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RADIO COMPLIANCE REPORT
Certification Test Report
In accordance with:
CFR47 FCC Part 15, Subpart C, 15.247

Integrated Control Technology Limited

WL-APW

Protege Wireless Access Point

FCC ID: UAU-WLAP

REPORT: E2503-1841-3 Rev1
DATE: May, 2025

This report replaces the previously issued report E2503-1841-3.
Please refer to section 2 of this report for details of any previously issued reports.

Accreditation Number: 18553
Accredited for compliance with ISO/IEC 17025 - Testing

Certificate of Compliance
Certification Compliance Report
EMC Bayswater Test Report: E2503-1841-3 Rev1
Issue Date: May, 2025

Test Sample(s):	Protege Wireless Access Point
Model No:	WL-APW
Serial No:	9DCC0773 (Sample 1), 109A8E5E (Sample 2)
FCC ID:	UAU-WLAP
Customer Details:	Mr. Steven Whitaker Integrated Control Technology Limited 4 John Glenn Avenue, Rosedale AUCKLAND 0632 NEW ZEALAND Phone No: +64 9-870 6646 e-mail: swhitaker@ict.co
Test Specification:	CFR47 FCC Part 15, Subpart C, 15.247

Results Summary:		
	15.203 - Antenna requirement	***Complied***
	15.247 (a) (2) - 6dB Bandwidth	***Complied***
	15.247 (b)(3) – Maximum Output Power	***Complied***
	15.247 (d) - Out-of-Band Emissions - – 100kHz, -20dBc	***Complied***
	15.247 (d) - Emissions on the Band edge	***Complied***
	15.247 (d), 15.209 – Radiated emissions in Restricted bands	***Complied***
	15.247 (e) - Power Spectral Density	***Complied***
	15.247 (i) - Radio frequency hazard	***Complied***
	15.207 - AC Power line Conducted Emissions	***Complied***

Test Date(s):	27th to 31st of March, 2025
Test House (Issued By):	EMC Bayswater Pty Ltd 18/88 Merrindale Drive Croydon South Victoria 3136 Australia FCC Accredited Test Firm Registration number: 527798 FCC Accredited Test Firm Designation number: AU0004 Phone No: +61 3 9761 5888 e-mail: sales@emcbayswater.com.au Fax No: +61 3 8761 6547 Web: www.emcbayswater.com.au/

This is to certify that the necessary measurements were made by EMC Bayswater Pty Ltd, and that the Integrated Control Technology Limited, WL-APW, Protege Wireless Access Point, has been tested in accordance with requirements contained in the appropriate commission regulations.

Tested and prepared by:	Tested by:	Approved by:	
Adnan Zaman (EMC Test Engineer)	Jignesh Moody (EMC Test Engineer)	Neville Liyanapatabendige (Manager)	09/05/2025 11:55 Date

Radio Compliance Report
for
Integrated Control Technology Limited

Contents

1. Introduction

Electromagnetic Compatibility (EMC) tests were performed on an Integrated Control Technology Limited, WL-APW, Protege Wireless Access Point in accordance with the requirements of Title 47 of the standard CFR47 FCC Part 15, Subpart C, 15.247.

2. Test Report Revision History

ISSUE	DATE	Description	AUTHORISED BY
E2503-1841-3	30-04-2025	Original	Neville Liyanapatabendige (Manager)
E2503-1841-3 Rev1	09-05-2025	1. Page 7: EUT transmitter details were updated. 2. Page 8: Block diagram of EUT test configuration – Conducted Method (Figure 2), was updated. 3. Page 11, 19 & 20: EUT test setup block diagrams were added. 4. Page 34: In the test equipment table, the type of two items was changed from 'V' to 'I'. It was a typographical error.	Neville Liyanapatabendige (Manager)

3. Report Information

EMC Bayswater Pty Ltd reports apply only to the specific samples tested under the stated test conditions. All samples tested were in good operating condition throughout the entire test program unless otherwise stated. EMC Bayswater Pty Ltd does not in any way guarantee the later performance of the product/equipment. It is the manufacturer's responsibility to ensure that additional production units of the tested model are manufactured with identical electrical and mechanical components. EMC Bayswater Pty Ltd shall have no liability for any deductions, inference or generalisations drawn by the clients or others from EMC Bayswater Pty Ltd issued reports. This report shall not be used to claim, constitute or imply product endorsement by EMC Bayswater Pty Ltd. This report shall not be reproduced except in full (with the exception of the certificate on page 2) without the written approval of EMC Bayswater Pty Ltd. This document may be altered or revised by EMC Bayswater Pty Ltd personnel only, and shall be noted in the revision section of the document. Any alteration of this document not carried out by EMC Bayswater Pty Ltd will nullify the document.

4. Summary of Results

The EUT complied with applicable requirements of CFR47 FCC Part 15, Subpart C, 15.247. Worst-case results are tabled as follows:

FCC Part 15C sections	Test	Result
15.203	Antenna Requirement	Complied[#1]
15.247 (a) (2)	6dB Bandwidth	723kHz, Complied by 223.0kHz
15.247 (b)(3)	Maximum Peak Output Power	Complied by 17.8dB
15.247 (d)	Out-of-Band Emissions – 100kHz, -20dBc	Complied by at least > 6dB
15.247 (d)	Emissions on the Band edge	Complied by 20.3dB
15.247 (d), 15.209	Radiated emissions in Restricted bands	Complied by 20.3dB
15.247 (e)	Power Spectral Density	Complied by 9.2dB
	Occupied Bandwidth (99% Emission Bandwidth)	1023kHz
15.207	Conducted Emissions – External PSU powered	Complied by 16.3dB (Quasi-Peak)
		Complied by 26.9dB (Average)
	Conducted Emissions – PoE powered	Complied by 11.5dB (Quasi-Peak)
		Complied by 4.8dB (Average)

[#1]*The Antenna is permanently attached, internal to the device*

Table 1: Summary of test results

5. Product Sample Details

5.1. EUT Description

The EUT (Equipment Under Test), as supplied by the client, is described as follows:

Product:	Protege Wireless Access Point	
Model No:	WL-APW	
Serial No:	9DCC0773 (Sample 1), 109A8E5E (Sample 2)	
Firmware:	1.00.XXXX	
Software:	N/A	
Power Specifications 1:	PoE	
Power Specifications 2:	12VDC	
Transmitter details:	Description:	Bluetooth transmitter module
	Type:	Bluetooth 5.3
	Modulation:	GFSK
	Channels:	40
	Max power:	16 dBm
	Antenna:	PCB Trace Antenna Murata Design Type2EL-Antenna
	Antenna Gain:	+3.6 dBi
Dimensions:	10 cm x 10 cm x 2.5 cm (Length x Width x Height)	
Weight:	150 g	
EUT Type:	Tasted as tabletop.	

(Customer supplied product information)

(Refer to photographs in Annex A for views of the EUT)

5.2. Product description

The EUT (Equipment Under Test) has been described by the customer as follows:

“Wireless locking hub used to connect electronic wireless locks to control unit of an Access Control System.”

(Customer supplied product description information)

The highest frequency generated or used in the device or on which the device operates or tunes as specified by the customer is 2.4 GHz (Bluetooth 5.3).

5.3. Support Equipment

Support Equipment: 1	Description:	Protege DIN Rail 4A Intelligent Power Supply
	Manufacturer:	Protege
	Model:	PRT-PSU-DIN-4A
	Serial number:	Not stated
	Comment:	Representative 12VDC Power supply
Support Equipment: 2	Description:	5-Port Gigabit Desktop Switch with 4-Port PoE+
	Manufacturer:	MERCUSYS
	Model:	MS105GP
	Serial number:	224A1P7008550
	AC/DC adapter	VASATA I.T.E Power supply Model: P535131-2-DT Input: 100-240VAC, 50/60Hz, 1.6A Output: 53.5VDC, 1.31A 70W
	Comment:	Representative PoE switch

5.4. Product operating modes

"One mode only
(Transmit and No Transmission (Stand By)"

(Customer supplied product operating mode information)

5.5. Product operating mode for testing

"Product operating mode is set operate in a continuous testing mode"

(Customer supplied product operating mode for testing information)

5.6. Configuration

The EUT was either configured by the customer or configured using the customer's instructions.

The device was connected and powered by a PoE switch.

Customer supplied a sample (SN: 109A8E5E) with a temporary SMA connector for the conducted method testing.

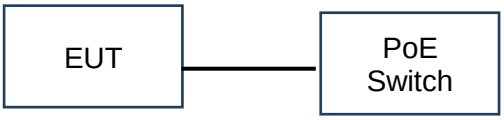

Figure 1: Block diagram of EUT test configuration – Radiated Method

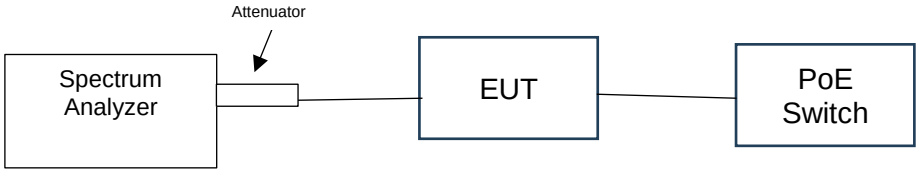

Figure 2: Block diagram of EUT test configuration – Conducted Method

5.7. Modifications

EMC Bayswater Pty Ltd did not modify the EUT.

6. Test Facility & Equipment

6.1. Test Facility

Tests were performed at the indoor Open Area Test Site (iOATS) at EMC Bayswater Pty Ltd, located at 18/88 Merrindale Drive, Croydon South, Victoria, 3136, Australia.

EMC Bayswater Pty Ltd FCC Test Firm registration number is 527798.

EMC Bayswater Pty Ltd FCC Test Firm Designation number is AU0004.

6.2. Test Equipment

Refer to Appendix A for the measurement instrument list.

7. Referenced Standards

CFR47 FCC Part 15, Subpart C, 15.247

CFR47 FCC Part 15, Subpart B

ANSI C63.10 - 2013
American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

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.

FCC KDB - 558074 D01 15.247 Meas Guidance v05r02

8. Referenced Documents

Test Plan
None supplied

9. Antenna Requirement – FCC Part 15.203

9.1. Requirements

As per section 15.203 of CFR47 FCC Part 15, Subpart C, 15.247:

- 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.

9.2. Result

The EUT uses permanent, internally attached antenna which is etched into the PCB. Therefore, the EUT complied with the antenna requirements of CFR47 FCC Part 15, Subpart C, Section 15.203.

10. 6dB Bandwidth – FCC 15.247 (a) (2)

10.1. Test Procedure

The 6dB Bandwidth was performed in accordance with the section 11.8 of ANSI C63.10 - 2013.

6dB Bandwidth measurements were performed at the antenna port (Conducted method). The transmitter output was connected to a spectrum analyzer through a suitable attenuator. The spectrum analyser was tuned to the fundamental (transmit frequency) of the transmitter bottom, centre and top channels with 100kHz RBW and 300kHz VBW using the peak detector and a suitable span to allow accurate measurements whilst capturing the full intentional transmission including side lobes. The resultant bandwidth measurement was recorded.

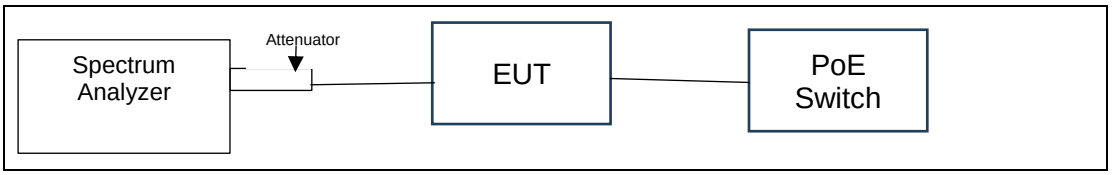

Figure 3: Test setup

(Refer to photographs in Annex C for views of the test configuration)

10.2. Limits

Applicable only to systems using digital modulation techniques:

Transmit operating frequency (MHz)	Minimum 6dB Bandwidth (kHz)
2400 – 2483.5	500

Table 2: 6dB Bandwidth

10.3. Test Results

6dB Bandwidth measurements are tabulated below:

(Refer to graphs in Appendix C.1)

Transmit operating frequency (MHz)	Measured 6dB Bandwidth (kHz)	Minimum 6dB Bandwidth (kHz)	Margin (kHz)	Comment
2402 (Bottom)	729.0	500	+229.0	Complied
2426 (Middle)	723.0	500	+223.0	Complied
2480 (Top)	723.0	500	+223.0	Complied

Table 3: Results for 6dB Bandwidth

The measurement uncertainty was calculated as follows:

Measurement Parameter	Calculated measurement uncertainty
Operating Frequency	±10.5kHz
Bandwidth	±14.96kHz

The reported uncertainty is an expanded uncertainty calculated using a coverage factor of *k=2* which gives a level of confidence of approximately 95%.

Climatic Conditions	
Temperature:	20.0°C
Humidity:	49%
Atmospheric pressure:	1021.0hPa

Table 4: Climatic conditions

Notes: The minimum required 500kHz 6dB Bandwidth requirements were satisfied by at least 223kHz.

Assessment: The EUT complied with the 6dB Bandwidth requirements of CFR47 FCC Part 15, Subpart C, 15.247 (a)(2).

11. Occupied Channel Bandwidth (99% Emission Bandwidth)

11.1. Test Procedure

The 99% emission Bandwidth was performed in accordance with the section 6.9.3 of ANSI C63.10 - 2013.

99% Emission Bandwidth measurements were performed at at the antenna port (Conducted method). The transmitter output was connected to a spectrum analyzer through a suitable attenuator. The spectrum analyzer centre frequency was tuned to the fundamental (transmit frequency) of the transmitter with the span of the analyzer was set to capture all products of the modulation process, including the emission skirts. The resolution bandwidth (RBW) was set to 1% to 5% of the occupied bandwidth and video bandwidth (VBW) was set to three times the RBW.

A peak detector, maxhold function (worst case) was used to measure the occupied bandwidth, using the built-in 99% occupied bandwidth measurement function of the receiver. The resultant bandwidth measurement was recorded.

(Refer to photographs in Annex C for views of the test configuration)

11.2. Requirements

No limits are defined in CFR47 FCC Part 15, Subpart C, 15.247.

11.3. Test Results

Occupied Bandwidth measurements are tabulated below:

(Refer to graph in Appendix C.7)

Transmit Operating Frequency (MHz)	99%BW Lower Frequency (MHz)	99%BW Upper Frequency (MHz)	Occupied Channel Bandwidth (kHz)
2402 (Lowest Channel)	2401.478	2402.507	1029
2426 (Middle Channel)	2425.475	2426.498	1023
2480 (Highest Channel)	2479.469	2480.510	1041

Table 5: Occupied Bandwidth

The measurement uncertainty was calculated as follows:

Measurement Parameter	Calculated measurement uncertainty
Operating Frequency	±10.5kHz
Bandwidth	±14.96kHz

The reported uncertainty is an expanded uncertainty calculated using a coverage factor of *k=2* which gives a level of confidence of approximately 95%.

Climatic Conditions	
Temperature:	20.0°C
Humidity:	49%
Atmospheric pressure:	1021.0hPa

Table 6: Climatic conditions

Notes: The transmitter was tested with modulation.

Assessment: The measured Occupied bandwidth (99% Emission Bandwidth) is 1041kHz (informative only).

12. Maximum Peak Output Power – FCC 15.247 (b)(3)

12.1. Test Procedure

Conducted Method:
The conducted output power measurements were performed in accordance with the section 11.9.1 of ANSI C63.10 - 2013.

The transmitter output was connected to a spectrum analyzer through a suitable attenuator. The Maximum Peak Conducted Output Power of the fundamental transmit frequency was measured using a spectrum analyzer with 1MHz RBW and 3MHz VBW using the peak detector and a suitable span to allow accurate measurement whilst capturing the full intentional transmission including side lobes. An offset for the measurement path insertion loss (attenuators and cables) was used to get a true measurement.

The EUT was tested on the top, middle and bottom channels.

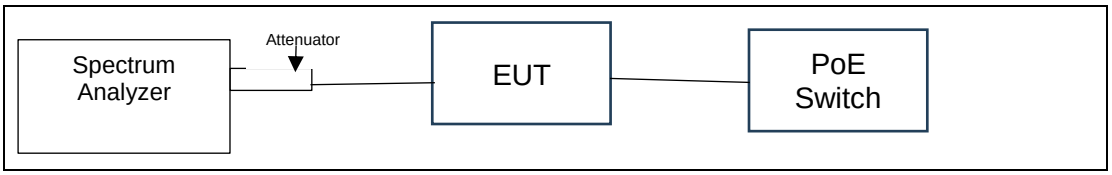

Figure 4: Test setup

(Refer to photographs in Annex C for views of the test configuration)

12.2. Limits

For systems using digital modulation techniques:

Transmit operating frequency (MHz)	Peak Power (W)	Peak Power (dBm)	e.i.r.p (W)	e.i.r.p (dBm)
2400 – 2483.5	1	30	4	36

Table 7: Limits – Transmitter maximum peak output power

12.3. Test Results

The worst-case maximum output power measurements are tabulated below:

(Refer to plots Appendix C.2)

Channel	Frequency (MHz)	Peak Power (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	2402	+12.2	30.0	**-17.8***	Complied
Middle	2426	+12.2	30.0	**-17.8***	Complied
Top	2480	+12.0	30.0	-18.0	Complied

**Worst-case emission*

Table 8: Results for Maximum Peak Conducted Output Power – Conducted Method

The measurement uncertainty was calculated at ±1.4dB. The reported uncertainty is an expanded uncertainty calculated using a coverage factor of approximately *k=2* which gives a level of confidence of approximately 95%.

Climatic Conditions	
Temperature:	20.0°C
Humidity:	49%
Atmospheric pressure:	1021.0hPa

Table 9: Climatic Conditions

Notes: The transmitter maximum output power was below the specified limit for the specified operating frequency.

The transmitter was continuously transmitting in modulated transmit mode.

Assessment: The EUT complied with the Transmitter Maximum Peak output power requirements of CFR47 FCC Part 15, Subpart C, 15.247 (b)(3).

13. Radiated emissions in Restricted bands – 15.247 (d), 15.209

13.1. Requirements

As per section 15.247(d) of 47 CFR Part 15 Subpart C:

- Radiated emissions which fall in the restricted bands, as defined in section 15.205(a) of 47 CFR Part 15 Subpart C, must also comply with the radiated emission limits specified in section15.209(a) of 47 CFR Part 15 Subpart C (see §15.205(c) of 47 CFR Part 15 Subpart C).

As per section 47 CFR Part 15 Subpart C section 15.209 (Radiated emissions, general requirements) the EUT is required to meet the limits that permit the highest field strength of the following table for the radiated emissions which fall in the restricted bands, as defined in section 15.205(a) of 47 CFR Part 15 Subpart C:

Frequency Range (MHz)	Limits at 3m (dBµV/m)
0.009 to 0.490	128.5 to 93.8
0.490 to 1.705	73.8 to 62.9
1.705 to 30.0	69.5
30.0 to 88	40.0
88.0 to 216.0	43.5
216.0 to 960.0	46.0
Above 960	54.0
NOTE: The lower limit shall apply at the transition frequency.	

Note 1: as per CFR FCC Part 15 section15.209 (d) The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector

Note 2: as per CFR FCC Part 15.35 (b) Unless otherwise specified, on any frequency or frequencies above 1000 MHz, the radiated emission limits are based on the use of measurement instrumentation employing an average detector function. Unless otherwise specified, measurements above 1000 MHz shall be performed using a minimum resolution bandwidth of 1 MHz. When average radiated emission measurements are specified in this part, including average emission measurements below 1000 MHz, there also is a limit on the peak level of the radio frequency emissions. Unless otherwise specified, e.g., see §§15.250, 15.252, 15.253(d), 15.255, 15.256, and 15.509 through 15.519 of this part, the limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device, e.g., the total peak power level. Note that the use of a pulse desensitization correction factor may be needed to determine the total peak emission level. The instruction manual or application note for the measurement instrument should be consulted for determining pulse desensitization factors, as necessary.

Table 10: Limits for Radiated Spurious Emissions at distance of 3m – Restricted Bands

13.2. Test Procedure

The Radiated Emissions were performed in accordance with the section 11.12 of ANSI C63.10 - 2013.

Radiated Emissions were measured 3 metres (from 9kHz to 25GHz) away from the EUT in the iOATS (indoor Open Area Test Site) facility, which is an ANSI C63.4 compliant semi-anechoic chamber with ground plane. The EUT was placed on a non-conductive support at a height of 0.8m (9kHz to 1GHz) and 1.5m (1GHz to 25GHz) above the ground plane.

In the frequency range of 9kHz to 30MHz, an Active loop antenna was used. For X (Parallel), Y (Perpendicular) and Z (Ground-Parallel) antenna polarizations, the peak detector was set to MAX-HOLD and the range selected continuously scanned. The measuring antenna was positioned at 1m fixed height, and the turntable slowly rotated. The peak preview measurements were performed with a resolution bandwidth of 200Hz (9kHz to 150kHz), 9kHz (150kHz to 30MHz) and a video bandwidth of 30kHz. Peak emissions that exceeded the limit or were close to the applicable limit were investigated further. The frequency of each emission was then accurately determined. Each emission of interest was then in-turn maximised by using the turntable to rotate the EUT through 360 degrees to find the worst-case emission arrangement. Quasi peak measurements were then performed using a measuring time of no less than 15 seconds. The final quasi-peak measurements were performed using a receiver bandwidth of 6dB and a resolution bandwidth of 200Hz (9kHz to 150kHz) and 9kHz (150kHz to 30MHz).

In the frequency range of 30MHz to 1GHz, a Biconilog antenna was used. For both horizontal and vertical antenna polarizations, the peak detector was set to MAX-HOLD and the range selected continuously scanned. The measuring antenna was positioned at 4 different fixed height positions and the turntable slowly rotated. The peak preview measurements were performed with a resolution bandwidth of 120kHz and a video bandwidth of 300kHz. Peak emissions that exceeded the limit or were close to the applicable limit were investigated further. The frequency of each emission was then accurately determined. Each emission of interest was then in-turn maximised by using the turntable to rotate the EUT through 360 degrees and varying the height of the antenna between 1 and 4 metres to find the worst-case emission arrangement. Quasi peak measurements were then performed using a measuring time of no less than 15 seconds. The final quasi-peak measurements were performed using a receiver bandwidth of 6dB and a resolution bandwidth of 120kHz.

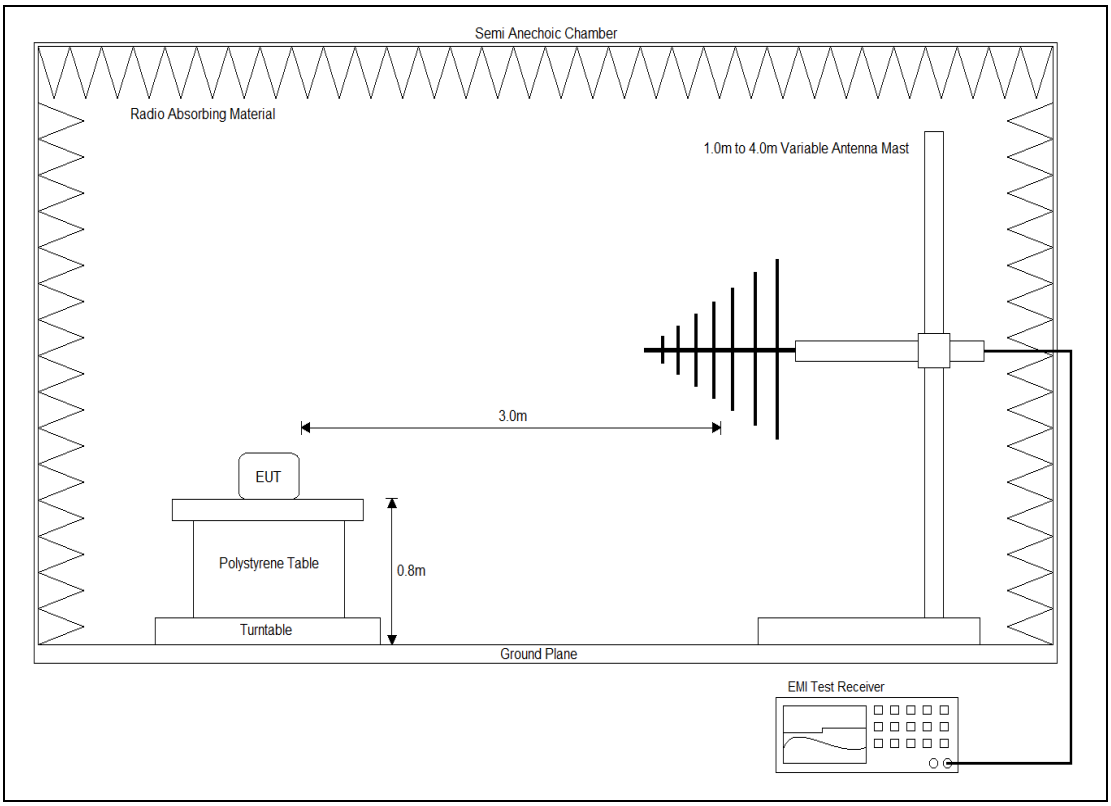

Figure 5: Test setup – 30MHz to 1GHz

In the frequency range 1.0GHz to 25GHz a Horn antenna was used and an area of 3m x 3m was covered between the antenna and the EUT using RF absorbing material with a rated attenuation more than 20dB over the frequency range. The height of the horn antenna was varied using the antenna bore-sighting technique and the turntable slowly rotated to maximise the emissions. For both horizontal and vertical antenna polarizations, the Peak and Average preview measurements were performed with a resolution bandwidth of 1 MHz and a video bandwidth of 3MHz. Peak and average emissions that exceeded the applicable limit or were close to the applicable limit were investigated further. Each emission of interest was then in-turn maximised by using the turntable to rotate the EUT through 360 degrees and the antenna height varied (if applicable, using the antenna bore-sighting technique) to find the worst-case emission arrangement. Peak and CISPR Average measurements were then performed using a measuring time of no less than 15 seconds, the maximum emission level in the observed duration was recorded as the final result. The final peak and CISPR Average measurements were performed using a receiver bandwidth of 6dB and a resolution bandwidth of 1 MHz. Peak and Average measurements were performed at spot frequencies where the peak or average emission was close to, or exceeded the applicable limit line with the EUT rotation and antenna height varied (if applicable, using the antenna bore-sighting technique) to produce the highest emission.

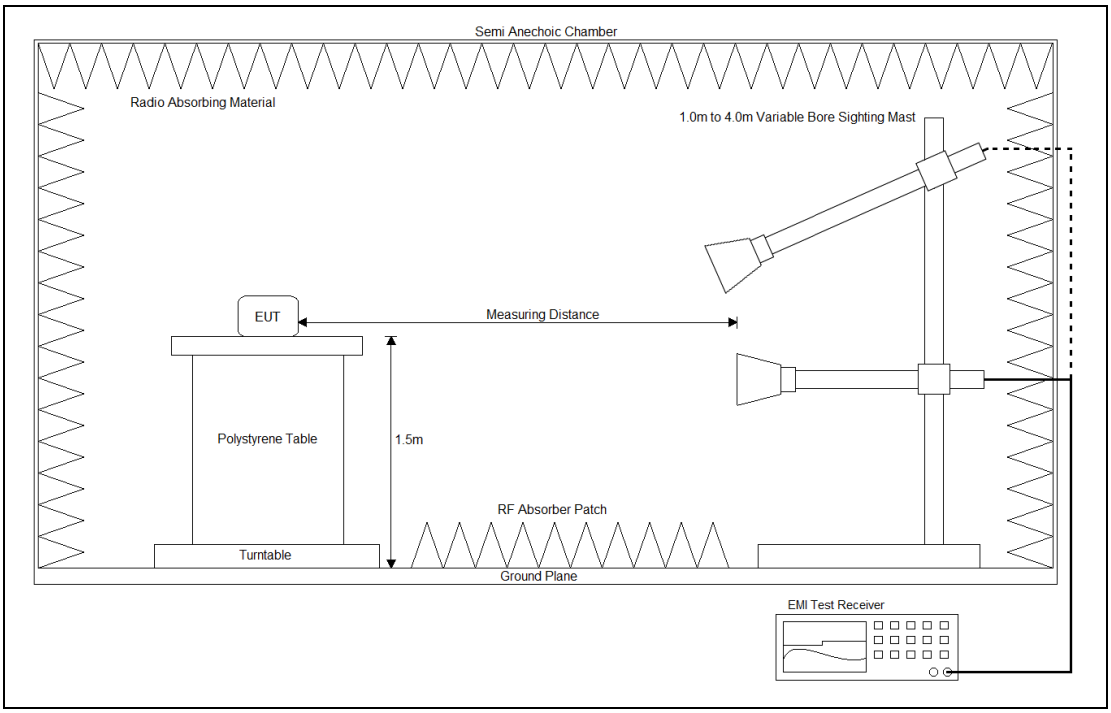

Figure 6: Test setup – above 1GHz

Plots of the accumulated measurement data for both horizontal and vertical antenna polarizations, including all transducer and other measuring system correction factors were produced using commercially available compliant software (as listed in the test equipment list of this report).

(Refer to photographs in Annex C for views of the test configuration)

13.3.Test Results

Transmitter Spurious Emissions measurements are detailed as follows:

(Refer to graphs in Appendix C.4)

Operating Channel: Bottom, Middle and Top				
Measurement Antenna Polarisation	**Frequency (MHz)**	**Result peak (dBµV/m)**	**Limit Quasi-peak/ Average (dBµV/m)**	**Delta limit (dB)**
X	Peak preview emissions >20dB below limit or no significant emissions above the noise floor observed			
Y	Peak preview emissions >20dB below limit or no significant emissions above the noise floor observed			
Z	Peak preview emissions >20dB below limit or no significant emissions above the noise floor observed			

Table 11: Transmitter Spurious Emissions – 9kHz to 30MHz

Operating Channel: Bottom, Middle and Top				
Measurement Antenna Polarisation	**Frequency (MHz)**	**Result Quasi-peak (dBµV/m)**	**Limit Quasi-peak (dBµV/m)**	**Delta limit (dB)**
Horizontal	Peak preview emissions >10dB below limit or no significant emissions above the noise floor observed			
Vertical				

Table 12: Transmitter Spurious Emissions – 30MHz to 1GHz

Operating Channel: Bottom (2402MHz)								
Measurement Antenna Polarisation	**Peak Measurements**				**Average Measurements**			
	Frequency (MHz)	**Result (dBµV/m)**	**Limit (dBµV/m)**	**Delta Limit (dB)**	**Frequency (MHz)**	**Result (dBµV/m)**	**Limit (dBµV/m)**	**Delta Limit (dB)**
Horizontal	4804.080	43.7	74.0	**-30.3***	4804.080	30.6	54.0	**-23.4***
Vertical	4804.080	43.4	74.0	-30.6	4804.080	30.6	54.0	**-23.4***

**Worst-case emissions*

Table 13: Transmitter Spurious Emissions – 1GHz to 25GHz

Operating Channel: Middle (2426MHz)								
Measurement Antenna Polarisation	**Peak Measurements**				**Average Measurements**			
	Frequency (MHz)	**Result (dBµV/m)**	**Limit (dBµV/m)**	**Delta Limit (dB)**	**Frequency (MHz)**	**Result (dBµV/m)**	**Limit (dBµV/m)**	**Delta Limit (dB)**
Horizontal	4852.080	43.4	74.0	**-30.6***	4852.080	30.1	54.0	**-23.9***
Vertical	4852.080	43.3	74.0	-30.7	4852.080	30.1	54.0	**-23.9***

**Worst-case emissions*

Table 14: Transmitter Spurious Emissions – 1GHz to 25GHz

Operating Channel: Top (2480MHz)								
Measurement Antenna Polarisation	**Peak Measurements**				**Average Measurements**			
	Frequency (MHz)	**Result (dBµV/m)**	**Limit (dBµV/m)**	**Delta Limit (dB)**	**Frequency (MHz)**	**Result (dBµV/m)**	**Limit (dBµV/m)**	**Delta Limit (dB)**
Horizontal	2483.560	52.4	74.0	-21.6	2483.560	33.6	54.0	**-20.4***
	2484.080	51.5	74.0	-22.5	2484.080	33.2	54.0	-20.8
	4960.080	44.1	74.0	-29.9	4960.320	30.4	54.0	-23.6
Vertical	2483.560	53.7	74.0	**-20.3***	2483.560	33.5	54.0	-20.5
	2484.600	51.4	74.0	-22.6	2484.600	33.6	54.0	**-20.4***
	4960.080	44.3	74.0	-29.6	4960.080	30.8	54.0	-23.2

**Worst-case emissions*

Table 15: Transmitter Spurious Emissions – 1GHz to 25GHz

The measurement uncertainty was calculated as follows:

Measurement frequency range	Calculated measurement uncertainty
30MHz to 1GHz	±4.65dB
1GHz to 6GHz	±4.83dB
6GHz to 18GHz	±4.49dB
18GHz to 26.5GHz	±4.46dB

The reported uncertainty is an expanded uncertainty calculated using a coverage factor of *k=2* which gives a level of confidence of approximately 95%.

Climatic Conditions	
Temperature:	21.0 to 22.5°C
Humidity:	47 to 50%
Atmospheric pressure:	1016.4 to 1025.3hPa

Table 16: Climatic conditions

Calculation: The above results are based upon the following calculation:

$$E = V_{QP/PK/AV} + AF - G_{Amp} + L_C$$

Where:

E = E-field in dBμV/m
$V_{QP/PK/AV}$ = Measured Voltage (Quasi Peak, Peak or Average) in dBμV
AF = Antenna Factor in dB(/m)
L_C = Cable and attenuator Loss in dB
G_{Amp} = Pre Amplifier Voltage Gain in dB

Example calculation:

$E = V_{PK} + AF - G_{Amp} + L_C$
$E = 30dB\mu V + 12dB/m - 0dB + 2.3dB$
$E = 44.3\ dB\mu V/m$

Notes: All Transmitter Radiated spurious emissions in restricted bands measurements were below the specified limits.

Radiated Emissions measurements were made up to the 10th harmonic.

Assessment: The EUT complied with the Radiated emissions in Restricted bands requirements of CFR47 FCC Part 15, Subpart C, 15.247 (d).

14. Out of Band emissions (100kHz, -20dBc) - FCC 15.247 (d)

14.1. Test Procedure

The Out of band emissions in non-restricted bands were performed in accordance with the section 11.11 of ANSI C63.10 – 2013.

Measurements were performed at the antenna port.

The EUT was placed inside a shielded chamber. The transmitter output was connected to a spectrum analyzer through a suitable attenuator (Conducted method). The out of band emissions were measured by spectrum analyzer with 100kHz RBW and 300kHz VBW using the peak detector. All measuring system correction factors (attenuators and cables) were used to get a true measurement.

Reference and emission level measurements were performed as per section 11.11.2 and 11.11.3 of ANSI ANSI C63.10 - 2013.

(Refer to photographs in Annex C for views of the test configuration)

14.2. Limits

As per section 15.247(d) of 47 CFR Part 15 Subpart C:

- In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of section 15.247 of 47 CFR Part 15 Subpart C, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in section 15.209(a) of 47 CFR Part 15 Subpart C is not required. In addition, radiated emissions which fall in the restricted bands, as defined in section 15.205(a) of 47 CFR Part 15 Subpart C, must also comply with the radiated emission limits specified in section15.209(a) of 47 CFR Part 15 Subpart C (see §15.205(c) of 47 CFR Part 15 Subpart C).

The measured highest fundamental channel PSD in 100kHz was +11.45dBm

Frequency Range (MHz)	Limits (dBm)
30MHz and 25GHz	-8.55

Table 17: Limits for Unwanted Emissions - -20dBc (Non-restricted bands)

14.3. Test Results

Unwanted emissions measurements are detailed as follows:

(Refer to graphs in Appendix C.5)

Channel	Frequency (MHz)	Measured Level (dBm)	Limit (dBm)	Delta limit (dB)
Bottom	Peak preview emissions >20dB below limit or no significant emissions above the noise floor observed			
Middle	Peak preview emissions >20dB below limit or no significant emissions above the noise floor observed			
Top	Peak preview emissions >20dB below limit or no significant emissions above the noise floor observed			

**Worst-case emissions*

Table 18: Transmitter Out of Band emissions - -20dBc/100kHz

The measurement uncertainty was calculated as follows:

Measurement frequency range	Calculated measurement uncertainty
30MHz to 25GHz	±1.4dB

The reported uncertainty is an expanded uncertainty calculated using a coverage factor of *k=2* which gives a level of confidence of approximately 95%.

Notes: All Transmitter Out of Band emissions measurements were below the specified limits (-20dBc).

Radiated measurements were made up to the 10th harmonic.

The transmitter was continuously transmitting in modulated transmit mode.

Assessment: The EUT complied with the Out of Band emissions (100kHz, -20dBc) requirements of CFR47 FCC Part 15, Subpart C, 15.247 (d).

15. Emissions on the Band edge – FCC 15.247 (d)

15.1. Test Procedure

The Band edge Measurement (100kHz, -20dB from fc & Restricted bands) was performed in accordance with the section 11.11, 11.12 and 11.13 of ANSI C63.10 – 2013.

Conducted measurements were performed within 2 MHz of the authorised lower band-edge.

At the lowest channel, 99% Occupied Band Width of the fundamental channel emission was within 2 MHz of the authorised Lower band edge therefore Marker-delta method was used. Unwanted emission at the lower band-edge were performed as per section 6.10.4 of ANSI C63.10 - 2013. At authorised-band band edge where the requiring band-edge emission attenuation is -20dB in a 100kHz bandwidth relative to the highest fundamental channel PSD in 100kHz. Radiated peak measurements were performed as per as section 6.10.4 of ANSI C63.10 - 2013.

The higher end of the band-edge was in restricted-band therefore measurements were performed as per section 6.10.5 of ANSI C63.10 - 2013. The FCC 15.209 limits are applicable to emission in restricted-band band-edge.

(Refer to photographs in Annex C for views of the test configuration)

15.2. Limits

Band edge in Non-restricted Bands

As per CFR47 FCC Part 15, Subpart C, 15.247 (d) the EUT shall meet the requirements that in any given 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

The measured highest fundamental channel PSD in 100kHz was +11.45dBm

Band edge Frequencies	Limits (dBm)
Lower Edge (2402MHz)	-8.55

Table 19: Limits for Band edge - -20dBc (Non-restricted bands)

Band edge in Restricted Bands

As per CFR47 FCC Part 15, Subpart C, 15.247 (d) and 15.209 (Transmitter emission limits) the EUT is required to meet the limits that permit the highest field strength of the following table for the radiated emissions which fall in the restricted bands, as defined in section 15.205(a) of 47 CFR Part 15 Subpart C :

Band edge Frequencies	Limits at 3m (dBμV/m)
2483.5MHz to 2485.5	54.0

Note 1: as per CFR FCC Part 15.35 (b), The emission limits shown in the above table are based on measurements employing an average detector.

Table 20: Limits for Radiated Spurious Emissions at distance of 3m – Restricted Bands.

15.3.Test Results

Band edge measurements are detailed as follows:

(Refer to graphs in Appendix C.3)

Operating Channel: Bottom (2402MHz)			
Frequency (MHz)	**Result Radiated Peak Power Spectral Density (dBm/100kHz)**	**Limit Radiated Peak Power Spectral Density (dBm/100kHz)**	**Delta limit (dB)**
2399.705	-42.3	-8.55	**-33.8***
2399.975	-43.7	-8.55	-35.2

**Worst-case emissions*

Table 21: Transmitter Emissions on the Band edge - Low end

Operating Channel: Top (2480MHz)								
Measurement Antenna Polarisation	**Peak Measurements**				**Average Measurements**			
	Frequency (MHz)	**Result (dBμV/m)**	**Limit (dBμV/m)**	**Delta Limit (dB)**	**Frequency (MHz)**	**Result (dBμV/m)**	**Limit (dBμV/m)**	**Delta Limit (dB)**
Horizontal	2483.560	52.4	74.0	-21.6	2483.560	33.6	54.0	**-20.4***
	2484.080	51.5	74.0	-22.5	2484.080	33.2	54.0	-20.8
Vertical	2483.560	53.7	74.0	**-20.3***	2483.560	33.5	54.0	-20.5
	2484.600	51.4	74.0	-22.6	2484.600	33.6	54.0	**-20.4***

**Worst-case emissions*

Table 22: Transmitter Emissions on the Band edge - High end

The measurement uncertainty was calculated as follows:

Measurement frequency range	Calculated measurement uncertainty
Radiated (1GHz to 6GHz)	±4.83dB
Conducted (1GHz to 6GHz)	±1.4dB

The reported uncertainty is an expanded uncertainty calculated using a coverage factor of *k=2* which gives a level of confidence of approximately 95%.

Climatic Conditions	
Temperature:	20.0 to 21.0°C
Humidity:	47 to 49%
Atmospheric pressure:	1021.0 to 1025.3hPa

Table 23: Climatic conditions

Calculation: The above results are based upon the following calculation:

$$E = V_{QP/PK/AV} + AF - G_{Amp} + L_C$$

Where:

E = E-field in dBμV/m
$V_{QP/PK/AV}$ = Measured Voltage (Quasi Peak, Peak or Average) in dBμV
AF = Antenna Factor in dB(/m)
L_C = Cable and attenuator Loss in dB
G_{Amp} = Pre Amplifier Voltage Gain in dB

Example calculation:

$E = V_{PK} + AF - G_{Amp} + L_C$
E = 30dBμV + 12dB/m - 0dB + 2.3dB
E = 44.3 dBμV/m

Notes: All Band edge measurements were below the specified limits.

The transmitter was continuously transmitting in modulated transmit mode.

Assessment: The EUT complied with the Transmitter Emissions on the Band edge requirements of CFR47 FCC Part 15, Subpart C, 15.247 (d).

16. Power Spectral Density – FCC 15.247 (e)

16.1. Test Procedure

The Power Spectral Density was performed in accordance with the section 11.10 of ANSI C63.10 - 2013.

The transmitter output was connected to a spectrum analyzer through a suitable attenuator (Conducted method). The Power Spectral density was measured in a 3kHz bandwidth of the fundamental frequency by spectrum analyzer with 3kHz RBW and 30kHz VBW using the peak detector and a suitable span to allow accurate measurements whilst capturing the full intentional transmission including side lobes.

(Refer to photographs in Annex C for views of the test configuration)

16.2. Limits

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of CFR47 FCC Part 15, Subpart C, 15.247 (e). The same method of determining the conducted output power shall be used to determine the power spectral density.

Applicable only to systems using digital modulation techniques:

Transmit operating frequency (MHz)	Limit
2400 – 2483.5	8dBm/3kHz

Table 24: Power Spectral Density limits

16.3. Test Results

Power Spectral Density measurements are tabulated below:

(Refer to graphs in Appendix C.6)

Channel	Frequency (MHz)	Measured Power (dBm)	Limit (dBm/3kHz)	Margin (dB)	Result
Bottom	2402.052	-3.0	8.00	-11.0	Complied
Middle	2426.134	-2.5	8.00	-10.5	Complied
Top	2480.045	-1.2	8.00	**-9.2***	Complied

**Worst-case emissions*

Table 25: Results for Power Spectral Density

The measurement uncertainty was calculated at ±1.4dB. The reported uncertainty is an expanded uncertainty calculated using a coverage factor of approximately *k=2* which gives a level of confidence of approximately 95%.

Climatic Conditions	
Temperature:	20.0°C
Humidity:	49%
Atmospheric pressure:	1021.0hPa

Table 26: Climatic conditions

Notes: All Power Spectral Density measurements were below the specified limits.

Assessment: The EUT complied with the Power Spectral Density requirements of CFR47 FCC Part 15, Subpart C, 15.247 (e).

17. Conducted Emissions - FCC Part 15.207

17.1. Test Procedure

The Conducted Emissions was performed in accordance with the section 6.2 of ANSI C63.10 - 2013.

The EUT was positioned 0.4m from the vertical ground reference plane (chamber wall) and 0.8m above a horizontal ground reference plane (chamber floor) with the mains cable connected to the power port of a LISN, located 0.8 metres away. The measuring port of the LISN was connected to the measuring receiver. In order to avoid unwanted ambient signals, power to the LISN was supplied via power line filters fitted to the shielded enclosure wall.

The mains flexible cord provided by the manufacturer is required to be 1m long for these measurements. If the manufacturer supplies a non-removable power lead, in excess of 1m, the cable in excess of 1m is folded at the centre into a bundle no longer than 0.4m in length.

Preview scan measurements were performed using a peak and an average detector of the EMI receiver with a resolution bandwidth of 9 kHz. The scan measurements frequency step size of the EMI receiver was set to less than half of the resolution bandwidth. The final quasi-peak and CISPR average measurements were performed at spot frequencies where the preview peak or average emission was close to, or exceeded the applicable limit line with a receiver bandwidth of 6dB and a resolution bandwidth of 9 kHz. The final measurements were performed using a measuring time of no less than 15 seconds.

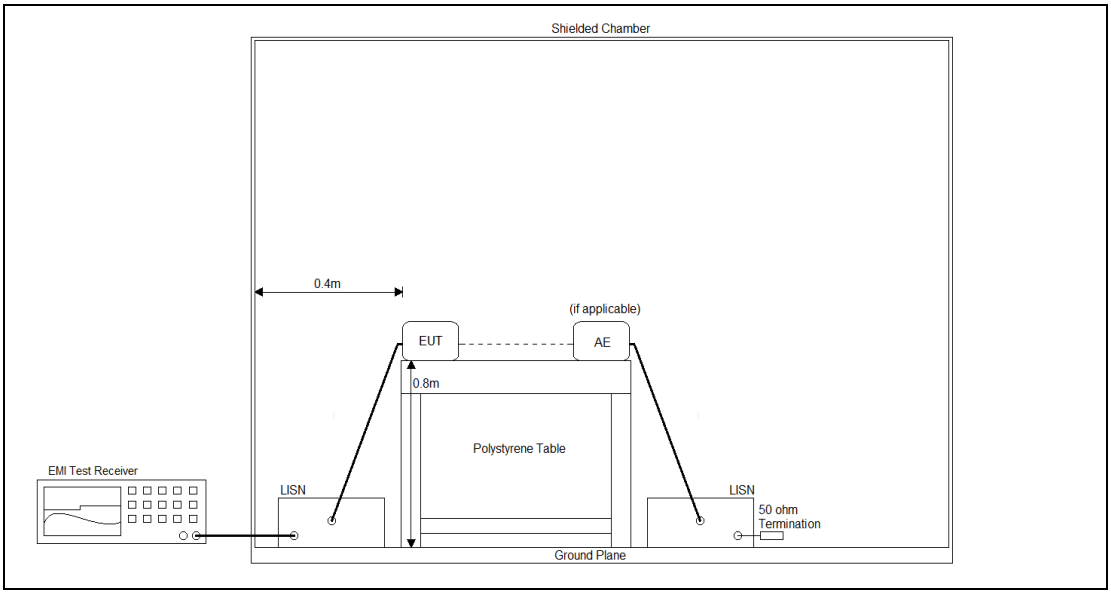

Figure 7: Test setup

Both the active and neutral lines were measured, in turn. Plots of the accumulated measurement data for both active and neutral terminals, including all transducer and other measuring system correction factors were produced using commercially available compliant software (as listed in the test equipment list of this report).

(Refer to photographs in Annex C for views of the test configuration)

17.2.Limits

The EUT shall meet the limits in the following table:

Frequency Range (MHz)	Limits (dBµV)	
	Quasi-Peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.5 to 5	56	46
5 to 30	60	50
NOTE 1 The lower limit shall apply at the transition frequencies. NOTE 2 The limit decreases linearly with the logarithm of the frequency in the range 0,15 MHz to 0,50 MHz.		

Table 27: Limits for Conducted Emissions at the mains ports

17.3.Test Results

Conducted Emissions measurements are tabulated below. Quasi-peak or CISPR Average measurements were performed at spot frequencies where the peak or average emission was close to, or exceeded the applicable limit line.

(Refer to graphs 85 to 88 in Appendix C.8)

Quasi - Peak Measurements				Average Measurements			
Frequency (MHz)	Result (dBµV)	Limit (dBµV)	Delta Limit (dB)	Frequency (MHz)	Result (dBµV)	Limit (dBµV)	Delta Limit (dB)
0.154	47.0	65.8	-18.8	0.154	24.8	55.8	-31.0
0.166	46.7	65.2	**-18.5***	0.166	26.6	55.2	-28.6
0.178	40.0	64.6	-24.6	0.214	21.8	53.0	-31.2
0.798	35.7	56.0	-20.3	0.798	19.1	46.0	**-26.9***
1.326	32.4	56.0	-23.6	9.198	16.8	50.0	-33.2
9.630	32.1	60.0	-27.9	9.702	17.4	50.0	-32.6

** Worst-case emissions*

Table 28: Conducted Emissions – Active Line – External PSU powered

Quasi - Peak Measurements				Average Measurements			
Frequency (MHz)	Result (dBµV)	Limit (dBµV)	Delta Limit (dB)	Frequency (MHz)	Result (dBµV)	Limit (dBµV)	Delta Limit (dB)
0.162	49.1	65.4	**-16.3***	0.162	27.2	55.4	-28.2
0.210	38.5	63.2	-24.7	0.222	20.9	52.7	-31.8
0.366	33.4	58.6	-25.2	0.358	21.7	48.8	-27.1
0.858	30.8	56.0	-25.2	0.794	19.0	46.0	**-27.0***
9.598	33.6	60.0	-26.4	9.582	18.4	50.0	-31.6
9.758	33.0	60.0	-27.0	9.758	18.1	50.0	-31.9

** Worst-case emissions*

Table 29: Conducted Emissions – Neutral Line – External PSU powered

Quasi - Peak Measurements				Average Measurements			
Frequency (MHz)	Result (dBµV)	Limit (dBµV)	Delta Limit (dB)	Frequency (MHz)	Result (dBµV)	Limit (dBµV)	Delta Limit (dB)
0.166	49.3	65.2	-15.9	0.170	29.3	55.0	-25.7
0.190	46.3	64.0	-17.7	0.574	35.1	46.0	-10.9
0.566	37.5	56.0	-18.5	3.262	33.0	46.0	-13.0
3.262	40.1	56.0	-15.9	24.962	43.2	50.0	-6.8
24.962	44.4	60.0	-15.6	25.694	45.2	50.0	**-4.8***
25.694	47.1	60.0	**-12.9***	25.878	43.9	50.0	-6.1

** Worst-case emissions*

Table 30: Conducted Emissions – Active Line – PoE powered

Quasi - Peak Measurements				Average Measurements			
Frequency (MHz)	Result (dBµV)	Limit (dBµV)	Delta Limit (dB)	Frequency (MHz)	Result (dBµV)	Limit (dBµV)	Delta Limit (dB)
0.166	48.7	65.2	-16.5	0.174	26.8	54.8	-28.0
0.206	39.4	63.4	-24.0	0.550	32.8	46.0	-13.2
3.254	44.5	56.0	**-11.5***	3.254	38.3	46.0	-7.7
24.534	44.3	60.0	-15.7	24.962	43.0	50.0	-7.0
24.962	45.3	60.0	-14.7	25.694	44.8	50.0	**-5.2***
25.694	45.5	60.0	-14.5	25.878	43.7	50.0	-6.3

** Worst-case emissions*

Table 31: Conducted Emissions – Neutral Line – PoE powered

The measurement uncertainty was calculated as follows:

Measurement frequency range	Calculated measurement uncertainty
0.15MHz to 30MHz	±2.88dB

The reported uncertainty is an expanded uncertainty calculated using a coverage factor of *k=2* which gives a level of confidence of approximately 95%. The referenced uncertainty standard specifies that determination of compliance shall be based on measurements without taking into account measurement uncertainty. However, the measurement uncertainty shall appear in the test report.

Climatic Conditions	
Temperature:	20.6 to 22.8°C
Humidity:	42%
Atmospheric pressure:	1017.1 to 1019.0hPa

Table 32: Climatic conditions

Calculation: The above results are based upon the following calculation:

$$V = V_{QP/AV} + VLISN + L_C + L_T$$

Where:

V = Corrected Voltage Amplitude in dBµV
$V_{QP/AV}$ = Measured Voltage (Quasi Peak or Average) in dBµV
VLISN = Line Impedance Stabilization Network Factor in dB
L_C = Cable/attenuator Loss in dB
L_T = Transient Protection Network Loss in dB

Example calculation:

$V = V_{QP} + VLISN + L_C + L_T$
$V = 15\ dB\mu V + 10.1dB + 11.5dB + 10.1dB$
$V = 46.7\ dB\mu V$

Notes: Conducted Emissions measurements were below the applicable limit.

The AC mains port of the representative AC/DC PSU unit and the AC/DC adapter of the representative PoE switch was tested.

Assessment: The EUT complied with the Conducted Emissions requirements of CFR47 FCC Part 15, Subpart C, section 15.207.

18. Conclusion

The Integrated Control Technology Limited, WL-APW, Protege Wireless Access Point complied with the applicable requirements of CFR47 FCC Part 15, Subpart C, 15.247.

Appendix A – Test Equipment

Inv.	Equipment	Make	Model No.	Serial No.	Calibration		
					Interval	Due	Type
Transmitter Maximum EIRP, Power Spectral Density, 6dB Bandwidth and Band-edge – Conducted Method							
0954	ANALYSER, EMI Receiver	Rohde+Schwarz	ESCI 3	100196	1 year	Sep-25	E
0715	ATTENUATOR, 20dB	JFW	50HF-020N	N/A	3 years	Dec-27	I
1154	Hygrometer, Temp, Humidity	DigiTech	QM7312	-	2 years	Jul-25	I
0441	ENCLOSURE, Shielded, No 5	RFI Industries	TC800-20	933	N/A	N/A	V
Radiated Spurious Emissions							
1217	ANALYSER, EMI Receiver	Rohde & Schwarz	ESU40	100182	1 year	Jul-25	E
0932	CONTROLLER, Position	Sunol Sciences	SC104V-3	081006-1	N/A	N/A	V
0933	TURNTABLE	Sunol Sciences	SM46C	081006-2	N/A	N/A	V
0934	MAST, Antenna	Sunol Sciences	TLT2	081006-5	N/A	N/A	V
0935	ANTENNA, Biconilog	Sunol Sciences	JB5	A071106	2 years	May-25	E
0718	ATTENUATOR, 6dB	JFW	50FPE-006	N/A	1 year	Jan-26	I
1145	CABLE, Coax, Sucoflex 104PA	Huber + Suhner	84279564	SN MY056/4PA	1 year	Jan-26	I
1238	CABLE, Coax, Sucoflex 126 E	Huber + Suhner	10422876	SN 8000495/126E	1 year	Jan-26	I
0989	CABLE, Coax, Sucoflex 104A	Huber+Suhner	44454/4A	C357	1 year	Jan-26	I
0559	PRE-AMP, Microwave, 18GHz	Miteq	AFS8	605305	1 year	May-25	I
0633	ANTENNA, Double Ridge Horn	EMCO	3115	9712-5369	3 years	Aug-27	I
1193	Standard Gain Horn Antenna - 5.85GHz to 8.2GHz	A.H. Systems, inc	SAS-584	186	1 year	May-25	E
1194	Standard Gain Horn Antenna - 8.2GHz to 12.4GHz	A.H. Systems, inc	SAS-585	224	1 year	May-25	E
1195	Standard Gain Horn Antenna - 12.4GHz to 18.0GHz	A.H. Systems, inc	SAS-586	195	1 year	May-25	E
1196	Standard Gain Horn Antenna - 18.0GHz to 26.5GHz	A.H. Systems, inc	SAS-587	181	1 year	May-25	E
0024	ANTENNA, Active Loop	EMCO	6502	2620	2 years	Feb-26	I
1064	PRE-AMP, Microwave, 26GHz	Miteq	AFS33	1696371	1 year	May-25	I
1010	CABLE, Coax, Sucoflex 104B	Huber+Suhner	00078/4B	C406	2 years	Aug-26	I
1009	CABLE, Coax, Sucoflex 104B	Huber+Suhner	00065/4B	C405	2 years	Aug-26	I
0711	ATTENUATOR, 10dB	JFW	50HF-010N	N/A	3 years	Dec-27	I
1259	High Pass filter	Micro-Tronics	HPM50111	G237	1 year	Mar-25	I
1155	Hygrometer, Temp, Humidity	DigiTech	QM7312	-	2 years	Jul-25	I
0666	Enclosure, Semi-Anechoic, No 1	RFI Industries	S800 iOATS	1229	3 years	Aug-25	I
SW007	EMC Measurement Software	Rohde & Schwarz	EMC 32	Version 8.53.0	N/A	N/A	N/A

V: Verification of operation against an internal reference
I: Internal calibration against a traceable standard
E: External calibration by a NATA endorsed facility
N/A: Not Applicable

Equipment list continued on the following page

Inv.	Equipment	Make	Model No.	Serial No.	Calibration		
					Interval	Due	Type
AC Mains Conducted Emissions							
0954	ANALYSER, EMI Receiver	Rohde+Schwarz	ESCI 3	100196	1 year	Sep-25	E
1244	LISN, Single Phase, 50uH/50 Ohm	AMETEK CTS Europe GmbH (Teseq)	NNB 51	47414	2 years	May-26	I
1148	CABLE, Coax, Sucoflex 104PA	Huber + Suhner	84287047	SN MY059/4PA	1 year	Jan-26	I
1149	CABLE, Coax, Sucoflex 104PA	Huber + Suhner	84287049	SN MY053/4PA	1 year	Jan-26	I
0044	LIMITER, Transient, 9k-200M	Hewlett Packard	11947A	2820A00132	3 years	Apr-26	I
1155	Hygrometer, Temp, Humidity	DigiTech	QM7312	-	2 years	Jul-25	I
0441	Enclosure, Shielded, No 5	RFI Industries	TC800-20	933	N/A	N/A	V
SW007	EMC Measurement Software	Rohde & Schwarz	EMC 32	Version 8.54.0	N/A	N/A	N/A

V: Verification of operation against an internal reference
I: Internal calibration against a traceable standard
E: External calibration by a NATA endorsed facility
N/A: Not Applicable

Appendix B – Photographs

Annex	Number	Photograph Description
A	1	EUT (sample 1) – External views
	2	
	3	
	4	
	5	
	6	
	7	EUT (sample 2) – External views – View of the sample with temporary SMA antenna port connector for Conducted method testing
	8	
	9	
	10	
	11	
	12	
B	1	EUT (sample 1) – Internal views
	2	
	3	
	4	
	5	
	6	
	7	
	8	
	9	
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	19	EUT (sample 2) – Internal views – View of the sample with temporary SMA antenna port connector for Conducted method testing
	20	
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Photographs list continued on the following page

Annex	Number	Photograph Description
C	1	Radiated measurements – EUT X Orientation
	2	Radiated measurements – EUT Y Orientation
	3	Radiated measurements – EUT Z Orientation
	4	Radiated measurements – 9kHz to 30MHz – X Antenna orientation
	5	Radiated measurements – 9kHz to 30MHz – Y Antenna orientation
	6	Radiated measurements – 9kHz to 30MHz – Z Antenna orientation
	7	Radiated measurements – below 1GHz
	8	Radiated measurements – above 1GHz
	9	Conducted measurements
	10	Conducted Emissions – Test configuration – External PSU powered
	11	Conducted Emissions – Test configuration – PoE powered
	12	Support Equipment - Protege DIN Rail 4A Intelligent Power Supply
	13	
	14	Support Equipment - 5-Port Gigabit Desktop Switch with 4-Port PoE+
	15	

EUT External Photographs	EMC Bayswater Test Report E2503-1841-3 Rev1 Annex A
EUT Internal Photographs	EMC Bayswater Test Report E2503-1841-3 Rev1 Annex B
EUT Orientations & Test Configurations Photographs	EMC Bayswater Test Report E2503-1841-3 Rev1 Annex C

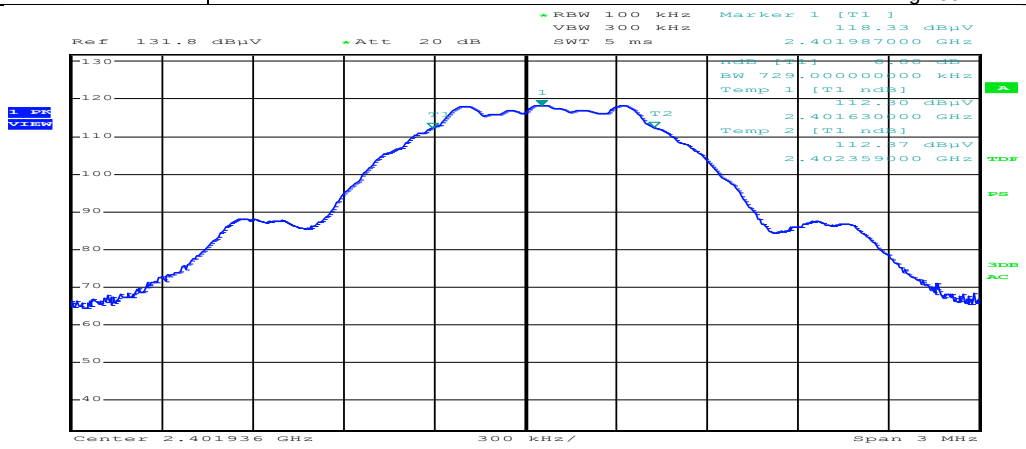
Appendix C.1 – Measurement Graphs –6dB Bandwidth - 15.247 (a) (2)

No.	Test	Graph Description
1	6dB Bandwidth	2402MHz Channel
2		2426MHz Channel
3		2480MHz Channel

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - 6dB Bandwidth
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2402MHz Channel

Job Number: E2503-1841-3 Rev1
Test Engineer: NL

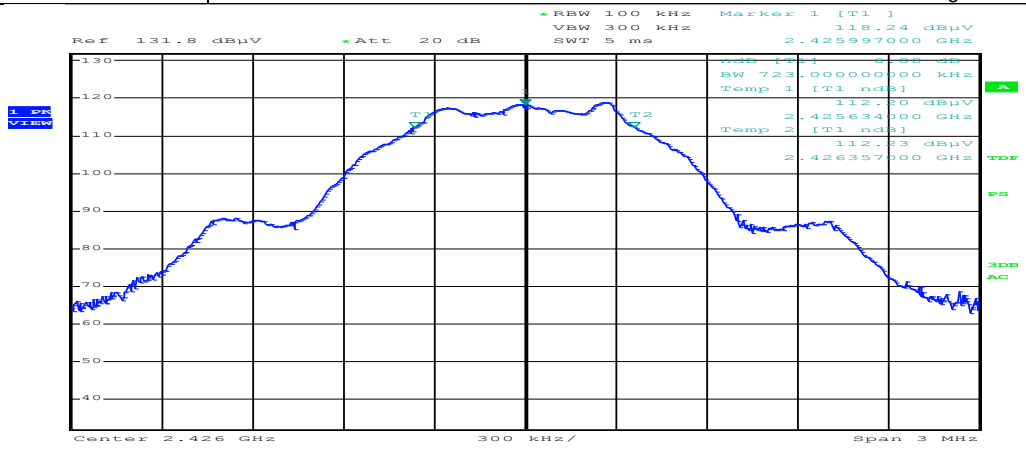


Graph 1

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - 6dB Bandwidth
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2426MHz Channel

Job Number: E2503-1841-3 Rev1
Test Engineer: NL



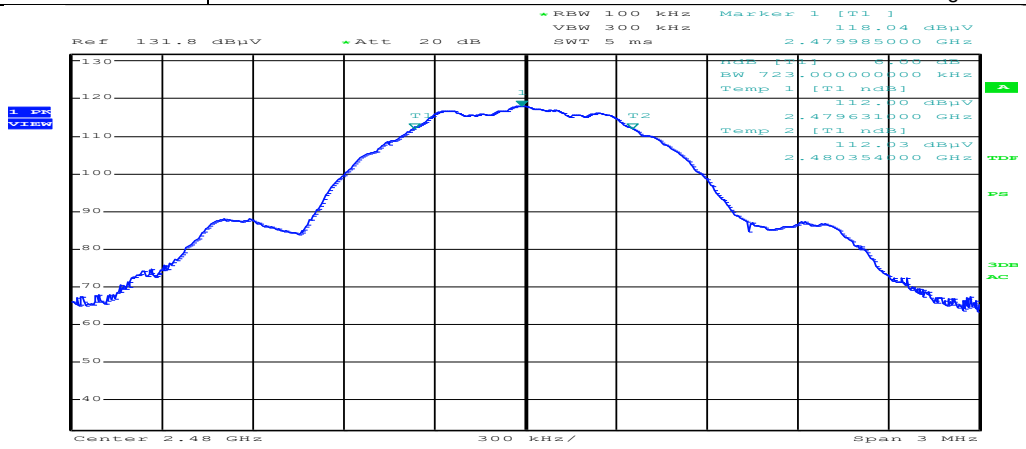
Graph 2

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - 6dB Bandwidth
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2480MHz Channel

Job Number: E2503-1841-3 Rev1

Test Engineer: NL



Graph 3

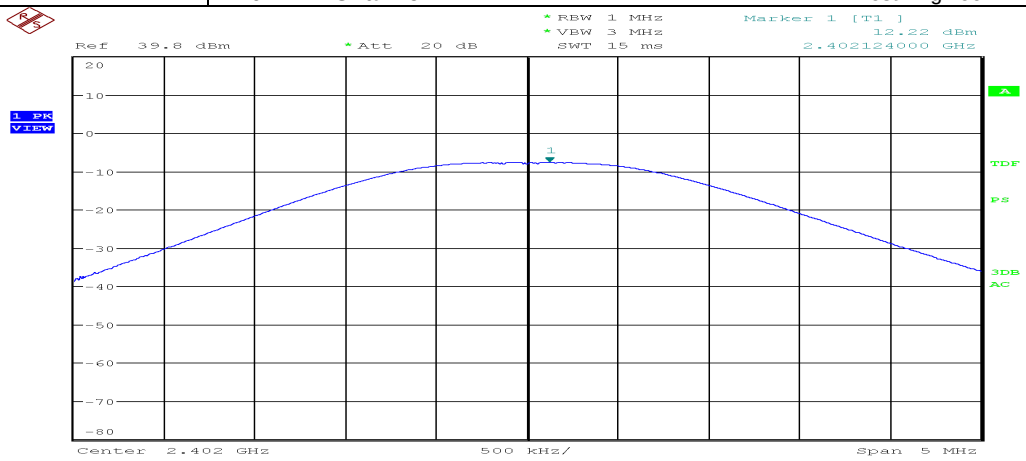
Appendix C.2 – Measurement Graphs – Maximum Peak Conducted Output Power - 15.247 (b)(3)

No.	Test	Graph Description
4	Maximum Peak Conducted Output Power	2402MHz Channel
5		2426MHz Channel
6		2480MHz Channel

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Maximum Peak Conducted Output Power
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2402MHz Channel

Job Number: E2503-1841-3 Rev1
Test Engineer: NL

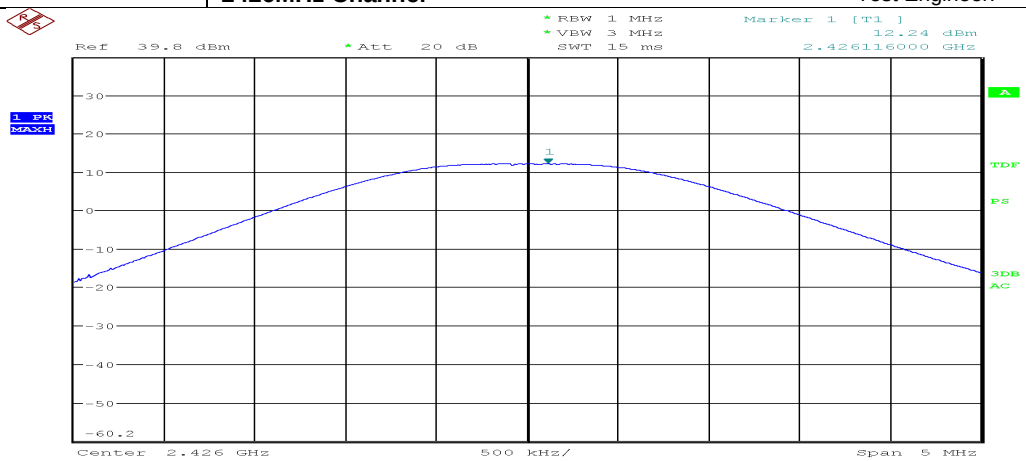


Graph 4

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Maximum Peak Conducted Output Power
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2426MHz Channel

Job Number: E2503-1841-3 Rev1
Test Engineer: NL



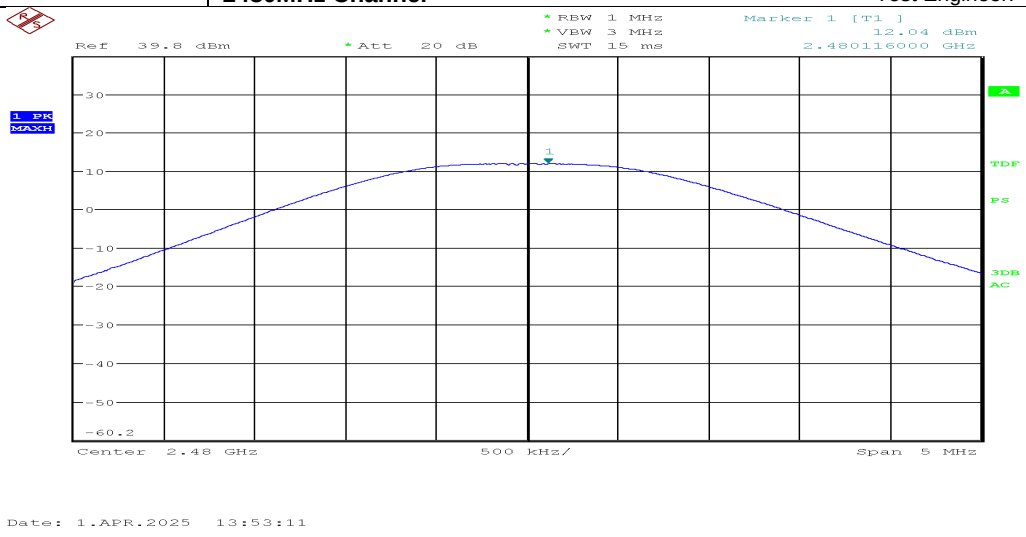
Graph 5

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Maximum Peak Conducted Output Power
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2480MHz Channel

Job Number: E2503-1841-3 Rev1

Test Engineer: NL



Graph 6

Appendix C.3 – Measurement Graphs – Band Edge - 15.247 (d)

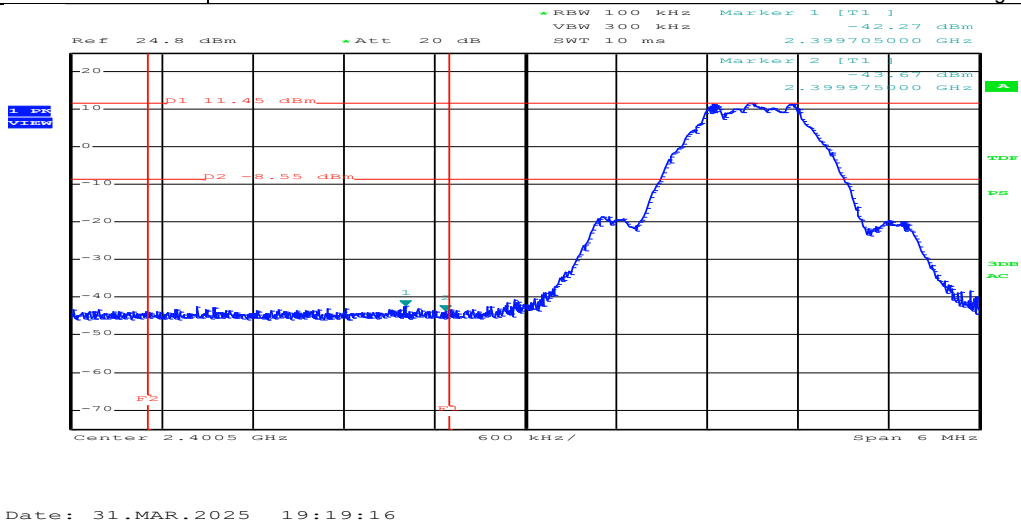
No.	Test	Graph Description
7	Band edge Measurement	2402MHz Channel (Non-restricted Band – Bandedge)
8		2480MHz Channel (Restricted Bands) – Horizontal measurement Antenna
9		2480MHz Channel (Restricted Bands) – Vertical measurement Antenna

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Band edge Measurement (100kHz, -20dB from fc)
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2402MHz Channel (Non-restricted Band – Bandedge)

Job Number: E2503-1841-3 Rev1

Test Engineer: NL



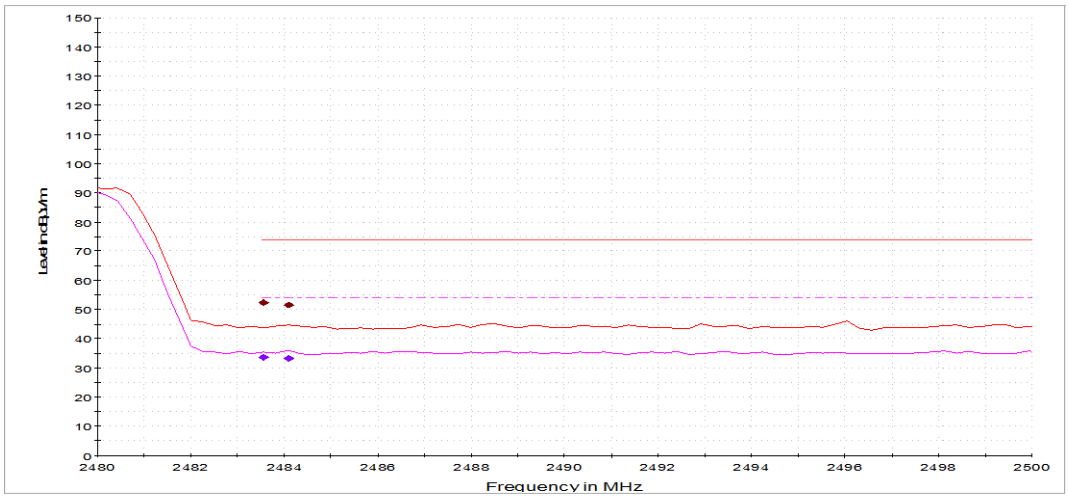
Graph 7

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Band edge Measurement
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2480MHz Channel (Restricted Bands) – Horizontal measurement Antenna

Job Number: E2503-1841-3 Rev1

Test Engineer: AZ



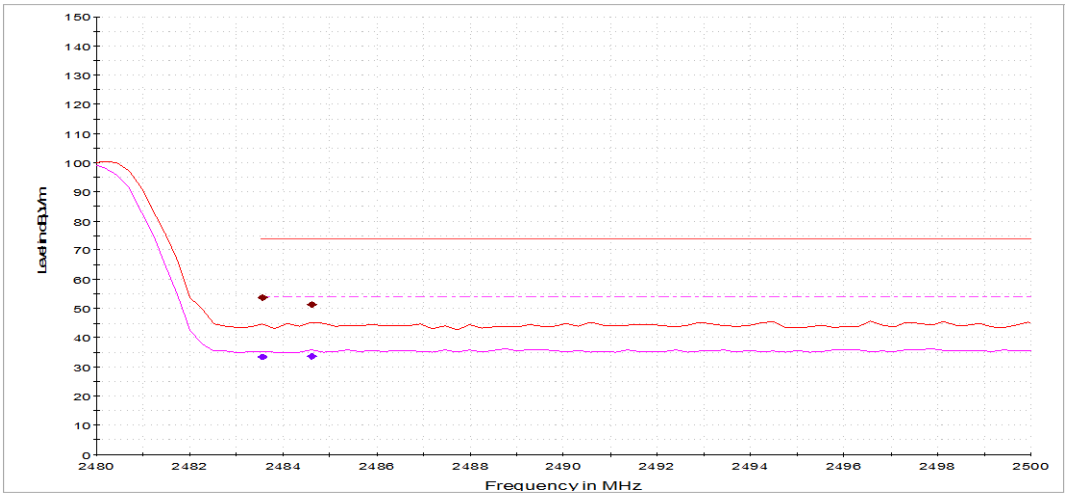
Graph 8

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Band edge Measurement
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2480MHz Channel (Restricted Bands) – Vertical measurement Antenna

Job Number: E2503-1841-3 Rev1

Test Engineer: AZ



Graph 9

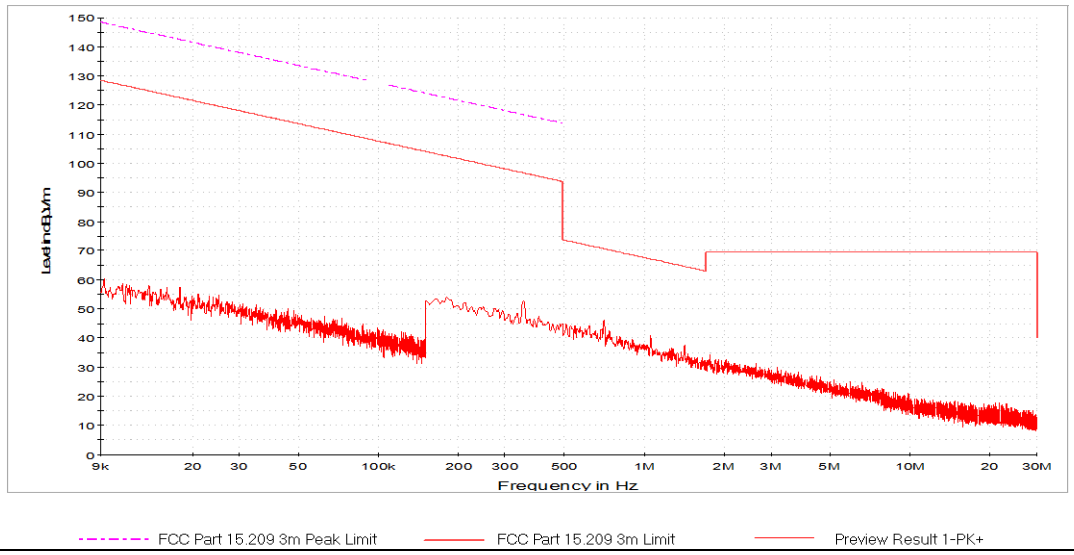
Appendix C.4 – Measurement Graphs – Transmitter Spurious – FCC 15.247 (d), 15.209 – Restricted Bands

No.	Test	Graph Description
10	9kHz to 30MHz	2402MHz Channel, Antenna X
11		2402MHz Channel, Antenna Y
12		2402MHz Channel, Antenna Z
13		2426MHz Channel, Antenna X
14		2426MHz Channel, Antenna Y
15		2426MHz Channel, Antenna Z
16		2480MHz Channel, Antenna X
17		2480MHz Channel, Antenna Y
18		2480MHz Channel, Antenna Z
19	30MHz to 1GHz	2402MHz Channel, Antenna Horizontal
20		2402MHz Channel, Antenna Vertical
21		2426MHz Channel, Antenna Horizontal
22		2426MHz Channel, Antenna Vertical
23		2480MHz Channel, Antenna Horizontal
24		2480MHz Channel, Antenna Vertical
25	1GHz to 3.6GHz	2402MHz Channel, Antenna Horizontal
26		2402MHz Channel, Antenna Vertical
27		2426MHz Channel, Antenna Horizontal
28		2426MHz Channel, Antenna Vertical
29		2480MHz Channel, Antenna Horizontal
30		2480MHz Channel, Antenna Vertical
31	3.6GHz to 6GHz	2402MHz Channel, Antenna Horizontal
32		2402MHz Channel, Antenna Vertical
33		2426MHz Channel, Antenna Horizontal
34		2426MHz Channel, Antenna Vertical
35		2480MHz Channel, Antenna Horizontal
36		2480MHz Channel, Antenna Vertical
37	5.8GHz to 8.2GHz	2402MHz Channel, Antenna Horizontal
38		2402MHz Channel, Antenna Vertical
39		2426MHz Channel, Antenna Horizontal
40		2426MHz Channel, Antenna Vertical
41		2480MHz Channel, Antenna Horizontal
42		2480MHz Channel, Antenna Vertical
43	8.2GHz to 12.4GHz	2402MHz Channel, Antenna Horizontal
44		2402MHz Channel, Antenna Vertical
45		2426MHz Channel, Antenna Horizontal
46		2426MHz Channel, Antenna Vertical
47		2480MHz Channel, Antenna Horizontal
48		2480MHz Channel, Antenna Vertical
49	12.4GHz to 18GHz	2402MHz Channel, Antenna Horizontal
50		2402MHz Channel, Antenna Vertical
51		2426MHz Channel, Antenna Horizontal
52		2426MHz Channel, Antenna Vertical
53		2480MHz Channel, Antenna Horizontal
54		2480MHz Channel, Antenna Vertical
55	18GHz to 25GHz	2402MHz Channel, Antenna Horizontal
56		2402MHz Channel, Antenna Vertical
57		2426MHz Channel, Antenna Horizontal
58		2426MHz Channel, Antenna Vertical
59		2480MHz Channel, Antenna Horizontal
60		2480MHz Channel, Antenna Vertical

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2402MHz Channel - 9kHz to 30MHz
X Antenna Orientation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

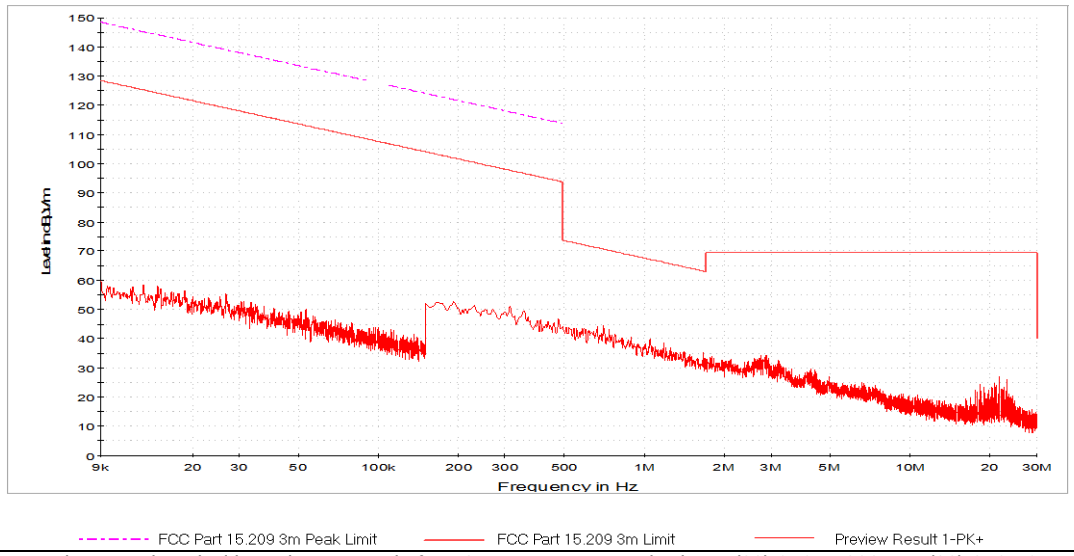


Graph 10

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2402MHz Channel - 9kHz to 30MHz
Y Antenna Orientation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

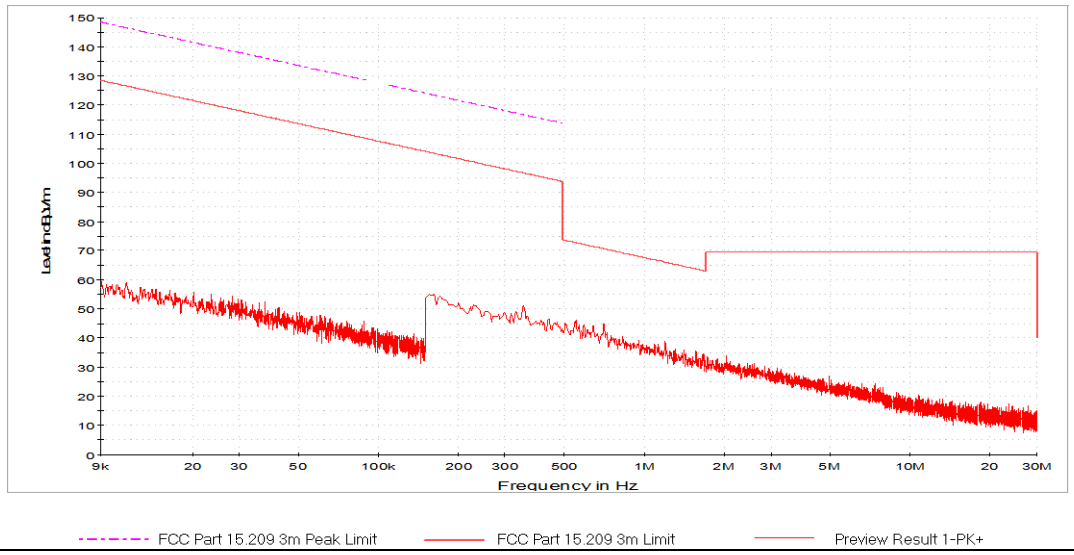


Graph 11

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2402MHz Channel - 9kHz to 30MHz
Z Antenna Orientation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

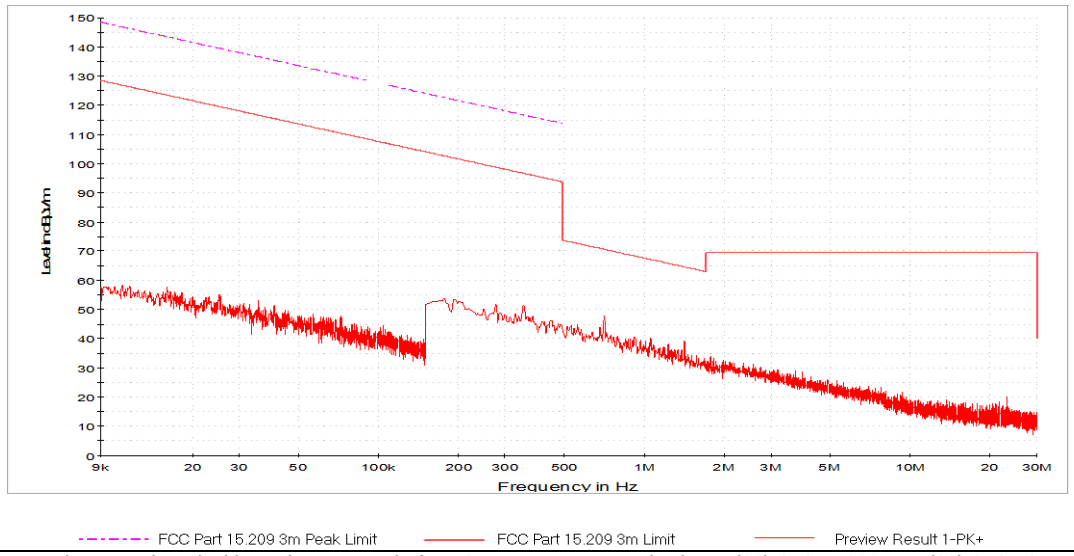


Graph 12

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2426MHz Channel - 9kHz to 30MHz
X Antenna Orientation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

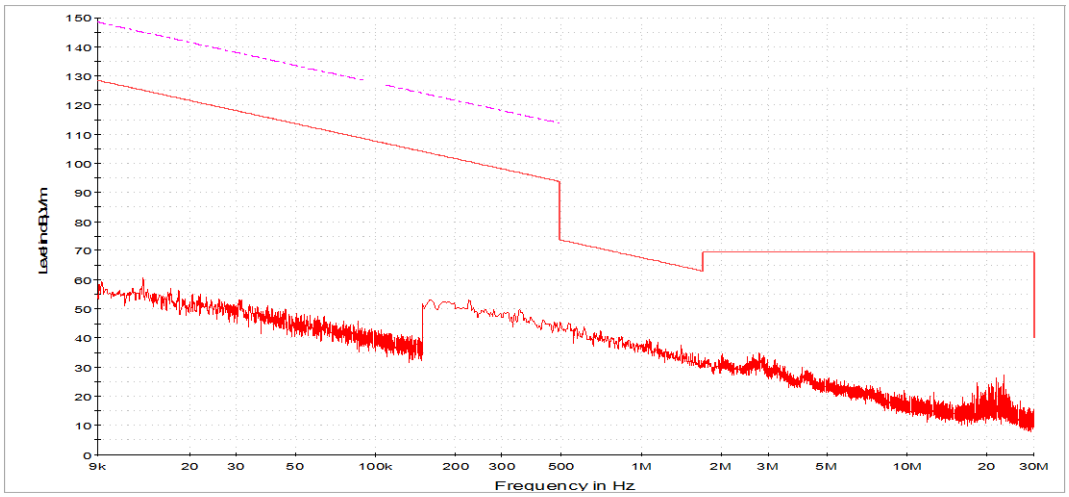


Graph 13

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2426MHz Channel - 9kHz to 30MHz
Y Antenna Orientation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

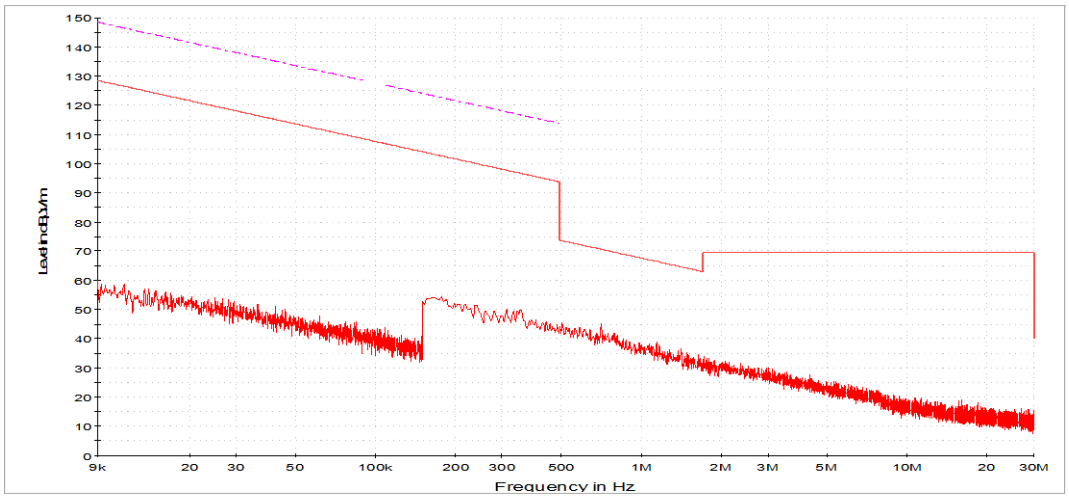


Graph 14

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2426MHz Channel - 9kHz to 30MHz
Z Antenna Orientation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ



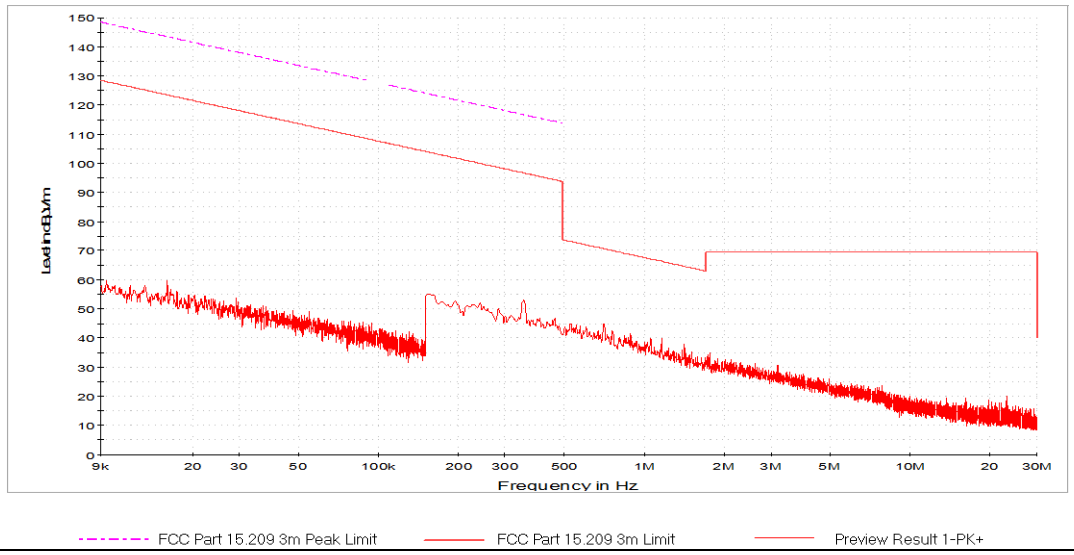
Graph 15

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2480MHz Channel - 9kHz to 30MHz
X Antenna Orientation

Job Number: E2503-1841-3 Rev1

Test Engineer: AZ



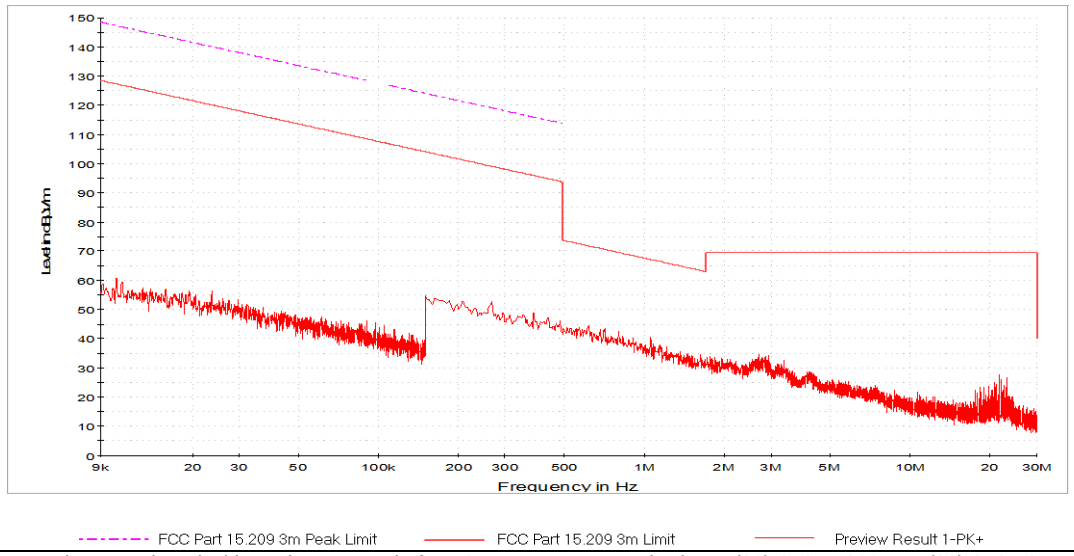
Graph 16

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2480MHz Channel - 9kHz to 30MHz
Y Antenna Orientation

Job Number: E2503-1841-3 Rev1

Test Engineer: AZ

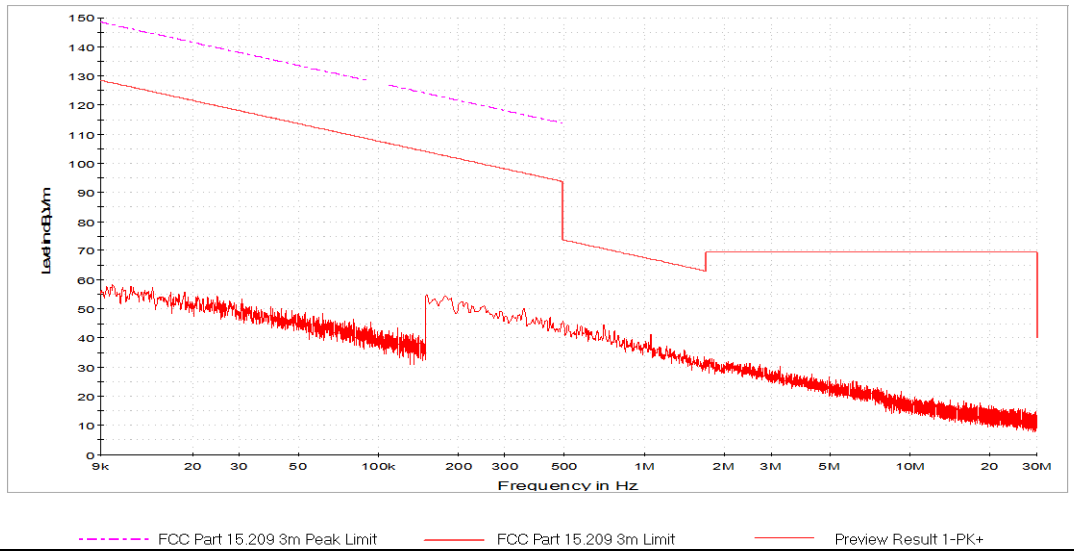


Graph 17

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2480MHz Channel - 9kHz to 30MHz
Z Antenna Orientation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

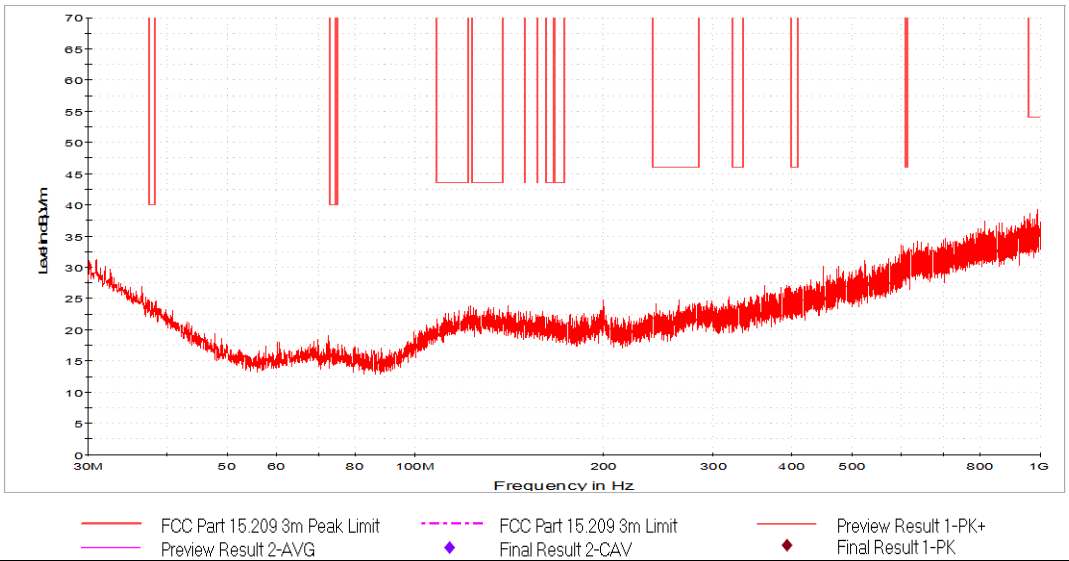


Graph 18

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2402MHz Channel – 30MHz to 1GHz
Horizontal Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

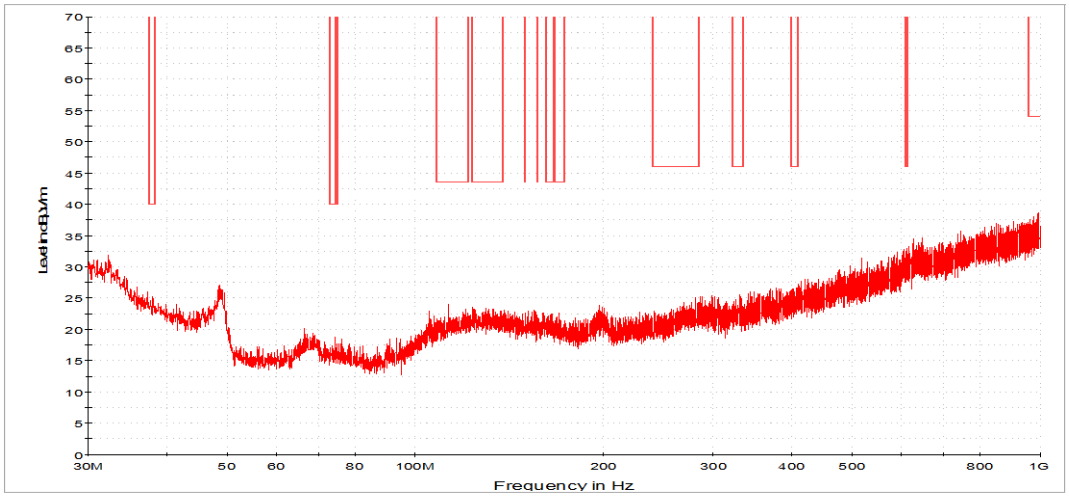


Graph 19

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2402MHz Channel – 30MHz to 1GHz
Vertical Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

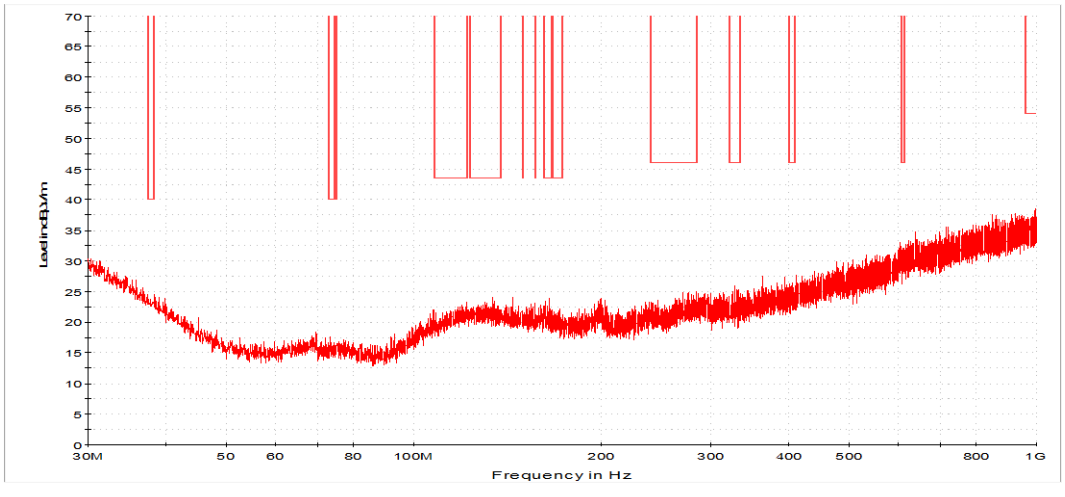


Graph 20

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2426MHz Channel – 30MHz to 1GHz
Horizontal Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

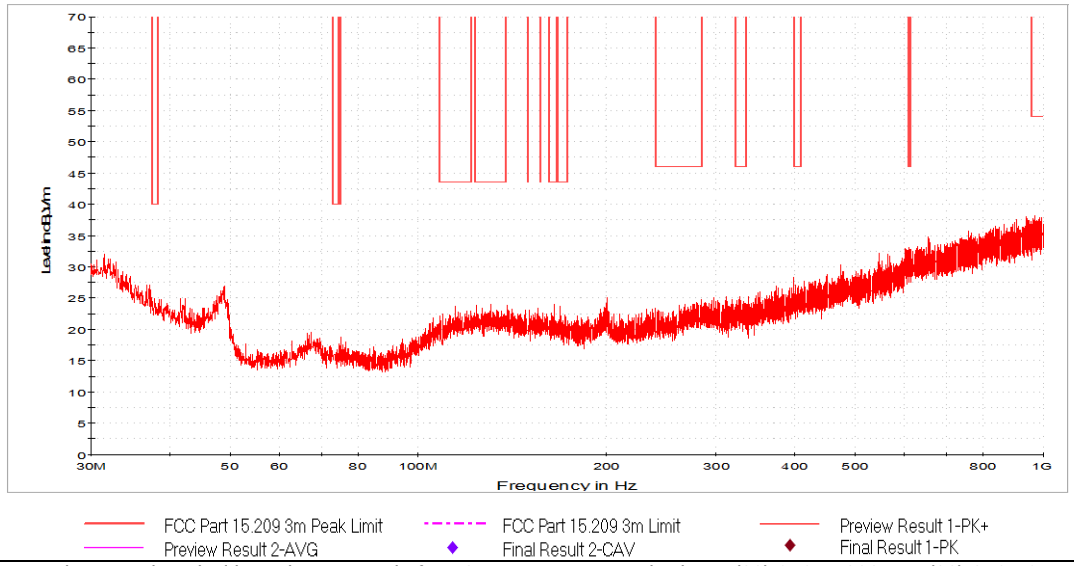


Graph 21

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2426MHz Channel – 30MHz to 1GHz
Vertical Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

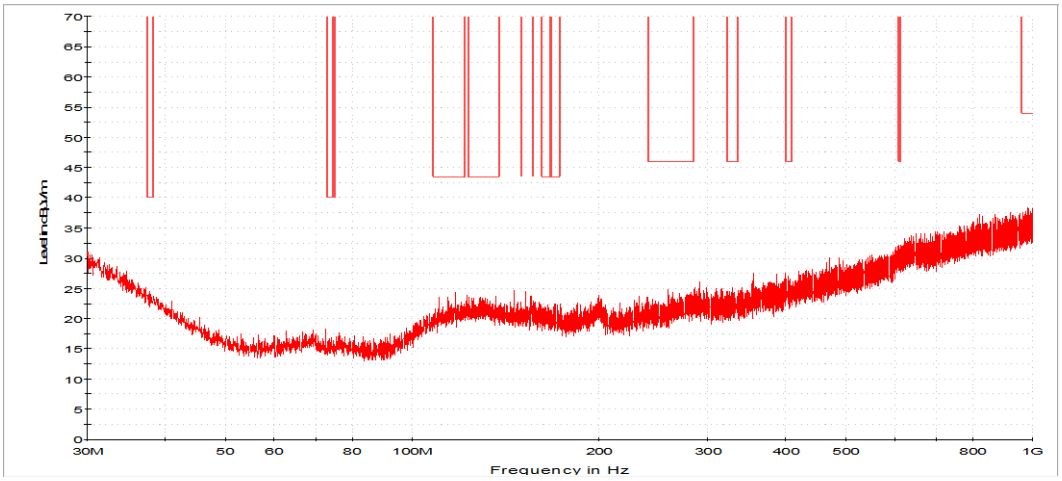


Graph 22

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2480MHz Channel – 30MHz to 1GHz
Horizontal Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

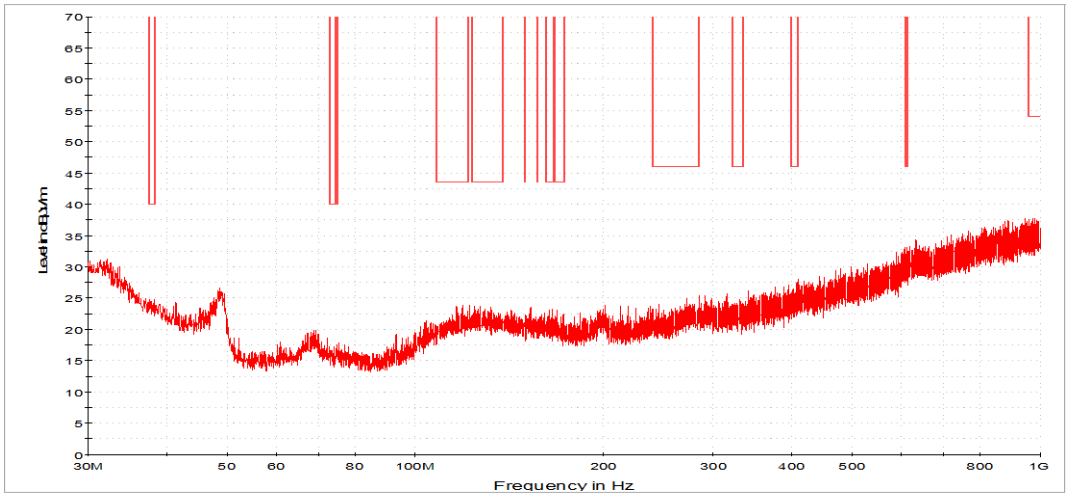


Graph 23

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2480MHz Channel – 30MHz to 1GHz
Vertical Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

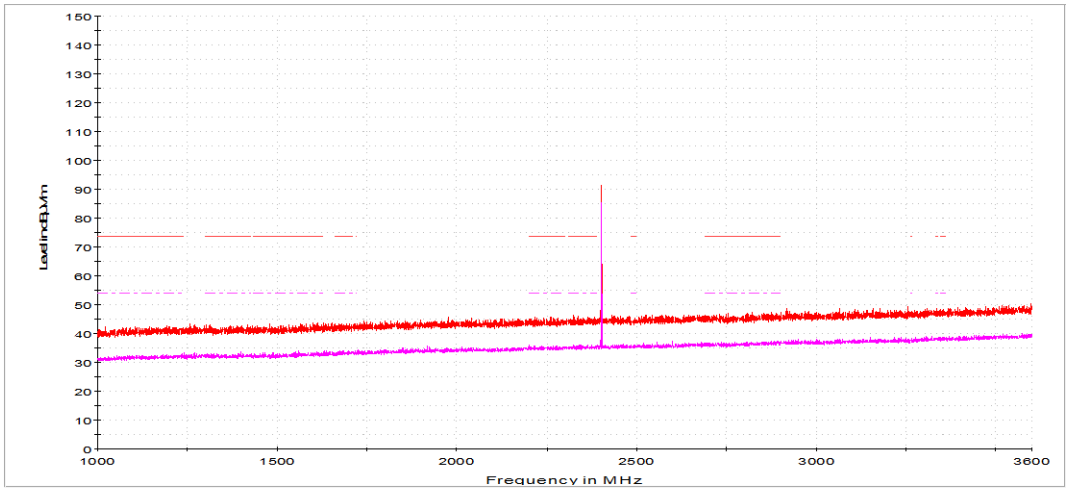


Graph 24

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2402MHz Channel – 1GHz to 3.6GHz
Horizontal Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

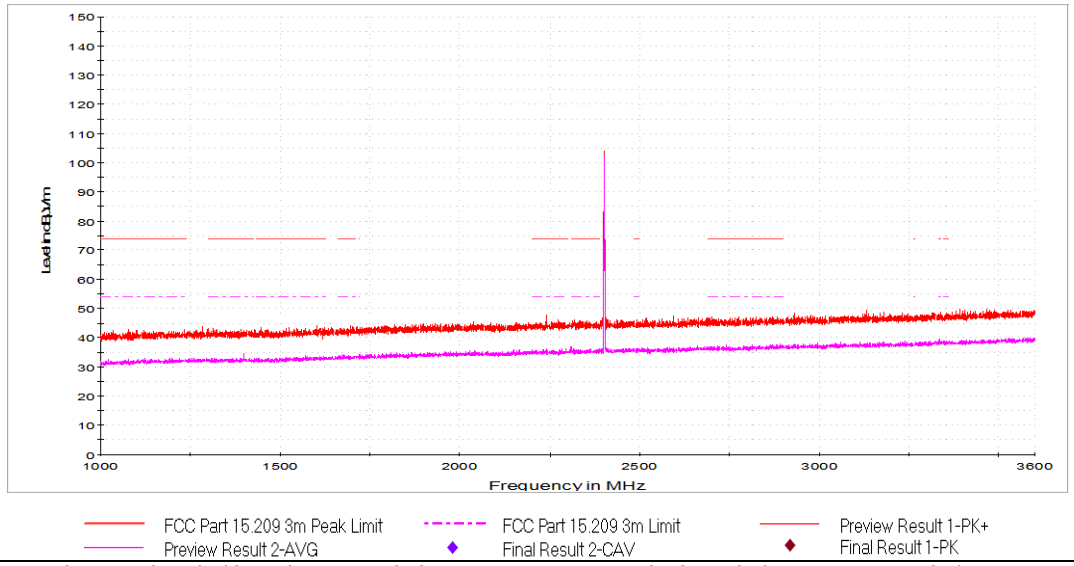


Graph 25

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2402MHz Channel – 1GHz to 3.6GHz
Vertical Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

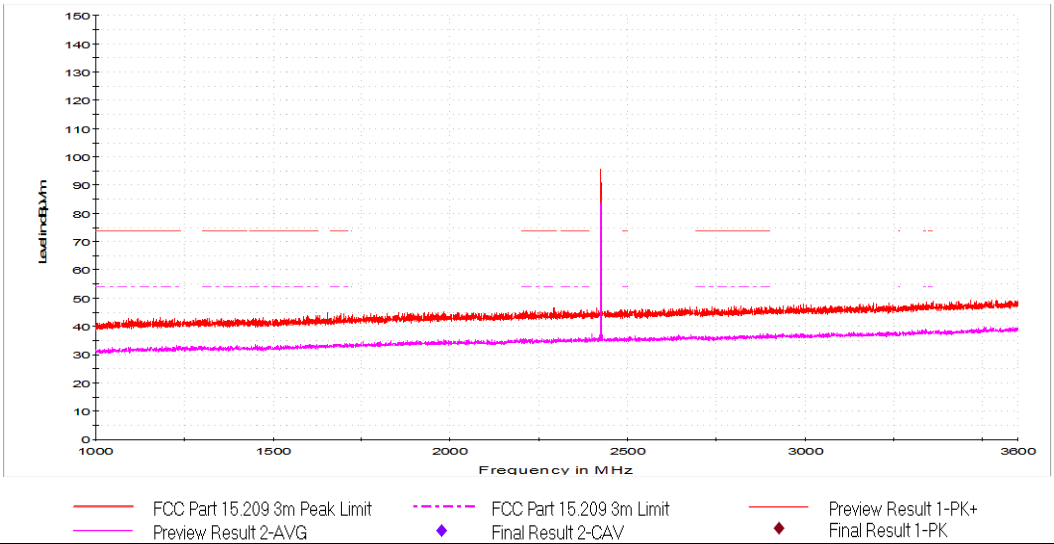


Graph 26

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2426MHz Channel – 1GHz to 3.6GHz
Horizontal Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

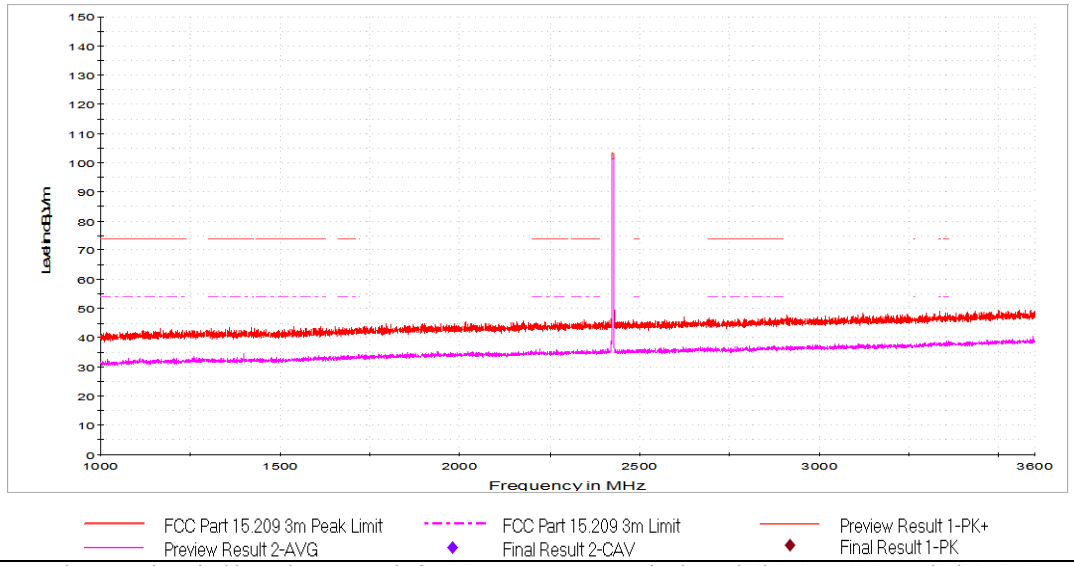


Graph 27

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2426MHz Channel – 1GHz to 3.6GHz
Vertical Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

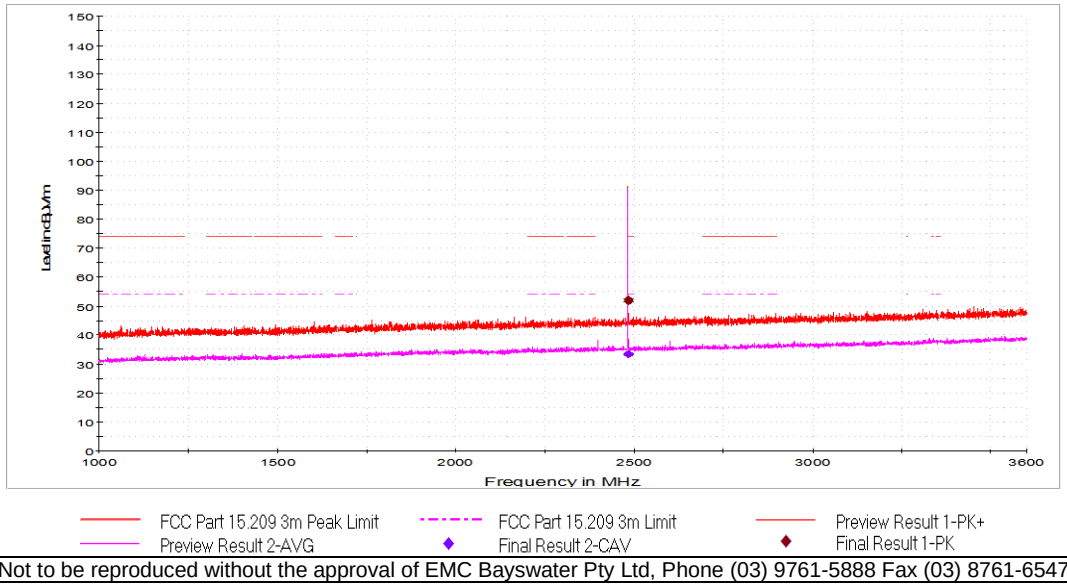


Graph 28

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2480MHz Channel – 1GHz to 3.6GHz
Horizontal Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

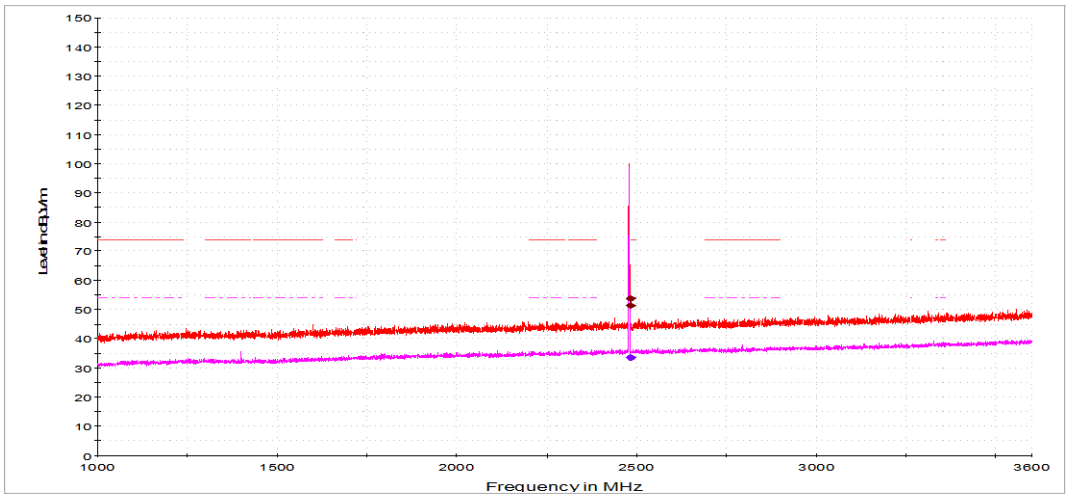


Graph 29

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2480MHz Channel – 1GHz to 3.6GHz
Vertical Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

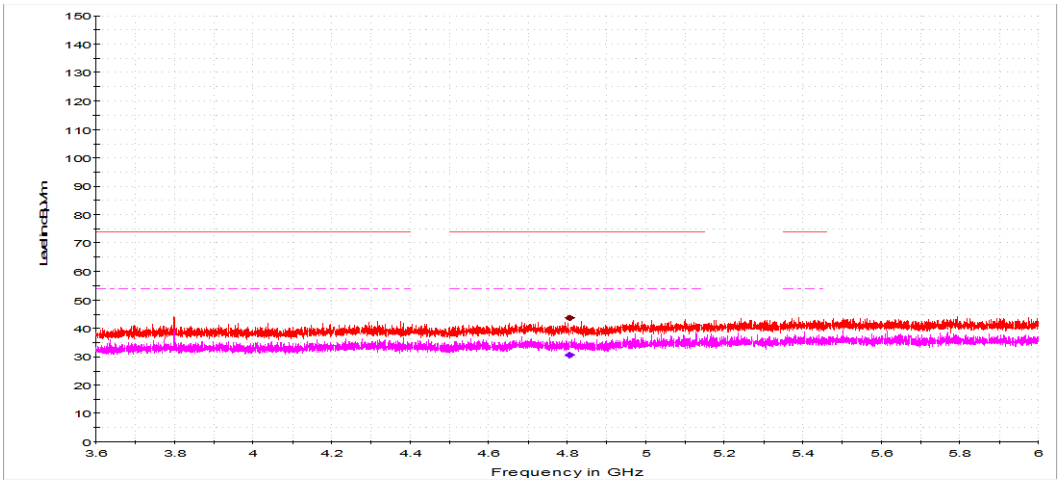


Graph 30

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2402MHz Channel – 3.6GHz to 6GHz
Horizontal Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

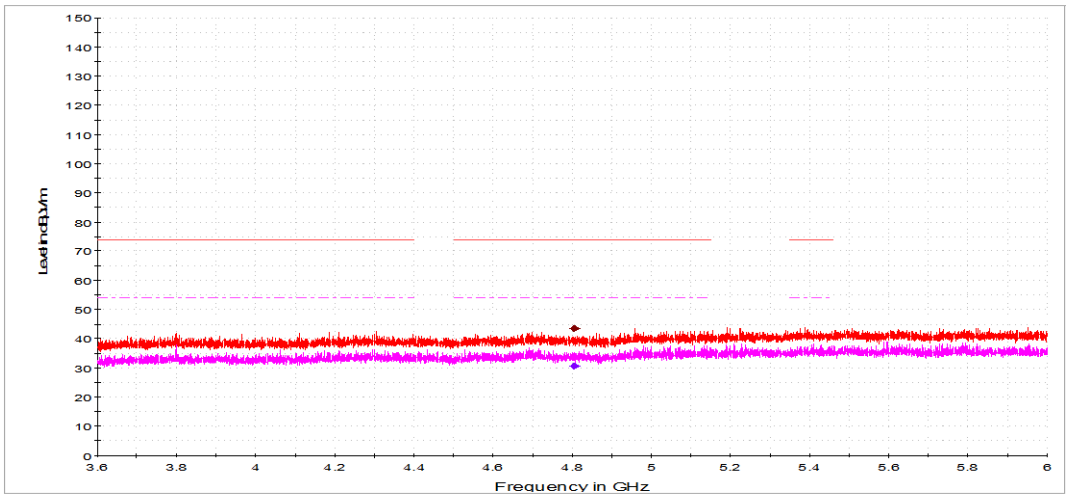


Graph 31

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2402MHz Channel – 3.6GHz to 6GHz
Vertical Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

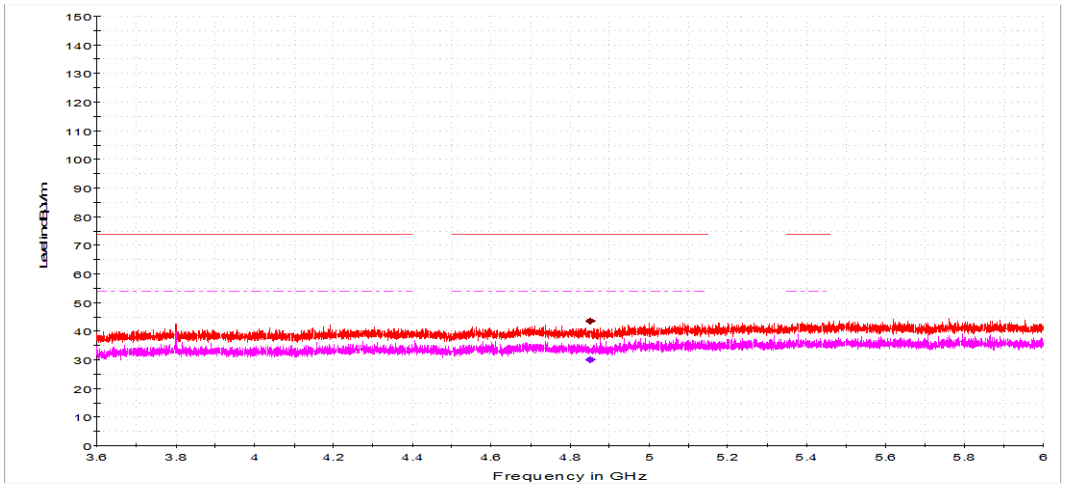


Graph 32

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2426MHz Channel – 3.6GHz to 6GHz
Horizontal Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

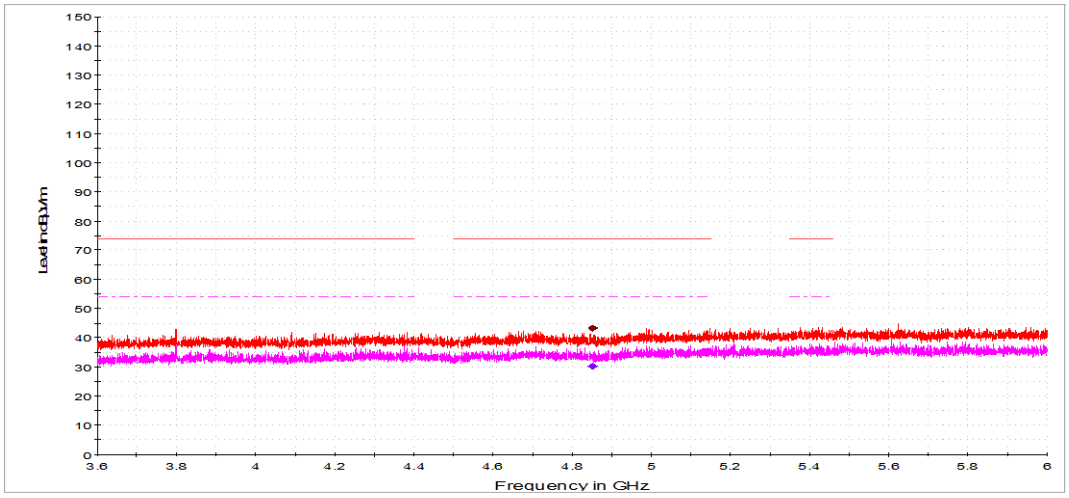


Graph 33

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2426MHz Channel – 3.6GHz to 6GHz
Vertical Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

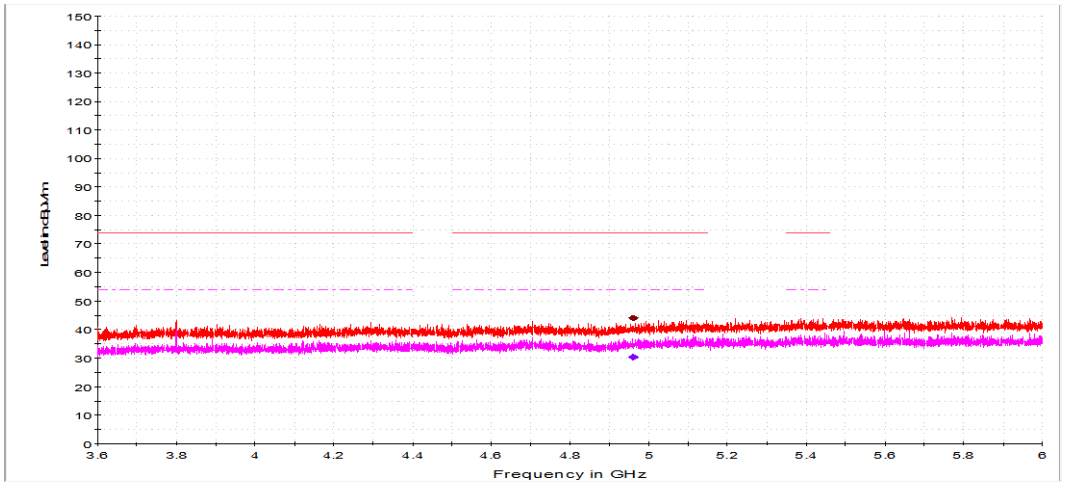


Graph 34

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2480MHz Channel – 3.6GHz to 6GHz
Horizontal Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

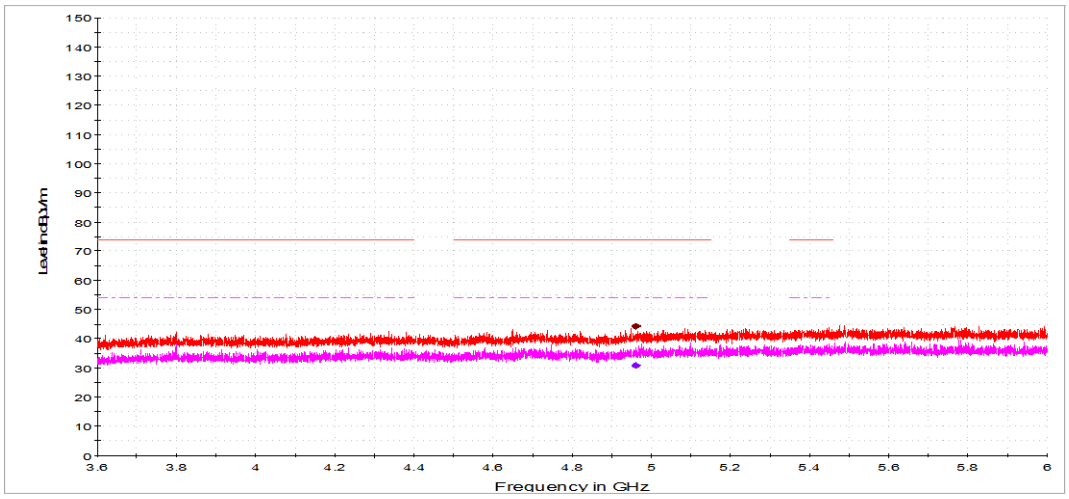


Graph 35

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2480MHz Channel – 3.6GHz to 6GHz
Vertical Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

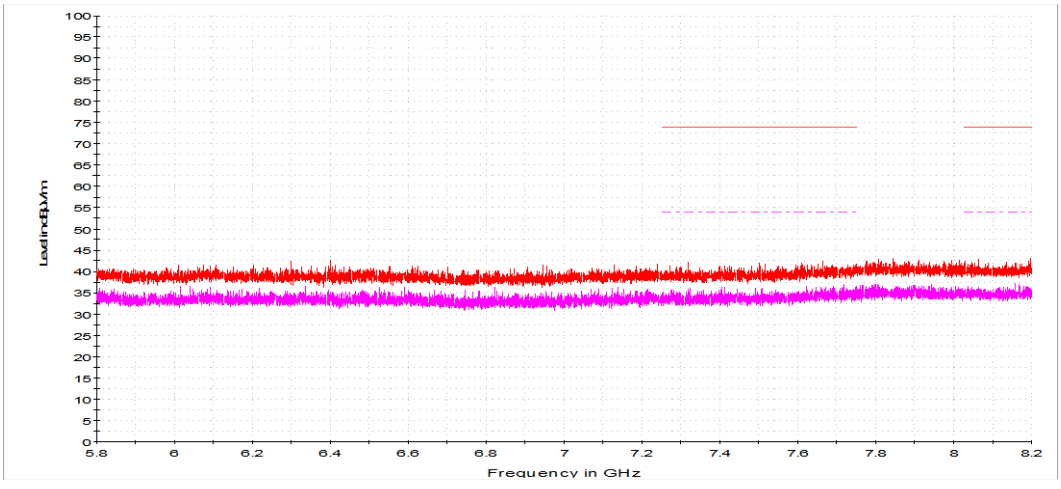


Graph 36

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2402MHz Channel – 5.8GHz to 8.2GHz
Horizontal Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

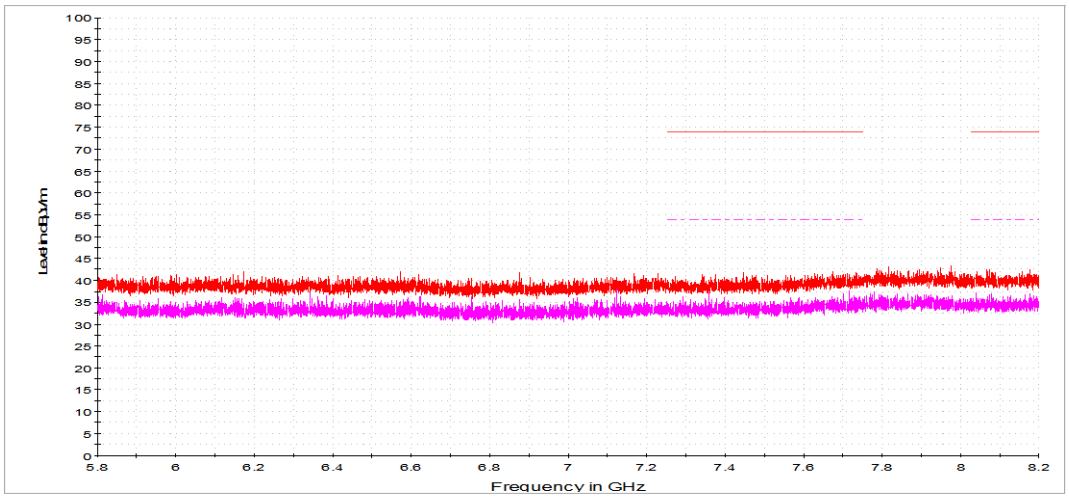


Graph 37

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2402MHz Channel – 5.8GHz to 8.2GHz
Vertical Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

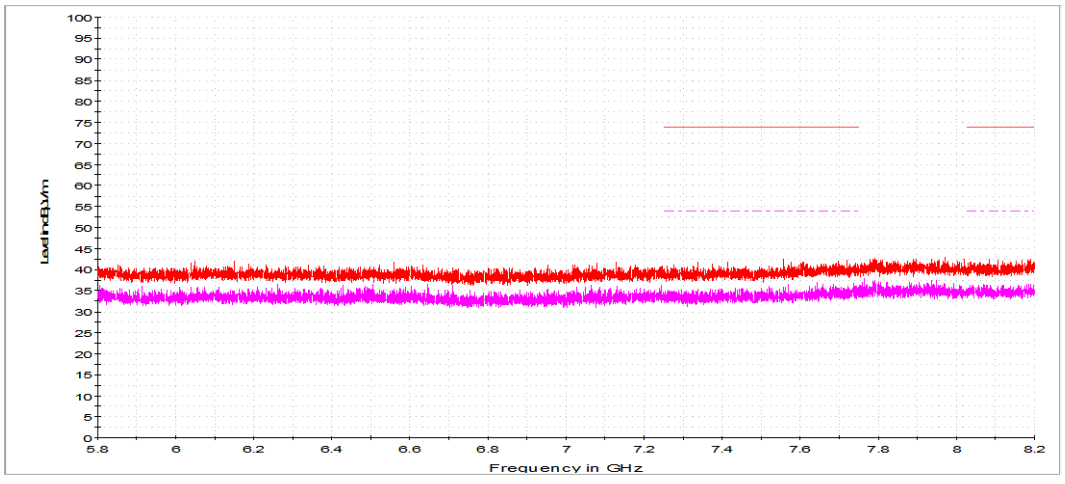


Graph 38

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2426MHz Channel – 5.8GHz to 8.2GHz
Horizontal Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

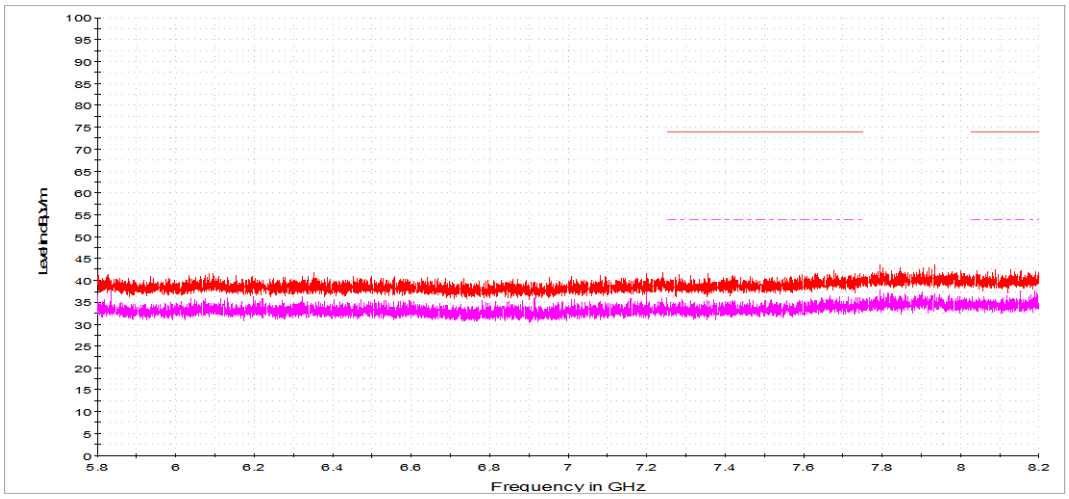


Graph 39

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2426MHz Channel – 5.8GHz to 8.2GHz
Vertical Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

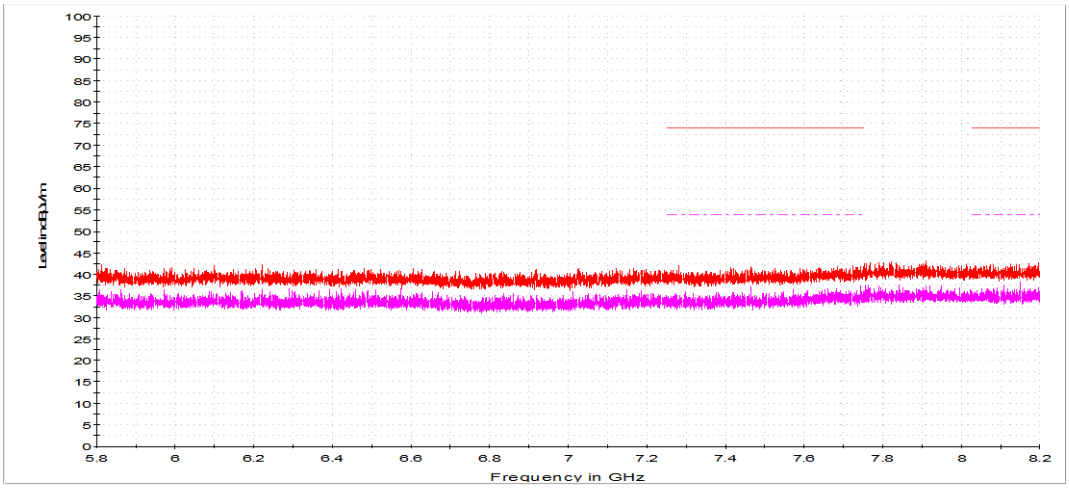


Graph 40

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2480MHz Channel – 5.8GHz to 8.2GHz
Horizontal Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

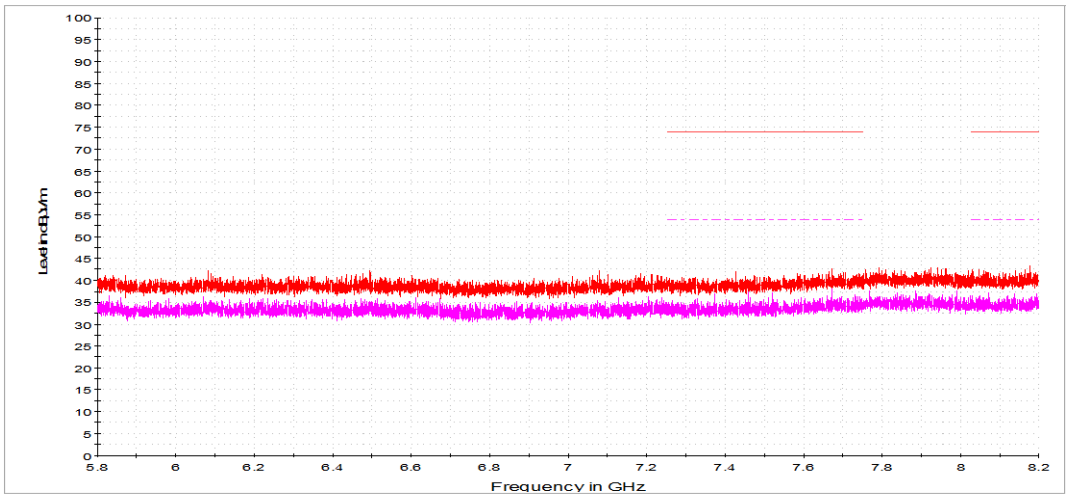


Graph 41

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2480MHz Channel – 5.8GHz to 8.2GHz
Vertical Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

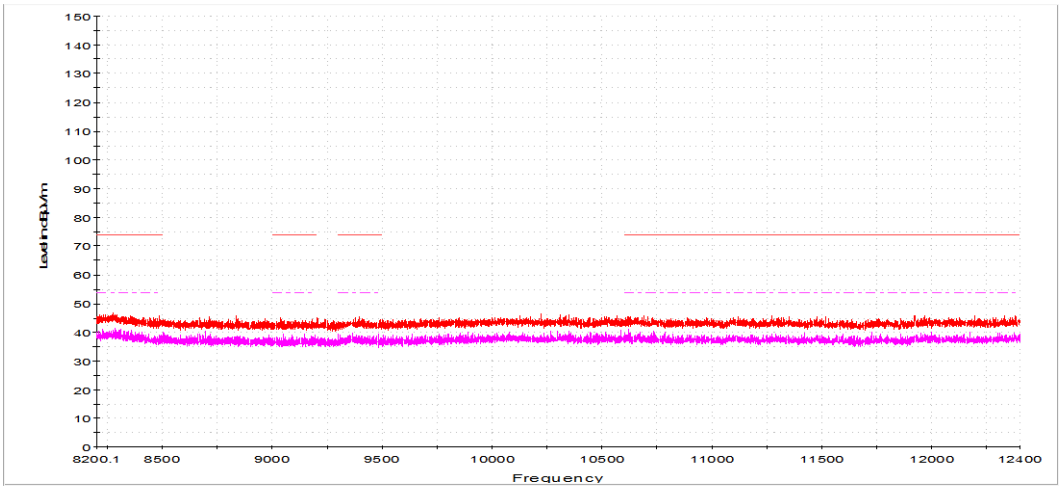


Graph 42

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2402MHz Channel – 8.2GHz to 12.4GHz
Horizontal Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

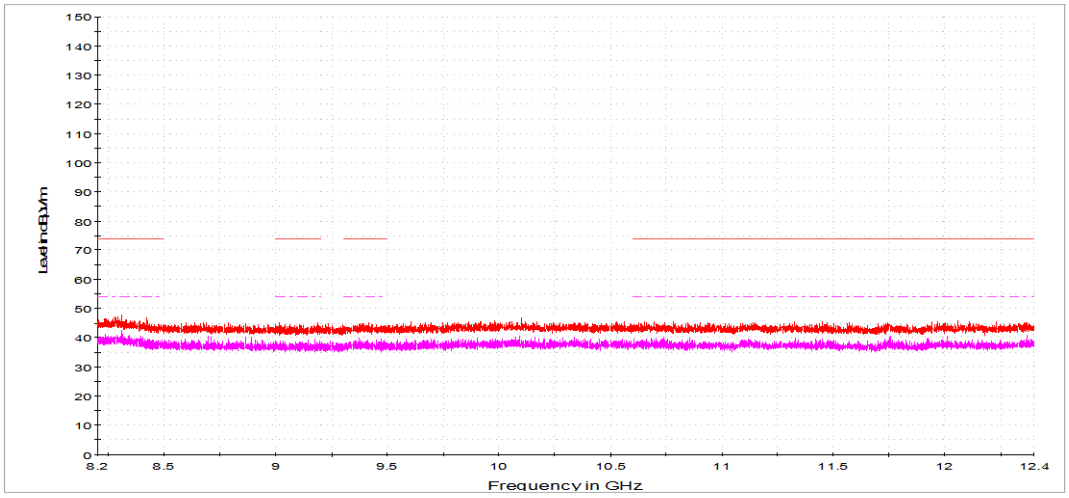


Graph 43

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2402MHz Channel – 8.2GHz to 12.4GHz
Vertical Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

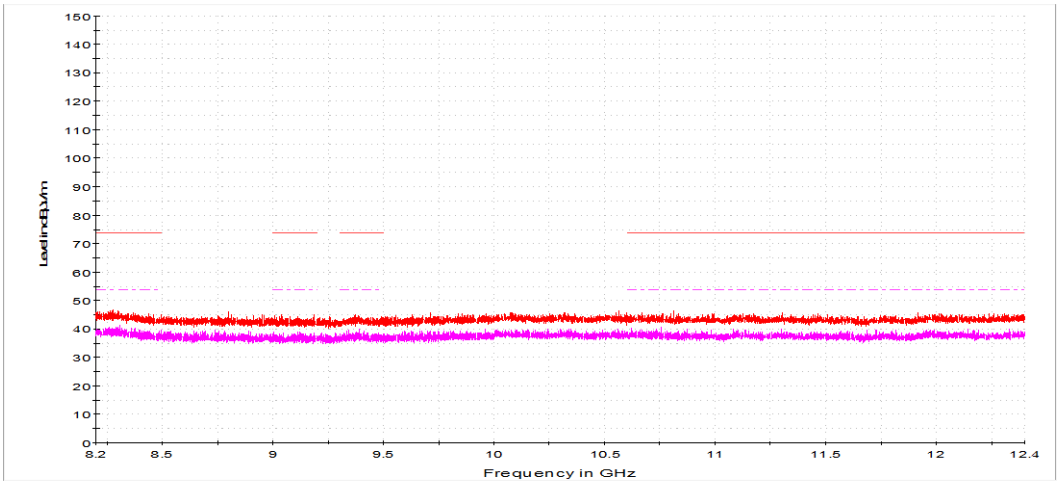


Graph 44

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2426MHz Channel – 8.2GHz to 12.4GHz
Horizontal Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

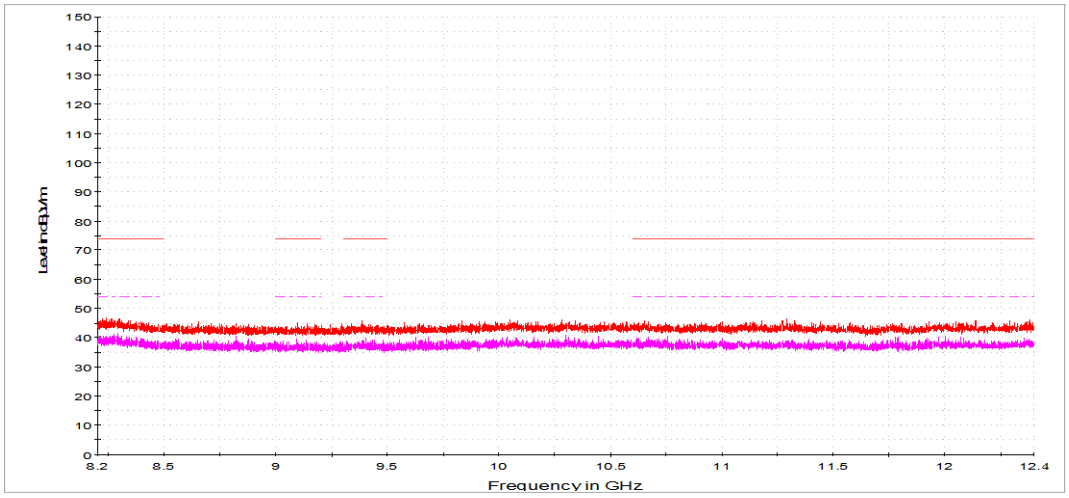


Graph 45

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2426MHz Channel – 8.2GHz to 12.4GHz
Vertical Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

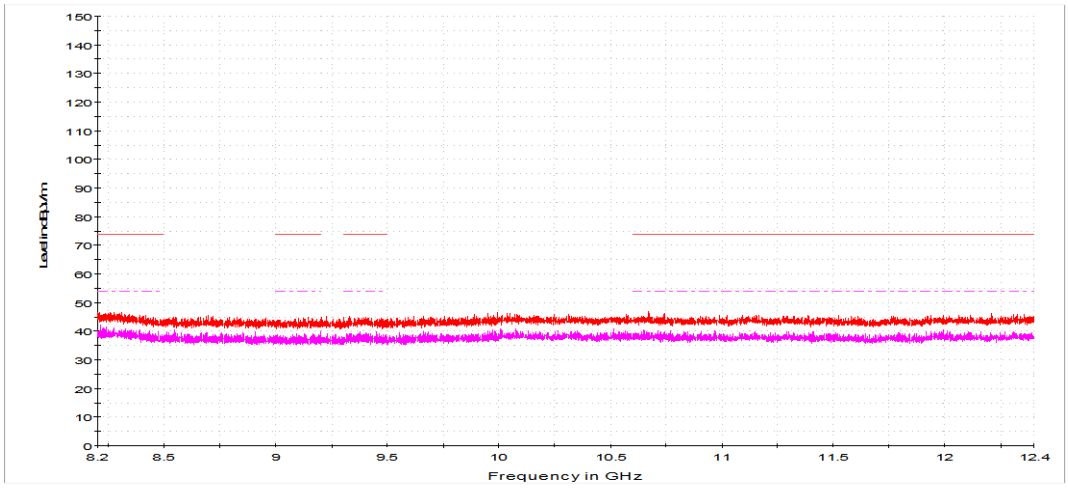


Graph 46

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2480MHz Channel – 8.2GHz to 12.4GHz
Horizontal Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

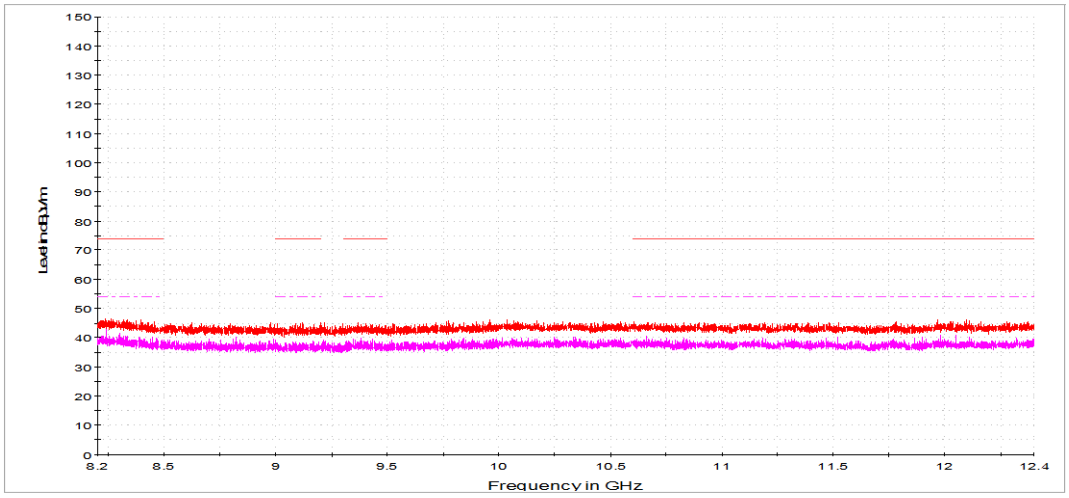


Graph 47

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2480MHz Channel – 8.2GHz to 12.4GHz
Vertical Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

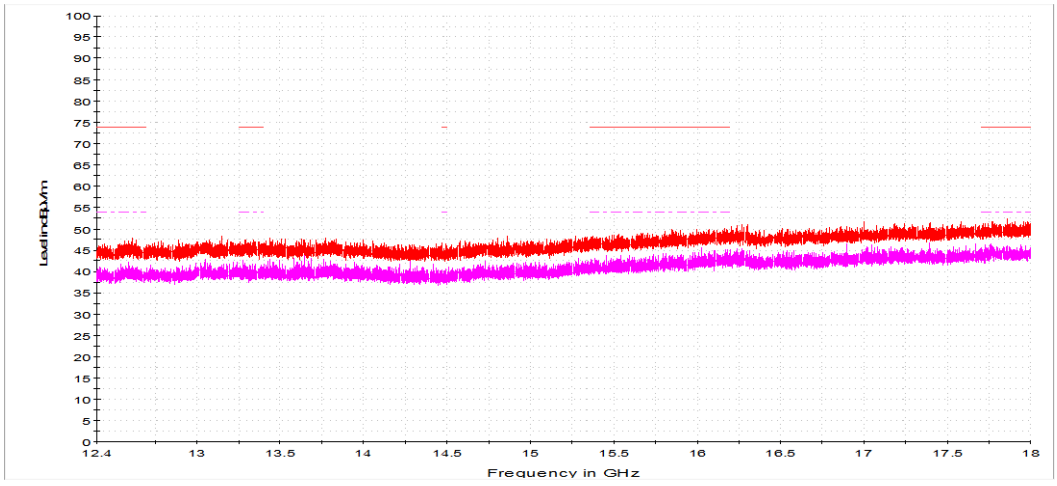


Graph 48

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2402MHz Channel – 12.4GHz to 18GHz
Horizontal Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

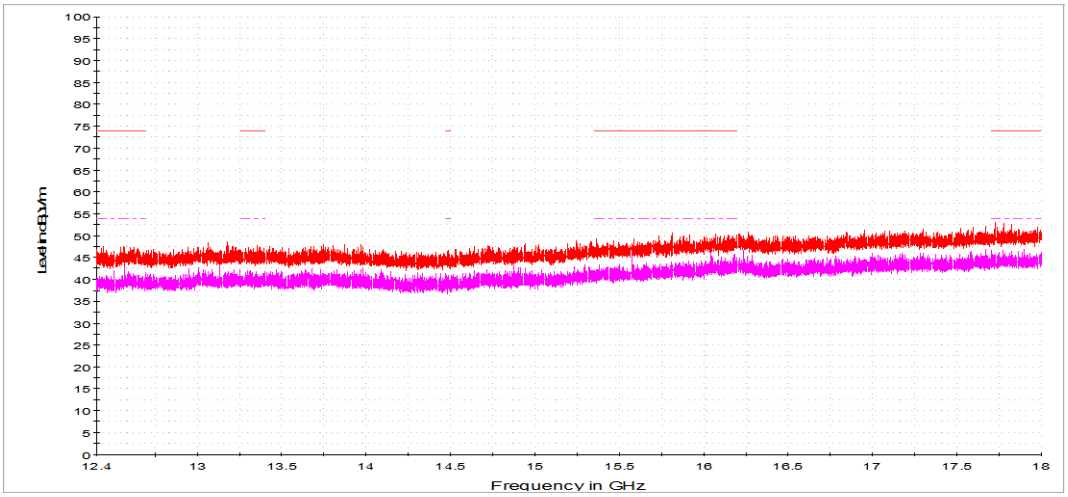


Graph 49

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2402MHz Channel – 12.4GHz to 18GHz
Vertical Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

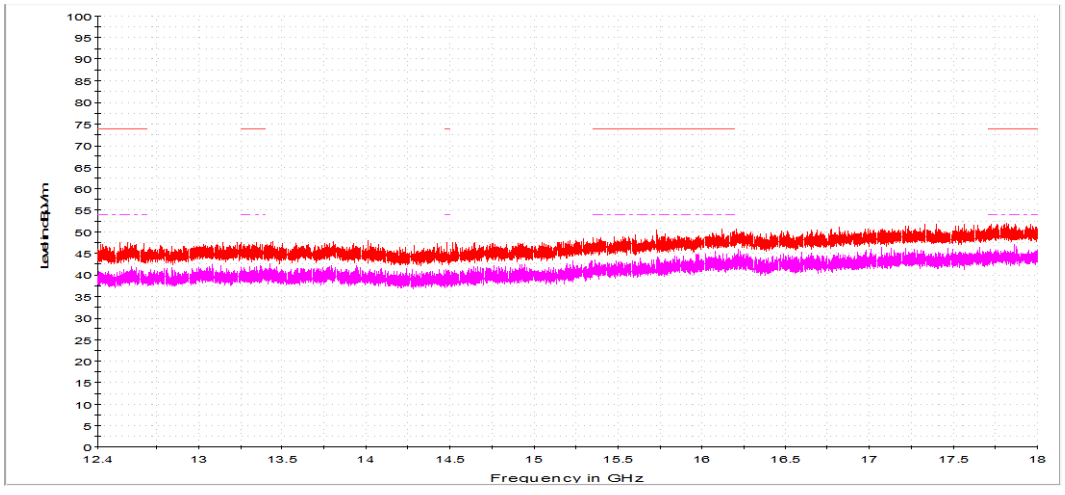


Graph 50

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2426MHz Channel – 12.4GHz to 18GHz
Horizontal Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

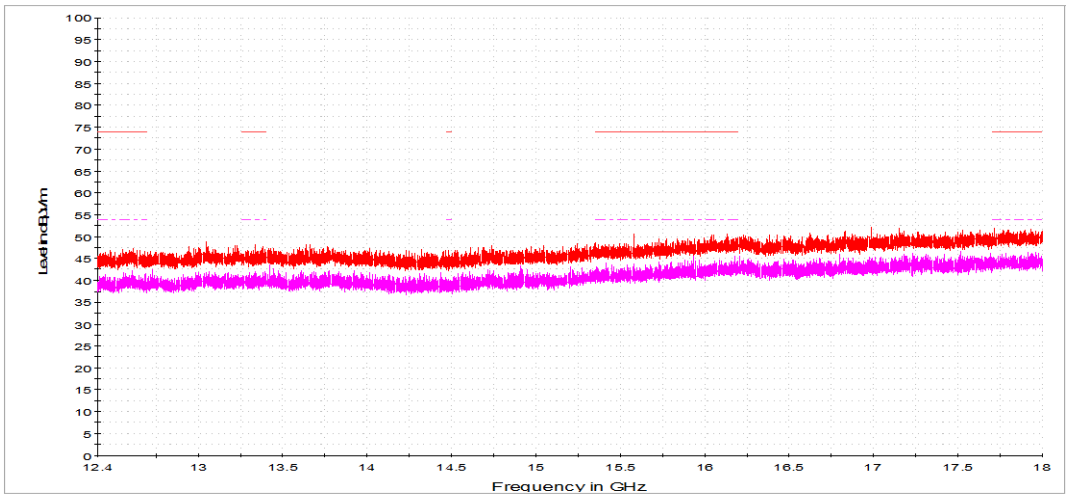


Graph 51

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2426MHz Channel – 12.4GHz to 18GHz
Vertical Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

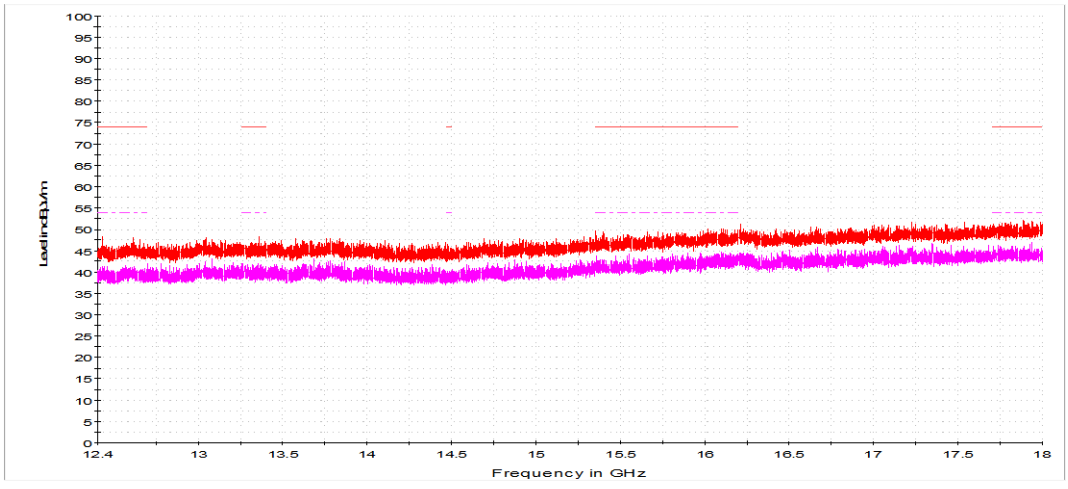


Graph 52

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2480MHz Channel – 12.4GHz to 18GHz
Horizontal Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

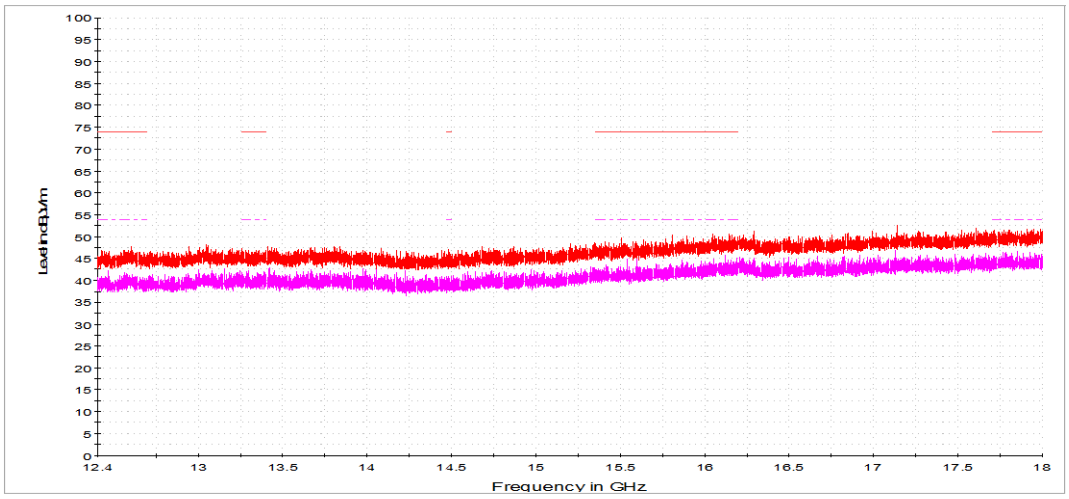


Graph 53

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2480MHz Channel – 12.4GHz to 18GHz
Vertical Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

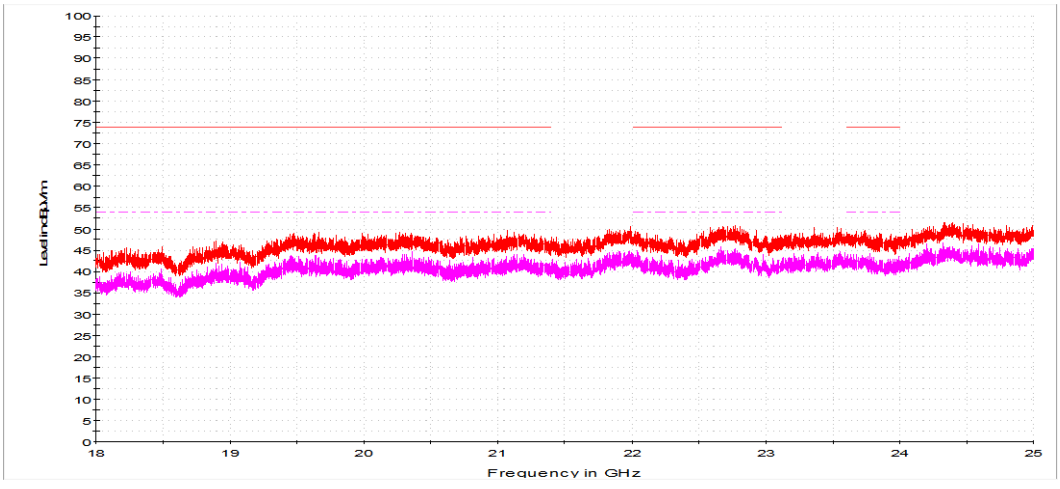


Graph 54

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2402MHz Channel – 18GHz to 25GHz
Horizontal Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

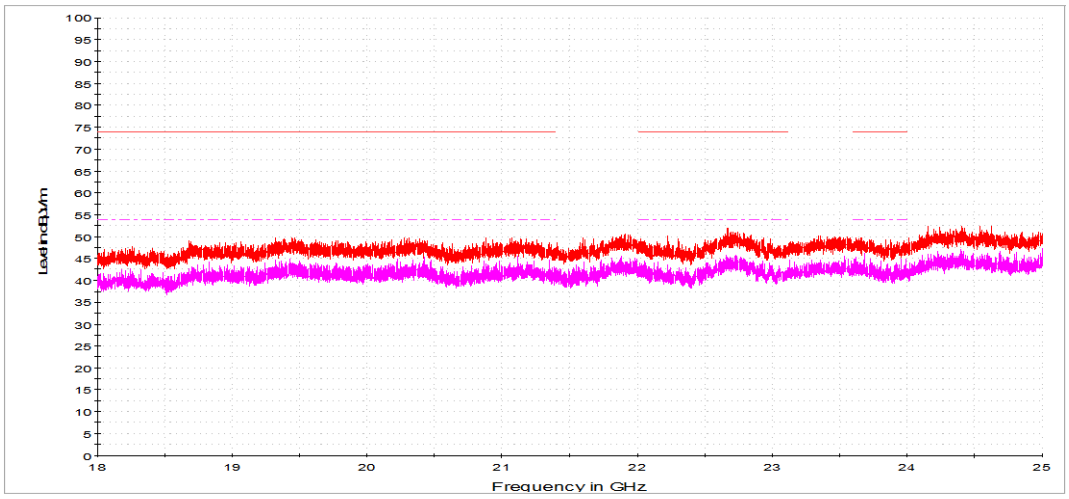


Graph 55

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2402MHz Channel – 18GHz to 25GHz
Vertical Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

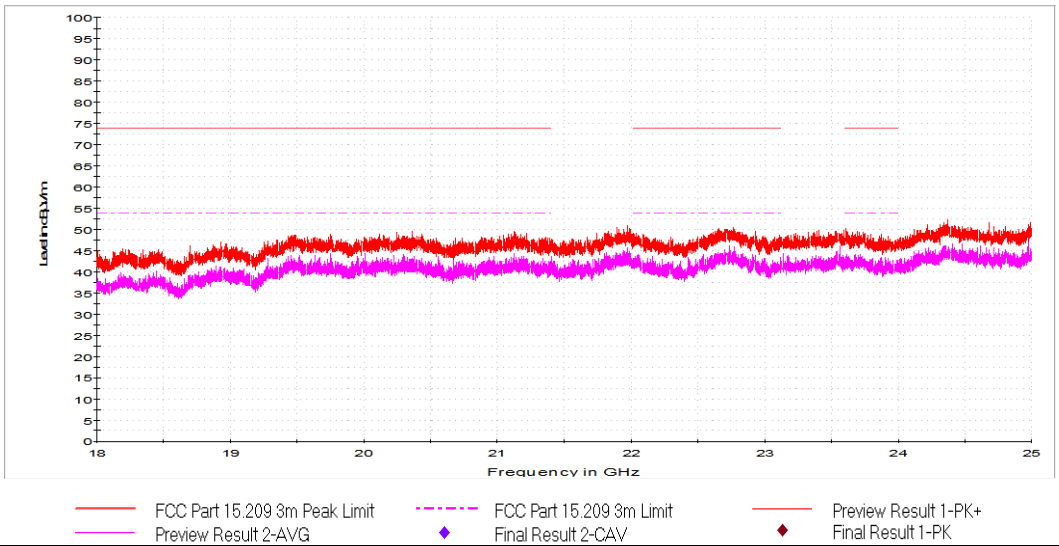


Graph 56

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2426MHz Channel – 18GHz to 25GHz
Horizontal Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

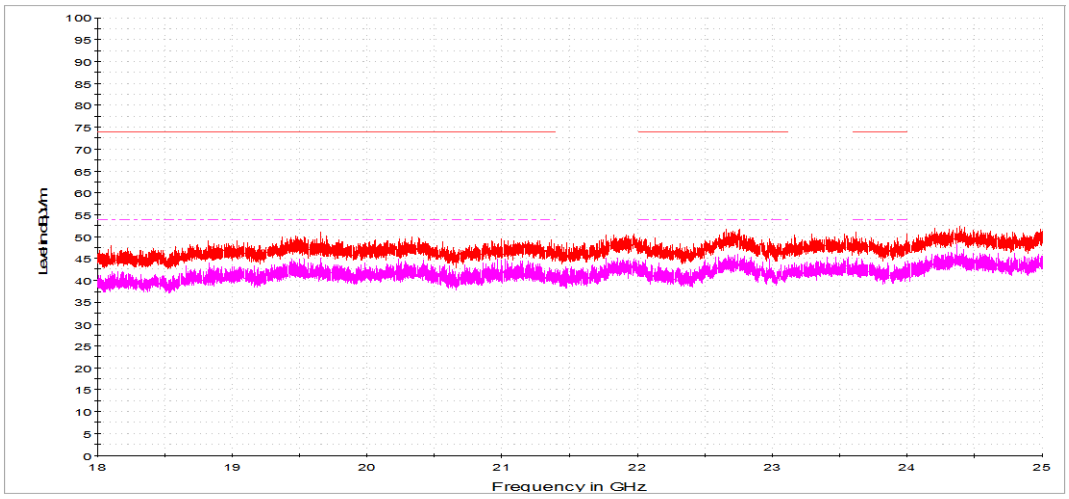


Graph 57

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2426MHz Channel – 18GHz to 25GHz
Vertical Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

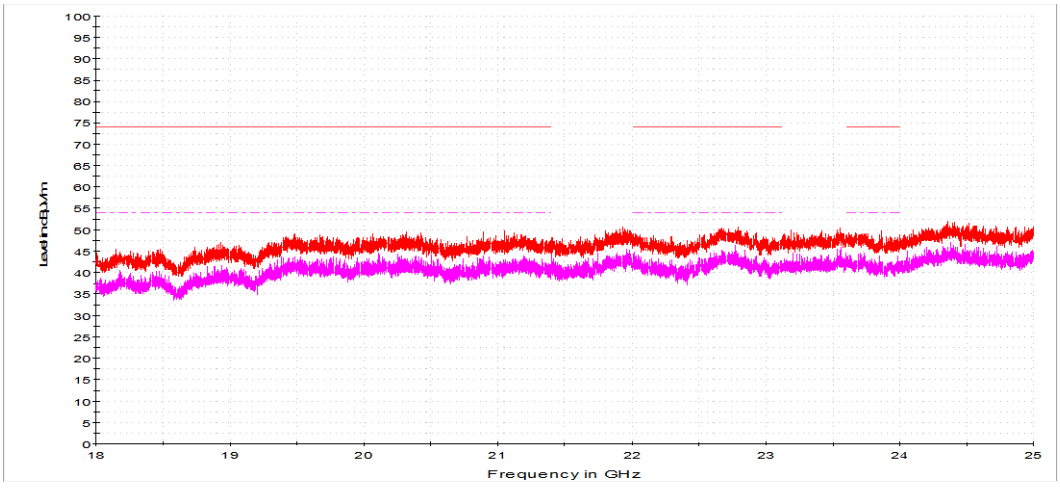


Graph 58

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2480MHz Channel – 18GHz to 25GHz
Horizontal Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ

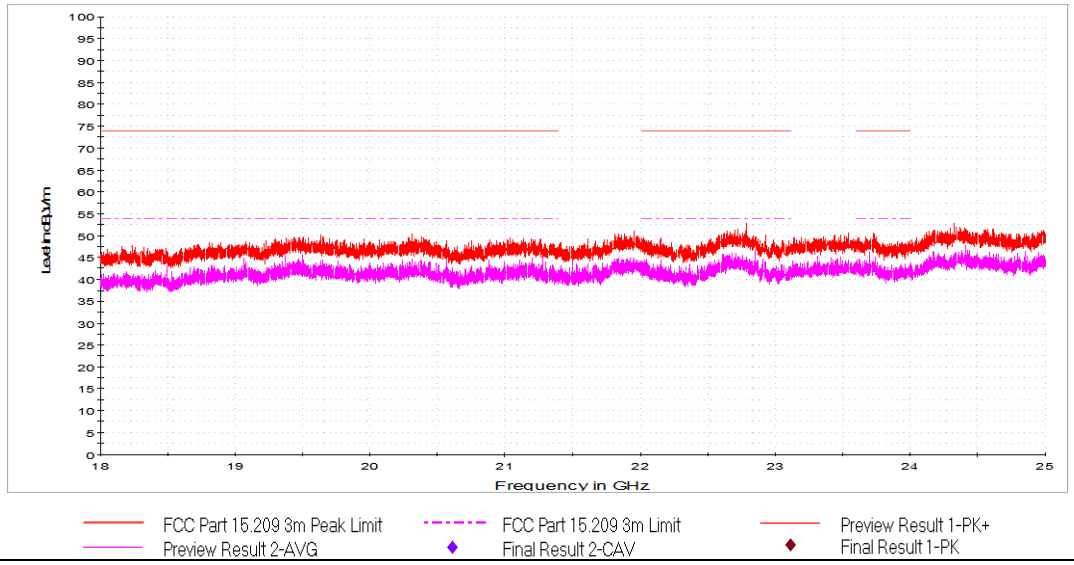


Graph 59

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2480MHz Channel – 18GHz to 25GHz
Vertical Antenna Polarisation

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ



Graph 60

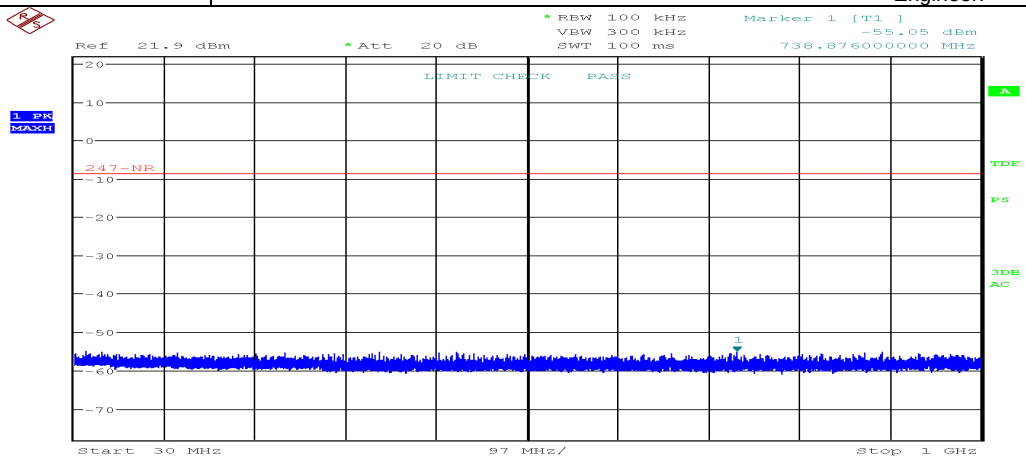
Appendix C.5 – Out-of-Band Emissions – 100kHz, -20dBc – FCC 15.247(d)

No.	Test	Graph Description
61	Out-of-Band Emissions – 100kHz, -20dBc 2402MHz Channel	30MHz to 1GHz
62		1GHz to 5GHz
63		5GHz to 10GHz
64		10GHz to 15GHz
65		15GHz to 20GHz
66		20GHz to 25GHz
67	Out-of-Band Emissions – 100kHz, -20dBc 2426MHz Channel	30MHz to 1GHz
68		1GHz to 5GHz
69		5GHz to 10GHz
70		10GHz to 15GHz
71		15GHz to 20GHz
72		20GHz to 25GHz
73	Out-of-Band Emissions – 100kHz, -20dBc 2480MHz Channel	30MHz to 1GHz
74		1GHz to 5GHz
75		5GHz to 10GHz
76		10GHz to 15GHz
77		15GHz to 20GHz
78		20GHz to 25GHz

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Out-of-Band Emissions - – 100kHz, -20dBc
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2402MHz Channel – 30MHz to 1GHz

Job Number: E2503-1841-3 Rev1
Test Engineer: NL

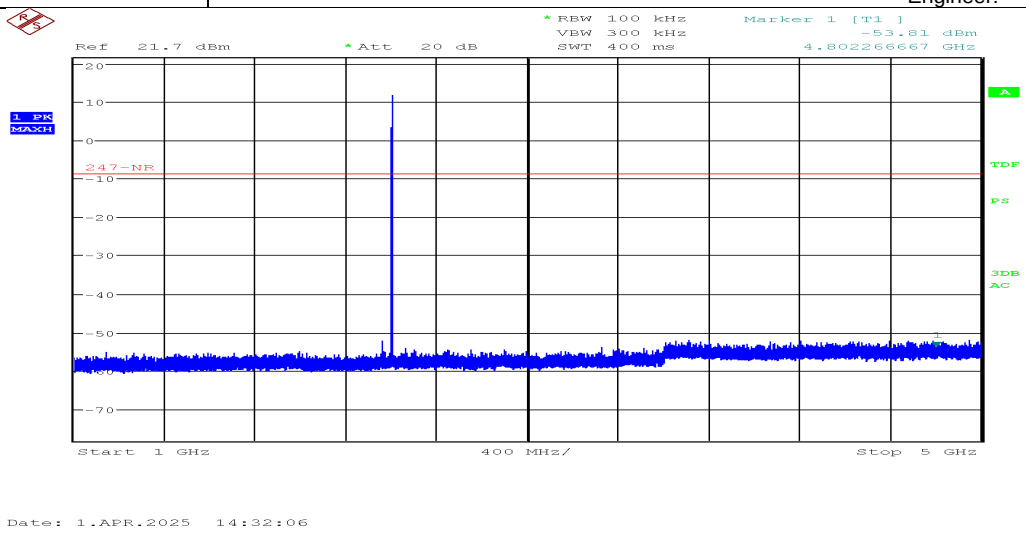


Graph 61

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Out-of-Band Emissions - – 100kHz, -20dBc
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2402MHz Channel – 1GHz to 5GHz

Job Number: E2503-1841-3 Rev1
Test Engineer: NL

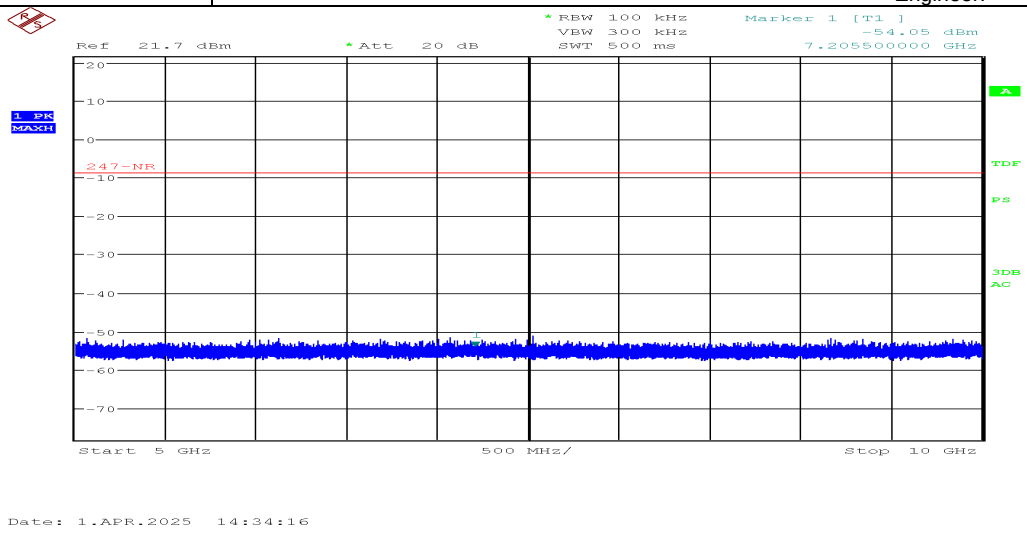


Graph 62

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Out-of-Band Emissions - – 100kHz, -20dBc
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2402MHz Channel – 5GHz to 10GHz

Job Number: E2503-1841-3 Rev1
Test Engineer: NL

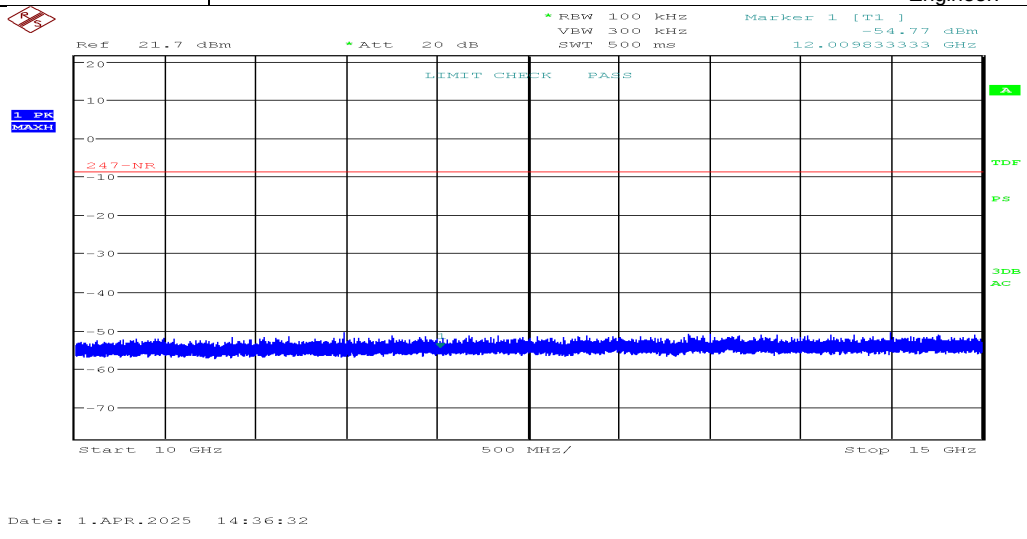


Graph 63

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Out-of-Band Emissions - – 100kHz, -20dBc
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2402MHz Channel – 10GHz to 15GHz

Job Number: E2503-1841-3 Rev1
Test Engineer: NL

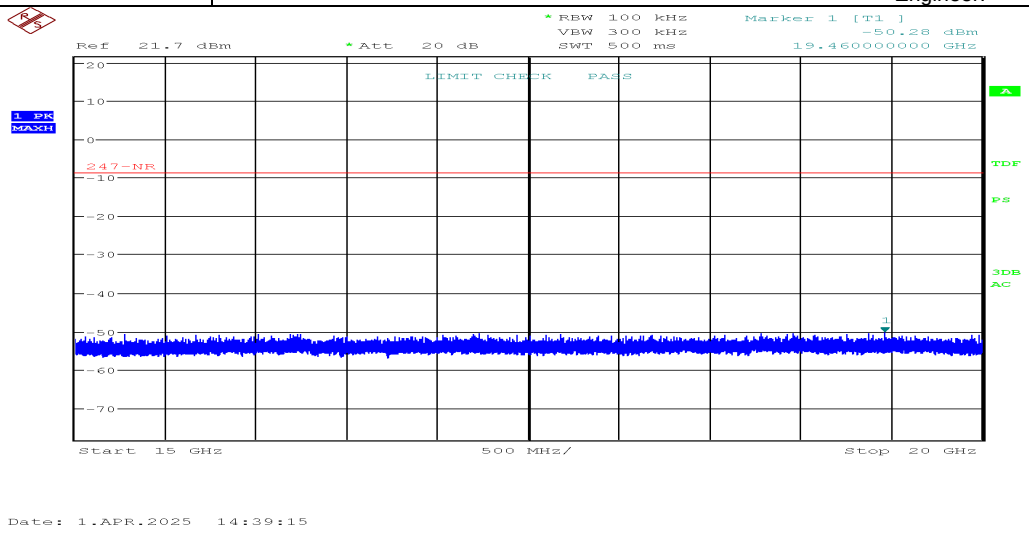


Graph 64

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Out-of-Band Emissions - – 100kHz, -20dBc
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2402MHz Channel – 15GHz to 20GHz

Job Number: E2503-1841-3 Rev1
Test Engineer: NL

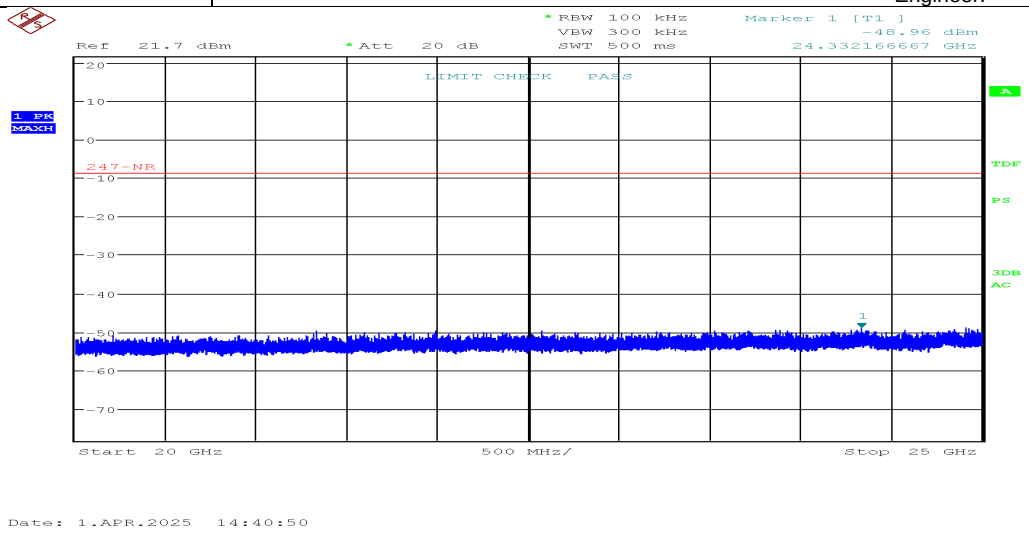


Graph 65

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Out-of-Band Emissions - – 100kHz, -20dBc
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2402MHz Channel – 20GHz to 25GHz

Job Number: E2503-1841-3 Rev1
Test Engineer: NL



Graph 66

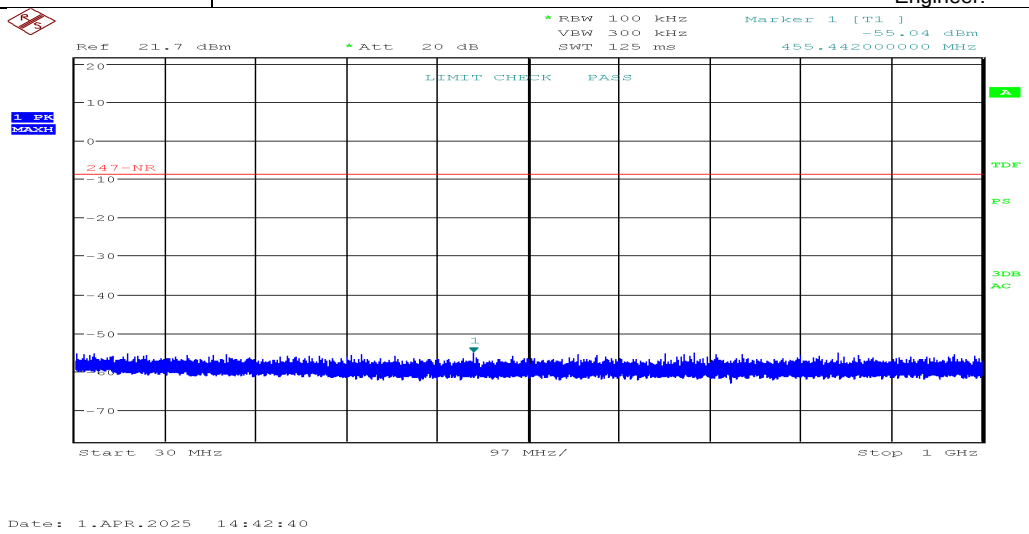
EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Out-of-Band Emissions - – 100kHz, -20dBc
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point

2426MHz Channel – 30MHz to 1GHz

Job Number: E2503-1841-3 Rev1

Test Engineer: NL



Graph 67

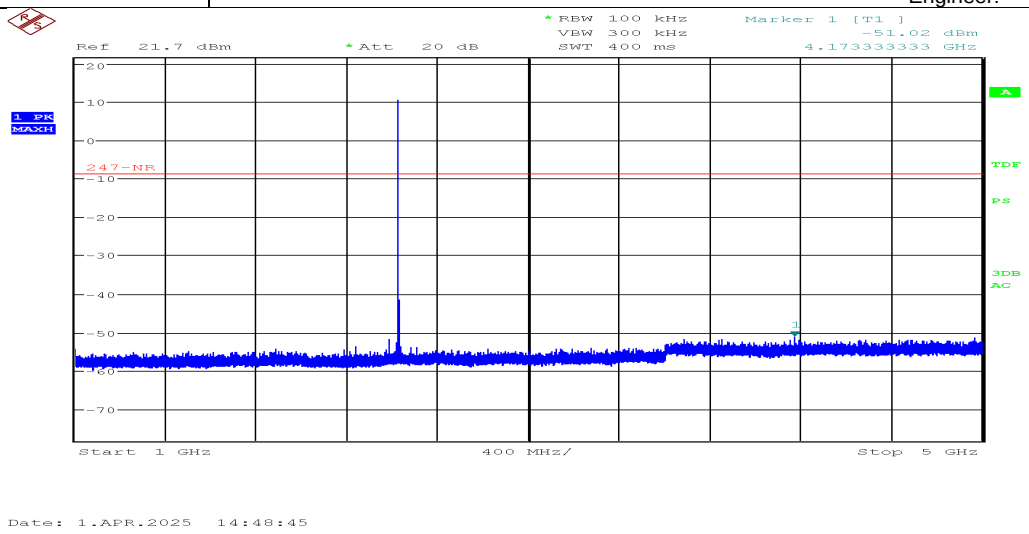
EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Out-of-Band Emissions - – 100kHz, -20dBc
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point

2426MHz Channel – 1GHz to 5GHz

Job Number: E2503-1841-3 Rev1

Test Engineer: NL



Graph 68

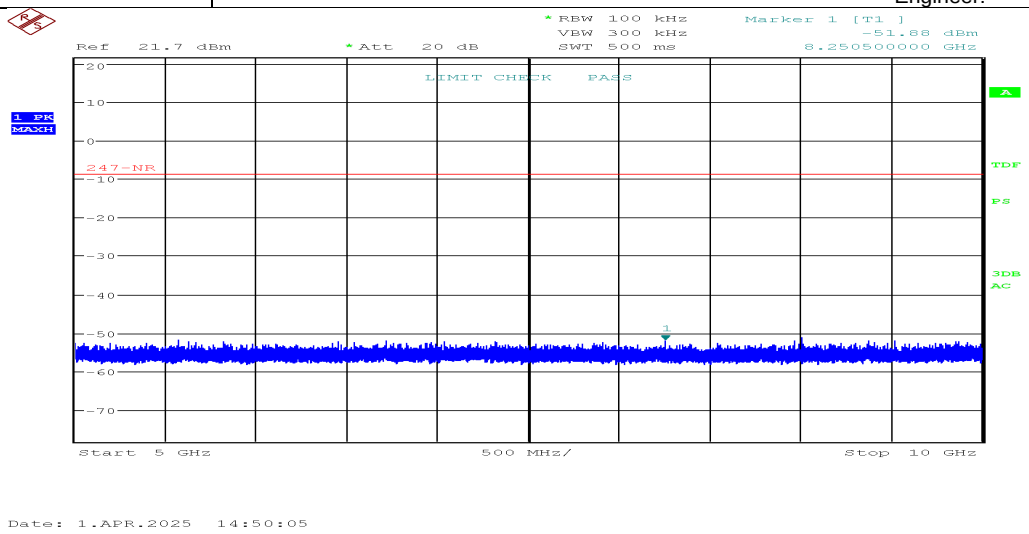
EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Out-of-Band Emissions - – 100kHz, -20dBc
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point

2426MHz Channel – 5GHz to 10GHz

Job Number: E2503-1841-3 Rev1

Test Engineer: NL



Graph 69

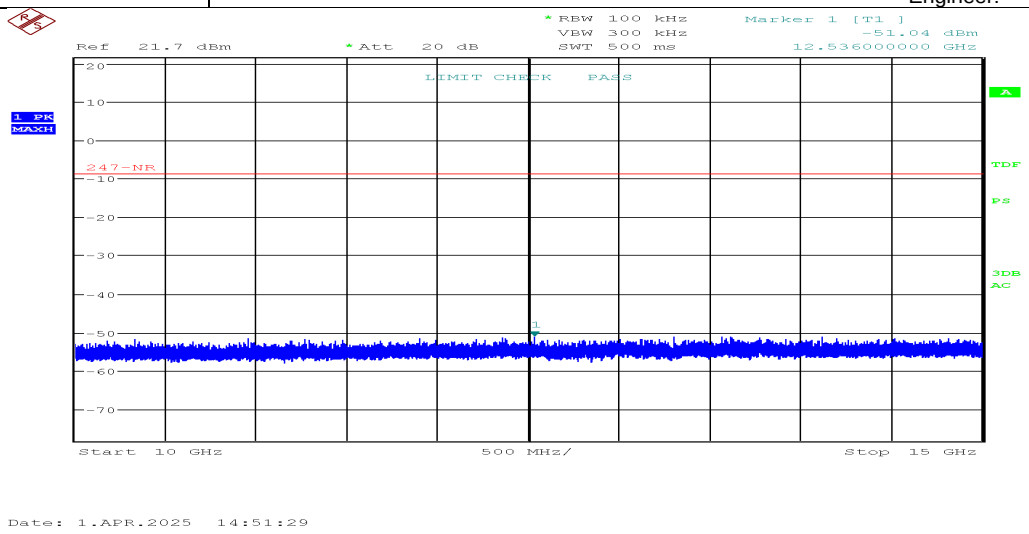
EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Out-of-Band Emissions - – 100kHz, -20dBc
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point

2426MHz Channel – 10GHz to 15GHz

Job Number: E2503-1841-3 Rev1

Test Engineer: NL



Graph 70

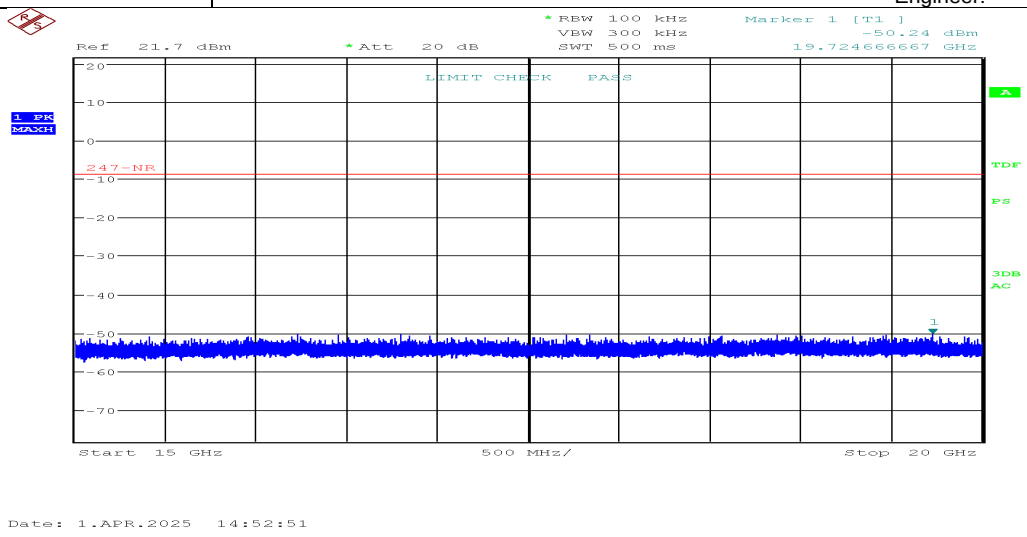
EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Out-of-Band Emissions - – 100kHz, -20dBc
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point

2426MHz Channel – 15GHz to 20GHz

Job Number: E2503-1841-3 Rev1

Test Engineer: NL



Graph 71

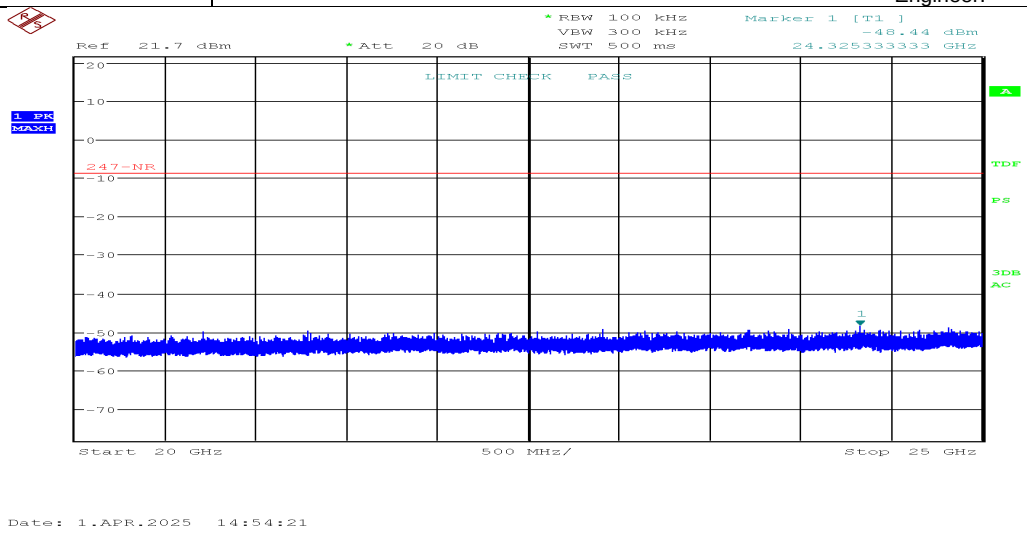
EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Out-of-Band Emissions - – 100kHz, -20dBc
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point

2426MHz Channel – 20GHz to 25GHz

Job Number: E2503-1841-3 Rev1

Test Engineer: NL

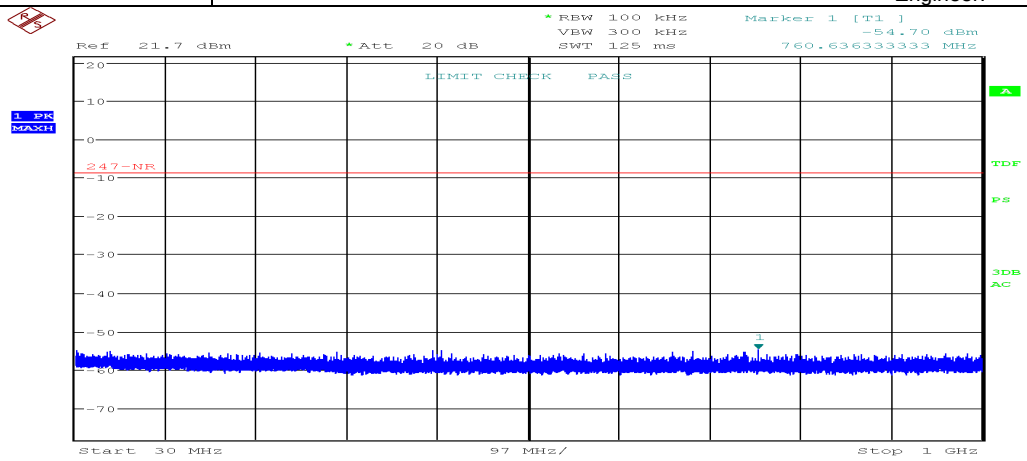


Graph 72

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Out-of-Band Emissions - – 100kHz, -20dBc
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2480MHz Channel -– 30MHz to 1GHz

Job Number: E2503-1841-3 Rev1
Test Engineer: NL

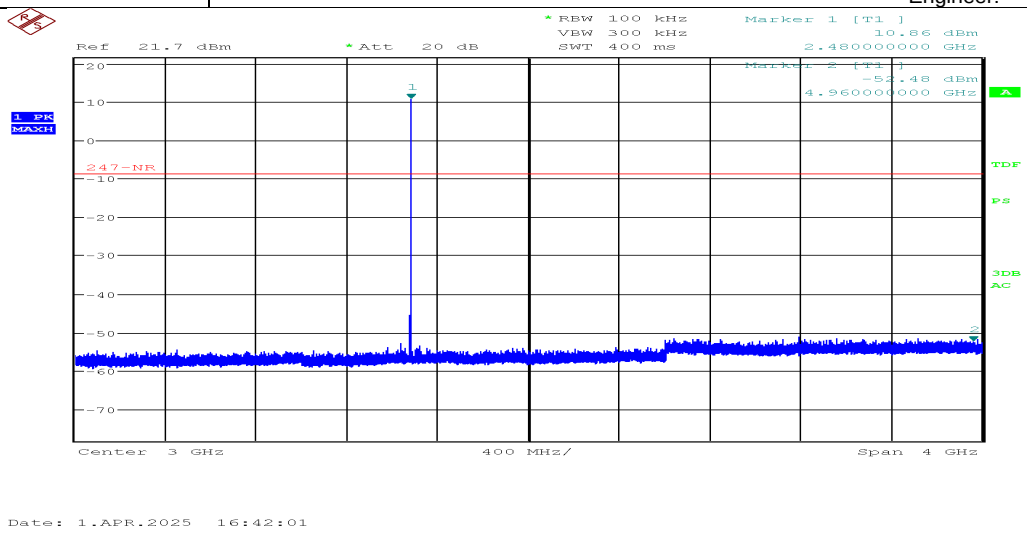


Graph 73

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Out-of-Band Emissions - – 100kHz, -20dBc
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2480MHz Channel – 1GHz to 5GHz

Job Number: E2503-1841-3 Rev1
Test Engineer: NL

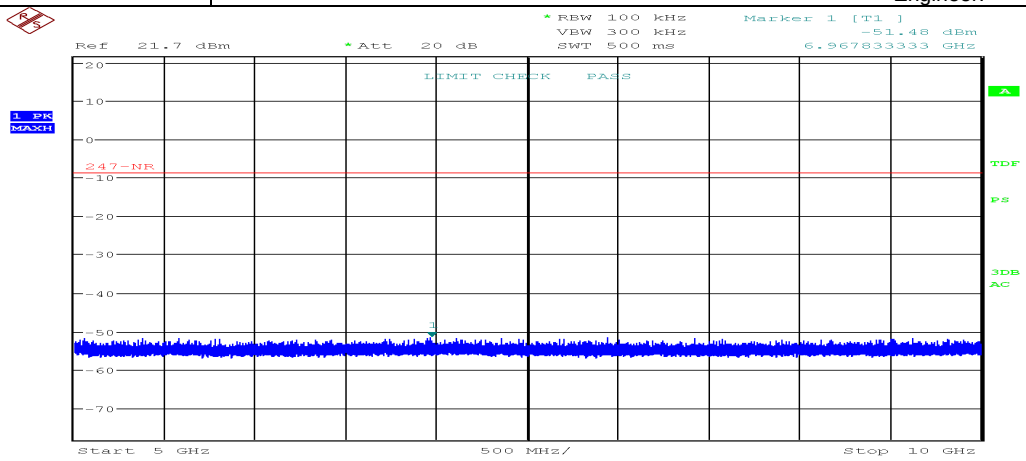


Graph 74

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Out-of-Band Emissions - – 100kHz, -20dBc
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2402MHz Channel – 5GHz to 10GHz

Job Number: E2503-1841-3 Rev1
Test Engineer: NL

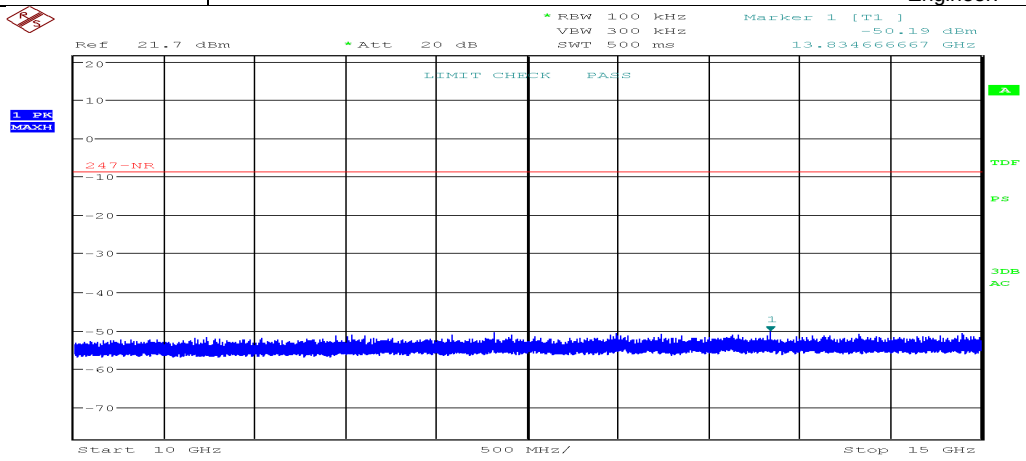


Graph 75

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Out-of-Band Emissions - – 100kHz, -20dBc
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2480MHz Channel – 10GHz to 15GHz

Job Number: E2503-1841-3 Rev1
Test Engineer: NL

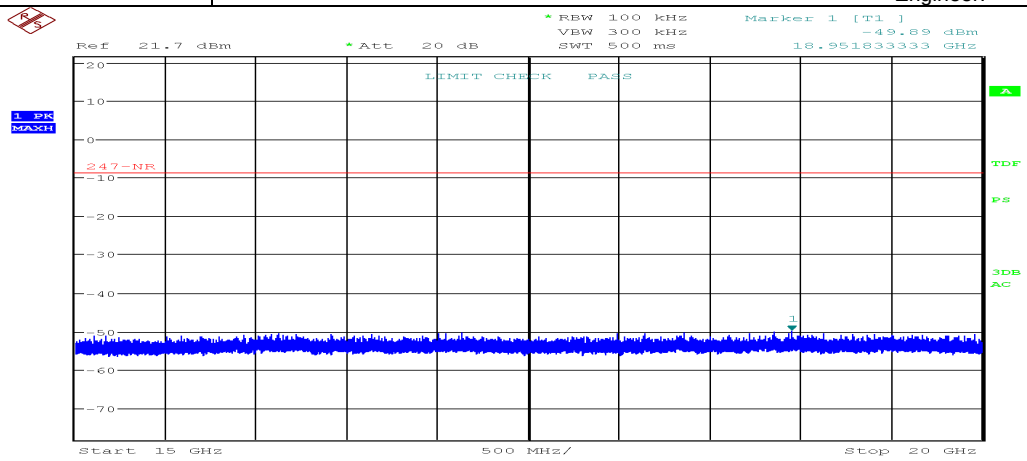


Graph 76

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Out-of-Band Emissions - – 100kHz, -20dBc
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2480MHz Channel – 15GHz to 20GHz

Job Number: E2503-1841-3 Rev1
Test Engineer: NL

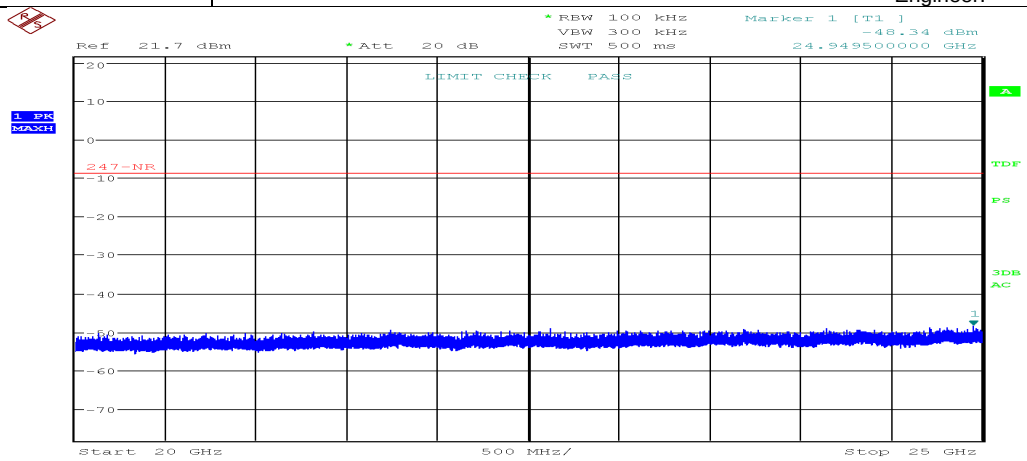


Graph 77

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Out-of-Band Emissions - – 100kHz, -20dBc
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2480MHz Channel – 20GHz to 25GHz

Job Number: E2503-1841-3 Rev1
Test Engineer: NL



Graph 78

Appendix C.6 – Measurement Graphs – Power Spectral Density – FCC 15.247 (e)

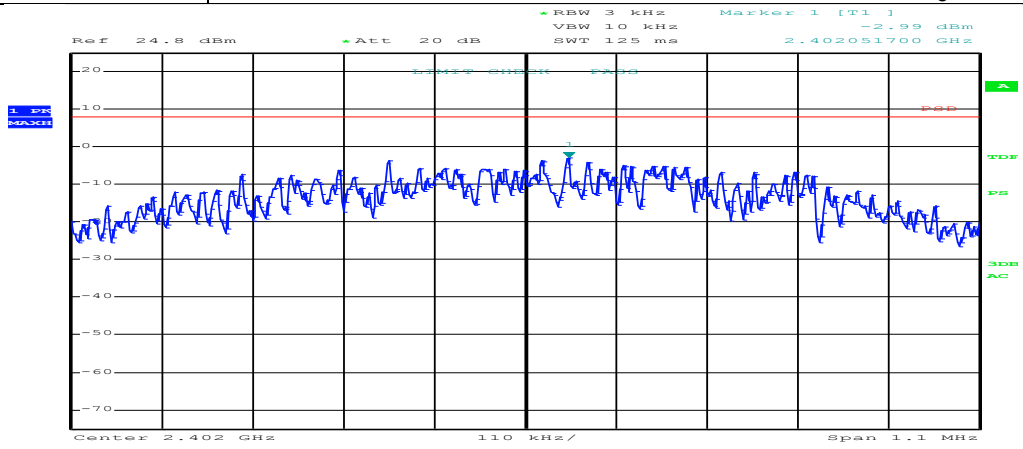
No.	Test	Graph Description
79	Power Spectral Density	2402MHz Channel
80		2426MHz Channel
81		2480MHz Channel

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Peak Power Spectral Density
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2402MHz Channel

Job Number: E2503-1841-3 Rev1

Test Engineer: NL



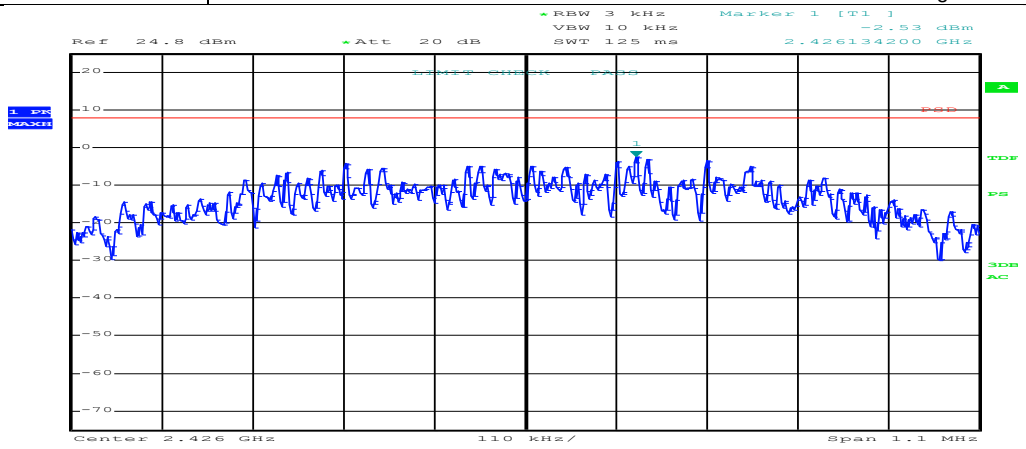
Graph 79

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Peak Power Spectral Density
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2426MHz Channel

Job Number: E2503-1841-3 Rev1

Test Engineer: NL



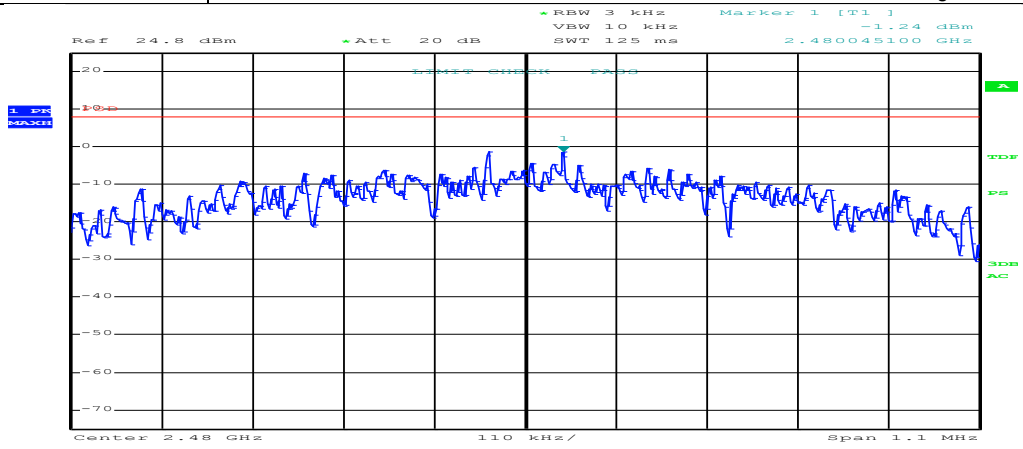
Graph 80

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Peak Power Spectral Density
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2480MHz Channel

Job Number: E2503-1841-3 Rev1

Test Engineer: NL



Graph 81

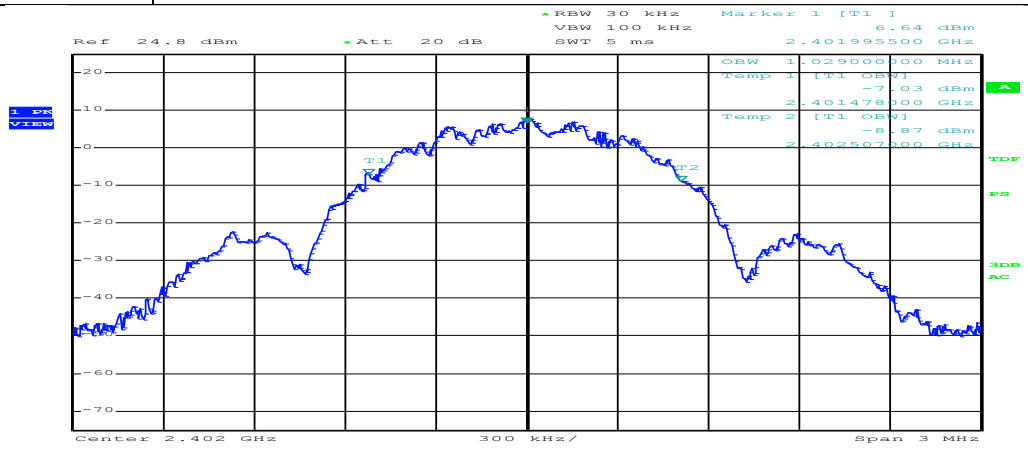
Appendix C.7 – Occupied Bandwidth (99% Emission Bandwidth)

No.	Test	Graph Description
82	Occupied Bandwidth (99% Emission Bandwidth)	2402MHz Channel
83		2426MHz Channel
84		2480MHz Channel

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Occupied Bandwidth (99% Emission Bandwidth)
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2402MHz Channel

Job Number: E2503-1841-3 Rev1
Test Engineer: NL



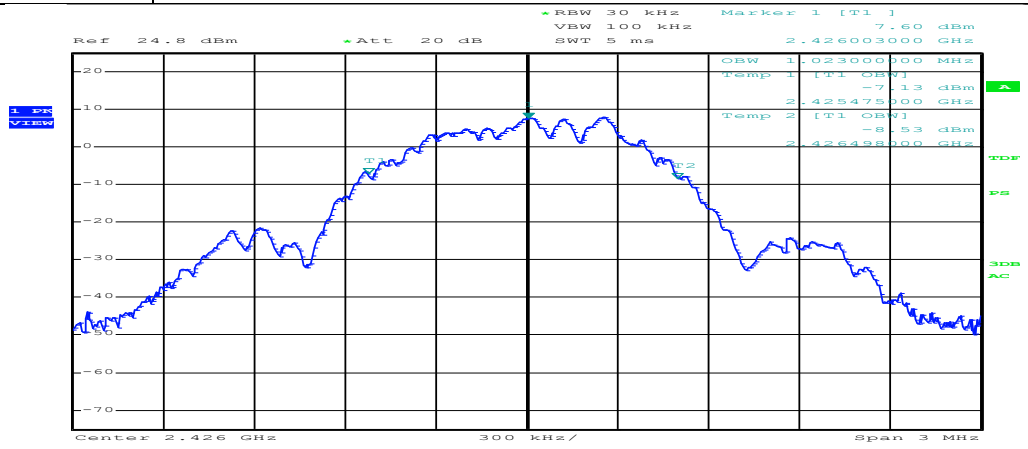
Date: 31.MAR.2025 17:52:23

Graph 82

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Occupied Bandwidth (99% Emission Bandwidth)
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2426MHz Channel

Job Number: E2503-1841-3 Rev1
Test Engineer: NL



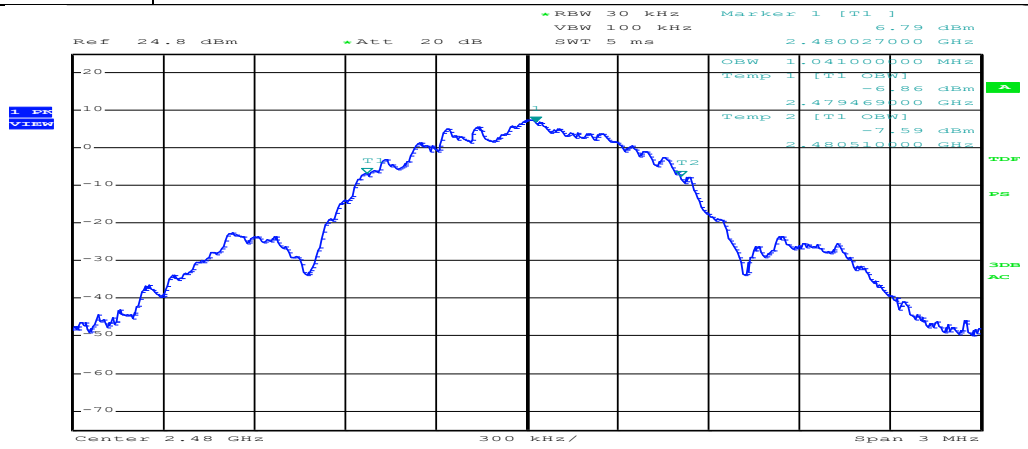
Date: 31.MAR.2025 18:04:20

Graph 83

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Occupied Bandwidth (99% Emission Bandwidth)
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
2480MHz Channel

Job Number: E2503-1841-3 Rev1
Test Engineer: NL



Graph 84

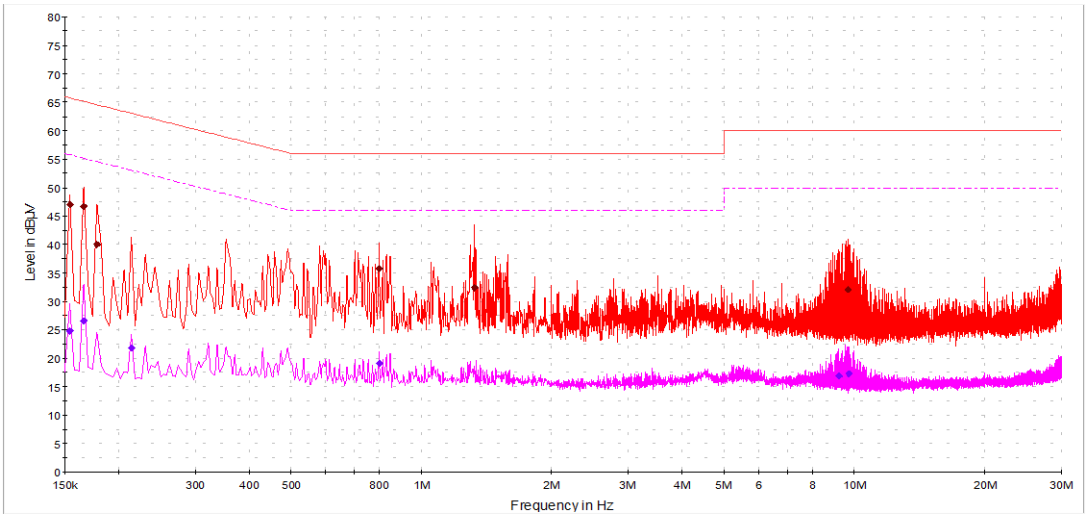
Appendix C.8 – Conducted Emissions- FCC 15.207

No.	Test	Graph Description
85	Conducted Emissions	Active Line – External PSU powered
86		Neutral Line – External PSU powered
87		Active Line – PoE powered
88		Neutral Line – PoE powered

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.207 - Conducted Emissions
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
Active Line – External PSU powered

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ



Preview Result 1-PK+ | Preview Result 2-AVG | Final Result 1-QPK
Final Result 2-CAV | FCC Part 15.207 Voltage on Mains QP | FCC Part 15.207 Voltage on Mains AV

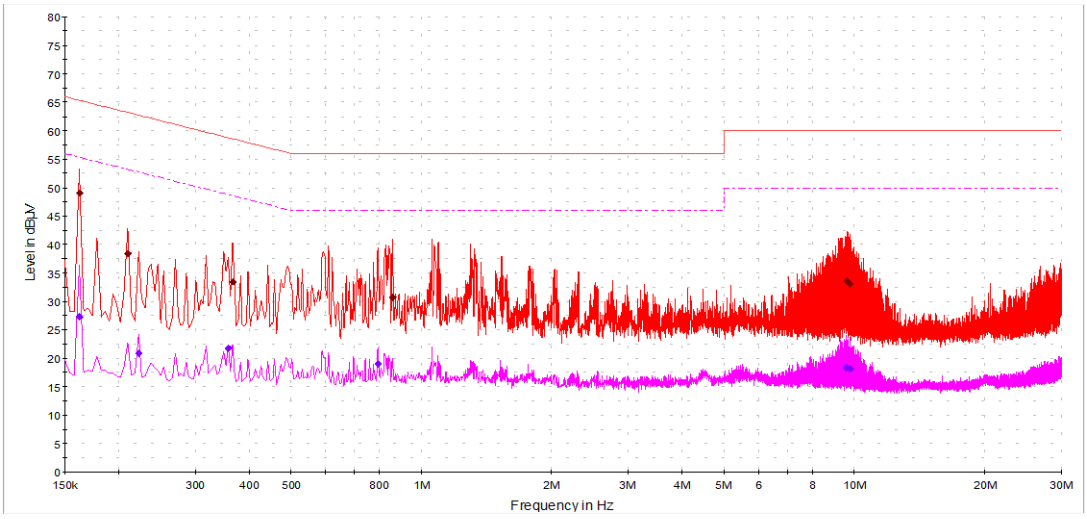
Graph 85

f

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.207 - Conducted Emissions
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
Neutral Line – External PSU powered

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ



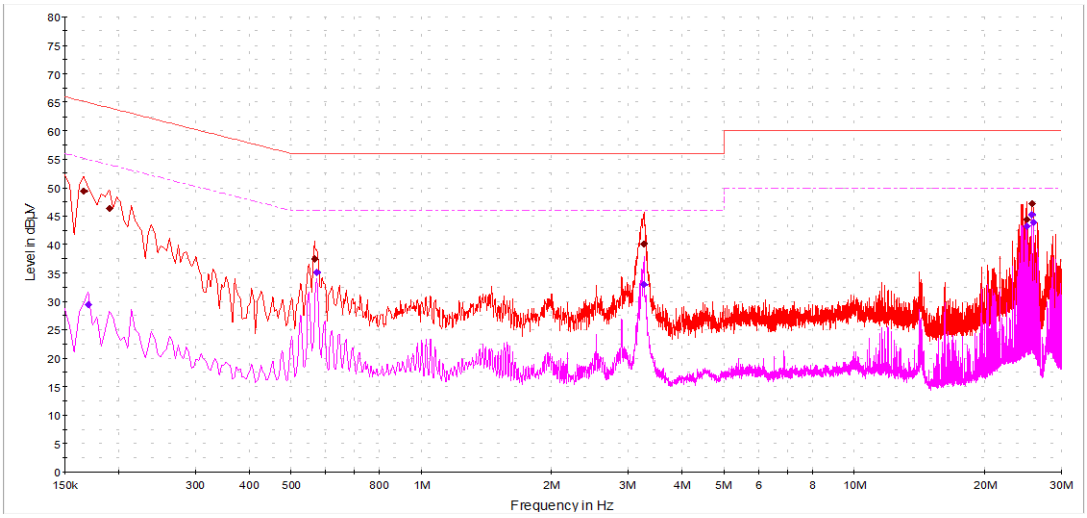
Preview Result 1-PK+ | Preview Result 2-AVG | Final Result 1-QPK
Final Result 2-CAV | FCC Part 15.207 Voltage on Mains QP | FCC Part 15.207 Voltage on Mains AV

Graph 86

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.207 - Conducted Emissions
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
Active Line – PoE powered

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ



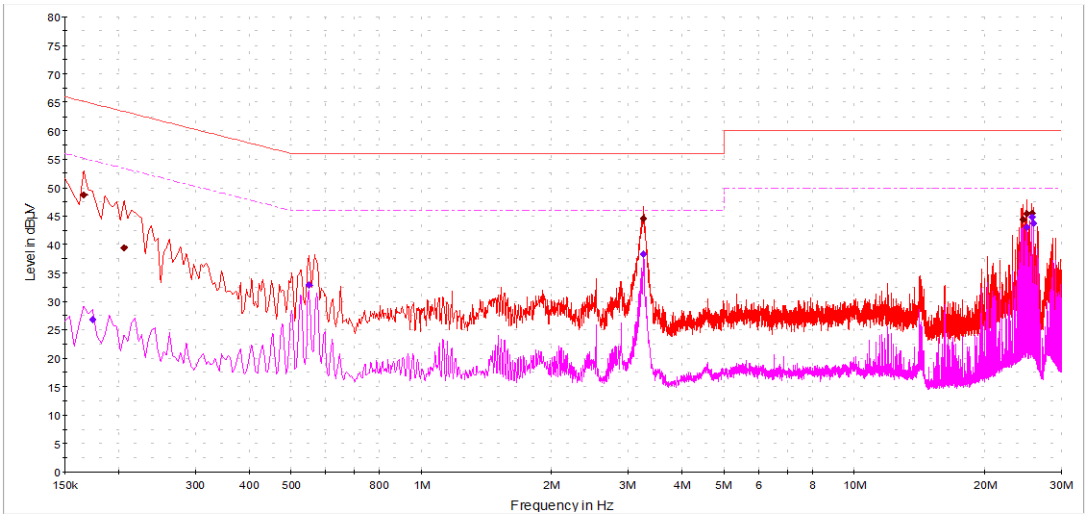
Preview Result 1-PK+ | Preview Result 2-AVG | Final Result 1-QPK
Final Result 2-CAV | FCC Part 15.207 Voltage on Mains QP | FCC Part 15.207 Voltage on Mains AV

Graph 87

EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.207 - Conducted Emissions
Integrated Control Technology Limited - WL-APW - Protege Wireless Access Point
Neutral Line – PoE powered

Job Number: E2503-1841-3 Rev1
Test Engineer: AZ



Preview Result 1-PK+ | Preview Result 2-AVG | Final Result 1-QPK
Final Result 2-CAV | FCC Part 15.207 Voltage on Mains QP | FCC Part 15.207 Voltage on Mains AV

Graph 88