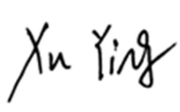
# RF TEST REPORT

| | |
|---|---|
| **Applicant** | Quectel Wireless Solutions Co., Ltd. |
| **FCC ID** | XMR2023FC64EB |
| **Product** | Wi-Fi & Bluetooth Module |
| **Brand** | Quectel |
| **Model** | FC64E-B |
| **Report No.** | R2301A0040-R4V1 |
| **Issue Date** | November 2, 2023 |

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 15E (2022)**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.



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*Approved by: Xu Kai*


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# TABLE OF CONTENT

| Version | Revision Description | Issue Date |
|---|---|---|
| Rev.0 | Initial issue of report. | September 20, 2023 |
| Rev.1 | Update information. | November 2, 2023 |
| Note: This revised report (Report No.: R2301A0040-R4V1) supersedes and replaces the previously issued report (Report No.: R2301A0040-R4). Please discard or destroy the previously issued report and dispose of it accordingly. | | |

# Summary of measurement results

| Number | Test Case | Clause in FCC rules | Verdict |
|---|---|---|---|
| 1 | Average output power | 15.407(a) | Not Required [1] |
| 2 | Occupied bandwidth | 15.407(e) | Not Required [1] |
| 3 | Frequency stability | 15.407(g) | Not Required [1] |
| 4 | Power spectral density | 15.407(a) | Not Required [1] |
| 5 | Unwanted Emissions | 15.407(b) | Test 802.11n HT40 Channel 110 and PASS Others Not Required [1] |
| 6 | Conducted Emissions | 15.207 | Not Required [1] |
| Date of Testing: September 1, 2023 ~ September 5, 2023<br>Date of Sample Received: August 18, 2023 | | | |
| Note:<br>1. Not Required means after evaluation, test items are no need to recorded, the test results please refers to Original Report.<br>2. All indications of Pass/Fail in this report are opinions expressed by TA Technology (Shanghai) Co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. | | | |

**FC64E-B (Report No.: R2301A0040-R4V1) is a variant model of FC64E (Report No.: FCC022022-06260RF2; Report Version: V1.0; FCC ID: XMR202208FC64E).**
**This report tests Unwanted Emissions (802.11n HT40 Channel 110) and also verifies Maximum output power, powers of new variant are varied due to measurement uncertainty, and sample tolerance of the acceptance range.**
**The detailed product change description please refers to the *Difference Declaration Letter*.**

# 1. Test Laboratory

## 1.1. Notes of the test report

This report shall not be reproduced in full or partial, without the written approval of **TA Technology (Shanghai) Co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above.

## 1.2. Test facility

**FCC (Designation number: CN1179, Test Firm Registration Number: 446626)**

TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

**A2LA (Certificate Number: 3857.01)**

TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.

## 1.3. Testing Location

| | |
|---|---|
| Company: | TA Technology (Shanghai) Co., Ltd. |
| Address: | Building 3, No.145, Jintang Rd, Pudong Shanghai, P.R.China |
| City: | Shanghai |
| Post code: | 201201 |
| Country: | P. R. China |
| Contact: | Xu Kai |
| Telephone: | +86-021-50791141/2/3 |
| Fax: | +86-021-50791141/2/3-8000 |
| Website: | http://www.ta-shanghai.com |
| E-mail: | xukai@ta-shanghai.com |

# 2. General Description of Equipment under Test

## 2.1. Applicant and Manufacturer Information

| | |
|---|---|
| **Applicant** | Quectel Wireless Solutions Co., Ltd. |
| **Applicant address** | Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China, 200233 |
| **Manufacturer** | Quectel Wireless Solutions Co., Ltd. |
| **Manufacturer address** | Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China, 200233 |

## 2.2. General information

| **EUT Description** | | |
|---|---|---|
| Model | FC64E-B | |
| SN | Conducted | E1N22KF12000063 |
| | Radiated | E1N22KF12000047 |
| Hardware Version | R1.0 | |
| Software Version | NA | |
| Power Supply | External power supply | |
| Antenna Type | Dipole Antenna | |
| Antenna Gain | 1.14 dBi | |
| Antenna Connector | SMA Male (The antenna connector will be fixed in the actual use of the finished product and cannot be replaced) | |
| Operating Frequency Range(s) | U-NII-1: 5150MHz-5250MHz<br>U-NII-2A: 5250MHz -5350MHz<br>U-NII-2C: 5470MHz-5725MHz<br>U-NII-3: 5725MHz -5850MHz | |
| Modulation Type | 802.11a: OFDM<br>802.11n (HT20/HT40): OFDM<br>802.11ac (VHT20/VHT40/VHT80): OFDM<br>802.11ax (HE20/ HE40/ HE80): OFDMA | |
| Operating temperature range | -30 ° C to 75 ° C | |
| Operating voltage range | 1.9 V to 2.4 V | |
| State DC voltage | 2.2 V | |
| Note:<br>1. The EUT is sent from the applicant to TA and the information of the EUT is declared by the applicant.<br>2. This device support automatically discontinue transmission, while the device is not transmitting any information, the device can automatically discontinue transmission and | | |

become standby mode for power saving. The device can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.

3. (a) Manufacturers implements security features in any digitally modulated devices capable of operating in any of the U-NII bands, so that third parties are not able to reprogram the device to operate outside the parameters for which the device was certified. The software prevents the user from operating the transmitter with operating frequencies, output power, modulation types or other radio frequency parameters outside those that were approved for the device. Manufacturers uses means including, but not limited to the use of a private network that allows only authenticated users to download software, electronic signatures in software or coding in hardware that is decoded by software to verify that new software can be legally loaded into a device to meet these requirements and must describe the methods in their application for equipment authorization.

(b) Manufacturers take steps to ensure that DFS functionality cannot be disabled by the operator of the U-NII device.

# 3. Applied Standards

According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

**Test standards:**

**FCC CFR47 Part 15E (2022)** Unlicensed National Information Infrastructure Devices

**ANSI C63.10-2013**

**Reference standard:**

**KDB 789033 D02 General UNII Test Procedures New Rules v02r01**

**KDB 662911 D01 Multiple Transmitter Output v02r01**

# 4. Test Configuration

## Test Mode

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in stand-up position (Z axis) and the worst case was recorded.

In order to find the worst case condition, Pre-tests are needed at the presence of different data rate. Preliminary tests have been done on all the configuration for confirming worst case. Data rate below means worst-case rate of each test item.

Worst-case data rates are shown as following table.

| Mode | Data Rate |
|---|---|
| 802.11n HT40 | MCS0 |

## Wireless Technology and Frequency Range

| Wireless Technology | | Bandwidth | Channel | Frequency |
|---|---|---|---|---|
| Wi-Fi | U-NII-1 | 20 MHz | 36 | 5180MHz |
| | | | 40 | 5200MHz |
| | | | 44 | 5220MHz |
| | | | 48 | 5240MHz |
| | | 40 MHz | 38 | 5190MHz |
| | | | 46 | 5230MHz |
| | | 80 MHz | 42 | 5210MHz |
| | U-NII-2A | 20 MHz | 52 | 5260MHz |
| | | | 56 | 5280MHz |
| | | | 60 | 5300MHz |
| | | | 64 | 5320MHz |
| | | 40 MHz | 54 | 5270MHz |
| | | | 62 | 5310MHz |
| | | 80 MHz | 58 | 5290MHz |
| | U-NII-2C | 20 MHz | 100 | 5500MHz |
| | | | 104 | 5520MHz |
| | | | 108 | 5540MHz |
| | | | 112 | 5560MHz |
| | | | 116 | 5580MHz |
| | | | 120 | 5600MHz |
| | | | 124 | 5620MHz |
| | | | 128 | 5640MHz |
| | | | 132 | 5660MHz |
| | | | 136 | 5680MHz |
| | | | 140 | 5700MHz |
| | | 40 MHz | 102 | 5510MHz |
| | | | 110 | 5550MHz |
| | | | 118 | 5590MHz |
| | | | 126 | 5630MHz |
| | | | 134 | 5670MHz |
| | | 80 MHz | 106 | 5530MHz |
| | | | 122 | 5610MHz |

| | | | | |
|---|---|---|---|---|
| | U-NII-3 | 20 MHz | 149 | 5745MHz |
| | | | 153 | 5765MHz |
| | | | 157 | 5785MHz |
| | | | 161 | 5805MHz |
| | | | 165 | 5825MHz |
| | | 40 MHz | 151 | 5755MHz |
| | | | 159 | 5795MHz |
| | | 80 MHz | 155 | 5775MHz |
| Does this device support TPC Function? ☒Yes ☐No | | | | |
| Does this device support TDWR Band? ☒Yes ☐No | | | | |

# 5. Test Case Results

## 5.1. Unwanted Emission

**Ambient condition**

| Temperature | Relative humidity | Pressure |
|---|---|---|
| 23°C ~25°C | 45%~50% | 101.5kPa |

**Method of Measurement**

The test set-up was made in accordance to the general provisions of ANSI C63.10. The Equipment Under Test (EUT) was set up on a non-conductive table in the semi-anechoic chamber. The test was performed at the distance of 3 m between the EUT and the receiving antenna. The radiated emissions measurements were made in a typical installation configuration.
Sweep the whole frequency band range from 9kHz to the 10th harmonic of the carrier, and the emissions less than 20 dB below the permissible value are reported.

During the test, the height of receive antenna shall be moved from 1 to 4 meters, and the antenna shall be performed under horizontal and vertical polarization. The turntable shall be rotated from 0 to 360 degrees for detecting the maximum of radiated spurious signal level. The measurements shall be repeated with orthogonal polarization of the test antenna. The data of cable loss and antenna factor has been calibrated in full testing frequency range before the testing.
Set the spectrum analyzer in the following:
9kHz~150 kHz
RBW=200Hz, VBW=1kHz/ Sweep=AUTO
150 kHz~30MHz
RBW=9KHz, VBW=30KHz,/ Sweep=AUTO
Below 1GHz
RBW=100kHz / VBW=300kHz / Sweep=AUTO
a) Peak emission levels are measured by setting the instrument as follows:
Above 1GHz
PEAK: RBW=1MHz VBW=3MHz/ Sweep=AUTO
b) Average emission levels are measured by setting the instrument as follows:
Above 1GHz
AVERAGE: RBW=1MHz / VBW=3MHz / Sweep=AUTO
c) Detector: The measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.
d) Averaging type = power (i.e., rms) (As an alternative, the detector and averaging type may be set for linear voltage averaging. Some instruments require linear display mode to use linear voltage averaging. Log or dB averaging shall not be used.)
e) Sweep time = auto.
f) Perform a trace average of at least 100 traces if the transmission is continuous. If the transmission

is not continuous, then the number of traces shall be increased by a factor of 1 / D, where D is the duty cycle. For example, with 50% duty cycle, at least 200 traces shall be averaged. (If a specific emission is demonstrated to be continuous—i.e., 100% duty cycle—then rather than turning ON and OFF with the transmit cycle, at least 100 traces shall be averaged.)

g) If tests are performed with the EUT transmitting at a duty cycle less than 98%, then a correction factor shall be added to the measurement results prior to comparing with the emission limit, to compute the emission level that would have been measured had the test been performed at 100% duty cycle. The correction factor is computed as follows:

1) If power averaging (rms) mode was used in the preceding step e), then the correction factor is [10 log (1 / D)], where D is the duty cycle. For example, if the transmit duty cycle was 50%, then 3 dB shall be added to the measured emission levels.

2) If linear voltage averaging mode was used in the preceding step e), then the correction factor is [20 log (1 / D)], where D is the duty cycle. For example, if the transmit duty cycle was 50%, then 6 dB shall be added to the measured emission levels.

3) If a specific emission is demonstrated to be continuous (100% duty cycle) rather than turning ON and OFF with the transmit cycle, then no duty cycle correction is required for that emission.

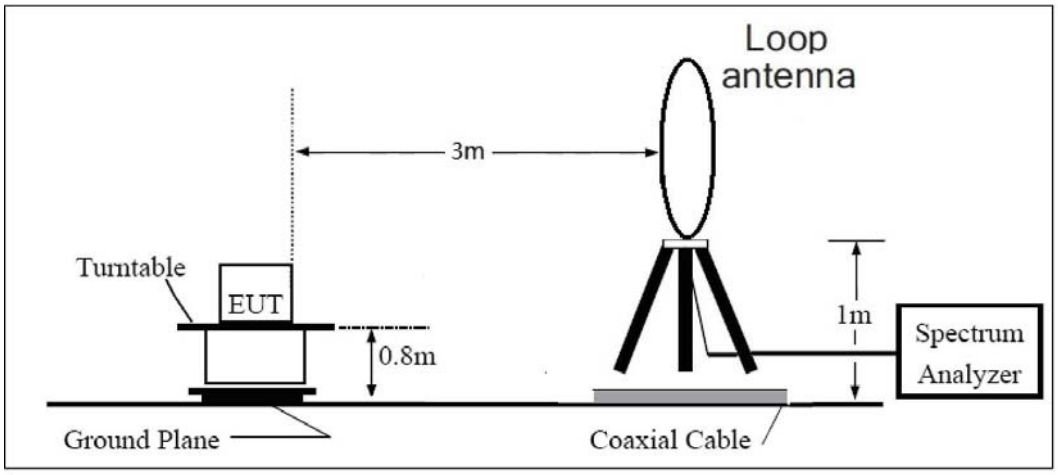
Reduce the video bandwidth until no significant variations in the displayed signal are observed in subsequent traces, provided the video bandwidth is no less than 1 Hz. For regulatory requirements that specify averaging only over the transmit duration (e.g., digital transmission system [DTS] and Unlicensed National Information Infrastructure [U-NII]), the video bandwidth shall be greater than [1 / (minimum transmitter on time)] and no less than 1 Hz.

The field strength of spurious emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in stand-up position (Z axis) and the loop antenna is vertical, others antenna are vertical and horizontal.

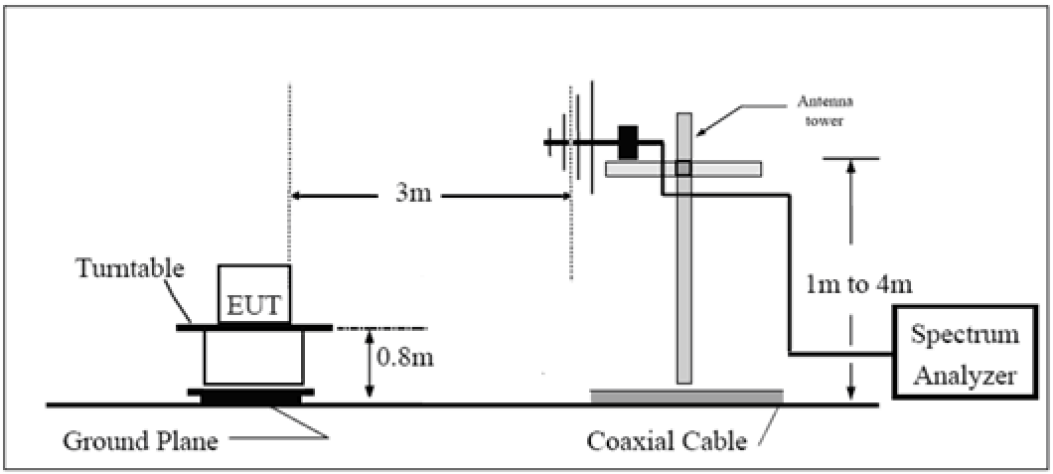
The test is in transmitting mode.

**Test setup**

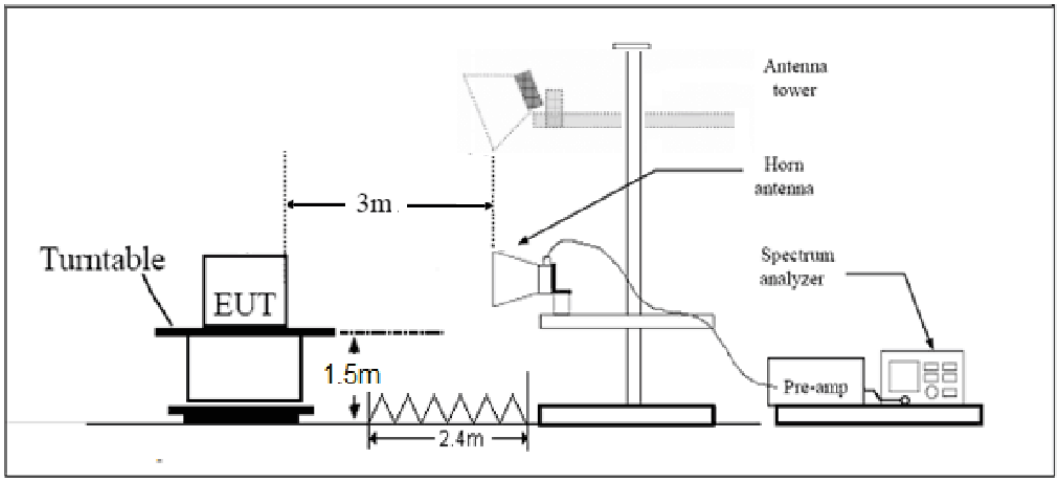
**9KHz~ 30MHz**




**30MHz~ 1GHz**




**Above 1GHz**




Note: Area side:2.4mX3.6m

**Limits**

(1) For transmitters operating in the 5725-5850 MHz band: All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

(2) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz(68.2dBμV/m).

(3) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz(68.2dBμV/m).

(4) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz(68.2dBμV/m).

Note: the following formula is used to convert the EIRP to field strength

§1、E[dBμV/m] = EIRP[dBm] - 20 log(d[meters]) + 104.77, where E = field strength and

d = distance at which field strength limit is specified in the rules;

§2、E[dBμV/m] = EIRP[dBm] + 95.2, for d = 3 meters

(5) Unwanted spurious emissions fallen in restricted bands per FCC Part15.205 shall comply with the general field strength limits set forth in § 15.209 as below table.

| Frequency of emission (MHz) | Field strength(μV/m) | Field strength(dBμV/m) |
|---|---|---|
| 0.009–0.490 | 2400/F(kHz) | / |
| 0.490–1.705 | 24000/F(kHz) | / |
| 1.705–30.0 | 30 | / |
| 30-88 | 100 | 40 |
| 88-216 | 150 | 43.5 |
| 216-960 | 200 | 46 |
| Above960 | 500 | 54 |

| MHz | MHz | MHz | GHz |
|---|---|---|---|
| 0.090 - 0.110 | 16.42 - 16.423 | 399.9 - 410 | 4.5 - 5.15 |
| [1]0.495 - 0.505 | 16.69475 - 16.69525 | 608 - 614 | 5.35 - 5.46 |
| 2.1735 - 2.1905 | 16.80425 - 16.80475 | 960 - 1240 | 7.25 - 7.75 |
| 4.125 - 4.128 | 25.5 - 25.67 | 1300 - 1427 | 8.025 - 8.5 |
| 4.17725 - 4.17775 | 37.5 - 38.25 | 1435 - 1626.5 | 9.0 - 9.2 |
| 4.20725 - 4.20775 | 73 - 74.6 | 1645.5 - 1646.5 | 9.3 - 9.5 |
| 6.215 - 6.218 | 74.8 - 75.2 | 1660 - 1710 | 10.6 - 12.7 |
| 6.26775 - 6.26825 | 108 - 121.94 | 1718.8 - 1722.2 | 13.25 - 13.4 |
| 6.31175 - 6.31225 | 123 - 138 | 2200 - 2300 | 14.47 - 14.5 |
| 8.291 - 8.294 | 149.9 - 150.05 | 2310 - 2390 | 15.35 - 16.2 |
| 8.362 - 8.366 | 156.52475 - 156.52525 | 2483.5 - 2500 | 17.7 - 21.4 |
| 8.37625 - 8.38675 | 156.7 - 156.9 | 2690 - 2900 | 22.01 - 23.12 |
| 8.41425 - 8.41475 | 162.0125 - 167.17 | 3260 - 3267 | 23.6 - 24.0 |
| 12.29 - 12.293 | 167.72 - 173.2 | 3332 - 3339 | 31.2 - 31.8 |
| 12.51975 - 12.52025 | 240 - 285 | 3345.8 - 3358 | 36.43 - 36.5 |
| 12.57675 - 12.57725 | 322 - 335.4 | 3600 - 4400 | [2] |
| 13.36 - 13.41 | | | |

**Measurement Uncertainty**

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k$ = 1.96.

| Frequency | Uncertainty |
|---|---|
| 9KHz-30MHz | 3.55 dB |
| 30MHz-200MHz | 4.17 dB |
| 200MHz-1GHz | 4.84 dB |
| 1-18GHz | 4.35 dB |
| 18-26.5GHz | 5.90 dB |
| 26.5GHz~40GHz | 5.92 dB |

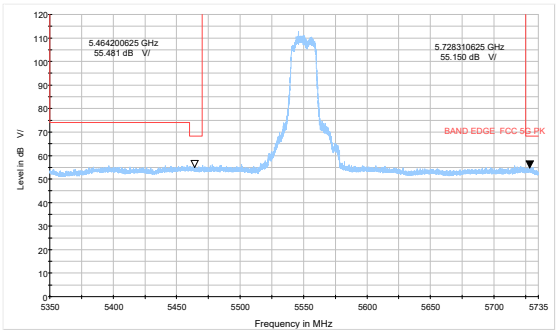
**Test Results:**

A symbol (dB V/) in the test plot below means (dBμV/m)

**The signal beyond the limit is carrier.**

**U-NII-2C**

802.11n HT40-Channel 110: Peak

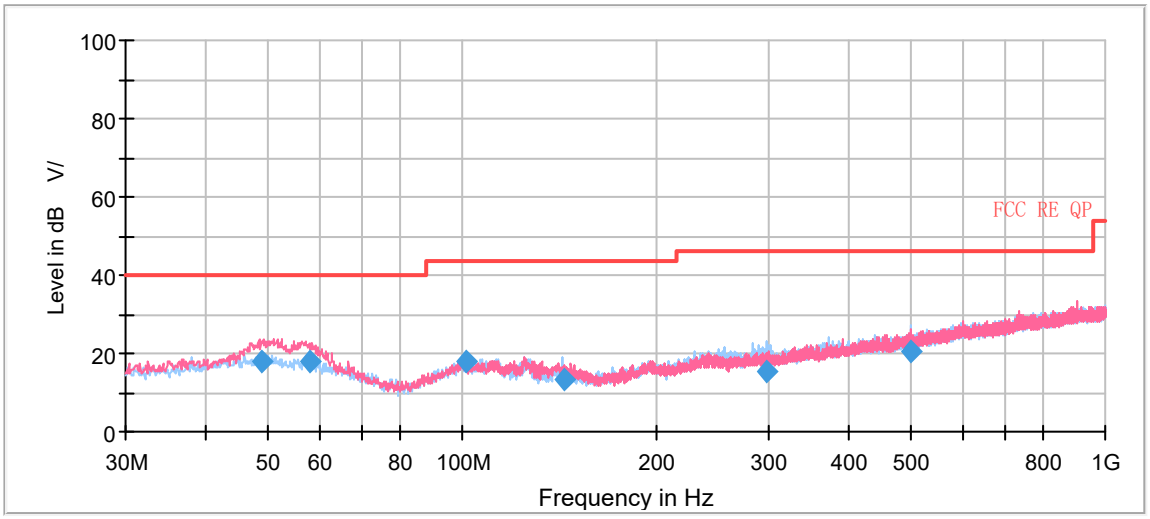


**Result of RE**

**Test result**

A symbol ( dB V/) in the test plot below means (dBμV/m)

**Continuous TX mode:**



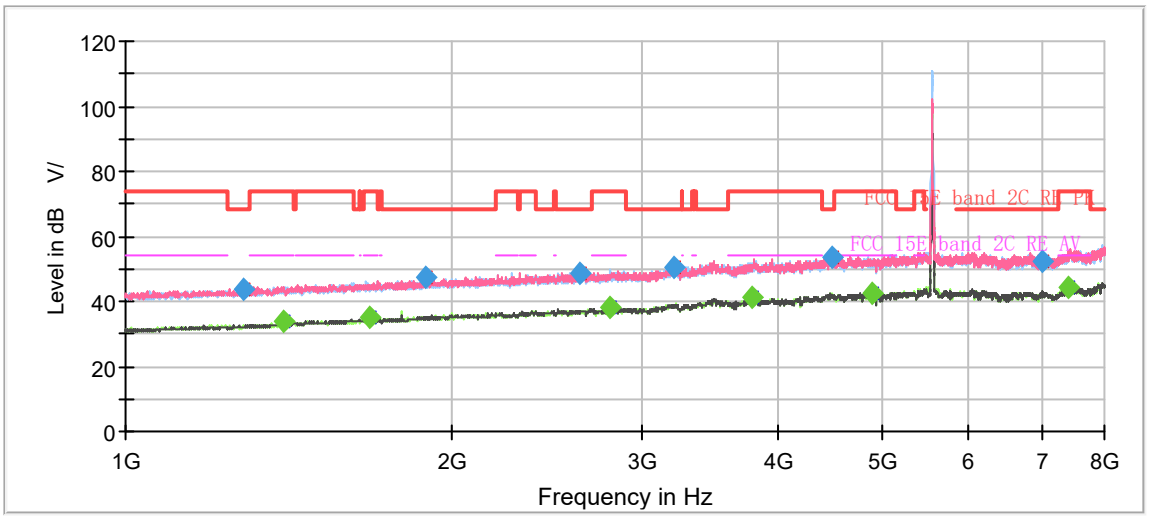

Radiates Emission from 30MHz to 1GHz

| Frequency (MHz) | Quasi-Peak (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Height (cm) | Polarization | Azimuth (deg) | Correct Factor (dB) |
|---|---|---|---|---|---|---|---|
| 48.830000 | 18.01 | 40.00 | 21.99 | 110.0 | V | 47.0 | 20.6 |
| 57.841250 | 17.76 | 40.00 | 22.24 | 125.0 | V | 320.0 | 19.8 |
| 101.700000 | 17.97 | 43.50 | 25.53 | 115.0 | V | 9.0 | 18.8 |
| 143.847500 | 13.29 | 43.50 | 30.21 | 225.0 | H | 98.0 | 14.8 |
| 296.912500 | 15.40 | 46.00 | 30.60 | 100.0 | H | 252.0 | 20.3 |
| 500.005000 | 20.49 | 46.00 | 25.51 | 100.0 | H | 283.0 | 24.8 |

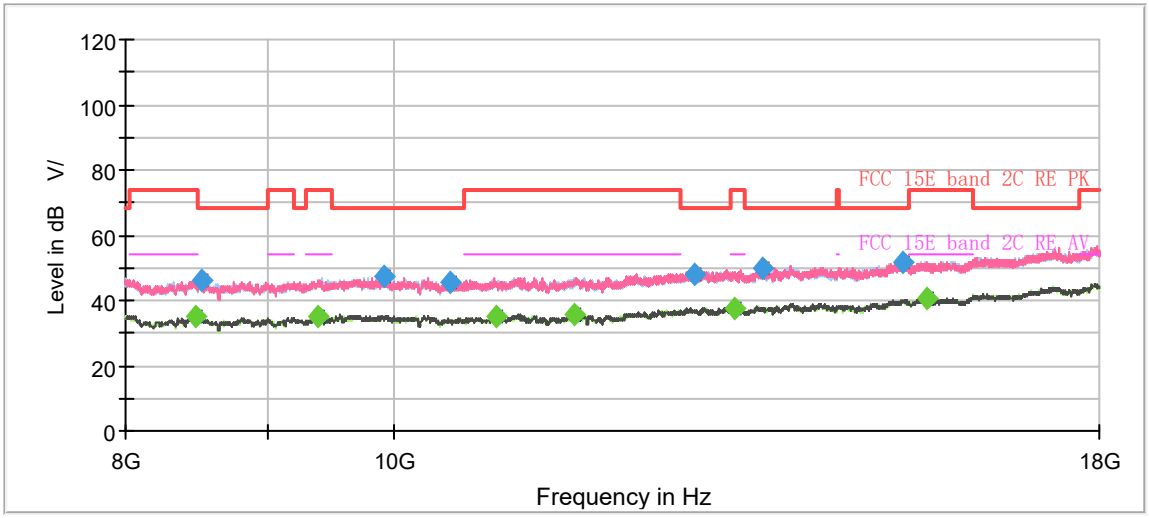
**Remark: 1. Correction Factor = Antenna factor + Insertion loss (cable loss + amplifier gain)**

**2. Margin = Limit – Quasi-Peak**

**802.11n (HT40) CH110**




Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 8GHz

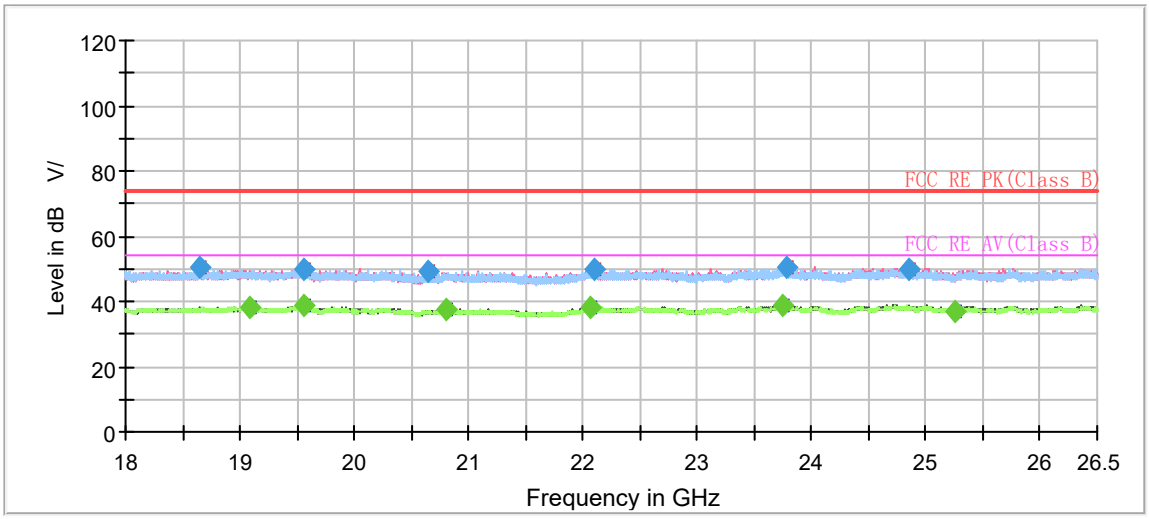



Radiates Emission from 8GHz to 18GHz

| Frequency (MHz) | MaxPeak (dB μ V/m) | Average (dB μ V/m) | Limit (dB μ V/m) | Margin (dB) | Meas. Time (ms) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|---|---|
| 1283.500000 | 43.97 | --- | 68.20 | 24.23 | 500.0 | 100.0 | V | 259.0 | -6.6 |
| 1397.250000 | --- | 33.67 | 54.00 | 20.33 | 500.0 | 100.0 | V | 1.0 | -5.6 |
| 1679.000000 | --- | 34.81 | 54.00 | 19.19 | 500.0 | 100.0 | H | 93.0 | -4.0 |
| 1895.125000 | 47.33 | --- | 68.20 | 20.87 | 500.0 | 200.0 | V | 29.0 | -3.1 |
| 2624.000000 | 48.55 | --- | 68.20 | 19.65 | 500.0 | 100.0 | H | 0.0 | 0.3 |
| 2799.875000 | --- | 38.33 | 54.00 | 15.67 | 500.0 | 200.0 | V | 67.0 | 1.1 |
| 3205.000000 | 50.70 | --- | 68.20 | 17.50 | 500.0 | 100.0 | V | 165.0 | 3.5 |
| 3781.625000 | --- | 40.98 | 54.00 | 13.02 | 500.0 | 100.0 | H | 250.0 | 6.2 |
| 4484.250000 | 53.70 | --- | 68.20 | 14.50 | 500.0 | 100.0 | H | 186.0 | 6.9 |
| 4882.375000 | --- | 42.57 | 54.00 | 11.43 | 500.0 | 100.0 | V | 235.0 | 7.9 |
| 7002.500000 | 52.31 | --- | 68.20 | 15.89 | 500.0 | 100.0 | H | 308.0 | 10.0 |
| 7426.000000 | --- | 44.37 | 54.00 | 9.63 | 500.0 | 100.0 | V | 282.0 | 11.5 |

**Remark: 1. Correction Factor = Antenna factor + Insertion loss (cable loss + amplifier gain)**

**2. Margin = Limit –MAX Peak/ Average**

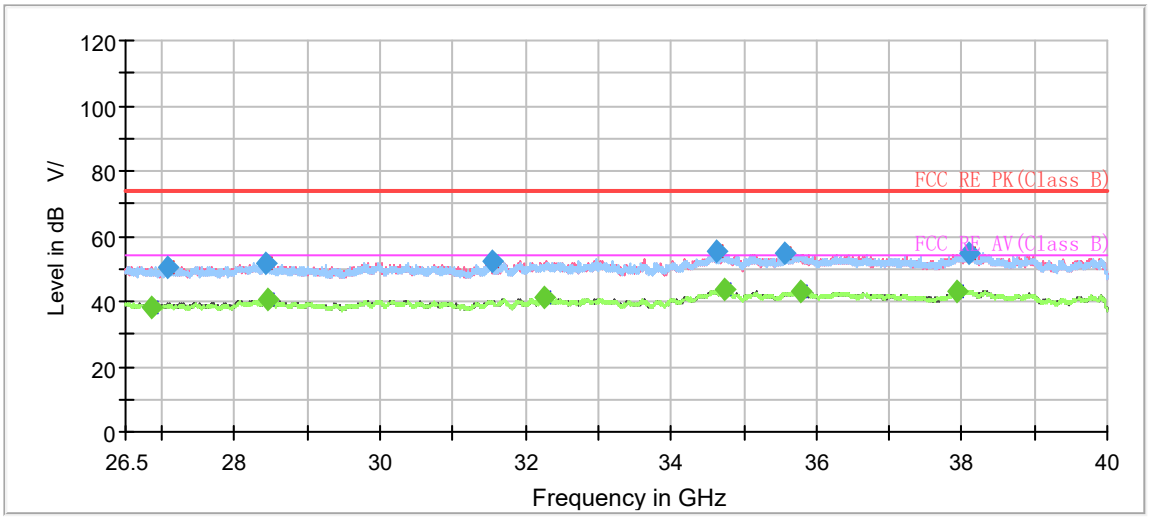



Radiates Emission from 18GHz to 26.5GHz

| Frequency (MHz) | MaxPeak (dB µ V/m) | Average (dB µ V/m) | Limit (dB µ V/m) | Margin (dB) | Meas. Time (ms) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|---|---|
| 18640.687500 | 50.17 | --- | 74.00 | 23.83 | 500.0 | 200.0 | H | 285.0 | -5.6 |
| 19086.937500 | --- | 38.20 | 54.00 | 15.80 | 500.0 | 200.0 | V | 187.0 | -5.7 |
| 19559.750000 | 50.00 | --- | 74.00 | 24.00 | 500.0 | 200.0 | V | 42.0 | -5.3 |
| 19560.812500 | --- | 38.72 | 54.00 | 15.28 | 500.0 | 100.0 | H | 63.0 | -5.3 |
| 20643.500000 | 49.31 | --- | 74.00 | 24.69 | 500.0 | 100.0 | H | 167.0 | -5.1 |
| 20811.375000 | --- | 37.80 | 54.00 | 16.20 | 500.0 | 200.0 | H | 340.0 | -5.1 |
| 22064.062500 | --- | 38.04 | 54.00 | 15.96 | 500.0 | 100.0 | V | 180.0 | -4.2 |
| 22094.875000 | 50.06 | --- | 74.00 | 23.94 | 500.0 | 100.0 | H | 38.0 | -4.1 |
| 23744.937500 | --- | 38.83 | 54.00 | 15.17 | 500.0 | 100.0 | V | 338.0 | -2.4 |
| 23780.000000 | 50.33 | --- | 74.00 | 23.67 | 500.0 | 100.0 | H | 0.0 | -2.4 |
| 24857.375000 | 49.88 | --- | 74.00 | 24.12 | 500.0 | 200.0 | V | 275.0 | -2.3 |
| 25261.125000 | --- | 37.17 | 54.00 | 16.83 | 500.0 | 100.0 | V | 346.0 | -2.7 |

**Remark: 1. Correction Factor = Antenna factor + Insertion loss (cable loss + amplifier gain)**

**2. Margin = Limit –MAX Peak/ Average**




Radiates Emission from 26.5GHz to 40GHz

| Frequency (MHz) | MaxPeak (dB μ V/m) | Average (dB μ V/m) | Limit (dB μ V/m) | Margin (dB) | Meas. Time (ms) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|---|---|---|---|---|---|---|---|---|---|
| 26862.812500 | --- | 38.41 | 54.00 | 15.59 | 500.0 | 200.0 | V | 4.0 | -1.0 |
| 27068.687500 | 50.40 | --- | 74.00 | 23.60 | 500.0 | 100.0 | H | 60.0 | -1.1 |
| 28428.812500 | 51.84 | --- | 74.00 | 22.16 | 500.0 | 100.0 | V | 174.0 | 0.1 |
| 28447.375000 | --- | 40.49 | 54.00 | 13.51 | 500.0 | 200.0 | V | 33.0 | 0.1 |
| 31528.750000 | 52.28 | --- | 74.00 | 21.72 | 500.0 | 200.0 | V | 0.0 | -1.9 |
| 32267.875000 | --- | 41.18 | 54.00 | 12.82 | 500.0 | 200.0 | V | 80.0 | -1.2 |
| 34628.687500 | 55.52 | --- | 74.00 | 18.48 | 500.0 | 100.0 | V | 334.0 | 2.9 |
| 34740.062500 | --- | 43.44 | 54.00 | 10.56 | 500.0 | 200.0 | V | 211.0 | 3.0 |
| 35558.500000 | 54.52 | --- | 74.00 | 19.48 | 500.0 | 100.0 | H | 186.0 | 2.9 |
| 35788.000000 | --- | 43.26 | 54.00 | 10.74 | 500.0 | 200.0 | H | 209.0 | 3.2 |
| 37922.687500 | --- | 43.24 | 54.00 | 10.76 | 500.0 | 200.0 | V | 40.0 | 3.5 |
| 38096.500000 | 54.93 | --- | 74.00 | 19.07 | 500.0 | 200.0 | V | 240.0 | 3.8 |

**Remark: 1. Correction Factor = Antenna factor + Insertion loss (cable loss + amplifier gain)**
**2. Margin = Limit-MAX Peak/ Average**

# 6. Main Test Instruments

| Name of Equipment | Manufacturer | Type/Model | Serial Number | Calibration Date | Expiration Time |
|---|---|---|---|---|---|
| Radiated Emission | | | | | |
| EMI Test Receiver | R&S | ESR | 102389 | 2023-05-12 | 2024-05-11 |
| Signal Analyzer | R&S | FSV40 | 101186 | 2023-05-12 | 2024-05-11 |
| Loop Antenna | SCHWARZBECK | FMZB1519 | 1519-047 | 2023-04-16 | 2026-04-15 |
| TRILOG Broadband Antenna | SCHWARZBECK | VULB 9163 | 1023 | 2023-07-14 | 2026-07-13 |
| Horn Antenna | R&S | HF907 | 102723 | 2021-07-24 | 2024-07-23 |
| Horn Antenna | ETS-Lindgren | 3160-09 | 00102643 | 2021-10-10 | 2024-10-09 |
| Horn Antenna | STEATITE | QSH-SL-26-40-K-15 | 16779 | 2023-01-17 | 2026-01-16 |
| Software | R&S | EMC32 | 9.26.01 | / | / |

# ANNEX A: The EUT Appearance

**The EUT Appearance are submitted separately.**

# ANNEX B: Test Setup Photos

**The Test Setup Photos are submitted separately.**

# ANNEX C: Product Change Description

**The Product Change Description are submitted separately.**

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