# RF Test Report

| | | |
|---|---|---|
| Applicant | : | Hon Lin Technology Co., Ltd. |
| Product Type | : | UID Gen2 |
| Trade Name | : | Cloud Network Technology Singapore Pte. Ltd. |
| Model Number | : | UID Gen2 |
| Applicable Standard | : | FCC 47 CFR PART 15 SUBPART F<br>ANSI C63.10:2013 |
| Received Date | : | May 07, 2025 |
| Test Period | : | Jun. 20, 2025 ~ Jul. 02, 2025 |
| Issued Date | : | Jul. 07, 2025 |

**Issued by**

Eurofins E&E Wireless Taiwan Co., Ltd.
No. 140-1, Changan Street, Bade District,
Taoyuan City, Taiwan (R.O.C.)
Tel：+886-3-2710188 / Fax：+886-3-2710190

Testing Laboratory
1330

Taiwan Accreditation Foundation accreditation number: 1330
Frequency Range: 9 kHz to 325 GHz
Bade test site：
Test Firm Registration Number: 226252
Test Firm Designation Number: TW0010
Wugu test site：
Test Firm Registration Number: 191812
Test Firm Designation Number: TW0034

***Note:***
1.The test results are valid only for samples provided by customers and under the test conditions described in this report.
2.This report shall not be reproduced except in full, without the written approval of Eurofins E&E Wireless Taiwan Co., Ltd.
3.The relevant information is provided by customers in this test report. According to the correctness, appropriateness or completeness of the information provided by the customer, if there is any doubt or error in the information which affects the validity of the test results, the laboratory does not take the responsibility.

# Revision History

| Rev. | Issued Date | Description | Revised by |
|---|---|---|---|
| 00 | Jul. 07, 2025 | Initial Issue | Abby Hsu |
| | | | |
| | | | |
| | | | |

# Verification of Compliance

| | | |
|---|---|---|
| Applicant | : | Hon Lin Technology Co., Ltd. |
| Product Type | : | UID Gen2 |
| Trade Name | : | Cloud Network Technology Singapore Pte. Ltd. |
| Model Number | : | UID Gen2 |
| FCC ID | : | 2AQ68-DKCUIDG2 |
| Applicable Standard | : | FCC 47 CFR PART 15 SUBPART F<br>ANSI C63.10:2013 |
| Test Result | : | Complied |
| Issued By | : | Eurofins E&E Wireless Taiwan Co., Ltd.<br>No. 140-1, Changan Street, Bade District,<br>Taoyuan City, Taiwan (R.O.C.)<br>Tel：+886-3-2710188 / Fax：+886-3-2710190<br>Taiwan Accreditation Foundation accreditation number: 1330 |

Testing Laboratory 1330

Eurofins E&E Wireless Taiwan Co., Ltd. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by Eurofins E&E Wireless Taiwan Co., Ltd. based on interpretations and/or observations of test results. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Approved By : Kai Yu Yang

# TABLE OF CONTENTS

# 1 General Information

## 1.1. Summary of Test Result

| Standard | Item | Result | Remark |
|---|---|---|---|
| 15.207; | AC Power Conducted Emission | N/A | Note |
| 15.209, 15.519(c), 15.519(d) | Transmitter Radiated Emissions | PASS | ----- |
| 15.519(e) | Peak Power Measurement | PASS | ----- |
| 15.503 | UWB Bandwidth | PASS | ----- |
| 15.519(a)(1) | Technical requirements for hand held UWB systems. | PASS | ----- |
| 15.203 | Antenna Requirement | PASS | ----- |

The above test items refer to the test standards.

Note: EUT uses battery power.

Decision Rule

■ Uncertainty is not included.

□ Uncertainty is included.

| Standard | Description |
|---|---|
| CFR47, Part 15, Subpart F | Intentional Radiators |
| ANSI C63. 10: 2013 | American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices |

## 1.2. Testing Location

Lab Name: Eurofins E&E Wireless Taiwan Co., Ltd.

Site Address: ☐ No. 140-1, Changan Street, Bade District, Taoyuan City, Taiwan (R.O.C.)

Site Address: ■ No. 2, Wuquan 5th Rd. Wugu Dist., New Taipei City, Taiwan (R.O.C.)

## 1.3. Measurement Uncertainty

| Test Item | Frequency | Uncertainty | |
|---|---|---|---|
| | | BD | WG |
| Conducted Emission | 150 kHz ~ 30 MHz | 2.7 dB | 2.6 dB |

| Test Item | Frequency | Uncertainty | | | | |
|---|---|---|---|---|---|---|
| | | 96601-BD | 96603-BD | 96602-WG | 96603-WG | 96604-WG |
| Radiated Emission | 9 kHz ~ 30 MHz | 1.8 dB | 1.8 dB | 1.9 dB | 1.9 dB | 1.9 dB |
| | 30 MHz ~ 1000 MHz | 4.7 dB | 4.7 dB | 4.7 dB | 4.7 dB | 4.5 dB |
| | 1000 MHz ~ 18000 MHz | 4.7 dB | 4.8 dB | 4.6 dB | 4.7 dB | 5.1 dB |
| | 18000 MHz ~ 26500 MHz | 4.0 dB | 4.1 dB | 3.9 dB | 4.1 dB | 4.3 dB |
| | 26500 MHz ~ 40000 MHz | 4.2 dB | 4.2 dB | 4.2 dB | 4.2 dB | 4.6 dB |
| RF Bandwidth | | 4.5 % | 4.5 % | 4.5 % | 4.5 % | 3.3 % |

## 1.4. Test Site Environment

| Items | Required (IEC 60068-1) | Interval(*) |
|---|---|---|
| Temperature (°C) | 15-35 | 20-30 |
| Humidity (%RH) | 25-75 | 45-75 |

(*)The measurement ambient temperature is within this range.

# 2 EUT Description

The product specifications of the EUT presented in the report are declared by the manufacturer who shall take full responsibility for the authenticity(except EIRP, Field Strength).

| | | | |
|---|---|---|---|
| Applicant | Hon Lin Technology Co., Ltd.<br>11F, No.32, Jihu Rd., Neihu Dist., Taipei City 114, Taiwan | | |
| Product Type | UID Gen2 | | |
| Trade Name | Cloud Network Technology Singapore Pte. Ltd. | | |
| Model Number | UID Gen2 | | |
| FCC ID | 2AQ68-DKCUIDG2 | | |
| Frequency Range | 7987.2 MHz | | |
| Modulation Type | BPSK | | |
| UWB Channel | CH 9 | | |
| Antenna Information | Type | Gain (dBi) | |
| | Print Antenna | CH 9 | 5.80 |
| Operate Temp. Range | -40 ~ +85 ℃ | | |
| EUT Power Rating | 3 Vdc form battery CR2450 | | |
| EIRP | CH 9 : -0.63 dBm/50 MHz | | |

| Testing Sample No. | |
|---|---|
| Test Item | Sample Number |
| Radiation | C255084_A003 |
| Normal | C255084_A003 |

# 3 Test Methodology

## 3.1. Mode of Operation

Decision of Test Eurofins has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

| Pre-Test Mode | Final-Test Mode |
|---|---|
| Transmit Mode | V |
| Continuous TX Mode | V |

| Test Mode | Power Setting | Test Software Version |
|---|---|---|
| | ANT-0 | |
| Transmit Mode | 34 | Engineering Mode |
| Continuous TX Mode | 34 | |

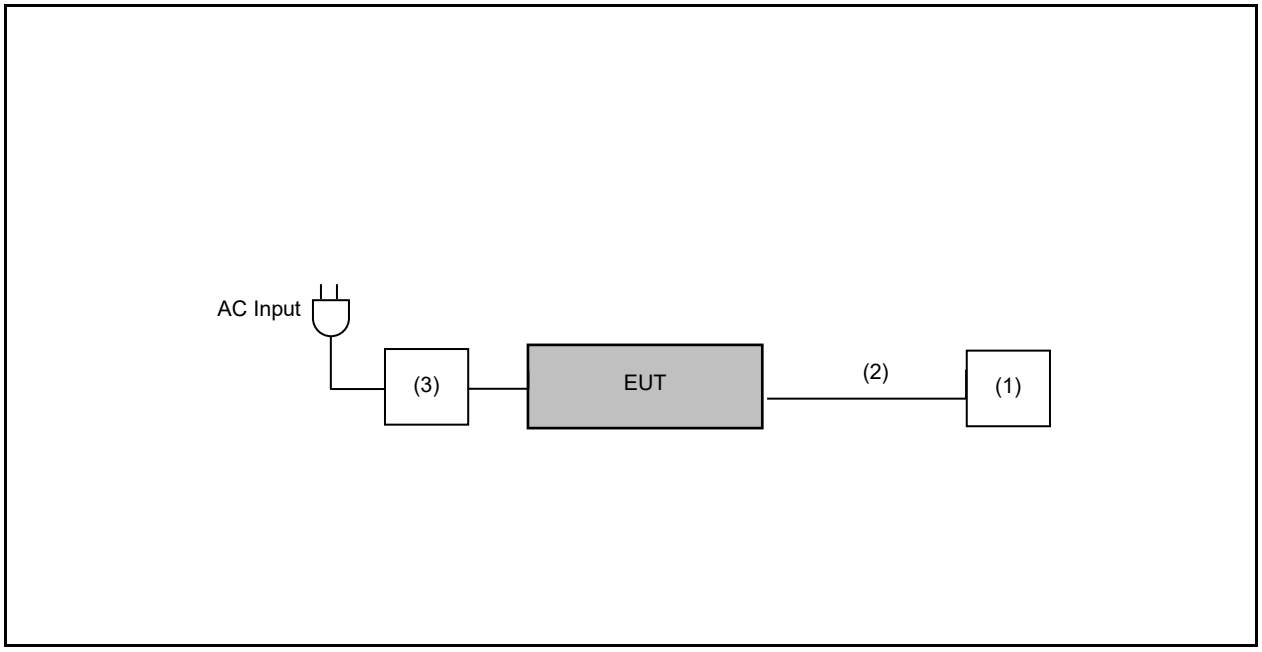
By preliminary testing and verifying three axis (X, Y and Z) position of EUT transmitted status, it was found that “X axis” position was the worst, then the final test was executed the worst condition and test data were recorded in this report.

## 3.2. EUT Test Step

| | |
|---|---|
| 1 | Setup the EUT shown on “Configuration of Test System Details”. |
| 2 | Turn on the power of EUT. |

## 3.3. Configuration of Test System Details

Radiated Emissions




| Product | | Manufacturer | Model Number | Serial Number | Power Cord |
|---|---|---|---|---|---|
| (1) | Notebook | DELL | Latitude 5420 | --- | --- |
| (2) | UART board | Waveshare | USB to TTL | --- | --- |
| (3) | POWER SUPPLY | Gwinstek | PLR60-6 | GEV172753 | V |

## 3.4. Test Instruments

For Radiated Emissions
Test Period: Jun. 20, 2025 ~ Jul. 2, 2025
Testing Engineer: Marin Lee

| Radiation test sites | | Semi Anechoic Room 96602-WG | | | | |
|---|---|---|---|---|---|---|
| Use | Equipment | Manufacturer | Model Number | Serial Number | Cal. Date | Cal. Period |
| ☒ | Trilog Broadband Antenna (30 MHz~1 GHz) | Schwarzbeck Mess-Elektronik | VULB9168 | 01276 | Jan. 20, 2025 | 1 year |
| ☒ | Broadband Horn Antenna (1 GHz~18 GHz) | RF SPIN | DRH18-E | 210305A18ES | Feb. 19, 2025 | 1 year |
| ☒ | Broadband Horn Antenna (15 GHz~40 GHz) | Schwarzbeck Mess-Elektronik | BBHA9170 | 01133 | Jan. 14, 2025 | 1 year |
| ☒ | Spectrum Analyzer (10 Hz~44 GHz) | KEYSIGHT | N9020B | MY60112362 | Jan. 16, 2025 | 1 year |
| ☒ | Pre-Amplifier | Agilent | 8447D | 2944A10961 | Jul. 9, 2024 | 1 year |
| ☒ | Pre-Amplifier | EMCI | EMC118A45SE | 980822 | Nov. 26, 2024 | 1 year |
| ☒ | Pre-Amplifier | EMCI | EMC184045SE | 980861 | Dec. 18, 2024 | 1 year |
| ☒ | Coaxial Cable (9 kHz~1000 MHz) | EMCI | EMCCFD400-NM-NM-2000 | 211006 | Oct. 24, 2024 | 1 year |
| ☒ | Coaxial Cable (9 kHz~1000 MHz) | EMCI | EMCCFD400-NM-NM-2000 | 211007 | Oct. 24, 2024 | 1 year |
| ☒ | Coaxial Cable (9 kHz~1000 MHz) | EMCI | EMCCFD400-NM-NM-6000 | 211015 | Oct. 24, 2024 | 1 year |
| ☒ | Coaxial Cable (1 GHz~18 GHz) | EMCI | EMC104-SM-SM-1000 | 211026 | Oct. 24, 2024 | 1 year |
| ☒ | Coaxial Cable (1 GHz~18 GHz) | EMCI | EMC104-SM-SM-2000 | 211035 | Oct. 24, 2024 | 1 year |
| ☒ | Coaxial Cable (1 GHz~18 GHz) | EMCI | EMC104-SM-SM-8000 | 211036 | Oct. 24, 2024 | 1 year |
| ☒ | Coaxial Cable (18 GHz~40 GHz) | EMCI | EMC101G-KM-KM-600 | 211211 | Jan. 15, 2025 | 1 year |

Note: N.C.R. = No Calibration Request

For Radiated Emissions
Test Period: Jun. 20, 2025 ~ Jul. 2, 2025
Testing Engineer: Marin Lee

| Radiation test sites | | Semi Anechoic Room 96602-WG | | | | |
|---|---|---|---|---|---|---|
| Use | Equipment | Manufacturer | Model Number | Serial Number | Cal. Date | Cal. Period |
| ☒ | Coaxial Cable (18 GHz~40 GHz) | EMCI | EMC101G-KM-KM-2000 | 211210 | Jan. 15, 2025 | 1 year |
| ☒ | Coaxial Cable (18 GHz~40 GHz) | EMCI | EMC101G-KM-KM-6000 | 211209 | Jan. 15, 2025 | 1 year |
| ☒ | Highpass Filter | Warison | WFIL-H3000-20000F | WR4BBFWC2B1 | Oct. 24, 2024 | 1 year |
| ☒ | Highpass Filter | Warison | WFIL-H8000-26000F | 001 | Oct. 24, 2024 | 1 year |
| ☒ | Software | R_RAM | V1.3 | N/A | N.C.R. | --- |

Note: N.C.R. = No Calibration Request

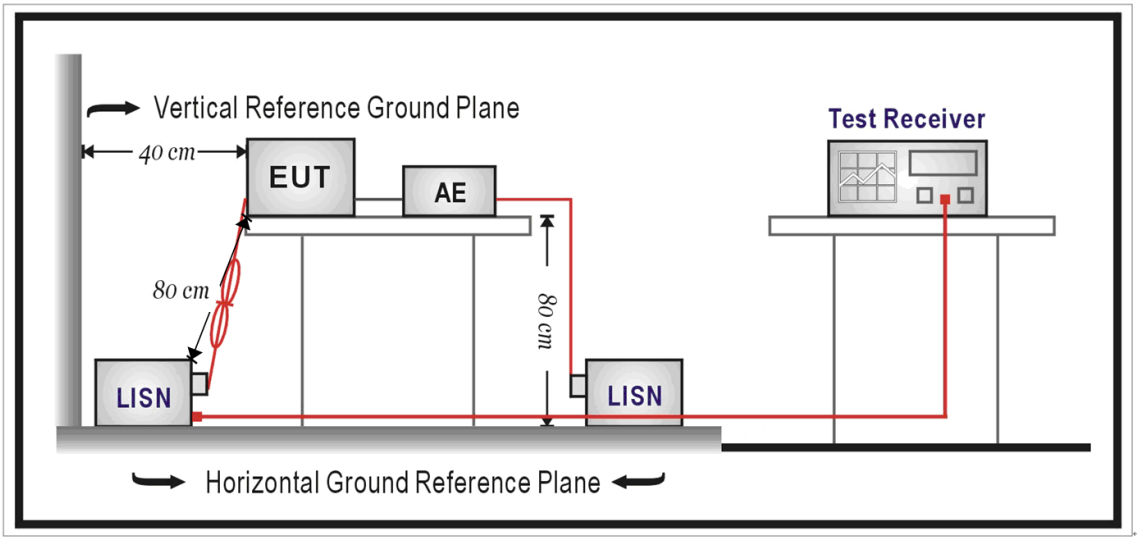
# 4 Measurement Procedure

## 4.1. AC Power Line Conducted Emission Measurement

■ **Limit**

| Frequency (MHz) | Quasi-peak | Average |
|---|---|---|
| 0.15 - 0.5 | 66 to 56 | 56 to 46 |
| 0.50 - 5.0 | 56 | 46 |
| 5.0 - 30.0 | 60 | 50 |

■ **Test Setup**



■ **Test Procedure**

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 Ω// 50 uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50 Ω// 50 uH coupling impedance with 50 ohm termination.

Tabletop device shall be placed on a non-conducting platform, of nominal size 1 m by 1.5 m, raised 80 cm above the reference ground plane. The wall of screened room shall be located 40 cm to the rear of the EUT. Other surfaces of tabletop or floor standing EUT shall be at least 80 cm from any other ground conducting surface including one or more LISNs. For floor-standing device shall be placed under the EUT with a 12 mm insulating material.

Conducted emissions were investigated over the frequency range from 0.15 MHz to 30 MHz using a resolution bandwidth of 9 kHz. The equipment under test (EUT) shall be meet the limits in section 4.1, as applicable, including the average limit and the quasi-peak limit when using respectively, an average detector and quasi-peak detector measured in accordance with the methods described of related standard. When all of peak value were complied with quasi-peak and average limit from 150 kHz to 30 MHz then quasi-peak and average measurement was unnecessary.

The AMN shall be placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for AMNs mounted on top of the ground reference plane. This distance is between the closest points of the AMN and the EUT. All other units of the EUT and associated equipment shall be at least 0.8 m from the AMN. If the mains power cable is longer than 1 m then the cable shall be folded back and forth at the centre of the lead to form a bundle no longer than 0.4 m. All of interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 cm to 40 cm long. All of EUT and AE shall be separate place more than 0.1 m. All 50 Ω ports of the LISN shall be resistively terminated into 50 Ω loads when not connected to the measuring instrument.

If the reading of the measuring receiver shows fluctuations close to the limit, the reading shall be observed for at least 15 s at each measurement frequency; the higher reading shall be recorded with the exception of any brief isolated high reading which shall be ignored.

## 4.2. Radiated Emission Measurement

■ **Limit of Radiated Emission below 960 MHz Measurement (FCC 15.519)**

| Frequency (MHz) | Field Strength (μV/m at meter) | Measurement Distance (meter) |
|---|---|---|
| 0.009 – 0.490 | 2400 / F (kHz) | 300 |
| 0.490 – 1.705 | 24000 / F (kHz) | 30 |
| 1.705 – 30.0 | 30 | 30 |
| 30 - 88 | 100 | 3 |
| 88-216 | 150 | 3 |
| 216-960 | 200 | 3 |

Note: (1) Emission level (dBuV/m)=20 log Emission level (uV/m).

**Limits of Radiated Emission above 960 MHz Measurement (FCC 15.519(c))**

| Frequency (MHz) | EIRP (dBm), RBW = 1 MHz | Emission level (dBuV/m) (at 3 m) |
|---|---|---|
| 960 – 1610 | -75.3 | 19.9 |
| 1610 – 1990 | -53.3 | 41.9 |
| 1990 – 3100 | -51.3 | 43.9 |
| 3100 – 10600 | -41.3 | 53.9 |
| Above 10600 | -51.3 | 43.9 |

Notes: (1) The limit for radiated test was performed according to FCC PART 15F.

(2) Emission level (dBuV/m) = EIRP (dBm) + 95.2, example, Emission level (dBuV/m) = -75.3 + 95.2 = 19.9

**Limits of Radiated Emission in GPS band Measurement (FCC 15.519(d))**

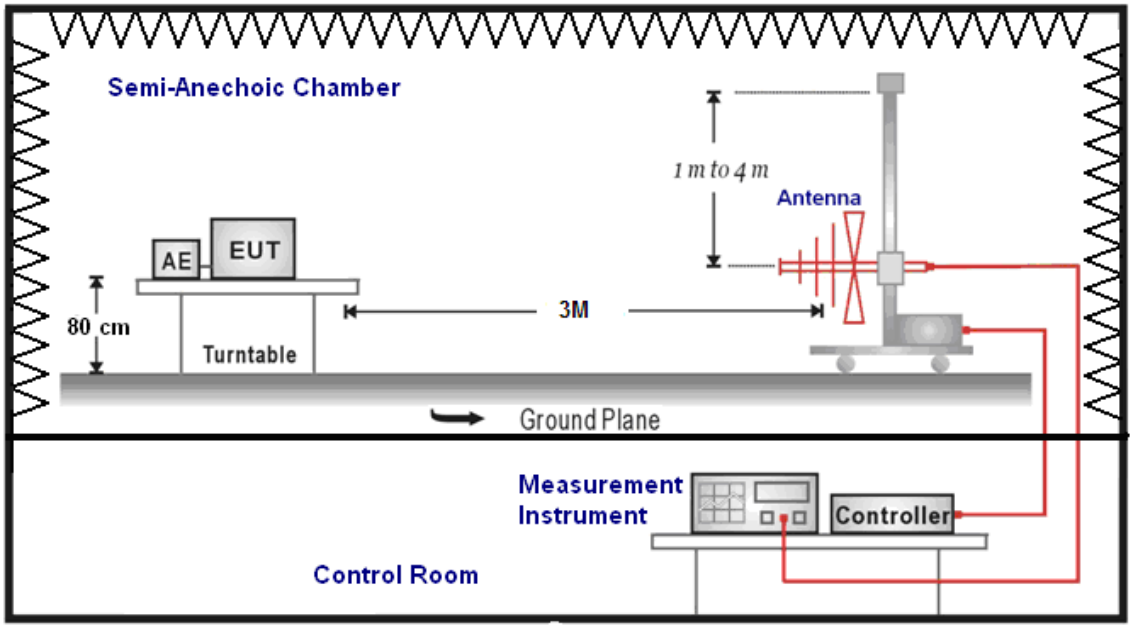
| Frequency (MHz) | EIRP (dBm), RBW ≧ 1 kHz | Emission level (dBuV/m) (at 3 m) |
|---|---|---|
| 1164 – 1240 | -85.3 | 9.9 |
| 1559 – 1610 | -85.3 | 9.9 |

Notes: (1) The limit for radiated test was performed according to FCC PART 15F.

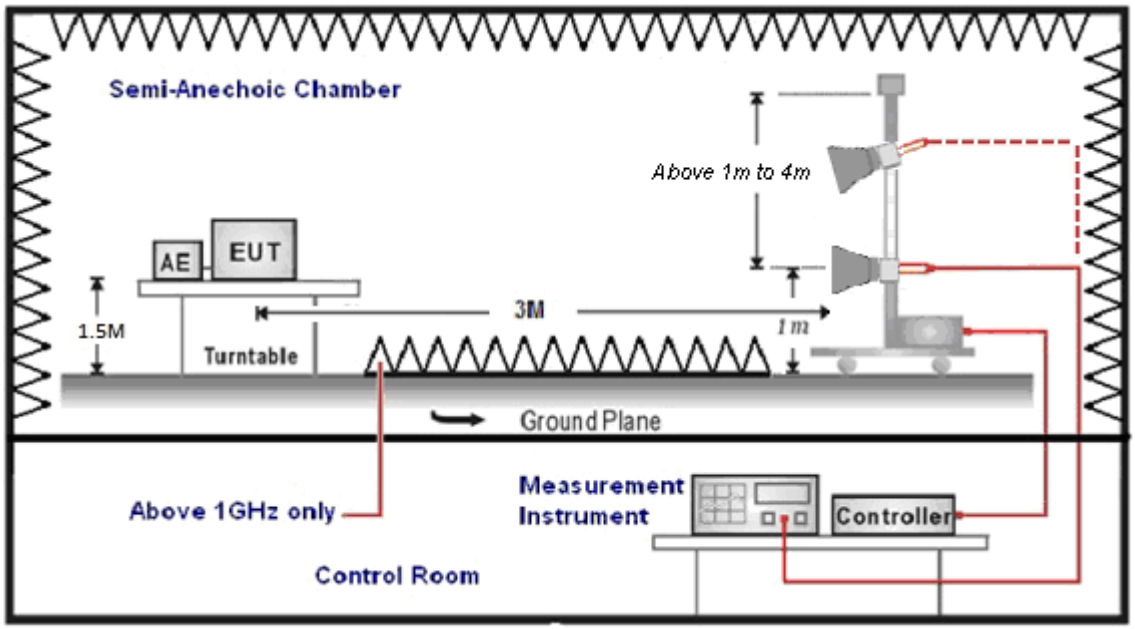
(2) Emission level (dBuV/m) = EIRP (dBm) + 95.2, example, Emission level (dBuV/m) = -85.3 + 95.2 = 9.9

■ **Setup**

Below 1 GHz




Above 1 GHz



■ **Test Procedure**

Final radiation measurements were made on a three-meter, Semi Anechoic Chamber. The EUT system was placed on a nonconductive turntable which is 0.8 meters height, top surface 1.0 x 1.5 meter. The spectrum was examined from 9 kHz to 40 GHz in order to cover the whole spectrum below 10th harmonic which could generate from the EUT. During the test, EUT was set to transmit continuously & Measurements spectrum range from 9 kHz to 40 GHz is investigated. For measurements below 960 MHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.
For measurements below 30 MHz, all amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

For measurements above 960 MHz the resolution bandwidth is set to 1 MHz (GPS Band for 1 kHz), and then the video bandwidth is set to 3 MHz (GPS Band for 3 kHz) for average measurements.
A nonconductive material surrounded the EUT to supporting the EUT for standing on tree orthogonal planes. At each condition, the EUT was rotated 360 degrees, and the antenna was raised and lowered from one to four meters to find the maximum emission levels. Measurements were taken using both horizontal and vertical antenna polarization.
SCHWARZBECK MESS-ELEKTRONIK Biconilog Antenna (mode VULB9168) at 3 Meter and the SCHWARZBECK Double Ridged Guide Antenna (model BBHA9120D&9170) was used in frequencies 1 – 40 GHz at a distance of 1 meter. All test results were extrapolated to equivalent signal at 3 meters utilizing an inverse linear distance extrapolation Factor (20 dB/decade).

For the transmitter unwanted emission shall be measured using following options below:
Refer as ANSI C63.10, clause 4.1.4 and 4.1.4.2.2.
For radiated measurement:
Refer as ANSI C63.10, clause6.4, 6.5 and 6.6.

The actual field is intensity in referenced to 1 microvolt per meter (dBuV/m) is determined by algebraically adding the measured reading in dBuV, the antenna factor (dB/m), and cable loss (dB) and Subtracting the gain of preamplifier (dB) is auto calculate in spectrum analyzer.

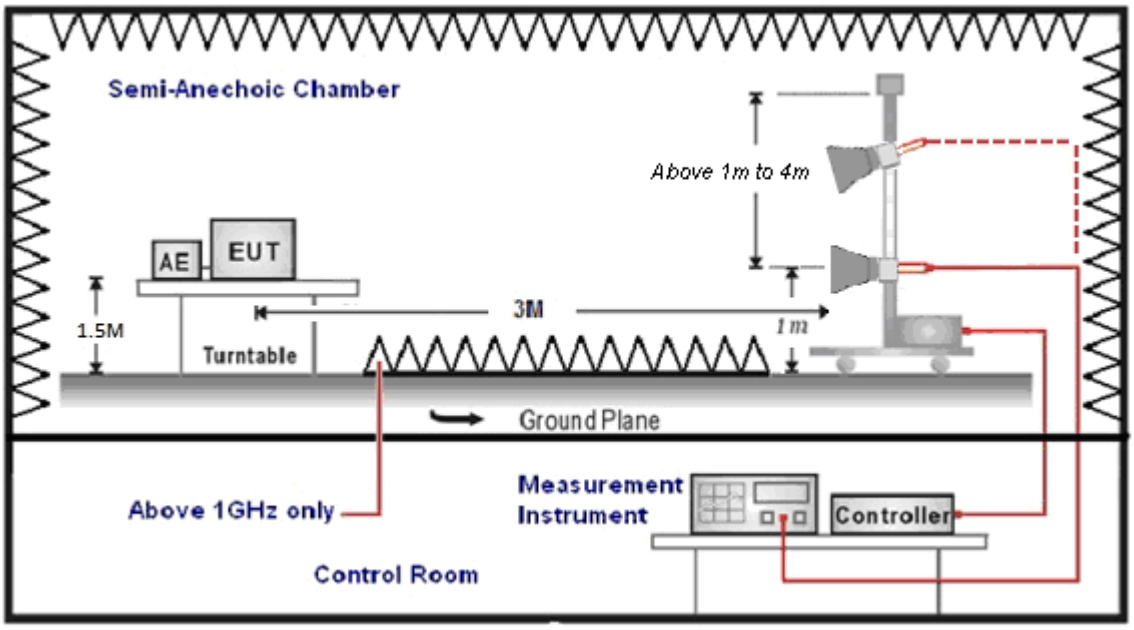
(1) Emission level (dBuV/m) = FI (dBuV) +AF (dBuV/m) +CL (dB) - PA (dB)
FI= Reading of the field intensity.
AF= Antenna factor.
CL= Cable loss.
PA = Preamplifier Gain.
P.S Amplitude is auto calculate in spectrum analyzer.

## 4.3. Peak Power Measurement

■ **Limit**

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

■ **Test Setup**




■ **Test Procedure**

For the peak power shall be measured using following options below:

Refer as ANSI C63.10, clause 10.3.1, 10.3.2, 10.3.4, and 10.3.6.

## 4.4. UWB Bandwidth Measurement

■ **Limit**

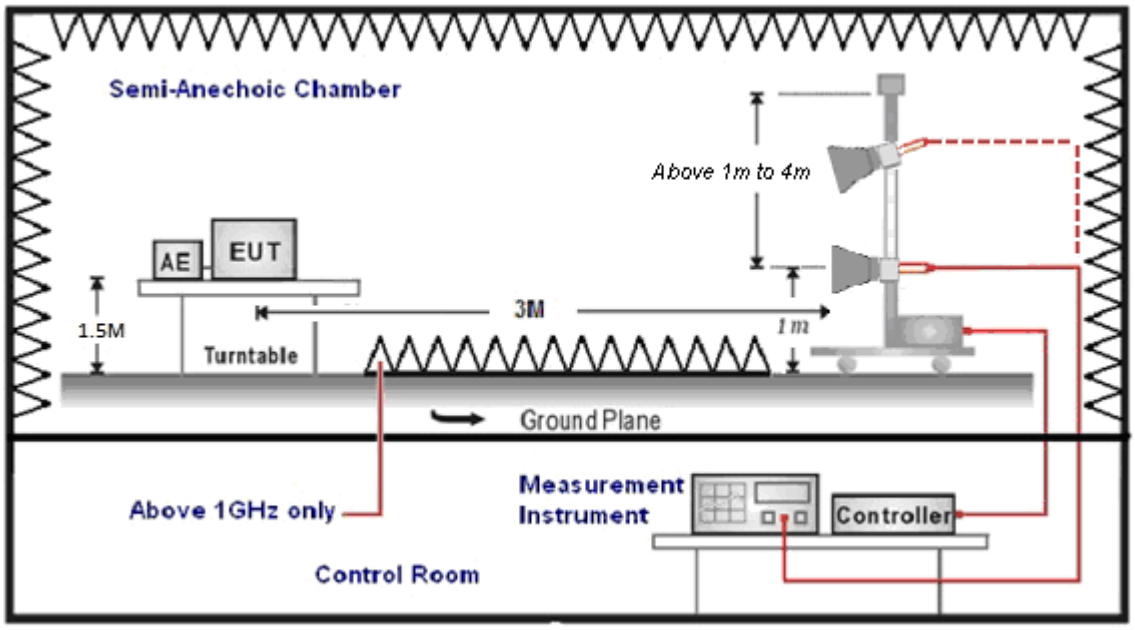
UWB bandwidth. For the purpose of this subpart, the UWB bandwidth is the frequency band bounded by the points that are 10 dB below the highest radiated emission, as based on the complete transmission system including the antenna. The upper boundary is designated $f_H$ and the lower boundary is designated $f_L$. The frequency at which the highest radiated emission occurs is designated $f_M$.

Center frequency. The center frequency, $f_C$, equals $(f_H + f_L)/2$.

Fractional bandwidth. The fractional bandwidth equals $2(f_H - f_L)/ (f_H + f_L)$.

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.

■ **Test Setup**




■ **Test Procedure**

For the UWB Bandwidth shall be measured using following options below:

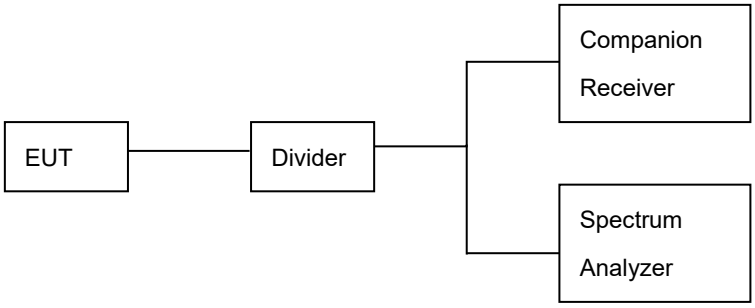
Refer as ANSI C63.10, clause 6.9.3 and 10.1.

## 4.5. Technical requirements for hand held UWB systems.

- **Limit**

An acknowledgment of reception must continue to be received by the UWB intentional radiator at least every 10 seconds or the UWB device must cease transmitting.

- **Test Setup**




- **Test Procedure**

Follow the test step as below:

1. Turn on EUT and companion receiver.
2. Check no transmitting signal from the EUT, when the EUT does not associate with the companion receiver.
4. Set the companion receiver to receiving mode.
5. Set the EUT to associate the companion receiver and then start to transmit.
6. Suspend the receiving function of the associated companion receiver.
7. Check if there is no transmission after stop sending information to receiver.

## 4.6. Antenna Measurement

■ **Limit**

For intentional device, 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.

■ **Antenna Connector Construction**

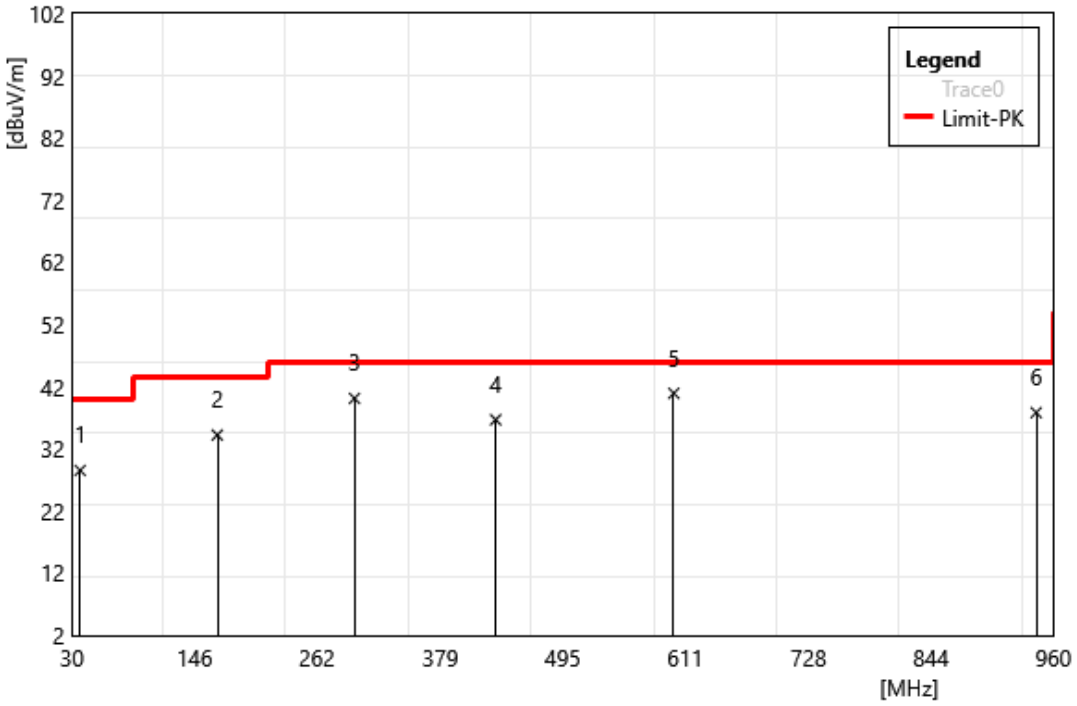
See section 2 – antenna information.

# 5 Test Results

## 5.1. Transmitter Radiated Emissions Test Results

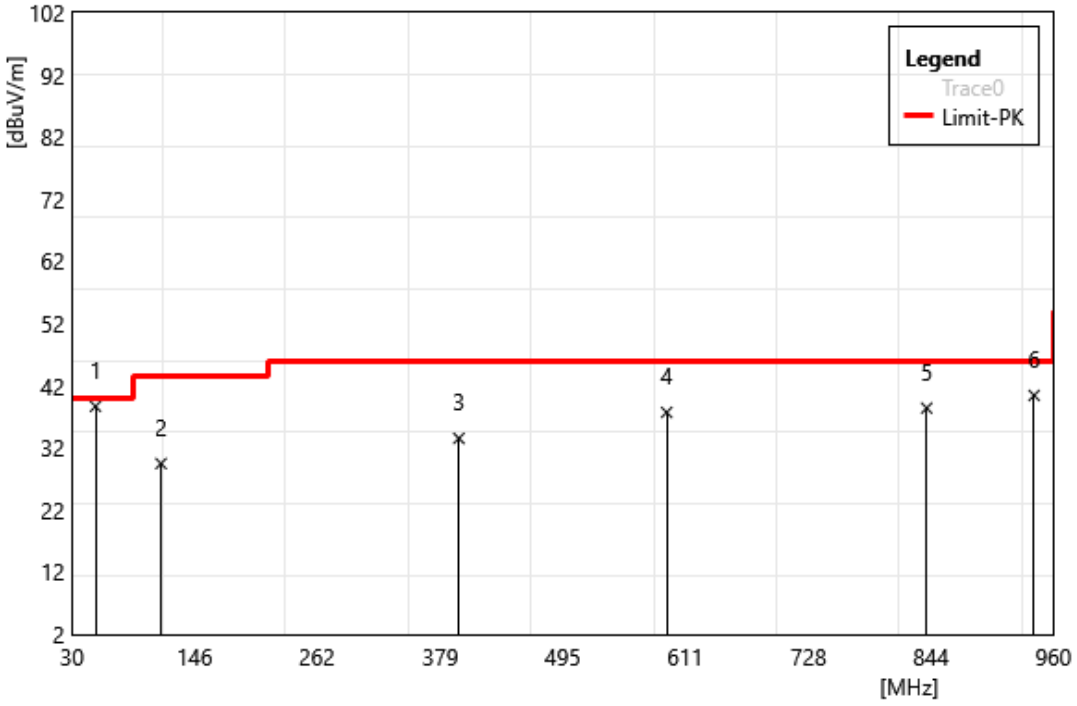
Below 1 GHz

| | | | |
|---|---|---|---|
| Test Site: | 96602 - WG | Standard: | Part 15.519 |
| Test Mode: | UWB 7987.2 MHz | | |
| Polarization: | Horizontal | | |
| Remark: | | | |




| ID | Frequency MHz | Reading dBuV | Correct Factor dB/m | Result dBuV/m | Limit dBuV/m | Margin dB | Remark |
|---|---|---|---|---|---|---|---|
| 1 | 37.76 | 37.03 | -8.50 | 28.53 | 40.00 | -11.47 | QP |
| 2 | 167.74 | 41.92 | -7.69 | 34.23 | 43.50 | -9.27 | QP |
| 3 | 297.72 | 46.48 | -6.36 | 40.12 | 46.00 | -5.88 | QP |
| 4 | 431.58 | 40.72 | -4.04 | 36.68 | 46.00 | -9.32 | QP |
| 5 | 600.36 | 41.85 | -0.91 | 40.94 | 46.00 | -5.06 | QP |
| 6 | 943.74 | 32.77 | 5.06 | 37.83 | 46.00 | -8.17 | QP |

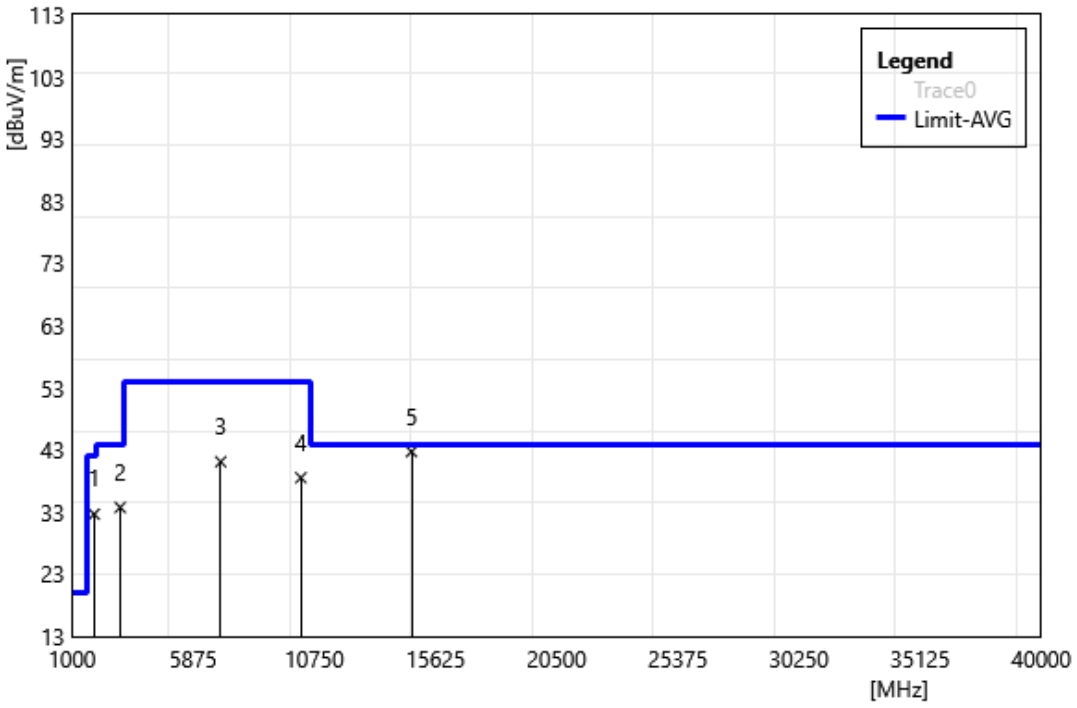
| | | | |
|---|---|---|---|
| Test Site: | 96602 - WG | Standard: | Part 15.519 |
| Test Mode: | UWB 7987.2 MHz | | |
| Polarization: | Vertical | | |
| Remark: | | | |




| ID | Frequency MHz | Reading dBuV | Correct Factor dB/m | Result dBuV/m | Limit dBuV/m | Margin dB | Remark |
|---|---|---|---|---|---|---|---|
| 1 | 52.31 | 46.12 | -7.43 | 38.69 | 40.00 | -1.31 | QP |
| 2 | 114.39 | 40.04 | -10.56 | 29.48 | 43.50 | -14.02 | QP |
| 3 | 396.66 | 38.32 | -4.79 | 33.53 | 46.00 | -12.47 | QP |
| 4 | 593.57 | 38.87 | -1.16 | 37.71 | 46.00 | -8.29 | QP |
| 5 | 839.95 | 35.04 | 3.37 | 38.41 | 46.00 | -7.59 | QP |
| 6 | 941.80 | 35.42 | 5.02 | 40.44 | 46.00 | -5.57 | QP |

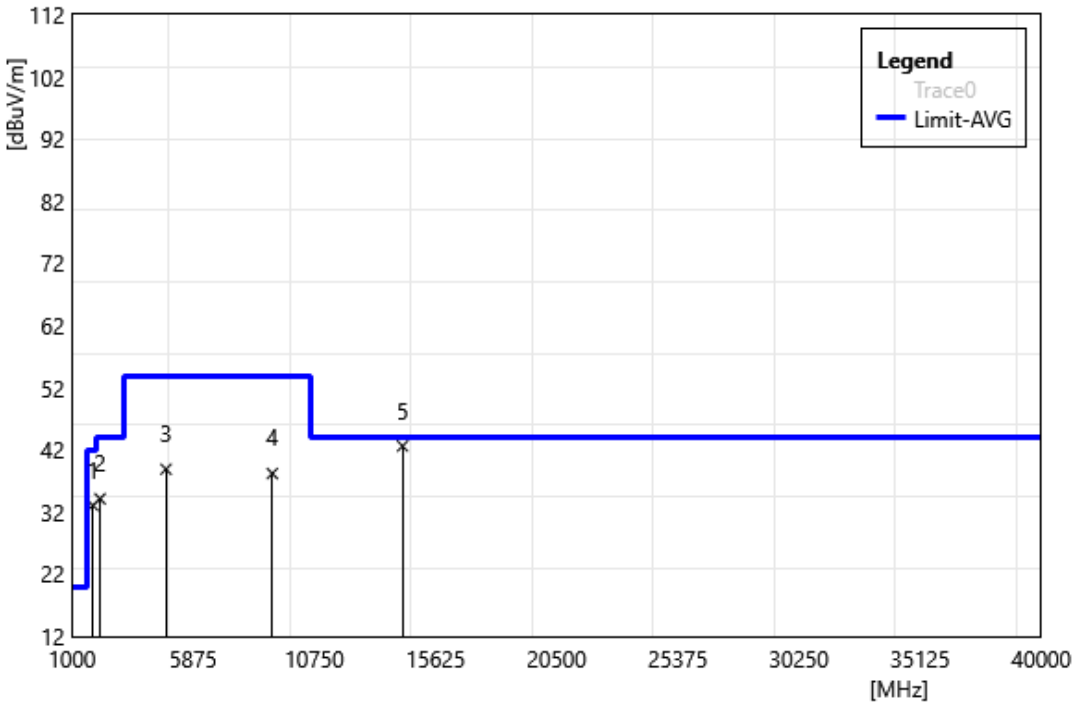
Above 1 GHz

| | | | |
|---|---|---|---|
| Test Site: | 96602 - WG | Standard: | Part 15.519 |
| Test Mode: | UWB 7987.2 MHz | | |
| Polarization: | Horizontal | | |
| Remark: | | | |




| ID | Frequency MHz | Reading dBuV | Correct Factor dB/m | Result dBuV/m | Limit dBuV/m | Margin dB | Remark |
|---|---|---|---|---|---|---|---|
| 1 | 1889.00 | 38.06 | -5.40 | 32.66 | 41.93 | -9.27 | RMS |
| 2 | 2939.00 | 36.06 | -2.31 | 33.75 | 43.93 | -10.18 | RMS |
| 3 | 6985.00 | 35.11 | 5.98 | 41.09 | 53.93 | -12.84 | RMS |
| 4 | 10210.00 | 33.23 | 5.30 | 38.53 | 53.93 | -15.40 | RMS |
| 5 | 14660.00 | 35.22 | 7.50 | 42.72 | 43.93 | -1.21 | RMS |

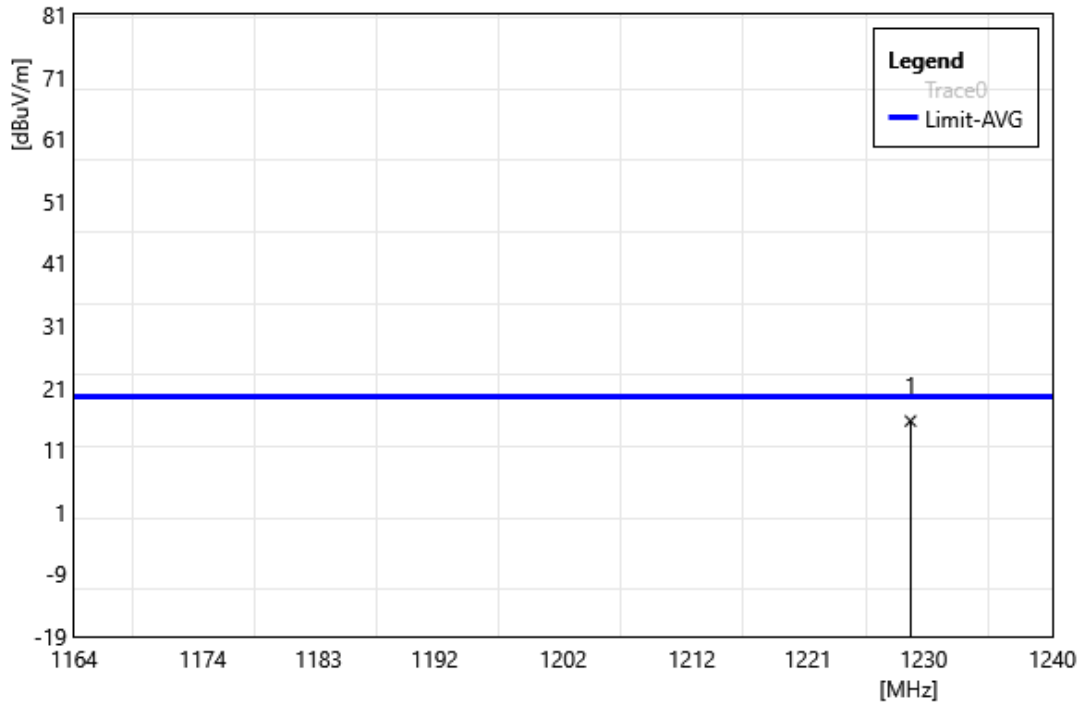
| | | | |
|---|---|---|---|
| Test Site: | 96602 - WG | Standard: | Part 15.519 |
| Test Mode: | UWB 7987.2 MHz | | |
| Polarization: | Vertical | | |
| Remark: | | | |




| ID | Frequency MHz | Reading dBuV | Correct Factor dB/m | Result dBuV/m | Limit dBuV/m | Margin dB | Remark |
|---|---|---|---|---|---|---|---|
| 1 | 1840.00 | 38.70 | -5.61 | 33.09 | 41.93 | -8.84 | RMS |
| 2 | 2127.00 | 38.38 | -4.25 | 34.14 | 43.93 | -9.80 | RMS |
| 3 | 4780.00 | 37.61 | 1.29 | 38.90 | 53.93 | -15.03 | RMS |
| 4 | 9060.00 | 32.30 | 5.89 | 38.19 | 53.93 | -15.74 | RMS |
| 5 | 14300.00 | 35.01 | 7.61 | 42.62 | 43.93 | -1.31 | RMS |

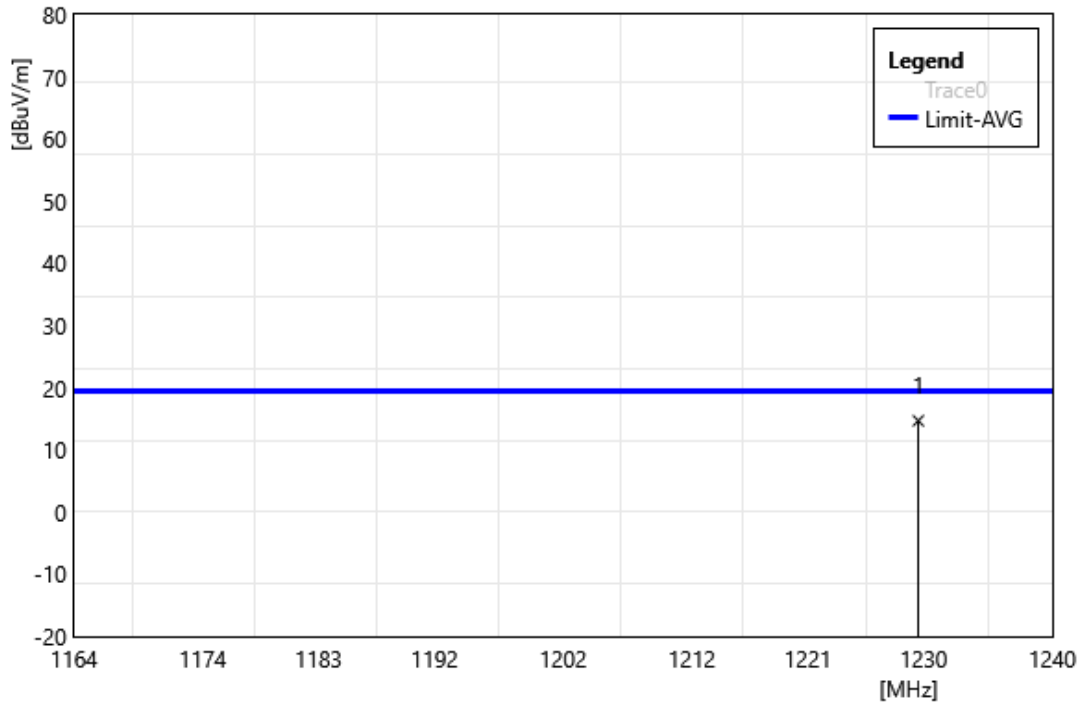
GPS Band

| | | | |
|---|---|---|---|
| Test Site: | 96602 - WG | Standard: | Part 15.519 |
| Test Mode: | UWB 7987.2 MHz | | |
| Polarization: | Horizontal | | |
| Remark: | | | |



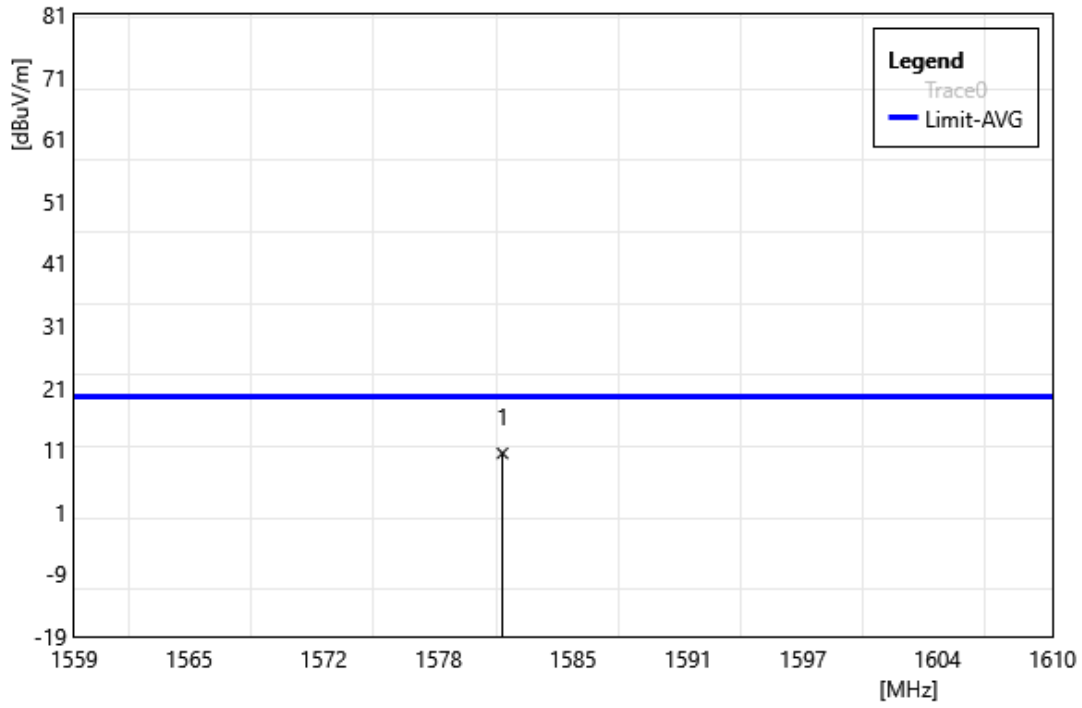

| ID | Frequency MHz | Reading dBuV | Correct Factor dB/m | Result dBuV/m | Limit dBuV/m | Margin dB | Remark |
|---|---|---|---|---|---|---|---|
| 1 | 1228.98 | 22.59 | -6.95 | 15.64 | 19.47 | -3.83 | RMS |

| | | | |
|---|---|---|---|
| Test Site: | 96602 - WG | Standard: | Part 15.519 |
| Test Mode: | UWB 7987.2 MHz | | |
| Polarization: | Vertical | | |
| Remark: | | | |



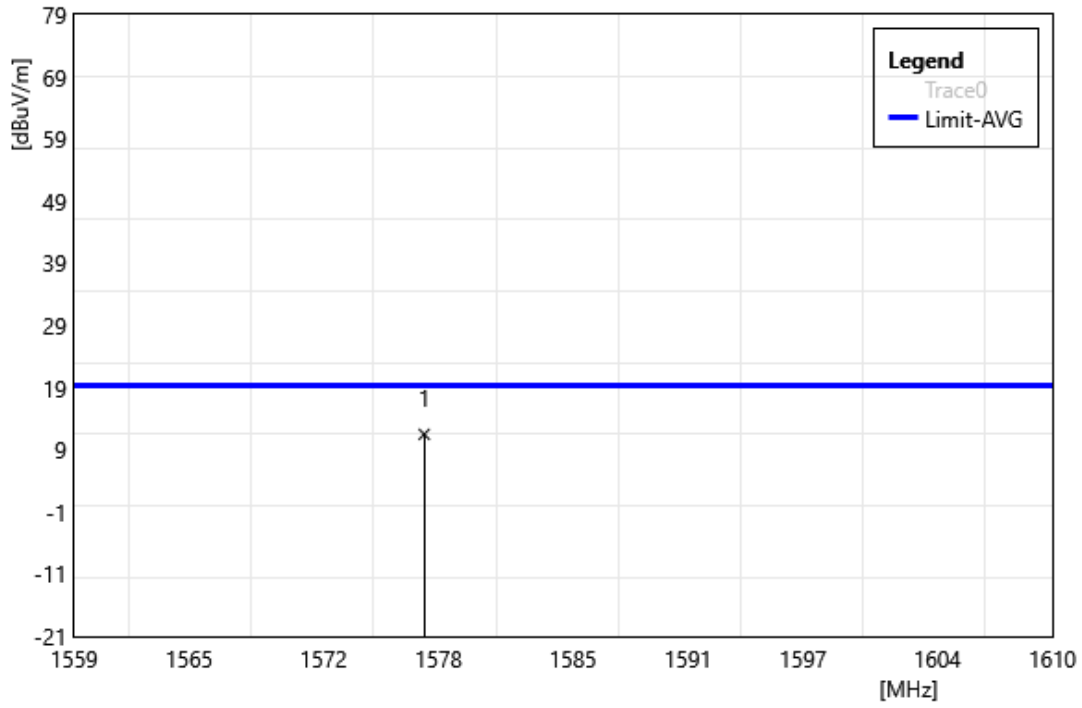

| ID | Frequency MHz | Reading dBuV | Correct Factor dB/m | Result dBuV/m | Limit dBuV/m | Margin dB | Remark |
|---|---|---|---|---|---|---|---|
| 1 | 1229.59 | 21.64 | -6.95 | 14.69 | 19.47 | -4.79 | RMS |

| | | | |
|---|---|---|---|
| Test Site: | 96602 - WG | Standard: | Part 15.519 |
| Test Mode: | UWB 7987.2 MHz | | |
| Polarization: | Horizontal | | |
| Remark: | | | |




| ID | Frequency MHz | Reading dBuV | Correct Factor dB/m | Result dBuV/m | Limit dBuV/m | Margin dB | Remark |
|---|---|---|---|---|---|---|---|
| 1 | 1581.34 | 17.12 | -6.67 | 10.46 | 19.47 | -9.02 | RMS |

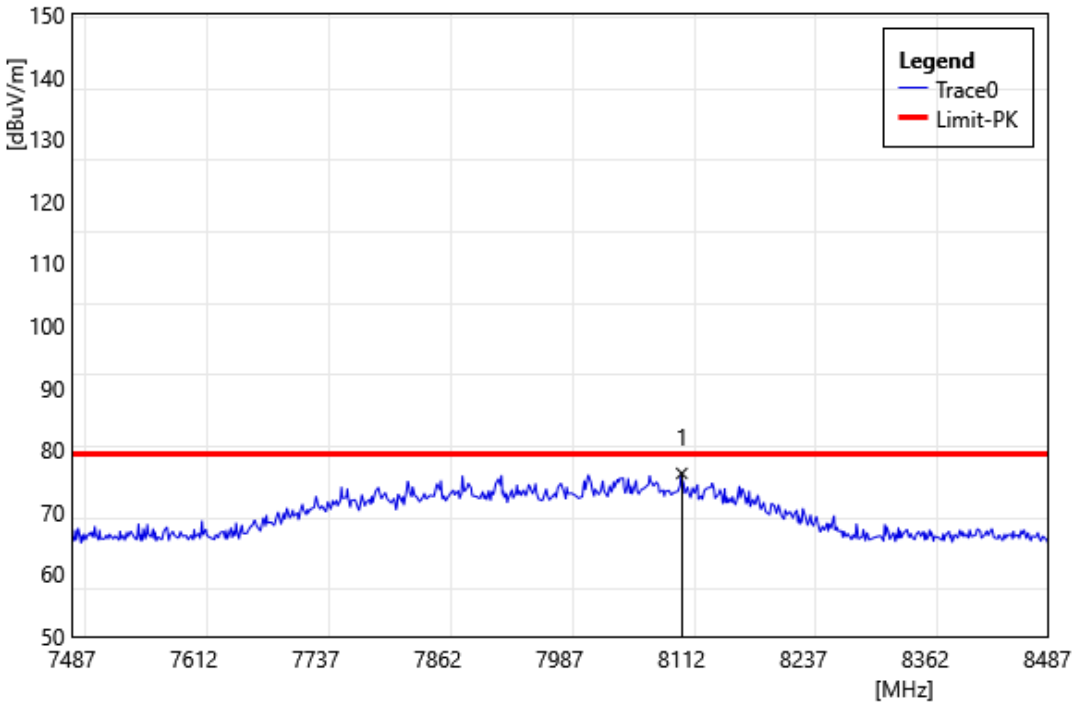
| | | | |
|---|---|---|---|
| Test Site: | 96602 - WG | Standard: | Part 15.519 |
| Test Mode: | UWB 7987.2 MHz | | |
| Polarization: | Vertical | | |
| Remark: | | | |




| ID | Frequency MHz | Reading dBuV | Correct Factor dB/m | Result dBuV/m | Limit dBuV/m | Margin dB | Remark |
|---|---|---|---|---|---|---|---|
| 1 | 1577.26 | 18.17 | -6.66 | 11.51 | 19.47 | -7.96 | RMS |

**Peak Power Test Results**

| | | | |
|---|---|---|---|
| Test Site: | 96602 - WG | Standard: | Part 15.519 |
| Test Mode: | UWB 7987.2 MHz | | |
| Polarization: | Horizontal | | |
| Remark: | | | |



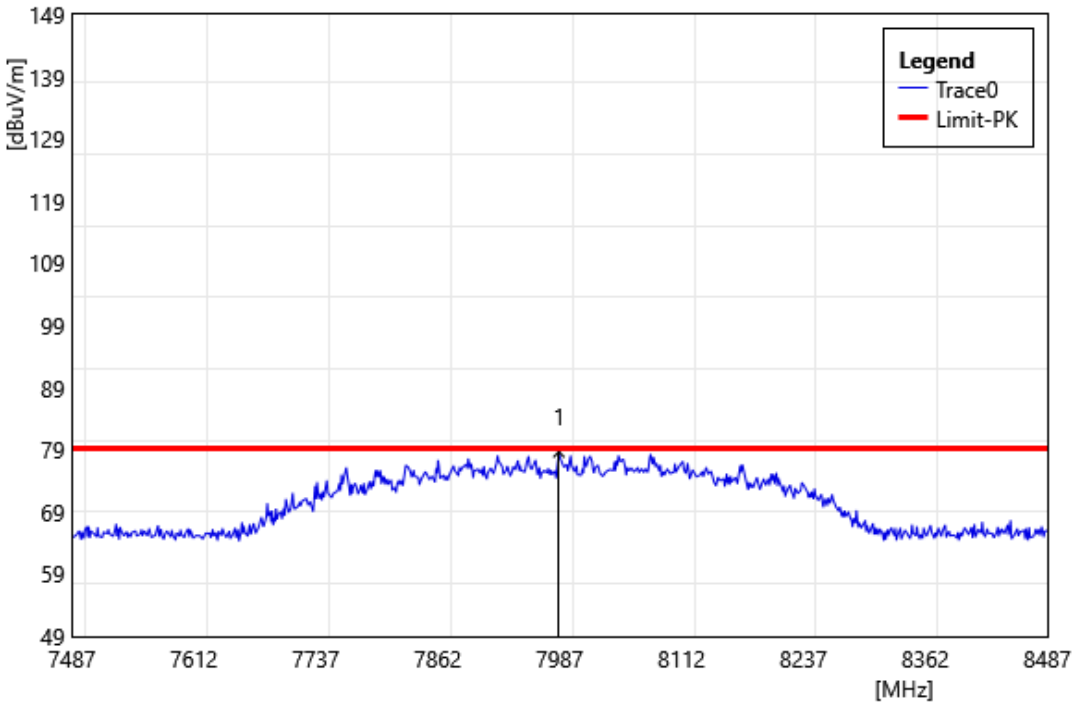

| ID | Frequency MHz | Reading dBuV | Correct Factor dB/m | Result dBuV/m | Limit dBuV/m | Margin dB | Remark |
|---|---|---|---|---|---|---|---|
| 1 | 8112.20 | 70.26 | 5.96 | 76.22 | 79.31 | -3.09 | PEAK |

EIRP (dBm) = E(dBuV/m) - 95.23

EIRP (dBm) = 76.22 dBuV/m -95.23 = -19.01 dBm

EIRP 50 MHz (dBm)= EIRP 8MHz -20 log (8 MHz / 50 MHz) = -19.01 - (-15.92) = -3.09 dBm

| | | | |
|---|---|---|---|
| Test Site: | 96602 - WG | Standard: | Part 15.519 |
| Test Mode: | UWB 7987.2 MHz | | |
| Polarization: | Vertical | | |
| Remark: | | | |




| ID | Frequency MHz | Reading dBuV | Correct Factor dB/m | Result dBuV/m | Limit dBuV/m | Margin dB | Remark |
|---|---|---|---|---|---|---|---|
| 1 | 7986.20 | 72.52 | 6.16 | 78.68 | 79.31 | -0.63 | PEAK |

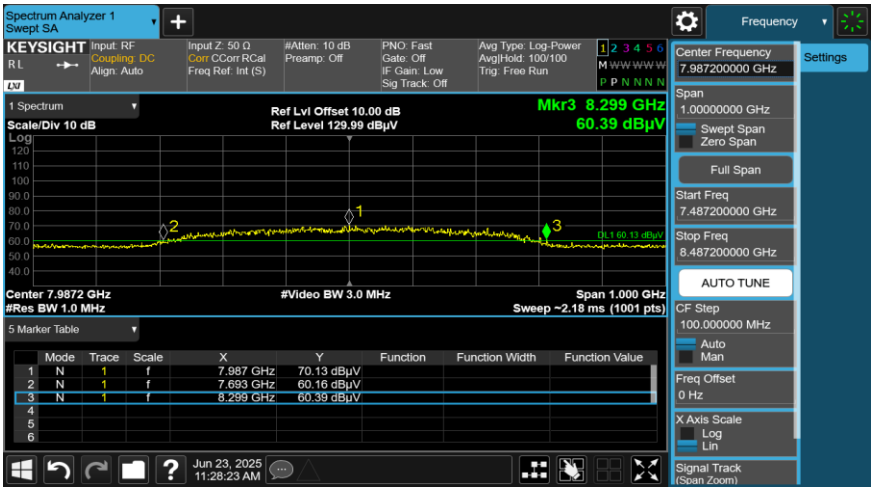
EIRP (dBm) = E(dBuV/m) - 95.23

EIRP (dBm) = 78.68 dBuV/m -95.23 = -16.55 dBm

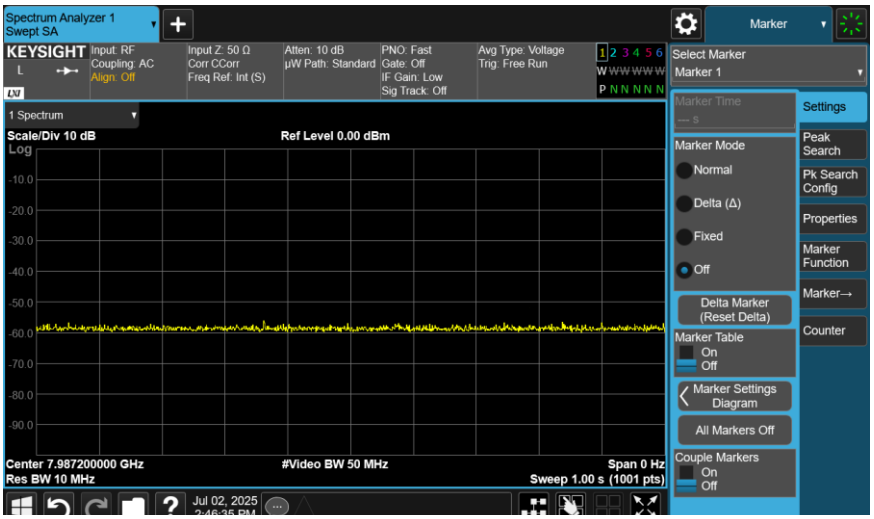
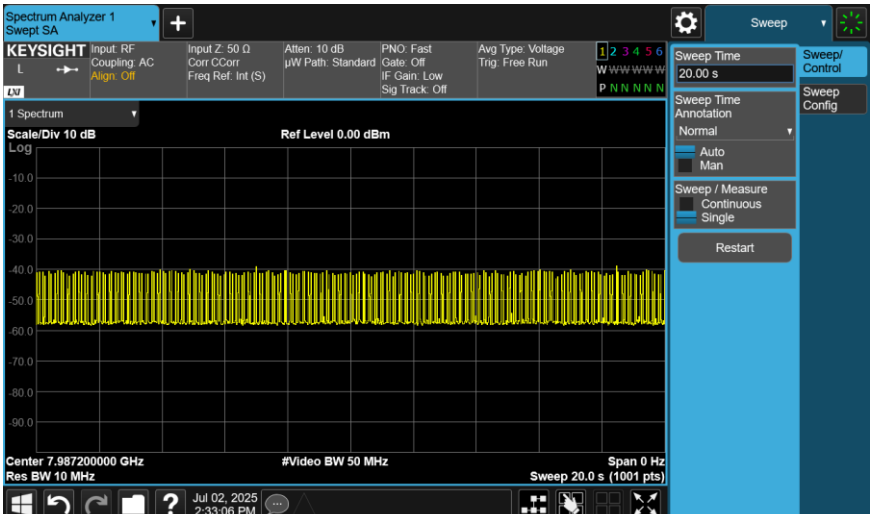
EIRP 50 MHz (dBm)= EIRP 8MHz -20 log (8 MHz / 50 MHz) = -16.55 - (-15.92) = -0.63 dBm

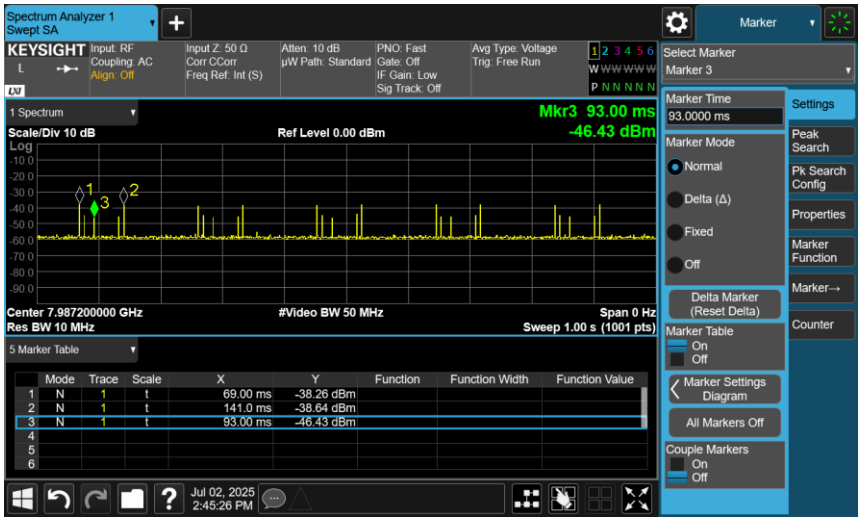
## UWB Bandwidth Test Results

| Test Mode: UWB Mode | | | | |
|---|---|---|---|---|
| CH9 | | | | |
| Antenna | Center Frequency (MHz) | Bandwidth (10 dB) | | |
| | | Bandwidth (MHz) | | Limit (MHz) |
| Ant 1 | 7987 | 606 | | ≥ 500 |
| Antenna | Center Frequency (MHz) | Bandwidth (10 dB) | | |
| | | UWB | Bandwidth (MHz) | Limit (MHz) |
| Ant 1 | 7987 | FL | 7.693 | ≥ 7.392 |
| | | FH | 8.299 | ≤ 8.976 |



**Technical requirements for hand held UWB systems Test Results**

| Plot 1 |
| --- |
|  |
| Powering up for EUT.<br>No Transmit. (noise floor) |
| Plot 2 |
|  |
| Powering on for EUT & enables the companion receiver's RX functionality.<br>EUT starts polling |

| Plot 3 |
|---|
|  |
| EUT associates the companion receiver and start to transmit.<br>Mkr1: Disables the companion receiver's RX functionality.<br>Mkr2: EUT disassociates from the companion receiver and stop transmitting.<br>Mkr1 to Mkr2: Signal stops within 10 seconds |
| Plot 4 |
|  |
| TX+RX Companion receiver to associate EUT<br>Mkr1 to Mkr2 : One cycle of EUT TX signal<br>Mkr3: Receiver RX signal |

---END---