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| | |
|---|---|
| **Project Num** | 24E10927-1a |
| **Quotation** | Q24-2901-1 |
| **Prepared For** | Nordic ID Oy |
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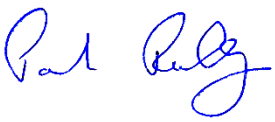
| **Prepared By** | Compliance Engineering Ireland |
| **Test Lab Address** | Clonross Lane, Derrockstown,<br>Dunshaughlin, Co. Meath, Ireland |
| **Tested By** | Joy Dalayap |
| **Test Report By** | Joy Dalayap |
| **FCC Designation Number** | IE0002 |
| **IC Site Registration** | IE0001 |
| **Date** | 19th March 2024 |
| **EUT Description** | RFID Module |
| **FCC ID** | SCCNUR31W6 |
| **IC ID** | 5137A-NUR31W6 |
| **Authorised by** | **Paul Reilly** |
| **Authorised Signature:** |  |

**TEST SUMMARY**

The equipment complies with the requirements according to the following standards.

| 15.-247 Section | RSS-247 Section | TEST PARAMETERS | Test Result |
|---|---|---|---|
| 15.247(a) | 5.1(a) | 20dB bandwidth of hopping Channel | Pass |
| 15.247(b) | 5.4 | Output power | Pass |
| 15.247(d) | 5.5 | Conducted Spurious Emissions | Pass |
| | RSS Gen 6.7 | 99% bandwidth | Pass |
| 15.205 15.209 | RSS Gen 8.9 and 8.10 | Radiated Spurious Emissions for restricted bands | Pass |

RSS 247 Issue 3 Aug 2023
RSS-Gen Issue 5 Amd2 Feb 2021

# Exhibit A – Technical Report

Table of Contents

## 1.0 EUT Description

| | |
|---|---|
| **FCC ID** | SCCNUR31W6 |
| **IC ID** | 5137A-NUR31W6 |
| **Model:** | NUR3-1W6 |
| **Type:** | RFID Module |
| **Test Standards:** | 47 CFR, Part 15.247 |
| **Type of radio:** | Stand-alone |
| **Transmitter Type:** | RFID FHSS |
| **Operating FrequencyRange(s):** | 902.75-927.25 MHz |
| **Number of Channels:** | 50 |
| **Channel Separation:** | 500KHz |
| **Antenna:** | External |
| **Classification:** | DSS |
| **Test Methodology:** | Measurements performed according to the procedures in ANSI C63.10-2013<br>KDB 558074 V5 R02 |

The NUR-0W1 was an RFID module using frequency hopping in the 902-928MHz frequency band.

## 1.1 EUT Operation

**Operating Conditions during Test:**
The EUT (RFID module) was fitted to a host PCB to allow powering and control of the module. Conducted measurements were carried out with the analyser connected to the SMA connector fitted on the host PCB.

The EUT was operated in test mode where the channel and modulation were set via USB connection from the host PCB to a laptop.
The host was powered from a PoE adapter by PHIHONG Technology Co. Ltd model: POE29U-1AT(PL) for all tests.

Radiated measurements (Cabinet spurious emission) were carried out on this sample with the antenna connector terminated.

EUT sample labelled “K234801674

**Environmental conditions**

| | Temperature | Relative Humidity |
|---|---|---|
| **Test** | °C | % |
| Conducted Emissions | 19 | 48 |
| Radiated Emissions <1GHz | 20 | 44 |
| Radiated Emissions >1GHz | 23 | 46 |

## 1.2 Modifications
No modifications were required in order to pass the test specifications.

## 1.3 Date of Test
The tests were carried out on 29th Feb and 1st, 5th, 7th, 11th of March 2024.

## 1.4 Description of Test modes
Channel List

| Channel | Freq MHz |
|---|---|
| Low Ch0 | 902.75 |
| Mid Ch24 | 914.75 |
| High Ch 49 | 927.25 |

## 1.5 Description of Test methods
Tests were performed manually and no special test software was used.

## 2.0 Emissions Measurements

### 2.1 Conducted Emissions Measurements

Radio Conducted measurements were carried out on the EUT as per section 1.1 above.

All results were measured as conducted on the antenna except radiated spurious emissions.

### 2.2 Radiated Emissions Measurements

The EUT was centred on a motorized turntable, which allows 360-degree rotation.
Emissions below 1GHz were measured using an antenna positioned at a distance of 3 metres from the EUT (as measured from the closest point of the EUT). The radiated emissions were maximised by configuring the EUT, by rotating the EUT, and by raising and lowering the antenna from 1 to 4 metres. In this case the resolution bandwidth was 100kHz. A bi-conical antenna was used for frequencies below 300MHz and a log periodic antenna was used for the 300MHz to 1GHz frequency range
Emissions in the 1GHz-3.6GHz range were measured using a horn antenna located at 3 metres distance from the EUT in a fully anechoic chamber. The radiated emissions were maximised by configuring the EUT and by rotating the EUT and by raising and lowering the antenna from 1 to 4 metres. In this case the resolution bandwidth was 1MHz and video bandwidth was 1MHz. for peak measurements. The Video bandwidth was changed to 10Hz for Average measurements (as per ANSI 63.10 2013 Section 4.1.4.2.3)
Emissions above 3.6GHz were measured using a horn antenna located at 1 metre distance from the EUT in a fully anechoic chamber. The radiated emissions were maximised by configuring the EUT and by rotating the EUT. In this case the resolution bandwidth was 1MHz and video bandwidth was 1MHz. for peak measurements. The Video bandwidth was changed to 10Hz for Average measurements (as per ANSI 63.10 2013 Section 4.1.4.2.3)

## 3.0 Conducted Measurements on the Antenna port

## 3.1 Bandwidth

### 3.1.1 20dB bandwidth

**Requirement FCC 15.247(a) IC RSS-247 5.1a**

*The bandwidth of a frequency hopping channel is the 20 dB emission bandwidth, measured with the hopping stopped. The maximum 20 dB bandwidth of the hopping channel shall be 500 kHz*

As per Ansi63.10 Section 11.8.2

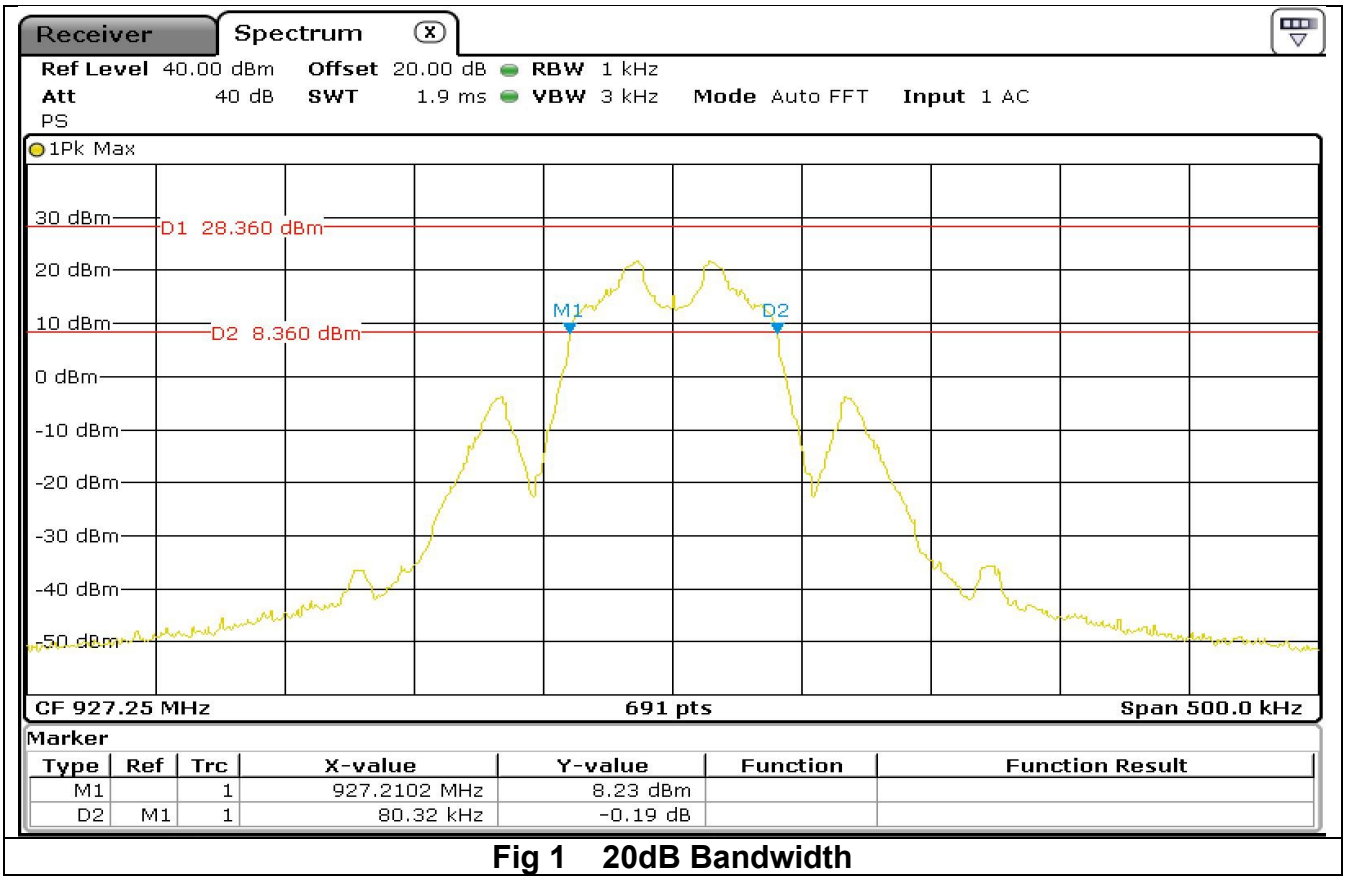



**Fig 1 20dB Bandwidth**

| Channel | Freq | 20dB Bandwidth |
|---|---|---|
| | MHz | KHz |
| Low | 902.75 | 80.32 |
| Mid | 914.75 | 80.32 |
| High | 927.25 | 80.32 |

**Limit**

The maximum allowed 20 dB bandwidth of the hopping channel is 500 kHz.

**Test Result Pass**

## 3.1.2 99% bandwidth

Test Method
As per Ansi 63.10 Section 6.9.3

Ansi63.10 Section **6.9.3 Occupied bandwidth—power bandwidth (99%) measurement procedure**
The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission.
The following procedure shall be used for measuring 99% power bandwidth:
a) The instrument center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW.
b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be approximately three times the RBW, unless otherwise specified by the applicable requirement.
c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than [10 log (OBW/RBW)] below the reference level. Specific guidance is given in 4.1.5.2.
d) Step a) through step c) might require iteration to adjust within the specified range.
e) Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
f) Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth.
g) If the instrument does not have a 99% power bandwidth function, then the trace data points are recovered and directly summed in linear power terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% power bandwidth is the difference between these two frequencies.
h) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

TEST PROCEDURE
The test was performed as a conducted measurement

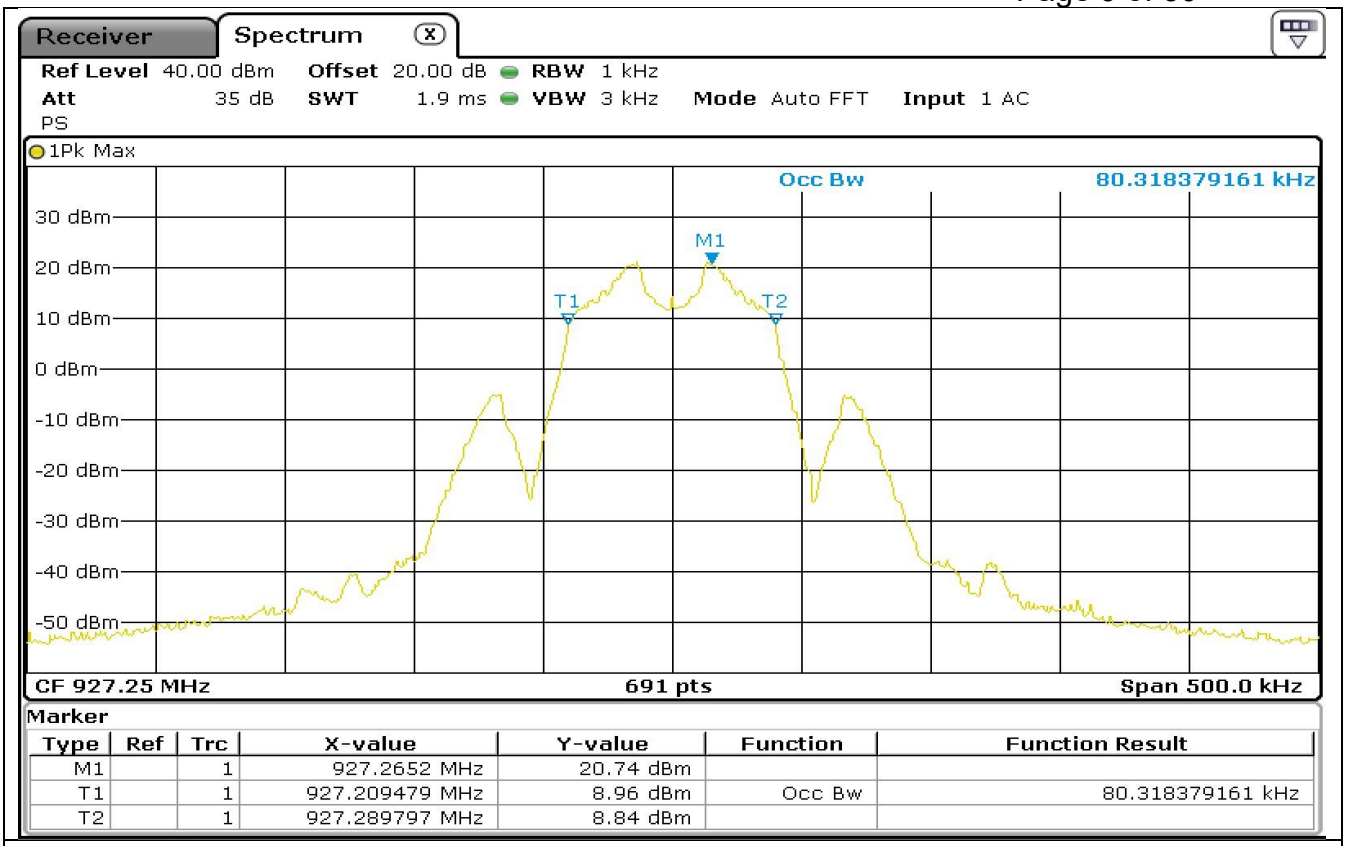



**Fig 2 99% Bandwidth**

## Bandwidth

| Frequency | 99% Bandwidth |
|---|---|
| GHz | KHz |
| 902.75 | 80.32 |
| 914.75 | 80.32 |
| 927.25 | 80.32 |

**Result :- Pass**

## 3.2 Output power Conducted

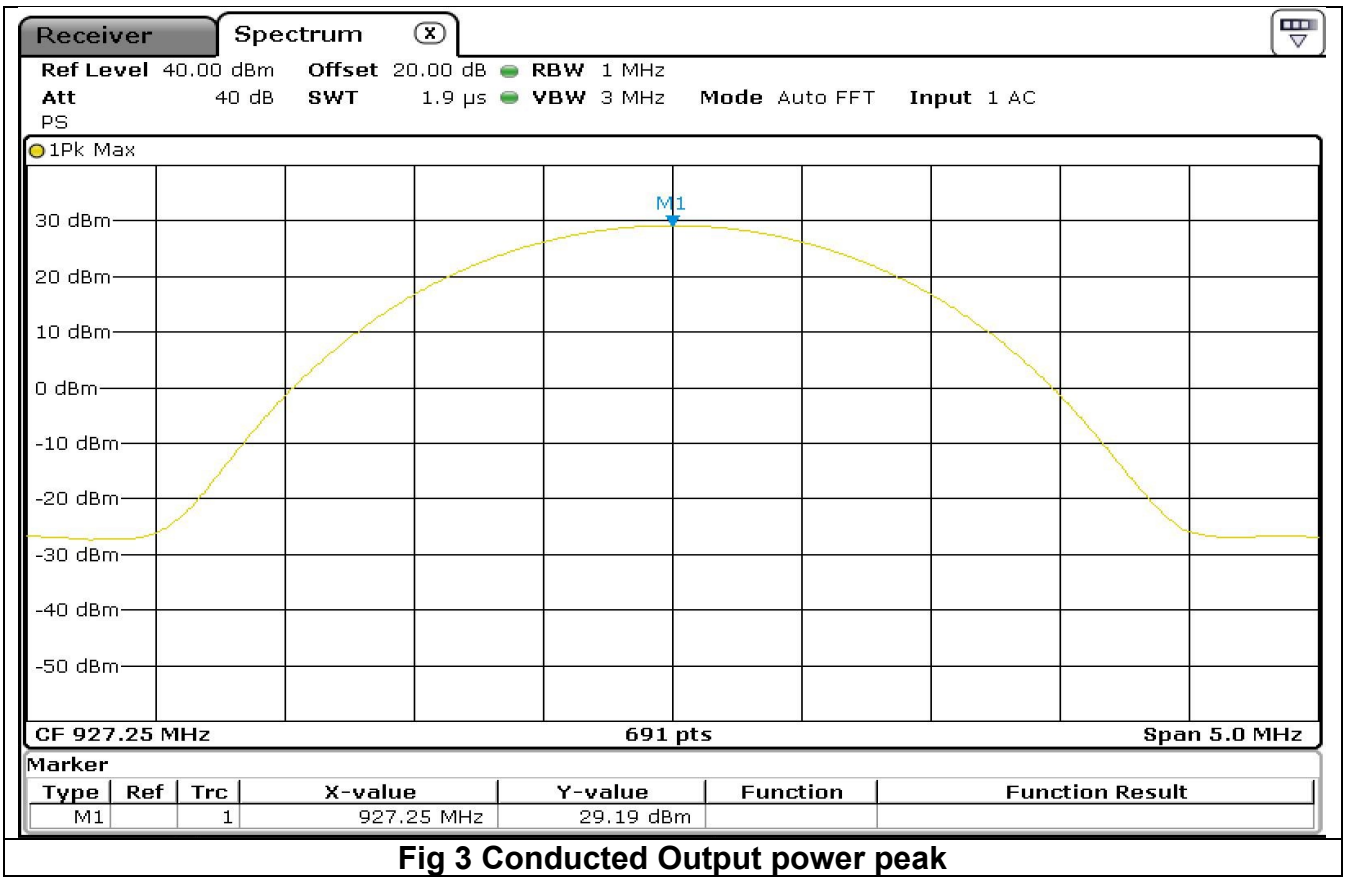



**Fig 3 Conducted Output power peak**

| Frequency | Measurement Peak | Limit | Margin |
|---|---|---|---|
| MHz | dBm | dBm | dB |
| 902.75 | 29.32 | 30 | 0.68 |
| 914.75 | 29.49 | 30 | 0.51 |
| 927.25 | 29.19 | 30 | 0.81 |

**Limit**

For frequency hopping systems operating in the 902-928 MHz band: 1 watt for systems employing at least 50 hopping channels

Test Result: Pass

## 3.3 Spurious Emissions EUT

### 3.3.1 Conducted Emissions Band Edge

Ref Appendix B for Scans

**Test Result Pass**

### 3.3.2 Conducted Spurious Emissions (100KHz bandwidth)

| Frequency | Peak 100KHz RBW | Measured | Limit Min | Margin |
|---|---|---|---|---|
| GHz | dBm | dBc | dBc | dB |
| 1.8055 | -43.92 | 43.92 | 20 | 23.92 |
| 2.70825 | -50.37 | 50.37 | 20 | 30.37 |
| 3.611 | -78.16 | 78.16 | 20 | 58.16 |
| 4.51375 | -66.16 | 66.16 | 20 | 46.16 |
| 5.4165 | -78.78 | 78.78 | 20 | 58.78 |
| 8.1247 | -76.8 | 76.8 | 20 | 56.8 |
| 9.02758 | -76.92 | 76.92 | 20 | 56.92 |

| Frequency | Peak 100KHz RBW | Measured | Limit Min | Margin |
|---|---|---|---|---|
| GHz | dBm | dBc | dBc | dB |
| 1.8295 | -44.41 | 44.41 | 20 | 24.41 |
| 2.74425 | -50.81 | 50.81 | 20 | 30.81 |
| 3.659 | -77 | 77 | 20 | 57 |
| 4.57375 | -64.53 | 64.53 | 20 | 44.53 |
| 7.318 | -76.07 | 76.07 | 20 | 56.07 |
| 8.233 | -77.11 | 77.11 | 20 | 57.11 |
| 9.1475 | -75.42 | 75.42 | 20 | 55.42 |

| Frequency | Peak 100KHz RBW | Measured | Limit Min | Margin |
|---|---|---|---|---|
| GHz | dBm | dBc | dBc | dB |
| 1.8545 | -44.47 | 44.47 | 20 | 24.47 |
| 2.78175 | -51.32 | 51.32 | 20 | 31.32 |
| 3.709 | -76.77 | 76.77 | 20 | 56.77 |
| 4.63625 | -62.51 | 62.51 | 20 | 42.51 |
| 7.418 | -76.39 | 76.39 | 20 | 56.39 |
| 8.345 | -77.02 | 77.02 | 20 | 57.02 |

Ref Appendix A for Scans

**Test Result Pass**

## 4.0 Spurious Emissions

## 4.1 Radiated Spurious Emissions with Antenna Port terminated

### Low Channel

| Frequency MHz | Quasi Peak Level dBuV/m | Antenna Polarity | Antenna Factor dB | Cable loss dB | Final Field Strength Quasi Peak dBuV/m | Quasi Peak Limit dBuV/m | Margin dB |
|---|---|---|---|---|---|---|---|
| 75.15 | 17.1 | Vertical | 9.3 | 1 | 27.4 | 40.0 | 12.6 |
| 960 | 5.4 | Vertical | 24.2 | 2.4 | 32 | 46.0 | 14.0 |
| 960 | 2.4 | Horizontal | 24.2 | 2.4 | 29 | 46.0 | 17.0 |

| Frequency | Measured Peak Level | Antenna Factor | Preamp Gain | Cable Loss | Antenna Polarity | Duty Cycle Correction | Final Peak Level | Average Limit +20dB | Margin |
|---|---|---|---|---|---|---|---|---|---|
| GHz | dBuV/m | dB | dB | dB | V/H | dB | dBuV/m | dBuV/m | dB |
| 1.375 | 52.5 | 24.2 | 39.4 | 3.2 | Vertical | 0.00 | 40.5 | 74 | 33.5 |
| 2.708 | 54.1 | 28.7 | 38.4 | 3.8 | Vertical | 0.00 | 48.2 | 74 | 25.8 |
| 3.611 | 44.1 | 31.3 | 37.6 | 4.6 | Vertical | 0.00 | 42.4 | 74 | 31.6 |
| 4.514 | 44.7 | 32.4 | 37 | 5.0 | Vertical | 0.00 | 45.1 | 74 | 28.9 |
| 5.417 | 45.1 | 33.5 | 37.5 | 5.6 | Vertical | 0.00 | 46.7 | 74 | 27.3 |
| 8.125 | 46.4 | 37.3 | 37.5 | 6.8 | Vertical | 0.00 | 53.0 | 74 | 21.0 |
| 9.028 | 43.8 | 37.9 | 37.1 | 7.5 | Vertical | 0.00 | 52.1 | 74 | 21.9 |
| 2.708 | 55.0 | 28.7 | 38.4 | 3.8 | Horizontal | 0.00 | 49.1 | 74 | 24.9 |
| 3.611 | 43.8 | 31.3 | 37.6 | 4.6 | Horizontal | 0.00 | 42.1 | 74 | 31.9 |
| 4.514 | 44.8 | 32.4 | 37 | 5.0 | Horizontal | 0.00 | 45.2 | 74 | 28.8 |
| 5.417 | 45.4 | 33.5 | 37.5 | 5.6 | Horizontal | 0.00 | 47.0 | 74 | 27.0 |
| 8.125 | 45.7 | 37.3 | 37.5 | 6.8 | Horizontal | 0.00 | 52.3 | 74 | 21.7 |
| 9.028 | 44.3 | 37.9 | 37.1 | 7.5 | Horizontal | 0.00 | 52.6 | 74 | 21.5 |

## Mid Channel

| Frequency MHz | Quasi Peak Level dBuV/m | Antenna Polarity | Antenna Factor dB | Cable loss dB | Final Field Strength Quasi Peak dBuV/m | Quasi Peak Limit dBuV/m | Margin dB |
|---|---|---|---|---|---|---|---|
| 75.78 | 17.3 | Vertical | 9.3 | 1 | 27.6 | 40.0 | 12.4 |
| 960 | 5.6 | Vertical | 24.2 | 2.4 | 32.2 | 46.0 | 13.8 |
| 960 | 2.6 | Horizontal | 24.2 | 2.4 | 29.2 | 46.0 | 16.8 |

| Frequency | Measured Peak Level | Antenna Factor | Preamp Gain | Cable Loss | Antenna Polarity | Duty Cycle Correction | Final Peak Level | Average Limit +20dB | Margin |
|---|---|---|---|---|---|---|---|---|---|
| GHz | dBuV/m | dB | dB | dB | V/H | dB | dBuV/m | dBuV/m | dB |
| 1.375 | 52.6 | 24.2 | 39.4 | 3.2 | Vertical | 0.00 | 40.6 | 74 | 33.4 |
| 2.744 | 54.9 | 28.7 | 38.4 | 3.8 | Vertical | 0.00 | 49.0 | 74 | 25.0 |
| 3.659 | 46.1 | 31.3 | 37.4 | 4.5 | Vertical | 0.00 | 44.5 | 74 | 29.6 |
| 4.574 | 45.7 | 32.4 | 37.1 | 5.1 | Vertical | 0.00 | 46.1 | 74 | 27.9 |
| 7.318 | 44.2 | 37.7 | 38 | 6.7 | Vertical | 0.00 | 50.6 | 74 | 23.5 |
| 8.233 | 45.3 | 37.3 | 37.5 | 6.7 | Vertical | 0.00 | 51.8 | 74 | 22.2 |
| 9.148 | 45.7 | 37.9 | 37 | 7.1 | Vertical | 0.00 | 53.7 | 74 | 20.3 |
| 2.744 | 55.0 | 28.7 | 38.4 | 3.8 | Horizontal | 0.00 | 49.1 | 74 | 24.9 |
| 3.659 | 44.6 | 31.3 | 37.4 | 4.5 | Horizontal | 0.00 | 43.0 | 74 | 31.0 |
| 4.574 | 44.8 | 32.4 | 37.1 | 5.1 | Horizontal | 0.00 | 45.2 | 74 | 28.8 |
| 7.318 | 44.0 | 37.7 | 38 | 6.7 | Horizontal | 0.00 | 50.4 | 74 | 23.7 |
| 8.233 | 45.3 | 37.3 | 37.5 | 6.7 | Horizontal | 0.00 | 51.8 | 74 | 22.2 |
| 9.148 | 45.0 | 37.9 | 37 | 7.1 | Horizontal | 0.00 | 53.0 | 74 | 21.0 |

## High Channel

| Frequency MHz | Quasi Peak Level dBuV/m | Antenna Polarity | Antenna Factor dB | Cable loss dB | Final Field Strength Quasi Peak dBuV/m | Quasi Peak Limit dBuV/m | Margin dB |
|---|---|---|---|---|---|---|---|
| 75.03 | 17.6 | Vertical | 9.3 | 1 | 27.9 | 40.0 | 12.1 |
| 960 | 6 | Vertical | 24.2 | 2.4 | 32.6 | 46.0 | 13.4 |
| 960 | 3.1 | Horizontal | 24.2 | 2.4 | 29.7 | 46.0 | 16.3 |
| 323.73 | 3.7 | Horizontal | 15.2 | 1.5 | 20.4 | 46.0 | 25.6 |

| Frequency | Measured Peak Level | Antenna Factor | Preamp Gain | Cable Loss | Antenna Polarity | Duty Cycle Correction | Final Peak Level | Average Limit +20dB | Margin |
|---|---|---|---|---|---|---|---|---|---|
| GHz | dBuV/m | dB | dB | dB | V/H | dB | dBuV/m | dBuV/m | dB |
| 1.375 | 52.5 | 24.2 | 39.4 | 3.2 | Vertical | 0.00 | 40.5 | 74 | 33.5 |
| 2.782 | 54.4 | 28.7 | 38.4 | 3.8 | Vertical | 0.00 | 48.5 | 74 | 25.5 |
| 3.709 | 46.0 | 31.3 | 37.4 | 4.5 | Vertical | 0.00 | 44.4 | 74 | 29.6 |
| 4.636 | 45.3 | 32.4 | 37.1 | 5.1 | Vertical | 0.00 | 45.7 | 74 | 28.3 |
| 7.418 | 44.7 | 37.7 | 37.5 | 6.3 | Vertical | 0.00 | 51.2 | 74 | 22.8 |
| 8.345 | 45.3 | 37.3 | 37.3 | 6.9 | Horizontal | 0.00 | 52.2 | 74 | 21.8 |
| 2.782 | 54.3 | 28.7 | 38.4 | 3.8 | Horizontal | 0.00 | 48.4 | 74 | 25.6 |
| 3.709 | 45.7 | 31.3 | 37.4 | 4.5 | Horizontal | 0.00 | 44.1 | 74 | 29.9 |
| 4.636 | 44.6 | 32.4 | 37.1 | 5.1 | Horizontal | 0.00 | 45.0 | 74 | 29.0 |
| 7.418 | 44.5 | 37.7 | 37.5 | 6.3 | Horizontal | 0.00 | 51.0 | 74 | 23.1 |
| 8.345 | 44.9 | 37.3 | 37.3 | 6.9 | Horizontal | 0.00 | 51.8 | 74 | 22.2 |

Ref Appendix C for Scans

Note Margin of >6dB for all measurements

## Test Result Pass

## 5.0 List of Test Equipment

| Instrument | Manufacturer | Model | Serial Num | CEI Ref | Cal Date | Cal Interval Months |
|---|---|---|---|---|---|---|
| Microwave Preamplifier | Hewlett Packard | 83017A | 3123A00175 | 805 | 30-Sep-23 | 12 |
| Spectrum Analyser 30Hz-40GHz | Rohde & Schwarz | FSP40 | 100053 | 850 | 11-Dec-21 | 36 |
| Test Receiver 3.6GHz | Rohde & Schwarz | ESR | 1316.3003k03-101625-s | 869 | 24-May-23 | 36 |
| Receiver N9038A EMI 3Hz - 8.4 GHz | Keysight | MXE N9038A | MX60320104 | 1204 | 28-Feb-23 | 36 |
| Antenna Horn | EMCO | 3115 | 2363 | 1100 | 22-Feb-23 | 36 |
| Fully Anechoic Chamber | CEI | FAR 3M | 906 | 906 | 24-Jul-22 | 36 |
| Anechoic Chamber | CEI | SAR 10M | 845 | 845 | 22-Nov-22 | 36 |
| Antenna Biconical | Schwarzbeck | VHBB 9124 | 9124 667 | 871 | 07-Oct-21 | 36 |
| Antenna Log Periodic | Chase | UPA6108 | 1072 | 609 | 10-Sep-21 | 36 |
| Antenna Horn Standard Gain 18-26.5GHz | A-Info | LB-42-25-C-KF | J2021091103028 | 877 | 30-Jul-23 | 12 |
| Cable 20m | | | | 1213 | 16-May-23 | 12 |
| Cable purple Ktype 1.8m | | | | 917 | 30-Jul-23 | 12 |
| Cable HF Ktype 1.5m | | | | 705 | 30-Jul-23 | 12 |

## 6.0 Measurement Uncertainties

| Measurement | Uncertainty |
|---|---|
| Radio Frequency | +/- $5x10^{-7}$ |
| Maximum Frequency Deviation | +/- 1.7 % |
| Conducted Emissions | +/- 1 dB |
| Radiated Emission 30MHz-100MHz | +/- 5.3 dB |
| Radiated Emission 100MHz-300MHz | +/- 4.7 dB |
| Radiated Emission 300MHz-1GHz | +/- 3.9 dB |
| Radiated Emission 1GHz-40GHz | +/- 3.8 dB |
| Modulation bandwidth | +/- $5x10^{-7}$ |
| Duty Cycle | +/- 5 % |
| Power supply | ±0.1 VDC |
| Temperature | ±0.2 °C |
| Frequency | ±0.01 ppm |

The measurement uncertainties stated were calculated with a k=2 for a confidence level of over 95% as per ETS TR100 028.

The test data can be compared directly to the specification limit to determine compliance, as the calculated measurement uncertainty meets the requirements of the applicable specification.

## Appendix A Conducted Measurements Spurious Emissions

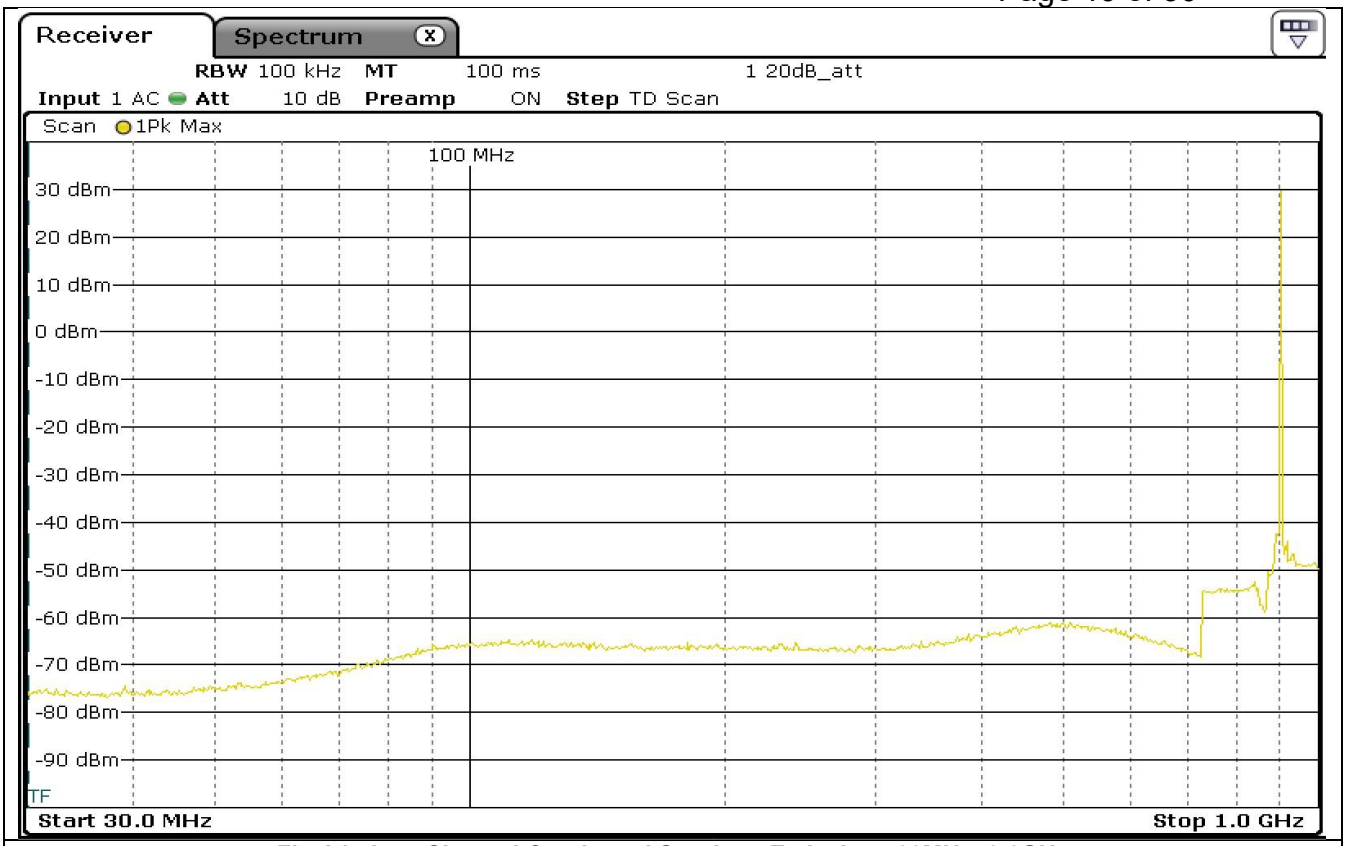



**Fig A1 Low Channel Conducted Spurious Emissions 30MHz -3.6GHz**

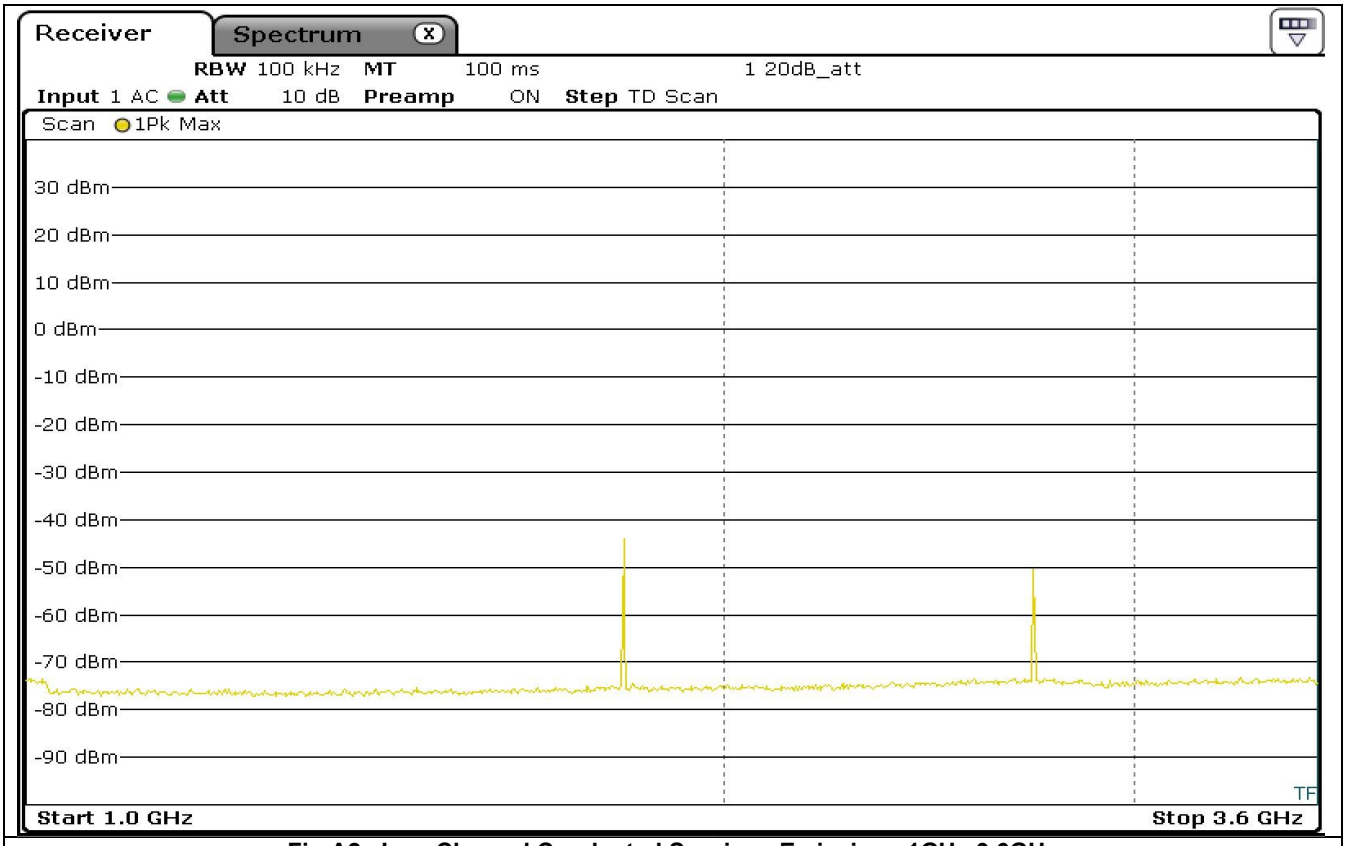
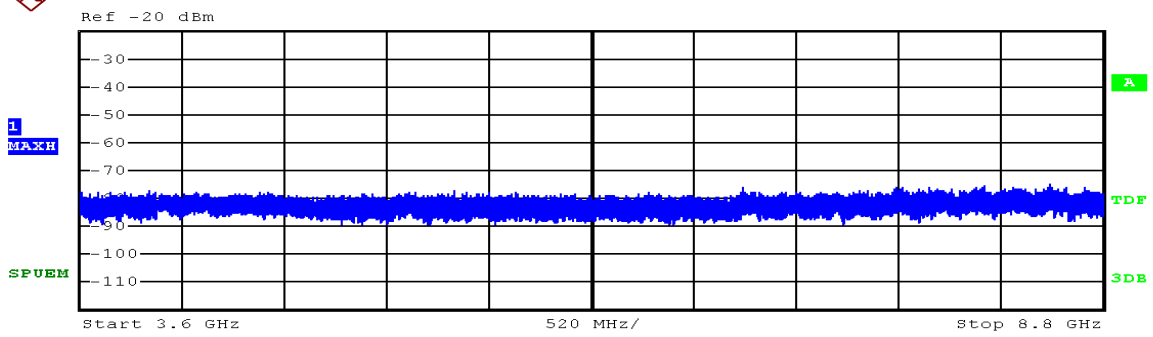
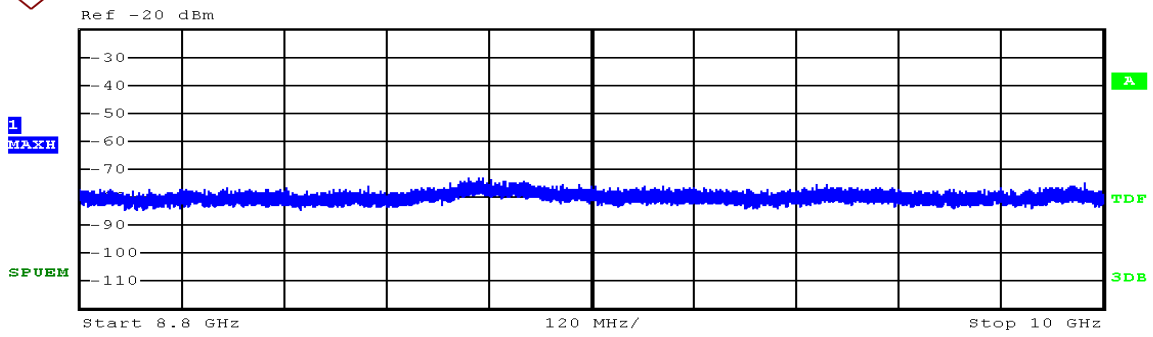



**Fig A2 Low Channel Conducted Spurious Emissions 1GHz-3.6GHz**




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 3.600 G | 4.000 G | 100.00 k | 3.955650 G | -77.03 | -200.00 |
| 4.000 G | 4.800 G | 100.00 k | 4.513800 G | -77.39 | -200.00 |
| 4.800 G | 5.200 G | 100.00 k | 5.045150 G | -78.17 | -200.00 |
| 5.200 G | 5.600 G | 100.00 k | 5.499750 G | -77.01 | -200.00 |
| 5.600 G | 6.000 G | 100.00 k | 5.817000 G | -77.53 | -200.00 |
| 6.000 G | 6.400 G | 100.00 k | 6.043050 G | -77.91 | -200.00 |
| 6.400 G | 6.800 G | 100.00 k | 6.493350 G | -77.45 | -200.00 |
| 6.800 G | 7.200 G | 100.00 k | 6.974650 G | -75.88 | -200.00 |
| 7.200 G | 7.600 G | 100.00 k | 7.561050 G | -76.89 | -200.00 |
| 7.600 G | 8.000 G | 100.00 k | 7.911650 G | -75.57 | -200.00 |
| 8.000 G | 8.400 G | 100.00 k | 8.198200 G | -75.07 | -200.00 |
| 8.400 G | 8.800 G | 100.00 k | 8.531300 G | -74.70 | -200.00 |

**Fig A3 Low Channel Conducted Spurious Emissions 3.6GHz -8GHz**




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 8.800 G | 9.200 G | 100.00 k | 9.137400 G | -75.71 | -200.00 |
| 9.200 G | 9.600 G | 100.00 k | 9.273800 G | -72.81 | -200.00 |
| 9.600 G | 10.000 G | 100.00 k | 9.978500 G | -74.86 | -200.00 |

**Fig A4K Low Channel Conducted Spurious Emissions 8GHz -10GHz**

## Appendix B Conducted Tests for Band Edges

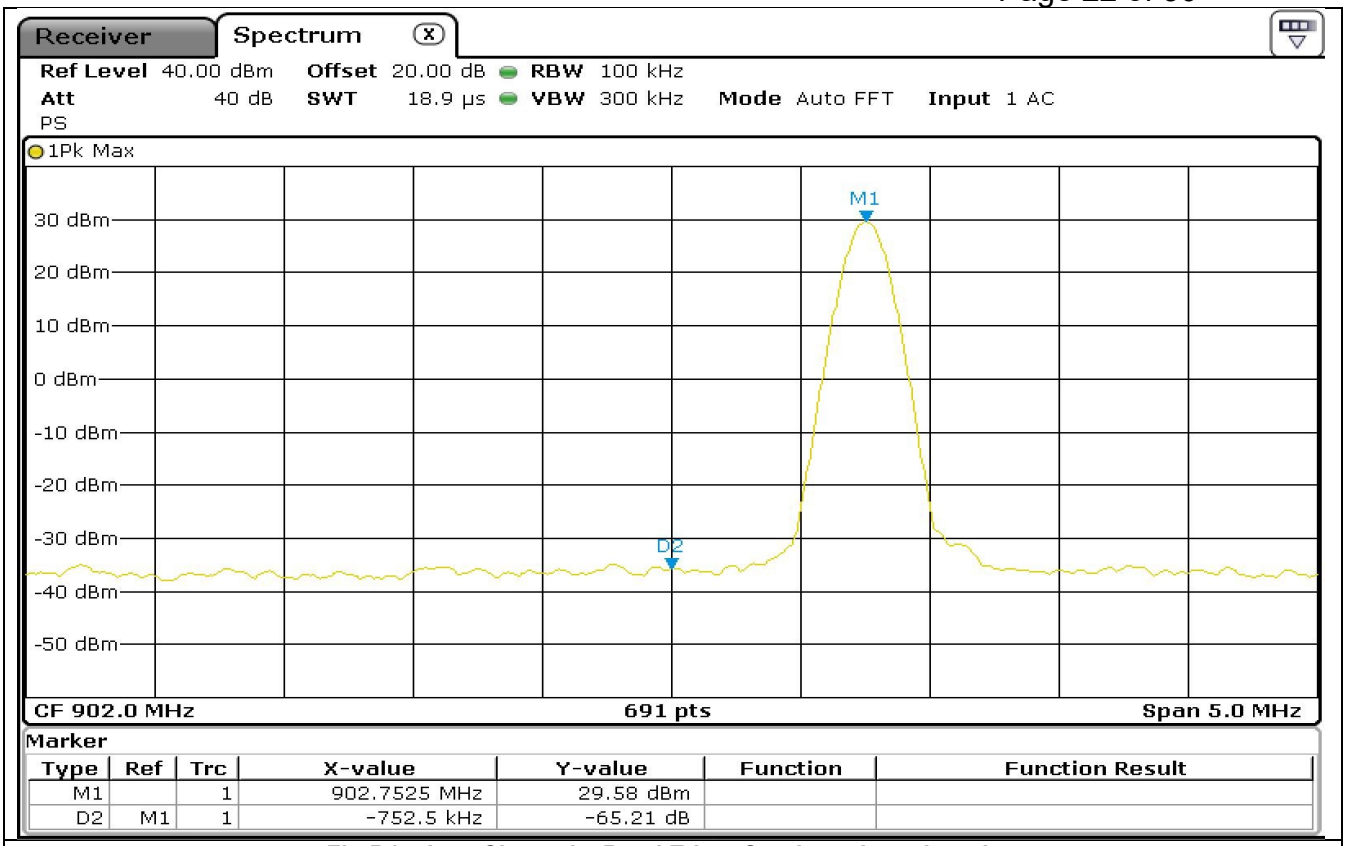



**Fig B1 Low Channel Band Edge Conducted non hopping**

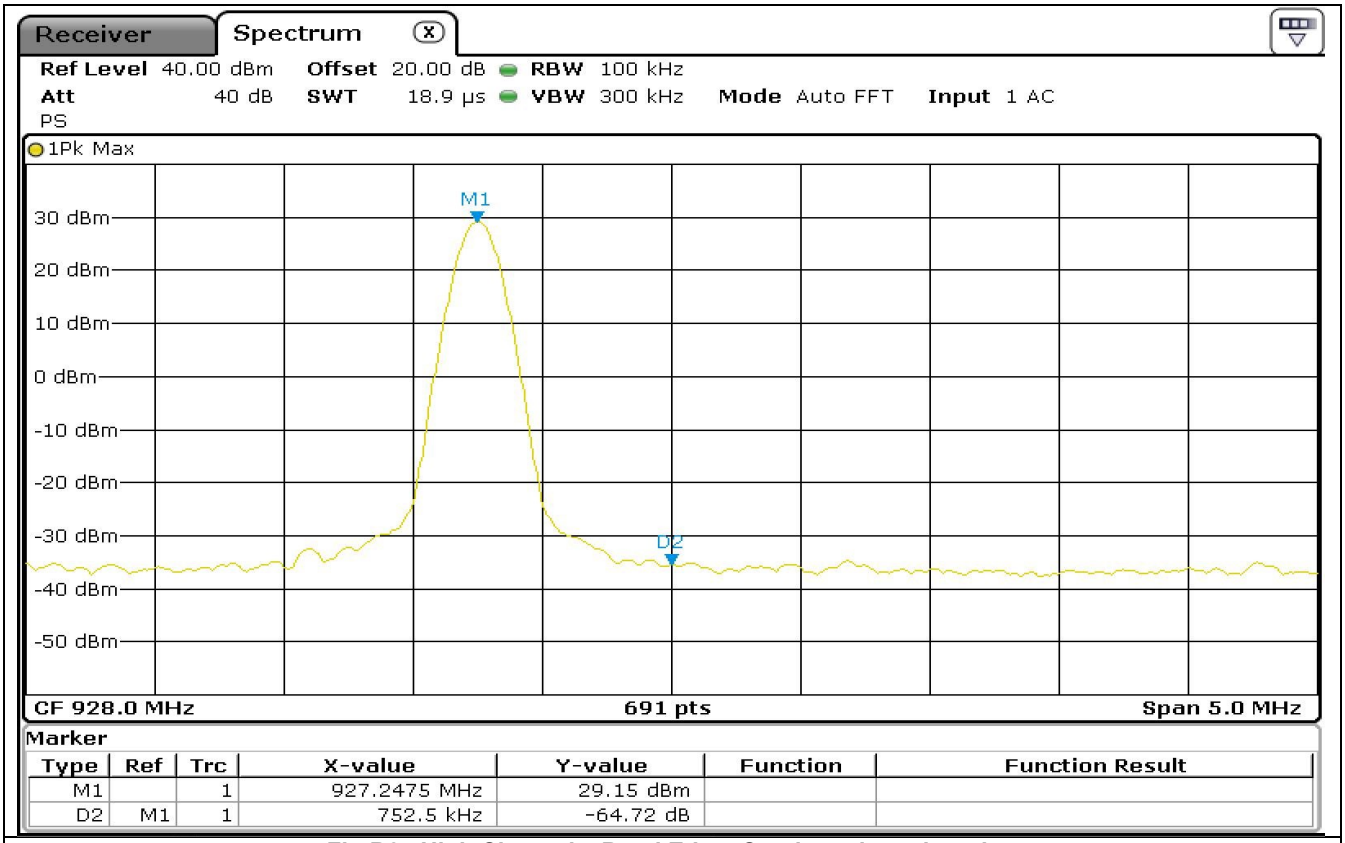



**Fig B2 High Channel Band Edge Conducted non hopping**

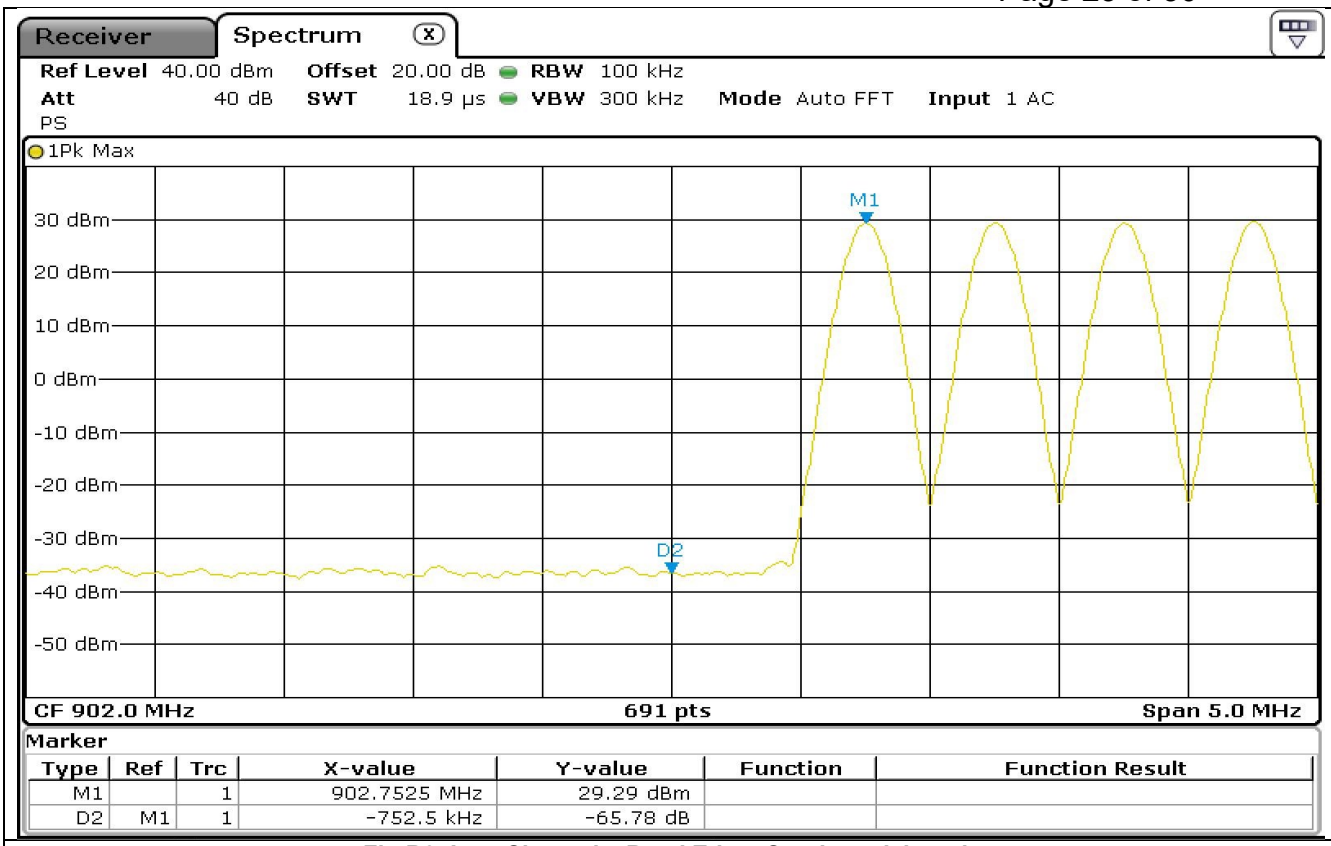



**Fig B3 Low Channel Band Edge Conducted hopping**

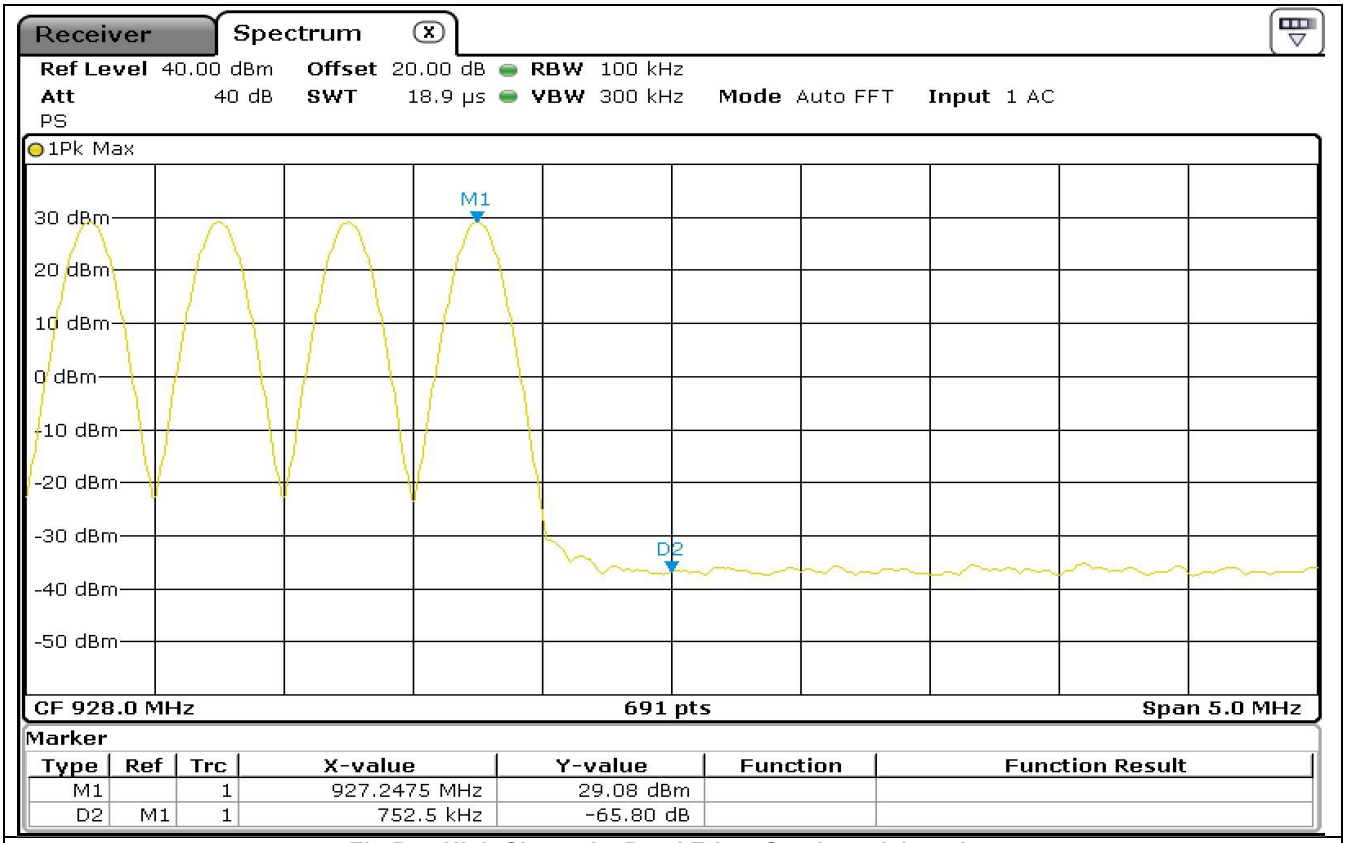



**Fig B4 High Channel Band Edge Conducted hopping**

## Appendix C Radiated Spurious Emissions with antenna port terminated

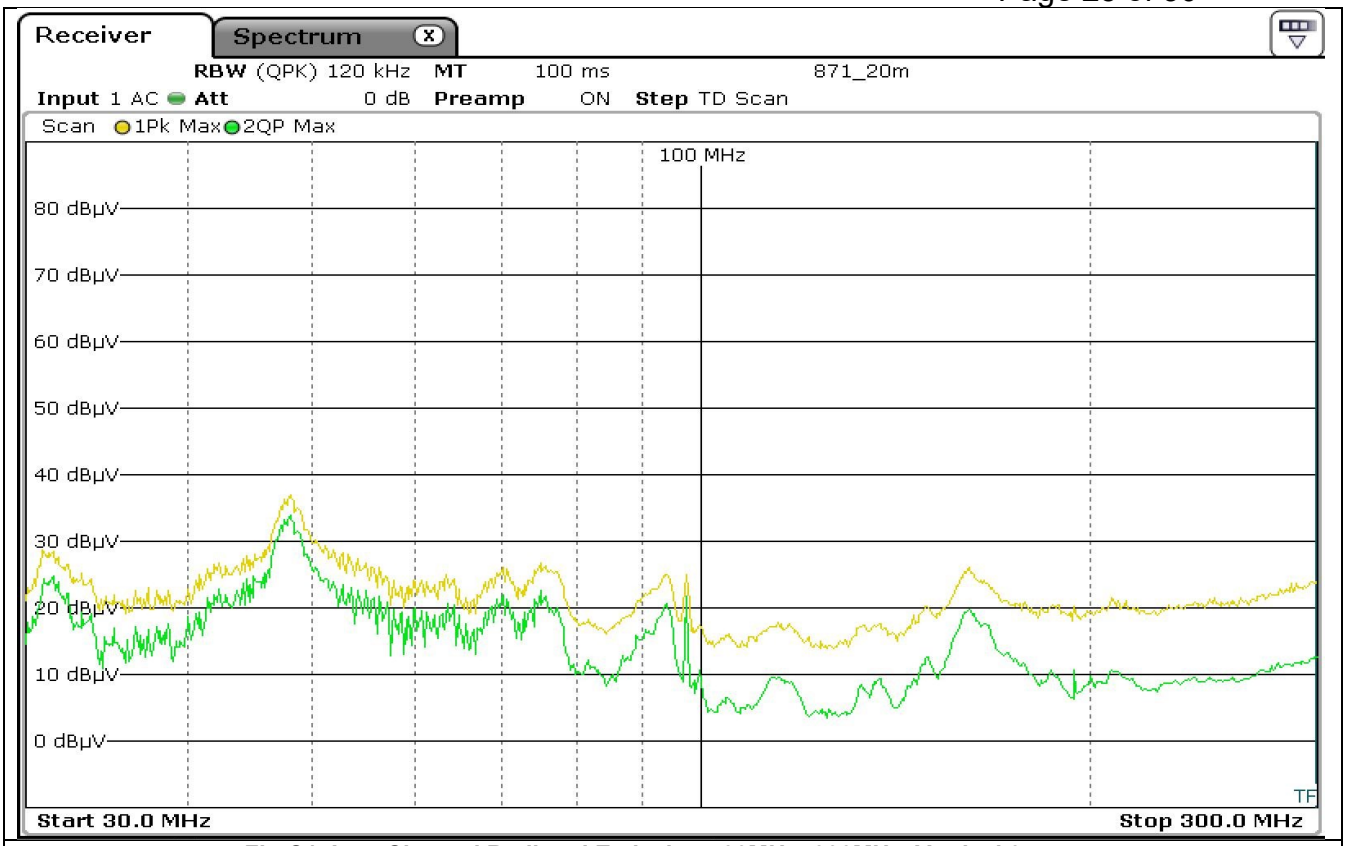



**Fig C1 Low Channel Radiated Emissions 30MHz -300MHz Vertical 3metres**

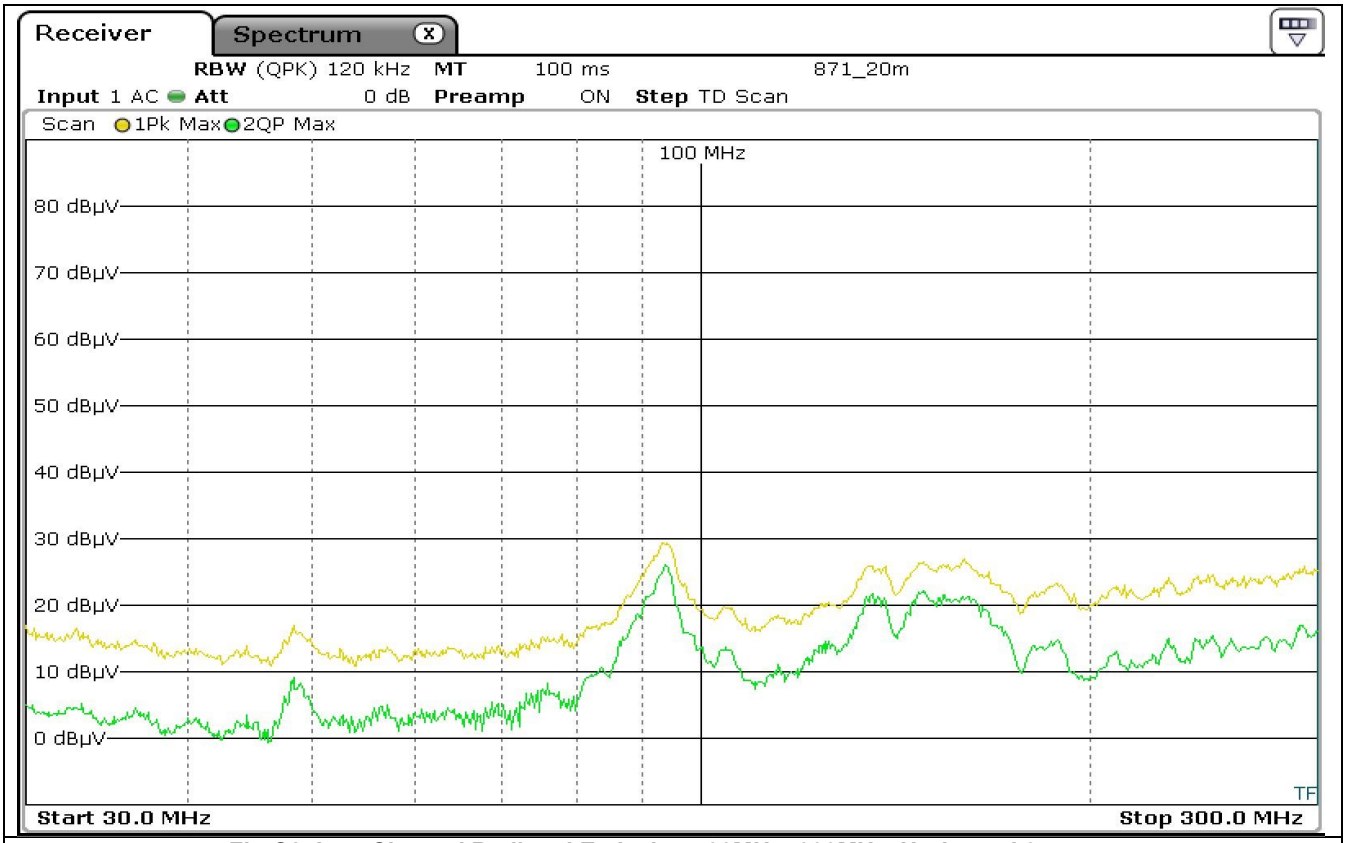



**Fig C2 Low Channel Radiated Emissions 30MHz -300MHz Horizontal 3metres**

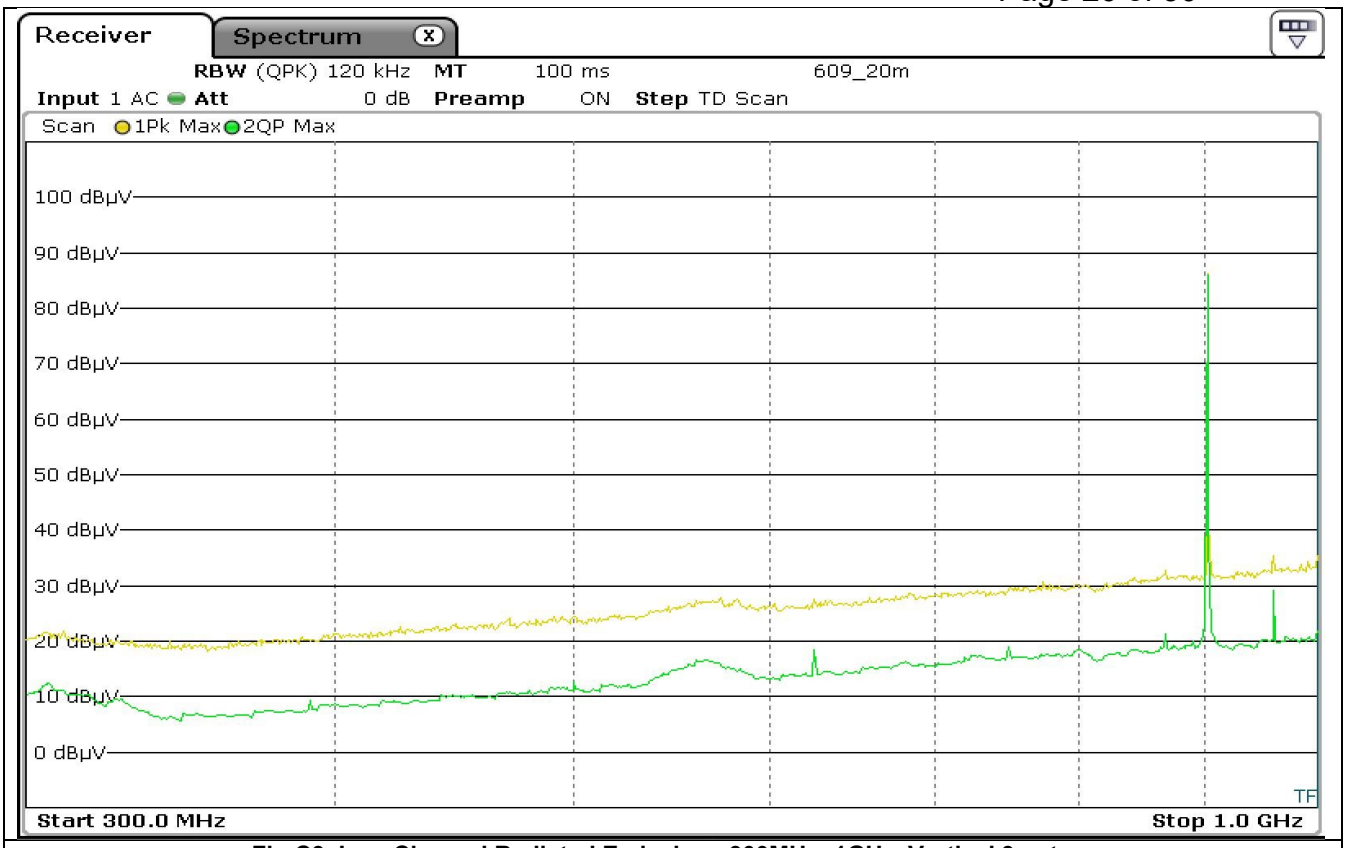



**Fig C3 Low Channel Radiated Emissions 300MHz -1GHz Vertical 3metres**

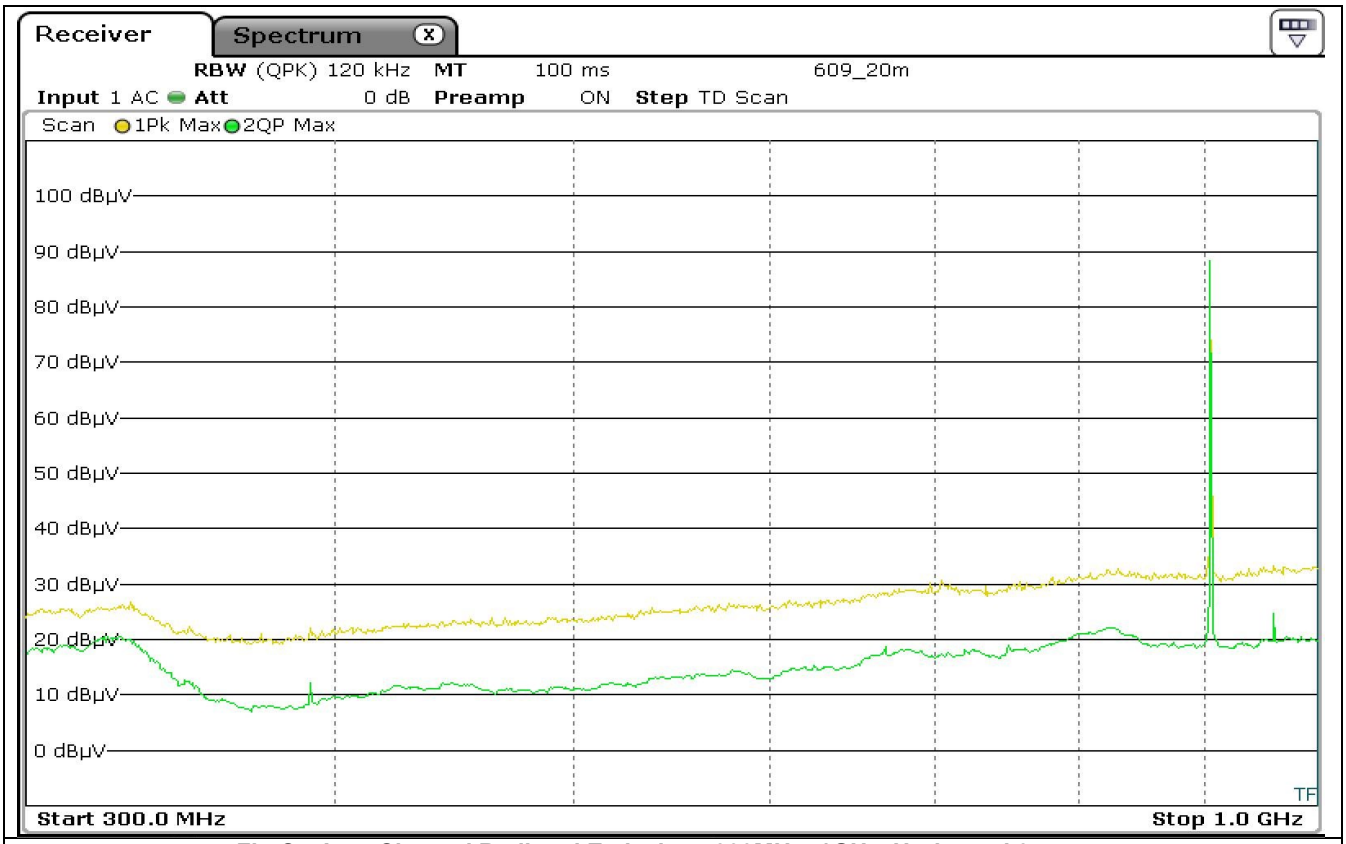



**Fig C4 Low Channel Radiated Emissions 300MHz -1GHz Horizontal 3metres**

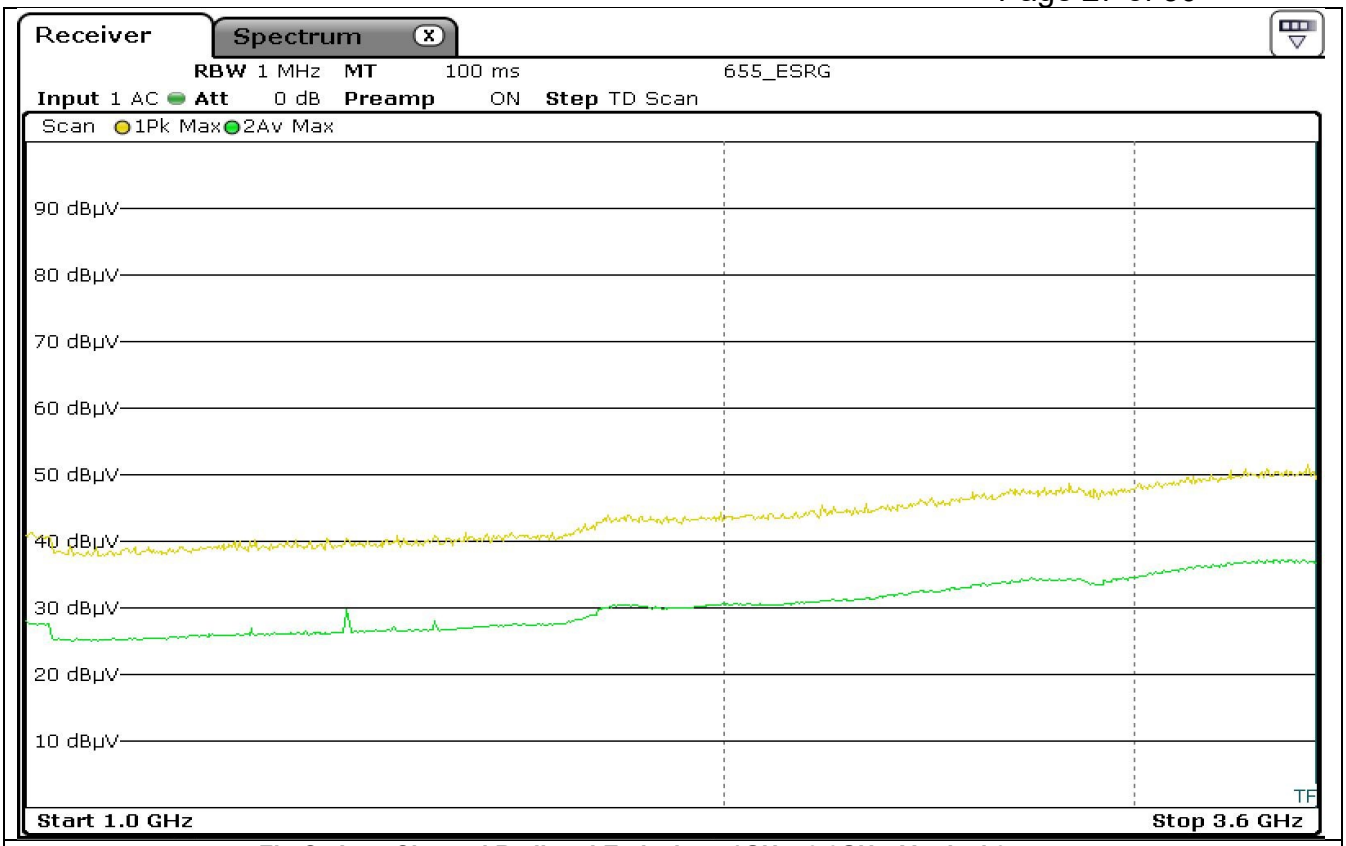



**Fig C5 Low Channel Radiated Emissions 1GHz -3.6GHz Vertical 3metres**

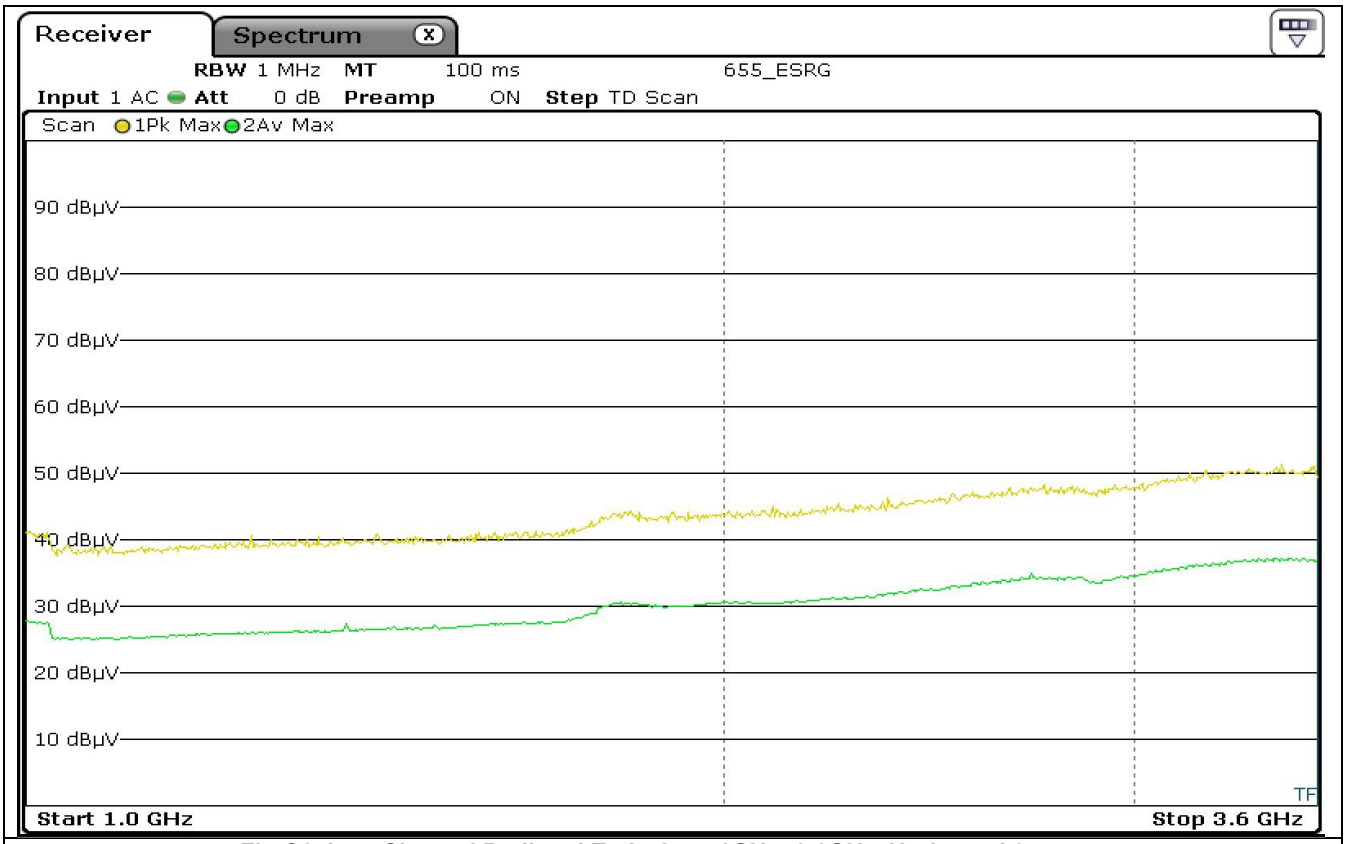



**Fig C6 Low Channel Radiated Emissions 1GHz -3.6GHz Horizontal 3metres**

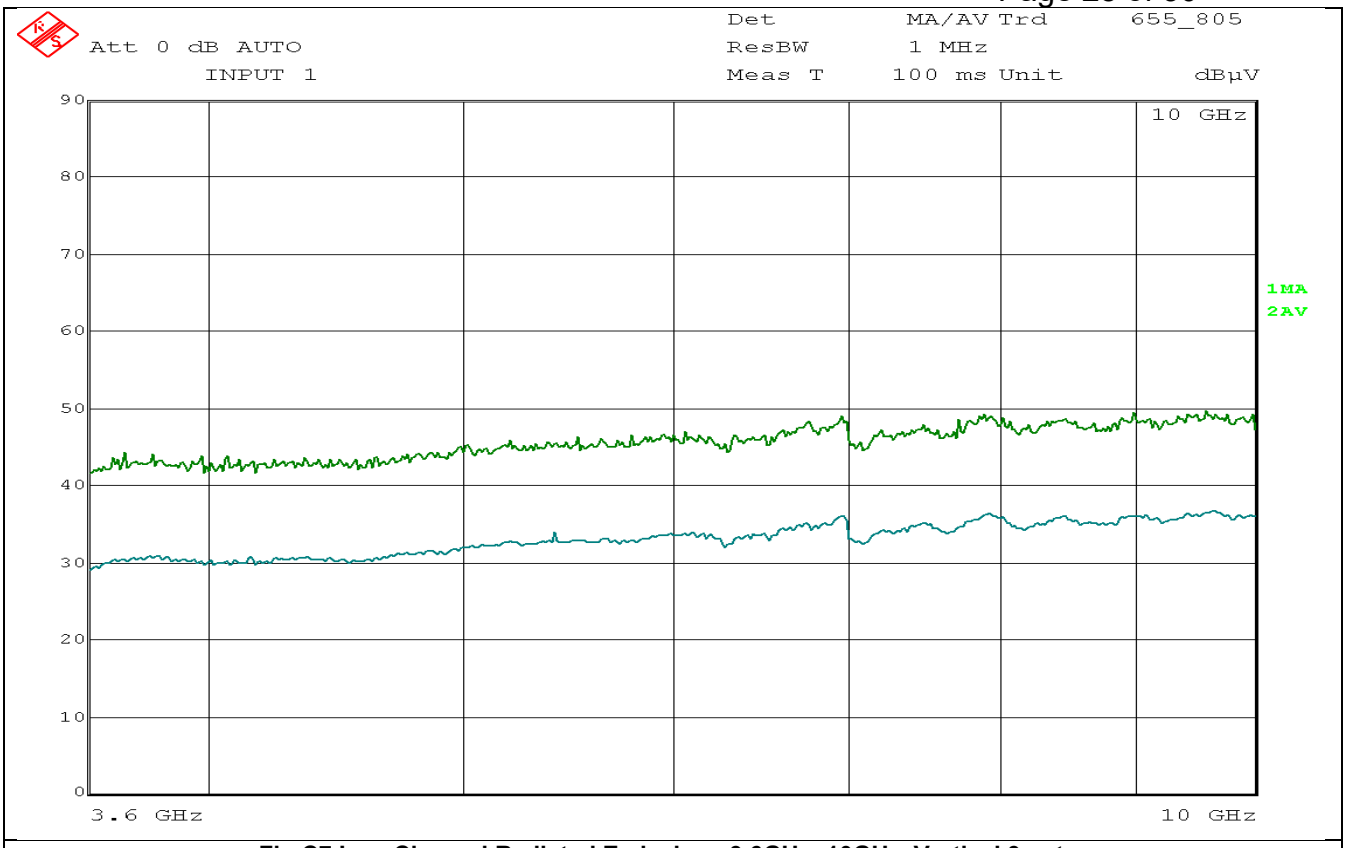



**Fig C7 Low Channel Radiated Emissions 3.6GHz -10GHz Vertical 3metre**

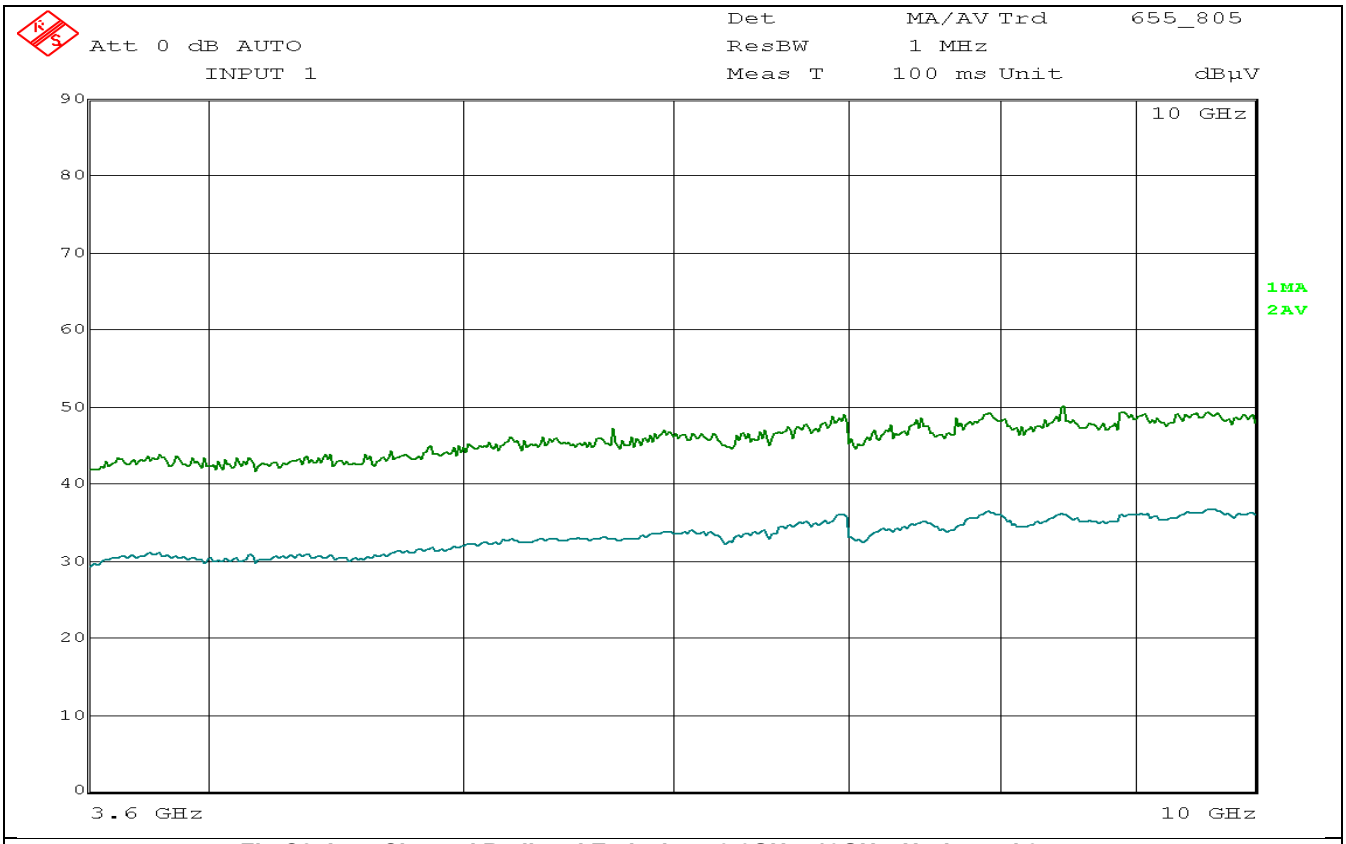



**Fig C8 Low Channel Radiated Emissions 3.6GHz -10GHz Horizontal 3metre**

## Appendix D: Test Setup

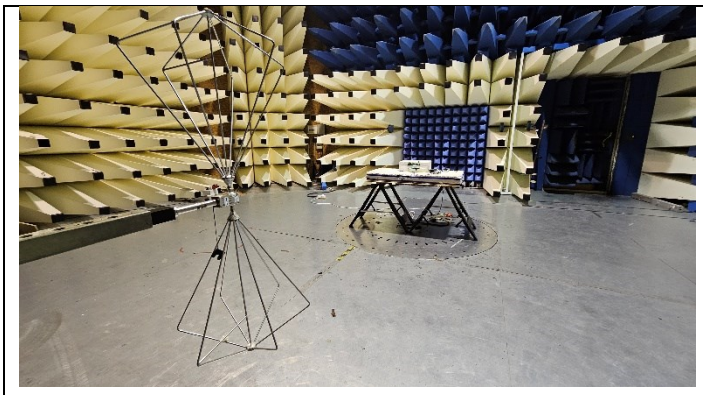


Fig D1: Radiated Emissions Below 1GHz

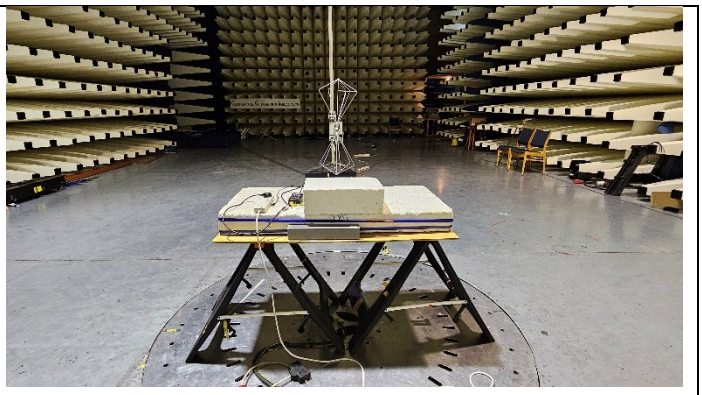


Fig D2: Radiated Emissions Below 1GHz

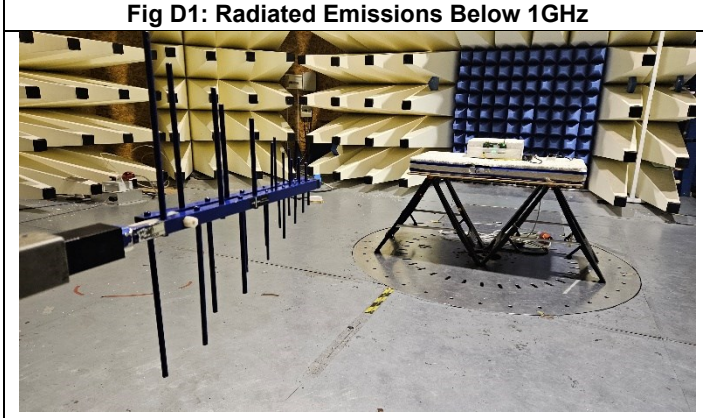


Fig D3: Radiated Emissions Below 1GHz

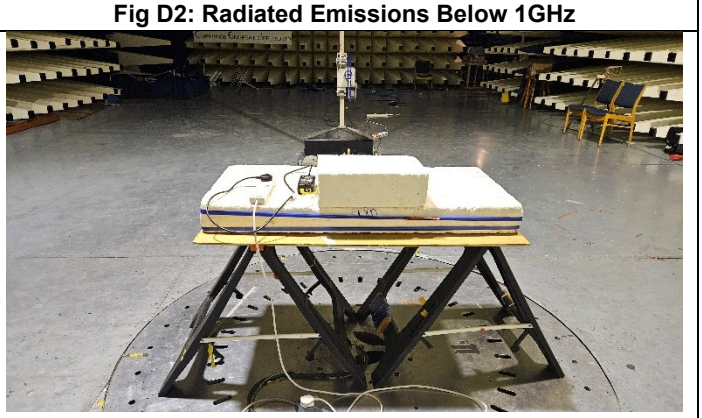


Fig D4: Radiated Emissions Below 1GHz

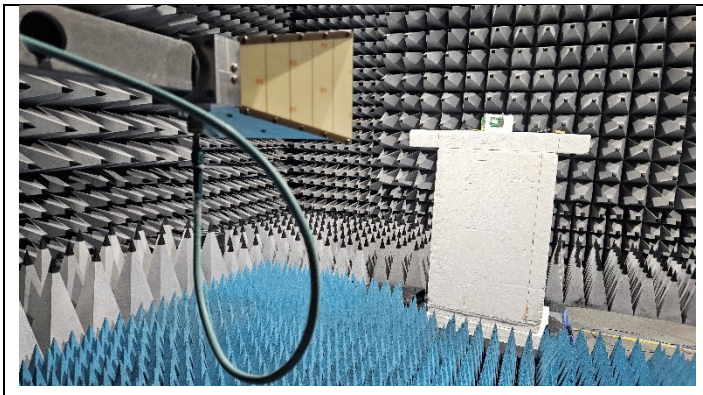


Fig D5: Radiated Emissions Above 1GHz

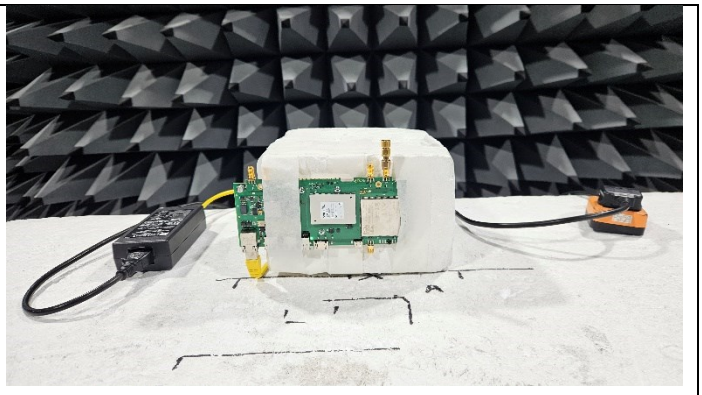


Fig D6: Close up

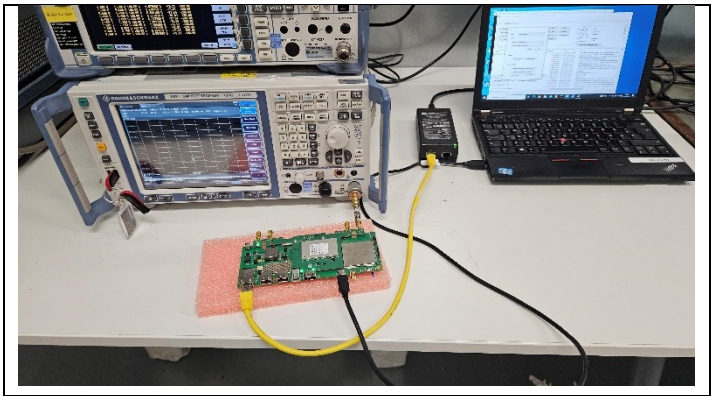
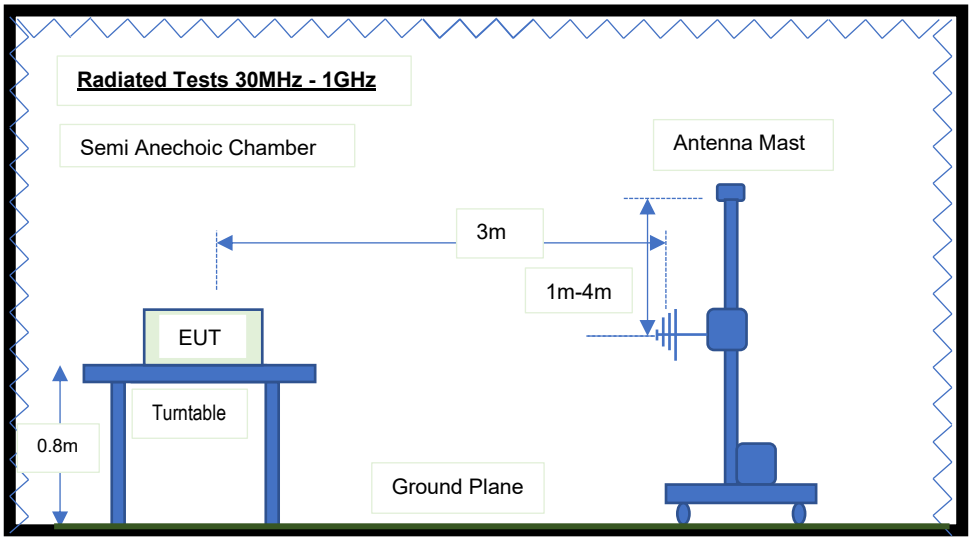
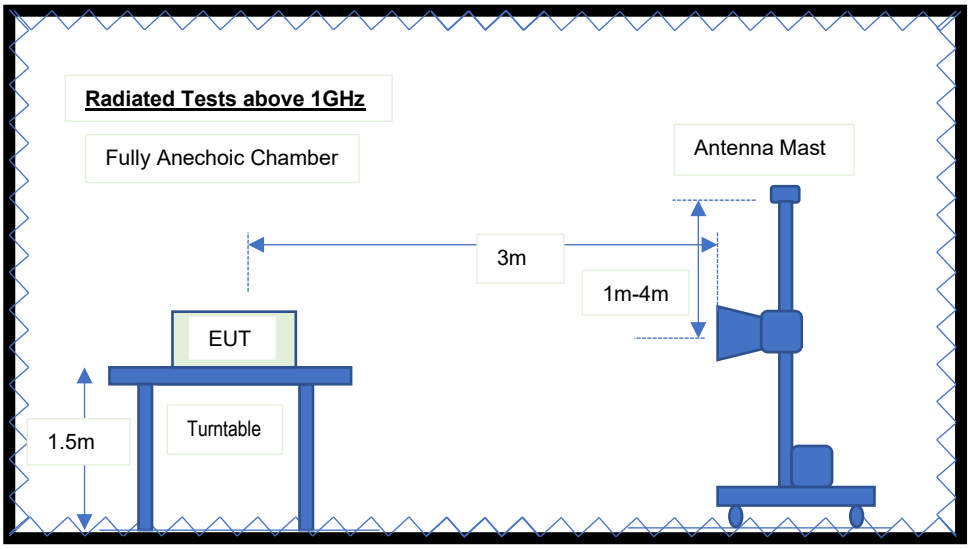


Fig D7: Conducted Emissions

## Appendix E: Block Diagrams of Test Setup




## End of Report