



# EMC Bayswater Pty Ltd

18/88 Merrindale Drive Croydon South, Victoria, 3136, Australia

Telephone: +61 3 9761 5888 Facsimile: +61 3 8761 6547

Email: sales@emcbayswater.com.au

ABN: 49 112 221 333

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

FindAir Sp. z o. o.

FOMDI10

FindAir ONE

FCC ID: 2BKGVFOMDI10

REPORT: E2406-1775-4 DATE: August, 2024





Accreditation Number: 18553

Accredited for compliance with ISO/IEC 17025 - Testing

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# Certificate of Compliance Certification Compliance Report EMC Bayswater Test Report: E2406-1775-4 Issue Date: August, 2024

**Test Sample(s):** FindAir ONE **Model No:** FOMDI10

Serial No:CD:A0:F5:2B:B5:72FCC ID:2BKGVFOMDI10

Customer Details: Michał Czyż

FindAir Sp. z o. o.

Głogowa 26, 31-235 Kraków,

Poland

Phone No: +48 789 397 142

e-mail: administration@findair.eu

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
15.247 (e) - Power Spectral Density
Complied
15.247 (i) - Radio frequency hazard
Complied

Test Date(s): 12<sup>th</sup> to 25<sup>th</sup> of June, 2024

Test House EMC Bayswater Pty Ltd (Issued By): 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 www.emcbayswater.com.au/

This is to certify that the necessary measurements were made by EMC Bayswater Pty Ltd, and that the FindAir Sp. z o. o., FOMDI10, FindAir ONE, has been tested in accordance with requirements contained in the appropriate commission regulations.

Tested and prepared by: Approved by:

Adnan Zaman Neville Liyanapatabendige (EMC Test Engineer) (Manager)

Date

26/08/2024 12:57

NATA



# Radio Compliance Report *for*FindAir Sp. z o. o.

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#### 1. Introduction

Electromagnetic Compatibility (EMC) tests were performed on a FindAir Sp. z o. o., FOMDI10, FindAir ONE in accordance with the requirements of Title 47 of the standard CFR47 FCC Part 15, Subpart C, 15.247.

#### 2. Test Report Revision History

None

#### 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 <sup>#1</sup>
15.247 (a) (2)	6dB Bandwidth	Complied by 173.8kHz
15.247 (b)(3)	Maximum Peak Output Power	Complied by 30.0dB
15.247 (d)	Out-of-Band Emissions – 100kHz, -20dBc	Complied by 19.1dB
15.247 (d)	Emissions on the Band edge	Complied by 24.1dB
15.247 (d), 15.209	Radiated emissions in Restricted bands	Complied by 3.6dB+
15.247 (e)	Power Spectral Density	Complied by 22.6dB
	Occupied Bandwidth (99% Emission Bandwidth)	1030kHz

<sup>\*</sup>Refer to relevant section for statement of measurement uncertainty.

Table 1: Summary of test results



<sup>#1</sup>The Antenna is permanently attached, internal to the device



#### 5. Product Sample Details

#### 5.1. EUT Description

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

Product:	FindAir ONE		
Model No:	el No: FOMDI10		
Serial No:	CD:A0:F5:2B:B5:72	2	
Firmware:	C8B7AECB		
Software:	N/A		
Power Specifications:	x CR 2032 non-rechargeable coin cell, 3V		
Dimensions:	31.8 mm x 22.1 mm (diameter x height)		
Weight:	4.4g		
EUT Type:	Tested as table-top		
Transmitter	Description:	nRF51822	
details:	Type:	Bluetooth Low Energy	
	Operating band:	2400MHz- 2483.5MHz	
	Modulation:	GFSK	
	Channels:	40 channels with 2 MHz spacing	
	Max power:	0dBm	
	Antenna:	Custom PCB trace antenna	
	Antenna Gain:	0dBi	

(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:

"The FindAir ONE product has the form of an overlay for inhalers mounted on the drug dispenser. Simple operation allows the patient to use the product independently. When properly installed, the FindAir ONE overlay records drug use by recording when the inhaler is used and thus pressing the FindAir ONE overlay mounted on the inhaler. When you press the overlay, medication use data is recorded along with data, time and identification of each press. This data is stored in the FindAir One overlay. The FindAir ONE overlay can connect via Bluetooth to software on mobile devices that download data from the overlay, and allow it to be viewed and send to databases. It is powered by a coin cell battery and can transmit data via Bluetooth Low Energy (BLE) version 5.1."

(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 2483.5MHz (BLE).





#### 5.3. Support Equipment

	Description:	Smartphone
Support	Manufacturer:	Motorola
Equipment 1:	Model No:	Moto G52
	Serial No:	N/A

#### 5.4. Product operating modes

#### "Shelf mode:

This mode is extremely low power mode for storing product. BLE communication is turn off. Microcontroller is in deep sleep mode waiting for wake up by the overlay switch press.

#### Normal mode:

After waking up the device is ready to use. BLE communication is turned on with 5 second communication interval at connection and advertising state. After the overlay switch press, the usages of drug events are stored in non-volatile memory. Thus even unintentional microcontroller reset occurs, drug usages history is retained. First overlay press is not stored and is used only for wake devices from shelf mode."

(Customer supplied product operating mode information)

#### 5.5. Product operating mode for testing

"For radio tests where the device transmitted at maximum TX power at the lowest, middle and highest TX frequencies the device is connected to an external power supply as the internal battery cannot sustain extended periods of high current draw.

The smartphone is used to change device specific test mode, via BLE communication."

(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 to an external power supply as the internal battery cannot sustain extended periods of high current draw. The device transmitted at maximum TX power at the lowest, middle and highest TX frequencies.

Customer supplied a sample (SN: F6:6C:B3:53:F3:29) with a temporary SMA connector for the conducted method testing. The SMA connector was soldered after the antenna matching network in place of the antenna. The onboard PCB trace antenna was disconnected.



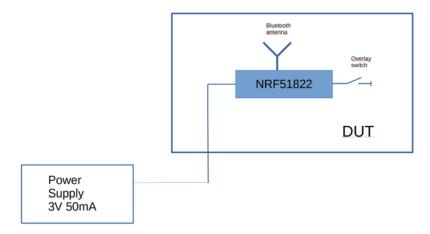


Figure 1: Customer supplied block diagram of EUT (DUT) test configuration - Radiated Method

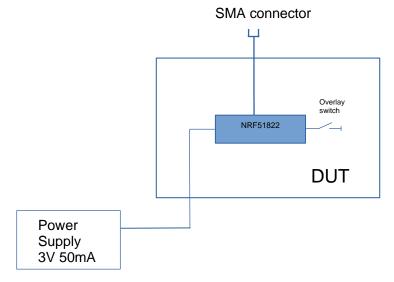


Figure 2: Customer supplied block diagram of EUT (DUT) test configuration - Conducted Method

#### 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

FindAir ONE for pMDI v 1.1 -EMC plan 29.04.2024

FindAir ONE for pMDI v 1.1 -Instruction to test EMC NRF Connect mobile phone application 28.05.2024



## 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.

(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)	678.6	500	+178.6	Complied
2440 (Middle)	694.2	500	+194.2	Complied
2480 (Top)	673.8	500	+173.8	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:	18.8 to 19.7°C	
Humidity:	44.7 to 45.2%	
Atmospheric pressure:	1014.9hPa	

Table 4: Climatic conditions

Notes: The minimum required 500kHz 6dB Bandwidth requirements were

satisfied by at least 173.8kHz.

The transmitter was continuously transmitting in modulated transmit

mode.

**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)	2401.546	2402.568	1022
2440 (Middle Channel)	2439.551	2440.581	1030
2480 (Highest Channel)	2479.534	2480.550	1016

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:	18.8 to 19.7°C	
Humidity:	44.7 to 45.2%	
Atmospheric pressure:	1014.9hPa	

Table 6: Climatic conditions

**Notes:** The transmitter was tested with modulation.

Assessment: The measured Occupied bandwidth (99% Emission Bandwidth) is

1030 kHz (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.

(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	-1.4	30.0	-31.4	Complied
Middle	2440	-0.4	30.0	-30.4	Complied
Тор	2480	+0.0	30.0	-30.0*	Complied

\*Worst-case emission

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

The measurement uncertainty was calculated at  $\pm 1.4$ dB. 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: 18.8 to 19.7°C				
Humidity:	44.7 to 45.2%			
Atmospheric pressure:	1014.9hPa			

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 a	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.

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.

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							
Measurement Antenna Polarisation	Frequency (MHz)	Result peak (dBμV/m)	Limit Quasi-peak/ Average (dB <sub>µ</sub> V/m)	Delta limit (dB)			
Х	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						
Measurement Antenna Polarisation	Frequency (MHz)	Result Quasi-peak (dBμV/m)	Limit Quasi-peak (dBµV/m)	Delta limit (dB)		
	37.566	20.2	40.0	-19.8		
Horizontal	609.090	28.2	46.0	-17.8*		
	977.011	32.9	54.0	-21.1		
	38.003	19.9	40.0	-20.1		
Vertical	610.012	28.1	46.0	-17.9		
	965.517	32.7	54.0	-21.3		

\*Worst-case emissions

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





Operating Chan	Operating Channel: Bottom (2402MHz)							
Measurement Peak Measurements				A۱	erage Meas	urements		
Antenna Polarisation	Frequency (MHz)	Result (dB <sub>μ</sub> V/m)	Limit (dBμV/m)	Delta Limit (dB)	Frequency (MHz)	Result (dBμV/m)	Limit (dBμV/m)	Delta Limit (dB)
Horizontal	4803.600	56.8	74.0	-17.2*	4804.320	50.4	54.0	-3.6*+
Vertical	2385.280	55.4	74.0	-18.6	2385.280	23.7	54.0	-30.3
vertical	4804.560	55.8	74.0	-18.2	4804.560	48.8	54.0	-5.2

\*Worst-case emissions, \*Refer to measurement uncertainty statement

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

Operating Chan	Operating Channel: Middle (2440MHz)							
Measurement Peak Measurements				A۱	erage Meas	urements		
Antenna Polarisation	Frequency (MHz)	Result (dBμV/m)	Limit (dBμV/m)	Delta Limit (dB)	Frequency (MHz)	Result (dBμV/m)	Limit (dBμV/m)	Delta Limit (dB)
Horizontol	4879.680	54.4	74.0	-19.6	4880.640	46.1	54.0	-7.9
Horizontal	-	-	-	-	7319.440	36.3	54.0	-17.7
Vertical	4880.400	54.6	74.0	-19.4*	4880.640	47.1	54.0	-6.9*
vertical	-	-	-	-	7320.880	36.4	54.0	-17.6

\*Worst-case emissions

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

Operating Chan	Operating Channel: Top (2480MHz)							
Measurement		Peak Measu	rements		A۱	erage Meas	urements	
Antenna Polarisation	Frequency (MHz)	Result (dBμV/m)	Limit (dBμV/m)	Delta Limit (dB)	Frequency (MHz)	Result (dBμV/m)	Limit (dBμV/m)	Delta Limit (dB)
	2483.560	49.4	74.0	-24.6	2483.560	28.3	54.0	-25.7
Horizontal	2484.080	47.2	74.0	-26.8	2484.080	27.6	54.0	-26.4
Horizoniai	4959.600	55.0	74.0	-19.0*	4959.600	47.0	54.0	-7.0
	-	-	-	-	7439.440	45.8	54.0	-8.2
	2483.560	47.9	74.0	-26.1	2483.560	27.0	54.0	-27.0
\/articol	2484.340	46.6	74.0	-27.4	2484.080	26.3	54.0	-27.7
Vertical	4960.560	54.2	74.0	-19.8	4960.320	47.7	54.0	-6.3*
	-	-	-	-	7439.200	41.9	54.0	-12.1

\*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:	12.4 to 15.5°C			
Humidity:	48 to 55%			
Atmospheric pressure:	1015.7 to 1024.7hPa			

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  $dB\mu V/m$ 

V<sub>QP/PK/A</sub> Measured Voltage (Quasi Peak, Peak or Average) in

 $_{\text{V}}$   $^{-}$  dB $_{\mu}$ V

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.

The transmitter was continuously transmitting in modulated transmit

mode.

**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 -1.6dBm

Frequency Range	Limits
(MHz)	(dBm)
30MHz and 25GHz	-21.6

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)	
	4803.733	-40.7	-21.6	-19.1*	
Bottom	All other peak emissions >20dB below limit or no significant emissions above the noise floor observed				
	4879.733	-41.6	-21.6	-20.0	
Middle	All other peak emissions >20dB below limit or no significant emissions above the noise floor observed				
Тор	All peak emissions	s >20dB below limit or no the noise floor obse	•	ons above	

\*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 10<sup>th</sup> 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 bandedge.

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 -1.6dBm

Band edge	Limits	
Frequencies	(dBm)	
Lower Edge (2402MHz)	-21.6	

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 Frequency Peak Power		Delta limit (dB)			
2398.596	-46.3	-21.6	-24.7			
2399.960	-45.7	-21.6	-24.1*			

\*Worst-case emissions

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

Operating Channel: Top (2480MHz)									
Measurement		Peak Measu	rements		Average Measurements				
Antenna Polarisation	Frequency (MHz)	Result (dBμV/m)	Limit (dBμV/m)	Delta Limit (dB)	Frequency (MHz)	Result (dBμV/m)	Limit (dBμV/m)	Delta Limit (dB)	
Harizantal	2483.560	49.4	74.0	-24.6*	2483.560	28.3	54.0	-25.7*	
Horizontal	2484.080	47.2	74.0	-26.8	2484.080	27.6	54.0	-26.4	
Vertical	2483.560	47.9	74.0	-26.1	2483.560	27.0	54.0	-27.0	
	2484.340	46.6	74.0	-27.4	2484.080	26.3	54.0	-27.7	

<sup>\*</sup>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: 18.8 to 19.7°C				
Humidity:	44.7 to 45.2%			
Atmospheric pressure:	1014.9hPa			

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  $dB\mu V/m$ 

Measured Voltage (Quasi Peak, Peak or Average)  $V_{QP/PK/AV}$  =

in dBuV

AF = Antenna Factor in dB(/m)

L<sub>C</sub> = Cable and attenuator Loss in dB G<sub>Amp</sub> = 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 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	2401.975	-15.8	8.00	-23.8	Complied
Middle	2440.053	-14.9	8.00	-22.9	Complied
Тор	2480.025	-14.6	8.00	-22.6*	Complied

\*Worst-case emissions

Table 25: Results for Power Spectral Density

The measurement uncertainty was calculated at  $\pm 1.4$ dB. 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: 14.2 to 17.7°C				
Humidity:	50 to 57.4%			
Atmospheric pressure:	1015.2hPa			

Table 26: Climatic conditions

Notes: All Power Spectral Density measurements were below the specified

limits.

The transmitter was supplied by the customer to be continuously

transmitting in modulated transmit mode.

Assessment: The EUT complied with the Power Spectral Density requirements of

CFR47 FCC Part 15, Subpart C, 15.247 (e).

#### 17. Conclusion

The FindAir Sp. z o. o., FOMDI10, FindAir ONE complied with the applicable requirements of CFR47 FCC Part 15, Subpart C, 15.247.





# Appendix A - Test Equipment

Inv		Equipment Make Marks			Calibration		
lnv.	Equipment	Make	Model No.	Serial No.	Interval	Due	Туре
Transmitter Maximum EIRP, Power Spectral Density, 6dB Bandwidth and Band-edge – Conducted Method							
1217	ANALYSER, EMI Receiver	Rohde & Schwarz	ESU40	100182	1 year	Jul-25	Е
1092	ATTENUATOR, 6dB, 2W	Fairview Microwave	SA26B-06	1092	2 years	Mar-26	Е
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
		Radiated	Emissions				
1217	ANALYSER, EMI Receiver	Rohde & Schwarz	ESU40	100182	1 year	Jul-25	Е
0935	ANTENNA, Biconilog	Sunol Sciences	JB5	A071106	2 years	May-25	Е
0718	ATTENUATOR, 6dB	JFW	50FPE-006	-	1 year	Jan-25	Ι
0633	ANTENNA, Double Ridge Horn	EMCO	3115	9712-5369	3 years	Aug-27	I
0559	PRE-AMP, Microwave, 18GHz	Miteq	AFS8	605305	1 year	May-25	I
1009	CABLE, Coax, Sucoflex 104B	Huber+Suhner	00065/4B	C405	2 years	Aug-26	V
1010	CABLE, Coax, Sucoflex 104B	Huber+Suhner	00078/4B	C406	2 years	Aug-26	V
1064	PRE-AMP, Microwave, 26GHz	Miteq	AFS33	1696371	1 year	May-25	I
1193	Standard Gain Horn Antenna - 5.85GHz to 8.2GHz	A.H. Systems, inc	SAS-584	186	1 year	May-25	Е
1194	Standard Gain Horn Antenna - 8.2GHz to 12.4GHz	A.H. Systems, inc	SAS-585	224	1 year	May-25	Е
1195	Standard Gain Horn Antenna - 12.4GHz to 18.0GHz	A.H. Systems, inc	SAS-586	195	1 year	May-25	Е
1196	Standard Gain Horn Antenna - 18.0GHz to 26.5GHz	A.H. Systems, inc	SAS-587	181	1 year	May-25	Е
0024	ANTENNA, Active Loop	EMCO	6502	2620	2 years	Feb-26	I
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
1145	CABLE, Coax, Sucoflex 104PA	Huber + Suhner	84279564	SN MY056/4PA	1 year	Jan-25	I
0989	CABLE, Coax, Sucoflex 104A	Huber+Suhner	44454/4A	C357	1 year	Jan-25	I
1238	CABLE, Coax, Sucoflex 126 E	Huber + Suhner	10422876	SN 8000495/126E	1 year	Jan-25	I
1155	Hygrometer, Temp, Humidity	DigiTech	QM7312	-	2 years	Jul-25	ı
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





# Appendix B - Photographs

Annex	Number	Photograph Description	
	1		
А	2		
	3	EUT – External views – Sample with temporary external power connections for testing	
	4		
	5		
	6		
	7		
	8	ELIT External views	
	9	EUT – External views	
	10		
	1		
	2	EUT – Internal views	
	3		
	4		
	5		
	6		
_	7		
В	8		
	9		
	10		
	11		
	12	EUT – View of the sample with temporary SMA antenna port connector for Conducted method testing	
	13		
	14		
	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	
С	6	Radiated measurements – 9kHz to 30MHz – Z Antenna orientation	
	7	Radiated measurements – below 1GHz	
	8	Radiated measurements – above 1GHz	
	9	Conducted measurements	
	10	Support Equipment – Mobile Phone	
	11		

EUT External Photographs	EMC Bayswater Test Report E2406-1775-4 Annex A	
EUT Internal Photographs	EMC Bayswater Test Report E2406-1775-4 Annex B	
EUT Orientations & Test	EMC Bayswater Test Report E2406-1775-4 Annex C	
Configurations Photographs		

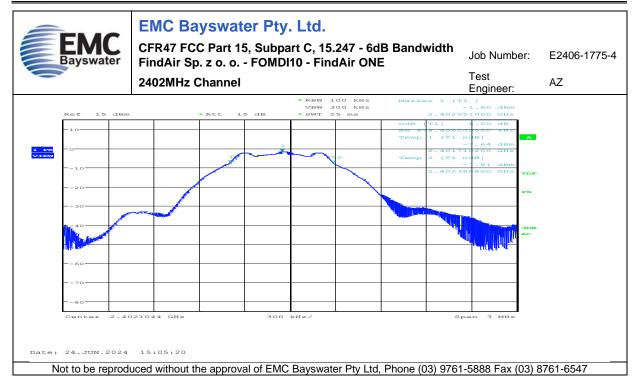




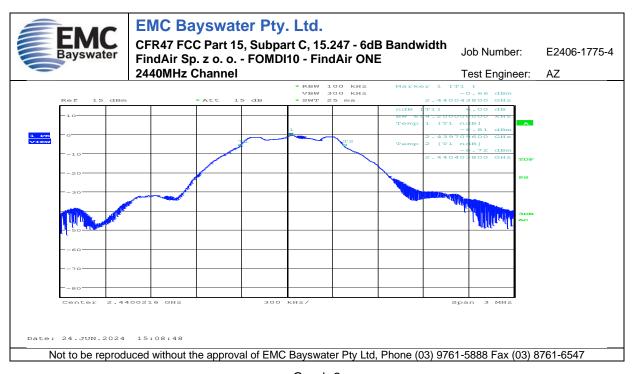
# Appendix C.1 - Measurement Graphs -6dB Bandwidth - 15.247 (a) (2)

No.	Test	Graph Description
1		2402MHz Channel
2	6dB Bandwidth	2440MHz Channel
3		2480MHz Channel





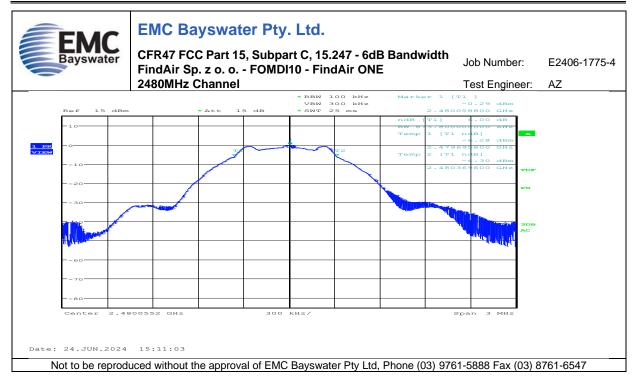
Graph 1



Graph 2







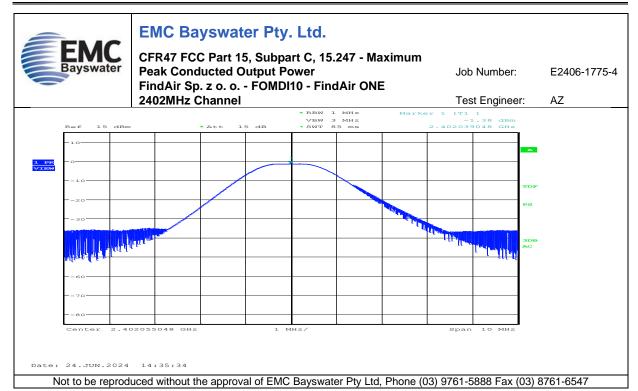
Graph 3



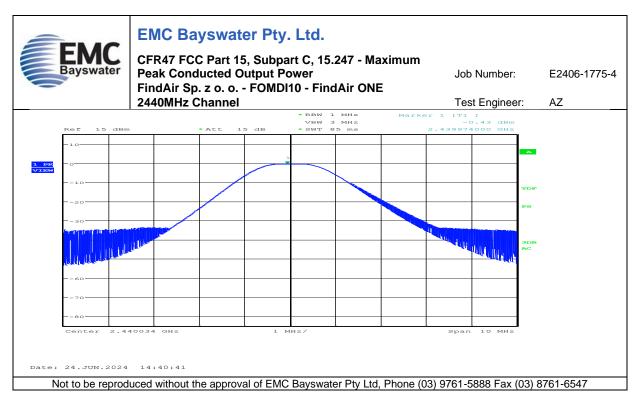
# Appendix C.2 – Measurement Graphs – Maximum Peak Conducted Output Power - 15.247 (b)(3)

No.	Test	Graph Description
4		2402MHz Channel
5	Maximum Peak Conducted Output Power	2440MHz Channel
6	•	2480MHz Channel





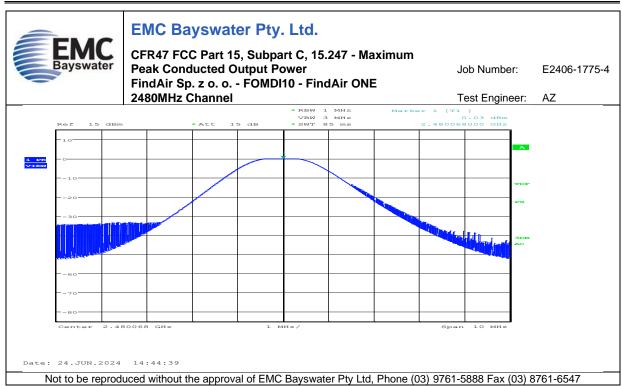
Graph 4



Graph 5







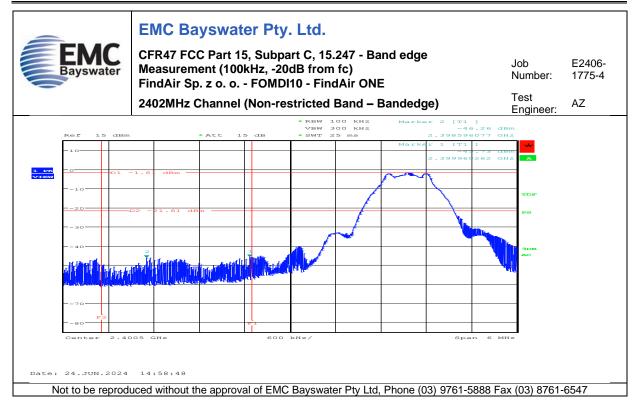
Graph 6



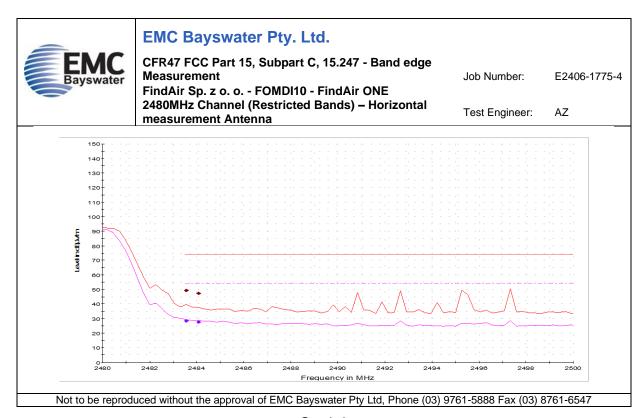
### Appendix C.3 - Measurement Graphs - Band Edge - 15.247 (d)

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





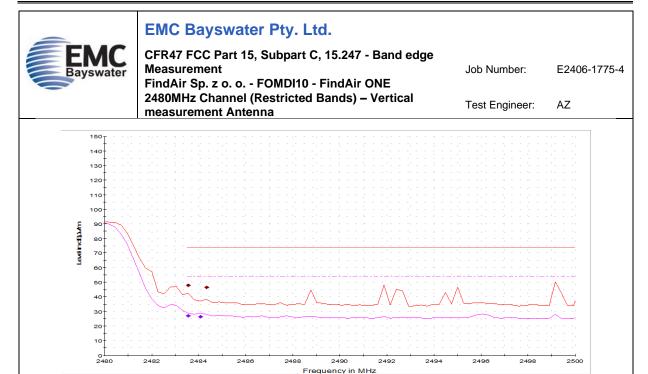
Graph 7



Graph 8







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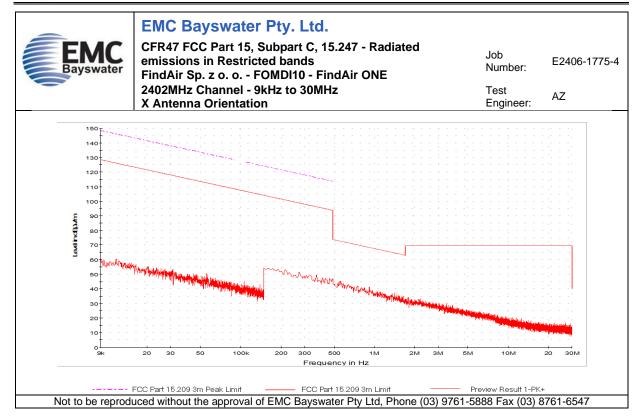
Graph 9



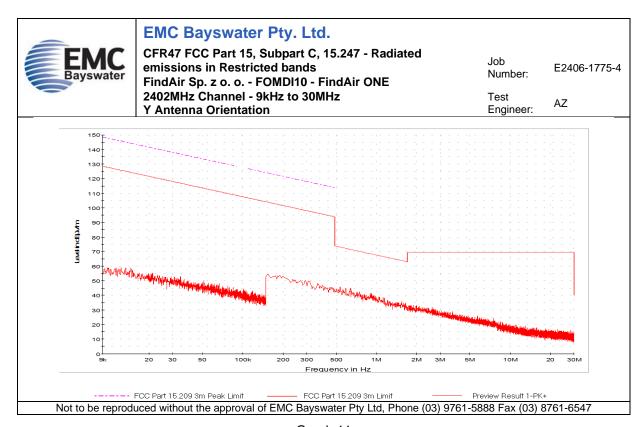
# Appendix C.4 – Measurement Graphs – Transmitter Spurious – FCC 15.247 (d), 15.209 – Restricted Bands

No.	Test	Graph Description
10		2402MHz Channel, Antenna X
11		2402MHz Channel, Antenna Y
12		2402MHz Channel, Antenna Z
13		2440MHz Channel, Antenna X
14	9kHz to 30MHz	2440MHz Channel, Antenna Y
15	5.11.1 <u>2</u> 15 55.111.1 <u>2</u>	2440MHz Channel, Antenna Z
16		2480MHz Channel, Antenna X
17		2480MHz Channel, Antenna Y
18		2480MHz Channel, Antenna Z
19		2402MHz Channel, Antenna Horizontal
20		2402MHz Channel, Antenna Vertical
21	30MHz to 1GHz	2440MHz Channel, Antenna Horizontal
22	00MH2 10 10H2	2440MHz Channel, Antenna Vertical
23		2480MHz Channel, Antenna Horizontal
24		2480MHz Channel, Antenna Vertical
25		2402MHz Channel, Antenna Horizontal
26		2402MHz Channel, Antenna Vertical
27	1GHz to 6GHz	2440MHz Channel, Antenna Horizontal
28	10112 10 00112	2440MHz Channel, Antenna Vertical
29		2480MHz Channel, Antenna Horizontal
30		2480MHz Channel, Antenna Vertical
31		2402MHz Channel, Antenna Horizontal
32		2402MHz Channel, Antenna Vertical
33		2440MHz Channel, Antenna Horizontal
34	5.8GHz to 8.2GHz	2440MHz Channel, Antenna Vertical
35		2480MHz Channel, Antenna Horizontal
36		2480MHz Channel, Antenna Vertical
37		2402MHz Channel, Antenna Horizontal
38		2402MHz Channel, Antenna Vertical
39		2440MHz Channel, Antenna Horizontal
40	8.2GHz to 12.4GHz	2440MHz Channel, Antenna Vertical
41		2480MHz Channel, Antenna Horizontal
42		2480MHz Channel, Antenna Vertical
43		2402MHz Channel, Antenna Horizontal
44		2402MHz Channel, Antenna Vertical
45	12.4GHz to 18GHz	2440MHz Channel, Antenna Horizontal
46	12.73112 10 100112	2440MHz Channel, Antenna Vertical
47		2480MHz Channel, Antenna Horizontal
48		2480MHz Channel, Antenna Vertical
49		2402MHz Channel, Antenna Horizontal
50		2402MHz Channel, Antenna Vertical
51	18GHz to 25GHz	2440MHz Channel, Antenna Horizontal
52	100112 10 230112	2440MHz Channel, Antenna Vertical
53		2480MHz Channel, Antenna Horizontal
54		2480MHz Channel, Antenna Vertical
54		27001911 12 Oriannel, Antenna Ventical





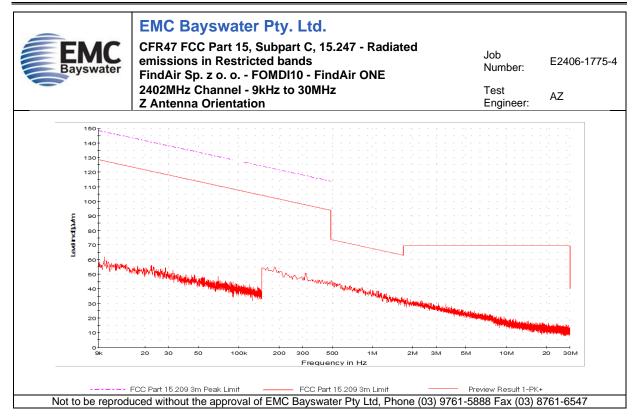
Graph 10



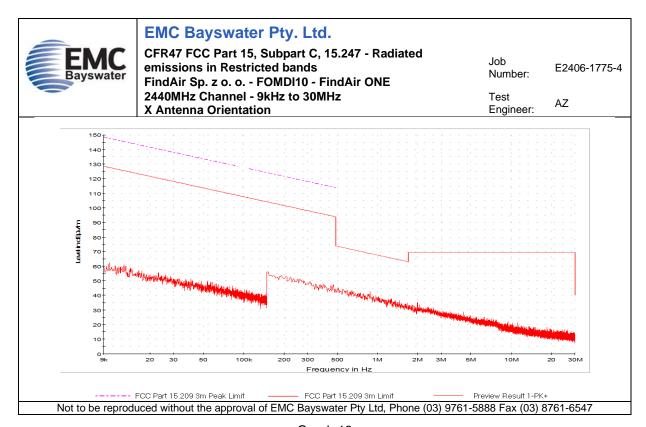
Graph 11







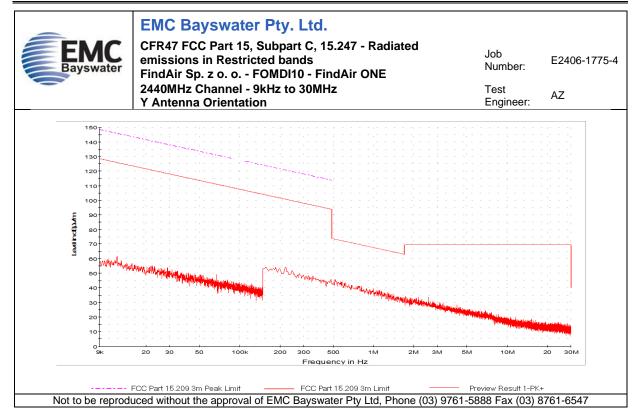
Graph 12



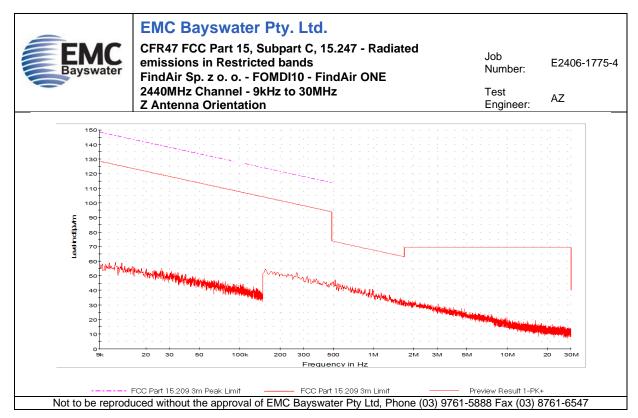
Graph 13







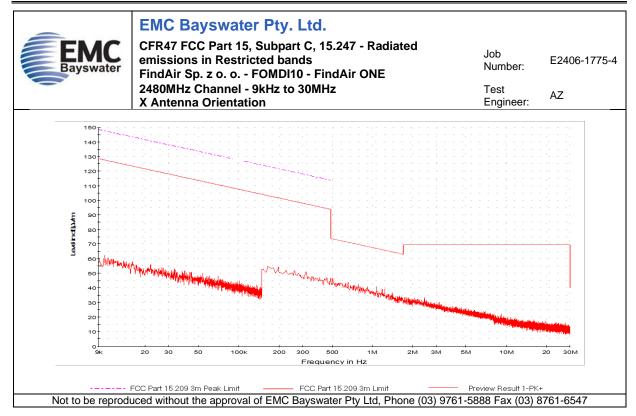
Graph 14



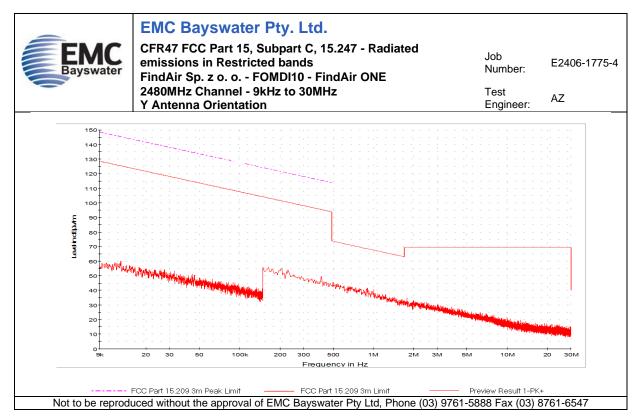
Graph 15







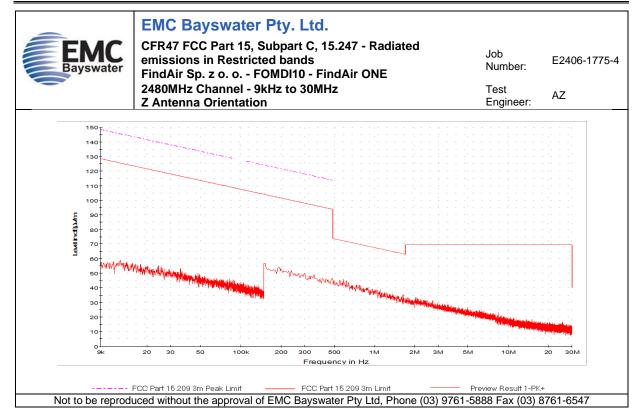
Graph 16



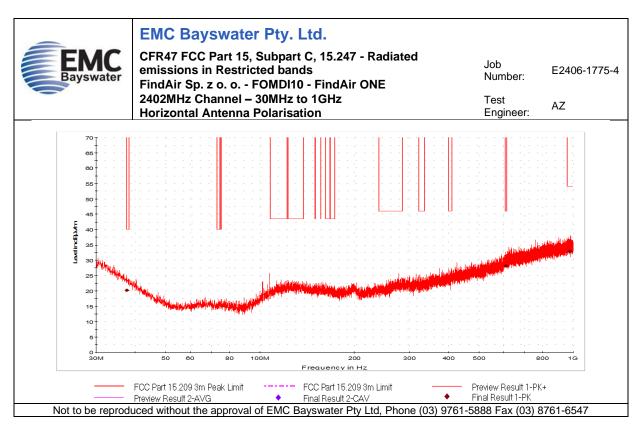
Graph 17







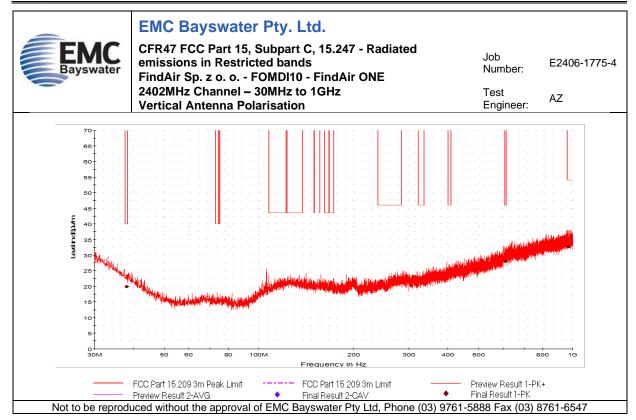
Graph 18



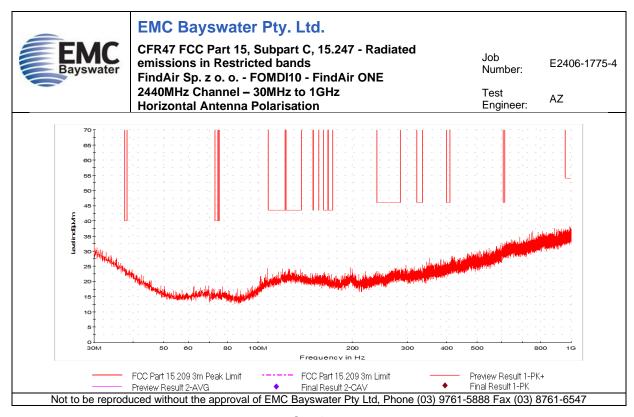
Graph 19







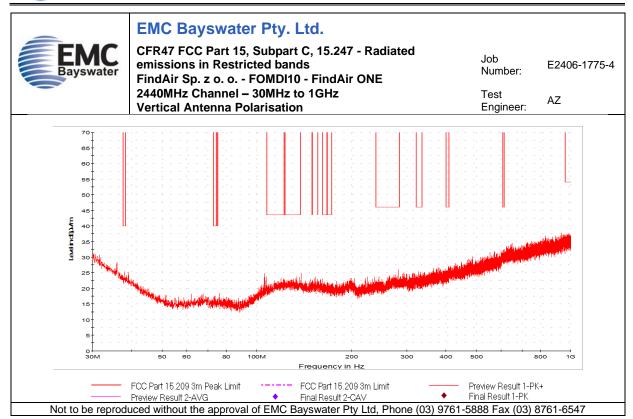
Graph 20



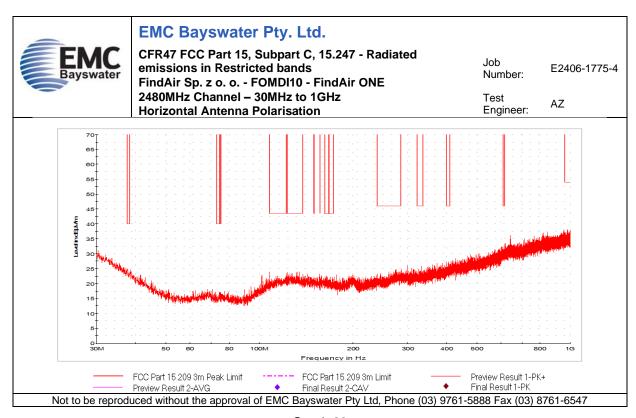
Graph 21







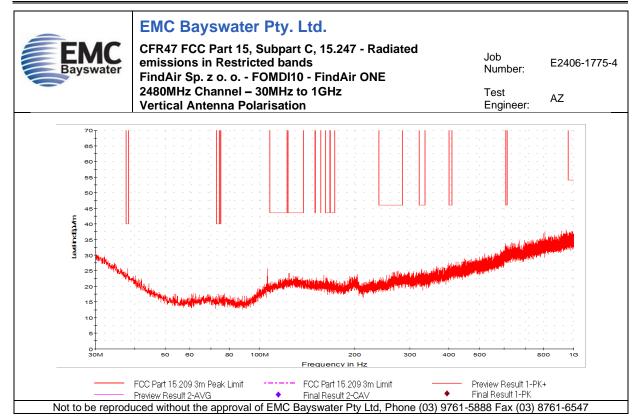
Graph 22



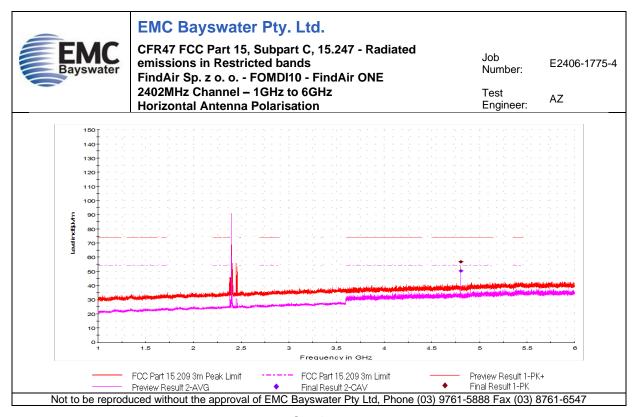
Graph 23







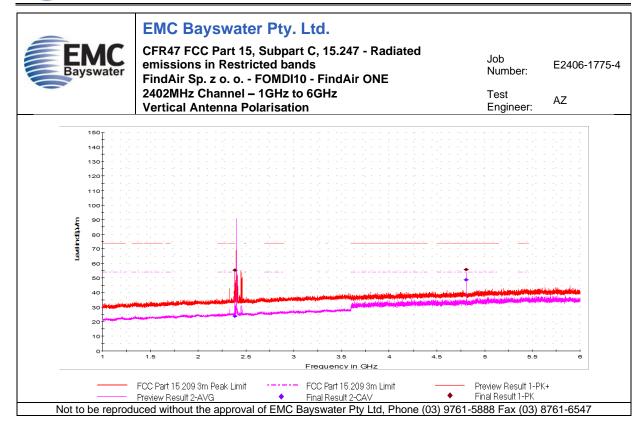
Graph 24



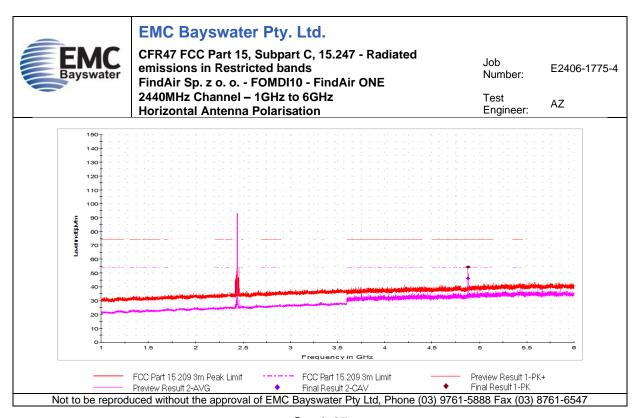
Graph 25







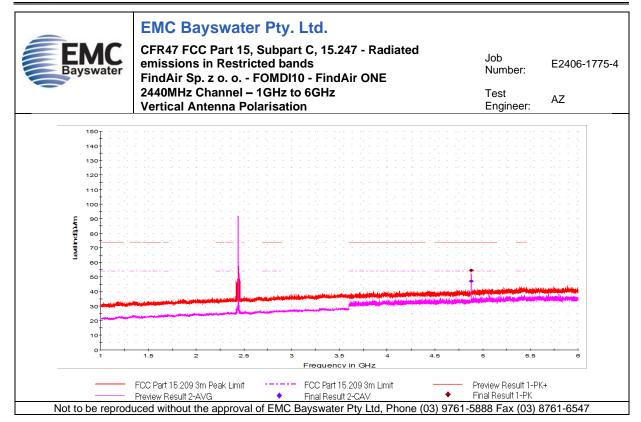
Graph 26



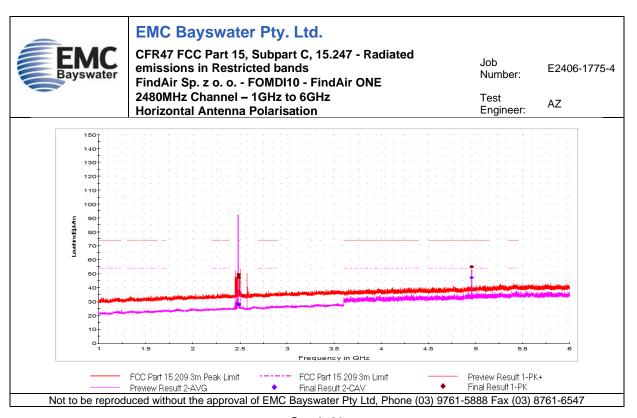
Graph 27







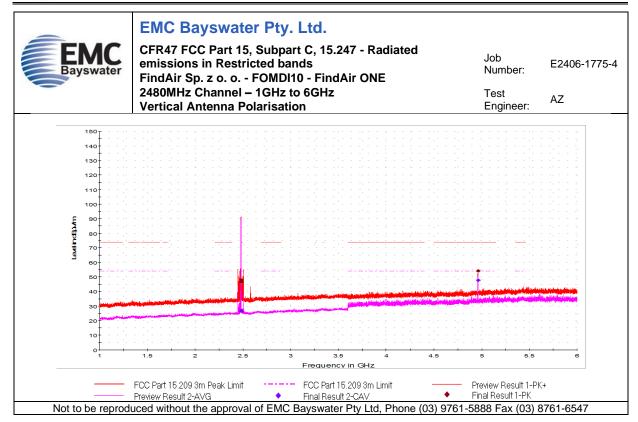
Graph 28



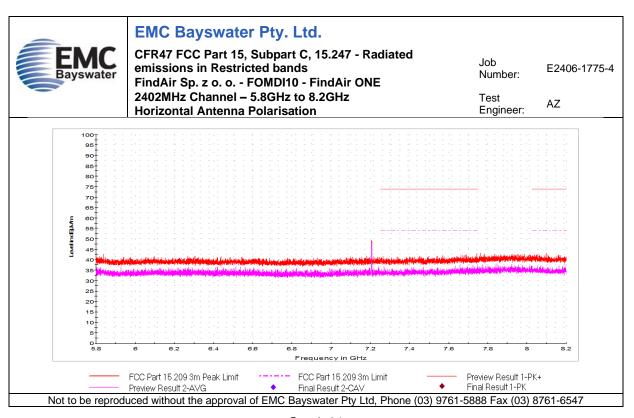
Graph 29







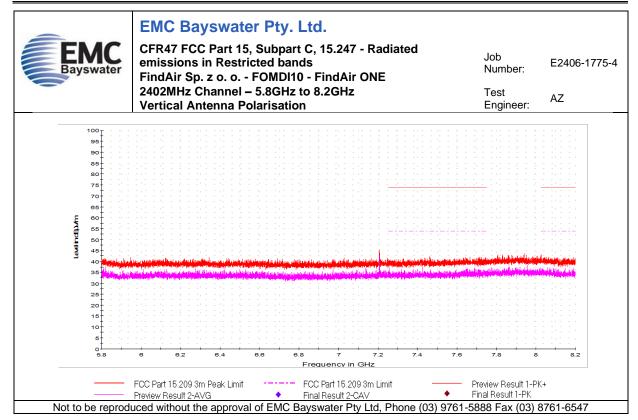
Graph 30



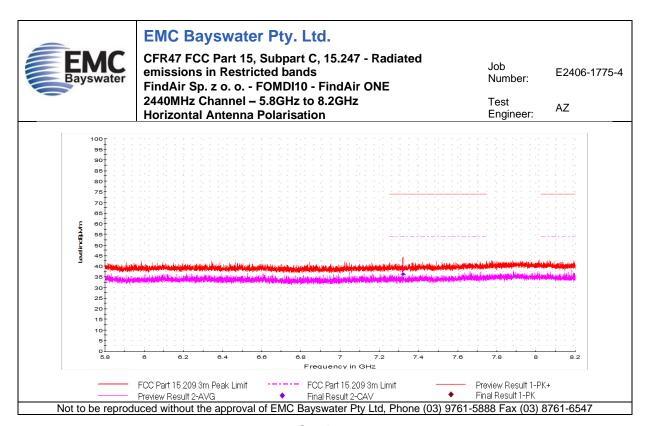
Graph 31







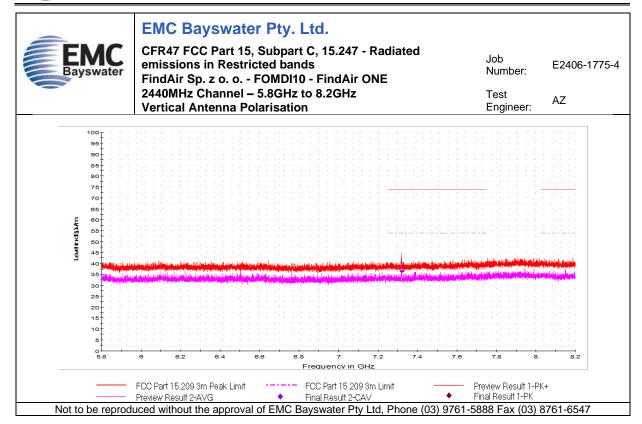
Graph 32



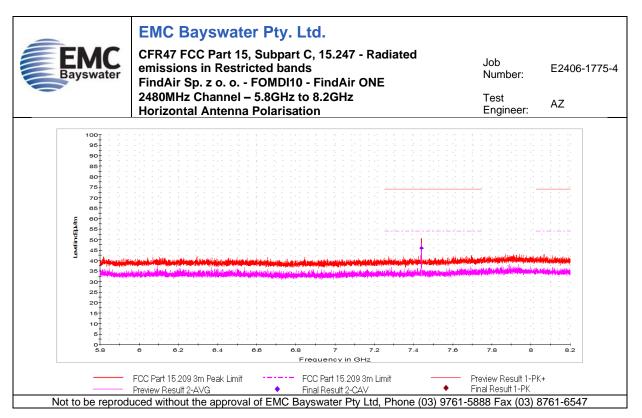
Graph 33







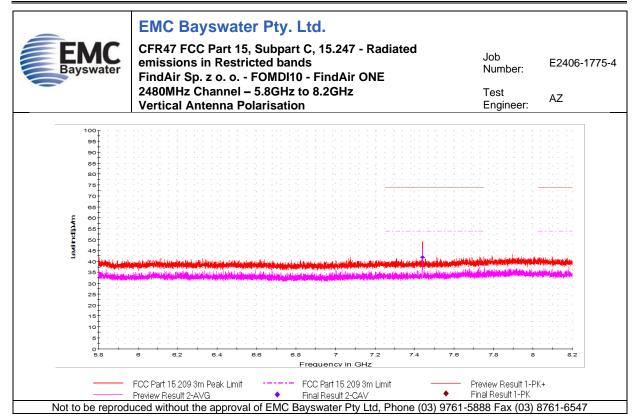
Graph 34



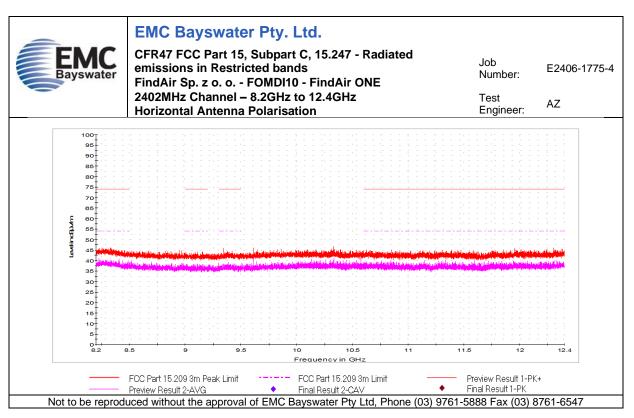
Graph 35







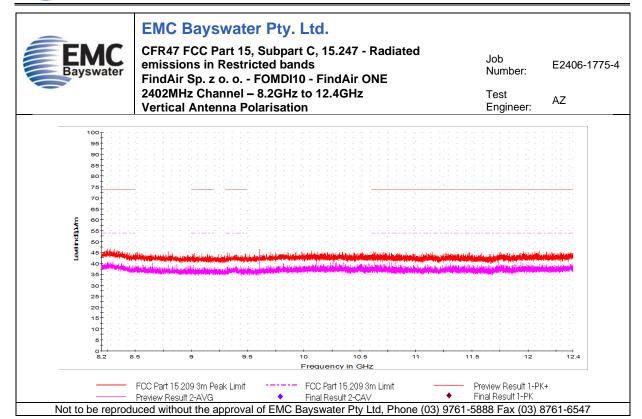
Graph 36



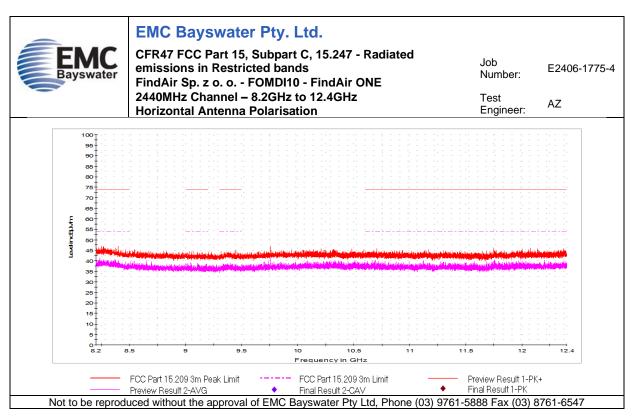
Graph 37







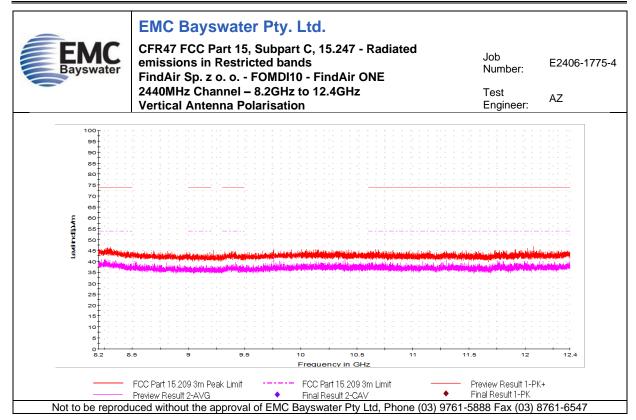
Graph 38



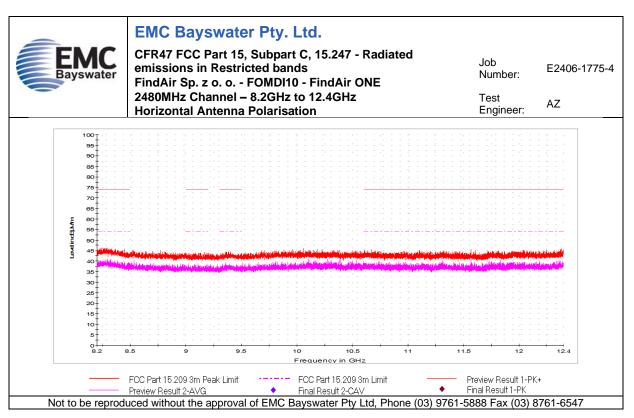
Graph 39







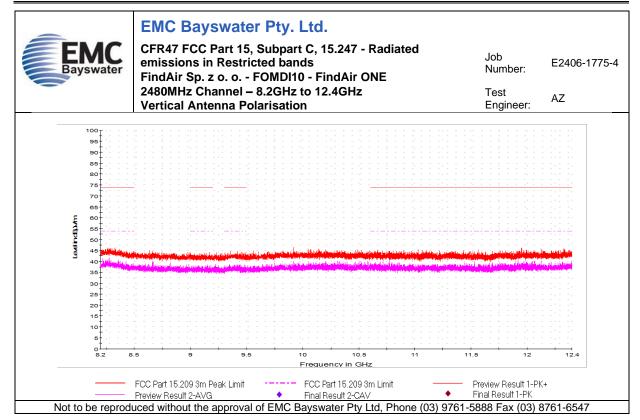
Graph 40



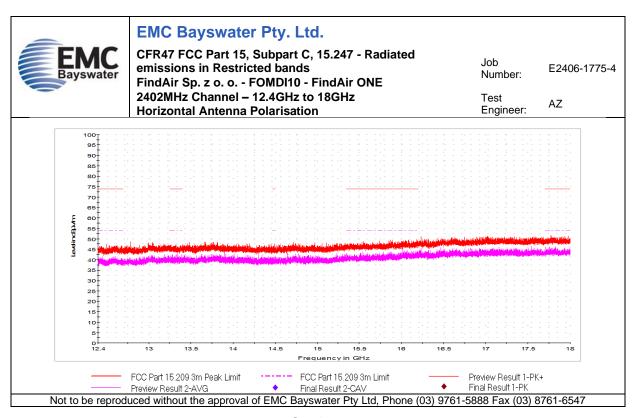
Graph 41







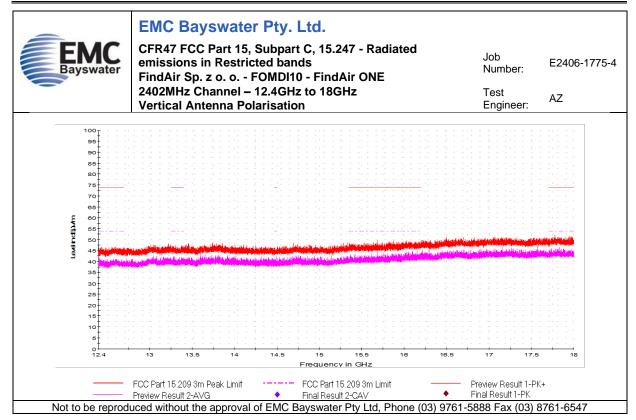
Graph 42



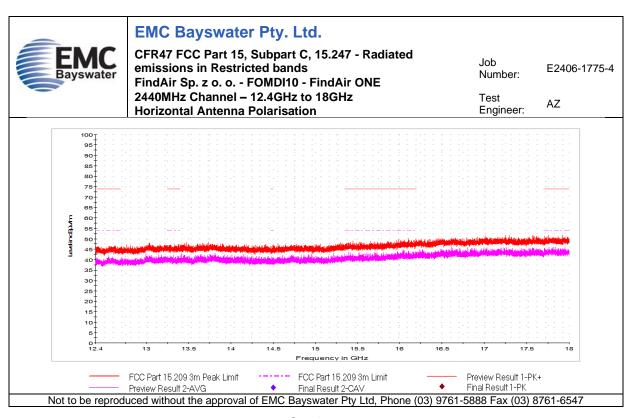
Graph 43







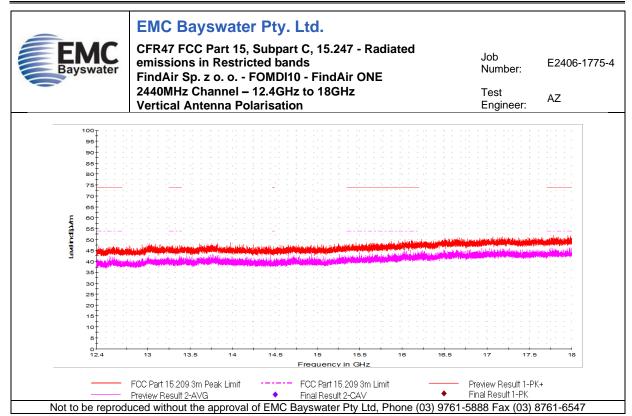
Graph 44



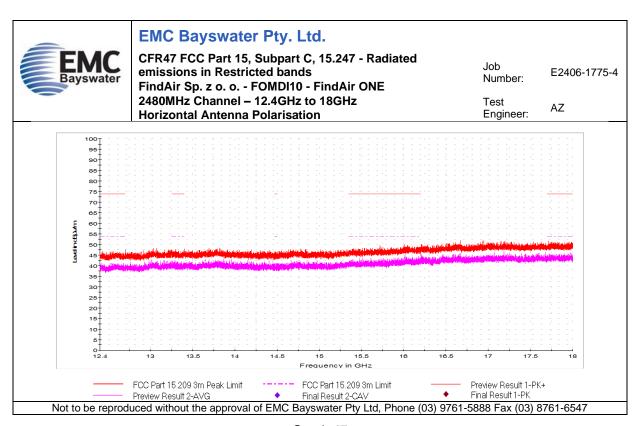
Graph 45







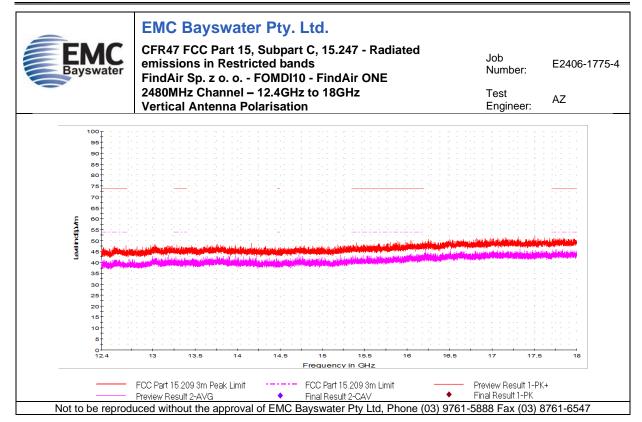
Graph 46



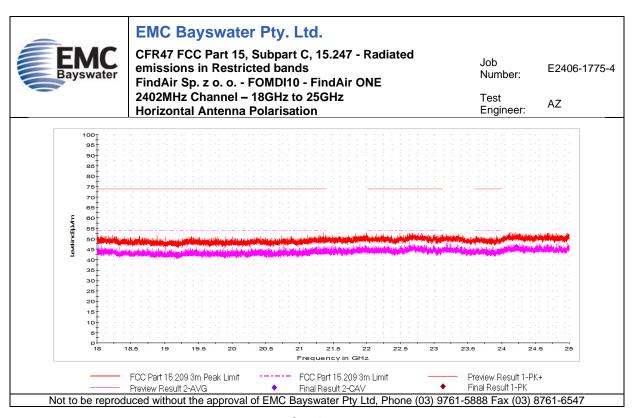
Graph 47







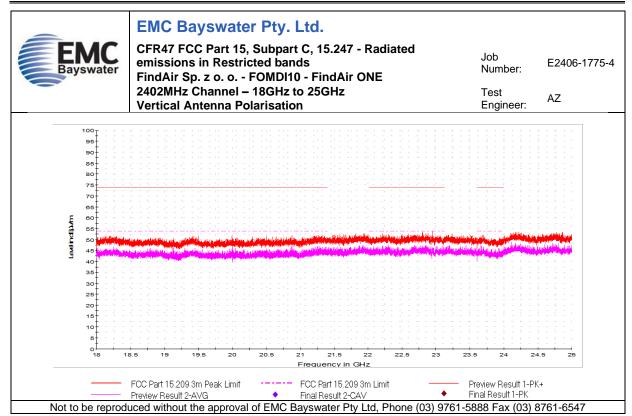
Graph 48



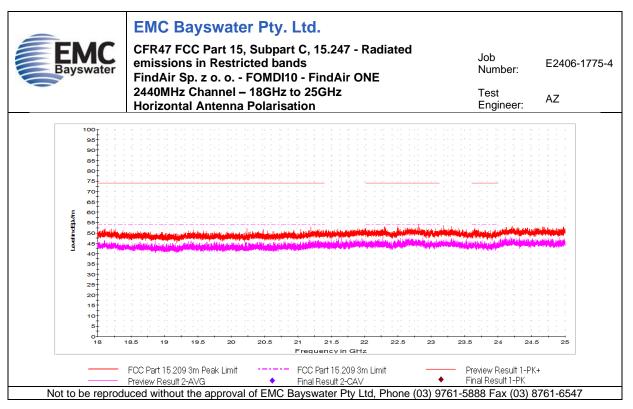
Graph 49







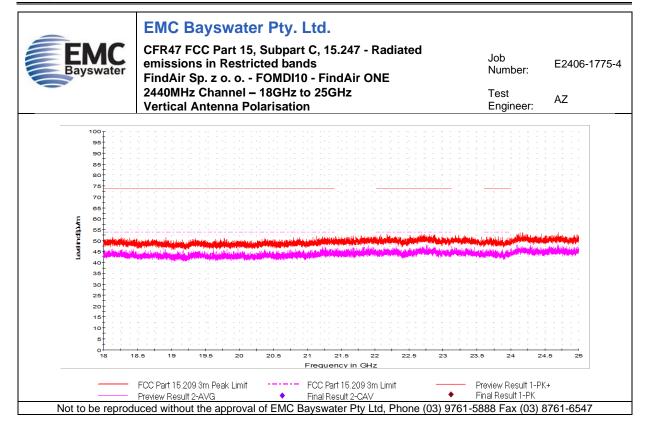
Graph 50



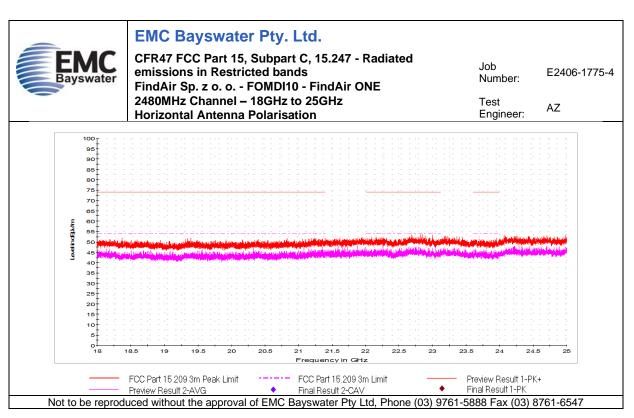
Graph 51







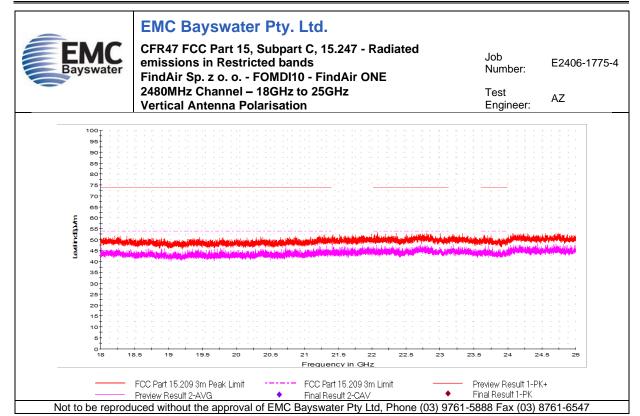
Graph 52



Graph 53







Graph 54

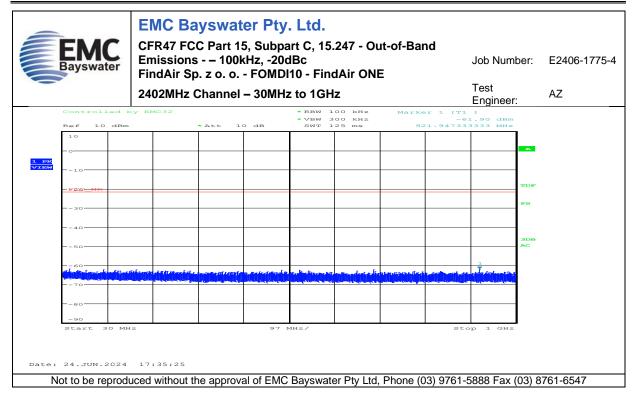




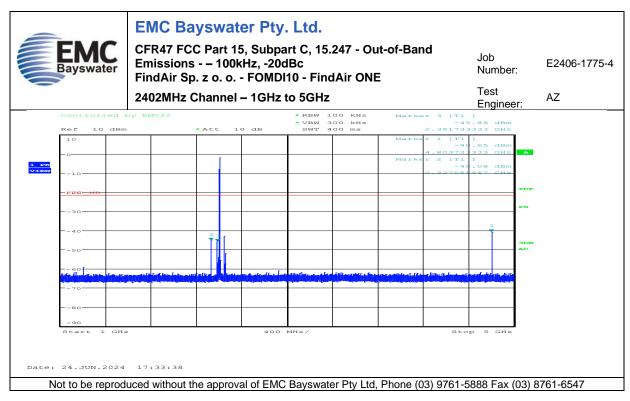
### Appendix C.5 - Out-of-Band Emissions - 100kHz, -20dBc - FCC 15.247(d)

No.	Test	Graph Description	
55		30MHz to 1GHz	
56	Out-of-Band Emissions	1GHz to 5GHz	
57	– 100kHz, -20dBc	5GHz to 10GHz	
58	2402MHz Channel	10GHz to 15GHz	
59		15GHz to 25GHz	
60		30MHz to 1GHz	
61	Out-of-Band Emissions	1GHz to 5GHz	
62	– 100kHz, -20dBc	5GHz to 10GHz	
63	2440MHz Channel	10GHz to 15GHz	
64		15GHz to 25GHz	
65		30MHz to 1GHz	
66	Out-of-Band Emissions	1GHz to 5GHz	
67	– 100kHz, -20dBc	5GHz to 10GHz	
68	2480MHz Channel	10GHz to 15GHz	
69		15GHz to 25GHz	





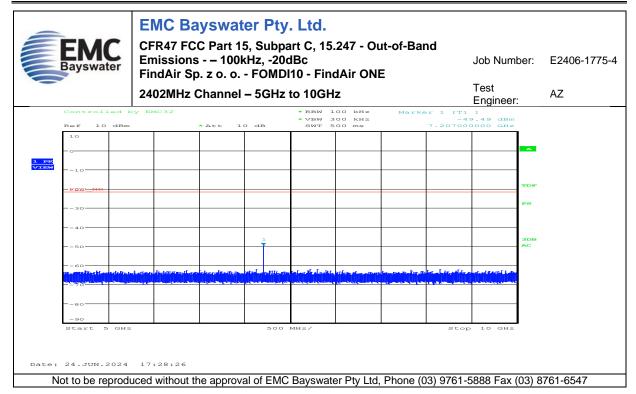
Graph 55



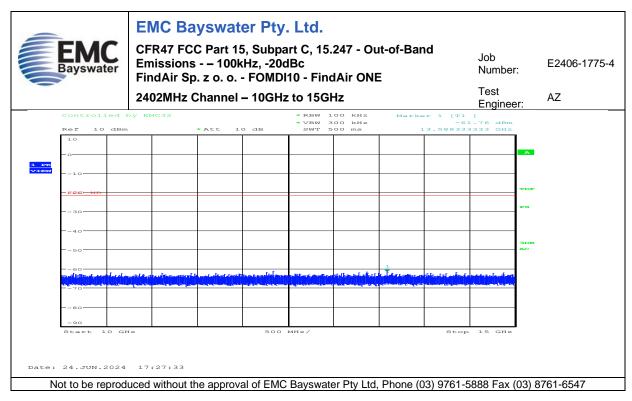
Graph 56







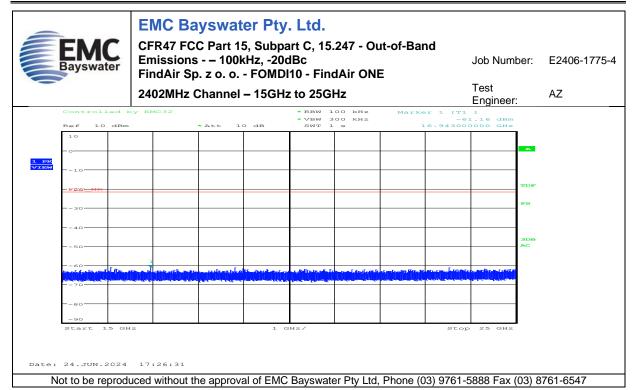
Graph 57



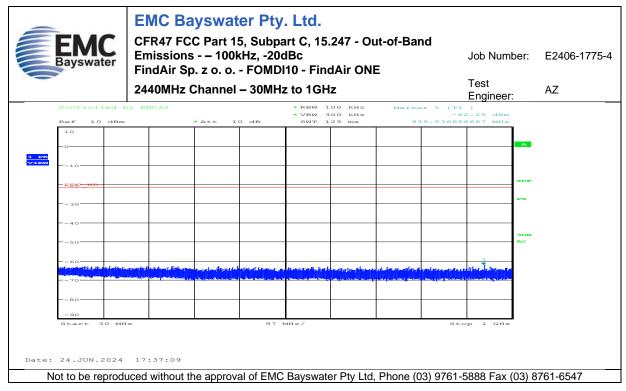
Graph 58







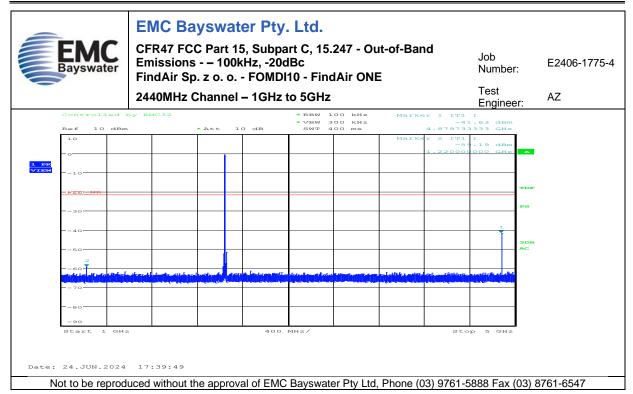
Graph 59



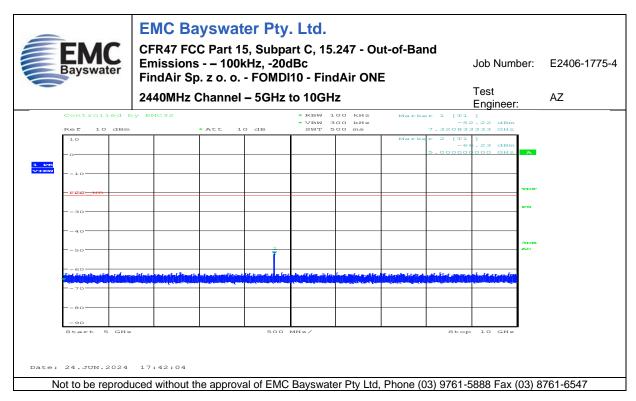
Graph 60







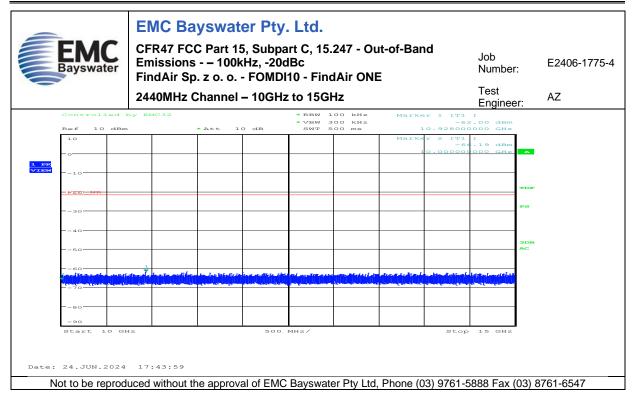
Graph 61



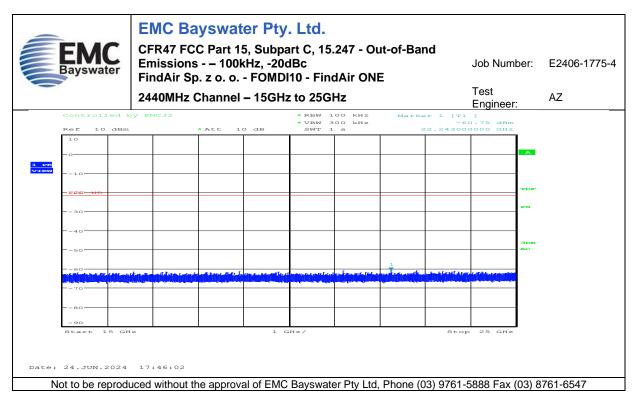
Graph 62







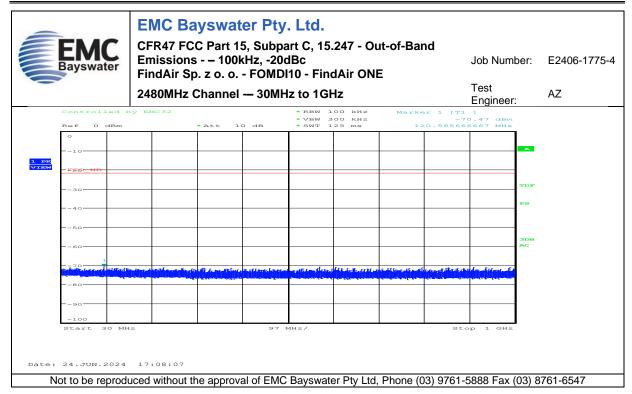
Graph 63



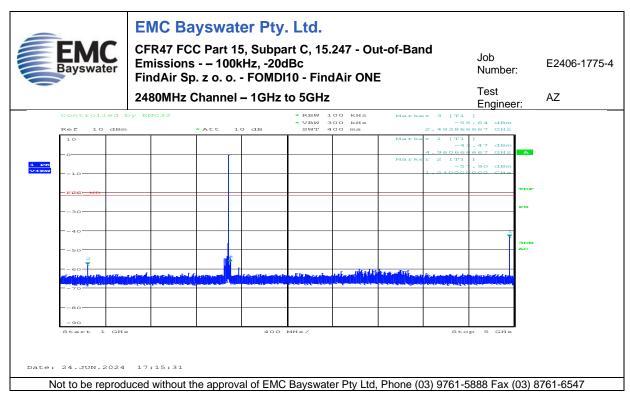
Graph 64







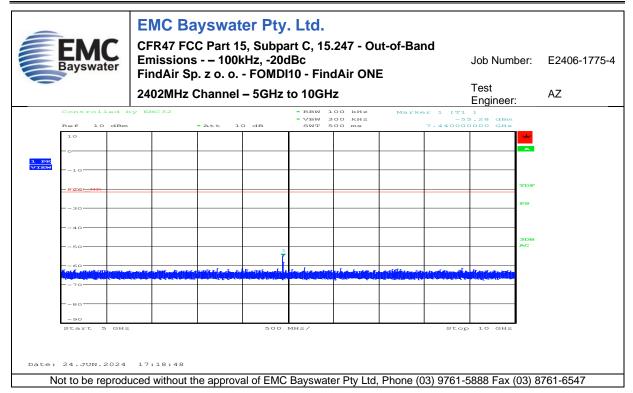
Graph 65



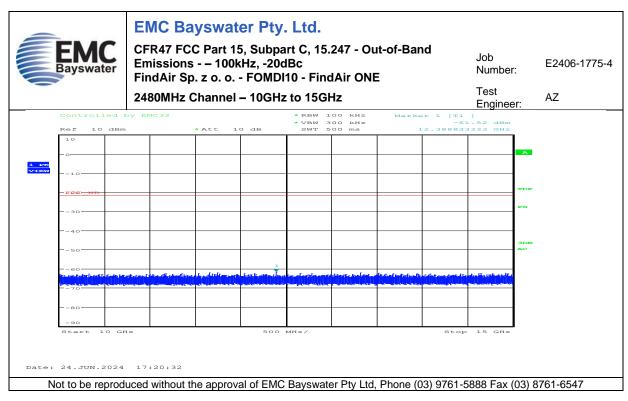
Graph 66







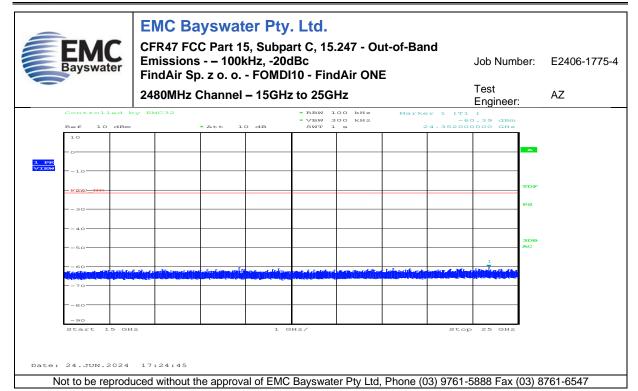
Graph 67



Graph 68







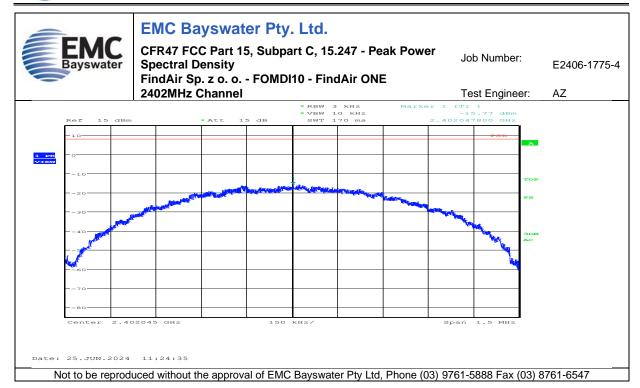
Graph 69



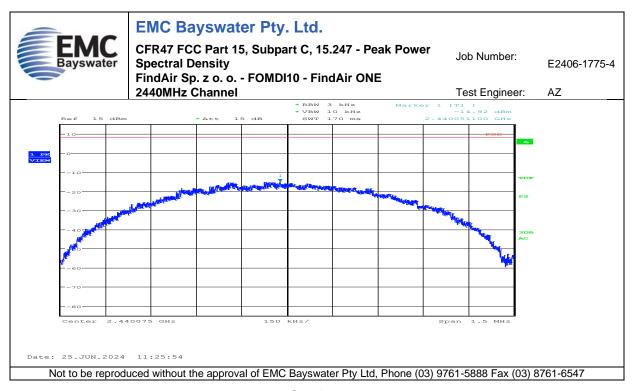
## Appendix C.6 - Measurement Graphs - Power Spectral Density - FCC 15.247 (e)

No.	Test	Graph Description
70		2402MHz Channel
71	Power Spectral Density	2440MHz Channel
72		2480MHz Channel





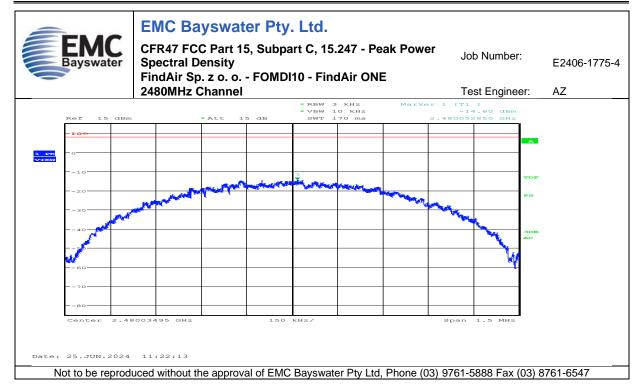
Graph 70



Graph 71







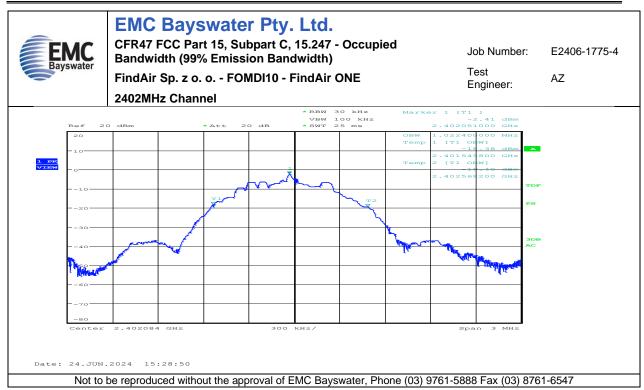
Graph 72



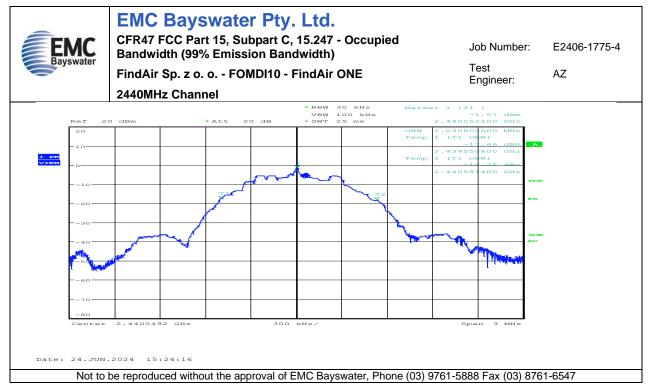
### Appendix C.7 - Occupied Bandwidth (99% Emission Bandwidth)

No.	Test	Graph Description
73	0	2402MHz Channel
74	Occupied Bandwidth (99% Emission Bandwidth)	2440MHz Channel
75	(99 % Emission Bandwidth)	2480MHz Channel





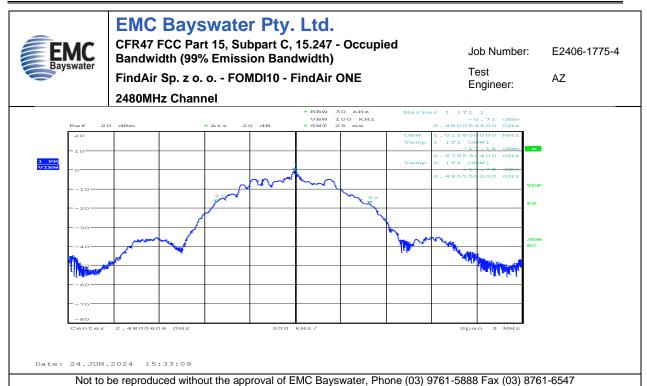
Graph 73



Graph 74







Graph 75