

FCC and ISED Test Report

Apple Inc
Model: A2337

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

Prepared for: Apple Inc
One Apple Park Way
Cupertino
California
95014
USA



Add value.
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FCC ID: BCGA2337

IC: 579C-A2337

COMMERCIAL-IN-CONFIDENCE

Document 75949395-14 Issue 01

SIGNATURE

NAME	JOB TITLE	RESPONSIBLE FOR	ISSUE DATE
Steve Marshall	Senior Engineer	Authorised Signatory	06 October 2020

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 Parts 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	Jaiyanth Balendrarajah	06 October 2020	
Testing	Mohammad Malik	06 October 2020	

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 Parts 15: 2019, ISED RSS-247: Issue 2 (2017-02) and ISED RSS-GEN: Issue 5 (04-2018) + A1 (03-2019) for the tests detailed in section 1.3.



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ACCREDITATION

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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	06-October-2020

Table 1

1.2 Introduction

Applicant	Apple Inc
Manufacturer	Apple Inc
Model Number(s)	A2337
Serial Number(s)	C02D200EQ9MQ
Hardware Version(s)	REV 1.0
Software Version(s)	20A523220f
Number of Samples Tested	1
Test Specification/Issue/Date	FCC 47 CFR Part 15: 2019 ISED RSS-247: Issue 2 (2017-02) ISED RSS-GEN: Issue 5 (04-2018) + A1 (03-2019)
Order Number	0540196335
Date	29-June-2020
Date of Receipt of EUT	05-September-2020
Start of Test	05-September-2020
Finish of Test	09-September-2020
Name of Engineer(s)	Jaiyanth Balendrarajah and Mohammad Malik
Related Document(s)	ANSI C63.10: 2013



1.3 Brief Summary of Results

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

Section	Specification Clause			Test Description	Result	Comments/Base Standard
	FCC Part 15	RSS-247	RSS-GEN			
Configuration and Mode: SDB - 2.4 GHz WLAN and 5 GHz WLAN						
2.1	15.247 (d), 15.407 (b) and 15.209	5.5 and 6.2	8.9 and 8.10	Radiated Spurious Emissions (Simultaneous Transmission)	Pass	ANSI C63.10: 2013
Configuration and Mode: CoTX - 2.4 GHz WLAN, 5 GHz WLAN and 2.4 GHz Bluetooth						
2.1	15.247 (d), 15.407 (b) and 15.209	5.5 and 6.2	8.9 and 8.10	Radiated Spurious Emissions (Simultaneous Transmission)	Pass	ANSI C63.10: 2013

Table 2



1.4 Product Information

1.4.1 Technical Description

The Equipment Under Test (EUT) was a laptop computer with Bluetooth, Bluetooth Low Energy and 802.11 a/b/g/n/ac/ax capabilities in the 2.4 GHz and 5 GHz bands.

1.5 Deviations from the Standard

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

1.6 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: A2337, Serial Number: C02D200EQ9MQ			
0	As supplied by the customer	Not Applicable	Not Applicable

Table 3

1.7 Test Location

TÜV SÜD conducted the following tests at our Fareham Test Laboratory.

Test Name	Name of Engineer(s)	Accreditation
Configuration and Mode: SDB - 2.4 GHz WLAN and 5 GHz WLAN		
Radiated Spurious Emissions (Simultaneous Transmission)	Jaiyanth Balendrarajah and Mohammad Malik	UKAS
Configuration and Mode: CoTX - 2.4 GHz WLAN, 5 GHz WLAN and 2.4 GHz Bluetooth		
Radiated Spurious Emissions (Simultaneous Transmission)	Jaiyanth Balendrarajah and Mohammad Malik	UKAS

Table 4

Office Address:

Octagon House
Concorde Way
Segensworth North
Fareham
Hampshire
PO15 5RL
United Kingdom



2 Test Details

2.1 Radiated Spurious Emissions (Simultaneous Transmission)

2.1.1 Specification Reference

FCC 47 CFR Parts 15, Clause 15.247 (d), 15.407 (b) and 15.209
ISED RSS 247, Clause 5.5 and 6.2
ISED RSS GEN, Clause 8.9 and 8.10

2.1.2 Equipment Under Test and Modification State

A2337, S/N: C02D200EQ9MQ - Modification State 0

2.1.3 Date of Test

05-September-2020 to 09-September-2020

2.1.4 Test Method

This test was performed in accordance with ANSI C63.10, clause 6.3, 6.4 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 dBµV/m to µV/m:
 $10^{(\text{Field Strength in dB}\mu\text{V/m}/20)}$

To determine the emission characteristic of the EUT above 18 GHz, the test antenna was swept over all faces of the EUT whilst observing a spectral display. The frequency of any emissions of interest was noted for formal measurement at the correct measurement distance of 1m. This procedure was repeated for all relevant transmit operating channels.

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

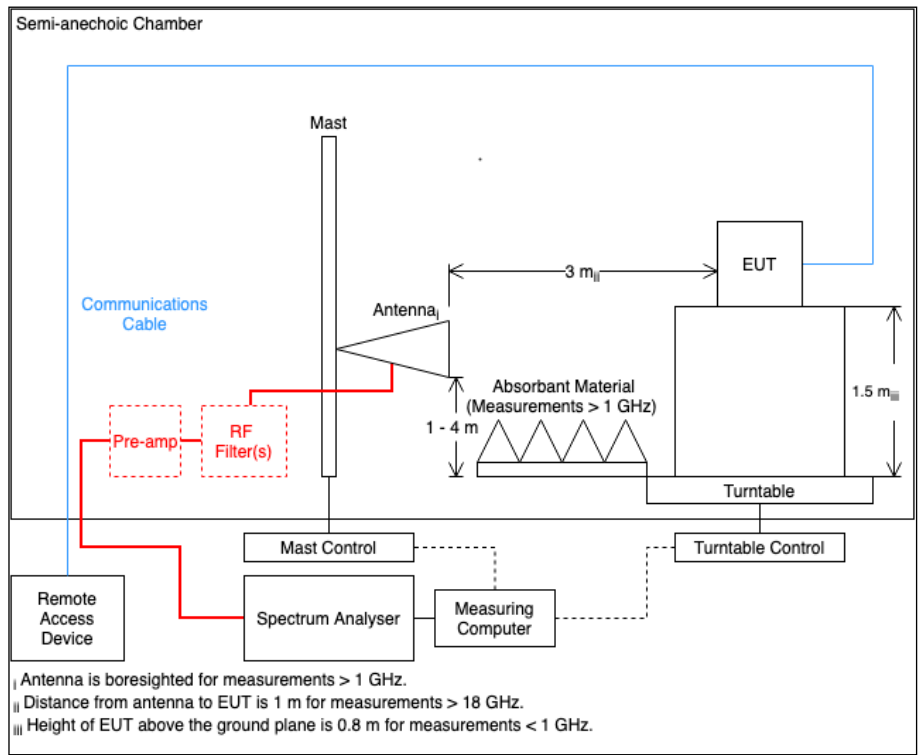


Figure 1

2.1.6 Environmental Conditions

Ambient Temperature 20.0 - 24.2 °C
Relative Humidity 44.1 - 69.2 %

2.1.7 Test Results

SDB - 2.4 GHz WLAN and 5 GHz WLAN

Frequency (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
2782.976	38.6	54.0	-15.4	rms	0	392	Vertical
4835.270	42.7	54.0	-11.3	rms	43	290	Vertical

Table 5 - 2417 MHz (CH2), HT20, CDD, Core 0 + Core 1 and U-NII-1 – 5200 MHz (CH40), HT20, CDD, Core 0 + Core 1, 30 MHz to 40 GHz

No other emissions found within 10 dB of the limit.

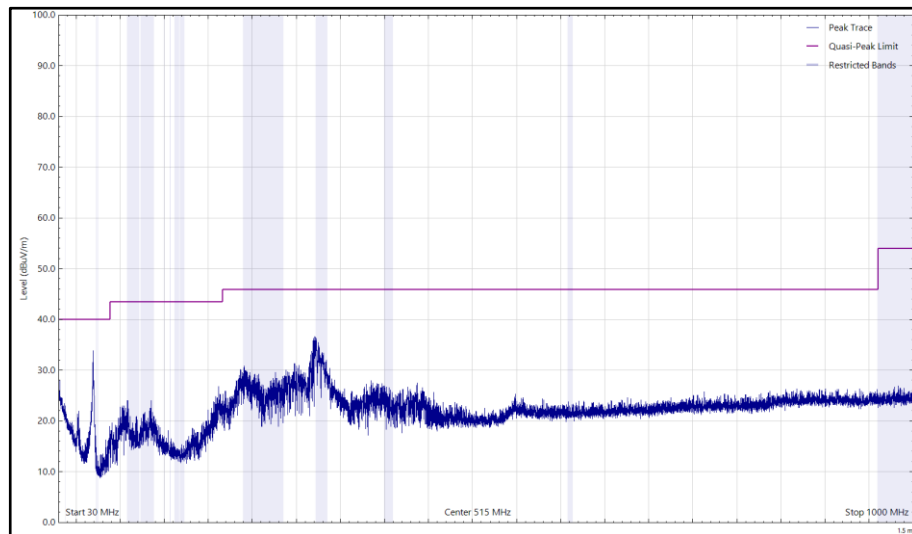


Figure 2 - 2417 MHz (CH2), HT20, CDD, Core 0 + Core 1 and U-NII-1 – 5200 MHz (CH40), HT20, CDD, Core 0 + Core 1, Horizontal (Peak)

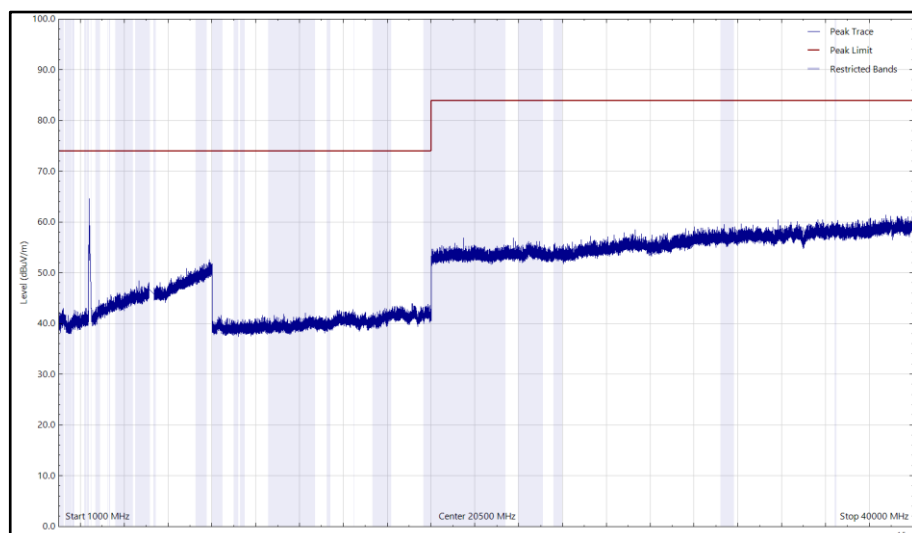


Figure 3 - 2417 MHz (CH2), HT20, CDD, Core 0 + Core 1 and U-NII-1 – 5200 MHz (CH40), HT20, CDD, Core 0 + Core 1, Horizontal (Peak)

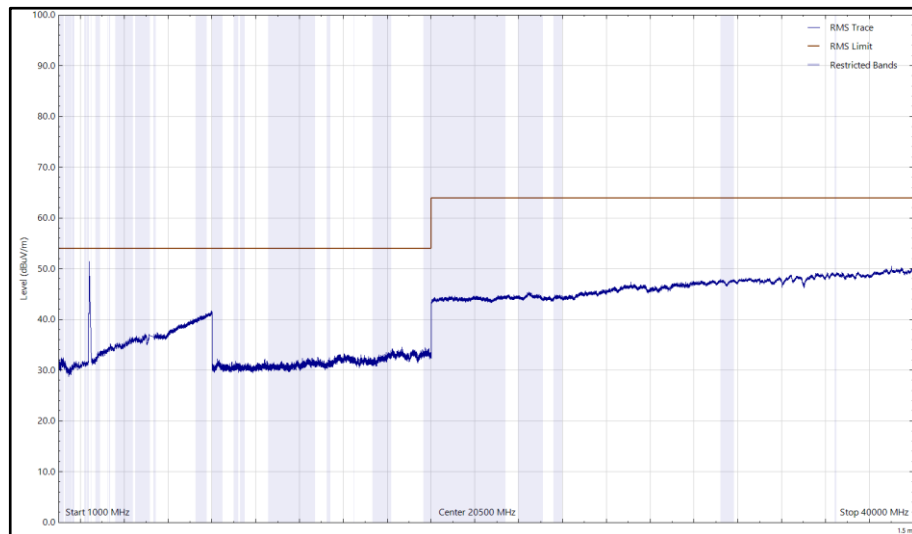


Figure 4 - 2417 MHz (CH2), HT20, CDD, Core 0 + Core 1 and U-NII-1 – 5200 MHz (CH40), HT20, CDD, Core 0 + Core 1, Horizontal (rms)

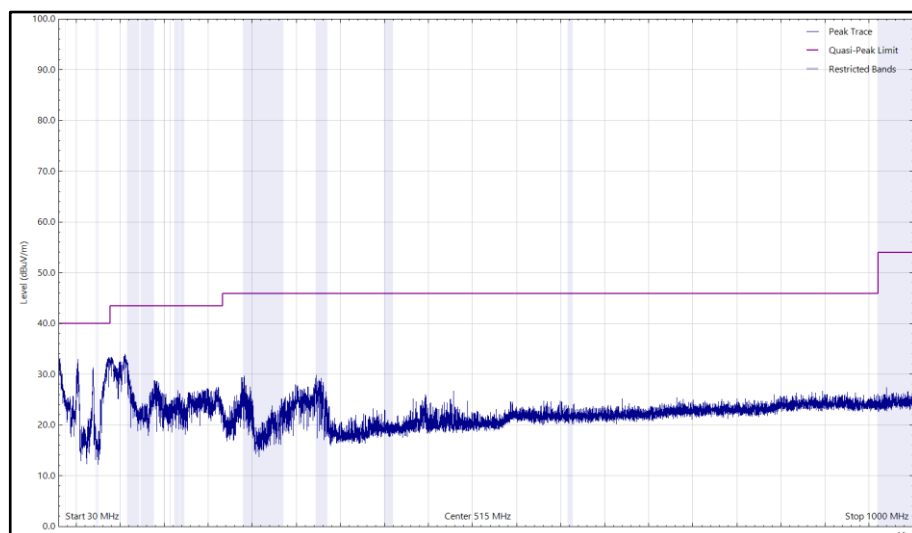


Figure 5 - 2417 MHz (CH2), HT20, CDD, Core 0 + Core 1 and U-NII-1 – 5200 MHz (CH40), HT20, CDD, Core 0 + Core 1, Vertical (Peak)

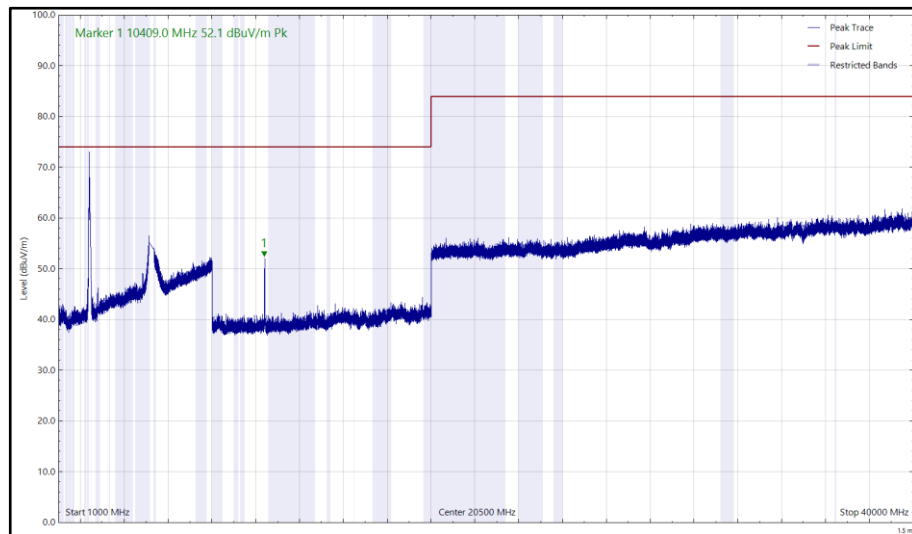


Figure 6 - 2417 MHz (CH2), HT20, CDD, Core 0 + Core 1 and U-NII-1 – 5200 MHz (CH40), HT20, CDD, Core 0 + Core 1, Vertical (Peak)

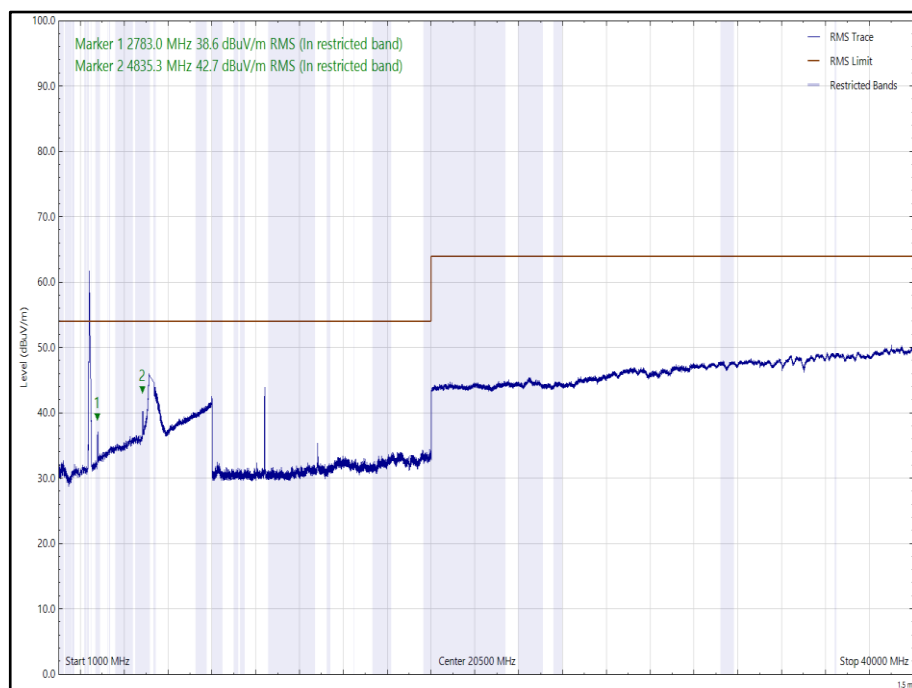


Figure 7 - 2417 MHz (CH2), HT20, CDD, Core 0 + Core 1 and U-NII-1 – 5200 MHz (CH40), HT20, CDD, Core 0 + Core 1, Vertical (rms)

Frequency (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
4902.806	46.3	54.0	-7.7	rms	314	309	Vertical
4907.842	57.7	74.0	-16.3	Peak	313	295	Vertical
11354.769	44.4	54.0	-9.6	rms	353	251	Vertical
11354.919	55.4	74.0	-18.7	Peak	318	116	Vertical

Table 6 - 2452 MHz (CH9), HT20, CDD, Core 0 + Core 1 and U-NII-2C – 5680 MHz (CH136), HT20, CDD, Core 0 + Core 1, 30 MHz to 40 GHz

No other emissions found within 10 dB of the limit.

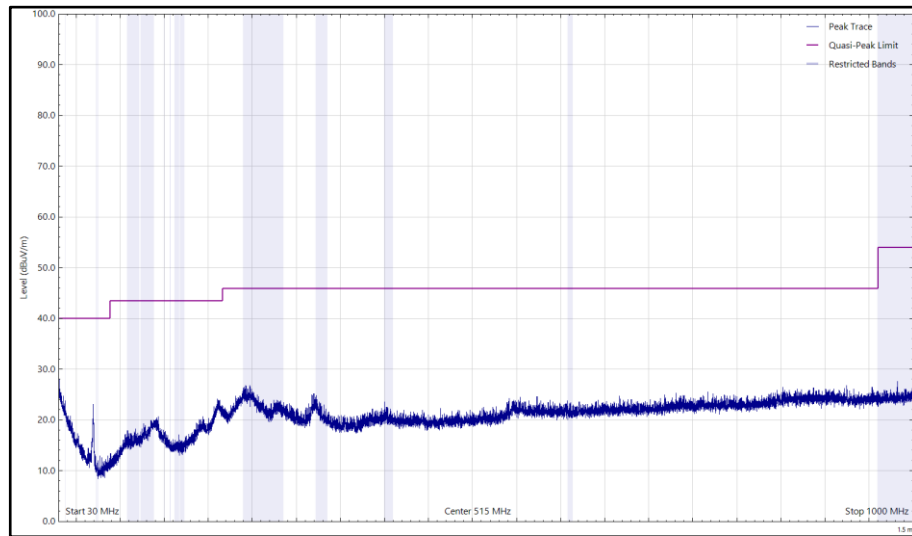


Figure 8 - 2452 MHz (CH9), HT20, CDD, Core 0 + Core 1 and U-NII-2C – 5680 MHz (CH136), HT20, CDD, Core 0 + Core 1, Horizontal (Peak)

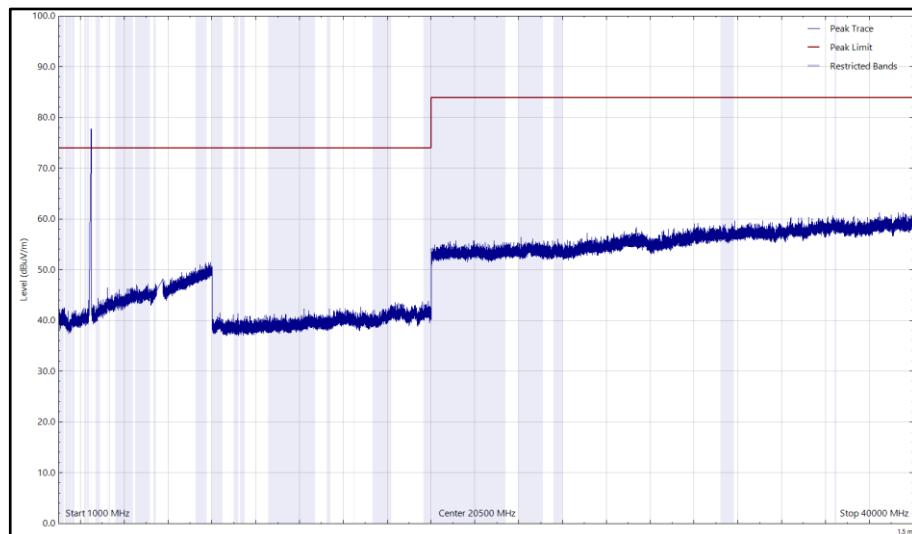


Figure 9 - 2452 MHz (CH9), HT20, CDD, Core 0 + Core 1 and U-NII-2C – 5680 MHz (CH136), HT20, CDD, Core 0 + Core 1, Horizontal (Peak)

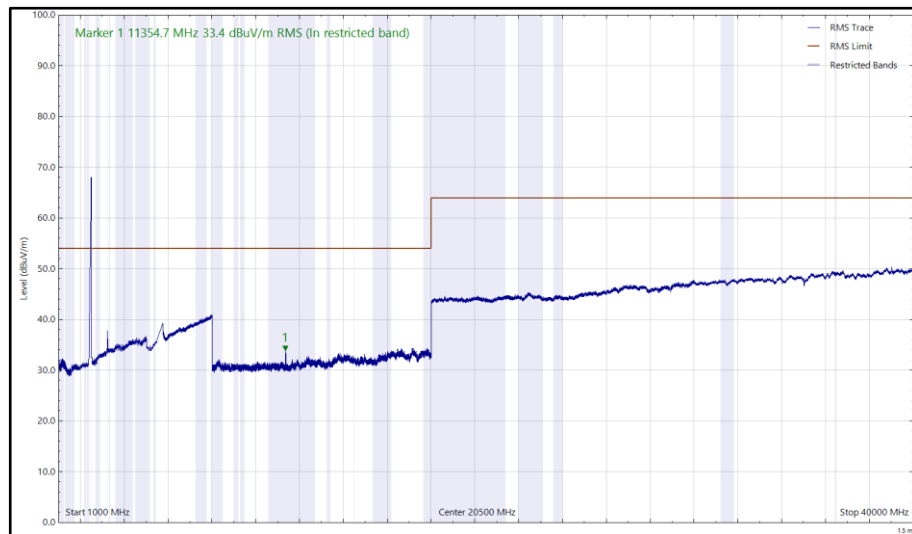


Figure 10 - 2452 MHz (CH9), HT20, CDD, Core 0 + Core 1 and U-NII-2C – 5680 MHz (CH136), HT20, CDD, Core 0 + Core 1, Horizontal (rms)

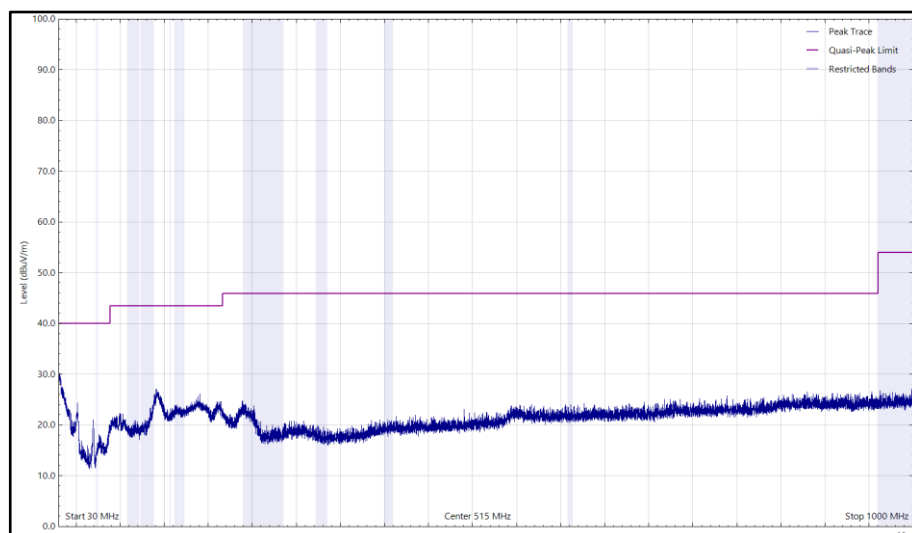


Figure 11 - 2452 MHz (CH9), HT20, CDD, Core 0 + Core 1 and U-NII-2C – 5680 MHz (CH136), HT20, CDD, Core 0 + Core 1, Vertical (Peak)

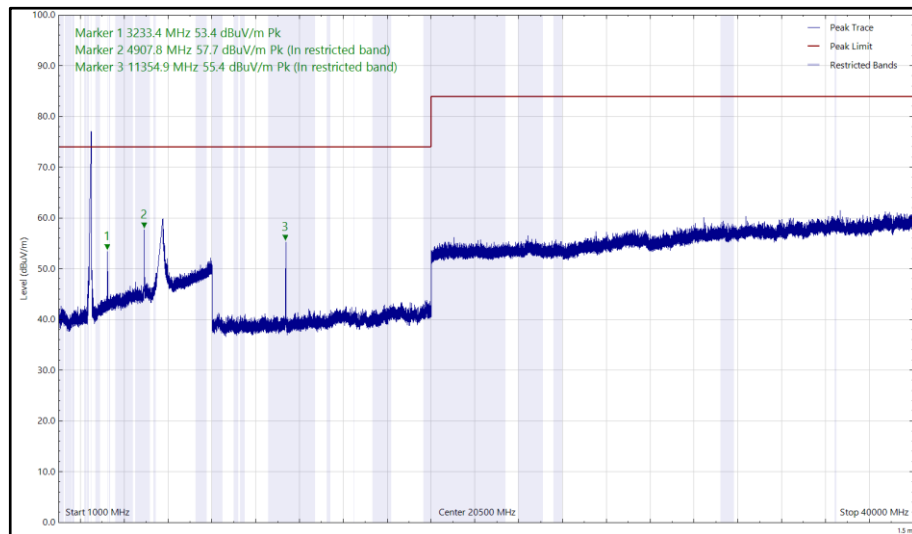


Figure 12 - 2452 MHz (CH9), HT20, CDD, Core 0 + Core 1 and U-NII-2C – 5680 MHz (CH136), HT20, CDD, Core 0 + Core 1, Vertical (Peak)

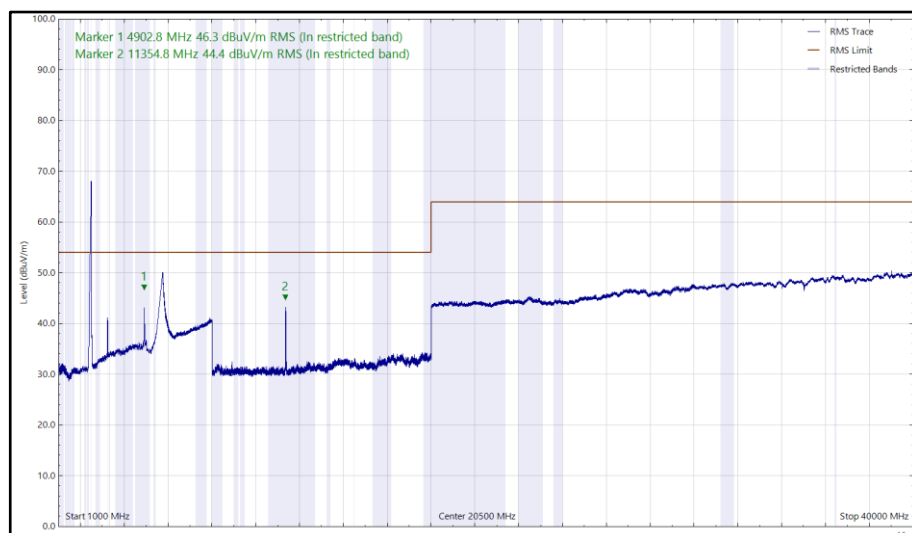


Figure 13 - 2452 MHz (CH9), HT20, CDD, Core 0 + Core 1 and U-NII-2C – 5680 MHz (CH136), HT20, CDD, Core 0 + Core 1, Vertical (rms)

CoTX - 2.4 GHz WLAN and 5 GHz WLAN and 2.4 GHz Bluetooth

Frequency (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
2538.882	67.2	74.0	-6.8	Peak	10	345	Vertical
2543.777	57.5	74.0	-16.5	Peak	309	364	Horizontal
4959.442	36.6	54.0	-17.4	CISPR Avg	38	301	Vertical

Table 7 - 2417 MHz (CH2), HT20, CDD, Core 0 + Core 1 and 2480 MHz (CH78), DH5, ePA, Core 0, 30 MHz to 26 GHz

No other emissions found within 10 dB of the limit.

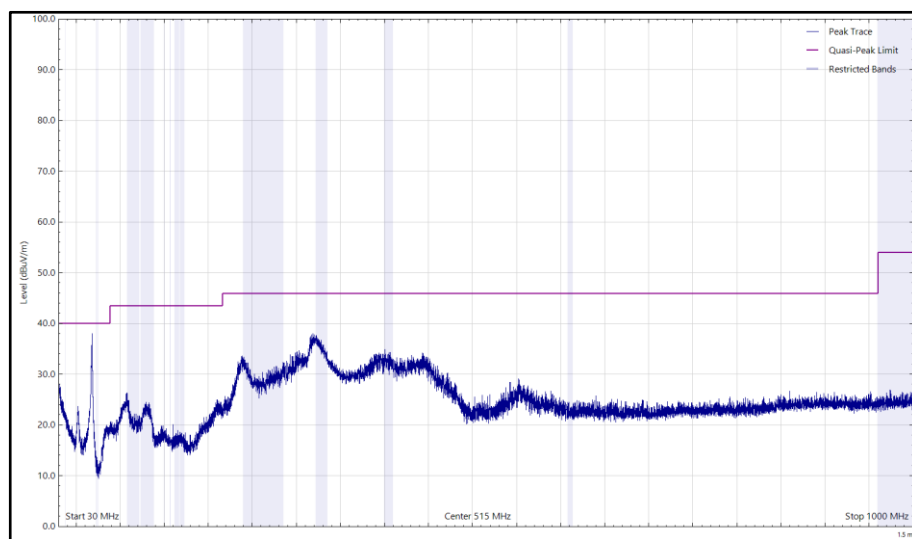


Figure 14 - 2417 MHz (CH2), HT20, CDD, Core 0 + Core 1 and 2480 MHz (CH78), DH5, ePA, Core 0, 30 MHz to 1 GHz, Horizontal (Peak)

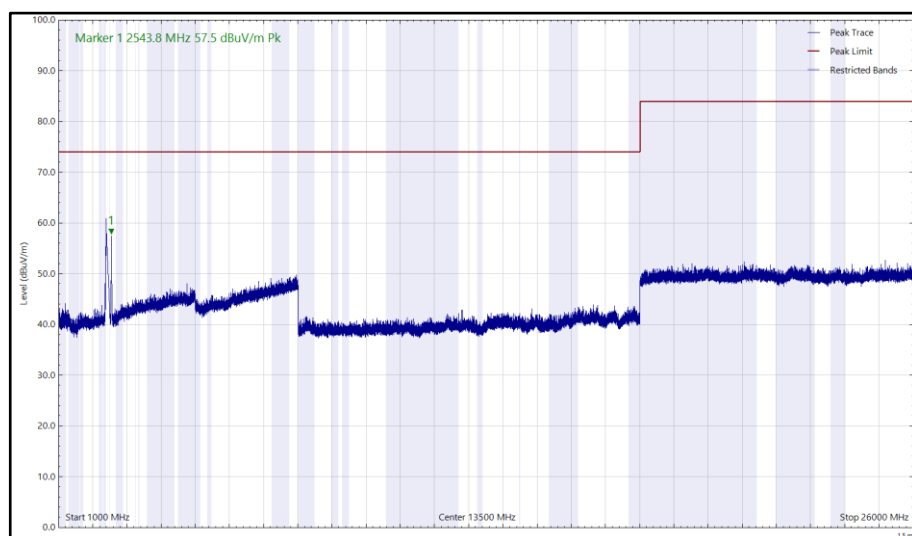


Figure 15 - 2417 MHz (CH2), HT20, CDD, Core 0 + Core 1 and 2480 MHz (CH78), DH5, ePA, Core 0, 1 GHz to 26 GHz, Horizontal (Peak)

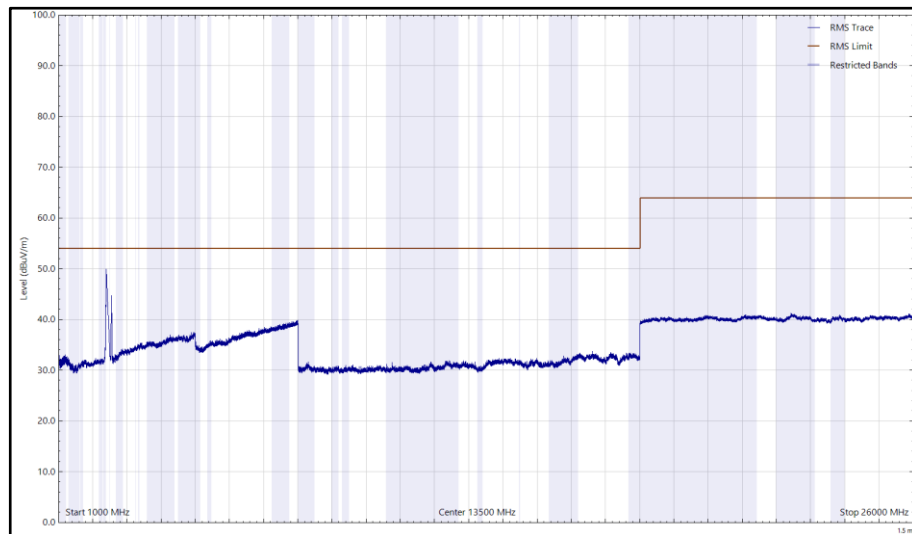


Figure 16 - 2417 MHz (CH2), HT20, CDD, Core 0 + Core 1 and 2480 MHz (CH78), DH5, ePA, Core 0, 1 GHz to 26 GHz, Horizontal (rms)

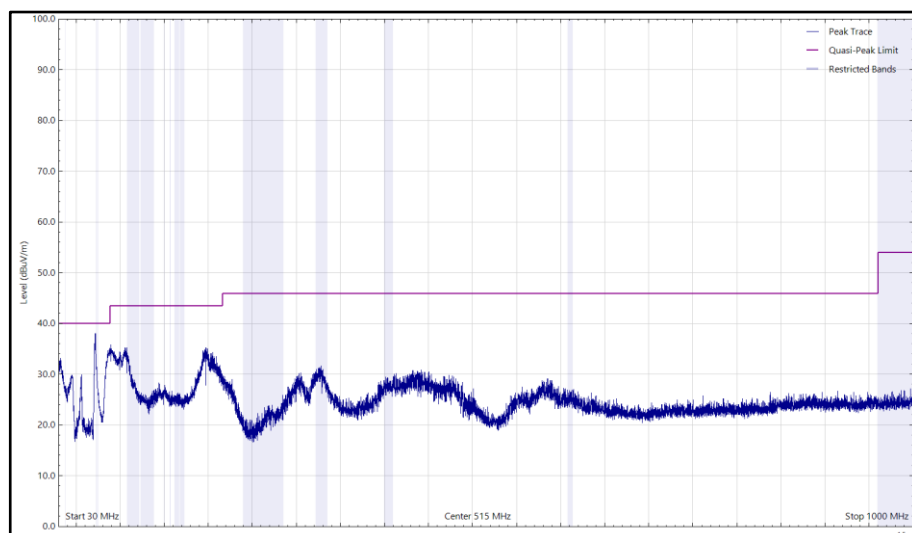


Figure 17 - 2417 MHz (CH2), HT20, CDD, Core 0 + Core 1 and 2480 MHz (CH78), DH5, ePA, Core 0, 30 MHz to 1 GHz, Vertical (Peak)

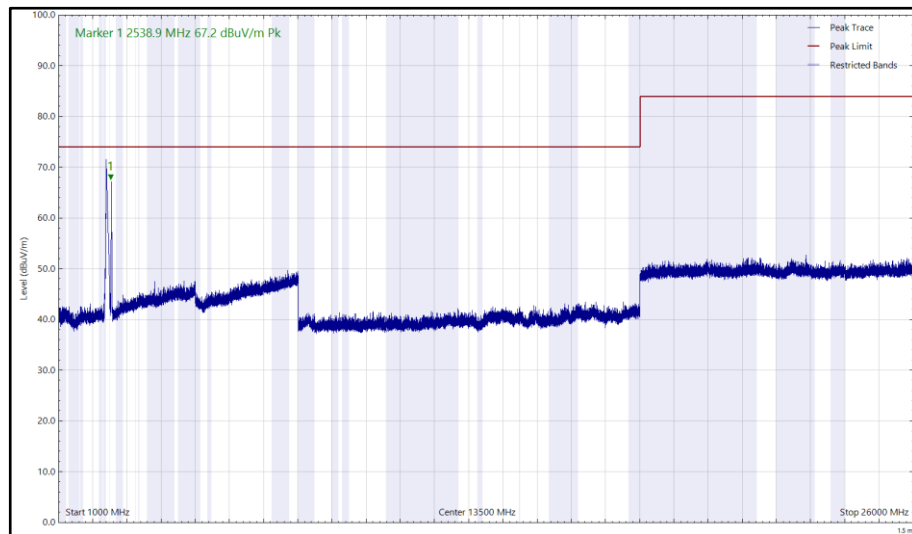


Figure 18 - 2417 MHz (CH2), HT20, CDD, Core 0 + Core 1 and 2480 MHz (CH78), DH5, ePA, Core 0, 1 GHz to 26 GHz, Vertical (Peak)

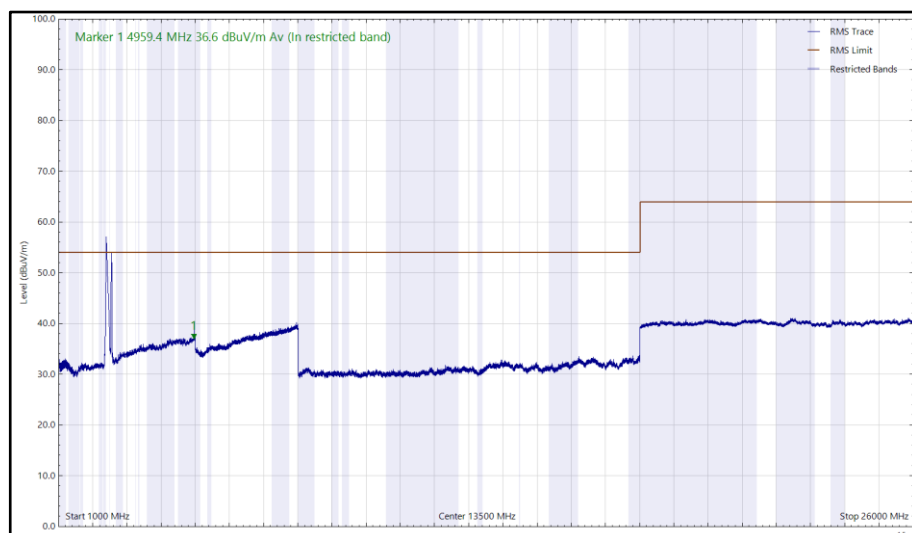


Figure 19 - 2417 MHz (CH2), HT20, CDD, Core 0 + Core 1 and 2480 MHz (CH78), DH5, ePA, Core 0, 1 GHz to 26 GHz, Vertical (rms)

Frequency (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
2348.826	61.2	74.0	-12.8	Peak	324	393	Horizontal
2353.364	49.8	54.0	-4.2	CISPR Avg	8	278	Vertical
2358.342	66.0	74.0	-8.1	Peak	10	291	Vertical
2359.046	39.7	54.0	-14.3	CISPR Avg	328	110	Horizontal
4804.194	42.7	54.0	-11.3	CISPR Avg	45	303	Vertical

Table 8 - 2452 MHz (CH9), HT20, CDD, Core 0 + Core 1 and 2402 (CH0), DH5, ePA, Core 0, 30 MHz to 26 GHz

No other emissions found within 10 dB of the limit.

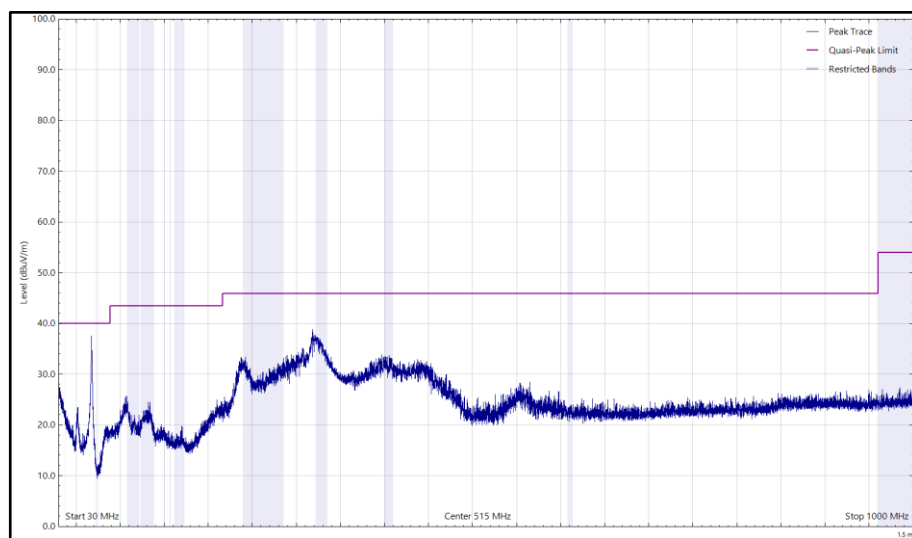


Figure 20 - 2452 MHz (CH9), HT20, CDD, Core 0 + Core 1 and 2402 (CH0), DH5, ePA, Core 0, 30 MHz to 1 GHz, Horizontal (Peak)

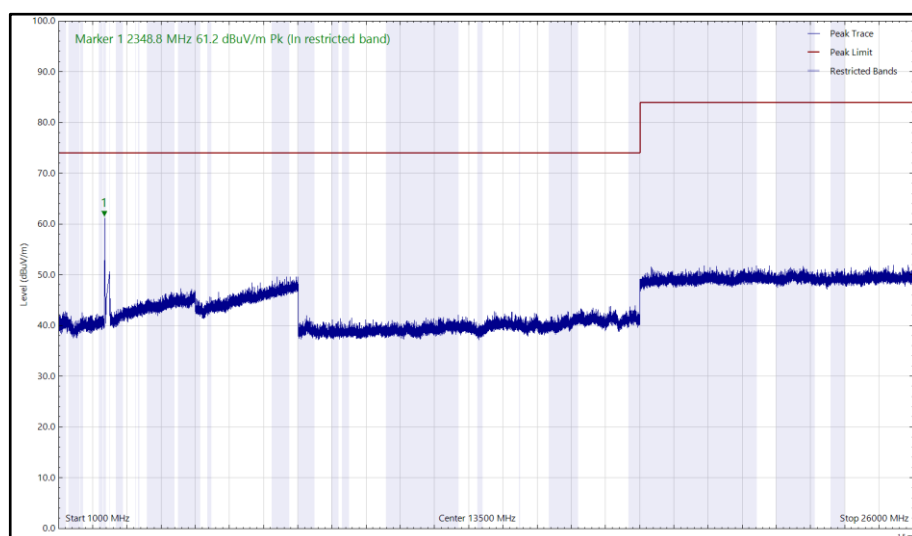


Figure 21 - 2452 MHz (CH9), HT20, CDD, Core 0 + Core 1 and 2402 (CH0), DH5, ePA, Core 0, 1 GHz to 26 GHz, Horizontal (Peak)

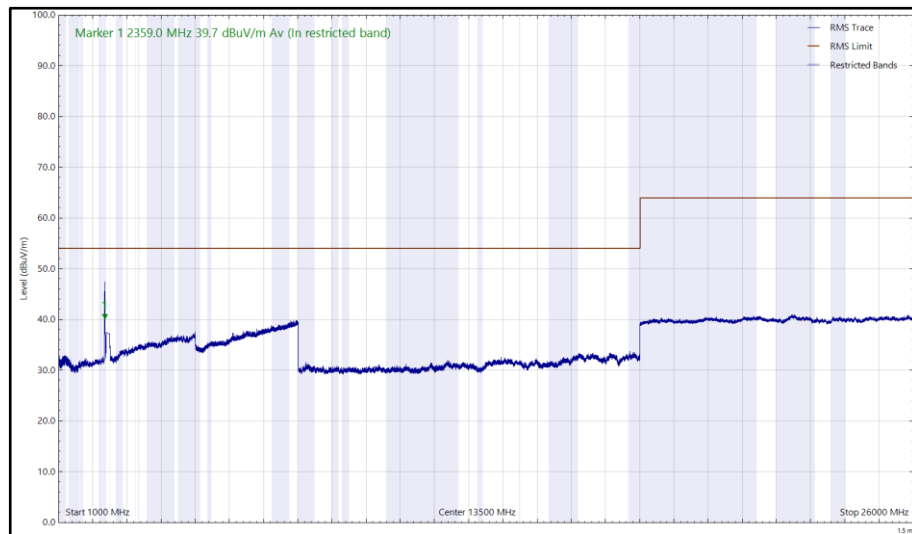


Figure 22 - 2452 MHz (CH9), HT20, CDD, Core 0 + Core 1 and 2402 (CH0), DH5, ePA, Core 0, 1 GHz to 26 GHz, Horizontal (rms)

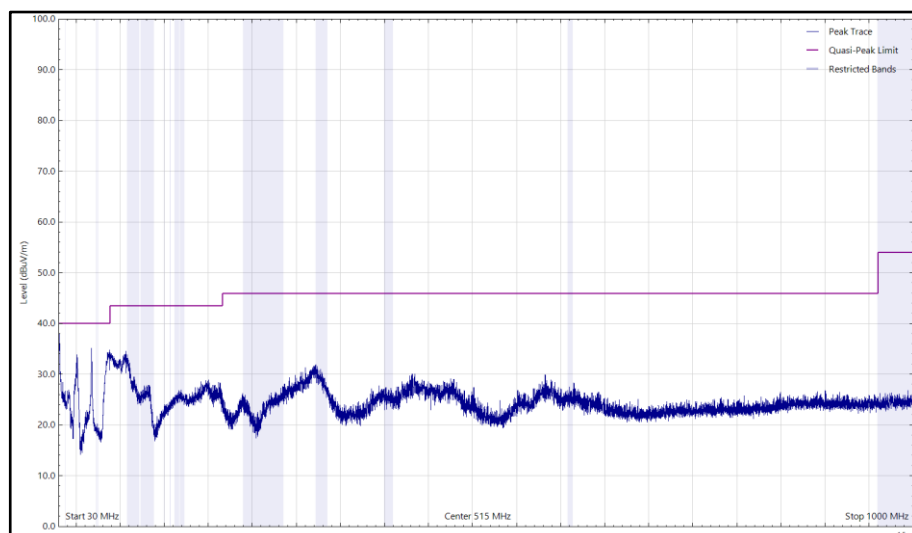


Figure 23 - 2452 MHz (CH9), HT20, CDD, Core 0 + Core 1 and 2402 (CH0), DH5, ePA, Core 0, 30 MHz to 1 GHz, Vertical (Peak)

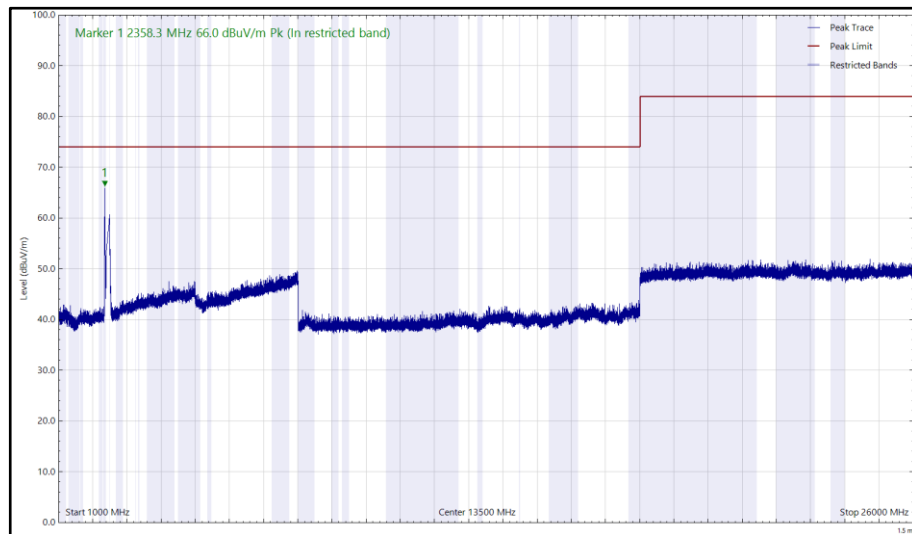


Figure 24 - 2452 MHz (CH9), HT20, CDD, Core 0 + Core 1 and 2402 (CH0), DH5, ePA, Core 0, 1 GHz to 26 GHz, Vertical (Peak)

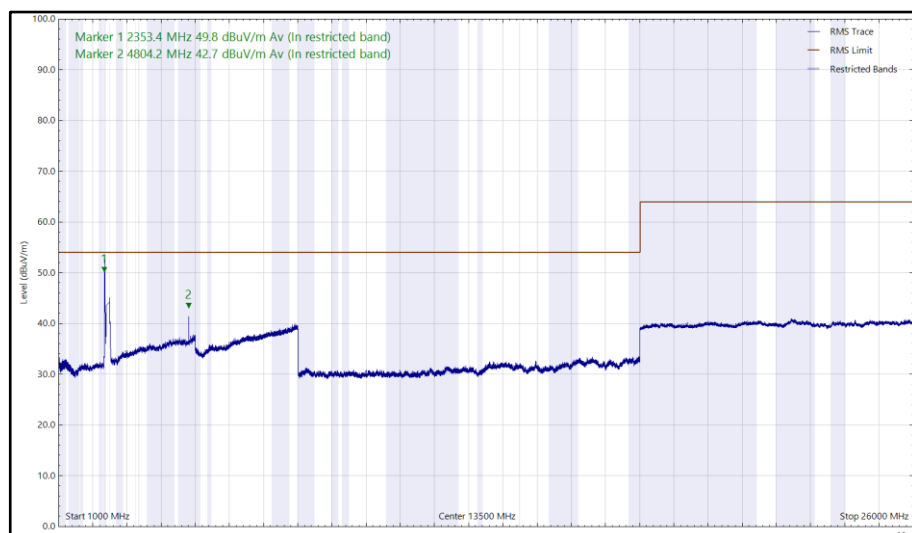


Figure 25 - 2452 MHz (CH9), HT20, CDD, Core 0 + Core 1 and 2402 (CH0), DH5, ePA, Core 0, 1 GHz to 26 GHz, Vertical (rms)

Frequency (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
4959.764	48.3	54.0	-5.7	CISPR Avg	46	283	Vertical
4960.081	59.0	74.0	-15.0	Peak	44	312	Vertical

Table 9 - U-NII-1 – 5200 MHz (CH40), HT20, CDD, Core 0 + Core 1 and 2480 MHz (CH78), DH5, ePA, Core 0, 30 MHz to 40 GHz

No other emissions found within 10 dB of the limit.

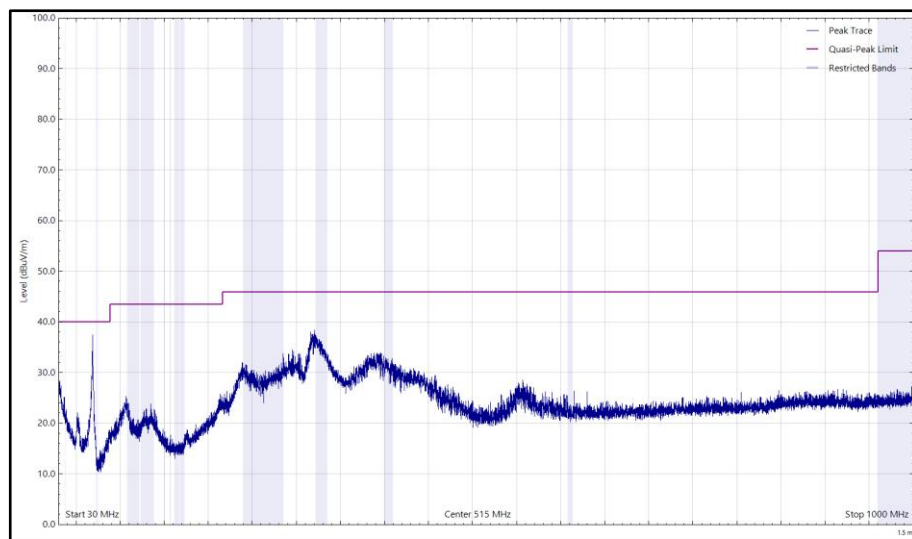


Figure 26 - U-NII-1 – 5200 MHz (CH40), HT20, CDD, Core 0 + Core 1 and 2480 MHz (CH78), DH5, ePA, Core 0, 30 MHz to 1 GHz, Horizontal (Peak)

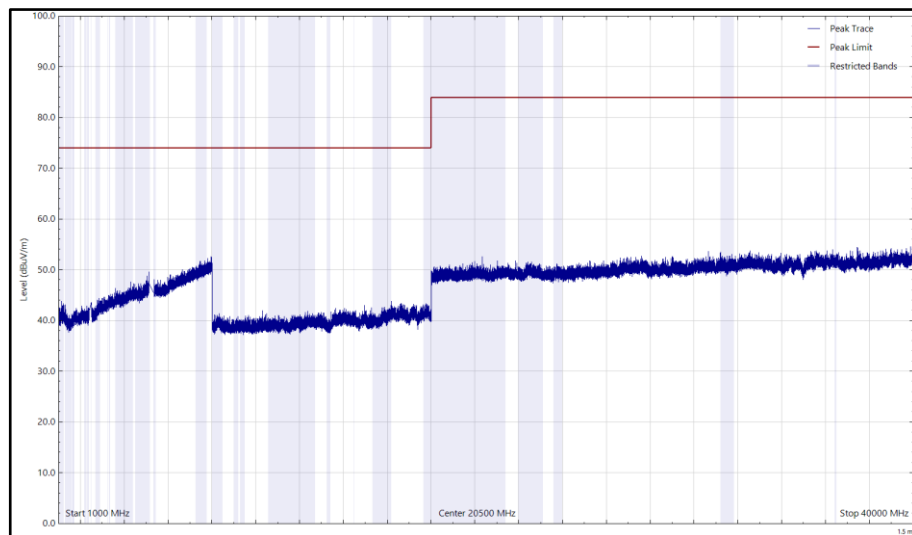


Figure 27 - U-NII-1 – 5200 MHz (CH40), HT20, CDD, Core 0 + Core 1 and 2480 MHz (CH78), DH5, ePA, Core 0, 1 GHz to 40 GHz, Horizontal (Peak)

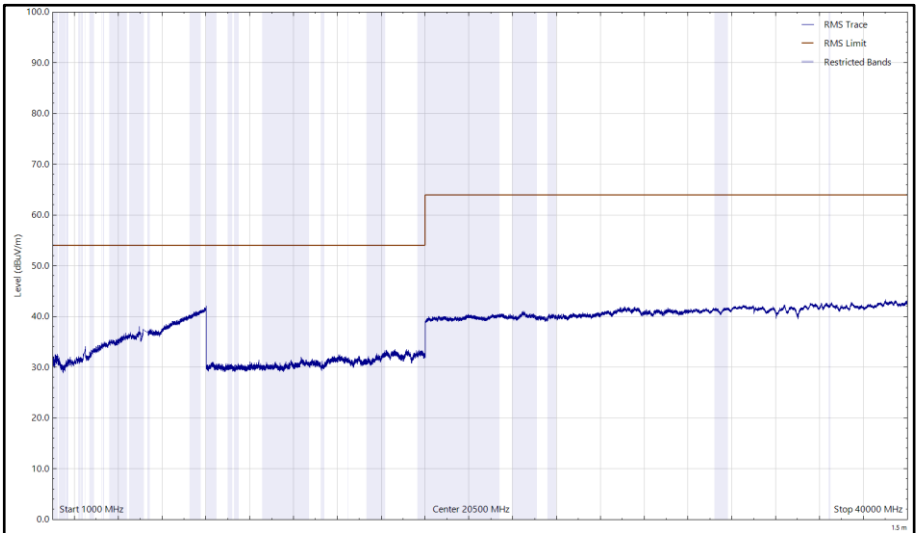


Figure 28 - U-NII-1 – 5200 MHz (CH40), HT20, CDD, Core 0 + Core 1 and 2480 MHz (CH78), DH5, ePA, Core 0, 1 GHz to 40 GHz, Horizontal (rms)

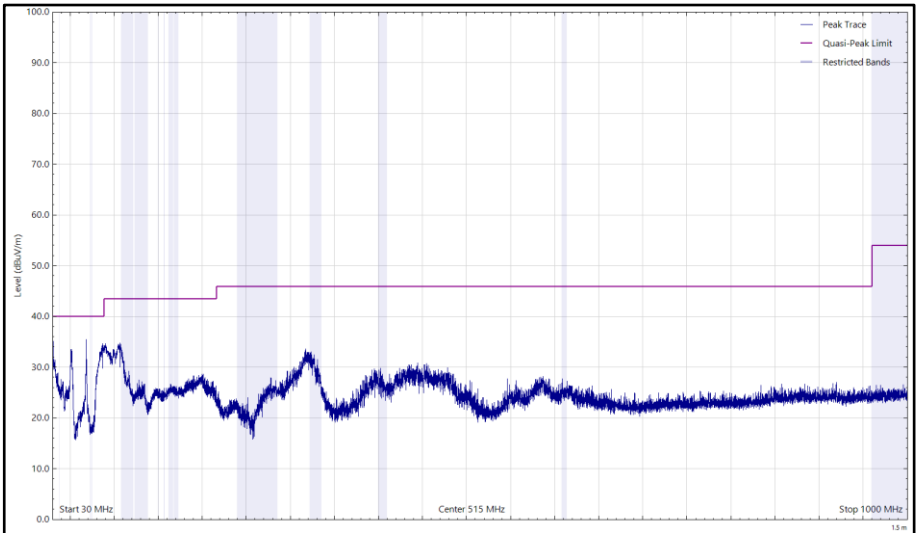


Figure 29 - U-NII-1 – 5200 MHz (CH40), HT20, CDD, Core 0 + Core 1 and 2480 MHz (CH78), DH5, ePA, Core 0, 30 MHz to 1 GHz, Vertical (Peak)

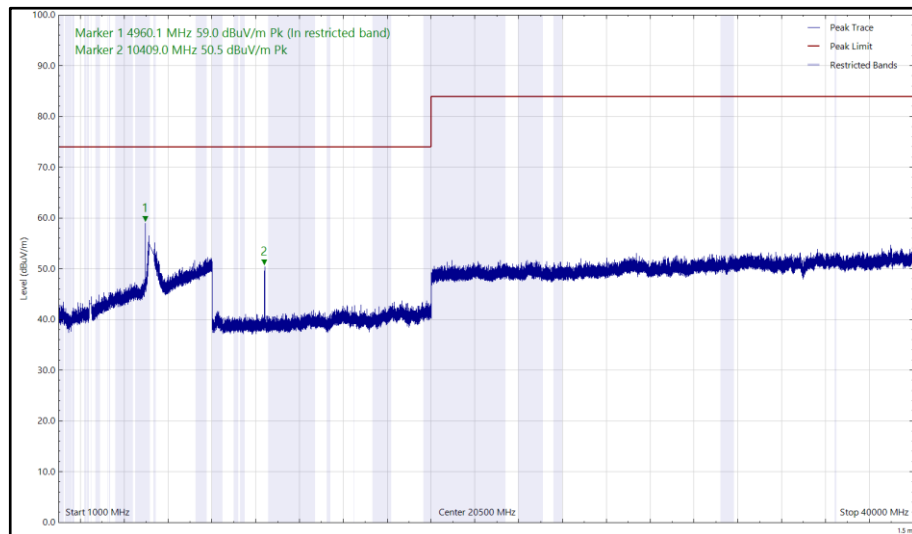


Figure 30 - U-NII-1 – 5200 MHz (CH40), HT20, CDD, Core 0 + Core 1 and 2480 MHz (CH78), DH5, ePA, Core 0, 1 GHz to 40 GHz, Vertical (Peak)

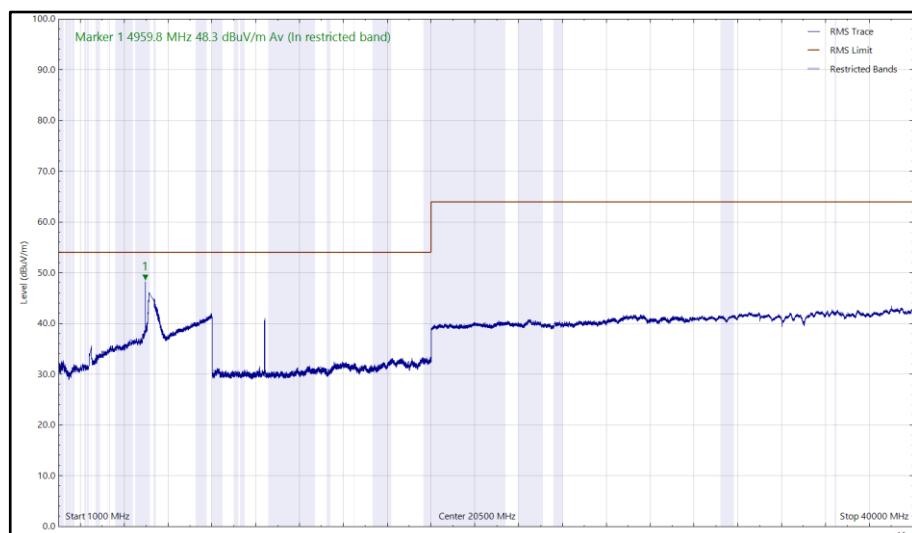


Figure 31 - U-NII-1 – 5200 MHz (CH40), HT20, CDD, Core 0 + Core 1 and 2480 MHz (CH78), DH5, ePA, Core 0, 1 GHz to 40 GHz, Vertical (rms)

Frequency (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
4803.742	47.5	54.0	-6.5	CISPR Avg	45	309	Vertical
4804.338	56.0	74.0	-18.0	Peak	46	306	Vertical
11355.005	40.1	54.0	-14.0	CISPR Avg	315	130	Vertical

Table 10 - U-NII-2C – 5765 MHz (CH136), HT20, CDD, Core 0 + Core 1 and 2402 MHz (CH0), DH5, ePA, Core 0, 30 MHz to 40 GHz

No other emissions found within 10 dB of the limit.

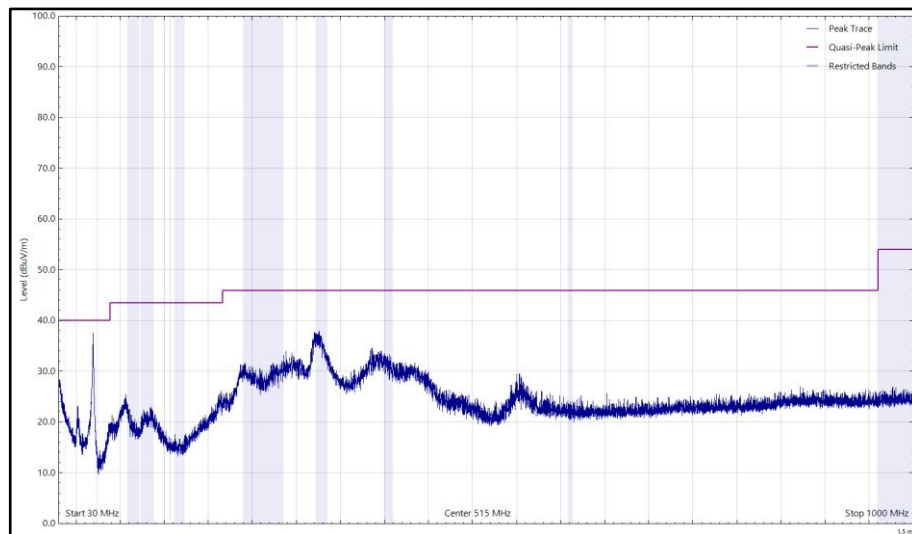


Figure 32 - U-NII-2C – 5765 MHz (CH136), HT20, CDD, Core 0 + Core 1 and 2402 MHz (CH0), DH5, ePA, Core 0, 30 MHz to 1 GHz, Horizontal (Peak)

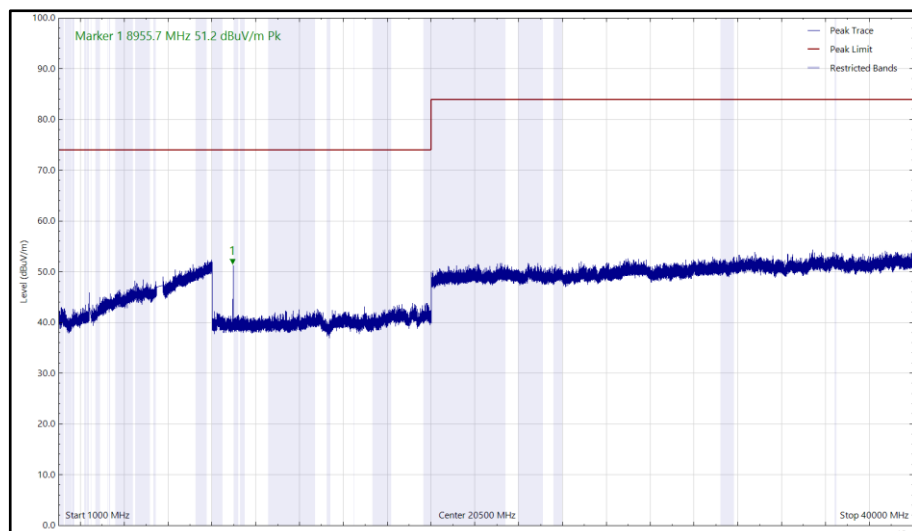


Figure 33 - U-NII-2C – 5765 MHz (CH136), HT20, CDD, Core 0 + Core 1 and 2402 MHz (CH0), DH5, ePA, Core 0, 1 GHz to 40 GHz, Horizontal (Peak)

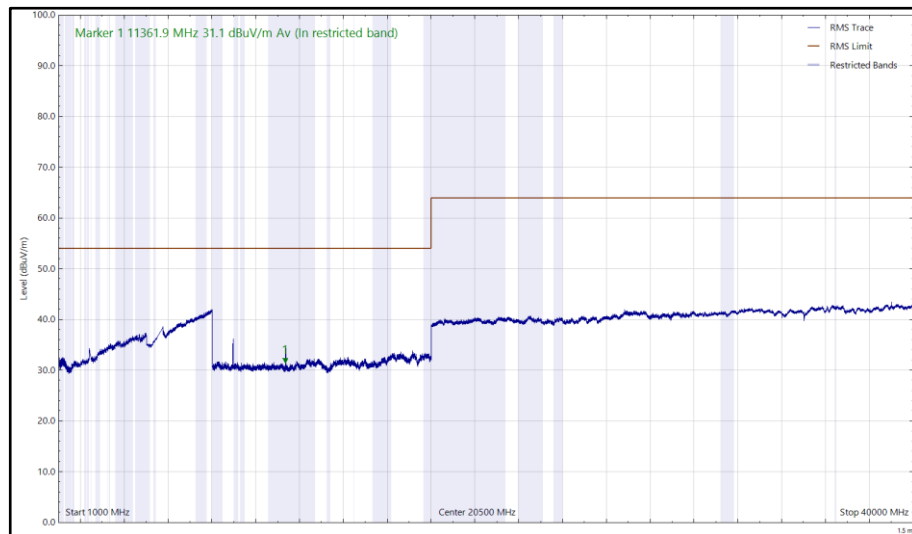


Figure 34 - U-NII-2C – 5765 MHz (CH136), HT20, CDD, Core 0 + Core 1 and 2402 MHz (CH0), DH5, ePA, Core 0, 1 GHz to 40 GHz, Horizontal (rms)

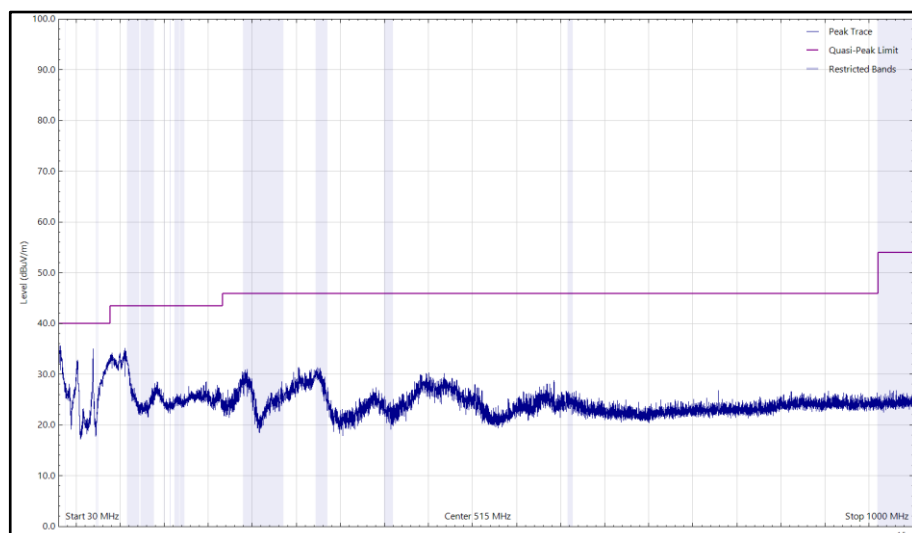


Figure 35 - U-NII-2C – 5765 MHz (CH136), HT20, CDD, Core 0 + Core 1 and 2402 MHz (CH0), DH5, ePA, Core 0, 30 MHz to 1 GHz, Vertical (Peak)

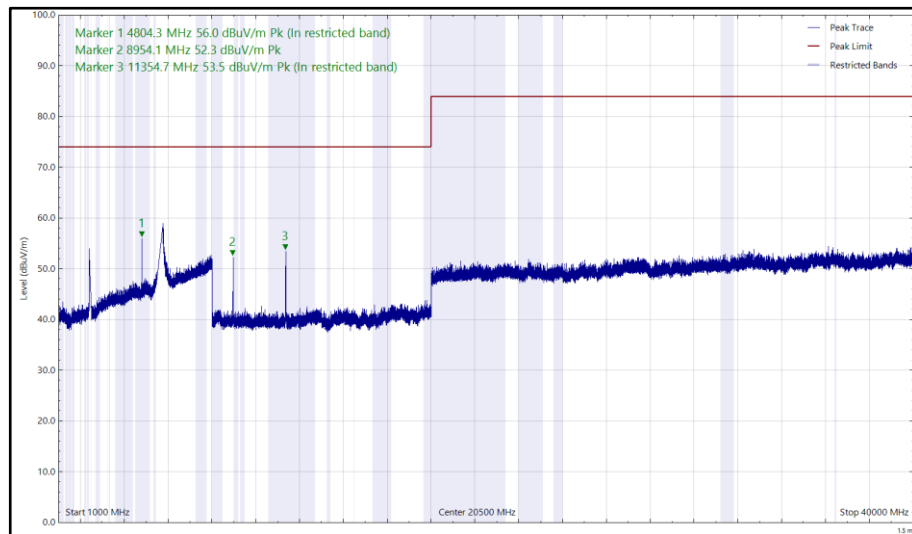


Figure 36 - U-NII-2C – 5765 MHz (CH136), HT20, CDD, Core 0 + Core 1 and 2402 MHz (CH0), DH5, ePA, Core 0, 1 GHz to 40 GHz, Vertical (Peak)

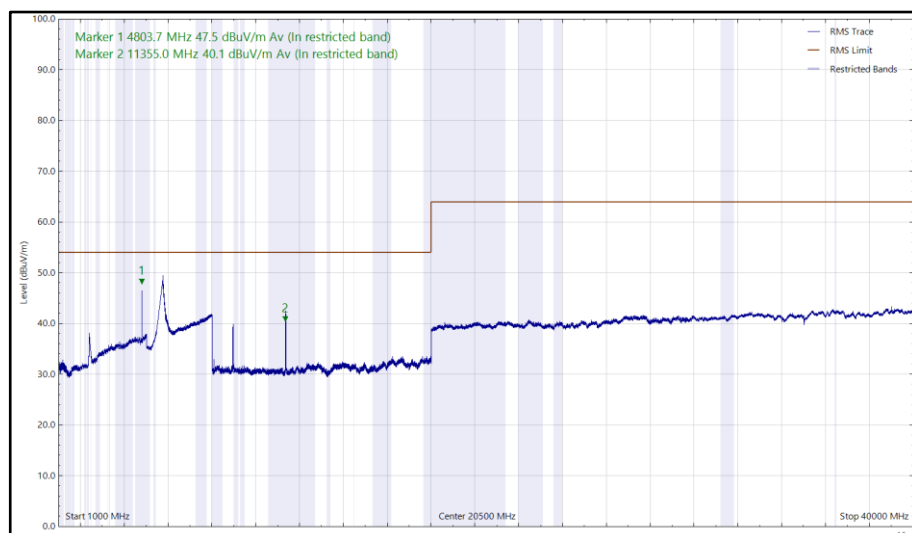


Figure 37 - U-NII-2C – 5765 MHz (CH136), HT20, CDD, Core 0 + Core 1 and 2402 MHz (CH0), DH5, ePA, Core 0, 1 GHz to 40 GHz, Vertical (rms)



Limit Clause

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

Specification and Clause	Limit
FCC Part 15.247 (d)	-20 dBc
FCC Part 15.407 (b)	-27 dBm (EIRP) / 68.2 dBµV/m at 3 m
FCC Part 15.209 (Within restricted bands listed in 15.205)	Peak: 74 dBµV/m at 3 m Average 54 dBµV/m at 3 m
ISED RSS-247, Clause 5.5	-20 dBc
ISED RSS-247, Clause 6.2	-27 dBm (EIRP) / 68.2 dBµV/m at 3 m
ISED RSS-GEN, Clause 8.9 (Within restricted bands listed in clause 8.8)	Peak: 74 dBµV/m at 3 m Average 54 dBµV/m at 3 m

Table 11 - Limit Table



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 Due
Power Supply Unit	Farnell	LB30-4	158	-	O/P Mon
Antenna 18-40GHz (Double Ridge Guide)	Q-Par Angus Ltd	QSH 180K	1511	24	02-Oct-2021
18GHz - 40GHz Pre-Amplifier	Phase One	PSO4-0087	1534	12	18-Feb-2021
Multimeter	Iso-tech	IDM101	2419	12	28-Nov-2020
Antenna with permanent attenuator (Bilog)	Schaffner	CBL6143	2904	24	28-Nov-2021
8 - 18 GHz pre amp	Wright Technologies	PS06-0061/PS06-0060	4971	6	05-Nov-2020
Band Reject Filter - 2.425 GHz	Wainwright	WRCGV14-2390-2400-2450-2460-50SS	5066	12	01-Oct-2020
Band Reject Filter - 2.4585 GHz	Wainwright	WRCGV14-2423.5-2433.5-2483.5-2493.5-50SS	5068	12	01-Oct-2020
Band Reject Filter - 5.22 GHz	Wainwright	WRCJV12-5120-5150-5290-5320-50SS	5072	12	24-Sep-2020
Band Reject Filter - 5.690 GHz	Wainwright	WRCJV8-5635-5670-5710-5745-50SS	5080	12	25-Sep-2020
EMI Test Receiver	Rohde & Schwarz	ESW44	5084	12	28-Nov-2020
Cable (18 GHz)	Rosenberger	LU7-071-1000	5102	12	06-Oct-2020
Cable (18 GHz)	Rosenberger	LU7-071-1000	5103	12	06-Oct-2020
Cable (18 GHz)	Rosenberger	LU7-071-1000	5104	12	09-Dec-2020
Cable (18 GHz)	Rosenberger	LU7-071-1000	5105	-	06-Oct-2020
EmX Emissions Software	TUV SUD	EmX V.V1.6.3	5125	-	Software
Screened Room (11)	Rainford	Rainford	5136	36	01-Nov-2021
Mast	Maturo	TAM 4.0-P	5158	-	TU
Mast and Turntable Controller	Maturo	Maturo NCD	5159	-	TU
Turntable	Maturo	TT 15WF	5160	-	TU
Horn Antenna (1-10GHz)	Schwarzbeck	BBHA 9120 B	5215	12	10-Mar-2021
DRG Horn Antenna (7.5-18GHz)	Schwarzbeck	HWRD750	5216	12	10-Mar-2021
3 GHz High pass filter	Wainwright	WHKX12-2580-3000-18000-80SS	5220	12	25-Mar-2021
Pre Amp 1 - 26.5 GHz	Agilent Technologies	8449B	5445	12	06-May-2021
Thermo-Hygro-Barometer	PCE Instruments	PCE-THB-40	5475	12	17-Mar-2021
1m K-Type Cable	Junkosha	MWX241-01000KMSKMS/A	5512	12	03-Apr-2021



2m SMA Cable	Junkosha	MWX221-02000AMSAMS/A	5518	12	01-Apr-2021
8m N Type Cable	Junkosha	MWX221-08000NMSNMS/B	5522	12	24-Mar-2021
2m K Type Cable	Junkosha	MWX241-02000KMSKMS/A	5524	12	03-Apr-2021
7 GHz High pass Filter	Wainwright	WHKX12-5850-6800-18000-80SS	5550	12	23-May-2021
1200 MHz Low Pass Filter (02)	Mini-Circuits	VLF-1200+	5560	12	23-May-2021
8 - 18 GHz Amplifier	Wright Technologies	APS06-0061	5595	12	25-Aug-2021

Table 12

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



3 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: ± 5.2 dB 1 GHz to 40 GHz: ± 6.3 dB

Table 13

Measurement Uncertainty Decision Rule

Determination of conformity with the specification limits is based on the decision rule according to IEC Guide 115: 2007, clause 4.4.3 and 4.5.1.