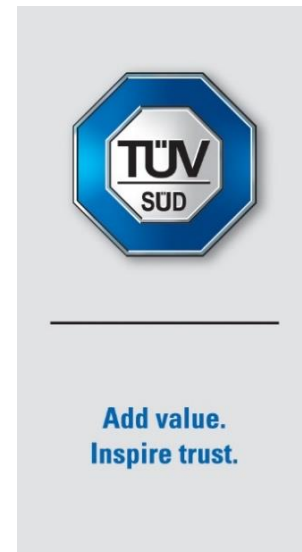


FCC and ISED Test Report  
 HID Global Corporation (US)  
 BluFi™ POE 5G with Universal Power, Model:  
 BVBFPOEUP

In accordance with FCC 47 CFR Part 15, ISED  
 RSS-247 and ISED RSS-GEN  
 (2.4 GHz WLAN, 5 GHz WLAN and BLE)

Prepared for: HID Global Corporation (US)  
 600 Corporate Drive  
 Suite 300  
 Fort Lauderdale  
 FL 33334, UNITED STATES



FCC ID: 2BCL8BVBFPOEUP IC: 772C-LB1GC

COMMERCIAL-IN-CONFIDENCE

Document 75957186-14 Issue 01

SIGNATURE			
NAME	JOB TITLE	RESPONSIBLE FOR	ISSUE DATE
Steve Marshall	Senior Engineer	Authorised Signatory	31 August 2023

Signatures in this approval box have checked this document in line with the requirements of TÜV SÜD document control rules.

ENGINEERING STATEMENT

The measurements shown in this report were made in accordance with the procedures described on test pages. All reported testing was carried out on a sample equipment to demonstrate limited compliance with FCC 47 CFR Part 15, ISED RSS-247 and ISED RSS-GEN). The sample tested was found to comply with the requirements defined in the applied rules

RESPONSIBLE FOR	NAME	DATE	SIGNATURE
Testing	Ahmad Javid	31 August 2023	

FCC Accreditation



90987 Octagon House, Fareham Test Laboratory

ISED Accreditation

12669A Octagon House, Fareham Test Laboratory

EXECUTIVE SUMMARY

A sample of this product was tested and found to be compliant with FCC 47 CFR Part 15: 2021, ISED RSS-247: Issue 2 (2017-02) and ISED RSS-GEN: Issue 5 (2018-04) + A1 (2019-03) + A2 (2021-02) for the tests detailed in section 1.3.

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**ACCREDITATION**

Our UKAS Accreditation does not cover opinions and interpretations and any expressed are outside the scope of our UKAS Accreditation. Results of tests not covered by our UKAS Accreditation Schedule are marked NUA (Not UKAS Accredited). Results of tests covered by our Flexible UKAS Accreditation Schedule are marked FS (Flexible Scope).

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## Contents

<b>1</b>	<b>Report Summary .....</b>	<b>2</b>
1.1	Report Modification Record.....	2
1.2	Introduction.....	2
1.3	Brief Summary of Results .....	3
1.4	Application Form .....	4
1.5	Product Information .....	7
1.6	Deviations from the Standard.....	7
1.7	EUT Modification Record .....	7
1.8	Test Location .....	8
<b>2</b>	<b>Test Details .....</b>	<b>9</b>
2.1	Radiated Spurious Emissions (Simultaneous Transmission) .....	9
<b>3</b>	<b>Photographs .....</b>	<b>25</b>
3.1	Test Setup Photographs .....	25
<b>4</b>	<b>Measurement Uncertainty .....</b>	<b>27</b>



# 1 Report Summary

## 1.1 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
1	First Issue	31-August-2023

**Table 1**

## 1.2 Introduction

Applicant	HID Global Corporation (US)
Manufacturer	HID Global Corporation (US)
Model Number(s)	BVBFPOEUP
Serial Number(s)	15079350142442990976
Hardware Version(s)	1.4
Software Version(s)	WIFI 2015 BLE 451
Number of Samples Tested	1
Test Specification/Issue/Date	FCC 47 CFR Part 15: 2021 ISED RSS-247: Issue 2(2017-02) ISED RSS-GEN: Issue 5 (2018-04) + A1 (2019-03) + A2 (2021-02)
Order Number	1180900792
Date	30-November-2022
Date of Receipt of EUT	11-April-2023
Start of Test	27-July-2023
Finish of Test	30-July-2023
Name of Engineer(s)	Ahmad Javid
Related Document(s)	ANSI C63.10: 2013 ANSI C63.4 (2014) ANSI C63.10: 2020



### 1.3 Brief Summary of Results

A brief summary of the tests carried out in accordance with FCC 47 CFR Part 15, ISED RSS-247 and ISED RSS-GEN is shown below.

Section	Specification Clause			Test Description	Result	Comments/Base Standard
	Part 15	RSS-247	RSS-GEN			
Configuration and Mode: 2.4 GHz WLAN + 2.4 GHz Bluetooth Low Energy - Internal Antenna						
2.1	15.209 and 15.247(d)	5.5	6.13 and 8.9	Radiated Spurious Emissions (Simultaneous Transmission)	Pass	ANSI C63.10: 2013 ANSI C63.10: 2020
Configuration and Mode: 5 GHz WLAN + 2.4 GHz Bluetooth Low Energy - Internal Antenna						
2.1	15.209, 15.247(d) and 15.407(b)	5.5 and 6.2	6.13 and 8.9	Radiated Spurious Emissions (Simultaneous Transmission)	Pass	ANSI C63.10: 2013 ANSI C63.10: 2020
Configuration and Mode: 2.4 GHz WLAN + 2.4 GHz Bluetooth Low Energy - External Antenna						
2.1	15.209 and 15.247(d)	5.5	6.13 and 8.9	Radiated Spurious Emissions (Simultaneous Transmission)	Pass	ANSI C63.10: 2013 ANSI C63.10: 2020
Configuration and Mode: 5 GHz WLAN + 2.4 GHz Bluetooth Low Energy - External Antenna						
2.1	15.209, 15.247(d) and 15.407(b)	5.5 and 6.2	6.13 and 8.9	Radiated Spurious Emissions (Simultaneous Transmission)	Pass	ANSI C63.10: 2013 ANSI C63.10: 2020

**Table 2**



**1.4 Application Form**

Equipment Description

Technical Description: (Please provide a brief description of the intended use of the equipment including the technologies the product supports)	<ul style="list-style-type: none"> <li>•Gateway that can accept a variety of WIFI spectrums, 2.4 and 5 Ghz.</li> <li>•Gateway that uses a provides universal power adapter to handle multiple input voltages.                      Allows gateway to be powered by variety of HID and-or third-party accessories. These can include, but are not necessarily limited to: 9V, 12V, Solar, External Batteries, POE, USB, etc.</li> <li>•Compatible with Bluetooth low-energy (BLE) radio that is capable of transmitting and receiving all standard HID IOT sBeacon, tracking packets.</li> </ul>	
Manufacturer:	HID Global	
Model:	BluFI-UP00	
Part Number:	BVBFP0EUP	
Hardware Version:	1.4	
Software Version:	WIFI 2015 BLE 451	
FCC ID of the product under test – <a href="#">see guidance here</a>	2BCL8BVBFP0EUP	
IC ID of the product under test – <a href="#">see guidance here</a>	772C-LB1GC	

**Table 3**

Intentional Radiators

Technology	BLE	BLE	BLE	WiFi	WiFi (5GHz)	
Frequency Range (MHz to MHz)	2402-2483.5	2402-2483.5	2402-2483.5	2412-2462	5.150-5.250	
Conducted Declared Output Power (dBm)	5	5	5	12	12	
Antenna Gain (dBi)	0	10	2	0	0	
Supported Bandwidth(s) (MHz) (e.g. 1 MHz, 20 MHz, 40 MHz)	1	1	1	2.4	20,40,80	
Modulation Scheme(s) (e.g. GFSK, QPSK etc)	GFSK	GFSK	GFSK	OFDM	OFDM	
ITU Emission Designator ( <a href="#">see guidance here</a> ) (not mandatory for Part 15 devices)						
Bottom Frequency (MHz)	2402	2402	2402	2402	5150	
Middle Frequency (MHz)	2439	2439	2439	2439	5200	
Top Frequency (MHz)	2483.5	2483.5	2483.5	2483.5	5250	

**Table 4**



Un-intentional Radiators

Highest frequency generated or used in the device or on which the device operates or tunes	
Lowest frequency generated or used in the device or on which the device operates or tunes	
Class A Digital Device (Use in commercial, industrial or business environment) <input checked="" type="checkbox"/>	
Class B Digital Device (Use in residential environment only) <input type="checkbox"/>	

**Table 5**

AC Power Source

AC supply frequency:	N/A	Hz
Voltage	9-24V 57V POE	V
Max current:		A
Single Phase <input type="checkbox"/> Three Phase <input type="checkbox"/>		

**Table 6**

DC Power Source

Nominal voltage:	9-24V DC or 57V PoE	V
Extreme upper voltage:	24V or 57V PoE	V
Extreme lower voltage:	9V	V
Max current:	0.11 at 9V	A

**Table 7**

Battery Power Source

Voltage:		V
End-point voltage:		V (Point at which the battery will terminate)
Alkaline <input type="checkbox"/> Leclanche <input type="checkbox"/> Lithium <input type="checkbox"/> Nickel Cadmium <input type="checkbox"/> Lead Acid* <input type="checkbox"/> *(Vehicle regulated)		
Other <input type="checkbox"/>	Please detail:	

**Table 8**

Charging

Can the EUT transmit whilst being charged	Yes <input type="checkbox"/> No <input type="checkbox"/>
---	--

**Table 9**

Temperature

Minimum temperature:	-20	°C
Maximum temperature:	+85	°C

**Table 10**



Cable Loss

Adapter Cable Loss (Conducted sample)		dB
--	--	----

**Table 11**

Antenna Characteristics

Antenna connector <input type="checkbox"/>	State impedance	50	Ohm
Temporary antenna connector <input type="checkbox"/>	State impedance	50	Ohm
Integral antenna <input checked="" type="checkbox"/>	Type: Pifa	Gain	0 dBi
External antenna <input checked="" type="checkbox"/>	Type: Dipole	Gain	9.4 dBi
<p>For external antenna only:            Standard Antenna Jack <input checked="" type="checkbox"/> If yes, describe how user is prohibited from changing antenna (if not professional installed):            Equipment is only ever professionally installed <input checked="" type="checkbox"/>            Non-standard Antenna Jack <input type="checkbox"/>            All part 15 applications will need to show how the antenna gain was derived either from a manufacturer data sheet or a measurement. Where the gain of the antenna is inherently accounted for as a result of the measurement, such as field strength measurements on a part 15.249 or 15.231 device, so the gain does not necessarily need to be verified. However, enough information regarding the construction of the antenna shall be provided. Such information maybe photographs, length of wire antenna etc.</p>			

**Table 12**

Ancillaries (if applicable)

Manufacturer:		Part Number:	
Model:		Country of Origin:	

**Table 13**

I hereby declare that the information supplied is correct and complete.

Name: Matthieu Behroozi  
 Position held: Product Manager  
 Date: 05 June 2023



**1.5 Product Information**

**1.5.1 Technical Description**

Gateway that can accept a variety of WIFI spectrums, 2.4 GHz and 5 GHz.

Gateway that uses a provides universal power adapter to handle multiple input voltages. Allows gateway to be powered by variety of HID and-or third-party accessories. These can include, but are not necessarily limited to: 9V, 12V, Solar, External Batteries, POE, USB, etc.

Compatible with Bluetooth low-energy (BLE) radio that is capable of transmitting and receiving all standard HID IOT sBeacon, tracking packets.

**1.6 Deviations from the Standard**

No deviations from the applicable test standard were made during testing.

**1.7 EUT Modification Record**

The table below details modifications made to the EUT during the test programme.

The modifications incorporated during each test are recorded on the appropriate test pages.

Modification State	Description of Modification still fitted to EUT	Modification Fitted By	Date Modification Fitted
Model: BVBFPOEUP, Serial Number: 15079350142442990976			
0	As supplied by the customer	Not Applicable	Not Applicable

**Table 14**





### 1.8 Test Location

TÜV SÜD conducted the following tests at our Octagon House Test Laboratory.

Test Name	Name of Engineer(s)	Accreditation
Configuration and Mode: 2.4 GHz WLAN + 2.4 GHz Bluetooth Low Energy - Internal Antenna		
Radiated Spurious Emissions (Simultaneous Transmission)	Ahmad Javid	UKAS
Configuration and Mode: 5 GHz WLAN + 2.4 GHz Bluetooth Low Energy - Internal Antenna		
Radiated Spurious Emissions (Simultaneous Transmission)	Ahmad Javid	UKAS
Configuration and Mode: 2.4 GHz WLAN + 2.4 GHz Bluetooth Low Energy - External Antenna		
Radiated Spurious Emissions (Simultaneous Transmission)	Ahmad Javid	UKAS
Configuration and Mode: 5 GHz WLAN + 2.4 GHz Bluetooth Low Energy - External Antenna		
Radiated Spurious Emissions (Simultaneous Transmission)	Ahmad Javid	UKAS

**Table 15**

Office Address:

TÜV SÜD  
Octagon House  
Concorde Way  
Fareham  
Hampshire  
PO15 5RL  
United Kingdom



## 2 Test Details

### 2.1 Radiated Spurious Emissions (Simultaneous Transmission)

#### 2.1.1 Specification Reference

FCC 47 CFR Part 15, Clause 15.209, 15.247(d) and 15.407(b)  
ISED RSS-247, Clause 5.5 and 6.2  
ISED RSS-GEN, Clause 6.13 and 8.9

#### 2.1.2 Equipment Under Test and Modification State

BVBFPOEUP, S/N: 15079350142442990976 - Modification State 0

#### 2.1.3 Date of Test

27-July-2023 to 30-July-2023

#### 2.1.4 Test Method

The simultaneous transmission tests were carried out on the worst cases as per investigation measurements carried out from 1-8GHz on both internal and external antennas. The worst case from these pre-scans was identified as BLE Internal on CH37, BLE (C) External on CH37, 2.4GHz WLAN Internal on CH1 802.11b, 2.4GHz WLAN External on CH1 802.11b, 5GHz WLAN Internal on CH36 HT20 and 5GHz WLAN External on CH38 HT40, powered by 24V DC power supply.

This test was performed in accordance with ANSI C63.10, clause 6.3, 6.5 and 6.6.

The EUT was placed on the non-conducting platform in a manner typical of a normal installation.

Ports on the EUT were terminated with loads as described in ANSI C63.4 clause 6.2.4 for each type of port on the EUT.

For frequencies > 1 GHz, plots for average measurements were taken in accordance with ANSI C63.10, clause 4.1.4.2.5 to characterize the EUT. Where emissions were detected, final average measurements were taken in accordance with ANSI C63.10, clause 4.1.4.2.2, 11.11, 11.12, 12.7.2 or 12.7.3 depending on the nature of the emission measured.

The plots shown are the characterisation of the EUT. The limits on the plots represent the most stringent case for restricted bands, (74/54 dBuV/m) when compared to non-restricted band limits. The limits shown have been used as a threshold to determine where further measurements are necessary. Where results are within 10 dB of the limits shown on the plots, further investigation was carried out and reported in results tables.

The following conversion can be applied to convert from dBuV/m to uV/m:  
 $10^{(\text{Field Strength in dBuV/m}/20)}$ .

Above 18 GHz, the measurement distance was reduced to 1m.

At a measurement distance of 1 meter the limit line was increased by  $20 \cdot \text{LOG}(3/1) = 9.54$  dB.

### 2.1.5 Example Test Setup Diagram

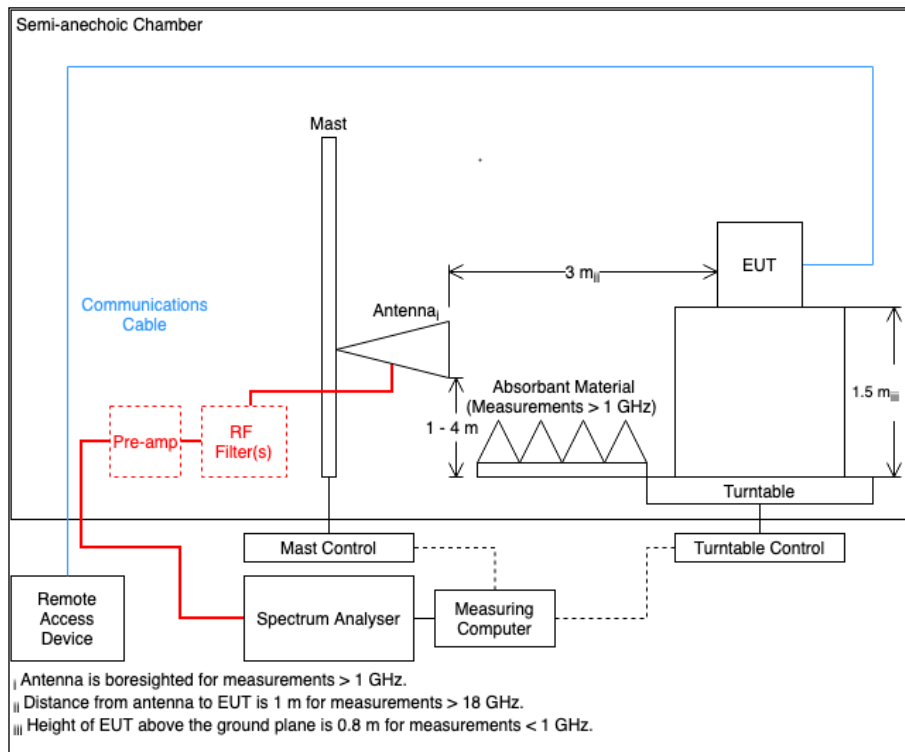


Figure 1

### 2.1.6 Environmental Conditions

Ambient Temperature	21.8 - 23.4 °C
Relative Humidity	46.8 - 50.7 %



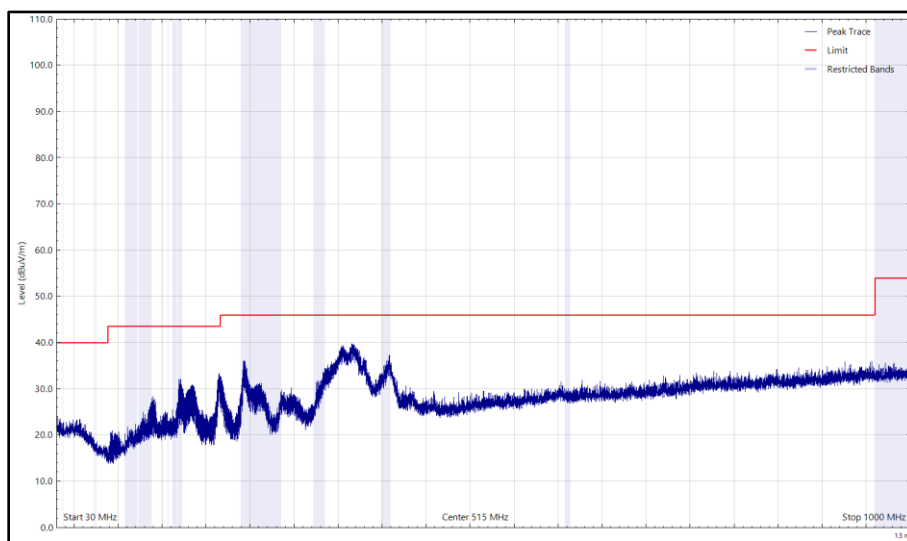
**2.1.7 Test Results**

2.4 GHz WLAN + 2.4 GHz Bluetooth Low Energy - Internal Antenna

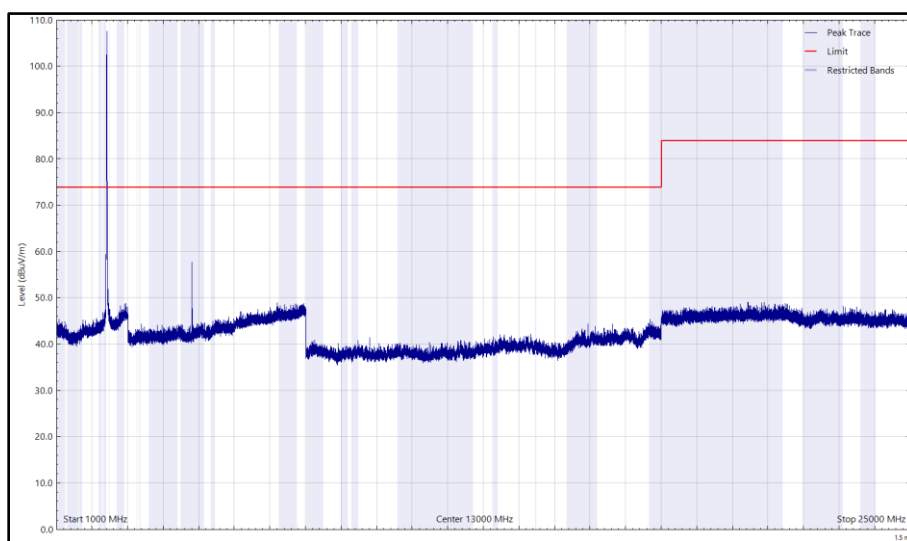
Frequency (MHz)	Level	Limit	Margin (dB)	Detector	Unit	Angle (°)	Height (cm)	Polarisation
335.393	36.49	46.02	-9.53	Q-Peak	dBuV/m	122	105	Vertical
4803.920	47.47	54.00	-6.53	CISPR Avg	dBuV/m	125	160	Horizontal

**Table 16 - CH1-802.11b-1Mbps\_BLE-CH37\_Int, 2412 MHz\_2402 MHz, 30 MHz to 25 GHz**

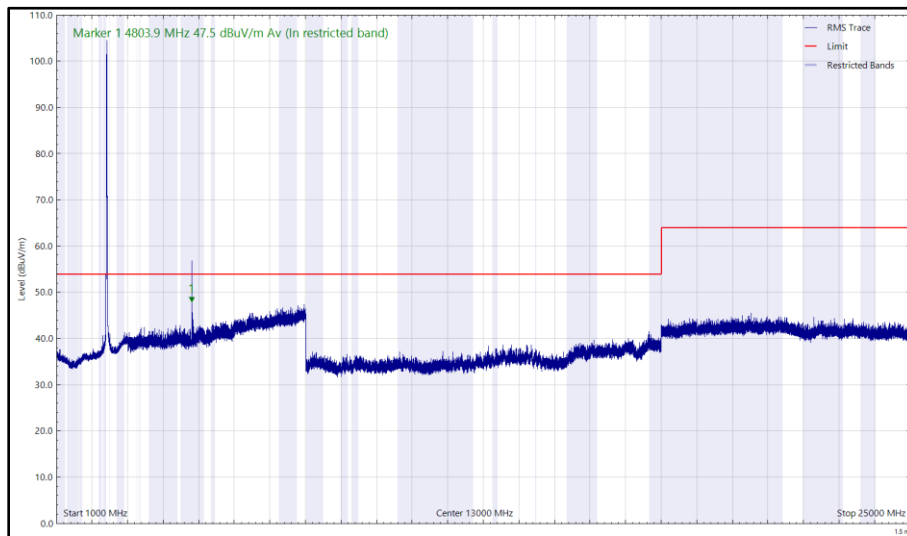
No other emissions found within 10 dB of the limit.



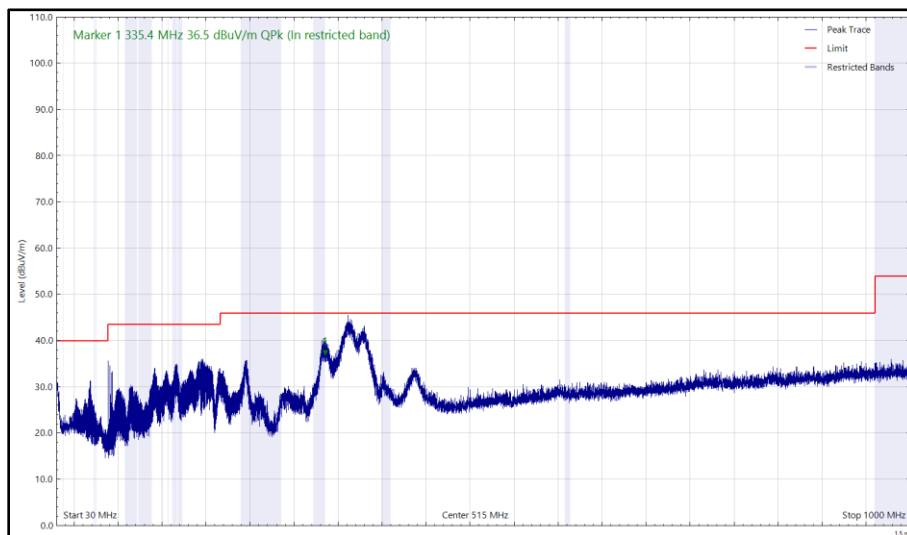
**Figure 2 - CH1-802.11b-1Mbps\_BLE-CH37\_Int, 2412 MHz\_2402 MHz 30 MHz to 1 GHz, Horizontal (Peak)**



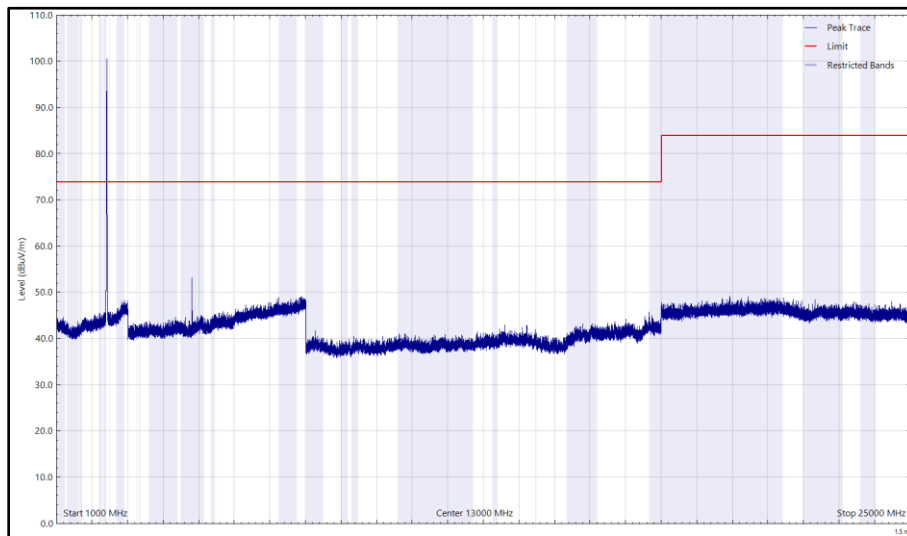
**Figure 3 - CH1-802.11b-1Mbps\_BLE-CH37\_Int, 2412 MHz\_2402 MHz 1 GHz to 25 GHz, Horizontal (Peak)**



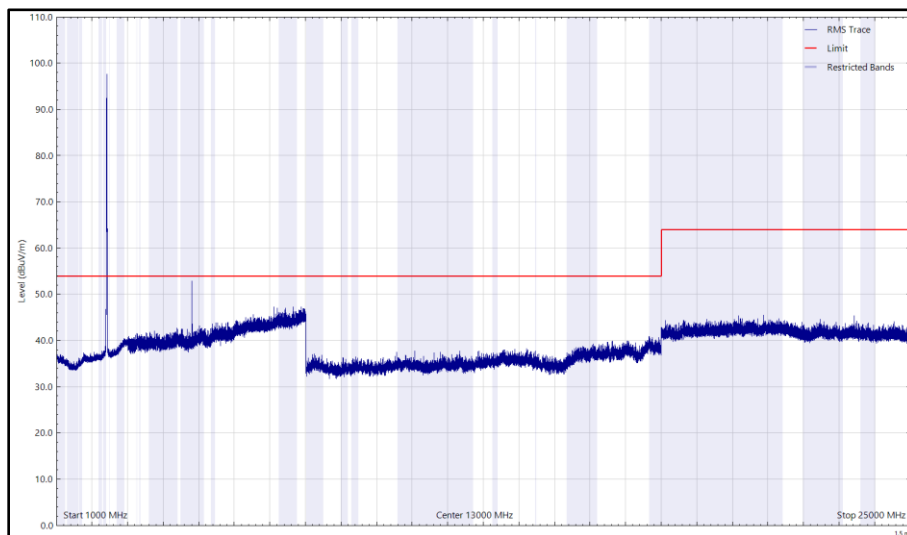
**Figure 4 - CH1-802.11b-1Mbps\_BLE-CH37\_Int, 2412 MHz\_2402 MHz  
1 GHz to 25 GHz, Horizontal (rms)**



**Figure 5 - CH1-802.11b-1Mbps\_BLE-CH37\_Int, 2412 MHz\_2402 MHz  
30 MHz to 1 GHz, Vertical (Peak)**



**Figure 6 - CH1-802.11b-1Mbps\_BLE-CH37\_Int, 2412 MHz\_2402 MHz  
 1 GHz to 25 GHz, Vertical (Peak)**



**Figure 7 - CH1-802.11b-1Mbps\_BLE-CH37\_Int, 2412 MHz\_2402 MHz  
 1 GHz to 25 GHz, Vertical (rms)**

FCC 47 CFR Part 15, ISED RSS-247 and ISED RSS-GEN

The least stringent limit from the applicable rule parts was used to determine compliance for Radiated Emissions testing of multiple transmission sources.

The least stringent applicable limit was:

Clause	Limit
Part 15.209 / RSS-247 Clause 5.5 / RSS-GEN Clause 6.13 and 8.9	Peak: 74 dBuV/m at 3m, Average 54 dBuV/m at 3m (Restricted bands > 1 GHz)

**Table 17**



5 GHz WLAN + 2.4 GHz Bluetooth Low Energy - Internal Antenna

Frequency (MHz)	Level	Limit	Margin (dB)	Detector	Unit	Angle (°)	Height (cm)	Polarisation
162.145	34.78	43.52	-8.74	Q-Peak	dBuV/m	107	214	Horizontal
165.141	34.68	43.52	-8.84	Q-Peak	dBuV/m	181	107	Vertical
325.921	37.40	46.02	-8.62	Q-Peak	dBuV/m	228	109	Vertical
334.262	38.20	46.02	-7.82	Q-Peak	dBuV/m	263	100	Horizontal
4804.970	45.39	54.00	-8.61	CISPR Avg	dBuV/m	120	150	Horizontal

Table 18 - CH36-HT20-MCS0\_BLE-CH37, 5180 MHz\_2402 MHz, 30 MHz to 40 GHz

No other emissions found within 10 dB of the limit.

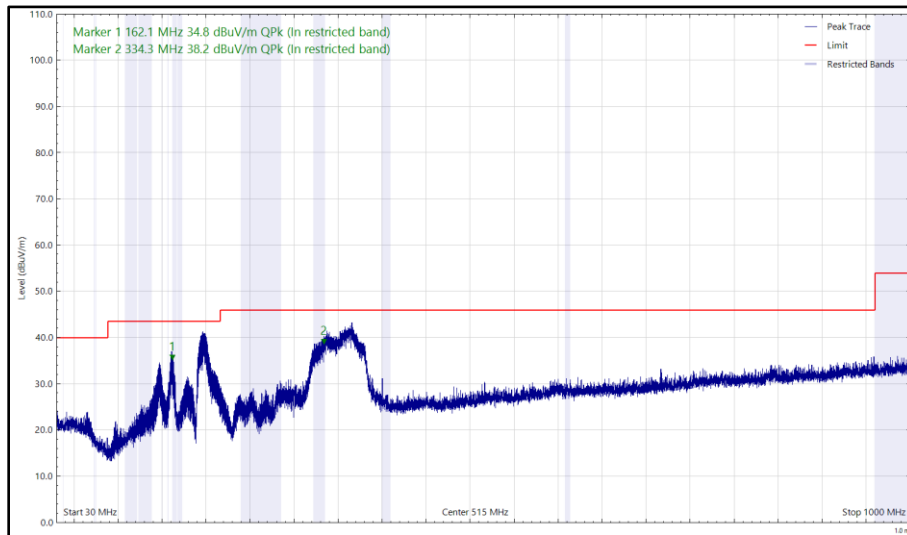
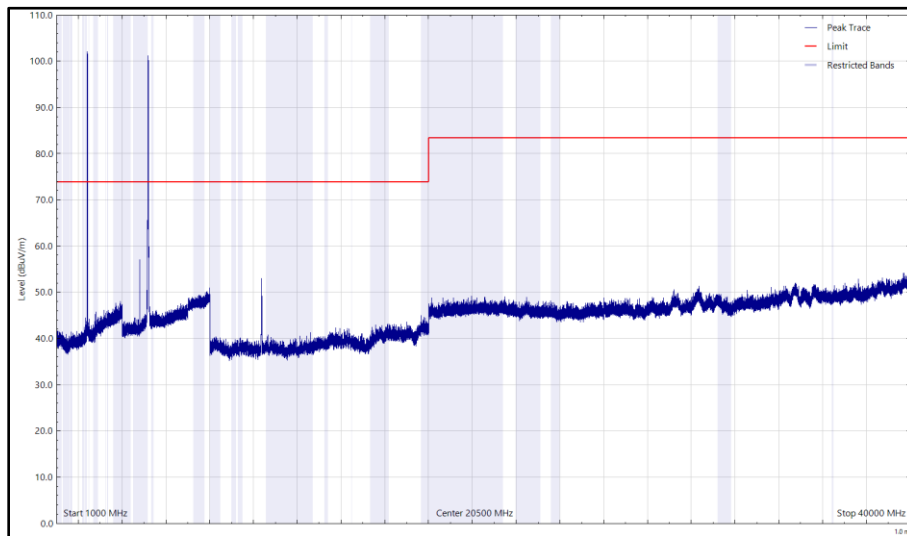
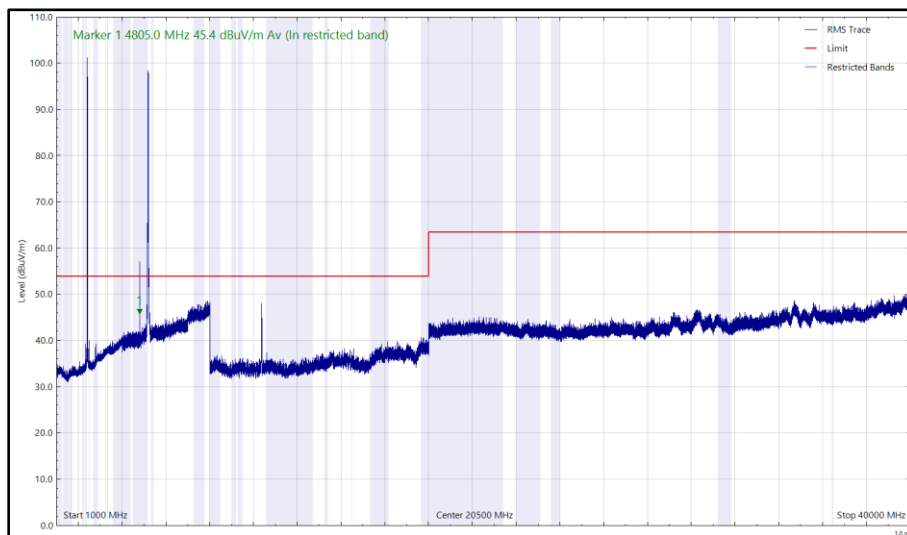


Figure 8 - CH36-HT20-MCS0\_BLE-CH37, 5180 MHz\_2402 MHz  
 30 MHz to 1 GHz, Horizontal (Peak)

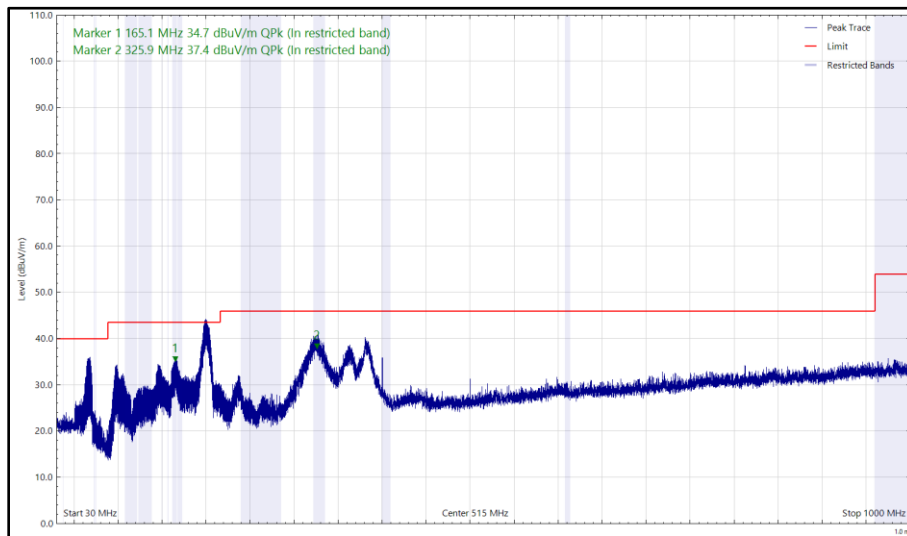


**Figure 9 - CH36-HT20-MCS0\_BLE-CH37, 5180 MHz\_2402 MHz  
1 GHz to 40 GHz, Horizontal (Peak)**

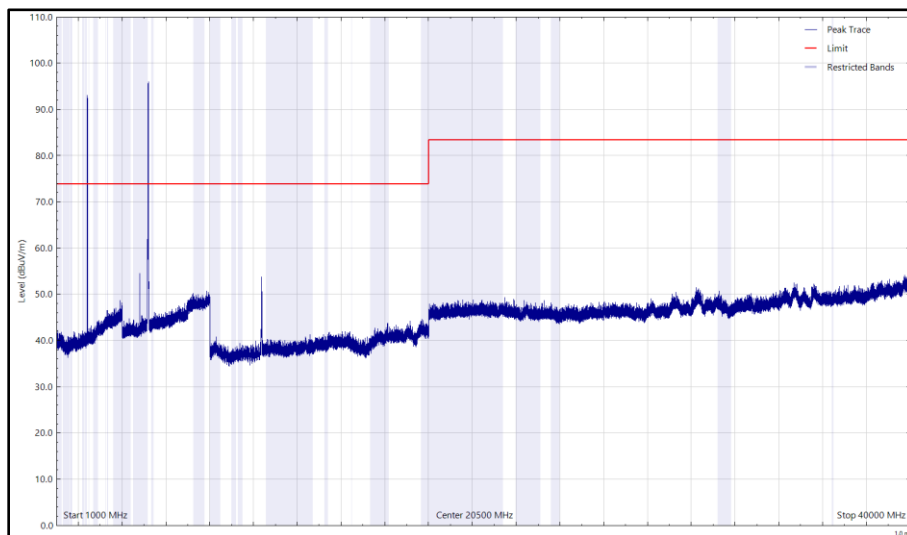


**Figure 10 - CH36-HT20-MCS0\_BLE-CH37, 5180 MHz\_2402 MHz  
1 GHz to 40 GHz, Horizontal (rms)**

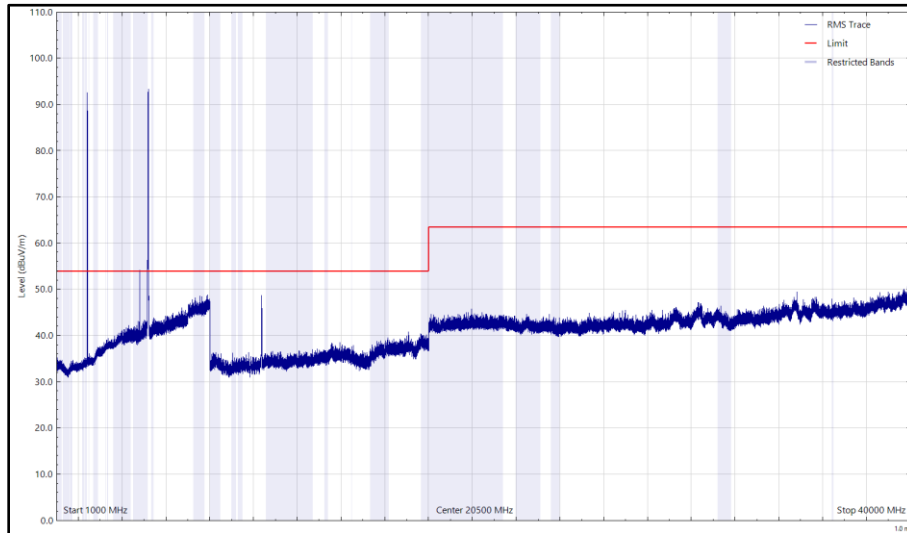




**Figure 11 - CH36-HT20-MCS0\_BLE-CH37, 5180 MHz\_2402 MHz  
30 MHz to 1 GHz, Vertical (Peak)**



**Figure 12 - CH36-HT20-MCS0\_BLE-CH37, 5180 MHz\_2402 MHz  
1 GHz to 40 GHz, Vertical (Peak)**



**Figure 13 - CH36-HT20-MCS0\_BLE-CH37, 5180 MHz\_2402 MHz  
 1 GHz to 40 GHz, Vertical (rms)**

FCC 47 CFR Part 15, ISED RSS-247 and ISED RSS-GEN

The least stringent limit from the applicable rule parts was used to determine compliance for Radiated Emissions testing of multiple transmission sources.

The least stringent applicable limit was:

Clause	Limit
Part 15.209 / RSS-247 Clause 5.5 and 6.2 / RSS-GEN Clause 6.13 and 8.9	Peak: 74 dB $\mu$ V/m at 3m, Average 54 dB $\mu$ V/m at 3m (Restricted bands > 1 GHz)

**Table 19**

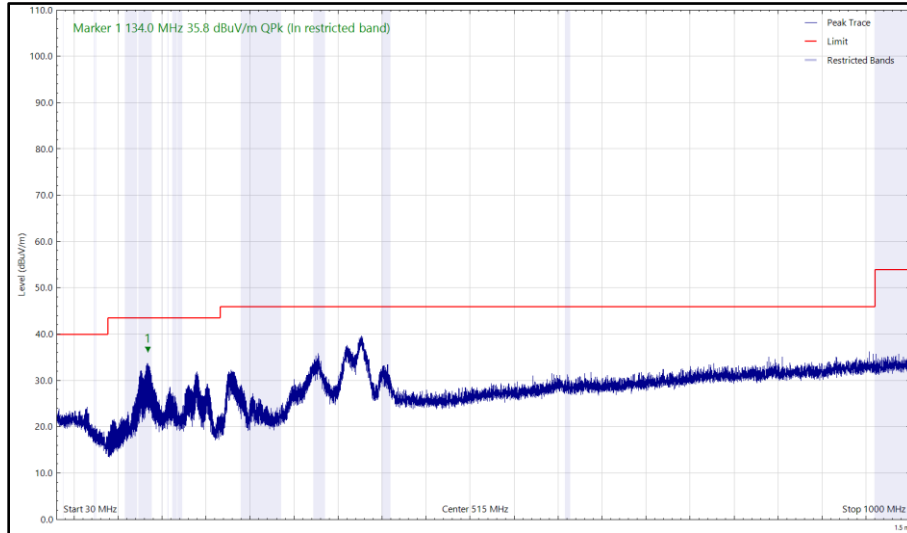


2.4 GHz WLAN + 2.4 GHz Bluetooth Low Energy - External Antenna

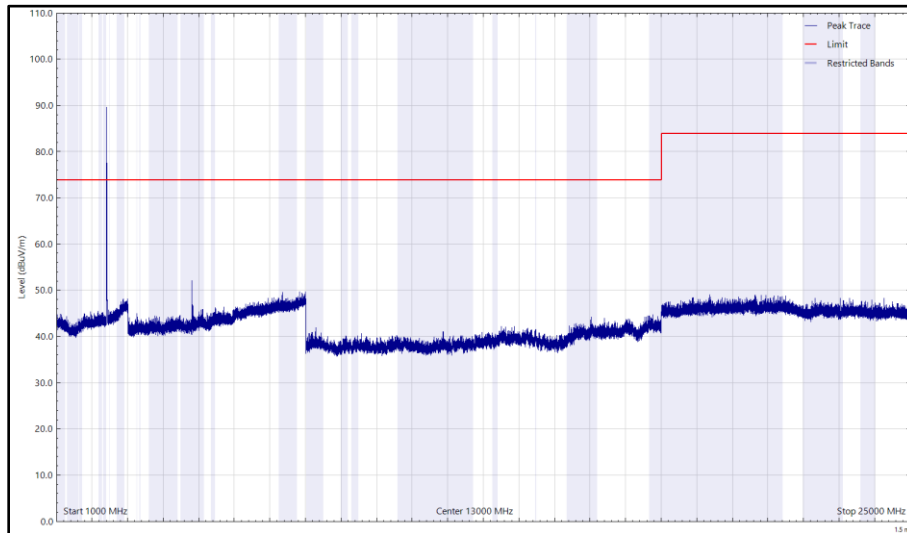
Frequency (MHz)	Level	Limit	Margin (dB)	Detector	Unit	Angle (°)	Height (cm)	Polarisation
133.953	35.75	43.52	-7.77	Q-Peak	dBuV/m	115	309	Horizontal

**Table 20 - CH1-802.11b-1Mbps\_BLE-CH37\_Ext, 2412 MHz\_2402 MHz, 30 MHz to 25 GHz**

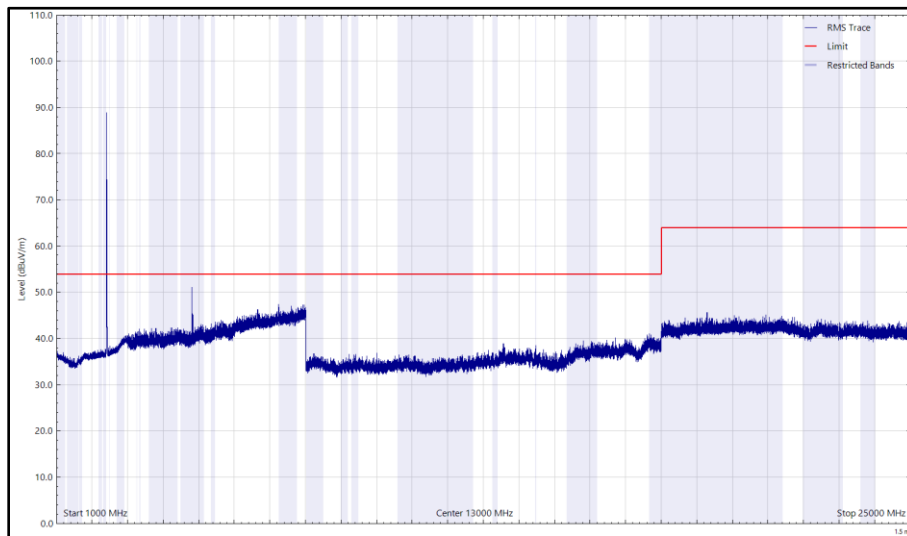
No other emissions found within 10 dB of the limit.



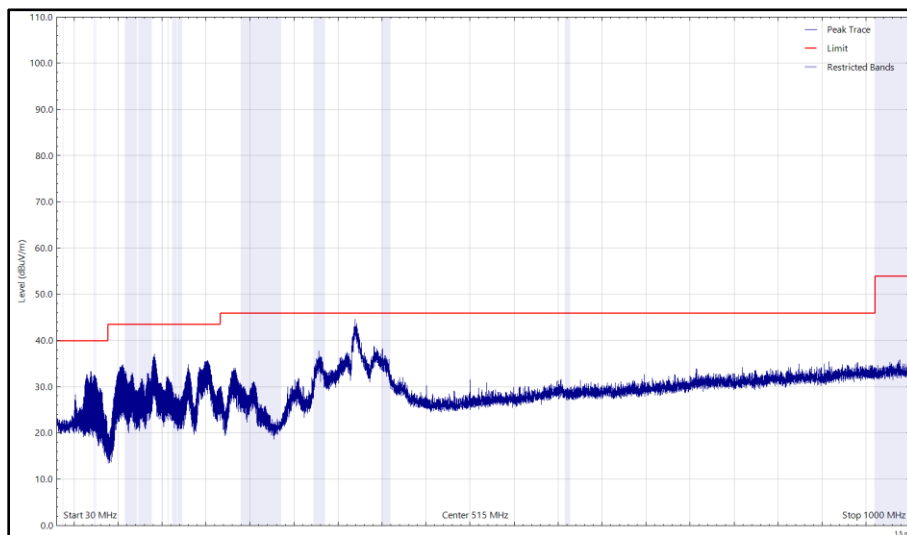
**Figure 14 - CH1-802.11b-1Mbps\_BLE-CH37\_Ext, 2412 MHz\_2402 MHz 30 MHz to 1 GHz, Horizontal (Peak)**



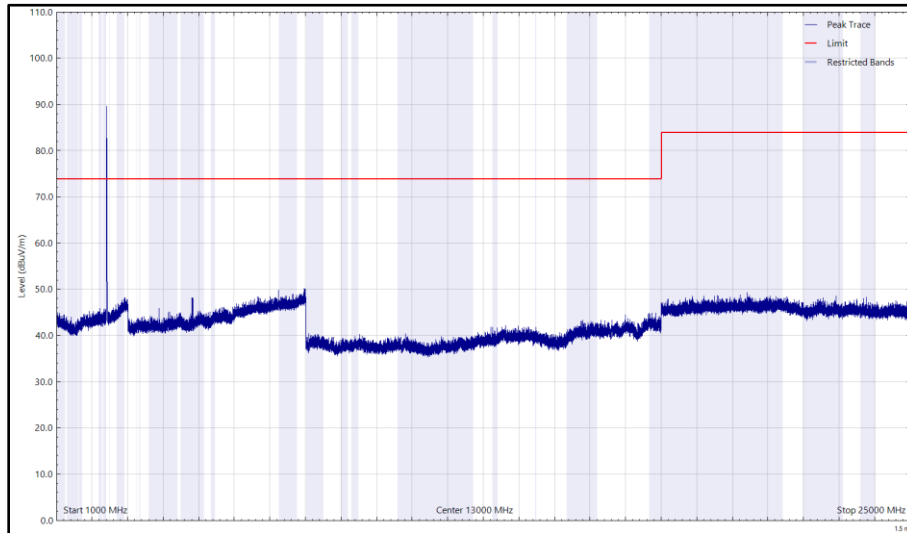
**Figure 15 - CH1-802.11b-1Mbps\_BLE-CH37\_Ext, 2412 MHz\_2402 MHz 1 GHz to 25 GHz, Horizontal (Peak)**



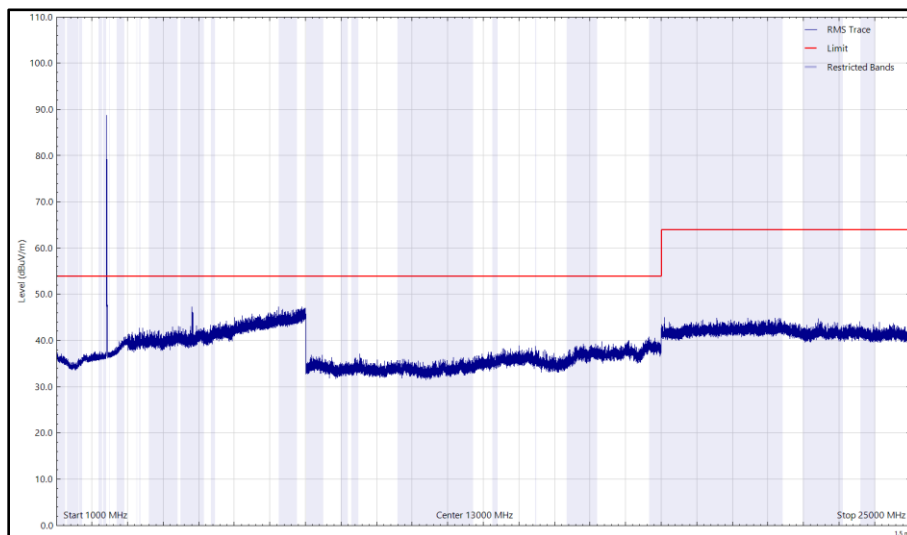
**Figure 16 - CH1-802.11b-1Mbps\_BLE-CH37\_Ext, 2412 MHz\_2402 MHz  
1 GHz to 25 GHz, Horizontal (rms)**



**Figure 17 - CH1-802.11b-1Mbps\_BLE-CH37\_Ext, 2412 MHz\_2402 MHz  
30 MHz to 1 GHz, Vertical (Peak)**



**Figure 18 - CH1-802.11b-1Mbps\_BLE-CH37\_Ext, 2412 MHz\_2402 MHz  
 1 GHz to 25 GHz, Vertical (Peak)**



**Figure 19 - CH1-802.11b-1Mbps\_BLE-CH37\_Ext, 2412 MHz\_2402 MHz  
 1 GHz to 25 GHz, Vertical (rms)**

FCC 47 CFR Part 15, ISED RSS-247 and ISED RSS-GEN

The least stringent limit from the applicable rule parts was used to determine compliance for Radiated Emissions testing of multiple transmission sources.

The least stringent applicable limit was:

Clause	Limit
Part 15.209 / RSS-247 Clause 5.5 / RSS-GEN Clause 6.13 and 8.9	Peak: 74 dBuV/m at 3m, Average 54 dBuV/m at 3m (Restricted bands > 1 GHz)

**Table 21**

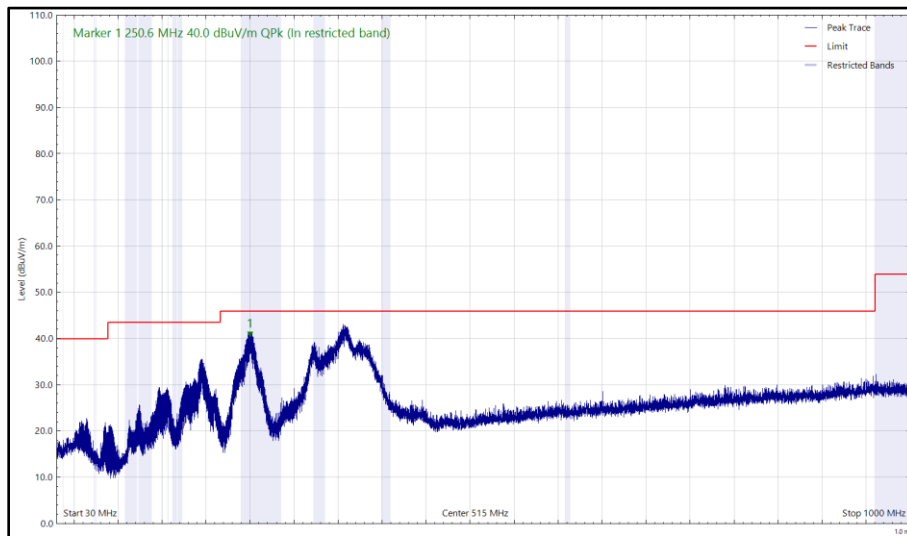


5 GHz WLAN + 2.4 GHz Bluetooth Low Energy - External Antenna

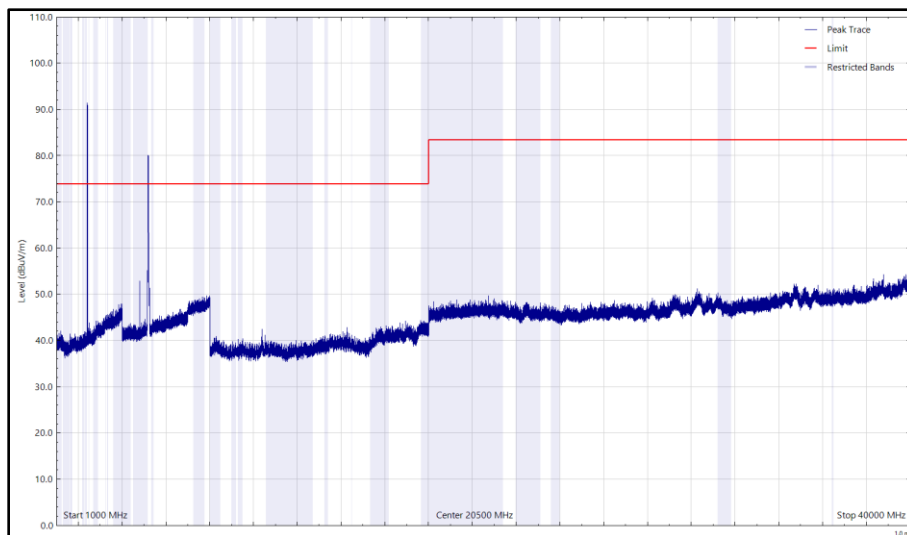
Frequency (MHz)	Level	Limit	Margin (dB)	Detector	Unit	Angle (°)	Height (cm)	Polarisation
250.567	40.01	46.02	-6.01	Q-Peak	dBuV/m	91	107	Horizontal
253.437	37.33	46.02	-8.69	Q-Peak	dBuV/m	342	104	Vertical

**Table 22 - CH38-HT40-MCS7\_BLE-CH37, 5190 MHz\_2402 MHz, 30 MHz to 40 GHz**

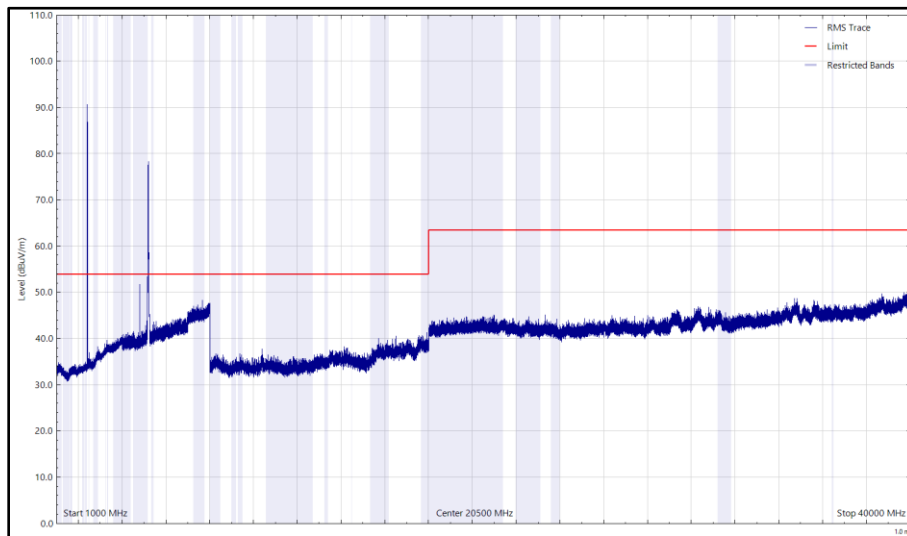
No other emissions found within 10 dB of the limit.



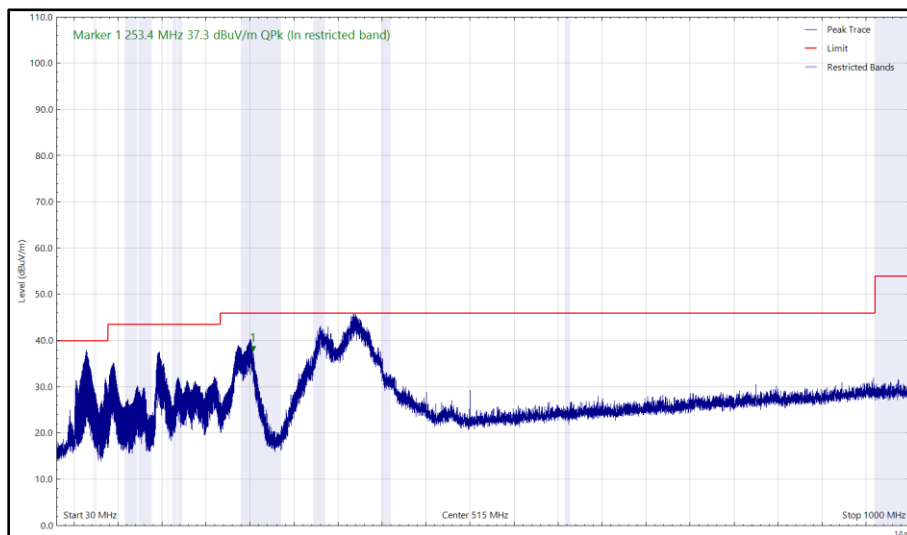
**Figure 20 - CH38-HT40-MCS7\_BLE-CH37, 5190 MHz\_2402 MHz  
 30 MHz to 1 GHz, Horizontal (Peak)**



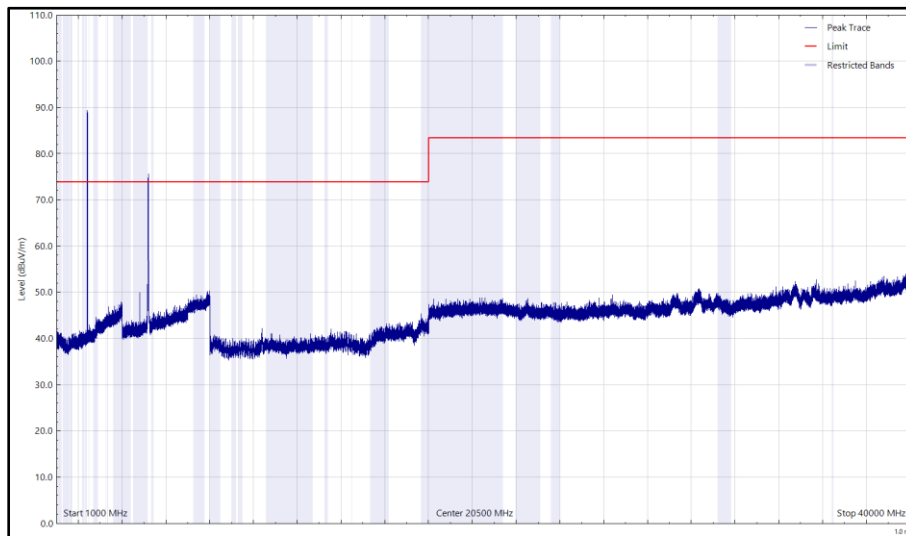
**Figure 21 - CH38-HT40-MCS7\_BLE-CH37, 5190 MHz\_2402 MHz  
 1 GHz to 40 GHz, Horizontal (Peak)**



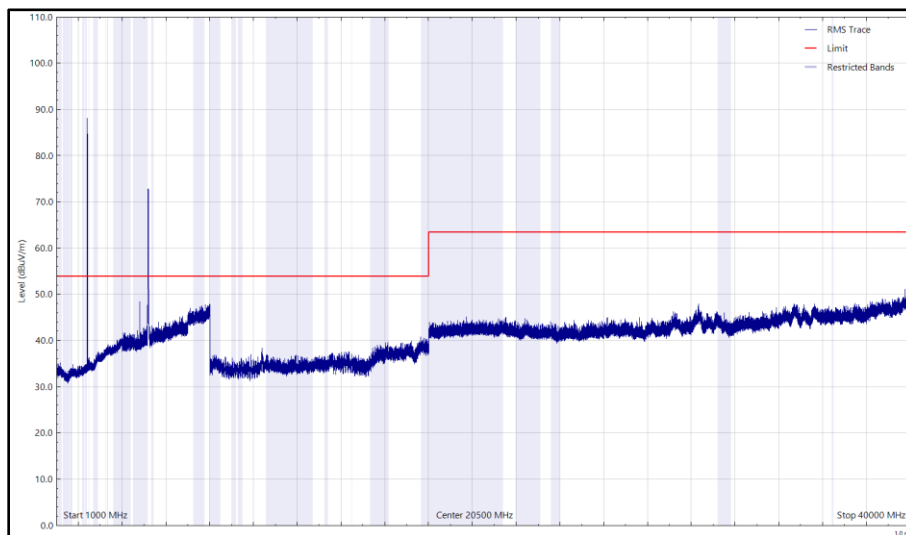
**Figure 22 - CH38-HT40-MCS7\_BLE-CH37, 5190 MHz\_2402 MHz  
1 GHz to 40 GHz, Horizontal (rms)**



**Figure 23 - CH38-HT40-MCS7\_BLE-CH37, 5190 MHz\_2402 MHz  
30 MHz to 1 GHz, Vertical (Peak)**



**Figure 24 - CH38-HT40-MCS7\_BLE-CH37, 5190 MHz\_2402 MHz  
 1 GHz to 40 GHz, Vertical (Peak)**



**Figure 25 - CH38-HT40-MCS7\_BLE-CH37, 5190 MHz\_2402 MHz  
 1 GHz to 40 GHz, Vertical (rms)**

FCC 47 CFR Part 15 ISED RSS-247 and ISED RSS-GEN

The least stringent limit from the applicable rule parts was used to determine compliance for Radiated Emissions testing of multiple transmission sources.

The least stringent applicable limit was:

Clause	Limit
Part 15.209 / RSS-247 Clause 5.5 and 6.2 / RSS-GEN Clause 6.13 and 8.9	Peak: 74 dBuV/m at 3m, Average 54 dBuV/m at 3m (Restricted bands > 1 GHz)

**Table 23**





### 2.1.8 Test Location and Test Equipment Used

This test was carried out in RF Chamber 11.

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Expires
Dual Power Supply Unit	Hewlett Packard	6253A	292	-	O/P Mon
True RMS Multimeter	Fluke	179	4007	12	18-Nov-2023
Test Receiver	Rohde & Schwarz	ESW44	5084	12	09-Aug-2023
Emissions Software	TUV SUD	EmX V3.1.12 V.	5125	-	N/A - Software
Screened Room (11)	Rainford	Rainford	5136	36	24-Nov-2024
Mast	Maturo	TAM 4.0-P	5158	-	TU
Mast and Turntable Controller	Maturo	Maturo NCD	5159	-	TU
Turntable	Maturo	TT 15WF	5160	-	TU
Antenna (DRG, 1 GHz to 10.5 GHz)	Schwarzbeck	BBHA9120B	5215	12	09-Jul-2024
Antenna (DRG, 7.5 GHz to 18 GHz)	Schwarzbeck	HWRD750	5216	12	09-Jul-2024
3 GHz High pass filter	Wainwright	WHKX12-2580-3000-18000-80SS	5220	12	28-Mar-2024
Cable (K Type 2m)	Junkosha	MWX241-02000KMS	5421	12	08-Mar-2024
Pre-Amplifier (1 GHz to 26.5 GHz)	Agilent Technologies	8449B	5445	12	25-May-2024
Thermo-Hygro-Barometer	PCE Instruments	OCE-THB-40	5470	12	20-Apr-2024
7 GHz High pass Filter	Wainwright	WHKX12-5850-6800-18000-80SS	5550	12	30-May-2024
Cable (SMA to SMA, 1 m)	Junkosha	MWX221-01000AMSAMS/A	5513	12	14-Apr-2024
Cable (SMA to SMA, 2 m)	Junkosha	MWX221-02000AMSAMS/A	5518	12	14-Apr-2024
Cable (N-Type to N-Type, 8 m)	Junkosha	MWX221-08000NMSNMS/B	5522	12	14-Apr-2024
Pre-Amplifier (8 GHz to 18 GHz)	Wright Technologies	APS06-0061	5595	12	25-Oct-2023
Antenna (Tri-log, 30 MHz to 1 GHz)	Schwarzbeck	VULB 9168	5942	24	03-Feb-2024
Double Ridge Active Horn Antenna (18-40 GHz)	Com-Power	AHA-840	6189	24	02-Jun-2024
Attenuator (4 dB)	Pasternack	PE7074-4	6202	24	16-Jul-2024

**Table 24**

O/P Mon – Output Monitored using calibrated equipment  
 TU - Traceability Unscheduled

### 3 Photographs

#### 3.1 Test Setup Photographs

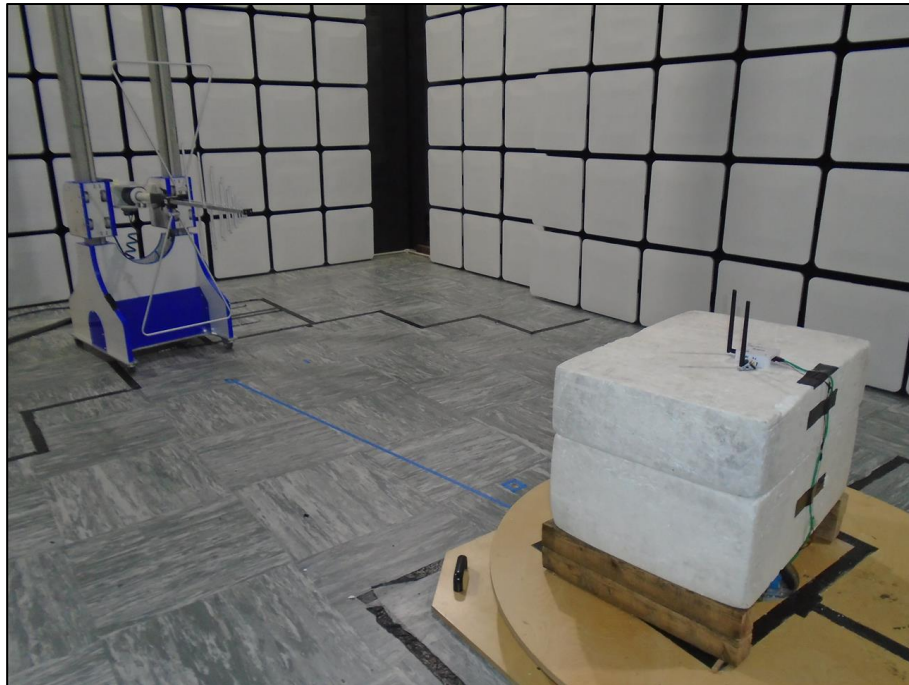


Figure 26 - Test Setup - 30 MHz to 1 GHz

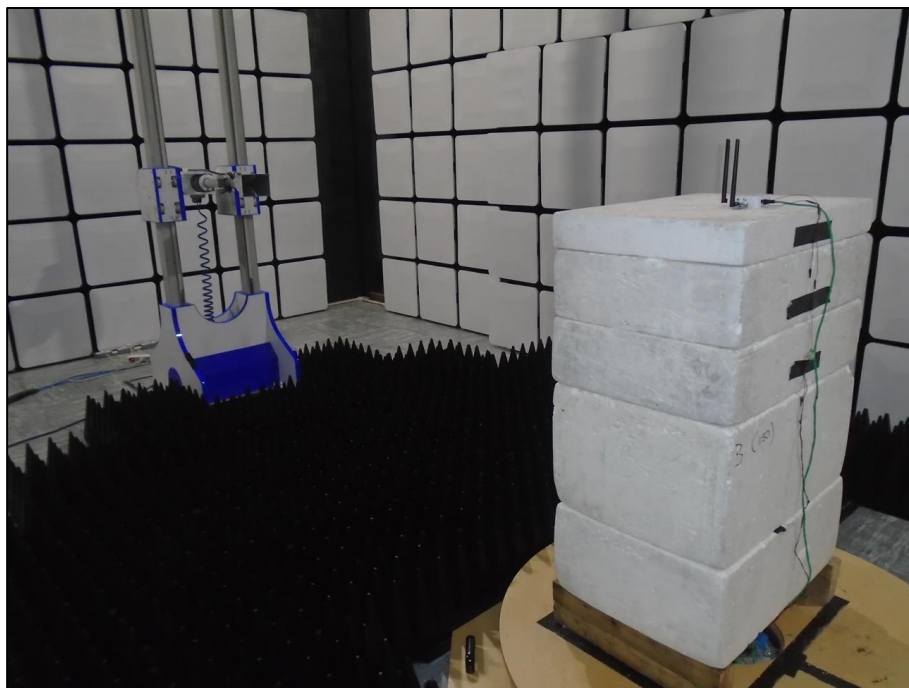


Figure 27 - Test Setup - 1 GHz to 8 GHz

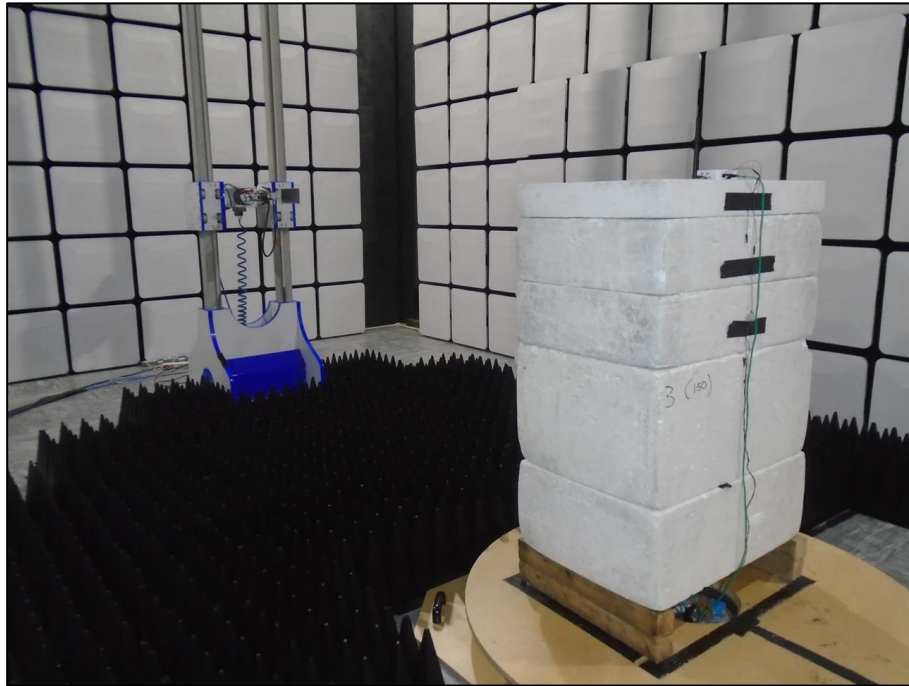


Figure 28 - Test Setup - 8 GHz to 18 GHz

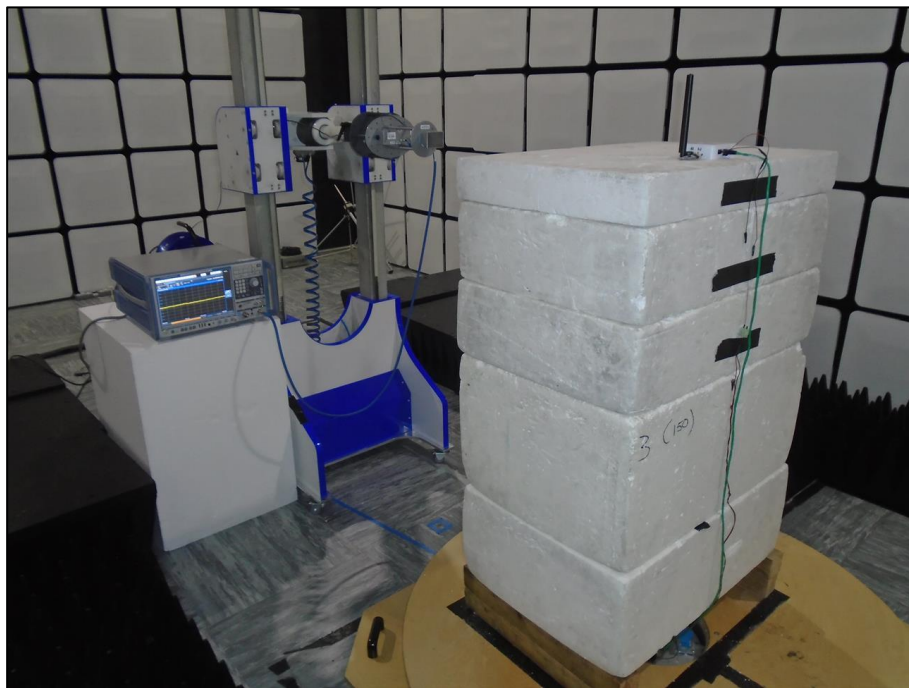


Figure 29 - Test Setup - 18 GHz to 40 GHz



## 4 Measurement Uncertainty

For a 95% confidence level, the measurement uncertainties for defined systems are:

Test Name	Measurement Uncertainty
Radiated Spurious Emissions (Simultaneous Transmission)	30 MHz to 1 GHz: $\pm 5.2$ dB 1 GHz to 40 GHz: $\pm 6.3$ dB

**Table 25**

### Measurement Uncertainty Decision Rule – Accuracy Method

Determination of conformity with the specification limits is based on the decision rule according to IEC Guide 115:2021, Clause 4.4.3 (Procedure 2). The measurement results are directly compared with the test limit to determine conformance with the requirements of the standard.

Risk: The uncertainty of measurement about the measured result is negligible with regard to the final pass/fail decision. The measurement result can be directly compared with the test limit to determine conformance with the requirement (compare IEC Guide 115). The level of risk to falsely accept and falsely reject items is further described in ILAC-G8.