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CO-LOCATION VERIFICATION REPORT

In accordance with:

CFR47 FCC Part 15, Subpart C, 15.209

RSS-Gen - Issue 5, April 2018 including Amendment 1
(March 2019) and Amendment 2 (February 2021)

Automatic Technology Australia Pty. Ltd.

WC-100v1

DAVE (Industrial/commercial doors/gates operator) – Wall Console

REPORT: E2506-1852-7
DATE: September, 2025



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

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Certificate of Verification

EMC Bayswater Test Report: E2506-1852-7**Issue Date: September, 2025**

Product(s): DAVE (Industrial/commercial doors/gates operator) – Wall Console
Model No: WC-100v1
Serial No: Not stated
Variant(s): No variant declared
FCC ID: X4K-CCW03103
IC ID: 8880A- CCW03103

Customer Details: Mr. Nikolai Klepikov
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Test Specification: CFR47 FCC Part 15, Subpart C, 15.209

RSS-Gen - Issue 5, April 2018 including Amendment 1 (March 2019) and Amendment 2 (February 2021)

Results Summary:	FCC 15.209 – Radiated emissions	Complied
	RSS-Gen 8.9 - Unwanted emissions	Complied
	FCC 15.207/ RSS-Gen 7.2 – Conducted Emissions	N/A^{#1}

^{#1}DC powered device only. Does not connect to AC mains

Note: Customer requested to perform only the above listed tests for verification. No other tests were performed.

Test Date(s): 10th to 16th July, 2025

Test House (Issued By): EMC Bayswater Pty Ltd
18/88 Merrindale Drive,
Croydon South,
Victoria, 3136, Australia

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The Automatic Technology Australia Pty. Ltd., WC-100v1 (Serial No: Not stated), DAVE (Industrial/commercial doors/gates operator) – Wall Console, complied with the tested requirements of CFR47 FCC Part 15, Subpart C, 15.209 and RSS-Gen - Issue 5, April 2018 including Amendment 1 (March 2019) and Amendment 2 (February 2021), when tested in the supplied configuration.

Prepared and tested by:

Approved by:



Adnan Zaman
(EMC Test Engineer)



Neville Liyanapatabendige
(Manager)

11/09/2025 14:22

Date

Radio Co-Location Verification Report *for* Automatic Technology Australia Pty. Ltd.

Contents

1. Introduction	4
2. Test Report Revision History	4
3. Report Information	4
4. Summary of Results	4
5. Product Sample, Configuration & Modifications	5
5.1. Product Sample Details	5
5.2. EUT Description	5
5.3. Support Equipment	6
5.4. Product operating modes	6
5.5. Product operating mode for testing	6
5.6. Configuration	6
5.7. Modifications	6
6. Test Facility & Equipment	6
6.1. Test Facility	6
6.2. Test Equipment	6
7. Referenced Standards	7
8. Referenced Documents	7
9. Radiated Spurious Emissions – FCC 15.209 & Unwanted emissions (Radiated emissions) – RSS-Gen 8.9	8
9.1. Requirements	8
9.2. Test Procedure	9
9.3. Test Results	11
10. Conclusion	15
Appendix A – Test Equipment	16
Appendix B – Photographs	17
Appendix C – Measurement Graphs – Transmitter Spurious Emission	25

1. Introduction

Radio tests were performed on a WC-100v1, DAVE (Industrial/commercial doors/gates operator) – Wall Console in accordance with the Radiated Spurious Emission requirements of CFR47 FCC Part 15, Subpart C, 15.209 and RSS-Gen - Issue 5, April 2018 including Amendment 1 (March 2019) and Amendment 2 (February 2021).

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

Test	Result
FCC Part 15, Subpart C, 15.209 Radiated Emissions	Complied by 0.1dB ⁺
RSS-Gen 8.9 Unwanted emissions	

**Refer to relevant section for statement of Measurement Uncertainty.*

Table 1: Results Summary

5. Product Sample, Configuration & Modifications

5.1. Product Sample Details

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

Product:	DAVE (Industrial/commercial doors/gates operator) – Wall Console			
Model No:	WC-100v1			
Serial No:	Not stated			
Variant:	No variant declared			
FCC ID:	X4K-CCW03103			
IC:	8880A- CCW03103			
Firmware:	Not stated			
Software:	Not stated			
Power Specifications:	3.6VDC battery			
Dimensions:	135x65x115 mm		(Length x Width x Height)	
Weight:	< 1kg			
EUT Type:	Wall mounted, tested as table-top			
Transmitter 1 details:	Description:	Wall console WC-100V1		
	Type:	Remote control		
	Modulation:	FSK-OOK		
	Channels:	433.47MHz, 433.92MHz and 434.37MHz		
	Max power:	-3.7dBm measured EIRP		
	Antenna:	PCB loop antenna		
Transmitter 2 details:	Description:	Wall console WC-100V1 BLE transceiver module		
	Type:	BLE	FCC ID:	2ABU6-MS88SF2
	Frequency range:	2402-2480 MHz	IC:	20896-MS88SF2
	Max power:	3 dBm	CE mark:	Yes
	Antenna:	PCB antenna	RCM Logo:	No

(Customer supplied product information)

5.2. EUT Description

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

“DAVE is a door/gate operator that delivers extraordinary power and reliability in industrial and commercial applications. DAVE has the capacity to lift very large roller shutter doors as well as high friction wind rated doors. The slim fit chassis fits in tight spaces in garages and sheds and features a range of options and accessories to suit your unique needs.

The DAVE operator is an electro-mechanical device for opening and closing industrial and commercial doors automatically. This operator is a self-contained unit comprising a motor and control electronics. The DAVE contains internal microprocessor technology, clocks, memory and digital electronics. The DAVE operator is controlled by the WC-100V1 wall-mounted wireless transmitter (wall console).”

(Customer supplied product description information)

The highest fundamental frequency generated or used within the EUT, or the highest frequency at which it operates as specified by the customer is 2480MHz.

5.3. Support Equipment

None

5.4. Product operating modes

The customer described the products' normal operation modes as the following:

"The WC-100V1 wall console has 3 buttons: open - stop – close."

(Customer supplied product operating mode information)

5.5. Product operating mode for testing

The 433MHz Transmitter of the product was configured to operate continuously. BLE was also operating at the same time.

5.6. Configuration

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

The EUT was powered via internal battery.

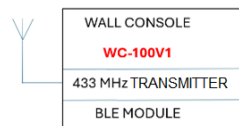


Figure 1: Block diagram of EUT test configuration

5.7. Modifications

EMC Bayswater 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.

EMC Bayswater Pty Ltd's Innovation, Science and Economic Development Canada registration number is 10676A.

EMC Bayswater Pty Ltd's Innovation, Science and Economic Development Canada CAB Identifier is AU0004.

6.2. Test Equipment

Refer to Appendix A for the measurement instrument list.

7. Referenced Standards

CFR47 FCC Part 15, Subpart C, 15.209

Innovation, Science and Economic Development Canada - RSS-Gen - Issue 5, April 2018 including Amendment 1 (March 2019) and Amendment 2 (February 2021)

Spectrum Management and Telecommunications - Radio Standards Specification - Radio Standards Specification - General Requirements for Compliance of Radio Apparatus

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.

CISPR 16-1-4: 2019 + A1: 2020

Specification for radio disturbance and immunity measuring apparatus and methods Part 1.4: Radio disturbance and immunity measuring apparatus - Ancillary equipment - Radiated disturbances.

8. Referenced Documents

Test Plan

Not supplied

9. Radiated Spurious Emissions – FCC 15.209 & Unwanted emissions (Radiated emissions) – RSS-Gen 8.9

9.1. Requirements

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:

Frequency Range (MHz)		Limits at 3m (dB μ V/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	
Frequency Range (GHz)	Measuring distance	Limits (dB μ V/m)	
		Average	Peak
1.0 to 26.5	3m	54.0	74.0
26.5 to 40.0	1m	64.0	84.0
26.5 to 40.0	0.5m	70.0	90.0

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 2: Limits for Radiated Spurious Emissions

As per section 8.9 of RSS-Gen - Issue 5, April 2018 including Amendment 1 (March 2019) and Amendment 2 (February 2021) (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:

Frequency Range (MHz)		Limits at 3m (dB μ V/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	
Frequency Range (GHz)	Measuring distance	Limits (dB μ V/m)	
		Average	Peak
1.0 to 26.5	3m	54.0	74.0
26.5 to 40.0	1m	64.0	84.0
26.5 to 40.0	0.5m	70.0	90.0

NOTE: The lower limit shall apply at the transition frequency.

Note 1: as per section 6.13.1 and 8.1 of RSS-Gen - Issue 5, April 2018 including Amendment 1 (March 2019) and Amendment 2 (February 2021). 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 1000MHz. Radiated emission limits in these three bands are based on measurements employing an average detector. The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit applicable. the limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit applicable

Table 3: Limits for Unwanted Emissions

9.2. Test Procedure

The Radiated Emissions were performed in accordance with the section 6.3 to 6.6 of ANSI C63.10.

Radiated Emissions were measured 3 metres (from 9kHz to 26.5GHz) and 0.5 meters (from 26.5GHz to 40GHz) 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 40GHz) 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 (19.5kHz 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 26.5GHz 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 3 MHz. 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 1 to 10 in Appendix B for views of the test configurations)

9.3. Test Results

Transmitter Unwanted Emissions measurements are detailed as follows:

(Refer to graphs in Appendix C)

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 4: Transmitter Spurious Emissions – 9kHz to 30MHz

Measurement Antenna Polarisation	Frequency (MHz)	Result Quasi-peak (dB μ V/m)	Limit Quasi-peak (dB μ V/m)	Delta limit (dB)
Horizontal	867.080	40.3	46.0	-5.7
	867.980	38.9	46.0	-7.1
	868.870	38.9	46.0	-7.1
Vertical	866.960	45.3	46.0	-0.7 ⁺
	867.890	45.9	46.0	-0.1⁺⁺
	868.800	45.2	46.0	-0.8 ⁺

⁺Worst-case emissions, ⁺⁺Refer to measurement uncertainty statement

Table 5: Transmitter Spurious Emissions – 30MHz to 1GHz

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	1301.860	49.9	74.0	-24.1	1301.860	30.8	54.0	-23.2
	1733.980	39.4	74.0	-34.6	1737.620	27.0	54.0	-27.0
	2172.080	53.0	74.0	-21.0	2169.740	33.8	54.0	-20.2
	2603.680	43.6	74.0	-30.4	2606.540	26.8	54.0	-27.2
	3041.260	48.5	74.0	-25.5	3040.740	28.1	54.0	-25.9
	3468.180	48.6	74.0	-25.4	3475.720	29.4	54.0	-24.6
	3901.410	60.6	74.0	-13.4	3901.200	37.7	54.0	-16.3
	4335.390	63.1	74.0	-10.9	4343.760	40.5	54.0	-13.5
	4773.360	68.8	74.0	-5.2*	4773.360	46.8	54.0	-7.2*
	4804.080	43.6	74.0	-30.4	4804.560	29.5	54.0	-24.5
	4852.320	43.7	74.0	-30.3	4852.320	29.6	54.0	-24.4
	4996.800	44.9	74.0	-29.1	4996.320	30.8	54.0	-23.2
	5208.000	63.4	74.0	-10.6	5207.760	40.4	54.0	-13.6
	5636.160	67.0	74.0	-7.0	5636.160	43.1	54.0	-10.9
	6069.520	55.0	74.0	-19.0	6069.520	34.0	54.0	-20.0
	6075.760	55.2	74.0	-18.8	6075.520	34.9	54.0	-19.1
	6502.480	61.9	74.0	-12.1	6502.240	35.6	54.0	-18.4
	6508.960	61.8	74.0	-12.2	6508.960	38.2	54.0	-15.8
	6515.680	61.1	74.0	-12.9	6515.680	36.2	54.0	-17.8
	6935.680	51.7	74.0	-22.3	6935.680	31.1	54.0	-22.9
	7206.160	52.3	74.0	-21.7	7206.160	29.0	54.0	-25.0
	7369.600	53.6	74.0	-20.4	7369.600	33.4	54.0	-20.6
	7377.760	54.1	74.0	-19.9	7377.760	33.4	54.0	-20.6
	7440.160	53.2	74.0	-20.8	7440.160	29.2	54.0	-24.8
	7803.520	50.7	74.0	-23.3	7803.040	32.6	54.0	-21.4
	8245.457	55.1	74.0	-18.9	8245.457	36.8	54.0	-17.2
	8253.737	57.5	74.0	-16.5	8253.737	36.5	54.0	-17.5
	8679.593	53.0	74.0	-21.0	8679.593	34.9	54.0	-19.1
	8687.513	53.1	74.0	-20.9	8687.513	34.2	54.0	-19.8
	9537.786	54.9	74.0	-19.1	9537.786	35.3	54.0	-18.7
	9557.945	55.0	74.0	-19.0	9557.945	34.9	54.0	-19.1
	10403.680	53.7	74.0	-20.3	10403.680	35.2	54.0	-18.8
	10415.680	53.9	74.0	-20.1	10415.680	35.1	54.0	-18.9
	11270.560	53.3	74.0	-20.7	11270.560	34.8	54.0	-19.2
	11283.520	52.0	74.0	-22.0	11283.520	34.7	54.0	-19.3

*Worst-case emission

Table 6: Transmitter Spurious Emissions – 1GHz to 25GHz

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)
Vertical	1303.160	50.8	74.0	-23.2	1303.160	30.9	54.0	-23.1
	1733.980	46.3	74.0	-27.7	1733.980	29.5	54.0	-24.5
	2170.000	53.4	74.0	-20.6	2167.660	32.8	54.0	-21.2
	3040.740	45.8	74.0	-28.2	3037.880	27.9	54.0	-26.1
	3475.460	48.5	74.0	-25.5	3475.200	30.8	54.0	-23.2
	3901.860	63.5	74.0	-10.5	3909.360	41.2	54.0	-12.8
	4334.940	62.7	74.0	-11.3	4335.120	41.8	54.0	-12.2
	4778.640	69.6	74.0	-4.4**	4778.160	45.7	54.0	-8.3*
	4803.840	45.2	74.0	-28.8	4804.560	29.7	54.0	-24.3
	4851.600	45.2	74.0	-28.8	4851.600	29.9	54.0	-24.1
	4996.800	43.8	74.0	-30.2	4996.080	30.8	54.0	-23.2
	5202.000	64.7	74.0	-9.3	5202.000	43.4	54.0	-10.6
	5647.680	66.6	74.0	-7.4	5647.680	44.7	54.0	-9.3
	6069.520	60.7	74.0	-13.3	6069.520	38.4	54.0	-15.6
	6075.040	60.5	74.0	-13.5	6075.040	37.5	54.0	-16.5
	6081.280	60.0	74.0	-14.0	6081.520	38.1	54.0	-15.9
	6502.960	61.6	74.0	-12.4	6502.960	40.4	54.0	-13.6
	6509.200	62.0	74.0	-12.0	6508.960	38.3	54.0	-15.7
	6515.440	61.9	74.0	-12.1	6515.680	38.6	54.0	-15.4
	6936.640	52.0	74.0	-22.0	6936.640	31.9	54.0	-22.1
	7206.160	50.6	74.0	-23.4	7206.160	29.3	54.0	-24.7
	7369.840	53.7	74.0	-20.3	7377.760	32.6	54.0	-21.4
	7377.760	52.9	74.0	-21.1	7384.720	33.1	54.0	-20.9
	7440.160	52.6	74.0	-21.4	7440.160	29.5	54.0	-24.5
	7820.080	53.1	74.0	-20.9	7820.080	33.1	54.0	-20.9
	8237.178	58.5	74.0	-15.5	8237.178	38.2	54.0	-15.8
	8245.098	62.4	74.0	-11.6	8245.098	38.4	54.0	-15.6
	8253.377	62.4	74.0	-11.6	8253.377	38.2	54.0	-15.8
	8669.874	57.7	74.0	-16.3	8669.874	36.3	54.0	-17.7
	8688.233	56.8	74.0	-17.2	8688.233	36.2	54.0	-17.8
	9537.066	53.8	74.0	-20.2	9537.066	36.1	54.0	-17.9
	9547.505	53.6	74.0	-20.4	9547.505	36.0	54.0	-18.0
	10403.680	54.1	74.0	-19.9	10403.680	35.7	54.0	-18.3
	10426.240	53.9	74.0	-20.1	10426.240	35.5	54.0	-18.5
	11272.000	53.5	74.0	-20.5	11272.000	35.2	54.0	-18.8
	11295.040	53.1	74.0	-20.9	11295.040	35.0	54.0	-19.0

**Worst-case emissions, *refer to measurement uncertainty statement*

Table 7: 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:	13.4 to 15.9°C
Humidity:	49.0 to 54.0%
Atmospheric pressure:	1006.1 to 1019.1hPa

Table 8: Climatic conditions

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

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

Where:

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

Example calculation:

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

Notes: Both 2.4GHz BLE and 433MHz Transmitter were operational during testing.

All Spurious Emissions measurements were below the specified limits.

The transmitter was continuously transmitting in modulated transmit mode.

Transmitter Spurious measurements were made up to the 10th harmonic.

The Radiated spurious emissions verification testing was performed in normal BLE mode. Customer specified that it was not possible to configure the EUT to only transmit on a single channel (at lowest, middle and highest channel) for testing purposes. As

per ANSI C63.10 formal testing to be performed in continuous transmit mode with maximum power allowed with duty cycle close to 100% in lowest, middle and highest transmit channels

Assessment: The EUT complied with the Unwanted Emissions (Radiated Emissions) requirements of CFR47 FCC Part 15, Subpart C, 15.209 and RSS-Gen - Issue 5, April 2018 including Amendment 1 (March 2019) and Amendment 2 (February 2021).

10. Conclusion

The Automatic Technology Australia Pty. Ltd., WC-100v1 (Serial No: Not stated), DAVE (Industrial/commercial doors/gates operator) – Wall Console complied with the applicable tested requirements of CFR47 FCC Part 15, Subpart C, 15.209 and RSS-Gen - Issue 5, April 2018 including Amendment 1 (March 2019) and Amendment 2 (February 2021), when tested in the supplied configuration.

Appendix A – Test Equipment

Inv.	Equipment	Make	Model No.	Serial No.	Calibration	
					Due	Type
Transmitter Spurious Emissions – 9kHz to 25GHz						
1217	ANALYSER, EMI Receiver	Rohde & Schwarz	ESU40	100182	Aug-26	E
1323	Antenna, Biconilog	SunAR RF Motion	JB1	A052518	Apr-27	E
0633	ANTENNA, Double Ridge Horn	EMCO	3115	9712-5369	Aug-27	I
0559	PRE-AMP, Microwave, 18GHz	Miteq	AFS8	605305	May-26	I
0745	FILTER, Hi-Pass, 800MHz	MiniCircuits	NHP-800	10447	May-26	I
1193	Standard Gain Horn Antenna - 5.85GHz to 8.2GHz	A.H. Systems, inc	SAS-584	186	May-26	E
1194	Standard Gain Horn Antenna - 8.2GHz to 12.4GHz	A.H. Systems, inc	SAS-585	224	May-26	E
1195	Standard Gain Horn Antenna - 12.4GHz to 18.0GHz	A.H. Systems, inc	SAS-586	195	May-26	E
1196	Standard Gain Horn Antenna - 18.0GHz to 26.5GHz	A.H. Systems, inc	SAS-587	181	May-26	E
0932	CONTROLLER, Position	Sunol Sciences	SC104V-3	081006-1	N/A	V
0933	TURNTABLE	Sunol Sciences	SM46C	081006-2	N/A	V
0934	MAST, Antenna	Sunol Sciences	TLT2	081006-5	N/A	V
0989	CABLE, Coax, Sucoflex 104A	Huber+Suhner	44454/4A	C357	Jan-26	I
1145	CABLE, Coax, Sucoflex 104PA	Huber + Suhner	84279564	SN MY056/4PA	Jan-26	I
1238	CABLE, Coax, Sucoflex 126 E	Huber + Suhner	10422876	SN 8000495/126E	Jan-26	I
1010	CABLE, Coax, Sucoflex 104B	Huber+Suhner	00078/4B	C406	Aug-26	I
1009	CABLE, Coax, Sucoflex 104B	Huber+Suhner	00065/4B	C405	Aug-26	I
1064	PRE-AMP, Microwave, 26GHz	Miteq	AFS33	1696371	May-26	I
0024	ANTENNA, Active Loop	EMCO	6502	2620	Feb-26	I
1155	Hygrometer, Temp, Humidity	DigiTech	QM7312	-	Jul-27	I
0666	Enclosure, Semi-Anechoic, No 1	RFI Industries	S800 iOATS	1229	Jul-28	I
SW007	EMC Measurement Software	Rohde & Schwarz	EMC 32	Version 8.53.0	N/A	N/A

Verification of operation against an internal reference

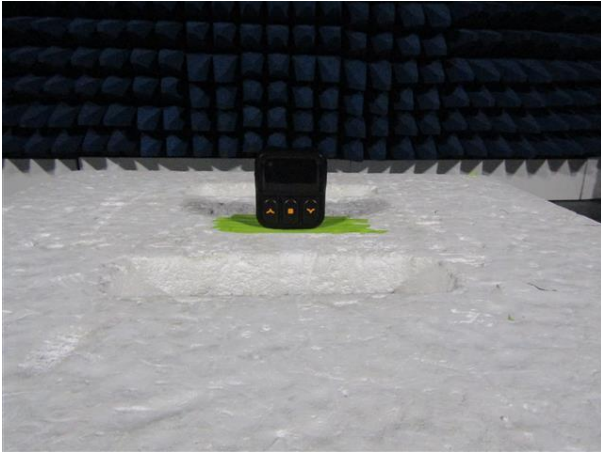
I: Internal calibration against a traceable standard

E: External calibration by a NATA or MRA equivalent endorsed facility

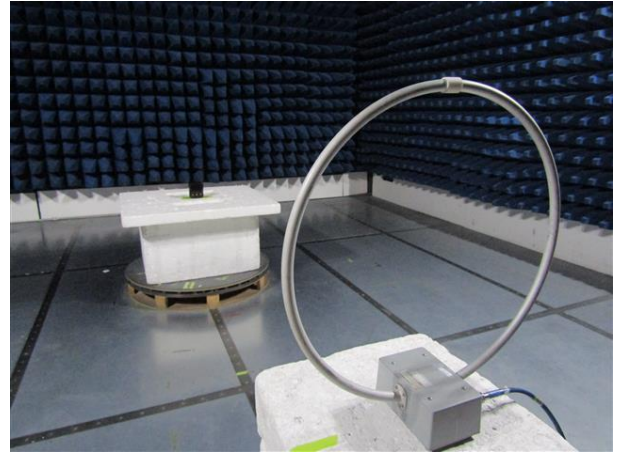
N/A: Not Applicable

Appendix B – Photographs

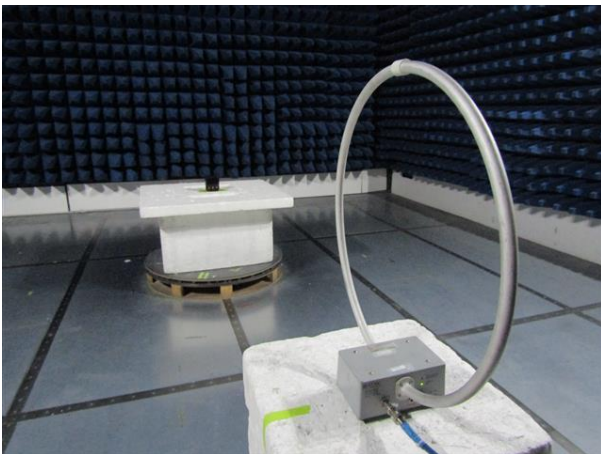
Number	Photograph Description
1	Transmitter Spurious – Test configuration
2	Transmitter Spurious – 9kHz to 30MHz – X Antenna orientation
3	Transmitter Spurious – 9kHz to 30MHz – Y Antenna orientation
4	Transmitter Spurious – 9kHz to 30MHz – Z Antenna orientation
5	Transmitter Spurious – below 1GHz
6	
7	Transmitter Spurious – below 1GHz
8	
9	
10	
11	EUT – External Views
12	
13	
14	
15	
16	
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19	
20	EUT – Internal Views
21	
22	
23	
24	
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Photograph 1



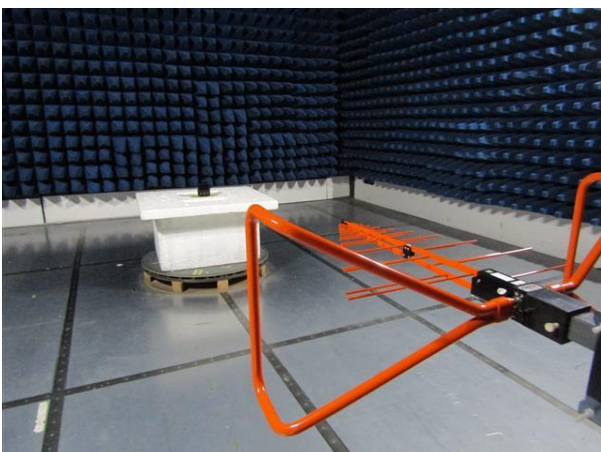
Photograph 2



Photograph 3



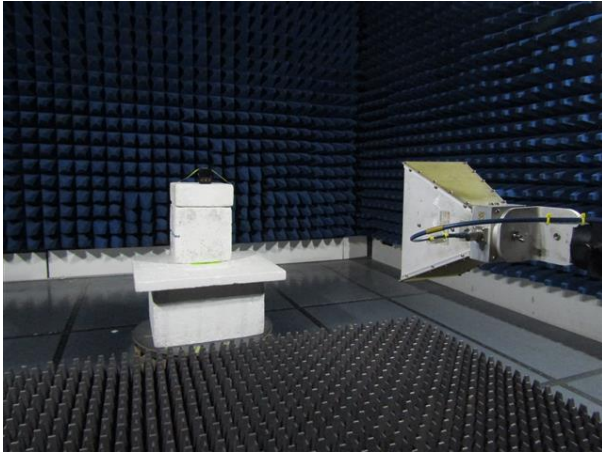
Photograph 4



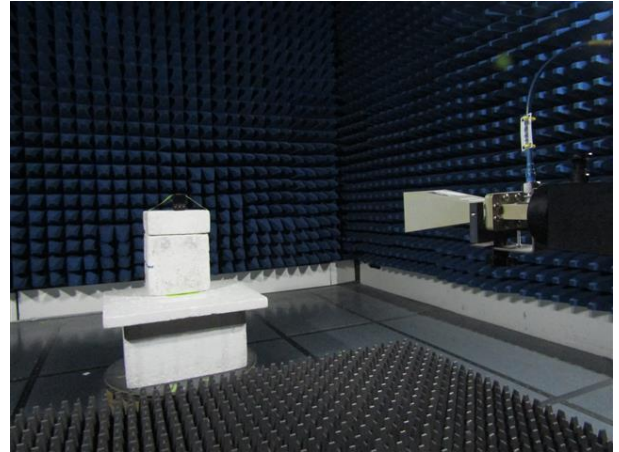
Photograph 5



Photograph 6



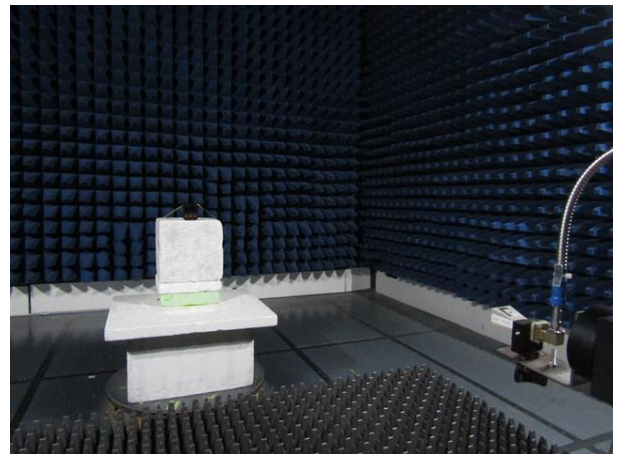
Photograph 7



Photograph 8



Photograph 9



Photograph 10



Photograph 11



Photograph 12



Photograph 13



Photograph 14



Photograph 15



Photograph 16



Photograph 17



Photograph 18



Photograph 19



Photograph 20



Photograph 21



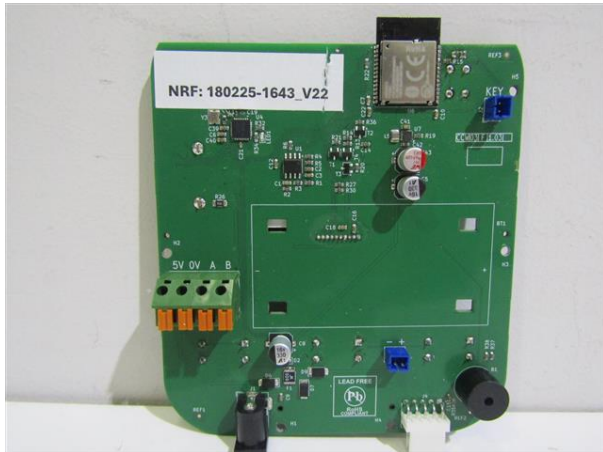
Photograph 22



Photograph 23



Photograph 24



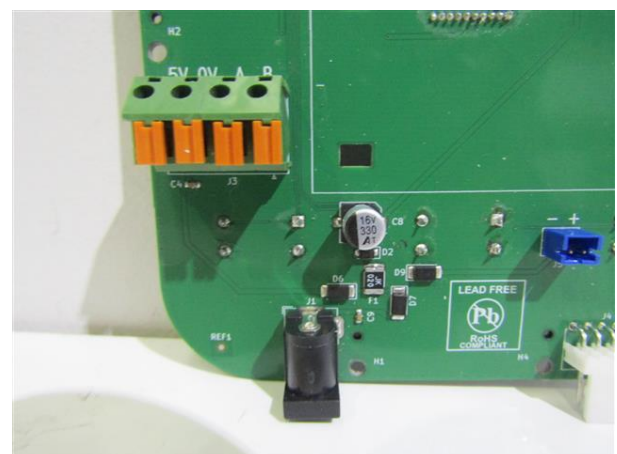
Photograph 25



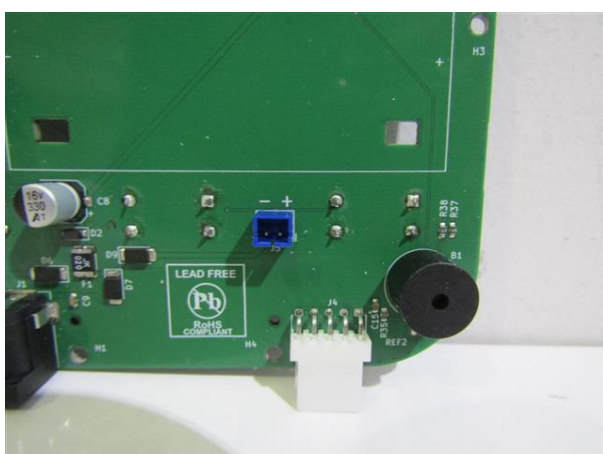
Photograph 26



Photograph 27



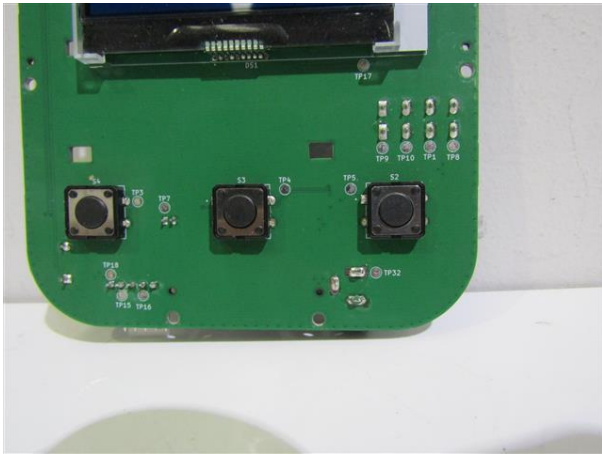
Photograph 28



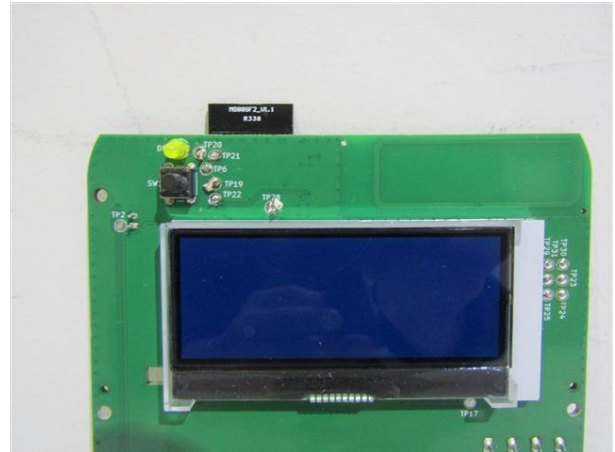
Photograph 29



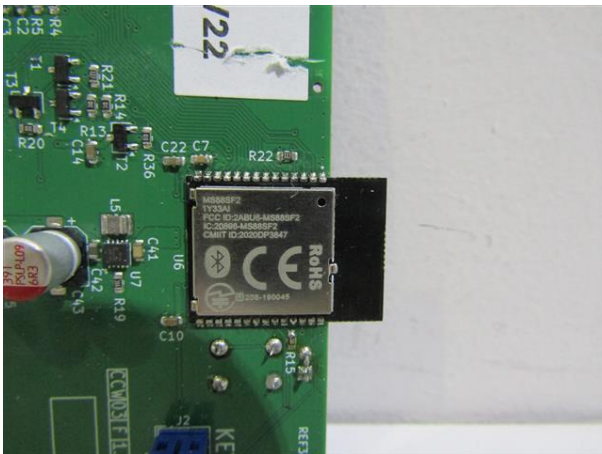
Photograph 30



Photograph 31



Photograph 32



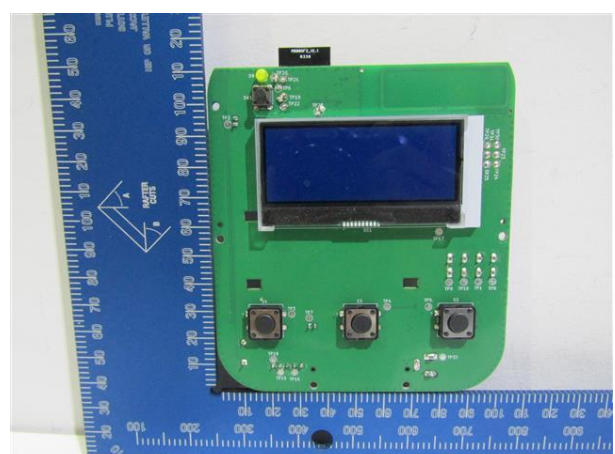
Photograph 33



Photograph 34



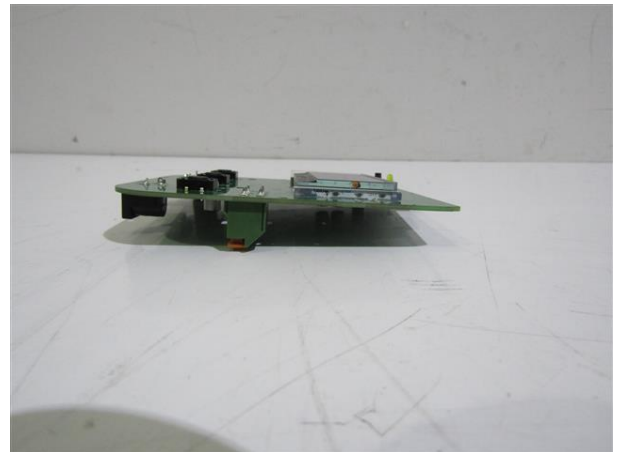
Photograph 35



Photograph 36



Photograph 37



Photograph 38



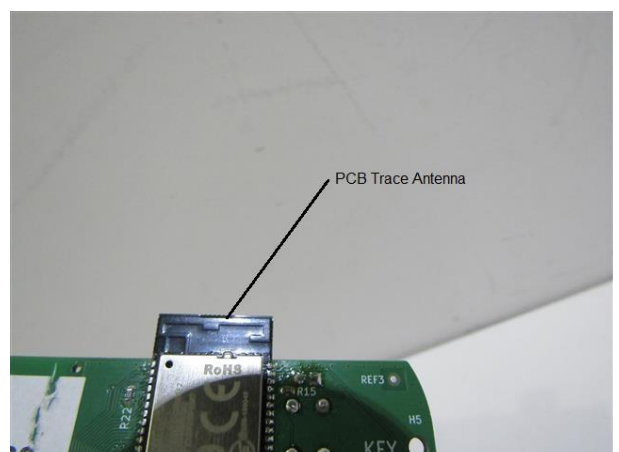
Photograph 39



Photograph 40



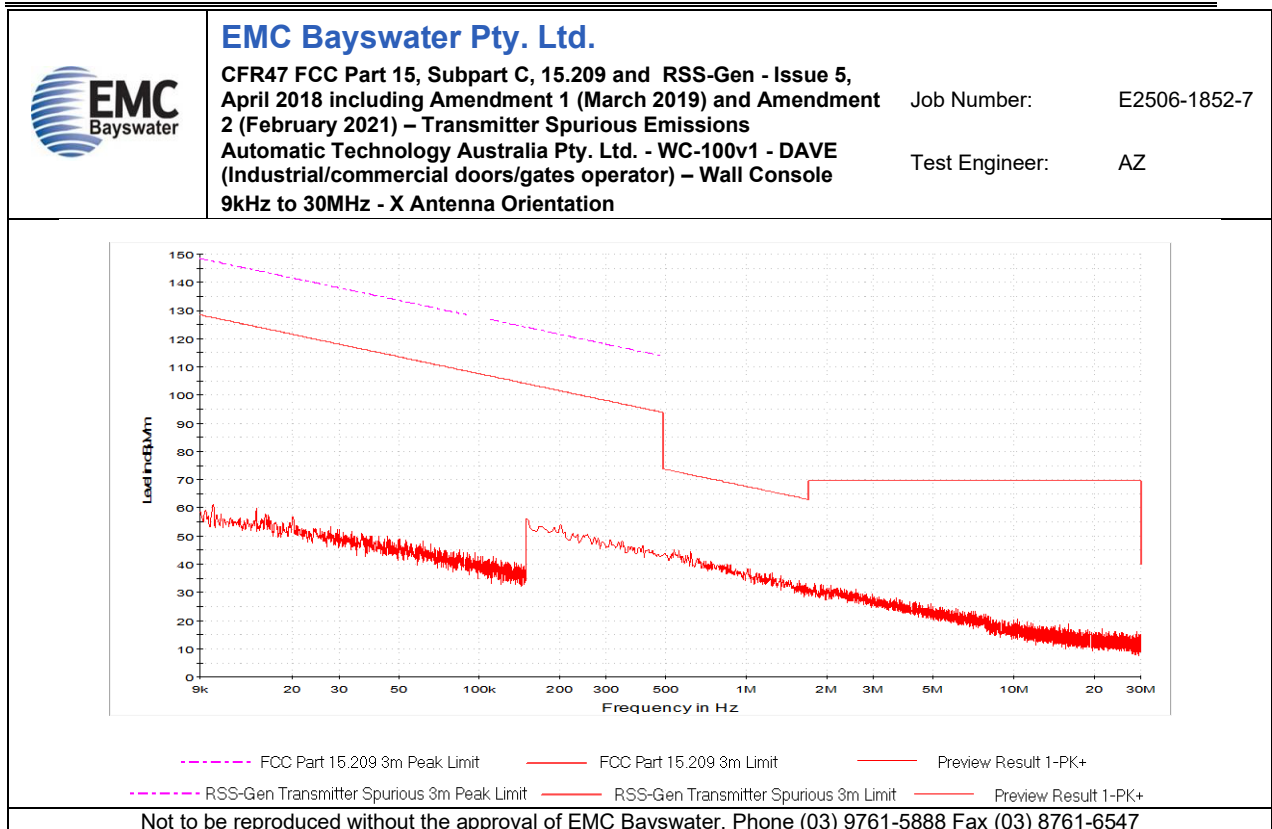
Photograph 41



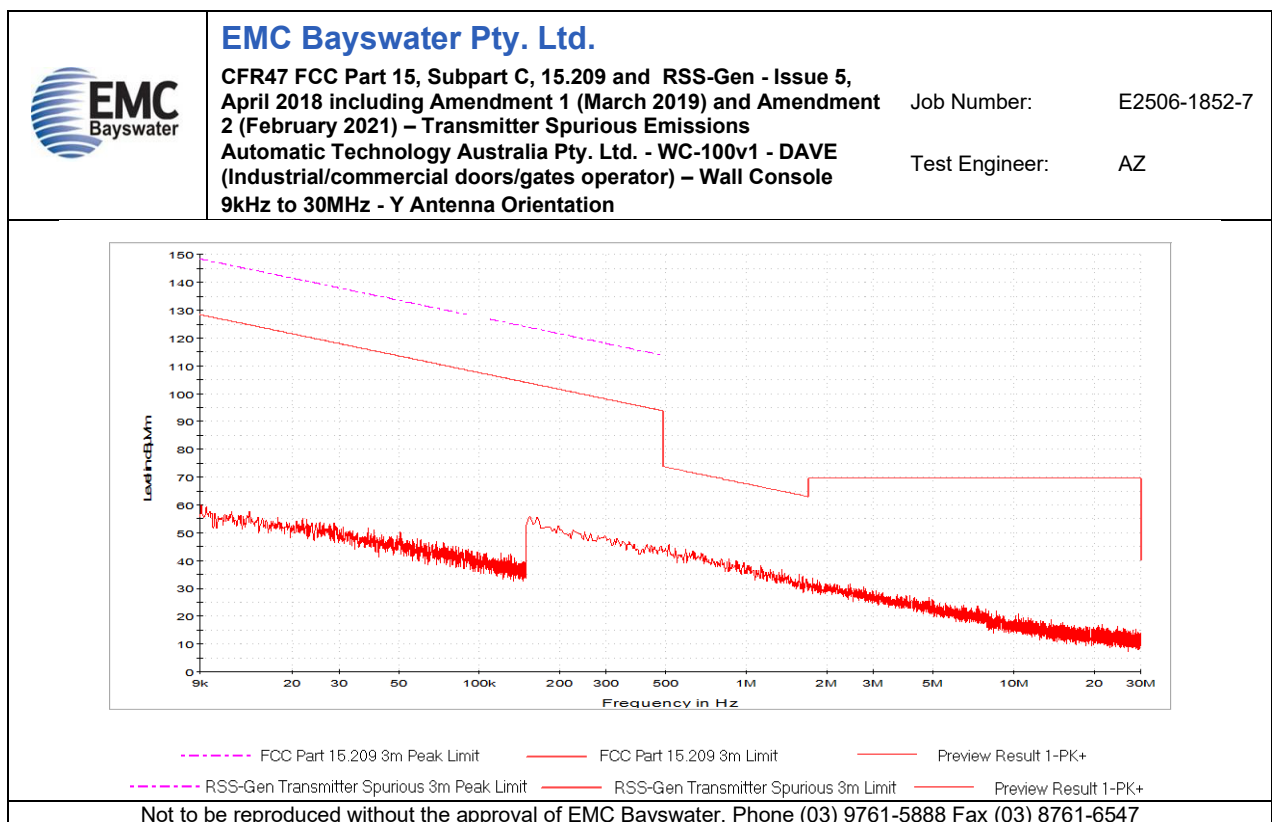
Photograph 42

Appendix C – Measurement Graphs – Transmitter Spurious Emission

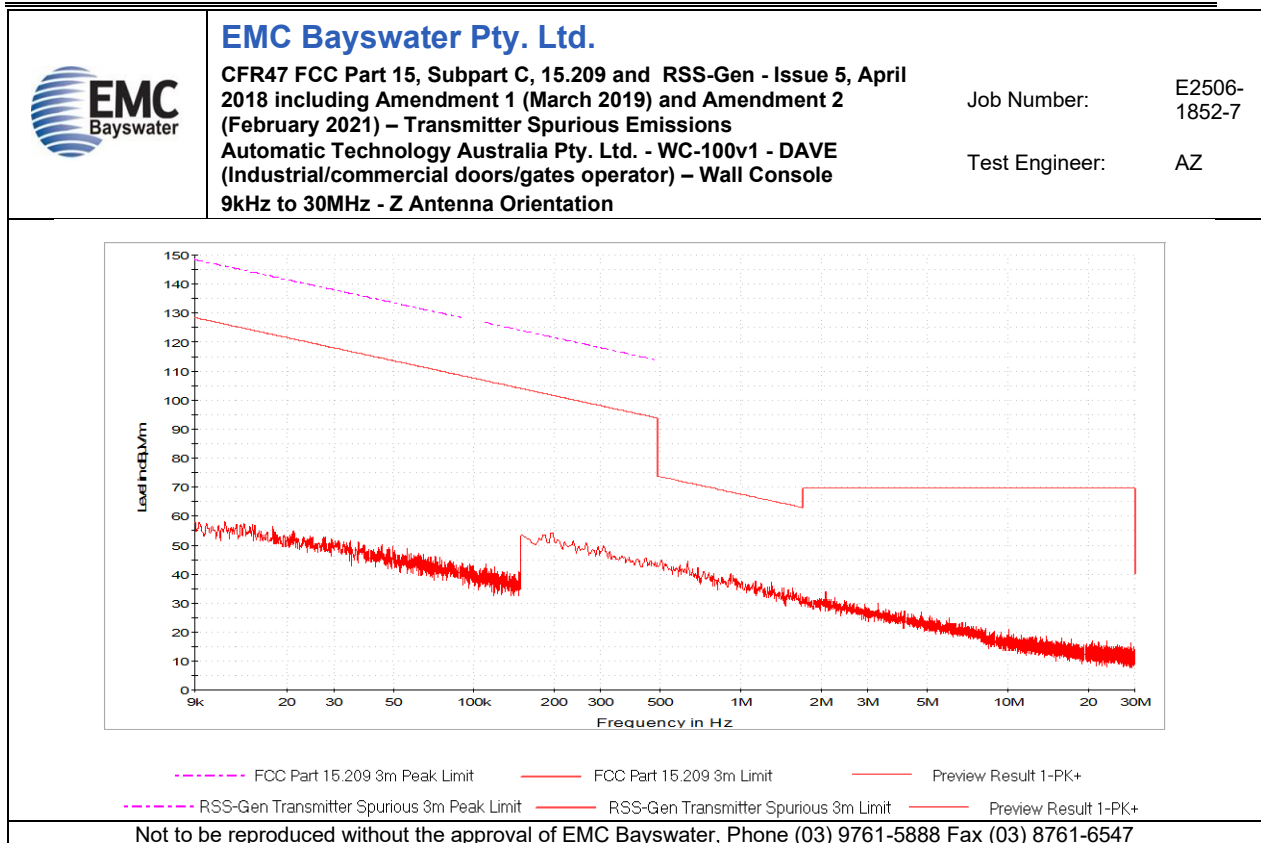
No.	Test	Graph Description
1	Transmitter Spurious emissions	9kHz to 30MHz, Antenna X
2		9kHz to 30MHz, Antenna Y
3		9kHz to 30MHz, Antenna Z
4		30MHz to 800MHz, Antenna Horizontal
5		30MHz to 800MHz, Antenna Vertical
6		800MHz to 1GHz, Antenna Horizontal
7		800MHz to 1GHz, Antenna Vertical
8		1GHz to 6GHz, Antenna Horizontal
9		1GHz to 6GHz, Antenna Vertical
10		6GHz to 8.2GHz, Antenna Horizontal
11		6GHz to 8.2GHz, Antenna Vertical
12		8.2GHz to 12.4GHz, Antenna Horizontal
13		8.2GHz to 12.4GHz, Antenna Vertical
14		12.4GHz to 18GHz, Antenna Horizontal
15		12.4GHz to 18GHz, Antenna Vertical
16		18GHz to 25GHz, Antenna Horizontal
17		18GHz to 25GHz, Antenna Vertical



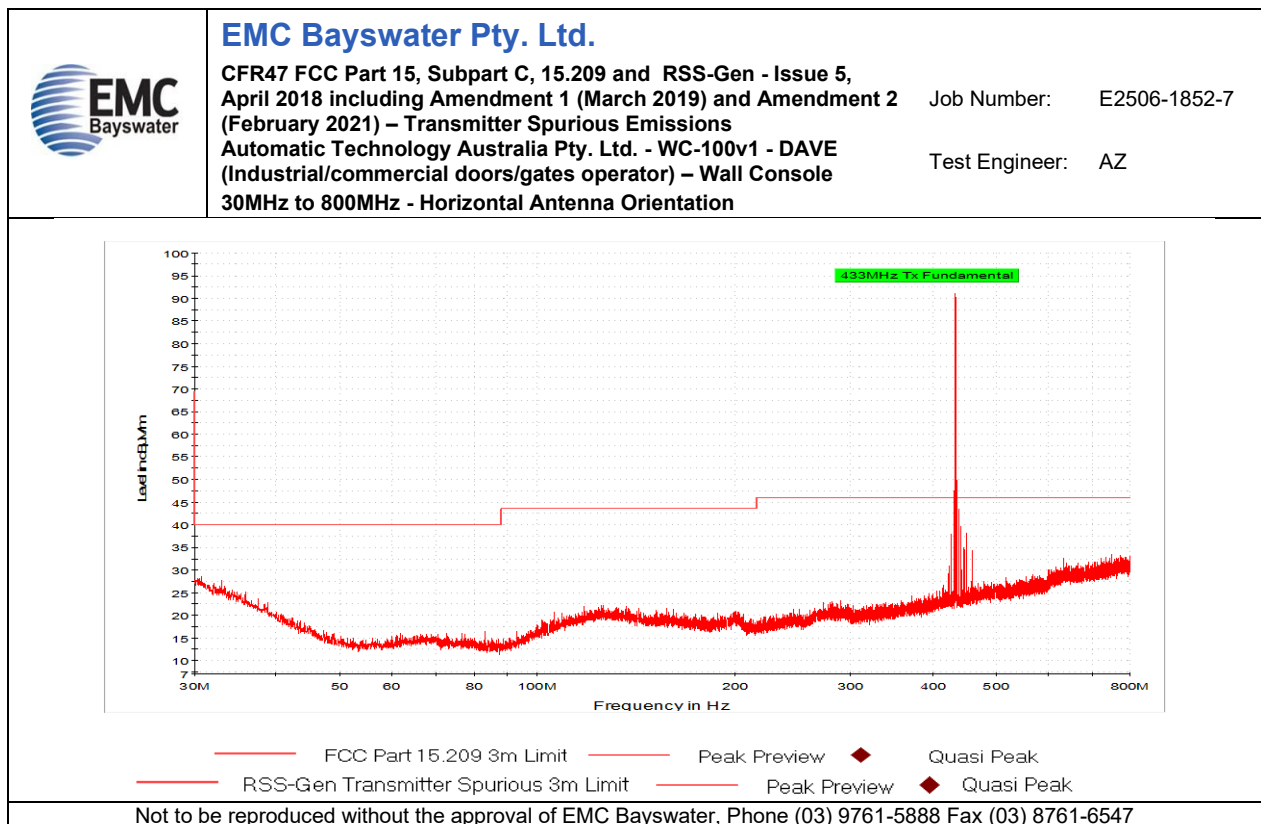
Graph 1



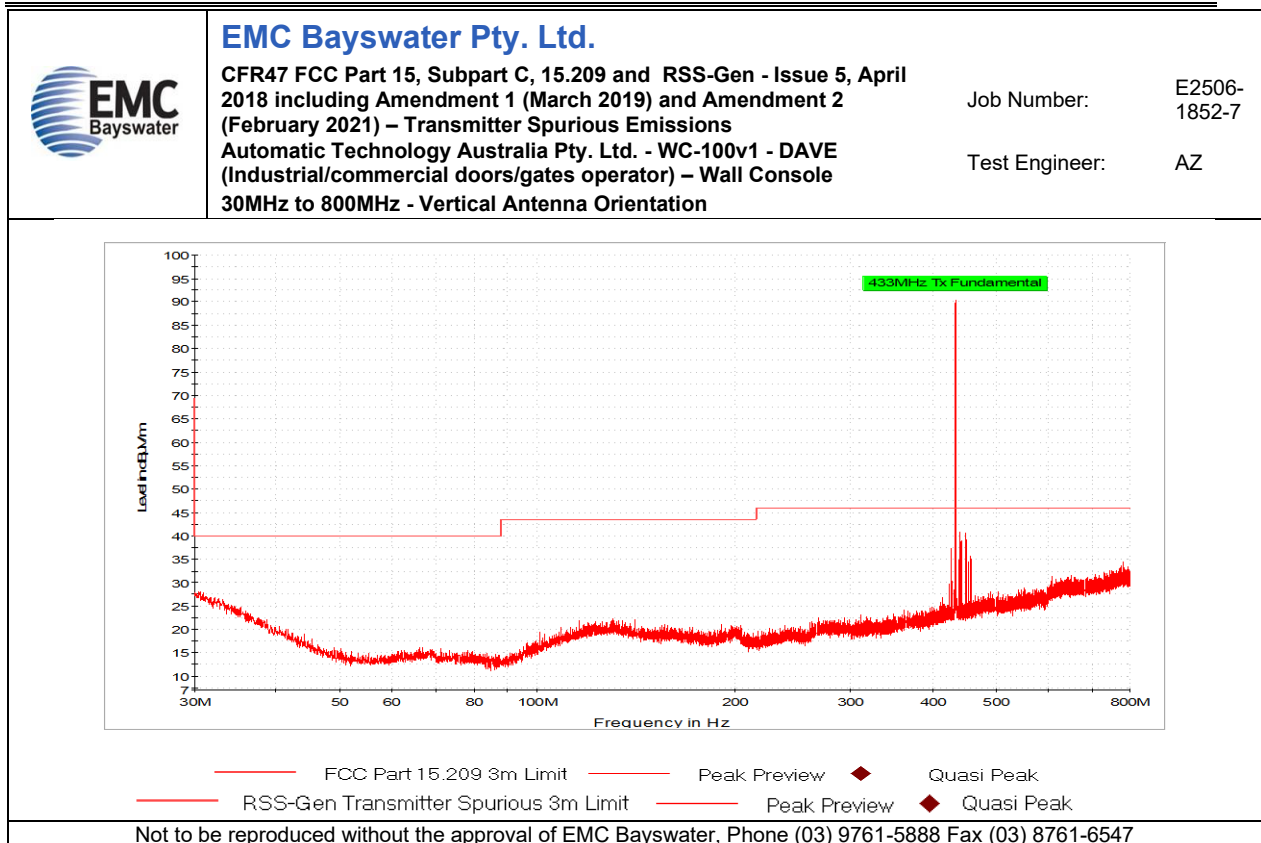
Graph 2



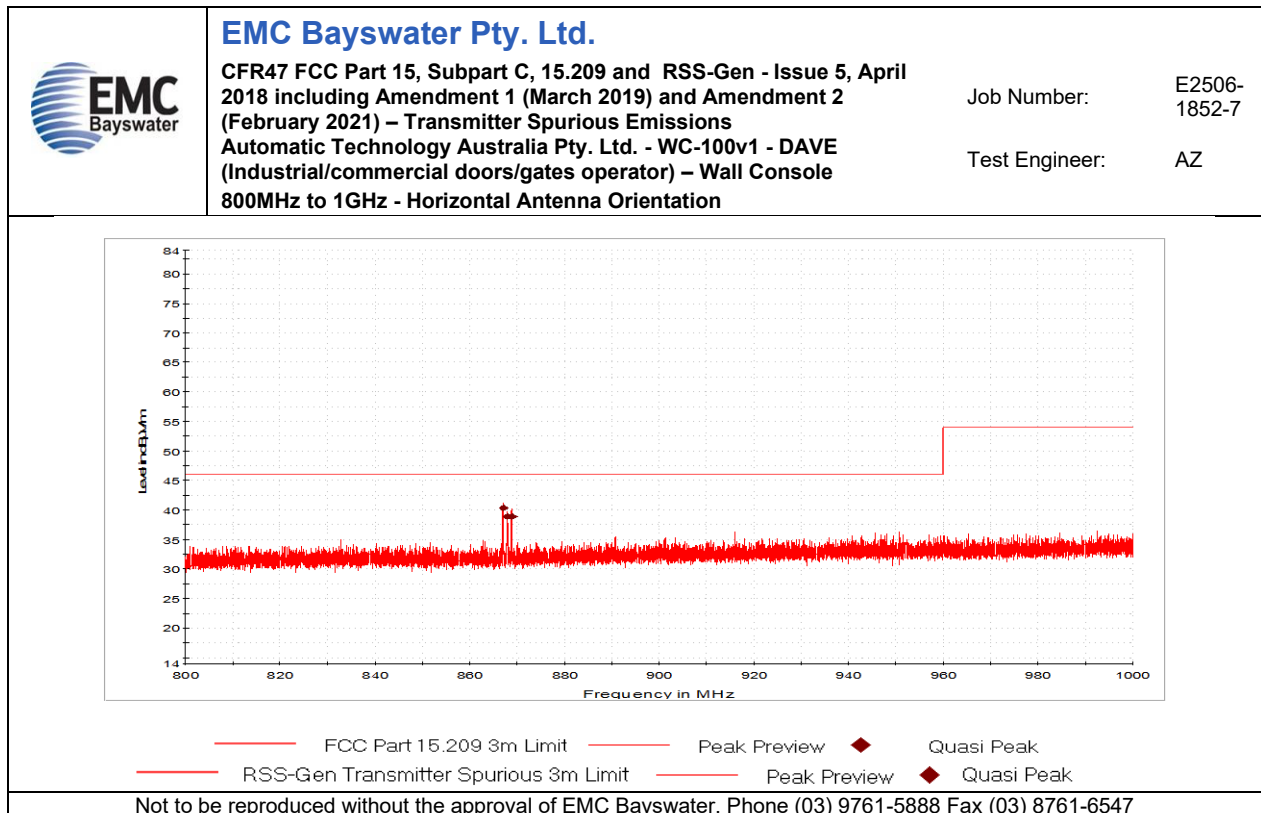
Graph 3



Graph 4



Graph 5



Graph 6

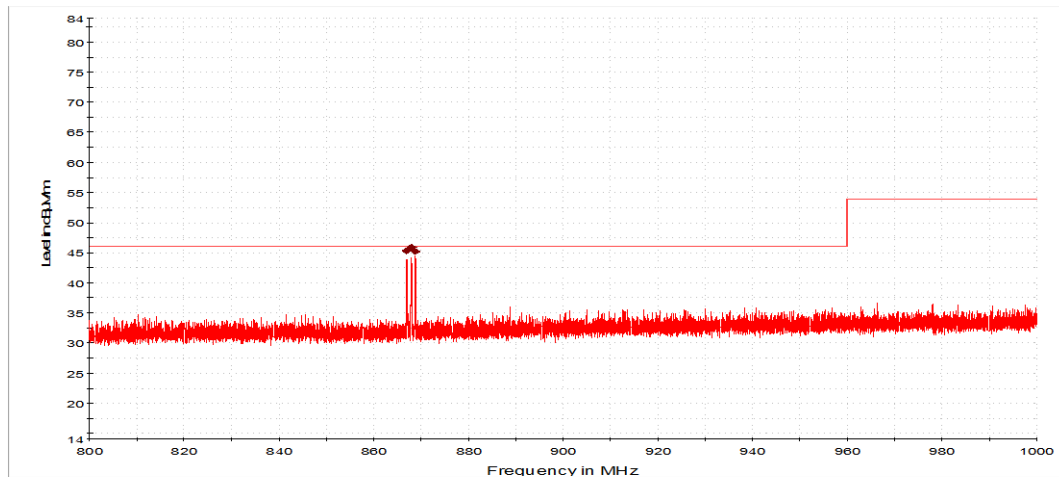


EMC Bayswater Pty. Ltd.

**CFR47 FCC Part 15, Subpart C, 15.209 and RSS-Gen - Issue 5, April 2018 including Amendment 1 (March 2019) and Amendment 2 (February 2021) – Transmitter Spurious Emissions
Automatic Technology Australia Pty. Ltd. - WC-100v1 - DAVE (Industrial/commercial doors/gates operator) – Wall Console
800MHz to 1GHz - Vertical Antenna Orientation**

Job Number: E2506-1852-7

Test Engineer: AZ



FCC Part 15.209 3m Limit Peak Preview Quasi Peak

RSS-Gen Transmitter Spurious 3m Limit Peak Preview Quasi Peak

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Graph 7

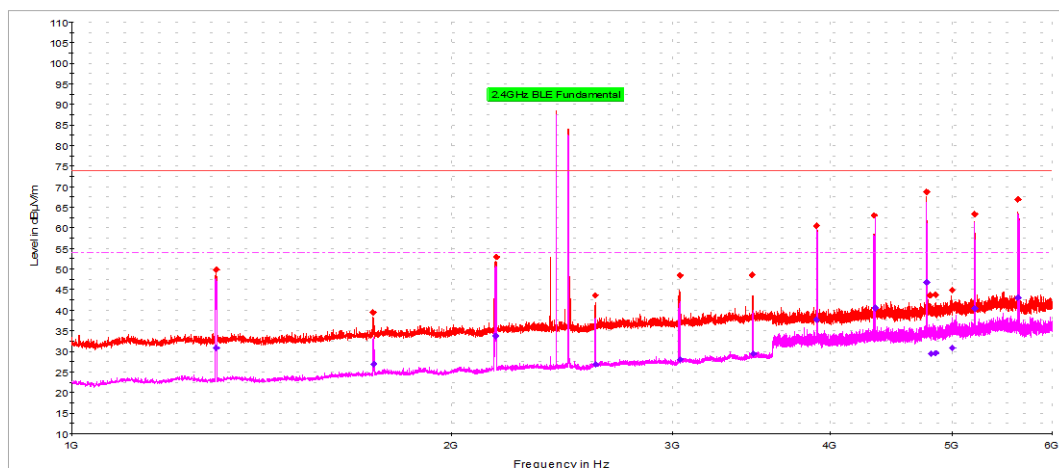


EMC Bayswater Pty. Ltd.

CFR47 FCC Part 15, Subpart C, 15.209 and RSS-Gen - Issue 5, April 2018 including Amendment 1 (March 2019) and Amendment 2 (February 2021) – Transmitter Spurious Emissions
Automatic Technology Australia Pty. Ltd. - WC-100v1 - DAVE (Industrial/commercial doors/gates operator) – Wall Console
1GHz to 6GHz - Horizontal Antenna Orientation

Job Number: E2506-1852-7

Test Engineer: AZ



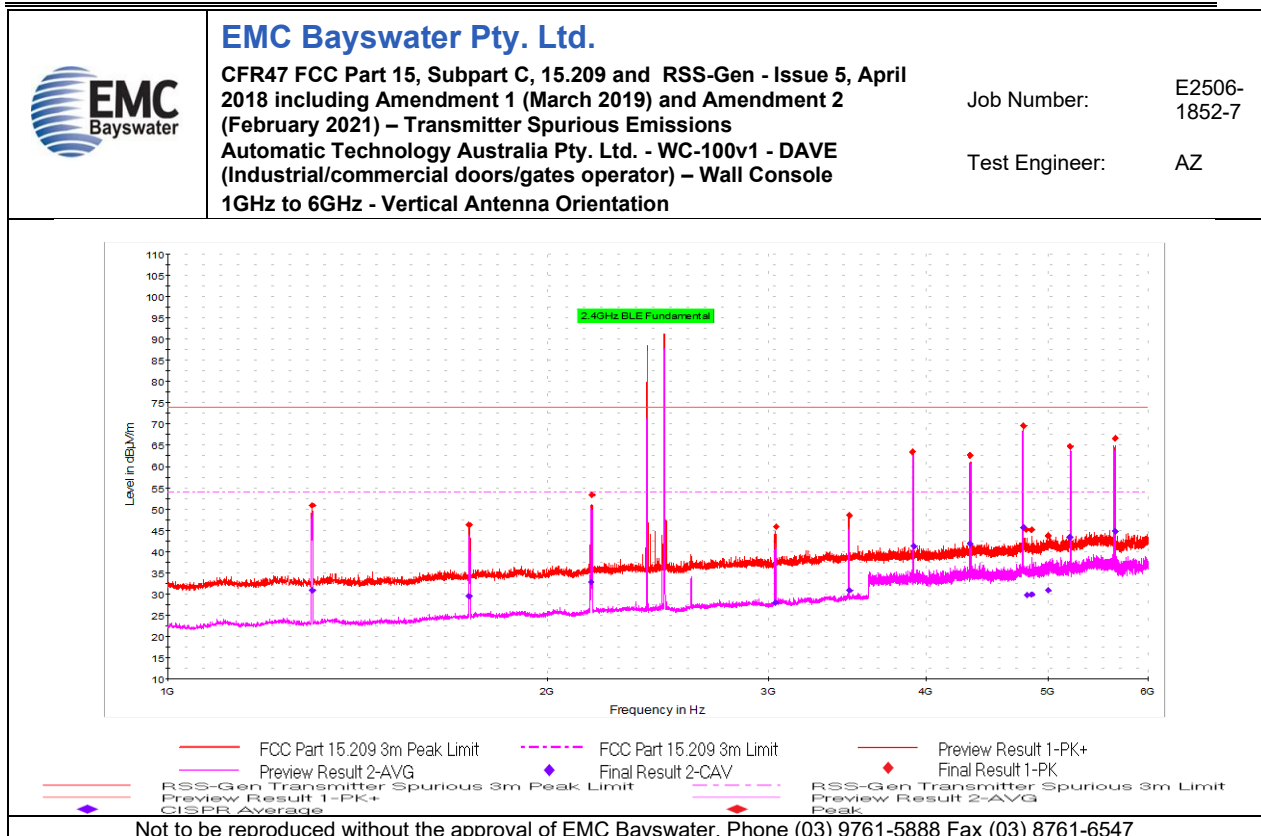
 FCC Part 15.209 3m Peak Limit FCC Part 15.209 3m Limit Preview Result 1-PK+
 Preview Result 2-AVG Final Result 2-CAV Final Result 1-PK
 RSS-Gen Transmitter Spurious 3m Peak Limit RSS-Gen Transmitter Spurious 3m Limit
 Preview Result 1-PK+ Preview Result 2-AVG
 CISRP, Average Peak

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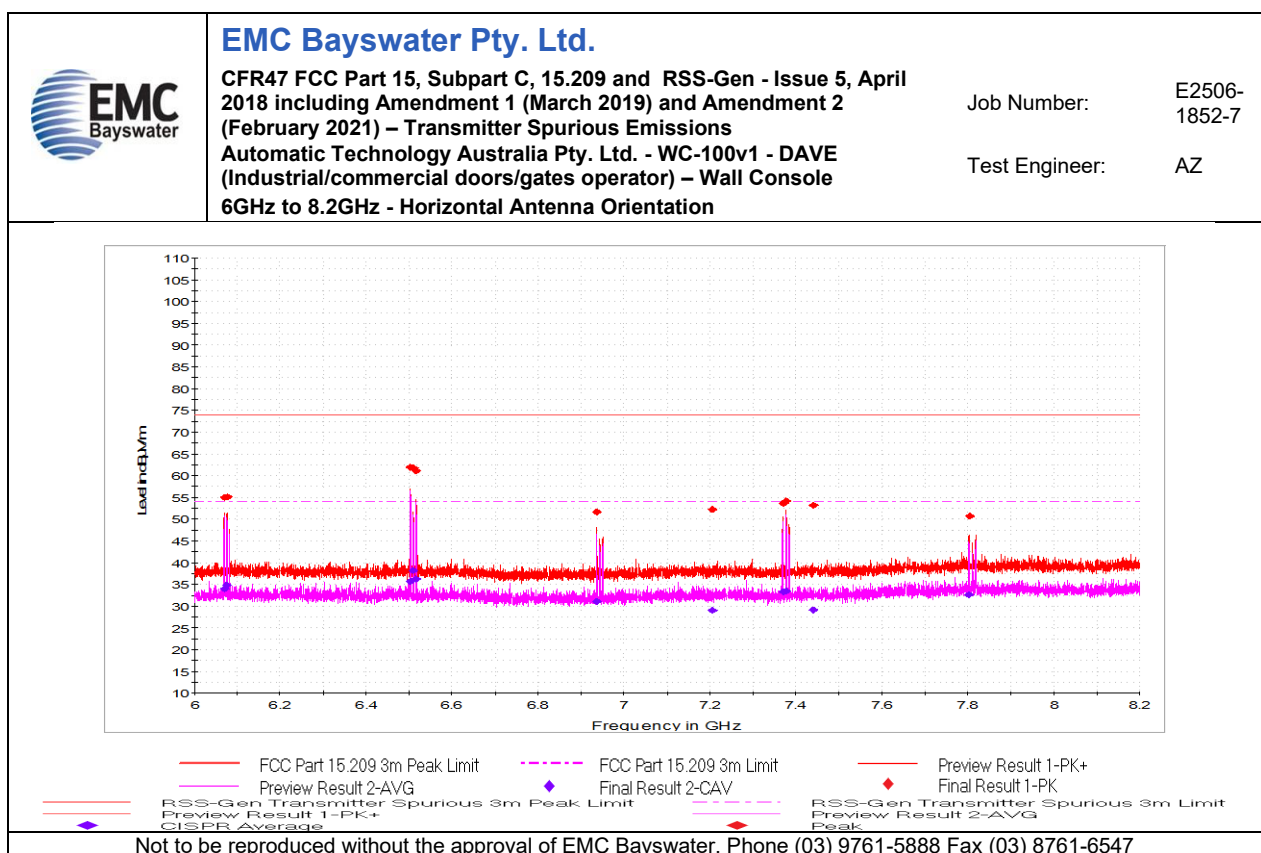
Graph 8



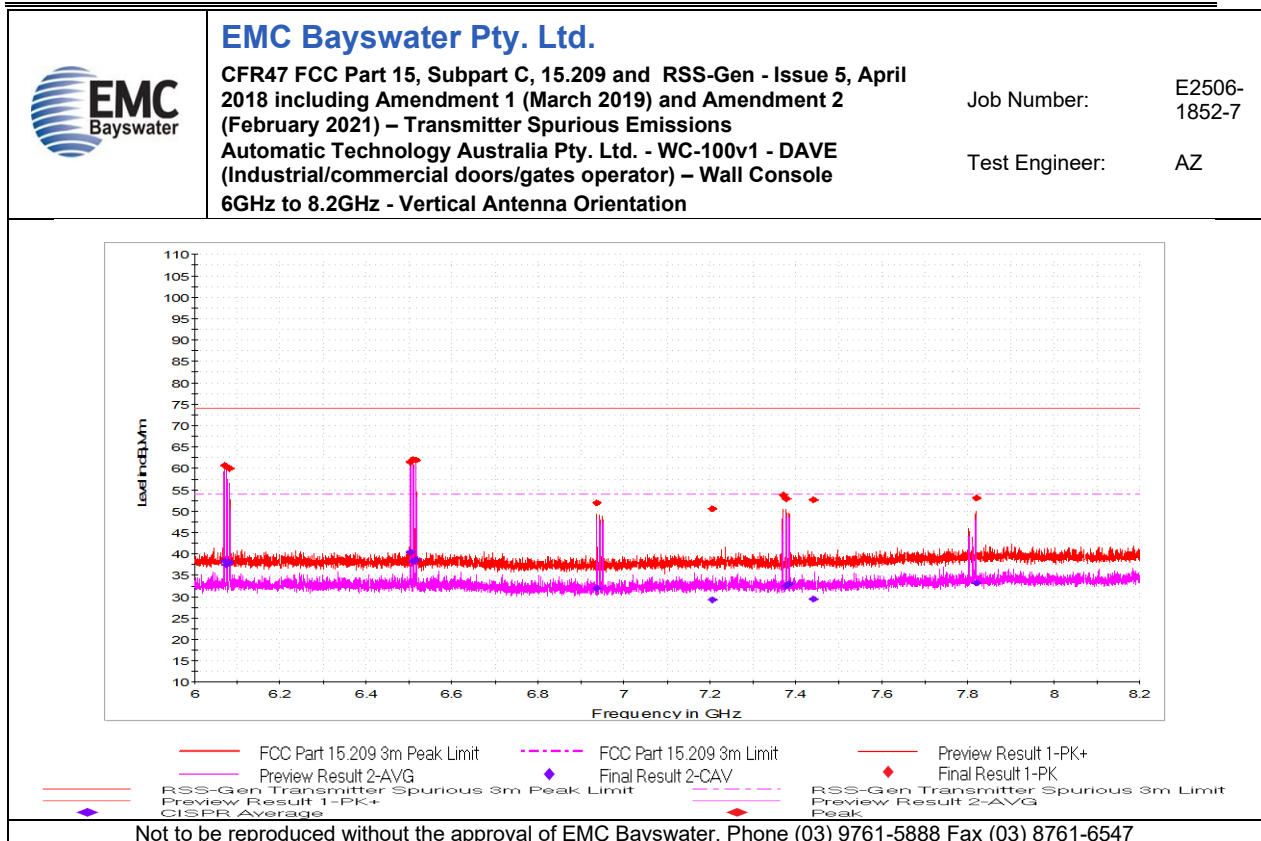
Accreditation number: 18553. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, calibration and inspection reports. This document may not be reproduced except in full without approval from EMC Bayswater, with the exception of the certificate on page 2.



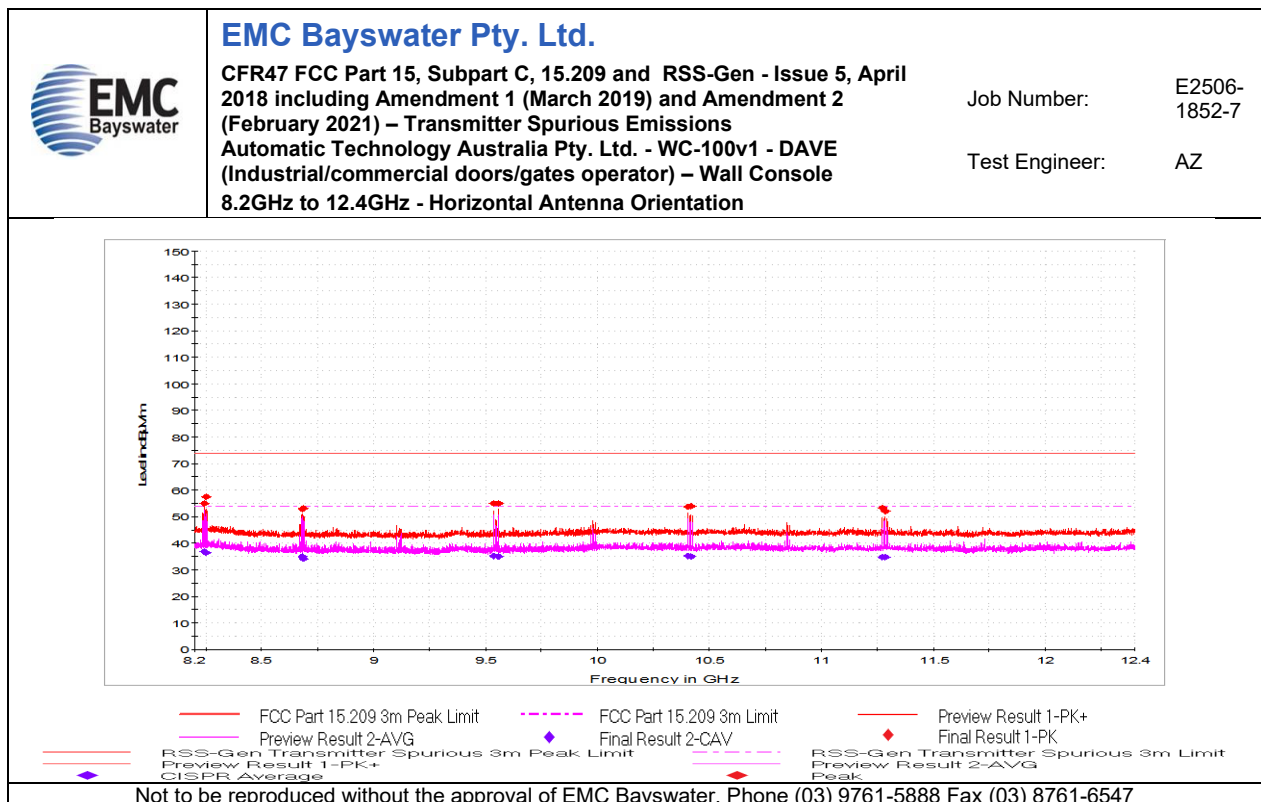
Graph 9



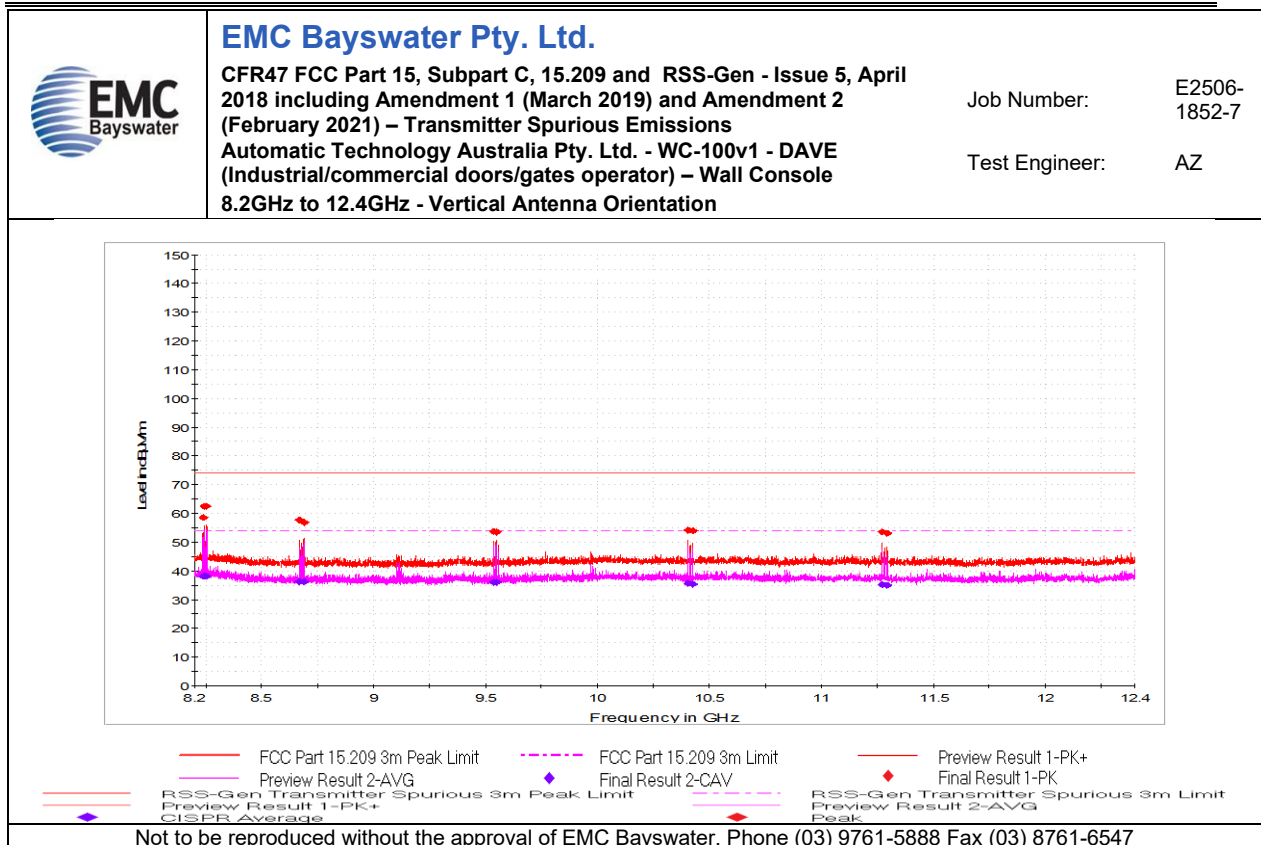
Graph 10



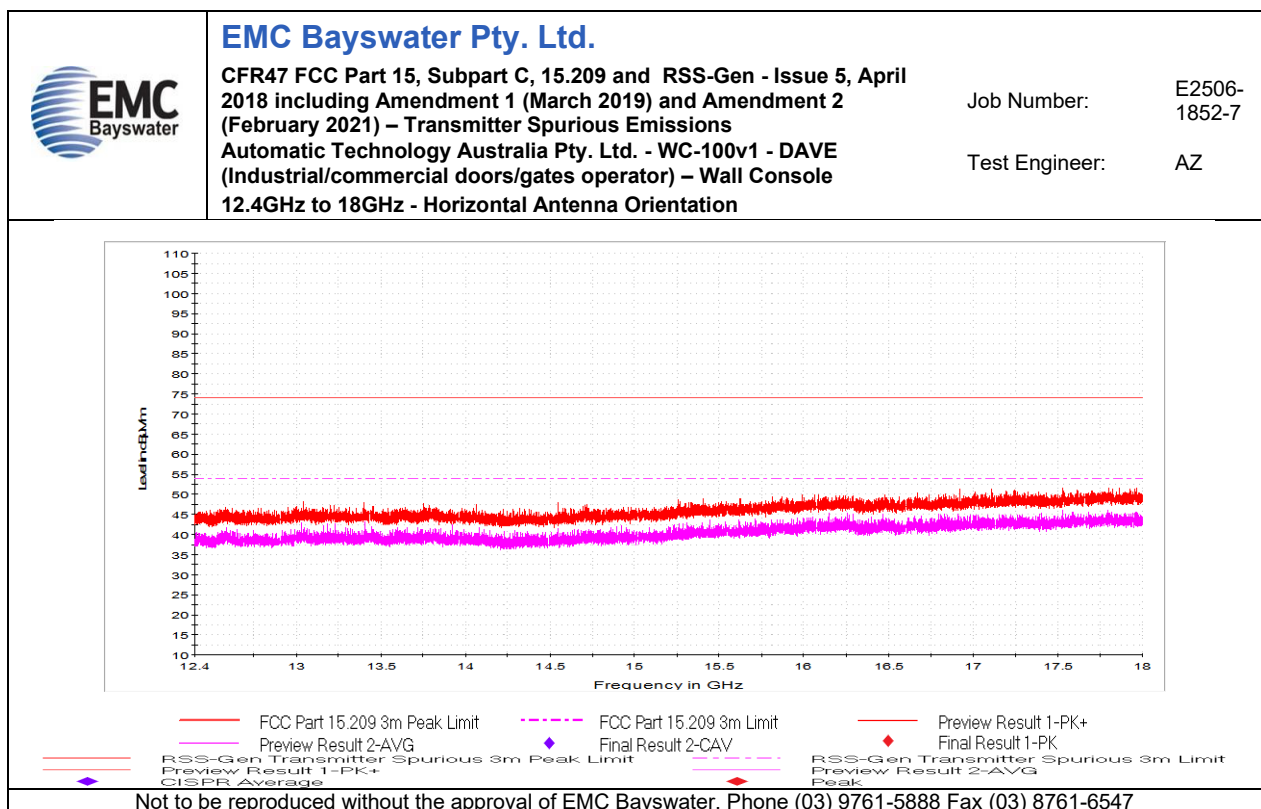
Graph 11



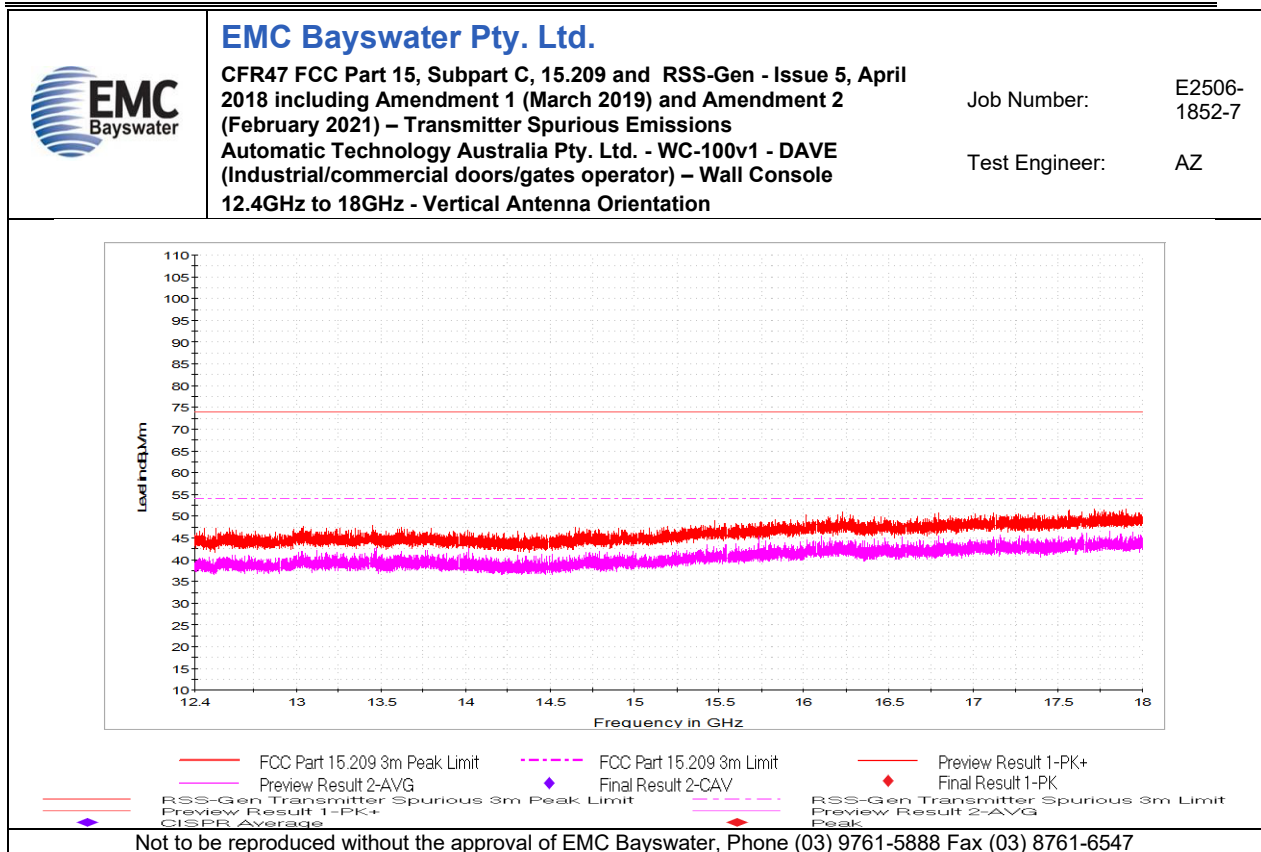
Graph 12



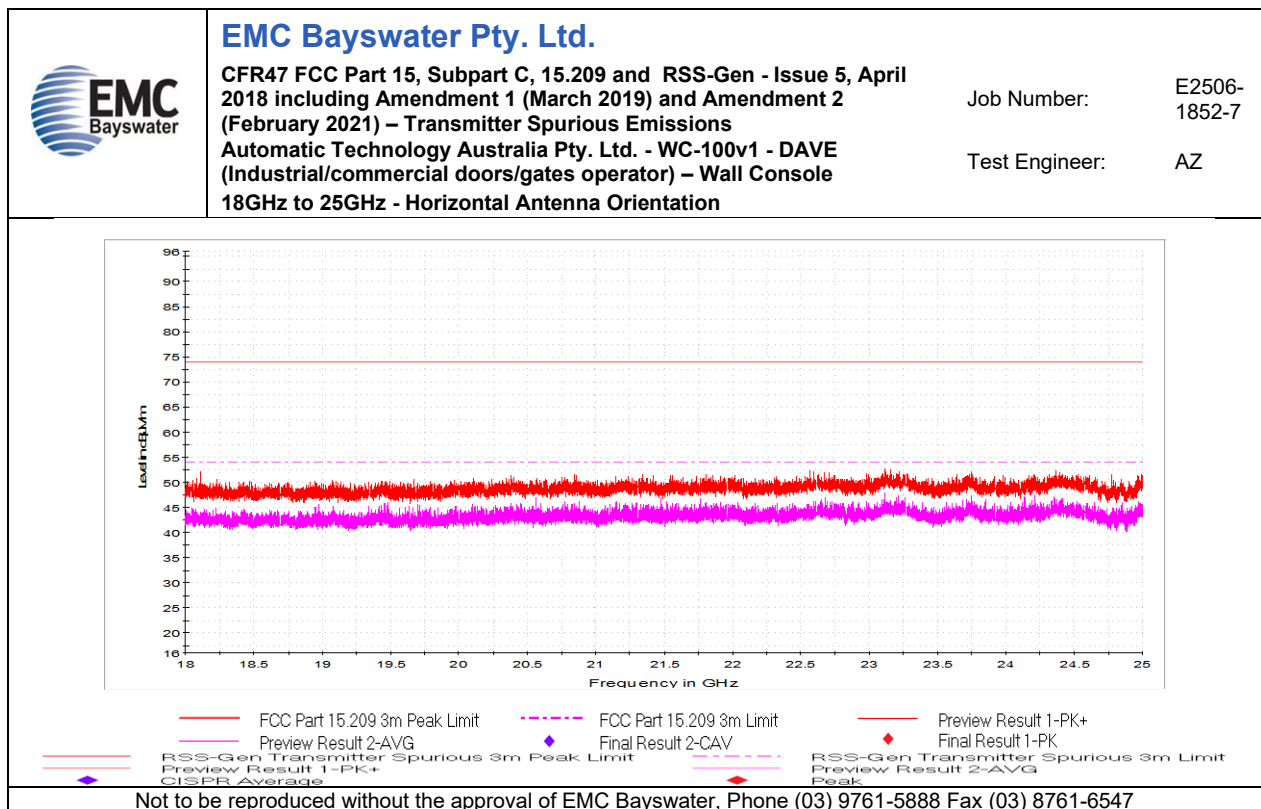
Graph 13



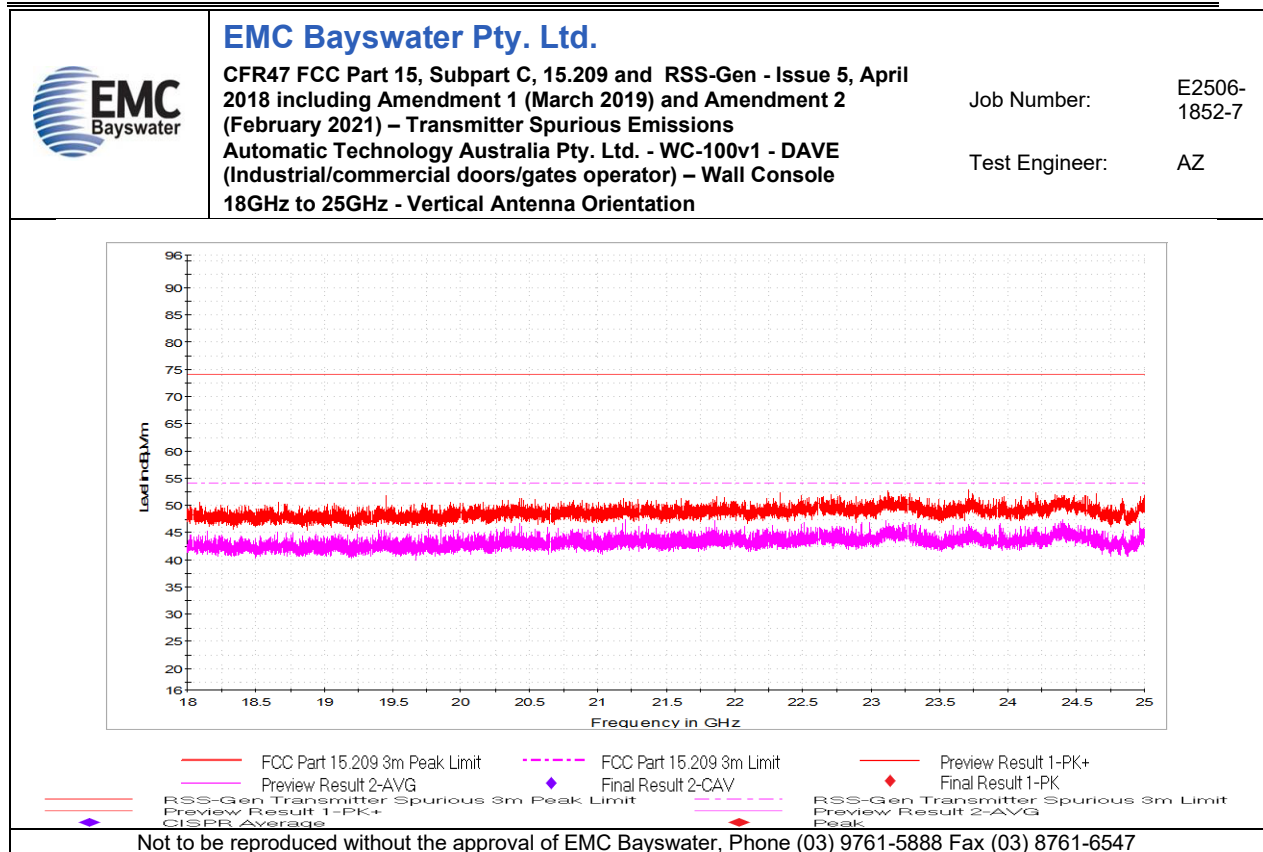
Graph 14



Graph 15



Graph 16



Graph 17