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RADIO COMPLIANCE REPORT

Certification Test Report – Bluetooth Low Energy

In accordance with:
CFR47 FCC Part 15, Subpart C, 15.247

Tait International Limited

TAHP2A

TCH8 Control Head

FCC ID: CASTAHP2A

REPORT: E2510-1902-1
DATE: November, 2025



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: E2510-1902-1
Issue Date: November, 2025

Test Sample(s): TCH8 Control Head
Model No: TAHP2A
Serial No: 21771802 (Sample 1), 21771803 (Sample 2)
FCC ID: CASTAHP2A
Customer Details: Ms. Rayna Zhang
Tait International Limited
245 Wooldridge Road, Harewood,
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New Zealand

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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

Test Date(s): 9th to 16th October, 2025

**Test House
(Issued By):** EMC Bayswater Pty Ltd
18/88 Merrindale Drive
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FCC Accredited Test Firm Registration number: 527798
FCC Accredited Test Firm Designation number: AU0004

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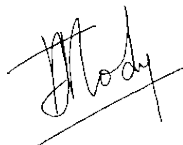
This is to certify that the necessary measurements were made by EMC Bayswater Pty Ltd, and that the Tait International Limited, TAHP2A, TCH8 Control Head, has been tested in accordance with requirements contained in the appropriate commission regulations.

Tested and prepared by: Tested by:

Approved by:



Adnan Zaman
(EMC Test Engineer)



Jignesh Moody
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Neville Liyanapatabendige
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10/11/2025 10:31

Date

Radio Compliance Report for Tait International Limited

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1. Introduction

Radio tests were performed on a Tait International Limited, TAHP2A, TCH8 Control Head 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 ^{#1}
15.247 (a) (2)	6dB Bandwidth	708kHz, Complied by 208kHz
15.247 (b)(3)	Maximum Peak Output Power	Complied by 23.8dB
15.247 (d)	Out-of-Band Emissions – 100kHz, -20dBc	Complied by at least > 20dB
15.247 (d)	Emissions on the Band edge	Complied by 14.9dB
15.247 (d), 15.209	Radiated emissions in Restricted bands	Complied by 17.7dB
15.247 (e)	Power Spectral Density	Complied by 16.9dB
	Occupied Bandwidth (99% Emission Bandwidth)	2064kHz ^{#2}

^{#1}The Antenna is permanently attached, internal to the device

^{#2}Informative only

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:	TCH8 Control Head	
Model No:	TAHP2A	
Serial No:	21771802 (Sample 1), 21771803 (Sample 2)	
Firmware:	QIDMR_FC_TCH8BTCompl.0004	
Software:	N/A	
Power Specifications 1:	Remote: 10.8V -16V dc, maximum current 2 Amps	
Power Specifications 2:	Local: Radio powered	
Transmitter 1 details:	Description:	Bluetooth Classic
	Type:	Murata 2DL (NXP IW611)
	Modulation:	GFSK, $\pi/4$ -DQPSK, 8-DPSK
	Channels:	79 channels spanning from 2.402GHz to 2.48GHz
	Max power:	+16dBm
	Antenna:	AANI-NI-0013
Transmitter 2 details:	Antenna Gain:	+3.2 dBi
	Description:	Bluetooth Low Energy
	Type:	Murata 2DL (NXP IW611)
	Modulation:	GFSK
	Channels:	40 channels spanning from 2.402GHz to 2.48GHz (Spacing 2MHz)
	Max power:	+16dBm
Transmitter 3 details:	Antenna:	AANI-NI-0013
	Antenna Gain:	+3.2 dBi
	Description:	NFC
	Type:	STM ST25R3916B
	Modulation:	Not supplied
	Channels:	N/A
Dimensions:	Max power:	1.6W
	Antenna:	Tait PN 220-01998
	Antenna Gain:	Not supplied
	Weight:	Local Head = 236g, Remote Head = 292g
EUT Type:	Tested as tabletop.	

(Customer supplied product information)

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

5.2. Product description

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

“TCH8 is a control head for Tait TM9000 series mobile radio. It features two rotary controls (volume/channel) and Bluetooth connectivity for wireless PTT and audio accessories. TCH8 is available in local or remote mount configurations. The remote configuration includes an audio PA which is powered by a dedicated DC power connector on the rear of the control head.”

(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 2.48 GHz (Bluetooth).

5.3. Support Equipment

Support Equipment: 1	Description:	Laptop
	Manufacturer:	Toshiba
	Model:	PORTÉGÉ
	Serial number:	WS3958
Support Equipment: 2	Description:	Mobile Body
	Manufacturer:	Tait International
	Model:	Demo Model
	Serial number:	21730970

5.4. Product operating modes

“3 Modes – Idle, Receive and Transmit.”

(Customer supplied product operating mode information)

5.5. Product operating mode for testing

“Bluetooth: RF test 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 the Mobile Body. The device was also connected to a 12V battery/13.8VDC laboratory power supply.

Customer supplied a sample (SN: 21771803) with a temporary SMA connector for the conducted method testing.

As per customer instructions, the BLE module was configured for maximum output power (+16dBm).

Pre-scan testing was performed on all possible configurations (Data rate) to determine the worst-case configuration.

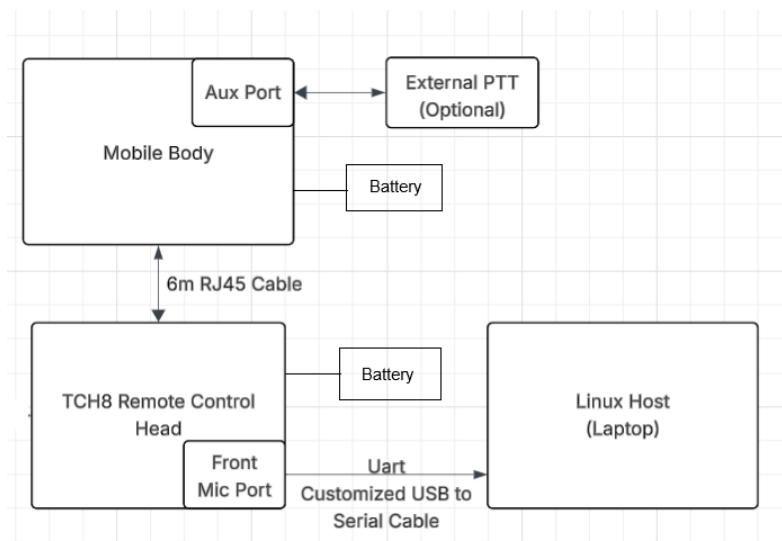


Figure 1: Block diagram of EUT test configuration – Radiated Method

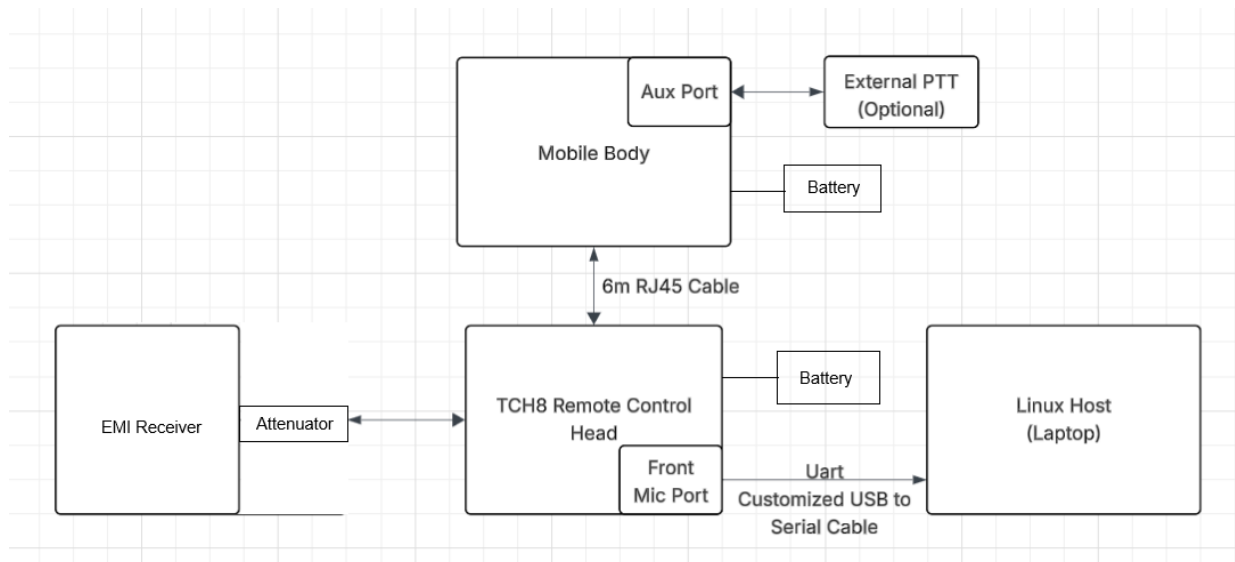


Figure 2: Block diagram of EUT test configuration – Conducted Method

Port	Cable type	Shielded cable	Cable Brand	Cable Model	Length (m)	Termination
Interface	RJ45	Yes	Chuanlian	CL0E1289	6m	Mobile body
Remote Control head Power Supply	Twin Flex Auto cable14 AWG	No	DSQ	Not stated	5m	13.8V Battery/Laboratory PSU
Front Mic Port	Custom USB to Serial	Yes	Not stated	Not stated	1m	Laptop

Table 2: List of ports, loads and cable lengths used for testing

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 - 2020

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

Tait International Limited - BT & NFC Compliance Test Commands Guide

AN14114 - RF Test Mode on Linux OS - Rev. 4.0 — 24 September 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 soldered onto 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 - 2020.

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.

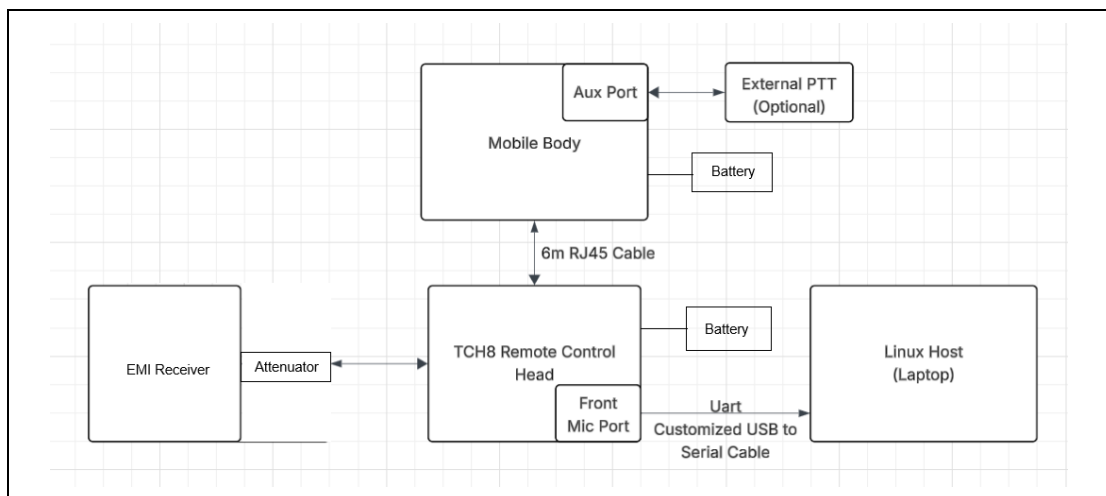


Figure 3: Test setup

(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 3: 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)	709.2	500	209.2	Complied
2440 (Middle)	708.0	500	208.0	Complied
2480 (Top)	709.2	500	209.2	Complied

Table 4: Results for 6dB Bandwidth – 1Mbps

Transmit operating frequency (MHz)	Measured 6dB Bandwidth (kHz)	Minimum 6dB Bandwidth (kHz)	Margin (kHz)	Comment
2402 (Bottom)	1230	500	730	Complied
2440 (Middle)	1229	500	729	Complied
2480 (Top)	1230	500	730	Complied

Table 5: Results for 6dB Bandwidth – 2Mbps

The measurement uncertainty was calculated as follows:

Measurement Parameter	Calculated measurement uncertainty
Operating Frequency	$\pm 10.5\text{kHz}$
Bandwidth	$\pm 14.96\text{kHz}$

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:	24.0°C
Humidity:	42.3%
Atmospheric pressure:	1018.4hPa

Table 6: Climatic conditions

Notes: The minimum required 500kHz 6dB Bandwidth requirements were satisfied by at least 208kHz.

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 - 2020.

99% Emission 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 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.6)

Transmit Operating Frequency (MHz)	99%BW Lower Frequency (MHz)	99%BW Upper Frequency (MHz)	Occupied Channel Bandwidth (kHz)
2402 (Lowest Channel)	2401.470	2402.505	1035
2440 (Middle Channel)	2439.470	2440.505	1035
2480 (Highest Channel)	2479.470	2480.505	1035

Table 7: Occupied Bandwidth – 1Mbps

Transmit Operating Frequency (MHz)	99%BW Lower Frequency (MHz)	99%BW Upper Frequency (MHz)	Occupied Channel Bandwidth (kHz)
2402 (Lowest Channel)	2400.958	2403.022	2064
2440 (Middle Channel)	2438.960	2441.019	2059
2480 (Highest Channel)	2478.958	2481.022	2064

Table 8: Occupied Bandwidth – 2Mbps

The measurement uncertainty was calculated as follows:

Measurement Parameter	Calculated measurement uncertainty
Operating Frequency	$\pm 10.5\text{kHz}$
Bandwidth	$\pm 14.96\text{kHz}$

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:	24.0°C
Humidity:	42.3%
Atmospheric pressure:	1018.4hPa

Table 9: Climatic conditions

Notes: The transmitter was tested with modulation.

Assessment: The measured Occupied bandwidth (99% Emission Bandwidth) is 2064kHz (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 - 2020.

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 RBW>DTS BW and VBW = 3XRBW 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.

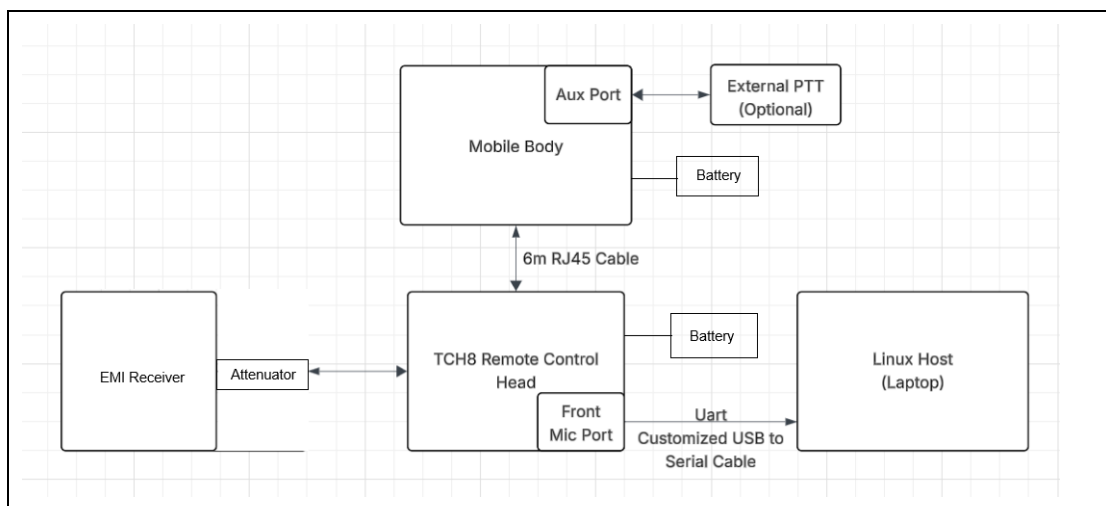


Figure 4: Test setup

(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 10: Limits – Transmitter maximum peak output power

12.3. Test Results

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

Channel	Frequency (MHz)	Peak Conducted power (dBm)	Limit (dBm)	Margin (dB)	Customer declared antenna gain (dBi)	e.i.r.p (dBm)	Limit e.i.r.p (dBm)	Margin (dB)	Result
Bottom	2402.124	+3.9	30.0	-26.1	+3.2	+7.1	36.0	-28.9	Complied
Middle	2440.110	+4.7	30.0	-25.3	+3.2	+7.9	36.0	-28.1	Complied
Top	2480.108	+5.6	30.0	-24.4*	+3.2	+8.8	36.0	-27.2*	Complied

**Worst-case emission*

Table 11: Results for Maximum Peak Conducted Output Power – Conducted Method – 1Mbps

Channel	Frequency (MHz)	Peak Conducted power (dBm)	Limit (dBm)	Margin (dB)	Customer declared antenna gain (dBi)	e.i.r.p (dBm)	Limit e.i.r.p (dBm)	Margin (dB)	Result
Bottom	2402.234	+4.3	30.0	-25.7	+3.2	+7.5	36.0	-28.5	Complied
Middle	2440.165	+5.1	30.0	-24.9	+3.2	+8.3	36.0	-27.7	Complied
Top	2480.165	+6.2	30.0	-23.8*	+3.2	+9.4	36.0	-26.6*	Complied

**Worst-case emission*

Table 12: Results for Maximum Peak Conducted Output Power – Conducted Method – 2Mbps

The measurement uncertainty was calculated at ± 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:	21.8 to 21.9°C
Humidity:	43 to 43.3%
Atmospheric pressure:	1009.0 to 1009.1hPa

Table 13: 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.

Calculation for e.i.r.p

$$e.i.r.p \text{ (dBm)} = \text{Conducted Power at antenna terminal (dBm)} + \text{Antenna Gain(dBi)}$$

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 section 15.209(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 section 15.209 (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 14: 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 - 2020.

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.

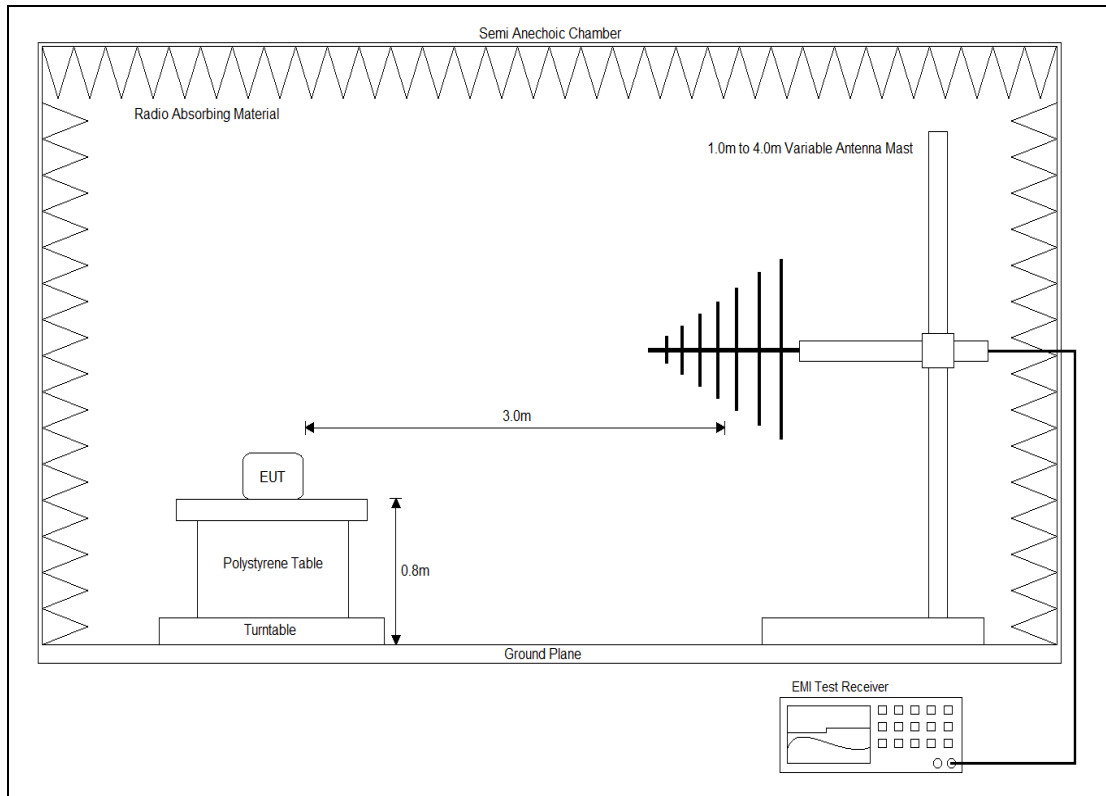


Figure 5: Test setup – 30MHz to 1GHz

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.

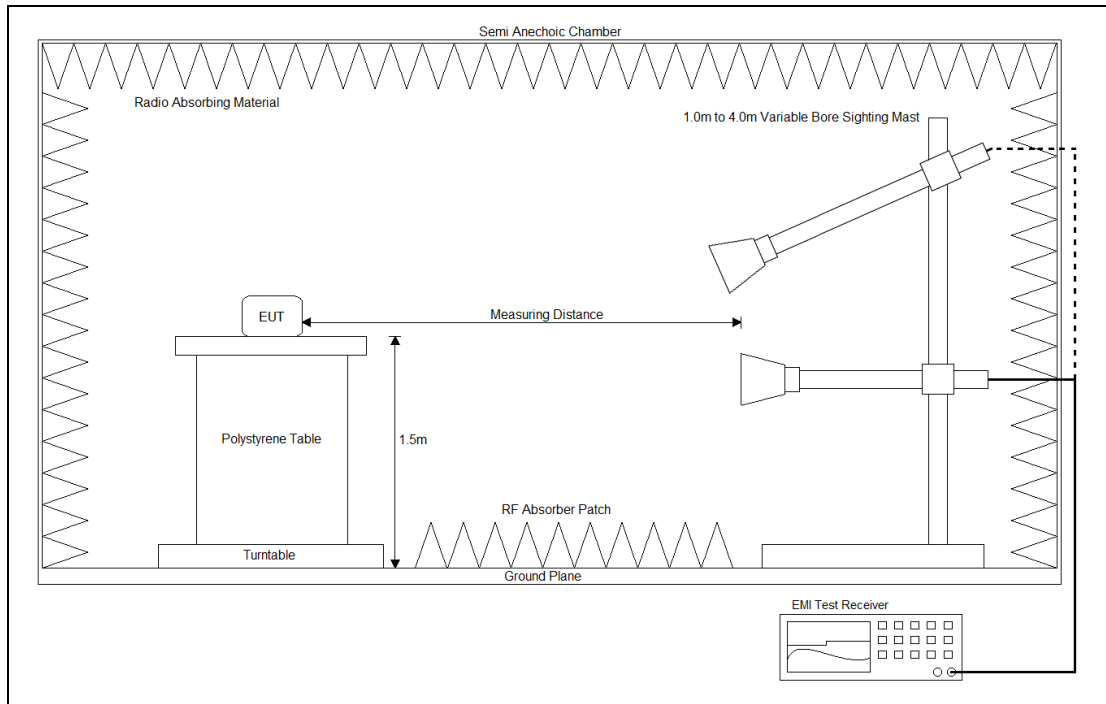


Figure 6: Test setup – above 1GHz

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.3)

Operating Channel: Middle				
Measurement Antenna Polarisation	Frequency (MHz)	Result peak (dB μ V/m)	Limit Quasi-peak/ Average (dB μ V/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 15: Transmitter Spurious Emissions – 9kHz to 30MHz

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

Table 16: Transmitter Spurious Emissions – 30MHz to 1GHz

Operating Channel: Middle				
Measurement Antenna Polarisation	Frequency (MHz)	Result Quasi-peak (dB μ V/m)	Limit Quasi-peak (dB μ V/m)	Delta limit (dB)
Horizontal	37.906	20.1	40.0	-19.9
	131.365	18.6	43.5	-24.9
	611.806	28.3	46.0	-17.7*
Vertical	37.760	20.4	40.0	-19.6
	129.037	18.3	43.5	-25.2
	610.788	28.1	46.0	-17.9

**Worst-case emissions*

Table 17: Transmitter Spurious Emissions – 30MHz to 1GHz

Operating Channel: Bottom (2402MHz)								
Measurement Antenna Polarisation	Peak Measurements				Average Measurements			
	Frequency (MHz)	Result (dB μ V/m)	Limit (dB μ V/m)	Delta Limit (dB)	Frequency (MHz)	Result (dB μ V/m)	Limit (dB μ V/m)	Delta Limit (dB)
Horizontal	4804.080	43.0	74.0	-31.0*	4804.080	29.1	54.0	-24.9
Vertical	4804.080	42.9	74.0	-31.1	4804.080	29.2	54.0	-24.8*

**Worst-case emissions*

Table 18: Transmitter Spurious Emissions – 1GHz to 25GHz

Operating Channel: Middle (2440MHz)								
Measurement Antenna Polarisation	Peak Measurements				Average Measurements			
	Frequency (MHz)	Result (dB μ V/m)	Limit (dB μ V/m)	Delta Limit (dB)	Frequency (MHz)	Result (dB μ V/m)	Limit (dB μ V/m)	Delta Limit (dB)
Horizontal	4880.160	43.6	74.0	-30.4*	4880.160	29.7	54.0	-24.3*
Vertical	4880.160	42.7	74.0	-31.3	4880.160	28.9	54.0	-25.1

**Worst-case emissions*

Table 19: 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	2484.080	47.3	74.0	-26.7	2484.080	33.2	54.0	-20.8
	4960.080	44.6	74.0	-29.4	4960.080	29.8	54.0	-24.2
Vertical	2484.340	50.1	74.0	-23.9*	2483.560	34.8	54.0	-19.2*
	4960.080	43.5	74.0	-30.5	4960.080	29.9	54.0	-24.1

**Worst-case emissions*

Table 20: 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:	15.8 to 18.2°C
Humidity:	41 to 47%
Atmospheric pressure:	1008.0 to 1020.8hPa

Table 21: 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

$V_{QP/PK/A}$ = 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:

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

$$E = 30dBµV + 12dB/m - 0dB + 2.3dB$$

$$E = 44.3 \text{ dBµV/m}$$

-
- 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. Worst-case graphs are included in Appendix C.3.
- 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 - 2020.

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 C63.10 - 2020.

(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 section 15.209(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 +5.65dBm

Frequency Range (MHz)	Limits (dBm)
30MHz and 25GHz	-14.35

Table 22: 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.4)

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 23: 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 6.10, 11.11 and 11.12 of ANSI C63.10 - 2020.

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 - 2020. 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 - 2020.

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 - 2020. 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 +5.65dBm

Band edge Frequencies	Limits (dBm)
Lower Edge (2402MHz)	-14.35

Table 24: 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 (dB μ V/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 25: 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.2)

Operating Channel: Bottom (2402MHz)			
Frequency (MHz)	Conducted Peak Power Spectral Density (dBm/100kHz)	Limit Conducted Peak Power Spectral Density (dBm/100kHz)	Delta limit (dB)
2399.722	-53.56	-14.35	-39.2
2399.969	-53.12	-14.35	-38.8*

**Worst-case emissions*

Table 26: Transmitter Emissions on the Band edge - Low end – 1Mbps

Operating Channel: Bottom (2402MHz)			
Frequency (MHz)	Result Conducted Peak Power Spectral Density (dBm/100kHz)	Limit Conducted Peak Power Spectral Density (dBm/100kHz)	Delta limit (dB)
2399.977	-29.32	-14.35	-15.0
2399.982	-29.26	-14.35	-14.9*

**Worst-case emissions*

Table 27: Transmitter Emissions on the Band edge - Low end – 2Mbps

Operating Channel: Top (2480MHz)								
Measurement Antenna Polarisation	Peak Measurements				Average Measurements			
	Frequency (MHz)	Result (dB μ V/m)	Limit (dB μ V/m)	Delta Limit (dB)	Frequency (MHz)	Result (dB μ V/m)	Limit (dB μ V/m)	Delta Limit (dB)
Horizontal	2484.600	47.7	74.0	-26.3	2483.820	33.5	54.0	-20.5
Vertical	2484.600	49.3	74.0	-24.7*	2484.860	34.0	54.0	-20.0*

**Worst-case emissions*

Table 28: Transmitter Emissions on the Band edge - High end – 1Mbps

Operating Channel: Top (2480MHz)								
Measurement Antenna Polarisation	Peak Measurements				Average Measurements			
	Frequency (MHz)	Result (dB μ V/m)	Limit (dB μ V/m)	Delta Limit (dB)	Frequency (MHz)	Result (dB μ V/m)	Limit (dB μ V/m)	Delta Limit (dB)
Horizontal	2484.080	47.3	74.0	-26.7	2484.080	33.2	54.0	-20.8
Vertical	2484.340	50.1	74.0	-23.9*	2483.560	34.8	54.0	-19.2*

**Worst-case emissions*

Table 29: Transmitter Emissions on the Band edge - High end – 2Mbps

The measurement uncertainty was calculated as follows:

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

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:	15.8 to 21.0°C
Humidity:	41 to 50.9%
Atmospheric pressure:	1008.0 to 1020.8hPa

Table 30: Climatic conditions

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

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

Where:

$$E = \text{E-field in dB}\mu\text{V/m}$$

$$V_{QP/PK/AV} = \text{Measured Voltage (Quasi Peak, Peak or Average) in dB}\mu\text{V}$$

$$AF = \text{Antenna Factor in dB/(m)}$$

$$L_C = \text{Cable and attenuator Loss in dB}$$

$$G_{Amp} = \text{Pre Amplifier Voltage Gain in dB}$$

Example calculation:

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

$$E = 30\text{dB}\mu\text{V} + 12\text{dB/m} - 0\text{dB} + 2.3\text{dB}$$

$$E = 44.3 \text{ dB}\mu\text{V/m}$$

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 - 2020.

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 31: Power Spectral Density limits

16.3. Test Results

Power Spectral Density measurements are tabulated below:

(Refer to graphs in Appendix C.5)

Channel	Frequency (MHz)	Measured Power (dBm)	Limit (dBm/3kHz)	Margin (dB)	Result
Bottom	2401.861	-10.6	8.00	-18.6	Complied
Middle	2439.861	-9.9	8.00	-17.9	Complied
Top	2479.861	-8.9	8.00	-16.9*	Complied

**Worst-case emissions*

Table 32: Results for Power Spectral Density – 1Mbps

Channel	Frequency (MHz)	Measured Power (dBm)	Limit (dBm/3kHz)	Margin (dB)	Result
Bottom	2402.098	-12.2	8.00	-20.2	Complied
Middle	2440.097	-11.4	8.00	-19.4	Complied
Top	2480.097	-10.5	8.00	-18.5*	Complied

**Worst-case emissions*

Table 33: Results for Power Spectral Density – 2Mbps

The measurement uncertainty was calculated at $\pm 1.4\text{dB}$. 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:	19.3 to 21.0°C
Humidity:	47.5 to 50.9%
Atmospheric pressure:	1013.4 to 1014.9hPa

Table 34: 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. Conclusion

The Tait International Limited, TAHP2A, TCH8 Control Head 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
Maximum Peak Output Power, PSD, Bandwidth, Out of Band emissions and Band-edge – Conducted Method							
1217	ANALYSER, EMI Receiver	Rohde & Schwarz	ESU40	100182	1 year	Aug-26	E
1093	ATTENUATOR, 6dB, 2W	Fairview Microwave	SA26B-06	1093	2 years	Mar-26	E
1155	Hygrometer, Temp, Humidity	DigiTech	QM7312	-	2 years	Jul-27	I
0666	Enclosure, Semi-Anechoic, No 1	RFI Industries	S800 iOATS	1229	3 years	Jul-28	I
Radiated Spurious Emissions							
1217	ANALYSER, EMI Receiver	Rohde & Schwarz	ESU40	100182	1 year	Aug-26	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	Jun-27	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-26	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-26	E
1194	Standard Gain Horn Antenna - 8.2GHz to 12.4GHz	A.H. Systems, inc	SAS-585	224	1 year	May-26	E
1195	Standard Gain Horn Antenna - 12.4GHz to 18.0GHz	A.H. Systems, inc	SAS-586	195	1 year	May-26	E
1196	Standard Gain Horn Antenna - 18.0GHz to 26.5GHz	A.H. Systems, inc	SAS-587	181	1 year	May-26	E
0024	ANTENNA, Active Loop	EMCO	6502	2620	2 years	Feb-26	I
1064	PRE-AMP, Microwave, 26GHz	Miteq	AFS33	1696371	1 year	May-26	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
0710	ATTENUATOR, 10dB	JFW	50HF-010N	N/A	3 years	Dec-27	I
1259	High Pass filter	Micro-Tronics	HPM50111	G237	2 years	May-27	I
1155	Hygrometer, Temp, Humidity	DigiTech	QM7312	-	2 years	Jul-27	I
0666	Enclosure, Semi-Anechoic, No 1	RFI Industries	S800 iOATS	1229	3 years	Jul-28	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
A	1 to 8	EUT (sample 1) – External views
	9 to 16	EUT (sample 2) – External views – Sample with temporary external antenna connection for testing
B	1 to 52	EUT (sample 1) – Internal views
	53 to 65	EUT (sample 2) – View of the sample with temporary SMA antenna port connector for Conducted method testing
C	1	Radiated measurements – EUT X Orientation
	2	Radiated measurements – EUT Y Orientation
	3	Radiated measurements – 9kHz to 30MHz – X Antenna orientation
	4	Radiated measurements – 9kHz to 30MHz – Y Antenna orientation
	5	Radiated measurements – 9kHz to 30MHz – Z Antenna orientation
	6	Radiated measurements – below 1GHz
	7	Radiated measurements – above 1GHz
	8	Conducted measurements
	9	
	10	Support Equipment - Laptop
	11	
	12	
	13	Support Equipment – Mobile Body
	14	

EUT External Photographs	EMC Bayswater Test Report E2510-1902-1 Annex A
EUT Internal Photographs	EMC Bayswater Test Report E2510-1902-1 Annex B
EUT Orientations & Test Configurations Photographs	EMC Bayswater Test Report E2510-1902-1 Annex C

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

No.	Test	Graph Description
1	6dB Bandwidth	2402MHz Channel – 1Mbps
2		2440MHz Channel – 1Mbps
3		2480MHz Channel – 1Mbps
4		2402MHz Channel – 2Mbps
5		2440MHz Channel – 2Mbps
6		2480MHz Channel – 2Mbps



EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - 6dB Bandwidth

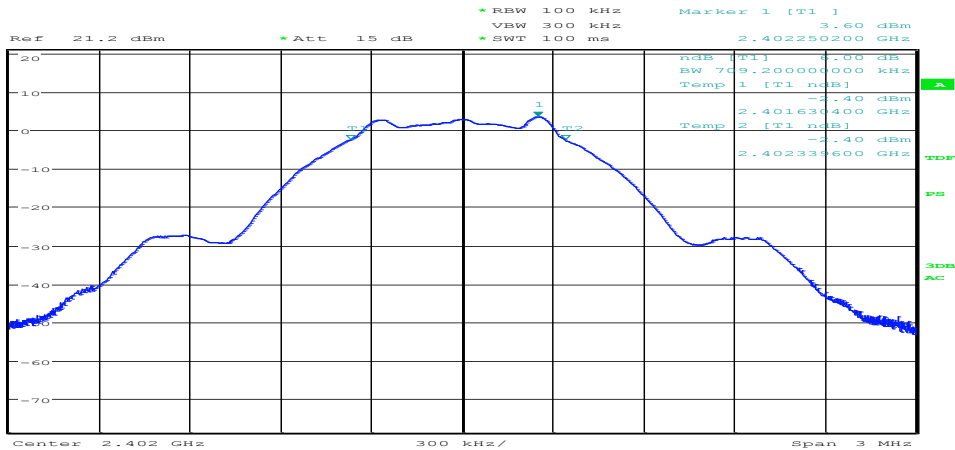
Tait International Limited - TAHP2A - TCH8 Control

Head

2402MHz Channel – 1Mbps

Job Number: E2510-1902-1

Test Engineer: AZ



Date: 15.OCT.2025 16:46:25

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Graph 1



EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - 6dB Bandwidth

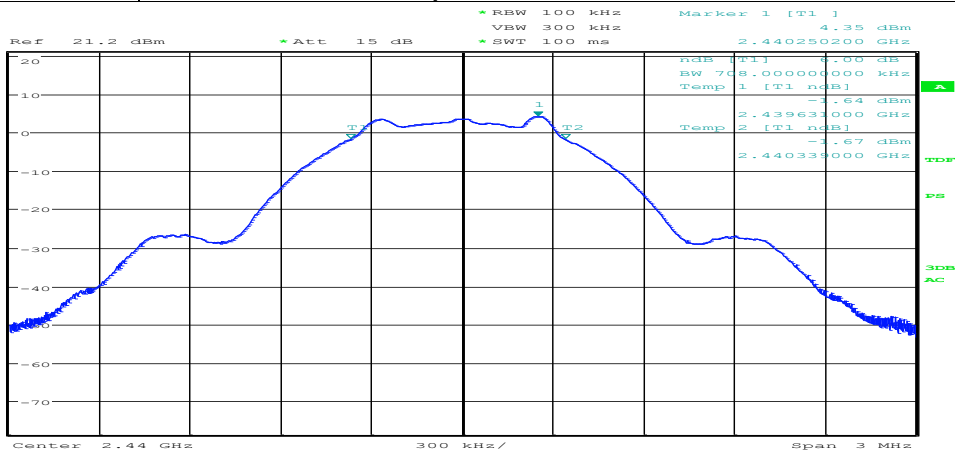
Tait International Limited - TAHP2A - TCH8 Control

Head

2440MHz Channel – 1Mbps

Job Number: E2510-1902-1

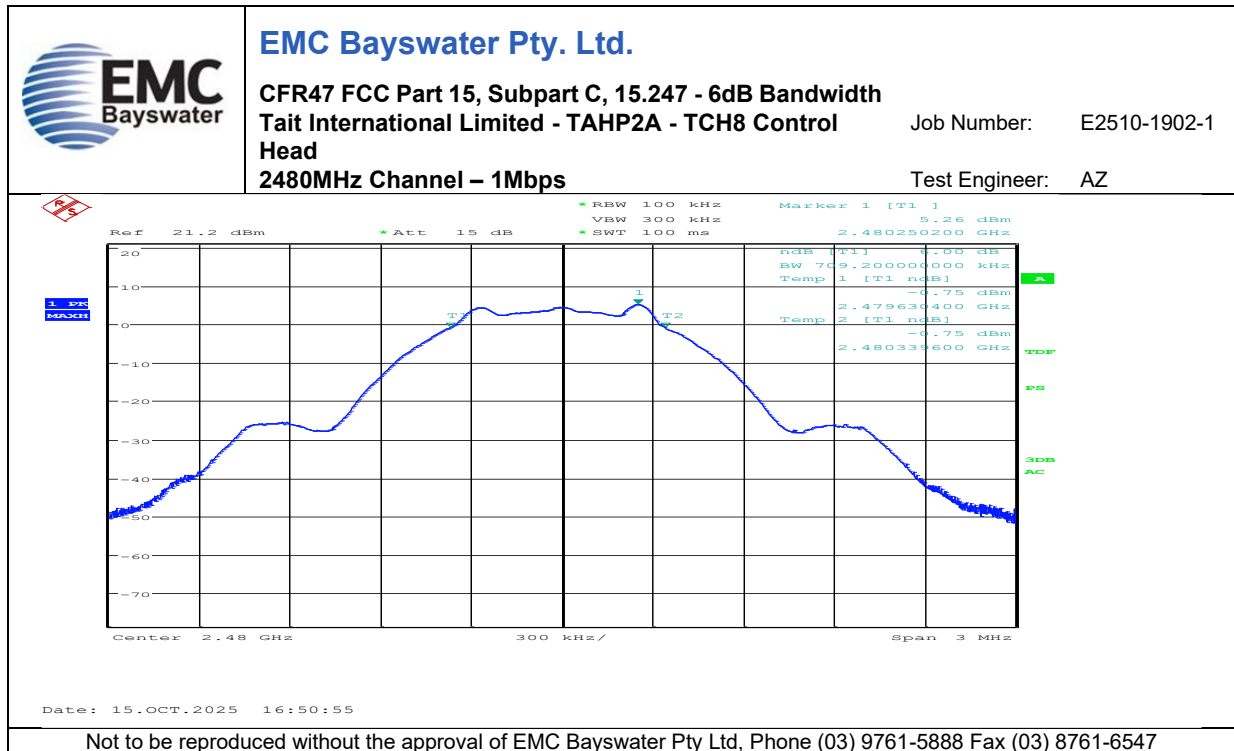
Test Engineer: AZ



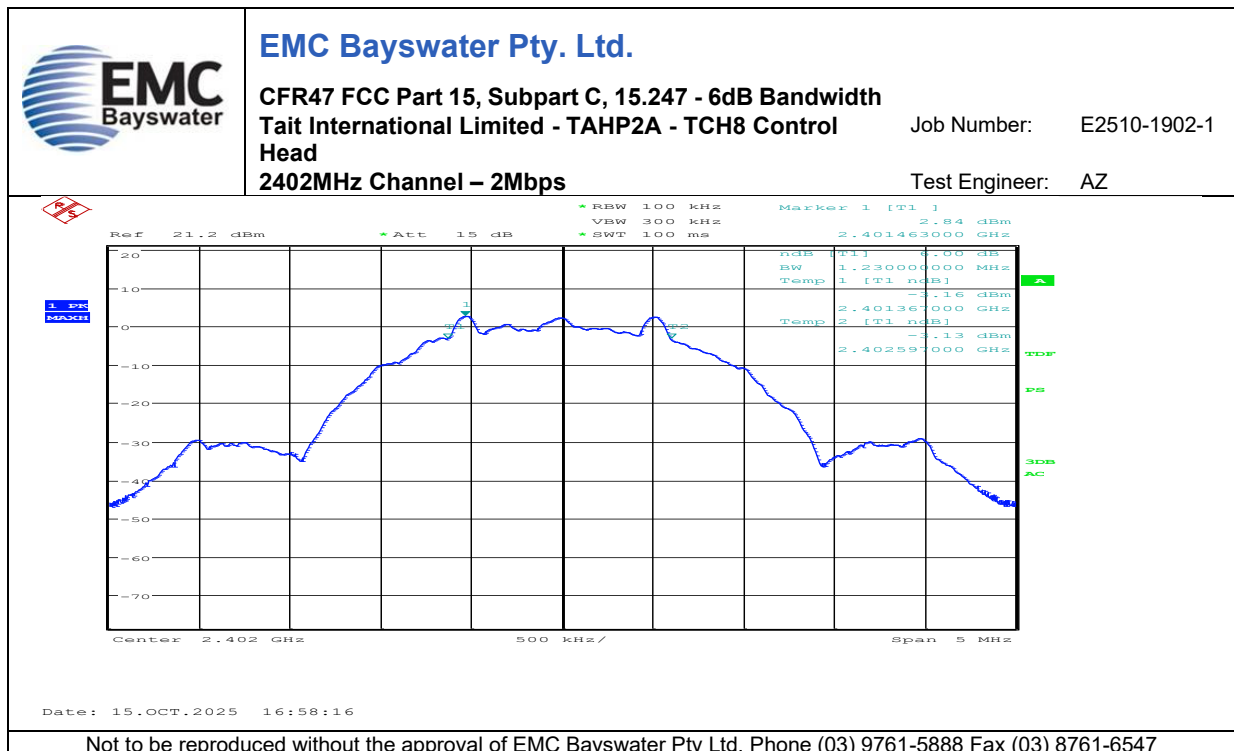
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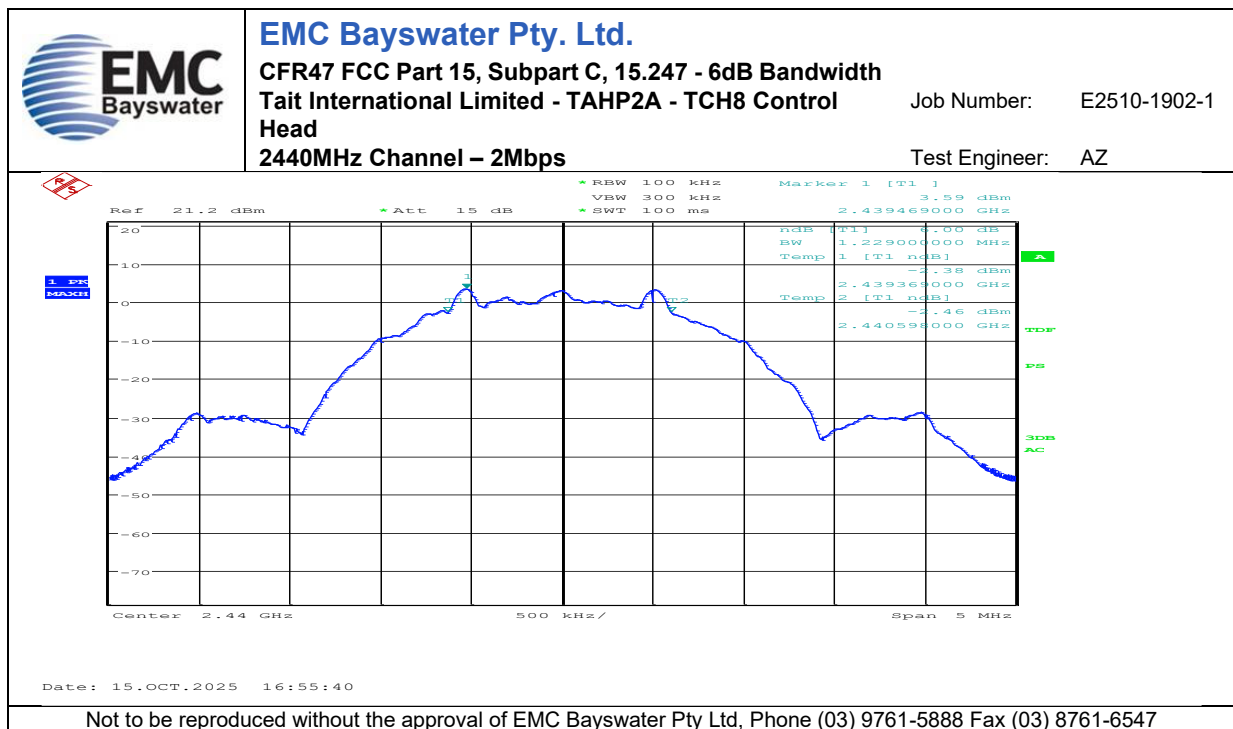
Graph 2



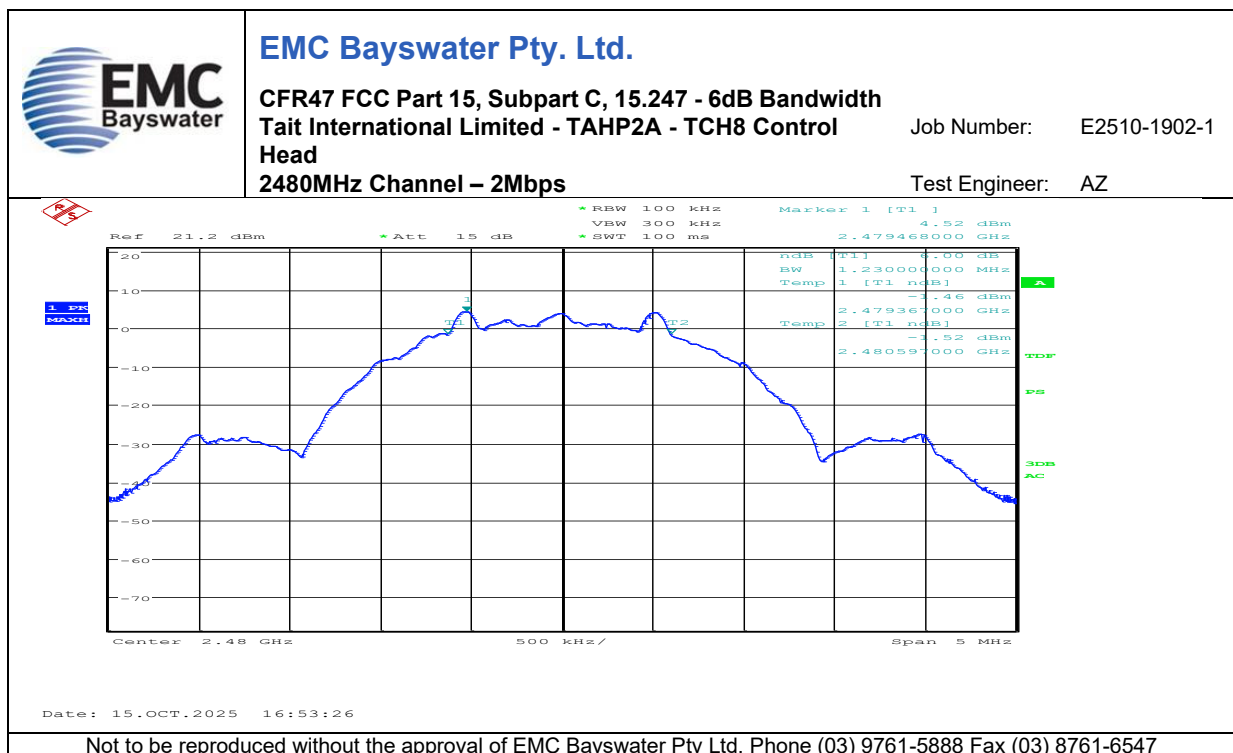
Graph 3



Graph 4



Graph 5



Graph 6

Appendix C.2 – Measurement Graphs – Band Edge - 15.247 (d)

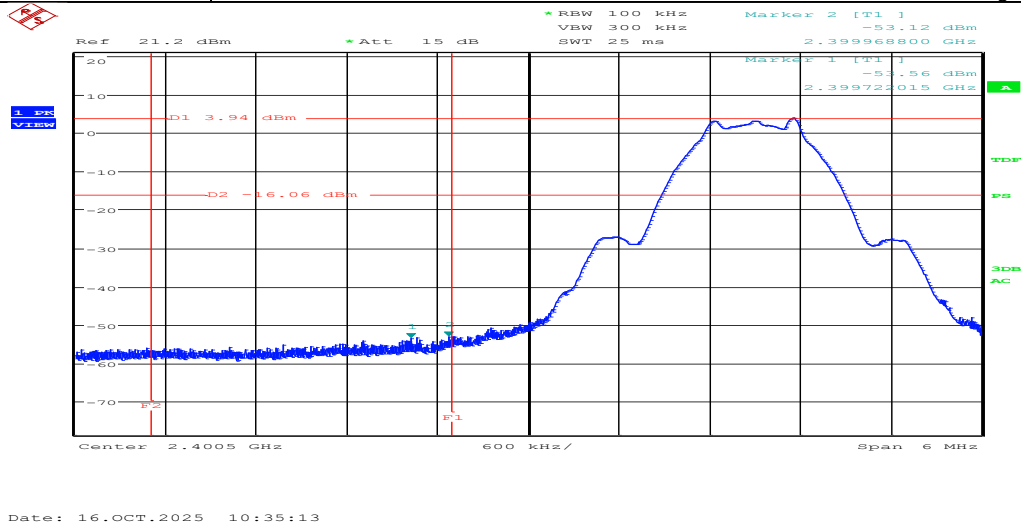
No.	Test	Graph Description
7	Band edge Measurement	2402MHz Channel (Non-restricted Band – Bandedge) – 1Mbps
8		2402MHz Channel (Non-restricted Band – Bandedge) – 2Mbps
9		2480MHz Channel (Restricted Bands) – Horizontal measurement Antenna – 1Mbps
10		2480MHz Channel (Restricted Bands) – Vertical measurement Antenna – 1Mbps
11		2480MHz Channel (Restricted Bands) – Horizontal measurement Antenna – 2Mbps
12		2480MHz Channel (Restricted Bands) – Vertical measurement Antenna – 2Mbps



EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Band edge
Measurement (100kHz, -20dB from fc)
Tait International Limited - TAMP2A - TCH8 Control Head
2402MHz Channel (Non-restricted Band – Bandedge) – 1Mbps

Job Number: E2510-1902-1
Test Engineer: AZ/JM



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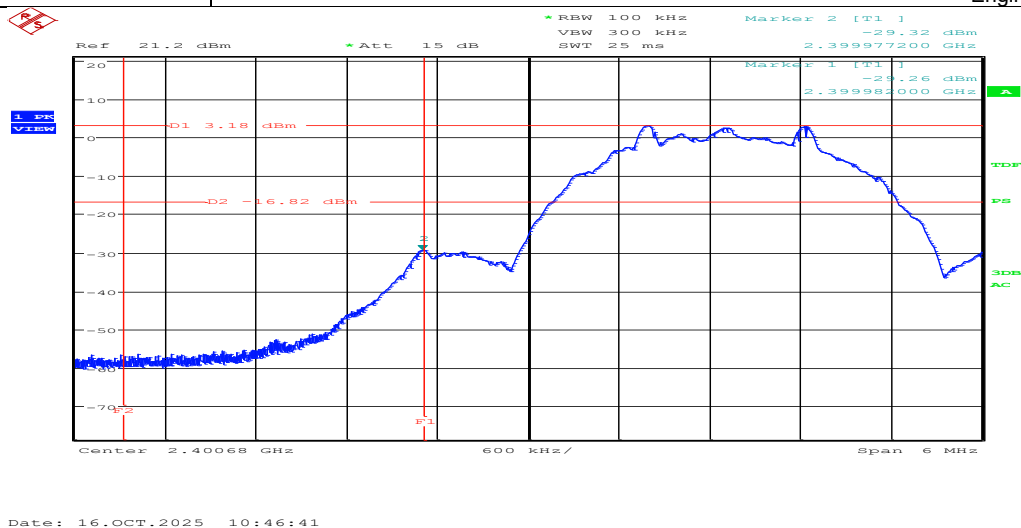
Graph 7



EMC Bayswater Pty. Ltd.

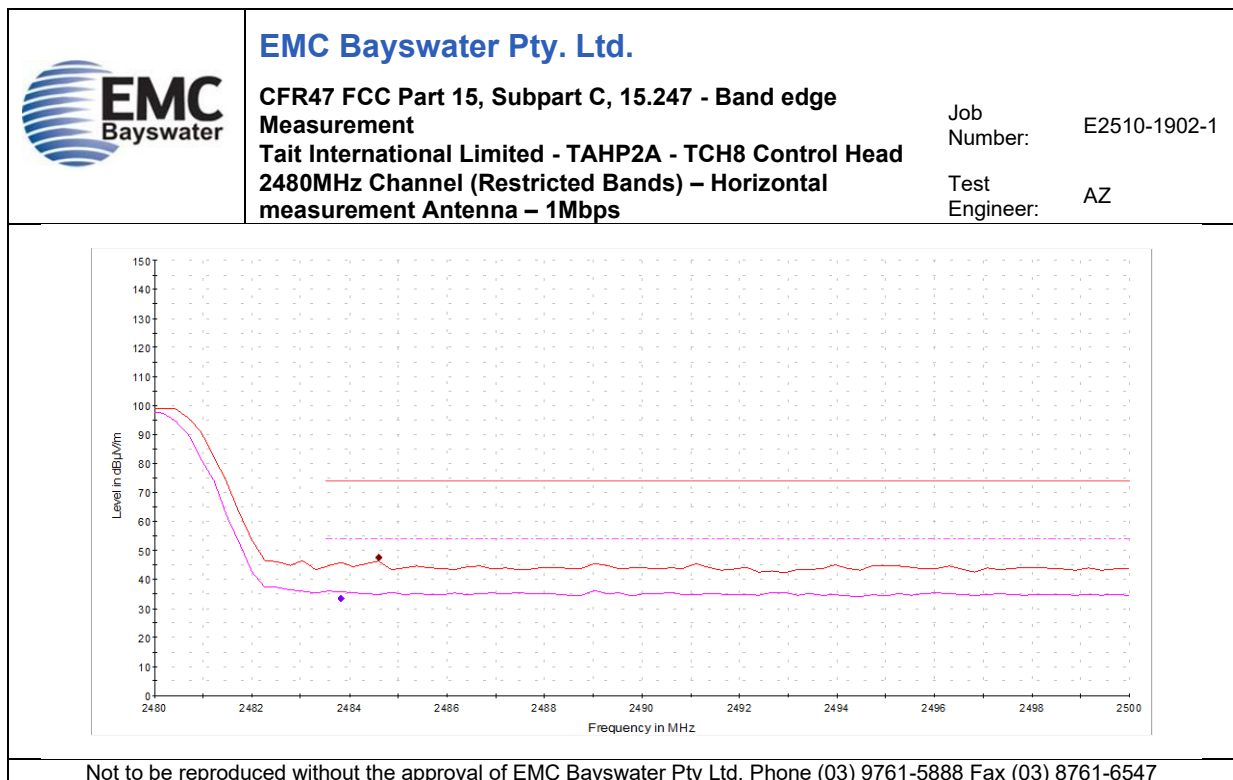
CFR47 FCC Part 15, Subpart C, 15.247 - Band edge
Measurement (100kHz, -20dB from fc)
Tait International Limited - TAMP2A - TCH8 Control Head
2402MHz Channel (Non-restricted Band – Bandedge) – 2Mbps

Job Number: E2510-1902-1
Test Engineer: AZ/JM

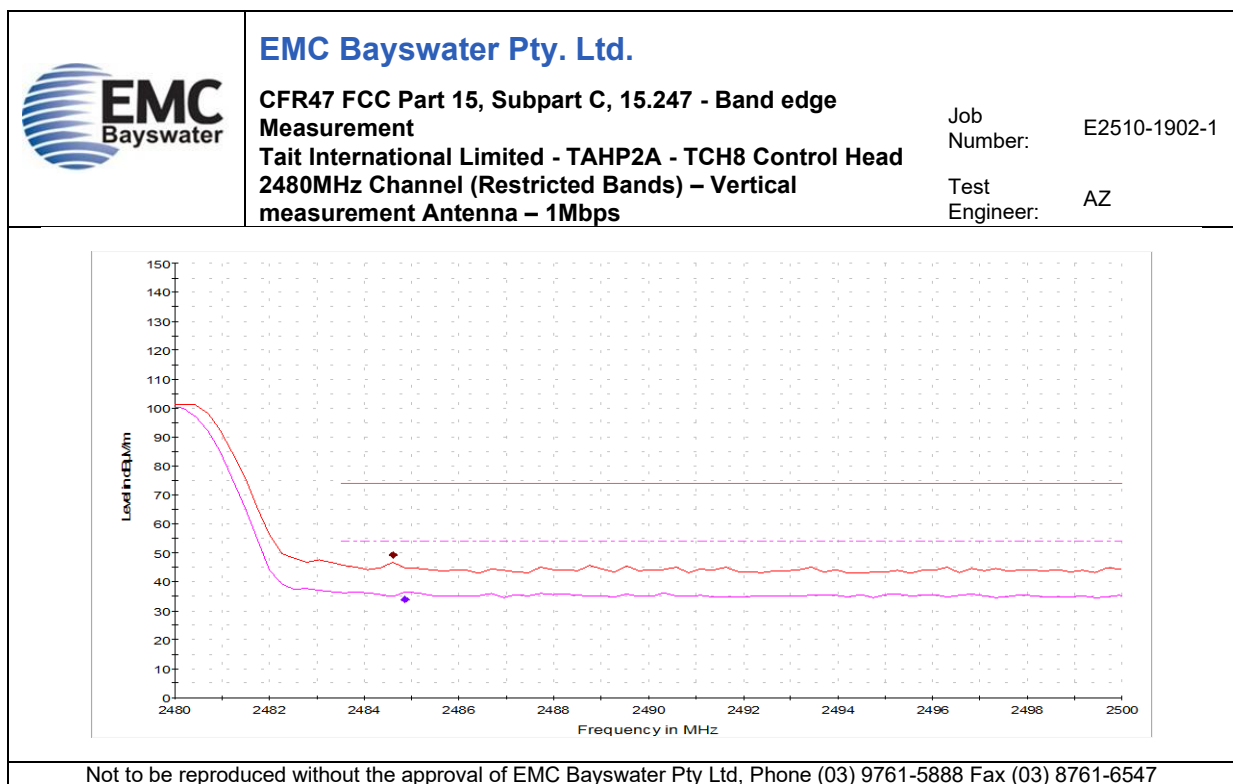


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Graph 8



Graph 9



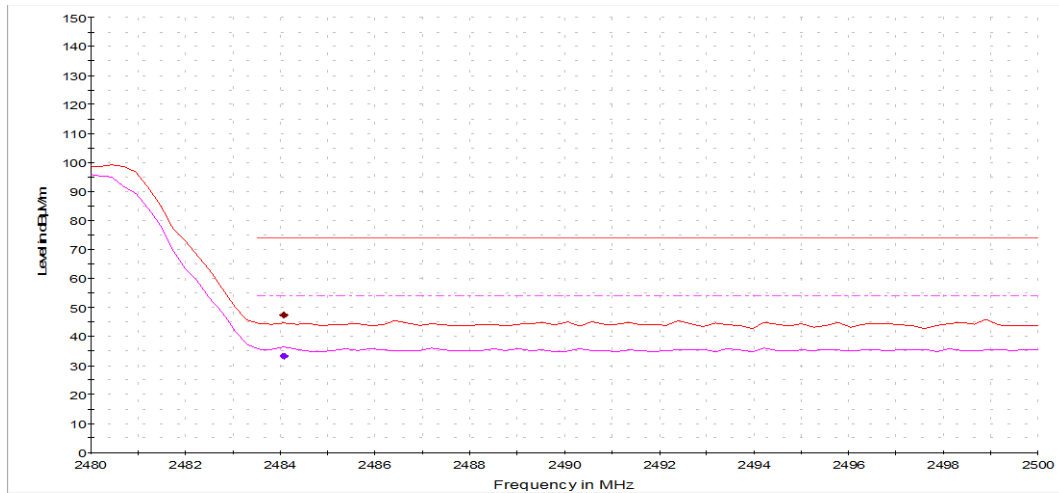
Graph 10



EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Band edge Measurement
Tait International Limited - TAHP2A - TCH8 Control Head
2480MHz Channel (Restricted Bands) – Horizontal measurement Antenna – 2Mbps

Job Number: E2510-1902-1
Test Engineer: AZ



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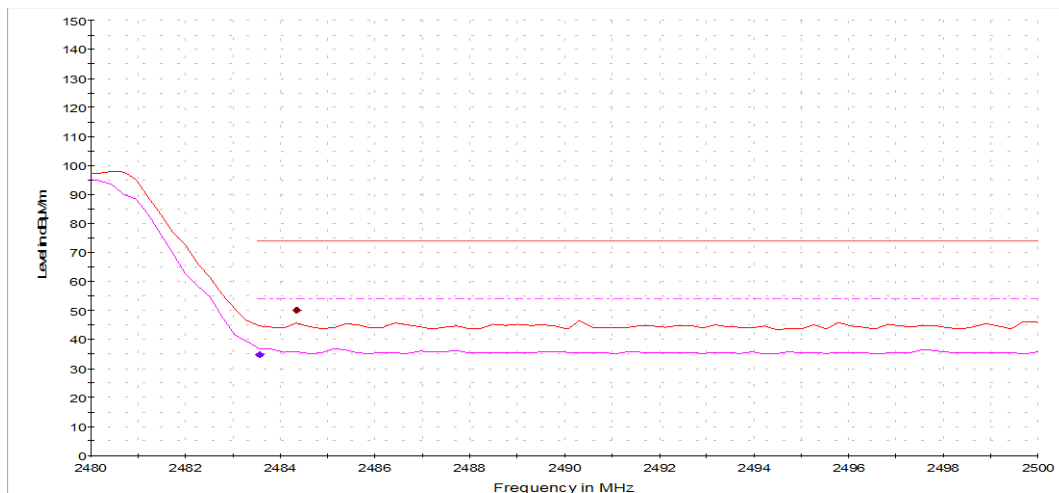
Graph 11



EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Band edge Measurement
Tait International Limited - TAHP2A - TCH8 Control Head
2480MHz Channel (Restricted Bands) – Vertical measurement Antenna – 2Mbps

Job Number: E2510-1902-1
Test Engineer: AZ



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Graph 12

Appendix C.3 – Measurement Graphs – Transmitter Spurious – FCC 15.247 (d), 15.209 – Restricted Bands

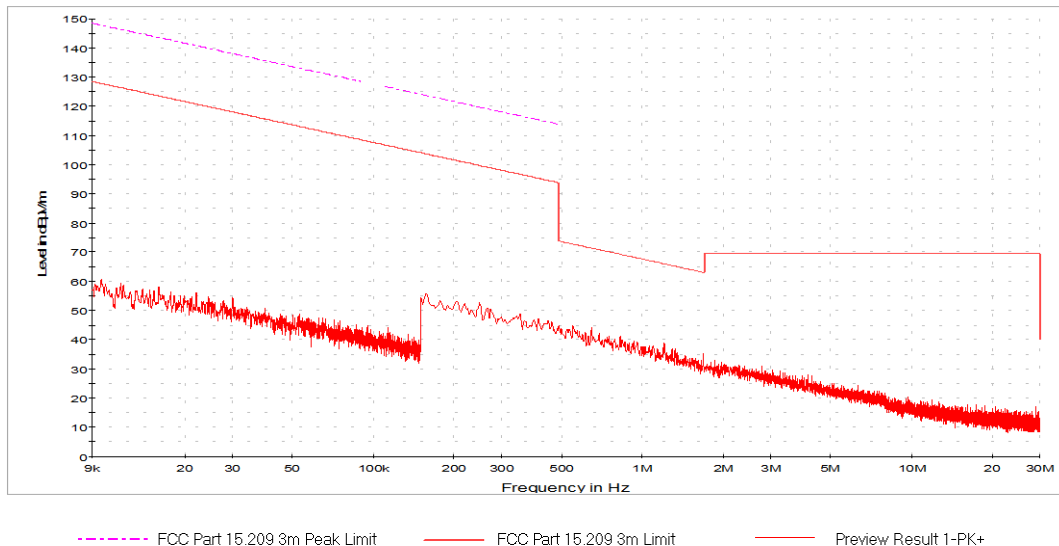
No.	Test	Graph Description
13	9kHz to 30MHz	2440MHz Channel, Antenna X
14		2440MHz Channel, Antenna Y
15		2440MHz Channel, Antenna Z
16	30MHz to 1GHz	2402MHz Channel, Antenna Horizontal
17		2402MHz Channel, Antenna Vertical
18		2440MHz Channel, Antenna Horizontal
19		2440MHz Channel, Antenna Vertical
20		2480MHz Channel, Antenna Horizontal
21		2480MHz Channel, Antenna Vertical
22	1GHz to 3.6GHz	2402MHz Channel, Antenna Horizontal
23		2402MHz Channel, Antenna Vertical
24		2440MHz Channel, Antenna Horizontal
25		2440MHz Channel, Antenna Vertical
26		2480MHz Channel, Antenna Horizontal
27		2480MHz Channel, Antenna Vertical
28	3.6GHz to 6GHz	2402MHz Channel, Antenna Horizontal
29		2402MHz Channel, Antenna Vertical
30		2440MHz Channel, Antenna Horizontal
31		2440MHz Channel, Antenna Vertical
32		2480MHz Channel, Antenna Horizontal
33		2480MHz Channel, Antenna Vertical
34	5.8GHz to 8.2GHz	2402MHz Channel, Antenna Horizontal
35		2402MHz Channel, Antenna Vertical
36		2440MHz Channel, Antenna Horizontal
37		2440MHz Channel, Antenna Vertical
38		2480MHz Channel, Antenna Horizontal
39		2480MHz Channel, Antenna Vertical
40	8.2GHz to 12.4GHz	2402MHz Channel, Antenna Horizontal
41		2402MHz Channel, Antenna Vertical
42		2440MHz Channel, Antenna Horizontal
43		2440MHz Channel, Antenna Vertical
44		2480MHz Channel, Antenna Horizontal
45		2480MHz Channel, Antenna Vertical
46	12.4GHz to 18GHz	2402MHz Channel, Antenna Horizontal
47		2402MHz Channel, Antenna Vertical
48		2440MHz Channel, Antenna Horizontal
49		2440MHz Channel, Antenna Vertical
50		2480MHz Channel, Antenna Horizontal
51		2480MHz Channel, Antenna Vertical
52	18GHz to 25GHz	2402MHz Channel, Antenna Horizontal
53		2402MHz Channel, Antenna Vertical
54		2440MHz Channel, Antenna Horizontal
55		2440MHz Channel, Antenna Vertical
56		2480MHz Channel, Antenna Horizontal
57		2480MHz Channel, Antenna Vertical



EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated
emissions in Restricted bands
Tait International Limited - TAHP2A - TCH8 Control Head
2440MHz Channel - 9kHz to 30MHz
X Antenna Orientation – 2Mbps

Job Number: E2510-1902-1
Test Engineer: AZ



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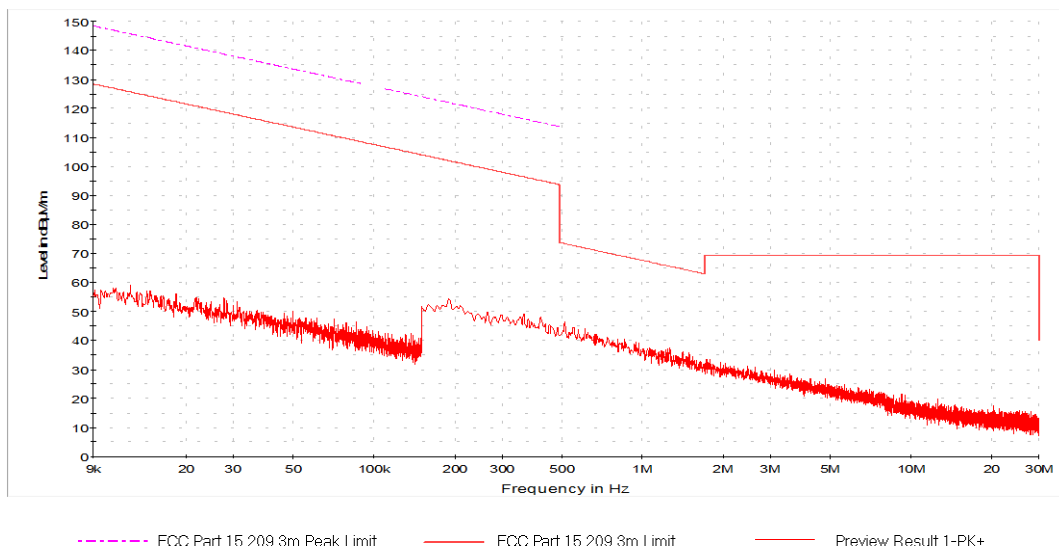
Graph 13



EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated
emissions in Restricted bands
Tait International Limited - TAHP2A - TCH8 Control Head
2440MHz Channel - 9kHz to 30MHz
Y Antenna Orientation – 2Mbps

Job Number: E2510-1902-1
Test Engineer: AZ



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Graph 14

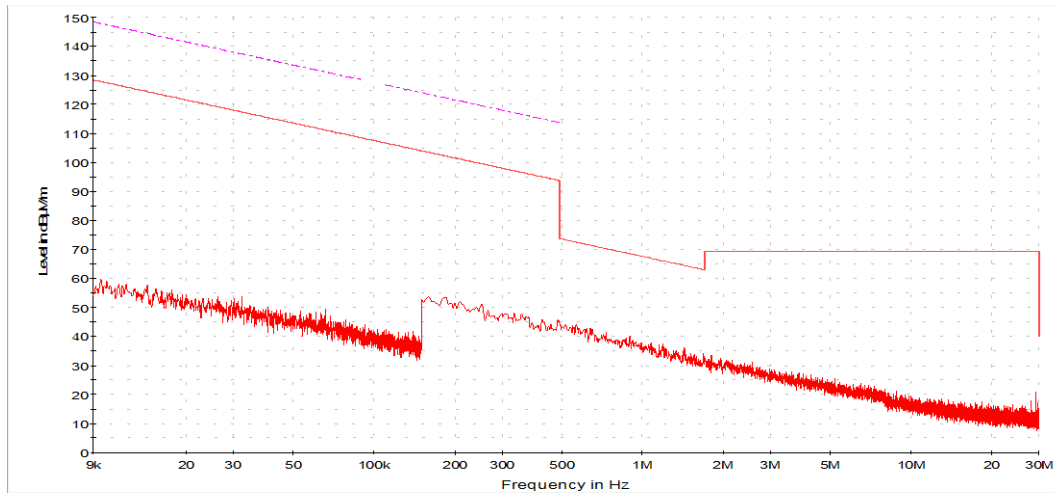


EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated
emissions in Restricted bands
Tait International Limited - TAHP2A - TCH8 Control Head
2440MHz Channel - 9kHz to 30MHz
Z Antenna Orientation – 2Mbps

Job Number: E2510-1902-1

Test Engineer: AZ



----- FCC Part 15.209 3m Peak Limit — FCC Part 15.209 3m Limit — Preview Result 1-PK+

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Graph 15

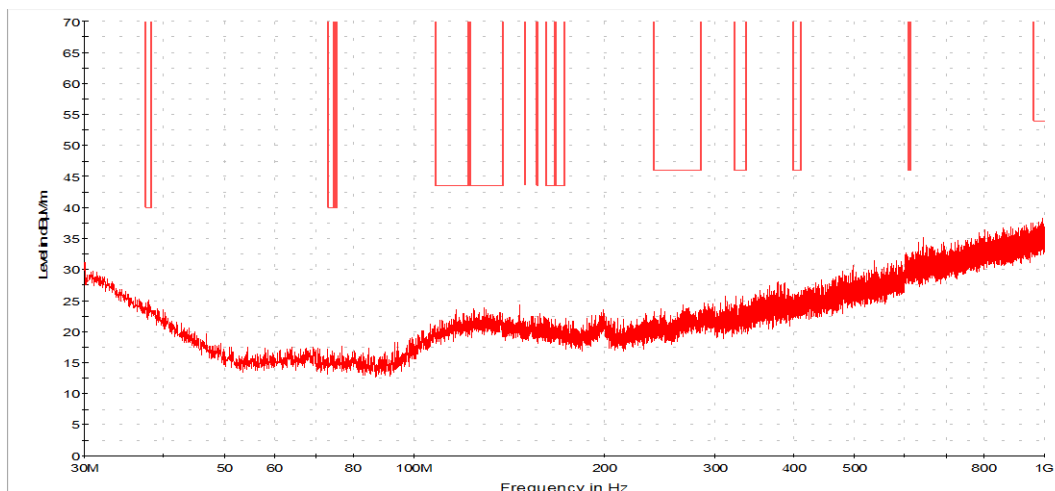


EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated
emissions in Restricted bands
Tait International Limited - TAHP2A - TCH8 Control Head
2402MHz Channel – 30MHz to 1GHz
Horizontal Antenna Polarisation – 2Mbps

Job Number: E2510-1902-1

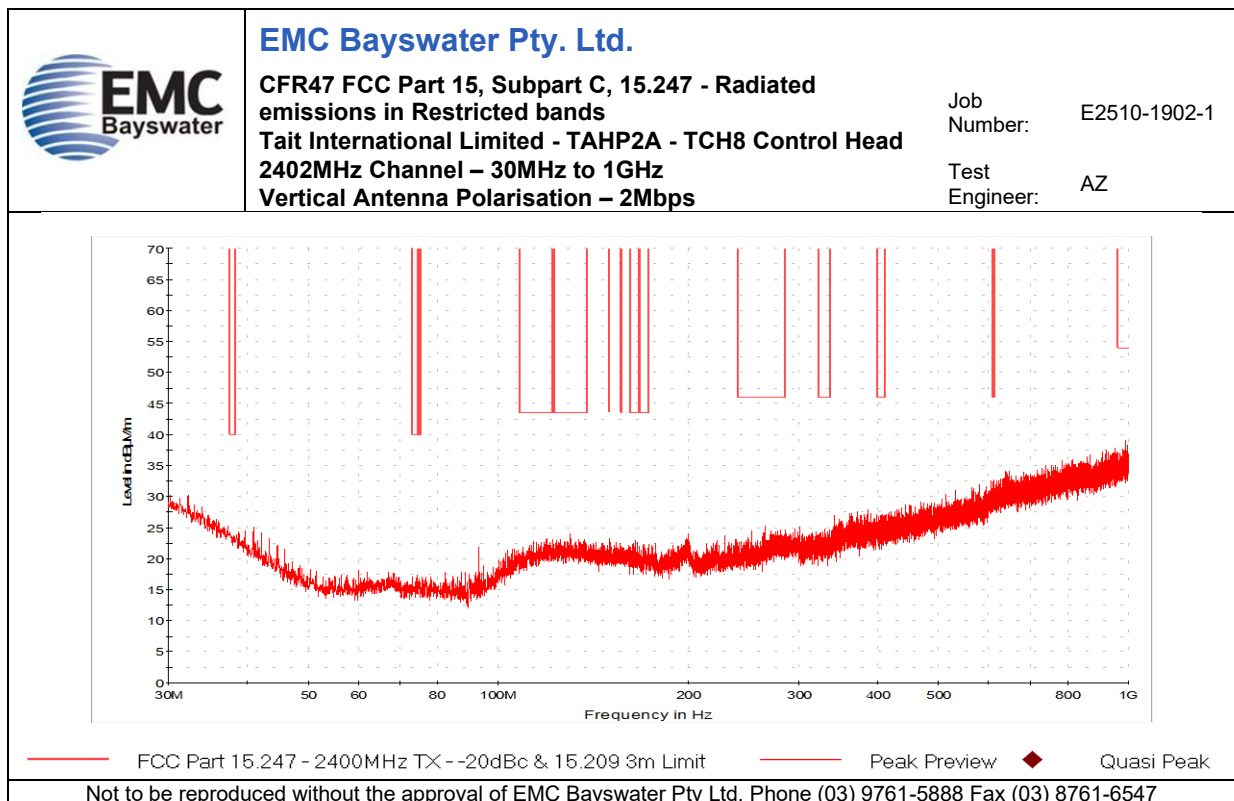
Test Engineer: AZ



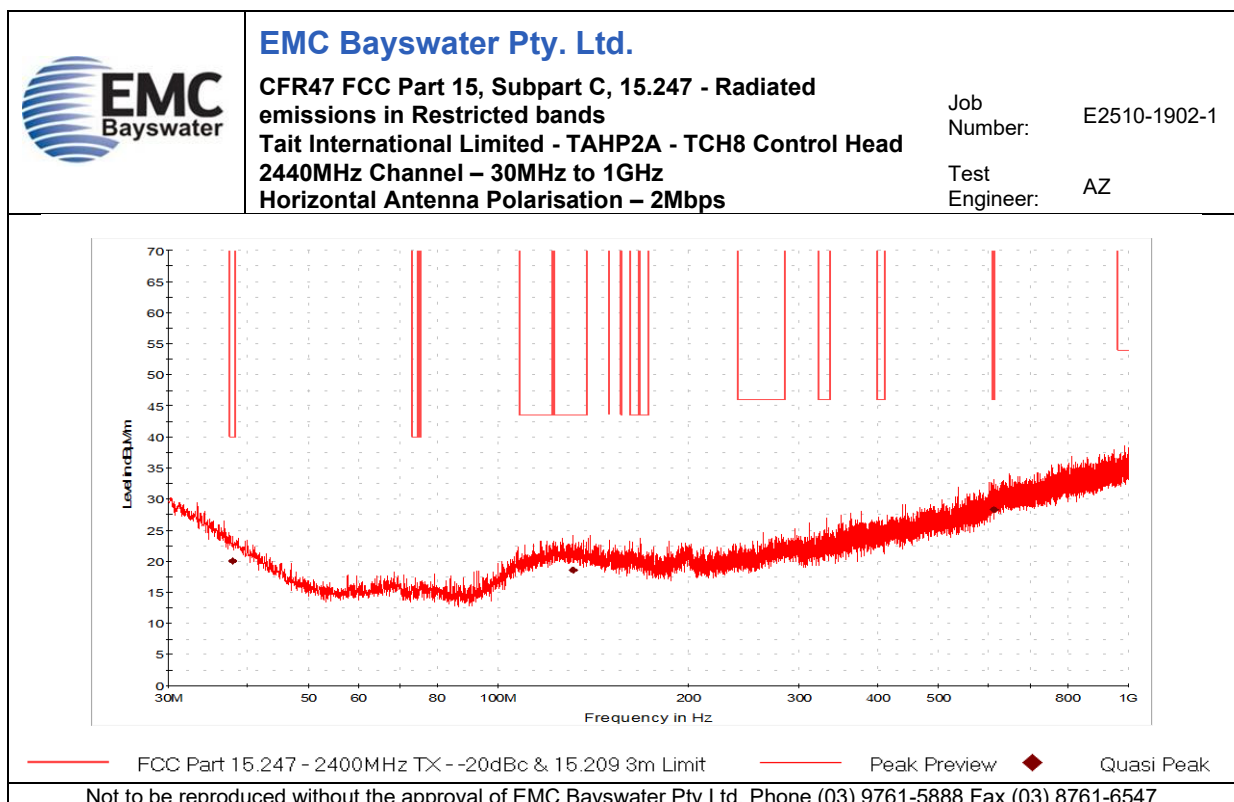
— FCC Part 15.247 - 2400MHz TX - -20dBc & 15.209 3m Limit — Peak Preview ◆ Quasi Peak

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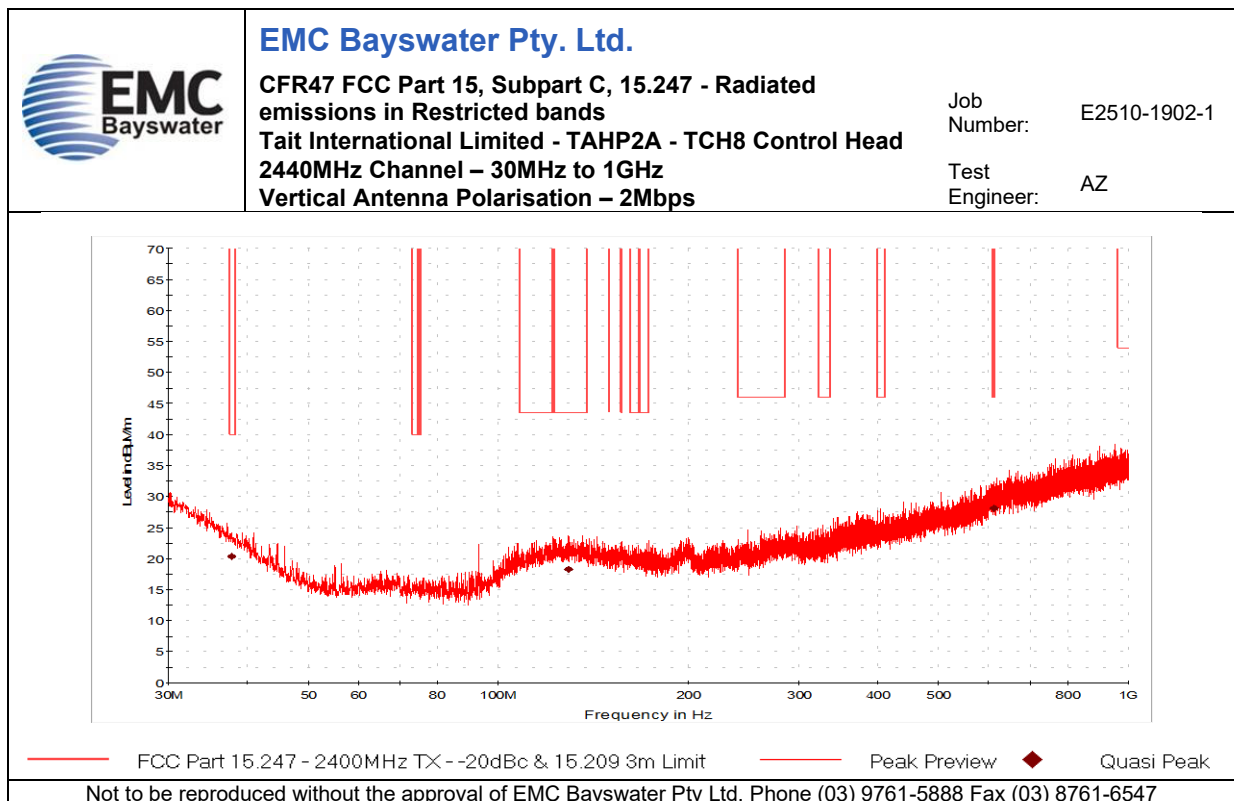
Graph 16



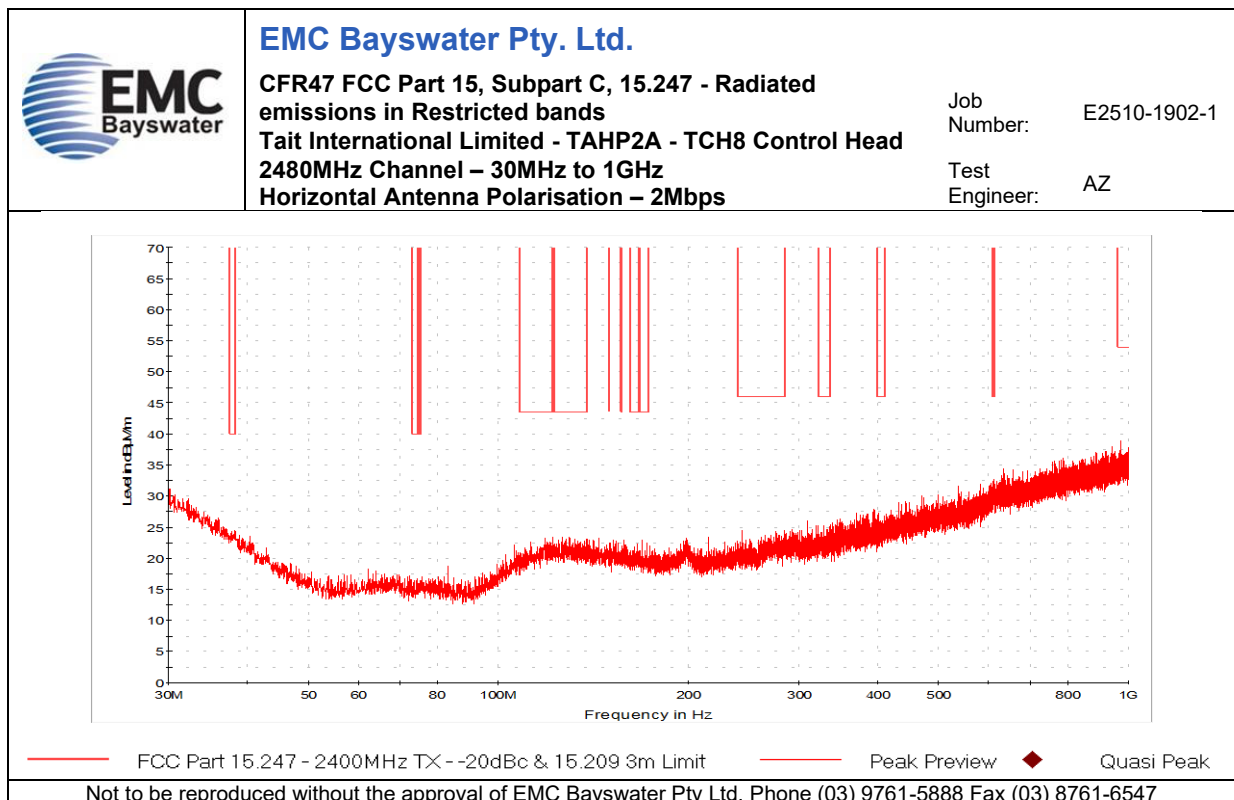
Graph 17



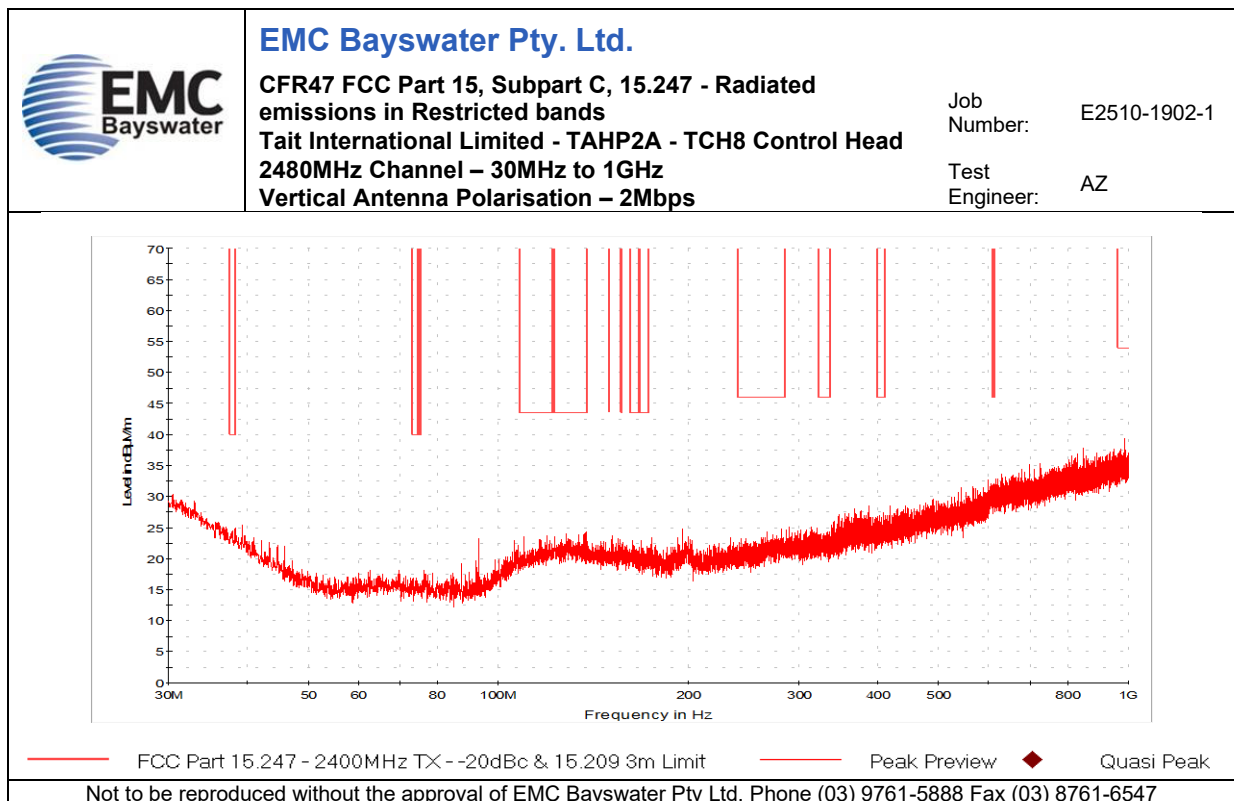
Graph 18



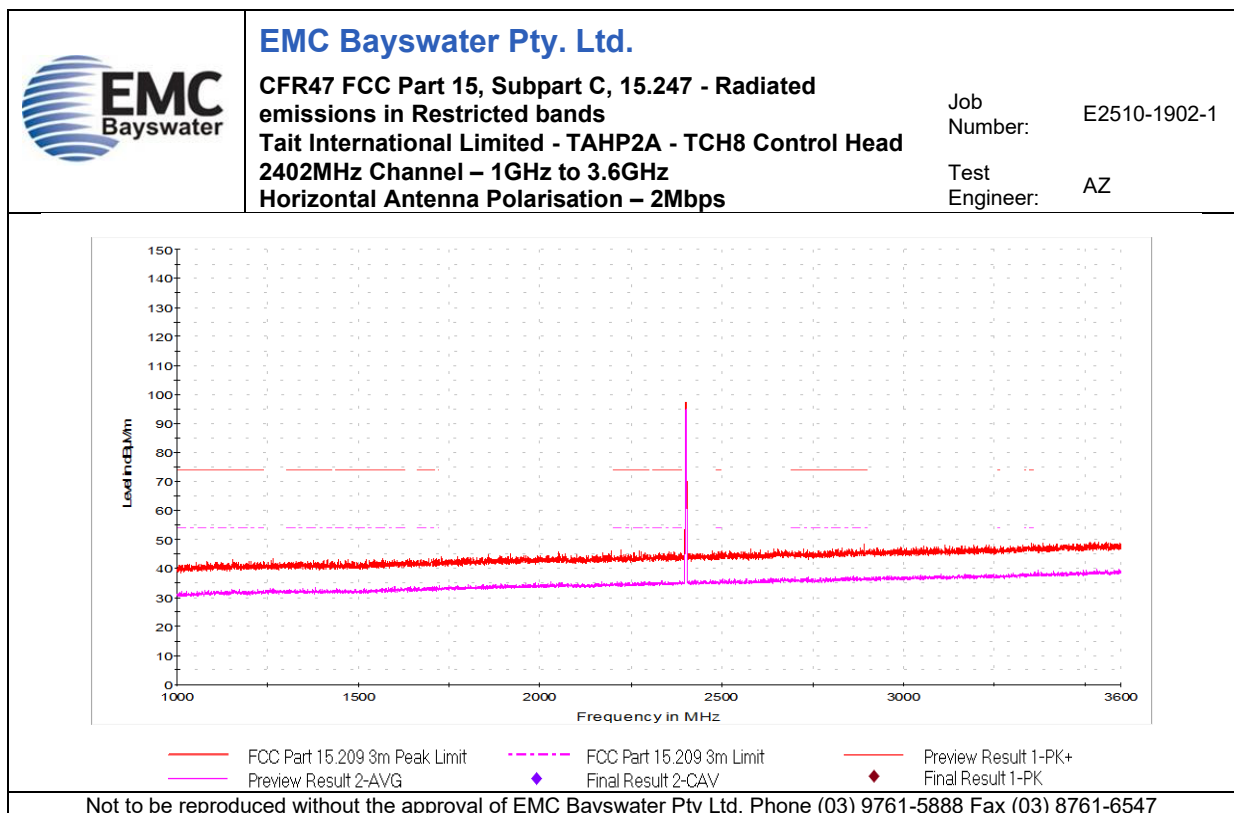
Graph 19



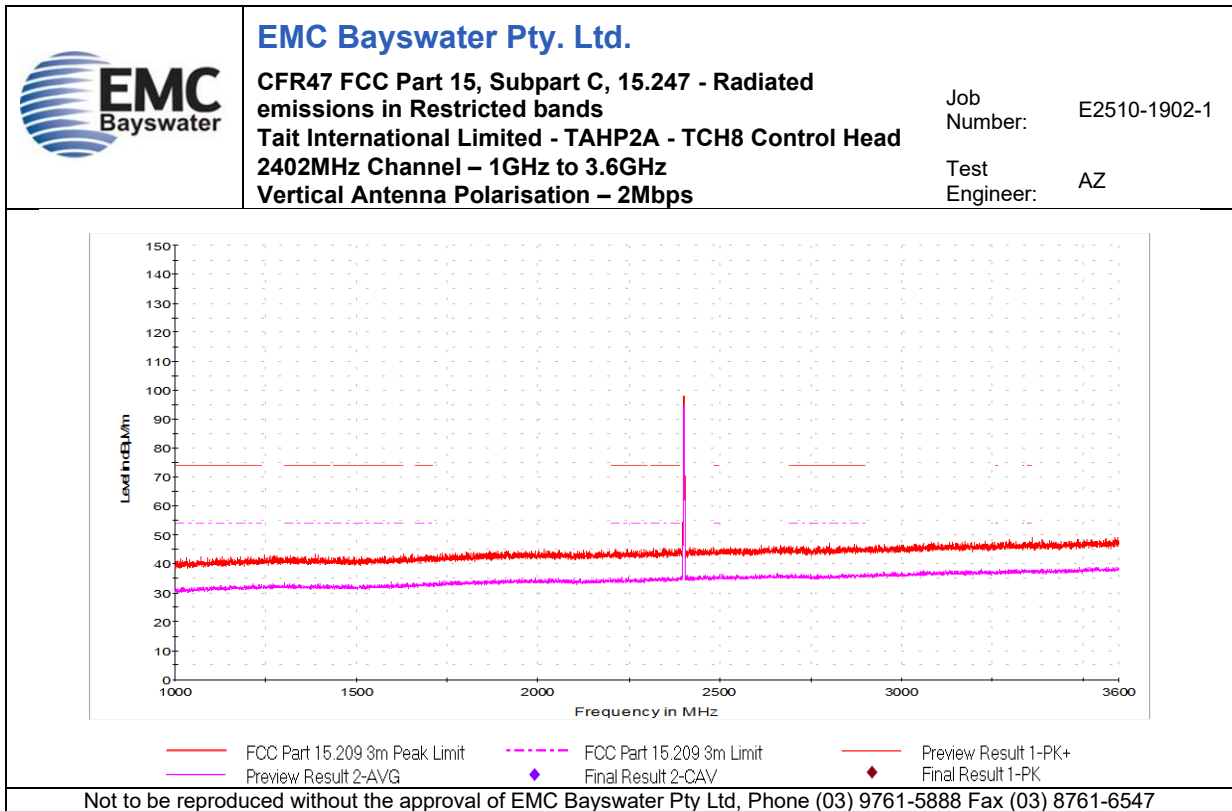
Graph 20



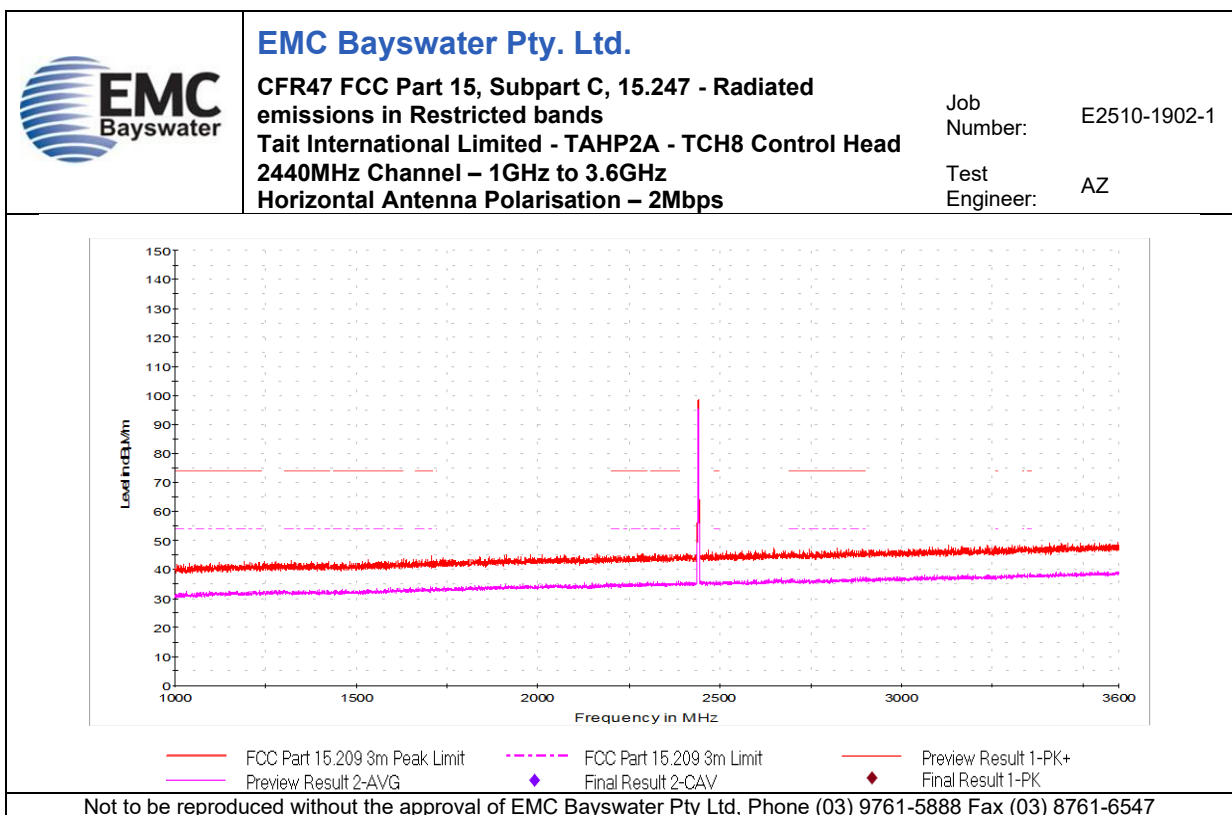
Graph 21



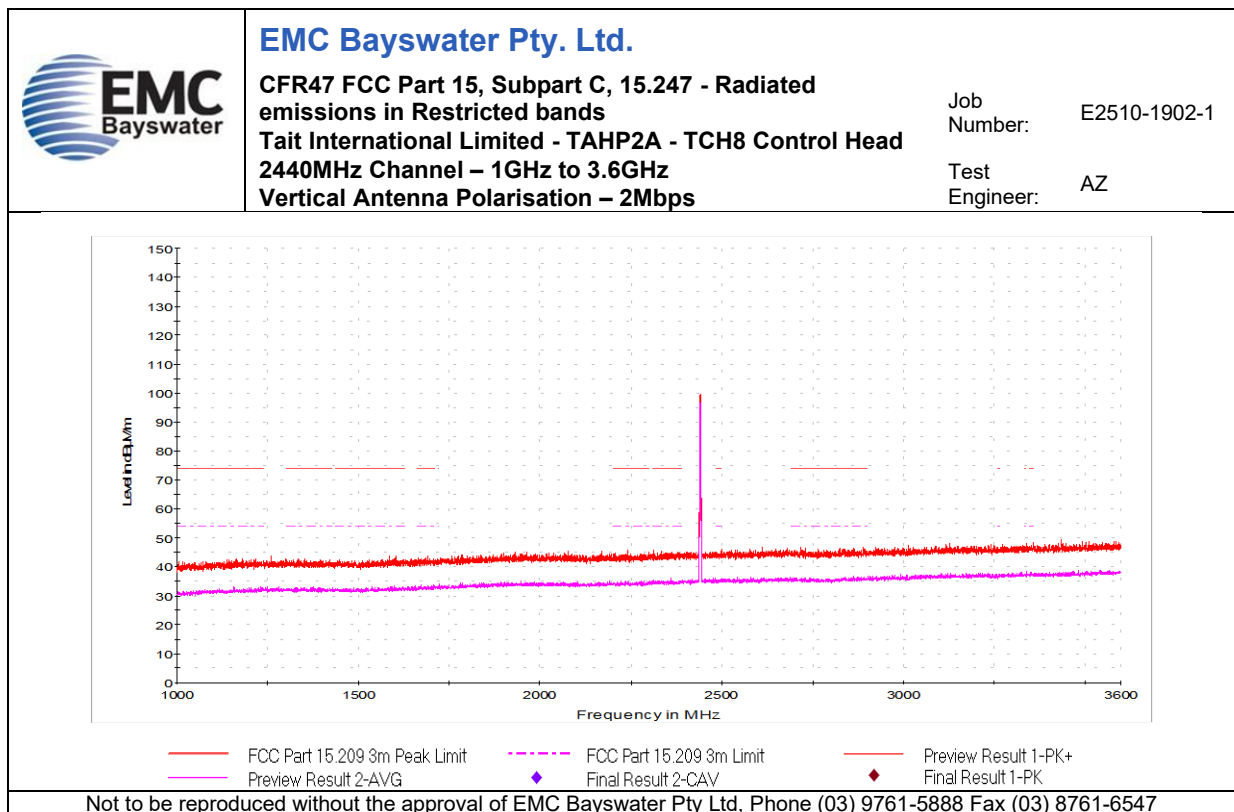
Graph 22



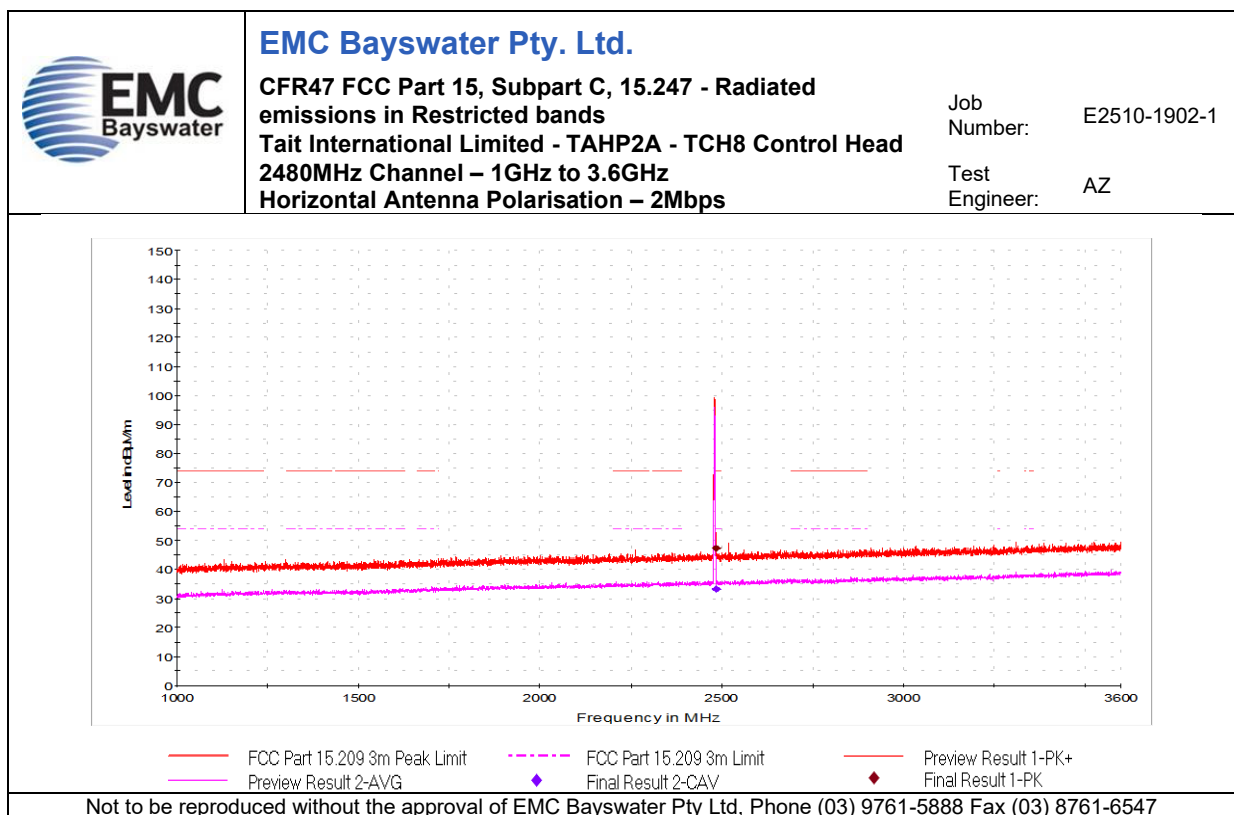
Graph 23



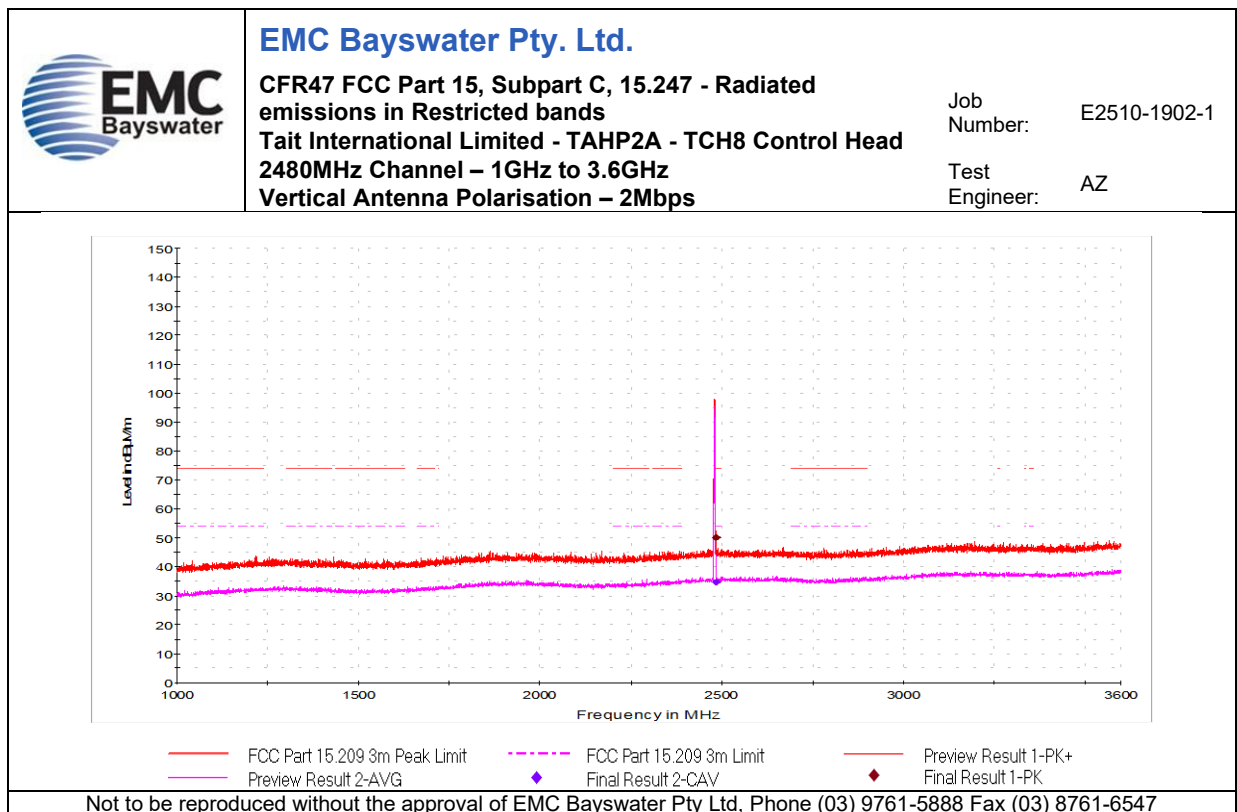
Graph 24



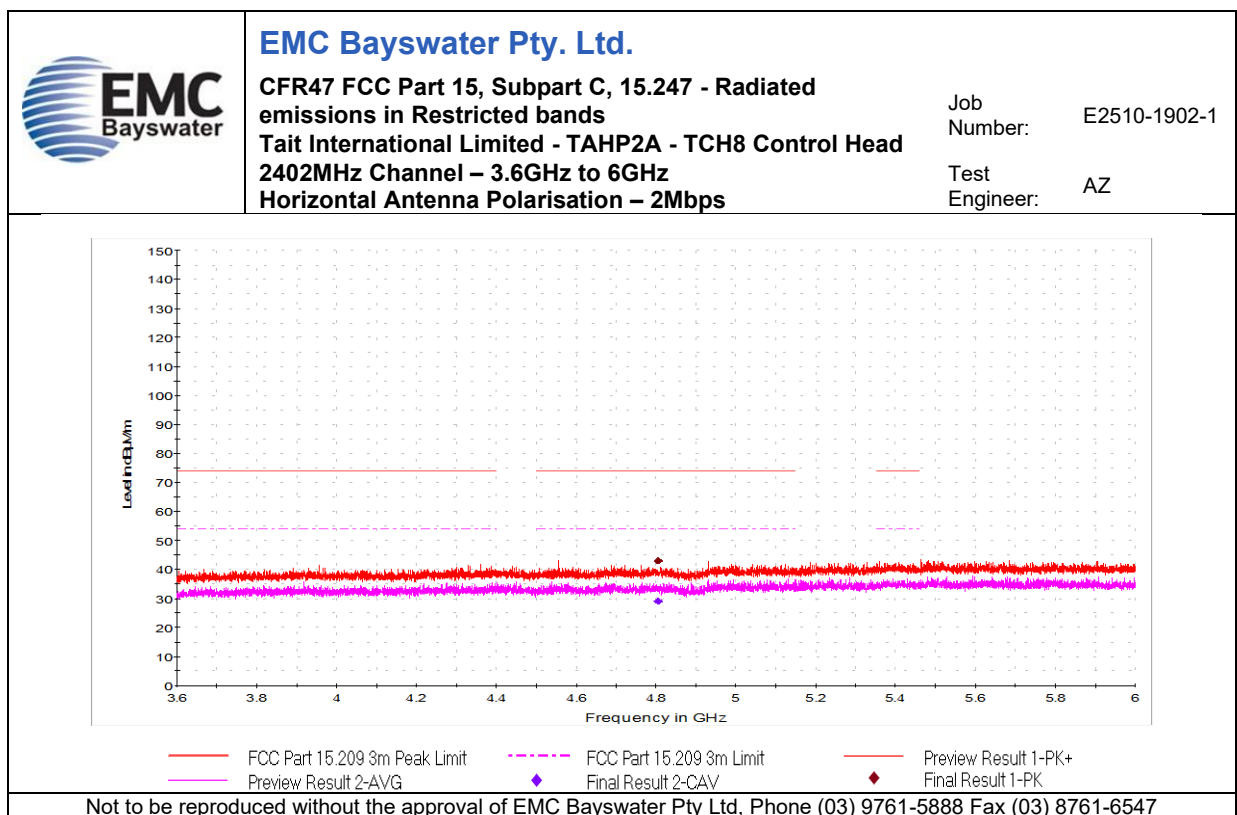
Graph 25



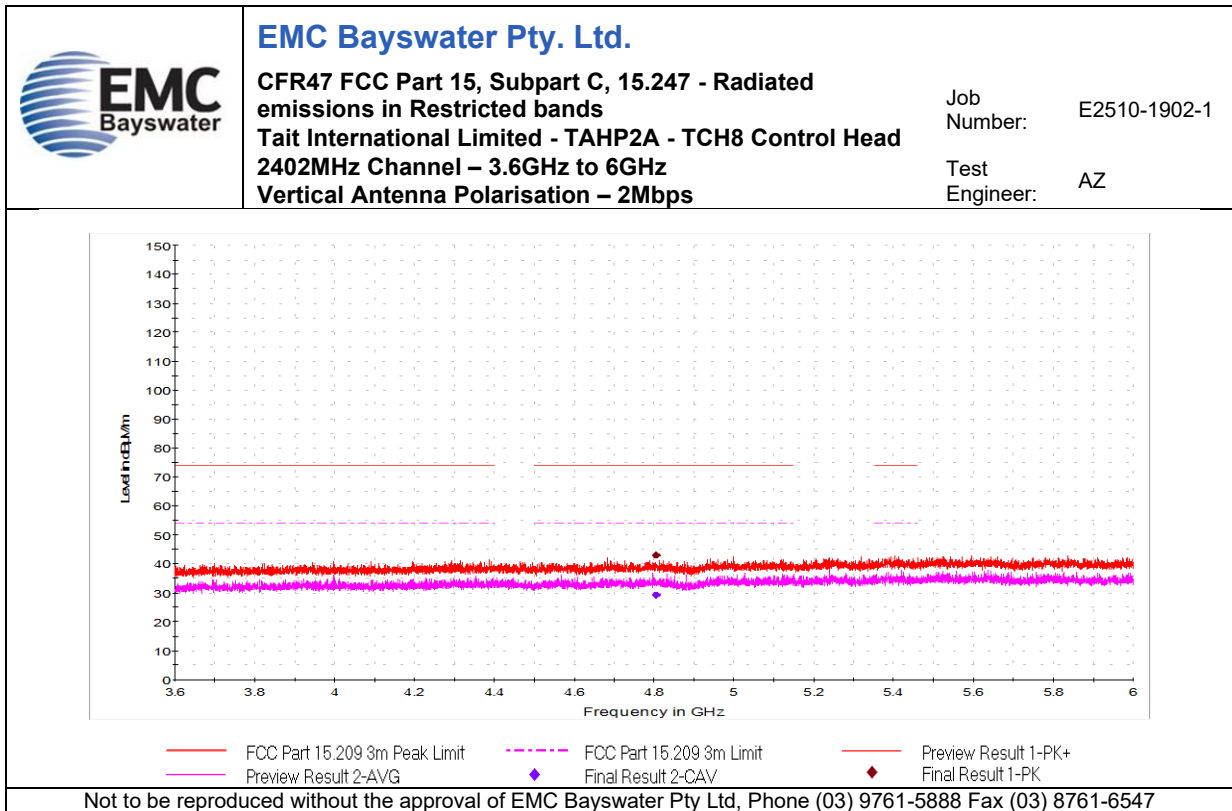
Graph 26



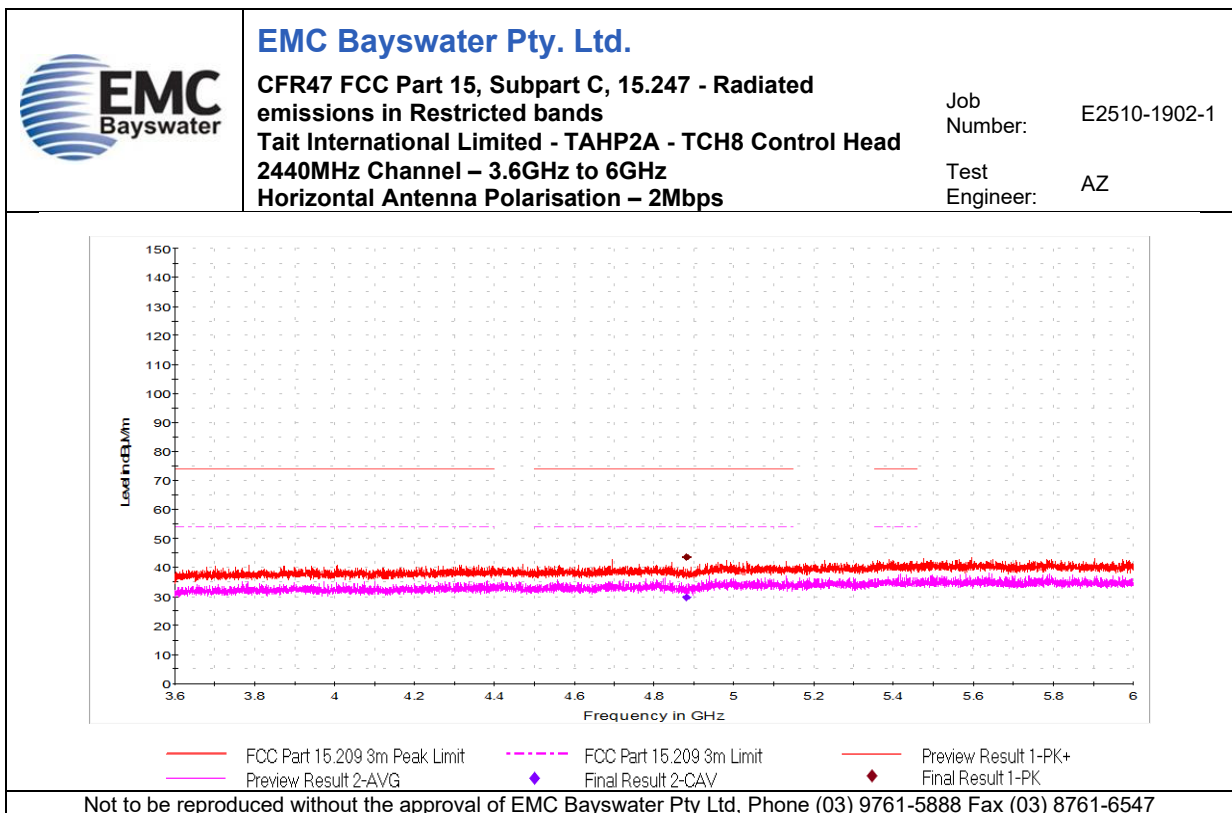
Graph 27



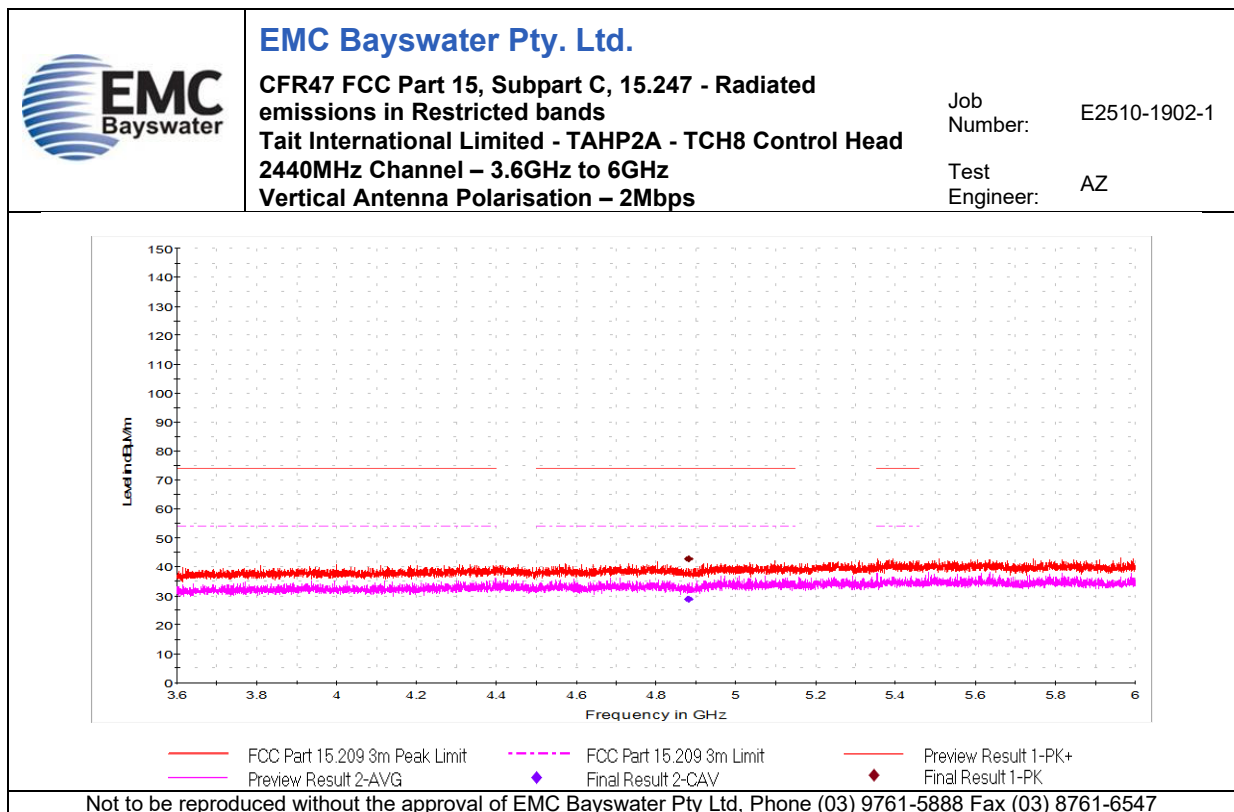
Graph 28



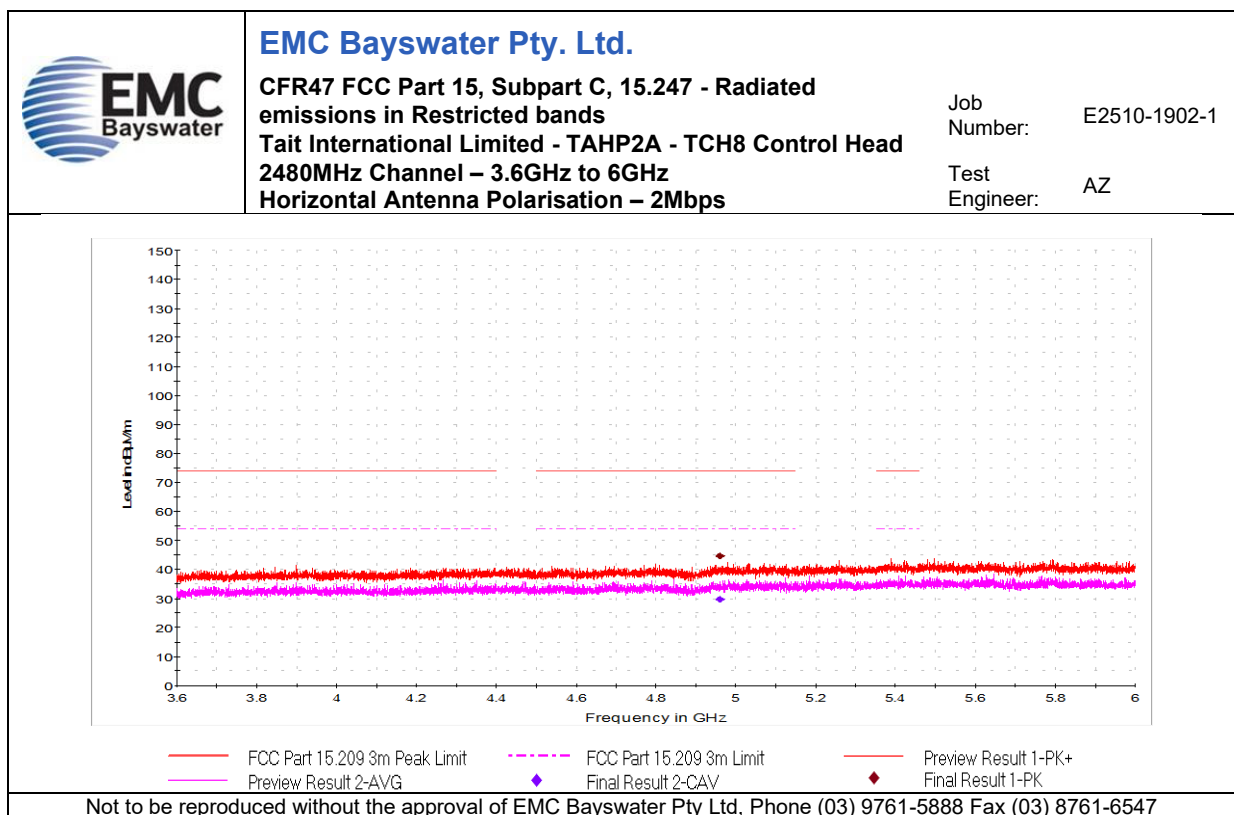
Graph 29



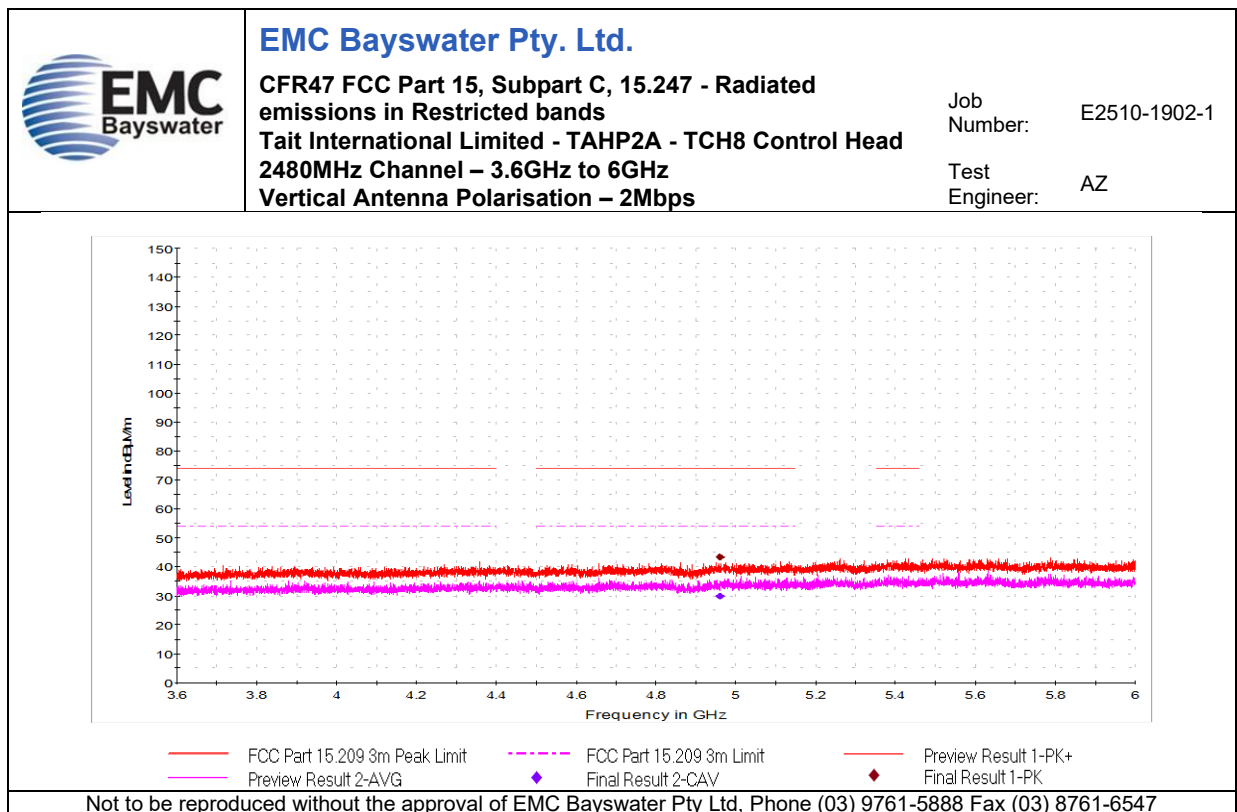
Graph 30



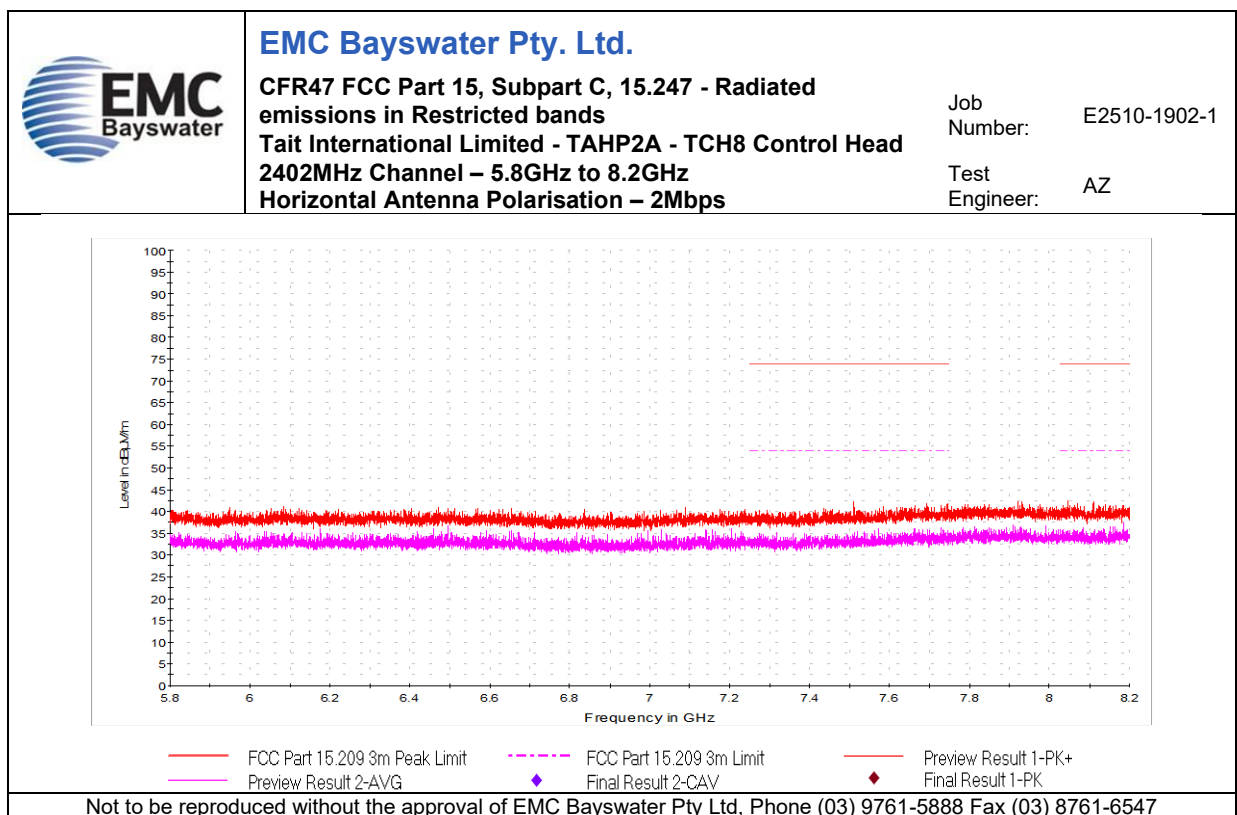
Graph 31



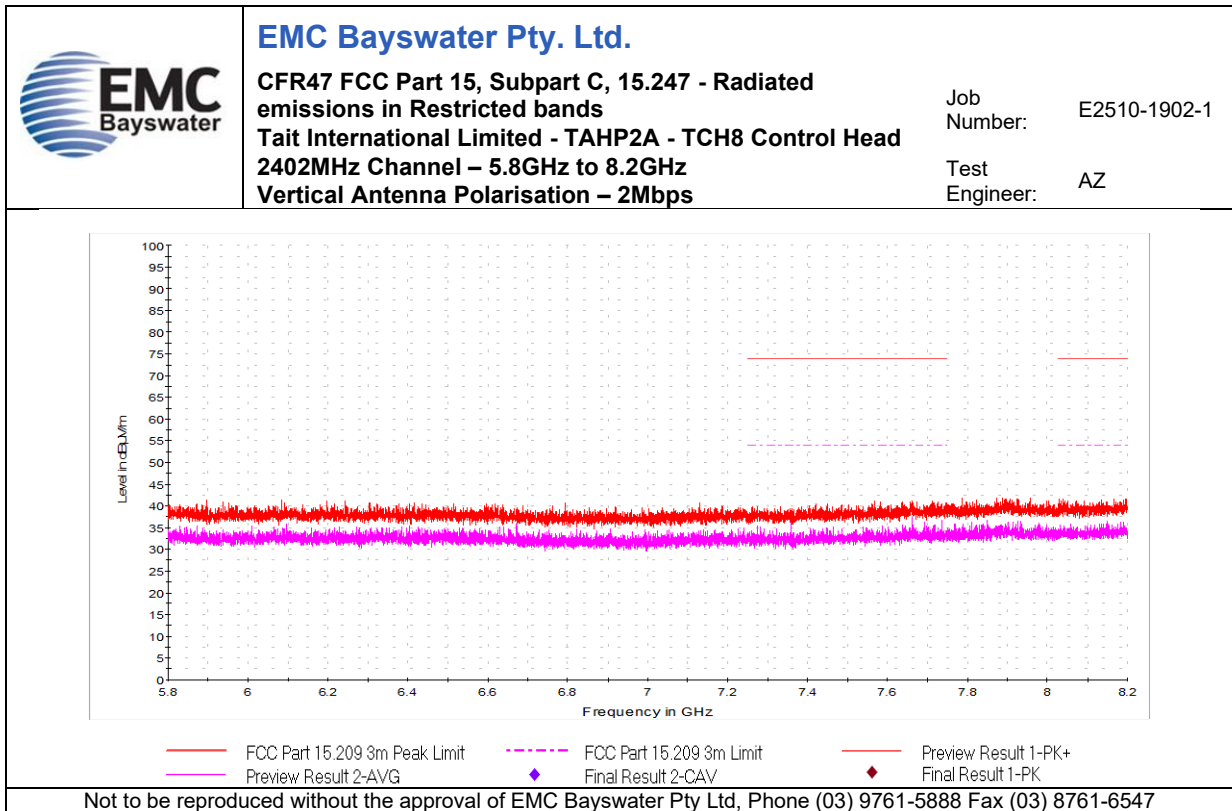
Graph 32



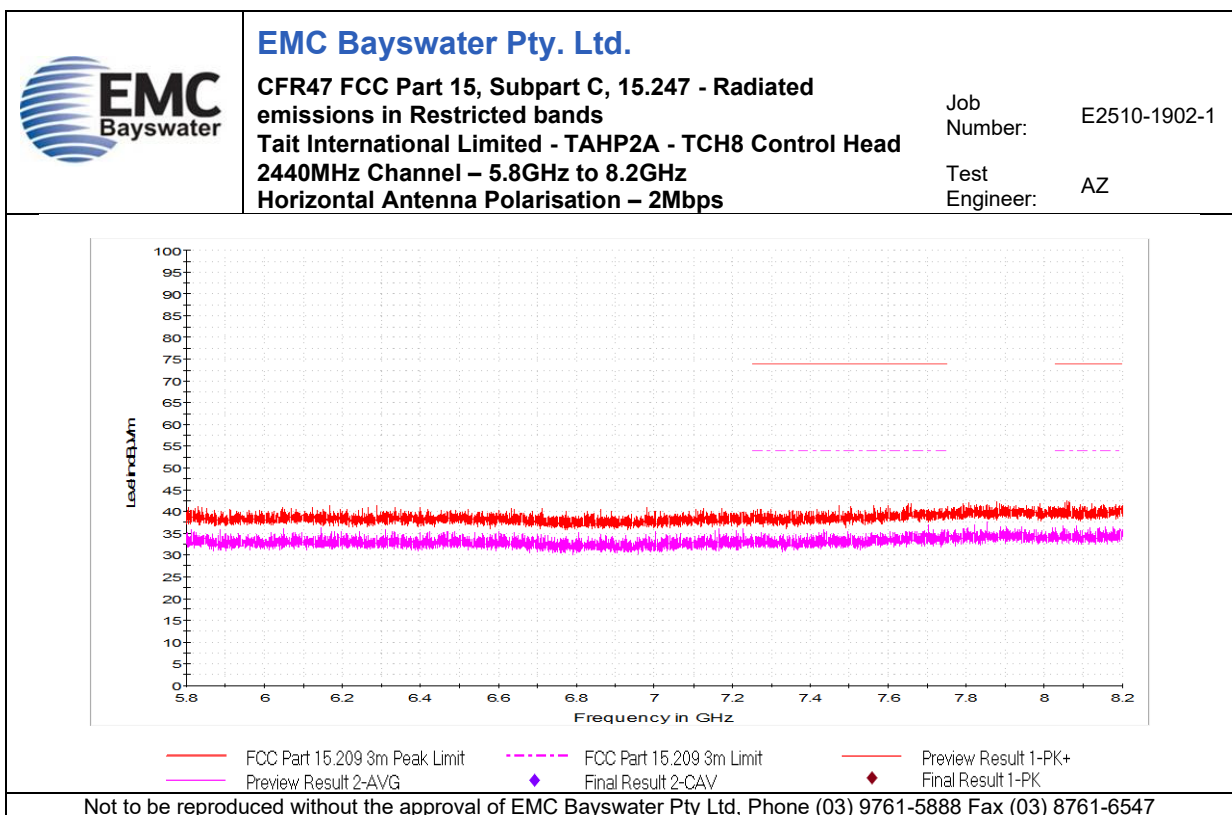
Graph 33



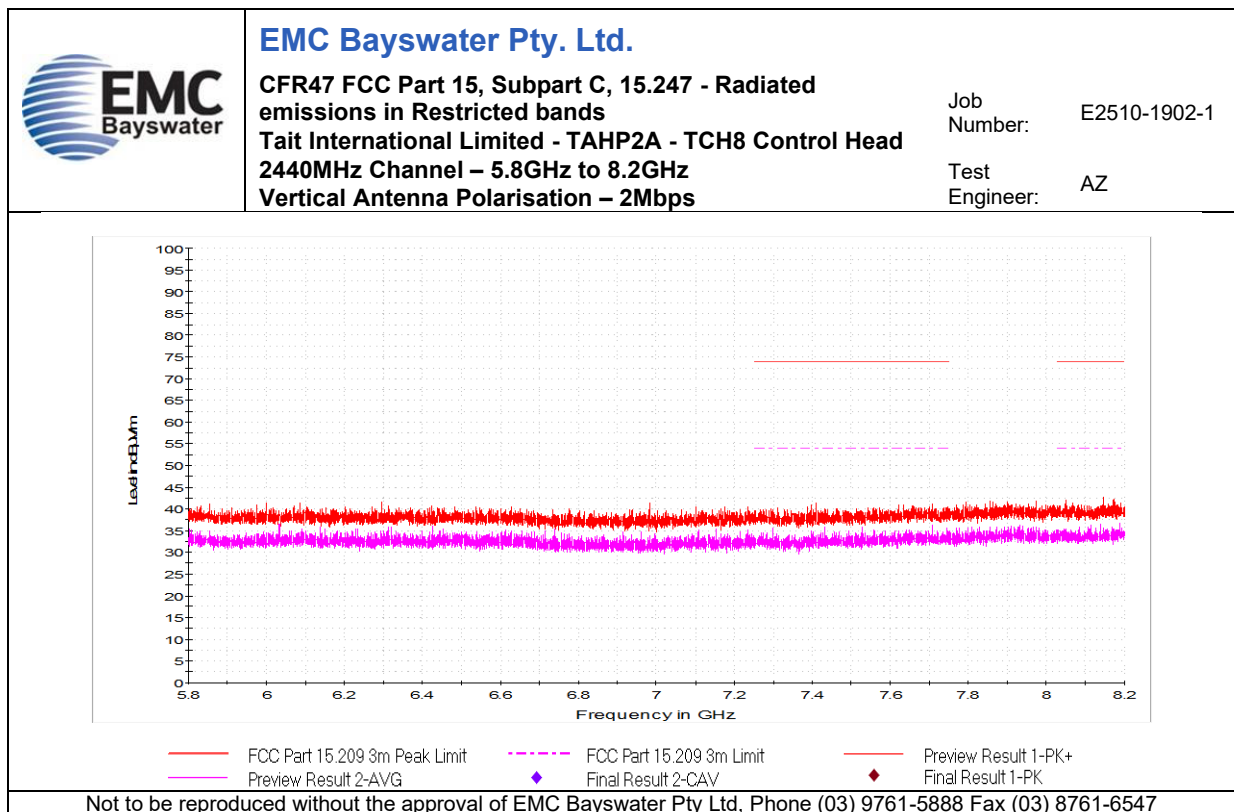
Graph 34



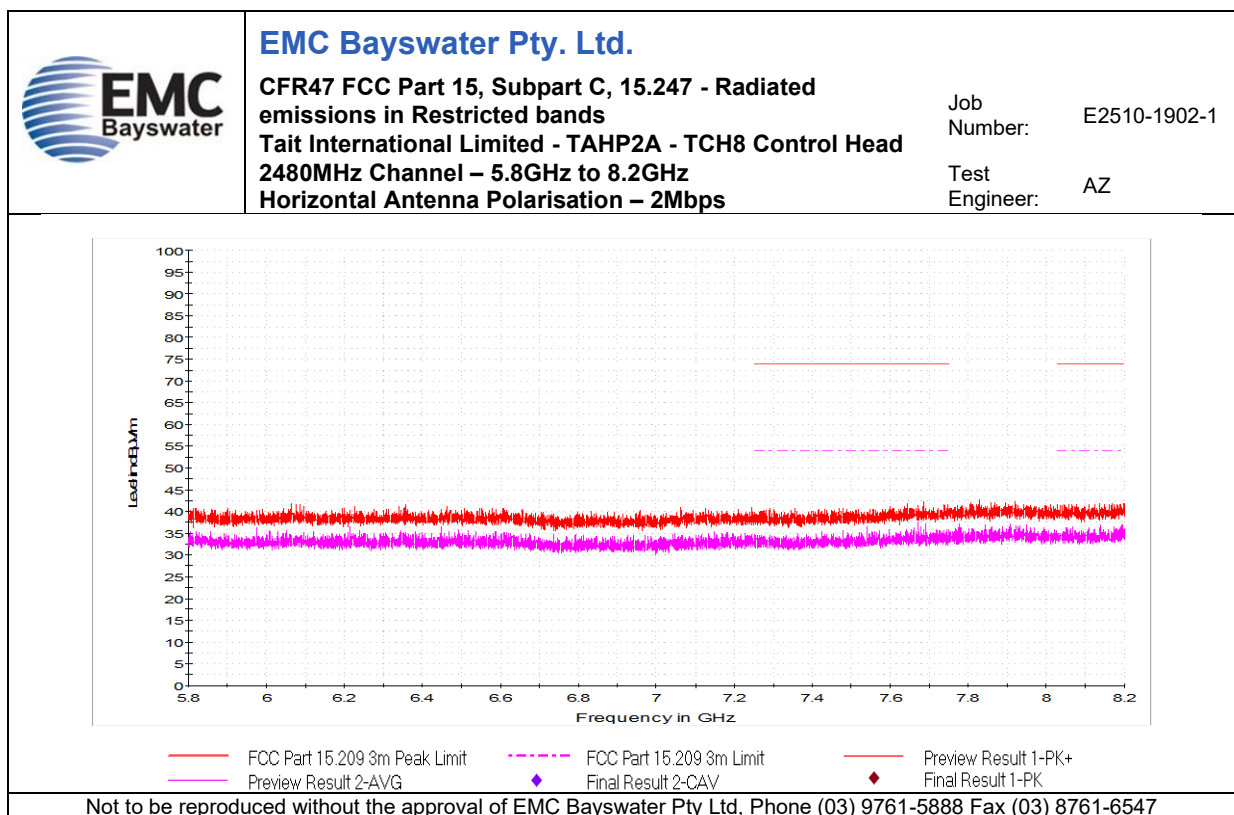
Graph 35



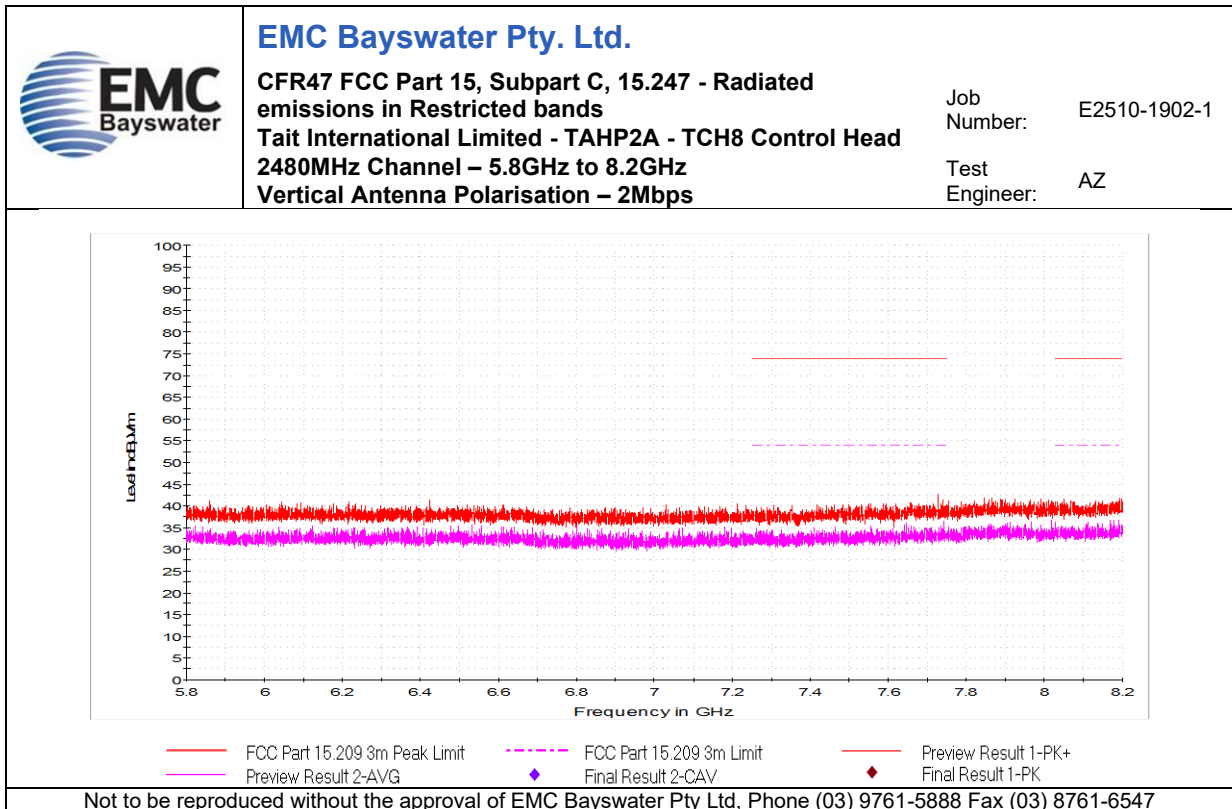
Graph 36



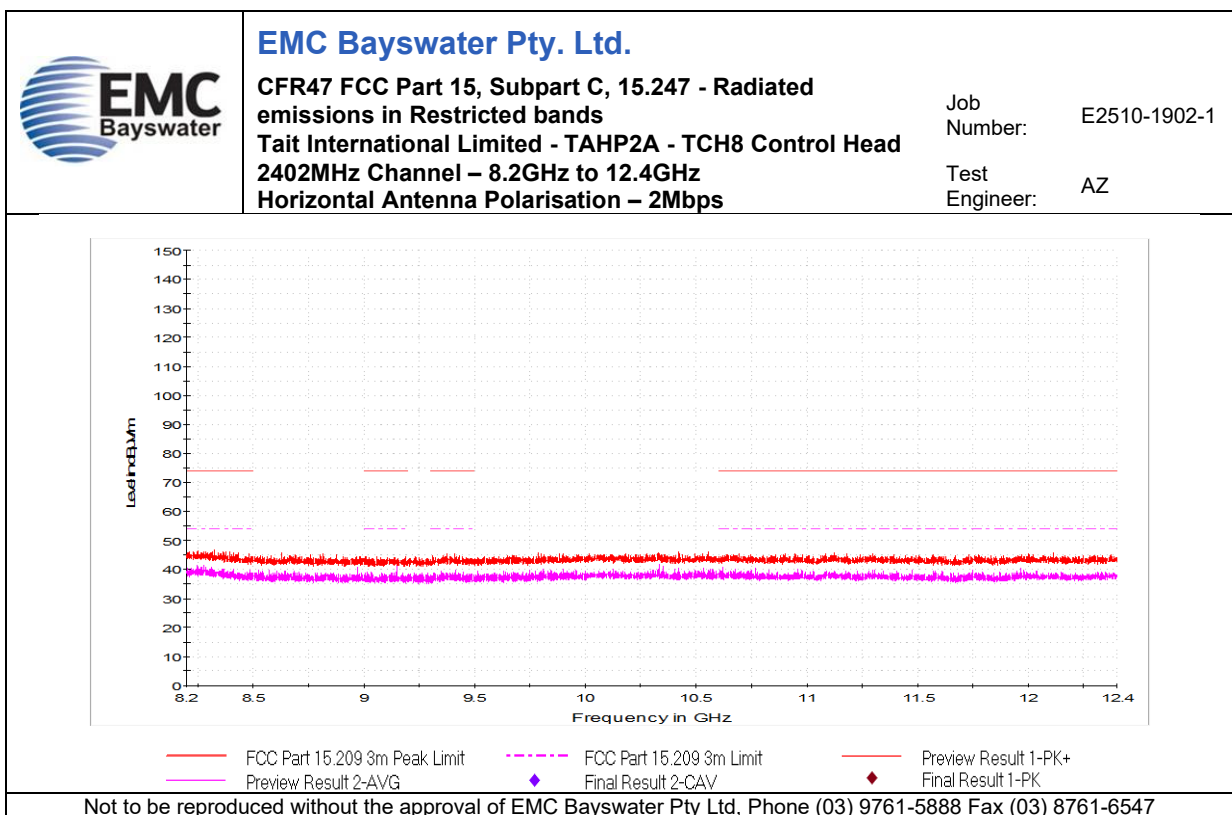
Graph 37



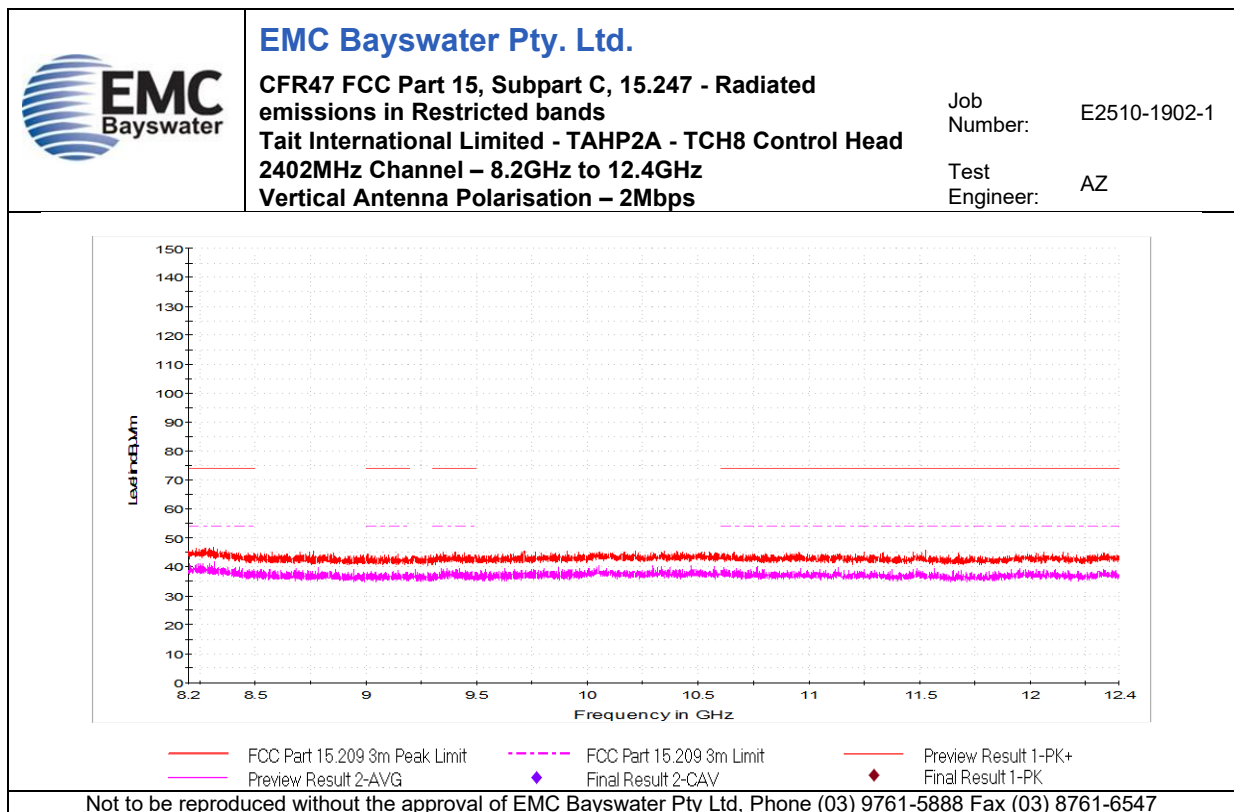
Graph 38



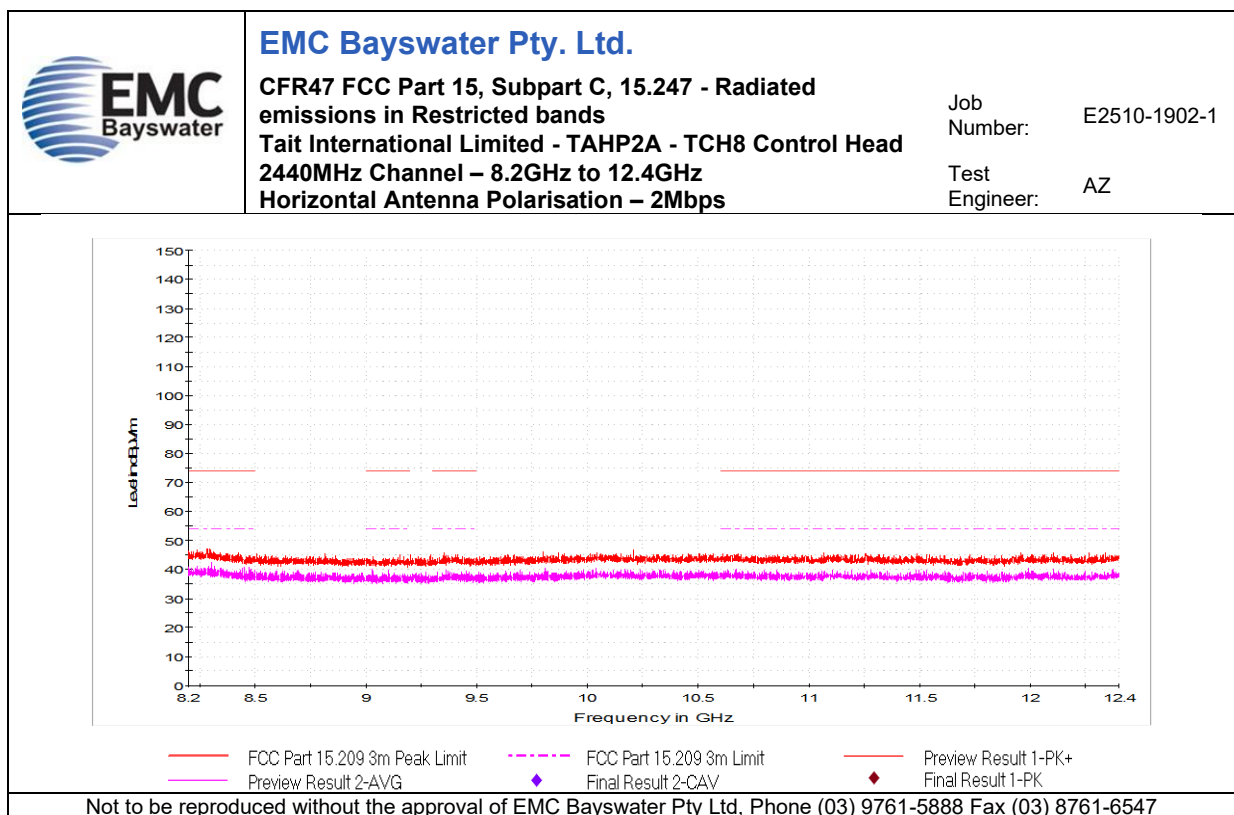
Graph 39



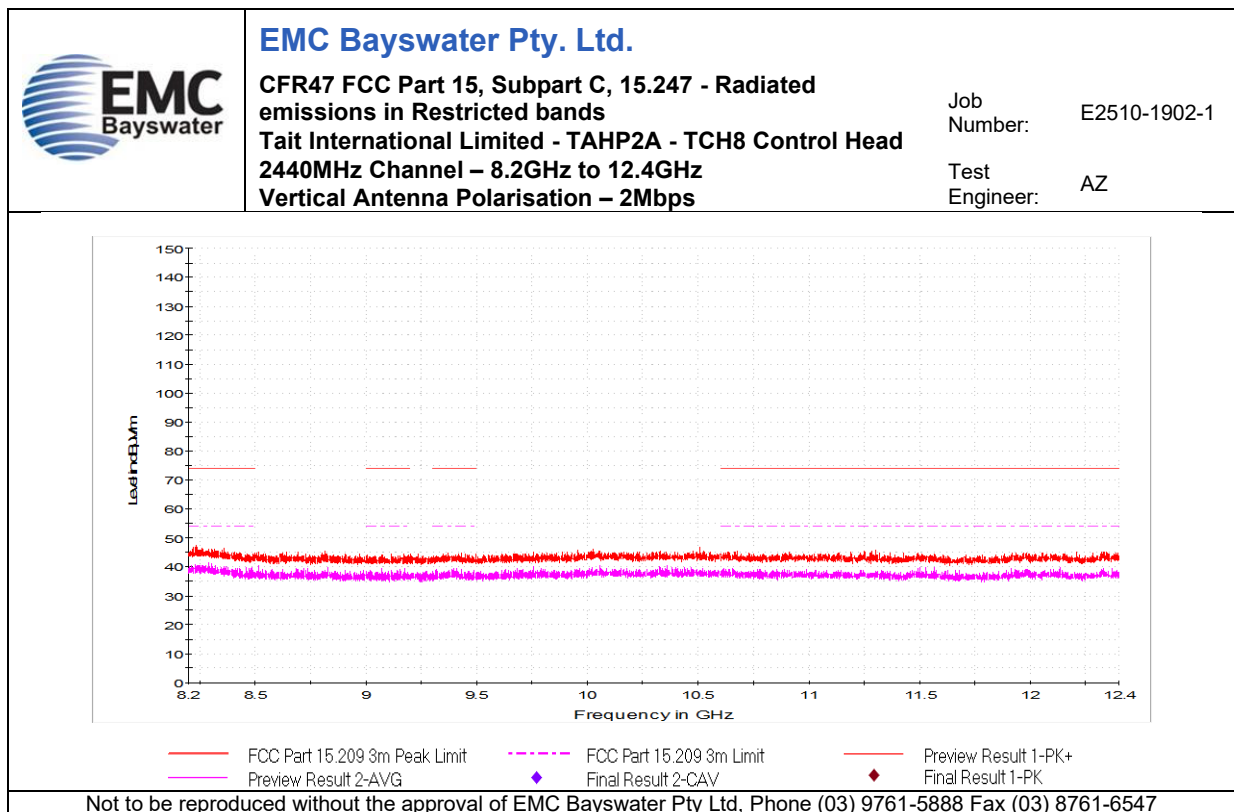
Graph 40



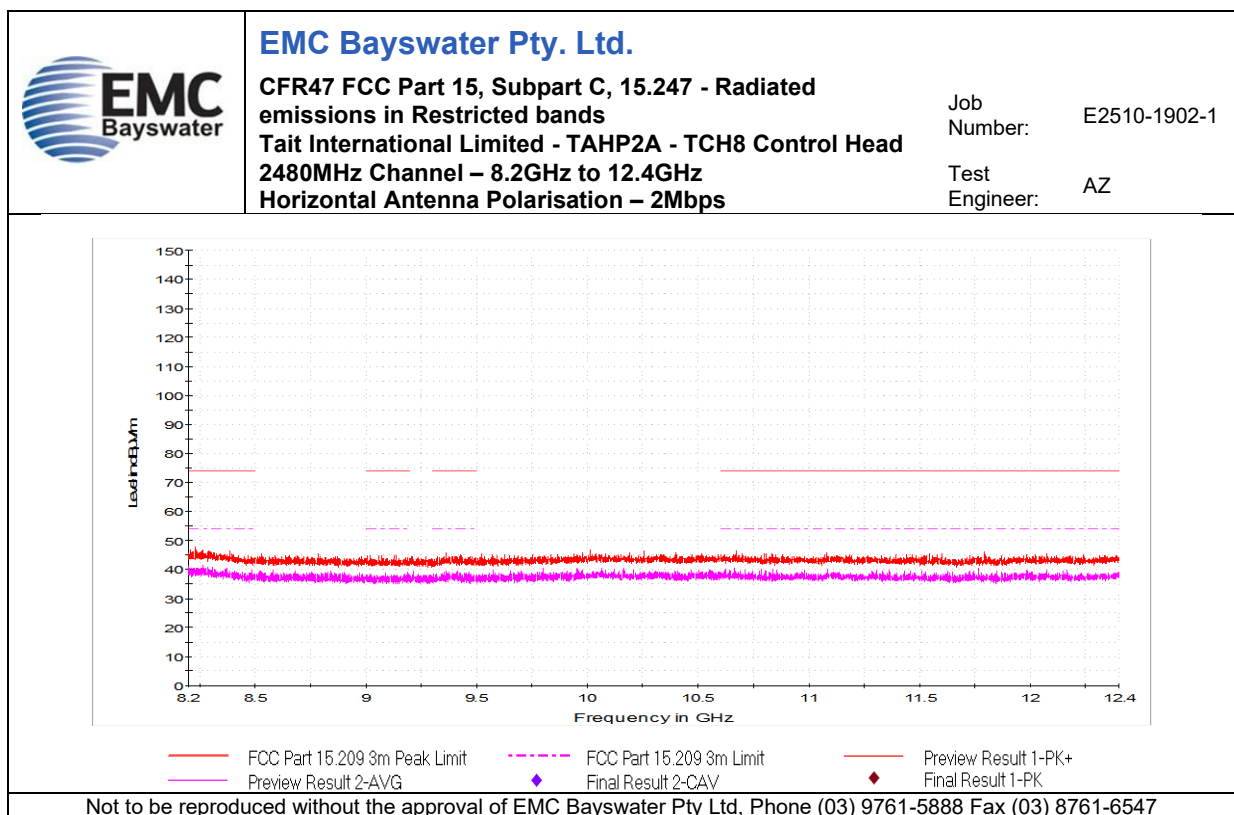
Graph 41



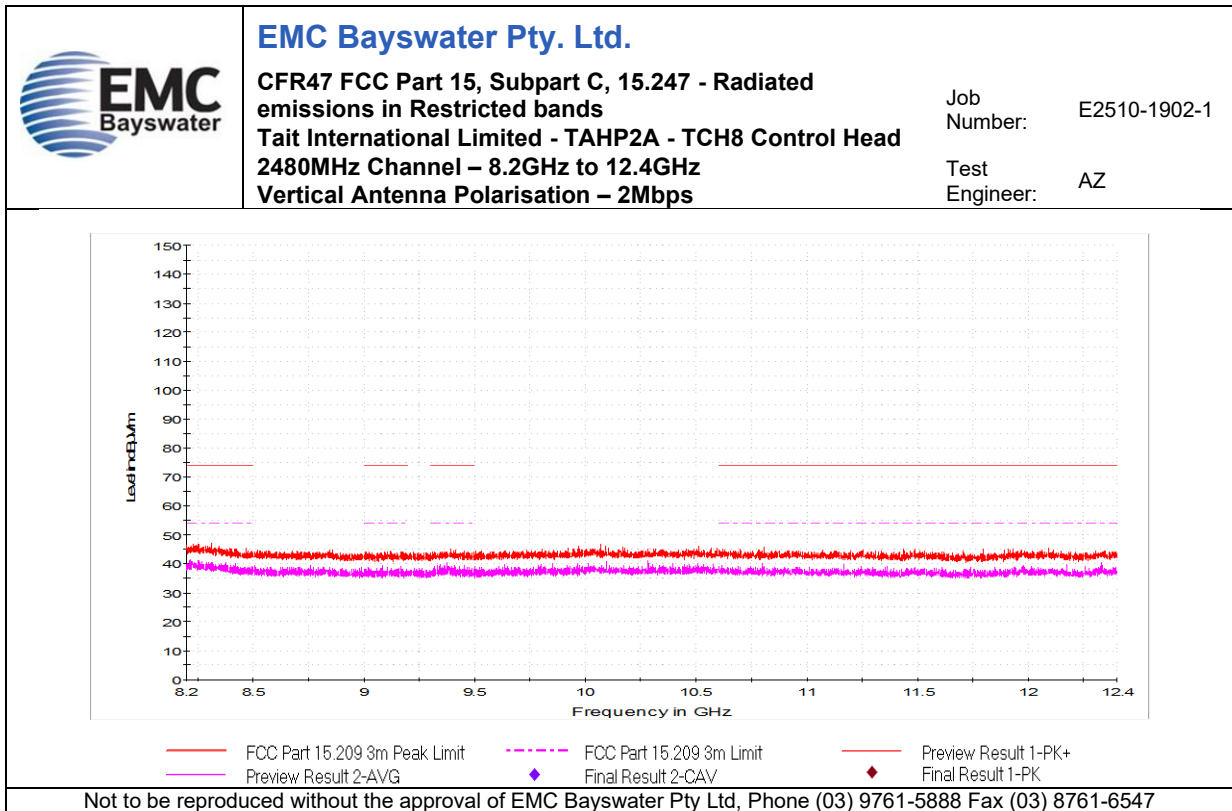
Graph 42



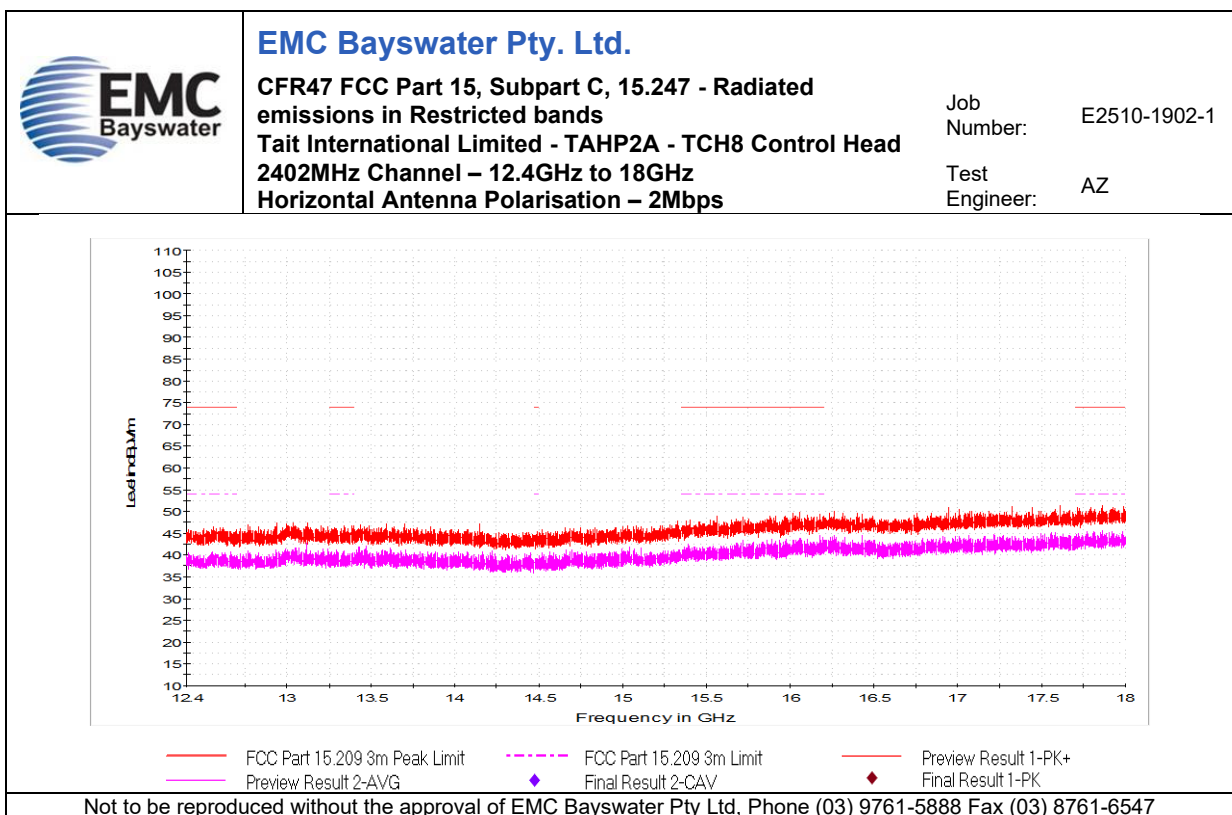
Graph 43



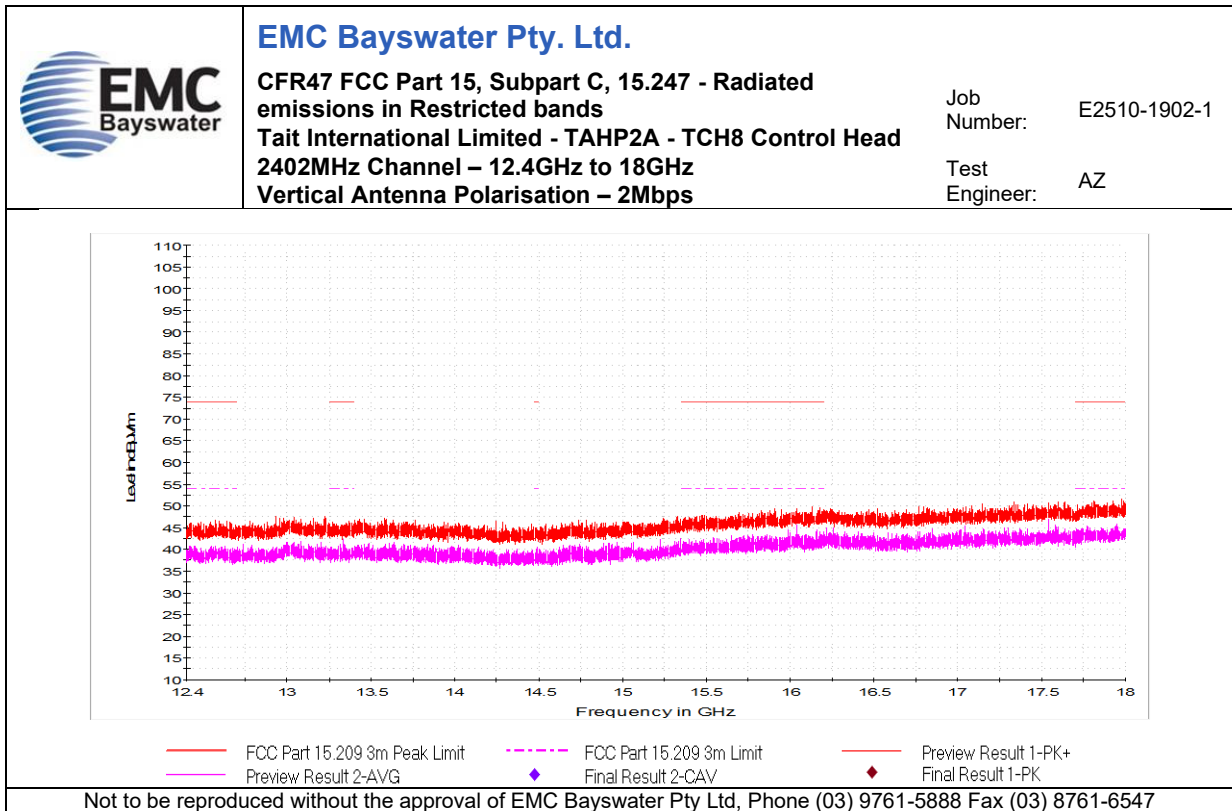
Graph 44



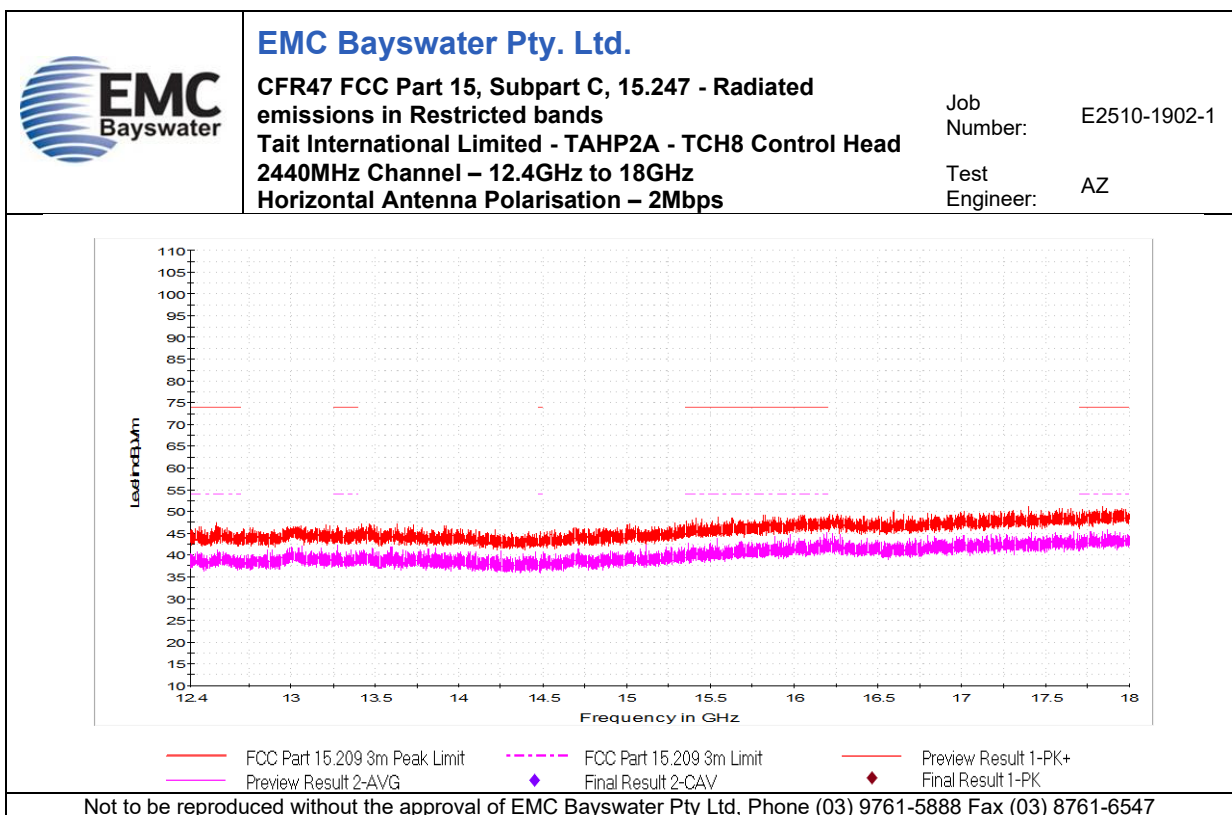
Graph 45



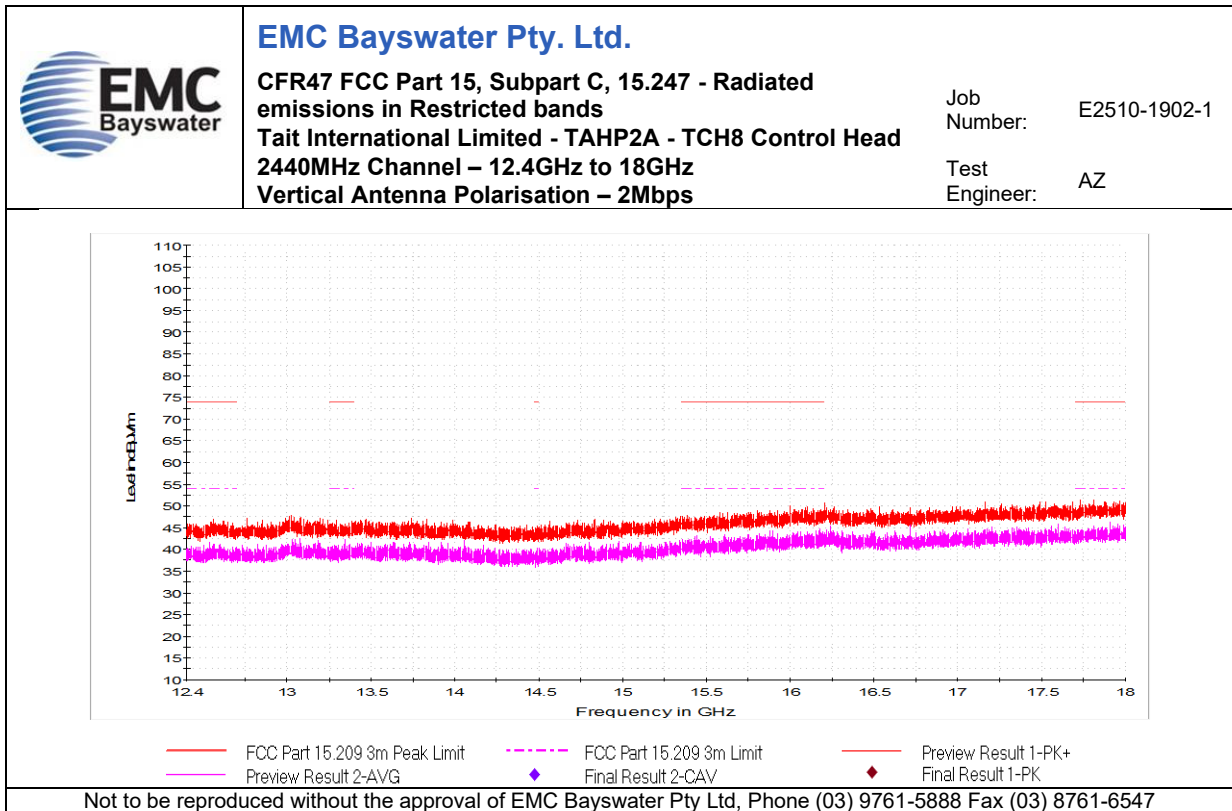
Graph 46



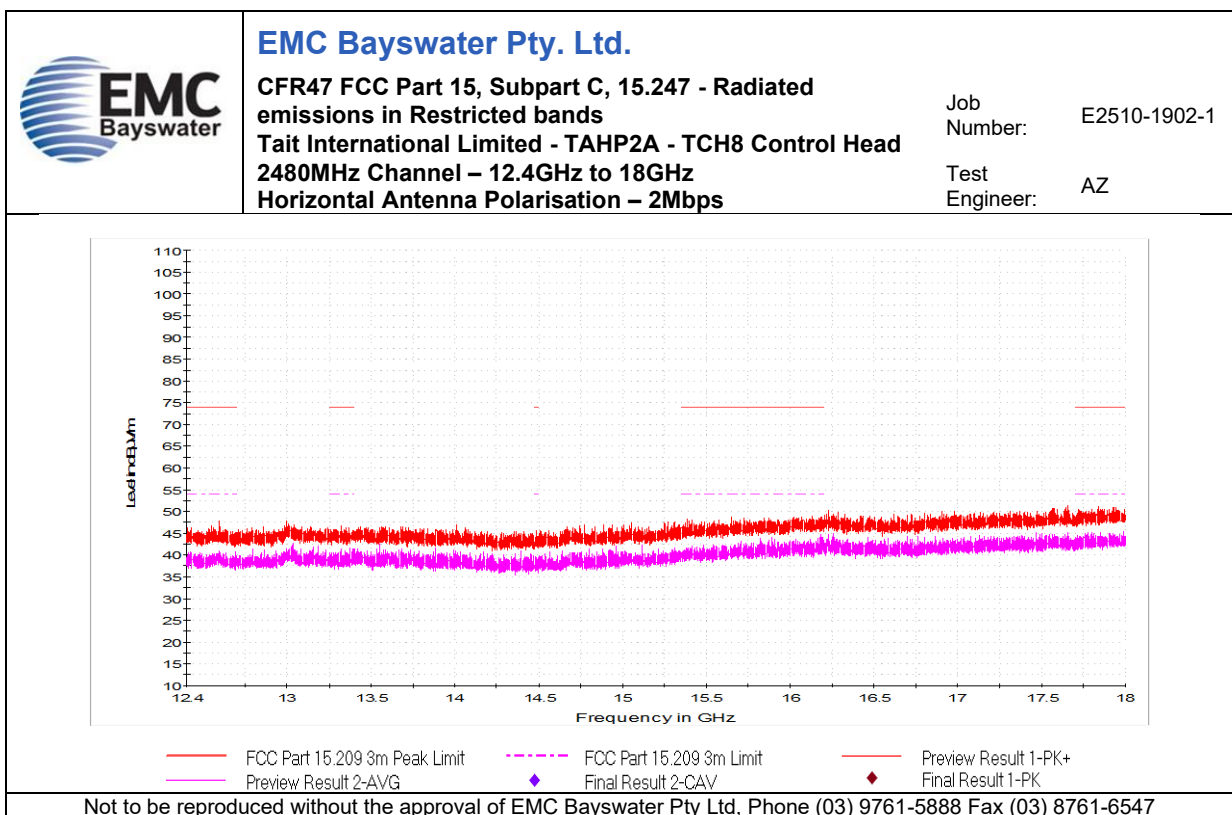
Graph 47



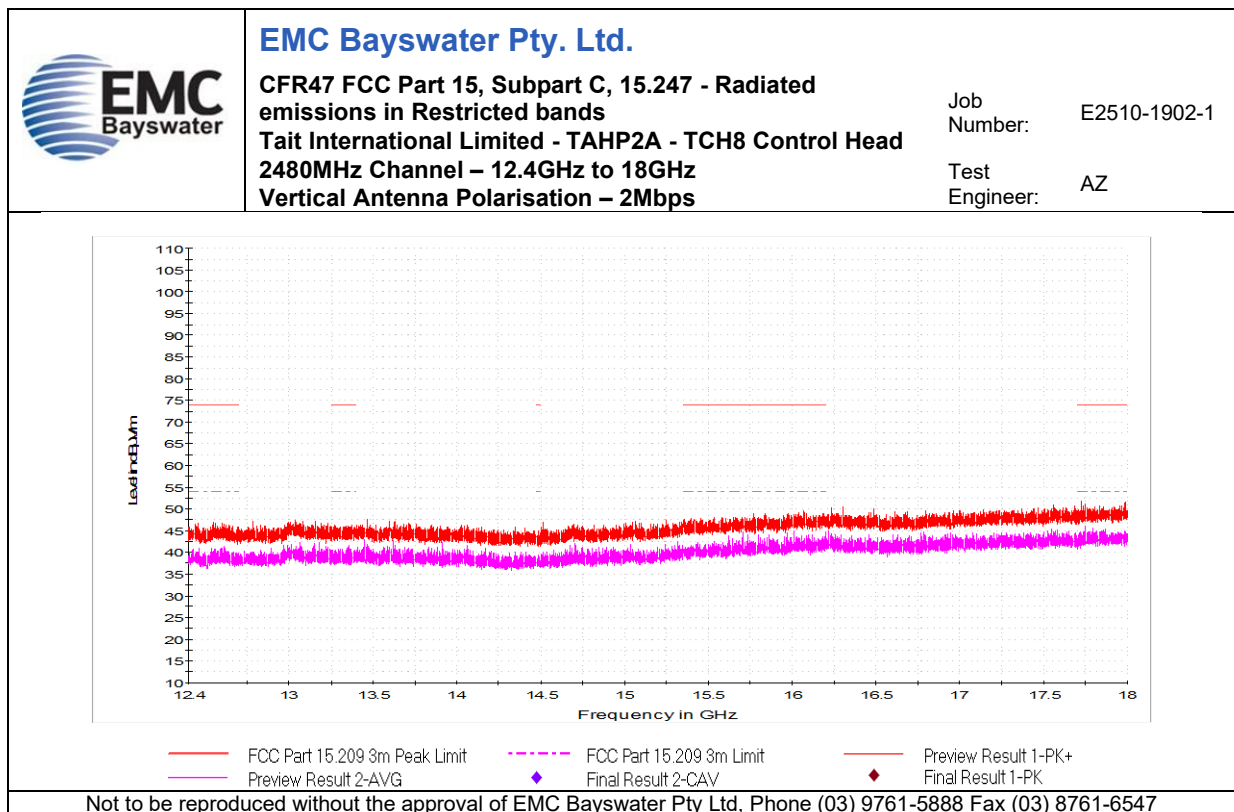
Graph 48



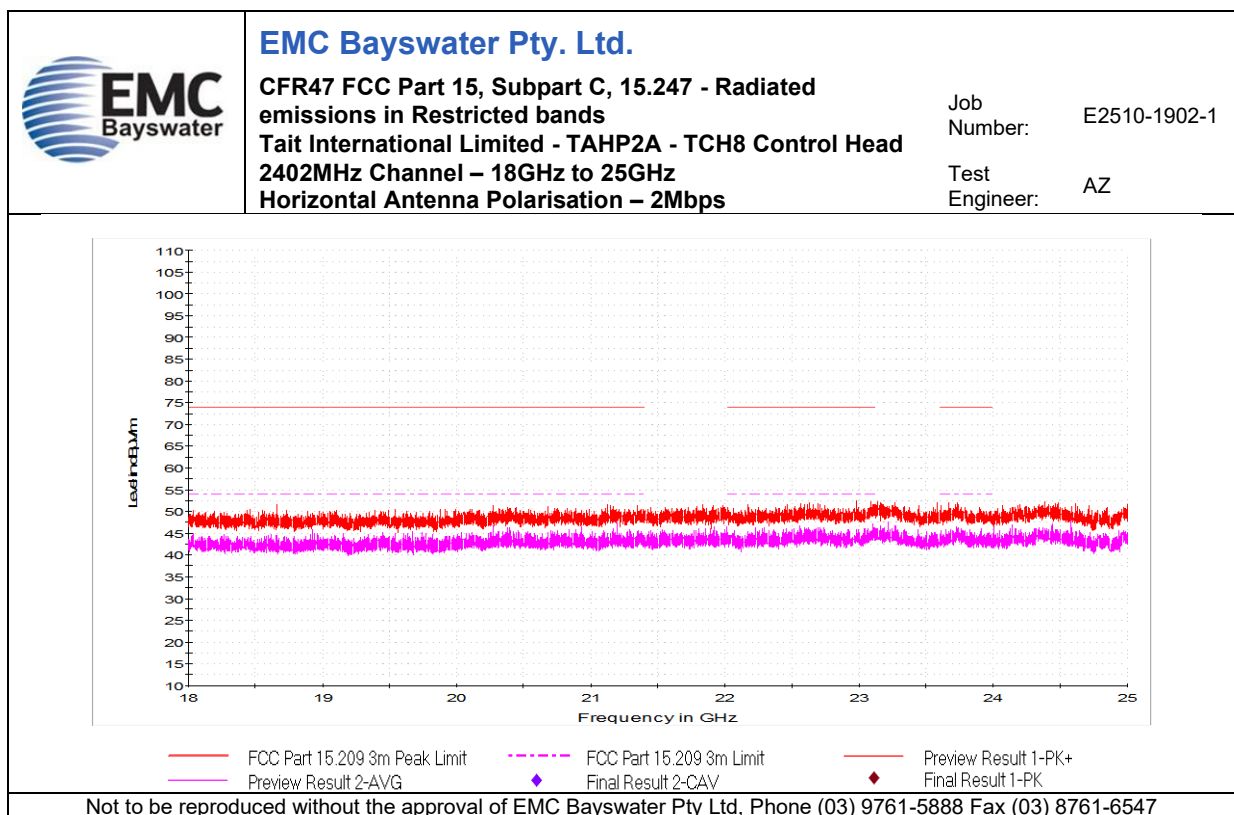
Graph 49



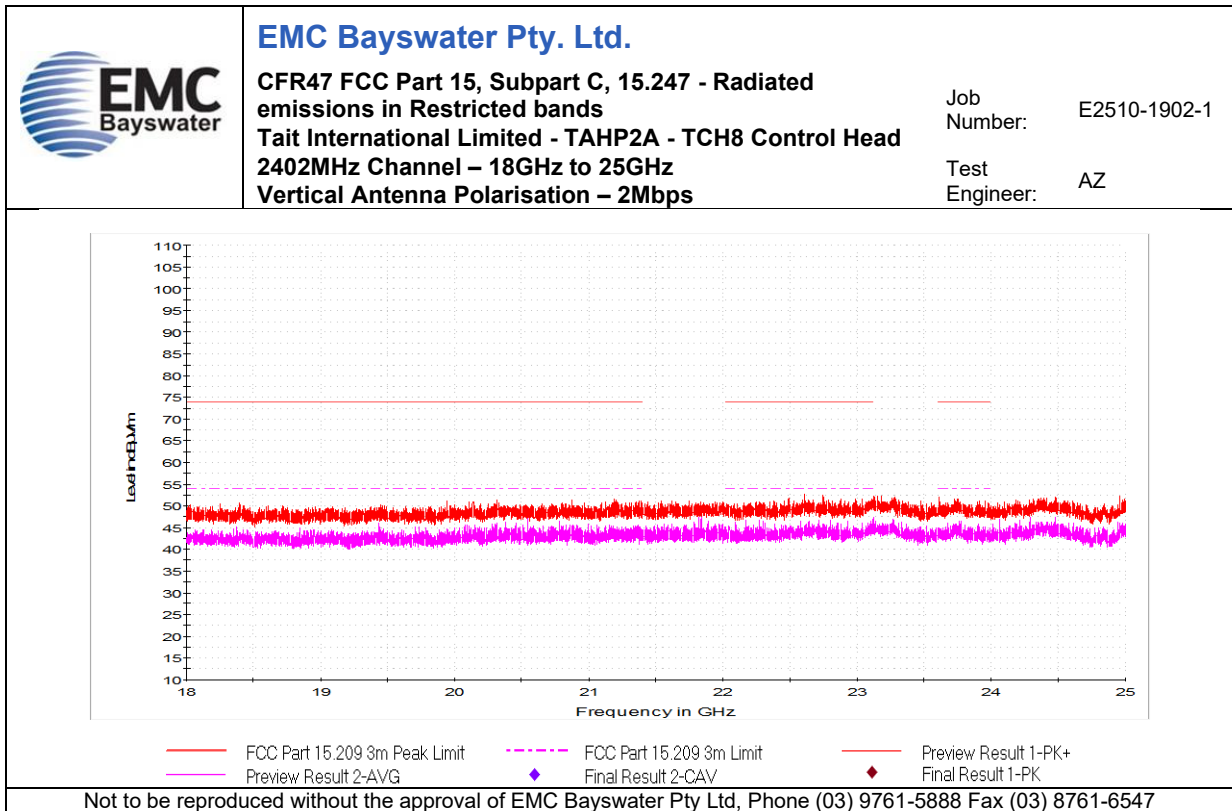
Graph 50



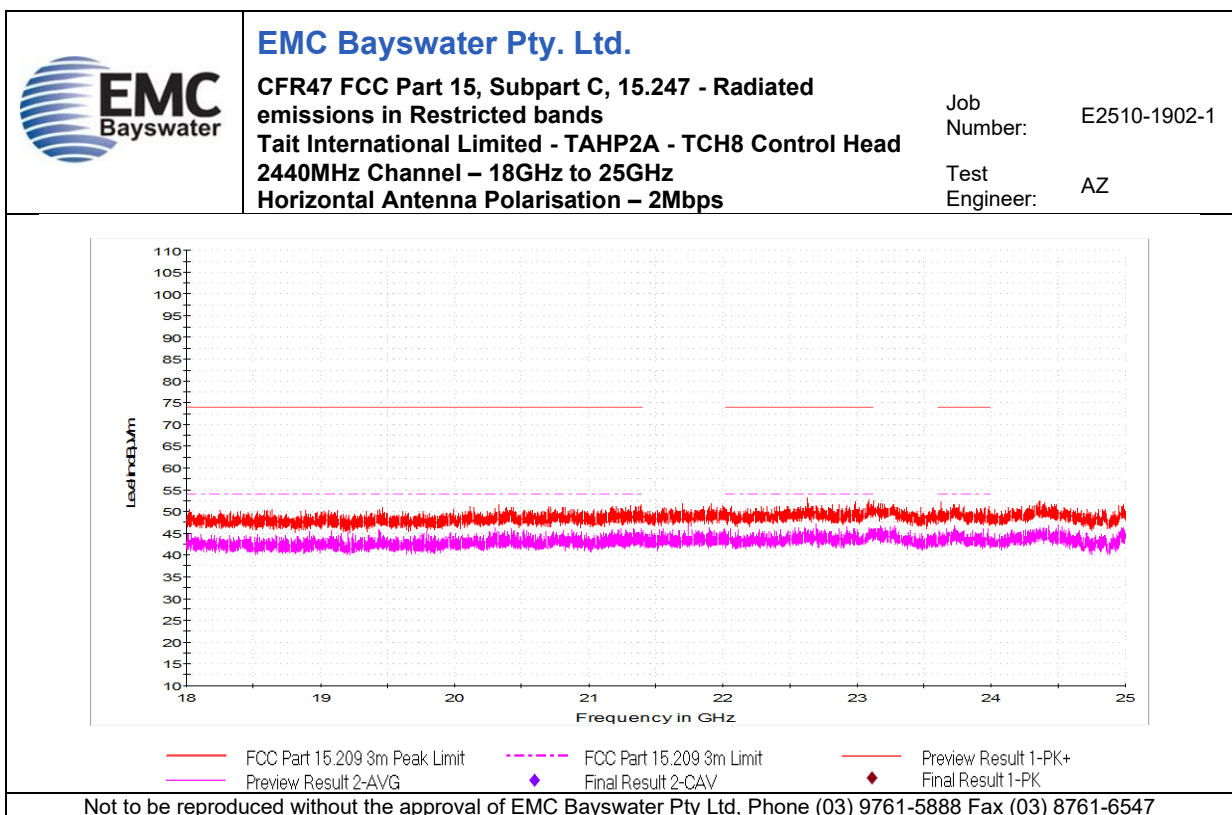
Graph 51



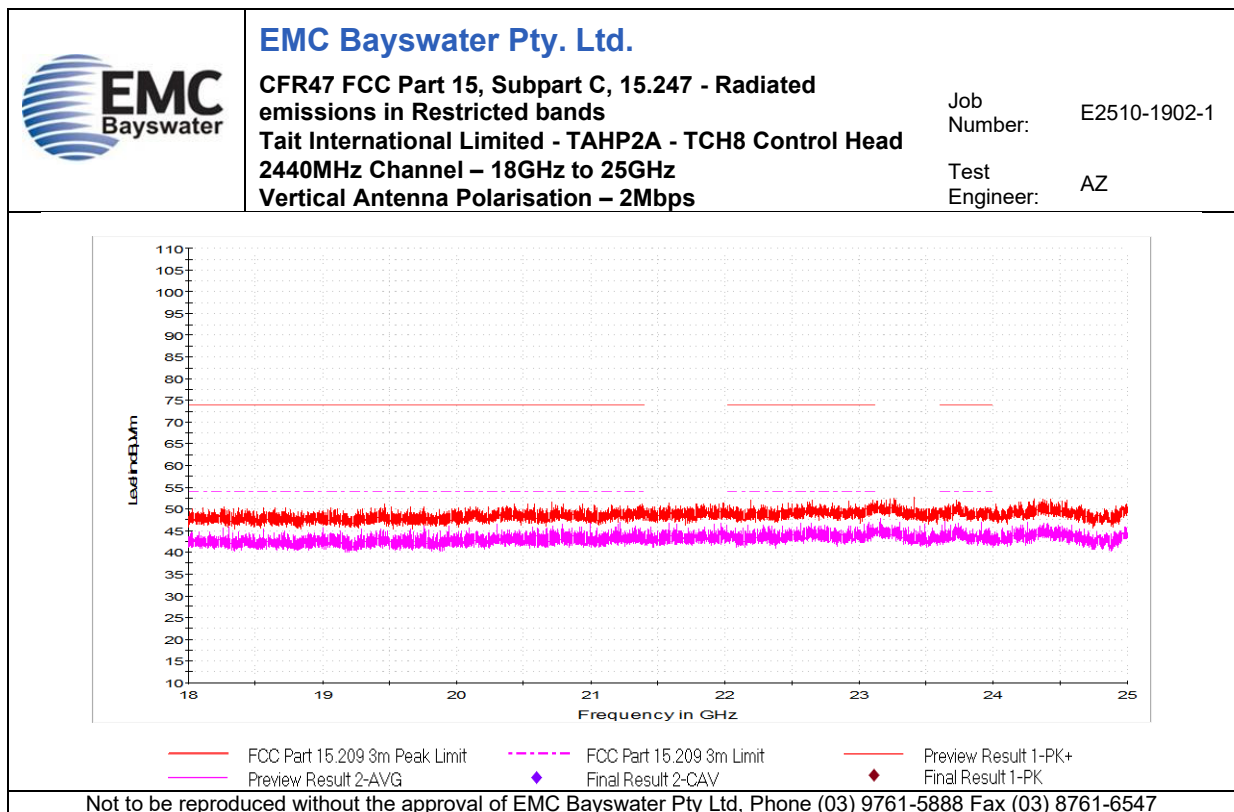
Graph 52



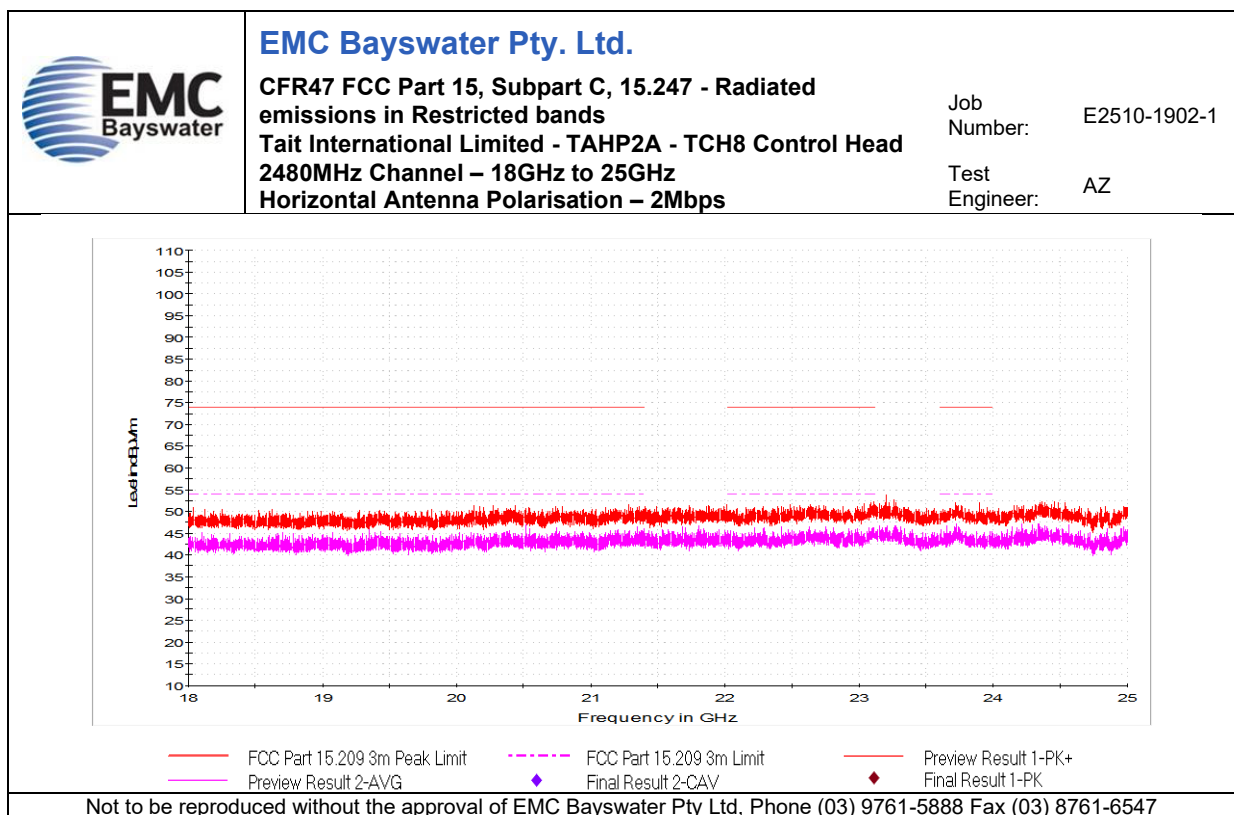
Graph 53



Graph 54



Graph 55



Graph 56

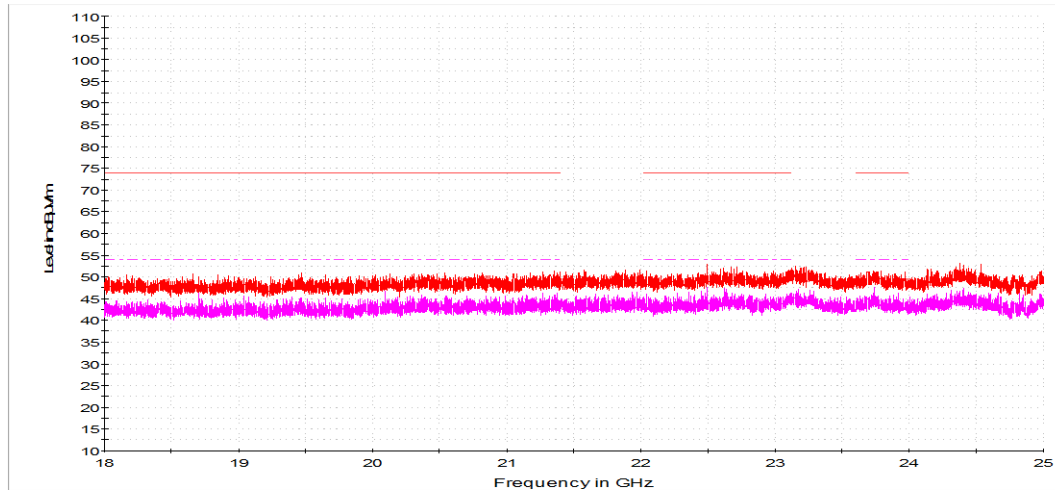


EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Radiated emissions in Restricted bands
Tait International Limited - TAHP2A - TCH8 Control Head
2480MHz Channel – 18GHz to 25GHz
Vertical Antenna Polarisation – 2Mbps

Job Number: E2510-1902-1

Test Engineer: AZ



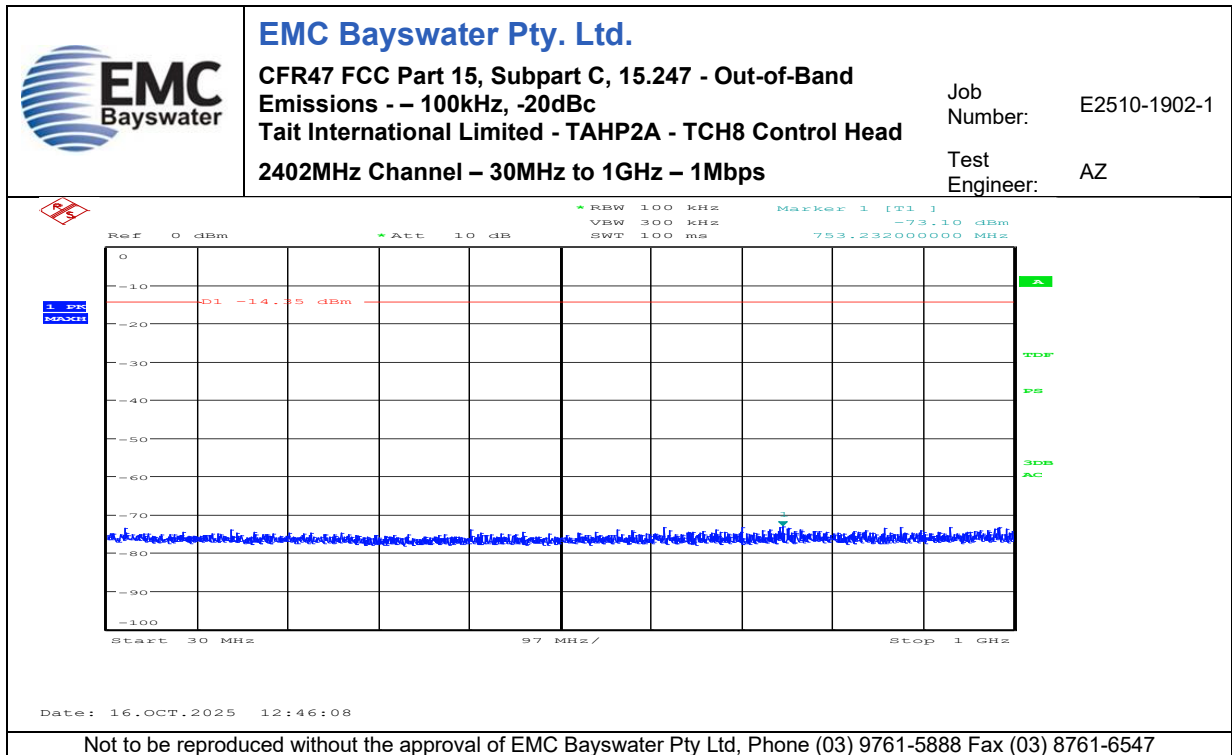
— FCC Part 15.209 3m Peak Limit - - - FCC Part 15.209 3m Limit — Preview Result 1-PK+
— Preview Result 2-AVG ◆ Final Result 2-CAV ◆ Final Result 1-PK

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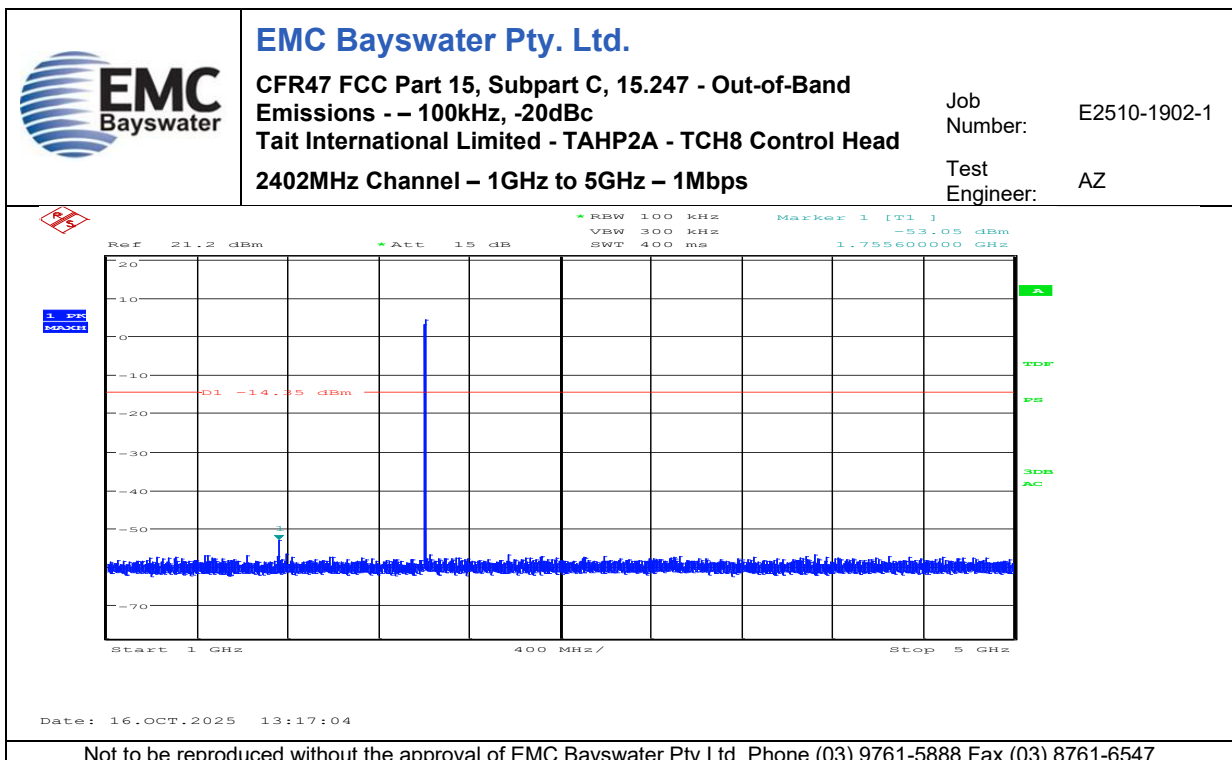
Graph 57

Appendix C.4 – Out-of-Band Emissions – 100kHz, -20dBc – FCC 15.247(d)

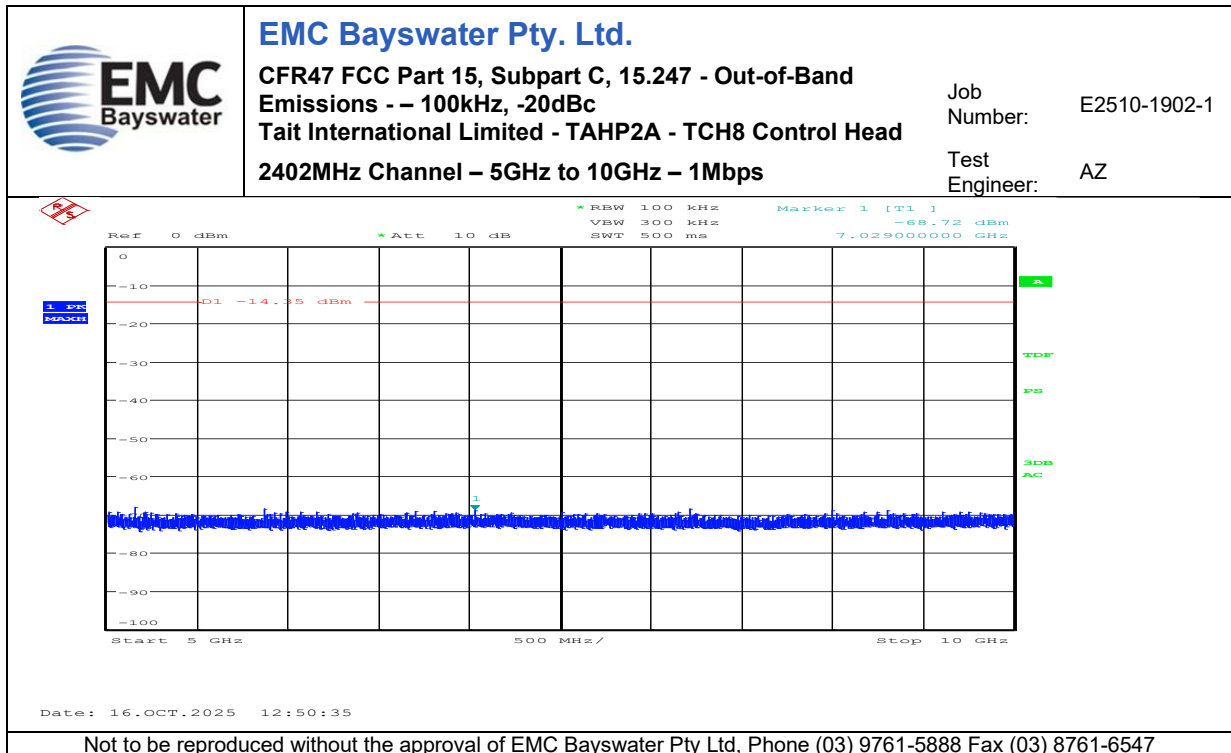
No.	Test	Graph Description
58	Out-of-Band Emissions – 100kHz, -20dBc 2402MHz Channel – 1Mbps	30MHz to 1GHz
59		1GHz to 5GHz
60		5GHz to 10GHz
61		10GHz to 15GHz
62		15GHz to 25GHz
63	Out-of-Band Emissions – 100kHz, -20dBc 2440MHz Channel – 1Mbps	30MHz to 1GHz
64		1GHz to 5GHz
65		5GHz to 10GHz
66		10GHz to 15GHz
67		15GHz to 25GHz
68	Out-of-Band Emissions – 100kHz, -20dBc 2480MHz Channel – 1Mbps	30MHz to 1GHz
69		1GHz to 5GHz
70		5GHz to 10GHz
71		10GHz to 15GHz
72		15GHz to 25GHz



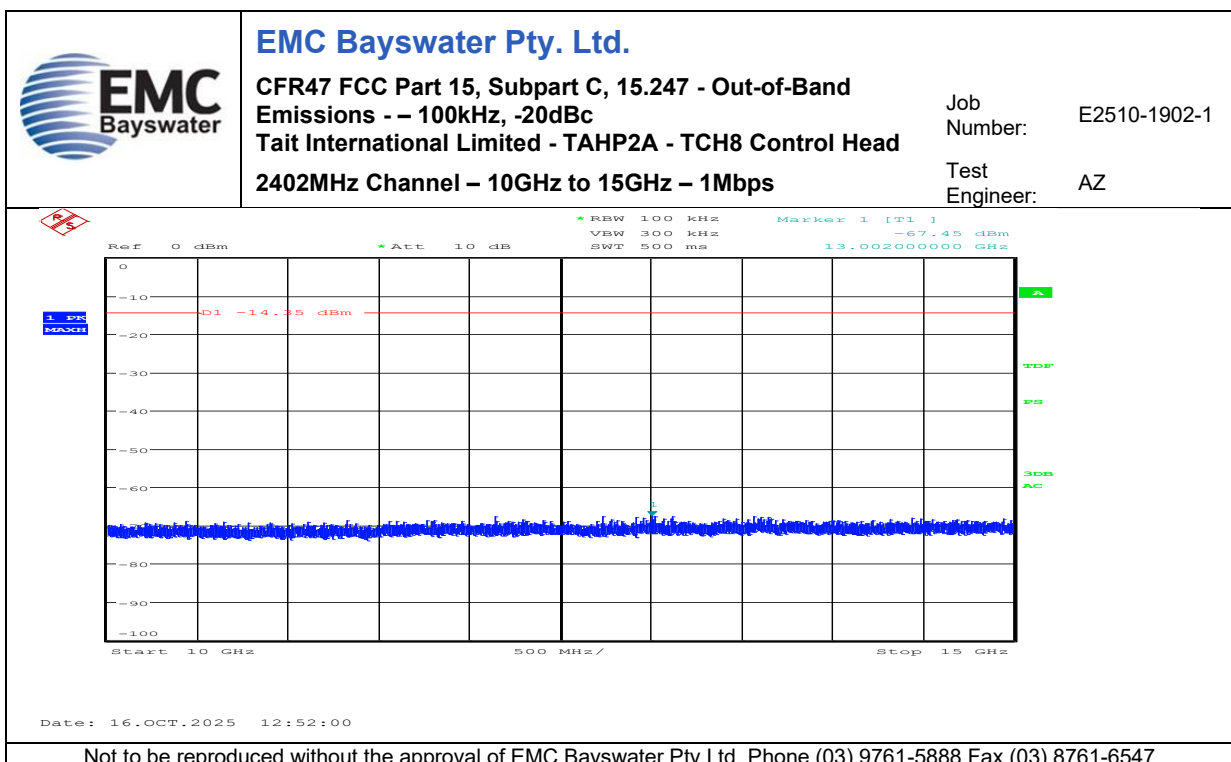
Graph 58



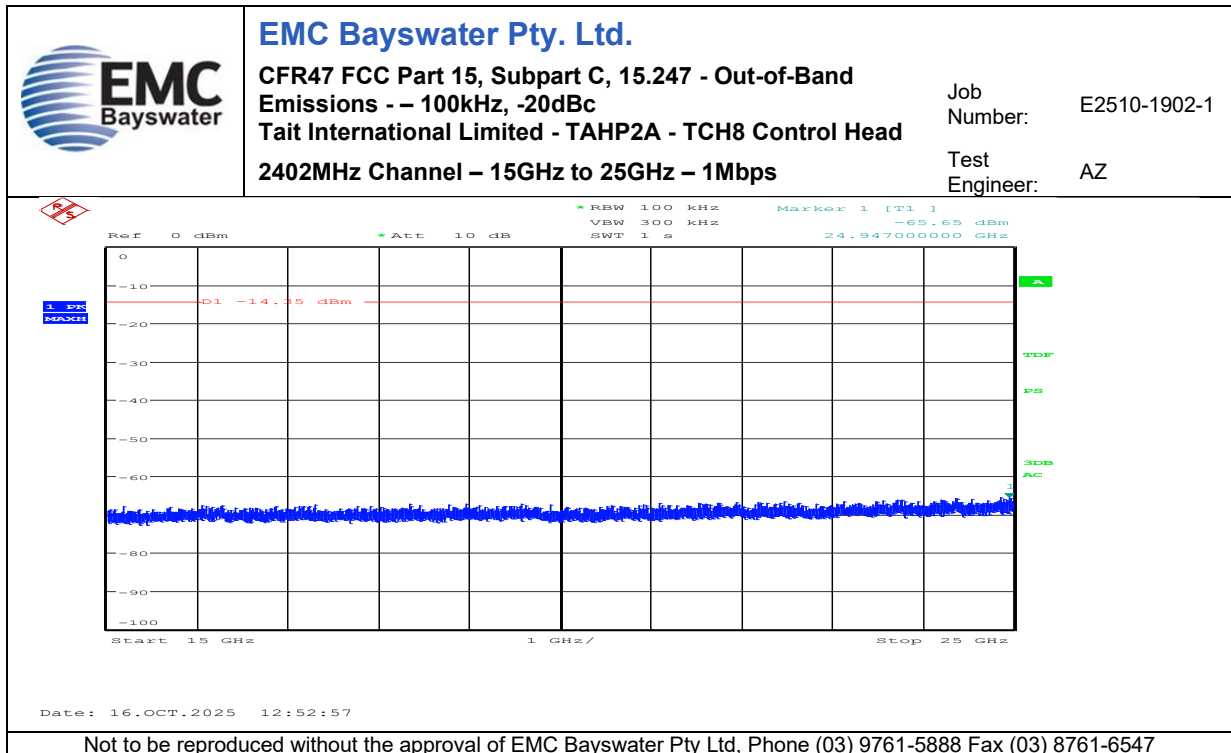
Graph 59



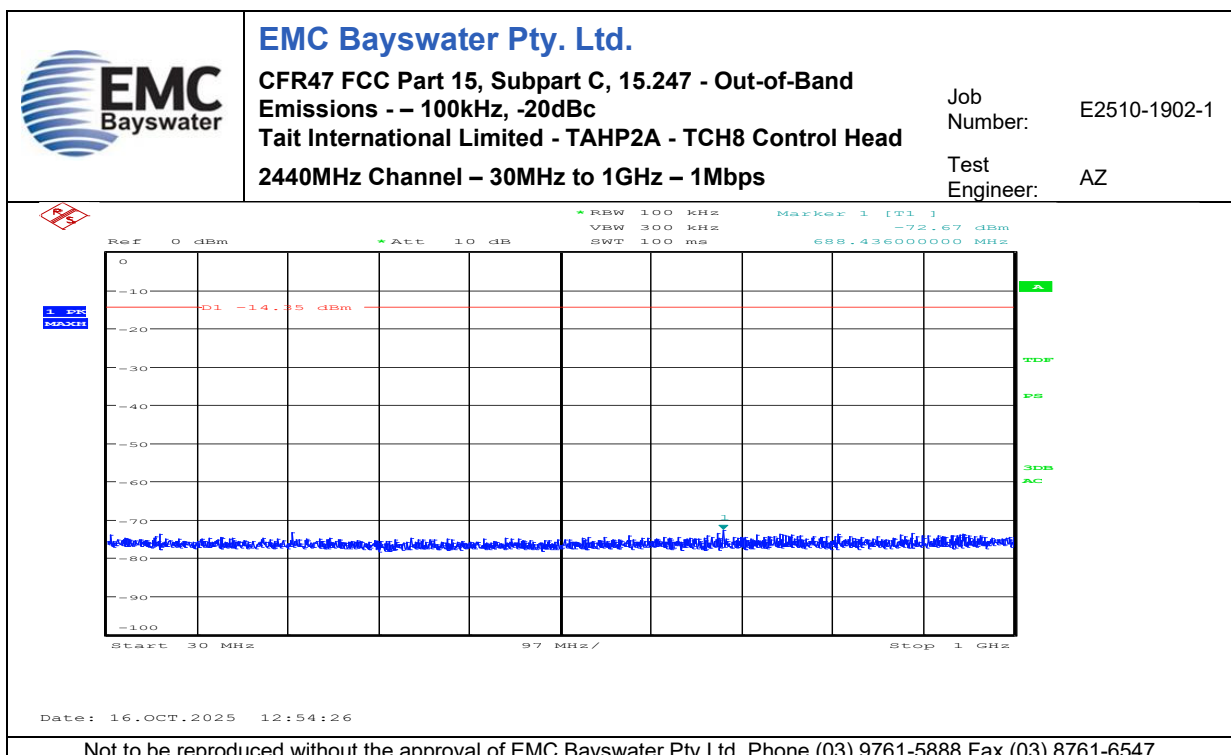
Graph 60



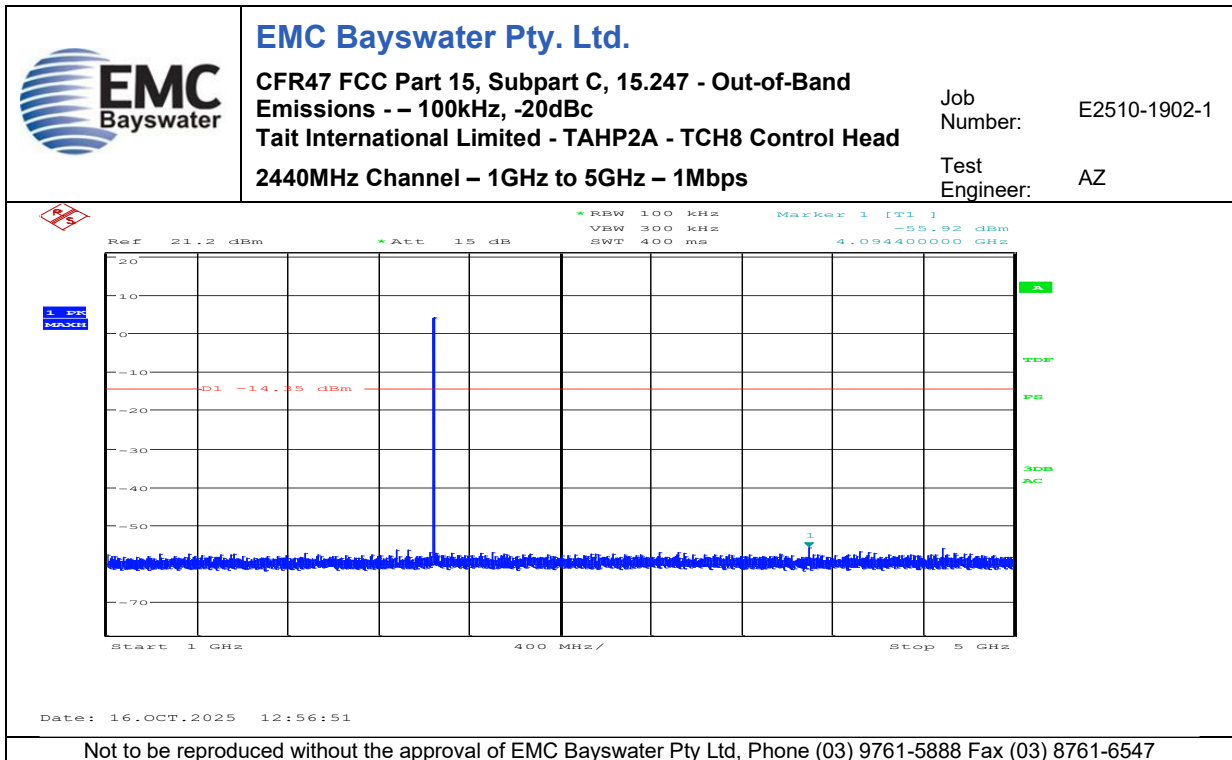
Graph 61



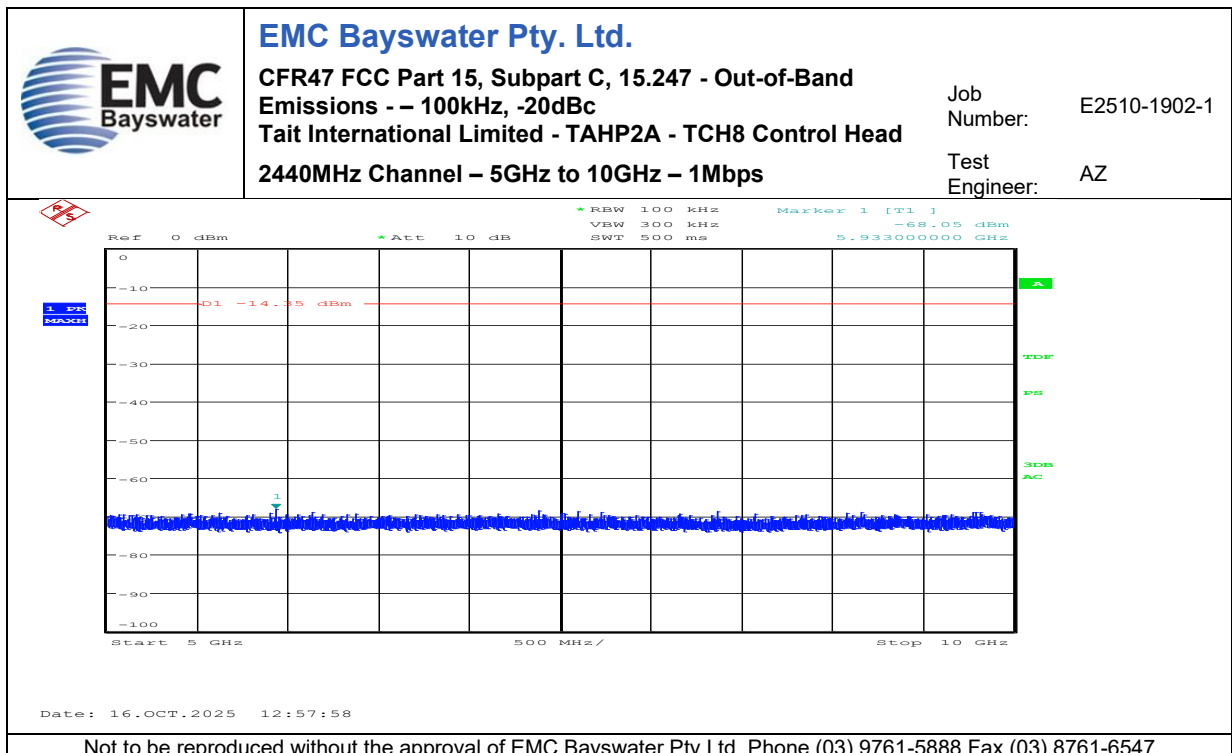
Graph 62



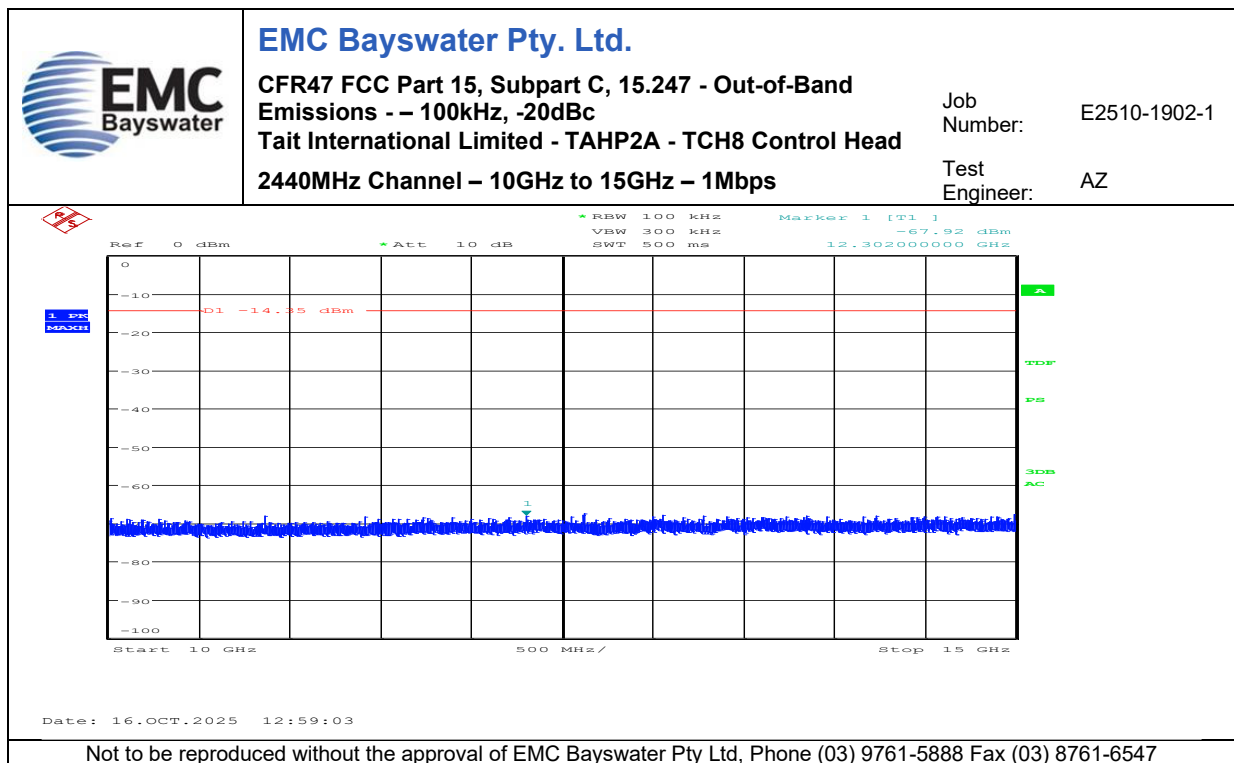
Graph 63



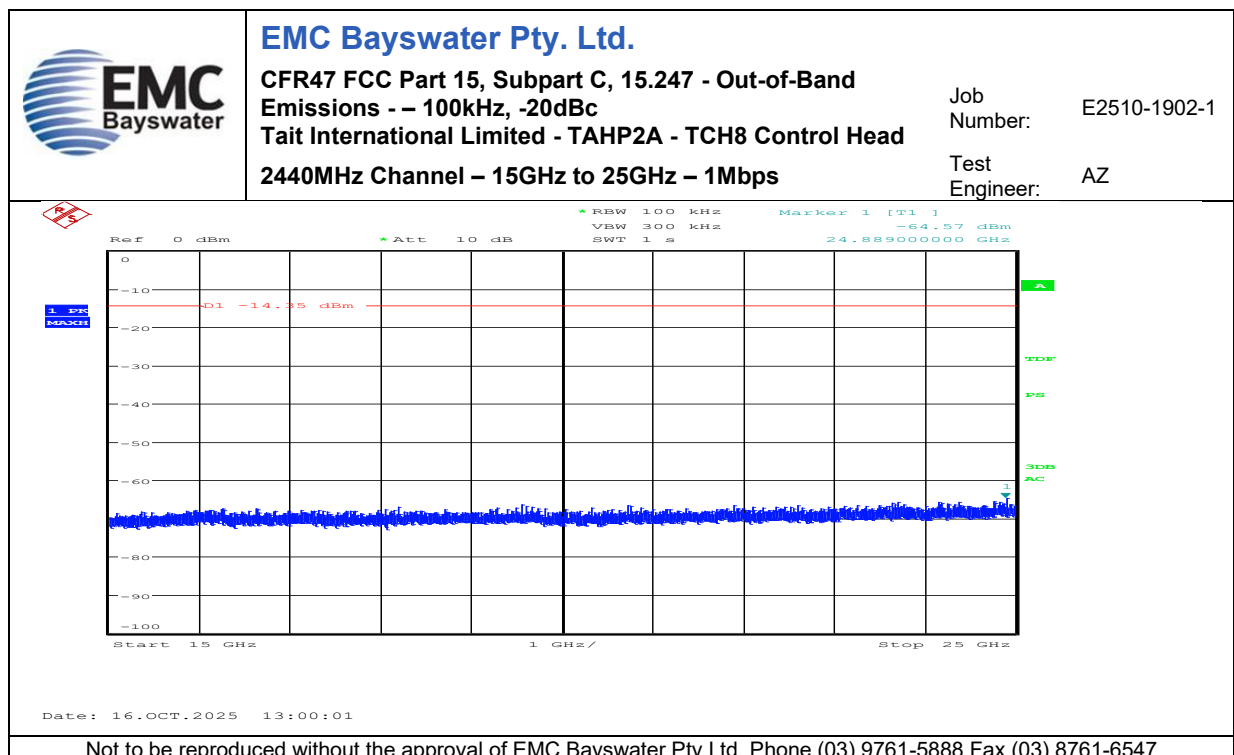
Graph 64



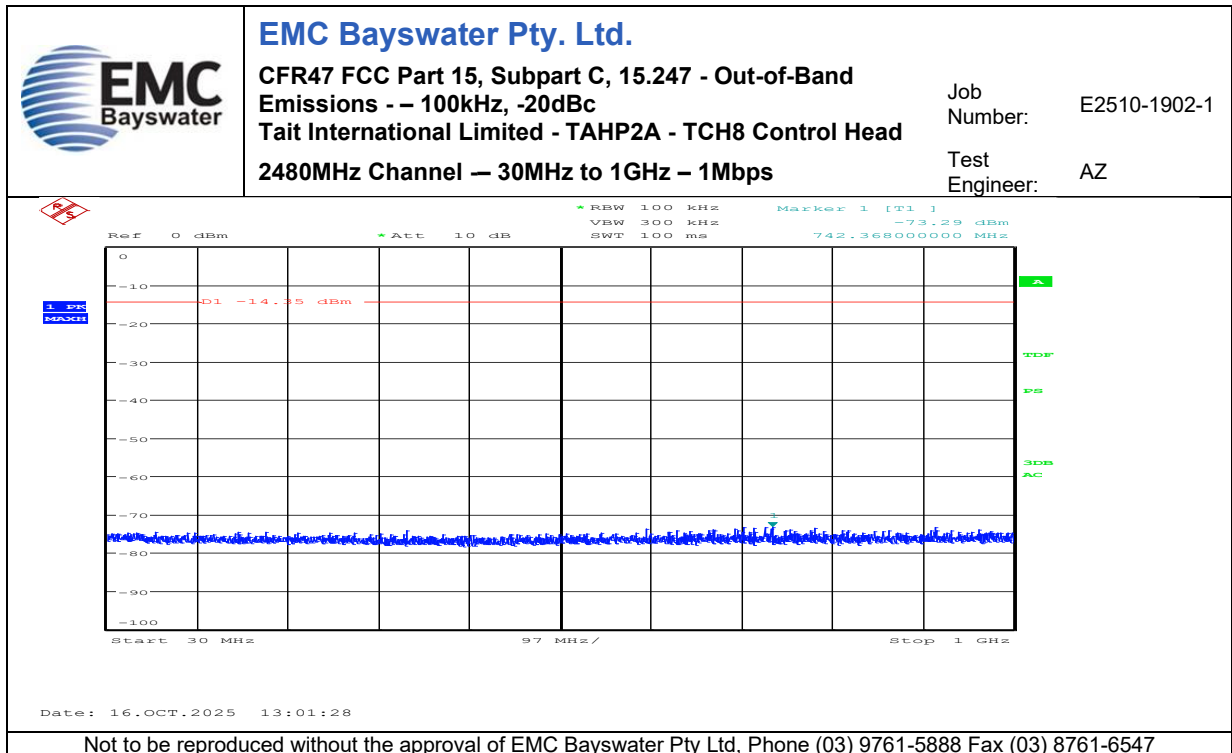
Graph 65



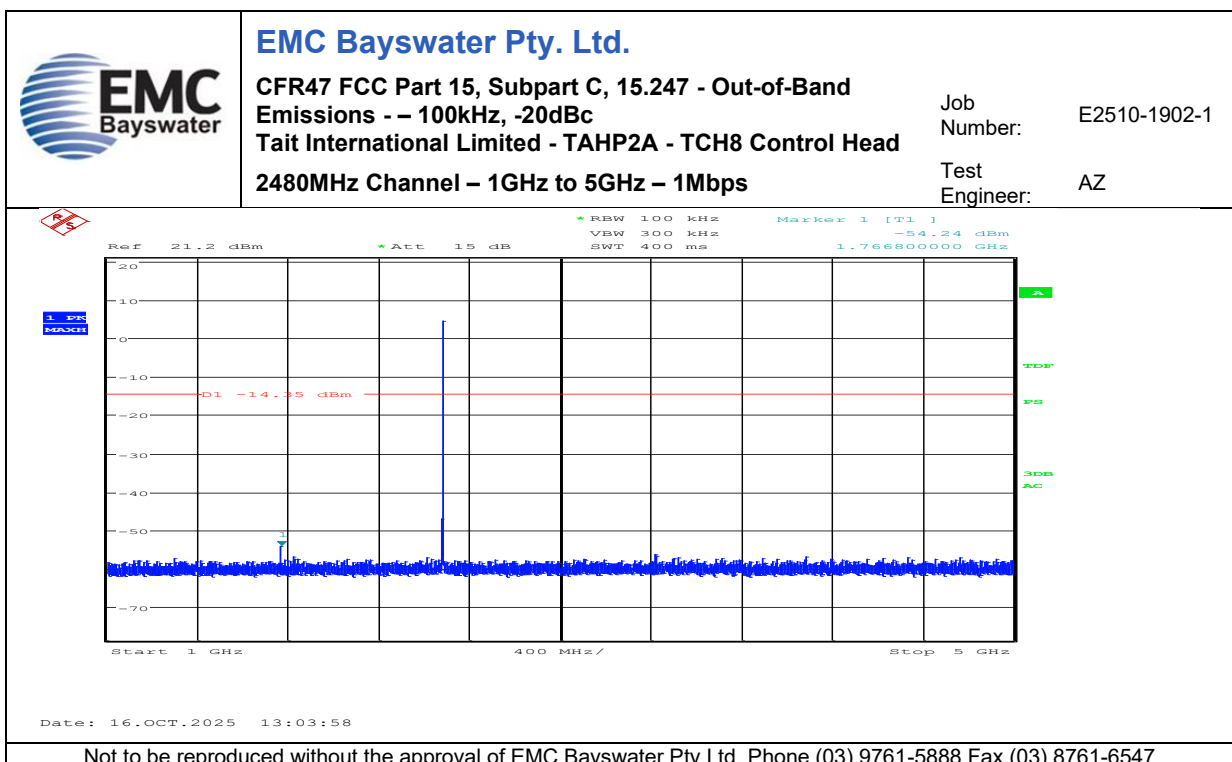
Graph 66



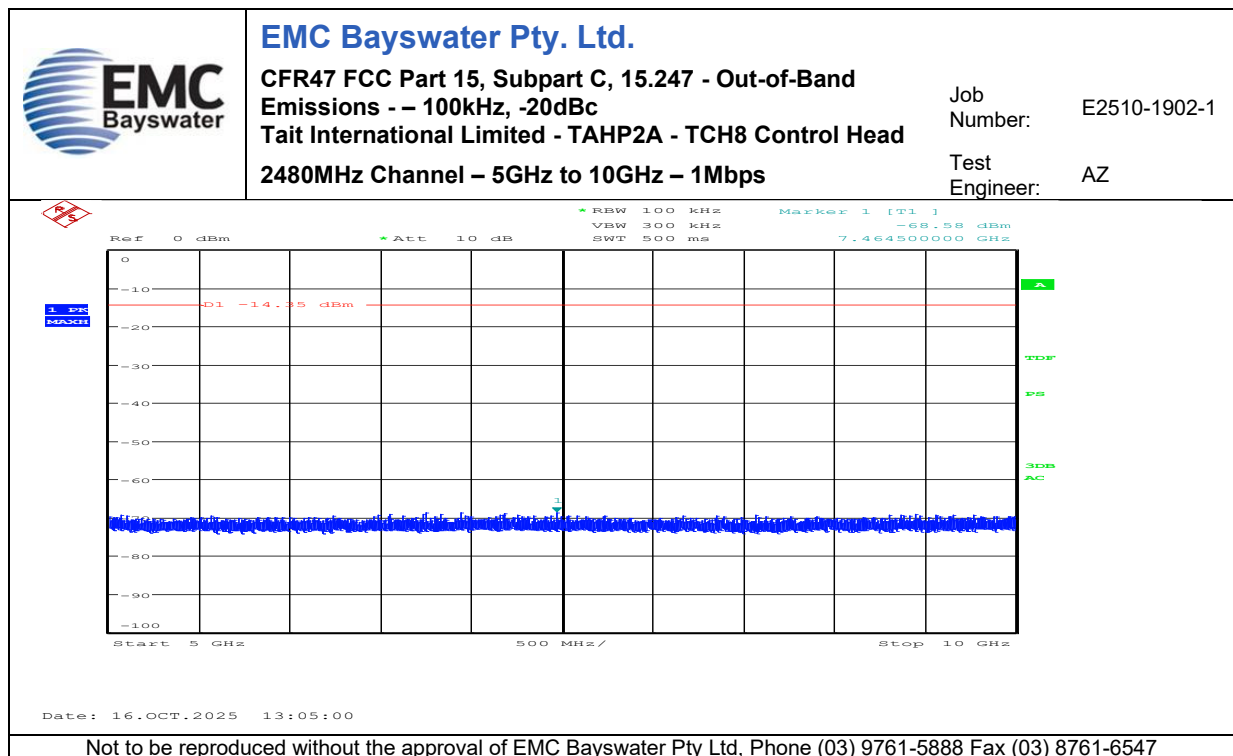
Graph 67



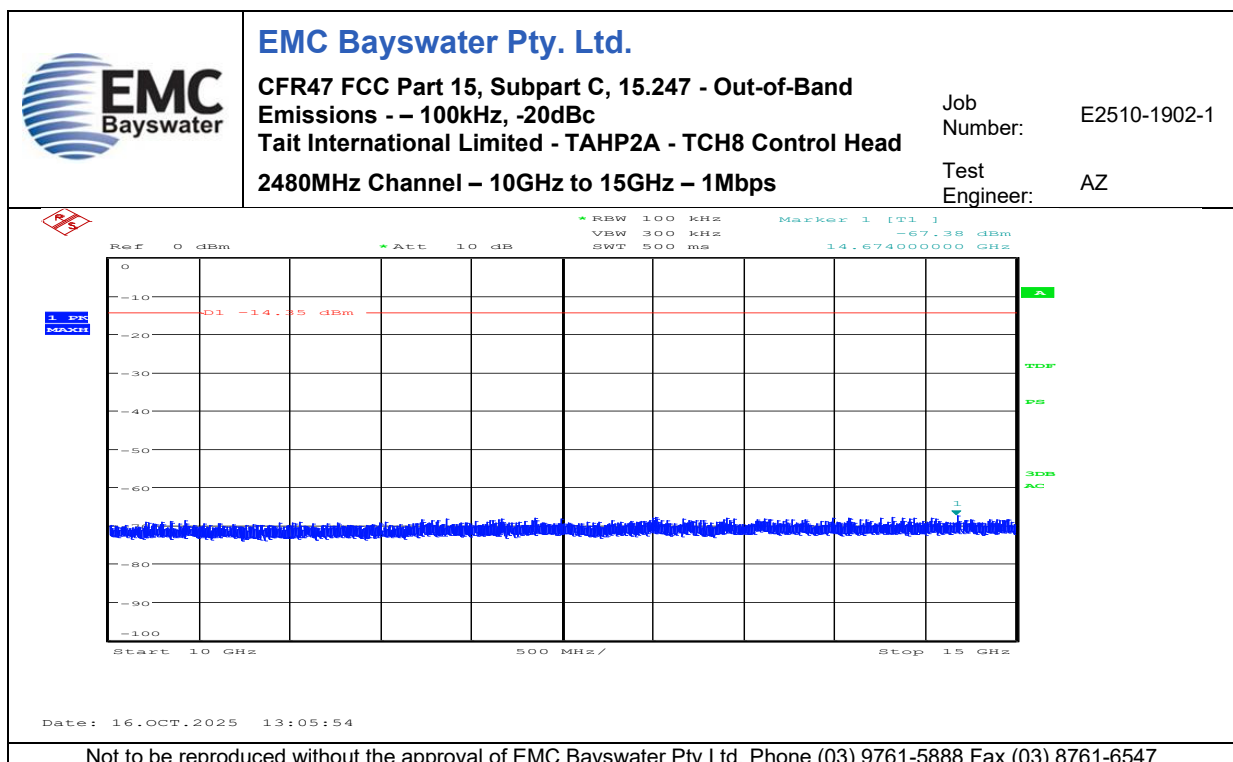
Graph 68



Graph 69



Graph 70



Graph 71

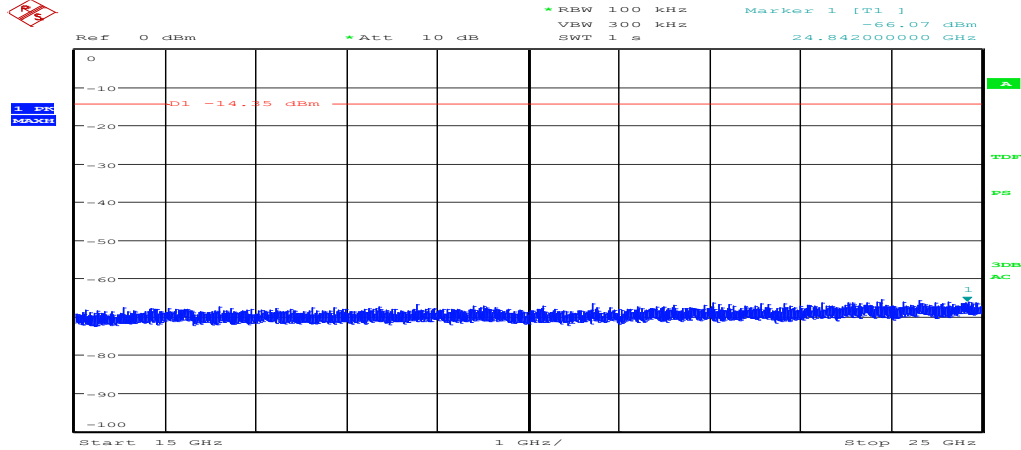


EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.247 - Out-of-Band
Emissions - - 100kHz, -20dBc
Tait International Limited - TAHP2A - TCH8 Control Head
2480MHz Channel - 15GHz to 25GHz - 1Mbps

Job Number: E2510-1902-1

Test Engineer: AZ



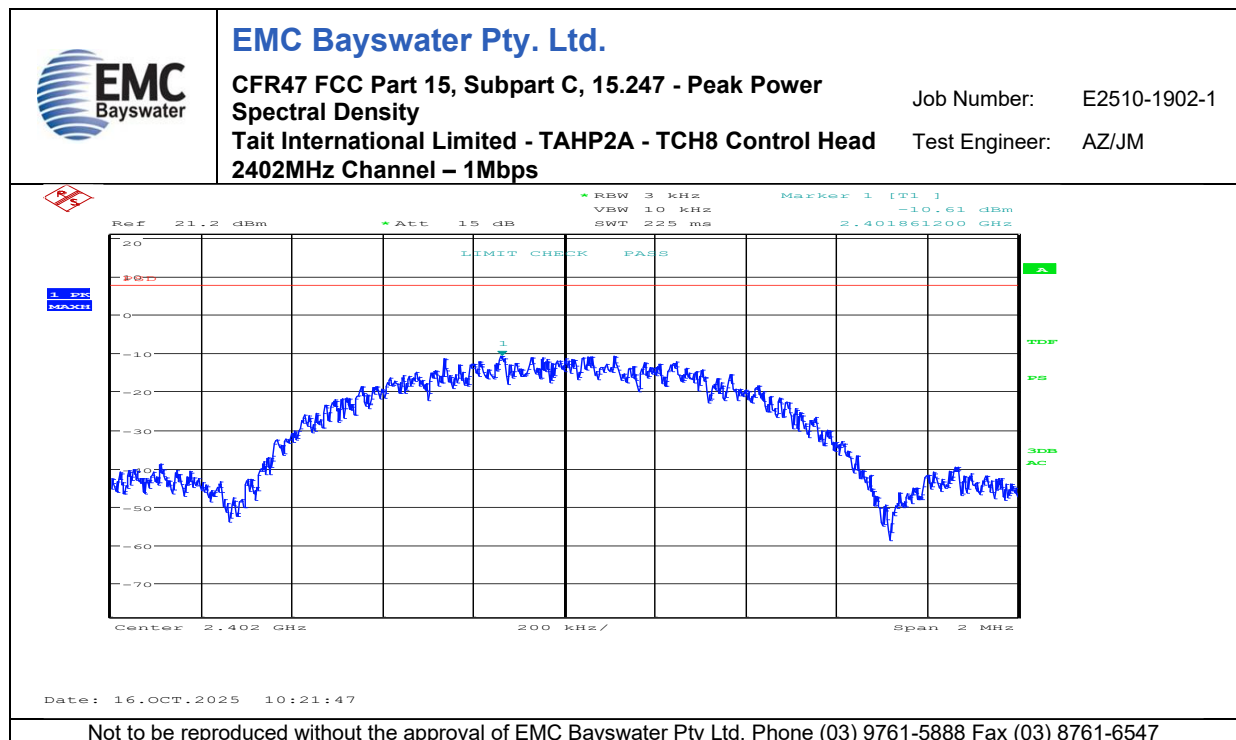
Date: 16.OCT.2025 13:06:51

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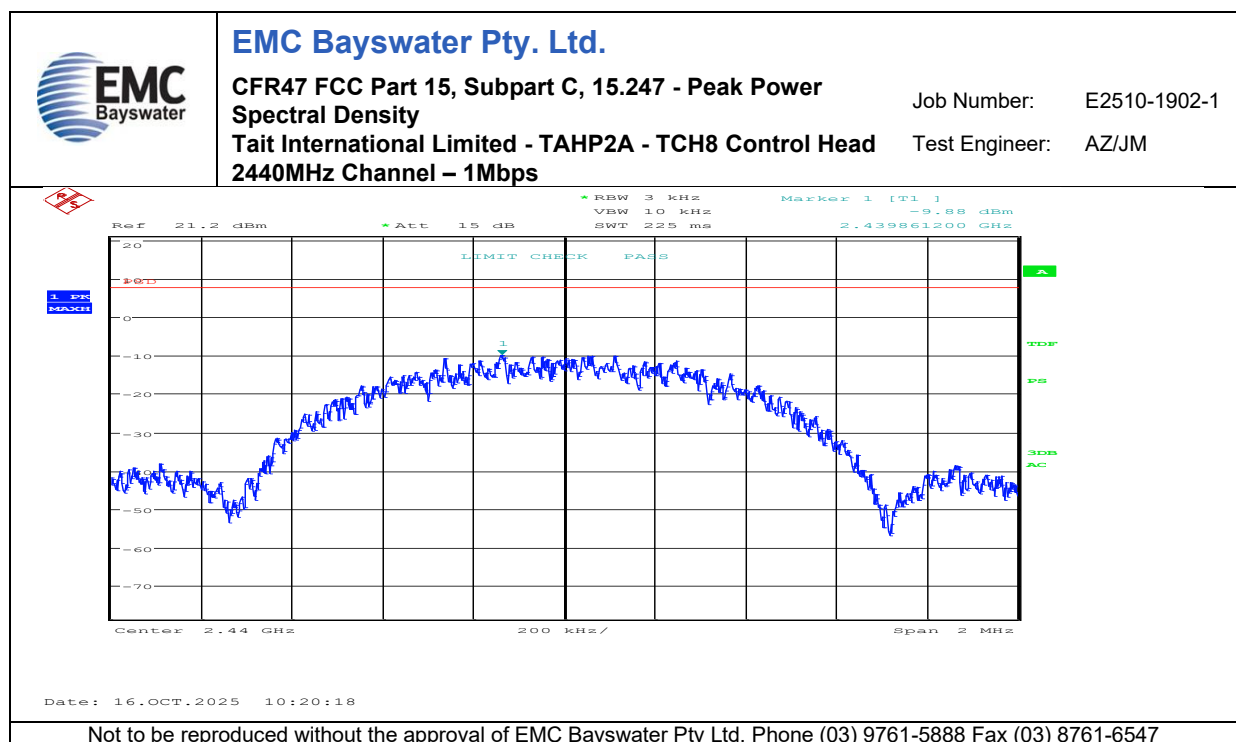
Graph 72

Appendix C.5 – Measurement Graphs – Power Spectral Density – FCC 15.247 (e)

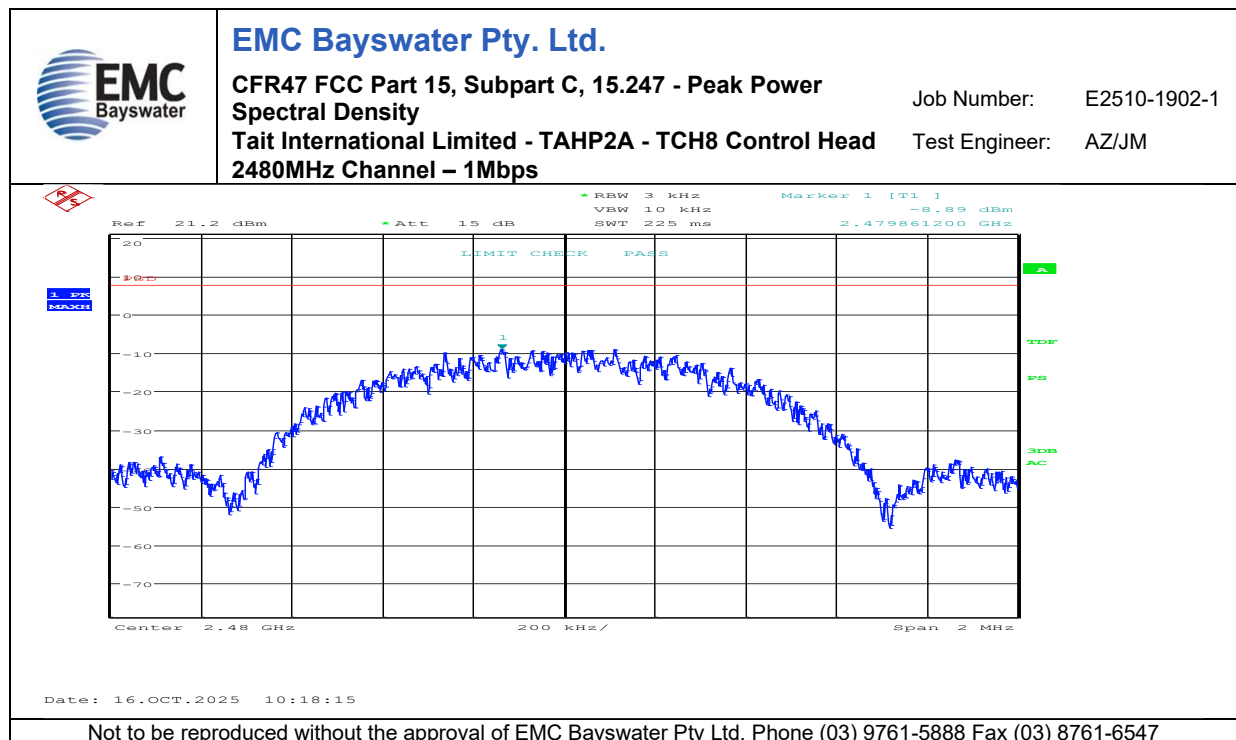
No.	Test	Graph Description
73	Power Spectral Density	2402MHz Channel – 1Mbps
74		2440MHz Channel – 1Mbps
75		2480MHz Channel – 1Mbps
76		2402MHz Channel – 2Mbps
77		2440MHz Channel – 2Mbps
78		2480MHz Channel – 2Mbps



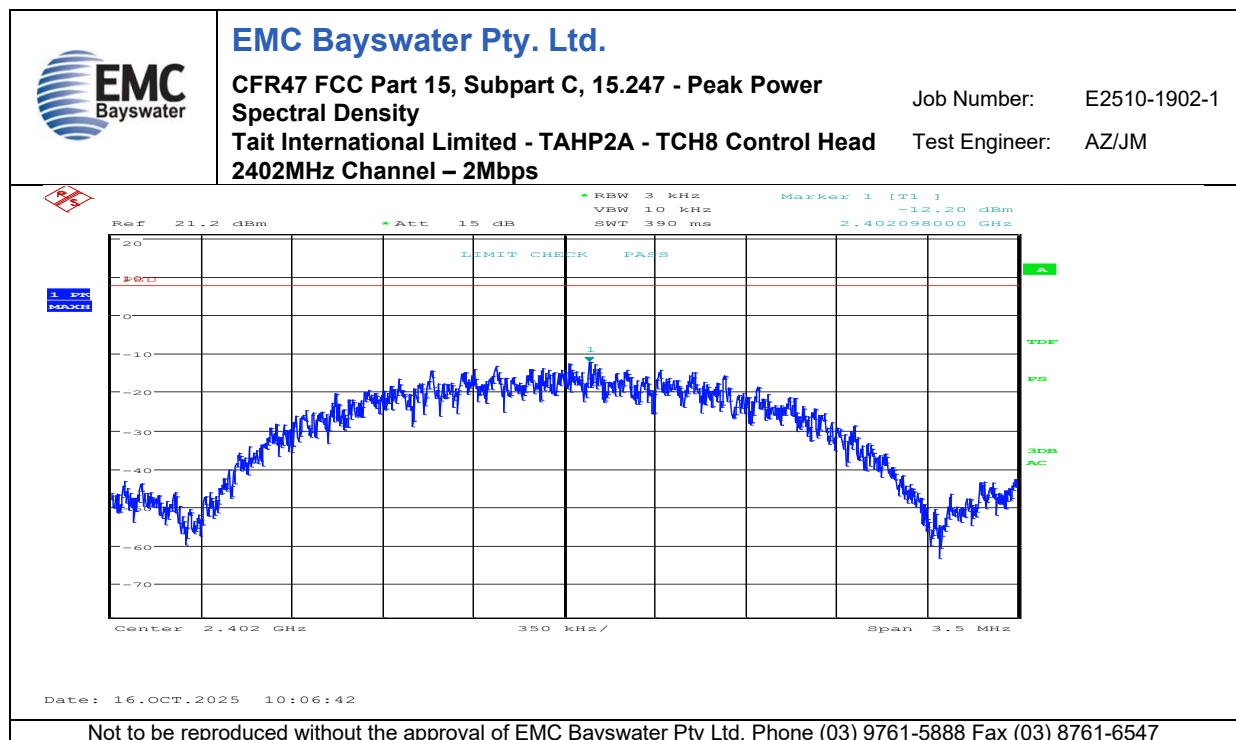
Graph 73



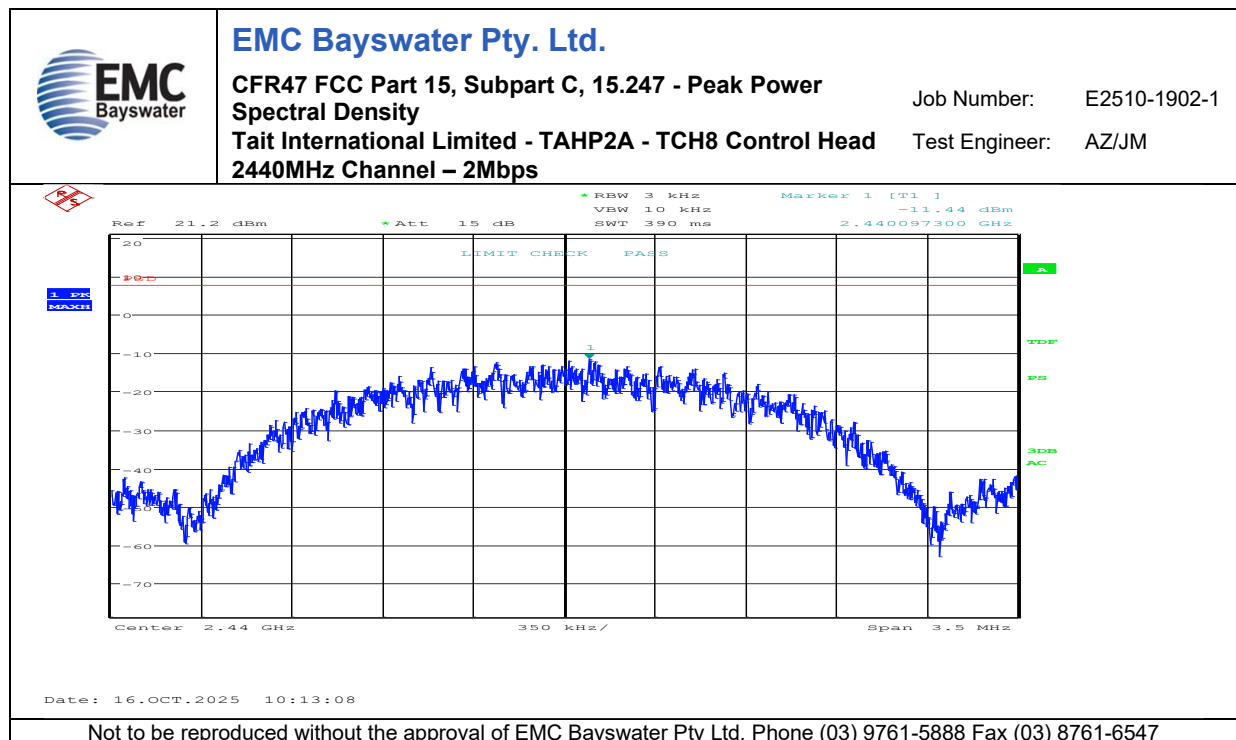
Graph 74



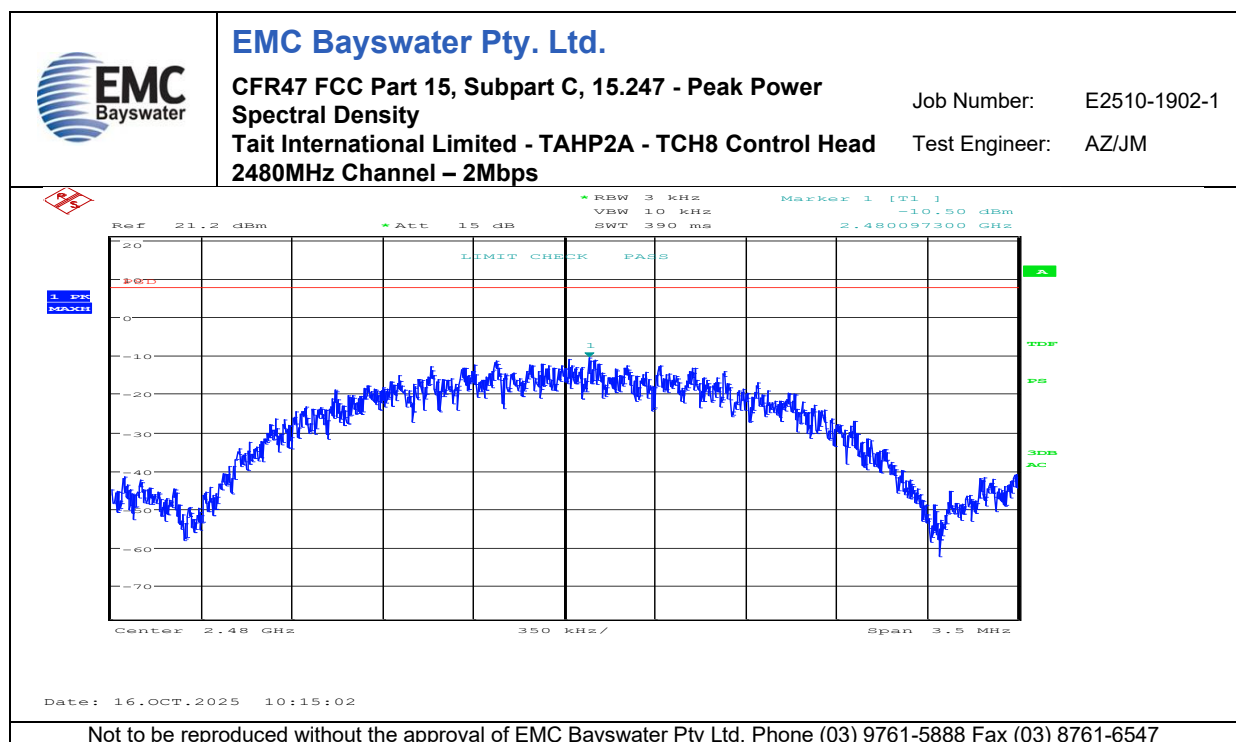
Graph 75



Graph 76



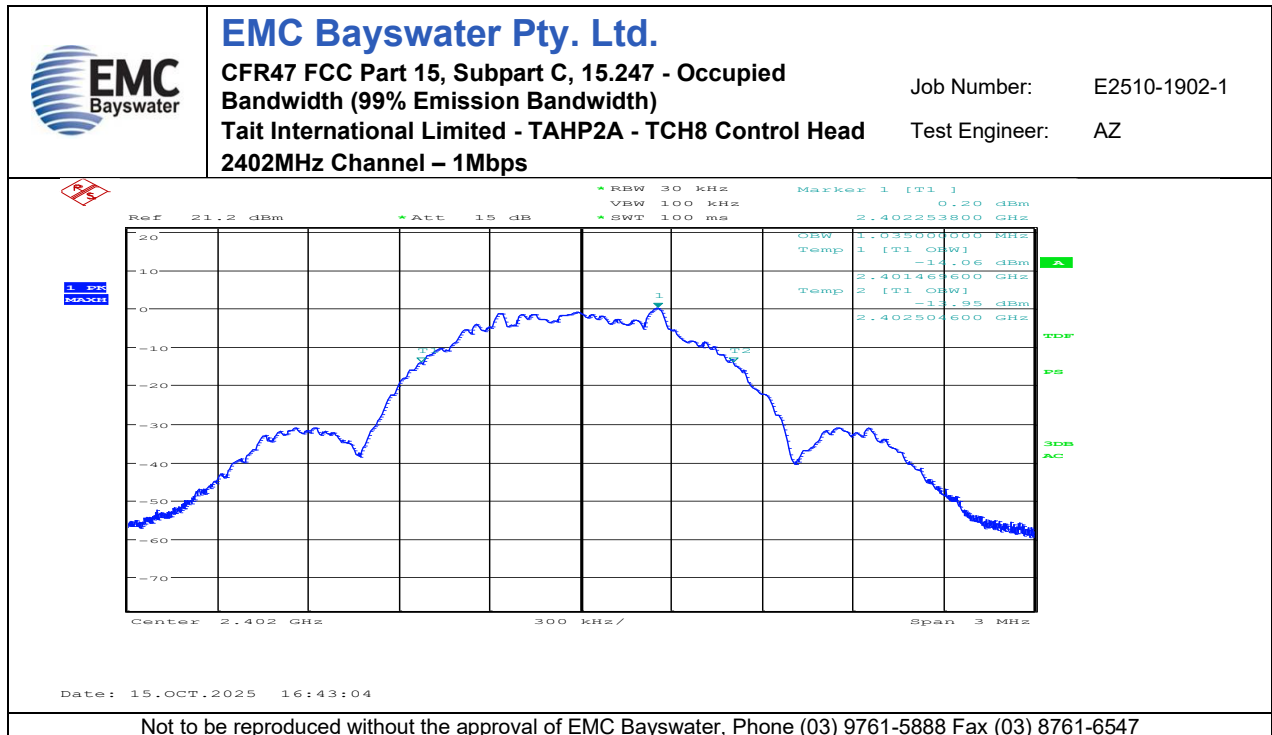
Graph 77



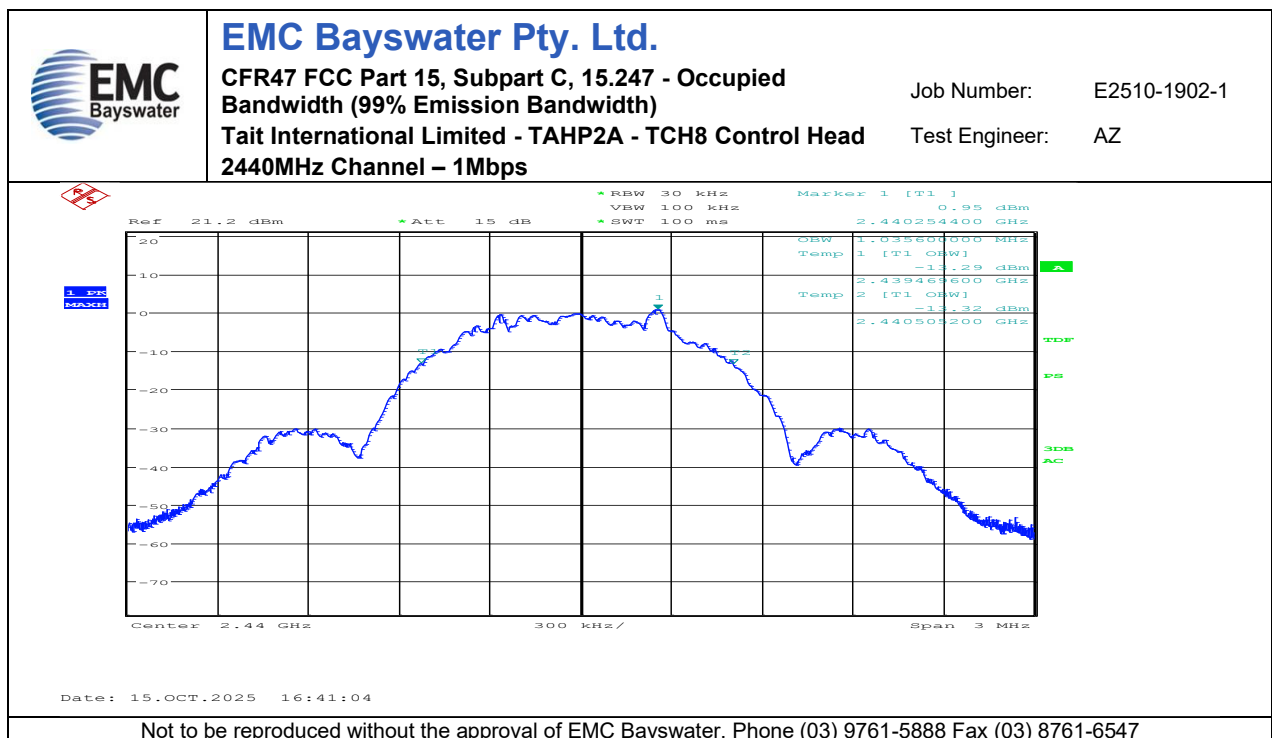
Graph 78

Appendix C.6 – Occupied Bandwidth (99% Emission Bandwidth)

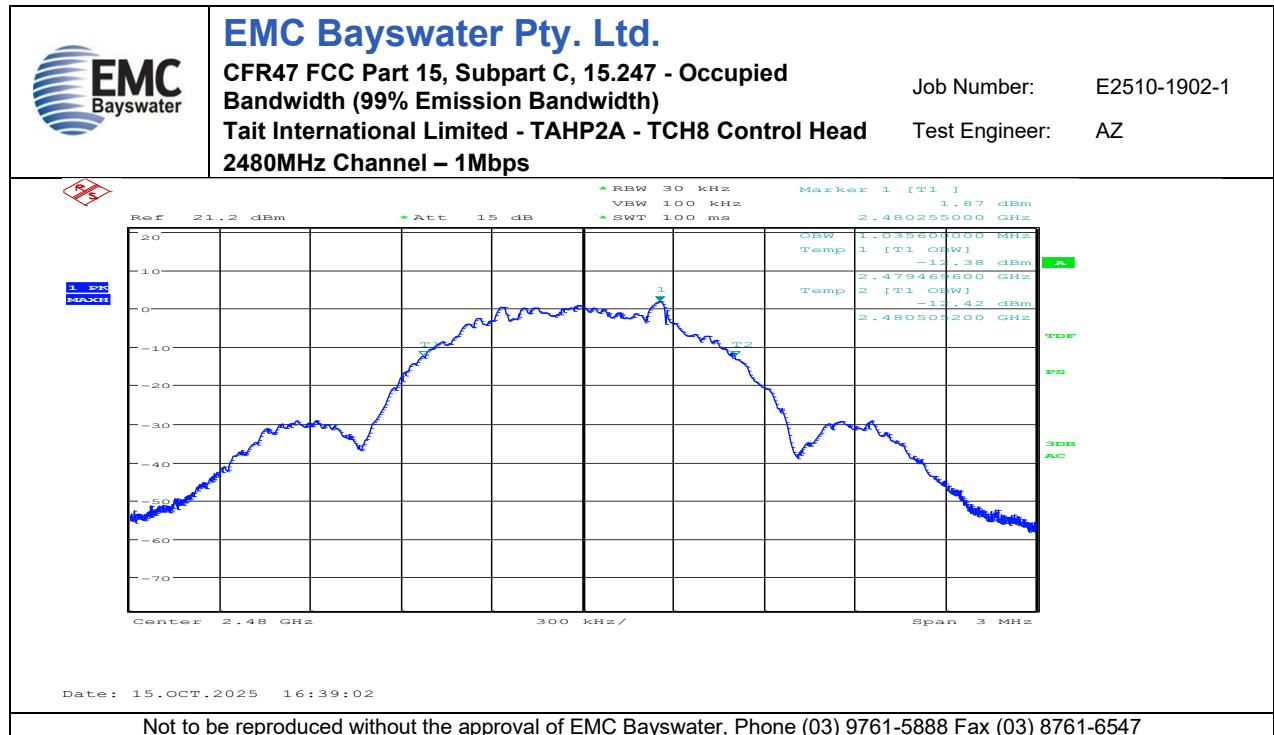
No.	Test	Graph Description
79	Occupied Bandwidth (99% Emission Bandwidth)	2402MHz Channel – 1Mbps
80		2440MHz Channel – 1Mbps
81		2480MHz Channel – 1Mbps
82		2402MHz Channel – 2Mbps
83		2440MHz Channel – 2Mbps
84		2480MHz Channel – 2Mbps



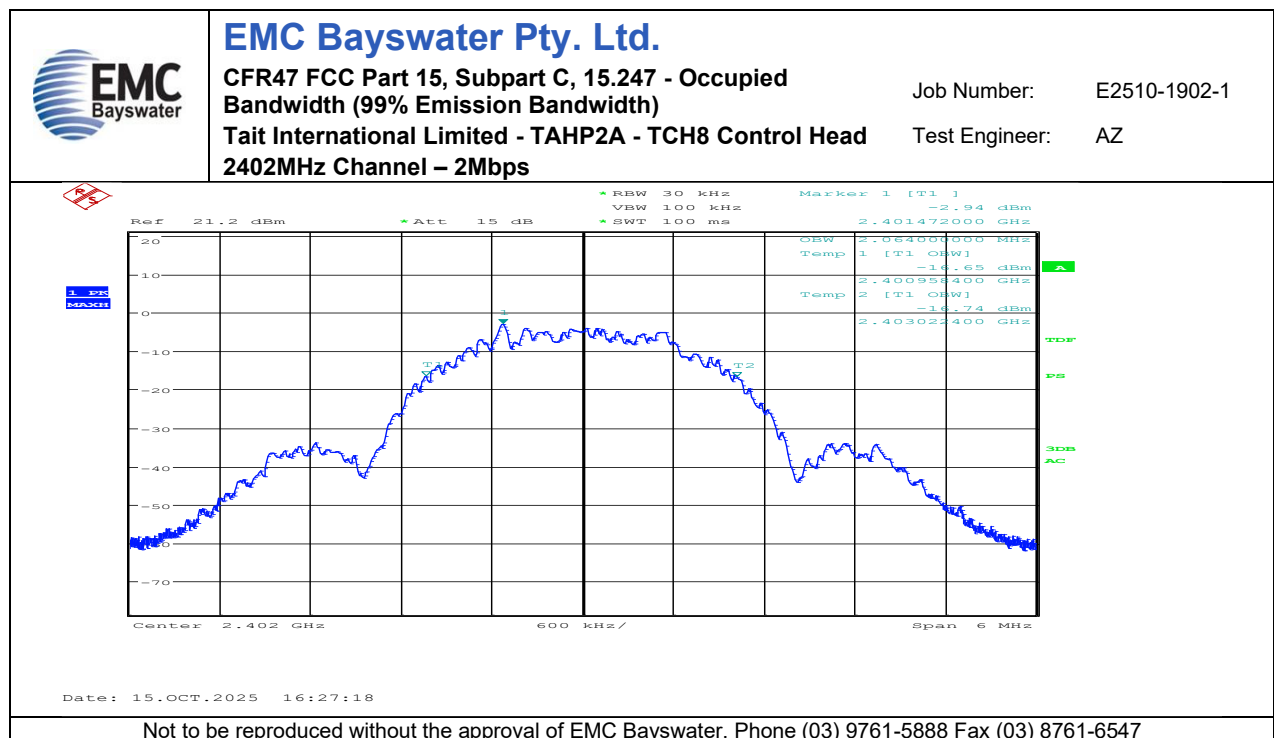
Graph 79



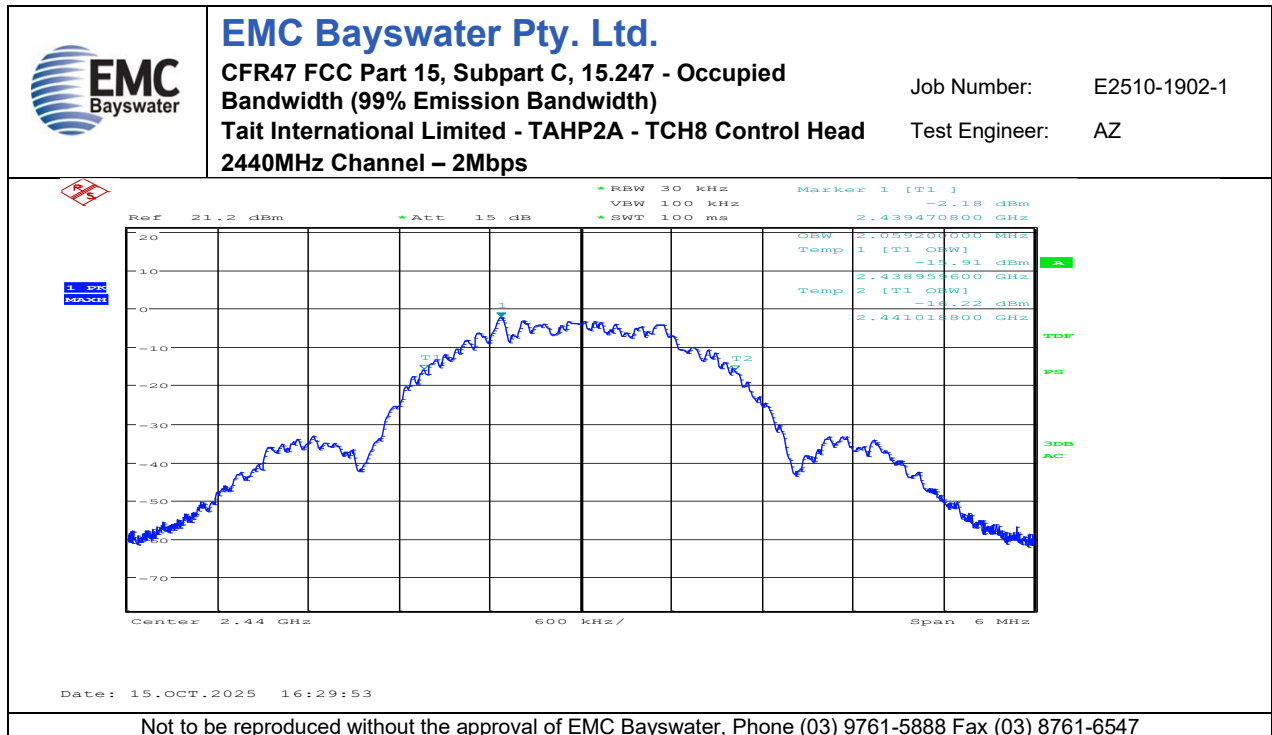
Graph 80



Graph 81

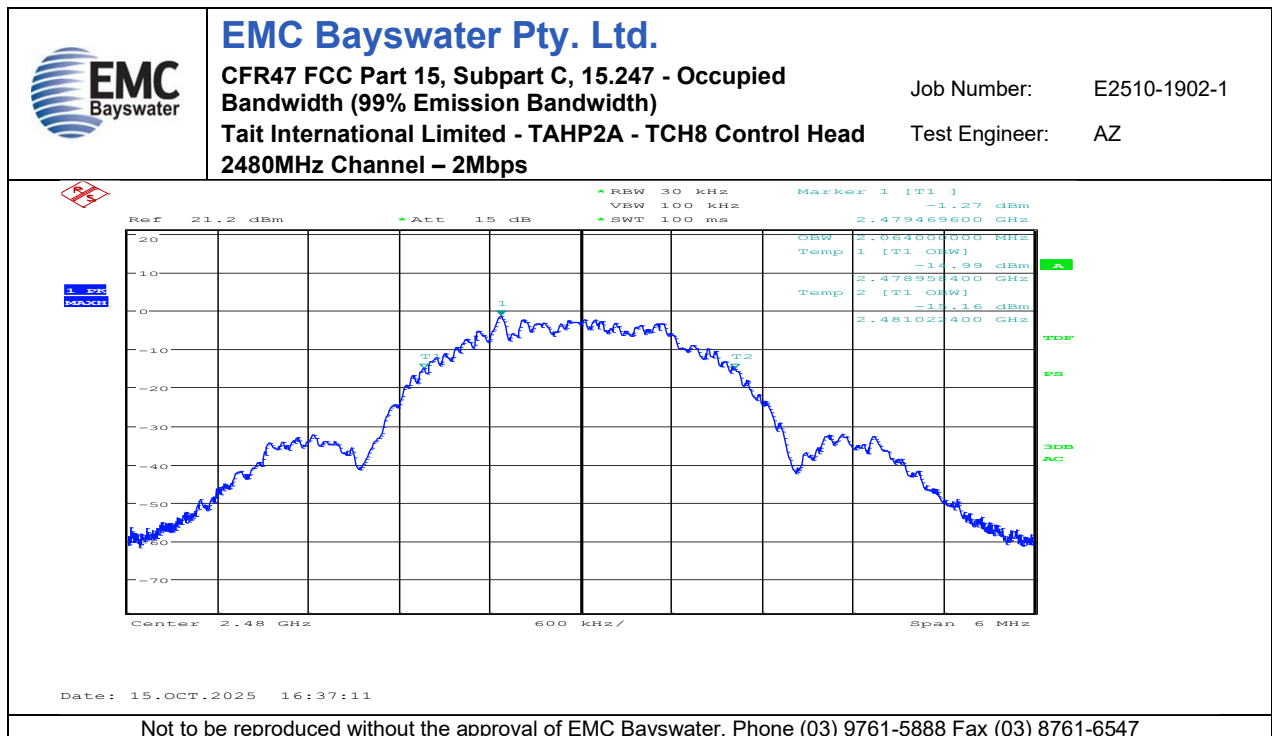


Graph 82



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Graph 83



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Graph 84