# FCC TEST REPORT

for

## Industrial radio remote control systems

## MODEL: FLEX HANDY 2X; FLEX HANDY 2S

Issued to:

**ADVANCED RADIOTECH CORPORATION**

**No.3, South 1st Road, Chien Chen District, Kaohsiung, Taiwan**

Issued by:

**Compliance Certification Services Inc.**

**Xindian Lab.**

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**Issued Date: September 2, 2019**

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**Report No.:** T190703W02-D

## Revision History

| Rev. | | Issue Date | | Revisions | Effect Page | Revised By |
|---|---|---|---|---|---|---|
| 00 | | September 2, 2019 | | Initial Issue | ALL | Joy Hsiao |
| | | | | | | |
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| | | | | | | |

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# 1 TEST RESULT CERTIFICATION

| | |
|---|---|
| **Product:** | Industrial radio remote control systems |
| **Model:** | FLEX HANDY 2X; FLEX HANDY 2S |
| **Brand:** | ARC |
| **Applicant:** | **ADVANCED RADIOTECH CORPORATION**<br>No.3, South 1st Road, Chien Chen District, Kaohsiung, Taiwan |
| **Manufacturer:** | **ADVANCED RADIOTECH CORPORATION**<br>No.3, South 1st Road, Chien Chen District, Kaohsiung, Taiwan |
| **Tested:** | July 9, 2019 |

| **EMISSION** | | | |
|---|---|---|---|
| **Standard** | **Item** | **Result** | **Remarks** |
| FCC 47 CFR Part 15 Subpart B,<br>ICES-003 Issue 6-2016<br>ANSI C63.4-2014 | Conducted (Power Port) | PASS | Meet Class B limit |
| | Radiated | PASS | Meet Class B limit |

| **Statements of Conformity** |
|---|
| Determination of compliance is based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty. |

The above equipment has been tested by Compliance Certification Services Inc., and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

**Approved by:**

Sam Hu
Assistant Manager

**Reviewed by:**

Eva Fan
Supervisor of report document dept.

# 2 EUT DESCRIPTION

| | |
|---|---|
| **Product** | Industrial radio remote control systems |
| **Brand Name** | ARC |
| **Model** | FLEX HANDY 2X; FLEX HANDY 2S |
| **Applicant** | ADVANCED RADIOTECH CORPORATION |
| **Housing material** | Plastic |
| **Identify Number** | T190703W02 |
| **Received Date** | July 5, 2019 |
| **EUT Power Rating** | TX: 3VDC from Battery<br>RX: 110-240VAC, 50/60Hz |
| **AC Power During Test** | 120VAC / 60Hz & 230VAC / 60Hz |
| **RX FCC ID** | R4UARCHANDYMRX |

### Model Differences

| Model Name | Difference | Tested (Checked) |
|---|---|---|
| FLEX HANDY 2X | 2 Push button One step | ☒ |
| FLEX HANDY 2S | 2 Push button Two step | ☐ |

### I/O PORT

| I/O PORT TYPES | Q'TY | TESTED WITH |
|---|---|---|
| | | |

**Note:** Client consigns only one model sample to test (Model Number is FLEX HANDY 2X).

# 3 TEST METHODOLOGY

## 3.1. DECISION OF FINAL TEST MODE

The EUT was tested together with the below 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:

**Conduction Modes:**

| No. | Dipswitch Settings | Operate State | |
|---|---|---|---|
| 1 | xxxxxxxx0x | TX + RX Mode | 120VAC / 60Hz |
| 2 | xxxxxxxx0x | TX + RX Mode | 230VAC / 60Hz |
| 3 | xxxxxxxx1x | TX + RX Mode | 120VAC / 60Hz |

**Radiation Modes:**

| No. | Dipswitch Settings | Operate State | |
|---|---|---|---|
| 1 | xxxxxxxx0x | TX + RX Mode | 120VAC / 60Hz |
| 2 | xxxxxxxx0x | TX + RX Mode | 230VAC / 60Hz |
| | xxxxxxxx0x | TX + RX Mode / 1-2GHz | |
| 3 | xxxxxxxx1x | TX + RX Mode | 120VAC / 60Hz |

**Worst:**
**Conduction:** Mode 2
**Radiation:** Mode 2

## 3.2. EUT SYSTEM OPERATION

1. Turning on EUT power for test.

   **Note:** Test program is self-repeating throughout the test.

# 4 SETUP OF EQUIPMENT UNDER TEST

## 4.1. DESCRIPTION OF SUPPORT UNITS

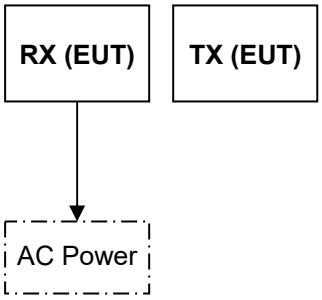
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

### Peripherals Devices:

| No. | Equipment | Model No. | Serial No. | FCC ID / BSMI ID | Brand Name | Data Cable | Power Cord |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

**Note:**
1) All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2) Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

## 4.2. CONFIGURATION OF SYSTEM UNDER TEST



# 5 FACILITIES AND ACCREDITATIONS

## 5.1. FACILITIES

All measurement facilities used to collect the measurement data are located at CCSrf Taiwan Xindian Lab. at No.163-1, Jhongsheng Rd., Xindian Dist., New Taipei City, 23151 Taiwan.

The sites are constructed in conformance with the requirements of ANSI C63.4 and CISPR Publication 22. All receiving equipment conforms to CISPR 16-1-1, CISPR 16-1-2, CISPR 16-1-3, CISPR 16-1-4 and CISPR 16-1-5.

## 5.2. ACCREDITATIONS

Our laboratories are accredited and approved by the following accreditation body according to ISO/IEC 17025.

| | |
|---|---|
| **Taiwan** | TAF |
| **USA** | A2LA |

The measuring facility of laboratories has been authorized or registered by the following approval agencies.

| | |
|---|---|
| **Canada** | Industry Canada |
| **Japan** | VCCI |
| **Taiwan** | BSMI |
| **USA** | FCC |

Copies of granted accreditation certificates are available for downloading from our web site, http://www.ccsrf.com

## 5.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

| Measurement | Frequency | Uncertainty |
|---|---|---|
| Conducted emissions | 0.15MHz ~ 30MHz | ± 2.8 |
| Radiated emissions | 30MHz ~ 1000MHz | ± 6.3 |
| | 1000MHz ~ 18000MHz | ± 4.6 |
| | 18000MHz ~ 40000MHz | ± 3.8 |

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

Consistent with industry standard (e.g. CISPR 22: 2005, clause 11, Measurement Uncertainty) determining compliance with the limits shall be base on the results of the compliance measurement. Consequently the measure emissions being less than the maximum allowed emission result in this be a compliant test or passing test.

The acceptable measurement uncertainty value without requiring revision of the compliance statement is base on conducted and radiated emissions being less than UCISPR which is 3.6dB and 5.2dB respectively. CCS values (called ULab in CISPR 16-4-2) is less than UCISPR as shown in the table above. Therefore, MU need not be considered for compliance.

# 6 CONDUCTED EMISSION MEASUREMENT

## 6.1. LIMITS OF CONDUCTED EMISSION MEASUREMENT

| FREQUENCY (MHz) | Class A (dBuV) | | Class B (dBuV) | |
|---|---|---|---|---|
| | Quasi-peak | Average | Quasi-peak | Average |
| 0.15 - 0.5 | 79 | 66 | 66 - 56 | 56 - 46 |
| 0.50 - 5.0 | 73 | 60 | 56 | 46 |
| 5.0 - 30.0 | 73 | 60 | 60 | 50 |

**NOTE**:
(1) The lower limit shall apply at the transition frequencies.
(2) The limit decreases in line with the logarithm of the frequency in the range 0.15 to 0.50 MHz.
(3) All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

## 6.2. TEST INSTRUMENTS

| Conducted Emission room # B | | | | |
|---|---|---|---|---|
| **Name of Equipment** | **Manufacturer** | **Model** | **Serial Number** | **Calibration Due** |
| BNC Cable | EMCI | CFD300-NL | BNC#B5 | 01/06/2020 |
| EMI Test Receiver | R&S | ESCI | 100234 | 05/06/2020 |
| LISN | Schwarzbeck | NSLK 8127 | 8127526 | 05/07/2020 |
| LISN(EUT) | Schwarzbeck | NSLK 8127 | 8127382 | 05/07/2020 |
| Pulse Limiter | R&S | ESH3-Z2 | 100374 | 01/06/2020 |
| Thermo-Hygro Meter | Wisewind | 201A | SD-S017 | 09/26/2019 |
| Test S/W | EZ-EMC | | | |

**NOTE:** 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. N.C.R = No Calibration Request.

## 6.3. TEST PROCEDURES (please refer to measurement standard or CCS SOP PA-031)

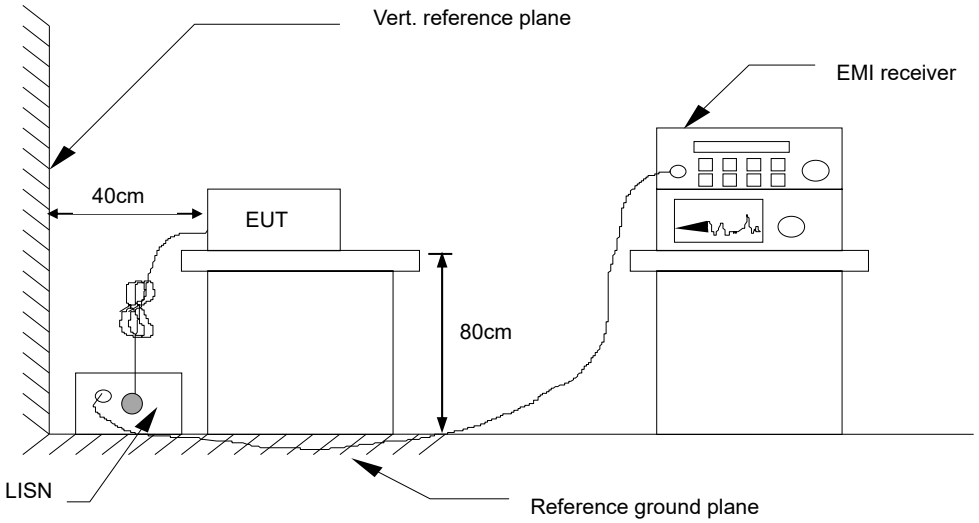
**Procedure of Preliminary Test**

- The EUT and support equipment, if needed, were set up as per the test configuration to simulate typical usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor standing equipment, it is placed on the ground plane, which has a 12 mm non-conductive covering to insulate the EUT from the ground plane.
- All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.
- The test equipment EUT installed by AC main power, through a Line Impedance Stabilization Network (LISN), which was supplied power source and was grounded to the ground plane.
- All support equipment power by from a second LISN.
- The test program of the EUT was started. Emissions were measured on each current carrying line of the EUT using an EMI Test Receiver connected to the LISN powering the EUT.
- The Receiver scanned from 150kHz to 30MHz for emissions in each of the test modes.
- During the above scans, the emissions were maximized by cable manipulation.
- The test mode(s) described in Item 3.1 were scanned during the preliminary test.
- After the preliminary scan, we found the test mode described in Item 3.1 producing the highest emission level.
- The worst configuration of EUT and cable of the above highest emission level were recorded for reference of the final test.

**Procedure of Final Test**

- EUT and support equipment were set up on the test bench as per the configuration with highest emission level in the preliminary test.
- A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit.
- The test data of the worst-case condition(s) was recorded.

## 6.4. TEST SETUP




- For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

## 6.5. DATA SAMPLE

| Freq. (MHz) | Reading (dBuV) | Factor (dB) | Result (dBuV) | Limit (dBuV) | Margin (dB) | Detector (P/Q/A) | Line (L1/L2) |
|---|---|---|---|---|---|---|---|
| x.xx | 42.95 | 0.55 | 43.50 | 56 | -12.50 | Q | L1 |

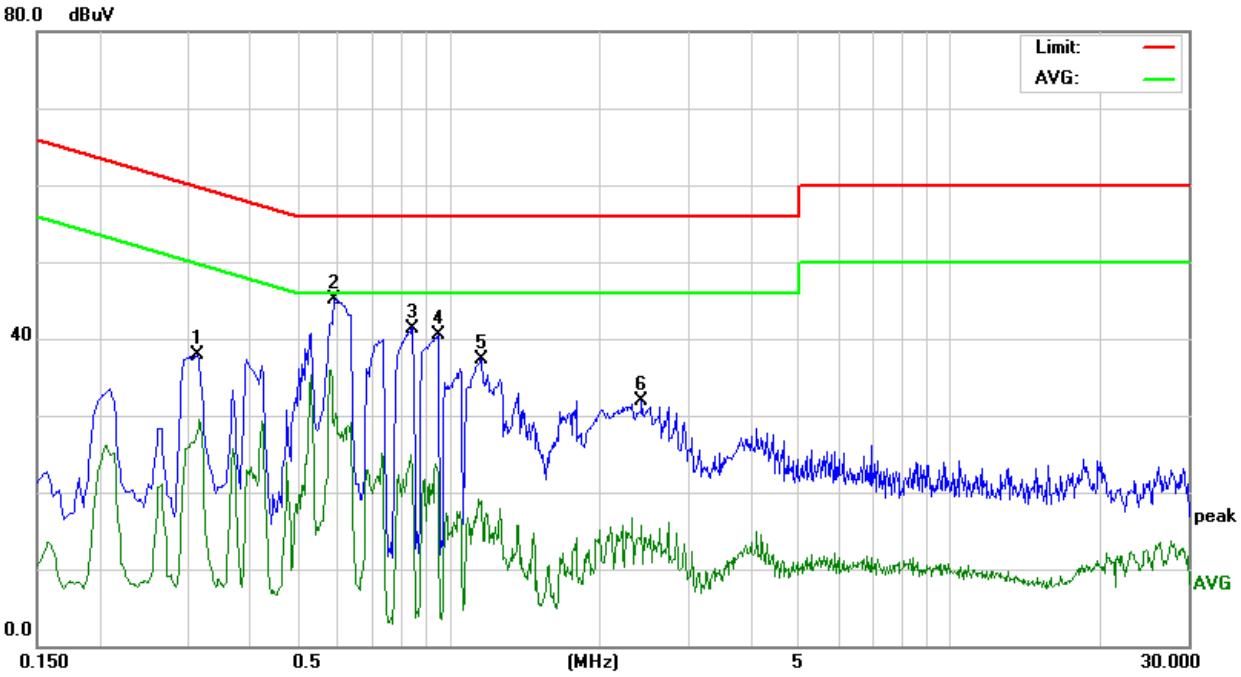
Freq. = Emission frequency in MHz
Reading = Uncorrected Analyzer/Receiver reading
Factor = Insertion loss of LISN + Cable Loss + Pulse Limit
Result = Reading + Factor
Limit = Limit stated in standard
Margin = Reading in reference to limit
P = Peak Reading
Q = Quasi-peak Reading
A = Average Reading
L1 = Hot side
L2 = Neutral side

**Calculation Formula**

Margin (dB) = Result (dBuV) – Limit (dBuV)

## 6.6. TEST RESULTS

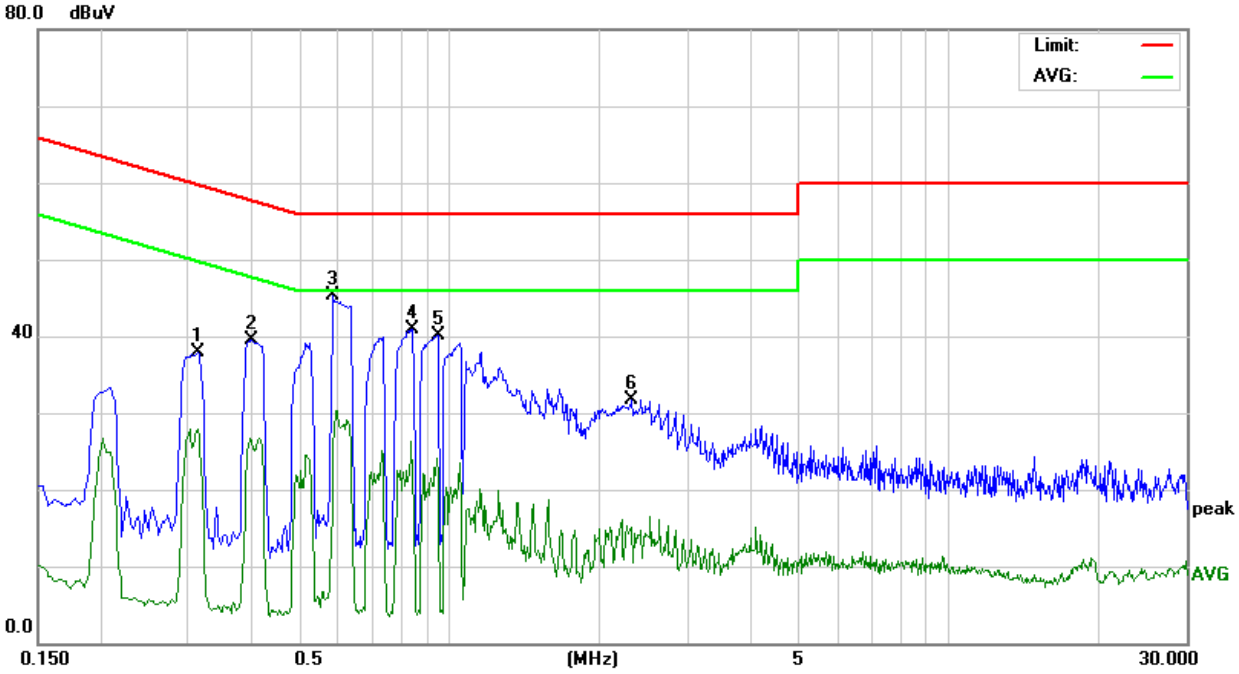
| Model No. | FLEX HANDY 2X | 6dB Bandwidth | 9 kHz |
|---|---|---|---|
| Environmental Conditions | 25°C, 60% RH | Test Mode | Mode 2 |
| Tested by | Kevin Chang | Phase | L1 |
| Standard | FCC CLASS B | | |




| Conducted Emission Readings | | | | | | | |
|---|---|---|---|---|---|---|---|
| Frequency Range Investigated | | | | 150 kHz to 30 MHz | | | |
| Freq. (MHz) | Reading (dBuV) | Factor (dB) | Result (dBuV) | Limit (dBuV) | Margin (dB) | Detector (P/Q/A) | Line (L1/L2) |
| 0.3140 | 27.89 | 10.07 | 37.96 | 59.86 | -21.90 | P | L1 |
| 0.5899 | 35.10 | 10.10 | 45.20 | 56.00 | -10.80 | P | L1 |
| 0.8460 | 31.28 | 10.12 | 41.40 | 56.00 | -14.60 | P | L1 |
| 0.9500 | 30.27 | 10.15 | 40.42 | 56.00 | -15.58 | P | L1 |
| 1.1620 | 27.23 | 10.16 | 37.39 | 56.00 | -18.61 | P | L1 |
| 2.4260 | 21.55 | 10.26 | 31.81 | 56.00 | -24.19 | P | L1 |

**Note:** 1. L1 = Line One (Live Line) / L2 = Line Two (Neutral Line).

| | | | |
|---|---|---|---|
| **Model No.** | FLEX HANDY 2X | **6dB Bandwidth** | 9 kHz |
| **Environmental Conditions** | 25°C, 60% RH | **Test Mode** | Mode 2 |
| **Tested by** | Kevin Chang | **Phase** | L2 |
| **Standard** | FCC CLASS B | | |




| Conducted Emission Readings | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Frequency Range Investigated** | | | | **150 kHz to 30 MHz** | | | |
| Freq. (MHz) | Reading (dBuV) | Factor (dB) | Result (dBuV) | Limit (dBuV) | Margin (dB) | Detector (P/Q/A) | Line (L1/L2) |
| **0.3140** | **27.86** | **10.05** | **37.91** | **59.86** | **-21.95** | **P** | **L2** |
| **0.4020** | **29.44** | **10.06** | **39.50** | **57.81** | **-18.31** | **P** | **L2** |
| **0.5860** | **35.27** | **10.08** | **45.35** | **56.00** | **-10.65** | **P** | **L2** |
| **0.8460** | **30.85** | **10.10** | **40.95** | **56.00** | **-15.05** | **P** | **L2** |
| **0.9500** | **29.96** | **10.13** | **40.09** | **56.00** | **-15.91** | **P** | **L2** |
| **2.3220** | **21.53** | **10.24** | **31.77** | **56.00** | **-24.23** | **P** | **L2** |

**Note:** 1. L1 = Line One (Live Line) / L2 = Line Two (Neutral Line).

# 7 RADIATED EMISSION MEASUREMENT

## 7.1. LIMITS OF RADIATED EMISSION MEASUREMENT

### Below 1GHz (for digital device)

| FREQUENCY (MHz) | dBuV/m (At 10m) | |
|---|---|---|
| | Class A | Class B |
| 30 ~ 230 | 40 | 30 |
| 230 ~ 1000 | 47 | 37 |

### Limit tables for non-digital device:

### Class A Radiated Emission limit at 10m (for others)

| Frequency (MHZ) | Field Strength Limit (uV/m)Q.P. | Field Strength Limit (dBuV/m)Q.P. |
|---|---|---|
| 30 - 88 | 90 | 39 |
| 88 - 216 | 150 | 43.5 |
| 216 – 960 | 210 | 46.4 |
| Above 960 | 300 | 49.5 |

### Class B Radiated Emission limit at 3m (for others)

| Frequency (MHZ) | Field Strength Limit (uV/m)Q.P. | Field Strength Limit (dBuV/m)Q.P. |
|---|---|---|
| 30 - 88 | 100 | 40 |
| 88 - 216 | 150 | 43.5 |
| 216 – 960 | 200 | 46 |
| Above 960 | 500 | 54 |

### Above 1GHz(for all device)

| Frequency (MHZ) | Class A (dBuV/m) (At 10m) | | Class B (dBuV/m) (At 3m) | |
|---|---|---|---|---|
| | Average | Peak | Average | Peak |
| Above 1000 | 49.5 | 69.5 | 54 | 74 |

**NOTE**: (1) The lower limit shall apply at the transition frequencies.
(2) Emission level (dBuV/m) = 20 log Emission level (uV/m).
(3) The measurement above 1GHz is at close-in distances 3m,and determine the limit **$L_2$** corresponding to the close-in distance **$d_2$** by applying the following relation: **$L_2 = L_1 (d_1/d_2)$**, where **$L_1$** is the specified limit in microvolts per metre (**uV/m**) at the distance **$d_1$** (**10m**), **$L_2$** is the new limit for distance **$d_2$** (**3m**).
So the new Class A limit above 1GHz at 3m is as following table:

| Frequency (MHZ) | Class A (dBuV/m) (At 3m) | |
|---|---|---|
| | Average | Peak |
| Above 1000 | 60 | 80 |

According to FCC Part 15.33 (b), for an unintentional radiator, including a digital device, the spectrum shall be investigated from the lowest radio frequency signal generated or used in the device, without going below the lowest frequency for which a radiated emission limit is specified, up to the frequency shown in the following table:

| Highest frequency generated or used in the device or on which the device operates or tunes (MHz) | Upper frequency of measurement range (MHz) |
|---|---|
| Below 1.705 | 30 |
| 1.705-108 | 1000 |
| 108-500 | 2000 |
| 500-1000 | 5000 |
| Above 1000 | 5th harmonic of the highest frequency or 40GHz, whichever is lower |

## 7.2. TEST INSTRUMENTS

| 1066 Chamber #E | | | | |
|---|---|---|---|---|
| **Name of Equipment** | **Manufacturer** | **Model** | **Serial Number** | **Calibration Due** |
| Bilog Antenna | Teseq | CBL 6112D | 35411 | 05/28/2020 |
| EMI Test Receiver | R&S | ESR3 | 102166 | 04/16/2020 |
| N-Type Cable | EMEC | CFD400NL-LW | SD-R042 | 08/15/2019 |
| Pre-Amplifier | EMEC | EMC330 | 060696 | 08/15/2019 |
| Thermo-Hygro Meter | Wisewind | 201A | SD-R046 | 08/26/2019 |
| Test S/W | EZ-EMC | | | |
| **Above 1GHz Used** | | | | |
| Horn Antenna | ETS | 3117 | 00139062 | 09/13/2019 |
| K-Type Cable | Rosnol | K1K50-UP0264-K1k50-1000 | 170803-1 | 08/09/2019 |
| Microflex Cable | EMEC | EM104-7M | SD-R051 | 08/27/2019 |
| Pre-Amplifier | Com-Power | PAM-118A | 551041 | 06/17/2020 |
| Signal Analyzer | R&S | FSV40 | 101269 | 03/29/2020 |
| Test S/W | EZ-EMC | | | |

**NOTE:** 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. N.C.R = No Calibration Request.

## 7.3. TEST PROCEDURES (please refer to measurement standard or CCS SOP PA-031)

**Procedure of Preliminary Test**

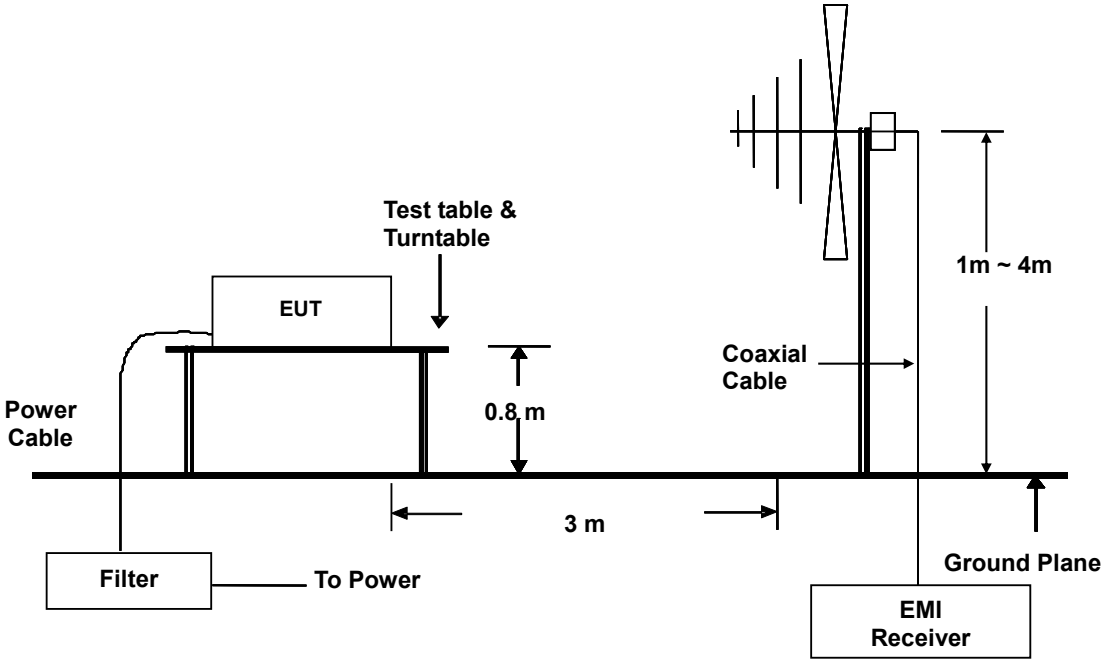
- The equipment was set up as per the test configuration to simulate typical usage per the user's manual. When the EUT is a tabletop system, a wooden turntable with a height of 0.8 meters is used which is placed on the ground plane. When the EUT is a floor standing equipment, it is placed on the ground plane which has a 12 mm non-conductive covering to insulate the EUT from the ground plane.
- Support equipment, if needed, was placed as per ANSI C63.4.
- All I/O cables were positioned to simulate typical usage as per ANSI C63.4.
- The EUT received AC power source from the outlet socket under the turntable. All support equipment power received from another socket under the turntable.
- The antenna was placed at 3 meter away from the EUT as stated in ANSI C63.4. The antenna connected to the Spectrum Analyzer via a cable and at times a pre-amplifier would be used.
- The Analyzer / Receiver quickly scanned from 30MHz to 40GHz. The EUT test program was started. Emissions were scanned and measured rotating the EUT to 360 degrees and positioning the antenna 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.
- The test mode(s) described in Item 3.1 were scanned during the preliminary test:
- After the preliminary scan, we found the test mode described in Item 3.1 producing the highest emission level.
- The worst configuration of EUT and cable of the above highest emission level were recorded for reference of the final test.

**Procedure of Final Test**

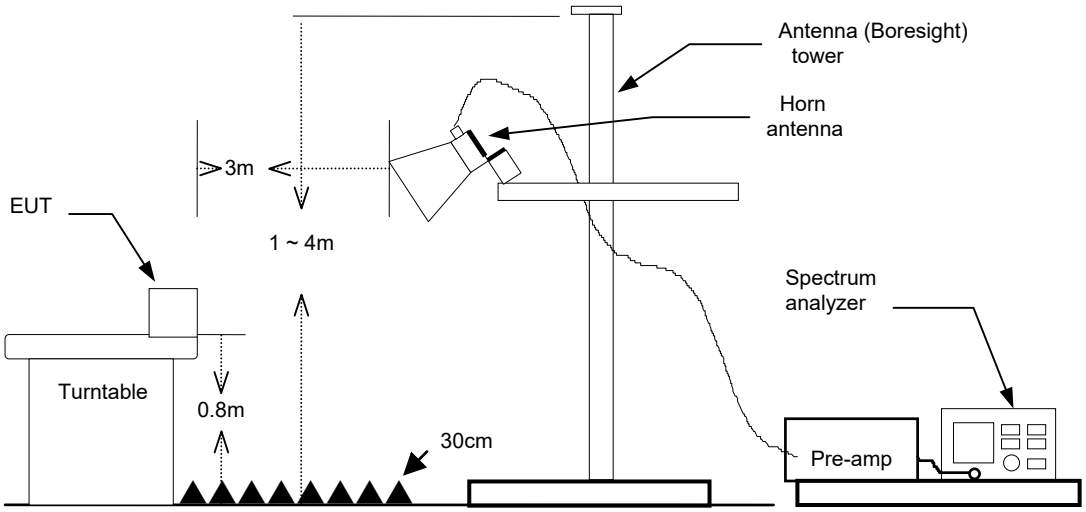
- EUT and support equipment were set up on the turntable as per the configuration with highest emission level in the preliminary test.
- The Analyzer / Receiver scanned from 30MHz to 40GHz. Emissions were scanned and measured rotating the EUT to 360 degrees, varying cable placement and positioning the antenna 1 or 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.
- Recording at least the six highest emissions. Emission frequency, amplitude, antenna position, polarization and turntable position were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. Below 1GHz the Q.P. reading and above 1GHz the Peak and Average reading are presented.
- The test data of the worst-case condition(s) was recorded.

## 7.4. TEST SETUP

### Below 1GHz




### Above 1GHz




- For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

## 7.5. DATA SAMPLE

**Below 1GHz**

| Freq. (MHz) | Reading (dBuV) | Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector (P/Q) | Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| x.xx | 14.0 | 12.2 | 26.2 | 30 | -10.8 | Q | H |

**Above 1GHz**

| Freq. (MHz) | Reading (dBuV) | Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector (P/A) | Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| x.xx | 42.95 | 0.55 | 43.50 | 54 | -10.50 | A | H |

Freq. = Emission frequency in MHz
Reading = Uncorrected Analyzer/Receiver reading
Factor = Antenna Factor + Cable Loss - Amplifier Gain
Result = Reading + Factor
Limit = Limit stated in standard
Margin = Reading in reference to limit
P = Peak Reading
Q = Quasi-peak Reading
A = Average Reading
H = Antenna Polarization: Horizontal
V = Antenna Polarization: Vertical

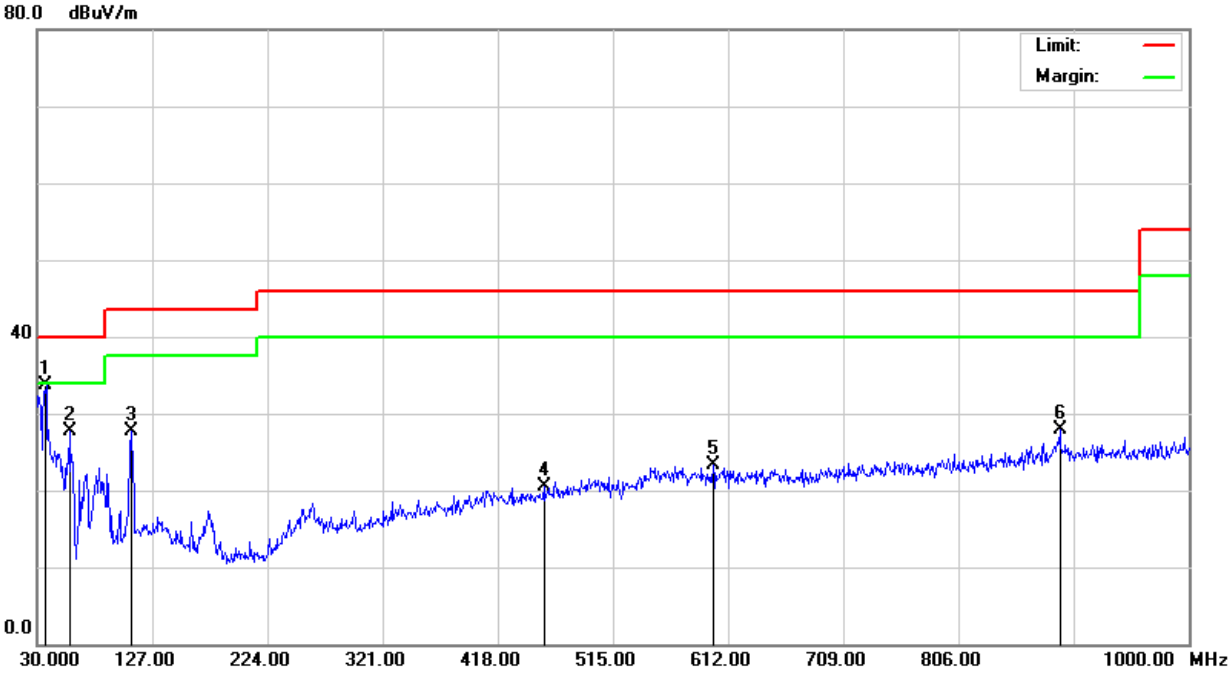
**Calculation Formula**

Margin (dB) = Result (dBuV/m) – Limit (dBuV/m)

## 7.6. TEST RESULTS

### Below 1GHz

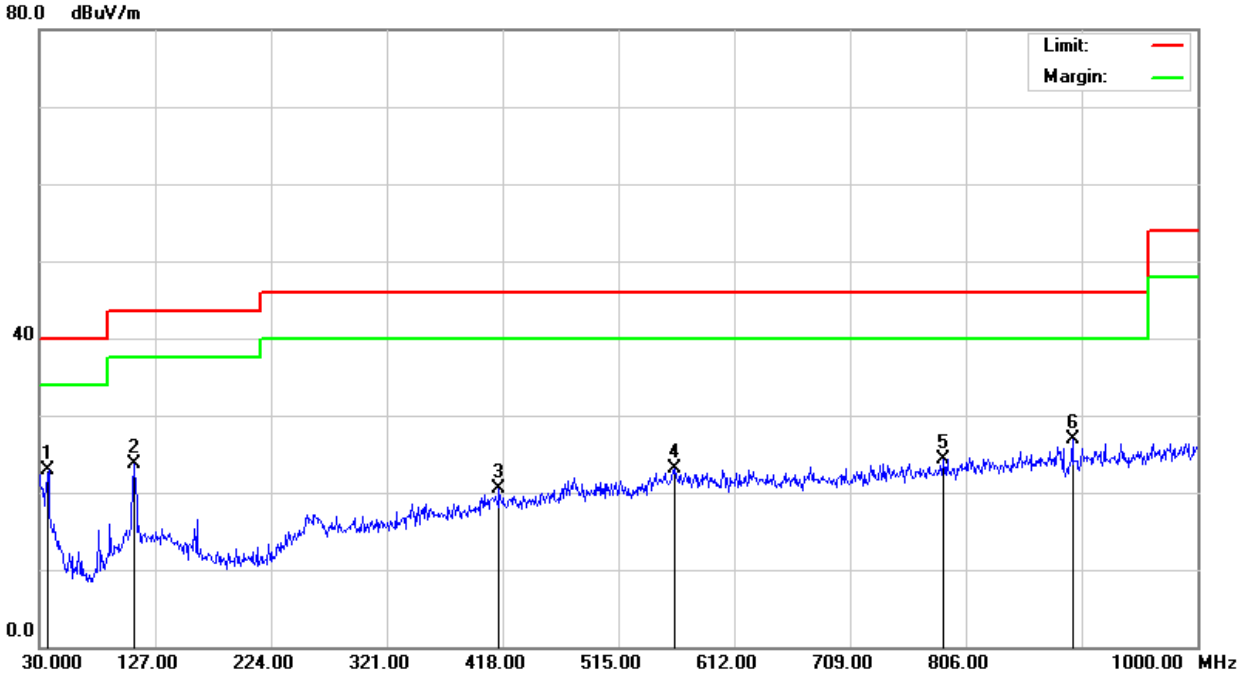
| Model No. | FLEX HANDY 2X | Test Mode | Mode 2 |
|---|---|---|---|
| Environmental Conditions | 26°C, 63% RH | 6dB Bandwidth | 120 kHz |
| Antenna Pole | Vertical | Antenna Distance | 3m |
| Detector Function | Quasi-peak. | Tested by | Kevin Chang |
| Standard | FCC CLASS B | | |




| Radiated Emission Readings | | | | | | | |
|---|---|---|---|---|---|---|---|
| Frequency Range Investigated | | | | 30 MHz to 1000 MHz at 3m | | | |
| Freq. (MHz) | Reading (dBuV) | Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector (P/Q) | Pol. (H/V) |
| 37.7599 | 44.87 | -11.19 | 33.68 | 40.00 | -6.32 | Q | V |
| 57.1600 | 46.55 | -18.81 | 27.74 | 40.00 | -12.26 | Q | V |
| 109.5400 | 41.18 | -13.45 | 27.73 | 43.50 | -15.77 | Q | V |
| 456.8000 | 27.81 | -7.34 | 20.47 | 46.00 | -25.53 | Q | V |
| 599.3900 | 28.37 | -5.03 | 23.34 | 46.00 | -22.66 | Q | V |
| 891.3600 | 30.07 | -2.18 | 27.89 | 46.00 | -18.11 | Q | V |

**Note:** 1. P= Peak Reading; Q= Quasi-peak Reading.

| Model No. | FLEX HANDY 2X | Test Mode | Mode 2 |
|---|---|---|---|
| Environmental Conditions | 26°C, 63% RH | 6dB Bandwidth | 120 kHz |
| Antenna Pole | Horizontal | Antenna Distance | 3m |
| Detector Function | Quasi-peak. | Tested by | Kevin Chang |
| Standard | FCC CLASS B | | |




| Radiated Emission Readings | | | | | | | |
|---|---|---|---|---|---|---|---|
| Frequency Range Investigated | | | | 30 MHz to 1000 MHz at 3m | | | |
| Freq. (MHz) | Reading (dBuV) | Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector (P/Q) | Pol. (H/V) |
| 37.7599 | 34.05 | -11.19 | 22.86 | 40.00 | -17.14 | Q | H |
| 109.5400 | 37.06 | -13.45 | 23.61 | 43.50 | -19.89 | Q | H |
| 415.0900 | 28.09 | -7.56 | 20.53 | 46.00 | -25.47 | Q | H |
| 562.5300 | 27.99 | -4.89 | 23.10 | 46.00 | -22.90 | Q | H |
| 787.5700 | 28.02 | -3.68 | 24.34 | 46.00 | -21.66 | Q | H |
| 895.2400 | 28.97 | -2.02 | 26.95 | 46.00 | -19.05 | Q | H |

**Note:** 1. P= Peak Reading; Q= Quasi-peak Reading.

## Above 1GHz

| Model No. | FLEX HANDY 2X | Test Mode | Mode 2 |
|---|---|---|---|
| Environmental Conditions | 26°C, 63% RH | 6dB Bandwidth | 1 MHz |
| Antenna Pole | Vertical / Horizontal | Antenna Distance | 3m |
| Highest frequency generated or used | 433MHz | Upper frequency | 2000MHz |
| Detector Function | Peak and average. | Tested by | Kevin Chang |
| Standard | FCC CLASS B | | |

| Radiated Emission Readings | | | | | | | |
|---|---|---|---|---|---|---|---|
| Frequency Range Investigated | | | | Above 1GHz at 3m | | | |
| Freq. (MHz) | Reading (dBuV) | Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector (P/A) | Pol. (H/V) |
| 1068.000 | 46.15 | -8.54 | 37.61 | 74.00 | -36.39 | P | V |
| 1302.000 | 46.49 | -7.51 | 38.98 | 74.00 | -35.02 | P | V |
| 1532.000 | 46.30 | -7.81 | 38.49 | 74.00 | -35.51 | P | V |
| 1616.000 | 46.87 | -7.34 | 39.53 | 74.00 | -34.47 | P | V |
| 1825.000 | 46.59 | -5.04 | 41.55 | 74.00 | -32.45 | P | V |
| 1999.000 | 46.24 | -3.95 | 42.29 | 74.00 | -31.71 | P | V |

| Radiated Emission Readings | | | | | | | |
|---|---|---|---|---|---|---|---|
| Frequency Range Investigated | | | | Above 1GHz at 3m | | | |
| Freq. (MHz) | Reading (dBuV) | Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector (P/A) | Pol. (H/V) |
| 1111.000 | 45.91 | -8.30 | 37.61 | 74.00 | -36.39 | P | H |
| 1232.000 | 46.15 | -7.52 | 38.63 | 74.00 | -35.37 | P | H |
| 1405.000 | 46.21 | -7.28 | 38.93 | 74.00 | -35.07 | P | H |
| 1628.000 | 46.22 | -7.17 | 39.05 | 74.00 | -34.95 | P | H |
| 1769.000 | 46.33 | -5.78 | 40.55 | 74.00 | -33.45 | P | H |
| 2000.000 | 46.51 | -3.95 | 42.56 | 74.00 | -31.44 | P | H |

**Note:** 1. P= Peak Reading; A= Average Reading.

## End of Test Report