



# TESTREPORT

Applicant Name : IntraNav GmbH  
Address : Frankfurter Str. 27, Eschborn, Germany 65760  
Report Number: SZNS220718-32553E-RF-00  
FCC ID: 2AWK8UWB3040

## Test Standard (s)

FCC PART 15F

## Sample Description

Product Type: ASSET TAG  
Model No.: UWB3010  
Multiple Model(s) No.: UWB4010  
Trade Mark:   
Date Received: 2022/07/18  
Report Date: 2023/01/17

|              |       |
|--------------|-------|
| Test Result: | Pass* |
|--------------|-------|

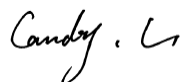
\* In the configuration tested, the EUT complied with the standards above.

## Prepared and Checked By:



Nick Fang  
EMC Engineer

## Approved By:



Candy Li  
EMC Engineer

Note: This report may contain data that are not covered by the A2LA accreditation and are marked with an asterisk "★".

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## Shenzhen Accurate Technology Co., Ltd.

1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China  
Tel: +86 755-26503290 Fax: +86 755-26503396 Web: www.atc-lab.com

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## GENERAL INFORMATION

### Product Description for Equipment under Test (EUT)

|                        |                                                                         |
|------------------------|-------------------------------------------------------------------------|
| Product                | ASSET TAG                                                               |
| Tested Model           | UWB3010                                                                 |
| Multiple Models        | UWB4010 (model difference see product declaration letter of similarity) |
| Frequency Range        | Channel 5: 6489.6MHz                                                    |
| Antenna Specification* | 3.7 dBi (It is provided by the applicant)                               |
| Voltage Range          | DC3.6Vfrom battery                                                      |
| Sample serial number   | SZNS220718-32553E-RF-S1(Assigned by ATC)                                |
| Sample/EUT Status      | Good condition                                                          |

### Objective

This report is prepared on behalf in accordance with Part 2-Subpart J, Part 15-Subparts A and F of the Federal Communication Commission's rules.

### Test Methodology

All tests and measurements indicated in this document were performed in accordance ANSI C63.10-2013.

All emissions measurement was performed at Shenzhen Accurate Technology Co., Ltd. The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Each test item follows test standards and with no deviation.

### Measurement Uncertainty

| Parameter                          |                | Uncertainty            |
|------------------------------------|----------------|------------------------|
| Occupied Channel Bandwidth         |                | 5%                     |
| RF Frequency                       |                | $0.082 \times 10^{-7}$ |
| RF output power, conducted         |                | 0.73dB                 |
| Unwanted Emission, conducted       |                | 1.6dB                  |
| AC Power Lines Conducted Emissions |                | 2.72dB                 |
| Emissions,<br>Radiated             | 9kHz - 30MHz   | 2.66dB                 |
|                                    | 30MHz - 1GHz   | 4.28dB                 |
|                                    | 1GHz - 18GHz   | 4.98dB                 |
|                                    | 18GHz -26.5GHz | 5.06dB                 |
|                                    | 26.5GHz -40GHz | 4.72dB                 |
| Temperature                        |                | 1℃                     |
| Humidity                           |                | 6%                     |
| Supply voltages                    |                | 0.4%                   |

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

## **Test Facility**

The test site used by Shenzhen Accurate Technology Co., Ltd. to collect test data is located on the 1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China.

The test site has been approved by the FCC under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No.: 708358, the FCC Designation No.: CN1189.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: CN0016.

## SYSTEM TEST CONFIGURATION

### Description of Test Configuration

The system was configured for testing by manufacturer.

### Equipment Modifications

No modification was made to the EUT tested.

### EUT Exercise Software

EUT configured in test mode by manufacturer and power level is default\*. The power level was provided by the applicant.

### Support Equipment List and Details

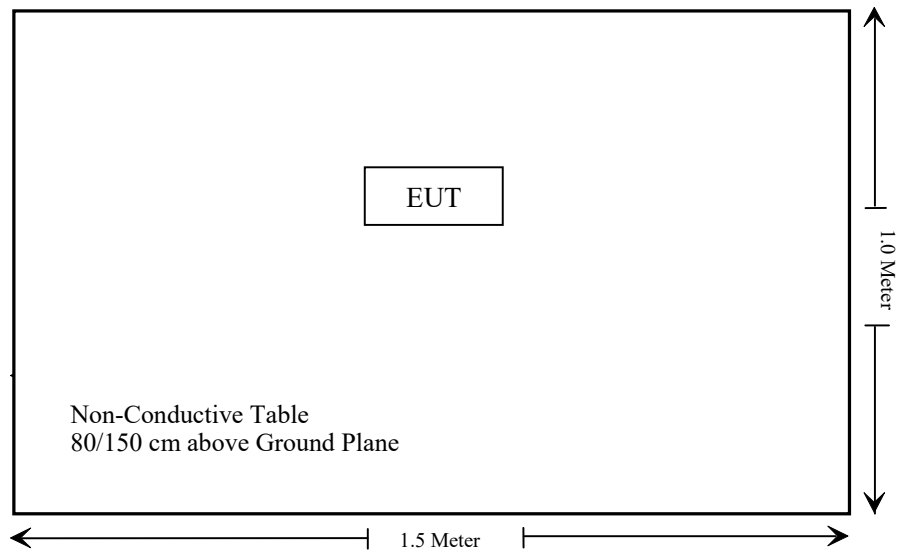
| Manufacturer | Description | Model | Serial Number |
|--------------|-------------|-------|---------------|
| /            | /           | /     | /             |

### External I/O Cable

| Cable Description | Length<br>(m) | From/Port | To |
|-------------------|---------------|-----------|----|
| /                 | /             | /         | /  |

### Block Diagram of Test Setup

For Radiated Emissions:



## SUMMARY OF TEST RESULTS

| Items                         | Description of Test                 | Result         |
|-------------------------------|-------------------------------------|----------------|
| §1.1307 (b) (3) & §2.1093     | RF Exposure                         | Compliant      |
| §15.517(a)                    | General Requirement                 | Compliant      |
| §15.203, §15.517(a)(3)        | Antenna Requirement                 | Compliant      |
| §15.207(a)                    | AC Line Conducted Emissions         | Not Applicable |
| §15.503 (a)(d),<br>§15.517(b) | UWB Operation bandwidth             | Compliant      |
| §15.209, §15.517(c)(d)        | Radiated Emissions                  | Compliant      |
| §15.517(e)                    | Peak Emission in a 50 MHz bandwidth | Compliant      |

Not Applicable: EUT only powered by battery.

Note: Pre-scan all models, the worst case model UWB3010 was selected to test.

**TEST EQUIPMENT LIST**

| Manufacturer                                    | Description       | Model               | Serial Number | Calibration Date | Calibration Due Date |
|-------------------------------------------------|-------------------|---------------------|---------------|------------------|----------------------|
| Radiated Emissions Test (Below 1GHz)            |                   |                     |               |                  |                      |
| Rohde& Schwarz                                  | Test Receiver     | ESR                 | 102725        | 2021/12/13       | 2022/12/12           |
| SONOMA INSTRUMENT                               | Amplifier         | 310 N               | 186131        | 2021/11/09       | 2022/11/08           |
| Schwarzbeck                                     | Bilog Antenna     | VULB9163            | 9163-323      | 2021/07/06       | 2024/07/05           |
| Unknown                                         | RF Coaxial Cable  | No.12               | N040          | 2021/12/14       | 2022/12/13           |
| Unknown                                         | RF Coaxial Cable  | No.13               | N300          | 2021/12/14       | 2022/12/13           |
| Radiated Emission Test Software: e3 19821b (V9) |                   |                     |               |                  |                      |
| Radiated Emissions Test (1-18GHz)               |                   |                     |               |                  |                      |
| Rohde&Schwarz                                   | Spectrum Analyzer | FSV40               | 101949        | 2021/12/13       | 2022/12/12           |
| Rohde&Schwarz                                   | Spectrum Analyzer | FSV40               | 101949        | 2022/11/25       | 2023/11/24           |
| A.H. Systems, inc.                              | Preamplifier      | PAM-0118P           | 135           | 2021/11/09       | 2022/11/08           |
| A.H. Systems, inc.                              | Preamplifier      | PAM-0118P           | 135           | 2022/11/08       | 2023/11/07           |
| Schwarzbeck                                     | Horn Antenna      | BBHA9120D           | 9120D-1067    | 2020/01/05       | 2023/01/04           |
| Schwarzbeck                                     | Horn Antenna      | BBHA9120D           | 9120D-1067    | 2022/11/30       | 2025/11/29           |
| Unknown                                         | RF Coaxial Cable  | No.10               | N050          | 2021/12/14       | 2022/12/13           |
| Unknown                                         | RF Coaxial Cable  | No.10               | N050          | 2022/11/25       | 2023/11/24           |
| Unknown                                         | RF Coaxial Cable  | No.11               | N1000         | 2021/12/14       | 2022/12/13           |
| Unknown                                         | RF Coaxial Cable  | No.11               | N1000         | 2022/11/25       | 2023/11/24           |
| Radiated Emission Test Software: e3 19821b (V9) |                   |                     |               |                  |                      |
| Radiated Emissions Test (18-40GHz)              |                   |                     |               |                  |                      |
| Rohde&Schwarz                                   | Spectrum Analyzer | FSV40               | 101949        | 2021/12/13       | 2022/12/12           |
| Quinstar                                        | Amplifier         | QLW-184055<br>36-J0 | 15964001002   | 2021/11/11       | 2022/11/10           |
| Schwarzbeck                                     | HORN ANTENNA      | BBHA9170            | 9170-359      | 2020/01/05       | 2023/01/04           |
| Unknown                                         | RF Coaxial Cable  | No.15               | N600          | 2021/12/14       | 2022/12/13           |
| Unknown                                         | RF Coaxial Cable  | No.16               | N650          | 2021/12/14       | 2022/12/13           |
| Radiated Emission Test Software: e3 19821b (V9) |                   |                     |               |                  |                      |

**\* Statement of Traceability:** Shenzhen Accurate Technology Co., Ltd. attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

## **§1.1307 (b) (3) & §2.1093 – RF EXPOSURE**

### **Applicable Standard**

According to FCC §2.1093 and §1.1307(b) (3), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

According to KDB 447498 D04 Interim General RF Exposure Guidance

#### **1-mW Test Exemption:**

Per § 1.1307(b)(3)(i)(A), a single RF source is exempt RF device (from the requirement to show data demonstrating compliance to RF exposure limits, as previously mentioned) if the available maximum time-averaged power is no more than 1 mW, regardless of separation distance. This exemption applies to all operating configurations and exposure conditions, for the frequency range 100 kHz to 100 GHz, regardless of fixed, mobile, or portable device exposure conditions. This is a standalone exemption, and it cannot be applied in conjunction with any other test exemption.

#### **For worst case:**

| Frequency<br>(MHz) | Maximum Tune-up<br>power |      | Exemption<br>Limit<br>(mW) | Test<br>Exemption |
|--------------------|--------------------------|------|----------------------------|-------------------|
|                    | (dBm)                    | (mW) |                            |                   |
| 6489.6             | -2.0                     | 0.63 | 1                          | Yes               |

#### **Result: Compliance**

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## **FCC §15.517 (A) - GENERAL REQUIREMENT**

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### **Applicable Standard**

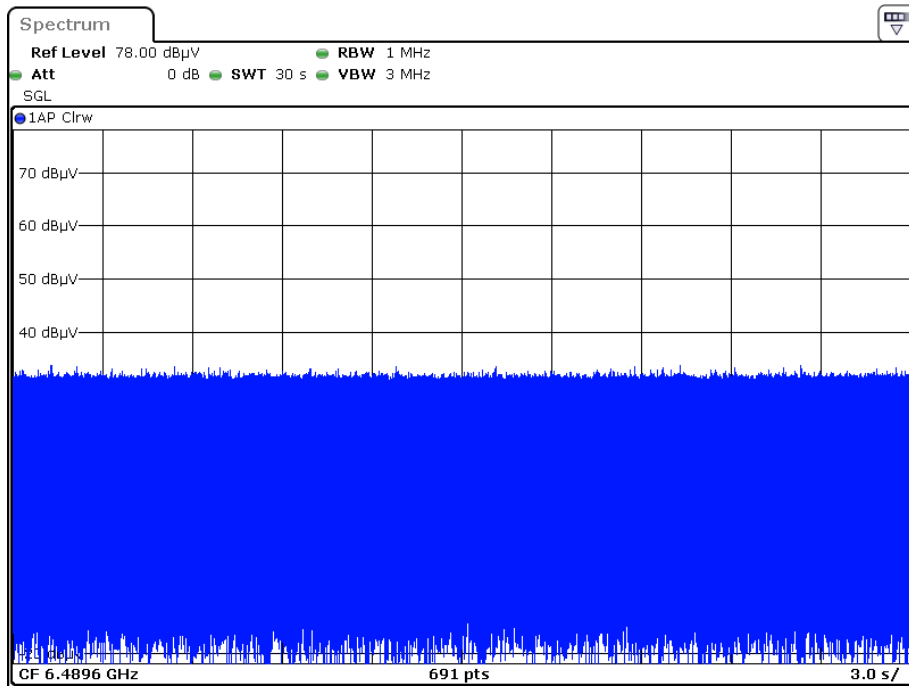
According to § 15.517(A): Operation under the provisions of this section is limited to UWB transmitters employed solely for indoor operation.

- (1) Indoor UWB devices, by the nature of their design, must be capable of operation only indoors. The necessity to operate with a fixed indoor infrastructure, e.g., a transmitter that must be connected to the AC power lines, may be considered sufficient to demonstrate this.
- (2) The emissions from equipment operated under this section shall not be intentionally directed outside of the building in which the equipment is located, such as through a window or a doorway, to perform an outside function, such as the detection of persons about to enter a building.
- (3) The use of outdoor mounted antennas, e.g., antennas mounted on the outside of a building or on a telephone pole, or any other outdoors infrastructure is prohibited.
- (4) Field disturbance sensors installed inside of metal or underground storage tanks are considered to operate indoors provided the emissions are directed towards the ground.
- (5) A communications system shall transmit only when the intentional radiator is sending information to an associated receiver.

### **Result**

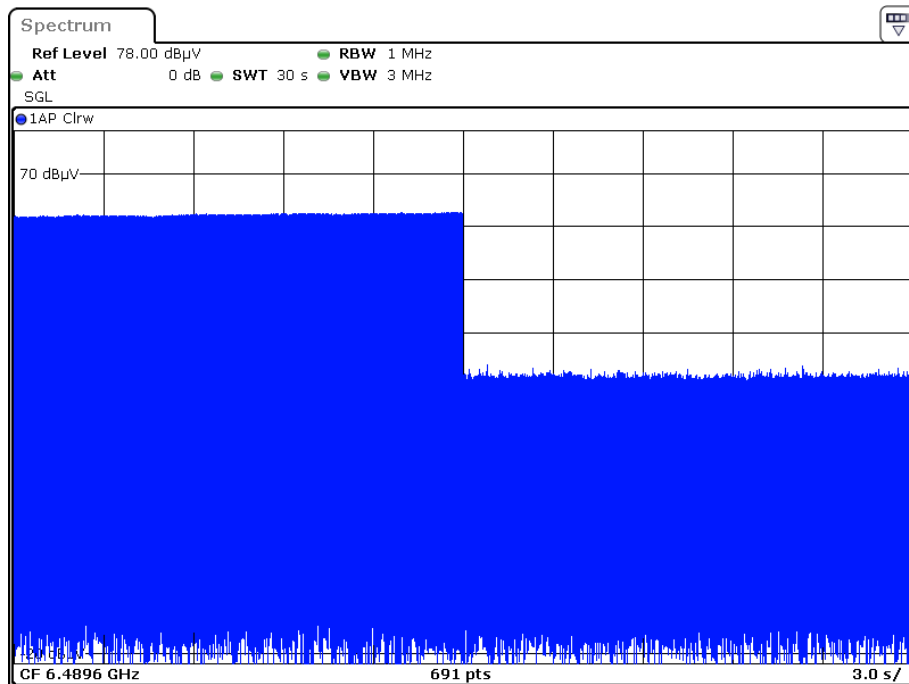
- (1) Compliance, EUT was only for indoor used, detail please refer to user manual.
- (2) Compliance, EUT was only for indoor positioning, detail please refer to user manual.
- (3) Compliance, the device with internal antenna and will never use the outdoor mounted antennas, please refer to EUT photo.
- (4) EUT is not a field disturbance sensor.
- (5) A communications system shall transmit only when the intentional radiator is sending information to an associated receiver. Please refer to the below test plots.

**First step: the EUT is switched on, the associated receiver is switched off**



Date: 17.JAN.2023 11:56:49

**Second step: the EUT is switched on, the associated receiver is switched on,  
after about 15s the associated receiver is switched off**



Date: 17.JAN.2023 11:53:58

**FCC §15.203& §15.517 (A)(3) - ANTENNA REQUIREMENT****Applicable Standard**

According to § 15.203, 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 shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

- a. Antenna must be permanently attached to the unit.
- b. Antenna must use a unique type of connector to attach to the EUT.

Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

And according to FCC 47 CFR section 15.517 (A)(3), The use of outdoor mounted antennas, e.g., antennas mounted on the outside of a building or on a telephone pole, or any other outdoors infrastructure is prohibited.

**Antenna Connector Construction**

The EUT has one internal antenna which permanently attached to the unit, fulfill the requirement of this section. The antenna gain is 3.7dBi. Please refer to the EUT photos.

| Antenna | Type | Antenna Gain | Impedance   |
|---------|------|--------------|-------------|
|         | PCB  | 3.7dBi       | 50 $\Omega$ |

**Result:** Compliant.

## §15.503 (a)(d), §15.517(b) –UWB OPEARTION BANDWIDTH

### Applicable Standard

(a) UWB bandwidth. For the purpose of this subpart, the UWB bandwidth is the frequency band bounded by the points that are 10 dB below the highest radiated emission, as based on the complete transmission system including the antenna. The upper boundary is designated f<sub>H</sub> and the lower boundary is designated f<sub>L</sub>. The frequency at which the highest radiated emission occurs is designated f<sub>M</sub>.

(d) Ultra-wideband (UWB) transmitter. An intentional radiator that, at any point in time, has a fractional bandwidth equal to or greater than 0.20 or has a UWB bandwidth equal to or greater than 500 MHz, regardless of the fractional bandwidth.

(b) The UWB bandwidth of a UWB system operating under the provisions of this section must be contained between 3100 MHz and 10,600 MHz.

### Test Procedure

Refer to the C63.10 -2013 Section 10.1

### Test Data

#### Environmental Conditions

|                    |           |
|--------------------|-----------|
| Temperature:       | 25°C      |
| Relative Humidity: | 52 %      |
| ATM Pressure:      | 101.0 kPa |

*The testing was performed by Nick Fang on 2022-08-08.*

**Test Result:** Pass.

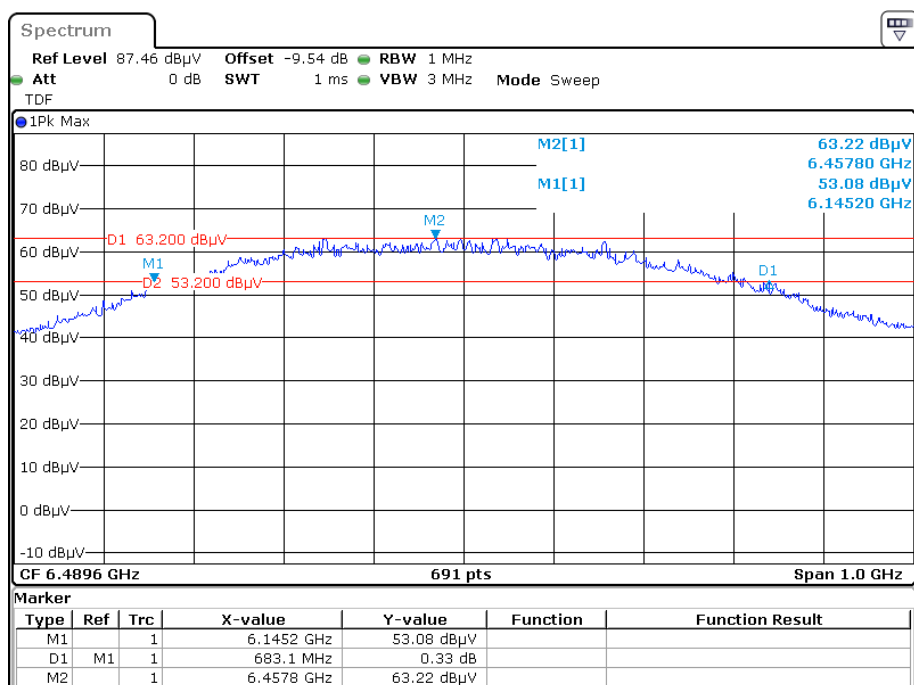
EUT operation mode: Transmitting

Please refer to the following table and plots.

Test distance is 1m.

| Item                 |                                 | Result  | Limit (MHz) |
|----------------------|---------------------------------|---------|-------------|
| $f_M$ (MHz)          | The highest emission frequency  | 6457.8  | /           |
| $f_L$ (MHz)          | 10dB below the lowest emission  | 6145.2  | >3100       |
| $f_H$ (MHz)          | 10dB above the highest emission | 6828.3  | <10600      |
| $f_C$ (MHz)          | $(f_H + f_L)/2$                 | 6486.75 | /           |
| 10dB bandwidth(MHz)  | $f_H - f_L$                     | 683.1   | $\geq 500$  |
| Fractional bandwidth | $2(f_H - f_L)/(f_H + f_L)$      | 0.105   | /           |

### 10dB Bandwidth



Date: 8.AUG.2022 14:33:58

## FCC §15.209, §15.517(c)(d)- SPURIOUS EMISSIONS

### Applicable Standard

FCC §15.517(c)(d); §15.209

The radiated emissions at or below 960 MHz from a device operating under the provisions of this section shall not exceed the emission levels in § 15.209. The radiated emissions above 960 MHz from a device operating under the provisions of this section shall not exceed the following average limits when measured using a resolution bandwidth of 1 MHz:

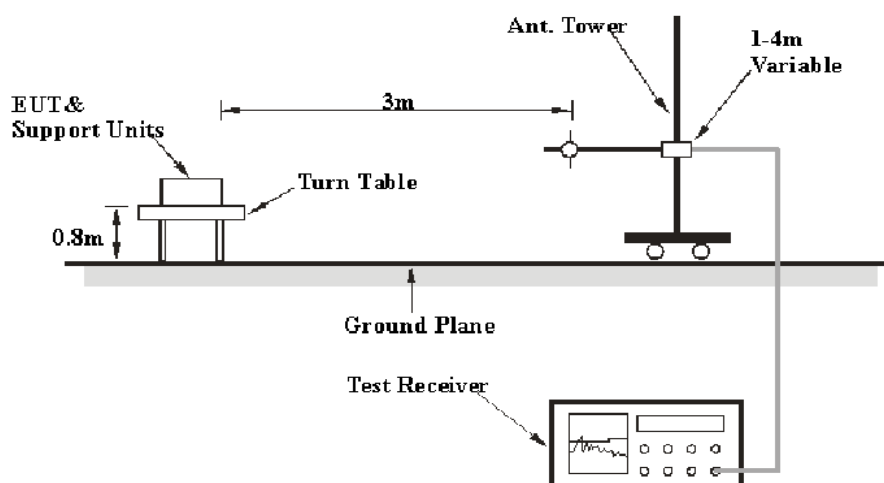
| Frequency in MHz | EIRP in dBm |
|------------------|-------------|
| 960-1610         | -75.3       |
| 1610-1990        | -53.3       |
| 1990-3100        | -51.3       |
| 3100-10600       | -41.3       |
| Above 10600      | -51.3       |

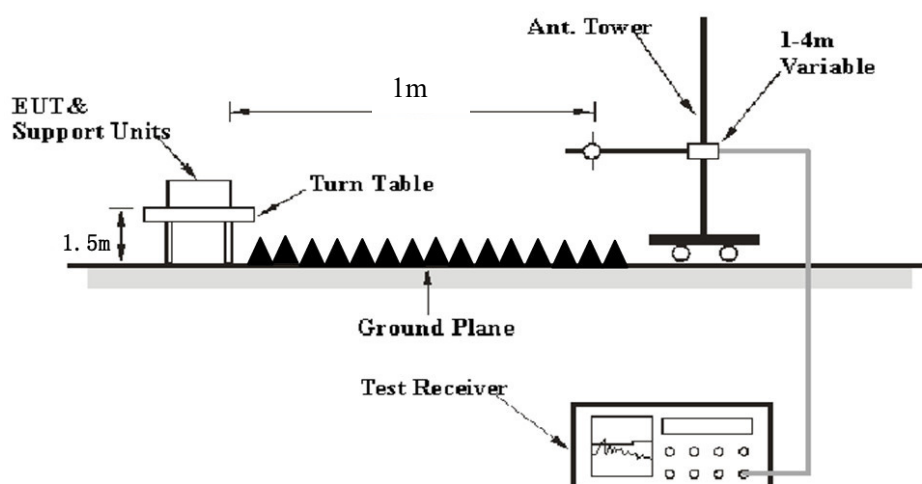
In addition to the radiated emission limits specified in the table in paragraph (c) of this section, UWB transmitters operating under the provisions of this section shall not exceed the following average limits when measured using a resolution bandwidth of no less than 1 kHz:

| Frequency in MHz | EIRP in dBm |
|------------------|-------------|
| 1164-1240        | -85.3       |
| 1559-1610        | -85.3       |

### EUT Setup

Below 1GHz:



**Above 1GHz:**

The radiated emission tests were performed in the 3meters chamber, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209, and FCC 15.517 limits.

**EMI Test Receiver & Spectrum Analyzer Setup**

The system was investigated from 30 MHz to 40 GHz.

During the radiated emission test, the EMI test receiver & Spectrum Analyzer Setup were set with the following configurations:

| Frequency Range | RBW     | Video B/W | IF B/W | Measurement |
|-----------------|---------|-----------|--------|-------------|
| 30MHz – 960 MHz | 100 kHz | 300 kHz   | 120kHz | QP          |
| Above 960 MHz   | 1MHz    | 3 MHz     | /      | Average     |
|                 | 1kHz    | 3kHz      | /      | Average*    |

Note: \* For the radiated spurious emission in the GPS band.

**Test Procedure**

Refer to the C63.10 -2013 Section 10.2 & 10.3

### Corrected Factor& Margin Calculation

The Corrected Factor is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain. The basic equation is as follows:

$$\text{Corrected Factor} = \text{Antenna Factor} + \text{Cable Loss} - \text{Amplifier Gain}$$

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

$$\text{Over Limit} = \text{Level} - \text{Limit}$$

$$\text{Level} = \text{Meter Reading} + \text{Corrected Factor}$$

### Test Data

#### Environmental Conditions

|                    |           |
|--------------------|-----------|
| Temperature:       | 26~27℃    |
| Relative Humidity: | 52~68 %   |
| ATM Pressure:      | 101.0 kPa |

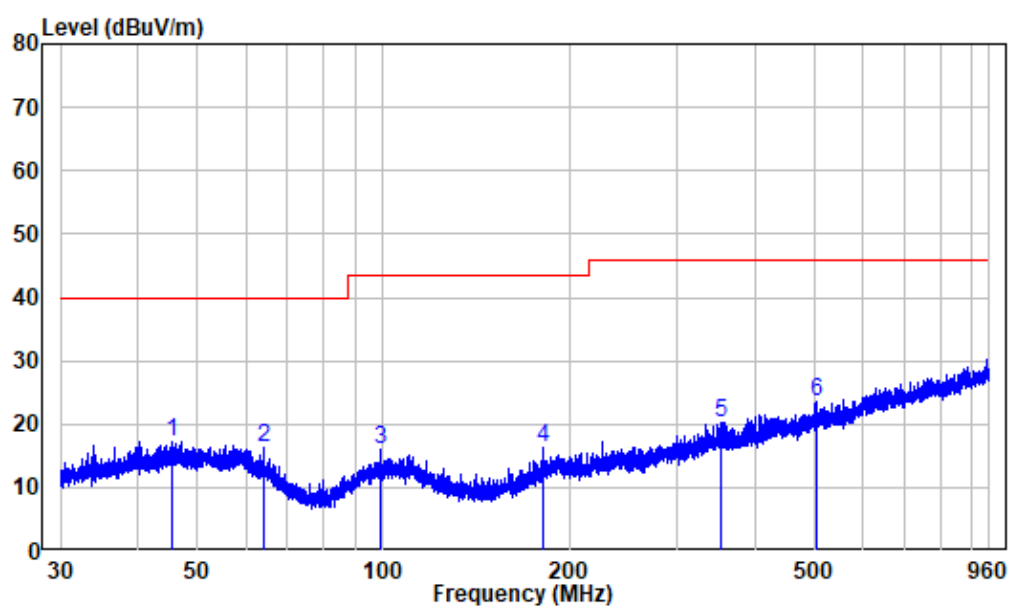
*The testing was performed by Level Li on 2022-08-11 for below 960MHz and Zeki Ma on 2022-08-03 for above 960MHz.*

EUT operation mode: Transmitting (*Pre-scan in the X,Y and Z axes of orientation, the worst case X-axis of orientation was recorded*)

**30 MHz~960MHz: (worst case)**

*Note: When the result of peak less than the limit of QP more than 6dB, just peak value was recorded.*

*Horizontal*



Site : chamber

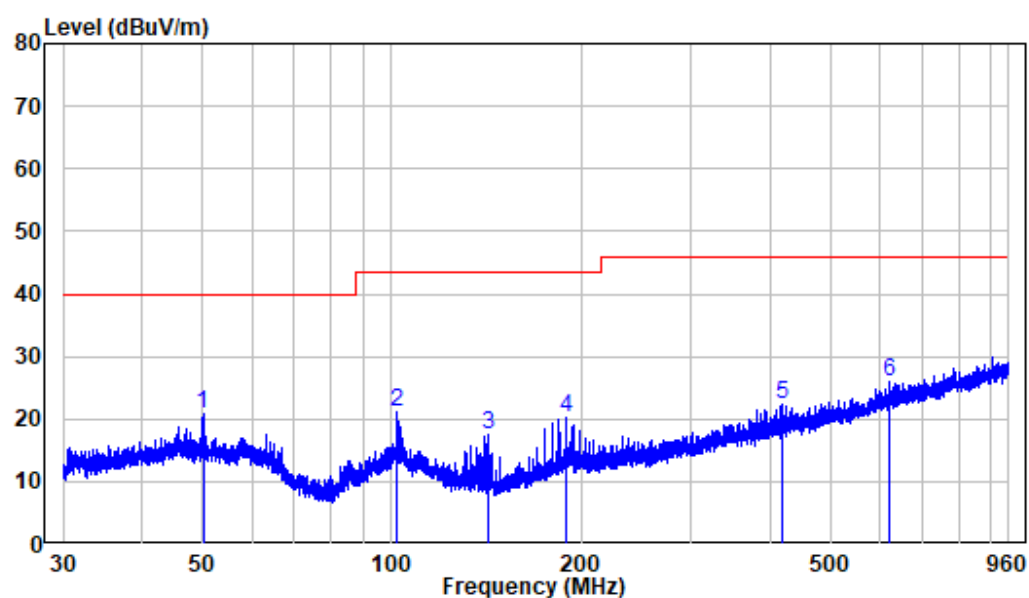
Condition: 3m HORIZONTAL

Job No. : SZNS220713-32553E-RF

Test Mode: Transmitting

|   | Freq    | Factor | Read Level | Level  | Limit  | Over   | Remark |
|---|---------|--------|------------|--------|--------|--------|--------|
|   | MHz     | dB/m   | dBuV       | dBuV/m | dBuV/m | dB     |        |
| 1 | 45.570  | -9.97  | 27.31      | 17.34  | 40.00  | -22.66 | Peak   |
| 2 | 64.167  | -12.21 | 28.57      | 16.36  | 40.00  | -23.64 | Peak   |
| 3 | 99.303  | -11.96 | 28.06      | 16.10  | 43.50  | -27.40 | Peak   |
| 4 | 181.571 | -12.58 | 28.92      | 16.34  | 43.50  | -27.16 | Peak   |
| 5 | 352.906 | -7.42  | 27.55      | 20.13  | 46.00  | -25.87 | Peak   |
| 6 | 505.613 | -4.26  | 27.70      | 23.44  | 46.00  | -22.56 | Peak   |

## Vertical



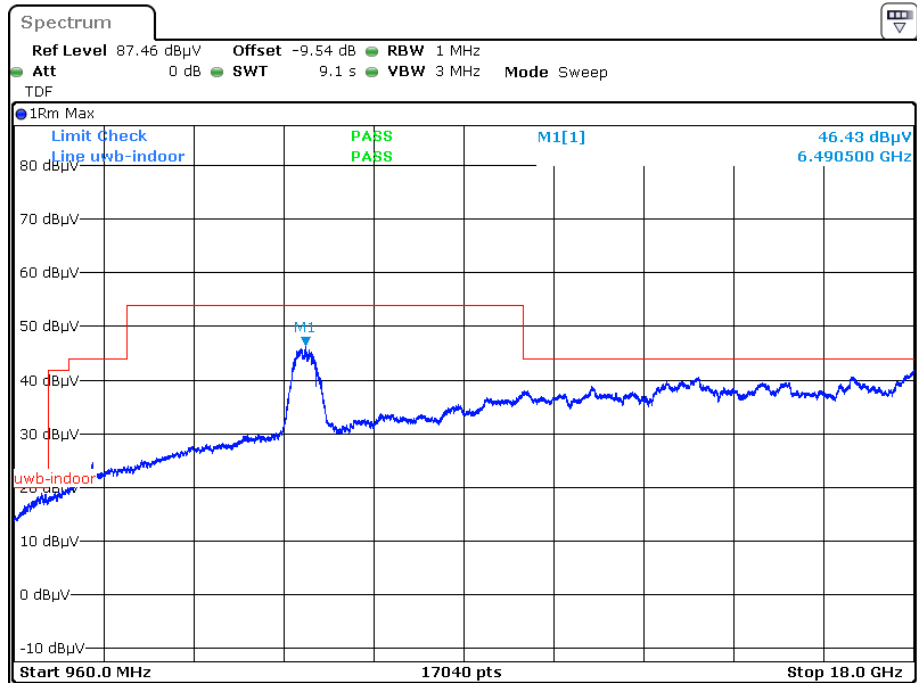
Site : chamber  
 Condition: 3m VERTICAL  
 Job No. : SZNS220713-32553E-RF  
 Test Mode: Transmitting

|   | Freq    | Factor | Read<br>Level | Level  | Limit<br>Line | Over<br>Limit | Remark |
|---|---------|--------|---------------|--------|---------------|---------------|--------|
|   | MHz     | dB/m   | dBuV          | dBuV/m | dBuV/m        | dB            |        |
| 1 | 50.084  | -9.91  | 30.71         | 20.80  | 40.00         | -19.20        | Peak   |
| 2 | 101.874 | -11.58 | 32.80         | 21.22  | 43.50         | -22.28        | Peak   |
| 3 | 142.458 | -15.54 | 33.18         | 17.64  | 43.50         | -25.86        | Peak   |
| 4 | 189.610 | -11.64 | 31.94         | 20.30  | 43.50         | -23.20        | Peak   |
| 5 | 420.042 | -6.13  | 28.52         | 22.39  | 46.00         | -23.61        | Peak   |
| 6 | 620.867 | -2.50  | 28.57         | 26.07  | 46.00         | -19.93        | Peak   |

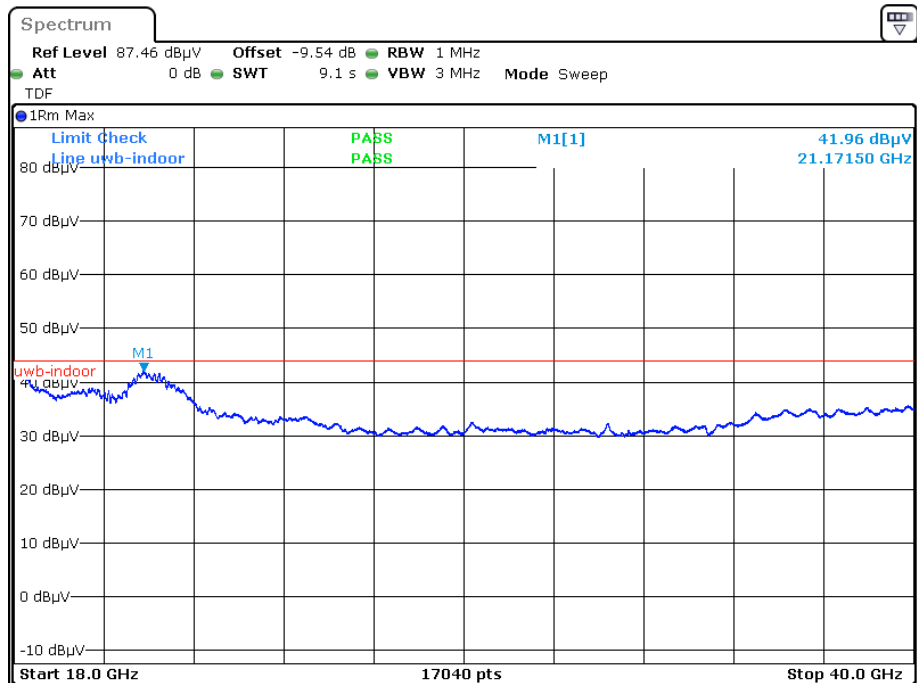
**Above 960MHz:**

| Frequency                 | Corrected<br>Amplitude<br>(dBμV/m) | EIRP<br>(dBm) | Detector | Turntable | Rx Antenna    |                  | Corrected<br>Factor<br>(dB/m) | Part 15F               |                |
|---------------------------|------------------------------------|---------------|----------|-----------|---------------|------------------|-------------------------------|------------------------|----------------|
| (MHz)                     |                                    |               |          | Degree    | Height<br>(m) | Polar<br>(H / V) |                               | EIRP<br>Limit<br>(dBm) | Margin<br>(dB) |
| Emissions in non GPS band |                                    |               |          |           |               |                  |                               |                        |                |
| 6490.5                    | 46.43                              | -48.77        | RMS      | 144       | 2.2           | H                | 0.50                          | -41.3                  | -7.47          |
| 6489.5                    | 46.84                              | -48.36        | RMS      | 215       | 2.1           | V                | 0.50                          | -41.3                  | -7.06          |
| 21171.5                   | 41.96                              | -53.24        | RMS      | 234       | 1.1           | H                | 9.63                          | -51.3                  | -1.94          |
| 21197.4                   | 41.74                              | -53.46        | RMS      | 157       | 2.2           | V                | 9.66                          | -51.3                  | -2.16          |
| Emissions in GPS band     |                                    |               |          |           |               |                  |                               |                        |                |
| 1176.0385                 | -5.40                              | -100.60       | RMS      | 146       | 1.1           | H                | -10.27                        | -85.3                  | -15.30         |
| 1173.8495                 | -4.64                              | -99.84        | RMS      | 161       | 1.7           | V                | -10.26                        | -85.3                  | -14.54         |
| 1203.6415                 | -5.02                              | -100.22       | RMS      | 225       | 1.1           | H                | -10.24                        | -85.3                  | -14.92         |
| 1213.8075                 | -5.18                              | -100.38       | RMS      | 175       | 1.6           | V                | -10.20                        | -85.3                  | -15.08         |
| 1236.9055                 | -3.76                              | -98.96        | RMS      | 15        | 2.1           | H                | -10.18                        | -85.3                  | -13.66         |
| 1215.7575                 | -4.02                              | -99.22        | RMS      | 58        | 1.3           | V                | -10.20                        | -85.3                  | -13.92         |
| 1559.2415                 | -3.13                              | -98.33        | RMS      | 143       | 2.7           | H                | -9.20                         | -85.3                  | -13.03         |
| 1562.7545                 | -3.49                              | -98.69        | RMS      | 222       | 1.5           | V                | -9.18                         | -85.3                  | -13.39         |
| 1588.6305                 | -2.62                              | -97.82        | RMS      | 153       | 2.2           | H                | -9.10                         | -85.3                  | -12.52         |
| 1607.9615                 | -1.88                              | -97.08        | RMS      | 207       | 2.1           | V                | -9.02                         | -85.3                  | -11.78         |

- Note:
1.  $E [dB\mu V/m] = EIRP [dBm] + 95.2$ , for  $d = 3$  meters.
  2. The antenna factor, cable loss and preamplifier gain have been entered into the analyzer as the transducer factor.
  3. The test distance is 1m, the correct factor from 1m to 3m is  $20\lg(1/3) = -9.54dB$ , which was added into the offset on the spectrum Analyzer.

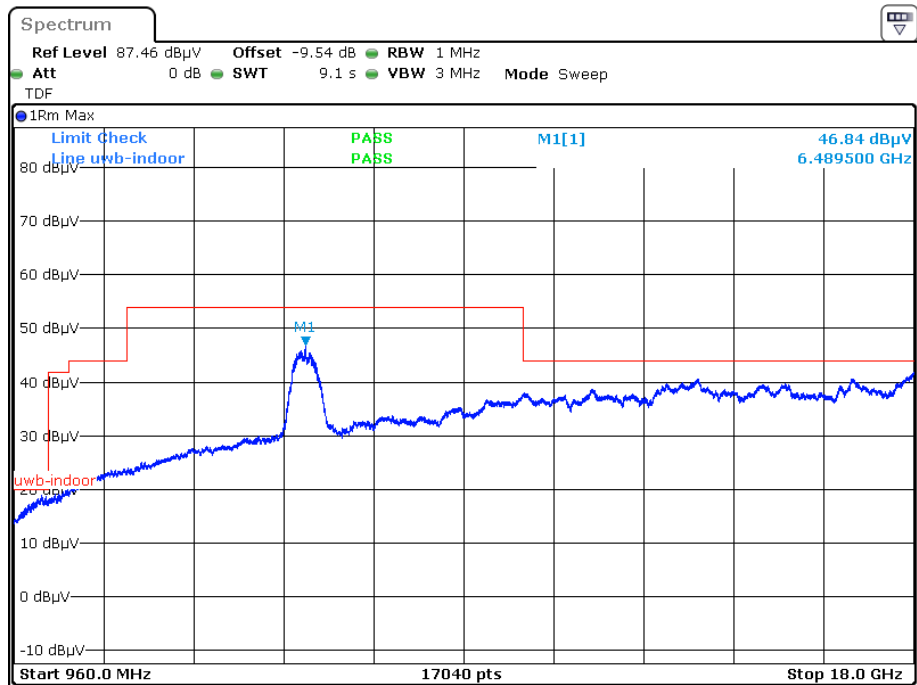
**Emissions in non GPS bands:****Horizontal**

Date: 3.AUG.2022 16:39:45

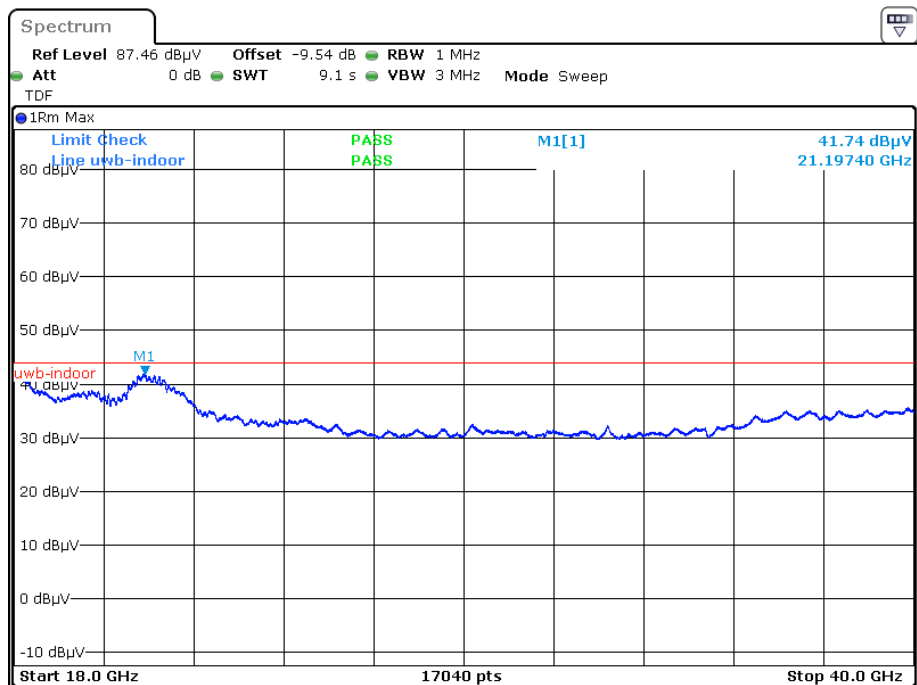


Date: 3.AUG.2022 16:44:06

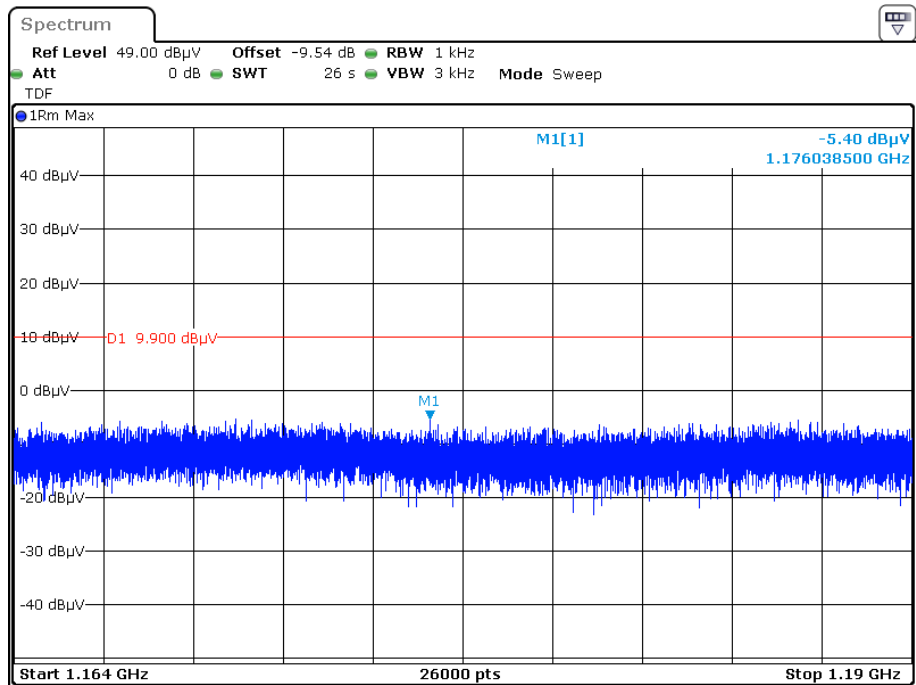
## Vertical



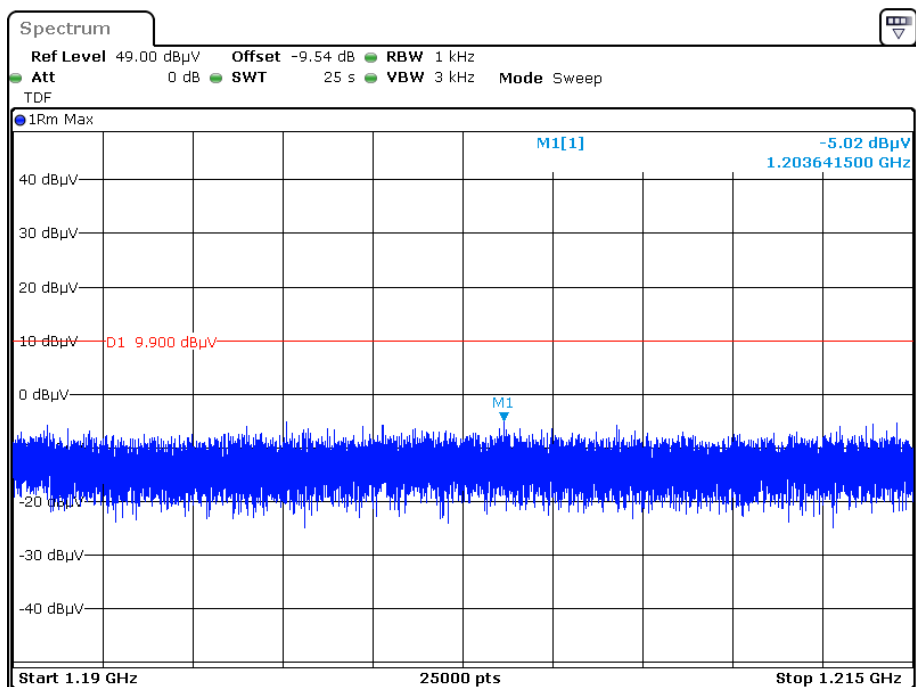
Date: 3.AUG.2022 16:38:45



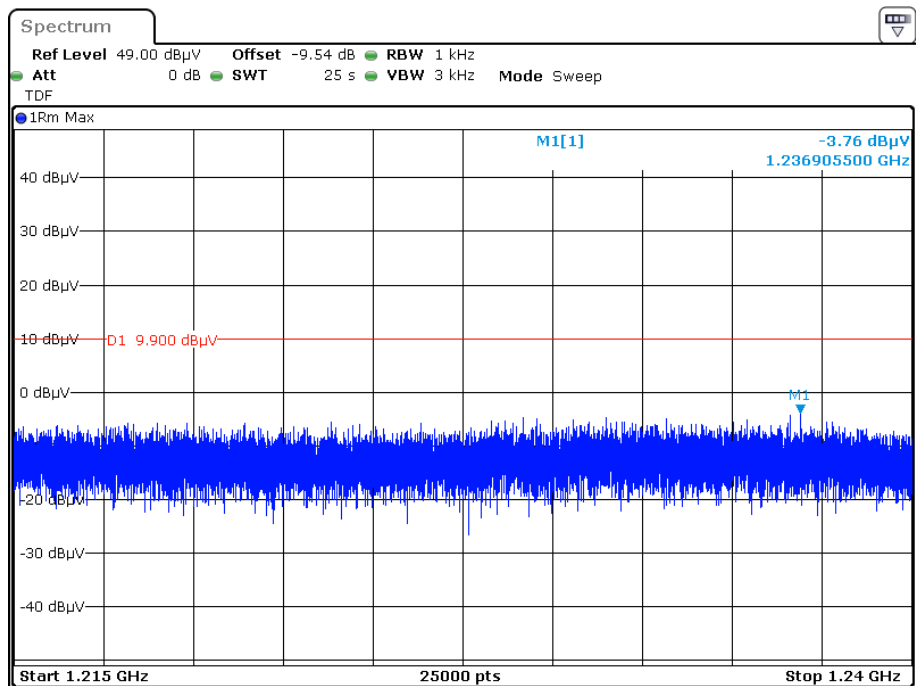
Date: 3.AUG.2022 16:47:32

**Emissions in GPS bands:****Horizontal**

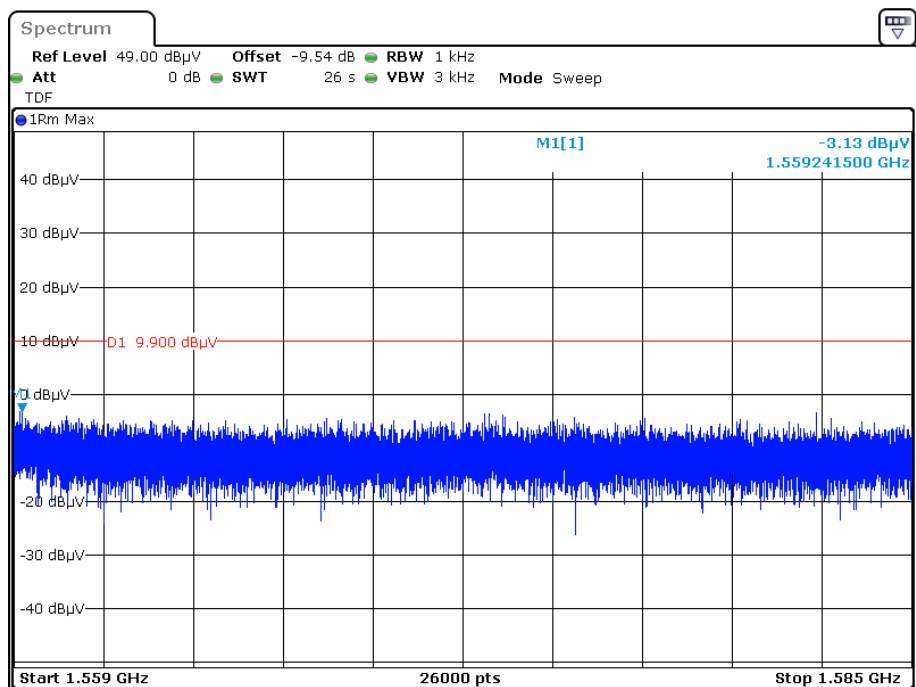
Date: 3.AUG.2022 17:09:09



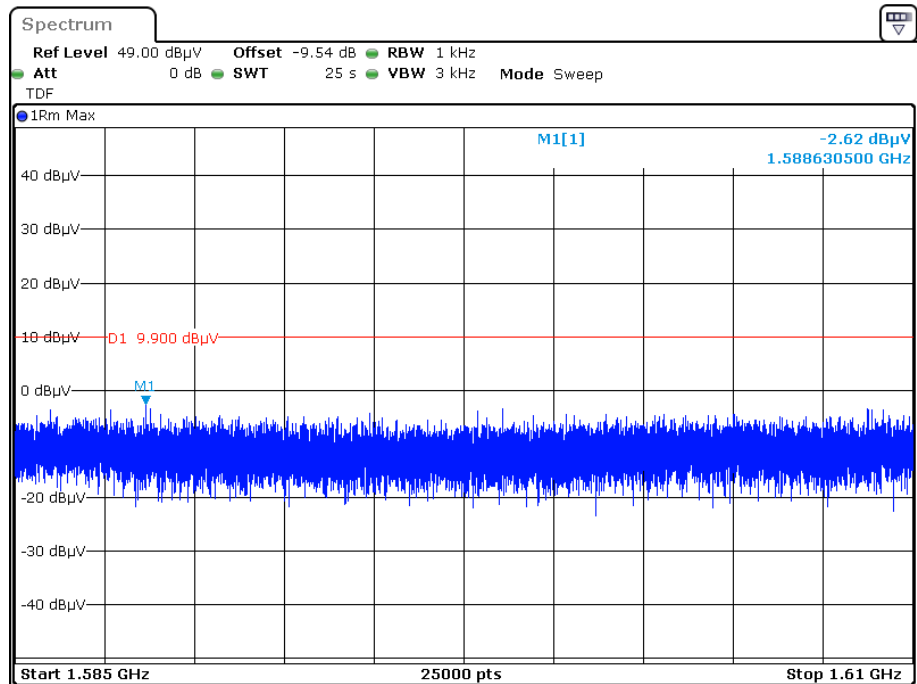
Date: 3.AUG.2022 17:11:55



Date: 3.AUG.2022 17:18:00

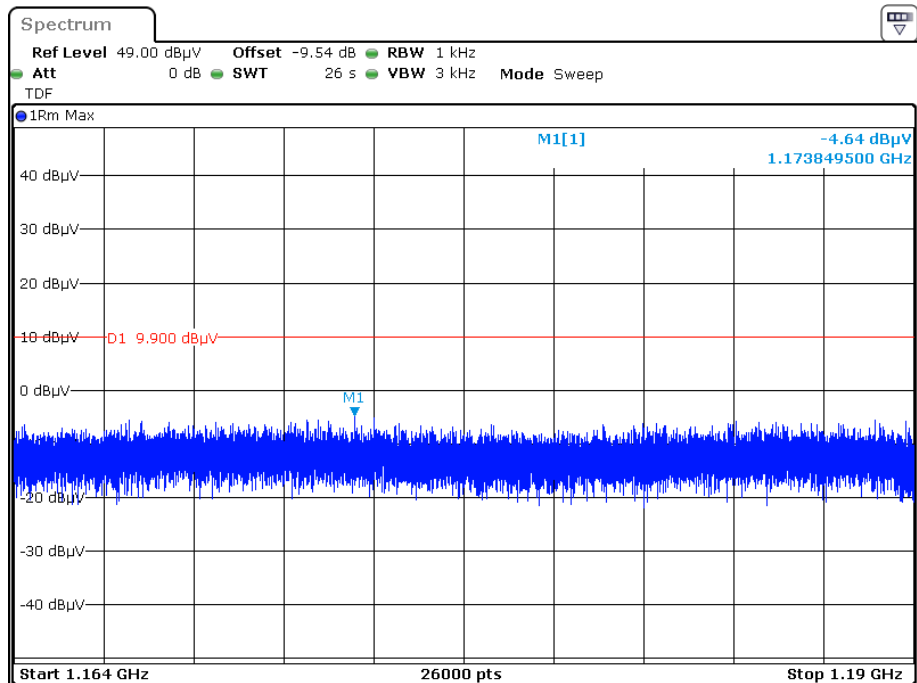


Date: 3.AUG.2022 17:21:10

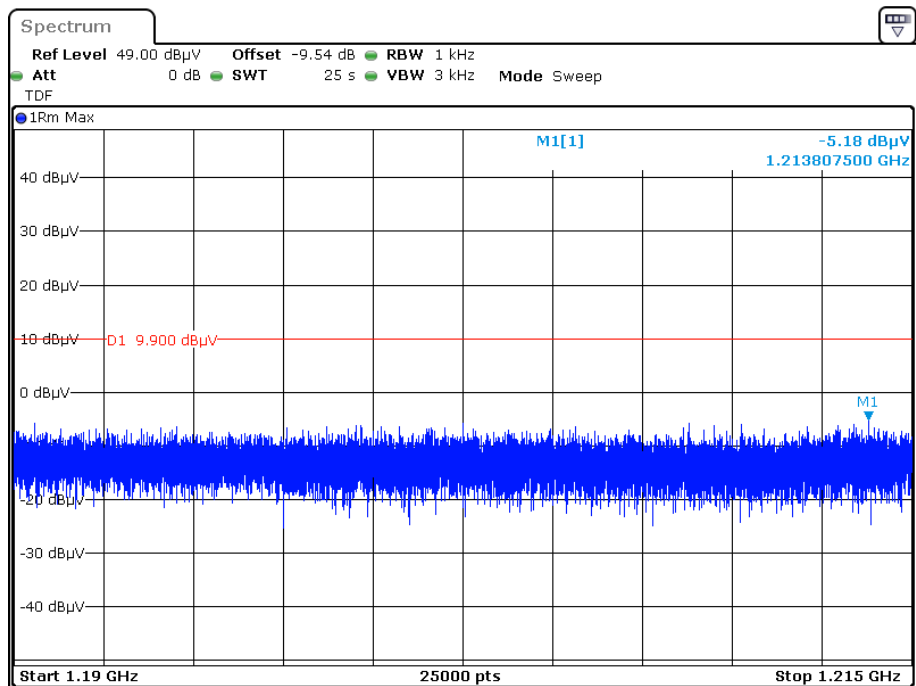


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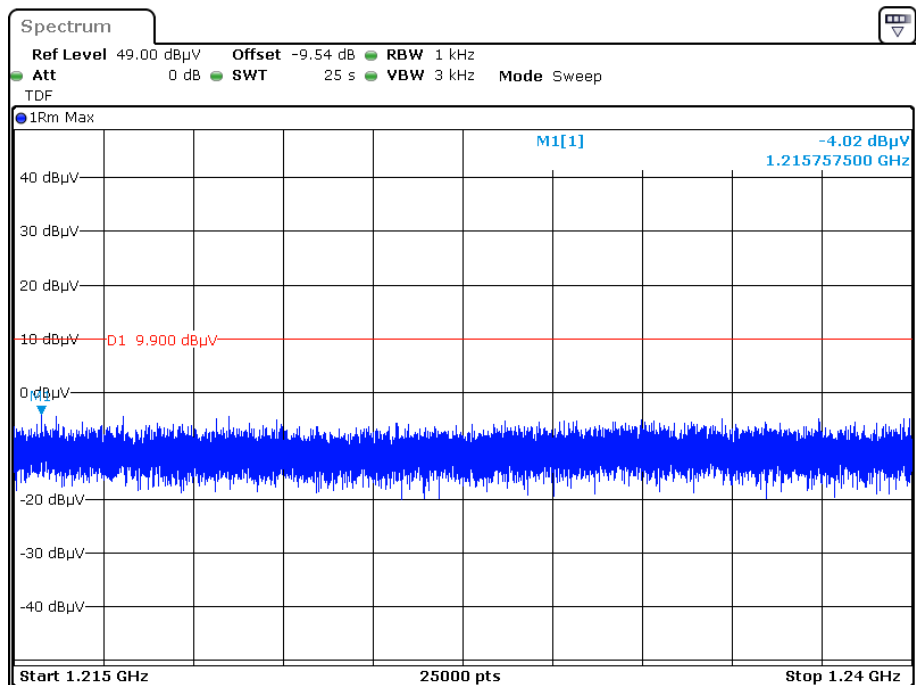
## Vertical



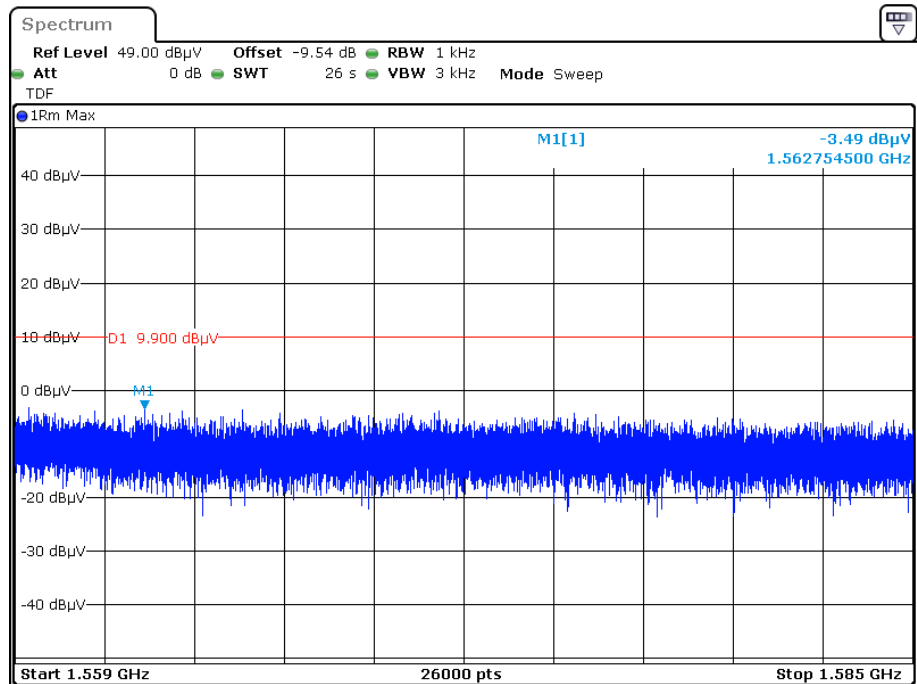
Date: 3.AUG.2022 17:07:16



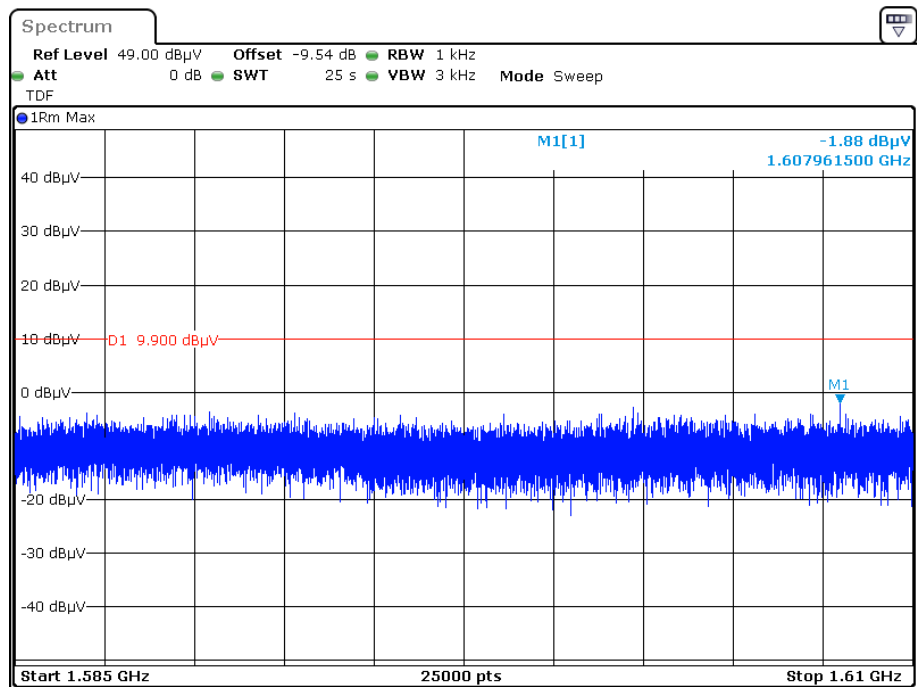
Date: 3.AUG.2022 17:13:11



Date: 3.AUG.2022 17:16:10



Date: 3.AUG.2022 17:22:21



Date: 3.AUG.2022 17:25:52

## §15.517(e) -PEAK EMISSION IN A 50 MHZ BANDWIDTH

### Applicable Standard

There is a limit on the peak level of the emissions contained within a 50 MHz bandwidth centered on the frequency at which the highest radiated emission occurs,  $f_M$ . That limit is 0 dBm EIRP. It is acceptable to employ a different resolution bandwidth, and a correspondingly different peak emission limit, following the procedures described in §15.521.

### Test Procedure

Refer to the C63.10 -2013 Section 10.3.5.

### Test Data

#### Environmental Conditions

|                    |           |
|--------------------|-----------|
| Temperature:       | 25°C      |
| Relative Humidity: | 52 %      |
| ATM Pressure:      | 101.0 kPa |

*The testing was performed by Nick Fang on 2022-08-08.*

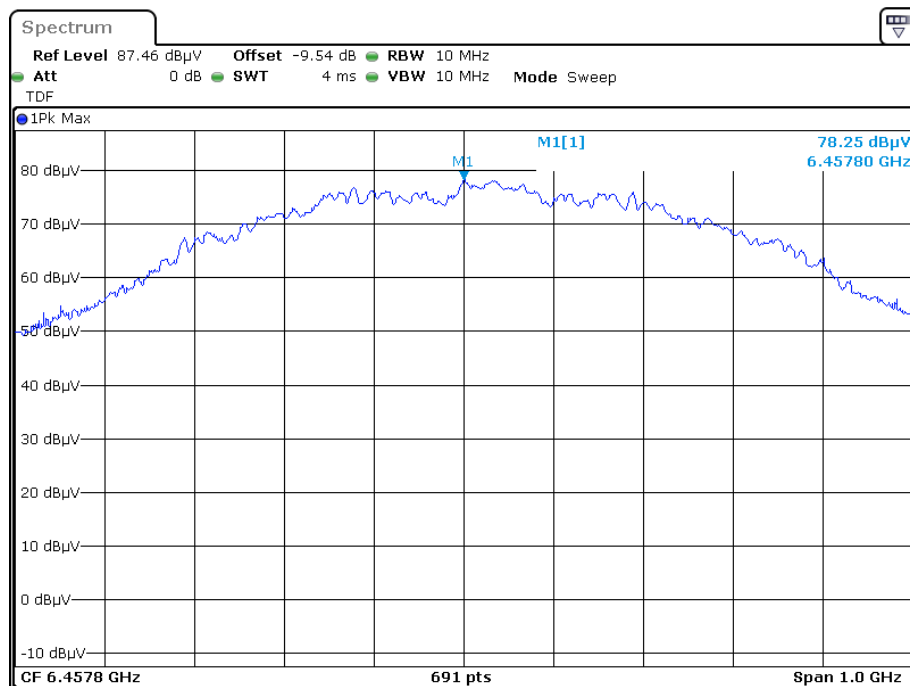
EUT operation mode: Transmitting

Test result: Pass.

Please refer to follow tables and plots:

| Frequency<br>(MHz) | Reading level<br>(dBμV/m) | EIRP<br>(dBm/10MHz) | EIRP<br>(dBm/50MHz) | Limit     |
|--------------------|---------------------------|---------------------|---------------------|-----------|
|                    |                           |                     |                     | dBm/50MHz |
| 6489.6             | 78.25                     | -16.95              | -2.97               | 0         |

- Note:
1.  $E [dB\mu V/m] = EIRP [dBm] + 95.2$ , for  $d = 3$  meters.
  2. The antenna factor, cable loss and preamplifier gain have been entered into the analyzer as the transducer factor.
  3. The test distance is 1m, the correct factor from 1m to 3m is  $20\lg(1/3) = -9.54dB$ , which was added into the offset on the spectrum Analyzer.
  4. The correct factor of RBW 10MHz to 50MHz is  $20 \log (50MHz/10MHz) = 13.98dB$ .



Date: 8.AUG.2022 13:14:06

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