



# FCC RF Test Report

**Applicant:** Remote Tech LLC  
**Address of Applicant:** 310 ALDER RD, DOVER DE 19904 USA  
**Equipment Under Test (EUT)**  
**Product Name:** Keyless Transmitter  
**Model No.:** RT-FD1-BB, RT-FD1-CB  
**FCC ID:** 2AOKM-FD1B  
**Applicable Standards:** FCC CFR Title 47 Part 15C (§15.231(a))  
**Date of Sample Receipt:** 19 Apr., 2022  
**Date of Test:** 20 Apr., to 09 May, 2022  
**Date of Report Issue:** 20 May, 2022  
**Test Result:** PASS

**Tested by:**

*Janet Wei*

**Date:**

*20 May, 2022*

**Reviewed by:**

*Wenwen Zhang*

**Date:**

*20 May, 2022*

**Approved by:**

*Wenwen Zhang*

**Date:**

*20 May, 2022*



This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in above the application standard version. Test results reported herein relate only to the item(s) tested.

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## 2 Version

| Version No. | Date          | Description       |
|-------------|---------------|-------------------|
| 00          | 10 May., 2022 | Original          |
| 01          | 20 May, 2022  | Update page 15~18 |
|             |               |                   |
|             |               |                   |
|             |               |                   |

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## 4 General Information

### 4.1 Client Information

|               |                                  |
|---------------|----------------------------------|
| Applicant:    | Remote Tech LLC                  |
| Address:      | 310 ALDER RD, DOVER DE 19904 USA |
| Manufacturer: | Remote Tech LLC                  |
| Address:      | 310 ALDER RD, DOVER DE 19904 USA |

### 4.2 General Description of E.U.T.

|                        |                                                                                             |
|------------------------|---------------------------------------------------------------------------------------------|
| Product Name:          | Keyless Transmitter                                                                         |
| Model No.:             | RT-FD1-BB, RT-FD1-CB                                                                        |
| Operation Frequency:   | 315 MHz                                                                                     |
| Channel Numbers:       | 1                                                                                           |
| Modulation Type:       | ASK                                                                                         |
| Antenna Type:          | PCB Antenna                                                                                 |
| Antenna Gain:          | 0 dBi                                                                                       |
| Power Supply:          | DC 3V (CR2032 battery)                                                                      |
| Test Sample Condition: | The test samples were provided in good working order with no visible defects.               |
| Remark:                | Model No.: RT-FD1B-BB , RT-FD1-CB. The shell has 3 or 4 button,the PCB funtion is the same. |

### 4.3 Test Mode and Environment

| Test Mode:                                                                                                                                                                                                                                          |                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| Transmitting mode:                                                                                                                                                                                                                                  | Keep the EUT in transmitting mode with modulation |
| <b>Remark:</b> The EUT was placed on three different polar directions tested: i.e. X axis, Y axis, Z axis, and found the test results are both the "worst case" and "worst setup": Y axis, so the report only reflects the test data of worst mode. |                                                   |
| Operating Environment:                                                                                                                                                                                                                              |                                                   |
| Temperature:                                                                                                                                                                                                                                        | 15°C ~ 35°C                                       |
| Humidity:                                                                                                                                                                                                                                           | 20 % ~ 75 % RH                                    |
| Atmospheric Pressure:                                                                                                                                                                                                                               | 1010 mbar                                         |

### 4.4 Description of Support Units

| Manufacturer | Description | Model | Serial Number | FCC ID/DoC |
|--------------|-------------|-------|---------------|------------|
| N/A          |             |       |               |            |

### 4.5 Measurement Uncertainty

| Parameter                                                                                                                                                                                                                                                                                                            | Expanded Uncertainty<br>(Confidence of 95%(U = 2Uc(y))) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| Radiated Emission (9kHz ~ 30MHz) (3m SAC)                                                                                                                                                                                                                                                                            | ±3.13 dB                                                |
| Radiated Emission (30MHz ~ 1GHz) (3m SAC)                                                                                                                                                                                                                                                                            | ±4.45 dB                                                |
| Radiated Emission (1GHz ~ 18GHz) (3m SAC)                                                                                                                                                                                                                                                                            | ±5.34 dB                                                |
| Radiated Emission (18GHz ~ 40GHz) (3m SAC)                                                                                                                                                                                                                                                                           | ±5.34 dB                                                |
| <b>Note:</b> All the measurement uncertainty value were shown with a coverage k=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance. |                                                         |

### 4.6 Additions to, Deviations, or Exclusions From the Method

|    |
|----|
| No |
|----|

### 4.7 Laboratory Facility

The test facility is recognized, certified, or accredited by the following organizations:

● **FCC - Designation No.: CN1211**

JianYan Testing Group Shenzhen Co., Ltd. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Registration No. is 727551.

● **ISED – CAB identifier.: CN0021**

The 3m Semi-anechoic chamber and 10m Semi-anechoic chamber of JianYan Testing Group Shenzhen Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

● **CNAS - Registration No.: CNAS L15527**

JianYan Testing Group Shenzhen Co., Ltd. is accredited to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L15527.

● **A2LA - Registration No.: 4346.01**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: <https://portal.a2la.org/scopepdf/4346-01.pdf>

## 4.8 Laboratory Location

JianYan Testing Group Shenzhen Co., Ltd.

Address: No.101, Building 8, Innovation Wisdom Port, No.155 Hongtian Road, Huangpu Community, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, People's Republic of China.

Tel: +86-755-23118282, Fax: +86-755-23116366

Email: info-JYTee@lets.com, Website: <http://jyt.lets.com>

## 4.9 Test Instruments List

| Radiated Emission(3m SAC):       |                 |                 |                  |                        |                             |
|----------------------------------|-----------------|-----------------|------------------|------------------------|-----------------------------|
| Test Equipment                   | Manufacturer    | Model No.       | Manage No.       | Cal.Date<br>(mm-dd-yy) | Cal. Due date<br>(mm-dd-yy) |
| 3m SAC                           | ETS             | 9m*6m*6m        | WXJ001-1         | 01-19-2021             | 01-18-2024                  |
| BiConiLog Antenna                | Schwarzbeck     | VULB9163        | WXJ002           | 02-17-2022             | 02-16-2023                  |
| Biconical Antenna                | Schwarzbeck     | VUBA9117        | WXJ002-1         | 06-20-2021             | 06-19-2022                  |
| Horn Antenna                     | Schwarzbeck     | BBHA9120D       | WXJ002-2         | 02-17-2022             | 02-16-2023                  |
| Horn Antenna                     | Schwarzbeck     | BBHA9120D       | WXJ002-3         | 06-18-2021             | 06-17-2022                  |
| Loop Antenna                     | Schwarzbeck     | FMZB 1519 B     | WXJ002-4         | 02-17-2022             | 02-16-2023                  |
| Pre-amplifier<br>(30MHz ~ 1GHz)  | Schwarzbeck     | BBV9743B        | WXG001-7         | 02-17-2022             | 02-16-2023                  |
| Pre-amplifier<br>(1GHz ~ 18GHz)  | SKET            | LNPA_0118G-50   | WXG001-3         | 02-17-2022             | 02-16-2023                  |
| Pre-amplifier<br>(18GHz ~ 40GHz) | RF System       | TRLA-180400G45B | WXG001-9         | 02-17-2022             | 02-16-2023                  |
| EMI Test Receiver                | Rohde & Schwarz | ESRP7           | WXJ003-1         | 02-17-2022             | 02-16-2023                  |
| Spectrum Analyzer                | KEYSIGHT        | N9010B          | WXJ004-2         | 11-27-2021             | 11-26-2022                  |
| Band Reject Filter Group         | Tonscend        | JS0806-F        | WXJ089           | N/A                    |                             |
| Coaxial Cable<br>(30MHz ~ 1GHz)  | JYTSZ           | JYT3M-1G-NN-8M  | WXG001-4         | 02-17-2022             | 02-16-2023                  |
| Coaxial Cable<br>(1GHz ~ 18GHz)  | JYTSZ           | JYT3M-18G-NN-8M | WXG001-5         | 02-17-2022             | 02-16-2023                  |
| Coaxial Cable<br>(18GHz ~ 40GHz) | JYTSZ           | JYT3M-40G-SS-8M | WXG001-7         | 02-17-2022             | 02-16-2023                  |
| Coaxial Cable<br>(9kHz ~ 30MHz)  | JYT             | JYT3M-1G-BB-5M  | WXG001-6         | 02-17-2022             | 02-16-2023                  |
| Test Software                    | Tonscend        | TS+             | Version: 3.0.0.1 |                        |                             |

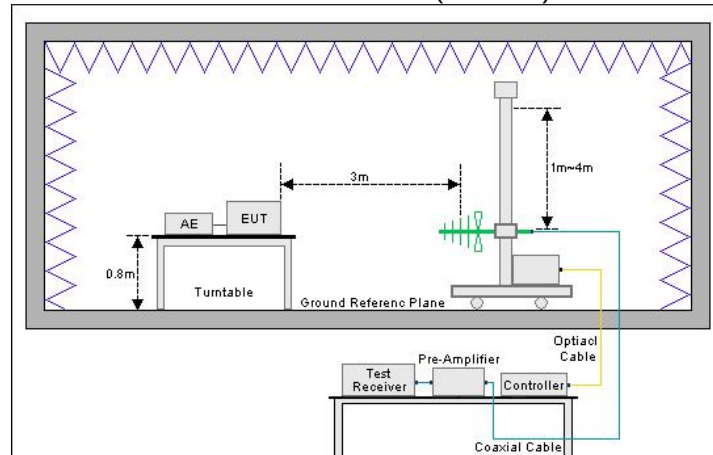
| Conducted Emission: |                 |           |            |                        |                             |
|---------------------|-----------------|-----------|------------|------------------------|-----------------------------|
| Test Equipment      | Manufacturer    | Model No. | Manage No. | Cal.Date<br>(mm-dd-yy) | Cal. Due date<br>(mm-dd-yy) |
| EMI Test Receiver   | Rohde & Schwarz | ESCI 3    | WXJ003     | 01-19-2022             | 01-18-2023                  |

## 5 Measurement Setup and Procedure

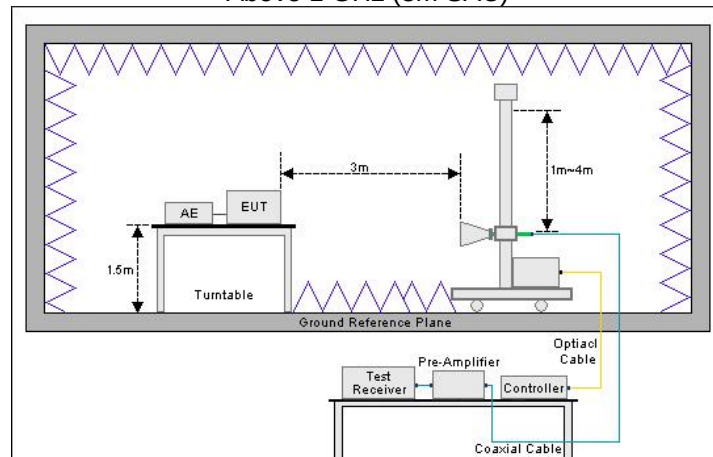
### 5.1 Test Setup

Radiated emission measurement:

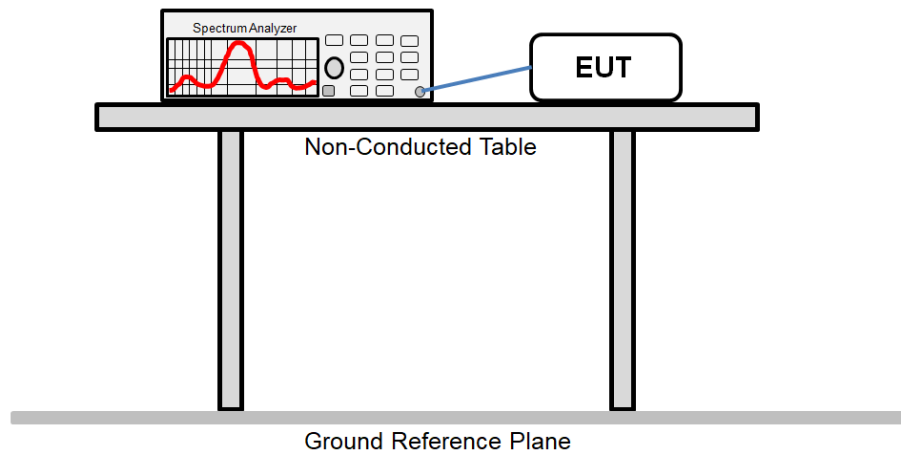
30 MHz – 1000 MHz (3m SAC)



Above 1 GHz (3m SAC)



**Conducted test method:**



## 5.2 Test Procedure

| Test method           | Test step                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Radiated emission     | <ol style="list-style-type: none"> <li>1. The EUT was placed on the tabletop of a rotating table 0.8 m the ground at a 3 m semi anechoic chamber. The measurement distance from the EUT to the receiving antenna is 3 m.</li> <li>2. EUT works in each mode of operation that needs to be tested, and having the EUT continuously working, respectively on 3 axis (X, Y &amp; Z) and considered typical configuration to obtain worst position. The highest signal levels relative to the limit shall be determined by rotating the EUT from 0° to 360° and with varying the measurement antenna height between 1 m and 4 m in vertical and horizontal polarizations.</li> <li>3. Open the test software to control the test antenna and test turntable. Perform the test, save the test results, and export the test data.</li> </ol> |
| Conducted test method | <ol style="list-style-type: none"> <li>1. The antenna port of EUT was connected to the RF port of the spectrum analyzer through an RF cable.</li> <li>2. The EUT is keeping in continuous transmission mode and tested in all modulation modes.</li> <li>3. The test data is saved by the screenshot function of the spectrum analyzer.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

## 6 Test Results

### 6.1 Summary

#### 6.1.1 Clause and Data Summary

| Test items                                                                                                                                  | Standard clause                     | Test data       | Result |
|---------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-----------------|--------|
| Antenna Requirement                                                                                                                         | 15.203                              | See Section 6.2 | Pass   |
| AC Power Line Conducted Emission                                                                                                            | 15.207                              | N/A             | N/A    |
| 20dB Bandwidth                                                                                                                              | 15.231 (c)                          | See Section 6.3 | Pass   |
| Field Strength of Fundamental                                                                                                               | 15.231 (b)                          | See Section 6.4 | Pass   |
| Field Strength of Spurious Emissions                                                                                                        | 15.209<br>15.231 (b)                | See Section 6.5 | Pass   |
| Duration Time                                                                                                                               | 15.231 (a)(1)                       | See Section 6.6 | Pass   |
| <b>Remark:</b><br>1. Pass: The EUT complies with the essential requirements in the standard.<br>2. N/A: Not Applicable. EUT power by DV 3V. |                                     |                 |        |
| <b>Test Method:</b>                                                                                                                         | ANSI C63.4-2014<br>ANSI C63.10-2013 |                 |        |

## 6.1.2 Test Limit

| Test items                                                                | Limit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                         |                                                  |                                                         |               |      |     |                |      |     |                 |                           |                         |                 |      |     |                 |                            |                          |              |       |      |                 |                     |          |         |      |            |          |      |            |           |      |            |            |      |            |           |                     |  |         |       |             |      |      |
|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|--------------------------------------------------|---------------------------------------------------------|---------------|------|-----|----------------|------|-----|-----------------|---------------------------|-------------------------|-----------------|------|-----|-----------------|----------------------------|--------------------------|--------------|-------|------|-----------------|---------------------|----------|---------|------|------------|----------|------|------------|-----------|------|------------|------------|------|------------|-----------|---------------------|--|---------|-------|-------------|------|------|
| 20dB Bandwidth                                                            | The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                         |                                                  |                                                         |               |      |     |                |      |     |                 |                           |                         |                 |      |     |                 |                            |                          |              |       |      |                 |                     |          |         |      |            |          |      |            |           |      |            |            |      |            |           |                     |  |         |       |             |      |      |
| Field Strength of Fundamental<br><br>Field Strength of Spurious Emissions | <table><tr><th>Fundamental Frequency (MHz)</th><th>Field strength of fundamental (microvolts/meter)</th><th>Field strength of spurious emissions (microvolts/meter)</th></tr><tr><td>40.66 – 40.70</td><td>2250</td><td>225</td></tr><tr><td>70.00 – 130.00</td><td>1250</td><td>125</td></tr><tr><td>130.00 – 174.00</td><td><sup>1</sup>1250 to 3750</td><td><sup>1</sup>125 to 375</td></tr><tr><td>174.00 – 260.00</td><td>3750</td><td>375</td></tr><tr><td>260.00 – 470.00</td><td><sup>1</sup>3750 to 12500</td><td><sup>1</sup>375 to 1250</td></tr><tr><td>Above 470.00</td><td>12500</td><td>1250</td></tr></table> <p><sup>1</sup>Linear interpolations.</p> <p>(1) The above field strength limits are specified at a distance of 3 meters. The tighter limits apply at the band edges.</p> <p>(2) Intentional radiators operating under the provisions of this section shall demonstrate compliance with the limits on the field strength of emissions, as shown in the above table, based on the average value of the measured emissions. As an alternative, compliance with the limits in the above table may be based on the use of measurement instrumentation with a CISPR quasi-peak detector. The specific method of measurement employed shall be specified in the application for equipment authorization. If average emission measurements are employed, the provisions in § 15.35 for averaging pulsed emissions and for limiting peak emissions apply. Further, compliance with the provisions of § 15.205 shall be demonstrated using the measurement instrumentation specified in that section.</p> <p>(3) The limits on the field strength of the spurious emissions in the above table are based on the fundamental frequency of the intentional radiator. Spurious emissions shall be attenuated to the average (or, alternatively, CISPR quasi-peak) limits shown in this table or to the general limits shown in § 15.209, whichever limit permits a higher field strength:</p> <table><tr><th>Frequency (MHz)</th><th>Limit (dBµV/m) @ 3m</th><th>Detector</th></tr><tr><td>30 – 88</td><td>40.0</td><td>Quasi-peak</td></tr><tr><td>88 – 216</td><td>43.5</td><td>Quasi-peak</td></tr><tr><td>216 – 960</td><td>46.0</td><td>Quasi-peak</td></tr><tr><td>960 – 1000</td><td>54.0</td><td>Quasi-peak</td></tr></table> <p><b>Note:</b> The more stringent limit applies at transition frequencies.</p> <table><tr><th rowspan="2">Frequency</th><th colspan="2">Limit (dBµV/m) @ 3m</th></tr><tr><th>Average</th><th>Peake</th></tr><tr><td>Above 1 GHz</td><td>54.0</td><td>74.0</td></tr></table> <p><b>Note:</b> The measurement bandwidth shall be 1 MHz or greater.</p> | Fundamental Frequency (MHz)                             | Field strength of fundamental (microvolts/meter) | Field strength of spurious emissions (microvolts/meter) | 40.66 – 40.70 | 2250 | 225 | 70.00 – 130.00 | 1250 | 125 | 130.00 – 174.00 | <sup>1</sup> 1250 to 3750 | <sup>1</sup> 125 to 375 | 174.00 – 260.00 | 3750 | 375 | 260.00 – 470.00 | <sup>1</sup> 3750 to 12500 | <sup>1</sup> 375 to 1250 | Above 470.00 | 12500 | 1250 | Frequency (MHz) | Limit (dBµV/m) @ 3m | Detector | 30 – 88 | 40.0 | Quasi-peak | 88 – 216 | 43.5 | Quasi-peak | 216 – 960 | 46.0 | Quasi-peak | 960 – 1000 | 54.0 | Quasi-peak | Frequency | Limit (dBµV/m) @ 3m |  | Average | Peake | Above 1 GHz | 54.0 | 74.0 |
| Fundamental Frequency (MHz)                                               | Field strength of fundamental (microvolts/meter)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Field strength of spurious emissions (microvolts/meter) |                                                  |                                                         |               |      |     |                |      |     |                 |                           |                         |                 |      |     |                 |                            |                          |              |       |      |                 |                     |          |         |      |            |          |      |            |           |      |            |            |      |            |           |                     |  |         |       |             |      |      |
| 40.66 – 40.70                                                             | 2250                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 225                                                     |                                                  |                                                         |               |      |     |                |      |     |                 |                           |                         |                 |      |     |                 |                            |                          |              |       |      |                 |                     |          |         |      |            |          |      |            |           |      |            |            |      |            |           |                     |  |         |       |             |      |      |
| 70.00 – 130.00                                                            | 1250                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 125                                                     |                                                  |                                                         |               |      |     |                |      |     |                 |                           |                         |                 |      |     |                 |                            |                          |              |       |      |                 |                     |          |         |      |            |          |      |            |           |      |            |            |      |            |           |                     |  |         |       |             |      |      |
| 130.00 – 174.00                                                           | <sup>1</sup> 1250 to 3750                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <sup>1</sup> 125 to 375                                 |                                                  |                                                         |               |      |     |                |      |     |                 |                           |                         |                 |      |     |                 |                            |                          |              |       |      |                 |                     |          |         |      |            |          |      |            |           |      |            |            |      |            |           |                     |  |         |       |             |      |      |
| 174.00 – 260.00                                                           | 3750                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 375                                                     |                                                  |                                                         |               |      |     |                |      |     |                 |                           |                         |                 |      |     |                 |                            |                          |              |       |      |                 |                     |          |         |      |            |          |      |            |           |      |            |            |      |            |           |                     |  |         |       |             |      |      |
| 260.00 – 470.00                                                           | <sup>1</sup> 3750 to 12500                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <sup>1</sup> 375 to 1250                                |                                                  |                                                         |               |      |     |                |      |     |                 |                           |                         |                 |      |     |                 |                            |                          |              |       |      |                 |                     |          |         |      |            |          |      |            |           |      |            |            |      |            |           |                     |  |         |       |             |      |      |
| Above 470.00                                                              | 12500                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1250                                                    |                                                  |                                                         |               |      |     |                |      |     |                 |                           |                         |                 |      |     |                 |                            |                          |              |       |      |                 |                     |          |         |      |            |          |      |            |           |      |            |            |      |            |           |                     |  |         |       |             |      |      |
| Frequency (MHz)                                                           | Limit (dBµV/m) @ 3m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Detector                                                |                                                  |                                                         |               |      |     |                |      |     |                 |                           |                         |                 |      |     |                 |                            |                          |              |       |      |                 |                     |          |         |      |            |          |      |            |           |      |            |            |      |            |           |                     |  |         |       |             |      |      |
| 30 – 88                                                                   | 40.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Quasi-peak                                              |                                                  |                                                         |               |      |     |                |      |     |                 |                           |                         |                 |      |     |                 |                            |                          |              |       |      |                 |                     |          |         |      |            |          |      |            |           |      |            |            |      |            |           |                     |  |         |       |             |      |      |
| 88 – 216                                                                  | 43.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Quasi-peak                                              |                                                  |                                                         |               |      |     |                |      |     |                 |                           |                         |                 |      |     |                 |                            |                          |              |       |      |                 |                     |          |         |      |            |          |      |            |           |      |            |            |      |            |           |                     |  |         |       |             |      |      |
| 216 – 960                                                                 | 46.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Quasi-peak                                              |                                                  |                                                         |               |      |     |                |      |     |                 |                           |                         |                 |      |     |                 |                            |                          |              |       |      |                 |                     |          |         |      |            |          |      |            |           |      |            |            |      |            |           |                     |  |         |       |             |      |      |
| 960 – 1000                                                                | 54.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Quasi-peak                                              |                                                  |                                                         |               |      |     |                |      |     |                 |                           |                         |                 |      |     |                 |                            |                          |              |       |      |                 |                     |          |         |      |            |          |      |            |           |      |            |            |      |            |           |                     |  |         |       |             |      |      |
| Frequency                                                                 | Limit (dBµV/m) @ 3m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                         |                                                  |                                                         |               |      |     |                |      |     |                 |                           |                         |                 |      |     |                 |                            |                          |              |       |      |                 |                     |          |         |      |            |          |      |            |           |      |            |            |      |            |           |                     |  |         |       |             |      |      |
|                                                                           | Average                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Peake                                                   |                                                  |                                                         |               |      |     |                |      |     |                 |                           |                         |                 |      |     |                 |                            |                          |              |       |      |                 |                     |          |         |      |            |          |      |            |           |      |            |            |      |            |           |                     |  |         |       |             |      |      |
| Above 1 GHz                                                               | 54.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 74.0                                                    |                                                  |                                                         |               |      |     |                |      |     |                 |                           |                         |                 |      |     |                 |                            |                          |              |       |      |                 |                     |          |         |      |            |          |      |            |           |      |            |            |      |            |           |                     |  |         |       |             |      |      |
| Duration Time                                                             | A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                         |                                                  |                                                         |               |      |     |                |      |     |                 |                           |                         |                 |      |     |                 |                            |                          |              |       |      |                 |                     |          |         |      |            |          |      |            |           |      |            |            |      |            |           |                     |  |         |       |             |      |      |

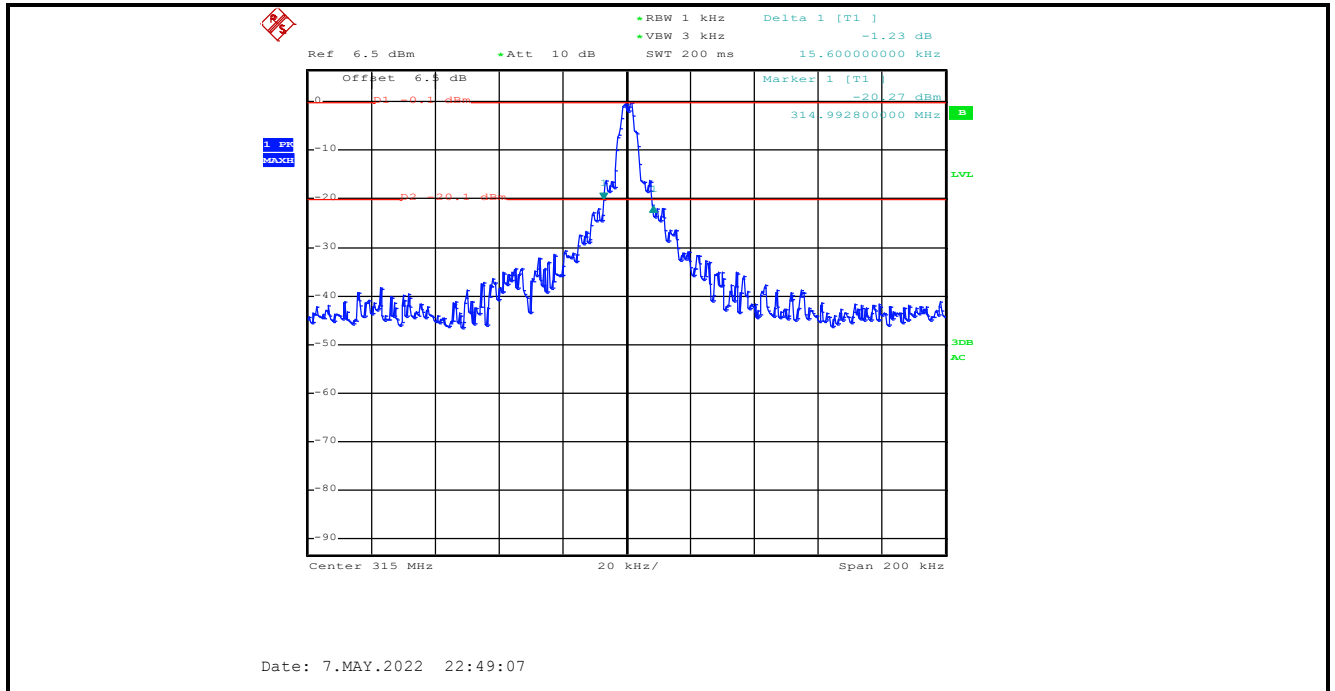
## 6.2 Antenna Requirement

|                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Standard requirement:</b> | FCC Part15 C Section 15.203                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>15.203 requirement:</b>   | An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. |
| <b>E.U.T Antenna:</b>        | The EUT make use of a PCB antenna.                                                                                                                                                                                                                                                                                                                                                                                                                 |

### 6.3 20dB Bandwidth

| 20dB bandwidth (MHz)                                                  | Limit (MHz) | Results |
|-----------------------------------------------------------------------|-------------|---------|
| 0.0156                                                                | 0.7875      | Passed  |
| <b>Note:</b> Limit = Fundamental frequency×0.25%=315×0.25%=0.7875MHz. |             |         |

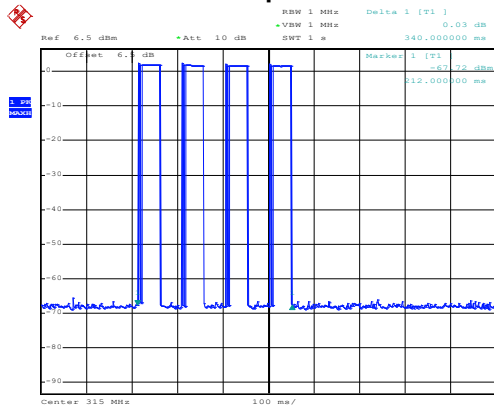
Test plot as follows:



## 6.4 Field Strength of Fundamental

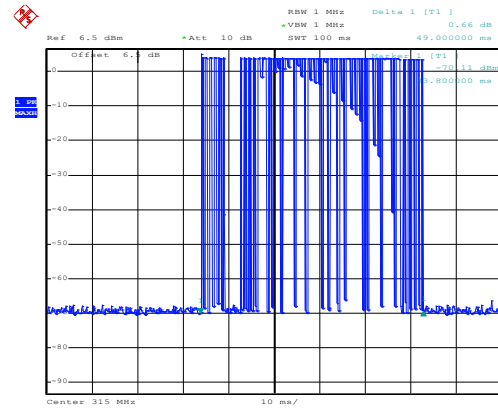
| Peak value                              |                                                                    |                   |                        |                |             |              |
|-----------------------------------------|--------------------------------------------------------------------|-------------------|------------------------|----------------|-------------|--------------|
| Frequency (MHz)                         | Read level (dBuV)                                                  | Factor (dB/m)     | Level (dBuV/m)         | Limit (dBuV/m) | Margin (dB) | Polarization |
| 315.014                                 | 83.46                                                              | -13.74            | 69.72                  | 95.62          | 25.90       | Vertical     |
| 315.014                                 | 97.80                                                              | -13.74            | 84.06                  | 95.62          | 11.56       | Horizontal   |
| 630.005                                 | 51.11                                                              | -8.19             | 42.92                  | 75.62          | 32.70       | Vertical     |
| 630.005                                 | 61.75                                                              | -8.19             | 53.56                  | 75.62          | 22.06       | Horizontal   |
| 944.995                                 | 51.69                                                              | -3.55             | 48.14                  | 75.62          | 27.48       | Vertical     |
| 944.995                                 | 45.94                                                              | -3.55             | 42.39                  | 75.62          | 33.23       | Horizontal   |
| Average value                           |                                                                    |                   |                        |                |             |              |
| Frequency (MHz)                         | Level (dBuV/m)                                                     | Duty cycle factor | Average value (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Polarization |
| 315.014                                 | 69.72                                                              | -12.18            | 57.54                  | 75.62          | 18.08       | Vertical     |
| 315.014                                 | 84.06                                                              | -12.18            | 71.88                  | 75.62          | 3.74        | Horizontal   |
| 630.005                                 | 42.92                                                              | -12.18            | 30.74                  | 55.62          | 24.88       | Vertical     |
| 630.005                                 | 53.56                                                              | -12.18            | 41.38                  | 55.62          | 14.24       | Horizontal   |
| 944.995                                 | 48.14                                                              | -12.18            | 35.96                  | 55.62          | 19.66       | Vertical     |
| 944.995                                 | 42.39                                                              | -12.18            | 30.21                  | 55.62          | 25.41       | Horizontal   |
| Duty Cycle Factor<br>Calculate Formula: | Average value = Peak value + Duty Cycle Factor                     |                   |                        |                |             |              |
|                                         | Duty cycle factor = 20log(Duty cycle)                              |                   |                        |                |             |              |
|                                         | Duty cycle = on time/100 milliseconds or period, whichever is less |                   |                        |                |             |              |
|                                         | T on time = (37*0.320+22*0.580)(ms) = 24.6(ms)                     |                   |                        |                |             |              |
|                                         | T period = 100(ms) > 100(ms)                                       |                   |                        |                |             |              |
|                                         | Duty cycle = 24.6%                                                 |                   |                        |                |             |              |
|                                         | Duty cycle factor = 20log(Duty cycle) = -12.18                     |                   |                        |                |             |              |

**T period:**



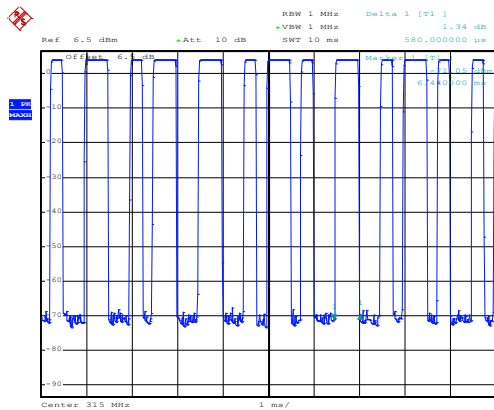
Date: 7.MAY.2022 22:58:03

**T 100ms:**



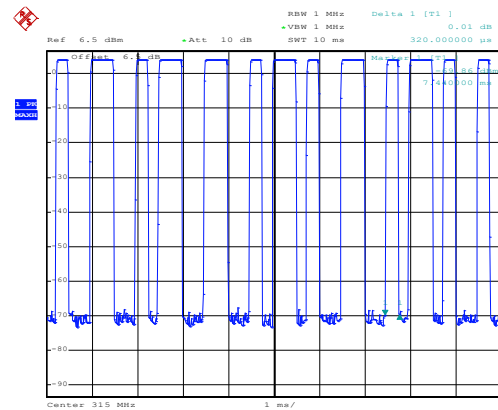
Date: 7.MAY.2022 23:01:24

**T on time slot-1:**



Date: 7.MAY.2022 23:07:37

**T on time slot-2:**

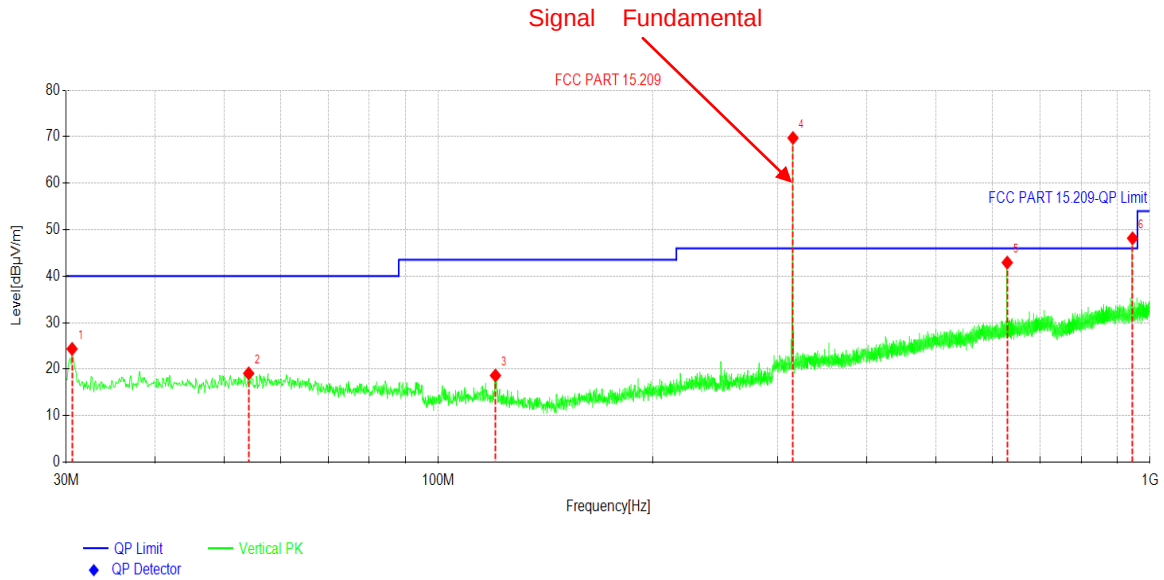


Date: 7.MAY.2022 23:08:06

## 6.5 Field Strength of Spurious Emissions

Below 1GHz:

|                 |                     |                |           |
|-----------------|---------------------|----------------|-----------|
| Product Name:   | Keyless Transmitter | Product Model: | RT-FD1-BB |
| Test By:        | Janet               | Test mode:     | Tx mode   |
| Test Frequency: | 30 MHz – 1000 MHz   | Polarization:  | Vertical  |
| Test Voltage:   | DC 3V               |                |           |



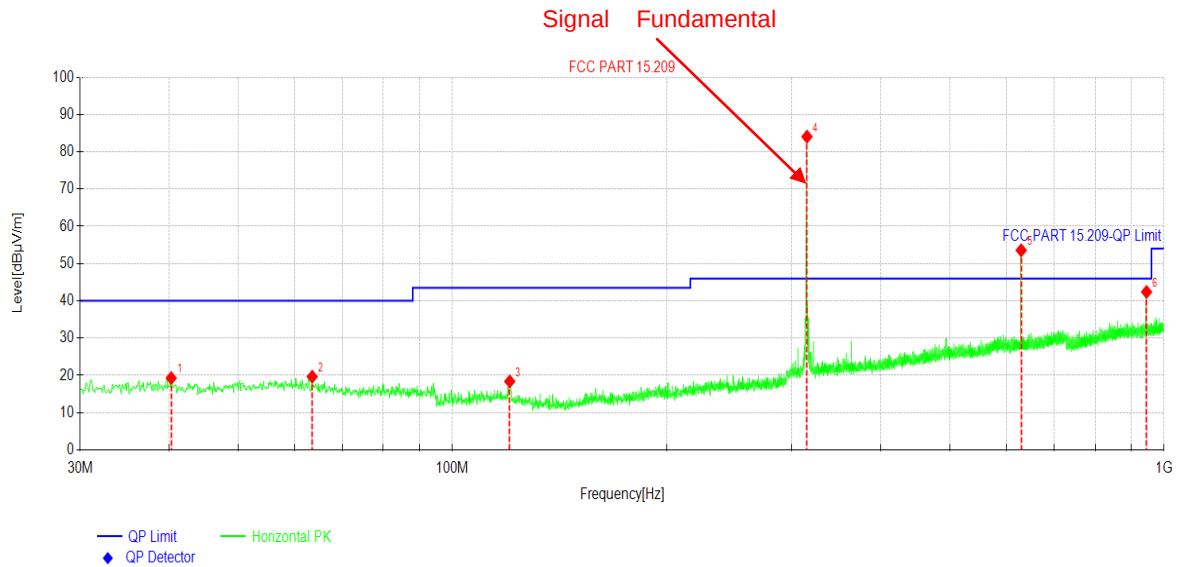
| Suspected Data List |             |                  |                |             |                |             |       |          |
|---------------------|-------------|------------------|----------------|-------------|----------------|-------------|-------|----------|
| NO.                 | Freq. [MHz] | Reading [dBμV/m] | Level [dBμV/m] | Factor [dB] | Limit [dBμV/m] | Margin [dB] | Trace | Polarity |
| 1                   | 30.5821     | 42.68            | 24.35          | -18.33      | 40.00          | 15.65       | PK    | Vertical |
| 2                   | 54.1554     | 36.04            | 19.08          | -16.96      | 40.00          | 20.92       | PK    | Vertical |
| 3                   | 120.3160    | 36.82            | 18.63          | -18.19      | 43.50          | 24.87       | PK    | Vertical |
| 4                   | 315.0145    | 83.46            | 69.72          | -13.74      | 95.62          | 25.90       | PK    | Vertical |
| 5                   | 630.0050    | 51.11            | 42.92          | -8.19       | 75.62          | 32.70       | PK    | Vertical |
| 6                   | 944.9955    | 51.69            | 48.14          | -3.55       | 75.62          | 27.48       | PK    | Vertical |

| Suspected Data List |             |                |                   |                        |                |             |       |          |
|---------------------|-------------|----------------|-------------------|------------------------|----------------|-------------|-------|----------|
| NO.                 | Freq. [MHz] | Level (dBuV/m) | Duty cycle factor | Average value (dBuV/m) | Limit [dBμV/m] | Margin [dB] | Trace | Polarity |
| 1                   | 315.0145    | 69.72          | -12.18            | 57.54                  | 75.62          | 18.08       | Av    | Vertical |
| 2                   | 630.0050    | 42.92          | -12.18            | 30.74                  | 55.62          | 24.88       | Av    | Vertical |
| 3                   | 944.9955    | 48.14          | -12.18            | 35.96                  | 55.62          | 19.66       | Av    | Vertical |

### Remark:

1. PK Level = Read level + Factor (Antenna Factor + Cable Loss – Preamplifier Factor).
2. AV Level = PK level + Duty cycle factor

|                 |                     |                |            |
|-----------------|---------------------|----------------|------------|
| Product Name:   | Keyless Transmitter | Product Model: | RT-FD1-BB  |
| Test By:        | Janet               | Test mode:     | Tx mode    |
| Test Frequency: | 30 MHz – 1000 MHz   | Polarization:  | Horizontal |
| Test Voltage:   | DC 3V               |                |            |



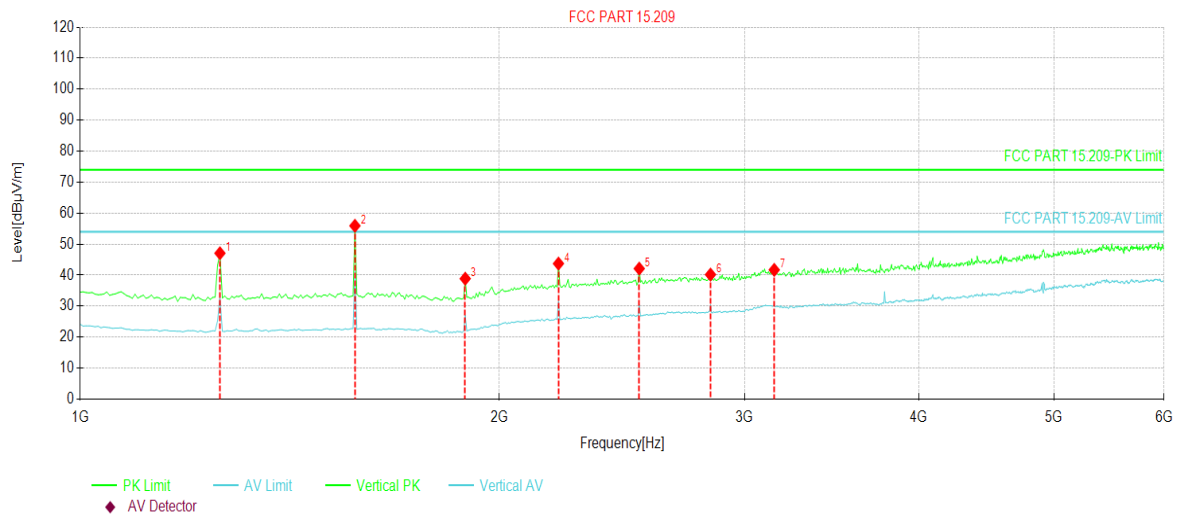
| Suspected Data List |             |                  |                |             |                |             |       |            |
|---------------------|-------------|------------------|----------------|-------------|----------------|-------------|-------|------------|
| NO.                 | Freq. [MHz] | Reading [dBμV/m] | Level [dBμV/m] | Factor [dB] | Limit [dBμV/m] | Margin [dB] | Trace | Polarity   |
| 1                   | 40.2830     | 36.11            | 19.28          | -16.83      | 40.00          | 20.72       | PK    | Horizontal |
| 2                   | 63.5654     | 37.28            | 19.66          | -17.62      | 40.00          | 20.34       | PK    | Horizontal |
| 3                   | 120.413     | 36.58            | 18.38          | -18.20      | 43.50          | 25.12       | PK    | Horizontal |
| 4                   | 315.014     | 97.80            | 84.06          | -13.74      | 95.62          | 11.56       | PK    | Horizontal |
| 5                   | 630.005     | 61.75            | 53.56          | -8.19       | 75.62          | 22.06       | PK    | Horizontal |
| 6                   | 944.995     | 45.94            | 42.39          | -3.55       | 75.62          | 33.23       | PK    | Horizontal |

| Suspected Data List |             |                |                   |                        |                |             |       |            |
|---------------------|-------------|----------------|-------------------|------------------------|----------------|-------------|-------|------------|
| NO.                 | Freq. [MHz] | Level (dBuV/m) | Duty cycle factor | Average value (dBuV/m) | Limit [dBμV/m] | Margin [dB] | Trace | Polarity   |
| 1                   | 315.014     | 84.06          | -12.18            | 71.88                  | 75.62          | 3.74        | Av    | Horizontal |
| 2                   | 630.005     | 53.56          | -12.18            | 41.38                  | 55.62          | 14.24       | Av    | Horizontal |
| 3                   | 944.995     | 42.39          | -12.18            | 30.21                  | 55.62          | 25.41       | Av    | Horizontal |

**Remark:**

- PK Level = Read level + Factor (Antenna Factor + Cable Loss – Preamplifier Factor).
- AV Level = PK level + Duty cycle factor

|                 |                     |                |           |
|-----------------|---------------------|----------------|-----------|
| Product Name:   | Keyless Transmitter | Product Model: | RT-FD1-BB |
| Test By:        | Janet               | Test mode:     | Tx mode   |
| Test Frequency: | 1000 MHz – 6000 MHz | Polarization:  | Vertical  |
| Test Voltage:   | DC 3V               |                |           |



| Suspected Data List |             |                  |                |             |                |             |       |          |
|---------------------|-------------|------------------|----------------|-------------|----------------|-------------|-------|----------|
| NO.                 | Freq. [MHz] | Reading [dBμV/m] | Level [dBμV/m] | Factor [dB] | Limit [dBμV/m] | Margin [dB] | Trace | Polarity |
| 1                   | 1260.000    | 70.39            | 47.07          | -23.32      | 74.00          | 26.93       | PK    | Vertical |
| 2                   | 1575.000    | 78.27            | 55.92          | -22.35      | 74.00          | 18.08       | PK    | Vertical |
| 3                   | 1890.000    | 59.82            | 38.87          | -20.95      | 74.00          | 35.13       | PK    | Vertical |
| 4                   | 2205.000    | 63.28            | 43.73          | -19.55      | 74.00          | 30.27       | PK    | Vertical |
| 5                   | 2520.000    | 60.61            | 42.11          | -18.50      | 74.00          | 31.89       | PK    | Vertical |
| 6                   | 2835.000    | 57.67            | 40.18          | -17.49      | 74.00          | 33.82       | PK    | Vertical |
| 7                   | 3150.000    | 57.64            | 41.70          | -15.94      | 74.00          | 32.30       | PK    | Vertical |

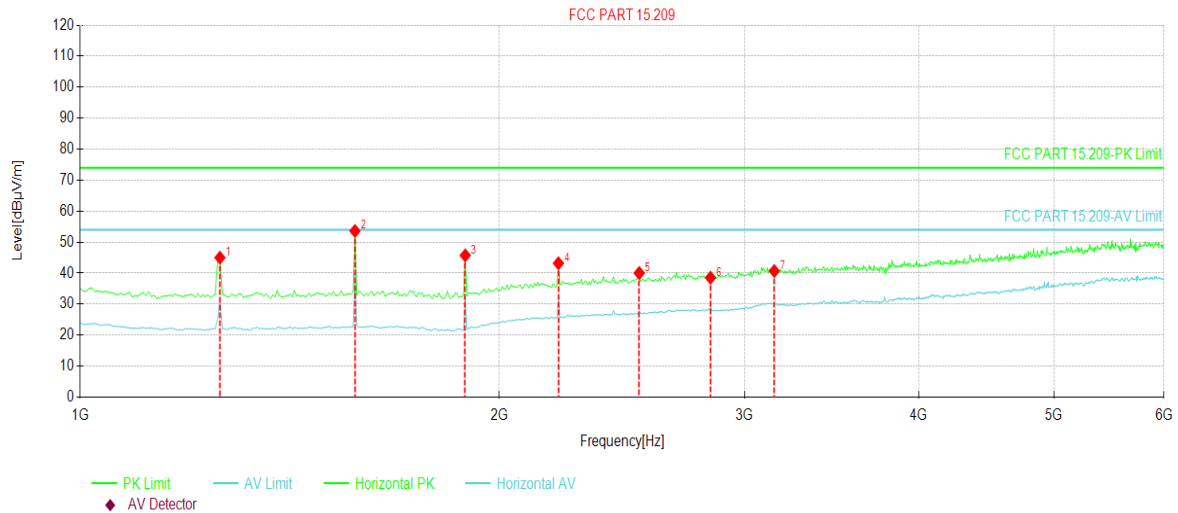
#### Average(worst point):

| NO. | Freq. [MHz] | PK Level [dBμV/m] | Duty cycle factor | Average value [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Trace | Polarity |
|-----|-------------|-------------------|-------------------|------------------------|----------------|-------------|-------|----------|
| 1   | 1575.000    | 55.92             | -12.18            | 43.74                  | 54.00          | 10.26       | AV    | Vertical |

#### Remark:

- PK Level = Read level + Factor (Antenna Factor + Cable Loss – Preamplifier Factor).
- AV Level = PK level + Duty cycle factor

|                 |                     |                |            |
|-----------------|---------------------|----------------|------------|
| Product Name:   | Keyless Transmitter | Product Model: | RT-FD1-BB  |
| Test By:        | Janet               | Test mode:     | Tx mode    |
| Test Frequency: | 1000 MHz – 6000 MHz | Polarization:  | Horizontal |
| Test Voltage:   | DC 3V               |                |            |



| Suspected Data List |             |                  |                |             |                |             |       |            |
|---------------------|-------------|------------------|----------------|-------------|----------------|-------------|-------|------------|
| NO.                 | Freq. [MHz] | Reading [dBμV/m] | Level [dBμV/m] | Factor [dB] | Limit [dBμV/m] | Margin [dB] | Trace | Polarity   |
| 1                   | 1260.000    | 68.31            | 44.99          | -23.32      | 74.00          | 29.01       | PK    | Horizontal |
| 2                   | 1575.000    | 75.96            | 53.61          | -22.35      | 74.00          | 20.39       | PK    | Horizontal |
| 3                   | 1890.000    | 66.68            | 45.73          | -20.95      | 74.00          | 28.27       | PK    | Horizontal |
| 4                   | 2205.000    | 62.74            | 43.19          | -19.55      | 74.00          | 30.81       | PK    | Horizontal |
| 5                   | 2520.000    | 58.56            | 40.06          | -18.50      | 74.00          | 33.94       | PK    | Horizontal |
| 6                   | 2835.000    | 56.01            | 38.52          | -17.49      | 74.00          | 35.48       | PK    | Horizontal |
| 7                   | 3150.000    | 56.63            | 40.69          | -15.94      | 74.00          | 33.31       | PK    | Horizontal |

Average(worst point):

| NO. | Freq. [MHz] | PK Level (dBμV/m) | Duty cycle factor | Average value (dBμV/m) | Limit [dBμV/m] | Margin [dB] | Trace | Polarity   |
|-----|-------------|-------------------|-------------------|------------------------|----------------|-------------|-------|------------|
| 1   | 1575.000    | 53.61             | -12.18            | 41.43                  | 54.00          | 12.57       | AV    | Horizontal |

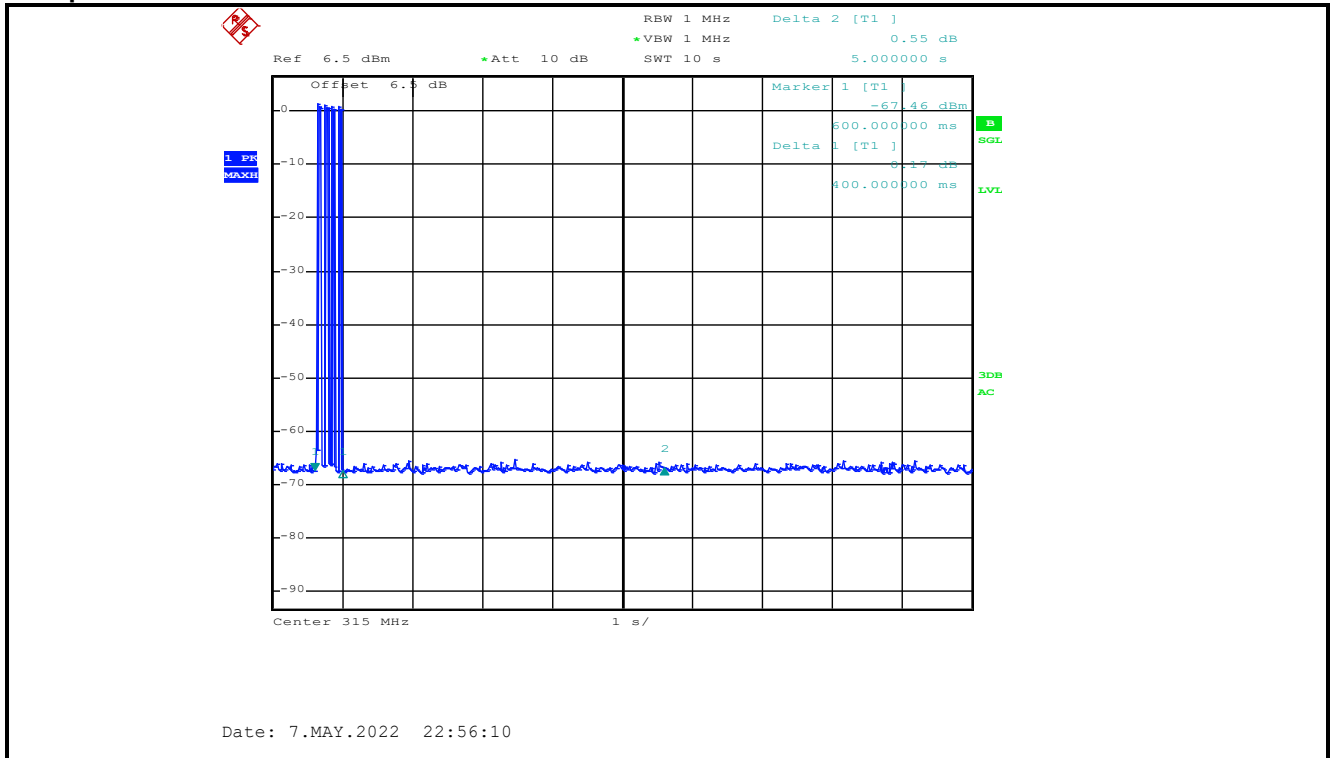
#### Remark:

1. PK Level = Read level + Factor (Antenna Factor + Cable Loss – Preamplifier Factor).
2. AV Level = PK level + Duty cycle factor

## 6.6 Duration Time

| Duration time (second) | Limit (second) | Result |
|------------------------|----------------|--------|
| 0.4                    | <5.0           | Pass   |

Test plot as follows:



-----End of report-----