



TEST REPORT

No. AR21-0069489-03

performed in accordance with

FCC Rules: Code of Federal Regulations (CFR) no. 47
Part 15 Subpart C Section 15.247

| | |
|-----------------|---|
| PRODUCT | Bluetooth Low Energy module integrated in SCLAK unit relè |
| MODEL(s) TESTED | 1086/11 |
| FCC ID | REA108611 |
| TRADE MARK(s) | URMET |

| | |
|-----------|--|
| APPLICANT | URMET S.p.A. ~ Via Bologna, 188/c ~ I-10154 TORINO |
|-----------|--|

| | |
|-------------|--|
| Tested by | Robertino Torri <i>[Laboratory technician]</i> |
| Approved by | Roberto Colombo <i>[Laboratory manager]</i> |

Revision Sheet

| Release No. | Date | Revision Description |
|-------------|------------|---|
| Rev. 0 | 2021-11-04 | First edition Digital signed - AR21-0069489-03_TR_FCC 15.247 - URMET - 1086_11 |

The results of tests and checks reported in this Test Report refer exclusively to the samples tested and described in the Report itself.

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1. GENERAL DATA

| SAMPLE | | | | |
|---|---|---|--|--|
| Samples received on | 2021-09-10 | (Item(s) sampled and sent by applicant) | | |
| IMQ reference samples | BEM | 105566 | | |
| Samples tested No. | 1 | | | |
| Object under analysis recognition | Not carried out | | | |
| | Except where stated, characteristics of products were taken from client description and were not verified by the laboratory | | | |
| Date of acceptance of test item | 2021-09-13 | | | |
| TEST LOCATION | | | | |
| Testing dates | 2021-09-13 ÷ 2021-09-23 | | | |
| Testing laboratory. | IMQ S.p.A. - Via Quintiliano, 43 – I-20138 Milano | | | |
| Testing site | Via Quintiliano, 43 – I-20138 Milano | | | |
| ENVIRONMENTAL CONDITIONING | | | | |
| Parameter | Measured | | | |
| Ambient Temperature | 24.6 ÷ 27.7 °C | | | |
| Relative Humidity | 46 ÷ 53 % | | | |
| Atmospheric Pressure | 994 ÷ 997 mbar | | | |
| The laboratory is monitored by a continuous environmental conditions measurements system. Temperature, humidity and pressure data are recorded on a weekly basis and stored in local archive. | | | | |
| REMARKS | | | | |
| <p>Throughout this report a point is used as the decimal separator.</p> <p>The ability or reliability of this product to perform its intended function in a particular application has not been investigated.</p> <p>Unless otherwise specified, warnings, installation instruction and/or user manual provided with the sample have been checked in Italian or English version only.</p> <p>IMQ declines any responsibility derived from missing or wrong information provided aside by the applicant.</p> | | | | |

2. REFERENCE DOCUMENT

| DOCUMENT | | DATE | TITLE |
|-------------------------------------|----------------|------|---|
| <input checked="" type="checkbox"/> | 47 CFR Part 15 | 2015 | Radio Frequency Device |
| <input checked="" type="checkbox"/> | ANSI C63.4 | 2014 | American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz |
| <input checked="" type="checkbox"/> | ANSI C63.10 | 2013 | American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices |

3. EQUIPMENT UNDER TEST (EUT) DETAILS

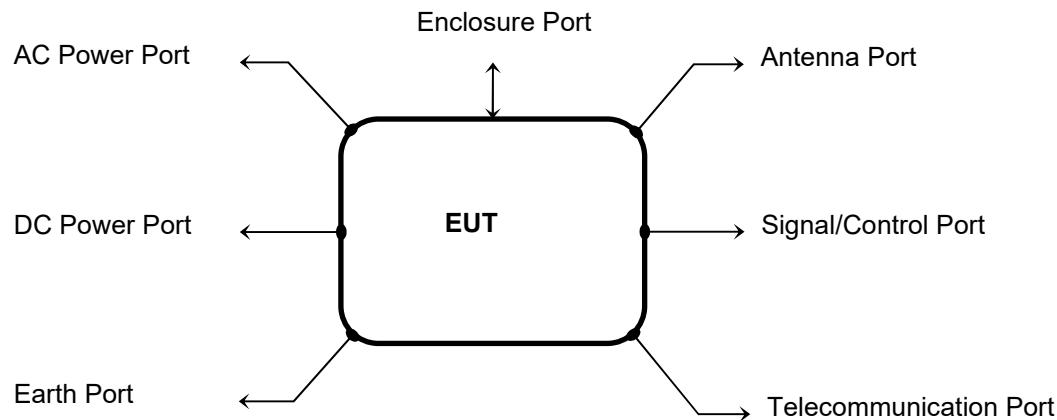
GENERAL DATA

| MODEL (basic) | Description |
|------------------------------|---|
| 1086/11 | Bluetooth Low Energy module integrated in SCLAK unit relè |
| VARIANTS (derived) | Description |
| / | / |
| FCC ID | REA108611 |
| Manufacturer | URMET S.p.A. ~ Via Bologna, 188/c ~ I-10154 TORINO |
| Type of equipment | DTS - Digital transmission equipment (Bluetooth® Low Energy module) |
| Operating frequency | 2402 ÷ 2480 MHz |
| Max RF radiated power | 97.56 dB μ V/m @3m |
| Modulation | GFSK |
| Channel | 40 channel, 2MHz spaced from 2402 to 2480MHz |
| Antenna | PCB Antenna (SMD Antenna) A5839 Antenova 2.1 dBi max |
| Remarks | None |

| Channel No. | Frequency (MHz) |
|-------------|-----------------|-------------|-----------------|-------------|-----------------|-------------|-----------------|
| 1(lower) | 2402 | 2 | 2404 | 3 | 2406 | 4 | 2408 |
| 5 | 2410 | 6 | 2412 | 7 | 2414 | 8 | 2416 |
| 9 | 2418 | 10 | 2420 | 11 | 2422 | 12 | 2424 |
| 13 | 2426 | 14 | 2428 | 15 | 2430 | 16 | 2432 |
| 17 | 2434 | 18 | 2436 | 19 | 2438 | 20(middle) | 2440 |
| 21 | 2442 | 22 | 2444 | 23 | 2446 | 24 | 2448 |
| 25 | 2450 | 26 | 2452 | 27 | 2454 | 28 | 2456 |
| 29 | 2458 | 30 | 2460 | 31 | 2462 | 32 | 2464 |
| 33 | 2466 | 34 | 2468 | 35 | 2470 | 36 | 2472 |
| 37 | 2474 | 38 | 2476 | 39 | 2478 | 40(higher) | 2480 |

4. TEST CONFIGURATION OF EQUIPMENT UNDER TEST

EUT PORTS



| Port | Description | Max length |
|-------------------|---|------------|
| Enclosure | Plastic | / |
| AC power | AC/DC adapter model HKA-12100EC-230 (by HON-KWANG ELECTRONIC CO., LTD) | / |
| DC power | 12V-24V DC | / |
| Earth | / | / |
| Telecommunication | / | / |
| Signal & Control | / | / |
| Antenna | Dedicated on PCB | / |

STATE OF THE EUT DURING TESTS

| Ref. | Mode | Description |
|------|-----------|--|
| #1 | Operating | The EUT is in continuously transmitting with 100% approximately duty cycle |

SUPPORT EQUIPMENT

Defined as equipment needed for correct operation or loading of the EUT, but not considered as tested:

| Equipment | Manufacturer | Model |
|---|--------------|-------|
| EUT with dedicated firmware and dedicated software for RF transmission management | / | / |



ELECTROMAGNETICALLY RELEVANT COMPONENTS

| Component | No. | Manufacturer | Model |
|--------------------------------|-----|--------------|----------|
| PCB main board with BLE module | 1 | URMET | TL003.01 |

RFI SUPPRESSION DEVICES

| Component | No. | Manufacturer | Model |
|-----------|-----|--------------|-------|
| / | / | / | / |

EMI PROTECTION DEVICES

| Component | No. | Manufacturer | Model |
|-----------|-----|--------------|-------|
| / | / | / | / |

EUT TECHNICAL DOCUMENTATION

| Document | Reference |
|----------|-----------|
| / | / |

5. METHODS OF MEASUREMENT

All compliance measurements have been carried out using the procedures described in the standard ANSI C63.4-2014, ANSI C63.10-2013 and Section 15.31 of CFR47 Part 15 – Subpart A (General).

Additional test requirements have been adopted according to the reference Section indicated in the § 6 of this test report.

FREQUENCY RANGE INVESTIGATED

Radiated emission tests: from 9 kHz to tenth harmonic of fundamental.

6. SUMMARY OF TEST RESULTS

| POSSIBLE TEST CASE VERDICTS: | |
|---|------|
| Test object meets the requirement | PASS |
| Test object does not meet the requirement | FAIL |
| Test case does not apply to the test object | N.A. |
| Test not performed | N.P. |

| CFR47 Part 15 | TITLE | RESULT |
|------------------------------|---|-------------------|
| § 15.203, § 15.247 (b)(4)(i) | Antenna Requirements | PASS |
| § 15.207 (a) | Conducted Emission | PASS |
| § 15.209 (a) (f) | Radiated Emission | PASS |
| § 15.247 (a) | Frequency Hopping Spread Spectrum Specifications | |
| § 15.247(a) | 20 dB Bandwidth | N.A. ¹ |
| § 15.247(a)(1) | Carrier frequency (Hopping Channel) Separation | N.A. ¹ |
| § 15.247(a)(1)(iii) | Number of Hopping Channels Used | N.A. ¹ |
| § 15.247(a)(1)(iii) | Channel occupancy time | N.A. ¹ |
| § 15.247(a)(2) | 6dB Minimum Bandwidth | PASS |
| § 15.247(b) | Maximum Peak Output Power | |
| § 15.247(b) (1) | Peak Output Power | N.A. |
| § 15.247(b) (3) | RF power output, radiated (EIRP) | PASS |
| § 15.247(b) (4) | Antenna gain | N.A. |
| § 15.247(c) | Operation with directional antenna gains greater than 6 dBi | N.A. |
| § 15.247 (d) | 100 kHz Bandwidth of Frequency Band Edges | PASS |
| § 15.247 (d) | Radiated Emission | PASS |
| § 15.247 (e) | Power Spectral Density | PASS |
| § 15.247 (f) | Hybrid systems | N.A. ¹ |
| § 15.247 (g) | FHSS Transmission characteristics | N.A. ¹ |
| § 15.247 (h) | Recognition of occupied channel and multiple transmission | N.A. ¹ |

| | |
|---------------|----------------------------------|
| Note 1 | Not applicable for DTS equipment |
|---------------|----------------------------------|

7. TEST RESULTS

7.1 ANTENNA REQUIREMENTS

TEST REQUIREMENT

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 use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of Sections 15.211, 15.213, 15.217, 15.219, or 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with Section 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this Part are not exceeded.

| | |
|---------------|------------|
| Testing dates | 2021-09-13 |
|---------------|------------|

Antenna specifications

| | |
|--------------------------------|------------------|
| N° of authorized antenna types | / |
| Antenna type | Dedicated on PCB |
| Maximum total gain | 2.1 dBi max |
| External power amplifiers | Not present |

TEST RESULT

The EUT meets the requirements of section 15.203 and 15.204

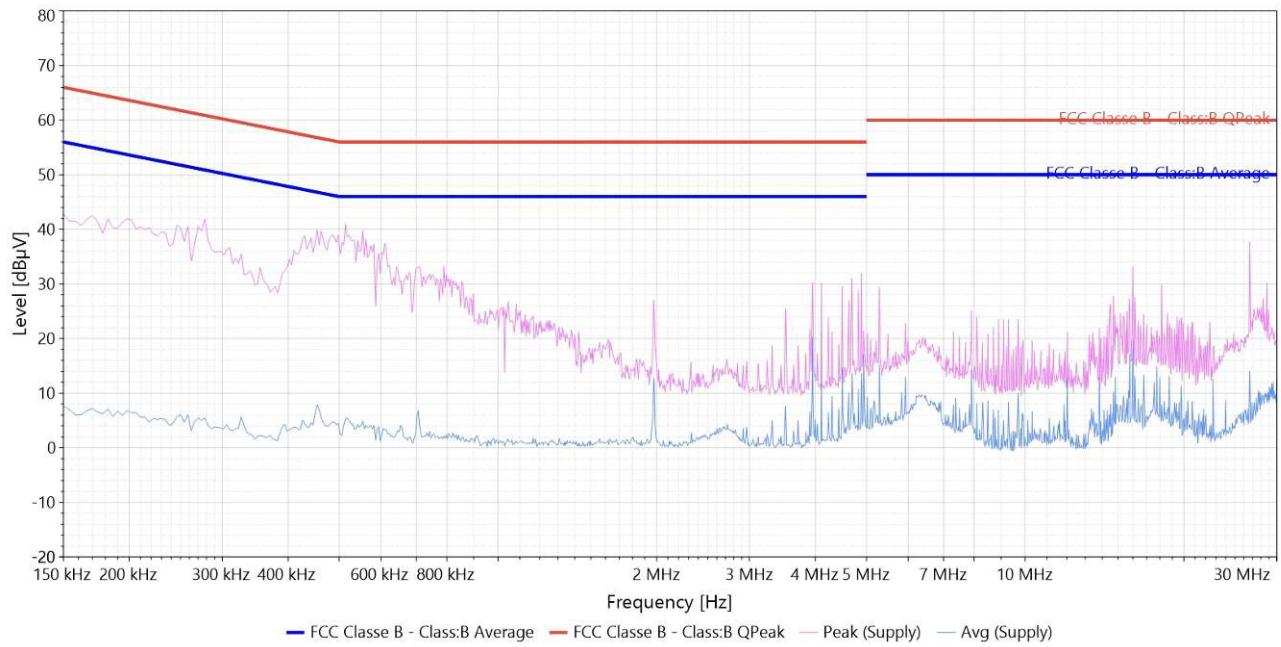
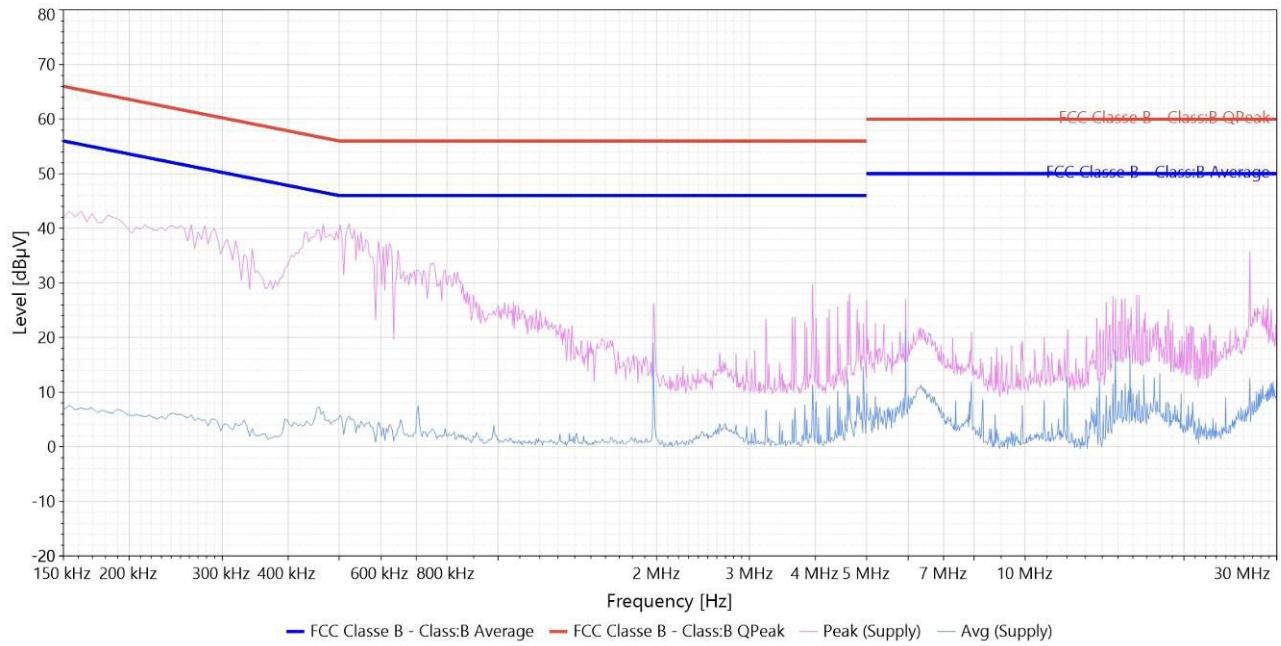
7.2 AC MAINS POWER SUPPLY CONDUCTED EMISSION

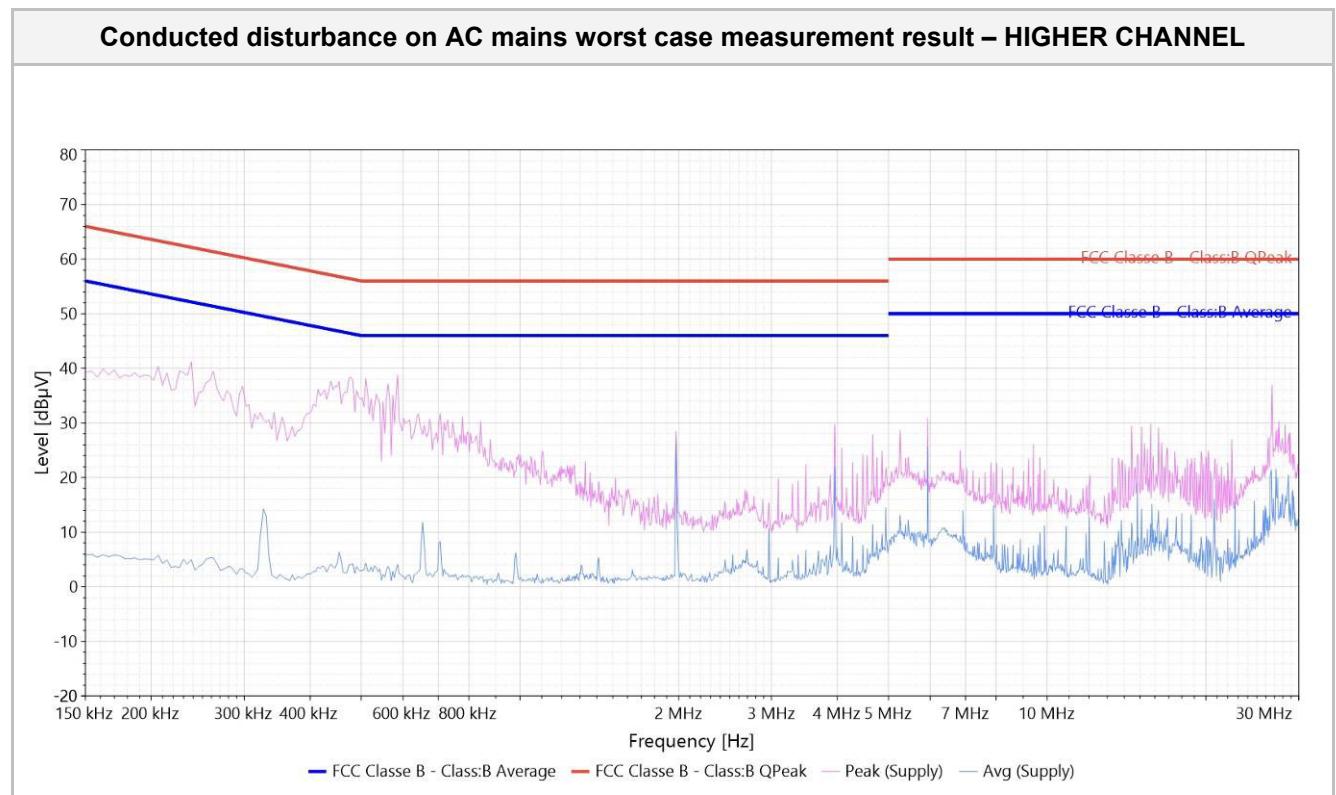
| TEST REQUIREMENT | |
|-------------------------|-----------------------|
| Test setup | ANSI C63.4 |
| Test facility | Shielded chamber |
| Frequency range | 150 kHz – 30 MHz |
| IF bandwidth | 9 kHz |
| EMC class | B |
| AC/DC adapter | Model HKA-12100EC-230 |
| EUT operating condition | #1 |
| Testing dates | 2021-09-23 |

| LIMITS | | |
|--------------------|-------------------------|----------------------------|
| Band of operations | Quasi-Peak (dB μ V) | Average Limit (dB μ V) |
| 0.15 ÷ 0.5 | 66 ÷ 56 | 56 ÷ 46 |
| 0.5 ÷ 5 | 56 | 46 |
| 5 ÷ 30 | 60 | 50 |

| TEST RESULT | |
|--|--|
| The EUT meets the requirements of sections 15.207 (a). | |

| TEST PROCEDURE | |
|----------------|--|
| 1) | The EUT was placed on a wooden table of size, 80 cm by 80 cm, raised 80 cm in which is located 40 cm away from the vertical wall the shielded room. |
| 2) | Each EUT power cord input cord was individually connected through a 50 Ω /50 μ H LISN to the input power source. |
| 3) | Exploratory measurements were made to identify the frequency of the emission that had the highest amplitude relative to the limit by operating the EUT in a range of typical modes of operation, cable position, and with a typical system equipment configuration and arrangement. Based on the exploratory tests of the EUT, the one EUT cable configuration and arrangement and mode of operation that had produced the emission with the highest amplitude relative to the limit was selected for the final measurement. |
| 4) | The final test on all current-carrying conductors of all of the power cords to the equipment that comprises the EUT (but not the cords associated with other non-EUT equipment is the system) was then performed over the frequency range of 0.15 MHz to 30 MHz. |
| 5) | The measurements were made with the detector set to PEAK and AVERAGE amplitude within a bandwidth of 9 kHz during the measurements. |
| 6) | The measurements with Quasi-Peak detector are performed only for frequencies for which the Peak values are \geq (Q.P. limit - 6 dB). |

Conducted disturbance on AC mains worst case measurement result – LOWER CHANNEL

Conducted disturbance on AC mains worst case measurement result – MIDDLE CHANNEL




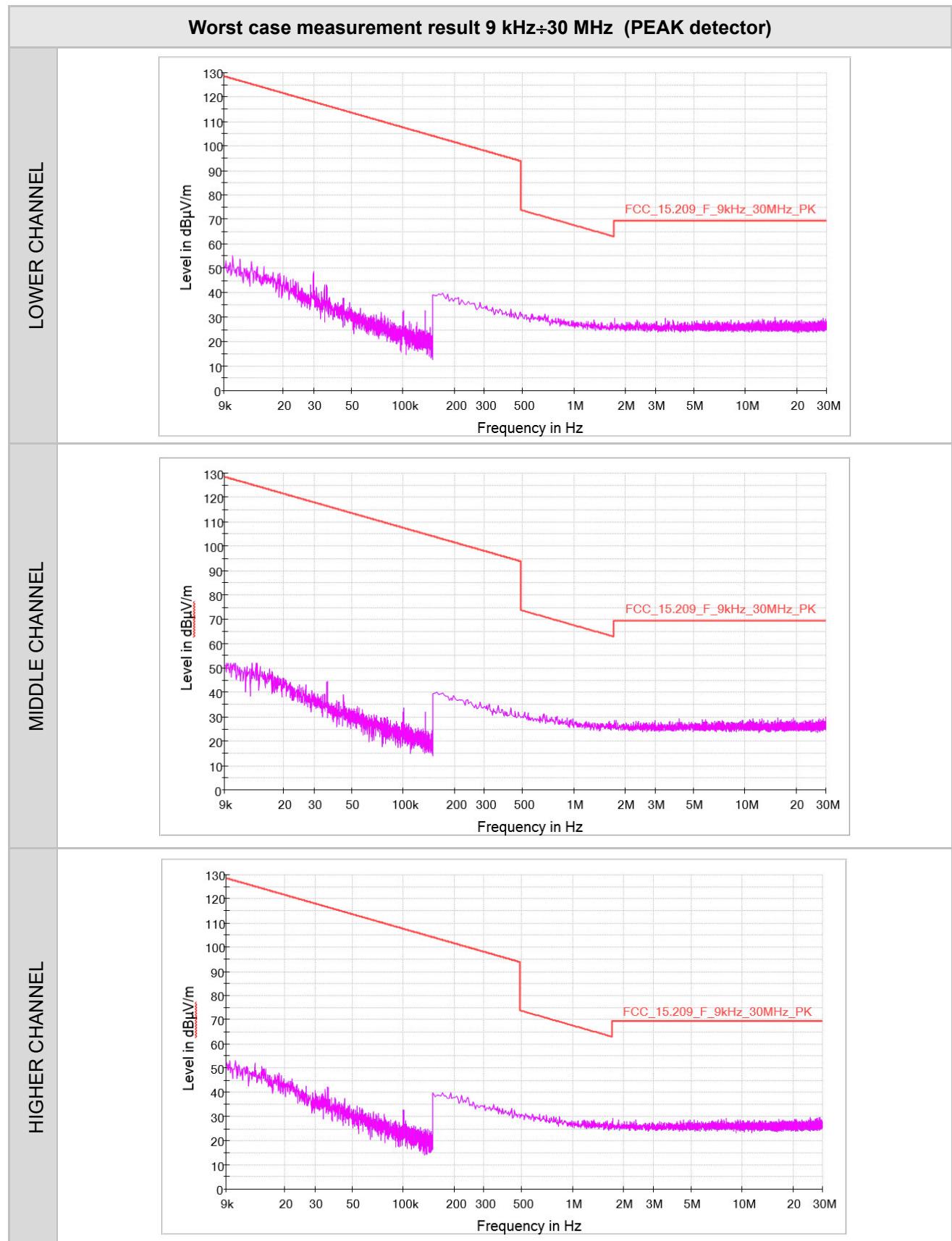
7.3 RADIATED DISTURBANCES

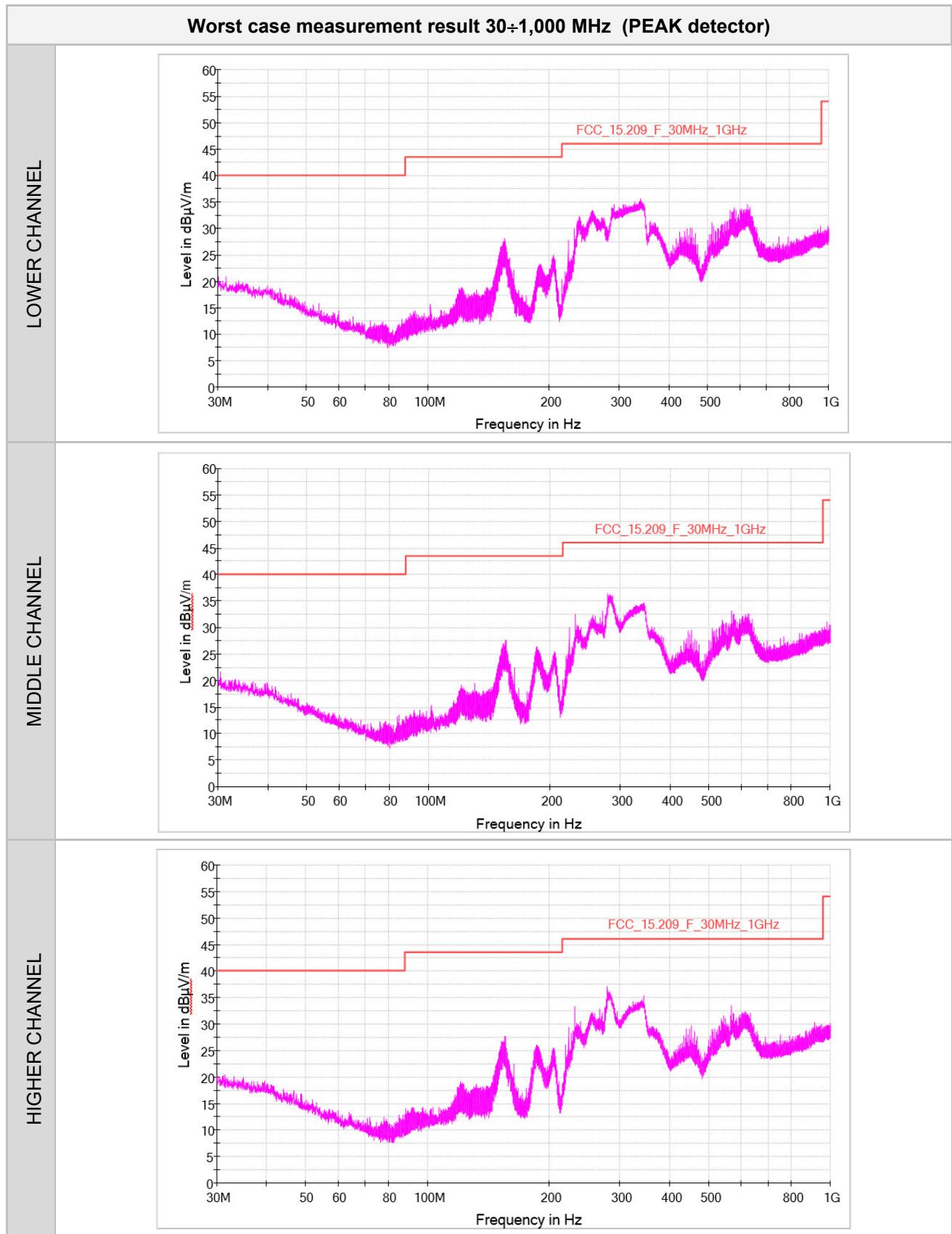
| TEST REQUIREMENT | |
|--|--|
| Test setup | ANSI C63.4 |
| Test facility | Semi-anechoic chamber |
| Test distance | 3 meters |
| Frequency range | 9 kHz to tenth harmonic of fundamental |
| IF bandwidth (below 30 MHz) | 9 kHz |
| IF bandwidth (below 1,000 MHz) | 120 kHz |
| IF bandwidth (above 1,000 MHz) | 1 MHz |
| EMC class | B |
| EUT operating condition | #1 |
| Remark: | |
| In accordance with part 15.31 (f) (2), where the measurement distance was specified to be 30 or 300 meters, a correction factor was applied in order to permit measurement to be performed at a separation distance. The applied formula for limits at 3 meter is: | |
| Extrapolation (dB) = 40log (300meter / 3meter) = +80db | |
| Extrapolation (dB) = 40log (30meter / 3meter) = +40db | |
| Testing dates | 2021-09-13 ÷ 2021-09-14 |

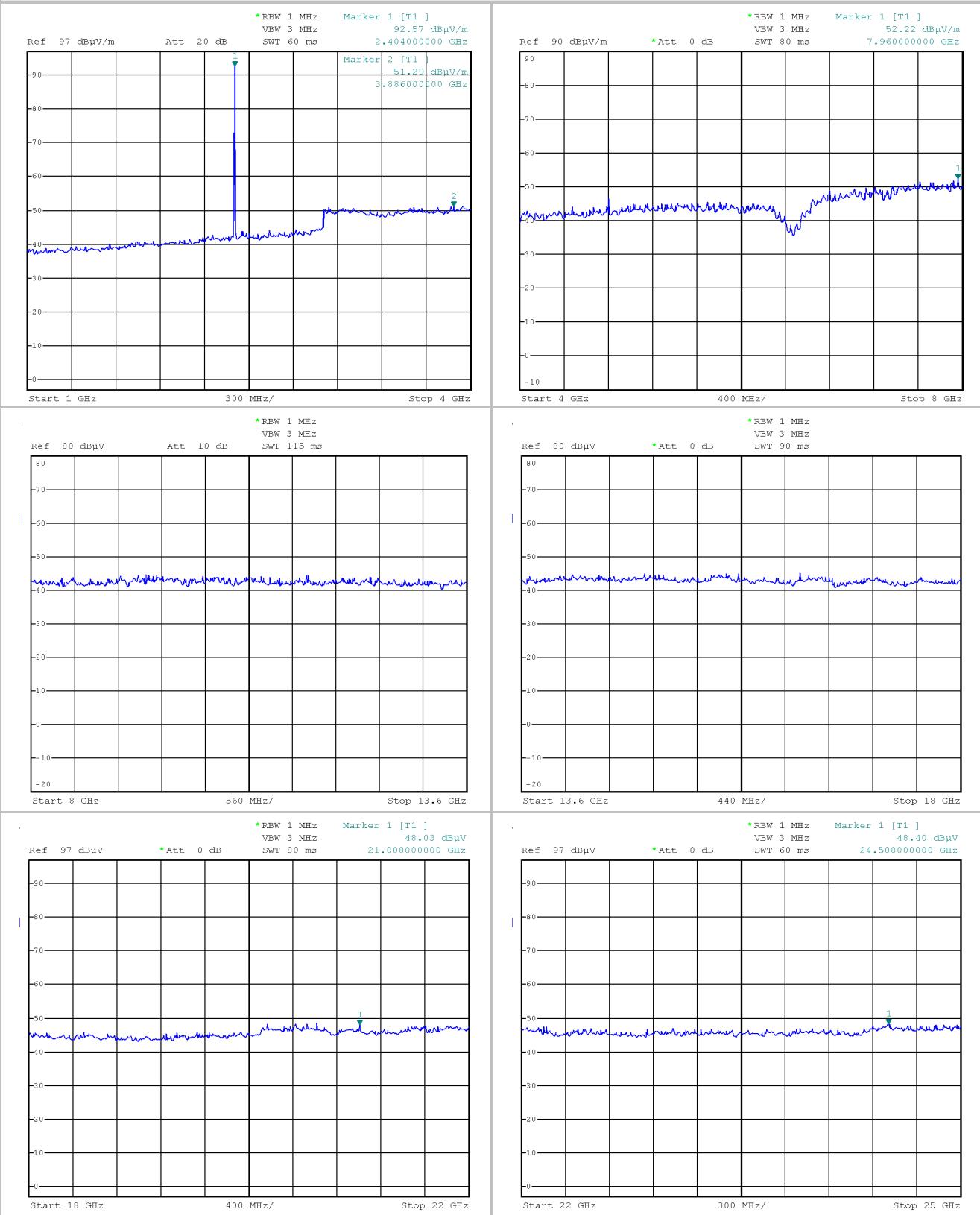
| LIMITS | | |
|-----------------------------|--|--|
| Band of operations | Peak (dB μ V/m) | Average Limit (dB μ V/m) |
| Restricted bands (§ 15.205) | 74 | 54 |
| Other bands | According to 15.209 or fundamental -20dB (which is greater) | According to 15.209 or fundamental -20dB (which is greater) |

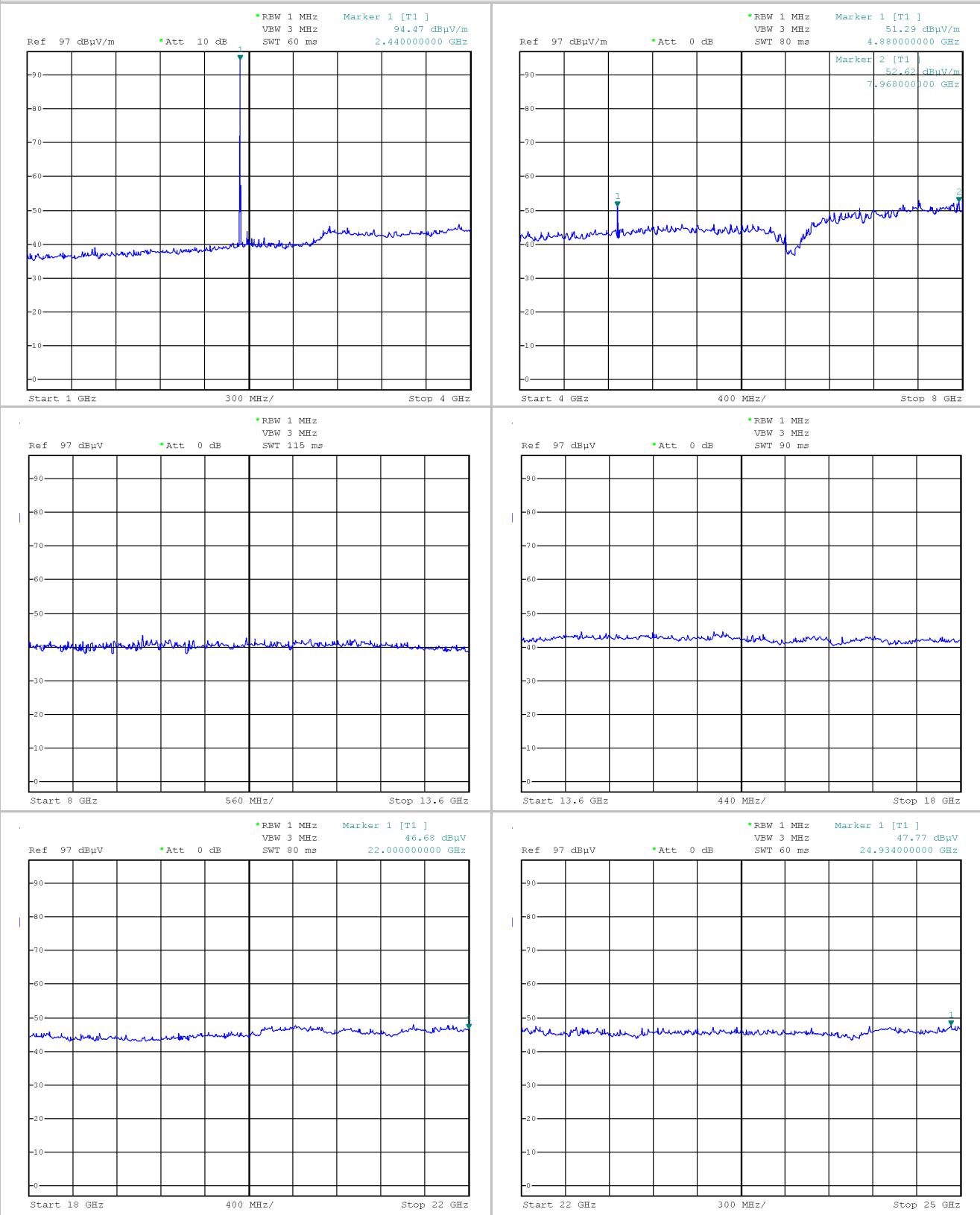
| TEST PROCEDURE | |
|----------------|--|
| 1) | The EUT was placed on turntable which is 0.8 m above the ground plane |
| 2) | The turntable shall rotate from 0° to 360° degrees to determine the position of maximum emission level. |
| 3) | The EUT is positioned 3 m away from the receiving antenna which varied from 1 to 4 m to find the highest emission. |
| 4) | The measurements were made with the detector set to PEAK and AVERAGE amplitude within a bandwidth of 100 kHz below 1000 MHz and 1 MHz above 1000 MHz. |
| 5) | The receiving antenna was positioned in both horizontal and vertical polarization. |
| 6) | The measurements with Quasi-Peak detector, below 1000 MHz are performed only for frequencies for which the Peak values are \geq (Q.P. limit - 6 dB). |

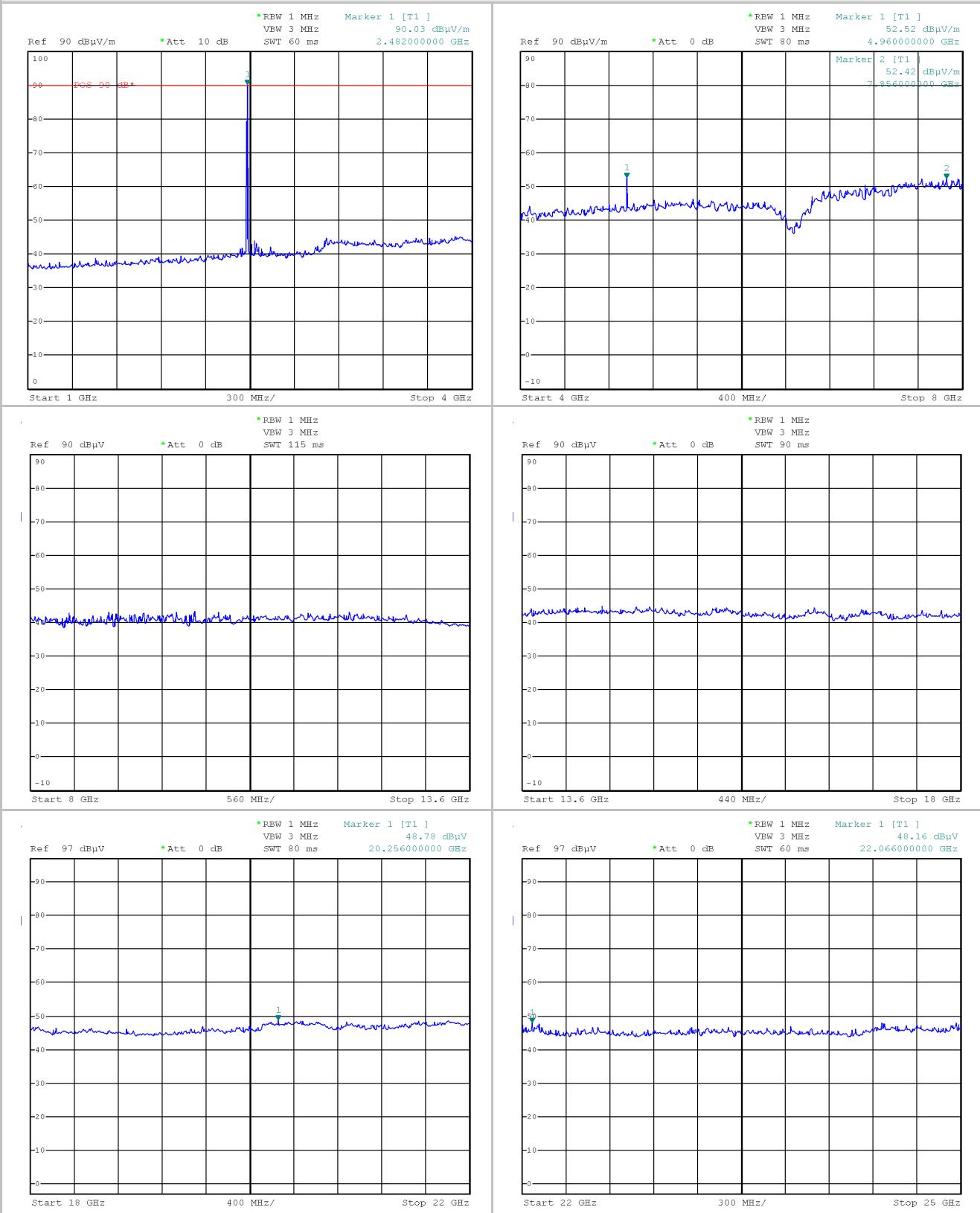
| TEST RESULT | |
|--|--|
| The EUT has been tested in 3 orthogonal axes at the frequencies lowest, middle and highest for each modulation. | |
| The results reported are worst case. | |
| The measurement of spurious emission of EUT in receiver mode is deemed to be fulfilled as no limits are exceeded in transmitter mode (condition considered more burdensome). | |
| The EUT meets the requirements of sections 15.205 (b), 15.209 and 15.247. | |





MEASUREMENTS RESULTS >1 GHz
Lower channel (worst case detected) (PEAK detector)


Middle Channel (worst case detected) (PEAK detector)


Higher channel (worst case detected) (PEAK detector)


7.4 6 dB BANDWIDTH

TEST REQUIREMENT

Spectrum analyzer settings

| | |
|-----------------------------|------------|
| Span | 2 MHz |
| Resolution bandwidth (RBW) | 100 kHz |
| Video bandwidth (VBW) | 300 kHz |
| Sweep time (SWT) | 2,5 ms |
| Detector function | Peak |
| Trace | max hold |
| Attenuator | / |
| Deviation to test procedure | None |
| EUT operating condition | #1 |
| Remark | None |
| Testing dates | 2021-09-20 |

TEST RESULT

The EUT meets the requirements of sections 15.247 (a) (2)

TEST PROCEDURE

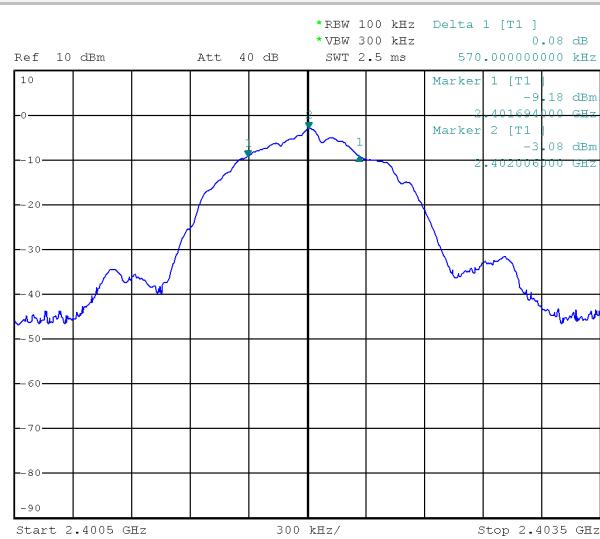
The EUT is set to transmit has its maximum data rate.

The Channel bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6 dB.

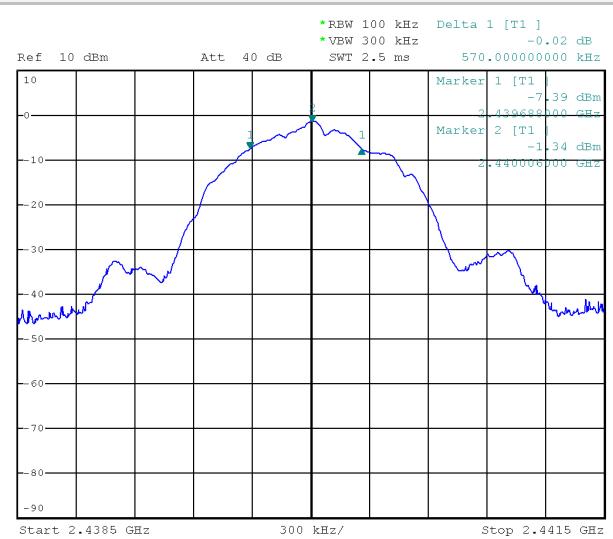
MEASUREMENTS RESULTS

| Channel (No.) | Frequency (MHz) | Channel Bandwidth (MHz) | Plot (No.) |
|------------------|--------------------|----------------------------|---------------|
| 01 | 2402 | 0.570 | 1 |
| 20 | 2440 | 0.570 | 2 |
| 40 | 2480 | 0.600 | 3 |

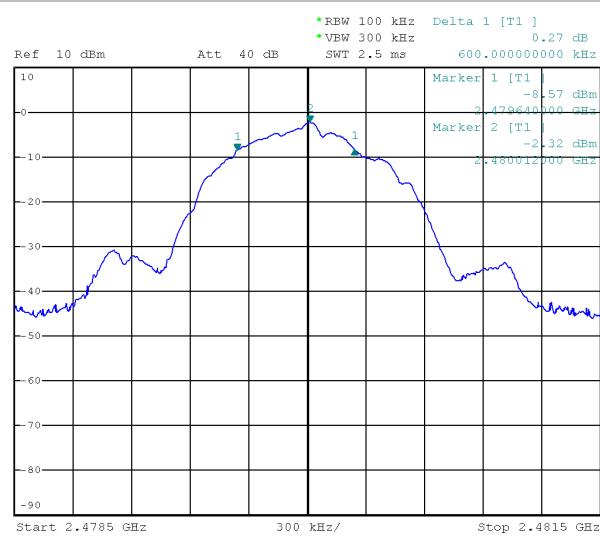
Plot 1



Plot 2



Plot 3





7.5 MAXIMUM PEAK OUTPUT POWER (DE FACTO EIRP)

TEST REQUIREMENT

Spectrum analyzer settings

| | |
|----------------------------|-------------------------------------|
| Resolution bandwidth (RBW) | 10 MHz |
| Video bandwidth (VBW) | 10 MHz |
| Sweep time (SWT) | 2,5 ms |
| Detector function | Peak |
| Trace | max hold |
| Test distance | 3 meters (for radiated measurement) |
| EUT operating condition | #1 |
| Remark | None |
| Testing dates | 2021-09-20 |

TEST RESULT

The EUT meets the requirements of sections 15.247 (b) (3)

LIMITS

1 Watt (30dBm)

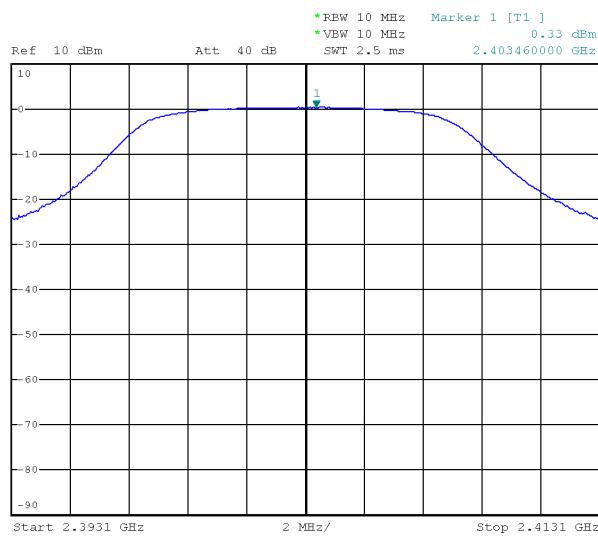
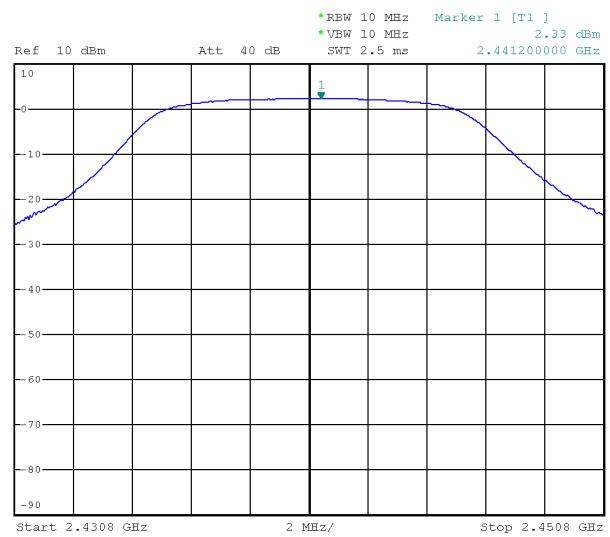
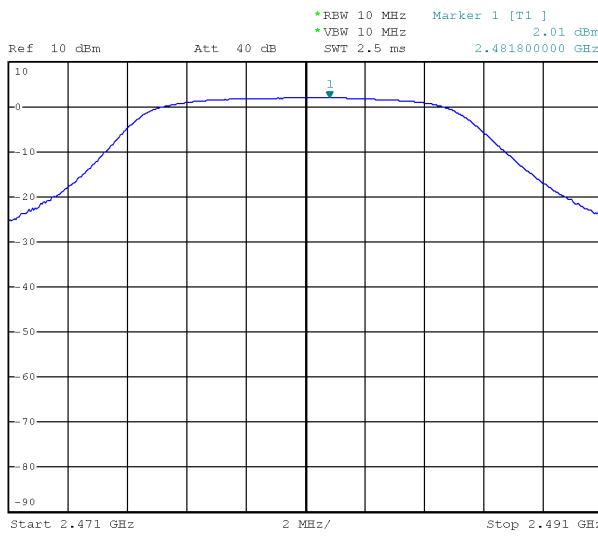
TEST PROCEDURE

Radiated measurements:

The effective radiated power is measured in a 3 m anechoic chamber.

RADIATED MEASUREMENTS RESULTS (DE FACTO EIRP)

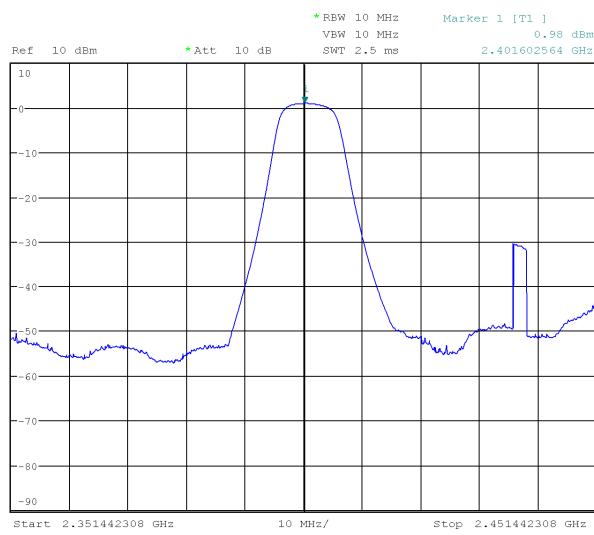
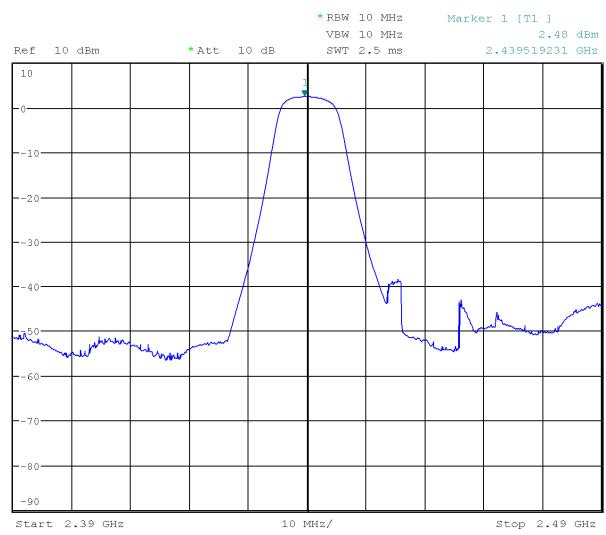
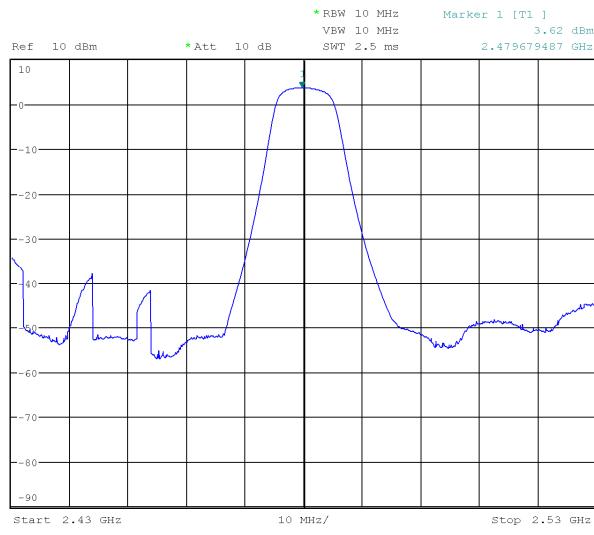
| Channel (No.) | Frequency (MHz) | Measured Power (dBm) | Output Power (mW) | Plot (No.) |
|------------------|--------------------|-------------------------|----------------------|---------------|
| 01 | 2402 | 0.33 | 1.079 | 1 |
| 20 | 2440 | 2.33 | 1.710 | 2 |
| 40 | 2480 | 2.01 | 1.589 | 3 |

Plot 1**Plot 2****Plot 3**

/

CONDUCTED MEASUREMENTS RESULTS (CW)

| Channel (No.) | Frequency (MHz) | Measured Power (dBm) | Output Power (mW) | Plot (No.) |
|------------------|--------------------|-------------------------|----------------------|---------------|
| 01 | 2402 | 0.98 | 1.253 | 1 |
| 20 | 2440 | 2.48 | 1.770 | 2 |
| 40 | 2480 | 3.62 | 2.301 | 3 |

Plot 1**Plot 2****Plot 3**

7.6 BAND-EDGE COMPLIANCE OF RF RADIATED EMISSIONS

| TEST REQUIREMENT | |
|-----------------------------------|--|
| Spectrum analyzer settings | |
| Span | Wide enough to capture the peak level of the emission operating on the channel closest to the band edge, as well as any modulation products which fall outside of the authorized band of operation |
| Resolution bandwidth (RBW) | 1 MHz (100 kHz band-edge) |
| Video bandwidth (VBW) | 1 MHz (100 kHz band-edge) |
| Sweep time (SWT) | Auto |
| Detector function | Peak |
| Trace | Max hold |
| Attenuator | / |
| Deviation to test procedure | None |
| EUT operating condition | #1 |
| Remark | None |
| Testing dates | 2021-09-20 |

TEST RESULT

The EUT meets the requirements of sections 15.247 (d)

All out of band spurious emissions are more 20 dB below the in band power of the fundamental.

LIMITS

-20 dB below peak output power

TEST PROCEDURE

Only for measuring emissions up to 2 MHz removed from the band-edge the "delta" technique for Radiated emissions was used.

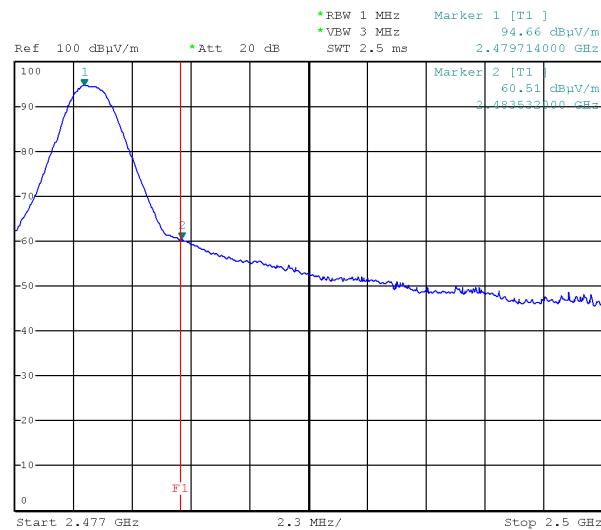
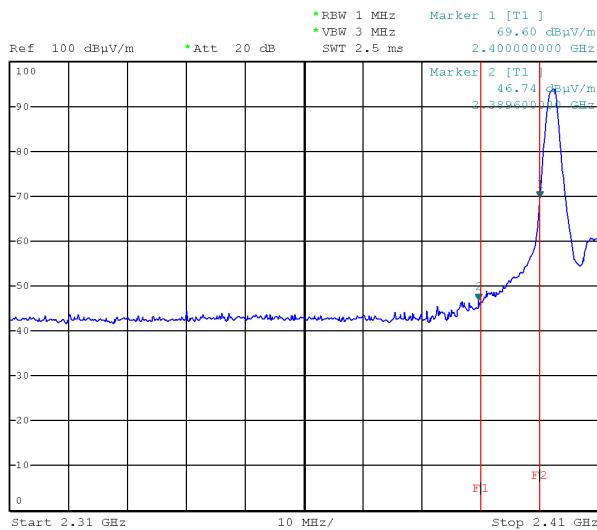
Delta technique: The transmitter output was connected to the spectrum analyser through a test fixture (radio frequency coupling device associated with the dedicated antenna of the equipment under test)

Once the trace is stabilized, by the marker the emission at the band edge (or on the highest modulation product outside of the band, if this level is greater than that at the band edge) was set.

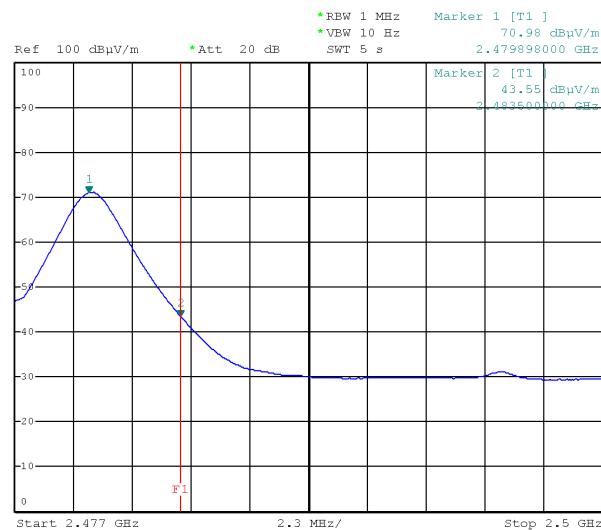
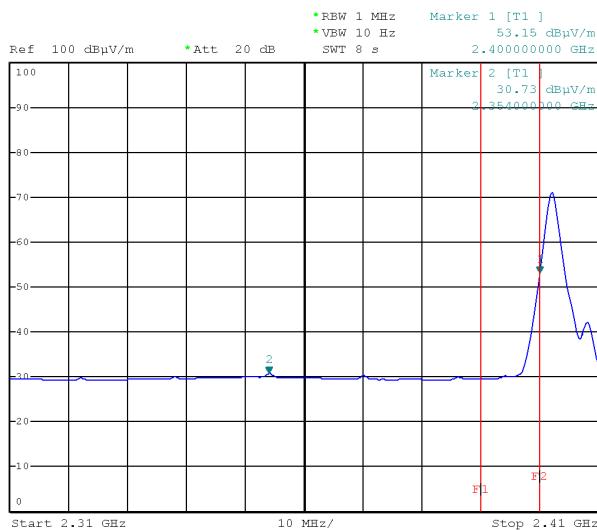
The "n" by the marker-delta function and the marker-to-peak function the peak of the in-band emission was selected. The marker-delta value displayed was compared with the limit specified in this Section

MEASUREMENTS RESULTS

Band-edge compliance (Peak)



Band-edge compliance (Average)



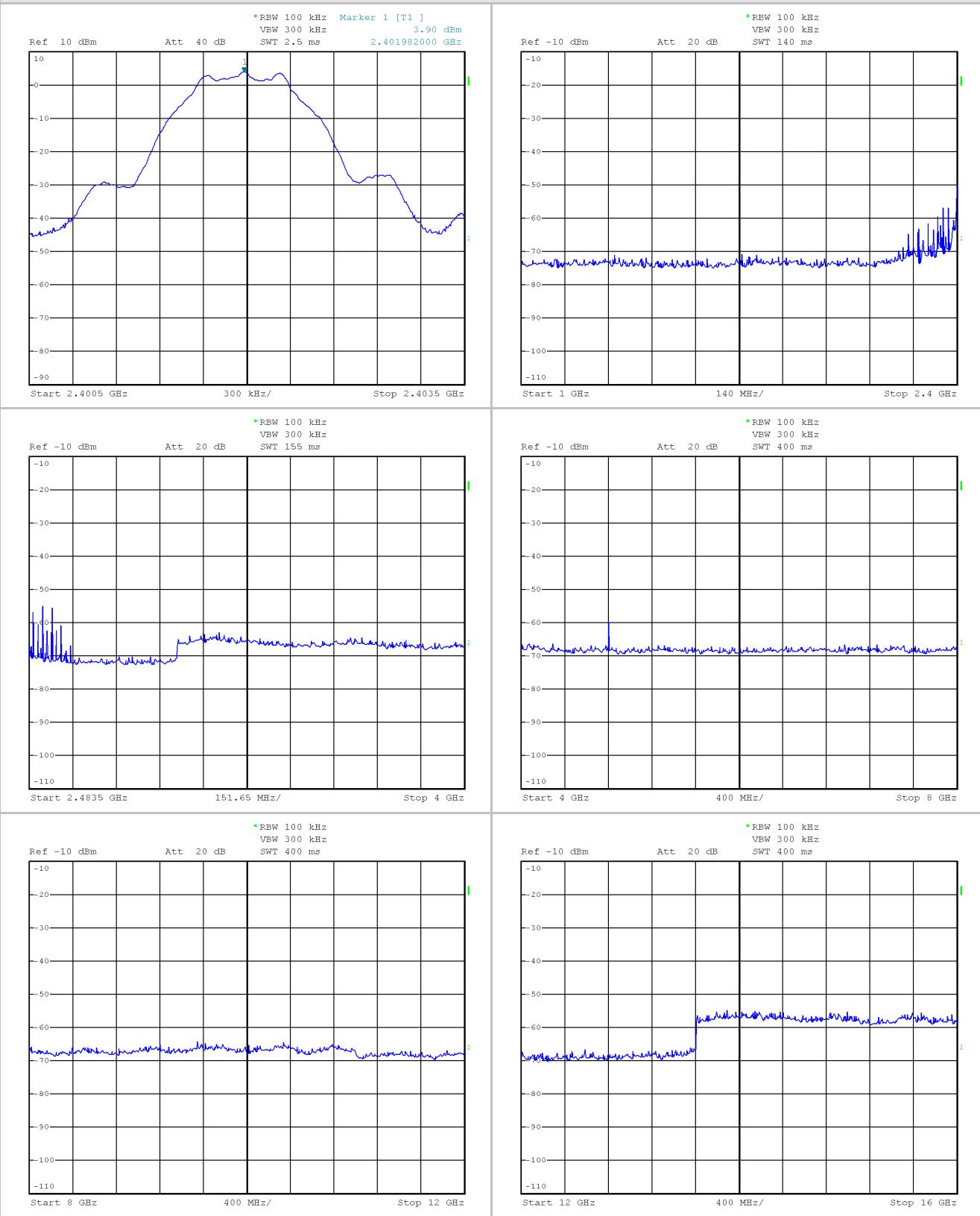
7.7 RADIATED EMISSIONS OUTSIDE THE BAND

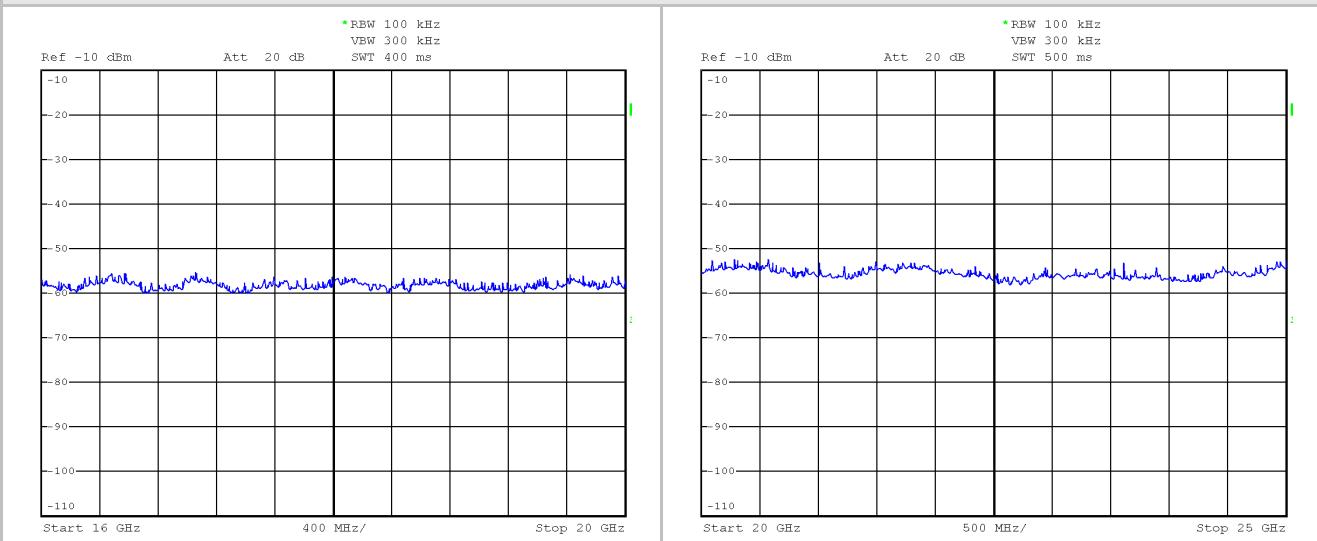
| TEST REQUIREMENT | |
|-----------------------------------|---|
| Spectrum analyzer settings | |
| Span | / |
| Resolution bandwidth (RBW) | 100 kHz |
| Video bandwidth (VBW) | 300 kHz |
| Sweep time (SWT) | as necessary to capture the entire dwell time |
| Detector function | Peak |
| Trace | Max hold |
| Attenuator | / |
| Deviation to test procedure | None |
| EUT operating condition | #1 |
| Remark | None |
| Testing dates | 2021-09-21 |

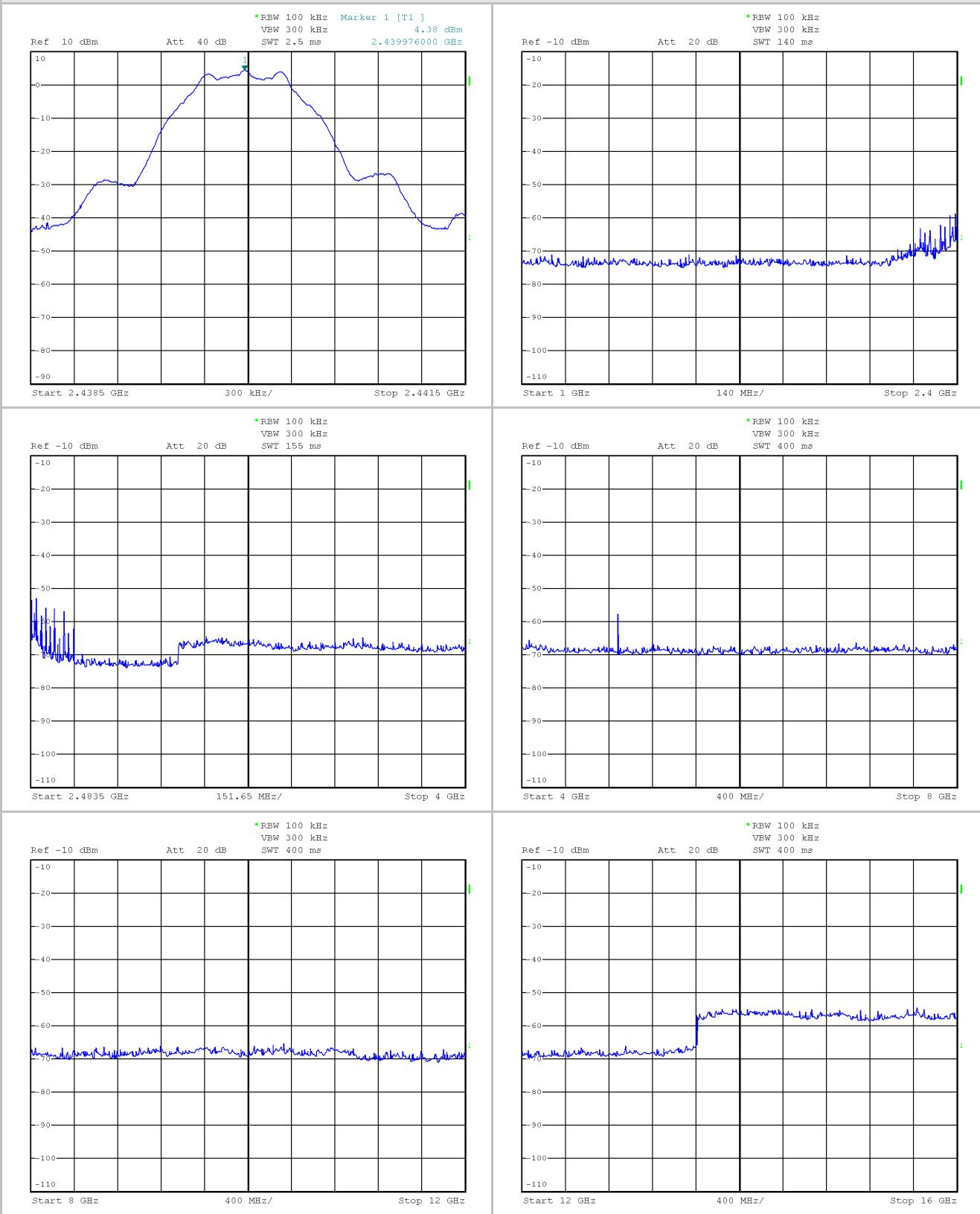
| TEST RESULT |
|---|
| <p>The EUT meets the requirements of sections 15.247 (d)</p> <p>All out of band spurious emissions are more 20 dB below the in band power of the fundamental.</p> <p>No significant spurious emissions above 18GHz.</p> |

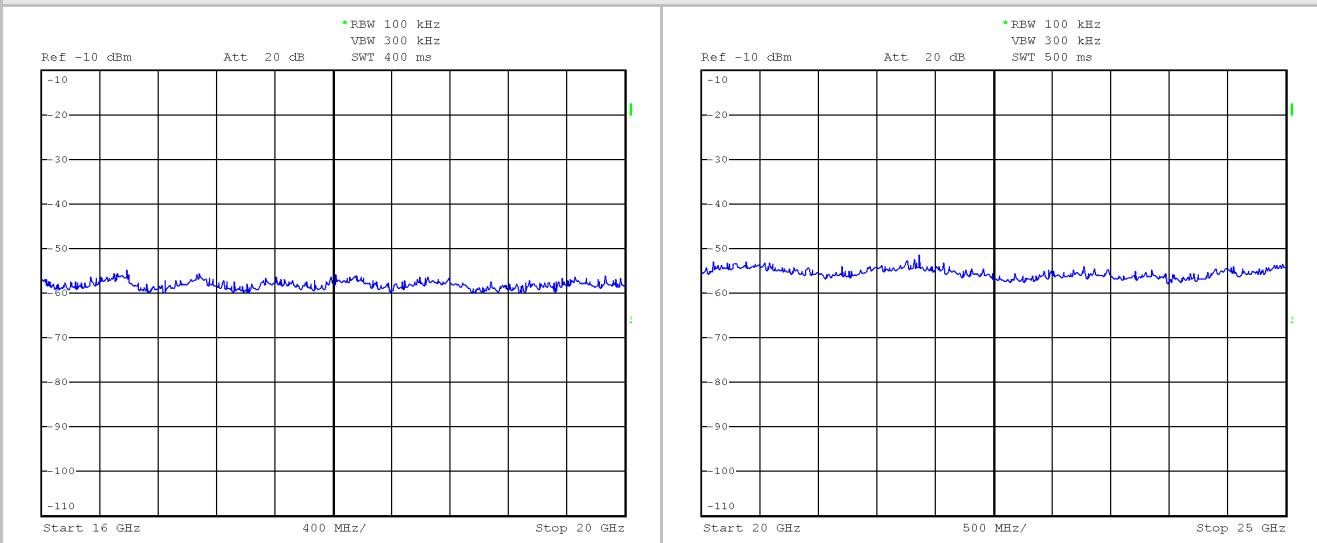
| LIMITS |
|--------------------------------|
| -20 dB below peak output power |

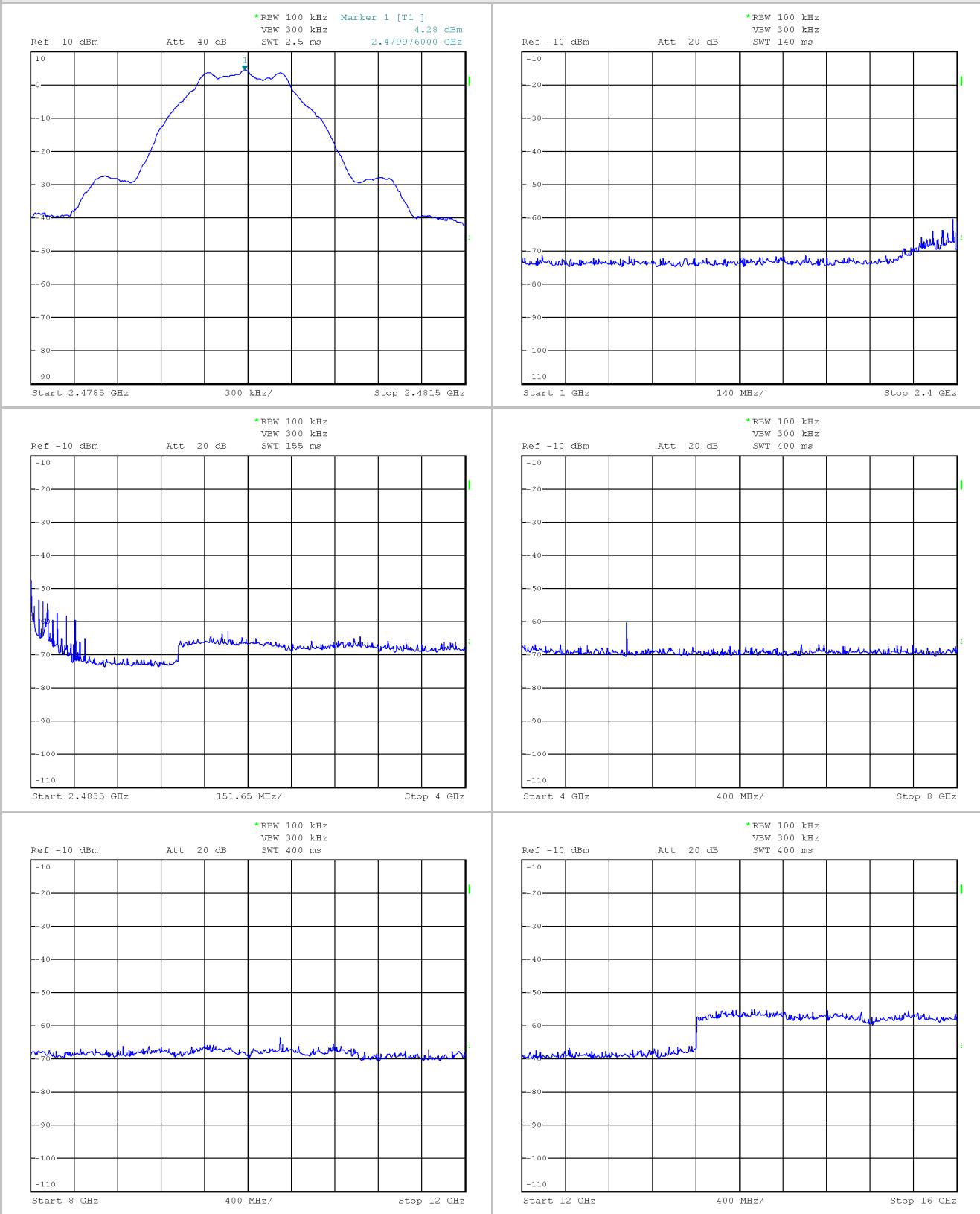
| TEST PROCEDURE |
|--|
| <p>A temporary 50 Ω RF connector was mounted instead antenna for conducted measurement.</p> <p>The measure has been executed with the lowest transmit channel, the highest transmit channel and one located somewhere in the middle of the band.</p> |

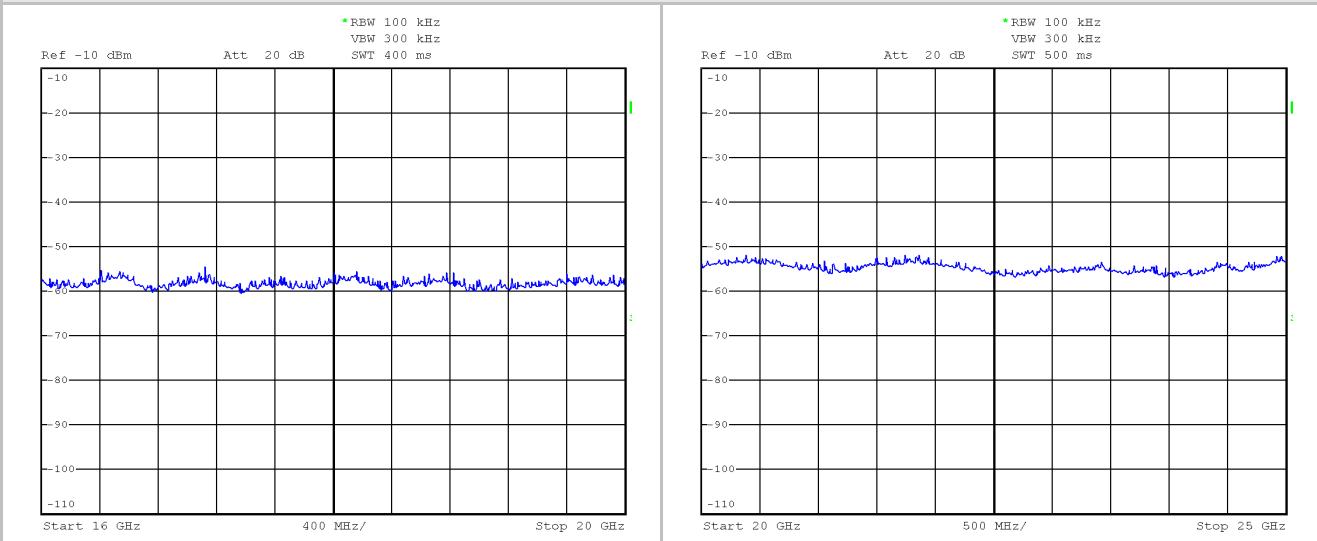
MEASUREMENTS RESULTS - Channel lower


MEASUREMENTS RESULTS - Channel lower

MEASUREMENTS RESULTS - Channel middle


MEASUREMENTS RESULTS - Channel middle

MEASUREMENTS RESULTS - Channel higher


MEASUREMENTS RESULTS - Channel higher

7.8 TRANSMITTER POWER SPECTRAL DENSITY

TEST REQUIREMENT

Spectrum analyzer settings

| | |
|-----------------------------|------------|
| Span | 1.5 MHz |
| Resolution bandwidth (RBW) | 3 kHz |
| Video bandwidth (VBW) | 10 kHz |
| Sweep time (SWT) | 500 s |
| Detector function | Peak |
| Trace | Max hold |
| Attenuator | / |
| Deviation to test procedure | None |
| EUT operating condition | #1 |
| Remark | None |
| Testing dates | 2021-09-20 |

TEST RESULT

The EUT meets the requirements of sections 15.247 (e)

LIMITS

8 dBm in 3 kHz bandwidth.

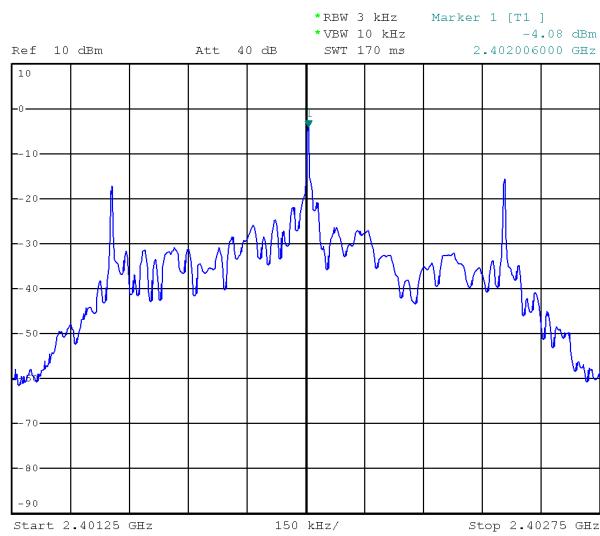
TEST PROCEDURE

After trace stabilisation the marker shall be set on the signal peak. The indicated level is the power spectral density.

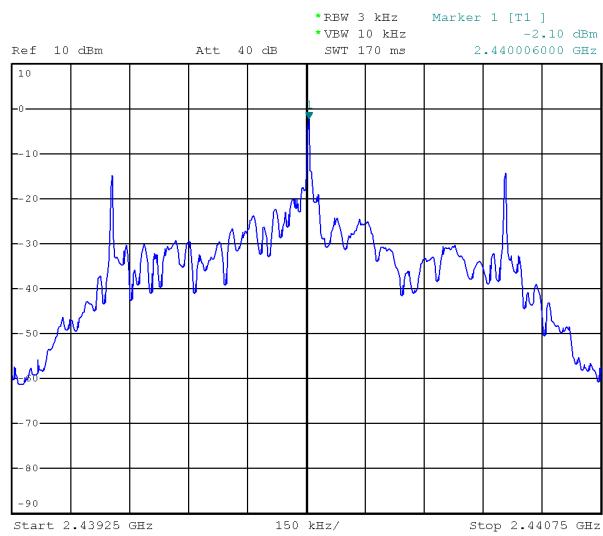
MEASUREMENTS RESULTS

| Channel (No.) | Frequency (MHz) | Measured Power (dBm) | Limit (dBm) | Plot (No.) |
|------------------|--------------------|-------------------------|----------------|---------------|
| 01 | 2402 | -4.08 | 8 | 1 |
| 20 | 2440 | -2.10 | 8 | 2 |
| 40 | 2480 | -3.01 | 8 | 3 |

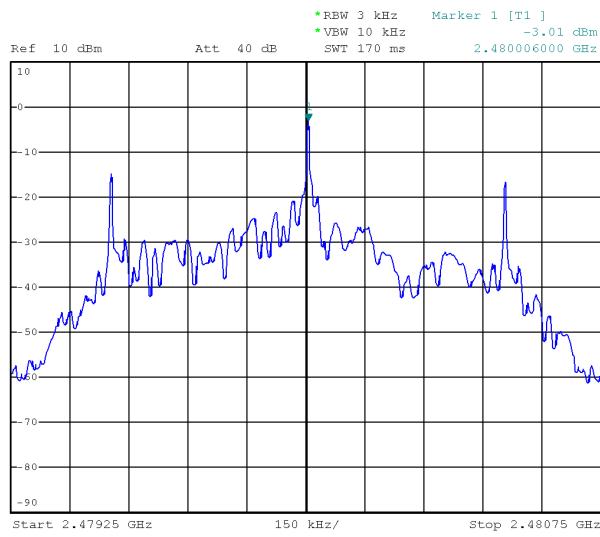
Plot 1



Plot 2



Plot 3



8. MEASUREMENTS AND TESTS UNCERTAINTY

Unless otherwise stated the uncertainties for the tests and measurements are evaluated in according to IMQ Operational Instruction IO-LAB-001 and IO-LAB-004. and requirement of NIST Technical Note 1297 and NIS 81: 1994 "The Treatment of Uncertainty in EMC Measurements"

The expanded uncertainty was calculated for all measurements and tests listed in this test report according to CISPR 16-4-2 "Specification for radio disturbance and immunity measuring apparatus and methods – Part 4-2: Uncertainty in EMC Measurements", with UKAS document LAB 34 and is documented in the quality system accordance to ISO/IEC 17025.

Internal Procedure PG-037 ensures that the requirements for traceability of calibrations, of all test equipment requiring calibration, and calibration intervals are met.

| Methods/Standard | Parameter | Expanded Uncertainty | Unit | Confidence level |
|------------------------|---|----------------------|------|------------------|
| Continuous disturbance | QP detector 9 – 150 kHz | 2.47 | dB | 95% |
| | QP detector 150 k – 30 MHz | 2.61 | dB | 95% |
| | QP detector using Voltage Probe | 2.45 | dB | 95% |
| | QP detector using ISN | 3.15 | dB | 95% |
| | QP detector using Current Probe | 2.15 | dB | 95% |
| Radiated disturbance | QP detector (30 MHz - 100 MHz) H polarization | 4.33 | dB | 95% |
| | QP detector (30 MHz - 100 MHz) V polarization | 4.22 | dB | 95% |
| | QP detector (100 MHz - 200 MHz) H polarization | 3.40 | dB | 95% |
| | QP detector (100 MHz - 200 MHz) V polarization | 4.76 | dB | 95% |
| | QP detector (200 MHz - 1000 MHz) H polarization | 3.91 | dB | 95% |
| | QP detector (200 MHz - 1000 MHz) V polarization | 3.82 | dB | 95% |
| | P detector 1 - 6 GHz | 4.77 | dB | 95% |
| | P detector 6 - 18 GHz | 5.14 | dB | 95% |
| | P detector 18 - 26 GHz | 4.95 | dB | 95% |
| | P detector 26 - 40 GHz | 5.20 | dB | 95% |

9. LIST OF MEASURING EQUIPMENT AND CALIBRATION INFORMATION

| Instrument | Manufacturer | Model | IMQ Ref. | Cal. Date | Cal. Due |
|------------|--------------------------------|-----------------|-----------------|------------|-------------|
| P01709 | Shielded semi-anechoic chamber | SIDT | / | 2020-10-29 | 2021-10-30/ |
| P02486 | Turntable controller unit | FRANKONIA | FCTAM01 | / | / |
| P02488 | Mast antenna | FRANKONIA | FAM4 | / | / |
| S02507 | Log antenna | CHASE ELECTRIC | CBL6111B | 2021-08-24 | 2022-08-31 |
| S03463 | Horn Antenna | SCHWARZBECK | BBHA 9120D | 2020-07-06 | 2023-07-31 |
| S08623 | Loop Antenna | ROHDE & SCHWARZ | HFH2-Z2E | 2020-12-18 | 2021-12-31 |
| S03629 | Spectrum Analyzer | ROHDE & SCHWARZ | FSP40 | 2020-12-14 | 2021-12-31 |
| S03542 | Preamplifier | HP | HP 8449B | 2020-11-06 | 2021-11-30 |
| W-00199/E | Software | ROHDE & SCHWARZ | EMC32 Ver. 6.30 | / | / |
| H-00165 | PC | / | / | / | / |

END OF TEST REPORT