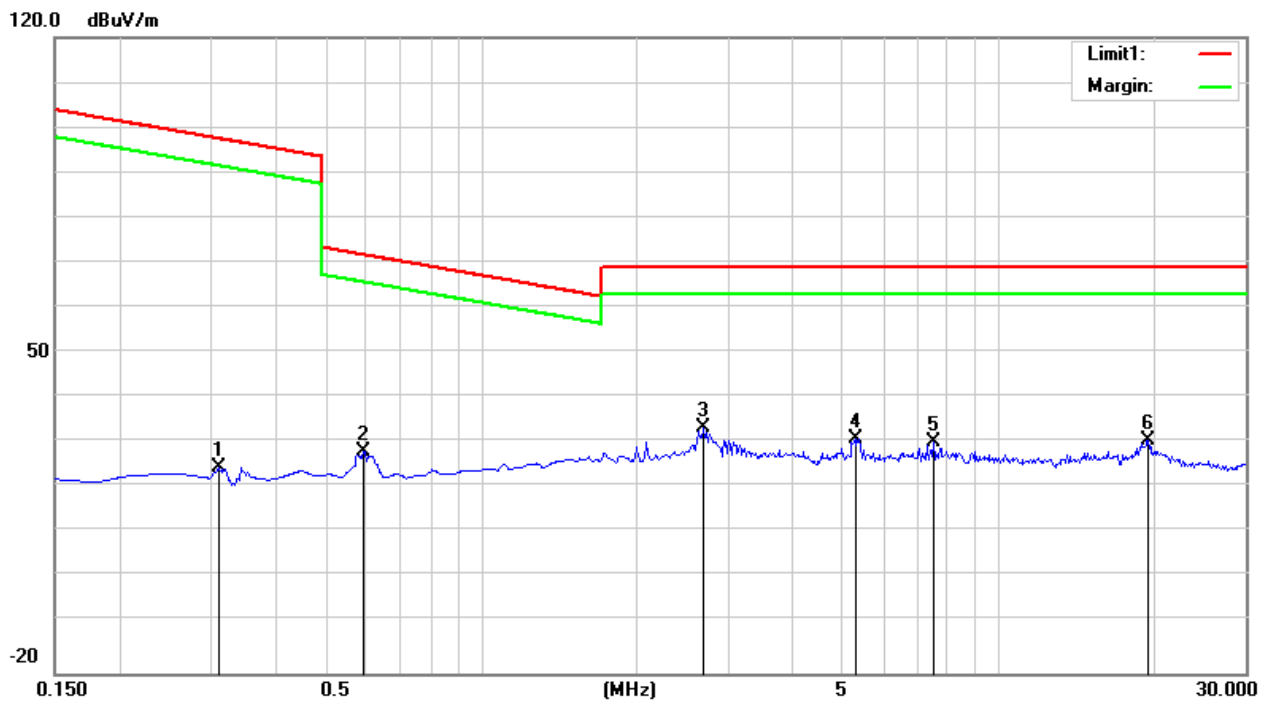
Coil 2  
9KHz-150KHz



| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>Factor(dB/m) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-------------------------|--------------------|-------------------|----------------|--------|
| 1   | 0.0142             | 3.34              | 19.68                   | 23.02              | 124.56            | -101.54        | peak   |
| 2   | 0.0212             | 3.18              | 20.08                   | 23.26              | 121.08            | -97.82         | peak   |
| 3   | 0.0420             | 7.02              | 19.66                   | 26.68              | 115.14            | -88.46         | peak   |
| 4   | 0.0487             | 1.96              | 19.53                   | 21.49              | 113.85            | -92.36         | peak   |
| 5   | 0.0834             | 3.64              | 18.40                   | 22.04              | 109.18            | -87.14         | peak   |
| 6   | 0.1160             | 22.01             | 17.57                   | 39.58              | 106.32            | -66.74         | peak   |



150KHz-30MHz



| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>Factor(dB/m) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-------------------------|--------------------|-------------------|----------------|--------|
| 1   | 0.3113             | 5.28              | 20.12                   | 25.40              | 97.74             | -72.34         | peak   |
| 2   | 0.5916             | 8.48              | 20.24                   | 28.72              | 72.16             | -43.44         | peak   |
| 3   | 2.6924             | 13.74             | 20.19                   | 33.93              | 69.50             | -35.57         | peak   |
| 4   | 5.2842             | 11.07             | 20.48                   | 31.55              | 69.50             | -37.95         | peak   |
| 5   | 7.4931             | 10.50             | 20.35                   | 30.85              | 69.50             | -38.65         | peak   |
| 6   | 19.5226            | 8.79              | 22.39                   | 31.18              | 69.50             | -38.32         | peak   |



## 4.4.2 Spurious Radiated Emission below 1 GHz

|                |              |                     |        |
|----------------|--------------|---------------------|--------|
| Temperature :  | 23.1 °C      | Relative Humidity : | 60%    |
| Test Voltage : | AC 120V/60Hz | Test Mode :         | Mode 4 |
| Description :  | Coil 1       |                     |        |

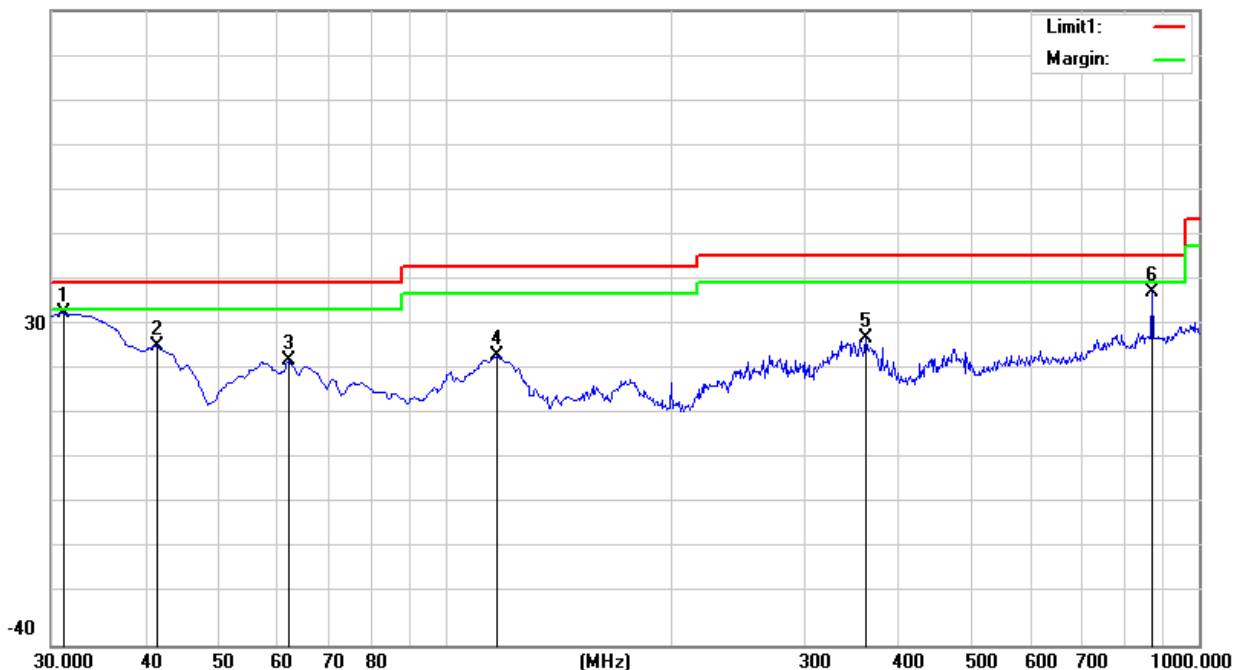
The following table shows the highest levels of radiated emissions on polarizations of vertical

| Frequency | Reading | Correct      | Result   | Limit    | Margin | Remark |
|-----------|---------|--------------|----------|----------|--------|--------|
| (MHz)     | (dBuV)  | Factor(dB/m) | (dBuV/m) | (dBuV/m) | (dB)   |        |
| 31.1798   | 46.67   | -13.46       | 33.21    | 40.00    | -6.79  | peak   |
| 41.6400   | 44.79   | -18.93       | 25.86    | 40.00    | -14.14 | peak   |
| 62.0100   | 48.71   | -25.76       | 22.95    | 40.00    | -17.05 | peak   |
| 117.3000  | 42.18   | -18.47       | 23.71    | 43.50    | -19.79 | peak   |
| 361.7400  | 40.38   | -12.80       | 27.58    | 46.00    | -18.42 | peak   |
| 869.0500  | 38.27   | -0.52        | 37.75    | 46.00    | -8.25  | peak   |

Remark:

1. Margin = Result (Result =Reading + Factor )–Limit
2. Factor= Antenna factor+Cable attenuation factor(cable loss)-Amplifier gain

100.0 dBuV/m





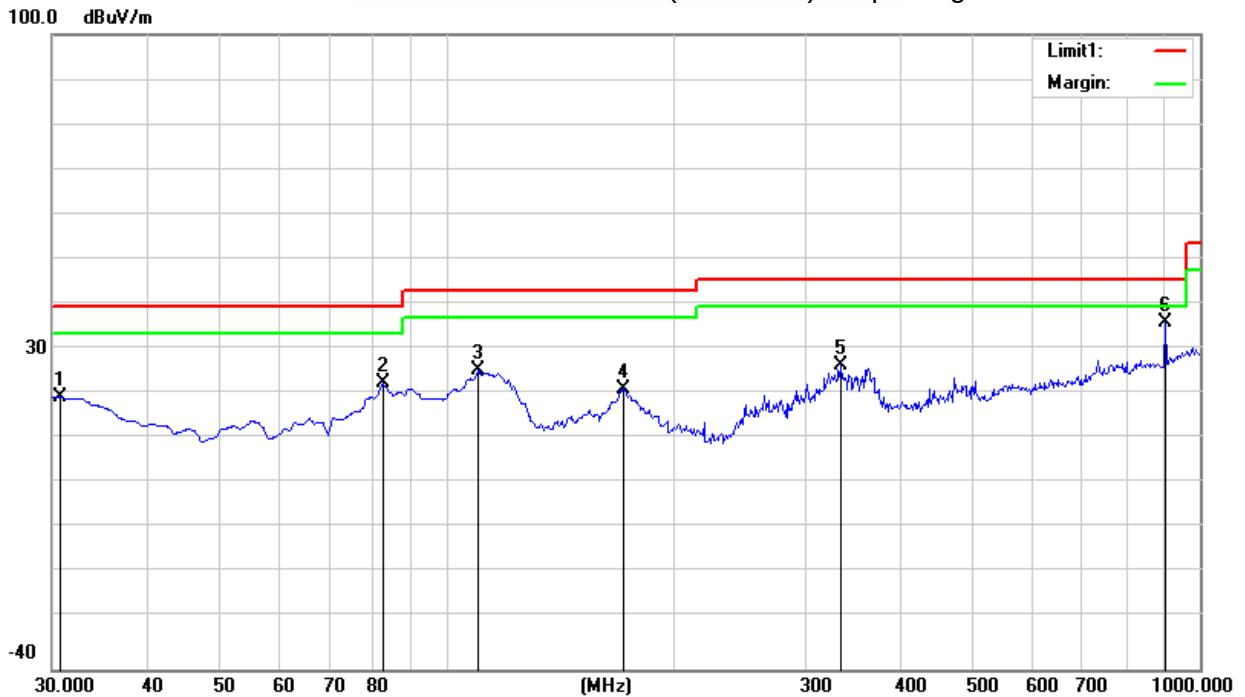
|                |              |                     |        |
|----------------|--------------|---------------------|--------|
| Temperature :  | 23.1 °C      | Relative Humidity : | 60%    |
| Test Voltage : | AC 120V/60Hz | Test Mode :         | Mode 4 |
| Description :  | Coil 1       |                     |        |

The following table shows the highest levels of radiated emissions on polarizations of horizontal

| Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>Factor(dB/m) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|--------------------|-------------------|-------------------------|--------------------|-------------------|----------------|--------|
|                    |                   |                         |                    |                   |                |        |
| 30.7455            | 33.20             | -13.24                  | 19.96              | 40.00             | -20.04         | peak   |
| 82.3800            | 45.99             | -22.68                  | 23.31              | 40.00             | -16.69         | peak   |
| 110.5100           | 45.14             | -19.01                  | 26.13              | 43.50             | -17.37         | peak   |
| 172.5900           | 41.87             | -19.93                  | 21.94              | 43.50             | -21.56         | peak   |
| 334.5800           | 40.64             | -13.56                  | 27.08              | 46.00             | -18.92         | peak   |
| 901.0600           | 37.05             | -0.43                   | 36.62              | 46.00             | -9.38          | peak   |

Remark:

1. Margin = Result (Result = Reading + Factor) – Limit
2. Factor = Antenna factor + Cable attenuation factor (cable loss) – Amplifier gain





|                |              |                     |        |
|----------------|--------------|---------------------|--------|
| Temperature :  | 23.1 °C      | Relative Humidity : | 60%    |
| Test Voltage : | AC 120V/60Hz | Test Mode :         | Mode 7 |
| Description :  | Coil 2       |                     |        |

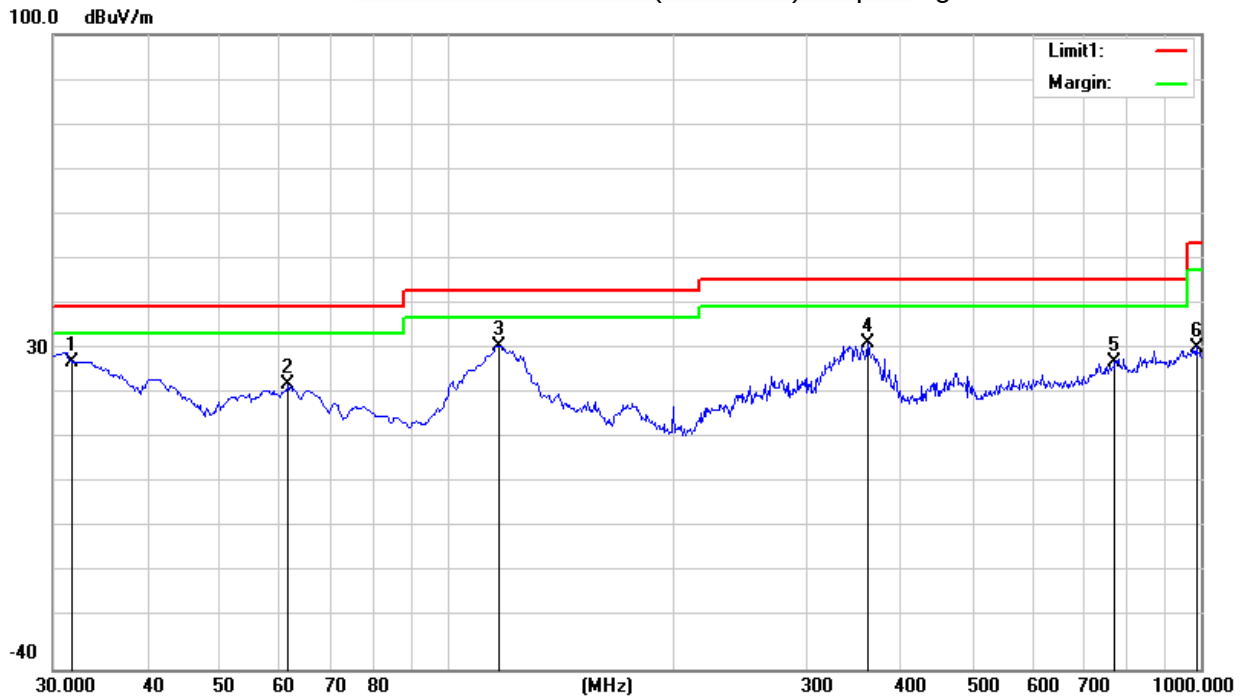
The following table shows the highest levels of radiated emissions on polarizations of vertical

| Frequency | Reading | Correct      | Result   | Limit    | Margin | Remark |
|-----------|---------|--------------|----------|----------|--------|--------|
| (MHz)     | (dBuV)  | Factor(dB/m) | (dBuV/m) | (dBuV/m) | (dB)   |        |
| 31.9400   | 41.72   | -13.86       | 27.86    | 40.00    | -12.14 | peak   |
| 61.5617   | 48.51   | -25.79       | 22.72    | 40.00    | -17.28 | peak   |
| 117.3000  | 49.68   | -18.47       | 31.21    | 43.50    | -12.29 | peak   |
| 361.7400  | 44.88   | -12.80       | 32.08    | 46.00    | -13.92 | peak   |
| 771.0800  | 30.14   | -2.32        | 27.82    | 46.00    | -18.18 | peak   |
| 987.3900  | 28.84   | 2.21         | 31.05    | 54.00    | -22.95 | peak   |

Remark:

3. Margin = Result (Result = Reading + Factor) – Limit

4. Factor= Antenna factor+Cable attenuation factor(cable loss)-Amplifier gain





|                |              |                     |        |
|----------------|--------------|---------------------|--------|
| Temperature :  | 23.1 °C      | Relative Humidity : | 60%    |
| Test Voltage : | AC 120V/60Hz | Test Mode :         | Mode 7 |
| Description :  | Coil 2       |                     |        |

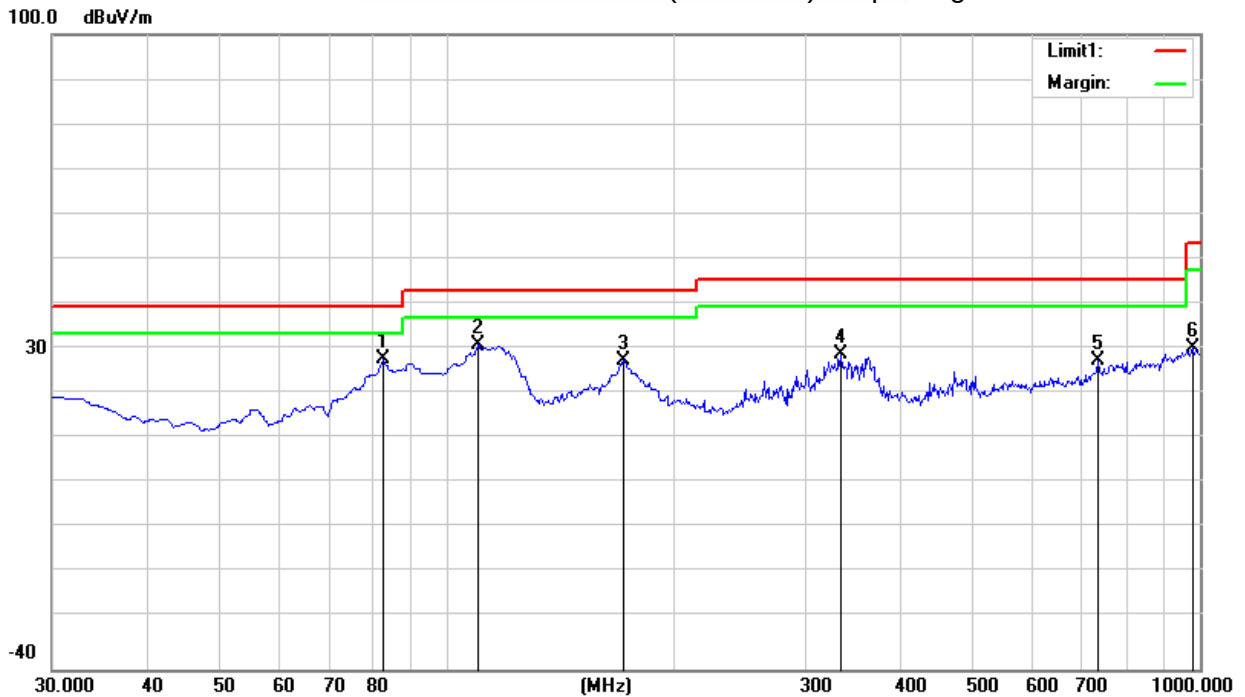
The following table shows the highest levels of radiated emissions on polarizations of horizontal

| Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>Factor(dB/m) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|--------------------|-------------------|-------------------------|--------------------|-------------------|----------------|--------|
|                    |                   |                         |                    |                   |                |        |
| 82.3800            | 50.99             | -22.68                  | 28.31              | 40.00             | -11.69         | peak   |
| 110.5100           | 50.64             | -19.01                  | 31.63              | 43.50             | -11.87         | peak   |
| 172.5900           | 47.87             | -19.93                  | 27.94              | 43.50             | -15.56         | peak   |
| 334.5800           | 43.14             | -13.56                  | 29.58              | 46.00             | -16.42         | peak   |
| 733.2500           | 30.28             | -2.35                   | 27.93              | 46.00             | -18.07         | peak   |
| 979.6300           | 28.10             | 2.65                    | 30.75              | 54.00             | -23.25         | peak   |

Remark:

3. Margin = Result (Result = Reading + Factor) – Limit

4. Factor= Antenna factor+Cable attenuation factor(cable loss)-Amplifier gain



Note: All modes have been tested, and the worst-case mode is Mode 4. The report only reflects the worst-case mode.



## 5. 20 DB BANDWIDTH TEST

### 5.1 Limit

FCC Part 15.215, Only applicable to report.

### 5.2 TEST SETUP

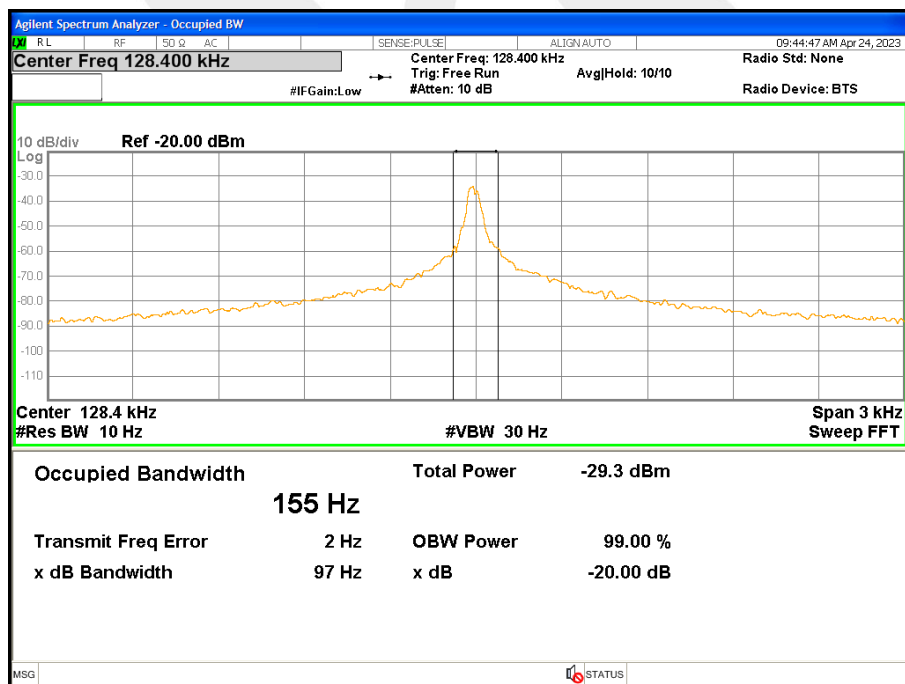
| Spectrum Parameter | Setting                                        |
|--------------------|------------------------------------------------|
| Span Frequency     | approximately 2 to 3 times the 20 dB bandwidth |
| RB                 | greater than 1 % of the 20 dB bandwidth,       |
| VB                 | equal to the RBW                               |
| Detector           | Peak                                           |
| Trace              | Max Hold                                       |
| Sweep Time         | Auto                                           |

The test program and configuration, Refer to 4.2 and 4.3

### 5.3 TEST RESULTS

| Coil 1                    |                      |
|---------------------------|----------------------|
| Operating Frequency (kHz) | 20 dB Bandwidth (Hz) |
| 128.4                     | 97                   |

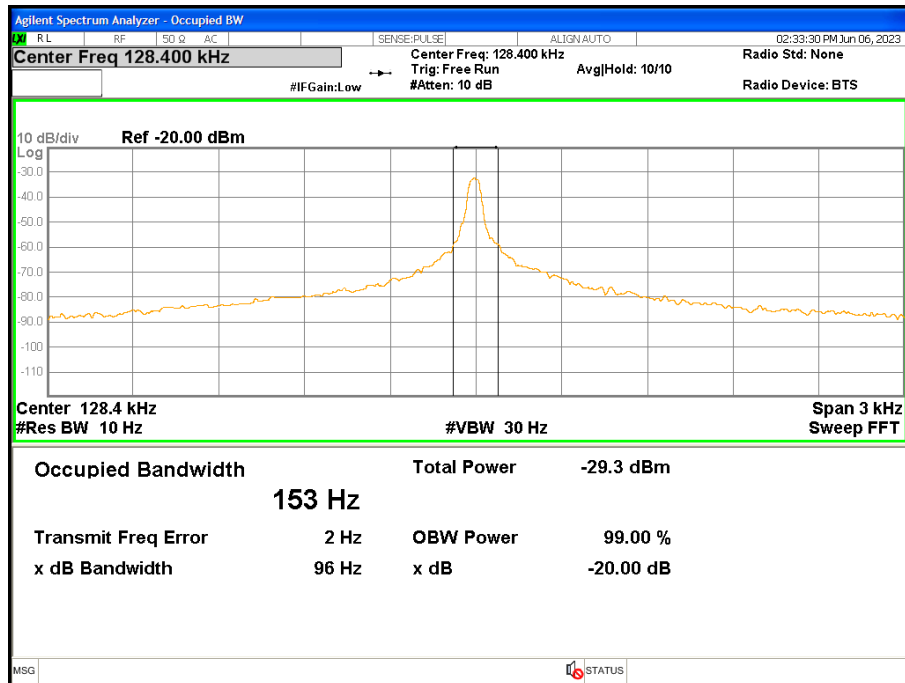
CH00





| Coil 2                   |                      |
|--------------------------|----------------------|
| OperatingFrequency (kHz) | 20 dB Bandwidth (Hz) |
| 128.4                    | 96                   |

CH01





## APPENDIX-PHOTOS OF TEST SETUP

Note: See test photos in setup photo document for the actual connections between Product and support equipment.

※※※※※END OF THE REPORT※※※※※

