



## FCC/ISED TEST REPORT

Report Number : 709502405790-00C

Date of Issue: September 18, 2024

Model : MT02-0101-067013, MT02-0101-050013, MT02-0101-067014,  
MT02-0101-050014, MT02-0101-067018, MT02-0101-050018

Product Type : Push Pro Remote

Applicant : Rollease Acmeda Inc

Address : 7th Floor / 750 East Main Street, Stamford, CT 06902, USA

Manufacturer : Rollease Acmeda Inc

Address : 7th Floor / 750 East Main Street, Stamford, CT 06902, USA

Test Result : ☒ Positive ☐ NegativeTotal pages including  
Appendices : 24

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## 2 Report Modification Record

Alterations and additions to this report will be issued to the holders of each copy in the form of a complete document.

| Issue            | Description of Change | Date of Issue |
|------------------|-----------------------|---------------|
| 709502405790-00C | First Issue           | 09/18/2024    |

## 3 Details about the Test Laboratory

### Test Site 1

Company name: TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch  
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FCC Registration No.: 820234

FCC Designation Number: CN1183

ISED CAB identifier CN0101

IC Registration No.: 31668

## 4 Description of the Equipment Under Test

Product: Push Pro Remote

Model no./HVIN/PMN: MT02-0101-067013, MT02-0101-050013, MT02-0101-067014, MT02-0101-050014, MT02-0101-067018, MT02-0101-050018

FCC ID: 2AGGZ003B9ACA57

IC: 21769-003B9ACA57

Rating: USB input 5V,  
Rechargeable lithium-ion battery 3.7V

RF Transmission Frequency: 2402~2480 MHz (BLE)  
433.92MHz

No. of Operated Channel:

| Bluetooth Low Energy |          |    |          |    |          |    |          |
|----------------------|----------|----|----------|----|----------|----|----------|
| Ch                   | Fre(MHz) | Ch | Fre(MHz) | Ch | Fre(MHz) | Ch | Fre(MHz) |
| 0                    | 2402     | 10 | 2422     | 20 | 2442     | 30 | 2462     |
| 1                    | 2404     | 11 | 2424     | 21 | 2444     | 31 | 2464     |
| 2                    | 2406     | 12 | 2426     | 22 | 2446     | 32 | 2466     |
| 3                    | 2408     | 13 | 2428     | 23 | 2448     | 33 | 2468     |
| 4                    | 2410     | 14 | 2430     | 24 | 2450     | 34 | 2470     |
| 5                    | 2412     | 15 | 2432     | 25 | 2452     | 35 | 2472     |
| 6                    | 2414     | 16 | 2434     | 26 | 2454     | 36 | 2474     |
| 7                    | 2416     | 17 | 2436     | 27 | 2456     | 37 | 2476     |
| 8                    | 2418     | 18 | 2438     | 28 | 2458     | 38 | 2478     |
| 9                    | 2420     | 19 | 2440     | 29 | 2460     | 39 | 2480     |

Modulation: 2.4GHz BLE: GFSK, 433.92MHz: GFSK

Antenna Type: PCB antenna

Antenna Gain: 3.0dBi for 433.92MHz; -13.20dBi for 2.4GHz BLE

Description of the EUT: The Equipment Under Test (EUT) was a Push Pro Remote which support BLE and 433. 92MHz transmit function.  
All products are identical in electrical and mechanical construction except for the Model Number, Color, "AUTOMATE" and "SMART HOME COLLECTION" mark on the remote.  
We chose model MT02-0101-067013 to perform all tests.

Test sample no.: SHA-831413-2 (Radiated sample);  
SHA-831413-2 (Conducted sample)

The sample's mentioned in this report is/are submitted/ supplied/ manufactured by client. The laboratory therefore assumes no responsibility for accuracy of information on the brand name, model number, origin of manufacture, consignment or any information supplied.

## 5 Summary of Test Standards

| Test Standards                                  |                                                                        |
|-------------------------------------------------|------------------------------------------------------------------------|
| FCC Part 15 Subpart C                           | PART 15 - RADIO FREQUENCY DEVICES<br>Subpart C - Intentional Radiators |
| RSS-Gen Issue 5<br>Amendment 2<br>February 2021 | General Requirements for Compliance of Radio Apparatus                 |
| RSS-210 Issue 11<br>June 25, 2024               | RSS-210 — License-exempt Radio Apparatus: Category I Equipment         |

All the test methods were according to ANSI C63.10-2013.



## 6 Summary of Test Results

| Technical Requirements                   |                  |                                    |       |             |             |
|------------------------------------------|------------------|------------------------------------|-------|-------------|-------------|
| FCC Part 15 Subpart C, RSS-210 Issue 11  |                  |                                    |       |             |             |
| Test Condition                           |                  |                                    | Pages | Test Site   | Test Result |
| §15.207                                  | RSS-GEN A8.8     | Conducted emission AC power port   | 10-15 | Shield room | Pass        |
| §15.205, §15.209, 15.35<br>(c)§15.231(b) | RSS-210 A.1.3    | Radiated Emission, 30MHz to 4.5GHz | 16-19 | 3m chamber  | Pass        |
| §15.231(c)                               | RSS-210 A.1.4    | Bandwidth Measurement              | 20-21 | Shield room | Pass        |
| §15.231(a)(1)                            | RSS-210 A.1.2(a) | Deactivation Time                  | 22    | Shield room | Pass        |
| §15.203                                  | RSS-Gen 6.8      | Antenna requirement                | --    | See Note 2  | Pass        |

Note 2: The EUT uses a PCB Antenna, which gain is -13.20dBi for 2.4GHz and 3.0dBi for 433.92MHz. In accordance to §15.203 and RSS-Gen 6.8, It is considered sufficiently to comply with the provisions of this section.

## 7 General Remarks

### Remarks

This submittal(s) (test report) is intended for FCC ID: 2AGGZ003B9ACA57, IC: 21769-003B9ACA57 complies with Section 15.207, 15.205, 15.209, 15.231 of the FCC Part 15, Subpart C Rules. RSS-Gen Issue 5 and RSS-210 issue 11.

This report is only for 433.92MHz, for 2.4GHz BLE refer to report No. 709502405790-00B.

### SUMMARY:

All tests according to the regulations cited on page 5 were

■ - Performed

□ - **Not** Performed

The Equipment Under Test

■ - **Fulfills** the general approval requirements.

□ - **Does not** fulfill the general approval requirements.

Sample Received Date: July 15,2024

Testing Start Date: July 16,2024

Testing End Date: August 10,2024

TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch

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EMC Section Manager

Jiaxi XU  
EMC Project Engineer

Tianji XU  
EMC Test Engineer



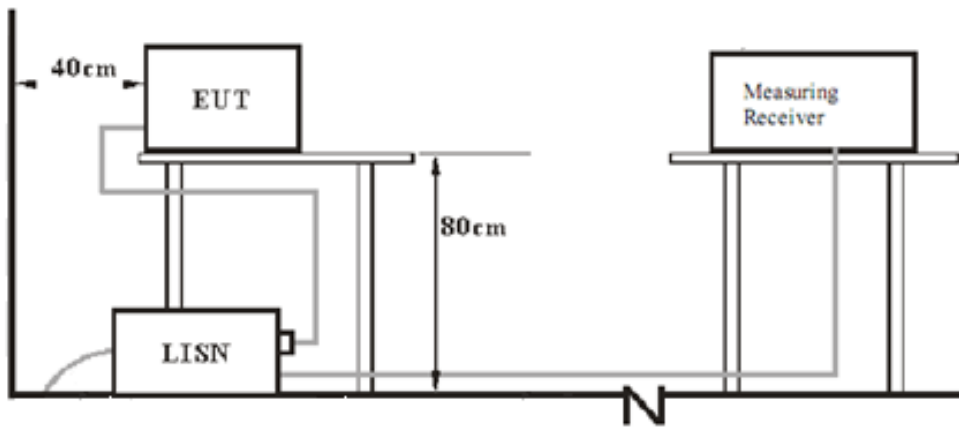
## 8 Systems test configuration

Auxiliary Equipment Used during Test:

| DESCRIPTION | MANUFACTURER | MODEL NO.(SHIELD) | S/N(LENGTH) |
|-------------|--------------|-------------------|-------------|
| Adapter     | MLF          | MLF-A260502000UU  | --          |

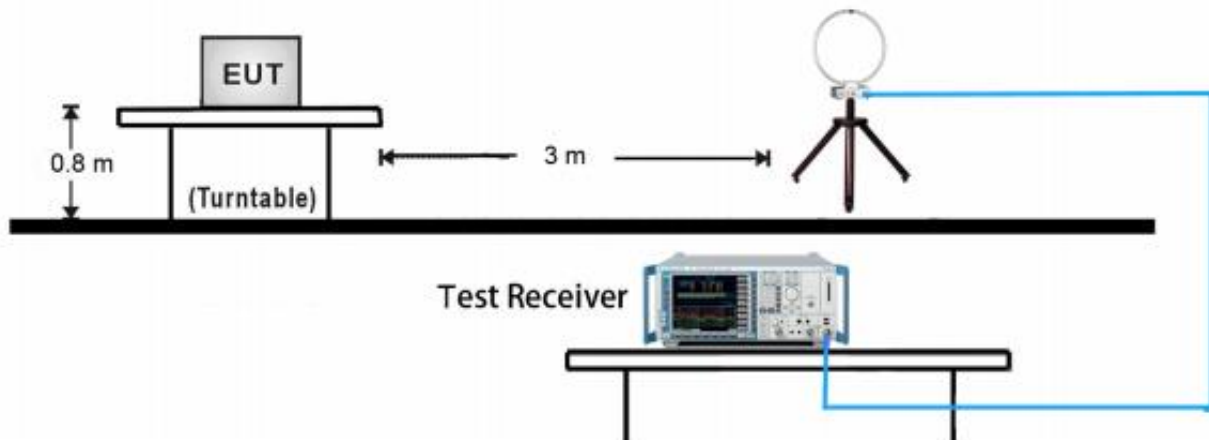
## 9 Test Setups

### 8.1 AC Power Line Conducted Emission test setups

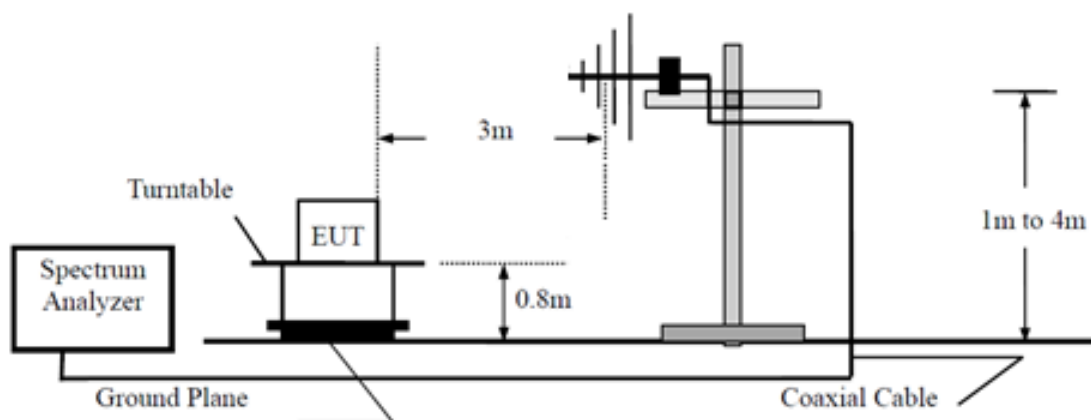


### 8.2 Radiated test setups

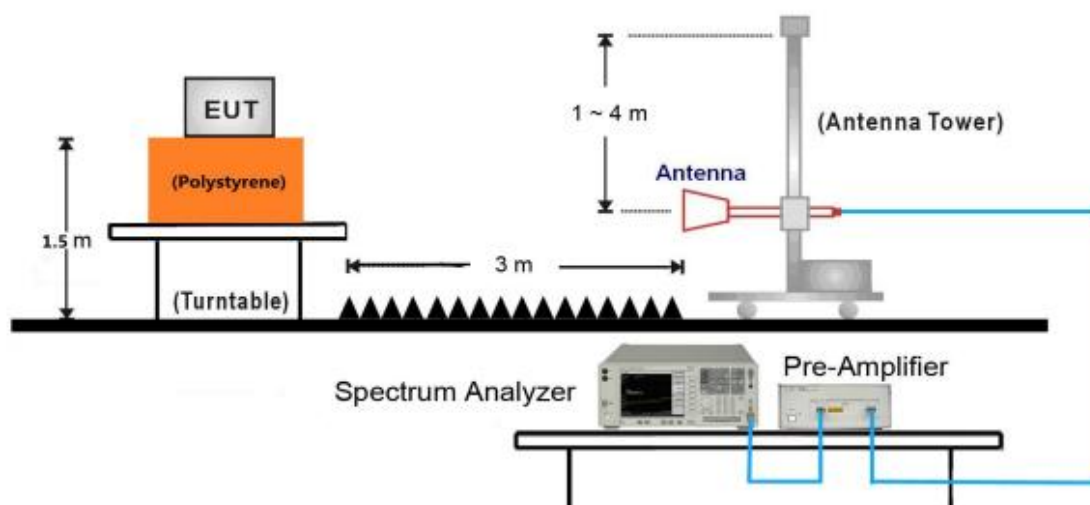
9kHz ~ 30MHz Test Setup:



### 30MHz ~ 1GHz Test- Setup



### 1GHz ~ 18GHz Test Setup:



## 10 Test Methodology

### 10.1 Conducted Emission

#### Test Method

1. The EUT was placed on a table, which is 0.8m above ground plane
2. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.).
3. Maximum procedure was performed to ensure EUT compliance
4. A EMI test receiver is used to test the emissions from both sides of AC line

#### Limit

| Frequency<br>MHz | QP Limit<br>dB $\mu$ V | AV Limit<br>dB $\mu$ V |
|------------------|------------------------|------------------------|
| 0.150-0.500      | 66-56*                 | 56-46*                 |
| 0.500-5          | 56                     | 46                     |
| 5-30             | 60                     | 50                     |

Decreasing linearly with logarithm of the frequency

## Conducted Emission

# 150k-30MHz Conducted Emission Test

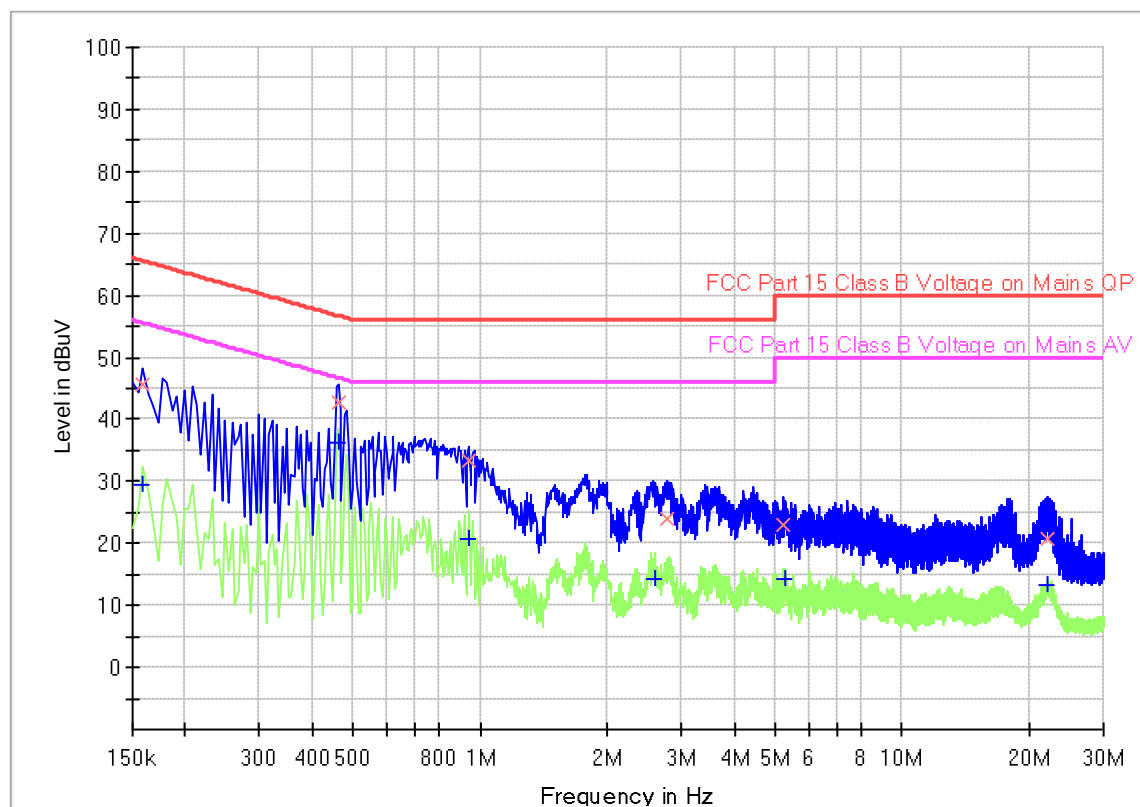
## EUT Information

EUT Name: Push PRO Remote  
 Model: MT02-0101-067013  
 Client: Rollease Acmeda inc  
 Op Cond: Charging mode and TX at 433.92MHz  
 Operator: Tianji XU  
 Standard: FCC Part 15.207(a)  
 Comment: Phase L  
 Sample No.: SHA-831413-2

## Scan Setup: Voltage with 2-Line-LISN pre [EMI conducted]

Hardware Setup: Voltage with 2-Line-LISN  
 Receiver: [ESR 3]  
 Level Unit: dBuV

| Subrange         | Step Size | Detectors | IF BW  | Meas. Time | Preamplifier |
|------------------|-----------|-----------|--------|------------|--------------|
| 9 kHz - 150 kHz  | 100 Hz    | PK+       | 200 Hz | 0.02 s     | 0 dB         |
| 150 kHz - 30 MHz | 4.5 kHz   | PK+; AVG  | 9 kHz  | 0.01 s     | 0 dB         |





## Final Result

| Frequency (MHz) | QuasiPeak (dBuV) | CAverage (dBuV) | Limit (dBuV) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Line | Corr. (dB) |
|-----------------|------------------|-----------------|--------------|-------------|-----------------|-----------------|------|------------|
| 0.159000        | ---              | 29.32           | 55.52        | 26.20       | 1000.0          | 9.000           | L1   | 19.4       |
| 0.159000        | 45.74            | ---             | 65.52        | 19.78       | 1000.0          | 9.000           | L1   | 19.4       |
| 0.460500        | ---              | 36.32           | 46.68        | 10.36       | 1000.0          | 9.000           | L1   | 19.5       |
| 0.460500        | 42.73            | ---             | 56.68        | 13.95       | 1000.0          | 9.000           | L1   | 19.5       |
| 0.937500        | 33.48            | ---             | 56.00        | 22.52       | 1000.0          | 9.000           | L1   | 19.5       |
| 0.942000        | ---              | 20.73           | 46.00        | 25.27       | 1000.0          | 9.000           | L1   | 19.5       |
| 2.589000        | ---              | 14.28           | 46.00        | 31.72       | 1000.0          | 9.000           | L1   | 19.5       |
| 2.778000        | 23.94            | ---             | 56.00        | 32.06       | 1000.0          | 9.000           | L1   | 19.5       |
| 5.248500        | 22.97            | ---             | 60.00        | 37.03       | 1000.0          | 9.000           | L1   | 19.6       |
| 5.275500        | ---              | 14.42           | 50.00        | 35.58       | 1000.0          | 9.000           | L1   | 19.6       |
| 21.988500       | 20.79            | ---             | 60.00        | 39.21       | 1000.0          | 9.000           | L1   | 20.7       |
| 22.155000       | ---              | 13.30           | 50.00        | 36.70       | 1000.0          | 9.000           | L1   | 20.7       |

Note 1: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + LISN Factor (dB) + 10dB Attenuator

# 150k-30MHz Conducted Emission Test

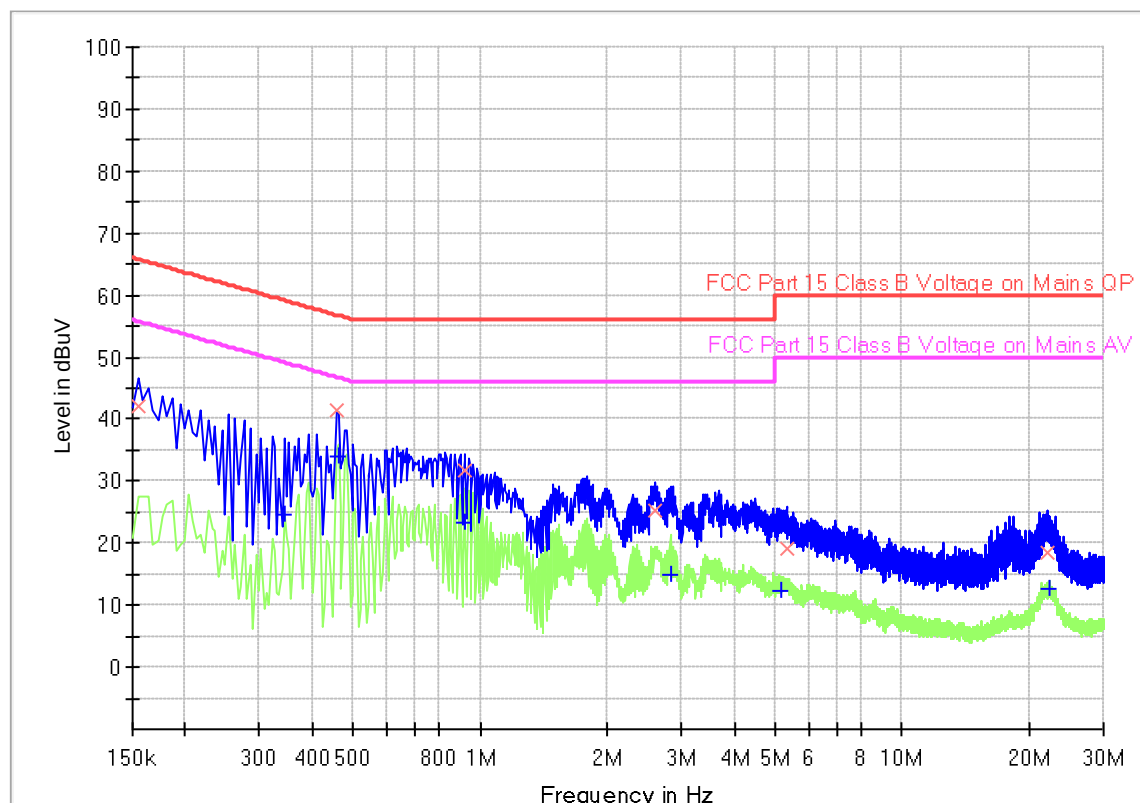
## EUT Information

EUT Name: Push PRO Remote  
Model: MT02-0101-067013  
Client: Rollease Acmeda inc  
Op Cond: Charging mode and TX at 433.92MHz  
Operator: Tianji XU  
Standard: FCC Part 15.207(a)  
Comment: Phase N  
Sample No.: SHA-831413-2

## Scan Setup: Voltage with 2-Line-LISN pre [EMI conducted]

Hardware Setup: Voltage with 2-Line-LISN  
Receiver: [ESR 3]  
Level Unit: dBuV

| Subrange         | Step Size | Detectors | IF BW  | Meas. Time | Preamplifier |
|------------------|-----------|-----------|--------|------------|--------------|
| 9 kHz - 150 kHz  | 100 Hz    | PK+       | 200 Hz | 0.02 s     | 0 dB         |
| 150 kHz - 30 MHz | 4.5 kHz   | PK+; AVG  | 9 kHz  | 0.01 s     | 0 dB         |





## Final Result

| Frequency (MHz) | QuasiPeak (dBuV) | CAverage (dBuV) | Limit (dBuV) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Line | Corr. (dB) |
|-----------------|------------------|-----------------|--------------|-------------|-----------------|-----------------|------|------------|
| 0.154500        | 41.95            | ---             | 65.75        | 23.80       | 1000.0          | 9.000           | N    | 19.4       |
| 0.343500        | ---              | 24.46           | 49.12        | 24.66       | 1000.0          | 9.000           | N    | 19.5       |
| 0.456000        | 41.41            | ---             | 56.77        | 15.36       | 1000.0          | 9.000           | N    | 19.5       |
| 0.460500        | ---              | 33.86           | 46.68        | 12.82       | 1000.0          | 9.000           | N    | 19.5       |
| 0.919500        | ---              | 23.40           | 46.00        | 22.60       | 1000.0          | 9.000           | N    | 19.5       |
| 0.919500        | 31.71            | ---             | 56.00        | 24.29       | 1000.0          | 9.000           | N    | 19.5       |
| 2.589000        | 25.42            | ---             | 56.00        | 30.58       | 1000.0          | 9.000           | N    | 19.5       |
| 2.818500        | ---              | 14.91           | 46.00        | 31.09       | 1000.0          | 9.000           | N    | 19.5       |
| 5.163000        | ---              | 12.35           | 50.00        | 37.65       | 1000.0          | 9.000           | N    | 19.6       |
| 5.311500        | 19.24            | ---             | 60.00        | 40.76       | 1000.0          | 9.000           | N    | 19.6       |
| 22.119000       | 18.50            | ---             | 60.00        | 41.50       | 1000.0          | 9.000           | N    | 20.4       |
| 22.326000       | ---              | 12.69           | 50.00        | 37.31       | 1000.0          | 9.000           | N    | 20.4       |

Note 1: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + LISN Factor (dB) + 10dB Attenuator

## 10.2 Radiated Emission

### Test Method

1. The EUT was placed on a turn table which is 1.5m above ground plane for above 1GHz and 0.8m above ground for below 1GHz at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference – receiving antenna, which was mounted on the top of a variable – height antenna tower.
3. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. Use the following spectrum analyzer settings According to C63.10:  
For Above 1GHz  
Span = wide enough to capture the peak level of the in-band emission and all spurious  
RBW = 1MHz, VBW $\geq$ 3RBW for peak measurement, Sweep = auto, Detector function = peak, Trace = max hold.  
For Below 1GHz  
Use the following spectrum analyzer settings:  
Span = wide enough to capture the peak level of the in-band emission and all spurious  
RBW = 100 KHz, VBW $\geq$ 3RBW for peak measurement, Sweep = auto, Detector function = peak, Trace = max hold.

### Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 KHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average (duty cycle  $\geq$ 98%) for peak detection at frequency above 1GHz
4. If the emission is pulsed (duty cycle <98%), modify the unit for continuous operation: use the settings shown above, then correct the reading by subcontracting the peak to average duty cycle correction factor  $20\log(\text{duty cycle})$ ., derived from the appropriate duty cycle calculation.

## Limit

According to §15.231 (b) and RSS-210 A.1.3, the field strength of emissions from intentional radiators operated under this section shall not exceed the following:

| Fundamental frequency (MHz) | Field Strength of Fundamental (Microvolts /meter) | Field Strength of spurious emissions ((Microvolts /meter) |
|-----------------------------|---------------------------------------------------|-----------------------------------------------------------|
| 40.66-40.70                 | 2,250                                             | 225                                                       |
| 70-130                      | 1,250                                             | 125                                                       |
| 130-174                     | 1,250 to 3,370 *                                  | 125 to 3750 *                                             |
| 174-260                     | 3,750                                             | 375                                                       |
| 260-470 √                   | 3,750 to 12, 500*                                 | 375 to 1,250*                                             |
| Above 470                   | 12,500                                            | 1,250                                                     |

## Limits for 15.209 and RSS-GEN Radiated emission limits

| Frequency (MHz) | Field strength (microvolts/meter ) | Measurement distance (meters) |
|-----------------|------------------------------------|-------------------------------|
| 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                             |
| Above 960       | 500                                | 3                             |

| Frequency             | Limit at 3m (dBuV/m)       |
|-----------------------|----------------------------|
| 0.009 MHz – 0.490 MHz | 128.5 to 93.8 <sup>1</sup> |
| 0.490 MHz – 1.705 MHz | 73.8 to 63 <sup>1</sup>    |
| 1.705 MHz – 30 MHz    | 69.5 <sup>1</sup>          |
| 30 MHz – 88 MHz       | 40.0 <sup>1</sup>          |
| 88 MHz – 216 MHz      | 43.5 <sup>1</sup>          |
| 216 MHz – 960 MHz     | 46.0 <sup>1</sup>          |
| Above 960 MHz         | 54.0 <sup>1</sup>          |
| Above 1000 MHz        | 54.0 <sup>2</sup>          |
| Above 1000 MHz        | 74.0 <sup>3</sup>          |

<sup>1</sup>Limit is with detector with bandwidths as defined in CISPR-16-1-1 except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz where an Average detector is used.

<sup>2</sup>Limit is with 1 MHz measurement bandwidth and using an Average detector

<sup>3</sup>Limit is with 1 MHz measurement bandwidth and using a Peak detector

### Spurious radiated emissions for transmitter

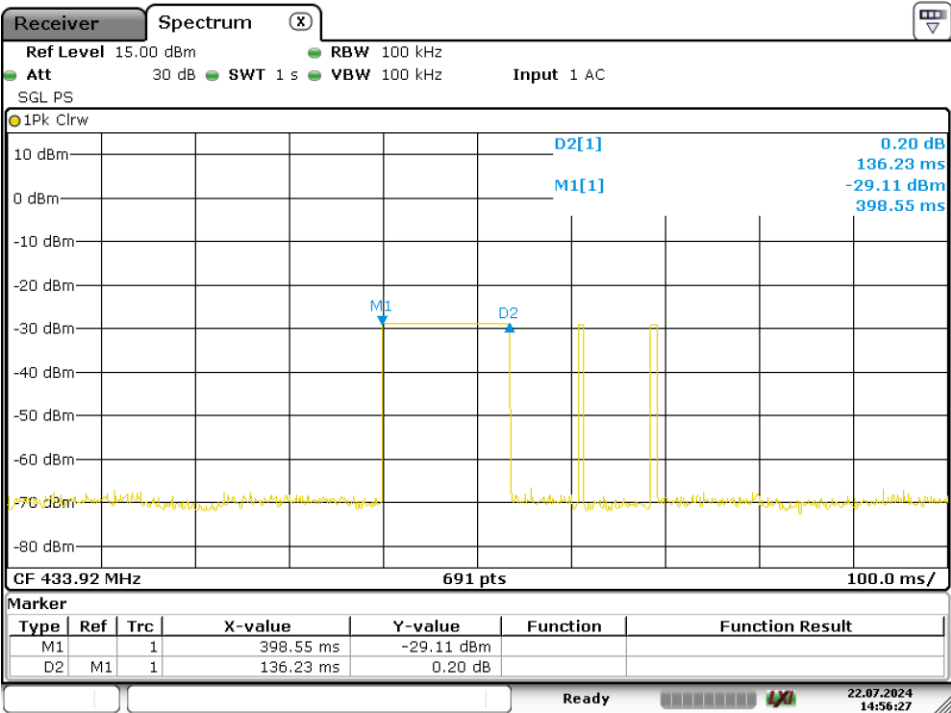
| Radiated Emission |           |          |          |         |          |        |        |                 |
|-------------------|-----------|----------|----------|---------|----------|--------|--------|-----------------|
| Value             | Emissions | E-Field  | PK       | Average | AV       | Limit  |        | Emission Type   |
|                   | Frequency | Polarity | Emission | Factor  | Emission |        | Margin |                 |
|                   | MHz       |          | dBμV/m   | dB      | dBμV/m   | dBμV/m | dB     |                 |
| Below 1GHz        |           |          |          |         |          |        |        |                 |
| PK                | 433.95    | H        | 78.70    | 0.00    | /        | 100.80 | 22.10  | Fundamental     |
| AV                | 433.95    | H        | 78.70    | 0.00    | 78.70    | 80.80  | 2.10   | Fundamental     |
| PK                | 433.91    | V        | 65.61    | 0.00    | /        | 100.80 | 35.19  | Fundamental     |
| AV                | 433.91    | V        | 65.61    | 0.00    | 65.61    | 80.80  | 15.19  | Fundamental     |
| PK                | 867.74    | H        | 43.23    | 0.00    | /        | 80.80  | 37.57  | Spurious        |
| AV                | 867.84    | H        | 43.23    | 0.00    | 43.23    | 60.80  | 17.57  | Spurious        |
| PK                | 867.93    | V        | 41.00    | 0.00    | /        | 80.80  | 39.80  | Spurious        |
| AV                | 867.93    | V        | 41.00    | 0.00    | 41.00    | 60.80  | 19.80  | Spurious        |
| Above 1GHz        |           |          |          |         |          |        |        |                 |
| PK                | 1301.81   | H        | 35.28    | 0.00    | /        | 74.00  | 38.72  | Restricted band |
| AV                | 1301.81   | H        | 35.28    | 0.00    | 35.28    | 54.00  | 18.72  | Restricted band |
| PK                | 3037.73   | H        | 40.71    | 0.00    | /        | 80.80  | 40.09  | Spurious        |
| AV                | 3037.58   | H        | 40.71    | 0.00    | 40.71    | 60.80  | 20.09  | Spurious        |
| PK                | 1301.93   | V        | 36.17    | 0.00    | /        | 74.00  | 37.83  | Restricted band |
| AV                | 1301.93   | V        | 36.17    | 0.00    | 36.17    | 54.00  | 17.83  | Restricted band |
| PK                | 2603.35   | V        | 39.62    | 0.00    | /        | 80.80  | 41.18  | Spurious        |
| AV                | 2603.35   | V        | 39.62    | 0.00    | 39.62    | 60.80  | 21.18  | Spurious        |

#### Remark:

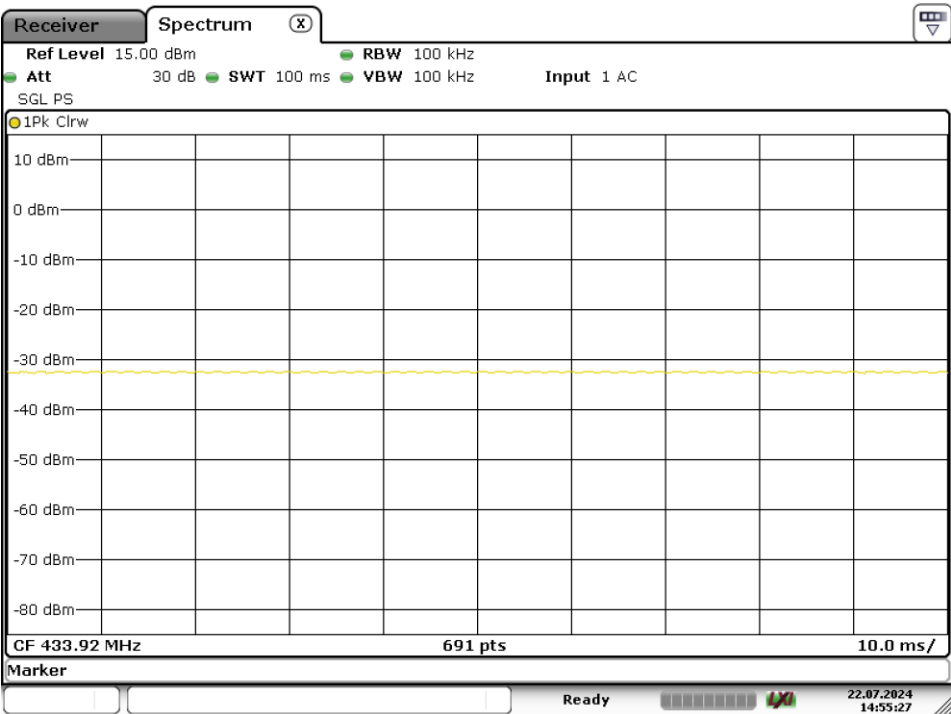
- Corrected Amplitude = Read level + Corrector factor  
 Above 1GHz: Corrector factor = Antenna Factor + Cable Loss - Amplifier Gain  
 Below 1GHz: Corrector factor = Antenna Factor + Cable Loss
- Correct Factor = Antenna Factor + Cable Loss (+ Amplifier, for higher than 1GHz)
- Corrected Reading = Original Receiver Reading + Correct Factor
- Only the worst data listed in this report, Other frequency was 20dB below the limit
- AV Emission Level= PK Emission Level+20log(dutycycle),  
 Duty Cycle = 100/100 =100%,  
 Duty Cycle Factor =20log (Duty Cycle) =0



Duty Cycle



Date: 22.JUL.2024 14:56:27



Date: 22.JUL.2024 14:55:27

## 10.3 Bandwidth Measurement

### Test Method

1. Set to the maximum power setting and enable the EUT transmit continuously.
2. Use the following test receiver settings:  
Span = approximately 5 times the 20dB bandwidth, centered on a hopping channel  
RBW = 1% to 5% of the 20dB bandwidth of the emission being measured, VBW ≥ RBW,  
Sweep = auto, Detector function = peak, Trace = max hold
3. Allow the trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. Measure the frequency difference of two frequencies that were attenuated 20 dB from the reference level. Record the frequency difference as the emission bandwidth. Record the results.
4. Repeat above procedures until all frequencies measured were complete.

### Limit

The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70MHz and below 900MHz. For devices operating above 900MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20dB down from the modulated carrier.

The limit for the EUT =  $0.25\% \times 433.92 \text{ MHz} = 1084 \text{ kHz}$

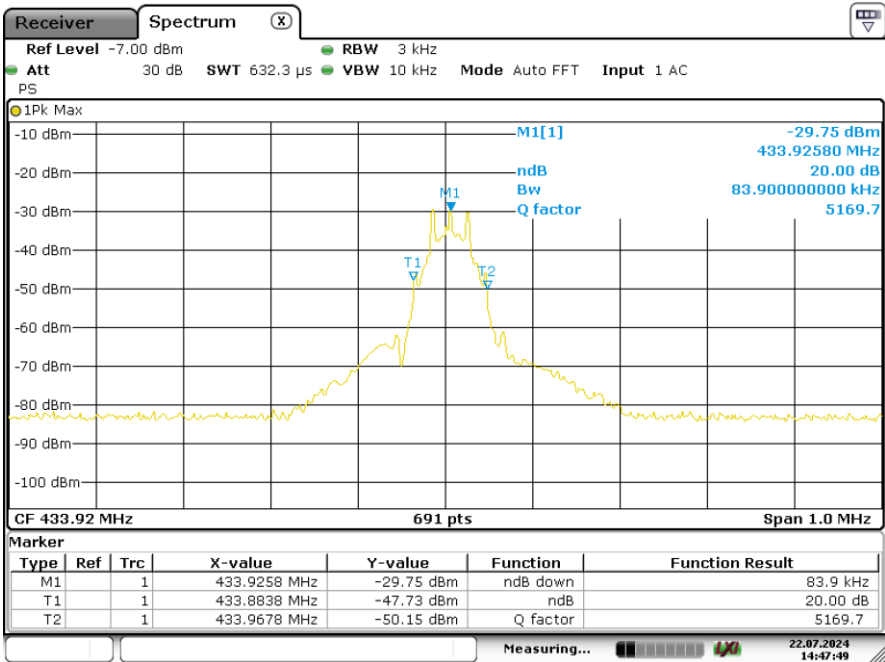
### Test Result

| Channel   | 20dB Bandwidth (KHz) | Limit (KHz) |
|-----------|----------------------|-------------|
| 433.92MHz | 83.90                | 1084        |

| Channel   | 99% bandwidth (KHz) | Limit (KHz) |
|-----------|---------------------|-------------|
| 433.92MHz | 79.59               | 1084        |

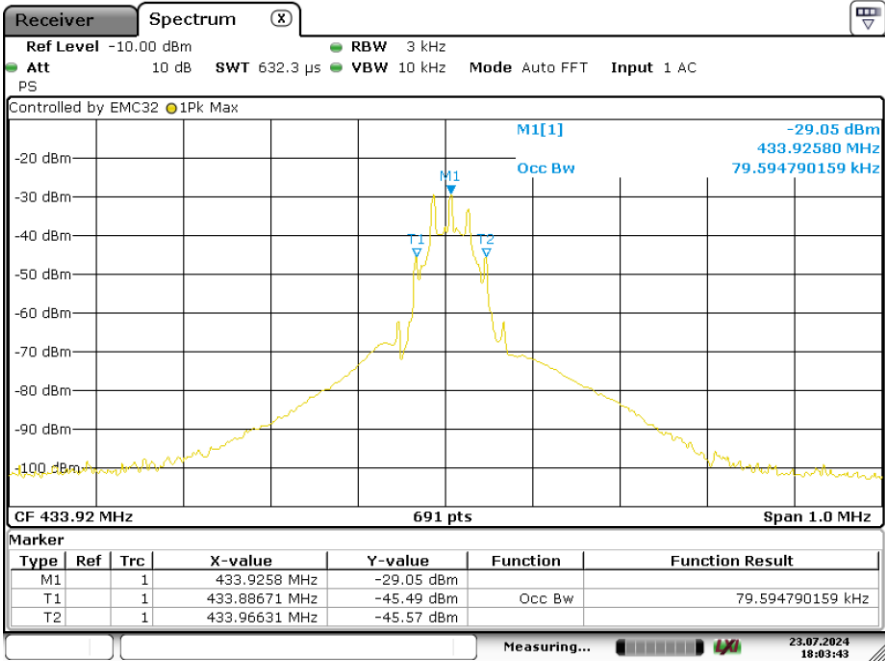


20dB Bandwidth



Date: 22.JUL 2024 14:47:49

99% bandwidth



Date: 23.JUL 2024 18:03:43



10.4 Deactivation Time

Test Method

- 1. Set to the maximum power setting and enable the EUT in transmitting mode.
- 2. Set center frequency of spectrum analyzer=operating frequency.
- 3. Set the spectrum analyzer as RBW=120 KHz, VBW=1MHz, Span=0Hz.
- 4. Repeat above procedures until all frequency measured was complete.

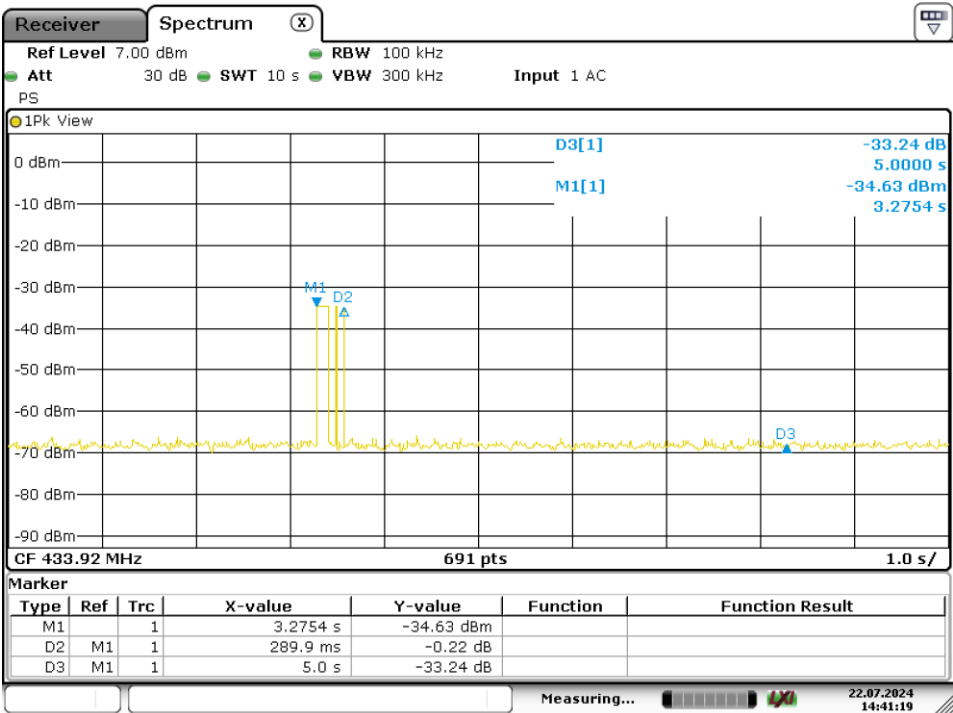
Limit

According to FCC Part 15.231 (a) (1) and RSS-210 A.1.2(a), the transmitter shall be complied the following requirements:

(1) A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released.

Test Result

| Channel | Frequency | Deactivation Time | Result |
|---------|-----------|-------------------|--------|
| 1       | 433.92MHz | 289.9ms           | Pass   |



Date: 22.JUL.2024 14:41:19

## 11 Test Equipment List

### List of Test Instruments

#### RF Test

| Description                  | Manufacturer | Model no. | Serial no.      | Calibration Date | Calibration Due |
|------------------------------|--------------|-----------|-----------------|------------------|-----------------|
| Signal and spectrum analyzer | R&S          | FSV40     | S1503003-YQ-EMC | 2023-8-01        | 2024-7-31       |
| Signal and spectrum analyzer | R&S          | FSV40     | S1503003-YQ-EMC | 2024-8-01        | 2025-7-31       |

#### Conducted Emission

| Description       | Model no. | Manufacturer | Equipment ID.   | Calibration Date | Calibration Due |
|-------------------|-----------|--------------|-----------------|------------------|-----------------|
| EMI test receiver | ESR3      | R&S          | S1503001-YQ-EMC | 2023-8-01        | 2024-7-31       |
| EMI test receiver | ESR3      | R&S          | S1503001-YQ-EMC | 2024-8-01        | 2025-7-31       |
| 2-Line V-network  | ENV216    | R & S        | S1503103-YQ-EMC | 2023-8-01        | 2024-7-31       |
| 2-Line V-network  | ENV216    | R & S        | S1503103-YQ-EMC | 2024-8-01        | 2025-7-31       |

#### Radiated Emission Test

| USED                                | Equipment Name                       | Model       | Manufacturer   | Equipment ID.   | Calibration Date | Calibration Due |
|-------------------------------------|--------------------------------------|-------------|----------------|-----------------|------------------|-----------------|
| <input checked="" type="checkbox"/> | EMI test receiver                    | ESR3        | R&S            | S1503109-YQ-EMC | 2023-8-01        | 2024-7-31       |
| <input checked="" type="checkbox"/> | EMI test receiver                    | ESR3        | R&S            | S1503109-YQ-EMC | 2024-8-01        | 2025-7-31       |
| <input checked="" type="checkbox"/> | Trilog super broadband test antenna  | SCHWARZBECK | VULB9168       | S1808296-YQ-EMC | 2021-9-23        | 2024-9-22       |
| <input checked="" type="checkbox"/> | Double-ridged waveguide horn antenna | HF907       | R&S            | S1503009-YQ-EMC | 2024-4-14        | 2027-4-12       |
| <input checked="" type="checkbox"/> | Pre-amplifier                        | HPA-081843  | Shenzhen HzEMC | S2403437-YQ-EMC | 2024-4-16        | 2025-4-15       |
| <input checked="" type="checkbox"/> | Signal and spectrum analyzer         | FSV40       | R&S            | S1503003-YQ-EMC | 2023-8-01        | 2024-7-31       |
| <input checked="" type="checkbox"/> | Signal and spectrum analyzer         | FSV40       | R&S            | S1503003-YQ-EMC | 2024-8-01        | 2025-7-31       |
| <input checked="" type="checkbox"/> | Loop antenna                         | HFH2-Z2     | R&S            | S1503013-YQ-EMC | 2024-6-26        | 2025-6-25       |

#### Measurement Software Information

| Test Item | Software | Manufacturer    | Version   |
|-----------|----------|-----------------|-----------|
| RE        | EMC 32   | Rohde & Schwarz | V10.50.40 |
| CE        | EMC 32   | Rohde & Schwarz | V9.15.03  |



12 System Measurement Uncertainty

For a 95% confidence level, the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO 17025 were:

| Items                 | Extended Uncertainty                                                                                                                |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Conducted Disturbance | 9kHz to 30MHz, 3.16dB (AMN)                                                                                                         |
| Radiated Disturbance  | 9kHz to 30MHz, 3.52dB<br>30MHz to 1GHz, 5.03dB (Horizontal)<br>5.12dB (Vertical)<br>1GHz to 18GHz, 5.49dB<br>18GHz to 40GHz, 5.63dB |

Measurement Uncertainty Decision Rule:

Determination of conformity with the specification limits is based on the decision rule according to IEC Guide 115: 2023, clause 4.3.3

-----End of Test Report-----