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RADIO REPORT FOR CERTIFICATION
to
47 CFR Part 15 Subpart C (Section 15.247)

FCC ID: 2ANNMTHFT1

Report Number: S190510-1

Tested For: GSK Consumer Healthcare
Device under Test : Theraflu Home Flu with Bluetooth
Model Number: I-FLU-C02
Serial Number: DUT001, DUT002, DUT003, DUT004

Issue Date: 3rd August 2020

REVISION TABLE

Version	Sec/Para Changed	Change Made	Date
1		Initial issue of document	03/08/2020

RADIO REPORT
FOR CERTIFICATION

47 CFR Part 15 Subpart C (Section 15.247)

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RADIO REPORT
FOR CERTIFICATION

Product :	Theraflu Home Flu with Bluetooth
Model Number:	I-FLU-C02
Serial Number:	DUT 001, DUT002, DUT003 and DUT 004
Part Number:	C245
Manufacturer:	Ellume Pty Ltd 57 Didsbury Street, East Brisbane, QLD, 4169, Australia
Tested for:	GSK Consumer Healthcare
Address:	Route de l'Etraz 2, Case Postale, 1279, 1260, Nyon, Switzerland
Phone:	+41 79 842 8307
Contact:	Mr Didier Falconnet
Email:	Didier.m.falconnet@gsk.com
Standards:	**47 CFR Part 15 –** Radio Frequency Devices **Subpart C –** Intentional Radiators **Section 15.247 –** Operation within the bands 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz
Test Dates:	7th August 2019 to 15th August 2019
Issue Date:	3rd August 2020
Attestation:	I hereby certify that the device(s) described herein were tested as described in this report and that the data included is that which was obtained during such testing.
Test Engineer:	**Quinn Wu**
Authorised Signatory:	**Robert Middleton** **Sydney Branch Manager** **EMC Technologies Pty Ltd.**

Issued by: EMC TECHNOLOGIES PTY. LTD.

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RADIO REPORT FOR CERTIFICATION
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47 CFR Part 15 Subpart C (section 15.247)

1.0 INTRODUCTION

Radio tests were performed on Theraflu Home Flu with Bluetooth with Model: I-FLU-C02, in accordance with the applicable requirements of 47 CFR, Part 15 Subpart C – Section 15.247 operating within the band: 2400 MHz to 2483.5 MHz.

1.1 Test Procedure

Radio measurements were performed in accordance with the appropriate procedures of ANSI C63.10: 2013 and KDB 558074 v05r02 - Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247.

The measurement instrumentation conformed to the requirements of ANSI C63.2: 2016.

1.2 Summary of 47 CFR Part 15 Subpart C Results

FCC Part 15 Subpart C	Test Performed	Results
15.203	Antenna requirement	**Complied**
15.204	Antenna information	**Complied**
15.205	Restricted bands of operation	**Complied**
15.207	Disturbance voltage on AC Mains	**Not Applicable** EUT is DC powered
15.247(c)	Spurious radiated emission 15.209 limit applied	**Complied**
15.247 (a2)	6 dB Bandwidth	**Complied: 621.79 kHz**
15.247 (e)	3 kHz Peak Power Density	**Complied**
15.247 (b)	Peak Output Power	**Complied**
15.247 (c)	Antenna Gain > 6 dBi	**Not Applicable** Antenna Gain < 6 dBi
15.247 (d)	Out of Band Emissions	**Complied**
15.247 (f)	Hybrid Systems	**Not Applicable**
15.247 (i)	Radio Frequency Hazard	**Complied**
	99% Occupied bandwidth	**Complied**

1.3 Modifications by EMC Technologies

No modifications were performed on the EUT in order to achieve compliance.

2.0 GENERAL INFORMATION

2.1 EUT (Transmitter) Details

The Equipment Under Test (EUT) was identified as follows:

FCC ID:	2ANNMTHFT1
Manufacturer:	Ellume Pty Ltd
Product :	Theraflu Home Flu with Bluetooth
Model Number:	I-FLU-C02
Serial Number:	DUT001, DUT002, DUT003 and DUT004
Part Number:	C245
Microprocessor:	Nordic n RF52810
Crystal Frequency:	32MHz
Highest Internal Frequency:	2.480GHz
Operating Band:	2.400-2.4835GHz ISM band (Bluetooth Low Energy)
Nominal Power:	0.1W
Antenna type and gain:	Microstrip PCB-printed quarter-wave monopole 0 dBi
Nominal Bandwidth:	80MHz
Modulation	GFSK
Accessories	N/A

2.2 Test Sample Description

An over the counter (at home) in vitro diagnostic test for the detection of an Influenza A and Influenza B infection in humans. The product consists of a single use Analyzer module that connects to a smartphone application via Bluetooth Low Energy. The product also includes a sterile swab and Dropper (collection of a clinical specimen) and an extraction fluid-filled dispenser.

The purpose of the test sample is to simulate actual operating conditions. The test sample is non-infectious and non-hazardous.

The product is intended to be used in a residential setting.

2.3 Test Configuration

Single test configuration with modulation of operating parameters by user. There will be continuous broadcasting at 2.402 GHz, 2.440 GHz and 2.480GHz through the test until the result is obtained.

2.4 Test Facility

2.4.1 General

EMC Technologies Pty Ltd is listed by the FCC as a test laboratory able to perform compliance testing for the public. EMC Technologies is listed as an FCC part 47CFR2.948 test lab and may perform the testing required under Parts 15 and 18 – **FCC Registration Number 90560.**

EMC Technologies Pty Ltd has been accredited as a Conformity Assessment Body (CAB) by Australian Communications and Media Authority (ACMA) under the APECTEL MRA and is designated to perform compliance testing on equipment subject to Declaration of Conformity (DoC) and Certification under Parts 15 and 18 of the FCC Commission's rules – **Designation number AU0002.**

Measurements in this report were performed at EMC Technologies' laboratory in Seven Hills, New South Wales Australia.

2.4.2 NATA Accreditation

NATA is the Australian National laboratory accreditation body and has accredited EMC Technologies to operate to the IEC/ISO17025 requirements. A major requirement for accreditation is the assessment of the company and its personnel as being technically competent in testing to the standards. This requires fully documented test procedures, continued calibration of all equipment to the National Standard at the National Measurements Institute (NMI) and an internal quality system to ISO 9002. NATA has mutual recognition agreements with the National Voluntary Laboratory Accreditation Program (NVLAP) and the American Association for Laboratory Accreditation (A^2LA).

EMC Technologies is accredited in Australia by the National Association of Testing Authorities (NATA). All testing in this report has been conducted in accordance with EMC Technologies' scope of NATA accreditation.

The current full scope of accreditation can be found on the NATA website: www.nata.asn.au

2.5 Test Equipment Calibration

Measurement instrumentation and transducers were calibrated in accordance with the applicable standards by an independent NATA registered laboratory such as Keysight Technologies, NPL or in-house. All equipment calibration is traceable to Australian national standards at the National Measurements Institute.

Equipment Type	Make/Model Serial Number	Asset No:	Due Date DD/MM/YY
EMI Receiver	Model: ESU40 S/N: 100183	R-038	11/04/20
Antenna	Double Ridged Horn Antenna 1-18GHz Model: EMCO 3115 S/N: 3823	A-324	29/01/21
	Sunar RF Motion Model: JB1S/N: A021318	A-430	08/03/21
	ETS Lindgren Horn Antenna Model: 3160-09 S/N: 000066033	A-305	12/06/21
Cables	13m RG214 N-Type, 0.1- 6000MHz	SC-028	16/07/20
	Sucoflex SF104A/2x11N-47/4m S/N: MY709/4A	SC-041	17/01/21
	Huber Suhner Sucoflex 104Z S/N: 503147/4A	SC-043	17/01/21
Preamplifier	HP 8449B Preamplifier Model: HP 8449B S/N: 3008A01113	A-138	10/02/21
Shielded Room/ Test Laboratory	7.23m × 4.83m × 2.45m	N/A	N/A
Indoor Open Area Test Site (iOATS)	RFI Industries S800 S/N: 876, 3 metre site iOATS situated at Seven Hills, NSW	S032	10/02/22

3.0 TEST RESULTS

3.1 §15.203 Antenna Requirement

Requirement:
No antenna other than that furnished by the responsible party shall be used with the device.

Results:
The antenna was integral to the device ensuring that it could not be replaced.
EUT was fully enclosed.

Conclusion: Complied

3.2 §15.204 Antenna Information

Requirement:
Provide information for every antenna proposed for the use with the EUT.

Results:

a)	Antenna type:	Integral omnidirectional
b)	Manufacture and model No.:	NA
c)	Gain with reference to an isotropic radiator:	0 dBi

Conclusion: Complied

3.3 §15.207 Disturbance Voltage on AC Mains

Testing on AC mains not applicable as the EUT is DC battery powered.

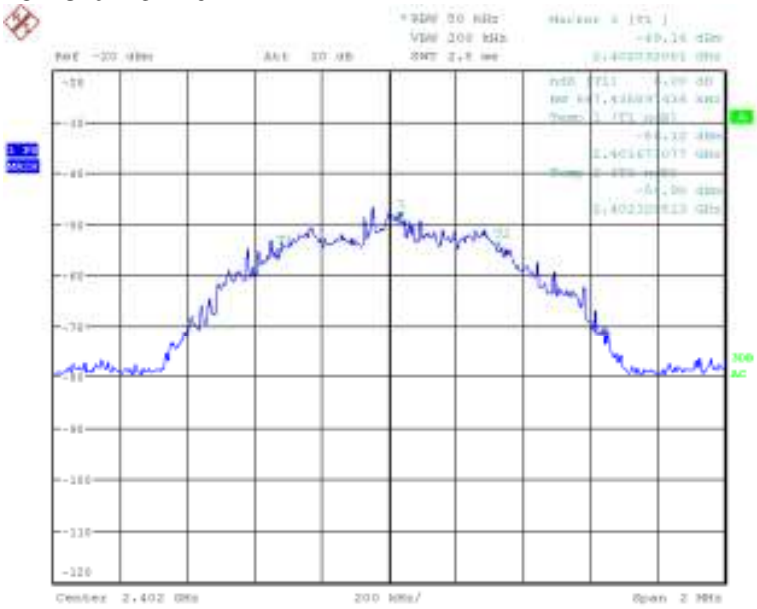
3.4 §15.247(a2) 6 dB Bandwidth

Requirement:
Systems using digital modulation techniques may operate in the 902-928MHz, 2400- 2483.5MHz, and 5725-5850MHz bands. The minimum 6dB bandwidth shall be at least 500kHz.

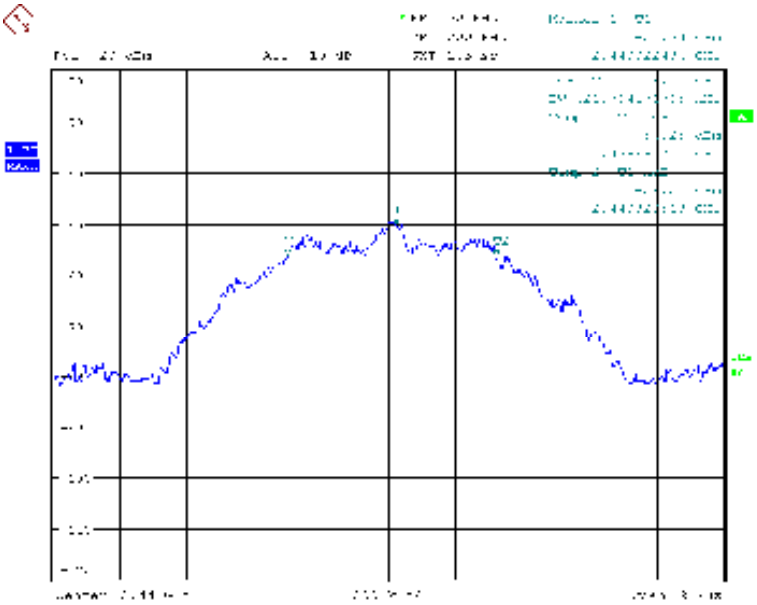
Results:
6 dB Emission Bandwidth:

Centre Frequency [MHz]	6 dB Bandwidth [kHz]
2402	647.44
2440	621.79
2480	621.79

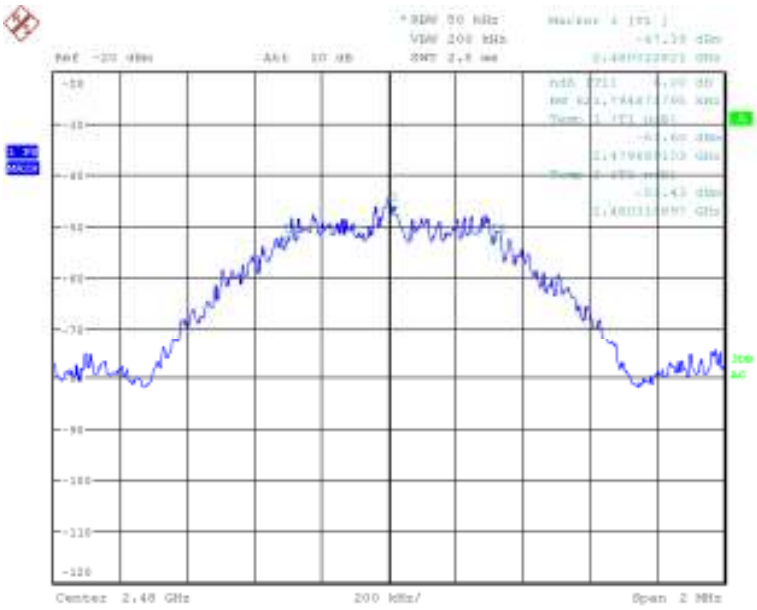
Low Channel 2402 MHz



Middle Channel 2440 MHz



High Channel 2480 MHz



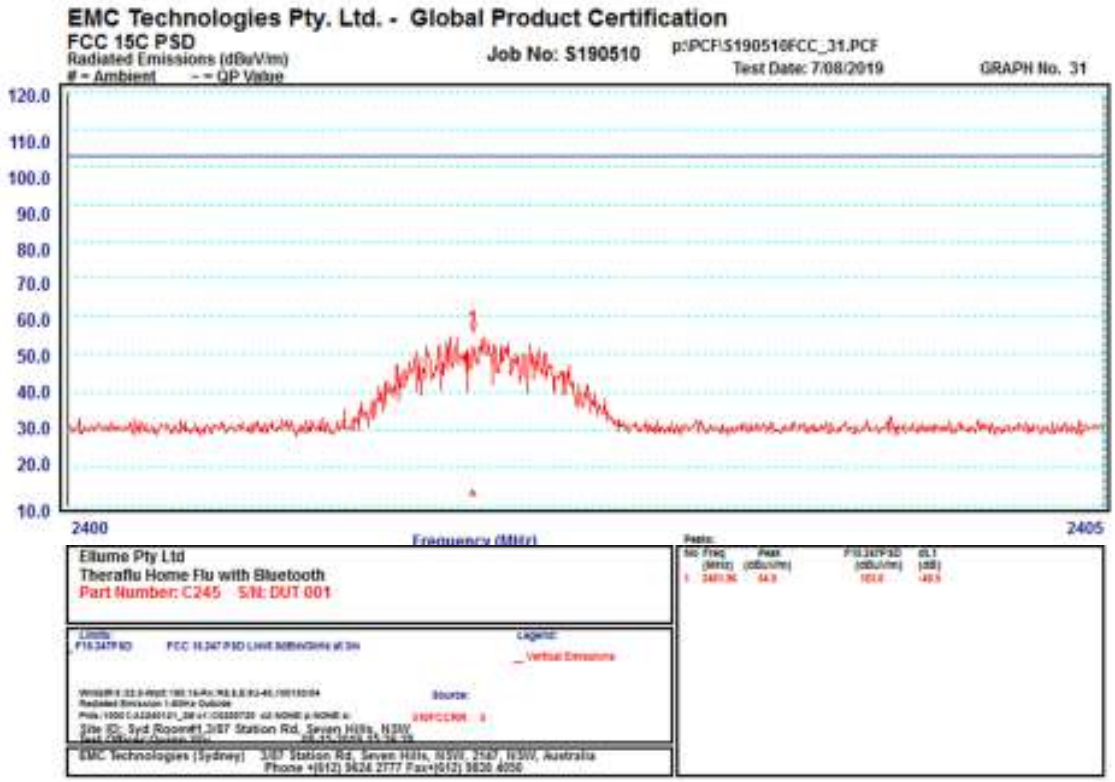
Conclusion: Complied

3.5 §15.247(e) 3 kHz Peak Power Density

Requirement:
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.
Radiated Measurement were performed at a distance of 3 metres.
Limit of 8 dBm/3kHz has been converted to 103 dBuV/m per 3kHz at 3 metres distance.

Results:

Graph 31 **Low Channel** **Vertical Polarisation** **2400 to 2405MHz**



Peak	Frequency [MHz]	Polarisation	Maximum Radiated Peak Value Measured (dBuV/m)	Limit (dBuV/m)	Margin [± dB]
1	2401.96	Vertical	54.5	103	-48.5

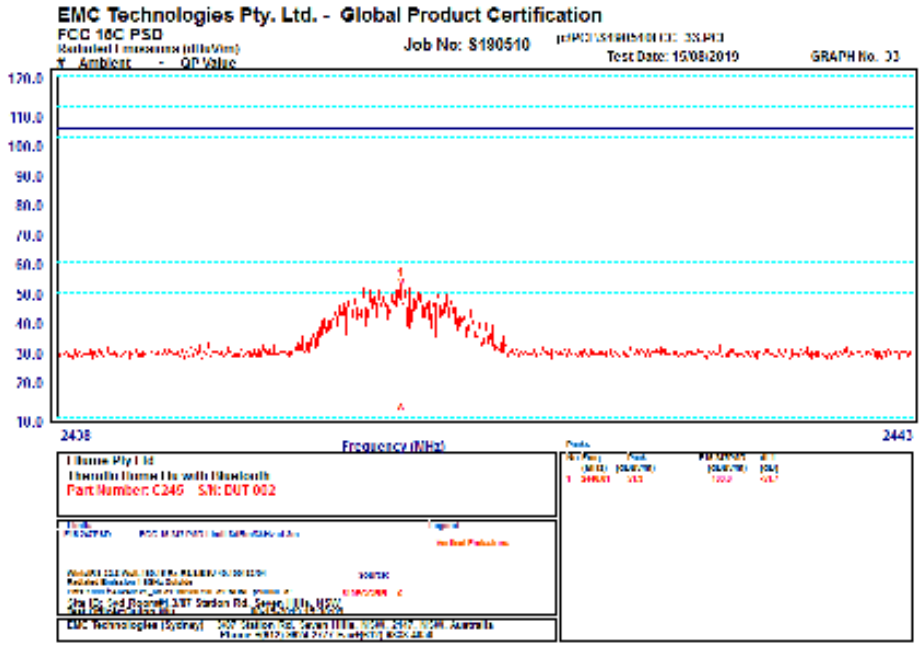
All measured frequencies complied with the Limit by a margin of greater than 10dB.

Graph 32 Low Channel Horizontal Polarisation 2400 to 2405MHz

Peak	Frequency [MHz]	Polarisation	Maximum Radiated Peak Value Measured (dBuV/m)	Limit (dBuV/m)	Margin [± dB]
1	2401.96	Horizontal	68.5	103	-34.5

All measured frequencies complied with the Limit by a margin of greater than 10dB.

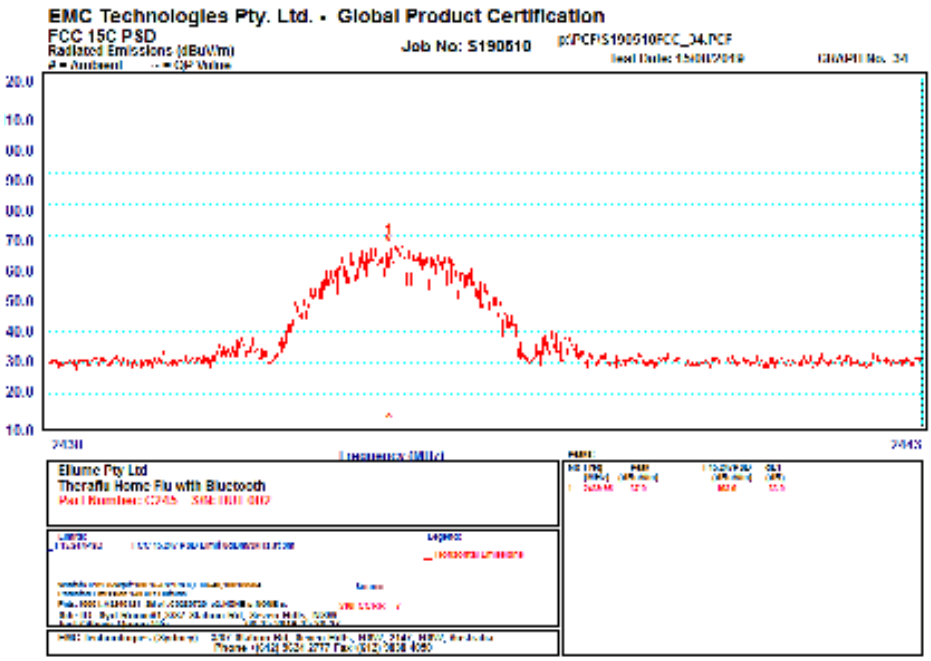
Graph 33 Middle Channel Vertical Polarisation 2438 to 2443MHz



Peak	Frequency [MHz]	Polarisation	Maximum Radiated Peak Value Measured (dBuV/m)	Limit (dBuV/m)	Margin [± dB]
1	2440.01	Vertical	51.3	103	-51.7

All measured frequencies complied with the Limit by a margin of greater than 10dB.

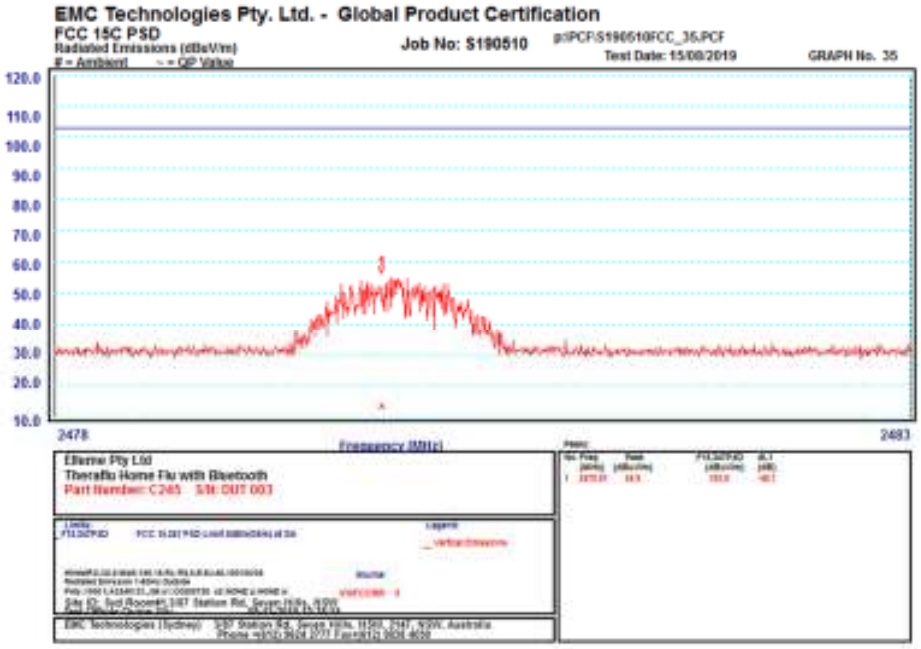
Graph 34 Middle Channel Horizontal Polarisation 2438 to 2443MHz



Peak	Frequency [MHz]	Polarisation	Maximum Radiated Peak Value Measured (dBuV/m)	Limit (dBuV/m)	Margin [± dB]
1	2439.95	Horizontal	67.0	103	-36.0

All measured frequencies complied with the Limit by a margin of greater than 10dB.

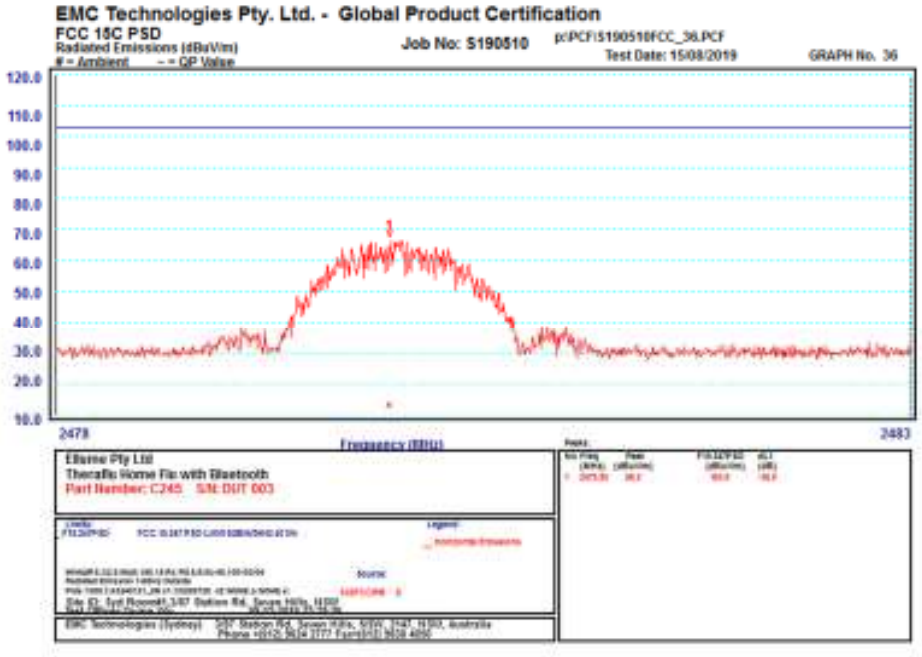
Graph 35 High Channel Vertical Polarisation 2478 to 2483MHz



Peak	Frequency [MHz]	Polarisation	Maximum Radiated Peak Value Measured (dBuV/m)	Limit (dBuV/m)	Margin [± dB]
1	2479.91	Vertical	54.9	103	-48.1

All measured frequencies complied with the Limit by a margin of greater than 10dB.

Graph 36 High Channel Horizontal Polarisation 2478 to 2483MHz



Peak	Frequency [MHz]	Polarisation	Maximum Radiated Peak Value Measured (dBuV/m)	Limit (dBuV/m)	Margin [± dB]
1	2479.95	Horizontal	66.2	103	-36.8

All measured frequencies complied with the Limit by a margin of greater than 10dB.

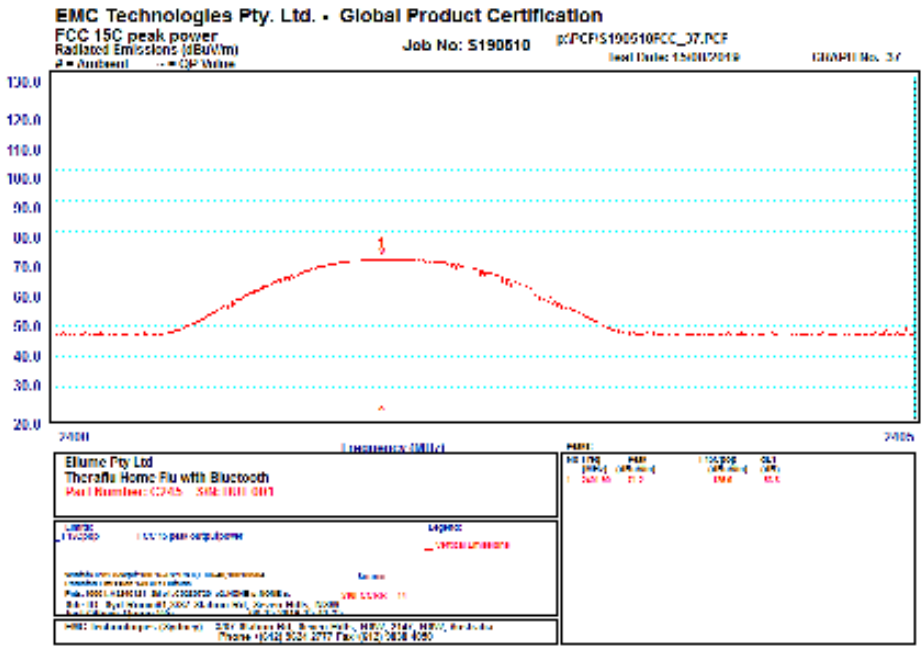
3.6 §15.247(b) Peak Output power

Requirement:
For system using digital modulation in the 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz Bands: 1 Watt.

Radiated Measurement were performed at a distance of 3 metres.
Limit of 1 Watt has been converted to 125 dBuV/m at 3 metres distance.

Results:

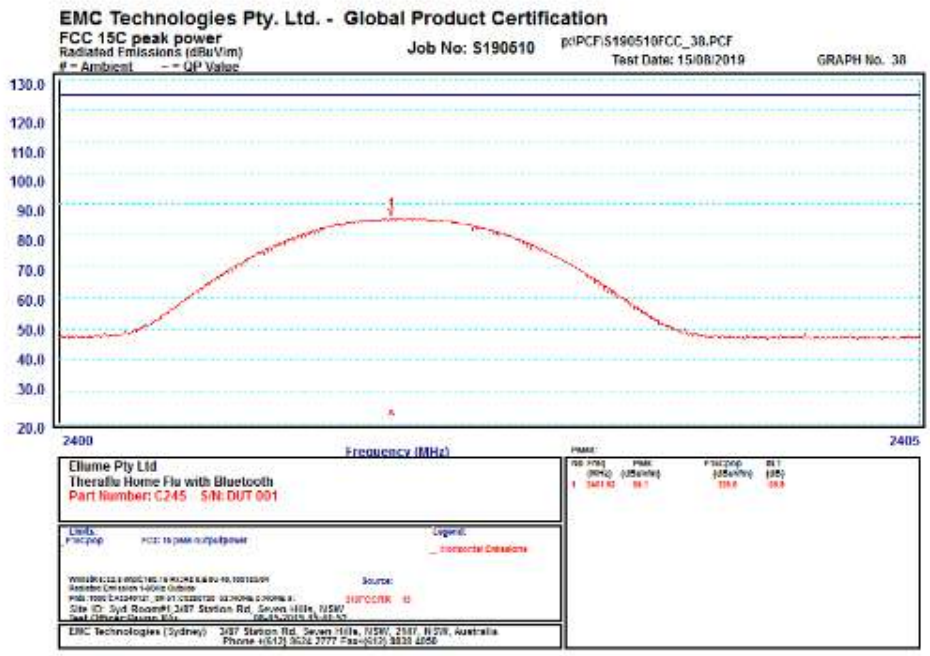
Graph 37 Low Channel Vertical Polarisation 2400 to 2405MHz



Peak	Frequency [MHz]	Polarisation	Maximum Radiated Peak Value Measured (dBuV/m)	Limit (dBuV/m)	Margin [± dB]
1	2401.90	Vertical	71.2	125.0	-53.8

All measured frequencies complied with the Limit by a margin of greater than 10dB.

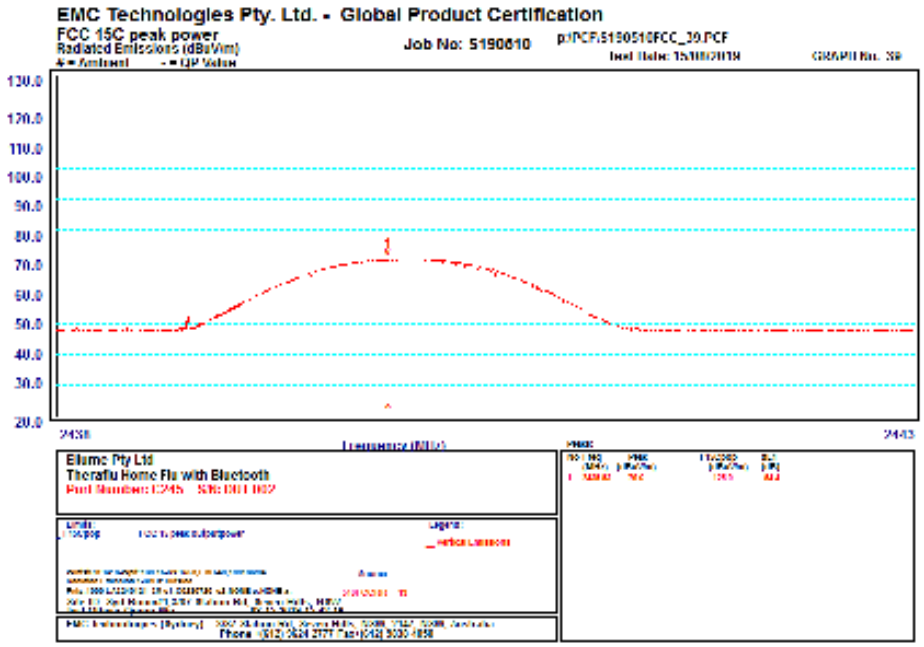
Graph 38 Low Channel Horizontal Polarisation 2400 to 2405MHz



Peak	Frequency [MHz]	Polarisation	Maximum Radiated Peak Value Measured (dBuV/m)	Limit (dBuV/m)	Margin [± dB]
1	2401.93	Horizontal	85.1	125.0	-39.9

All measured frequencies complied with the Limit by a margin of greater than 10dB.

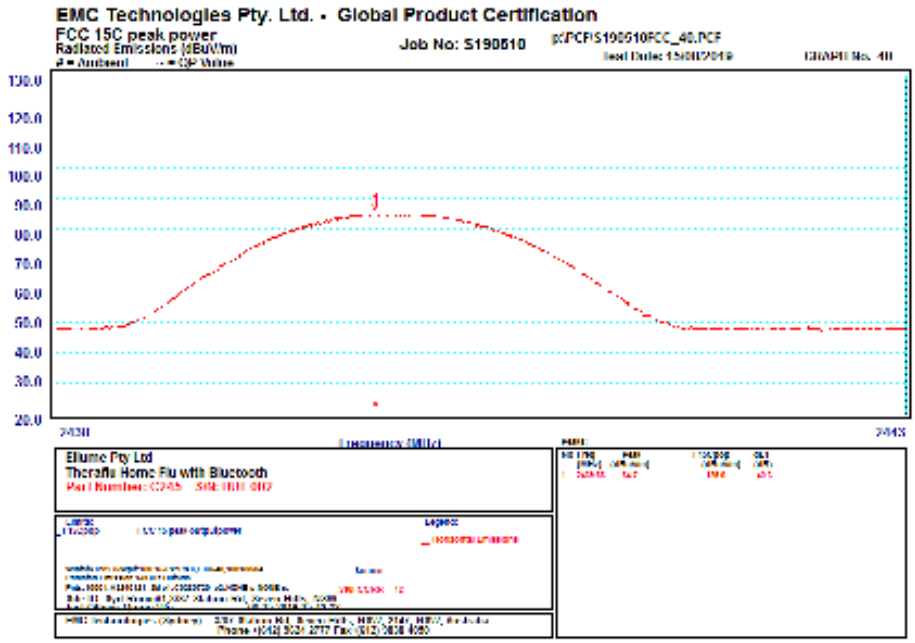
Graph 39 Middle Channel Vertical Polarisation 2483 to 2443MHz



Peak	Frequency [MHz]	Polarisation	Maximum Radiated Peak Value Measured (dBuV/m)	Limit (dBuV/m)	Margin [± dB]
1	2439.93	Vertical	70.6	125.0	-54.4

All measured frequencies complied with the Limit by a margin of greater than 10dB.

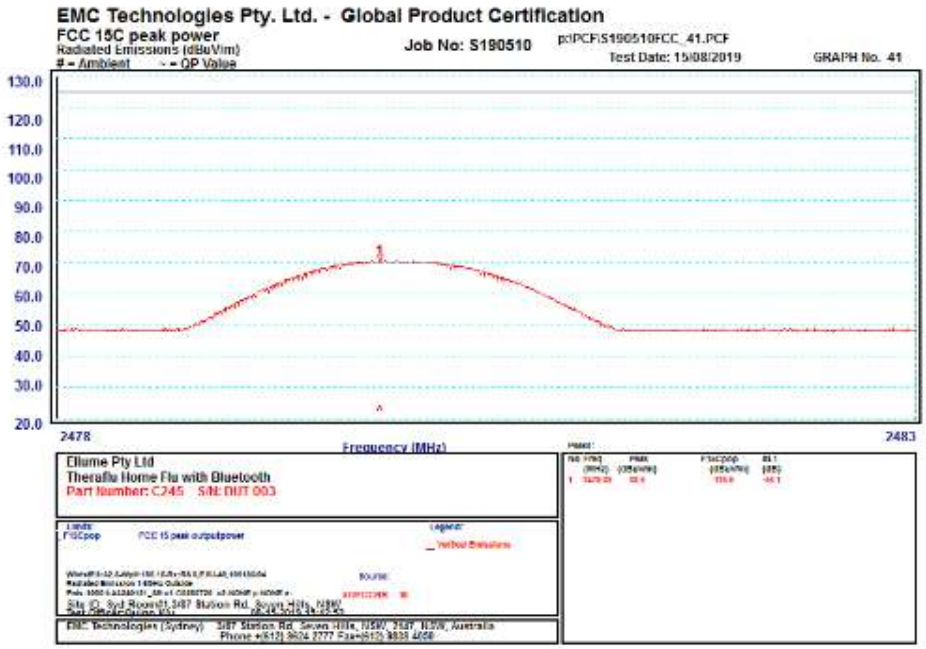
Graph 40 Middle Channel Horizontal Polarisation 2438 to 2443MHz



Peak	Frequency [MHz]	Polarisation	Maximum Radiated Peak Value Measured (dBuV/m)	Limit (dBuV/m)	Margin [± dB]
1	2439.88	Horizontal	84.7	125.0	-40.3

All measured frequencies complied with the limit by a margin of greater than 10dB.

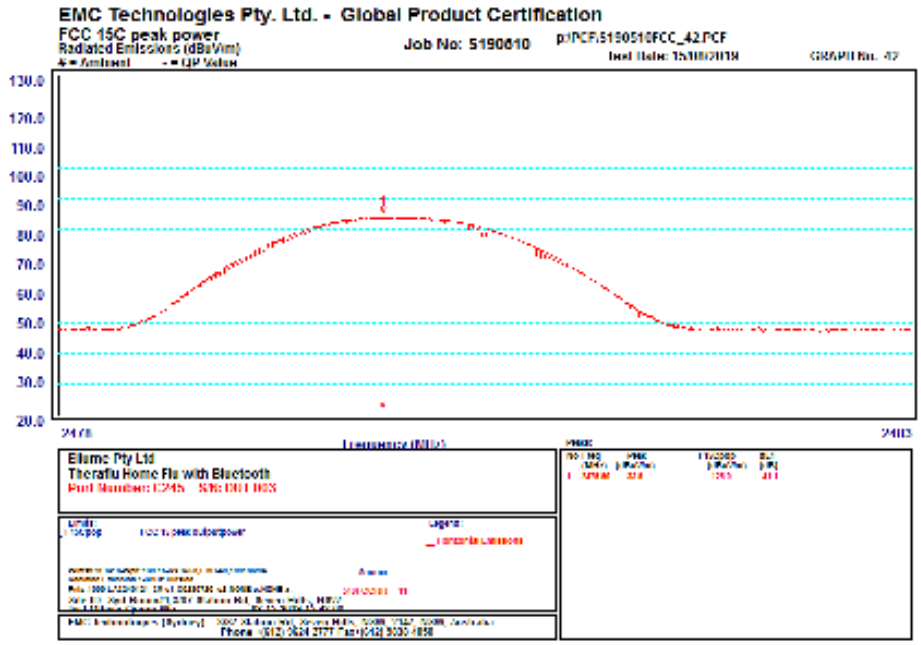
Graph 41 High Channel Vertical Polarisation 2478 to 2483MHz



Peak	Frequency [MHz]	Polarisation	Maximum Radiated Peak Value Measured (dBuV/m)	Limit (dBuV/m)	Margin [± dB]
1	2479.88	Vertical	68.9	125.0	-56.1

All measured frequencies complied with the limit by a margin of greater than 10dB.

Graph 42 High Channel Horizontal Polarisation 2478 to 2483MHz



Peak	Frequency [MHz]	Polarisation	Maximum Radiated Peak Value Measured (dBuV/m)	Limit (dBuV/m)	Margin [± dB]
1	2479.90	Horizontal	83.9	125.0	-41.1

All measured frequencies complied with the Limit by a margin of greater than 10dB.

3.7 §15.247(d) Spurious Radiated Emission

Requirement:
In any 100KHz bandwidth outside the frequency band at least 20dB below the highest level of the desired power. In addition, radiated emissions which fall in the restricted bands, as defined in section 15.205(a), must also comply with the radiated emission limits specified in section 15.209(a)

Limits of 15.209(a) was applied cross the applicable spectrum as that is the most stringent requirement.

Radiated spurious emission measurements were performed in a semi-anechoic chamber compliant with ANSI C63.4: 2014.

The test frequency range was sub-divided into smaller bands with sufficient frequency resolution to permit reliable display and identification of emissions.

Frequency range [MHz]	Measurement Bandwidth [kHz]	Measurement Distance [m]	Antenna
30 to 1000	120	3	Biconilog antenna
1000 to 18 000	1000	3	Broad band horn

The sample was slowly rotated with the spectrum analyser set to Max-Hold. This was performed for at least two antenna heights. When an emission was located, it was positively identified and its maximum level found by rotating the automated turntable and by varying the antenna height. Devices design for a fixed position were tested in that position, portable devices were prescanned in three orthogonal orientations to decide maximum emission direction.

The measurement data for each frequency range was corrected for cable losses, antenna factors and preamplifier gain. This process was performed for both horizontal and vertical antenna polarisations.

Calculation of field strength

The field strength was calculated automatically by software using pre-stored calibration data. The method of calculation is shown below:

E = V + AF - G + L

Where:
E = Radiated Field Strength in dBµV/m.
V = EMI Receiver Voltage in dBµV. (measured value)
AF = Antenna Factor in dB. (stored as a data array)
G = Preamplifier Gain in dB. (stored as a data array)
L = Cable loss in dB. (stored as a data array of Insertion Loss versus frequency)

3.7.2 Frequency Band: 30 - 1000 MHz

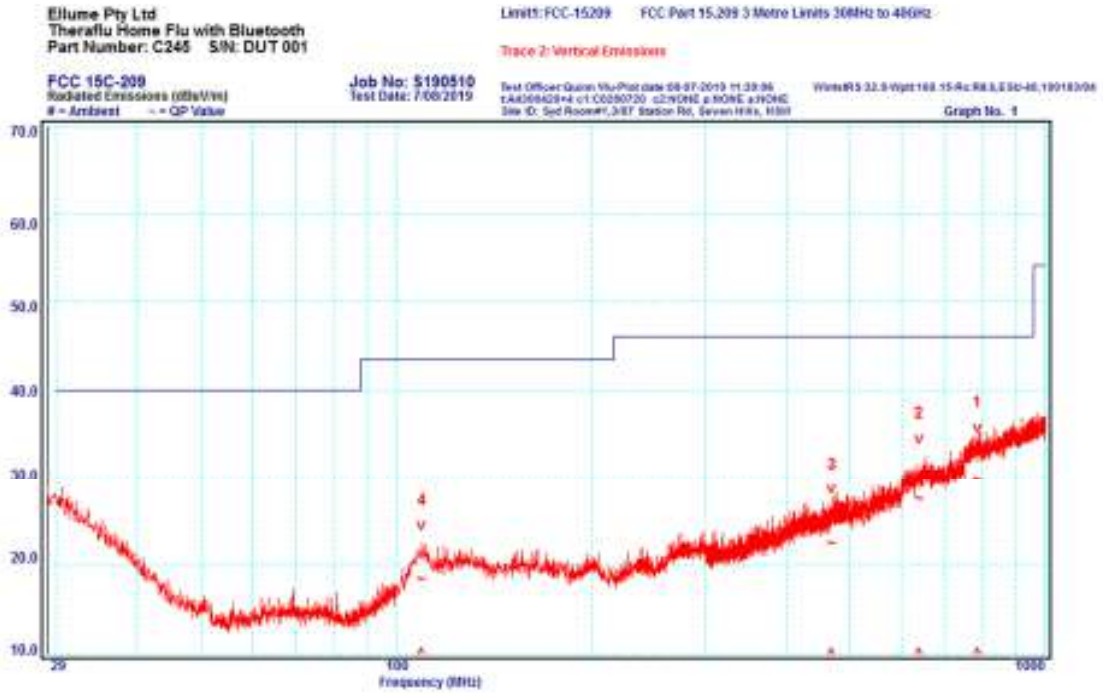
Measurements were made at a distance of 3 metres.

The §15.209 limit applied

Test Result: All measured frequencies complied with the Limit by a margin of greater than 10dB.

Low Channel

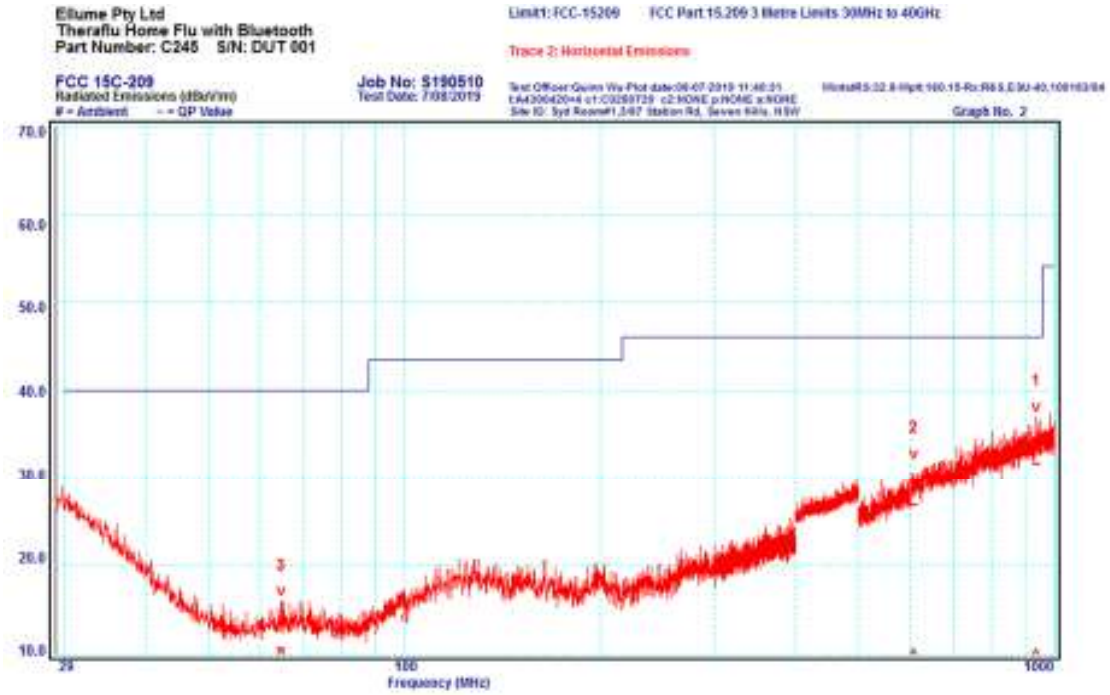
Graph 1 **Vertical Polarisation** **29 to 1000MHz**



Peak	Frequency [MHz]	Polarisation	Quasi-Peak Value [dBµV/m]	Limit [dBµV/m]	Margin [± dB]
1	785.31	Vertical	30.0	46.0	-16.0
2	638.95	Vertical	27.5	46.0	-18.5
3	468.78	Vertical	22.5	46.0	-23.5
4	109.39	Vertical	18.5	43.5	-25.0

All measured frequencies complied with the limit by a margin of greater than 10dB.

Graph 2 **Horizontal Polarisation** **29 to 1000MHz**

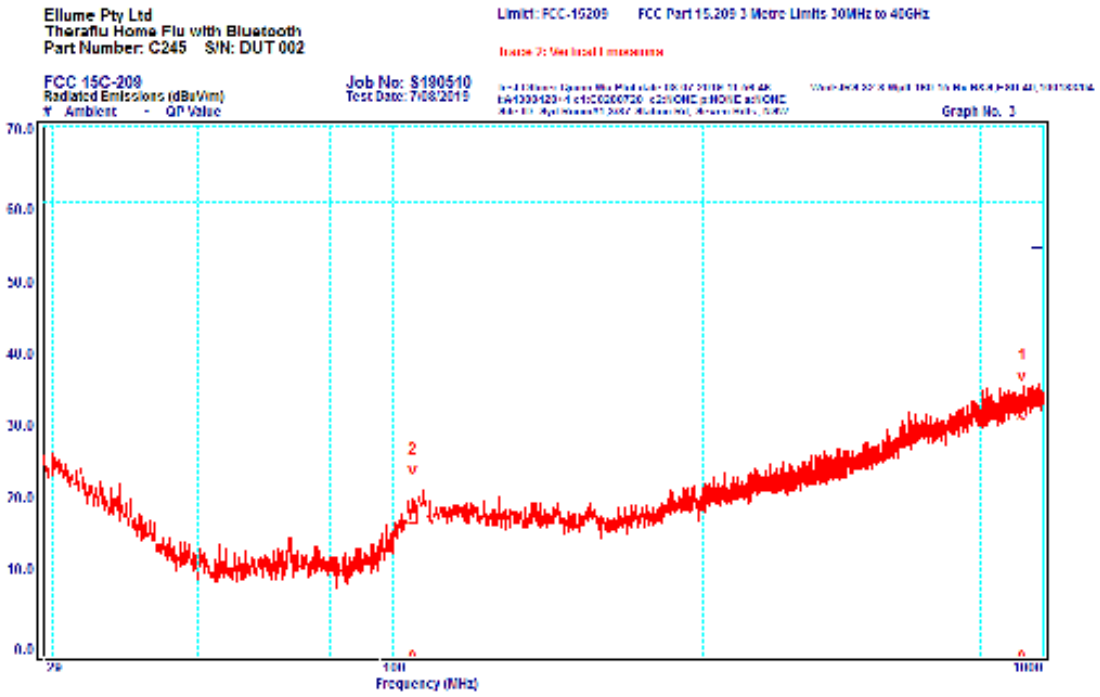


Peak	Frequency [MHz]	Polarisation	Quasi-Peak [dBµV/m]	Limit [dBµV/m]	Margin [± dB]
1	937.15	Horizontal	31.6	46.0	-14.4
2	607.74	Horizontal	26.7	46.0	-19.3
3	64.56	Horizontal	10.6	40.0	-29.4

All measured frequencies complied with the limit by a margin of greater than 10dB.

Middle Channel

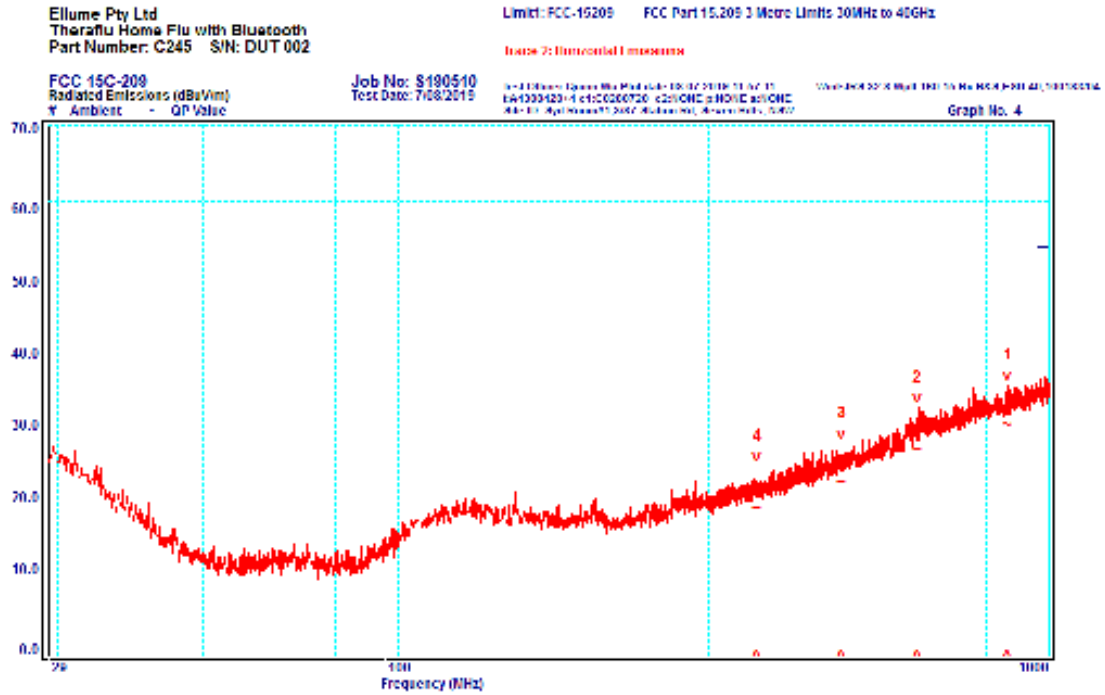
Graph 3 Vertical Polarisation 29 to 1000MHz



Peak	Frequency [MHz]	Polarisation	Quasi-Peak Value [dBµV/m]	Limit [dBµV/m]	Margin [± dB]
1	928.47	Vertical	31.4	46.0	-14.6
2	107.23	Vertical	17.4	43.5	-26.1

All measured frequencies complied with the limit by a margin of greater than 10dB.

Graph 4 **Horizontal Polarisation** **29 to 1000MHz**

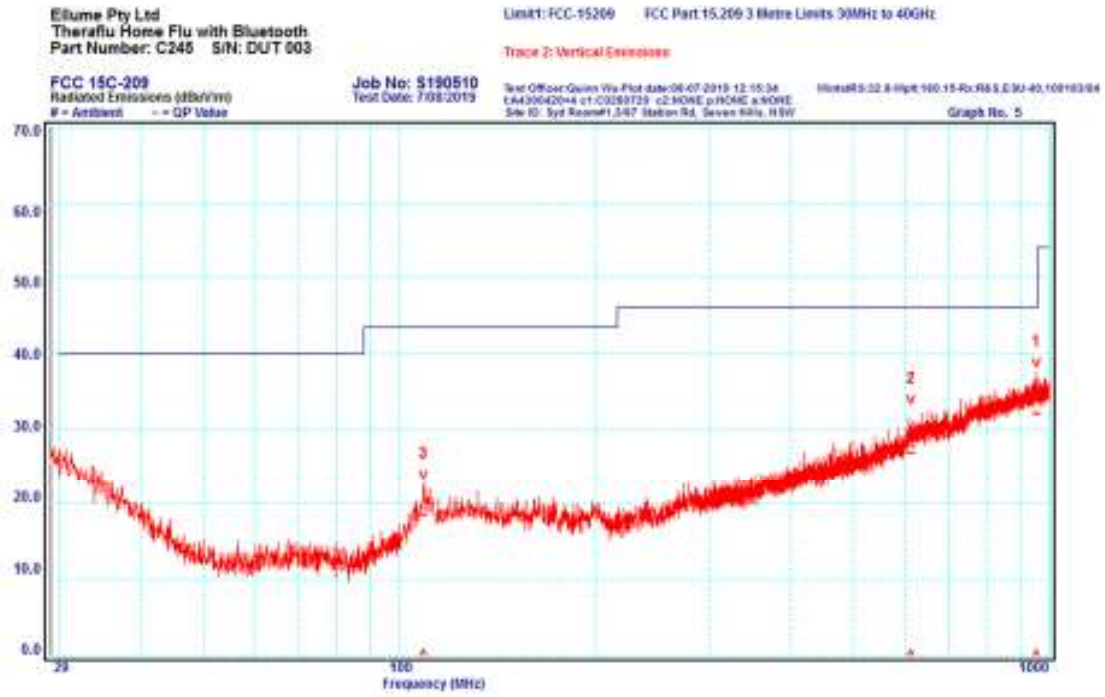


Peak	Frequency [MHz]	Polarisation	Quasi-Peak [dBµV/m]	Limit [dBµV/m]	Margin [± dB]
1	862.35	Horizontal	30.5	46.0	-15.5
2	626.31	Horizontal	27.1	46.0	-18.9
3	479.60	Horizontal	22.9	46.0	-23.1
4	355.35	Horizontal	19.4	46.0	-26.6

All measured frequencies complied with the limit by a margin of greater than 10dB.

High Channel

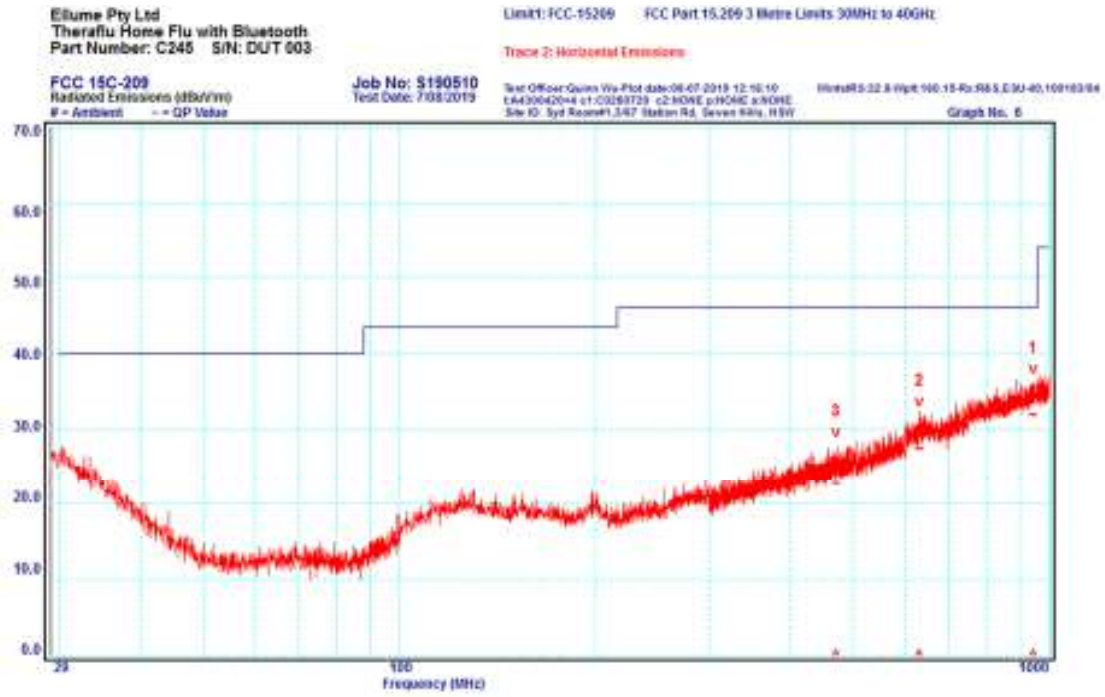
Graph 5 Vertical Polarisation 29 to 1000MHz



Peak	Frequency [MHz]	Polarisation	Quasi-Peak [dBµV/m]	Limit [dBµV/m]	Margin [± dB]
1	956.07	Vertical	32.0	46.0	-14.0
2	612.69	Vertical	26.9	46.0	-19.1
3	108.88	Vertical	18.3	43.5	-25.2

All measured frequencies complied with the limit by a margin of greater than 10dB.

Graph 6 **Horizontal Polarisation** **29 to 1000MHz**



Peak	Frequency [MHz]	Polarisation	Quasi-Peak [dBµV/m]	Limit [dBµV/m]	Margin [± dB]
1	945.34	Horizontal	31.9	46.0	-14.1
2	630.82	Horizontal	27.4	46.0	-18.6
3	469.58	Horizontal	22.6	46.0	-23.4

All measured frequencies complied with the Limit by a margin of greater than 10dB.

3.7.2 Frequency Band: 1000 – 18000 MHz

Measurements from 1 to 18 GHz were made at a distance of 3 metres.

The §15.209(a) limits applied.

Average Measurement

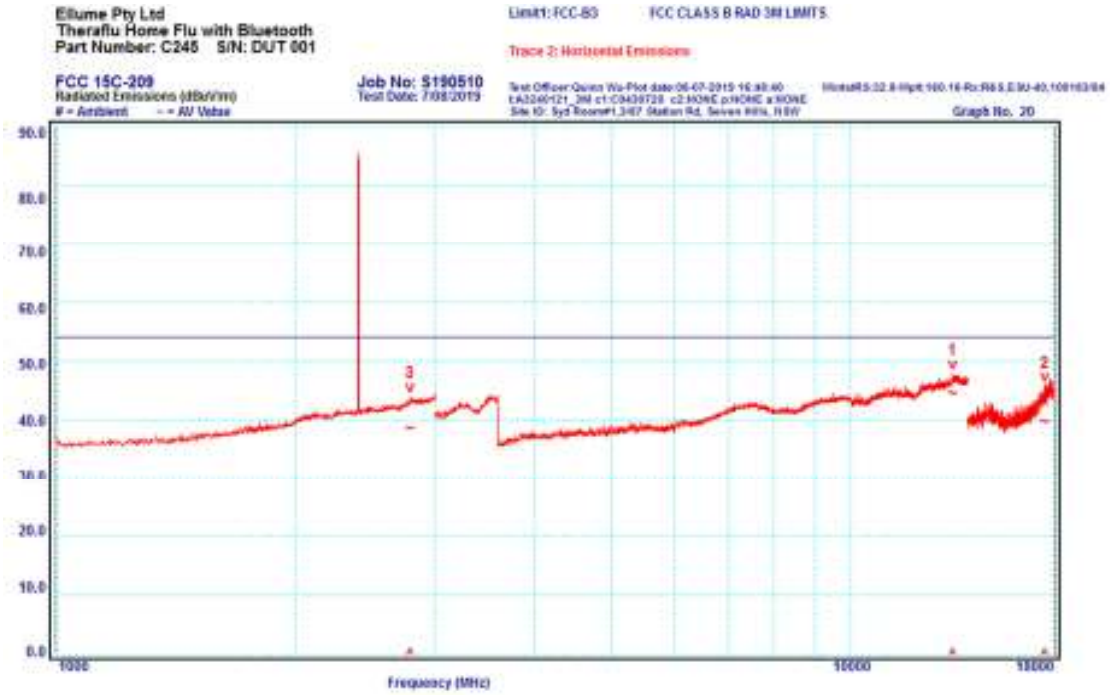
Low Channel

Graph 19 **Vertical Polarisation** **1000 to 18000 MHz**

Peak	Frequency [MHz]	Polarisation	Average [dBµV/m]	Limit [dBµV/m]	Margin [± dB]
1	11542.92	Vertical	42.7	54.0	-11.3
2	15928.95	Vertical	35.4	54.0	-18.6
3	1793.51	Vertical	33.1	54.0	-20.9

All measured frequencies complied with the average limit by a margin of greater than 10dB.

Graph 20 **Horizontal Polarisation** **1000 to 18000 MHz**

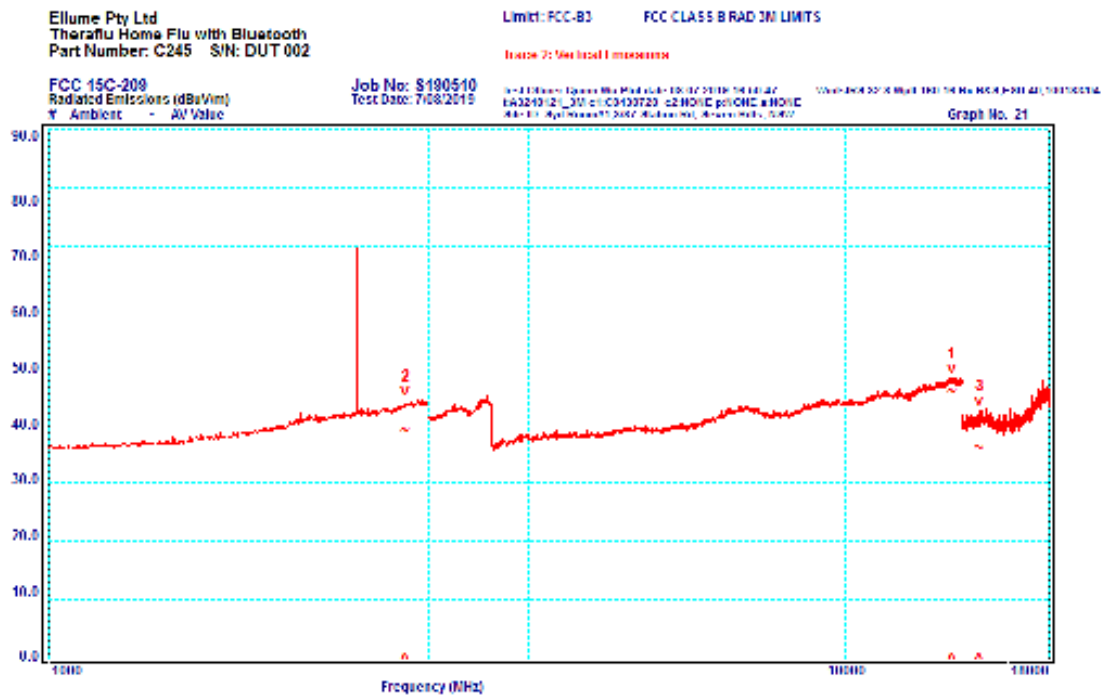


Peak	Frequency [MHz]	Polarisation	Average [dBµV/m]	Limit [dBµV/m]	Margin [± dB]
1	13406.63	Horizontal	44.6	54.0	-9.4
2	17499.74	Horizontal	39.8	54.0	-14.2
3	2792.92	Horizontal	38.6	54.0	-15.4

All measured frequencies complied with the average limit by a margin of at least 9.4dB.

Middle Channel

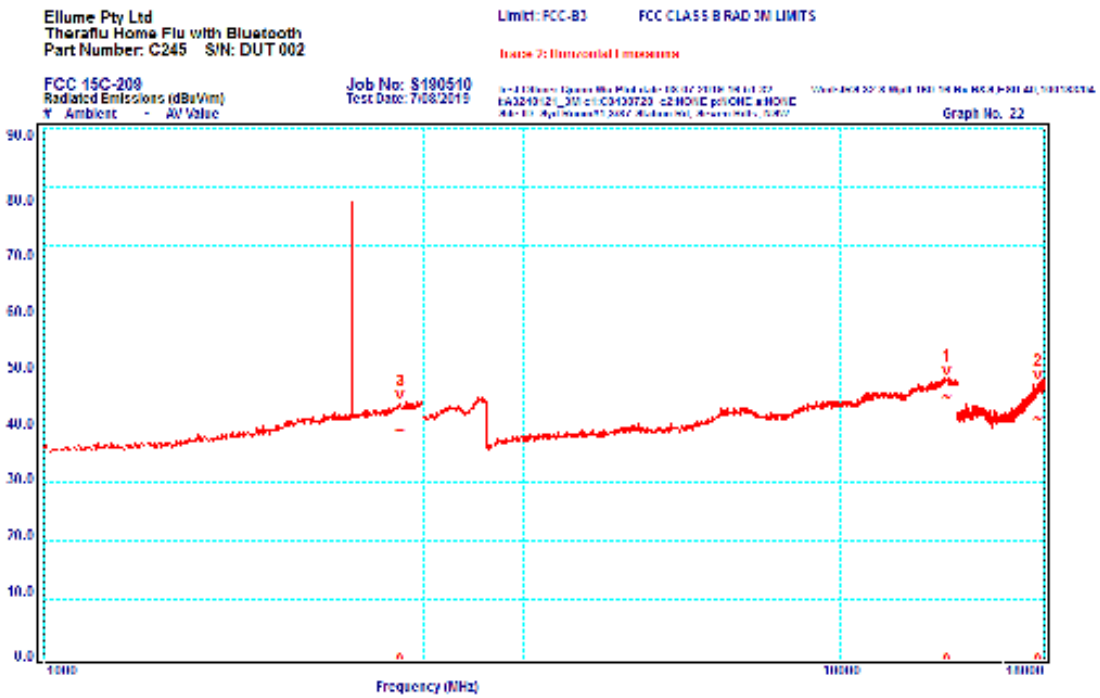
Graph 21 Vertical Polarisation 1000 to 18000 MHz



Peak	Frequency [MHz]	Polarisation	Average [dBµV/m]	Limit [dBµV/m]	Margin [± dB]
1	13577.83	Vertical	45.4	54.0	-8.6
2	2805.57	Vertical	38.8	54.0	-15.2
3	14705.54	Vertical	35.8	54.0	-18.2

All measured frequencies complied with the average limit by a margin of at least 8.6dB.

Graph 22 **Horizontal Polarisation** **1000 to 18000 MHz**



Peak	Frequency [MHz]	Polarisation	Average [dBµV/m]	Limit [dBµV/m]	Margin [± dB]
1	13574.29	Horizontal	44.2	54.0	-9.8
2	17668.64	Horizontal	40.7	54.0	-13.3
3	2803.32	Horizontal	38.6	54.0	-15.4

All measured frequencies complied with the average limit by a margin of at least 9.8dB.

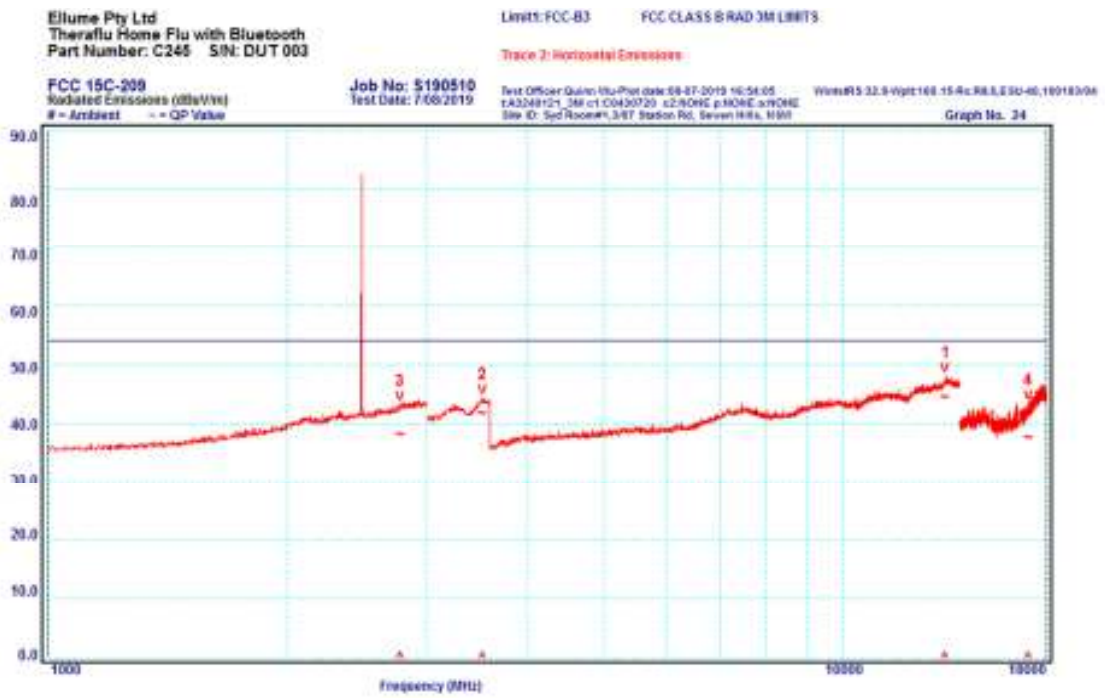
High Channel

Graph 23 **Vertical Polarisation** **1000 to 18000 MHz**

Peak	Frequency [MHz]	Polarisation	Average [dBµV/m]	Limit [dBµV/m]	Margin [± dB]
1	11249.53	Vertical	42.7	54.0	-11.3
2	2776.39	Vertical	38.4	54.0	-15.6
3	14810.73	Vertical	36.8	54.0	-17.2

All measured frequencies complied with the average limit by a margin of greater than 10dB.

Graph 24 **Horizonal Polarisation** **1000 to 18000 MHz**



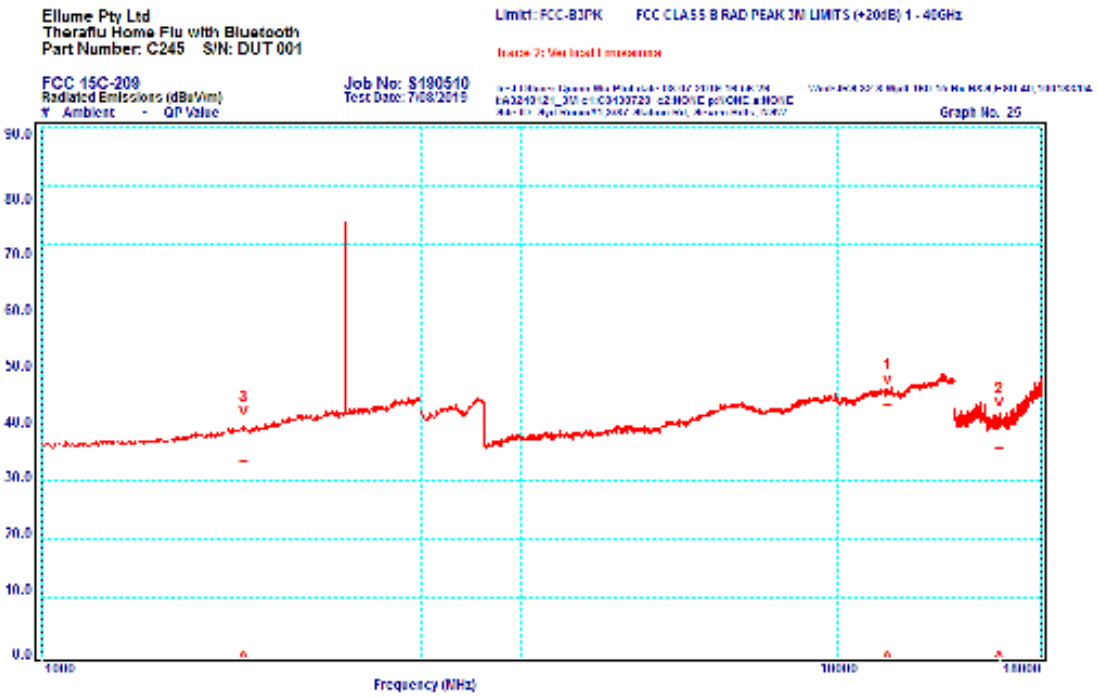
Peak	Frequency [MHz]	Polarisation	Average[dBµV/m]	Limit [dBµV/m]	Margin [± dB]
1	13437.44	Horizontal	44.4	54.0	-9.6
2	3518.88	Horizontal	41.8	54.0	-12.2
3	2772.37	Horizontal	38.2	54.0	-15.8
4	17074.68	Horizontal	37.7	54.0	-16.3

All measured frequencies complied with the average limit by a margin of at least 9.6dB.

Peak Measurement

Low Channel

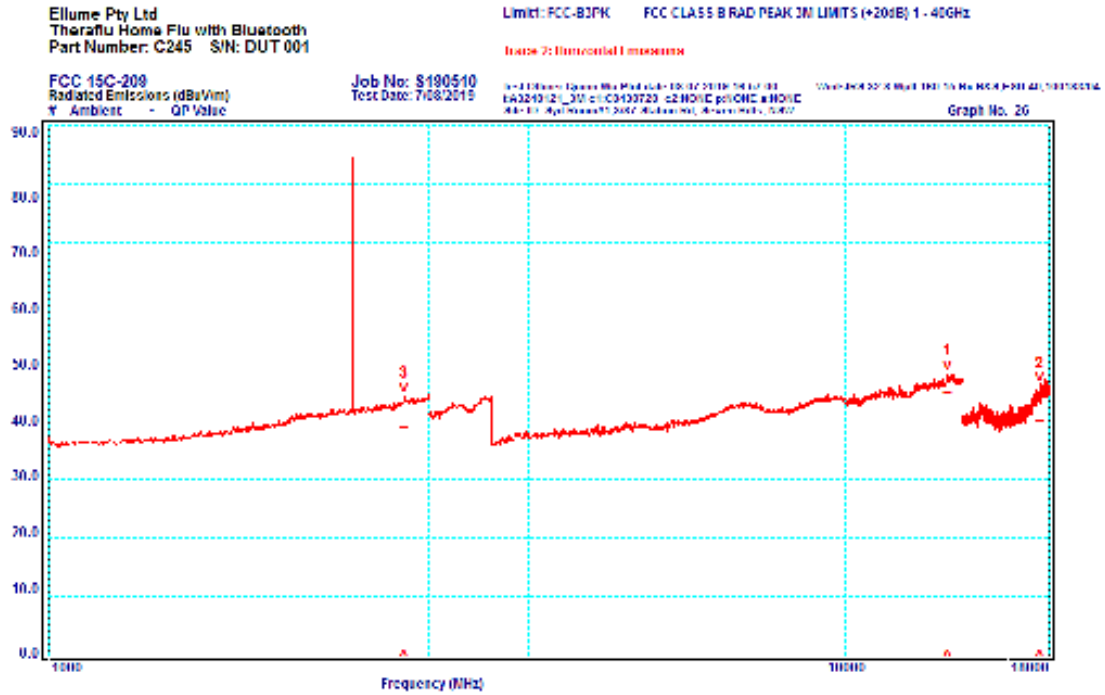
Graph 25 **Vertical Polarisation** **1000 to 18000 MHz**



Peak	Frequency [MHz]	Polarisation	Peak [dBµV/m]	Limit [dBµV/m]	Margin [± dB]
1	11542.92	Vertical	45.6	74.0	-28.4
2	15928.95	Vertical	41.6	74.0	-32.4
3	1793.51	Vertical	40.2	74.0	-33.8

All measured frequencies complied with the peak limit by a margin of greater than 10dB.

Graph 26 Horizontal Polarisation 1000 to 18000 MHz

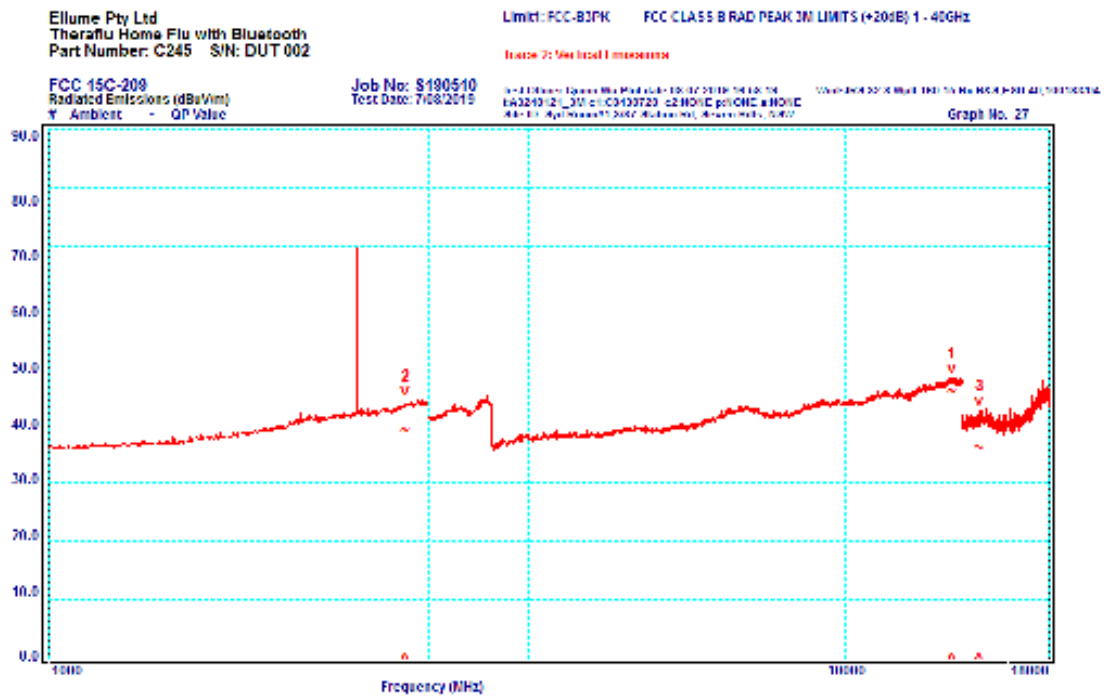


Peak	Frequency [MHz]	Polarisation	Peak [dBµV/m]	Limit [dBµV/m]	Margin [± dB]
1	13406.63	Horizontal	47.8	74.0	-26.2
2	17499.74	Horizontal	45.7	74.0	-28.3
3	2792.92	Horizontal	44.0	74.0	-30.0

All measured frequencies complied with the peak limit by a margin of greater than 10dB.

Middle Channel

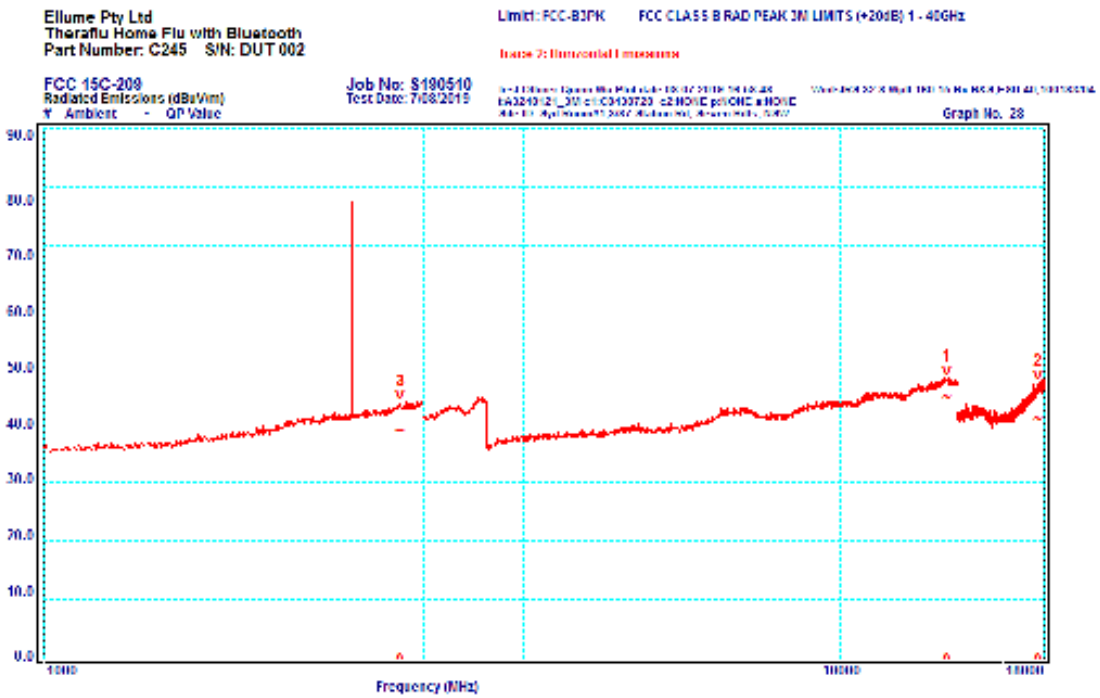
Graph 27 Vertical Polarisation 1000 to 18000 MHz



Peak	Frequency [MHz]	Polarisation	Peak [dBµV/m]	Limit [dBµV/m]	Margin [± dB]
1	13577.83	Vertical	47.8	74.0	-26.2
2	2805.57	Vertical	43.9	74.0	-30.1
3	14705.54	Vertical	42.3	74.0	-31.7

All measured frequencies complied with the peak limit by a margin of greater than 10dB.

Graph 28 Horizontal Polarisation 1000 to 18000 MHz

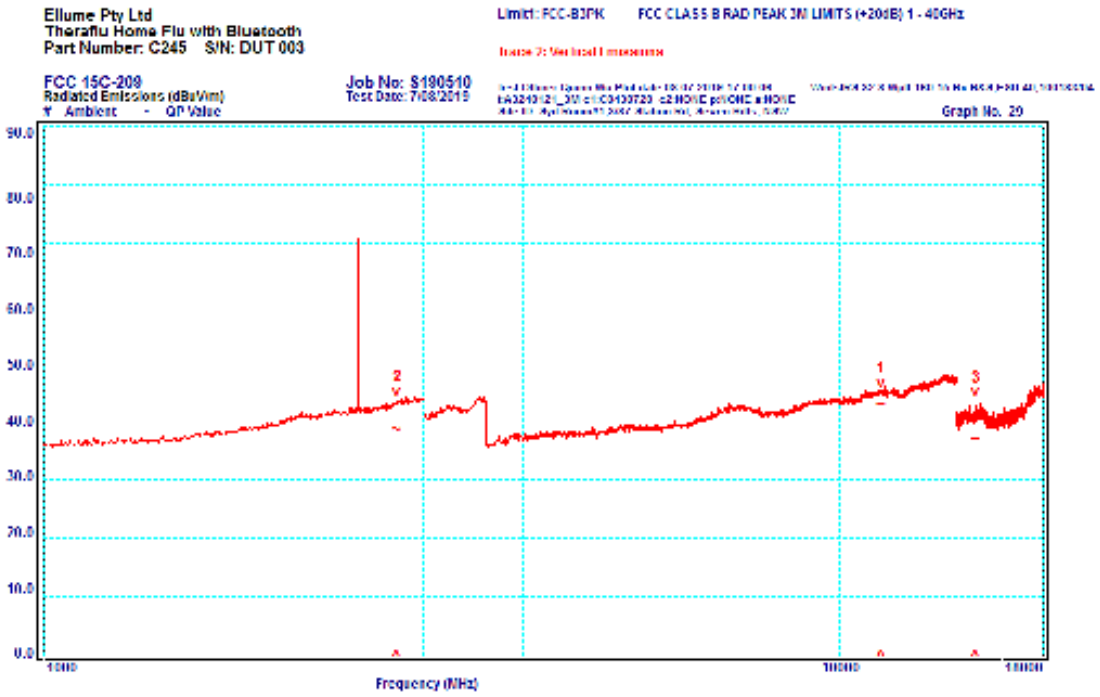


Peak	Frequency [MHz]	Polarisation	Peak [dBµV/m]	Limit [dBµV/m]	Margin [± dB]
1	13574.29	Horizontal	47.3	74.0	-26.7
2	17668.64	Horizontal	46.5	74.0	-27.5
3	2803.32	Horizontal	43.1	74.0	-30.9

All measured frequencies complied with the peak limit by a margin of greater than 10dB.

High Channel

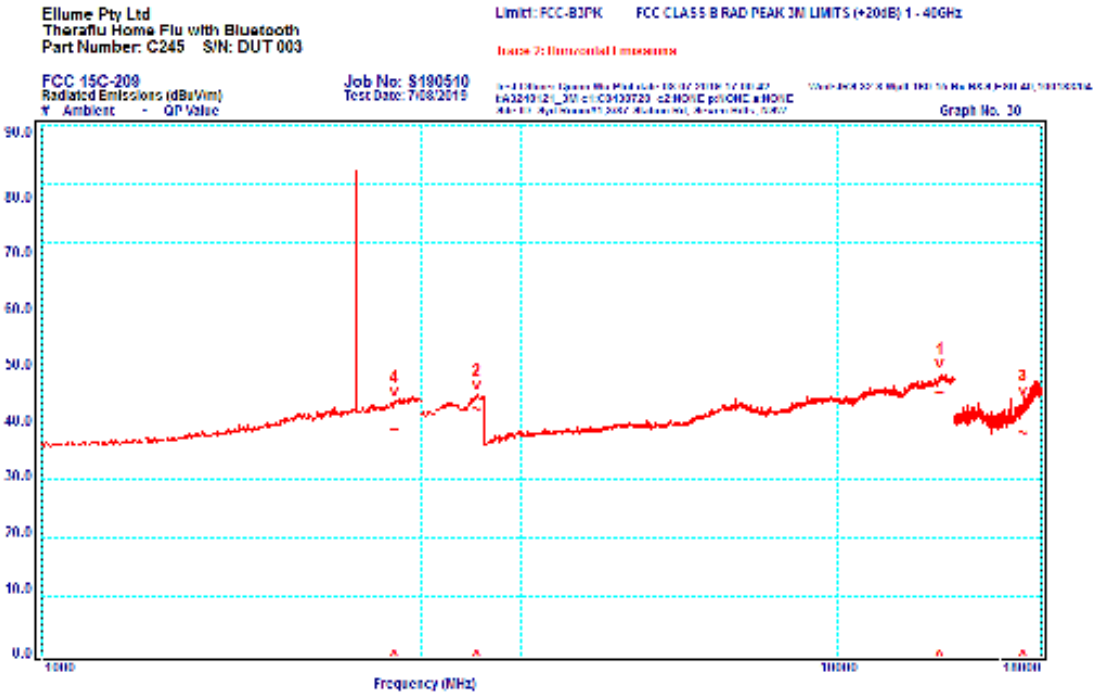
Graph 29 **Vertical Polarisation** **1000 to 18000 MHz**



Peak	Frequency [MHz]	Polarisation	Peak [dBµV/m]	Limit [dBµV/m]	Margin [± dB]
1	11249.53	Vertical	44.9	74.0	-29.1
2	2776.39	Vertical	43.4	74.0	-30.6
3	14810.73	Vertical	43.3	74.0	-30.7

All measured frequencies complied with the peak lmit by a margin of greater than 10dB.

Graph 30 **Horizonal Polarisation** **1000 to 18000 MHz**



Peak	Frequency [MHz]	Polarisation	Peak [dBµV/m]	Limit [dBµV/m]	Margin [± dB]
1	13437.44	Horizontal	48.1	74.0	-25.9
2	3518.88	Horizontal	44.4	74.0	-29.6
3	17074.68	Horizontal	43.4	74.0	-30.6
4	2772.37	Horizontal	43.2	74.0	-30.8

All measured frequencies complied with the peak limit by a margin of greater than 10dB.

3.7.2 Frequency Band: 18000 – 2650 MHz

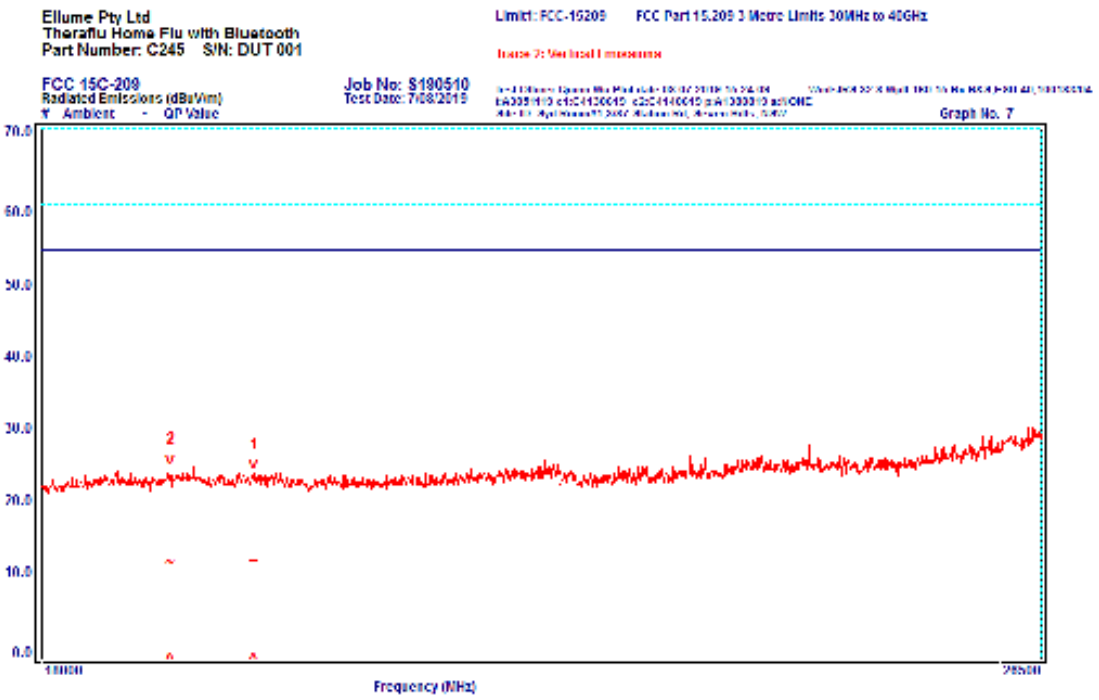
Measurements from 18 to 26.5 GHz were made at a distance of 3 metres.

The §15.209(a) limits applied.

Average Measurement

Low Channel

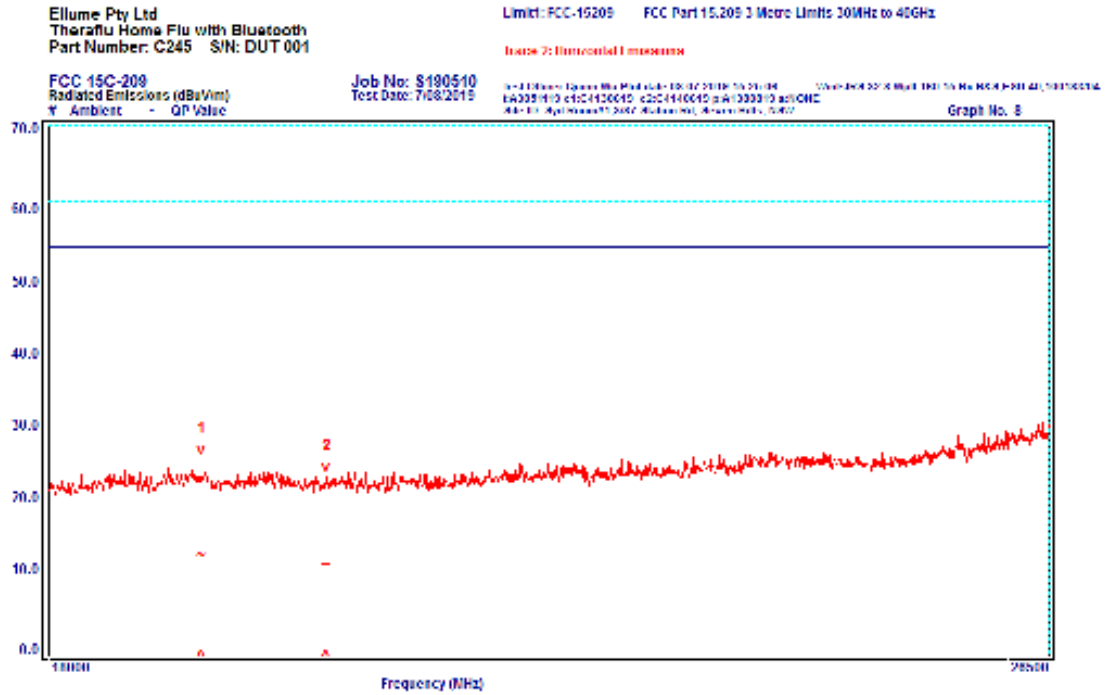
Graph 7 **Vertical Polarisation** **18000 to 26500 MHz**



Peak	Frequency [MHz]	Polarisation	Average [dBµV/m]	Limit [dBµV/m]	Margin [± dB]
1	19542.35	Vertical	12.8	54.0	-41.2
2	18920.82	Vertical	12.7	54.0	-41.3

All measured frequencies complied with the average limit by a margin of greater than 10dB.

Graph 8 Horizontal Polarisation 18000 to 26500 MHz

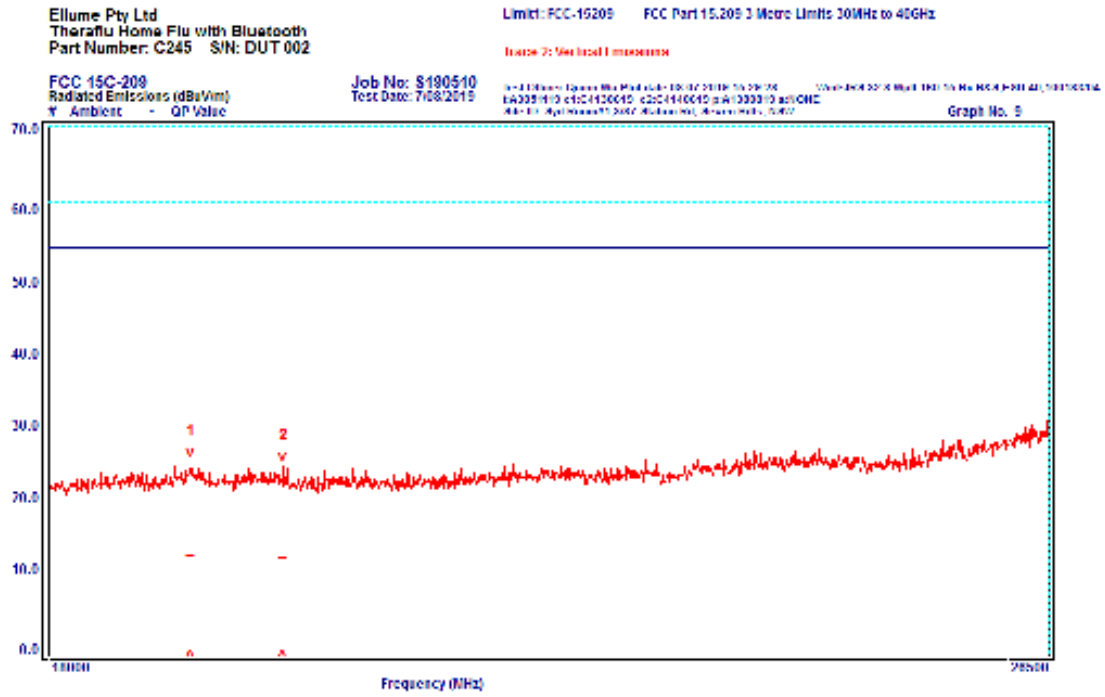


Peak	Frequency [MHz]	Polarisation	Average [dBµV/m]	Limit [dBµV/m]	Margin [± dB]
1	19097.34	Horizontal	13.2	54.0	-40.8
2	20040.27	Horizontal	12.0	54.0	-42.0

All measured frequencies complied with the average limit by a margin of greater than 10dB.

Middle Channel

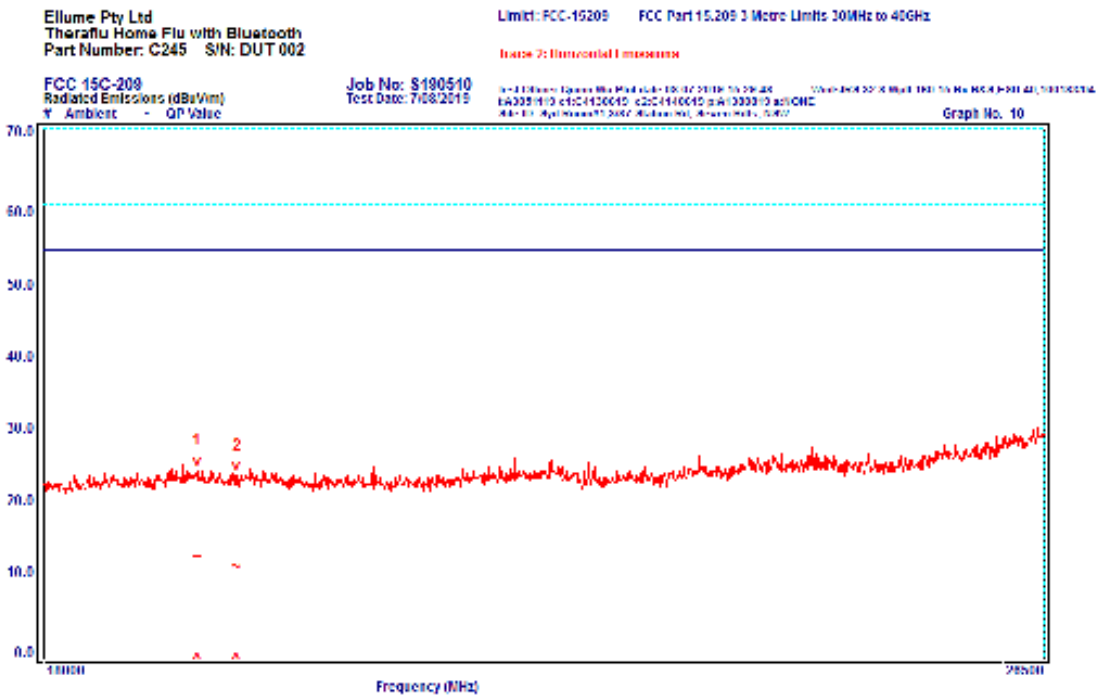
Graph 9 Vertical Polarisation 18000 to 26500 MHz



Peak	Frequency [MHz]	Polarisation	Average[dBµV/m]	Limit [dBµV/m]	Margin [± dB]
1	19016.88	Vertical	13.1	54.0	-40.9
2	19706.98	Vertical	12.8	54.0	-41.2

All measured frequencies complied with the average limit by a margin of greater than 10dB.

Graph 10 Horizontal Polarisation 18000 to 26500 MHz

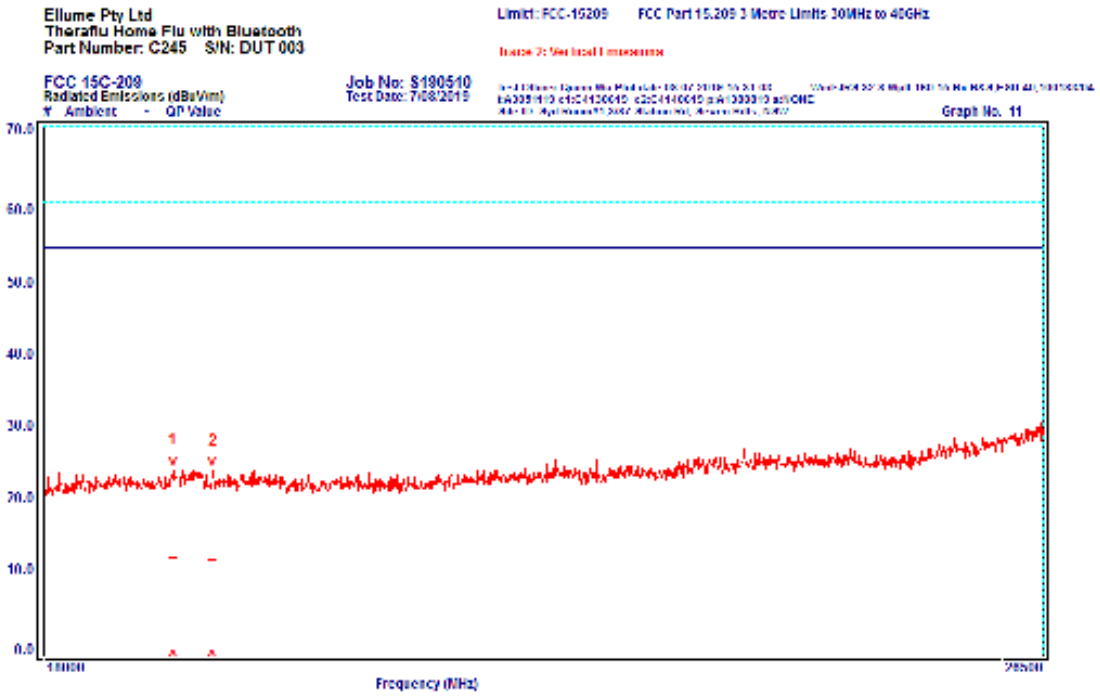


Peak	Frequency [MHz]	Polarisation	Average[dBµV/m]	Limit [dBµV/m]	Margin [± dB]
1	19099.96	Horizontal	13.4	54.0	-40.6
2	19397.64	Horizontal	12.1	54.0	-41.9

All measured frequencies complied with the average limit by a margin of greater than 10dB.

High Channel

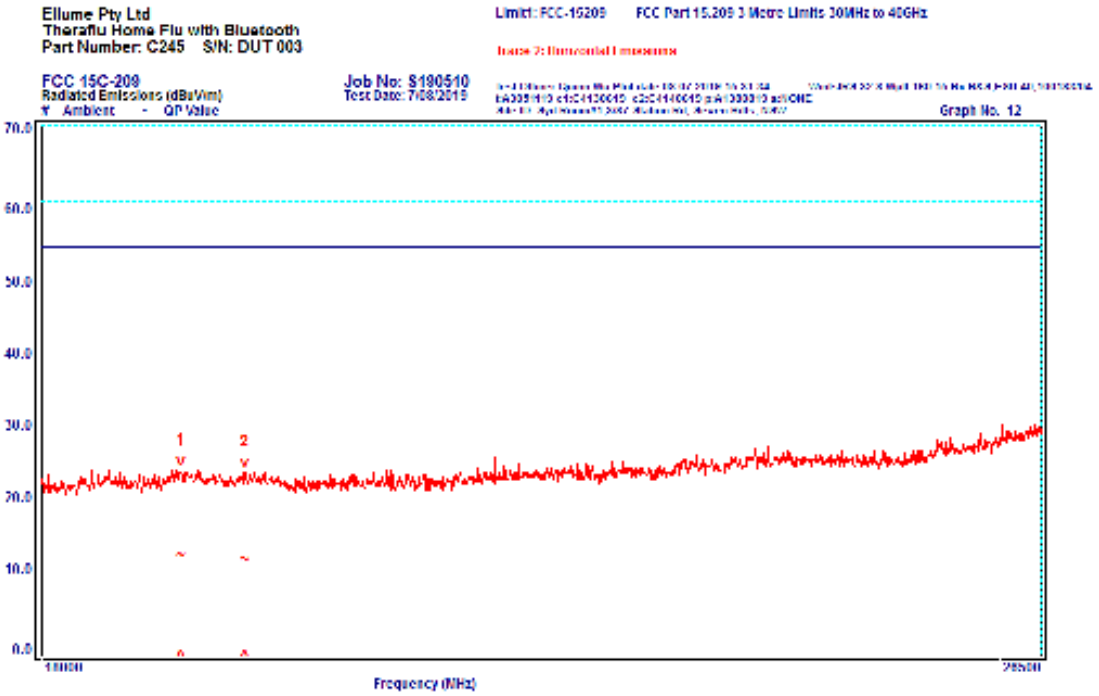
Graph 11 **Vertical Polarisation** **18000 to 26500 MHz**



Peak	Frequency [MHz]	Polarisation	Average [dBµV/m]	Limit [dBµV/m]	Margin [± dB]
1	18925.33	Vertical	12.8	54.0	-41.2
2	19218.55	Vertical	12.5	54.0	-41.5

All measured frequencies complied with the average limit by a margin of greater than 10dB.

Graph 12 **Horizonal Polarisation** **18000 to 26500 MHz**



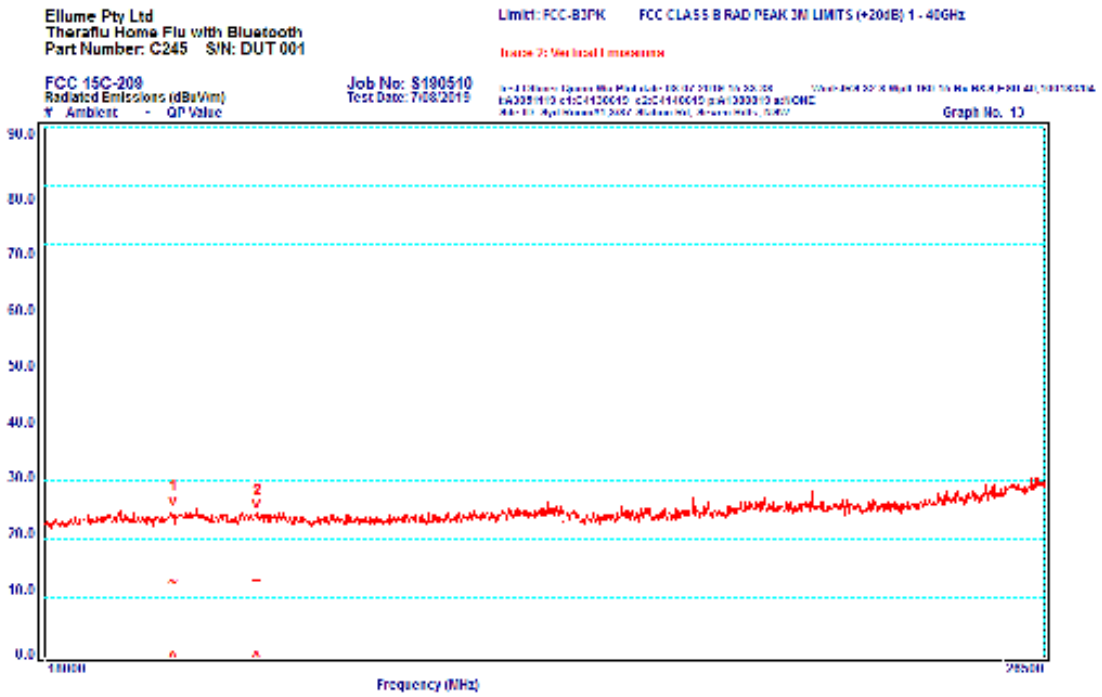
Peak	Frequency [MHz]	Polarisation	Average [dBµV/m]	Limit [dBµV/m]	Margin [± dB]
1	18996.96	Horizontal	13.2	54.0	-40.8
2	19473.66	Horizontal	12.7	54.0	-41.3

All measured frequencies complied with the average limit by a margin of greater than 10dB.

Peak Measurement

Low Channel

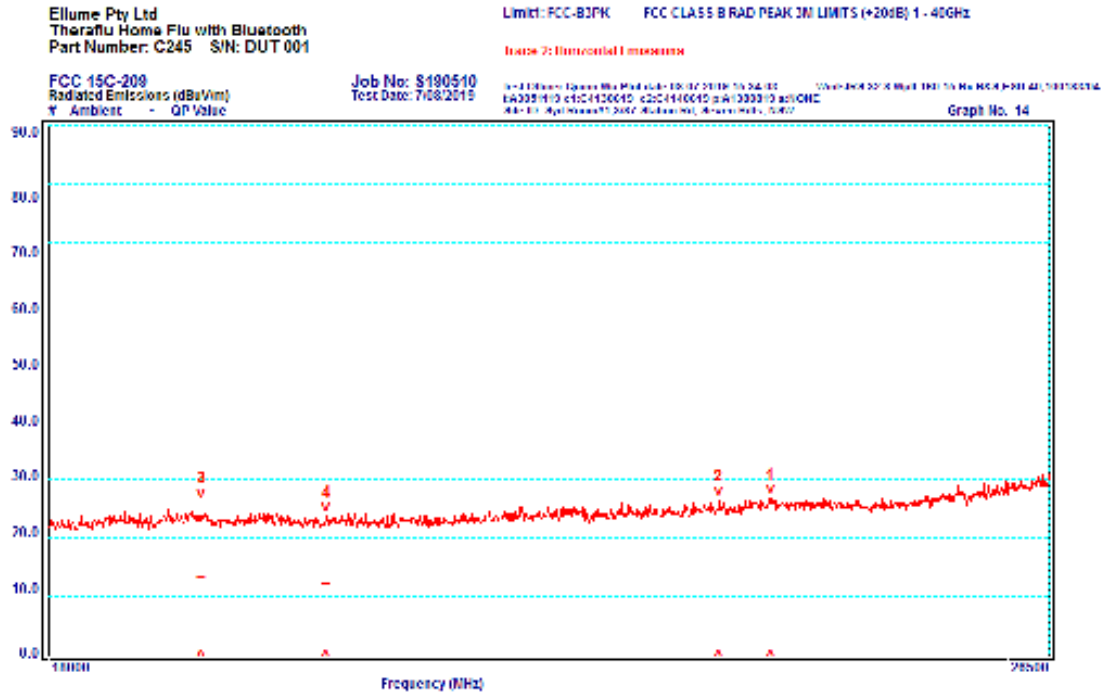
Graph 13 **Vertical Polarisation** **18000 to 26500MHz**



Peak	Frequency [MHz]	Polarisation	Peak [dBµV/m]	Limit [dBµV/m]	Margin [± dB]
1	18920.82	Vertical	25.0	74.0	-49.0
2	19542.35	Vertical	24.4	74.0	-49.6

All measured frequencies complied with the peak limit by a margin of greater than 10dB.

Graph 14 Horizontal Polarisation 18000 to 26500 MHz

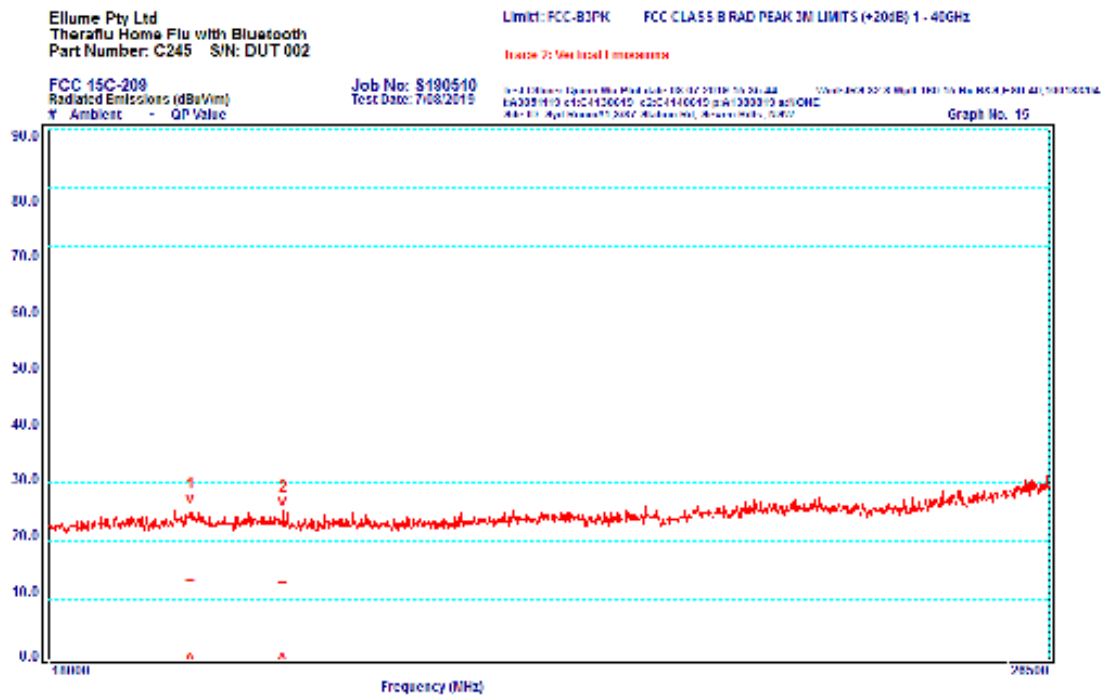


Peak	Frequency [MHz]	Polarisation	Peak [dBµV/m]	Limit [dBµV/m]	Margin [± dB]
1	23793.94	Horizontal	26.7	74.0	-47.3
2	23321.85	Horizontal	26.4	74.0	-47.6
3	19097.34	Horizontal	26.0	74.0	-48.0
4	20040.27	Horizontal	23.7	74.0	-50.3

All measured frequencies complied with the peak limit by a margin of greater than 10dB.

Middle Channel

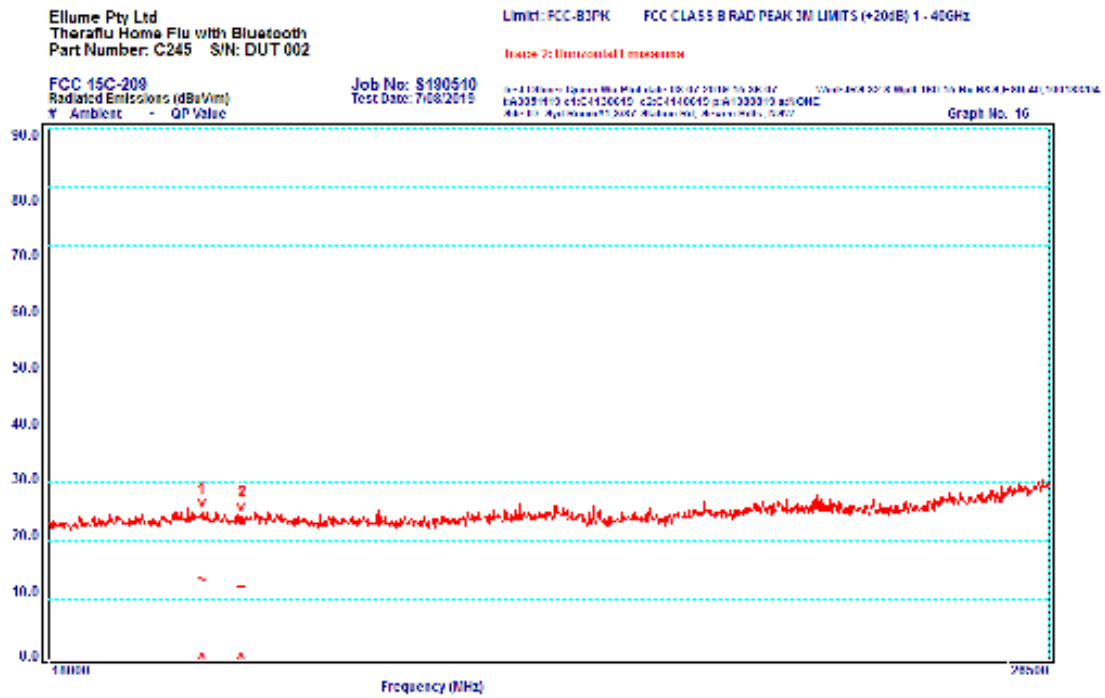
Graph 15 Vertical Polarisation 18000 to 26500 MHz



Peak	Frequency [MHz]	Polarisation	Peak [dBµV/m]	Limit [dBµV/m]	Margin [± dB]
1	19016.88	Vertical	25.7	74.0	-48.3
2	19706.98	Vertical	25.1	74.0	-48.9

All measured frequencies complied with the peak limit by a margin of greater than 10dB.

Graph 16 Horizontal Polarisation 18000 to 26500 MHz

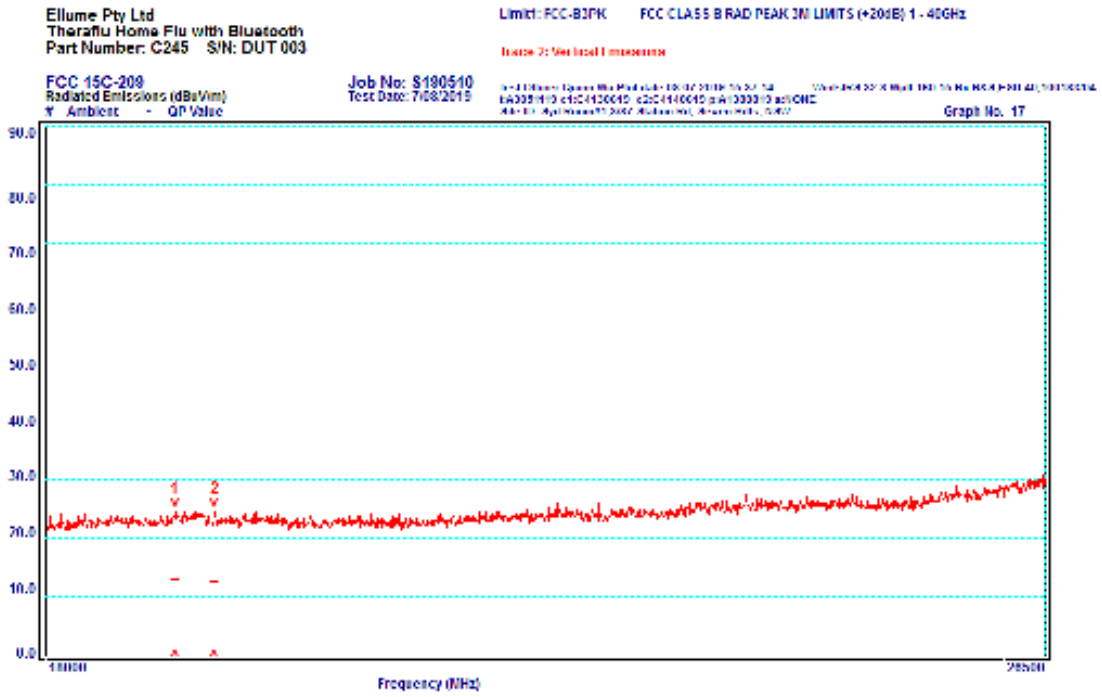


Peak	Frequency [MHz]	Polarisation	Peak [dBµV/m]	Limit [dBµV/m]	Margin [± dB]
1	19099.96	Horizontal	24.9	74.0	-49.1
2	19397.64	Horizontal	24.2	74.0	-49.8

All measured frequencies complied with the peak limit by a margin of greater than 10dB.

High Channel

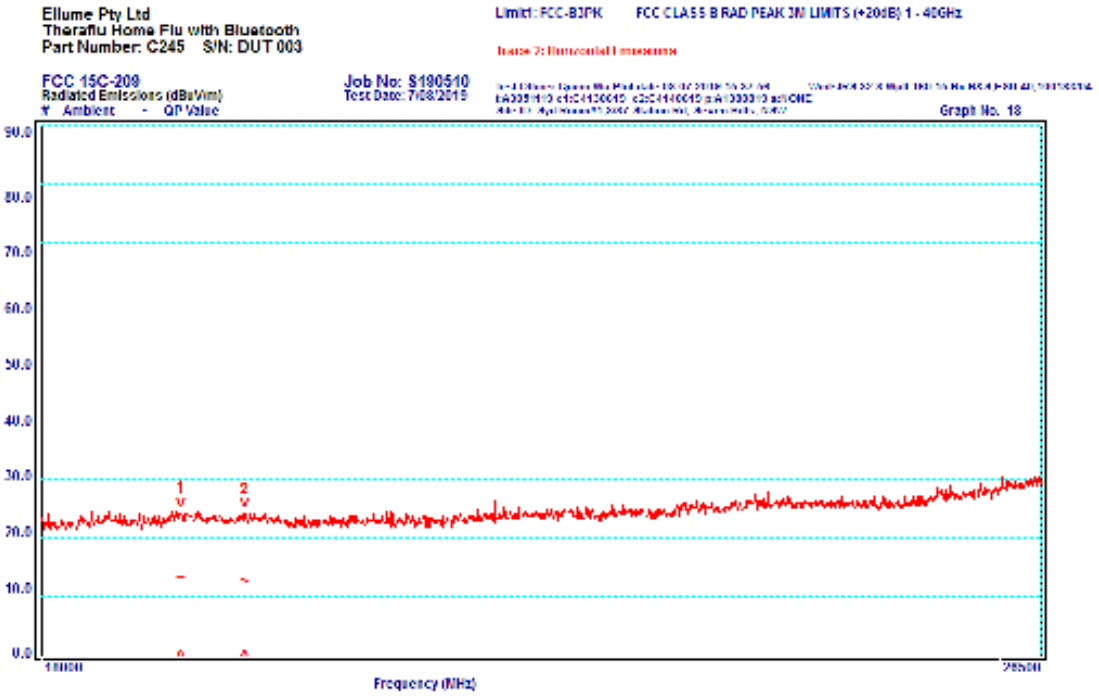
Graph 17 **Vertical Polarisation** **18000 to 26500 MHz**



Peak	Frequency [MHz]	Polarisation	Peak [dBµV/m]	Limit [dBµV/m]	Margin [± dB]
1	18925.33	Vertical	24.5	74.0	-49.5
2	19218.55	Vertical	24.5	74.0	-49.5

All measured frequencies complied with the peak limit by a margin of greater than 10dB.

Graph 18 **Horizonal Polarisation** **18000 to 26500 MHz**



Peak	Frequency [MHz]	Polarisation	Peak [dBµV/m]	Limit [dBµV/m]	Margin [± dB]
1	18996.96	Horizontal	24.4	74.0	-49.6
2	19473.66	Horizontal	24.4	74.0	-49.6

All measured frequencies complied with the peak limit by a margin of greater than 10dB.

Conclusion:

The EUT complied with the limits of FCC Rule Part 15 Subpart C, 15.209.

3.8 15.247(d) Out of Band Emissions

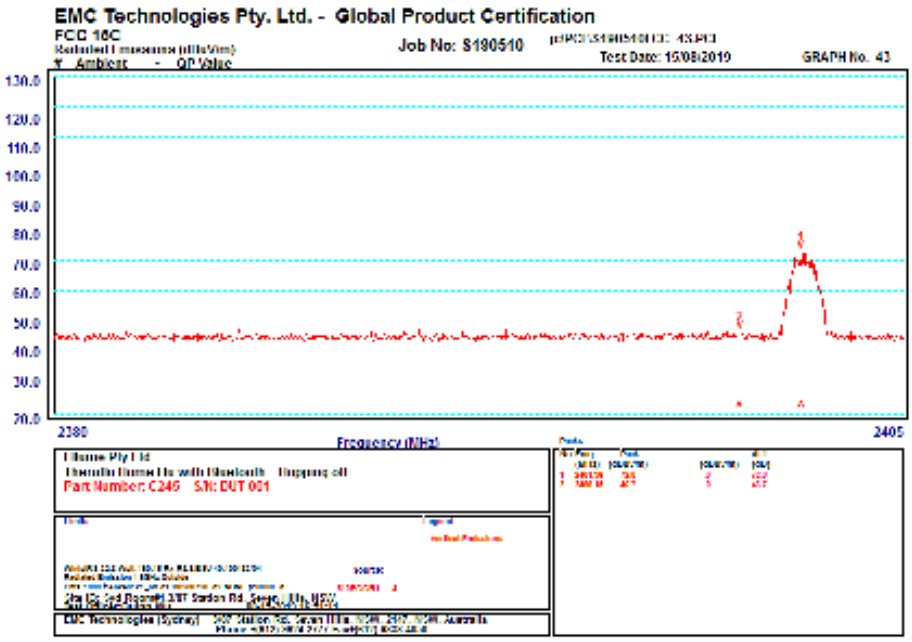
Requirement:

In any 100kHz 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 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

3.8.1 Authorized-band band-edge

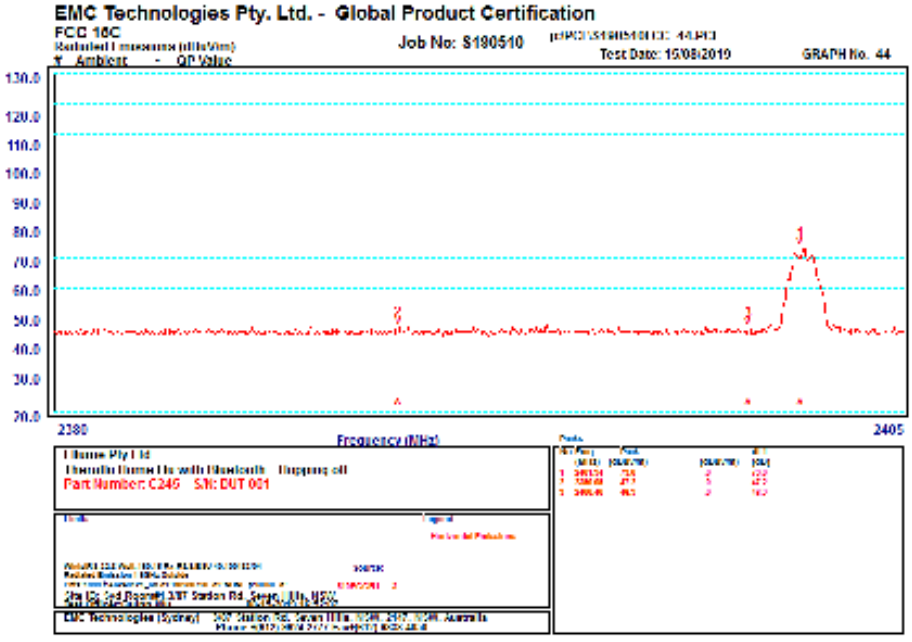
Channel 2402 MHz Hopping off

Graph 43 Vertical Polarisation 2380 to 2405MHz



Result: No Emission Bandwidth were found within 2390MHz to 2400MHz.

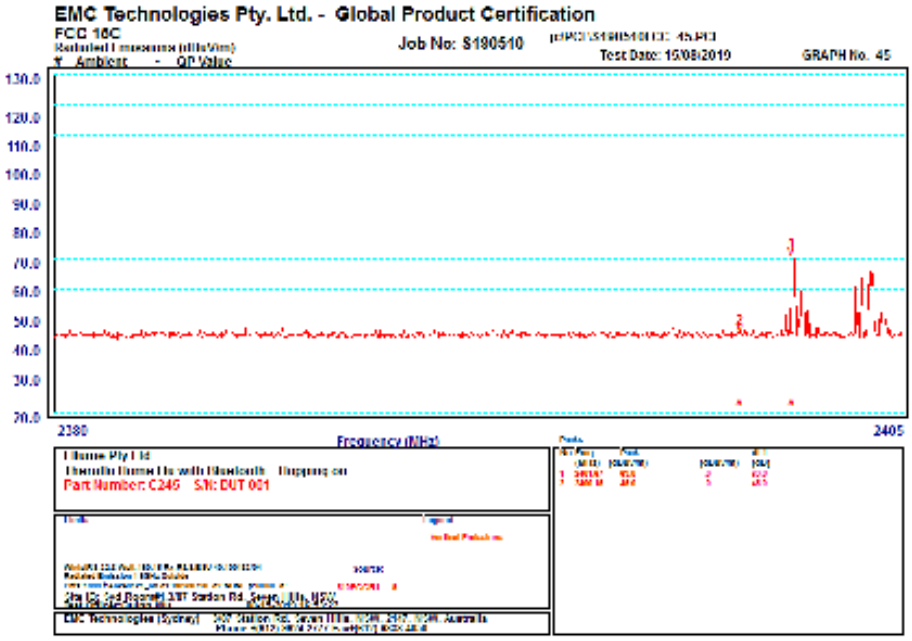
Graph 44 Horizontal Polarisation 2380 to 2405MHz



Result: No Emission Bandwidth were found within 2390MHz to 2400MHz.

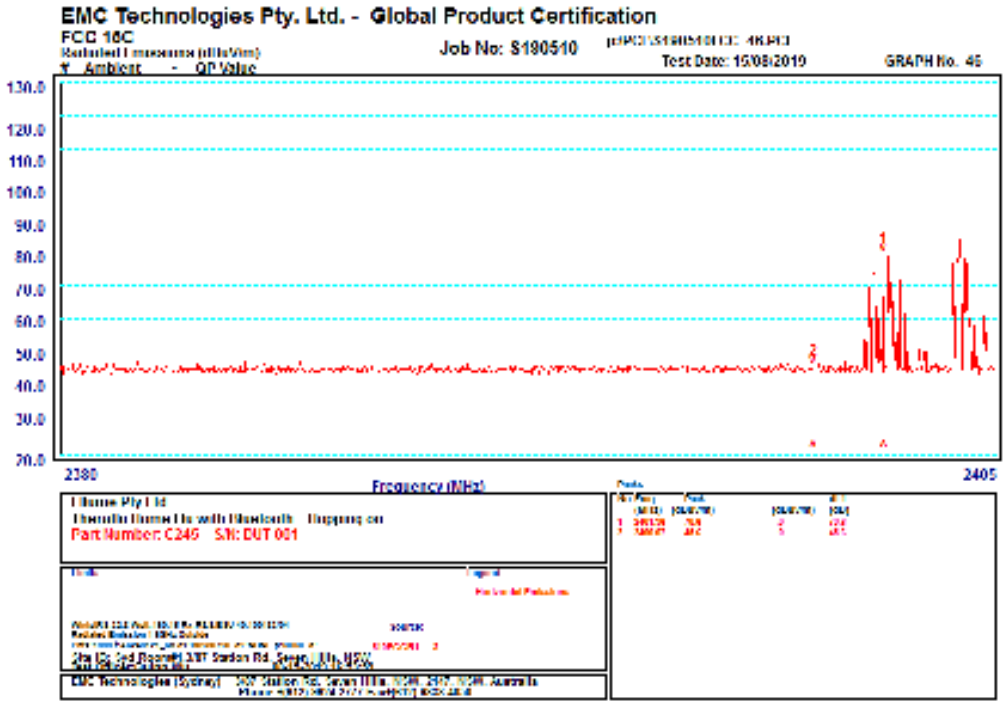
Channel 2402 MHz **Hopping on**

Graph 45 **Vertical Polarisation** **2380 to 2405MHz**



Result: No Emission Bandwidth were found within 2390MHz to 2400MHz

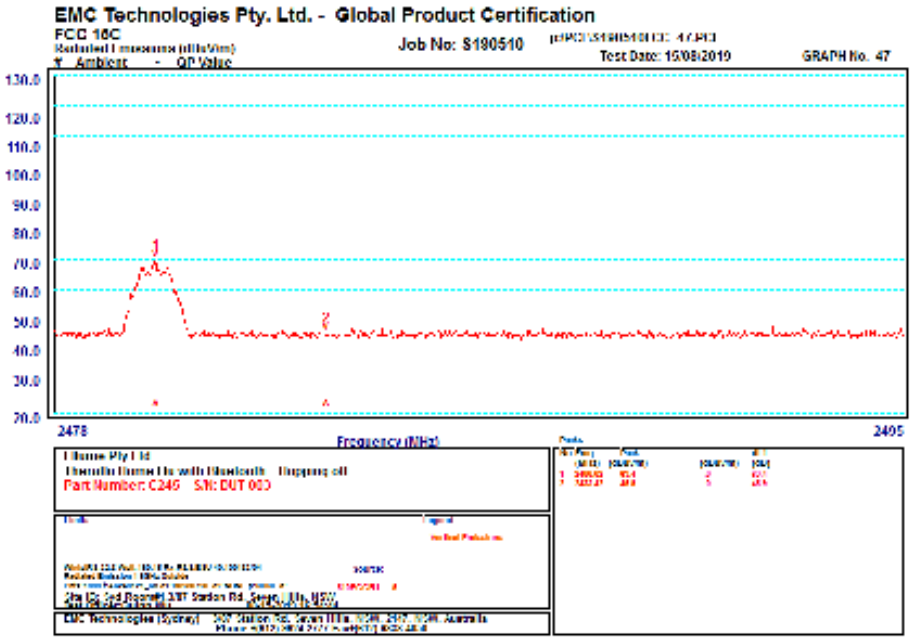
Graph 46: **Horizontal Polarisation** **2380 to 2405MHz.**



Result: No Emission Bandwidth were found within 2390MHz to 2400MHz.

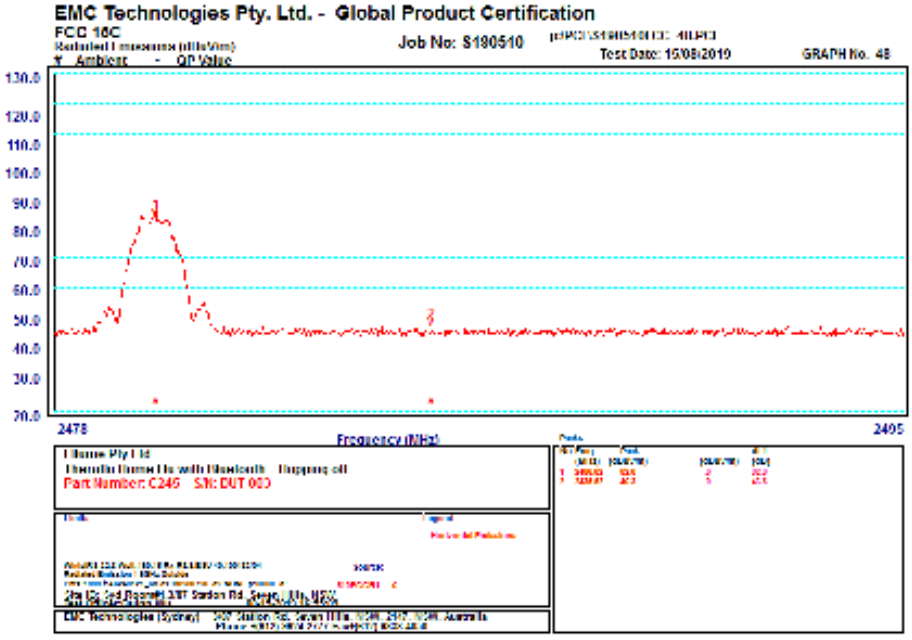
Channel 2480 MHz - Hopping off

Graph 47 Vertical Polarisation 2478 to 2495MHz



Result: No Emission Bandwidth were found within 2483.5MHz to 2490MHz.

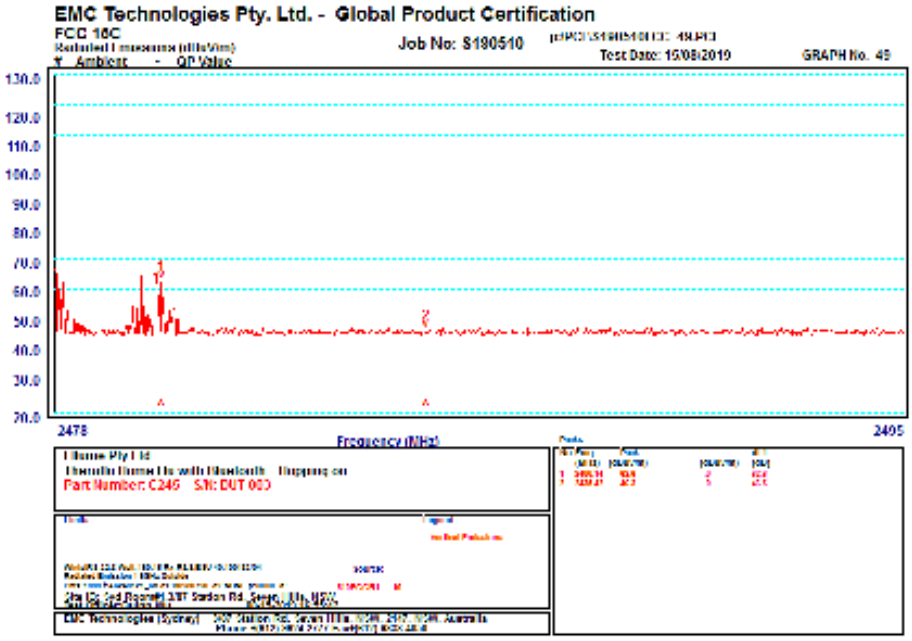
Graph 48 Horizontal Polarisation 2478 to 2495MHz



Result: No Emission Bandwidth were found within 2483.5MHz to 2490MHz.

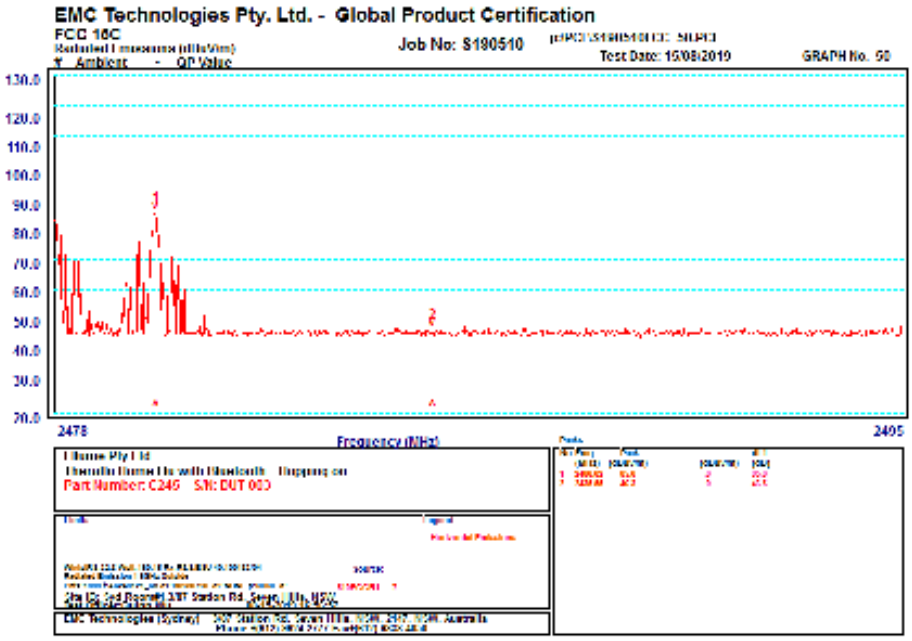
Channel 2480 MHz Hopping on

Graph 49 Vertical Polarisation 2478 to 2495MHz



Result: No Emission Bandwidth were found within 2483.5MHz to 2490MHz.

Graph 50 Horizontal Polarisation 2478 to 2495MHz



Result: No Emission Bandwidth were found within 2483.5MHz to 2490MHz.

3.8.2 Restricted-band band-edge

This was done by radiated measurement according to C63.10 Clause 6.10.5

The peak measurements were made with a resolution bandwidth (RBW) of 1000 kHz and the video bandwidth (VBW) of 1000 kHz, The average measurement were made with a resolutionbandwidth(RBW) of 1000kHz and the video bandwidth(VBW) of 10kHz.

Results:
Channel 2402 MHz, Bottom Band Edge:

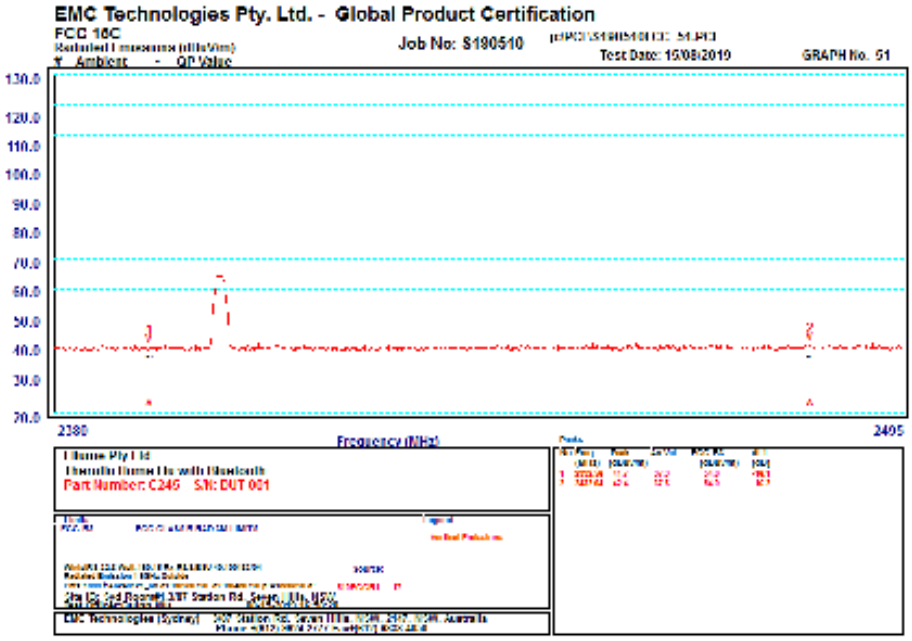
Hopping off, Marks being set to around 2390MHz and 2483.5MHz

Channel 2480 MHz, Top Band Edge:

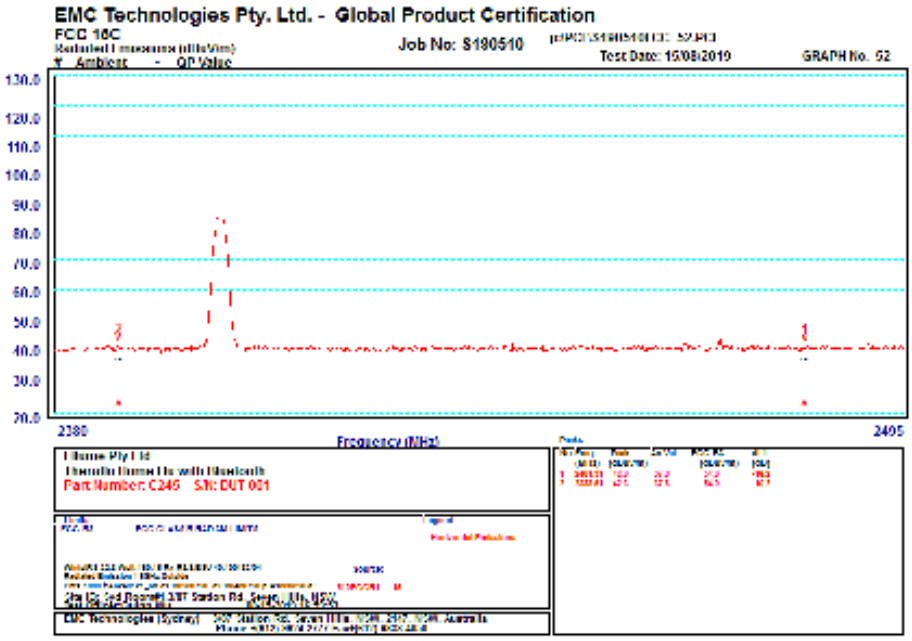
Hopping off, Marks being set to around 2390MHz and 2483.5MHz

Channel 2402 MHz Average measurement Hopping off

Graph 51 Vertical Polarisation 2380 to 2495MHz

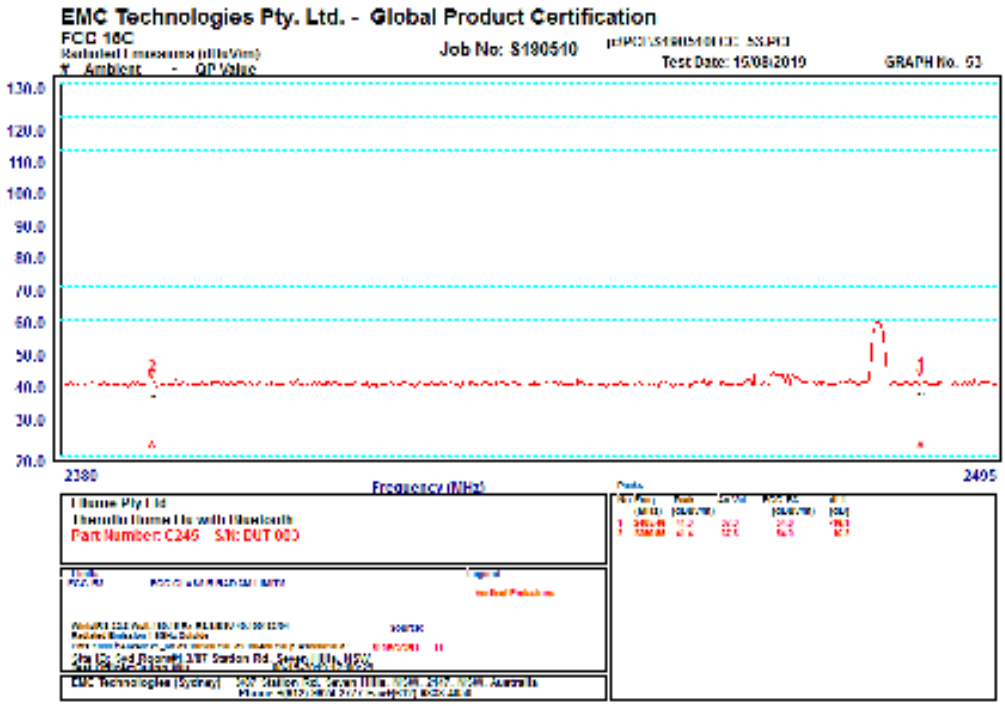


Graph 52 Horizontal Polarisation 2380 to 2495MHz

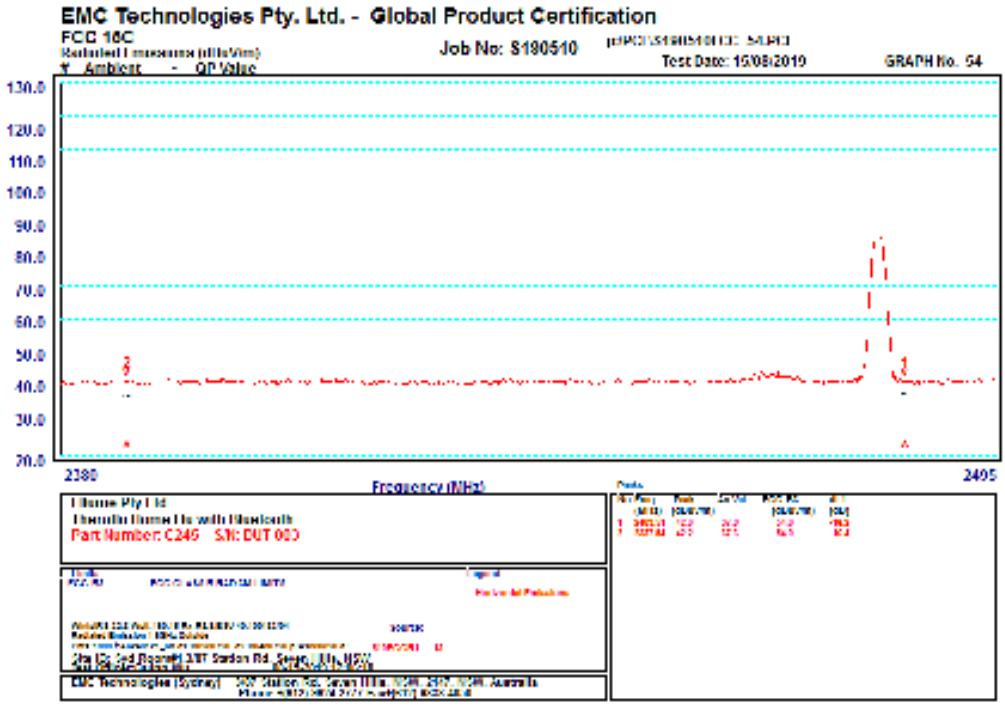


Channel 2480 MHz Average measurement - Hopping off

Graph 53 Vertical Polarisation 2380 to 2495MHz

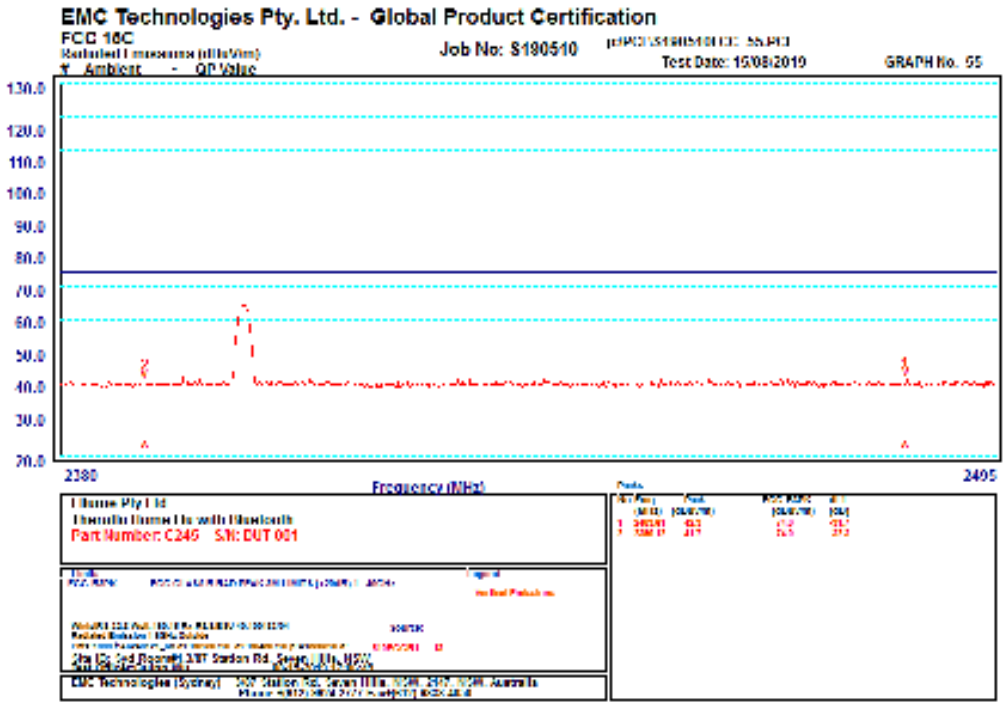


Graph 54 Horizontal Polarisation 2380 to 2495MHz

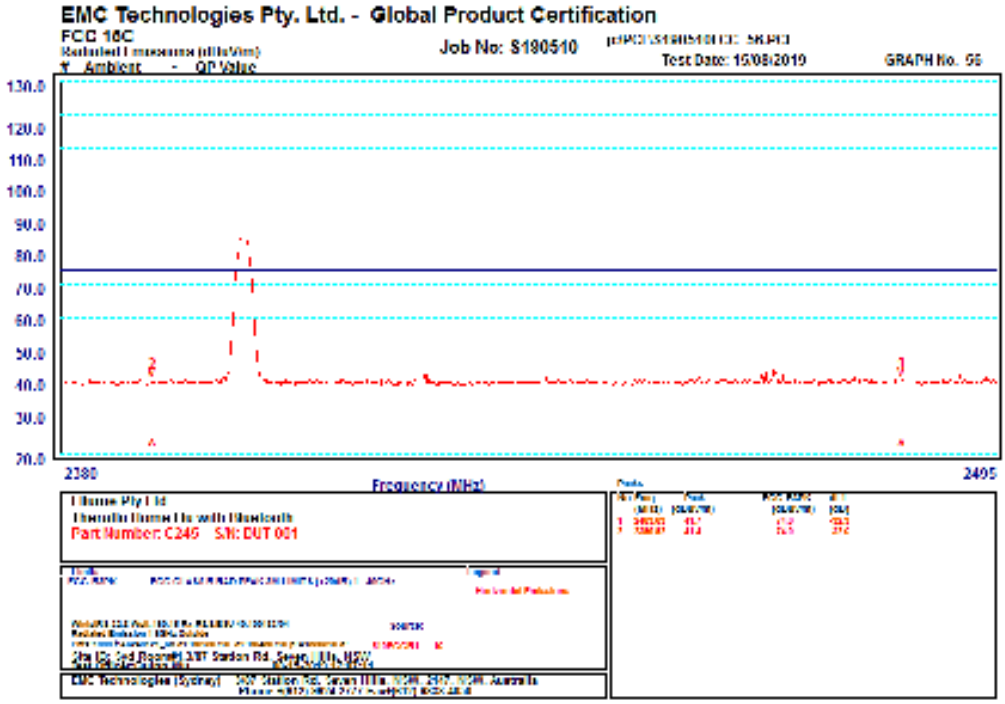


Channel 2402 MHz – Peak Measurement – Hopping Off

Graph 55 **Vertical Polarisation** **2380 to 2495MHz**

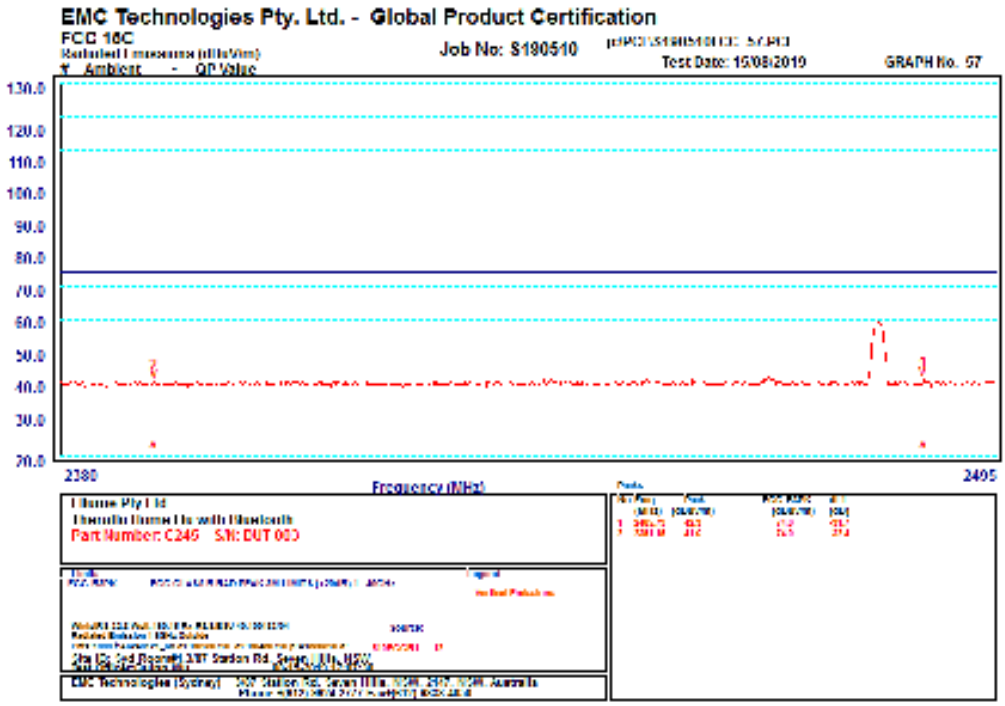


Graph 56 **Horizontal Polarisation** **2380 to 2495MHz**

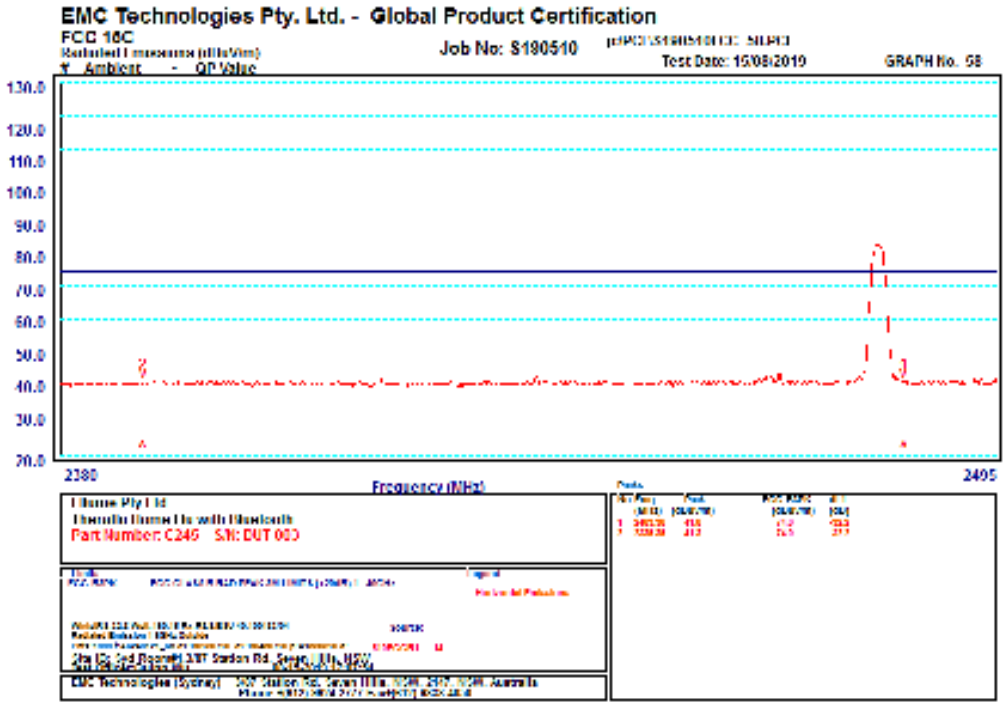


Channel 2480 MHz – Peak Measurements – Hopping Off

Graph 57 Vertical Polarisation 2380 to 2495MHz



Graph 58 Horizontal Polarisation 2380 to 2495MHz



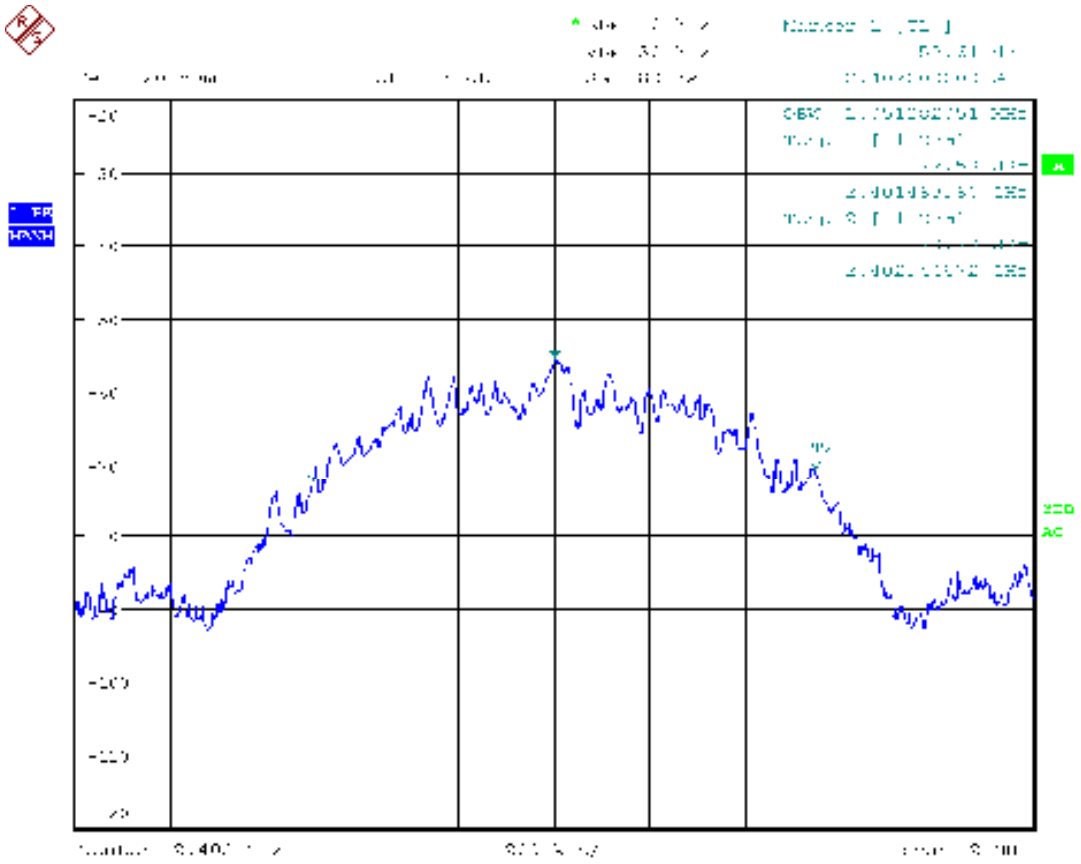
3.9 §2.1049 Occupied bandwidth – 99% power

The bandwidth containing 99% power of the transmitted signal was measured using the procedure from ANSI C63.10 section 6.9.

Channel [kHz]	99% Bandwidth [MHz]	Low Frequency [GHz]	High Frequency [GHz]
2402	1.05128	2.401493	2.402544
2480	1.05128	2.479847	2.480538

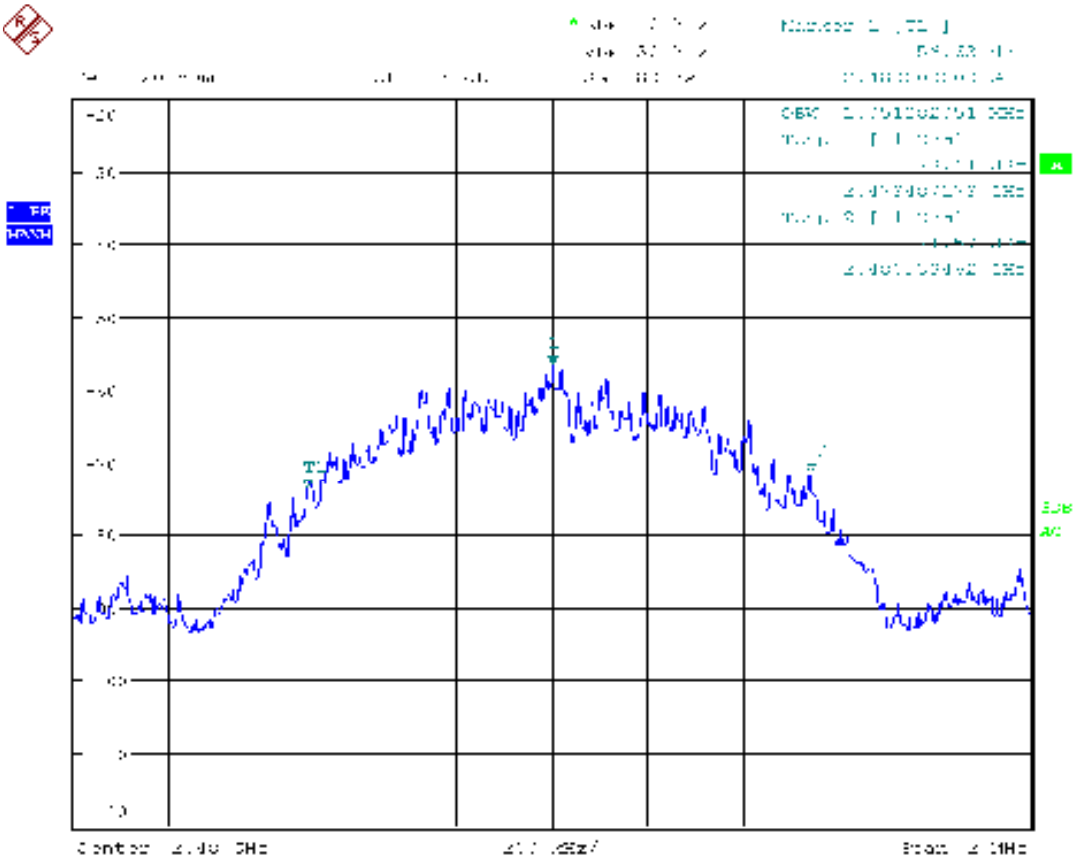
99% Occupied Bandwidth

Channel 2402



99% Occupied Bandwidth

Channel 2480



3.10 §15.247(i) Maximum Permissible Exposure

Requirement:
Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the commision's guidelines. See §1.1307(b)(1) of this chaper.

Due to the nature of EUT, Calculations were performed according to devices used within 20 cm of person (FCC2.1093) - < 50mm test separation.

KDB 447498 D01 V06 was used to calculate the minimum separation distance allowed before SAR measurements were required.

1-g Head or Body SAR:
$\left(\frac{max.channel\ power,mW}{min.separation\ distance,mm}\right) \times \sqrt{f(GHz)} \leq 3.0$

10-g Extremity SAR:
$$\left(\frac{max.channel\ power,mW}{min.separation\ distance,mm}\right) \times \sqrt{f(GHz)} \leq 7.5$$

Result:

Maximum measured power, E.I.R.P. =85.1 dBµV/m (3 meters) =-10.13dBm = 0.097mW
Minimum separation distance = 5mm
Highest frequency = 2.48 GHz

0.097mW / 5 mm × √ 2.48 GHz = 0.03

Conclusion: Complied.

4.0 COMPLIANCE STATEMENT

The Theraflu Home Flu with Bluetooth, Model Number: I-FLU-C02 tested on behalf of Ellume Pty Ltd complied with the requirements of 47 CFR, Part 15 Subpart C - Rules for Radio Frequency Devices (intentional radiators) operating within the band: 2400 MHz to 2483.5 MHz.

5.0 MEASUREMENT UNCERTAINTY

EMC Technologies has evaluated the equipment and the methods used to perform the emissions testing. The estimated measurement uncertainties for emissions tests shown within this report are as follows:

Radiated Emissions:	9 kHz to 30 MHz	±4.1 dB
	30 MHz to 300 MHz	±5.1 dB
	300 MHz to 1000 MHz	±4.7 dB
	1 GHz to 18 GHz	±4.6 dB

The above expanded uncertainties are based on standard uncertainties multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%.