



Canada

# EMC & RF Test Report

As per

## RSS-247 Issue 2:2017 & FCC Part 15 Subpart 15.407

Unlicensed Intentional Radiators  
DTS System

on the

**ECB601/ECB501**

UNII-3 Transmitter

Issued by:

**TÜV SÜD Canada Inc.**

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Testing produced for

Prepared by:

Min Xie,  
Sr. Project Engineer

ecobee

See Appendix A for full client &  
EUT details.

Reviewed by:

Amir Emami,  
Project Engineer



Innovation, Science and  
Economic Development Canada

Registration #  
6844A-3



Testing Laboratory  
Certificate #2955.02



R-14023, G-20072  
C-14498, T-20060



Registration #  
CA6844

|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | <b>Ecobee Inc.</b>                                 |  |
| Product     | <b>ECB601/ECB501</b>                               |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

## Table of Contents

|                                                               |     |
|---------------------------------------------------------------|-----|
| Table of Contents .....                                       | 2   |
| Report Scope .....                                            | 3   |
| Summary .....                                                 | 4   |
| Test Results Summary .....                                    | 5   |
| Notes, Justifications, or Deviations .....                    | 6   |
| Sample Calculation(s) .....                                   | 7   |
| Applicable Standards, Specifications and Methods .....        | 8   |
| Document Revision Status .....                                | 9   |
| Definitions and Acronyms .....                                | 10  |
| Testing Facility .....                                        | 11  |
| Calibrations and Accreditations .....                         | 11  |
| Testing Environmental Conditions and Dates .....              | 12  |
| Detailed Test Results Section .....                           | 13  |
| 6 dB, 26 dB Emission Bandwidth & 99% Occupied Bandwidth ..... | 14  |
| Maximum Conducted Output Power .....                          | 26  |
| Power Spectral Density .....                                  | 33  |
| Transmitter Spurious Radiated Emissions .....                 | 41  |
| Power Line Conducted Emissions .....                          | 104 |
| Appendix A – EUT Summary .....                                | 110 |
| Appendix B – EUT and Test Setup Photos .....                  | 113 |

|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | <b>Ecobee Inc.</b>                                 |  |
| Product     | <b>ECB601/ECB501</b>                               |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

## Report Scope

This report addresses the EMC verification testing and test results of the **Ecobee Inc.'s Model: ECB601/ECB501 (UNII-1 Transmitter)** and is herein referred to as EUT (Equipment Under Test). The EUT was tested for compliance against the following standards:

RSS-247 Issue 2:2017

FCC Part 15 Subpart C 15.407

Test procedures, results, justifications, and engineering considerations, if any, follow later in this report.

This report does not imply product endorsement by any government, accreditation agency, or TÜV SÜD Canada Inc.

Opinions or interpretations expressed in this report, if any, are outside the scope of TÜV SÜD Canada Inc. accreditations. Any opinions expressed do not necessarily reflect the opinions of TÜV SÜD Canada Inc., unless otherwise stated.

|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | <b>Ecobee Inc.</b>                                 |  |
| Product     | <b>ECB601/ECB501</b>                               |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

## Summary

The results contained in this report relate only to the item(s) tested.

|                                      |                   |
|--------------------------------------|-------------------|
| EUT:                                 | ECB601/ECB501     |
| FCC Certification #, FCC ID:         | WR955470766937    |
| Industry Canada Certification #, IC: | 7981A-55470766937 |
| EUT passed all tests performed       | Yes               |
| Tests conducted by                   | Min Xie           |
| Report reviewed by                   | Amir Emami        |

For testing dates, see "Testing Environmental Conditions and Dates".

|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | <b>Ecobee Inc.</b>                                 |  |
| Product     | <b>ECB601/ECB501</b>                               |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

## Test Results Summary

| Standard/Method                                       | Description                                   | Class/Limit          | Result                        |
|-------------------------------------------------------|-----------------------------------------------|----------------------|-------------------------------|
| FCC 15.203<br>15.407(a)                               | Antenna Requirement                           | Unique               | Pass<br>See<br>Justification  |
| FCC 15.205<br>RSS-GEN (Table 6)                       | Restricted Bands for<br>Intentional Operation | QuasiPeak<br>Average | Pass                          |
| FCC 15.207<br>RSS-GEN (Table 3)                       | Power Line Conducted<br>Emissions             | QuasiPeak<br>Average | Pass                          |
| FCC 15.407(b)<br>RSS-247 6.2.1.2<br>RSS-GEN (Table 4) | Unwanted Emissions                            | QuasiPeak<br>Average | Pass                          |
| FCC 15.407(e)<br>RSS-247 6.2.4.1                      | 6 dB Bandwidth                                | > 500 kHz            | Pass                          |
| FCC 15.403(i)<br>RSS-247 6.2.1.2                      | 26 dB Bandwidth                               | --                   | Pass                          |
| FCC 2.1049<br>RSS-GEN 6.7                             | 99% Bandwidth                                 | --                   | Reporting Only                |
| FCC 15.407(a)                                         | Max Output Power                              | < 1 W (30 dBm)       | Pass                          |
| RSS-247 6.2.1.1                                       |                                               |                      | Pass                          |
| FCC 15.407(a)                                         | Antenna Gain                                  | < 6 dBi              | Pass<br>See<br>Justifications |
| FCC 15.407(a)                                         | Power Spectral Density                        | < 30 dBm/500 kHz     | Pass                          |
| RSS-247 6.2.4.1                                       | Power Spectral Density                        |                      | Pass                          |
| Overall Result                                        |                                               |                      | Pass                          |

If the product as tested or otherwise complies with the specification, the EUT is deemed to comply with the requirement and is deemed a 'PASS' grade. If not 'FAIL' grade will be issued. Note that 'PASS' / 'FAIL' grade is independent of any measurement uncertainties. A 'PASS' / 'FAIL' grade within measurement uncertainty is marked with a '\*'.

|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
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| Product     | <b>ECB601/ECB501</b>                               |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

### ***Notes, Justifications, or Deviations***

The following notes, justifications for tests not performed or deviations from the above listed specifications apply:

For the Antenna requirement specified in FCC 15.203 and 15.407 (a)), the unit uses a -0.8 dBi permanently connected flexible PCB antenna with less than 6 dBi gain.

For the Restricted Bands of operation, the EUT is designed to only operate between 5.725-5.850 MHz.

The EUT contains a 902 – 928 MHz FHSS/Hybrid System, a 2400 – 2483.5 MHz FHSS System, three 2400 – 2483.5 MHz DTS System, and UNII-1 and UNII-3 transmitters. Antenna co-location testing is applicable and documented in the test report.

For maximum permissible exposure, this device operates at less than 1 Watt at 2400 – 2483.5 MHz and is designed to operate greater than 20 cm from any personnel during normal operation. No testing is required, however worst-case calculated exposure compliance was shown in the RF Exposure exhibits.

This DTS report documents the 5.725-5.850 MHz UNII-3 transceiver.

For DFS, the 26 dB BW of 40 MHz channels were within 5470 -5725 MHz band; however, the 99% BW were outside UNII-2C. Thus, DFS testing are not require as per RSS-247 and FCC KDB 789033 Section III B. 2. a)(i).

As per FCC KDB 789033, “Section 15.407(g) specifies that U-NII devices are required to ensure frequency stability...the applications for equipment certification are not required to include test reports with explicit demonstration of compliance.” Temperature stability measurements were not performed. See ECB601 FRQ\_STB + DC\_TX exhibit for additional details.

ECB601 FRQ\_STB + DC\_TX exhibit also details how the device complies with 15.407 (c) and RSS 247 Section 6.4.

|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
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| Product     | <b>ECB601/ECB501</b>                               |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

### ***Sample Calculation(s)***

#### **Radiated Emission Test**

E-Field Level = Received Signal + Antenna Factor + Cable Loss – Pre-Amp Gain

E-Field Level = 50dB $\mu$ V + 10dB/m + 2dB – 20dB

E-Field Level = 42dB $\mu$ V/m

Margin = Limit – E-Field Level

Margin = 50dB $\mu$ V/m – 42dB $\mu$ V/m

Margin = 8.0 dB (pass)

#### **Power Line Conducted Emission Test**

E-Field Level = Received Signal + Attenuation Factor + Cable Loss + LISN Factor

E-Field Level = 50dB $\mu$ V + 10dB + 2.5dB + 0.5dB

E-Field Level = 63dB $\mu$ V

Margin = Limit – E-Field Level

Margin = 73dB $\mu$ V – 63dB $\mu$ V

Margin = 10.0 dB (pass)

|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
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| Product     | <b>ECB601/ECB501</b>                               |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

## Applicable Standards, Specifications and Methods

|                                       |                                                                                                                                      |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| ANSI C63.4:2014                       | Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz |
| ANSI C63.10:2013                      | American National Standard For Testing Unlicensed Wireless Devices                                                                   |
| CFR 47 FCC 15 Subpart E               | Code of Federal Regulations – Radio Frequency Devices, Intentional Radiators                                                         |
| FCC KDB 414788 D01: 2018              | Radiated Test Site v01r01                                                                                                            |
| FCC KDB 789033 D02: 2017              | General U-NII Test Procedures New Rules v02r01                                                                                       |
| FCC KDB 447498: 2015                  | RF exposure procedures and equipment authorization policies for mobile and portable devices                                          |
| ICES-003 Issue 7 2020                 | Digital Apparatus - Spectrum Management and Telecommunications Policy Interference-Causing Equipment Standard                        |
| RSS-GEN Issue 5: 2018+A1:2019+A2:2021 | General Requirements and Information for the Certification of Radio Apparatus                                                        |
| RSS-247 Issue 2:2017                  | Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices         |
| ISO 17025:2017                        | General Requirements for the Competence of Testing and Calibration Laboratories                                                      |

|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
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| Product     | <b>ECB601/ECB501</b>                               |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

## Document Revision Status

| Revision | Date       | Description                                | Initials |
|----------|------------|--------------------------------------------|----------|
| 000      | 2022-04-24 | Initial Release                            | MX       |
| 001      | 2022-05-03 | Updated Appendix A and added antenna gain. | MX       |

|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | <b>Ecobee Inc.</b>                                 |  |
| Product     | <b>ECB601/ECB501</b>                               |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

## Definitions and Acronyms

The following definitions and acronyms are applicable in this report.  
See also ANSI C63.14.

**DTS** – Digital Transmission System  
**LISN** – Line Impedance Stabilization Network  
**NCR** – No Calibration Required  
**NSA** – Normalized Site Attenuation  
**N/A** – Not Applicable  
**RF** – Radio Frequency

**AE** – Auxiliary Equipment. A digital accessory that feeds data into or receives data from another device (host) that in turn, controls its operation.

**Antenna Port** – Port, other than a broadcast receiver tuner port, for connection of an antenna used for intentional transmission and/or reception of radiated RF energy.

**BW** – Bandwidth. Unless otherwise stated, this refers to the 6 dB bandwidth.

**EMC** – Electro-Magnetic Compatibility. The ability of an equipment or system to function satisfactorily in its electromagnetic environment without introducing intolerable electromagnetic disturbances to anything in that environment.

**EMI** – Electro-Magnetic Immunity. The ability to maintain a specified performance when the equipment is subjected to disturbance (unwanted) signals of specified levels.

**EUT** – Equipment Under Test. A device or system being evaluated for compliance that is representative of a product to be marketed.

**ITE** – Information Technology Equipment. Has a primary function of entry, storage, display, retrieval, transmission, processing, switching, or control of data and/or telecommunication messages and which may be equipped with one or more ports typically for information transfer.

|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
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| Product     | <b>ECB601/ECB501</b>                               |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

## Testing Facility

Testing for EMC on the EUT was carried out at TÜV SÜD Canada testing lab near Toronto, Ontario. The testing lab has calibrated 3m semi-anechoic chambers which allow measurements on a EUT that has a maximum width or length of up to 2m and a height of up to 3m. The testing lab also has a calibrated 10m Open Area Test Site (OATS). The chambers are equipped with a turntable that is capable of testing devices up to 5000lb in weight and are equipped with a mast that controls the polarization and height of the antenna. Control of the mast occurs in the control room adjoining the shielded chamber. This facility is capable of testing products that are rated for single phase or 3-phase AC input and DC capability is also available. Radiated emission measurements are performed using a BiLog antenna and a Horn antenna where applicable. Conducted emissions, unless otherwise stated, are performed using a LISN and using the vertical ground plane if applicable.

### **Calibrations and Accreditations**

The 3m semi-anechoic chamber is registered with Federal Communications Commission (FCC, CA6844), Innovation, Science and Economic Development Canada (ISED, 6844A-3) and Voluntary Control Council for Interference (VCCI, R-14023, G-20072, C-14498, and T-20060). This chamber was calibrated for Normalized Site Attenuation (NSA) using test procedures outlined in ANSI C63.4 "Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz". The chamber is lined with ferrite tiles and absorption cones to minimize any undesired reflections. The NSA data is kept on file at TÜV SÜD Canada. For radiated susceptibility testing, a 16 point field calibration has been performed on the chamber. The field uniformity data is kept on file at TÜV SÜD Canada. TÜV SÜD Canada Inc. is accredited to ISO 17025 by A2LA with Testing Certificate #2955.02. The laboratory's current scope of accreditation listing can be found as listed on the A2LA website. All measuring equipment is calibrated on an annual or biennial basis as listed for each respective test.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | <b>Ecobee Inc.</b>                                 | <br>Canada |
| Product     | <b>ECB601/ECB501</b>                               |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

### ***Testing Environmental Conditions and Dates***

Following environmental conditions were recorded in the facility during time of testing

| <b>Date</b> | <b>Test</b>                    | <b>Initials</b> | <b>Temperature (°C)</b> | <b>Humidity (%)</b> | <b>Pressure (kPa)</b> |
|-------------|--------------------------------|-----------------|-------------------------|---------------------|-----------------------|
| 2021-09-28  | Radiated Emissions             | MX              | 24.3                    | 48.9                | 102.2                 |
| 2021-09-29  | Radiated Emissions             | MX              | 24.0                    | 57.2                | 101.0                 |
| 2022-02-22  | Antenna Conducted Emissions    | MX              | 23.0                    | 17.4                | 101.6                 |
| 2022-02-23  | Antenna Conducted Emissions    | MX              | 23.2                    | 22.3                | 100.5                 |
| 2021-10-01  | Power Line Conducted Emissions | MX              | 23.2                    | 39.8                | 102.2                 |

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | <b>Ecobee Inc.</b>                                 | <br>Canada |
| Product     | <b>ECB601/ECB501</b>                               |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

## Detailed Test Results Section

|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | <b>Ecobee Inc.</b>                                 |  |
| Product     | <b>ECB601/ECB501</b>                               |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

## ***6 dB, 26 dB Emission Bandwidth & 99% Occupied Bandwidth***

### **Purpose**

The purpose of this test is to ensure that the bandwidth occupied exceeds a stated minimum such that it meets the definition of a Digital Modulation. This helps ensure the utilization of the frequency allocation is sufficiently wide. This also helps prevent corruption of data by ensuring adequate data separation to distinguish the reception of the intended information.

### **Limits and Method**

The requirement is as specified in FCC Part 15.403(i), 15.407 (e) and RSS-247 6.2.4

There is no limit specified for 26 dB Emission and 99% bandwidths. This section is for reporting purpose only.

For equipment operating in the band 5725-5850 MHz, the minimum 6 dB bandwidth shall be at least 500 kHz.

The method is given in FCC KDB 789033 D02 and ANSI C63.10.

The 6 dB (DTS Bandwidth), 26 dB Emission Bandwidth (EBW) and 99% Occupied Bandwidth was measured in accordance with the FCC KDB Publication No. 789033 D02:

For DTS Bandwidth, the was RBW set to 100 kHz. Measure the maximum width of the emission that is 6 dB down from the maximum of the emission.

For EBW, the RBW was set to approximately 1% of the emission bandwidth. Measure the maximum width of the emission that is 26 dB down from the maximum of the emission.

For OBW, the RBW was set to 1% to 5% of the OBW and set the VBW  $\geq 3 * \text{RBW}$ . The OBW was measured by using 99% bandwidth equipment function of the spectrum analyzer using a peak detector.

|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        |  |
| Product     | ECB601/ECB501                                      |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

## Results

The EUT passed. The EUT supports three modes of operation, 802.11a/n/ac. The n and ac-mode support 20 and 40 MHz nominal bandwidth. Three Channels for each mode were measured. The following tables show the 26 dB and 99% bandwidth:

| 802.11A-20MHz                                                                    |                 |                     |                      |                     |
|----------------------------------------------------------------------------------|-----------------|---------------------|----------------------|---------------------|
| Channel                                                                          | Frequency (MHz) | 6dB Bandwidth (MHz) | 26dB Bandwidth (MHz) | 99% Bandwidth (MHz) |
| Low                                                                              | 5745            | 15.060              | 35.233               | 18.88               |
| Mid                                                                              | 5785            | 15.650              | 35.616               | 19.10               |
| High                                                                             | 5825            | 15.448              | 35.080               | 19.07               |
| F <sub>L</sub> (26 dB BW) = 5727.85 MHz<br>F <sub>L</sub> (99% BW) = 5735.65 MHz |                 |                     |                      |                     |

| 802.11N-20MHz                                                                    |                 |                     |                      |                     |
|----------------------------------------------------------------------------------|-----------------|---------------------|----------------------|---------------------|
| Channel                                                                          | Frequency (MHz) | 6dB Bandwidth (MHz) | 26dB Bandwidth (MHz) | 99% Bandwidth (MHz) |
| Low                                                                              | 5745            | 16.121              | 21.650               | 17.85               |
| Mid                                                                              | 5785            | 16.233              | 21.883               | 17.78               |
| High                                                                             | 5825            | 16.183              | 21.600               | 17.90               |
| F <sub>L</sub> (26 dB BW) = 5734.25 MHz<br>F <sub>L</sub> (99% BW) = 5736.10 MHz |                 |                     |                      |                     |

| 802.11AC-20MHz                                                                   |                 |                     |                      |                     |
|----------------------------------------------------------------------------------|-----------------|---------------------|----------------------|---------------------|
| Channel                                                                          | Frequency (MHz) | 6dB Bandwidth (MHz) | 26dB Bandwidth (MHz) | 99% Bandwidth (MHz) |
| Low                                                                              | 5745            | 16.267              | 21.850               | 17.82               |
| Mid                                                                              | 5785            | 16.133              | 21.716               | 17.80               |
| High                                                                             | 5825            | 16.133              | 21.550               | 17.78               |
| F <sub>L</sub> (26 dB BW) = 5734.07 MHz<br>F <sub>L</sub> (99% BW) = 5736.11 MHz |                 |                     |                      |                     |

|             |                                                    |                                                                                     |
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| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

| 802.11N-40MHz                                                                   |                 |                     |                      |                     |
|---------------------------------------------------------------------------------|-----------------|---------------------|----------------------|---------------------|
| Channel                                                                         | Frequency (MHz) | 6dB Bandwidth (MHz) | 26dB Bandwidth (MHz) | 99% Bandwidth (MHz) |
| Low                                                                             | 5755            | 35.653              | 73.900               | 43.65               |
| High                                                                            | 5795            | 35.710              | 73.233               | 43.81               |
| F <sub>L</sub> (26 dB BW) = 5718.0 MHz<br>F <sub>L</sub> (99% BW) = 5732.97 MHz |                 |                     |                      |                     |

| 802.11AC-40MHz                                                                   |                 |                     |                      |                     |
|----------------------------------------------------------------------------------|-----------------|---------------------|----------------------|---------------------|
| Channel                                                                          | Frequency (MHz) | 6dB Bandwidth (MHz) | 26dB Bandwidth (MHz) | 99% Bandwidth (MHz) |
| Low                                                                              | 5755            | 35.570              | 73.830               | 43.01               |
| High                                                                             | 5795            | 35.573              | 75.033               | 44.26               |
| F <sub>L</sub> (26 dB BW) = 5717.66 MHz<br>F <sub>L</sub> (99% BW) = 5733.45 MHz |                 |                     |                      |                     |

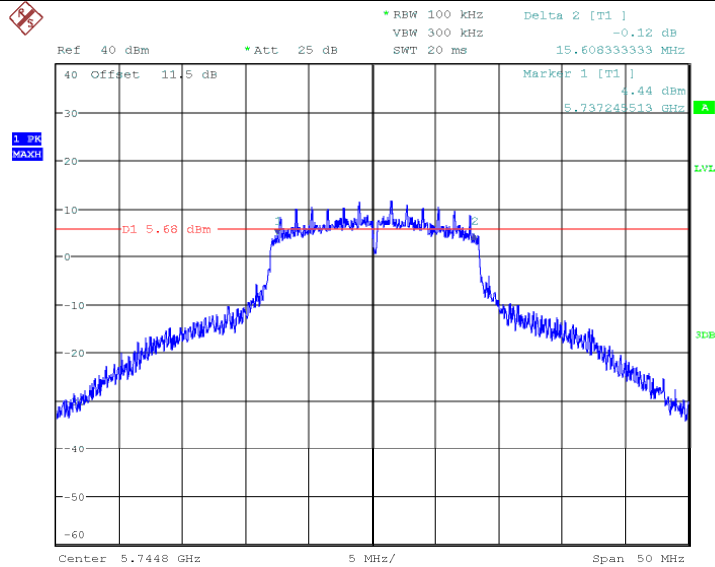
## Graphs

The graphs shown below show the EBW and OBW of the device during the conducted measurement operation of the EUT. This is measured by a max hold on the spectrum analyzer.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

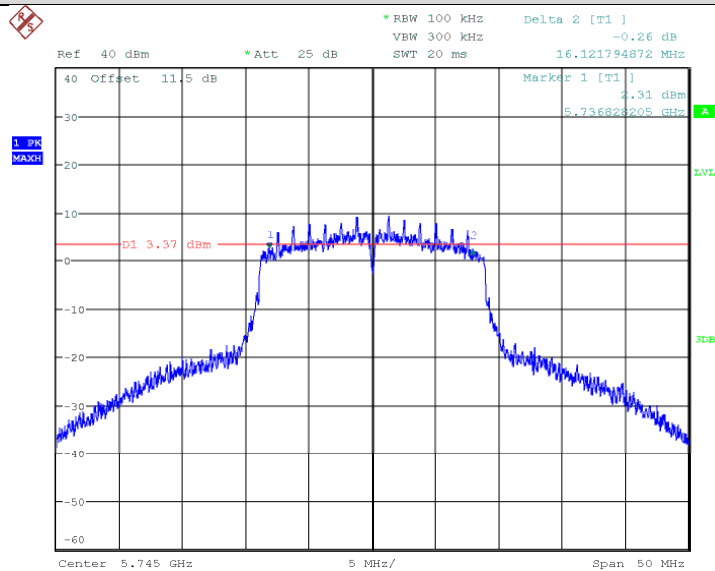
## 6 dB Bandwidth

### 802.11A-20MHz - Low Channel



Date: 22.FEB.2022 15:15:12

### 802.11N-20MHz - Low Channel

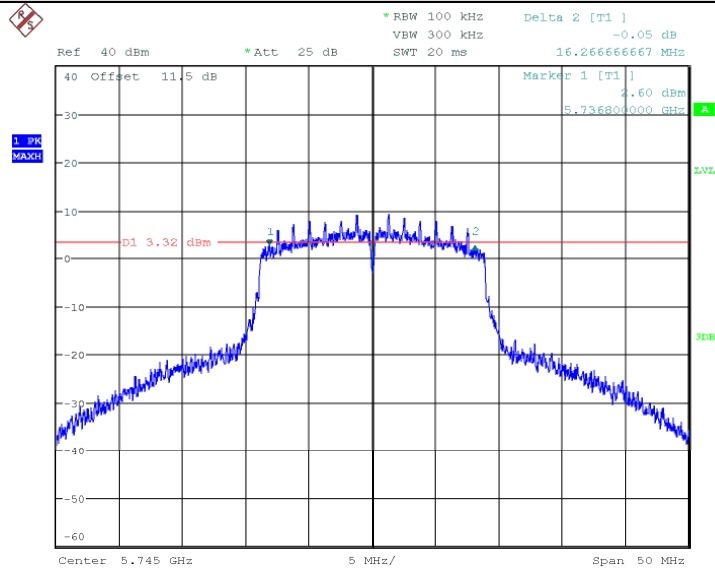


Date: 22.FEB.2022 15:54:07

|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        |  |
| Product     | ECB601/ECB501                                      |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

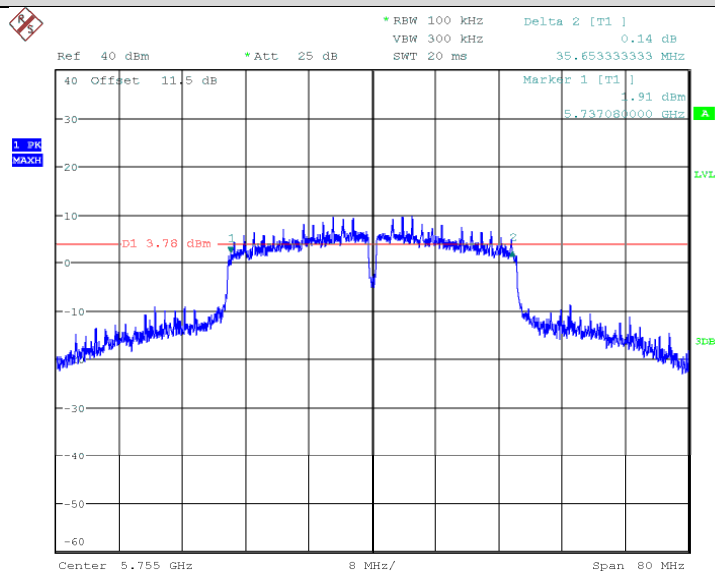
## 6 dB Bandwidth

### 802.11AC-20MHz - Low Channel



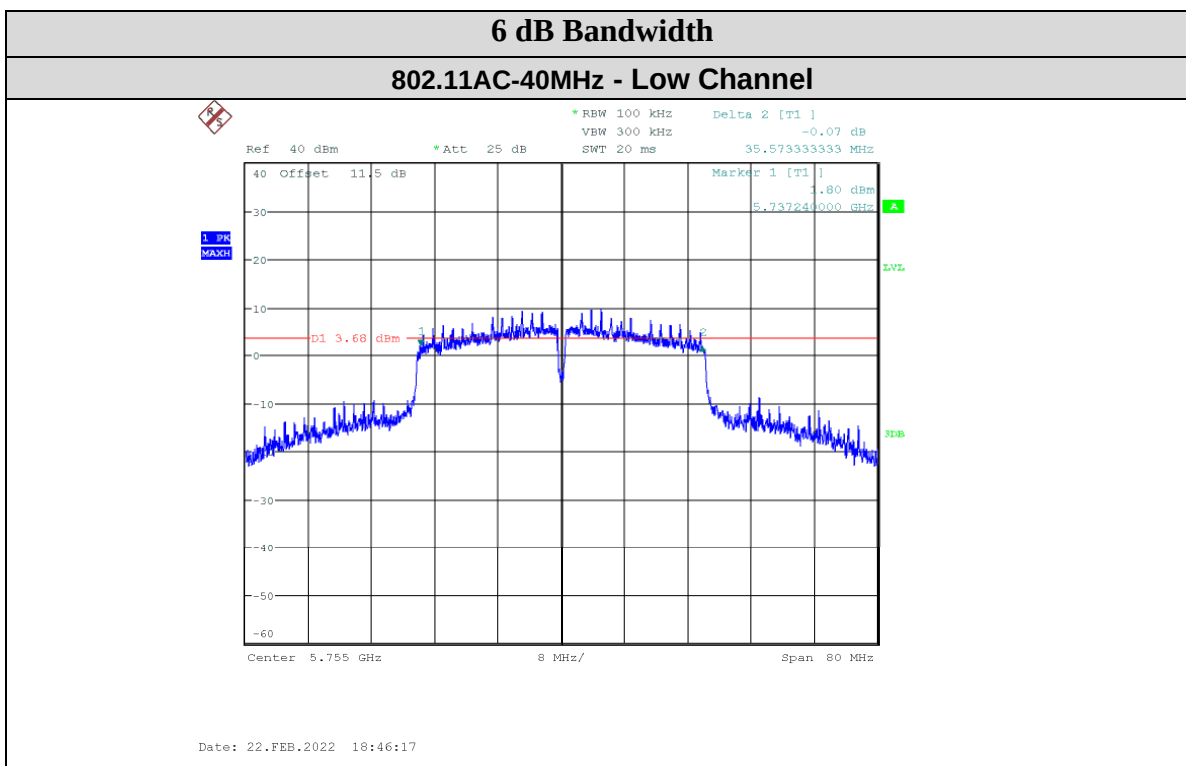
Date: 22.FEB.2022 16:36:36

### 802.11N-40MHz - Low Channel



Date: 22.FEB.2022 17:08:16

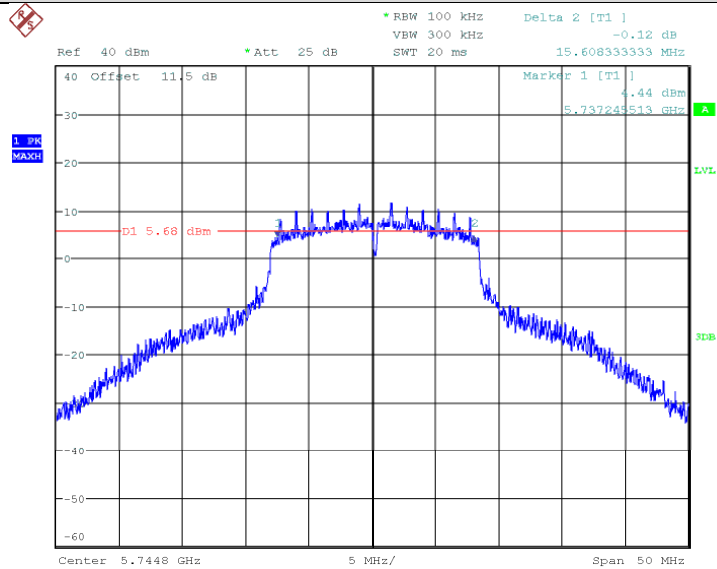
|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |



|             |                                                    |                                                                                     |
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| Product     | ECB601/ECB501                                      |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

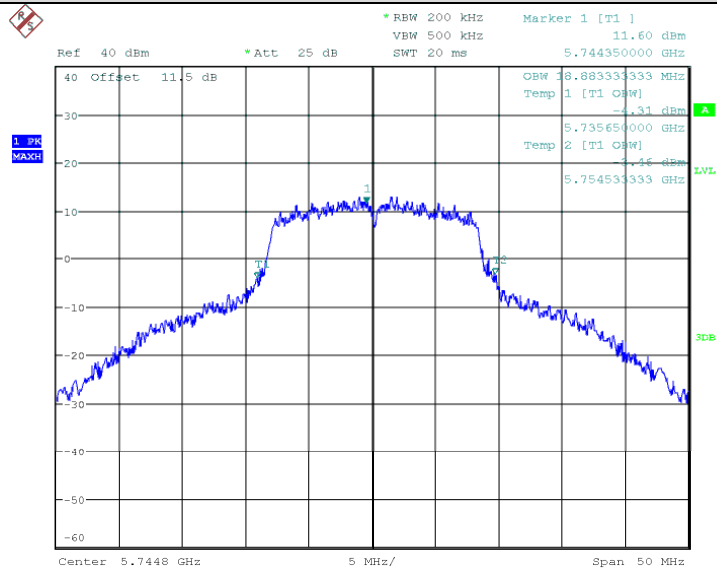
## 802.11A-20MHz - Low Channel

### 26dB Bandwidth



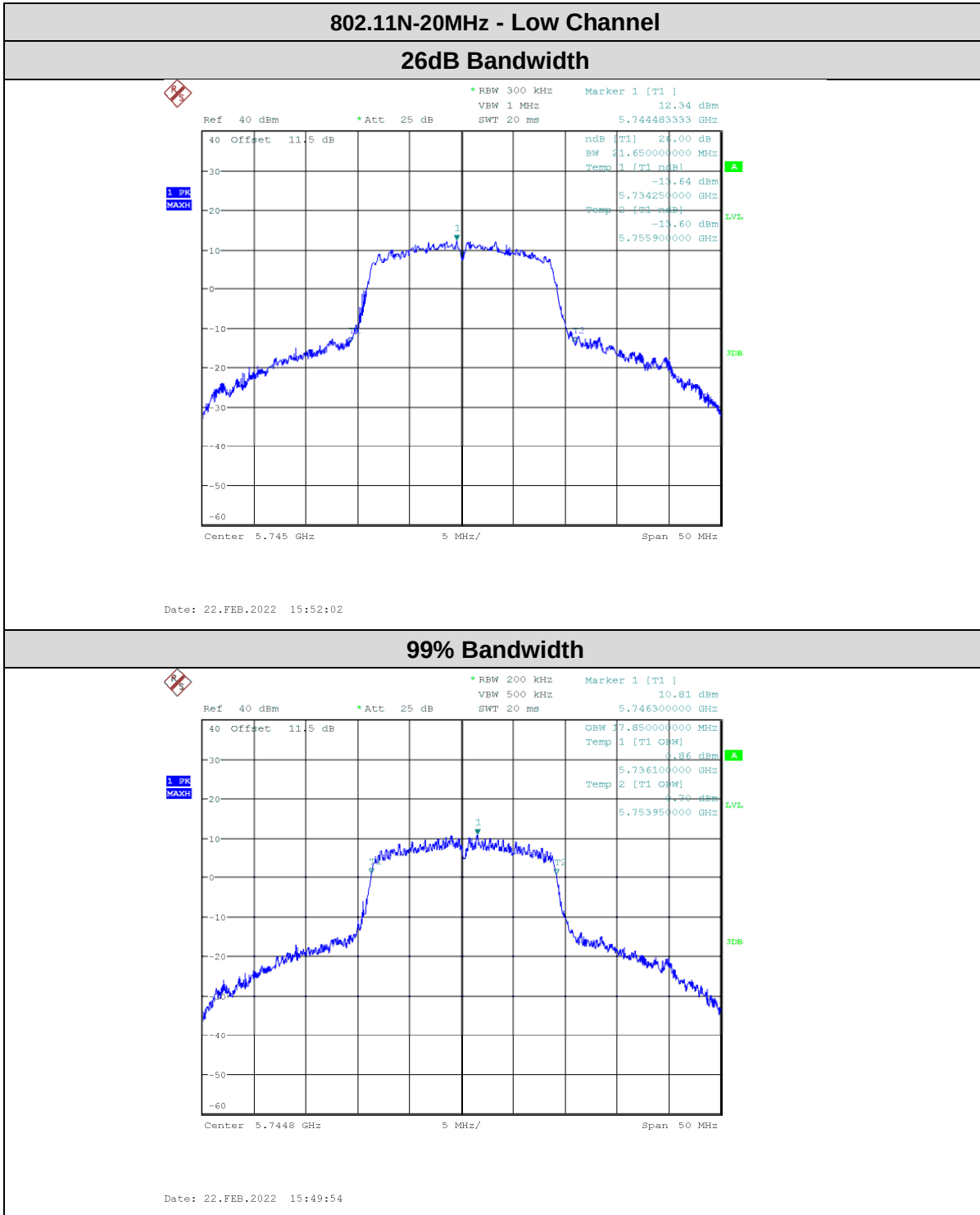
Date: 22.FEB.2022 15:15:12

### 99% Bandwidth



Date: 22.FEB.2022 14:12:15

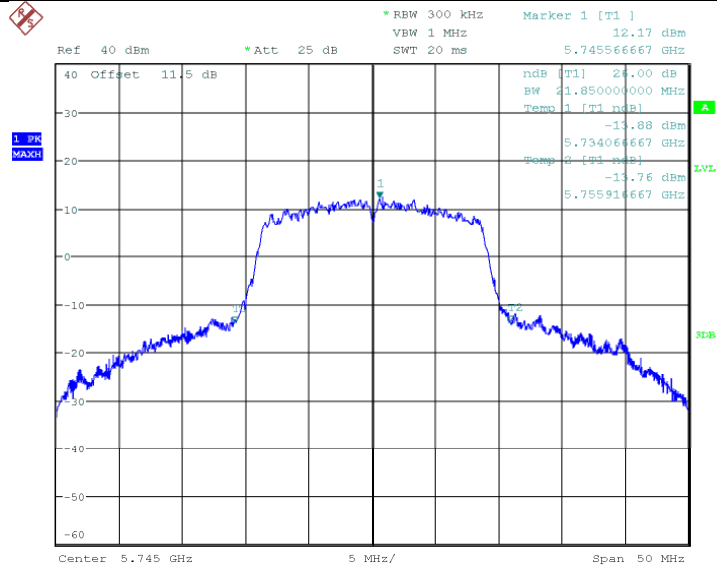
|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        |  |
| Product     | ECB601/ECB501                                      |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |



|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        |  |
| Product     | ECB601/ECB501                                      |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

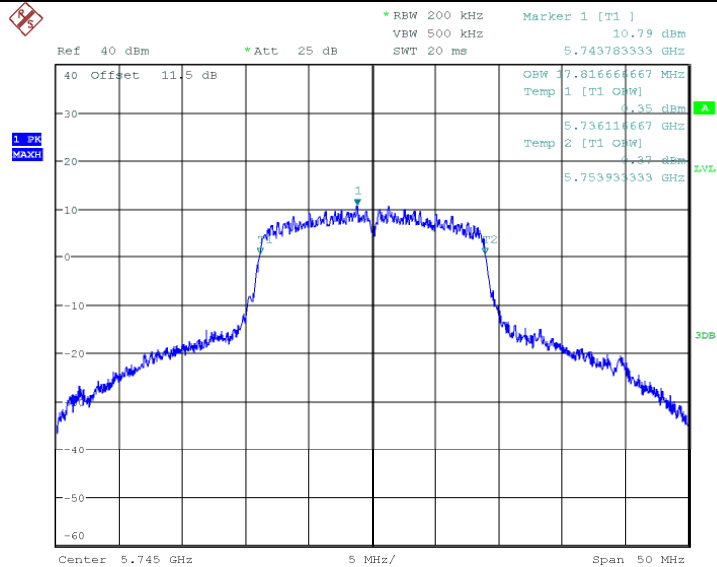
## 802.11AC-20MHz - Low Channel

### 26dB Bandwidth



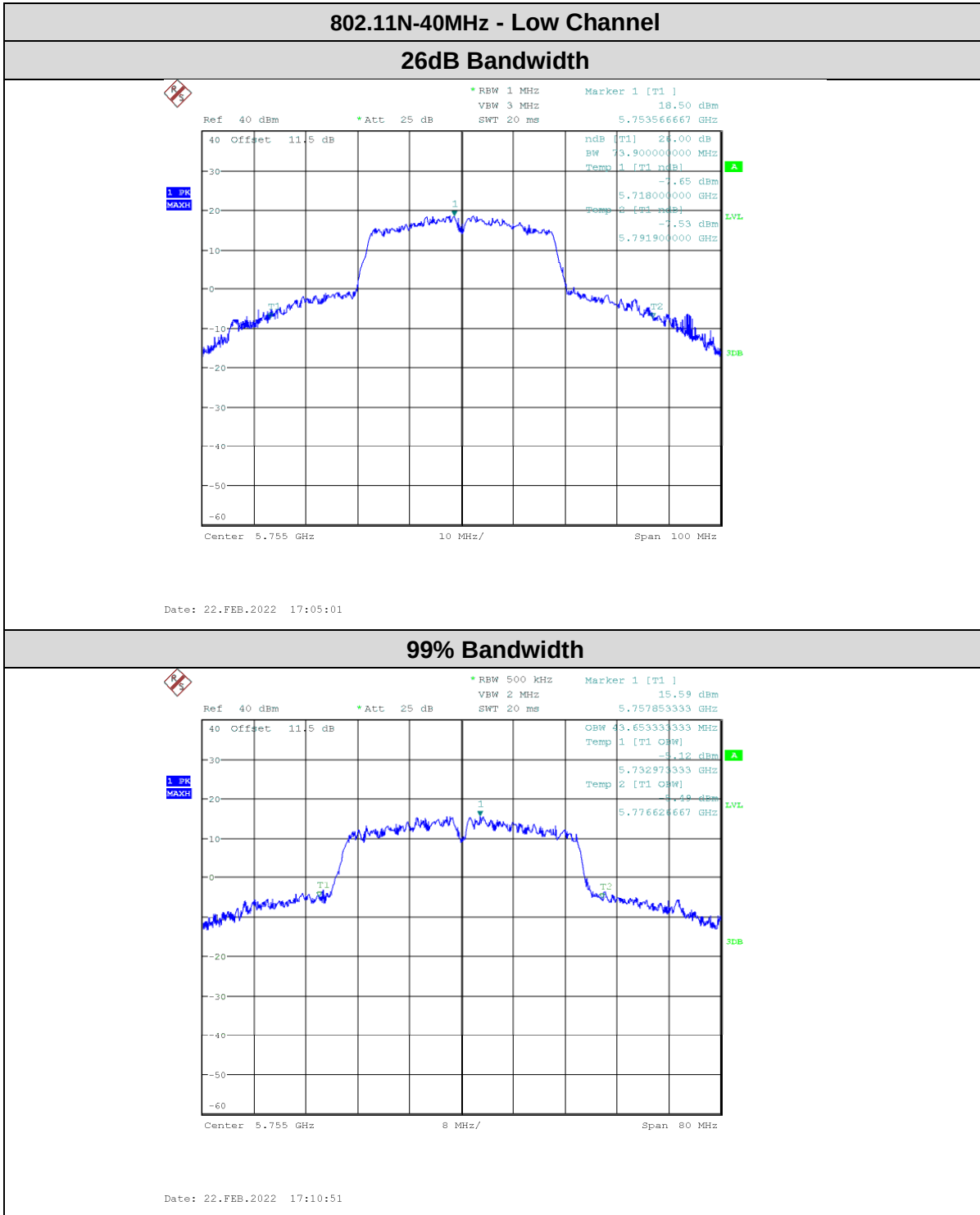
Date: 22.FEB.2022 16:34:27

### 99% Bandwidth



Date: 22.FEB.2022 16:33:26

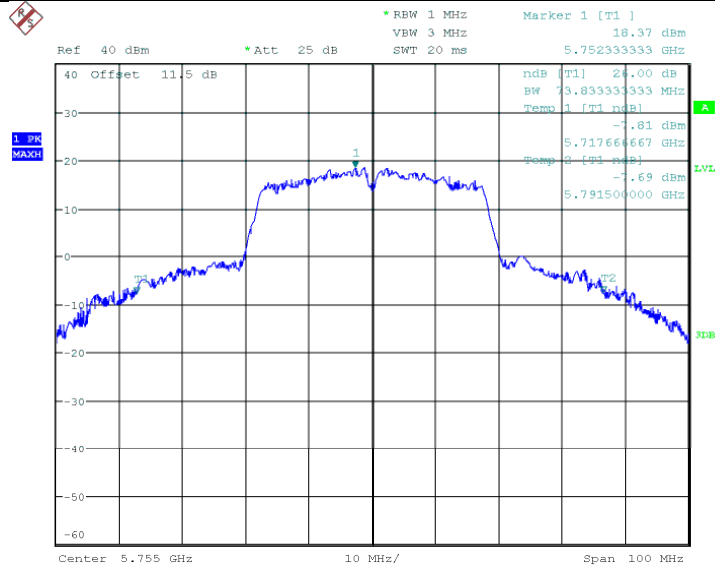
|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |



|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        |  |
| Product     | ECB601/ECB501                                      |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

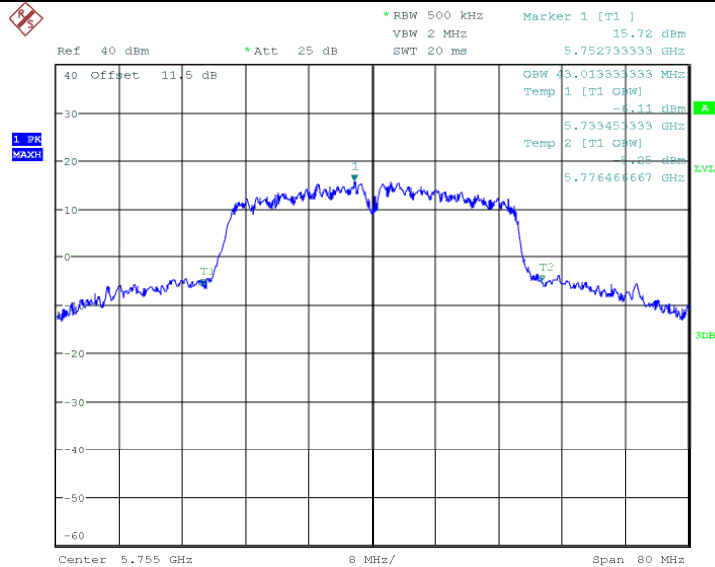
## 802.11AC-40MHz - Low Channel

### 26dB Bandwidth



Date: 22.FEB.2022 18:44:49

### 99% Bandwidth



Date: 22.FEB.2022 18:42:13

|             |                                                    |                                                                                                             |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| Client      | <b>Ecobee Inc.</b>                                 | <br>TUV<br>SUD<br>Canada |
| Product     | <b>ECB601/ECB501</b>                               |                                                                                                             |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                                             |

Note: See 'Appendix B – EUT & Test Setup Photos' for photos showing the test set-up.

### Test Equipment List

| Equipment         | Model No. | Manufacturer    | Last Calibration Date | Next Calibration Date | Asset #  |
|-------------------|-----------|-----------------|-----------------------|-----------------------|----------|
| Spectrum Analyzer | FSQ26     | Rohde & Schwarz | Nov 30, 2021          | Nov 30, 2023          | GEMC 234 |
| Attenuator 10 dB  | 8493B     | Agilent         | Oct 4, 2021           | Oct 4, 2022           | GEMC133  |
| Attenuator 10 dB  | 3M-10     | Weinschel       | Oct 4, 2021           | Oct 4, 2022           | GEMC 279 |

|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | <b>Ecobee Inc.</b>                                 |  |
| Product     | <b>ECB601/ECB501</b>                               |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

## **Maximum Conducted Output Power**

### **Purpose**

The purpose of this test is to ensure that the maximum power conducted to the radiating element does not exceed the limits specified. This ensures that if the end-user replaces the antenna, the maximum power does not exceed an amount which may create an excessive power level.

### **Limits and Method**

The limits are defined in FCC Part 15.407(a)(1)(iv) and RSS-247 6.2.1.1. The EUT is a client device and is not installed in vehicles. Thus, applicable limits are:

|                            | FCC Part<br>15.407(a)(3) | RSS-247 6.2.4.1 |
|----------------------------|--------------------------|-----------------|
| Frequency Range (MHz)      | 5725 - 5850              | 5725 - 5850     |
| Max Conducted Output Power | 1 W (30 dBm)             | 1 W (30 dBm)    |

For FCC, if the antenna gain is above 6 dBi, the output power shall be reduced by the amount in dB that the antenna gain exceeds 6 dB.

The Maximum Conducted Output Power was measured in accordance with FCC KDB 789033 D02 and ANSI C63.10 Method SA-1.

The RF output of the equipment under test was directly connected to the input of the spectrum analyzer through suitable attenuation. The power was integrated over the 99% OBW alternative bandwidth instead of the 26 dB EBW.

### **Results**

The EUT passed. All modulation are below 1000 mW limit.

|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        |  |
| Product     | ECB601/ECB501                                      |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

| 802.11A-20MHz |                 |                 |                |            |
|---------------|-----------------|-----------------|----------------|------------|
| Channel       | Frequency (MHz) | Avg Power (dBm) | Avg Power (mW) | Limit (mW) |
| Low           | 5745            | 21.47           | 140.28         | 1000.00    |
| Mid           | 5785            | 21.51           | 141.58         | 1000.00    |
| High          | 5825            | 21.62           | 145.21         | 1000.00    |

| 802.11N-20MHz |                 |                 |                |            |
|---------------|-----------------|-----------------|----------------|------------|
| Channel       | Frequency (MHz) | Avg Power (dBm) | Avg Power (mW) | Limit (mW) |
| Low           | 5745            | 19.05           | 80.35          | 1000.00    |
| Mid           | 5785            | 19.20           | 83.18          | 1000.00    |
| High          | 5825            | 19.19           | 82.99          | 1000.00    |

| 802.11AC-20MHz |                 |                 |                |            |
|----------------|-----------------|-----------------|----------------|------------|
| Channel        | Frequency (MHz) | Avg Power (dBm) | Avg Power (mW) | Limit (mW) |
| Low            | 5745            | 19.13           | 81.85          | 1000.00    |
| Mid            | 5785            | 19.18           | 82.79          | 1000.00    |
| High           | 5825            | 19.17           | 82.60          | 1000.00    |

| 802.11N-40MHz |                 |                 |                |            |
|---------------|-----------------|-----------------|----------------|------------|
| Channel       | Frequency (MHz) | Avg Power (dBm) | Avg Power (mW) | Limit (mW) |
| Low           | 5755            | 22.37           | 172.58         | 1000.00    |
| High          | 5795            | 22.36           | 172.19         | 1000.00    |

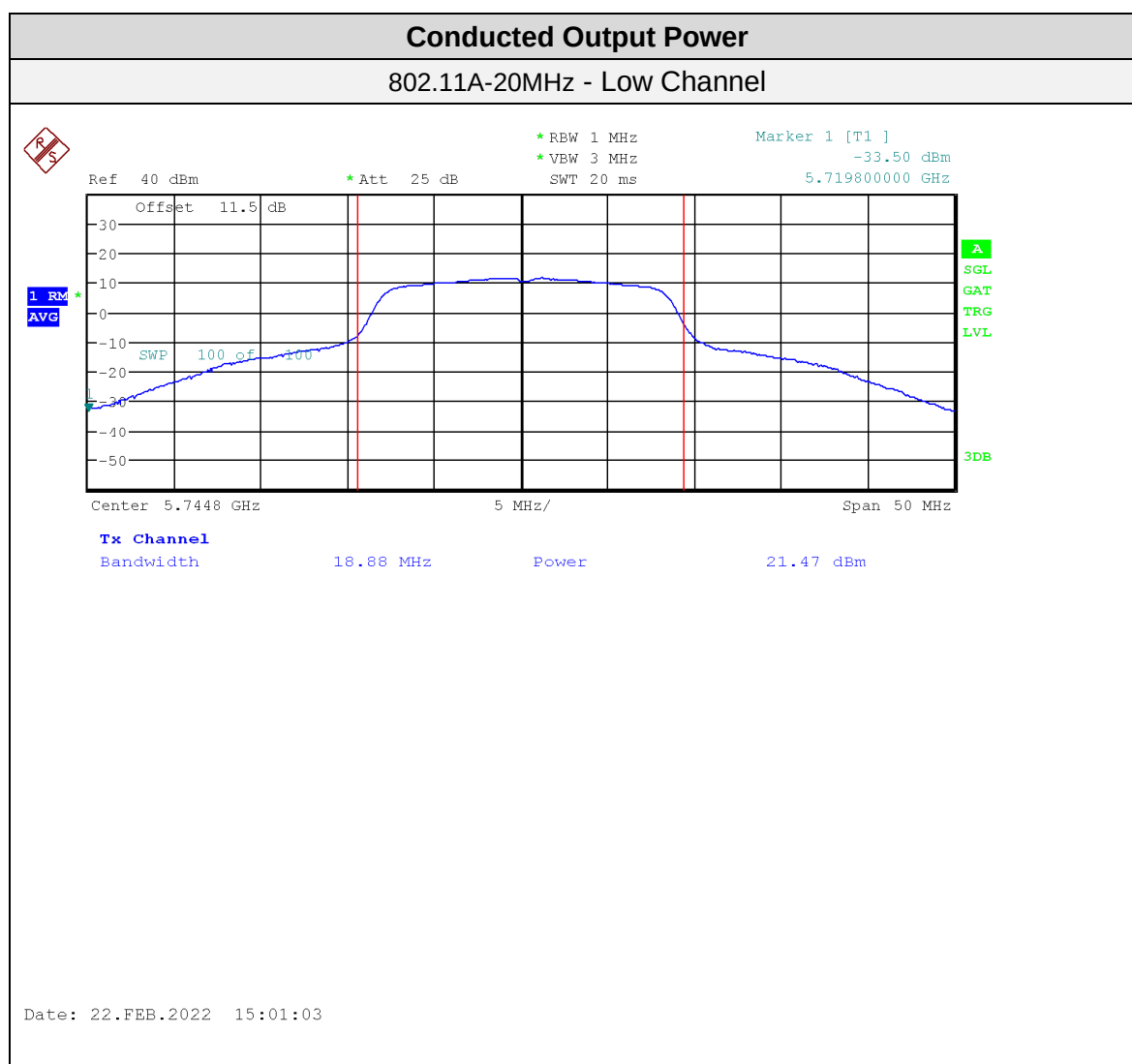
| 802.11AC-40MHz |                 |                 |                |            |
|----------------|-----------------|-----------------|----------------|------------|
| Channel        | Frequency (MHz) | Avg Power (dBm) | Avg Power (mW) | Limit (mW) |
| Low            | 5755            | 22.35           | 171.79         | 1000.00    |
| High           | 5795            | 22.33           | 171.00         | 1000.00    |

Note: The external attenuator and cable loss are accounted for as reference offset in the spectrum analyzer

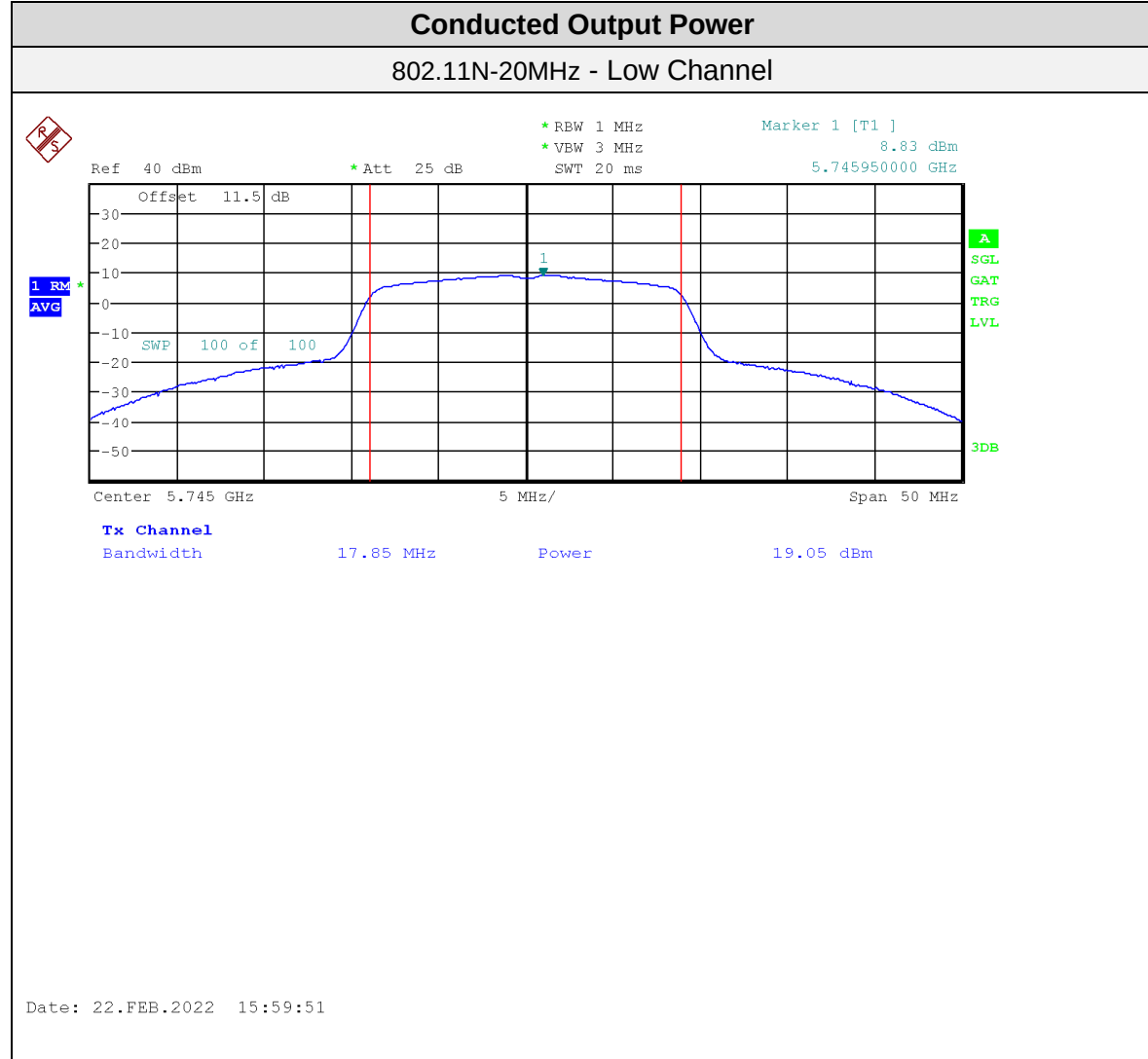
|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        |  |
| Product     | ECB601/ECB501                                      |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

## Graphs

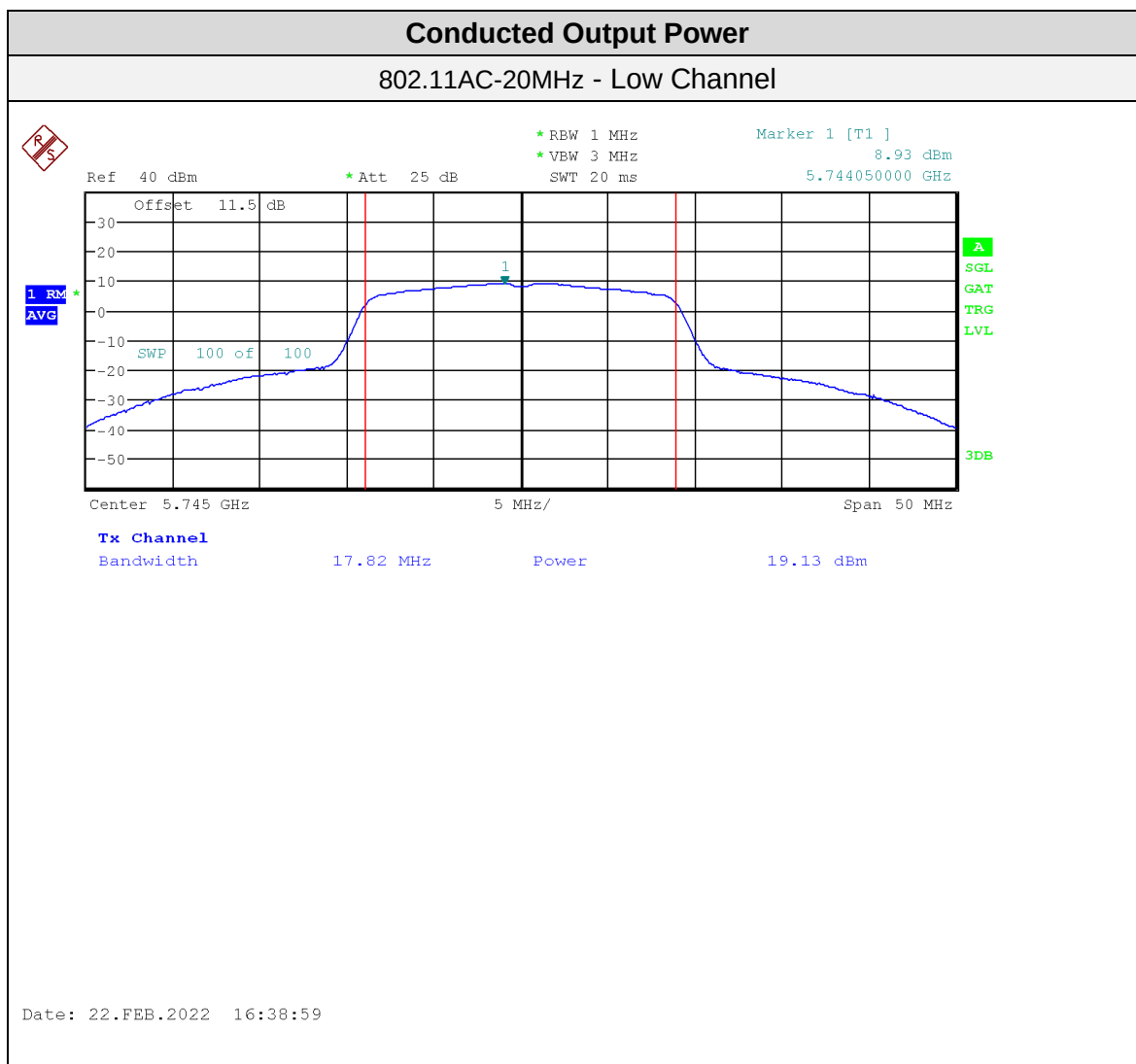
The graphs shown below show the maximum conducted output power of the device during the conducted measurement operation of the EUT. External attenuator and cable loss were accounted for as reference offset in the spectrum analyzer. Low, middle, and high channels were investigated in each mode, with the worst case being presented. The measurement RBW is set to 1 MHz and  $VBW \geq 3$  MHz. The integrated band power measurement method SA-1 was used.



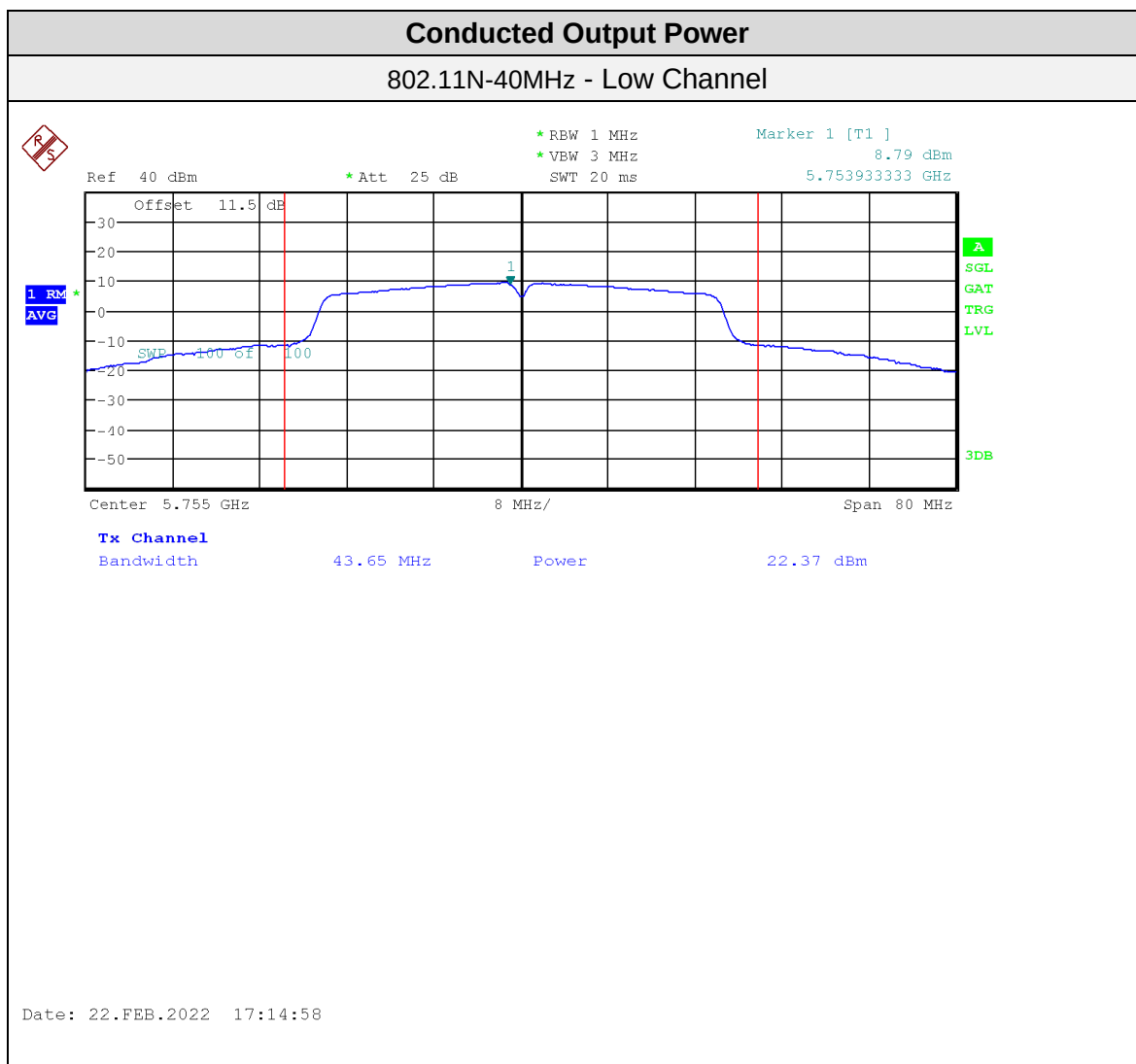
|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |



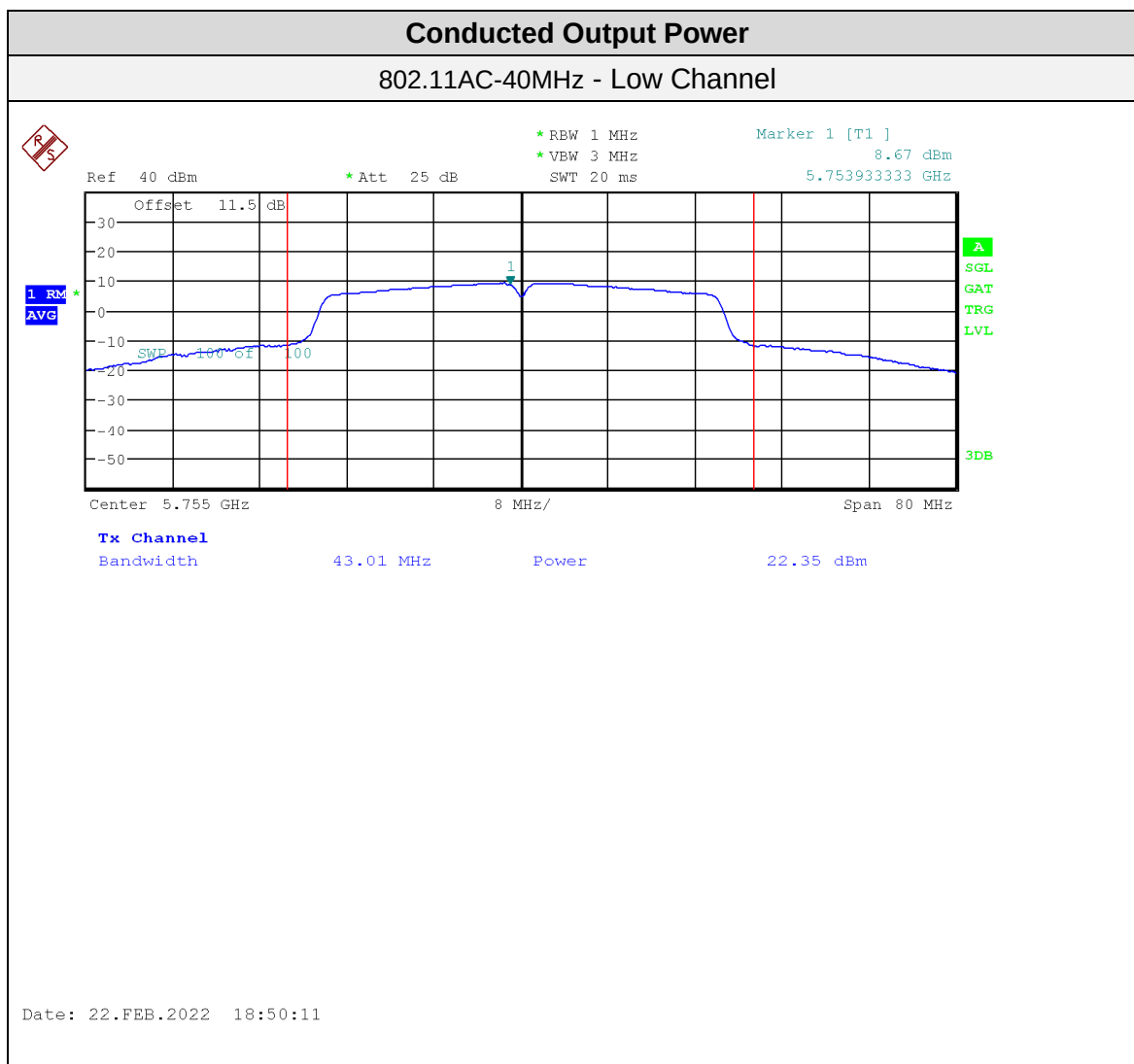
|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |



|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |



|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        |  |
| Product     | ECB601/ECB501                                      |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |



See 'Appendix B – EUT and Test Setup Photos' for photos showing the test set-up.

## Test Equipment List

| Equipment         | Model No. | Manufacturer    | Last Calibration Date | Next Calibration Date | Asset #  |
|-------------------|-----------|-----------------|-----------------------|-----------------------|----------|
| Spectrum Analyzer | FSQ26     | Rohde & Schwarz | Nov 30, 2021          | Nov 30, 2023          | GEMC 234 |
| Attenuator 10 dB  | 8493B     | Agilent         | Oct 4, 2021           | Oct 4, 2022           | GEMC133  |
| Attenuator 10 dB  | 3M-10     | Weinschel       | Oct 4, 2021           | Oct 4, 2022           | GEMC 279 |

|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | <b>Ecobee Inc.</b>                                 |  |
| Product     | <b>ECB601/ECB501</b>                               |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

## Power Spectral Density

### Purpose

The purpose of this test is to ensure that the maximum power spectral density to the radiating element does not exceed the limits specified. This ensures that the modulation is significantly wide enough, or low enough in power that it will allow for co-operation of other wireless devices operating within this frequency allocation.

### Limits and Method

The limits are defined in FCC Part 15.407(a)(3) and RSS-247 6.2.4.1. The applicable limits are:

|                                               | FCC Part<br>15.407(a)(3) | RSS-247 6.2.4.1 |
|-----------------------------------------------|--------------------------|-----------------|
| Frequency Range (MHz)                         | 5725 - 5850              | 5725 - 5850     |
| Max Conducted Power Spectral<br>Density (PSD) | 30 dBm/500 kHz           | 30 dBm/500 kHz  |

For FCC, if the antenna gain is above 6 dBi, the power density shall be reduced by the amount in dB that the antenna gain exceeds 6 dB.

The power spectral density was measured using the same method describe in Maximum Conducted Output section: FCC KDB 789033 D02 and ANSI C63.10 Method SA-1.

### Results

The EUT passed. Low, middle and high bands were measured.

| 802.11A-20MHz |                    |                  |                |
|---------------|--------------------|------------------|----------------|
| Channel       | Frequency<br>(MHz) | Avg PSD<br>(dBm) | Limit<br>(dBm) |
| Low           | 5745               | 8.57             | 30             |
| Mid           | 5785               | 8.57             | 30             |
| High          | 5825               | 8.58             | 30             |

|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | <b>Ecobee Inc.</b>                                 |  |
| Product     | <b>ECB601/ECB501</b>                               |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

| 802.11N-20MHz |                 |               |             |
|---------------|-----------------|---------------|-------------|
| Channel       | Frequency (MHz) | Avg PSD (dBm) | Limit (dBm) |
| Low           | 5745            | 5.91          | 30          |
| Mid           | 5785            | 6.03          | 30          |
| High          | 5825            | 5.98          | 30          |

| 802.11AC-20MHz |                 |               |             |
|----------------|-----------------|---------------|-------------|
| Channel        | Frequency (MHz) | Avg PSD (dBm) | Limit (dBm) |
| Low            | 5745            | 5.90          | 30          |
| Mid            | 5785            | 5.92          | 30          |
| High           | 5825            | 6.10          | 30          |

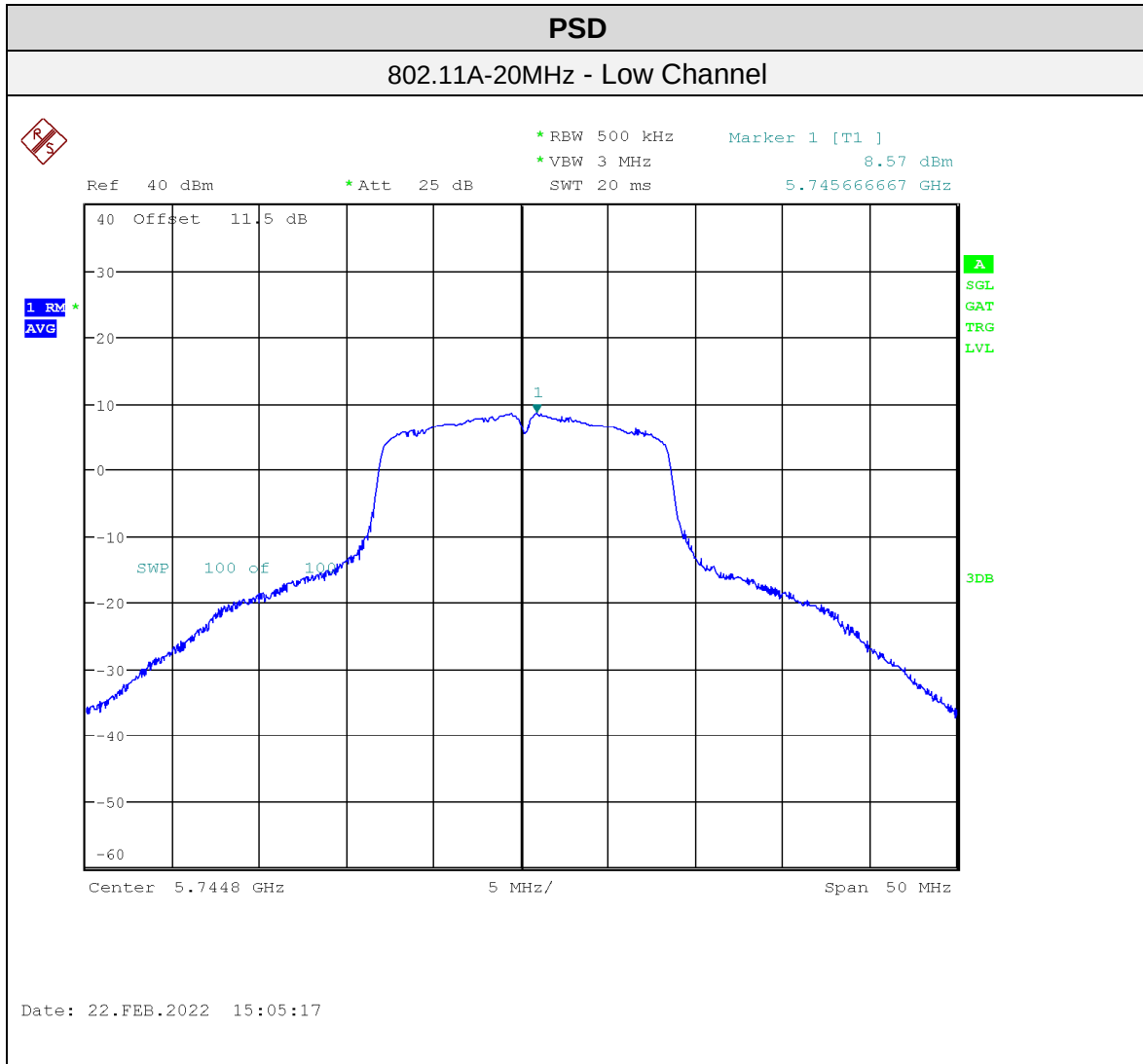
| 802.11N-40MHz |                 |               |             |
|---------------|-----------------|---------------|-------------|
| Channel       | Frequency (MHz) | Avg PSD (dBm) | Limit (dBm) |
| Low           | 5755            | 6.04          | 30          |
| High          | 5795            | 6.12          | 30          |

| 802.11AC-40MHz |                 |               |             |
|----------------|-----------------|---------------|-------------|
| Channel        | Frequency (MHz) | Avg PSD (dBm) | Limit (dBm) |
| Low            | 5755            | 6.02          | 30          |
| High           | 5795            | 6.23          | 30          |

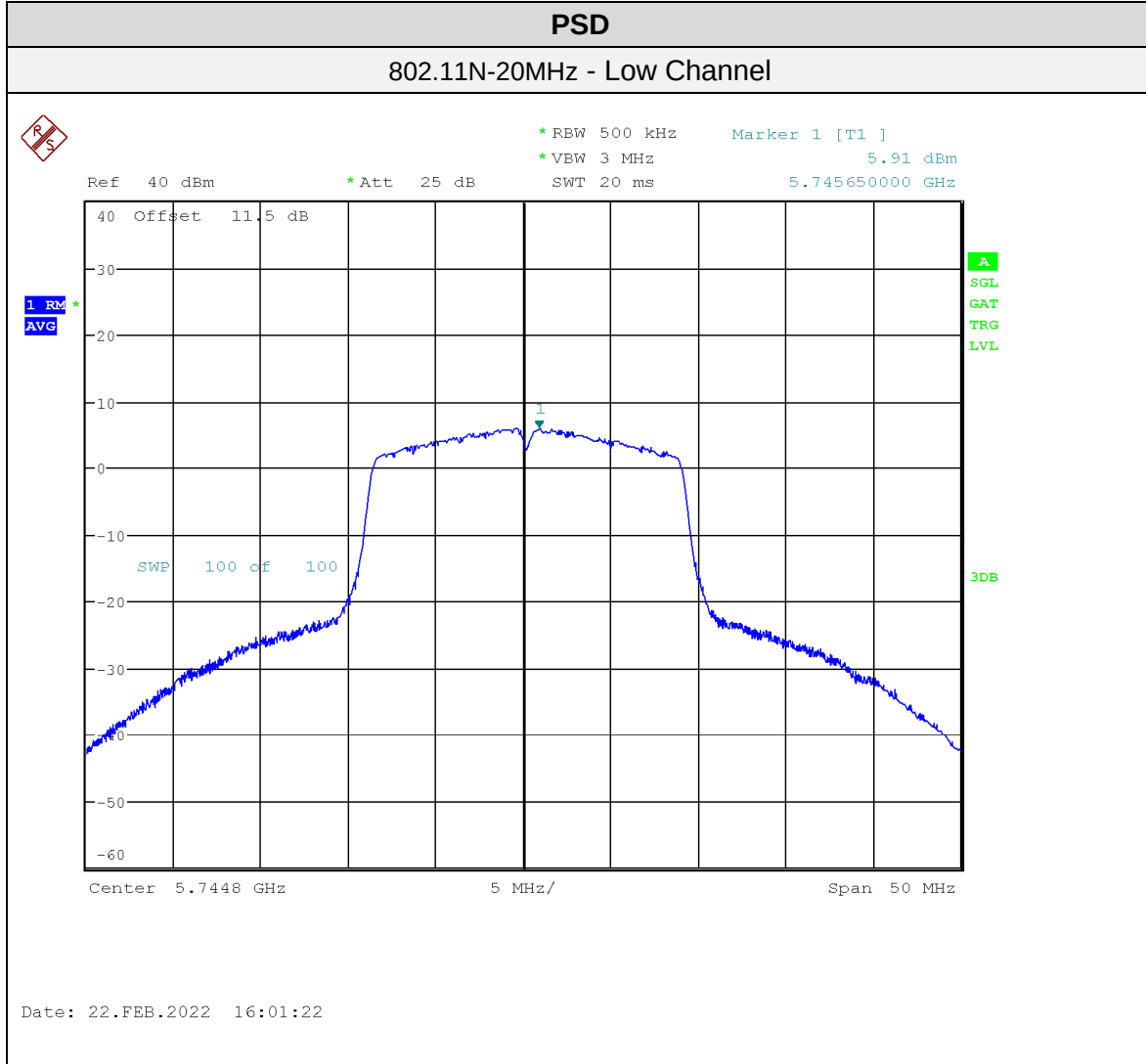
## Graphs

The graphs shown below show the power spectral density of the device during the conducted measurement operation of the EUT. External attenuator and cable loss were accounted for as reference offset in the spectrum analyzer. Low, middle, and high channels were investigated in each mode, with the worst case being presented. The measurement RBW is set to 1 MHz and  $VBW \geq 3$  MHz. The marker peak search function was used to find the peak of the spectrum.

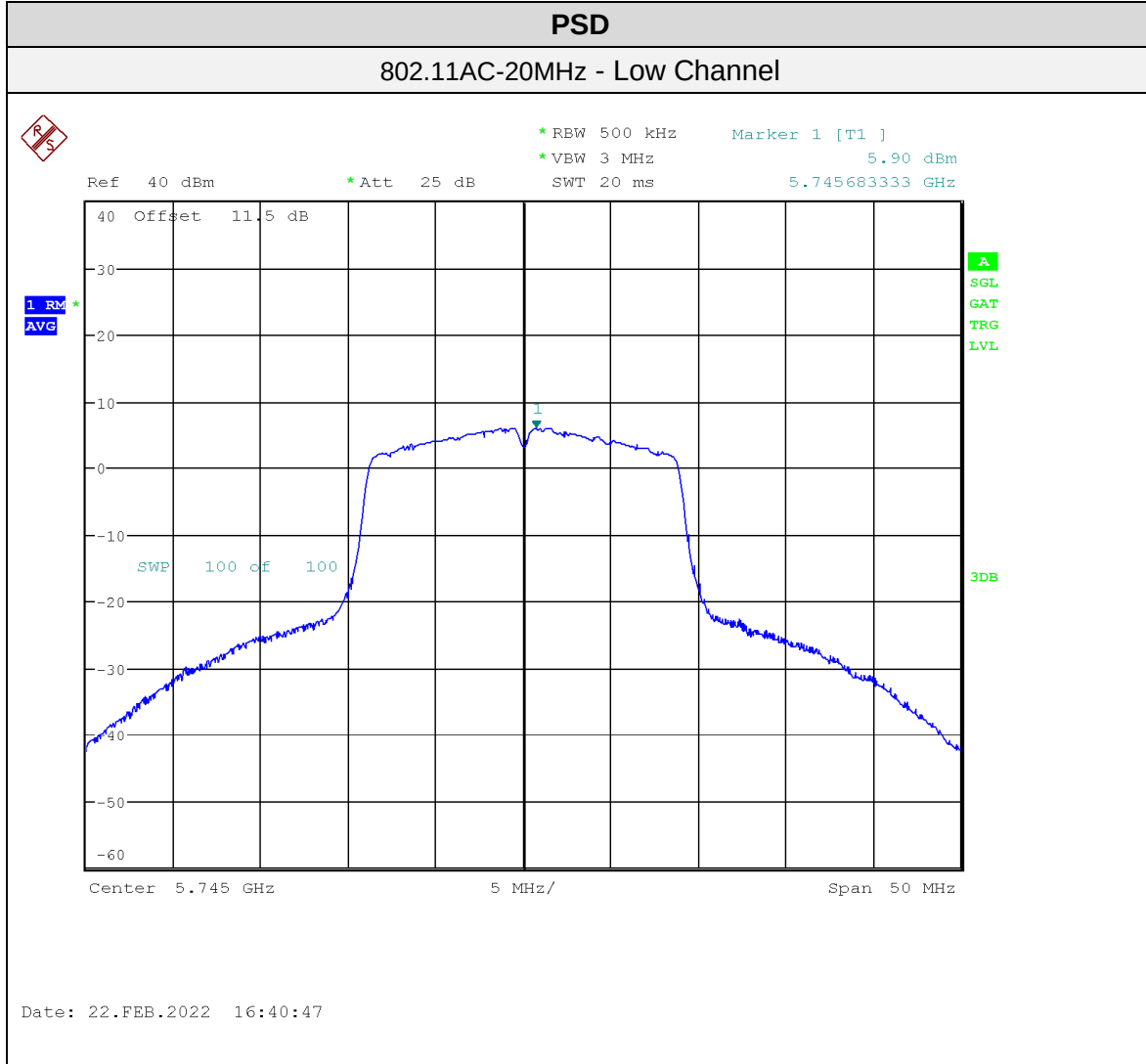
|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |



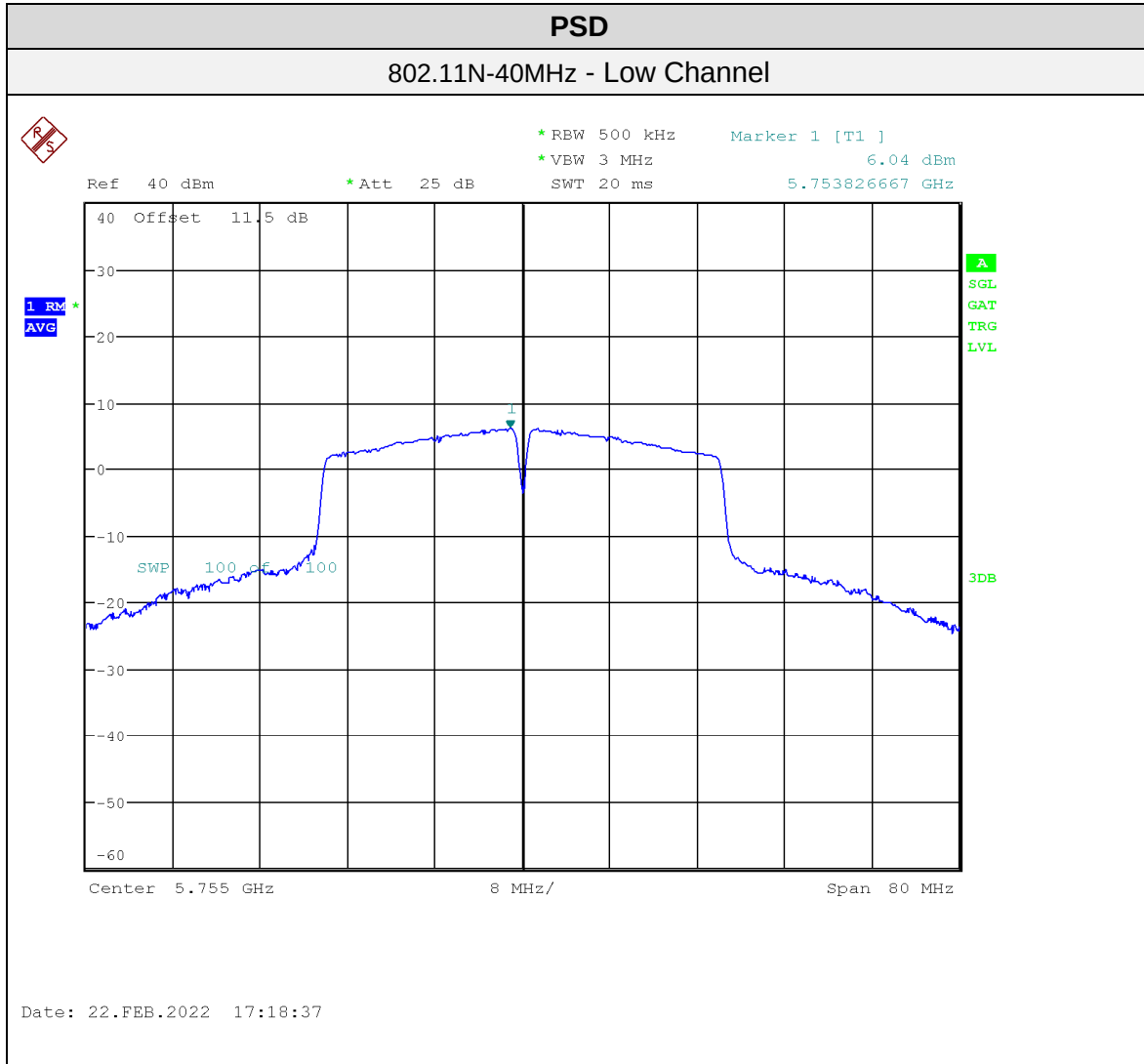
|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |



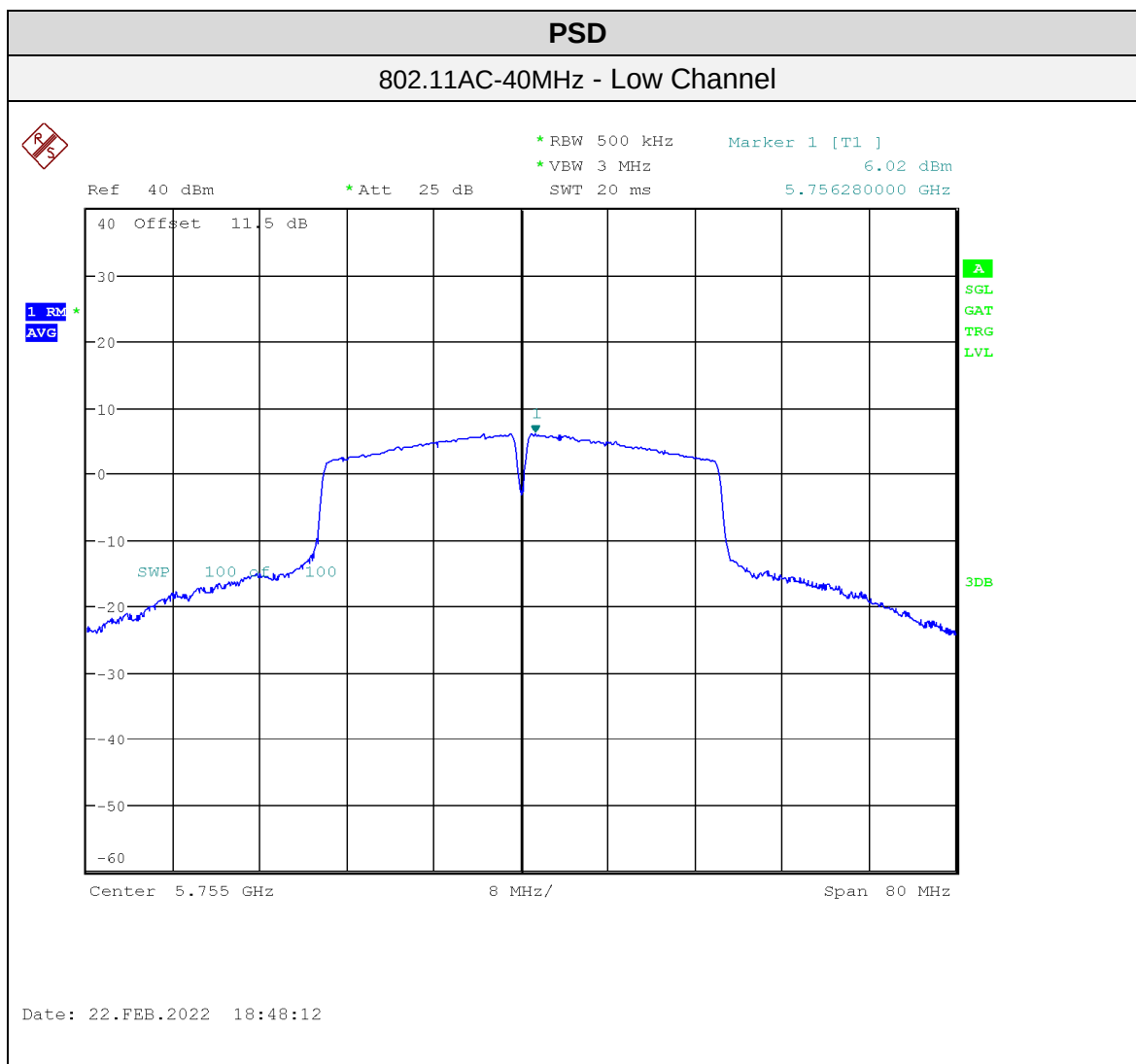
|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |



|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |



|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |



See 'Appendix B – EUT and Test Setup Photos' for photos showing the test set-up.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | <b>Ecobee Inc.</b>                                 | <br>Canada |
| Product     | <b>ECB601/ECB501</b>                               |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

## Test Equipment List

| Equipment         | Model No. | Manufacturer    | Last Calibration Date | Next Calibration Date | Asset #  |
|-------------------|-----------|-----------------|-----------------------|-----------------------|----------|
| Spectrum Analyzer | FSQ26     | Rohde & Schwarz | Nov 30, 2021          | Nov 30, 2023          | GEMC 234 |
| Attenuator 10 dB  | 8493B     | Agilent         | Oct 4, 2021           | Oct 4, 2022           | GEMC133  |
| Attenuator 10 dB  | 3M-10     | Weinschel       | Oct 4, 2021           | Oct 4, 2022           | GEMC 279 |

|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        |  |
| Product     | ECB601/ECB501                                      |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

## Transmitter Spurious Radiated Emissions

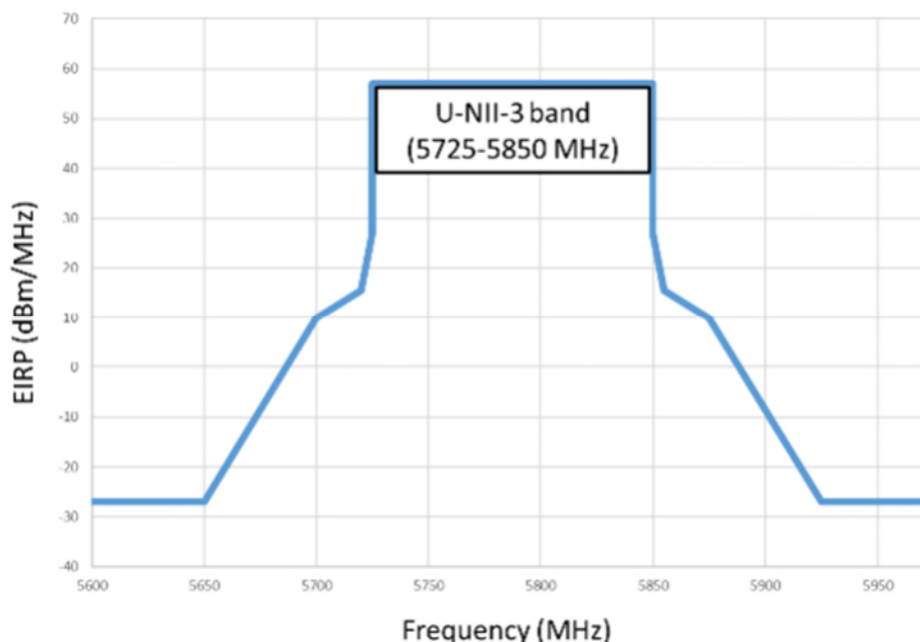
### Purpose

The purpose of this test is to ensure that the RF energy unintentionally emitted from the EUT does not exceed the limits listed below as defined in the applicable test standard, as measured from a receiving antenna. This helps protect broadcast radio services such as television, FM radio, pagers, cellular telephones, emergency services, and so on, from unwanted interference.

### Limits and Method

The limits are defined in FCC Part 15.407(b)(4) and RSS-247 6.2.4.2.

For transmitters operating in the 5.725-5.850 GHz band: All emissions shall be limited to a level of  $-27$  dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.



|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | <b>Ecobee Inc.</b>                                 |  |
| Product     | <b>ECB601/ECB501</b>                               |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

The EIRP limits of FCC Section 15.407(b) / IC RSS-247 6.2 were converted to field strength limits using a correction factor of 95.2 dB.

| Frequency from Band Edge (MHz) | EIRP (dBm/MHz) | Field Strength at 3m (dBµV/m) |
|--------------------------------|----------------|-------------------------------|
| ±75                            | -27.0          | 68.3                          |
| ±25                            | 10.0           | 105.2                         |
| ±5                             | 15.6           | 110.8                         |
| 0                              | 27.0           | 122.2                         |

The Emission Mask limits are based on the use of a peak detector.

Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in FCC15.209.

Unwanted emissions above 1 GHz must also comply with the general field strength limits set forth in FCC 15.209 for any emissions which fall in the restricted band as defined in FCC 15.205 (a).

The general field strength limits is given in the table below:

| Frequency             | Field Strength Limit (µV/m)        | Field Strength at 3m (dBµV/m) |
|-----------------------|------------------------------------|-------------------------------|
| 0.009 MHz – 0.490 MHz | 2400/F(kHz) <sup>a</sup> (at 300m) | 128.5 to 93.8 <sup>a</sup>    |
| 0.490 MHz – 1.705 MHz | 24000/F(kHz) <sup>a</sup> (at 30m) | 73.8 to 63.0 <sup>a</sup>     |
| 1.705 MHz – 30 MHz    | 30 <sup>a</sup> (at 30m)           | 69.5 <sup>a</sup>             |
| 30 MHz – 88 MHz       | 100 <sup>a</sup> (at 3m)           | 40.0 <sup>a</sup>             |
| 88 MHz – 216 MHz      | 150 <sup>a</sup> (at 3m)           | 43.5 <sup>a</sup>             |
| 216 MHz – 960 MHz     | 200 <sup>a</sup> (at 3m)           | 46.0 <sup>a</sup>             |
| Above 960 MHz         | 500 <sup>a</sup> (at 3m)           | 54.0 <sup>a</sup>             |
| Above 1000 MHz        | 500 <sup>b</sup> (at 3m)           | 54.0 <sup>b</sup>             |
| Above 1000 MHz        | 5 mV/m <sup>c</sup> (at 3m)        | 74.0 <sup>c</sup>             |

<sup>a</sup>Limit is with Quasi Peak detector with bandwidths as defined in CISPR-16-1-1

<sup>b</sup>Limit is with 1 MHz measurement bandwidth and using an Average detector

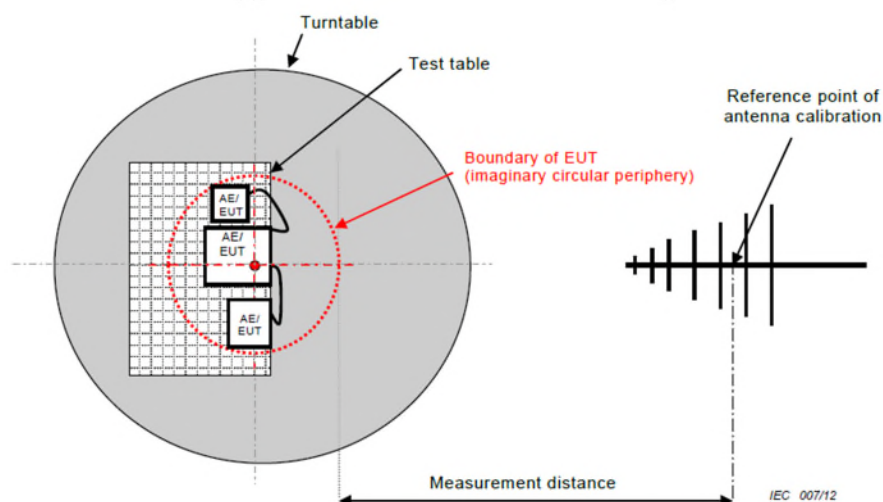
<sup>c</sup>Limit is with 1 MHz measurement bandwidth and using a Peak detector

Based on ANSI C63.4 Section 4.2, if the Peak detector measurements do not exceed the Quasi-Peak limits, where defined, then the EUT is deemed to have passed the requirements.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | <b>Ecobee Inc.</b>                                 | <br>Canada |
| Product     | <b>ECB601/ECB501</b>                               |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

The unwanted emissions were measured in accordance with FCC KDB 789033 D02 and ANSI C63.10

### Typical Radiated Emissions Setup



### Measurement Uncertainty

The expanded measurement uncertainty is calculated in accordance with CISPR 16-4-2 and is  $\pm 5.67\text{dB}$  for 30MHz – 1GHz and  $\pm 4.58\text{dB}$  for 1GHz – 18GHz with a 'k=2' coverage factor and a 95% confidence level.

### Preliminary Graphs

The graphs shown below are maximized peak measurement graphs measured with a resolution bandwidth greater than or equal to the final required detector over a full 0-360°. This peaking process is done as a worst-case measurement and enables the detection of frequencies of concern for final measurement. For final measurements with the appropriate detector, where applicable, please refer to the tables under Final Measurements.

In accordance with FCC Part 15, Subpart A, Section 15.33, the device was scanned to the 10<sup>th</sup> harmonic or 40 GHz.

Devices scanned may be scanned at alternate test distances and in accordance with FCC Part 15, Subpart A, Section 15.31, an extrapolation factor of 20 dB/decade was used above 30 MHz and 40 dB/decade below 30 MHz. For example, for 1 meter measurements, an extrapolation factor 9.5 dB from 20 Log (1m / 3m) is applied.

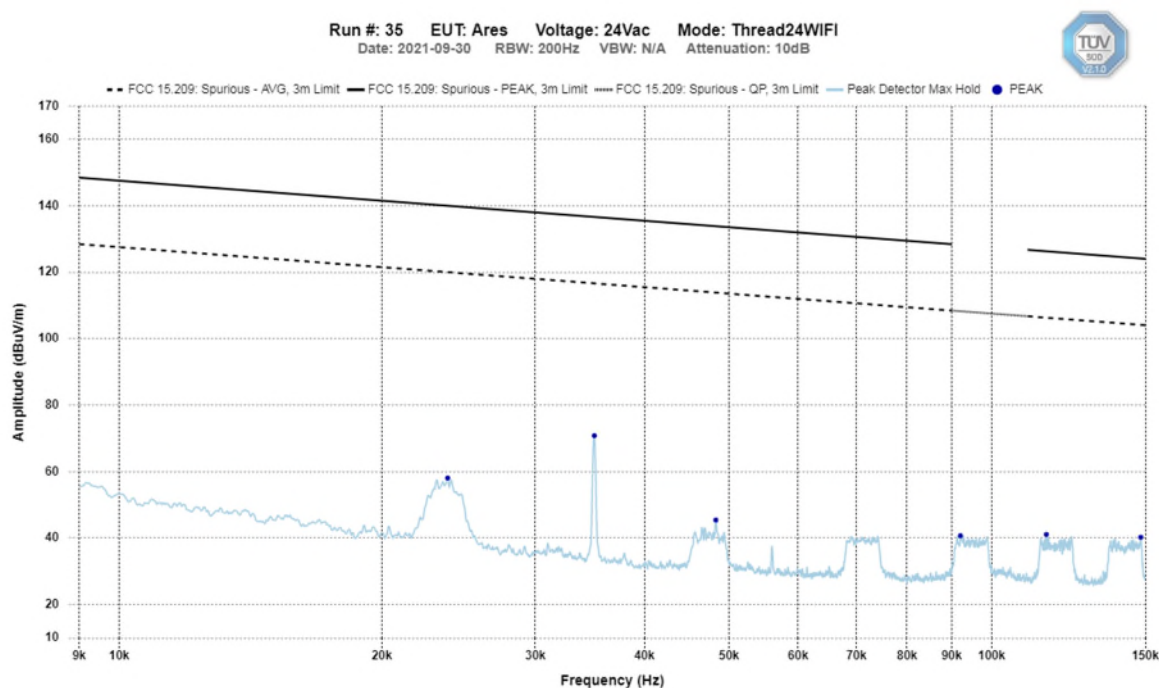
|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | <b>Ecobee Inc.</b>                                 | <br>Canada |
| Product     | <b>ECB601/ECB501</b>                               |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

Peak output power for low, middle, and high channels were checked. The worst case was used for the spurious emissions.

Band-edge measurement graphs are shown for illustration purposes. See final measurement section for all measurements.

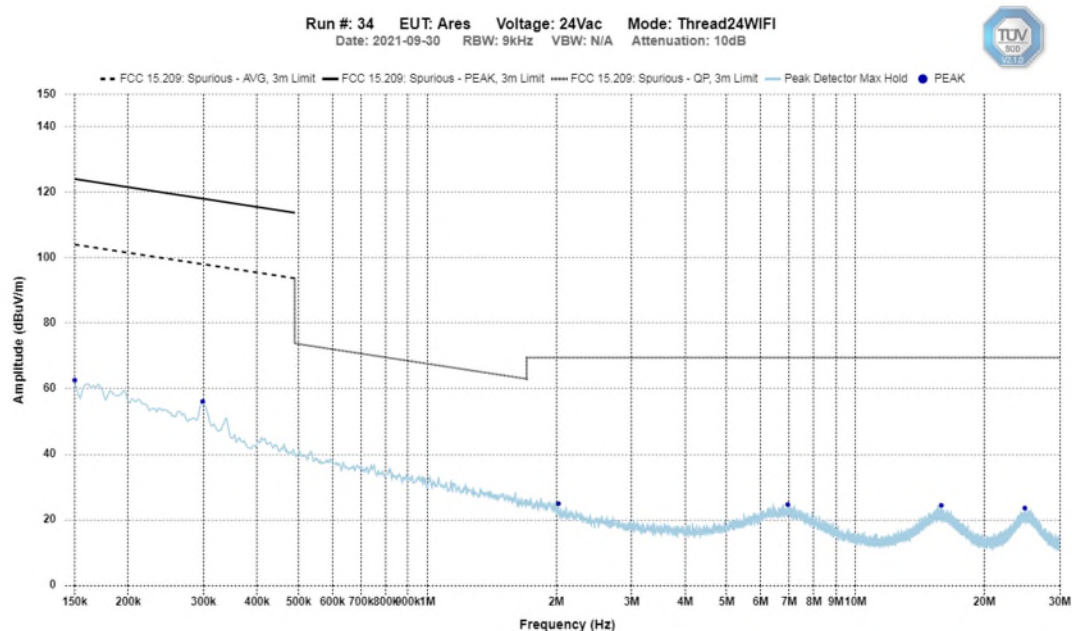
## Spurious Emissions

### 9 kHz – 150 kHz Peak Emission Graph

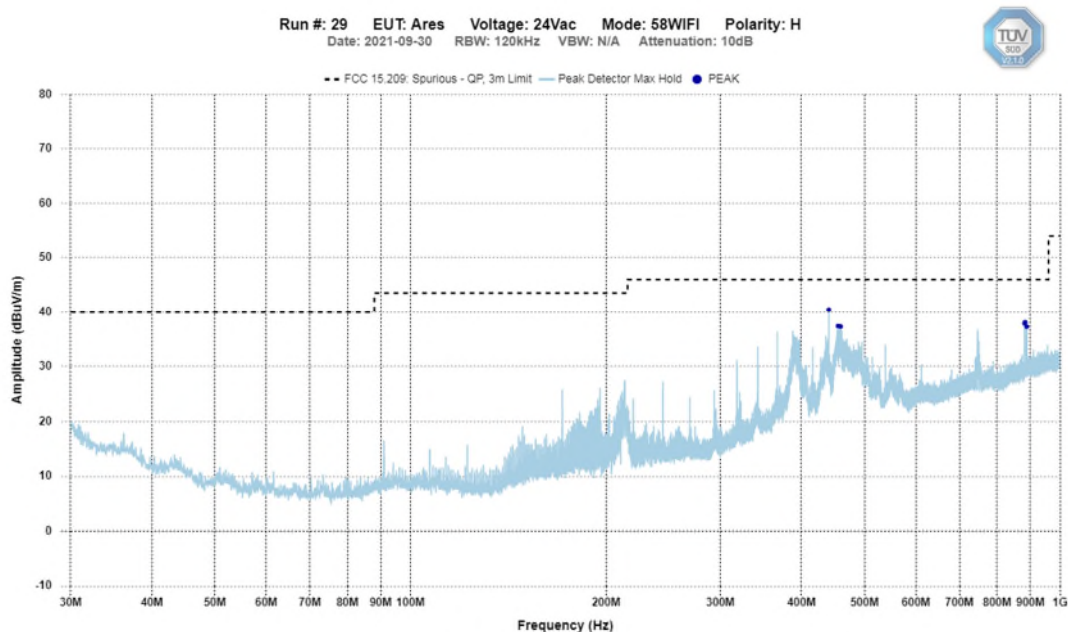


|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

Mid Channel  
150 kHz – 30 MHz  
Peak Emission Graph

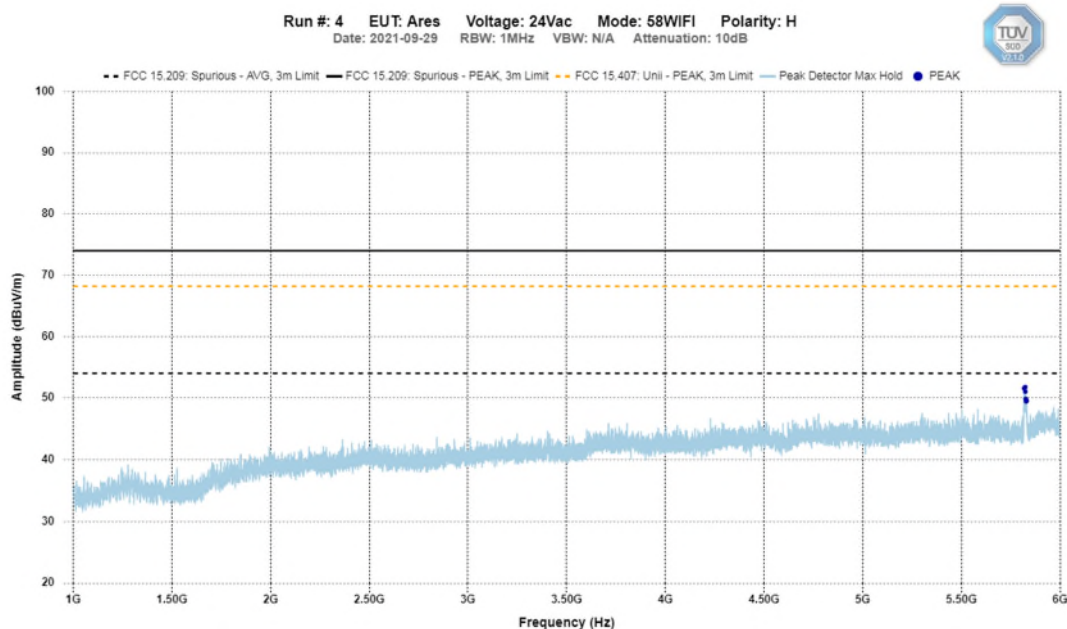


Mid Channel – 30 MHz – 1 GHz  
Horizontal - Peak Emission Graph

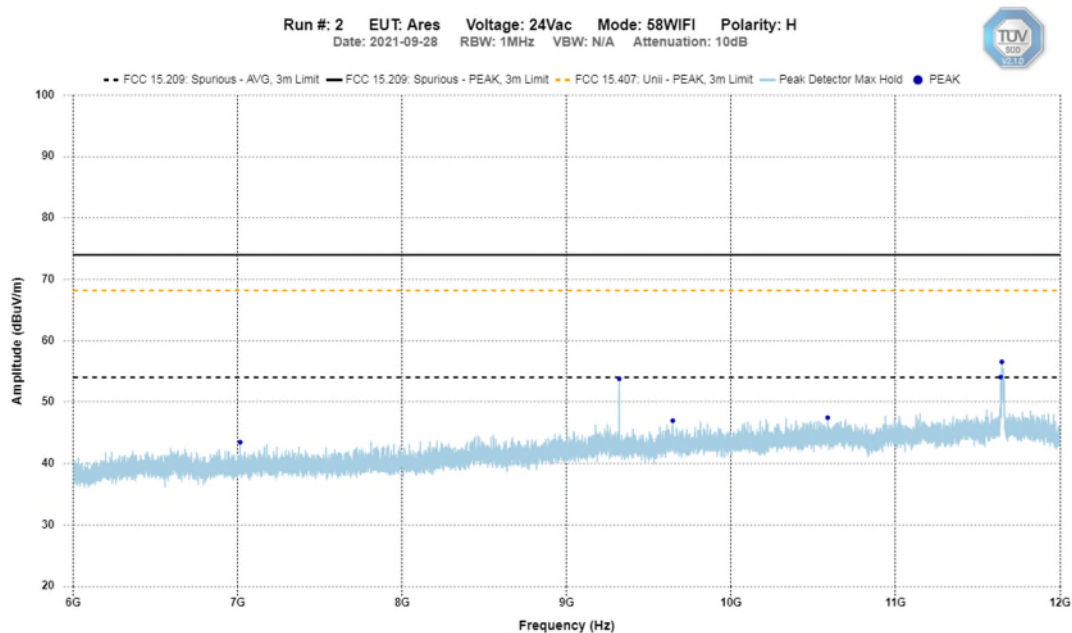


|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

### Mid Channel – 1 GHz – 6 GHz Horizontal - Peak Emission Graph

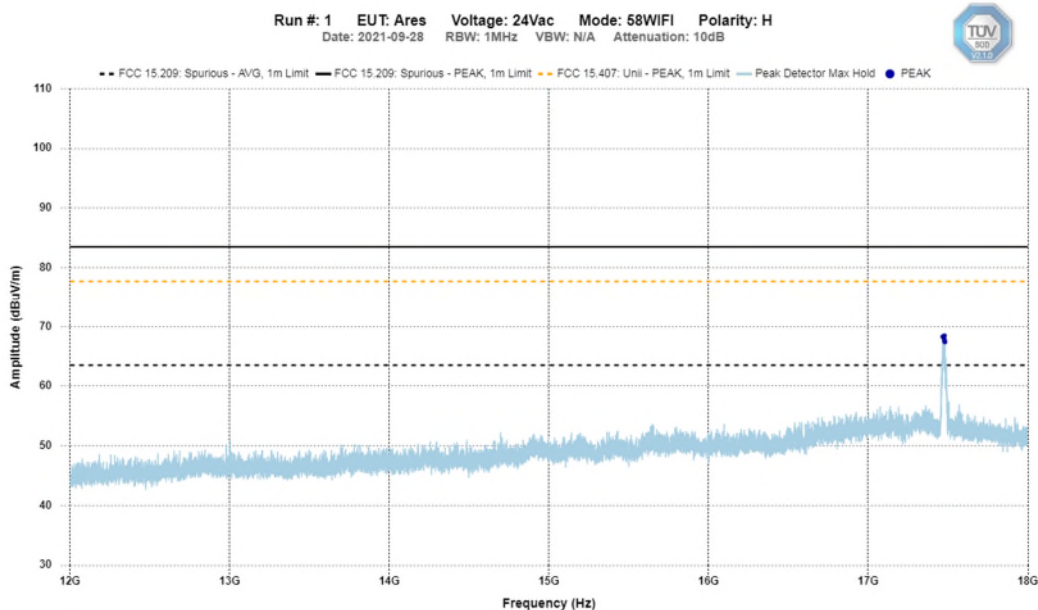


### Mid Channel – 6 GHz – 12 GHz Horizontal - Peak Emission Graph

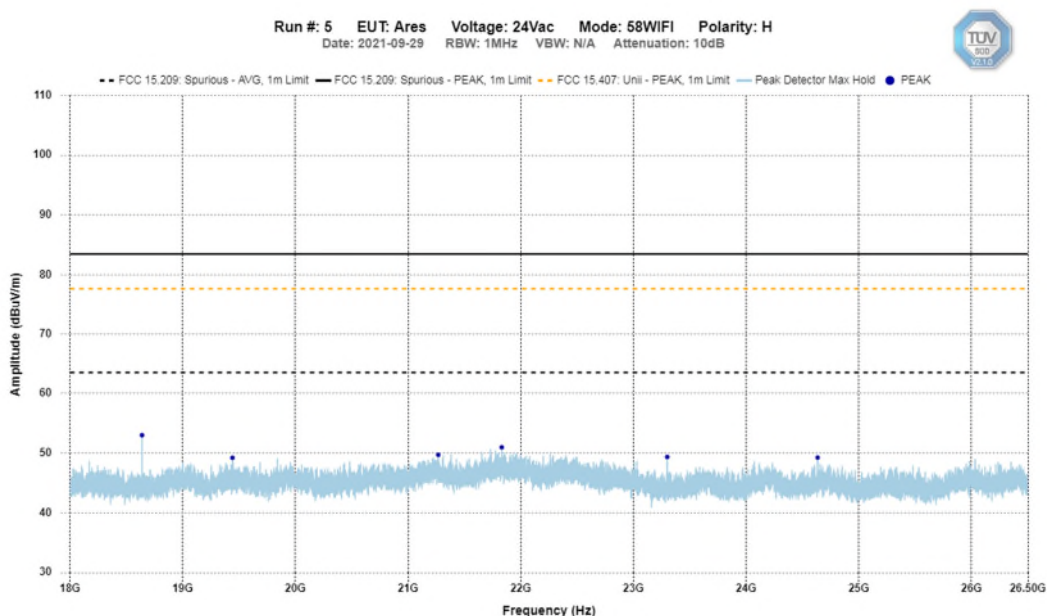


|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        |  |
| Product     | ECB601/ECB501                                      |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

### Mid Channel – 12 GHz – 18 GHz Horizontal - Peak Emission Graph



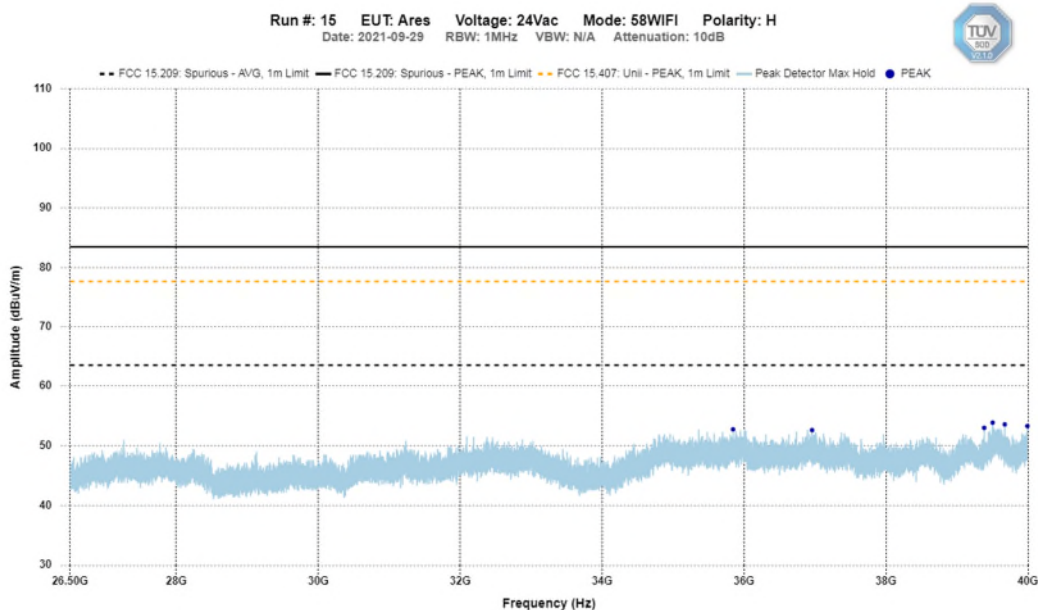
### Mid Channel – 18 GHz – 25 GHz Horizontal - Peak Emission Graph



Plot was taken at a 1 meter distance. All emissions were noise floor of measurement instrument. No emissions were found in this frequency range.

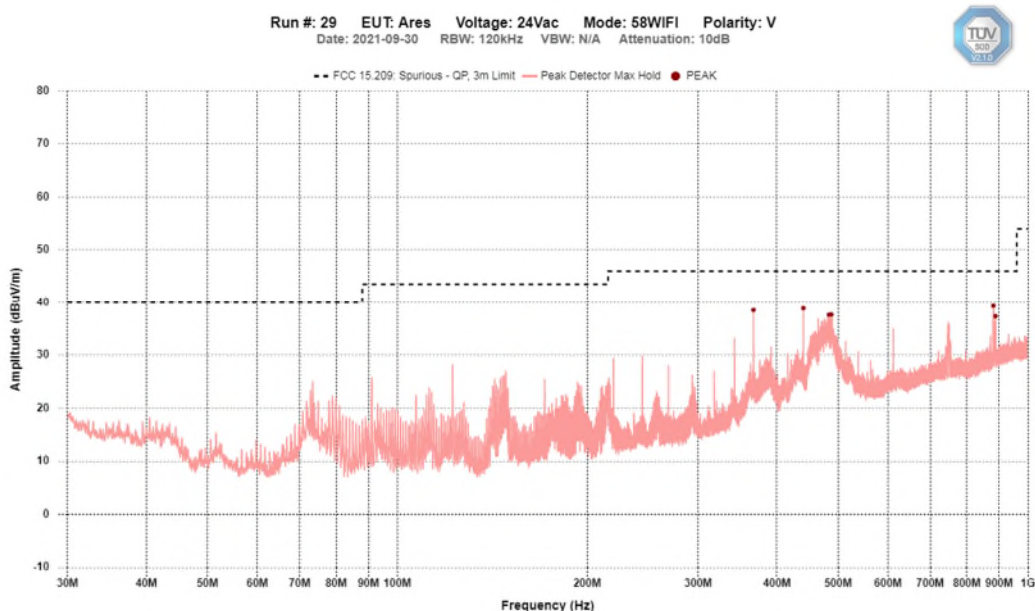
|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        |  |
| Product     | ECB601/ECB501                                      |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

### Mid Channel – 26.5 GHz – 40.0 GHz Horizontal - Peak Emission Graph



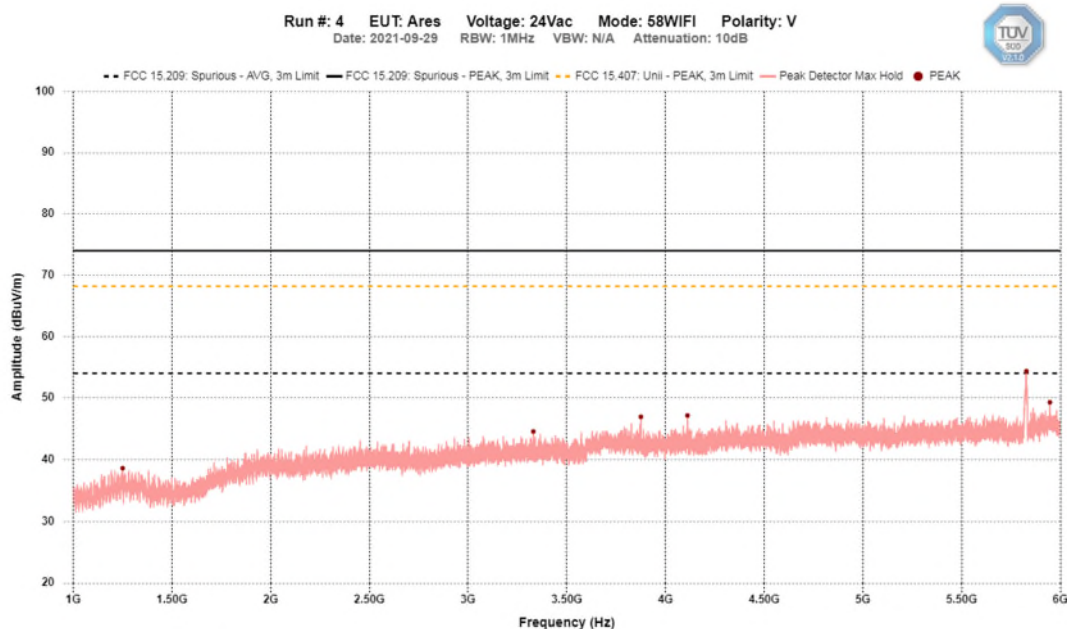
Plot was taken at a 1 meter distance. All emissions were noise floor of measurement instrument. No emissions were found in this frequency range.

### Mid Channel – 30 MHz – 1 GHz Vertical - Peak Emission Graph

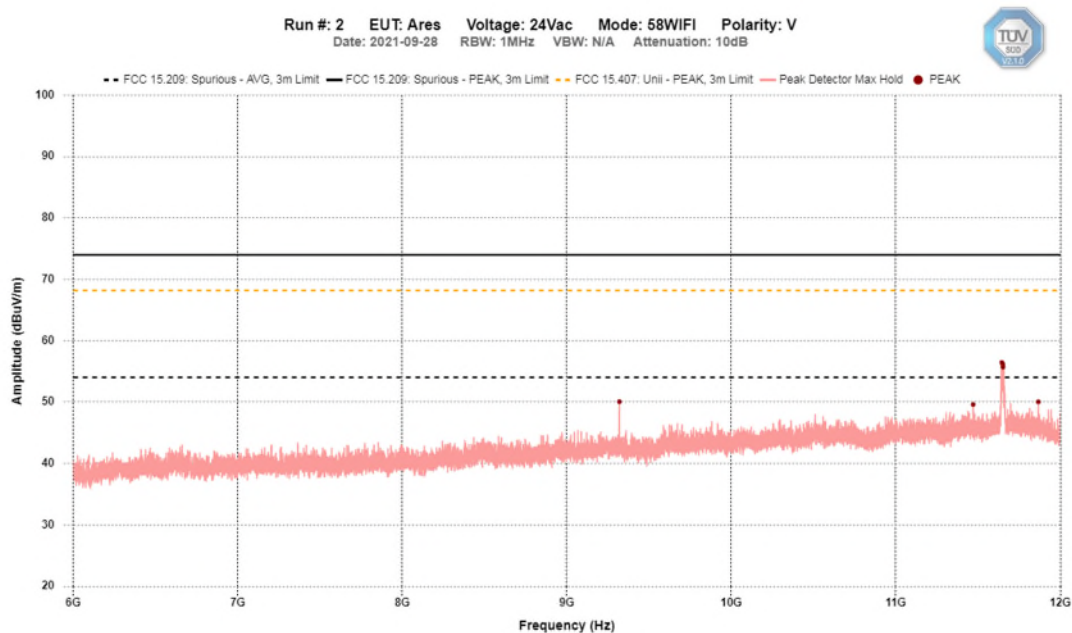


|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

### Mid Channel – 1 GHz – 6 GHz Vertical - Peak Emission Graph

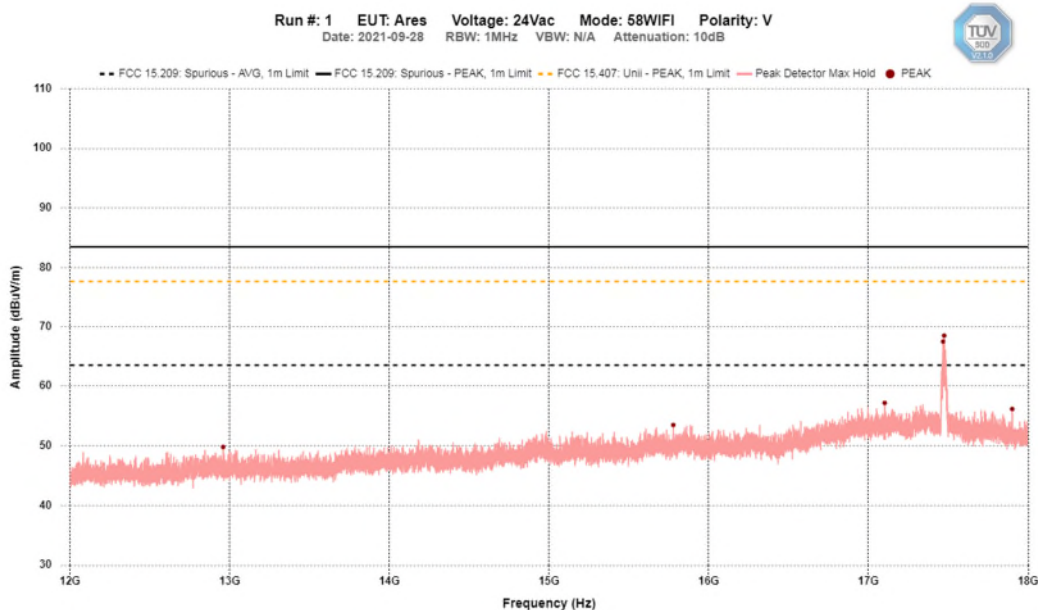


### Mid Channel – 6 GHz – 12 GHz Vertical - Peak Emission Graph

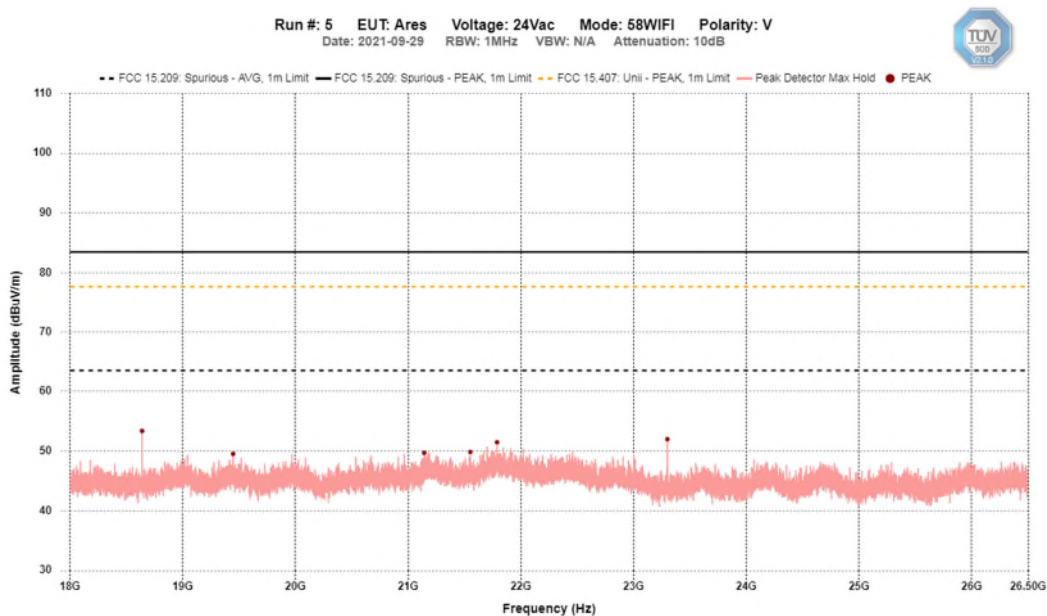


|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

### Mid Channel – 12 GHz – 18 GHz Vertical - Peak Emission Graph



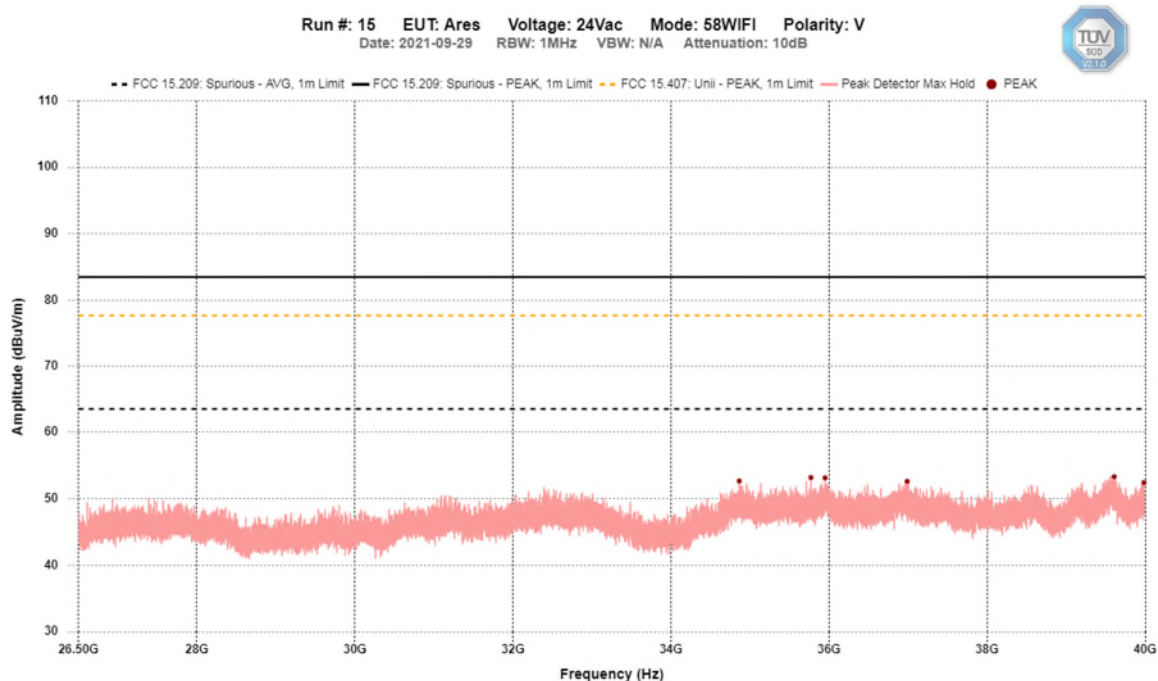
### Mid Channel – 18 GHz – 25 GHz Vertical - Peak Emission Graph



Plot was taken at a 1 meter distance. All emissions were noise floor of measurement instrument. No emissions were found in this frequency range.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

Mid Channel – 26.5 GHz – 40.0 GHz  
Horizontal - Peak Emission Graph

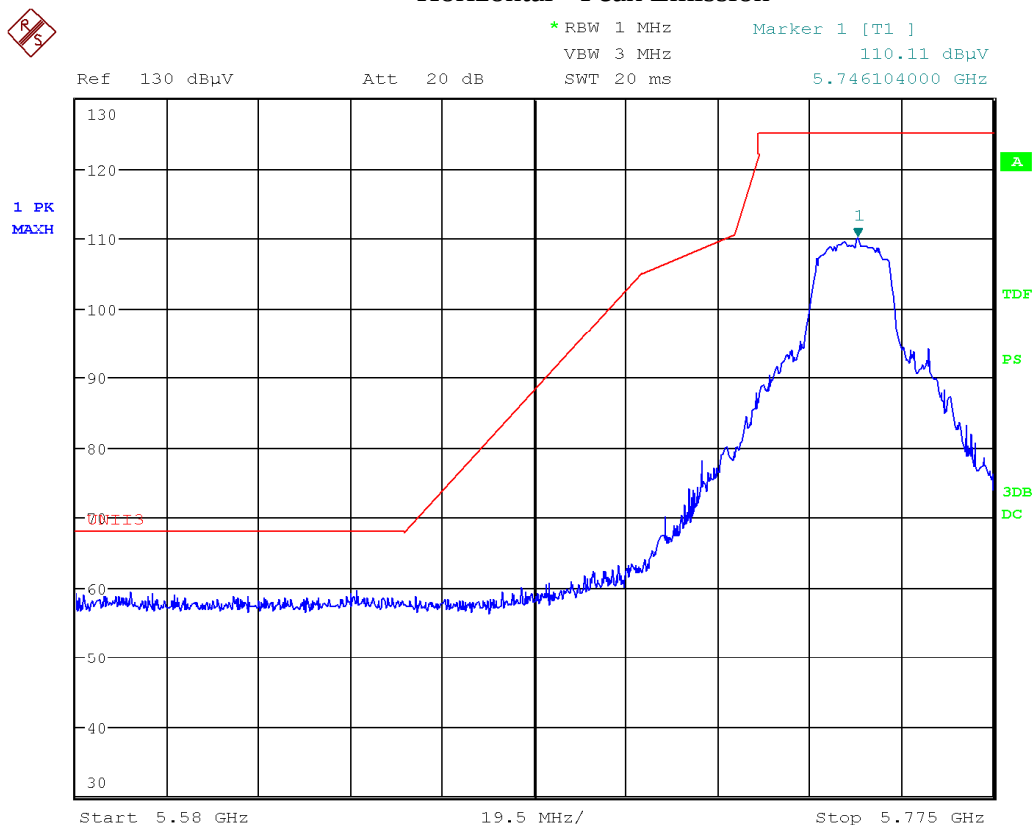


Plot was taken at a 1 meter distance. All emissions were noise floor of measurement instrument. No emissions were found in this frequency range.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

## ECB601 Band Edges/Emission Mask – 802.11A

Band Edge – Low Channel  
Horizontal - Peak Emission

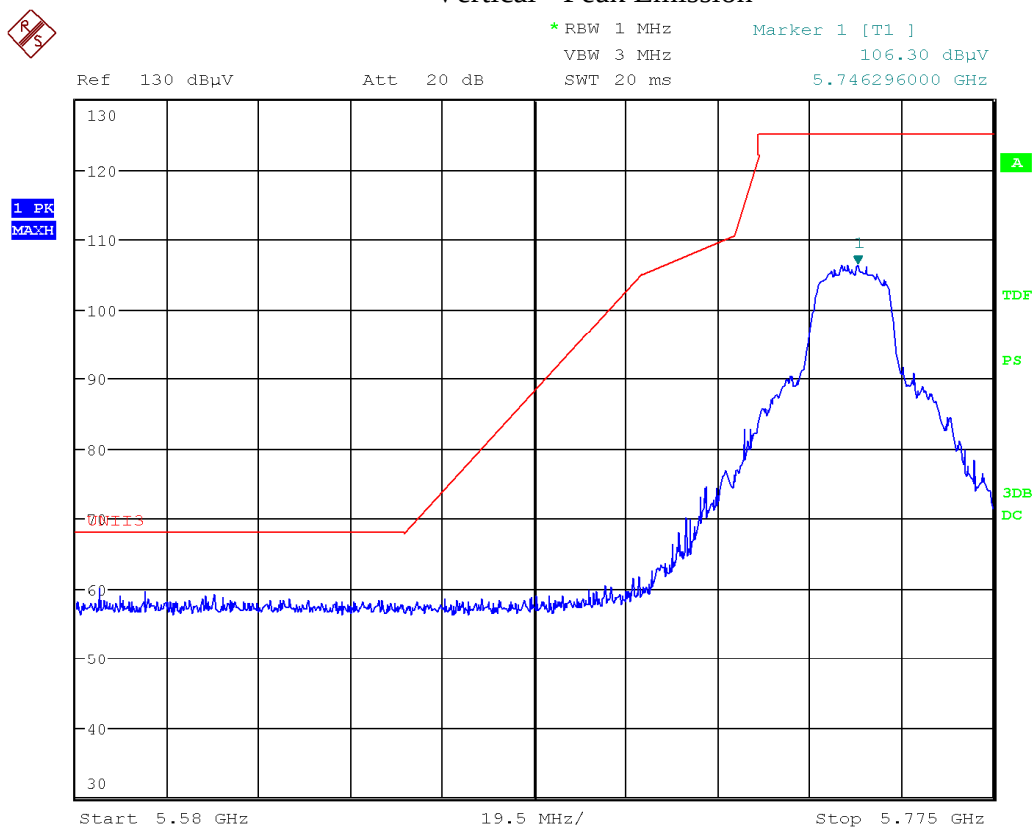


Date: 27.SEP.2021 10:40:28

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

### Band Edge – Low Channel Vertical - Peak Emission

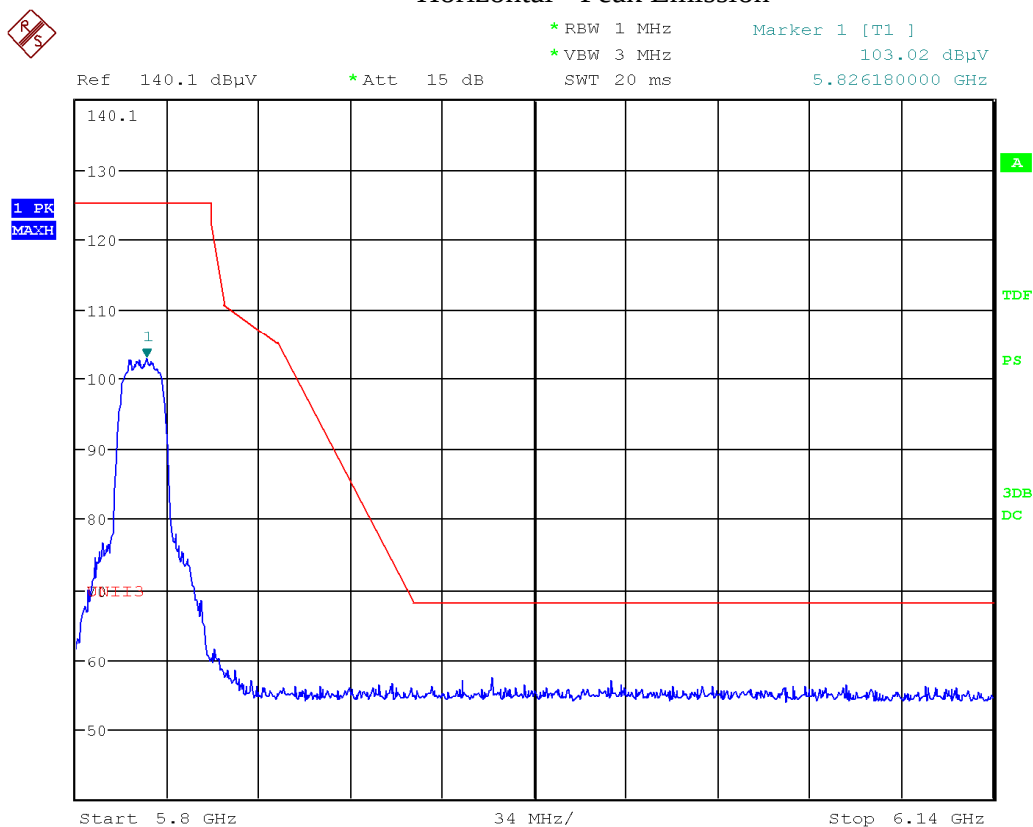


Date: 27.SEP.2021 10:42:05

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

### Band Edge – High Channel Horizontal - Peak Emission

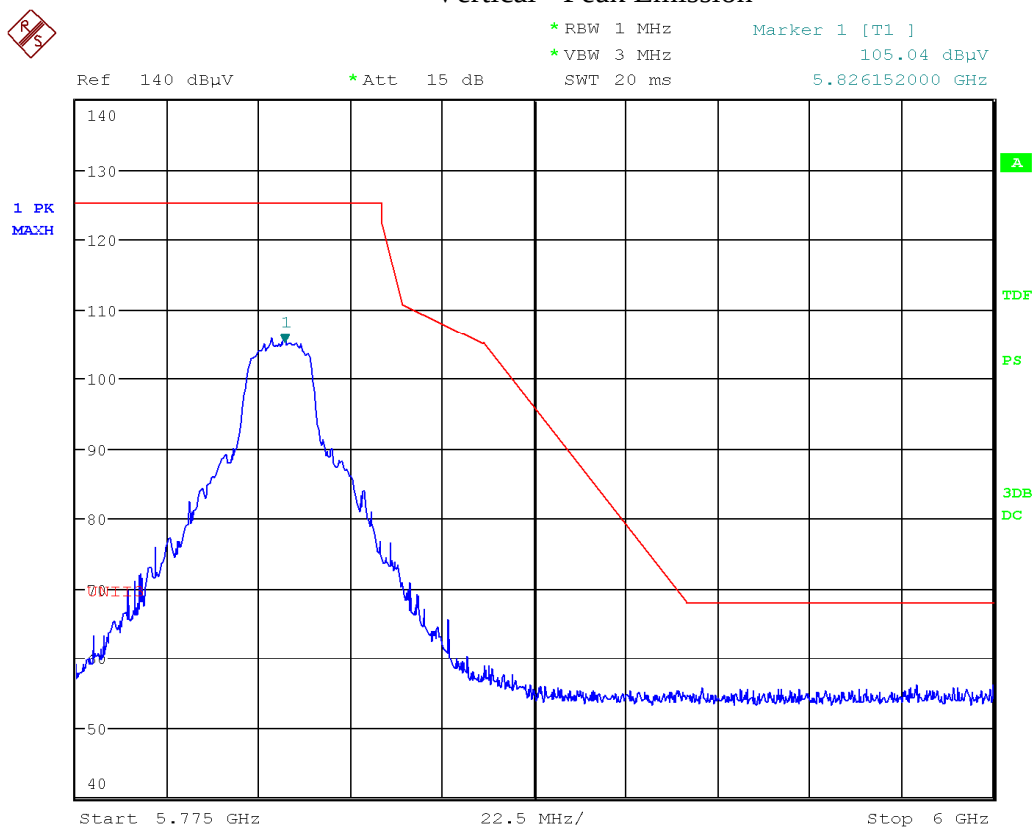


Date: 29.SEP.2021 14:38:04

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

### Band Edge – High Channel Vertical - Peak Emission



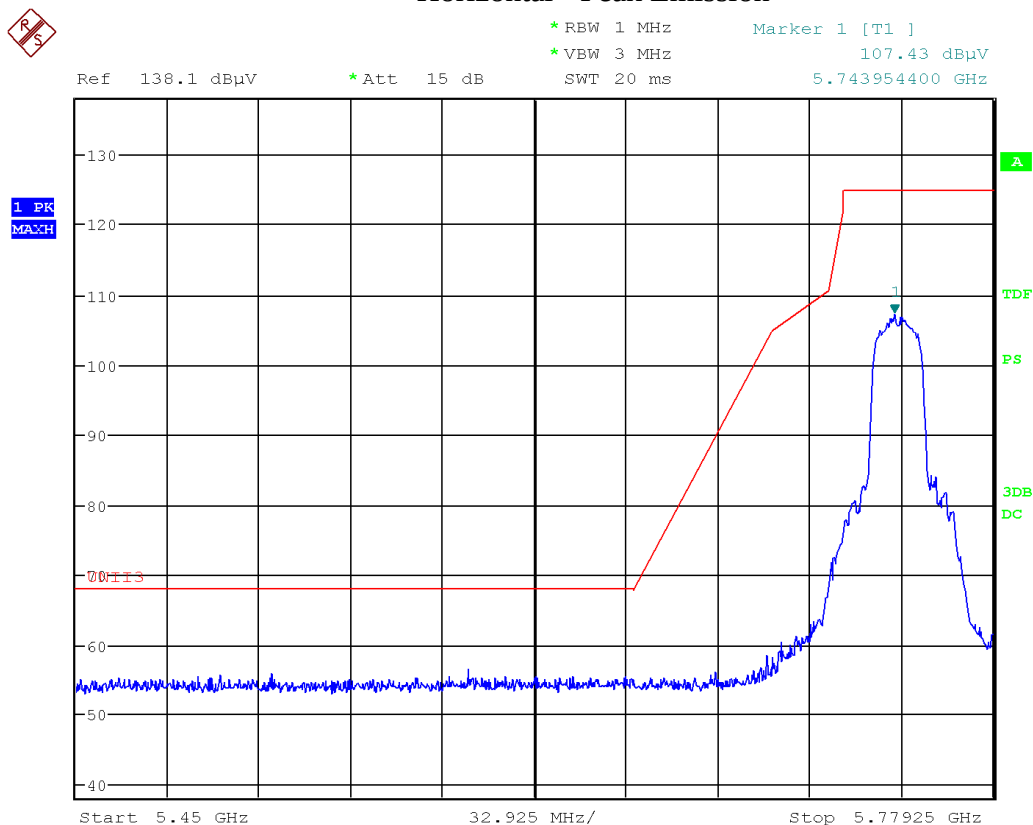
Date: 27.SEP.2021 11:40:20

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

## ECB601 Band Edges/Emission Mask – 802.11N/20MHz

Band Edge – Low Channel  
Horizontal - Peak Emission



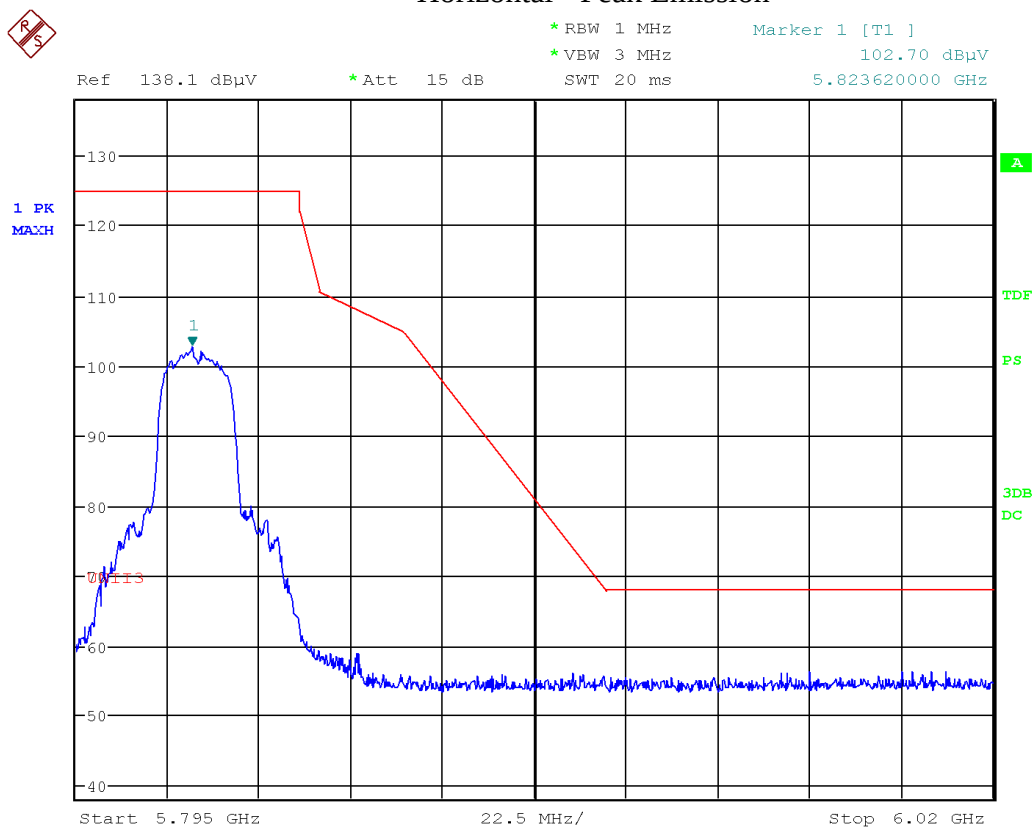
Date: 28.SEP.2021 17:44:14

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.



|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

### Band Edge – High Channel Horizontal - Peak Emission

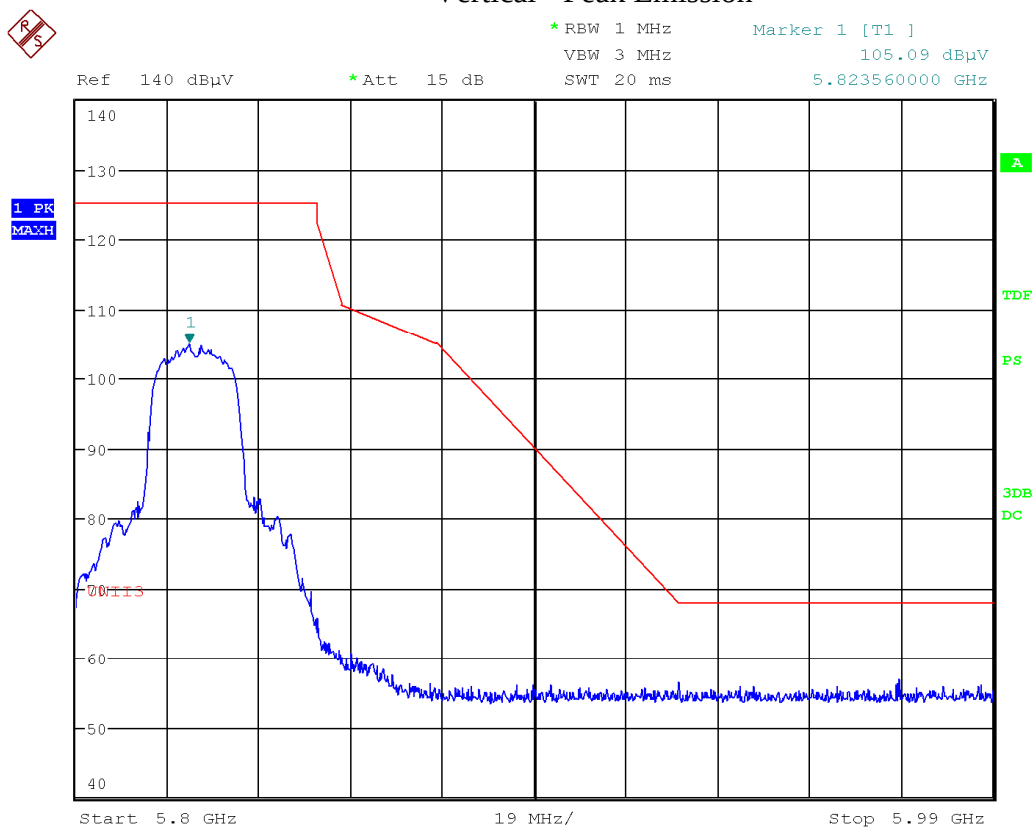


Date: 28.SEP.2021 17:39:06

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

### Band Edge – High Channel Vertical - Peak Emission



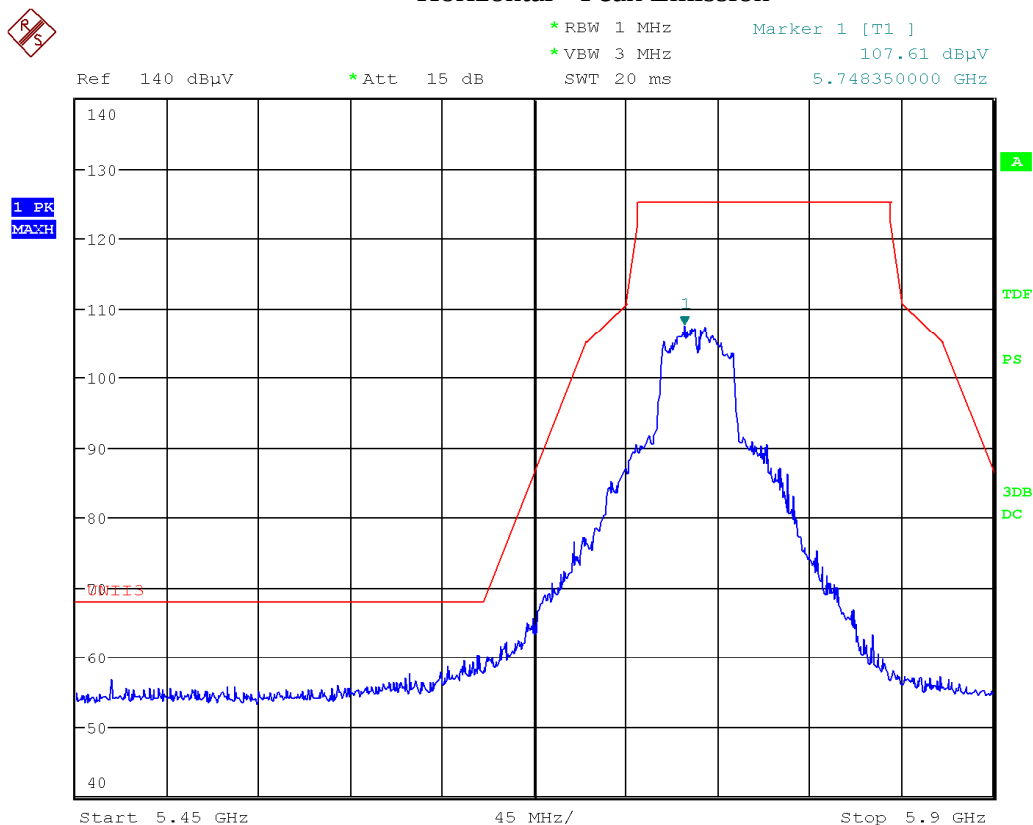
Date: 28.SEP.2021 17:31:22

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

## ECB601 Band Edges/Emission Mask – 802.11N/40MHz

Band Edge – Low Channel  
Horizontal - Peak Emission



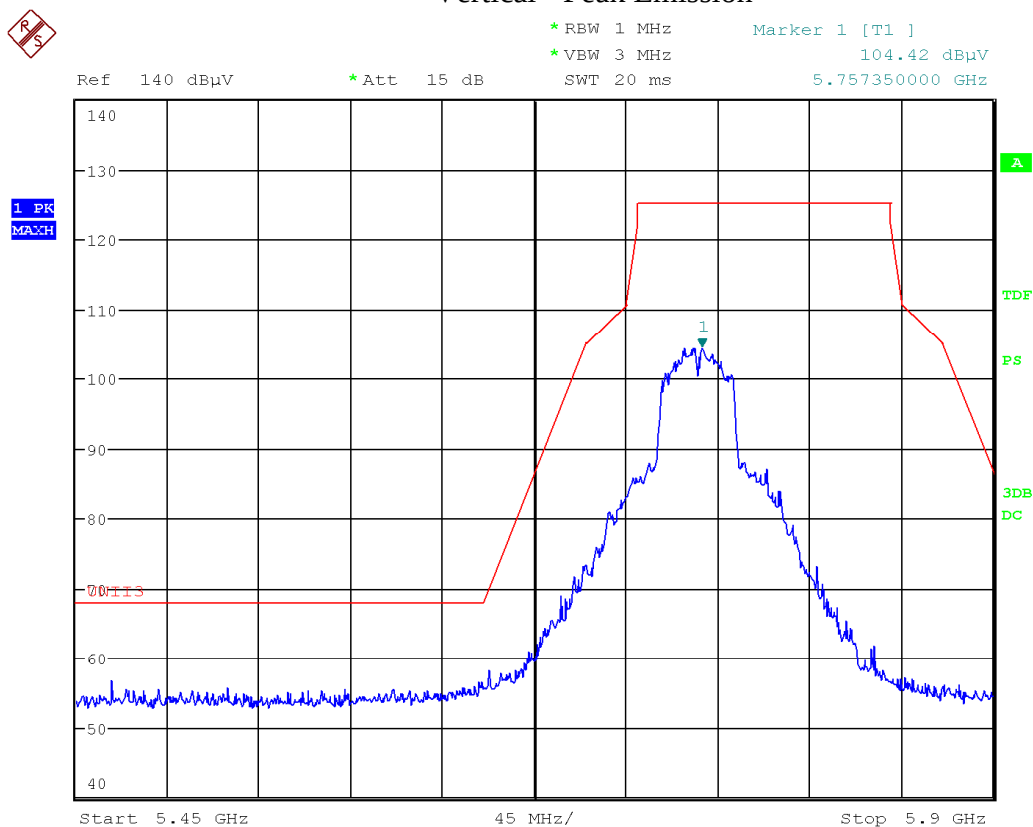
Date: 29.SEP.2021 11:08:07

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.

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|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

### Band Edge – Low Channel Vertical - Peak Emission

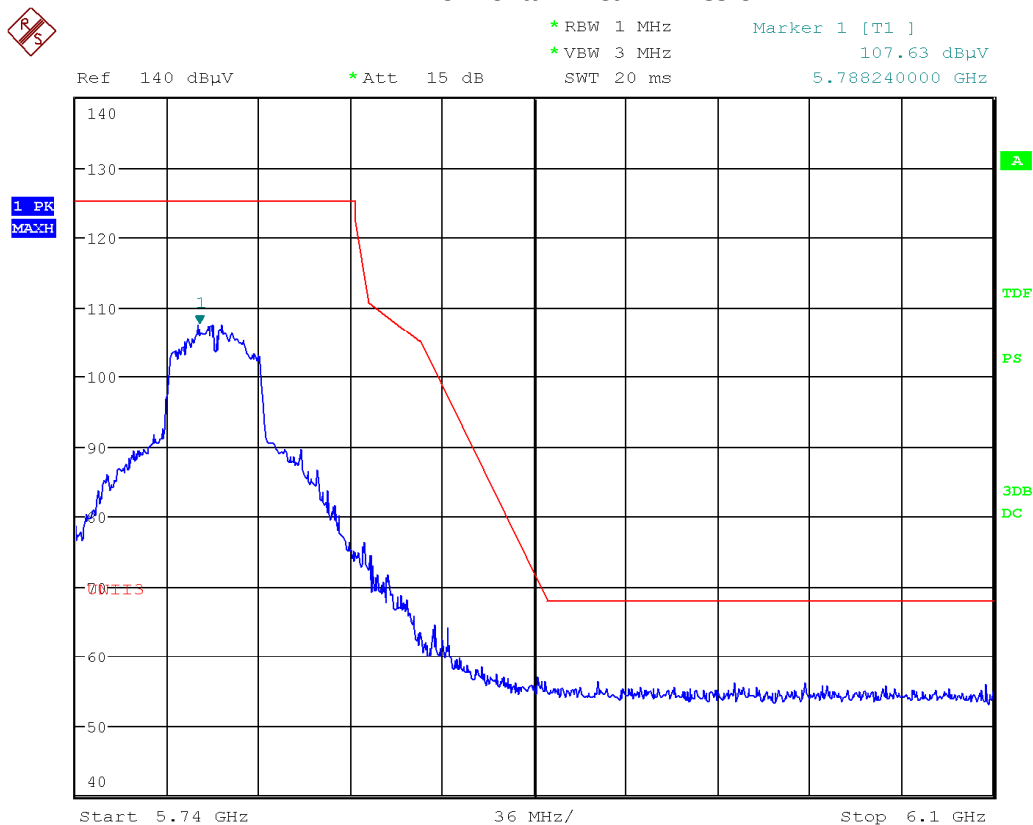


Date: 29.SEP.2021 11:07:11

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

### Band Edge – High Channel Horizontal - Peak Emission

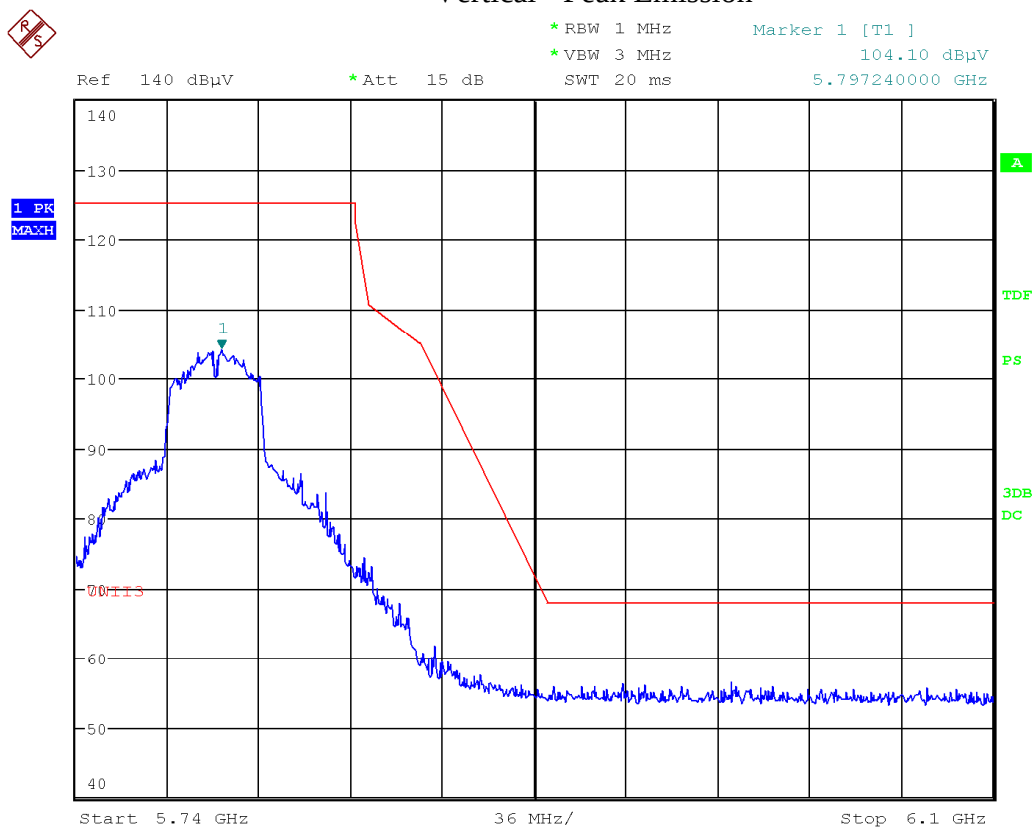


Date: 29.SEP.2021 11:02:46

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

### Band Edge – High Channel Vertical - Peak Emission



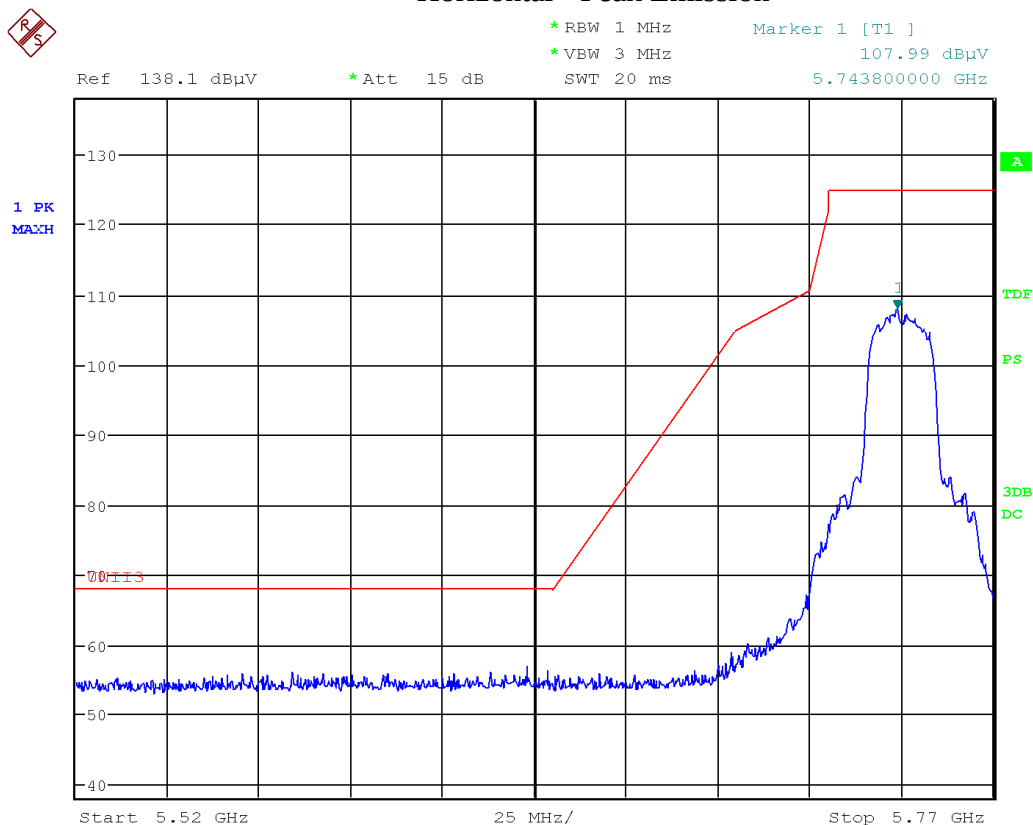
Date: 29.SEP.2021 11:03:31

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

## ECB601 Band Edges/Emission Mask – 802.11AC/20MHz

Band Edge – Low Channel  
Horizontal - Peak Emission

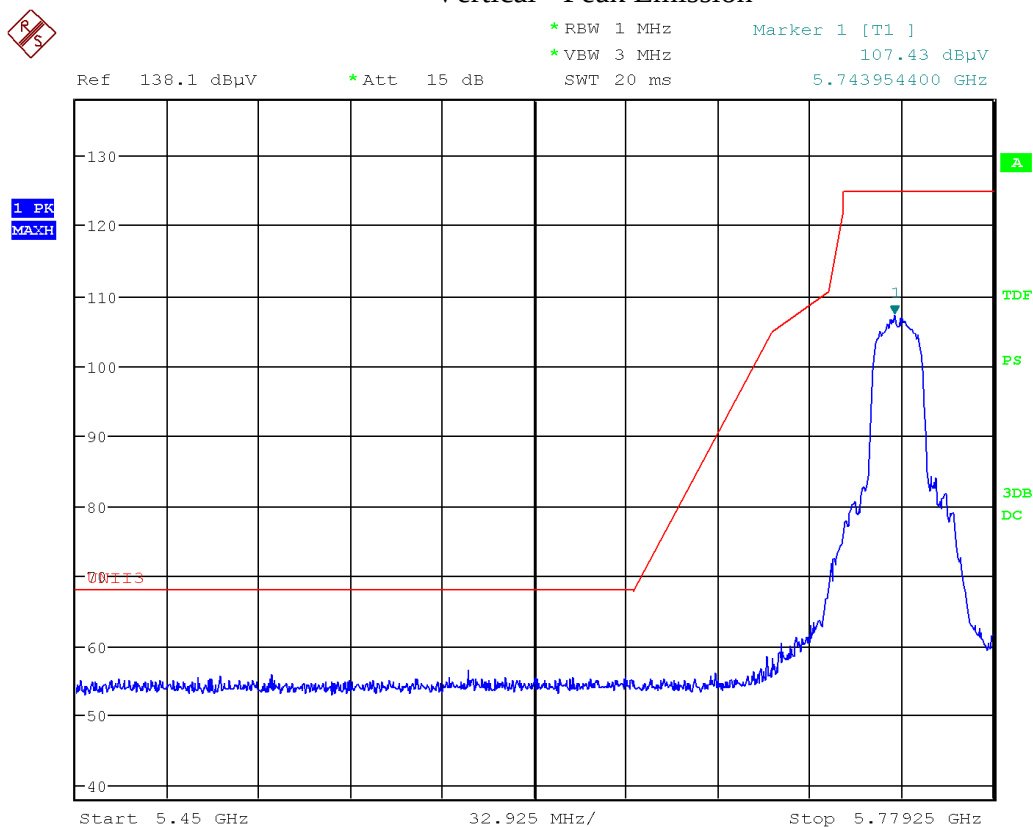


Date: 29.SEP.2021 10:13:02

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.

|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        |  |
| Product     | ECB601/ECB501                                      |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

### Band Edge – Low Channel Vertical - Peak Emission

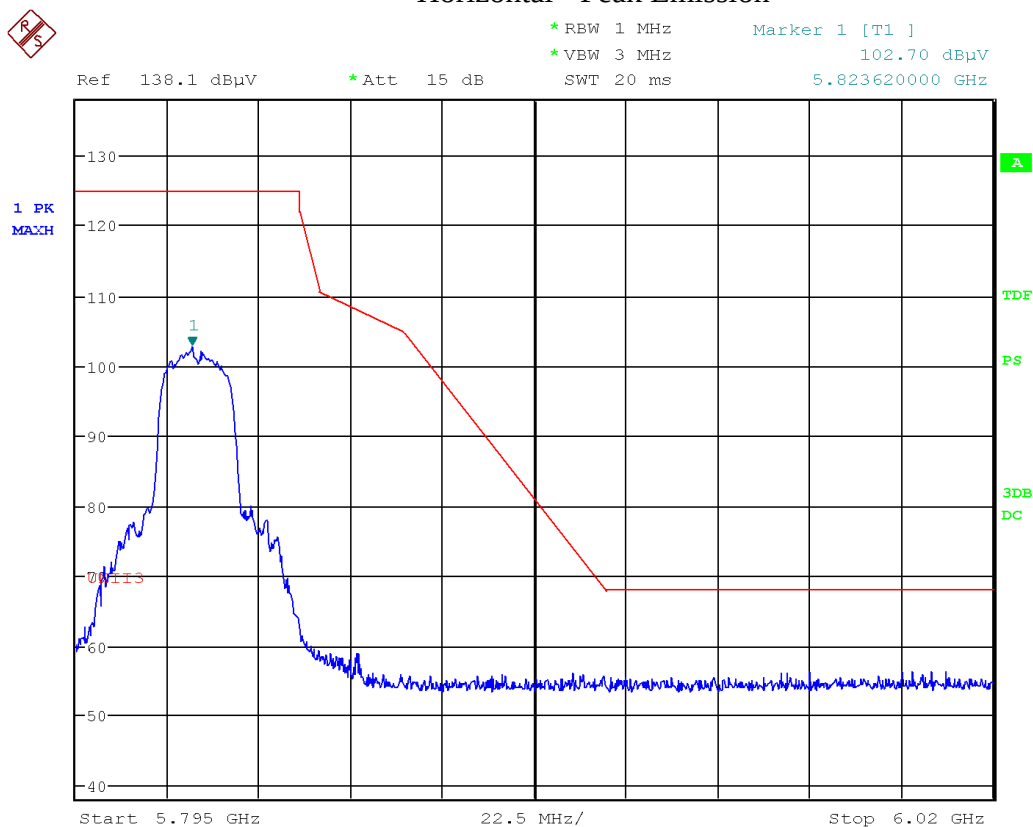


Date: 28.SEP.2021 17:44:14

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

### Band Edge – High Channel Horizontal - Peak Emission

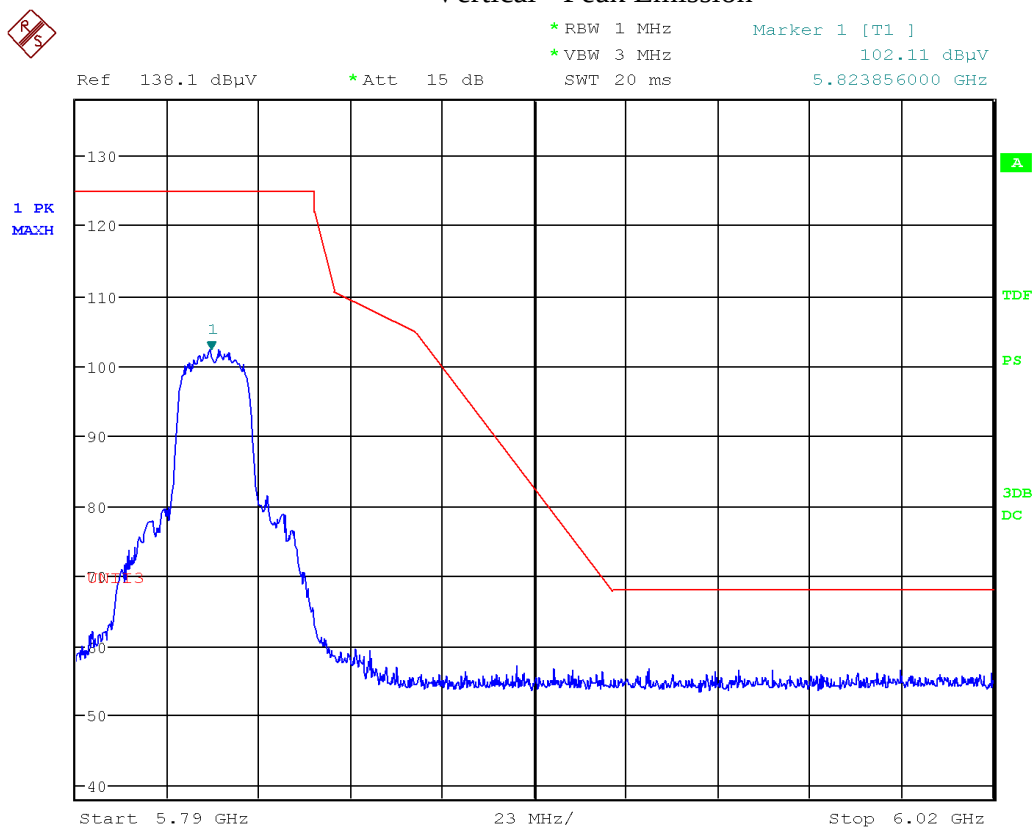


Date: 28.SEP.2021 17:39:06

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

### Band Edge – High Channel Vertical - Peak Emission



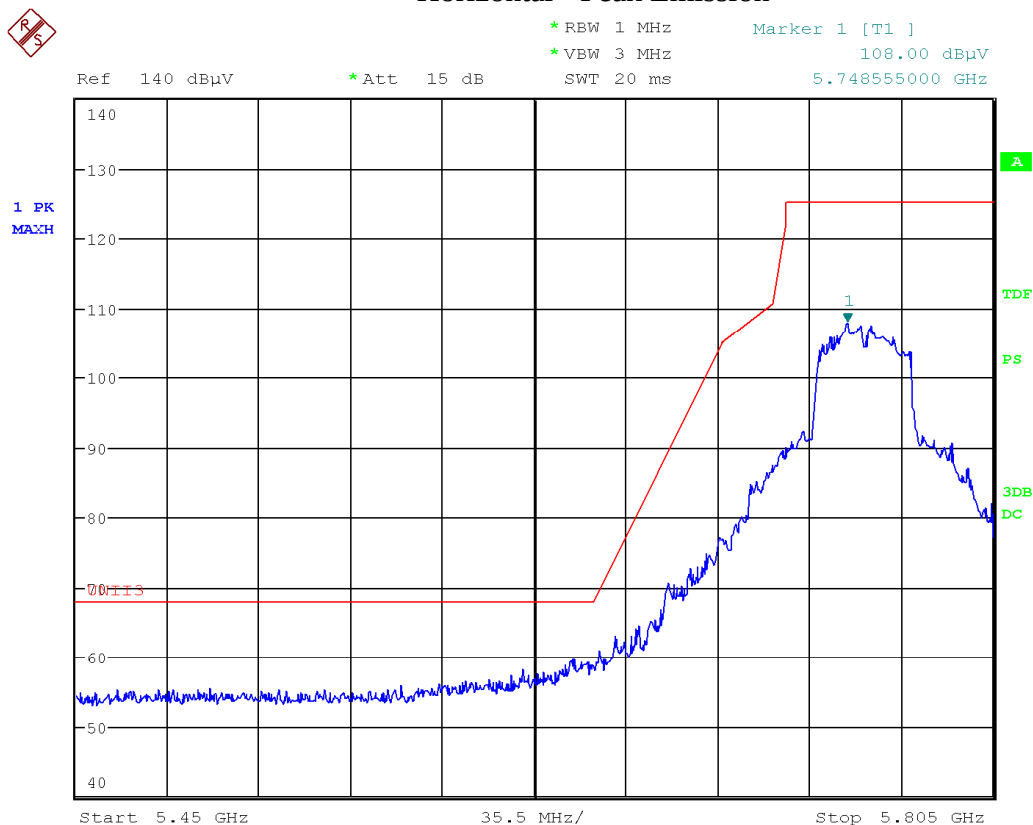
Date: 29.SEP.2021 10:10:08

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

## ECB601 Band Edges/Emission Mask – 802.11AC/40MHz

Band Edge – Low Channel  
Horizontal - Peak Emission

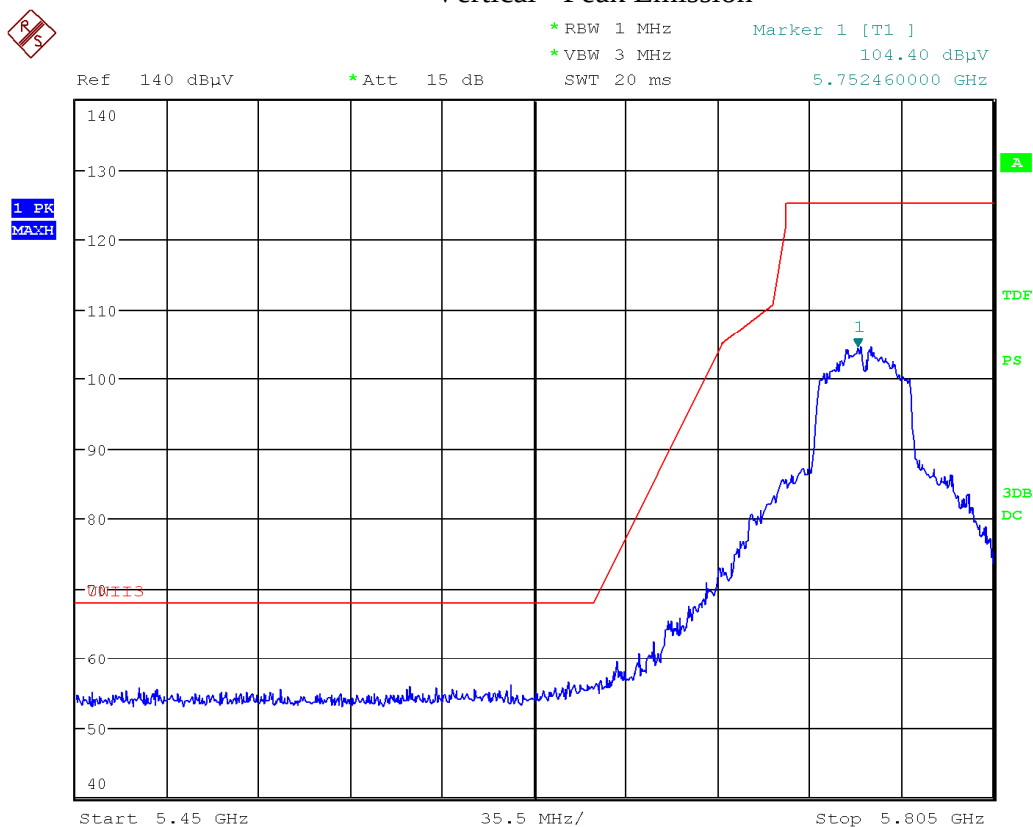


Date: 29.SEP.2021 10:53:25

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

### Band Edge – Low Channel Vertical - Peak Emission

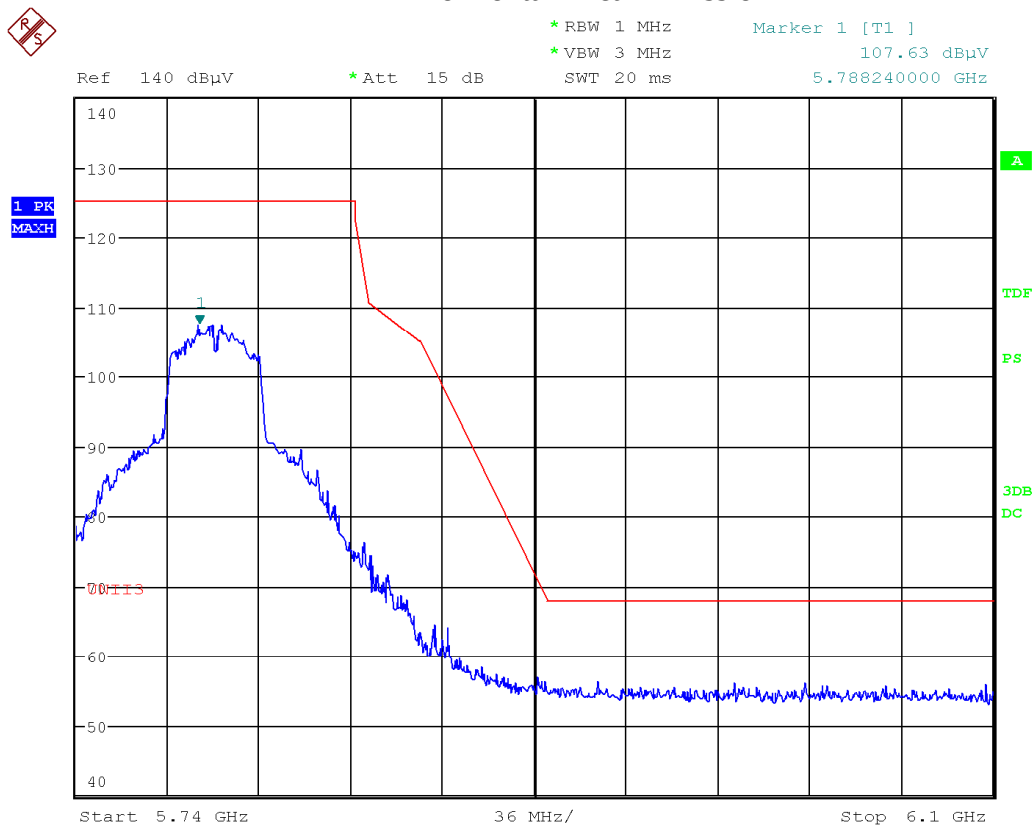


Date: 29.SEP.2021 10:54:32

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

### Band Edge – High Channel Horizontal - Peak Emission

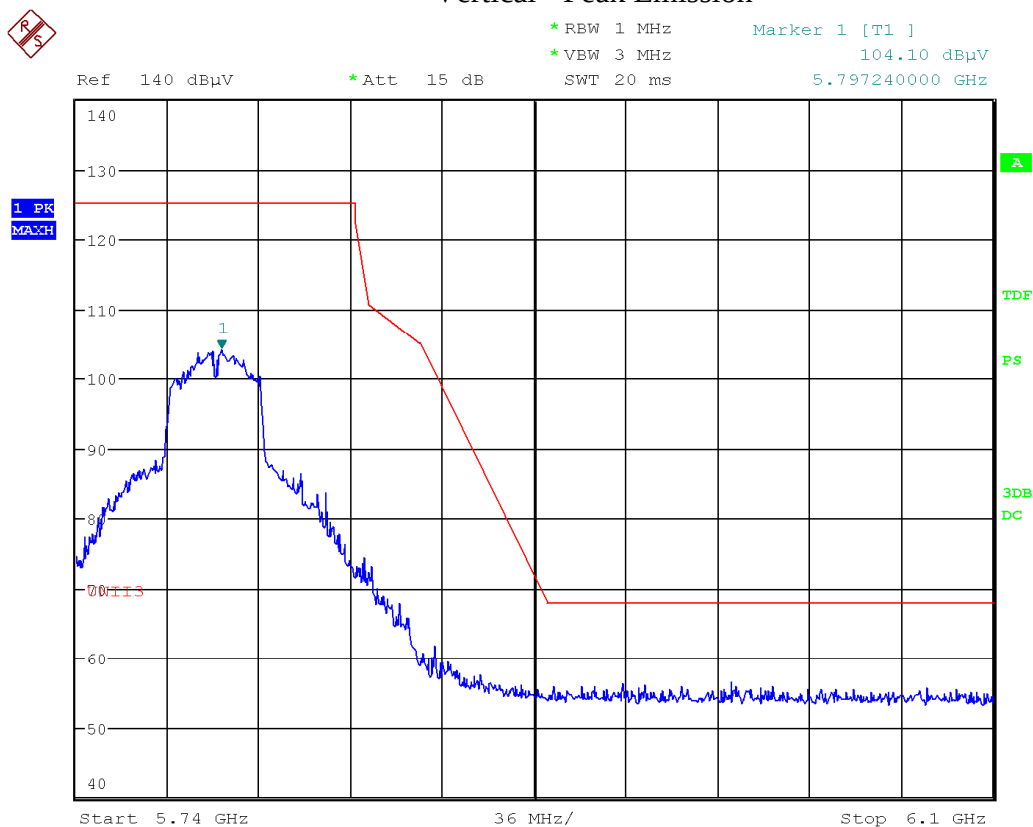


Date: 29.SEP.2021 11:02:46

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

### Band Edge – High Channel Vertical - Peak Emission



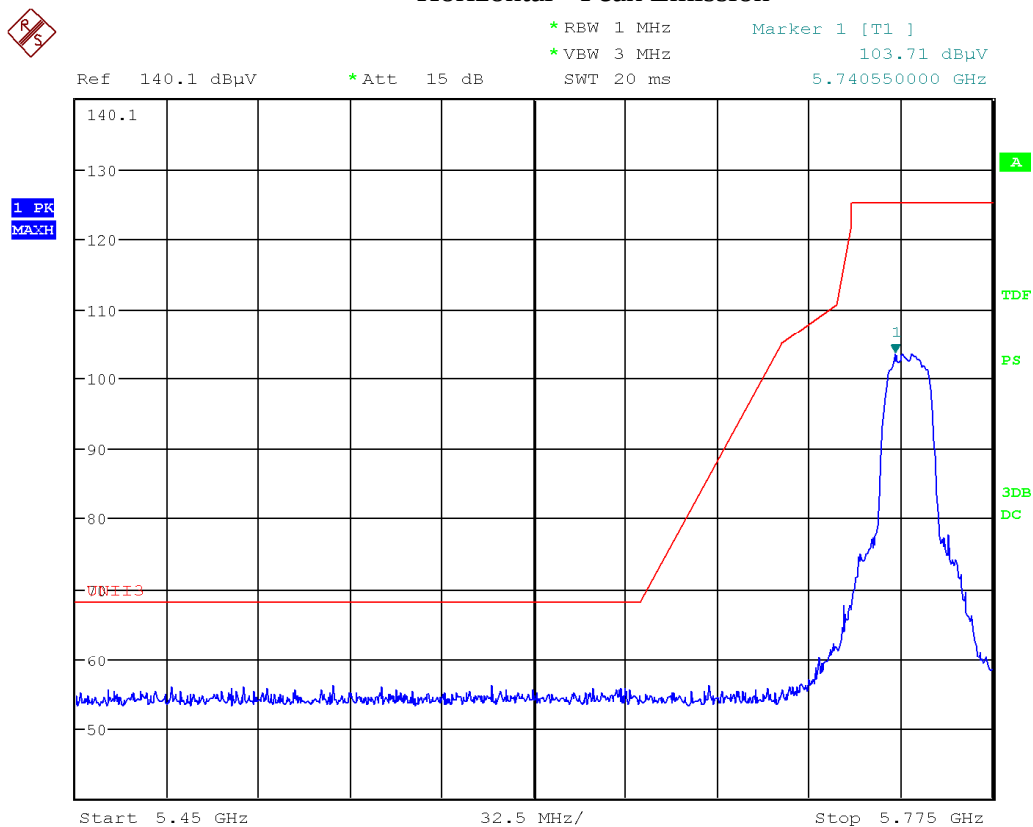
Date: 29.SEP.2021 11:03:31

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

## ECB501 Band Edges/Emission Mask – 802.11A

Band Edge – Low Channel  
Horizontal - Peak Emission

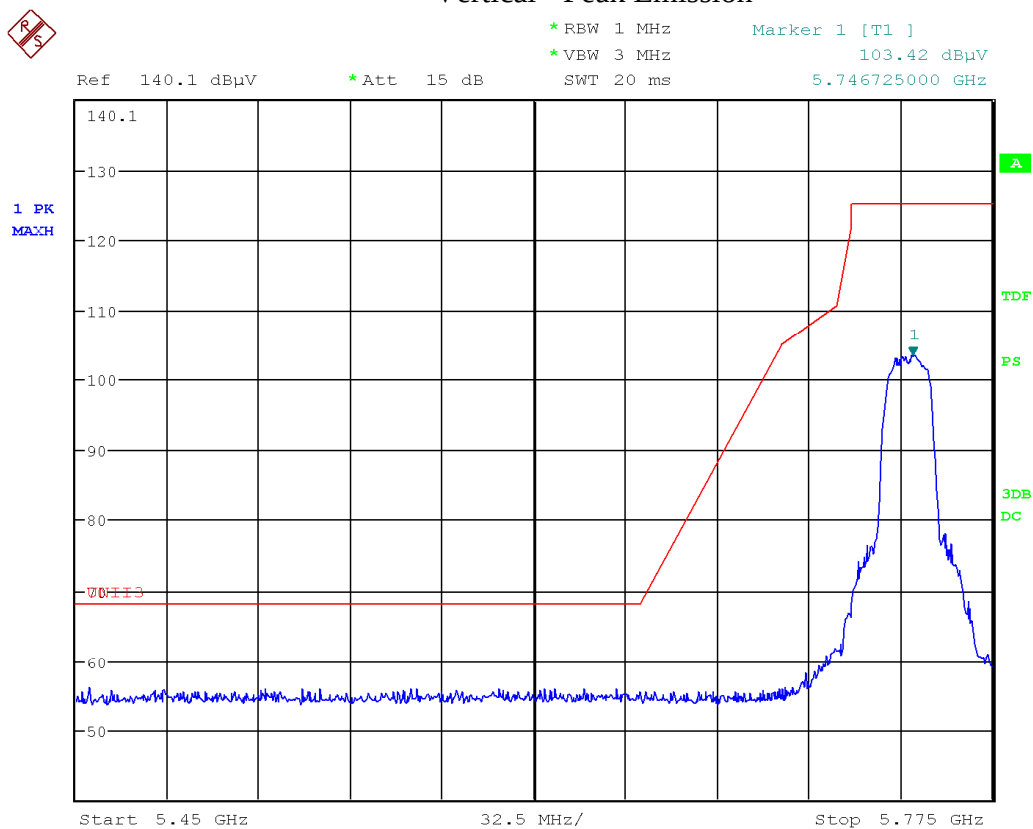


Date: 29.SEP.2021 14:34:39

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

### Band Edge – Low Channel Vertical - Peak Emission

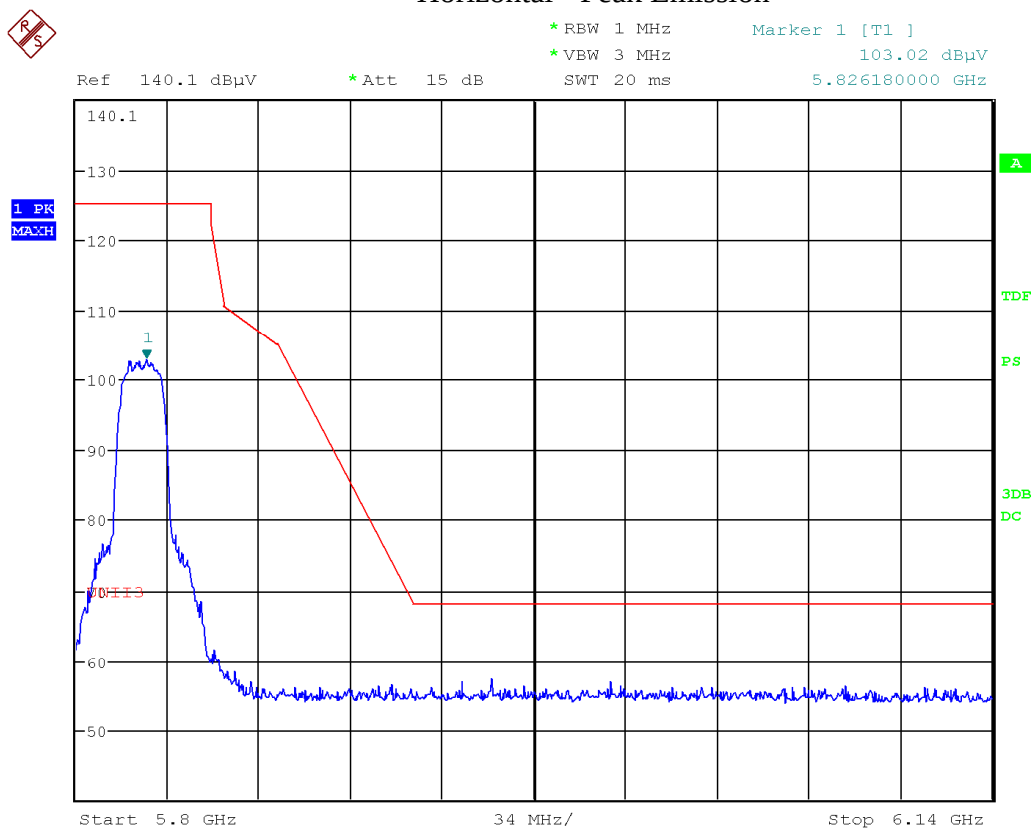


Date: 29.SEP.2021 14:33:10

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

### Band Edge – High Channel Horizontal - Peak Emission

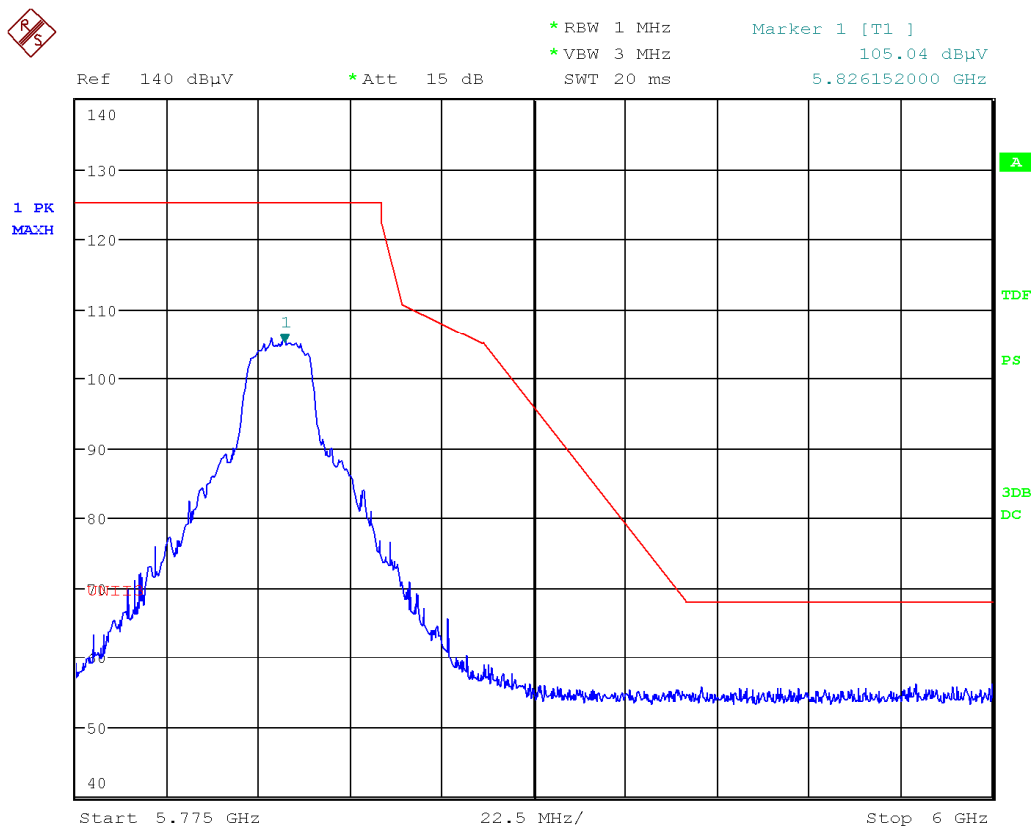


Date: 29.SEP.2021 14:38:04

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

### Band Edge – High Channel Vertical - Peak Emission



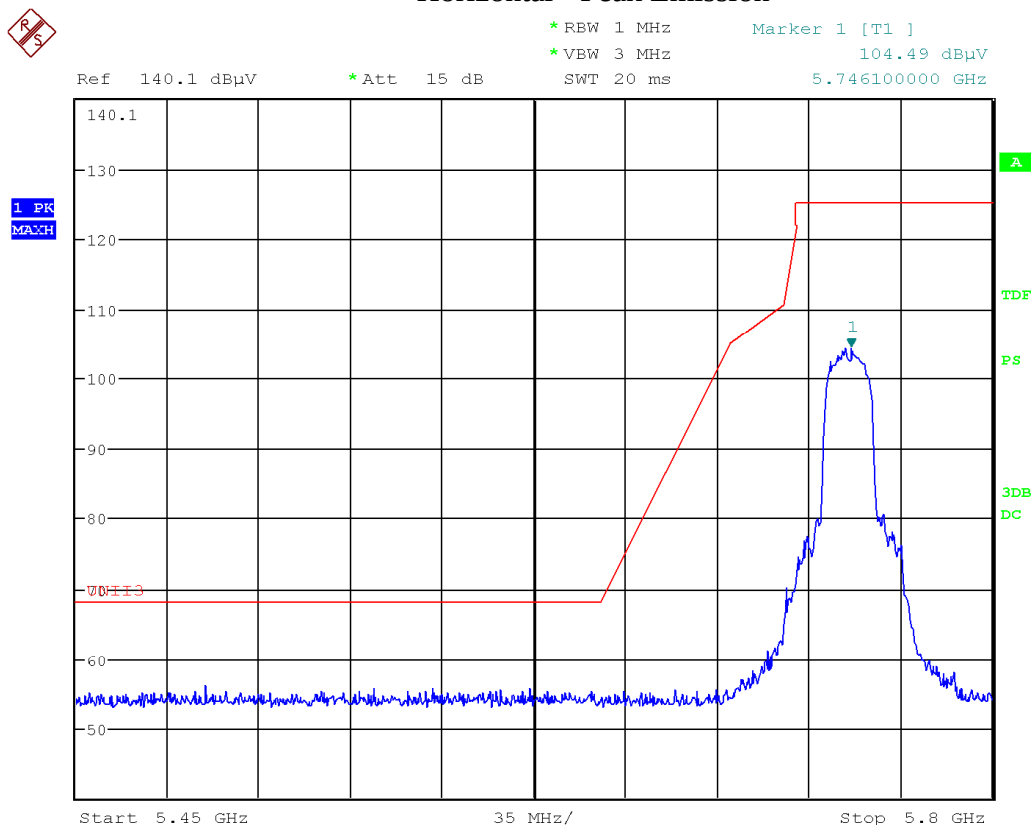
Date: 27.SEP.2021 11:40:20

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

## ECB501 Band Edges/Emission Mask – 802.11N/20MHz

Band Edge – Low Channel  
Horizontal - Peak Emission

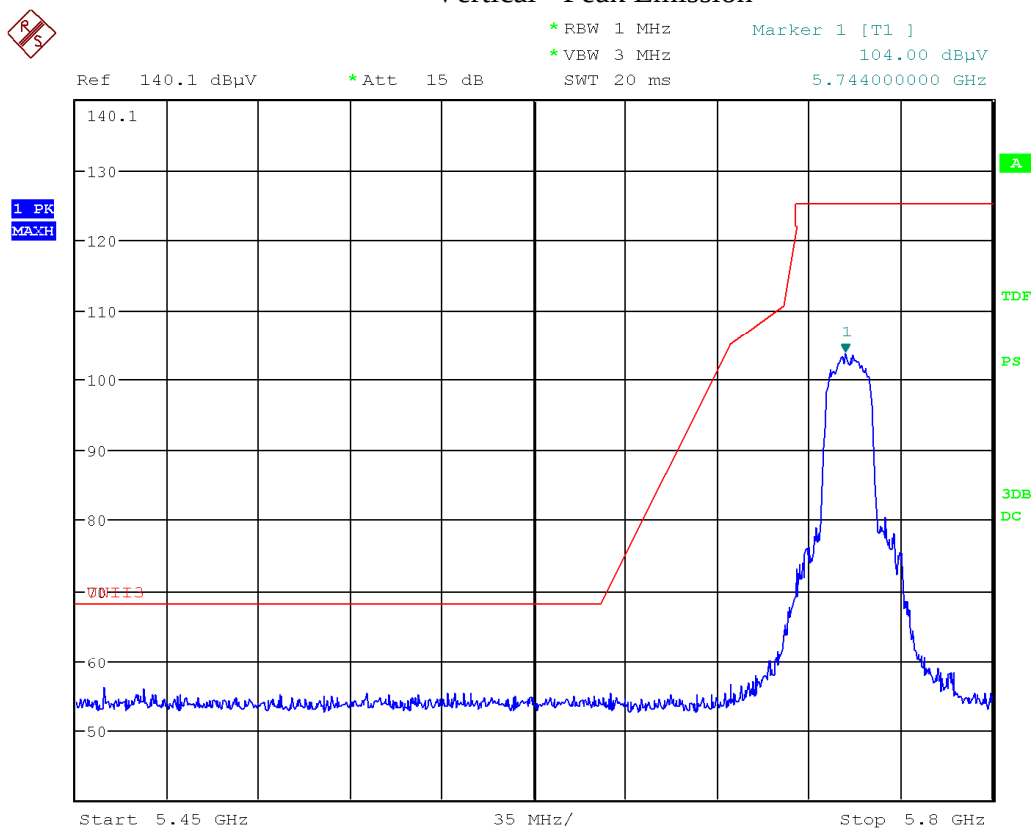


Date: 29.SEP.2021 13:13:31

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

### Band Edge – Low Channel Vertical - Peak Emission

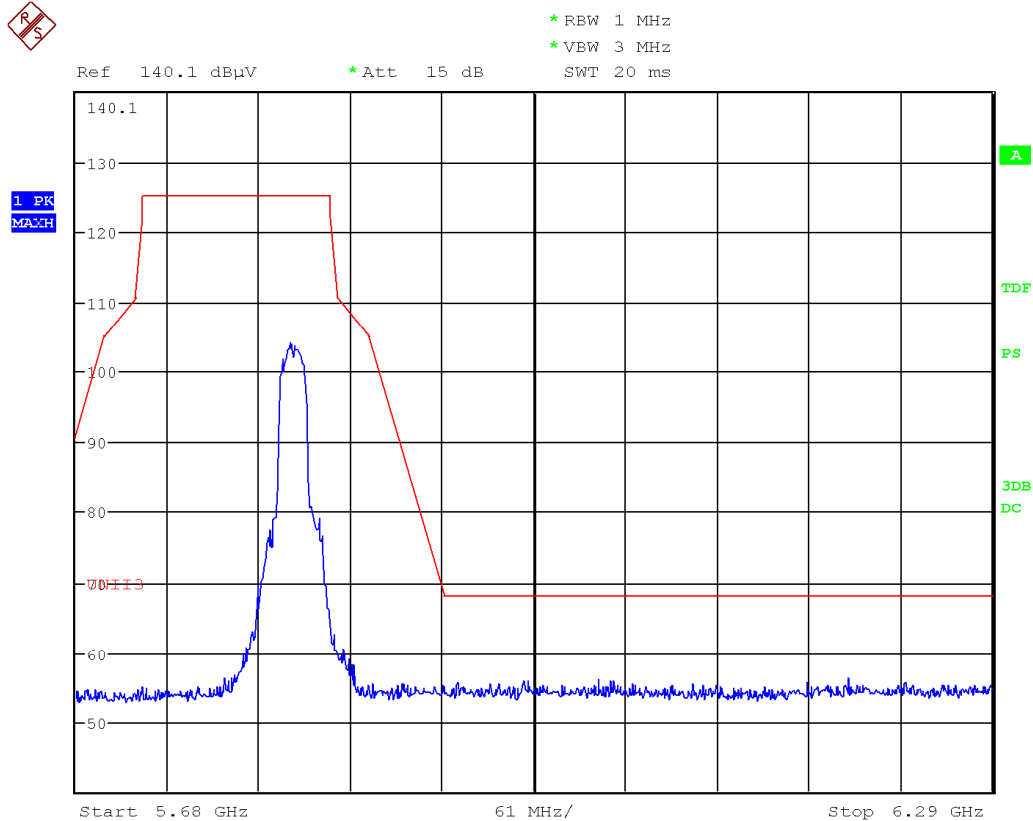


Date: 29.SEP.2021 13:14:09

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

### Band Edge – High Channel Horizontal - Peak Emission

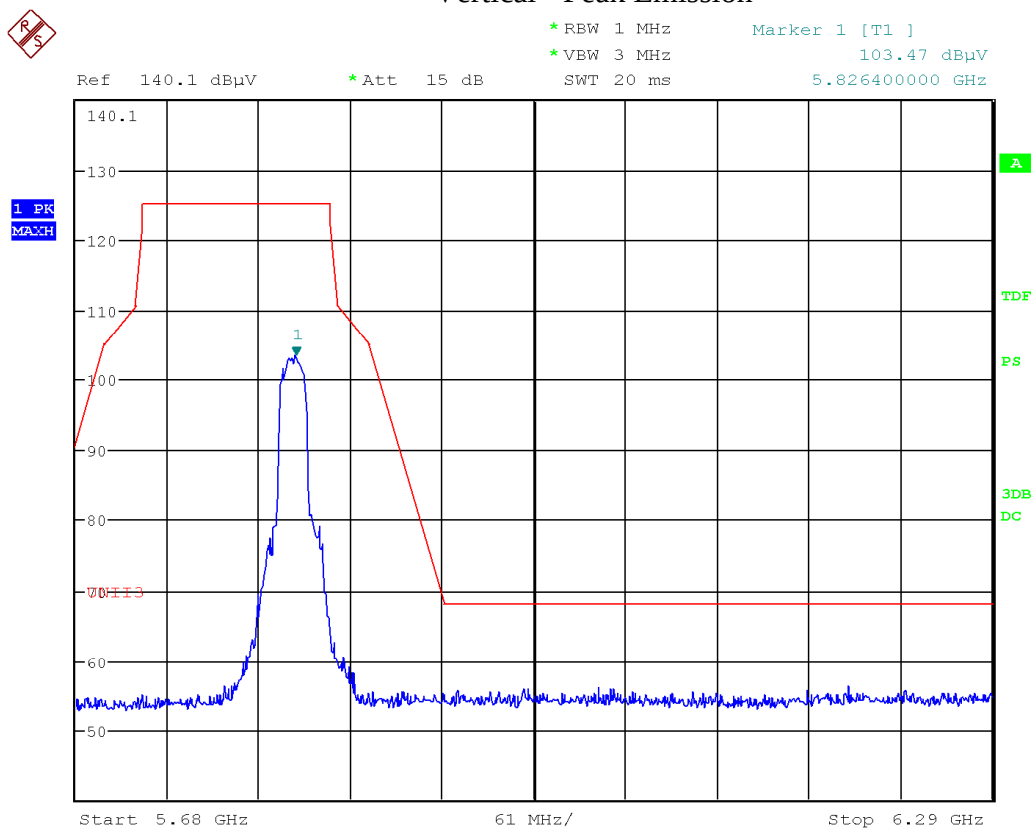


Date: 29.SEP.2021 13:15:09

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

### Band Edge – High Channel Vertical - Peak Emission



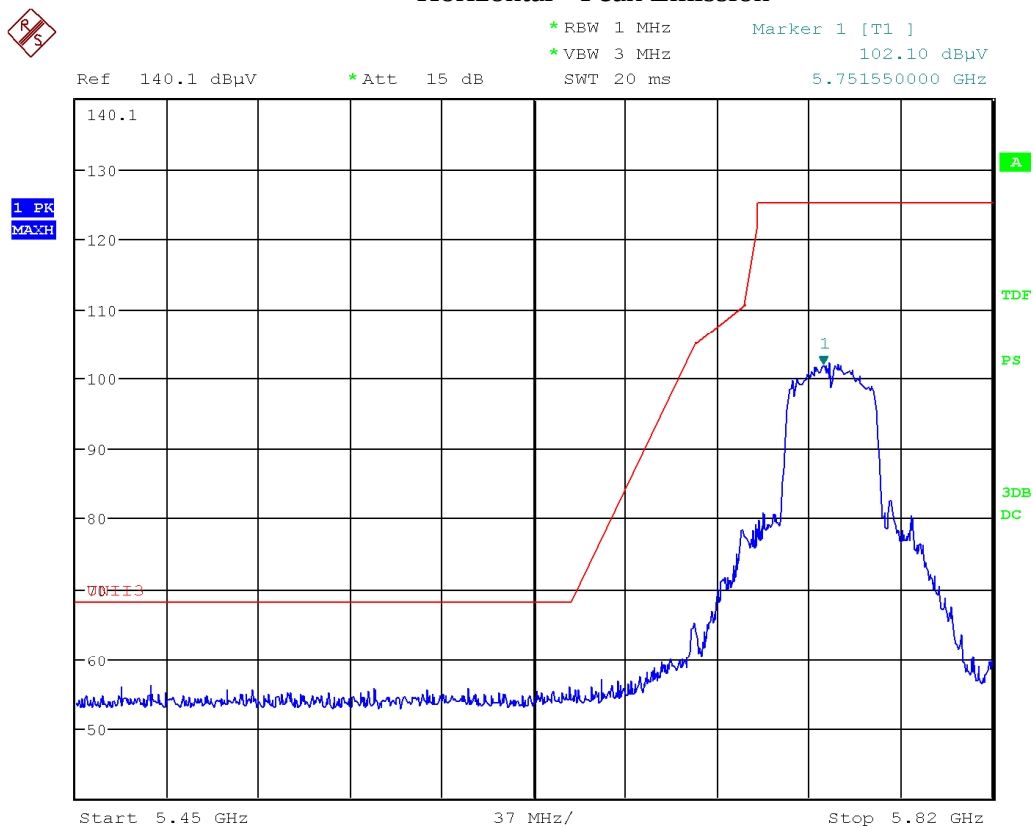
Date: 29.SEP.2021 13:15:09

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

## ECB501 Band Edges/Emission Mask – 802.11N/40MHz

Band Edge – Low Channel  
Horizontal - Peak Emission



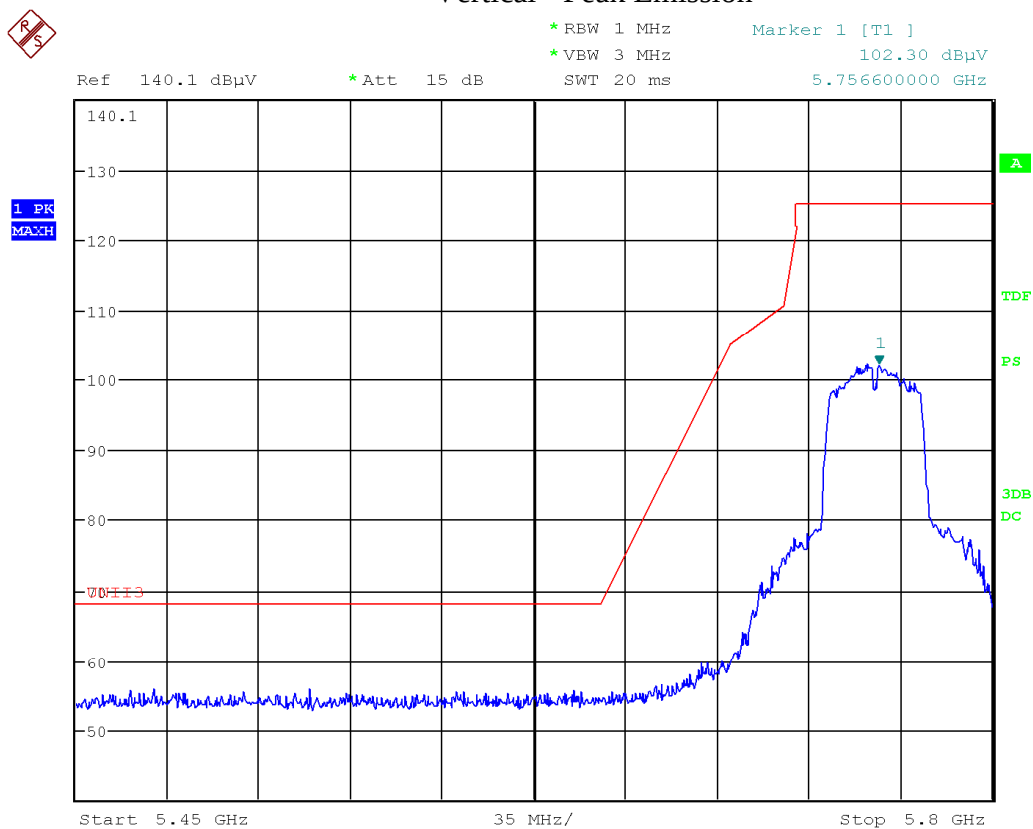
Date: 29.SEP.2021 15:36:51

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.

.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

### Band Edge – Low Channel Vertical - Peak Emission

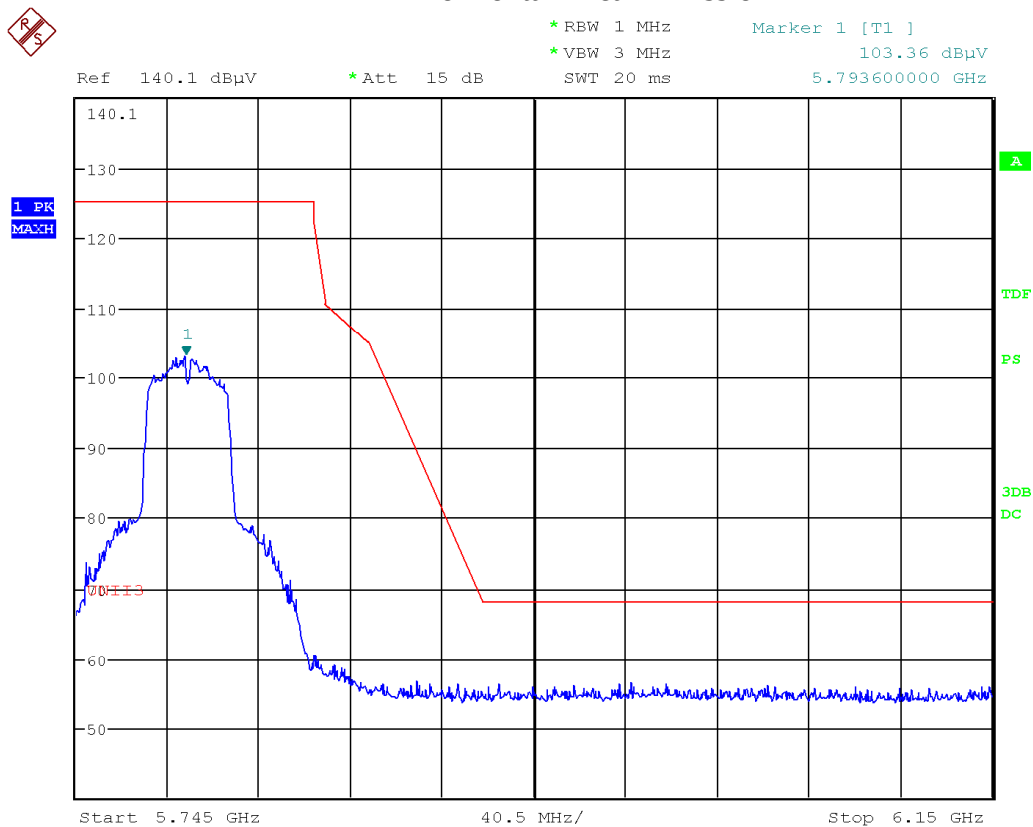


Date: 29.SEP.2021 13:11:11

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

### Band Edge – High Channel Horizontal - Peak Emission

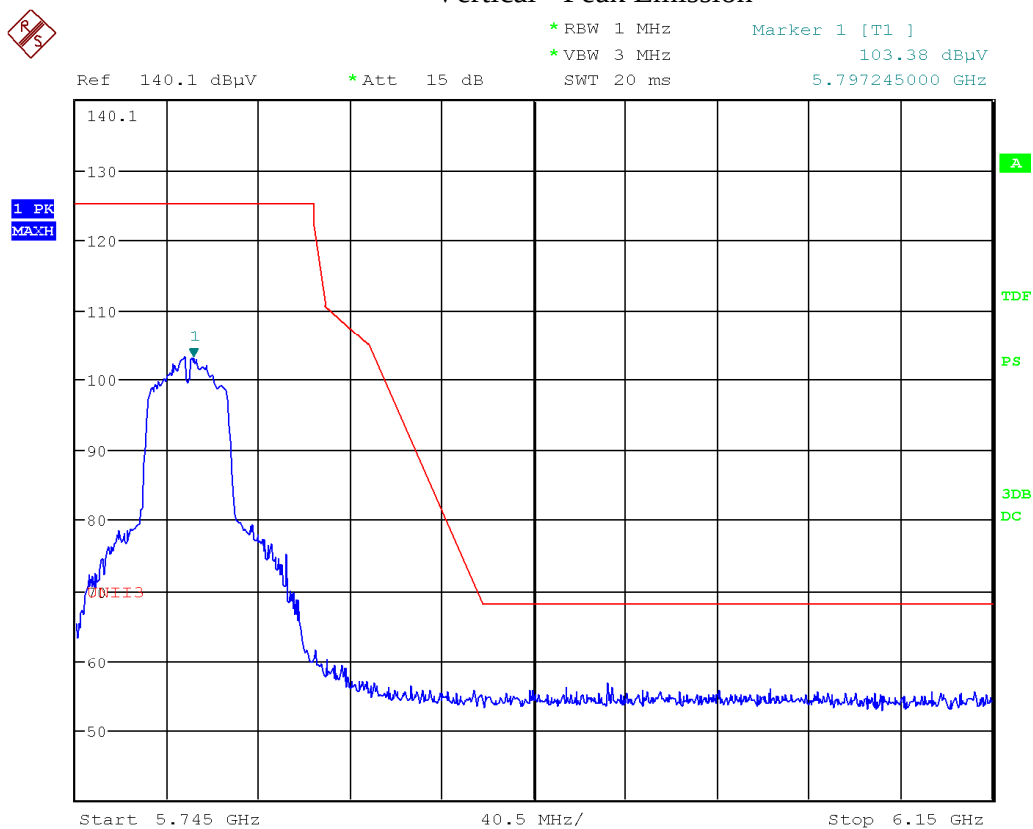


Date: 29.SEP.2021 13:09:24

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

### Band Edge – High Channel Vertical - Peak Emission



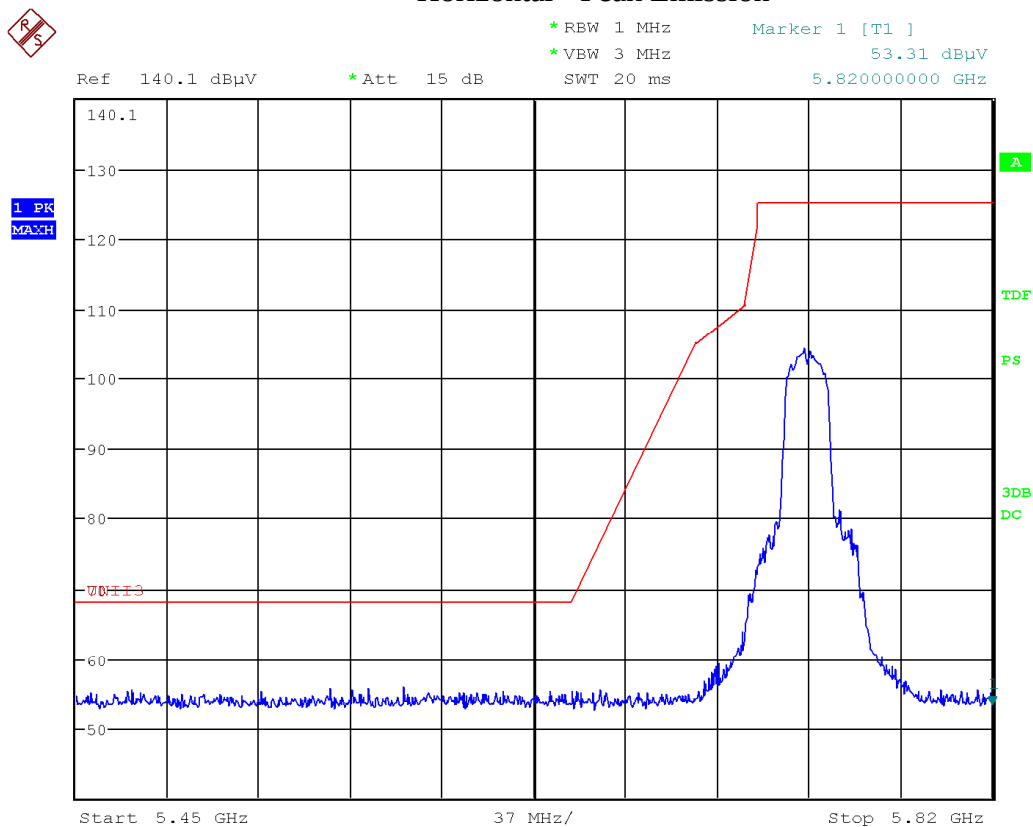
Date: 29.SEP.2021 13:10:02

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

## ECB501 Band Edges/Emission Mask – 802.11AC/20MHz

Band Edge – Low Channel  
Horizontal - Peak Emission

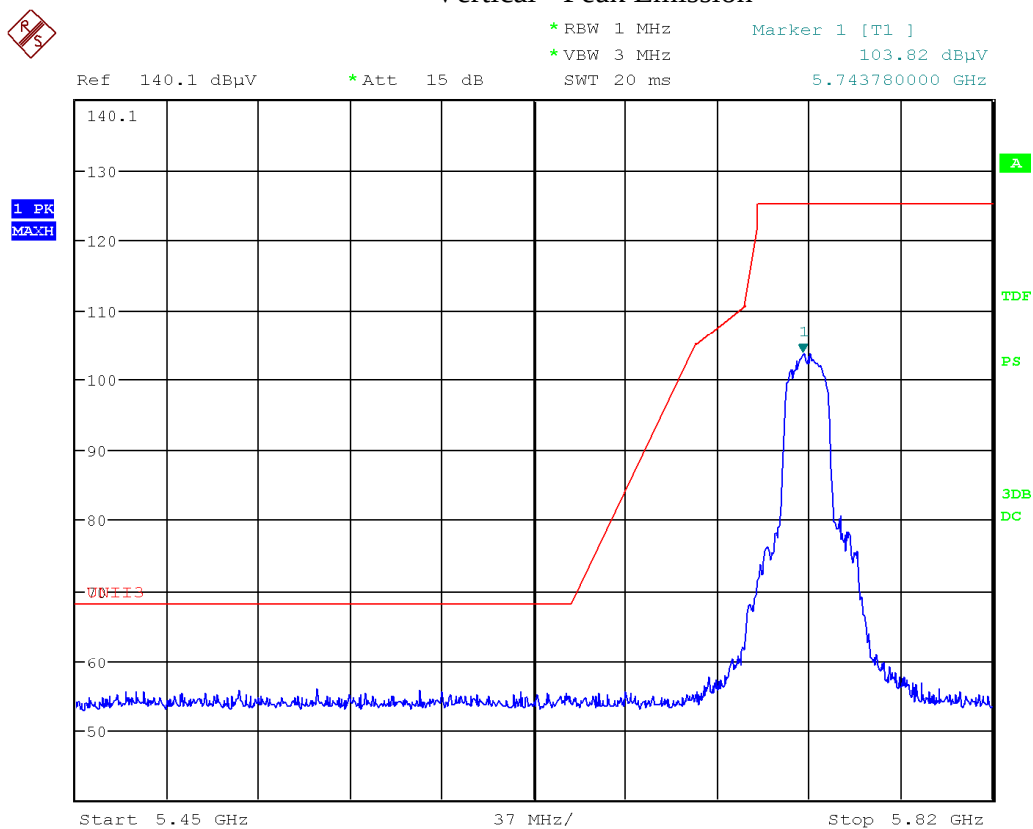


Date: 29.SEP.2021 15:33:55

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

### Band Edge – Low Channel Vertical - Peak Emission

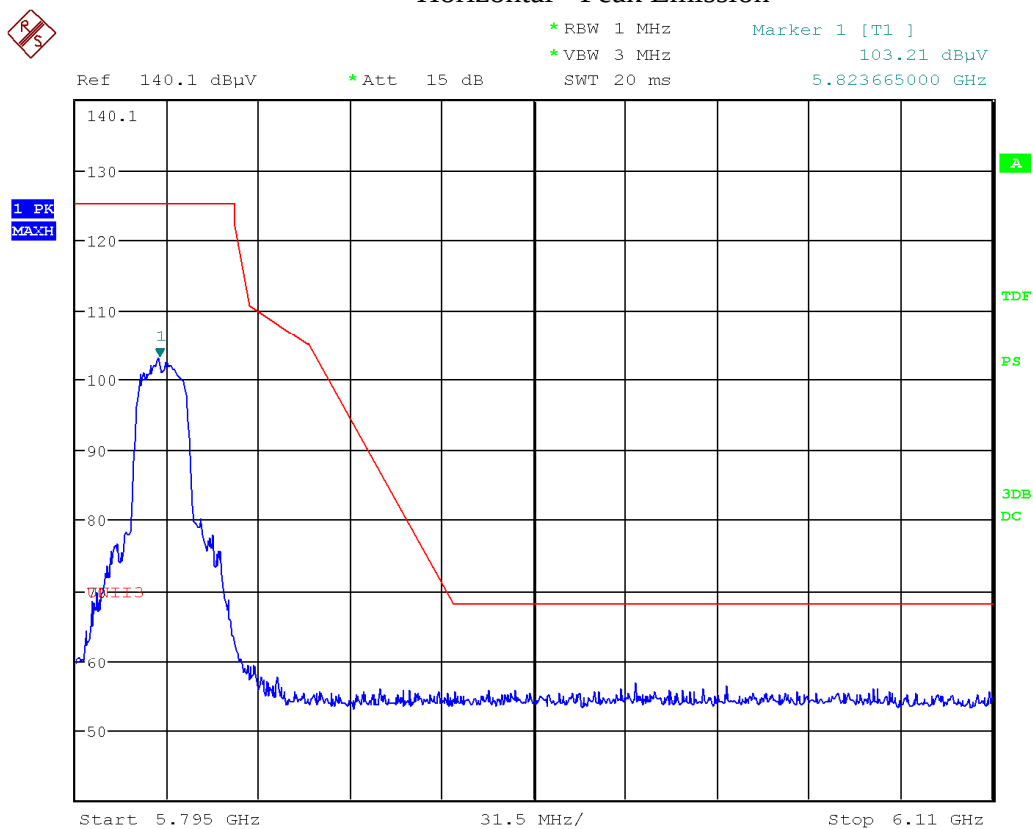


Date: 29.SEP.2021 15:34:38

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

### Band Edge – High Channel Horizontal - Peak Emission

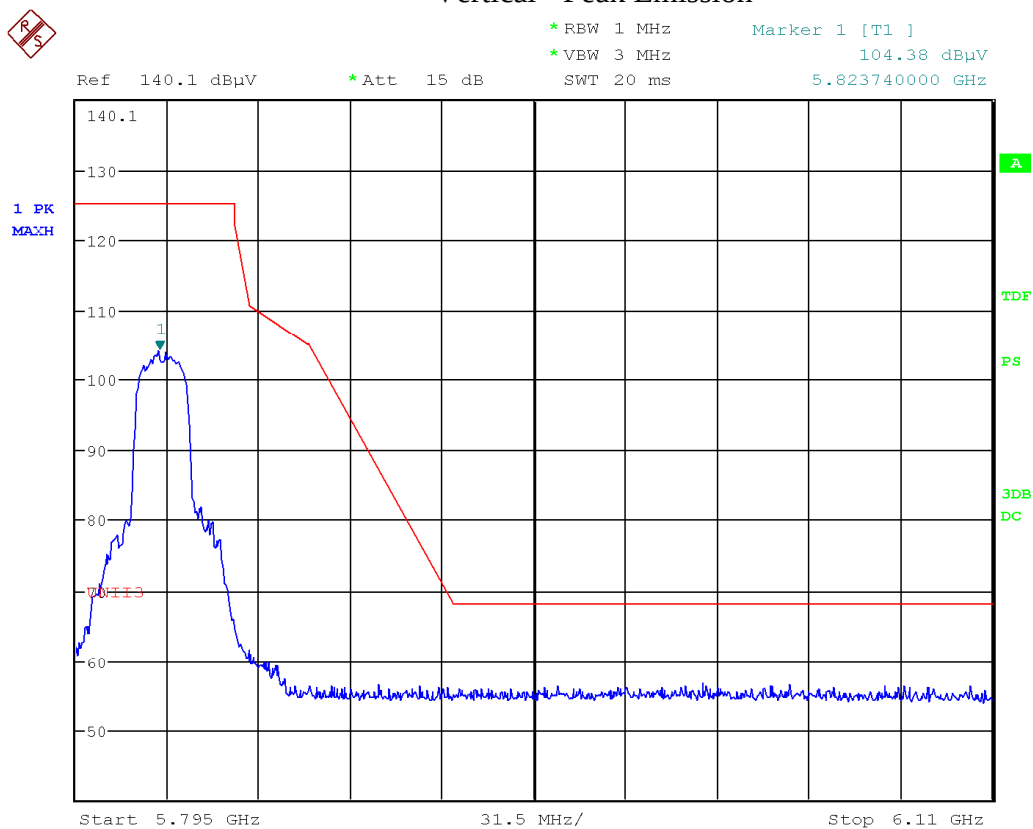


Date: 29.SEP.2021 15:32:53

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

### Band Edge – High Channel Vertical - Peak Emission



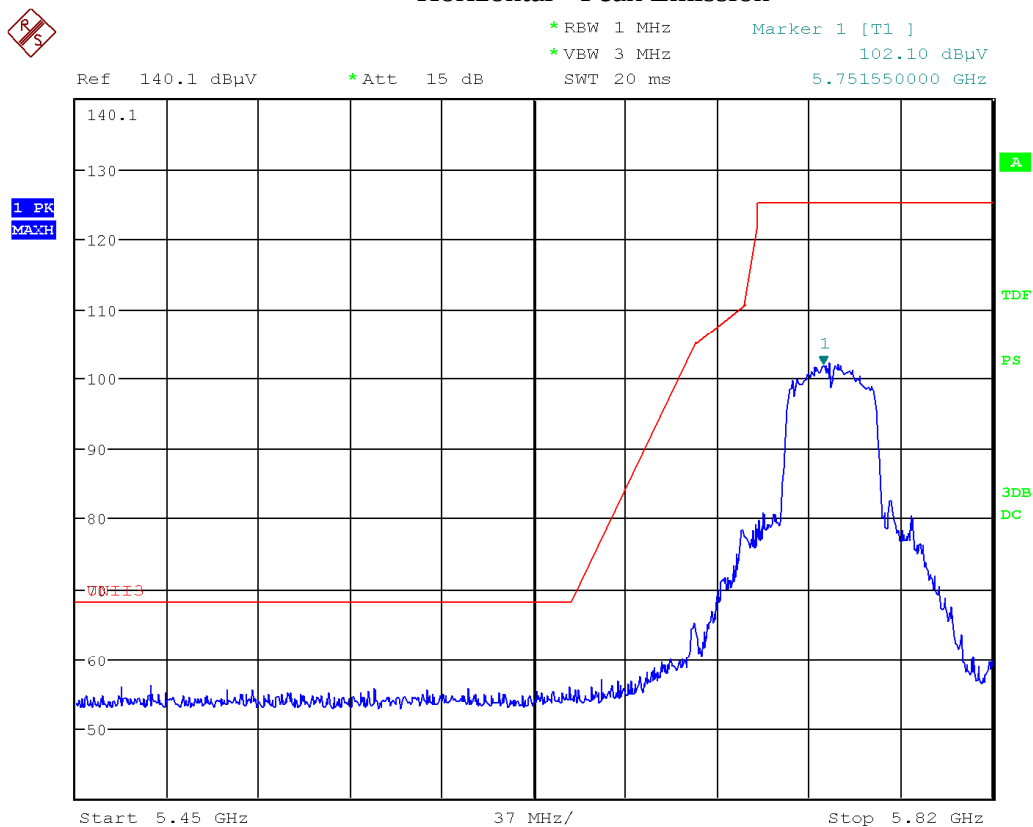
Date: 29.SEP.2021 15:32:10

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

## ECB501 Band Edges/Emission Mask – 802.11AC/40MHz

Band Edge – Low Channel  
Horizontal - Peak Emission

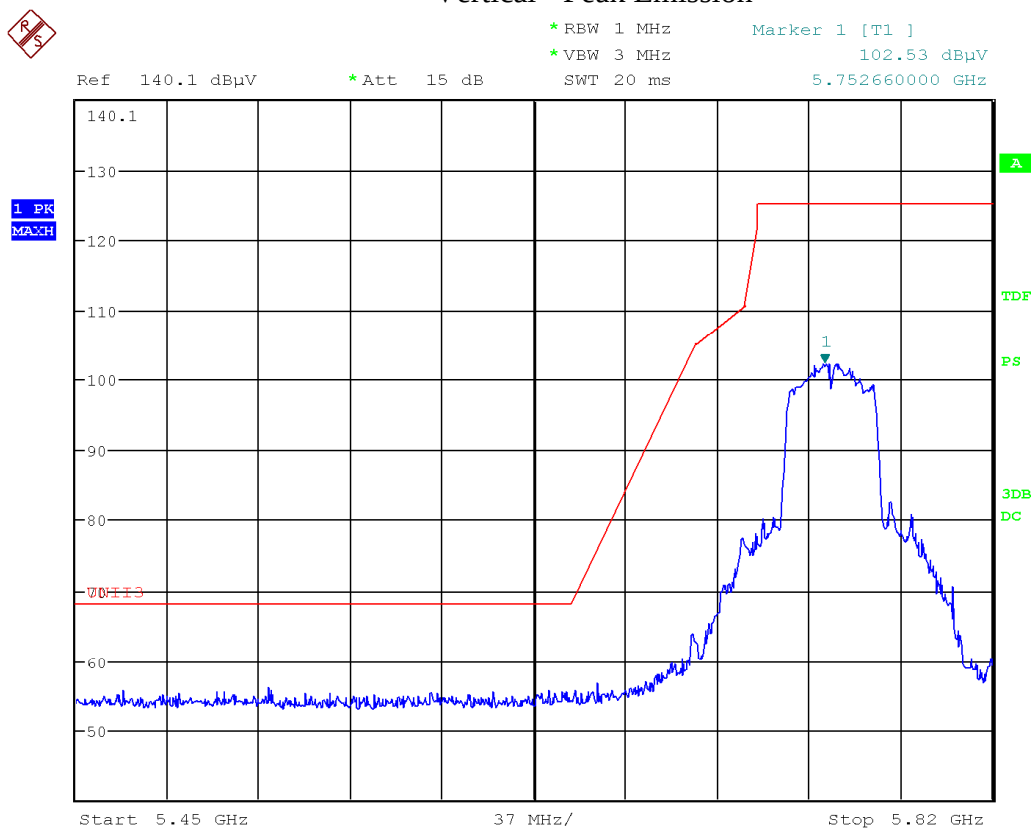


Date: 29.SEP.2021 15:36:51

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

### Band Edge – Low Channel Vertical - Peak Emission

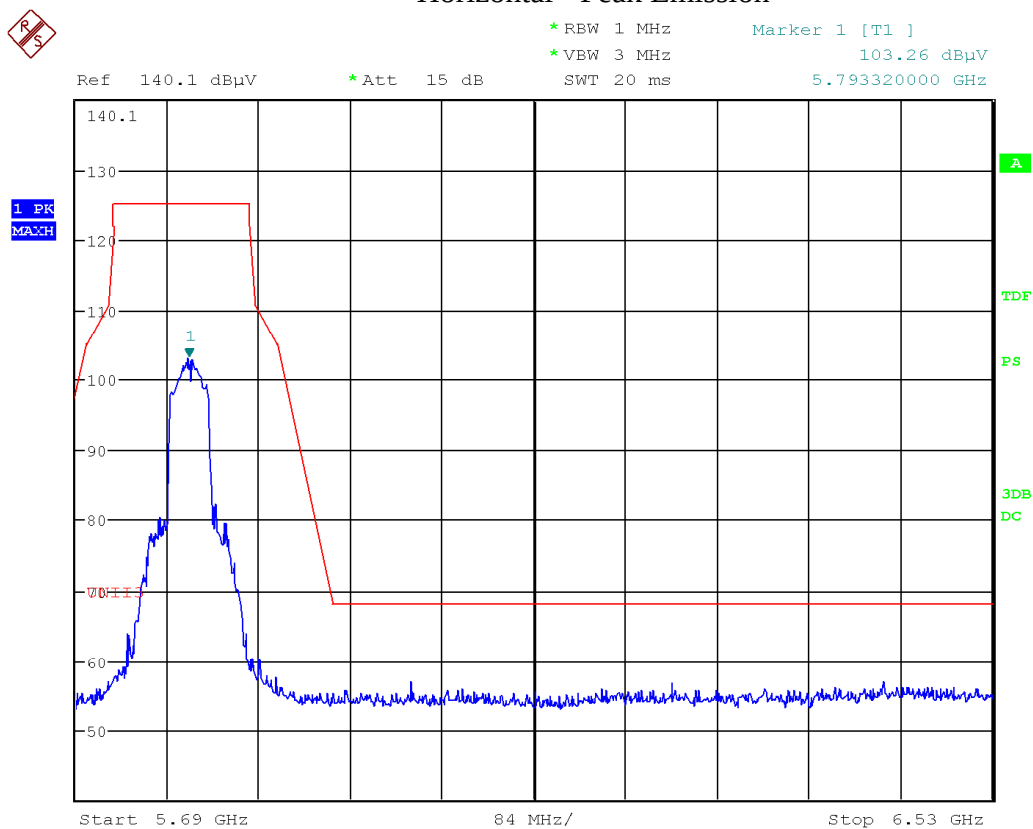


Date: 29.SEP.2021 15:36:13

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

### Band Edge – High Channel Horizontal - Peak Emission



Date: 29.SEP.2021 15:38:32

Note: Emission mask plot was taken at a 3m measurement distance. All factors were summarized as TDF.



|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | <b>Ecobee Inc.</b>                                 |  |
| Product     | <b>ECB601/ECB501</b>                               |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

## Final Measurements and Results

The EUT passed. Low, middle, and high bands were measured.

In accordance with 15.407(b), only frequencies exceeding the 15.209 limit that occur within the bands listed in 15.205 need to be verified with a final detector. Unwanted emission limits were applied to which were outside the restricted bands.

The measurements were maximized by rotating the turn table over a full 0-360 rotation and the antenna height was varied from 1 m to 4 m.

| EUT Name          |          | ECB601                 |                |                   |                |             |
|-------------------|----------|------------------------|----------------|-------------------|----------------|-------------|
| Limit             |          | FCC 15.209, Spurious   |                |                   |                |             |
| Power Supply      |          | 24Vac                  |                |                   |                |             |
| Frequency (Hz)    | Detector | Correction Factor (dB) | Level (dBuV/m) | QP Limit (dBuV/m) | QP Margin (dB) | Test Result |
| <b>Horizontal</b> |          |                        |                |                   |                |             |
| 440.67M           | PEAK     | -7.4                   | 40.4           | 46.0              | 5.6            | Pass        |
| 883.89M           | PEAK     | 4.3                    | 38.1           | 46.0              | 7.9            | Pass        |
| 882.0M            | PEAK     | 4.3                    | 37.9           | 46.0              | 8.1            | Pass        |
| 455.34M           | PEAK     | -6.6                   | 37.4           | 46.0              | 8.6            | Pass        |
| 459.57M           | PEAK     | -6.3                   | 37.3           | 46.0              | 8.7            | Pass        |
| 888.9M            | PEAK     | 4.5                    | 37.3           | 46.0              | 8.7            | Pass        |
| <b>Vertical</b>   |          |                        |                |                   |                |             |
| 881.97M           | PEAK     | 4.3                    | 39.3           | 46.0              | 6.7            | Pass        |
| 440.67M           | PEAK     | -7.4                   | 38.9           | 46.0              | 7.1            | Pass        |
| 367.23M           | PEAK     | -8.5                   | 38.5           | 46.0              | 7.5            | Pass        |
| 487.98M           | PEAK     | -4.8                   | 37.7           | 46.0              | 8.3            | Pass        |
| 483.93M           | PEAK     | -4.7                   | 37.6           | 46.0              | 8.4            | Pass        |
| 888.66M           | PEAK     | 4.5                    | 37.4           | 46.0              | 8.6            | Pass        |

|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        |  |
| Product     | ECB601/ECB501                                      |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

## ECB601 Harmonic/Restricted Band Emission – 802.11A

| Test Frequency (MHz)   | Detection Mode | Antenna Polarity (Horz/Vert) | Received Signal (dBμV) | Antenna Factor (dB/m) | Cable Factor (dB) | Attenuator (dB) | Pre-Amp Gain (dB) | Level (dBμV/m) | Emission Limit (dBμV/m) | Margin (dB) | Result |
|------------------------|----------------|------------------------------|------------------------|-----------------------|-------------------|-----------------|-------------------|----------------|-------------------------|-------------|--------|
| 802.11A - Low Channel  |                |                              |                        |                       |                   |                 |                   |                |                         |             |        |
| 20 MHz                 |                |                              |                        |                       |                   |                 |                   |                |                         |             |        |
| 5745                   | Peak           | Horz                         | 97.6                   | 28.3                  | 4.9               | 10.0            | -32.3             | 108.5          |                         |             | PASS   |
| 5745                   | Avg            | Horz                         | 85.3                   | 28.3                  | 4.9               | 10.0            | -32.3             | 96.3           |                         |             | PASS   |
| 5745                   | Peak           | Vert                         | 93.9                   | 28.3                  | 4.9               | 10.0            | -32.3             | 104.8          |                         |             | PASS   |
| 5745                   | Avg            | Vert                         | 81.7                   | 28.3                  | 4.9               | 10.0            | -32.3             | 92.6           |                         |             | PASS   |
| 5358.5                 | Peak           | Horz                         | 44.2                   | 28.3                  | 4.7               | 10.0            | -32.4             | 54.8           | 74.0                    | 19.2        | PASS   |
| 5355.4                 | Avg            | Horz                         | 29.8                   | 28.3                  | 4.7               | 10.0            | -32.4             | 40.4           | 54.0                    | 13.6        | PASS   |
| 5356.5                 | Peak           | Vert                         | 43.2                   | 28.3                  | 4.7               | 10.0            | -32.4             | 53.8           | 74.0                    | 20.2        | PASS   |
| 5350                   | Avg            | Vert                         | 29.7                   | 28.3                  | 4.7               | 10.0            | -32.4             | 40.4           | 54.0                    | 13.6        | PASS   |
| 7415.5                 | Peak           | Horz                         | 44.0                   | 29.2                  | 5.9               | 10.0            | -33.1             | 56.1           | 74.0                    | 17.9        | PASS   |
| 7448.5                 | Avg            | Horz                         | 30.5                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.6           | 54.0                    | 11.4        | PASS   |
| 7443.3                 | Peak           | Vert                         | 44.5                   | 29.2                  | 6.0               | 10.0            | -33.1             | 56.6           | 74.0                    | 17.4        | PASS   |
| 7449.5                 | Avg            | Vert                         | 30.5                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.6           | 54.0                    | 11.4        | PASS   |
| 11490                  | Peak           | Horz                         | 53.5                   | 32.4                  | 7.4               | 0.0             | -30.8             | 62.5           | 74.0                    | 11.5        | PASS   |
| 11490                  | Avg            | Horz                         | 39.6                   | 32.4                  | 7.4               | 0.0             | -30.8             | 48.6           | 54.0                    | 5.4         | PASS   |
| 11490                  | Peak           | Vert                         | 50.6                   | 32.4                  | 7.4               | 0.0             | -30.8             | 59.6           | 74.0                    | 14.4        | PASS   |
| 11490                  | Avg            | Vert                         | 36.7                   | 32.4                  | 7.4               | 0.0             | -30.8             | 45.7           | 54.0                    | 8.3         | PASS   |
| 17235                  | Peak           | Horz                         | 55.7                   | 36.7                  | 9.6               | 0.0             | -28.7             | 73.4           | 77.7                    | 4.3         | PASS   |
| 17235                  | Peak           | Vert                         | 51.6                   | 36.7                  | 9.6               | 0.0             | -28.7             | 69.3           | 77.7                    | 8.4         | PASS   |
| 802.11A - Mid Channel  |                |                              |                        |                       |                   |                 |                   |                |                         |             |        |
| 20 MHz                 |                |                              |                        |                       |                   |                 |                   |                |                         |             |        |
| 5785                   | Peak           | Horz                         | 96.7                   | 28.3                  | 5.1               | 10.0            | -32.4             | 107.7          |                         |             | PASS   |
| 5785                   | Avg            | Horz                         | 84.5                   | 28.3                  | 5.1               | 10.0            | -32.4             | 95.5           |                         |             | PASS   |
| 5785                   | Peak           | Vert                         | 93.1                   | 28.3                  | 5.1               | 10.0            | -32.4             | 104.1          |                         |             | PASS   |
| 5785                   | Avg            | Vert                         | 80.9                   | 28.3                  | 5.1               | 10.0            | -32.4             | 91.9           |                         |             | PASS   |
| 5366.6                 | Peak           | Horz                         | 44.3                   | 28.3                  | 4.7               | 10.0            | -32.4             | 54.9           | 74.0                    | 19.1        | PASS   |
| 5356.8                 | Avg            | Horz                         | 29.8                   | 28.3                  | 4.7               | 10.0            | -32.4             | 40.4           | 54.0                    | 13.6        | PASS   |
| 5363.3                 | Peak           | Vert                         | 45.3                   | 28.3                  | 4.7               | 10.0            | -32.4             | 55.9           | 74.0                    | 18.1        | PASS   |
| 5363.3                 | Avg            | Vert                         | 29.8                   | 28.3                  | 4.7               | 10.0            | -32.4             | 40.4           | 54.0                    | 13.6        | PASS   |
| 7381.8                 | Peak           | Horz                         | 44.2                   | 29.2                  | 5.9               | 10.0            | -33.1             | 56.3           | 74.0                    | 17.7        | PASS   |
| 7451.8                 | Avg            | Horz                         | 30.5                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.6           | 54.0                    | 11.4        | PASS   |
| 7458.8                 | Peak           | Vert                         | 44.7                   | 29.2                  | 6.0               | 10.0            | -33.1             | 56.8           | 74.0                    | 17.2        | PASS   |
| 7449.3                 | Avg            | Vert                         | 30.5                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.6           | 54.0                    | 11.4        | PASS   |
| 11570                  | Peak           | Horz                         | 53.0                   | 32.5                  | 7.4               | 0.0             | -30.8             | 62.1           | 74.0                    | 11.9        | PASS   |
| 11570                  | Avg            | Horz                         | 39.5                   | 32.5                  | 7.4               | 0.0             | -30.8             | 48.6           | 54.0                    | 5.4         | PASS   |
| 11570                  | Peak           | Vert                         | 50.2                   | 32.5                  | 7.4               | 0.0             | -30.8             | 59.3           | 74.0                    | 14.7        | PASS   |
| 11570                  | Avg            | Vert                         | 36.6                   | 32.5                  | 7.4               | 0.0             | -30.8             | 45.7           | 54.0                    | 8.3         | PASS   |
| 17355                  | Peak           | Horz                         | 57.2                   | 36.6                  | 9.5               | 0.0             | -28.0             | 75.4           | 77.7                    | 2.3         | PASS   |
| 17355                  | Peak           | Vert                         | 53.6                   | 36.6                  | 9.5               | 0.0             | -28.0             | 71.8           | 77.7                    | 5.9         | PASS   |
| 802.11A - High Channel |                |                              |                        |                       |                   |                 |                   |                |                         |             |        |
| 20 MHz                 |                |                              |                        |                       |                   |                 |                   |                |                         |             |        |
| 5825                   | Peak           | Horz                         | 95.3                   | 28.3                  | 5.1               | 10.0            | -32.4             | 106.3          |                         |             | PASS   |
| 5825                   | Avg            | Horz                         | 83.0                   | 28.3                  | 5.1               | 10.0            | -32.4             | 94.0           |                         |             | PASS   |
| 5825                   | Peak           | Vert                         | 91.6                   | 28.3                  | 5.1               | 10.0            | -32.4             | 102.6          |                         |             | PASS   |
| 5825                   | Avg            | Vert                         | 79.3                   | 28.3                  | 5.1               | 10.0            | -32.4             | 90.3           |                         |             | PASS   |
| 5350                   | Peak           | Horz                         | 43.7                   | 28.3                  | 4.7               | 10.0            | -32.4             | 54.3           | 74.0                    | 19.7        | PASS   |
| 5350                   | Avg            | Horz                         | 29.6                   | 28.3                  | 4.7               | 10.0            | -32.4             | 40.3           | 54.0                    | 13.7        | PASS   |
| 5356.7                 | Peak           | Vert                         | 44.0                   | 28.3                  | 4.7               | 10.0            | -32.4             | 54.6           | 74.0                    | 19.4        | PASS   |
| 5350                   | Avg            | Vert                         | 29.7                   | 28.3                  | 4.7               | 10.0            | -32.4             | 40.4           | 54.0                    | 13.6        | PASS   |
| 7366                   | Peak           | Horz                         | 44.5                   | 29.2                  | 5.9               | 10.0            | -33.1             | 56.5           | 74.0                    | 17.5        | PASS   |
| 7456                   | Avg            | Horz                         | 30.5                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.6           | 54.0                    | 11.4        | PASS   |
| 7367.5                 | Peak           | Vert                         | 44.6                   | 29.2                  | 5.9               | 10.0            | -33.1             | 56.7           | 74.0                    | 17.3        | PASS   |
| 7453.8                 | Avg            | Vert                         | 30.5                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.6           | 54.0                    | 11.4        | PASS   |
| 11650                  | Peak           | Horz                         | 52.6                   | 32.9                  | 7.4               | 0.0             | -30.6             | 62.3           | 74.0                    | 11.7        | PASS   |
| 11650                  | Avg            | Horz                         | 39.8                   | 32.9                  | 7.4               | 0.0             | -30.6             | 49.5           | 54.0                    | 4.5         | PASS   |
| 11650                  | Peak           | Vert                         | 50.6                   | 32.9                  | 7.4               | 0.0             | -30.6             | 60.3           | 74.0                    | 13.7        | PASS   |
| 11650                  | Avg            | Vert                         | 36.9                   | 32.9                  | 7.4               | 0.0             | -30.6             | 46.6           | 54.0                    | 7.4         | PASS   |
| 17475                  | Peak           | Horz                         | 59.5                   | 36.0                  | 9.8               | 0.0             | -28.2             | 77.0           | 77.7                    | 0.7         | PASS   |
| 17475                  | Peak           | Vert                         | 55.6                   | 36.0                  | 9.8               | 0.0             | -28.2             | 73.2           | 77.7                    | 4.5         | PASS   |

|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        |  |
| Product     | ECB601/ECB501                                      |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

## ECB601 Harmonic/Restricted Band Emission – 802.11N/20 MHz

| Test Frequency (MHz)          | Detection Mode | Antenna Polarity (Horz/Vert) | Received Signal (dBμV) | Antenna Factor (dB/m) | Cable Factor (dB) | Attenuator (dB) | Pre-Amp Gain (dB) | Level (dBμV/m) | Emission Limit (dBμV/m) | Margin (dB) | Result |
|-------------------------------|----------------|------------------------------|------------------------|-----------------------|-------------------|-----------------|-------------------|----------------|-------------------------|-------------|--------|
| 802.11N/20 MHz - Low Channel  |                |                              |                        |                       |                   |                 |                   |                |                         |             |        |
| 5745                          | Peak           | Horz                         | 95.8                   | 28.3                  | 4.9               | 10.0            | -32.3             | 106.8          |                         |             | PASS   |
| 5745                          | Avg            | Horz                         | 82.2                   | 28.3                  | 4.9               | 10.0            | -32.3             | 93.1           |                         |             | PASS   |
| 5745                          | Peak           | Vert                         | 92.0                   | 28.3                  | 4.9               | 10.0            | -32.3             | 102.9          |                         |             | PASS   |
| 5745                          | Avg            | Vert                         | 78.6                   | 28.3                  | 4.9               | 10.0            | -32.3             | 89.5           |                         |             | PASS   |
| 5414                          | Peak           | Horz                         | 44.4                   | 28.2                  | 4.8               | 10.0            | -32.4             | 55.0           | 74.0                    | 19.0        | PASS   |
| 5353.7                        | Avg            | Horz                         | 29.7                   | 28.3                  | 4.7               | 10.0            | -32.4             | 40.4           | 54.0                    | 13.6        | PASS   |
| 5384                          | Peak           | Vert                         | 44.2                   | 28.3                  | 4.8               | 10.0            | -32.4             | 54.8           | 74.0                    | 19.2        | PASS   |
| 5353.8                        | Avg            | Vert                         | 29.7                   | 28.3                  | 4.7               | 10.0            | -32.4             | 40.3           | 54.0                    | 13.7        | PASS   |
| 7401.2                        | Peak           | Horz                         | 44.3                   | 29.2                  | 5.9               | 10.0            | -33.1             | 56.4           | 74.0                    | 17.6        | PASS   |
| 7452.8                        | Avg            | Horz                         | 30.4                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.5           | 54.0                    | 11.5        | PASS   |
| 7313                          | Peak           | Vert                         | 43.9                   | 29.0                  | 6.0               | 10.0            | -33.0             | 55.9           | 74.0                    | 18.1        | PASS   |
| 7454.2                        | Avg            | Vert                         | 30.5                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.6           | 54.0                    | 11.4        | PASS   |
| 11490                         | Peak           | Horz                         | 53.6                   | 32.4                  | 7.4               | 0.0             | -30.8             | 62.6           | 74.0                    | 11.4        | PASS   |
| 11490                         | Avg            | Horz                         | 39.2                   | 32.4                  | 7.4               | 0.0             | -30.8             | 48.3           | 54.0                    | 5.7         | PASS   |
| 11490                         | Peak           | Vert                         | 51.0                   | 32.4                  | 7.4               | 0.0             | -30.8             | 60.0           | 74.0                    | 14.0        | PASS   |
| 11490                         | Avg            | Vert                         | 36.1                   | 32.4                  | 7.4               | 0.0             | -30.8             | 45.1           | 54.0                    | 8.9         | PASS   |
| 17235                         | Peak           | Horz                         | 57.1                   | 36.7                  | 9.6               | 0.0             | -28.7             | 74.7           | 77.7                    | 3.0         | PASS   |
| 17235                         | Peak           | Vert                         | 52.7                   | 36.7                  | 9.6               | 0.0             | -28.7             | 70.3           | 77.7                    | 7.4         | PASS   |
| 802.11N/20 MHz - Mid Channel  |                |                              |                        |                       |                   |                 |                   |                |                         |             |        |
| 5785                          | Peak           | Horz                         | 94.7                   | 28.3                  | 5.1               | 10.0            | -32.4             | 105.7          |                         |             | PASS   |
| 5785                          | Avg            | Horz                         | 81.2                   | 28.3                  | 5.1               | 10.0            | -32.4             | 92.2           |                         |             | PASS   |
| 5785                          | Peak           | Vert                         | 91.5                   | 28.3                  | 5.1               | 10.0            | -32.4             | 102.5          |                         |             | PASS   |
| 5785                          | Avg            | Vert                         | 77.9                   | 28.3                  | 5.1               | 10.0            | -32.4             | 88.9           |                         |             | PASS   |
| 5365.5                        | Peak           | Horz                         | 44.0                   | 28.3                  | 4.7               | 10.0            | -32.4             | 54.7           | 74.0                    | 19.3        | PASS   |
| 5353.1                        | Avg            | Horz                         | 29.7                   | 28.3                  | 4.7               | 10.0            | -32.4             | 40.3           | 54.0                    | 13.7        | PASS   |
| 5359.9                        | Peak           | Vert                         | 43.7                   | 28.3                  | 4.7               | 10.0            | -32.4             | 54.3           | 74.0                    | 19.7        | PASS   |
| 5356.4                        | Avg            | Vert                         | 29.7                   | 28.3                  | 4.7               | 10.0            | -32.4             | 40.3           | 54.0                    | 13.7        | PASS   |
| 7330.8                        | Peak           | Horz                         | 44.3                   | 29.1                  | 6.0               | 10.0            | -33.0             | 56.3           | 74.0                    | 17.7        | PASS   |
| 7452.8                        | Avg            | Horz                         | 30.4                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.5           | 54.0                    | 11.5        | PASS   |
| 7308.2                        | Peak           | Vert                         | 44.3                   | 29.0                  | 6.0               | 10.0            | -33.0             | 56.3           | 74.0                    | 17.7        | PASS   |
| 7458.4                        | Avg            | Vert                         | 30.5                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.6           | 54.0                    | 11.4        | PASS   |
| 11570                         | Peak           | Horz                         | 54.0                   | 32.5                  | 7.4               | 0.0             | -30.8             | 63.0           | 74.0                    | 11.0        | PASS   |
| 11570                         | Avg            | Horz                         | 39.0                   | 32.5                  | 7.4               | 0.0             | -30.8             | 48.1           | 54.0                    | 5.9         | PASS   |
| 11570                         | Peak           | Vert                         | 50.6                   | 32.5                  | 7.4               | 0.0             | -30.8             | 59.7           | 74.0                    | 14.3        | PASS   |
| 11570                         | Avg            | Vert                         | 36.1                   | 32.5                  | 7.4               | 0.0             | -30.8             | 45.2           | 54.0                    | 8.8         | PASS   |
| 17355                         | Peak           | Horz                         | 57.8                   | 36.6                  | 9.5               | 0.0             | -28.0             | 76.0           | 77.7                    | 1.7         | PASS   |
| 17355                         | Peak           | Vert                         | 53.9                   | 36.6                  | 9.5               | 0.0             | -28.0             | 72.1           | 77.7                    | 5.6         | PASS   |
| 802.11N/20 MHz - High Channel |                |                              |                        |                       |                   |                 |                   |                |                         |             |        |
| 5825                          | Peak           | Horz                         | 93.2                   | 28.3                  | 5.1               | 10.0            | -32.4             | 104.2          |                         |             | PASS   |
| 5825                          | Avg            | Horz                         | 79.7                   | 28.3                  | 5.1               | 10.0            | -32.4             | 90.7           |                         |             | PASS   |
| 5825                          | Peak           | Vert                         | 90.8                   | 28.3                  | 5.1               | 10.0            | -32.4             | 101.8          |                         |             | PASS   |
| 5825                          | Avg            | Vert                         | 77.2                   | 28.3                  | 5.1               | 10.0            | -32.4             | 88.2           |                         |             | PASS   |
| 5351.8                        | Peak           | Horz                         | 44.2                   | 28.3                  | 4.7               | 10.0            | -32.4             | 54.8           | 74.0                    | 19.2        | PASS   |
| 5350.7                        | Avg            | Horz                         | 29.6                   | 28.3                  | 4.7               | 10.0            | -32.4             | 40.3           | 54.0                    | 13.7        | PASS   |
| 5383.9                        | Peak           | Vert                         | 44.0                   | 28.3                  | 4.8               | 10.0            | -32.4             | 54.6           | 74.0                    | 19.4        | PASS   |
| 5355.5                        | Avg            | Vert                         | 29.7                   | 28.3                  | 4.7               | 10.0            | -32.4             | 40.4           | 54.0                    | 13.6        | PASS   |
| 7489                          | Peak           | Horz                         | 44.5                   | 29.2                  | 6.0               | 10.0            | -33.0             | 56.7           | 74.0                    | 17.3        | PASS   |
| 7450.8                        | Avg            | Horz                         | 30.5                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.6           | 54.0                    | 11.4        | PASS   |
| 7447.2                        | Peak           | Vert                         | 44.5                   | 29.2                  | 6.0               | 10.0            | -33.1             | 56.6           | 74.0                    | 17.4        | PASS   |
| 7457                          | Avg            | Vert                         | 30.5                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.6           | 54.0                    | 11.4        | PASS   |
| 11650                         | Peak           | Horz                         | 53.7                   | 32.9                  | 7.4               | 0.0             | -30.6             | 63.4           | 74.0                    | 10.6        | PASS   |
| 11650                         | Avg            | Horz                         | 38.7                   | 32.9                  | 7.4               | 0.0             | -30.6             | 48.4           | 54.0                    | 5.6         | PASS   |
| 11650                         | Peak           | Vert                         | 50.6                   | 32.9                  | 7.4               | 0.0             | -30.6             | 60.3           | 74.0                    | 13.7        | PASS   |
| 11650                         | Avg            | Vert                         | 36.0                   | 32.9                  | 7.4               | 0.0             | -30.6             | 45.7           | 54.0                    | 8.3         | PASS   |
| 17475                         | Peak           | Horz                         | 59.4                   | 36.0                  | 9.8               | 0.0             | -28.2             | 77.0           | 77.7                    | 0.7         | PASS   |
| 17475                         | Peak           | Vert                         | 56.2                   | 36.0                  | 9.8               | 0.0             | -28.2             | 73.8           | 77.7                    | 3.9         | PASS   |

|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        |  |
| Product     | ECB601/ECB501                                      |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

## ECB601 Harmonic/Restricted Band Emission – 802.11N/40 MHz

| Test Frequency (MHz)          | Detection Mode | Antenna Polarity (Horz/Vert) | Received Signal (dBμV) | Antenna Factor (dB/m) | Cable Factor (dB) | Attenuator (dB) | Pre-Amp Gain (dB) | Level (dBμV/m) | Emission Limit (dBμV/m) | Margin (dB) | Result |
|-------------------------------|----------------|------------------------------|------------------------|-----------------------|-------------------|-----------------|-------------------|----------------|-------------------------|-------------|--------|
| 802.11N/40 MHz - Low Channel  |                |                              |                        |                       |                   |                 |                   |                |                         |             |        |
| 5755                          | Peak           | Horz                         | 96.3                   | 28.3                  | 5.0               | 10.0            | -32.4             | 107.3          |                         |             | PASS   |
| 5755                          | Avg            | Horz                         | 80.2                   | 28.3                  | 5.0               | 10.0            | -32.4             | 91.2           |                         |             | PASS   |
| 5755                          | Peak           | Vert                         | 92.8                   | 28.3                  | 5.0               | 10.0            | -32.4             | 103.8          |                         |             | PASS   |
| 5755                          | Avg            | Vert                         | 77.2                   | 28.3                  | 5.0               | 10.0            | -32.4             | 88.2           |                         |             | PASS   |
| 5433.7                        | Peak           | Horz                         | 44.7                   | 28.2                  | 4.8               | 10.0            | -32.4             | 55.3           | 74.0                    | 18.7        | PASS   |
| 5438.7                        | Avg            | Horz                         | 29.9                   | 28.1                  | 4.8               | 10.0            | -32.4             | 40.5           | 54.0                    | 13.5        | PASS   |
| 5451.6                        | Peak           | Vert                         | 44.1                   | 28.1                  | 4.8               | 10.0            | -32.3             | 54.7           | 74.0                    | 19.3        | PASS   |
| 5441.5                        | Avg            | Vert                         | 29.9                   | 28.1                  | 4.8               | 10.0            | -32.4             | 40.5           | 54.0                    | 13.5        | PASS   |
| 7424.3                        | Peak           | Horz                         | 45.0                   | 29.2                  | 5.9               | 10.0            | -33.1             | 57.1           | 74.0                    | 16.9        | PASS   |
| 7449.8                        | Avg            | Horz                         | 30.4                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.5           | 54.0                    | 11.5        | PASS   |
| 7353.3                        | Peak           | Vert                         | 45.1                   | 29.2                  | 6.0               | 10.0            | -33.1             | 57.1           | 74.0                    | 16.9        | PASS   |
| 7457.5                        | Avg            | Vert                         | 30.4                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.6           | 54.0                    | 11.4        | PASS   |
| 11510                         | Peak           | Horz                         | 52.2                   | 32.3                  | 7.4               | 0.0             | -30.7             | 61.1           | 74.0                    | 12.9        | PASS   |
| 11510                         | Avg            | Horz                         | 37.5                   | 32.3                  | 7.4               | 0.0             | -30.7             | 46.4           | 54.0                    | 7.6         | PASS   |
| 11510                         | Peak           | Vert                         | 48.7                   | 32.3                  | 7.4               | 0.0             | -30.7             | 57.7           | 74.0                    | 16.3        | PASS   |
| 11510                         | Avg            | Vert                         | 34.6                   | 32.3                  | 7.4               | 0.0             | -30.7             | 43.5           | 54.0                    | 10.5        | PASS   |
| 17265                         | Peak           | Horz                         | 55.6                   | 36.7                  | 9.6               | 0.0             | -28.4             | 73.5           | 77.7                    | 4.2         | PASS   |
| 17265                         | Peak           | Vert                         | 51.6                   | 36.7                  | 9.6               | 0.0             | -28.4             | 69.5           | 77.7                    | 8.2         | PASS   |
| 802.11N/40 MHz - High Channel |                |                              |                        |                       |                   |                 |                   |                |                         |             |        |
| 5795                          | Peak           | Horz                         | 95.9                   | 28.3                  | 5.1               | 10.0            | -32.4             | 106.9          |                         |             | PASS   |
| 5795                          | Avg            | Horz                         | 79.8                   | 28.3                  | 5.1               | 10.0            | -32.4             | 90.8           |                         |             | PASS   |
| 5795                          | Peak           | Vert                         | 92.6                   | 28.3                  | 5.1               | 10.0            | -32.4             | 103.6          |                         |             | PASS   |
| 5795                          | Avg            | Vert                         | 76.8                   | 28.3                  | 5.1               | 10.0            | -32.4             | 87.8           |                         |             | PASS   |
| 5433.7                        | Peak           | Horz                         | 44.6                   | 28.2                  | 4.8               | 10.0            | -32.4             | 55.2           | 74.0                    | 18.8        | PASS   |
| 5459                          | Avg            | Horz                         | 29.9                   | 28.1                  | 4.8               | 10.0            | -32.3             | 40.5           | 54.0                    | 13.5        | PASS   |
| 5397.5                        | Peak           | Vert                         | 44.3                   | 28.3                  | 4.8               | 10.0            | -32.4             | 54.9           | 74.0                    | 19.1        | PASS   |
| 5459.1                        | Avg            | Vert                         | 29.9                   | 28.1                  | 4.8               | 10.0            | -32.3             | 40.5           | 54.0                    | 13.5        | PASS   |
| 7267                          | Peak           | Horz                         | 44.5                   | 28.9                  | 6.0               | 10.0            | -33.0             | 56.5           | 74.0                    | 17.5        | PASS   |
| 7453                          | Avg            | Horz                         | 30.5                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.6           | 54.0                    | 11.4        | PASS   |
| 7448.8                        | Peak           | Vert                         | 44.4                   | 29.2                  | 6.0               | 10.0            | -33.1             | 56.5           | 74.0                    | 17.5        | PASS   |
| 7454.5                        | Avg            | Vert                         | 30.5                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.6           | 54.0                    | 11.4        | PASS   |
| 11590                         | Peak           | Horz                         | 51.5                   | 32.7                  | 7.4               | 0.0             | -30.8             | 60.8           | 74.0                    | 13.2        | PASS   |
| 11590                         | Avg            | Horz                         | 37.2                   | 32.7                  | 7.4               | 0.0             | -30.8             | 46.5           | 54.0                    | 7.5         | PASS   |
| 11590                         | Peak           | Vert                         | 49.2                   | 32.7                  | 7.4               | 0.0             | -30.8             | 58.5           | 74.0                    | 15.5        | PASS   |
| 11590                         | Avg            | Vert                         | 34.8                   | 32.7                  | 7.4               | 0.0             | -30.8             | 44.1           | 54.0                    | 9.9         | PASS   |
| 17385                         | Peak           | Horz                         | 57.2                   | 36.2                  | 9.5               | 0.0             | -27.9             | 75.0           | 77.7                    | 2.7         | PASS   |
| 17385                         | Peak           | Vert                         | 52.6                   | 36.2                  | 9.5               | 0.0             | -27.9             | 70.5           | 77.7                    | 7.2         | PASS   |

|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        |  |
| Product     | ECB601/ECB501                                      |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

## ECB601 Harmonic/Restricted Band Emission – 802.11AC/20 MHz

| Test Frequency (MHz)           | Detection Mode | Antenna Polarity (Horz/Vert) | Received Signal (dBμV) | Antenna Factor (dB/m) | Cable Factor (dB) | Attenuator (dB) | Pre-Amp Gain (dB) | Level (dBμV/m) | Emission Limit (dBμV/m) | Margin (dB) | Result |
|--------------------------------|----------------|------------------------------|------------------------|-----------------------|-------------------|-----------------|-------------------|----------------|-------------------------|-------------|--------|
| 802.11AC/20 MHz - Low Channel  |                |                              |                        |                       |                   |                 |                   |                |                         |             |        |
| 5745                           | Peak           | Horz                         | 96.2                   | 28.3                  | 4.9               | 10.0            | -32.3             | 107.1          |                         |             | PASS   |
| 5745                           | Avg            | Horz                         | 82.5                   | 28.3                  | 4.9               | 10.0            | -32.3             | 93.4           |                         |             | PASS   |
| 5745                           | Peak           | Vert                         | 92.8                   | 28.3                  | 4.9               | 10.0            | -32.3             | 103.7          |                         |             | PASS   |
| 5745                           | Avg            | Vert                         | 79.3                   | 28.3                  | 4.9               | 10.0            | -32.3             | 90.2           |                         |             | PASS   |
| 5432.7                         | Peak           | Horz                         | 44.5                   | 28.2                  | 4.8               | 10.0            | -32.4             | 55.1           | 74.0                    | 18.9        | PASS   |
| 5356.4                         | Avg            | Horz                         | 29.9                   | 28.3                  | 4.7               | 10.0            | -32.4             | 40.5           | 54.0                    | 13.5        | PASS   |
| 5419.8                         | Peak           | Vert                         | 44.0                   | 28.2                  | 4.8               | 10.0            | -32.4             | 54.6           | 74.0                    | 19.4        | PASS   |
| 5359.8                         | Avg            | Vert                         | 29.8                   | 28.3                  | 4.7               | 10.0            | -32.4             | 40.5           | 54.0                    | 13.5        | PASS   |
| 7482.2                         | Peak           | Horz                         | 44.4                   | 29.2                  | 6.0               | 10.0            | -33.1             | 56.5           | 74.0                    | 17.5        | PASS   |
| 7384.2                         | Avg            | Horz                         | 30.5                   | 29.2                  | 5.9               | 10.0            | -33.1             | 42.6           | 54.0                    | 11.4        | PASS   |
| 7468.2                         | Peak           | Vert                         | 45.2                   | 29.2                  | 6.0               | 10.0            | -33.1             | 57.3           | 74.0                    | 16.7        | PASS   |
| 7454.6                         | Avg            | Vert                         | 30.6                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.7           | 54.0                    | 11.3        | PASS   |
| 11490                          | Peak           | Horz                         | 53.9                   | 32.4                  | 7.4               | 0.0             | -30.8             | 63.0           | 74.0                    | 11.0        | PASS   |
| 11490                          | Avg            | Horz                         | 39.0                   | 32.4                  | 7.4               | 0.0             | -30.8             | 48.0           | 54.0                    | 6.0         | PASS   |
| 11490                          | Peak           | Vert                         | 51.0                   | 32.4                  | 7.4               | 0.0             | -30.8             | 60.0           | 74.0                    | 14.0        | PASS   |
| 11490                          | Avg            | Vert                         | 35.9                   | 32.4                  | 7.4               | 0.0             | -30.8             | 44.9           | 54.0                    | 9.1         | PASS   |
| 17235                          | Peak           | Horz                         | 56.1                   | 36.7                  | 9.6               | 0.0             | -28.7             | 73.7           | 77.7                    | 4.0         | PASS   |
| 17235                          | Peak           | Vert                         | 53.3                   | 36.7                  | 9.6               | 0.0             | -28.7             | 70.9           | 77.7                    | 6.8         | PASS   |
| 802.11AC/20 MHz - Mid Channel  |                |                              |                        |                       |                   |                 |                   |                |                         |             |        |
| 5785                           | Peak           | Horz                         | 95.5                   | 28.3                  | 5.1               | 10.0            | -32.4             | 106.5          |                         |             | PASS   |
| 5785                           | Avg            | Horz                         | 81.8                   | 28.3                  | 5.1               | 10.0            | -32.4             | 92.8           |                         |             | PASS   |
| 5785                           | Peak           | Vert                         | 91.8                   | 28.3                  | 5.1               | 10.0            | -32.4             | 102.8          |                         |             | PASS   |
| 5785                           | Avg            | Vert                         | 78.4                   | 28.3                  | 5.1               | 10.0            | -32.4             | 89.4           |                         |             | PASS   |
| 5352.4                         | Peak           | Horz                         | 43.4                   | 28.3                  | 4.7               | 10.0            | -32.4             | 54.1           | 74.0                    | 19.9        | PASS   |
| 5351.2                         | Avg            | Horz                         | 29.8                   | 28.3                  | 4.7               | 10.0            | -32.4             | 40.4           | 54.0                    | 13.6        | PASS   |
| 5354.6                         | Peak           | Vert                         | 44.6                   | 28.3                  | 4.7               | 10.0            | -32.4             | 55.2           | 74.0                    | 18.8        | PASS   |
| 5352.6                         | Avg            | Vert                         | 29.8                   | 28.3                  | 4.7               | 10.0            | -32.4             | 40.5           | 54.0                    | 13.5        | PASS   |
| 7428.6                         | Peak           | Horz                         | 44.4                   | 29.2                  | 5.9               | 10.0            | -33.1             | 56.5           | 74.0                    | 17.5        | PASS   |
| 7456.2                         | Avg            | Horz                         | 30.5                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.6           | 54.0                    | 11.4        | PASS   |
| 7362                           | Peak           | Vert                         | 44.3                   | 29.2                  | 5.9               | 10.0            | -33.1             | 56.4           | 74.0                    | 17.6        | PASS   |
| 7454.6                         | Avg            | Vert                         | 30.5                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.7           | 54.0                    | 11.3        | PASS   |
| 11570                          | Peak           | Horz                         | 53.5                   | 32.5                  | 7.4               | 0.0             | -30.8             | 62.6           | 74.0                    | 11.4        | PASS   |
| 11570                          | Avg            | Horz                         | 38.9                   | 32.5                  | 7.4               | 0.0             | -30.8             | 48.0           | 54.0                    | 6.0         | PASS   |
| 11570                          | Peak           | Vert                         | 50.8                   | 32.5                  | 7.4               | 0.0             | -30.8             | 59.8           | 74.0                    | 14.2        | PASS   |
| 11570                          | Avg            | Vert                         | 36.0                   | 32.5                  | 7.4               | 0.0             | -30.8             | 45.1           | 54.0                    | 8.9         | PASS   |
| 17355                          | Peak           | Horz                         | 57.0                   | 36.6                  | 9.5               | 0.0             | -28.0             | 75.2           | 77.7                    | 2.5         | PASS   |
| 17355                          | Peak           | Vert                         | 53.9                   | 36.6                  | 9.5               | 0.0             | -28.0             | 72.0           | 77.7                    | 5.7         | PASS   |
| 802.11AC/20 MHz - High Channel |                |                              |                        |                       |                   |                 |                   |                |                         |             |        |
| 5825                           | Peak           | Horz                         | 94.1                   | 28.3                  | 5.1               | 10.0            | -32.4             | 105.1          |                         |             | PASS   |
| 5825                           | Avg            | Horz                         | 80.6                   | 28.3                  | 5.1               | 10.0            | -32.4             | 91.6           |                         |             | PASS   |
| 5825                           | Peak           | Vert                         | 90.7                   | 28.3                  | 5.1               | 10.0            | -32.4             | 101.7          |                         |             | PASS   |
| 5825                           | Avg            | Vert                         | 77.3                   | 28.3                  | 5.1               | 10.0            | -32.4             | 88.3           |                         |             | PASS   |
| 5371.9                         | Peak           | Horz                         | 44.0                   | 28.3                  | 4.7               | 10.0            | -32.4             | 54.6           | 74.0                    | 19.4        | PASS   |
| 5350                           | Avg            | Horz                         | 29.9                   | 28.3                  | 4.7               | 10.0            | -32.4             | 40.5           | 54.0                    | 13.5        | PASS   |
| 5370.4                         | Peak           | Vert                         | 43.7                   | 28.3                  | 4.7               | 10.0            | -32.4             | 54.3           | 74.0                    | 19.7        | PASS   |
| 5359.6                         | Avg            | Vert                         | 29.8                   | 28.3                  | 4.7               | 10.0            | -32.4             | 40.5           | 54.0                    | 13.5        | PASS   |
| 7315.8                         | Peak           | Horz                         | 44.6                   | 29.0                  | 6.0               | 10.0            | -33.0             | 56.6           | 74.0                    | 17.4        | PASS   |
| 7456.6                         | Avg            | Horz                         | 30.6                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.7           | 54.0                    | 11.3        | PASS   |
| 7344.6                         | Peak           | Vert                         | 44.5                   | 29.1                  | 6.0               | 10.0            | -33.0             | 56.5           | 74.0                    | 17.5        | PASS   |
| 7456.8                         | Avg            | Vert                         | 30.6                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.7           | 54.0                    | 11.3        | PASS   |
| 11650                          | Peak           | Horz                         | 53.9                   | 32.9                  | 7.4               | 0.0             | -30.6             | 63.7           | 74.0                    | 10.3        | PASS   |
| 11650                          | Avg            | Horz                         | 38.7                   | 32.9                  | 7.4               | 0.0             | -30.6             | 48.4           | 54.0                    | 5.6         | PASS   |
| 11650                          | Peak           | Vert                         | 51.0                   | 32.9                  | 7.4               | 0.0             | -30.6             | 60.7           | 74.0                    | 13.3        | PASS   |
| 11650                          | Avg            | Vert                         | 35.8                   | 32.9                  | 7.4               | 0.0             | -30.6             | 45.6           | 54.0                    | 8.4         | PASS   |
| 17475                          | Peak           | Horz                         | 58.9                   | 36.0                  | 9.8               | 0.0             | -28.2             | 76.5           | 77.7                    | 1.2         | PASS   |
| 17475                          | Peak           | Vert                         | 56.4                   | 36.0                  | 9.8               | 0.0             | -28.2             | 74.0           | 77.7                    | 3.7         | PASS   |

|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        |  |
| Product     | ECB601/ECB501                                      |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

## ECB601 Harmonic/Restricted Band Emission – 802.11AC/40 MHz

| Test Frequency (MHz)           | Detection Mode | Antenna Polarity (Horz/Vert) | Received Signal (dBμV) | Antenna Factor (dB/m) | Cable Factor (dB) | Attenuator (dB) | Pre-Amp Gain (dB) | Level (dBμV/m) | Emission Limit (dBμV/m) | Margin (dB) | Result |
|--------------------------------|----------------|------------------------------|------------------------|-----------------------|-------------------|-----------------|-------------------|----------------|-------------------------|-------------|--------|
| 802.11AC/40 MHz - Low Channel  |                |                              |                        |                       |                   |                 |                   |                |                         |             |        |
| 5755                           | Peak           | Horz                         | 96.3                   | 28.3                  | 5.0               | 10.0            | -32.4             | 107.2          |                         |             | PASS   |
| 5755                           | Avg            | Horz                         | 80.4                   | 28.3                  | 5.0               | 10.0            | -32.4             | 91.4           |                         |             | PASS   |
| 5755                           | Peak           | Vert                         | 93.3                   | 28.3                  | 5.0               | 10.0            | -32.4             | 104.2          |                         |             | PASS   |
| 5755                           | Avg            | Vert                         | 77.7                   | 28.3                  | 5.0               | 10.0            | -32.4             | 88.7           |                         |             | PASS   |
| 5362.8                         | Peak           | Horz                         | 44.4                   | 28.3                  | 4.7               | 10.0            | -32.4             | 55.0           | 74.0                    | 19.0        | PASS   |
| 5459.6                         | Avg            | Horz                         | 30.0                   | 28.1                  | 4.8               | 10.0            | -32.3             | 40.6           | 54.0                    | 13.4        | PASS   |
| 5387.1                         | Peak           | Vert                         | 44.3                   | 28.3                  | 4.8               | 10.0            | -32.4             | 55.0           | 74.0                    | 19.0        | PASS   |
| 5444.3                         | Avg            | Vert                         | 30.0                   | 28.1                  | 4.8               | 10.0            | -32.4             | 40.5           | 54.0                    | 13.5        | PASS   |
| 7375                           | Peak           | Horz                         | 44.8                   | 29.2                  | 5.9               | 10.0            | -33.1             | 56.9           | 74.0                    | 17.1        | PASS   |
| 7454.3                         | Avg            | Horz                         | 30.4                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.6           | 54.0                    | 11.4        | PASS   |
| 7299.3                         | Peak           | Vert                         | 44.4                   | 29.0                  | 6.0               | 10.0            | -33.0             | 56.3           | 74.0                    | 17.7        | PASS   |
| 7452.3                         | Avg            | Vert                         | 30.5                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.6           | 54.0                    | 11.4        | PASS   |
| 11510                          | Peak           | Horz                         | 51.8                   | 32.3                  | 7.4               | 0.0             | -30.7             | 60.8           | 74.0                    | 13.2        | PASS   |
| 11510                          | Avg            | Horz                         | 37.5                   | 32.3                  | 7.4               | 0.0             | -30.7             | 46.5           | 54.0                    | 7.5         | PASS   |
| 11510                          | Peak           | Vert                         | 48.7                   | 32.3                  | 7.4               | 0.0             | -30.7             | 57.7           | 74.0                    | 16.3        | PASS   |
| 11510                          | Avg            | Vert                         | 34.5                   | 32.3                  | 7.4               | 0.0             | -30.7             | 43.4           | 54.0                    | 10.6        | PASS   |
| 17265                          | Peak           | Horz                         | 55.7                   | 36.7                  | 9.6               | 0.0             | -28.4             | 73.6           | 77.7                    | 4.1         | PASS   |
| 17265                          | Peak           | Vert                         | 50.8                   | 36.7                  | 9.6               | 0.0             | -28.4             | 68.6           | 77.7                    | 9.1         | PASS   |
| 802.11AC/40 MHz - High Channel |                |                              |                        |                       |                   |                 |                   |                |                         |             |        |
| 5795                           | Peak           | Horz                         | 96.0                   | 28.3                  | 5.1               | 10.0            | -32.4             | 107.0          |                         |             | PASS   |
| 5795                           | Avg            | Horz                         | 80.3                   | 28.3                  | 5.1               | 10.0            | -32.4             | 91.3           |                         |             | PASS   |
| 5795                           | Peak           | Vert                         | 93.0                   | 28.3                  | 5.1               | 10.0            | -32.4             | 104.0          |                         |             | PASS   |
| 5795                           | Avg            | Vert                         | 77.3                   | 28.3                  | 5.1               | 10.0            | -32.4             | 88.3           |                         |             | PASS   |
| 5442.3                         | Peak           | Horz                         | 44.2                   | 28.1                  | 4.8               | 10.0            | -32.4             | 54.8           | 74.0                    | 19.2        | PASS   |
| 5459.9                         | Avg            | Horz                         | 30.0                   | 28.1                  | 4.8               | 10.0            | -32.3             | 40.6           | 54.0                    | 13.4        | PASS   |
| 5363                           | Peak           | Vert                         | 44.1                   | 28.3                  | 4.7               | 10.0            | -32.4             | 54.7           | 74.0                    | 19.3        | PASS   |
| 5459.6                         | Avg            | Vert                         | 30.0                   | 28.1                  | 4.8               | 10.0            | -32.3             | 40.6           | 54.0                    | 13.4        | PASS   |
| 7296                           | Peak           | Horz                         | 44.3                   | 29.0                  | 6.0               | 10.0            | -33.0             | 56.3           | 74.0                    | 17.7        | PASS   |
| 7449.5                         | Avg            | Horz                         | 30.4                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.5           | 54.0                    | 11.5        | PASS   |
| 7384.3                         | Peak           | Vert                         | 44.4                   | 29.2                  | 5.9               | 10.0            | -33.1             | 56.5           | 74.0                    | 17.5        | PASS   |
| 7378.8                         | Avg            | Vert                         | 30.4                   | 29.2                  | 5.9               | 10.0            | -33.1             | 42.5           | 54.0                    | 11.5        | PASS   |
| 11590                          | Peak           | Horz                         | 51.2                   | 32.7                  | 7.4               | 0.0             | -30.8             | 60.5           | 74.0                    | 13.5        | PASS   |
| 11590                          | Avg            | Horz                         | 37.0                   | 32.7                  | 7.4               | 0.0             | -30.8             | 46.3           | 54.0                    | 7.7         | PASS   |
| 11590                          | Peak           | Vert                         | 49.5                   | 32.7                  | 7.4               | 0.0             | -30.8             | 58.7           | 74.0                    | 15.3        | PASS   |
| 11590                          | Avg            | Vert                         | 34.8                   | 32.7                  | 7.4               | 0.0             | -30.8             | 44.0           | 54.0                    | 10.0        | PASS   |
| 17385                          | Peak           | Horz                         | 56.2                   | 36.2                  | 9.5               | 0.0             | -27.9             | 74.0           | 77.7                    | 3.7         | PASS   |
| 17385                          | Peak           | Vert                         | 52.6                   | 36.2                  | 9.5               | 0.0             | -27.9             | 70.5           | 77.7                    | 7.2         | PASS   |

|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        |  |
| Product     | ECB601/ECB501                                      |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

## ECB501 Harmonic/Restricted Band Emission – 802.11A

| Test Frequency (MHz)   | Detection Mode | Antenna Polarity (Horz/Vert) | Received Signal (dBμV) | Antenna Factor (dB/m) | Cable Factor (dB) | Attenuator (dB) | Pre-Amp Gain (dB) | Level (dBμV/m) | Emission Limit (dBμV/m) | Margin (dB) | Result |
|------------------------|----------------|------------------------------|------------------------|-----------------------|-------------------|-----------------|-------------------|----------------|-------------------------|-------------|--------|
| 802.11A - Low Channel  |                |                              |                        |                       |                   |                 |                   |                |                         |             |        |
| 5745                   | Peak           | Horz                         | 92.2                   | 28.3                  | 4.9               | 10.0            | -32.3             | 103.1          |                         |             | PASS   |
| 5745                   | Avg            | Horz                         | 80.2                   | 28.3                  | 4.9               | 10.0            | -32.3             | 91.1           |                         |             | PASS   |
| 5745                   | Peak           | Vert                         | 92.2                   | 28.3                  | 4.9               | 10.0            | -32.3             | 103.1          |                         |             | PASS   |
| 5745                   | Avg            | Vert                         | 79.8                   | 28.3                  | 4.9               | 10.0            | -32.3             | 90.7           |                         |             | PASS   |
| 5432.8                 | Peak           | Horz                         | 43.4                   | 28.2                  | 4.8               | 10.0            | -32.4             | 54.0           | 74.0                    | 20.0        | PASS   |
| 5390.7                 | Avg            | Horz                         | 29.7                   | 28.3                  | 4.8               | 10.0            | -32.4             | 40.4           | 54.0                    | 13.6        | PASS   |
| 5401.7                 | Peak           | Vert                         | 44.2                   | 28.3                  | 4.8               | 10.0            | -32.4             | 54.8           | 74.0                    | 19.2        | PASS   |
| 5356.2                 | Avg            | Vert                         | 29.8                   | 28.3                  | 4.7               | 10.0            | -32.4             | 40.4           | 54.0                    | 13.6        | PASS   |
| 7473                   | Peak           | Horz                         | 44.4                   | 29.2                  | 6.0               | 10.0            | -33.1             | 56.5           | 74.0                    | 17.5        | PASS   |
| 7452                   | Avg            | Horz                         | 30.5                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.6           | 54.0                    | 11.4        | PASS   |
| 7395                   | Peak           | Vert                         | 44.3                   | 29.2                  | 5.9               | 10.0            | -33.1             | 56.3           | 74.0                    | 17.7        | PASS   |
| 7459.4                 | Avg            | Vert                         | 30.5                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.6           | 54.0                    | 11.4        | PASS   |
| 11490                  | Peak           | Horz                         | 49.0                   | 32.4                  | 7.4               | 0.0             | -30.8             | 58.0           | 74.0                    | 16.0        | PASS   |
| 11490                  | Avg            | Horz                         | 34.6                   | 32.4                  | 7.4               | 0.0             | -30.8             | 43.7           | 54.0                    | 10.3        | PASS   |
| 11490                  | Peak           | Vert                         | 51.7                   | 32.4                  | 7.4               | 0.0             | -30.8             | 60.7           | 74.0                    | 13.3        | PASS   |
| 11490                  | Avg            | Vert                         | 37.8                   | 32.4                  | 7.4               | 0.0             | -30.8             | 46.8           | 54.0                    | 7.2         | PASS   |
| 17235                  | Peak           | Horz                         | 56.7                   | 36.7                  | 9.6               | 0.0             | -28.7             | 74.3           | 77.7                    | 3.4         | PASS   |
| 17235                  | Peak           | Vert                         | 53.9                   | 36.7                  | 9.6               | 0.0             | -28.7             | 71.5           | 77.7                    | 6.2         | PASS   |
| 802.11A - Mid Channel  |                |                              |                        |                       |                   |                 |                   |                |                         |             |        |
| 11570                  | Peak           | Horz                         | 50.2                   | 32.5                  | 7.4               | 0.0             | -30.8             | 59.3           | 74.0                    | 14.7        | PASS   |
| 11570                  | Avg            | Horz                         | 36.3                   | 32.5                  | 7.4               | 0.0             | -30.8             | 45.4           | 54.0                    | 8.6         | PASS   |
| 11570                  | Peak           | Vert                         | 51.7                   | 32.5                  | 7.4               | 0.0             | -30.8             | 60.8           | 74.0                    | 13.2        | PASS   |
| 11570                  | Avg            | Vert                         | 37.9                   | 32.5                  | 7.4               | 0.0             | -30.8             | 47.0           | 54.0                    | 7.0         | PASS   |
| 17355                  | Peak           | Horz                         | 58.8                   | 36.6                  | 9.5               | 0.0             | -28.0             | 77.0           | 77.7                    | 0.7         | PASS   |
| 17355                  | Peak           | Vert                         | 55.9                   | 36.6                  | 9.5               | 0.0             | -28.0             | 74.1           | 77.7                    | 3.6         | PASS   |
| 802.11A - High Channel |                |                              |                        |                       |                   |                 |                   |                |                         |             |        |
| 5825                   | Peak           | Horz                         | 91.3                   | 28.3                  | 5.1               | 10.0            | -32.4             | 102.3          |                         |             | PASS   |
| 5825                   | Avg            | Horz                         | 78.9                   | 28.3                  | 5.1               | 10.0            | -32.4             | 89.9           |                         |             | PASS   |
| 5825                   | Peak           | Vert                         | 91.5                   | 28.3                  | 5.1               | 10.0            | -32.4             | 102.5          |                         |             | PASS   |
| 5825                   | Avg            | Vert                         | 79.5                   | 28.3                  | 5.1               | 10.0            | -32.4             | 90.5           |                         |             | PASS   |
| 5356.7                 | Peak           | Horz                         | 43.8                   | 28.3                  | 4.7               | 10.0            | -32.4             | 54.4           | 74.0                    | 19.6        | PASS   |
| 5354.9                 | Avg            | Horz                         | 29.7                   | 28.3                  | 4.7               | 10.0            | -32.4             | 40.3           | 54.0                    | 13.7        | PASS   |
| 5382.4                 | Peak           | Vert                         | 43.3                   | 28.3                  | 4.8               | 10.0            | -32.4             | 53.9           | 74.0                    | 20.1        | PASS   |
| 5351.6                 | Avg            | Vert                         | 29.7                   | 28.3                  | 4.7               | 10.0            | -32.4             | 40.4           | 54.0                    | 13.6        | PASS   |
| 7415                   | Peak           | Horz                         | 44.4                   | 29.2                  | 5.9               | 10.0            | -33.1             | 56.5           | 74.0                    | 17.5        | PASS   |
| 7454.4                 | Avg            | Horz                         | 30.5                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.7           | 54.0                    | 11.3        | PASS   |
| 7321.4                 | Peak           | Vert                         | 44.3                   | 29.1                  | 6.0               | 10.0            | -33.0             | 56.3           | 74.0                    | 17.7        | PASS   |
| 7441.4                 | Avg            | Vert                         | 30.4                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.4           | 54.0                    | 11.6        | PASS   |
| 11650                  | Peak           | Horz                         | 52.5                   | 32.9                  | 7.4               | 0.0             | -30.6             | 62.2           | 74.0                    | 11.8        | PASS   |
| 11650                  | Avg            | Horz                         | 37.7                   | 32.9                  | 7.4               | 0.0             | -30.6             | 47.4           | 54.0                    | 6.6         | PASS   |
| 11650                  | Peak           | Vert                         | 52.6                   | 32.9                  | 7.4               | 0.0             | -30.6             | 62.3           | 74.0                    | 11.7        | PASS   |
| 11650                  | Avg            | Vert                         | 38.8                   | 32.9                  | 7.4               | 0.0             | -30.6             | 48.5           | 54.0                    | 5.5         | PASS   |
| 17475                  | Peak           | Horz                         | 59.6                   | 36.0                  | 9.8               | 0.0             | -28.2             | 77.2           | 77.7                    | 0.5         | PASS   |
| 17475                  | Peak           | Vert                         | 57.9                   | 36.0                  | 9.8               | 0.0             | -28.2             | 75.5           | 77.7                    | 2.2         | PASS   |

|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        |  |
| Product     | ECB601/ECB501                                      |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

## ECB501 Harmonic/Restricted Band Emission – 802.11N/20 MHz

| Test Frequency (MHz)          | Detection Mode | Antenna Polarity (Horz/Vert) | Received Signal (dBμV) | Antenna Factor (dB/m) | Cable Factor (dB) | Attenuator (dB) | Pre-Amp Gain (dB) | Level (dBμV/m) | Emission Limit (dBμV/m) | Margin (dB) | Result |
|-------------------------------|----------------|------------------------------|------------------------|-----------------------|-------------------|-----------------|-------------------|----------------|-------------------------|-------------|--------|
| 802.11N/20 MHz - Low Channel  |                |                              |                        |                       |                   |                 |                   |                |                         |             |        |
| 5745                          | Peak           | Horz                         | 93.3                   | 28.3                  | 4.9               | 10.0            | -32.3             | 104.2          |                         |             | PASS   |
| 5745                          | Avg            | Horz                         | 79.5                   | 28.3                  | 4.9               | 10.0            | -32.3             | 90.5           |                         |             | PASS   |
| 5745                          | Peak           | Vert                         | 92.7                   | 28.3                  | 4.9               | 10.0            | -32.3             | 103.7          |                         |             | PASS   |
| 5745                          | Avg            | Vert                         | 79.2                   | 28.3                  | 4.9               | 10.0            | -32.3             | 90.1           |                         |             | PASS   |
| 5350.9                        | Peak           | Horz                         | 43.2                   | 28.3                  | 4.7               | 10.0            | -32.4             | 53.8           | 74.0                    | 20.2        | PASS   |
| 5350.4                        | Avg            | Horz                         | 29.7                   | 28.3                  | 4.7               | 10.0            | -32.4             | 40.3           | 54.0                    | 13.7        | PASS   |
| 5353.1                        | Peak           | Vert                         | 43.8                   | 28.3                  | 4.7               | 10.0            | -32.4             | 54.4           | 74.0                    | 19.6        | PASS   |
| 5352.4                        | Avg            | Vert                         | 29.7                   | 28.3                  | 4.7               | 10.0            | -32.4             | 40.4           | 54.0                    | 13.6        | PASS   |
| 7416.8                        | Peak           | Horz                         | 44.5                   | 29.2                  | 5.9               | 10.0            | -33.1             | 56.5           | 74.0                    | 17.5        | PASS   |
| 7449.5                        | Avg            | Horz                         | 30.5                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.6           | 54.0                    | 11.4        | PASS   |
| 7420.3                        | Peak           | Vert                         | 44.7                   | 29.2                  | 5.9               | 10.0            | -33.1             | 56.8           | 74.0                    | 17.2        | PASS   |
| 7455                          | Avg            | Vert                         | 30.5                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.6           | 54.0                    | 11.4        | PASS   |
| 11490                         | Peak           | Horz                         | 50.4                   | 32.4                  | 7.4               | 0.0             | -30.8             | 59.4           | 74.0                    | 14.6        | PASS   |
| 11490                         | Avg            | Horz                         | 35.2                   | 32.4                  | 7.4               | 0.0             | -30.8             | 44.2           | 54.0                    | 9.8         | PASS   |
| 11490                         | Peak           | Vert                         | 52.3                   | 32.4                  | 7.4               | 0.0             | -30.8             | 61.4           | 74.0                    | 12.6        | PASS   |
| 11490                         | Avg            | Vert                         | 37.4                   | 32.4                  | 7.4               | 0.0             | -30.8             | 46.4           | 54.0                    | 7.6         | PASS   |
| 17235                         | Peak           | Horz                         | 57.7                   | 36.7                  | 9.6               | 0.0             | -28.7             | 75.3           | 77.7                    | 2.4         | PASS   |
| 17235                         | Peak           | Vert                         | 55.6                   | 36.7                  | 9.6               | 0.0             | -28.7             | 73.3           | 77.7                    | 4.4         | PASS   |
| 802.11N/20 MHz - Mid Channel  |                |                              |                        |                       |                   |                 |                   |                |                         |             |        |
| 5785                          | Peak           | Horz                         | 92.8                   | 28.3                  | 5.1               | 10.0            | -32.4             | 103.8          |                         |             | PASS   |
| 5785                          | Avg            | Horz                         | 79.2                   | 28.3                  | 5.1               | 10.0            | -32.4             | 90.2           |                         |             | PASS   |
| 5785                          | Peak           | Vert                         | 92.0                   | 28.3                  | 5.1               | 10.0            | -32.4             | 103.0          |                         |             | PASS   |
| 5785                          | Avg            | Vert                         | 78.3                   | 28.3                  | 5.1               | 10.0            | -32.4             | 89.3           |                         |             | PASS   |
| 5372.8                        | Peak           | Horz                         | 43.9                   | 28.3                  | 4.7               | 10.0            | -32.4             | 54.5           | 74.0                    | 19.5        | PASS   |
| 5360                          | Avg            | Horz                         | 29.8                   | 28.3                  | 4.7               | 10.0            | -32.4             | 40.4           | 54.0                    | 13.6        | PASS   |
| 5350.6                        | Peak           | Vert                         | 42.7                   | 28.3                  | 4.7               | 10.0            | -32.4             | 53.4           | 74.0                    | 20.6        | PASS   |
| 5350.6                        | Avg            | Vert                         | 29.7                   | 28.3                  | 4.7               | 10.0            | -32.4             | 40.3           | 54.0                    | 13.7        | PASS   |
| 7441.3                        | Peak           | Horz                         | 43.9                   | 29.2                  | 6.0               | 10.0            | -33.1             | 56.0           | 74.0                    | 18.0        | PASS   |
| 7452.5                        | Avg            | Horz                         | 30.5                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.6           | 54.0                    | 11.4        | PASS   |
| 7375.5                        | Peak           | Vert                         | 44.6                   | 29.2                  | 5.9               | 10.0            | -33.1             | 56.7           | 74.0                    | 17.3        | PASS   |
| 7454.8                        | Avg            | Vert                         | 30.5                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.6           | 54.0                    | 11.4        | PASS   |
| 11570                         | Peak           | Horz                         | 51.3                   | 32.5                  | 7.4               | 0.0             | -30.8             | 60.4           | 74.0                    | 13.6        | PASS   |
| 11570                         | Avg            | Horz                         | 36.4                   | 32.5                  | 7.4               | 0.0             | -30.8             | 45.5           | 54.0                    | 8.5         | PASS   |
| 11570                         | Peak           | Vert                         | 51.9                   | 32.5                  | 7.4               | 0.0             | -30.8             | 61.0           | 74.0                    | 13.0        | PASS   |
| 11570                         | Avg            | Vert                         | 37.6                   | 32.5                  | 7.4               | 0.0             | -30.8             | 46.6           | 54.0                    | 7.4         | PASS   |
| 17355                         | Peak           | Horz                         | 59.1                   | 36.6                  | 9.5               | 0.0             | -28.0             | 77.3           | 77.7                    | 0.4         | PASS   |
| 17355                         | Peak           | Vert                         | 55.3                   | 36.6                  | 9.5               | 0.0             | -28.0             | 73.5           | 77.7                    | 4.2         | PASS   |
| 802.11N/20 MHz - High Channel |                |                              |                        |                       |                   |                 |                   |                |                         |             |        |
| 5825                          | Peak           | Horz                         | 92.5                   | 28.3                  | 5.1               | 10.0            | -32.4             | 103.5          |                         |             | PASS   |
| 5825                          | Avg            | Horz                         | 78.9                   | 28.3                  | 5.1               | 10.0            | -32.4             | 89.9           |                         |             | PASS   |
| 5825                          | Peak           | Vert                         | 92.5                   | 28.3                  | 5.1               | 10.0            | -32.4             | 103.5          |                         |             | PASS   |
| 5825                          | Avg            | Vert                         | 78.9                   | 28.3                  | 5.1               | 10.0            | -32.4             | 89.9           |                         |             | PASS   |
| 5360.9                        | Peak           | Horz                         | 44.2                   | 28.3                  | 4.7               | 10.0            | -32.4             | 54.8           | 74.0                    | 19.2        | PASS   |
| 5353.5                        | Avg            | Horz                         | 29.8                   | 28.3                  | 4.7               | 10.0            | -32.4             | 40.4           | 54.0                    | 13.6        | PASS   |
| 5389.2                        | Peak           | Vert                         | 44.0                   | 28.3                  | 4.8               | 10.0            | -32.4             | 54.6           | 74.0                    | 19.4        | PASS   |
| 5353.6                        | Avg            | Vert                         | 29.8                   | 28.3                  | 4.7               | 10.0            | -32.4             | 40.4           | 54.0                    | 13.6        | PASS   |
| 7377.3                        | Peak           | Horz                         | 44.4                   | 29.2                  | 5.9               | 10.0            | -33.1             | 56.5           | 74.0                    | 17.5        | PASS   |
| 7375.5                        | Avg            | Horz                         | 30.5                   | 29.2                  | 5.9               | 10.0            | -33.1             | 42.5           | 54.0                    | 11.5        | PASS   |
| 7279.8                        | Peak           | Vert                         | 45.5                   | 29.0                  | 6.0               | 10.0            | -33.0             | 57.4           | 74.0                    | 16.6        | PASS   |
| 7451.3                        | Avg            | Vert                         | 30.5                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.6           | 54.0                    | 11.4        | PASS   |
| 11650                         | Peak           | Horz                         | 53.0                   | 32.9                  | 7.4               | 0.0             | -30.6             | 62.7           | 74.0                    | 11.3        | PASS   |
| 11650                         | Avg            | Horz                         | 37.7                   | 32.9                  | 7.4               | 0.0             | -30.6             | 47.4           | 54.0                    | 6.6         | PASS   |
| 11650                         | Peak           | Vert                         | 53.7                   | 32.9                  | 7.4               | 0.0             | -30.6             | 63.4           | 74.0                    | 10.6        | PASS   |
| 11650                         | Avg            | Vert                         | 38.5                   | 32.9                  | 7.4               | 0.0             | -30.6             | 48.2           | 54.0                    | 5.8         | PASS   |
| 17475                         | Peak           | Horz                         | 60.0                   | 36.0                  | 9.8               | 0.0             | -28.2             | 77.6           | 77.7                    | 0.1         | PASS   |
| 17475                         | Peak           | Vert                         | 56.3                   | 36.0                  | 9.8               | 0.0             | -28.2             | 73.9           | 77.7                    | 3.8         | PASS   |

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

## ECB501 Harmonic/Restricted Band Emission – 802.11N/40 MHz

| Test Frequency (MHz)          | Detection Mode | Antenna Polarity (Horz/Vert) | Received Signal (dBμV) | Antenna Factor (dB/m) | Cable Factor (dB) | Attenuator (dB) | Pre-Amp Gain (dB) | Level (dBμV/m) | Emission Limit (dBμV/m) | Margin (dB) | Result |
|-------------------------------|----------------|------------------------------|------------------------|-----------------------|-------------------|-----------------|-------------------|----------------|-------------------------|-------------|--------|
| 802.11N/40 MHz - Low Channel  |                |                              |                        |                       |                   |                 |                   |                |                         |             |        |
| 5755                          | Peak           | Horz                         | 91.2                   | 28.3                  | 5.0               | 10.0            | -32.4             | 102.2          |                         |             | PASS   |
| 5755                          | Avg            | Horz                         | 76.2                   | 28.3                  | 5.0               | 10.0            | -32.4             | 87.2           |                         |             | PASS   |
| 5755                          | Peak           | Vert                         | 91.0                   | 28.3                  | 5.0               | 10.0            | -32.4             | 101.9          |                         |             | PASS   |
| 5755                          | Avg            | Vert                         | 75.8                   | 28.3                  | 5.0               | 10.0            | -32.4             | 86.8           |                         |             | PASS   |
| 5372.1                        | Peak           | Horz                         | 44.3                   | 28.3                  | 4.7               | 10.0            | -32.4             | 54.9           | 74.0                    | 19.1        | PASS   |
| 5458.7                        | Avg            | Horz                         | 30.0                   | 28.1                  | 4.8               | 10.0            | -32.3             | 40.6           | 54.0                    | 13.4        | PASS   |
| 5443.9                        | Peak           | Vert                         | 44.4                   | 28.1                  | 4.8               | 10.0            | -32.4             | 55.0           | 74.0                    | 19.0        | PASS   |
| 5453.7                        | Avg            | Vert                         | 29.9                   | 28.1                  | 4.8               | 10.0            | -32.3             | 40.5           | 54.0                    | 13.5        | PASS   |
| 7469.8                        | Peak           | Horz                         | 44.6                   | 29.2                  | 6.0               | 10.0            | -33.1             | 56.7           | 74.0                    | 17.3        | PASS   |
| 7451                          | Avg            | Horz                         | 30.5                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.6           | 54.0                    | 11.4        | PASS   |
| 7280.8                        | Peak           | Vert                         | 44.6                   | 29.0                  | 6.0               | 10.0            | -33.0             | 56.6           | 74.0                    | 17.4        | PASS   |
| 7449.8                        | Avg            | Vert                         | 30.4                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.5           | 54.0                    | 11.5        | PASS   |
| 11510                         | Peak           | Horz                         | 49.4                   | 32.3                  | 7.4               | 0.0             | -30.7             | 58.3           | 74.0                    | 15.7        | PASS   |
| 11510                         | Avg            | Horz                         | 34.4                   | 32.3                  | 7.4               | 0.0             | -30.7             | 43.4           | 54.0                    | 10.6        | PASS   |
| 11510                         | Peak           | Vert                         | 50.4                   | 32.3                  | 7.4               | 0.0             | -30.7             | 59.4           | 74.0                    | 14.6        | PASS   |
| 11510                         | Avg            | Vert                         | 36.0                   | 32.3                  | 7.4               | 0.0             | -30.7             | 44.9           | 54.0                    | 9.1         | PASS   |
| 17265                         | Peak           | Horz                         | 55.2                   | 36.7                  | 9.6               | 0.0             | -28.4             | 73.1           | 77.7                    | 4.6         | PASS   |
| 17265                         | Peak           | Vert                         | 53.6                   | 36.7                  | 9.6               | 0.0             | -28.4             | 71.5           | 77.7                    | 6.2         | PASS   |
| 802.11N/40 MHz - High Channel |                |                              |                        |                       |                   |                 |                   |                |                         |             |        |
| 5795                          | Peak           | Horz                         | 91.1                   | 28.3                  | 5.1               | 10.0            | -32.4             | 102.1          |                         |             | PASS   |
| 5795                          | Avg            | Horz                         | 76.0                   | 28.3                  | 5.1               | 10.0            | -32.4             | 87.0           |                         |             | PASS   |
| 5795                          | Peak           | Vert                         | 91.8                   | 28.3                  | 5.1               | 10.0            | -32.4             | 102.8          |                         |             | PASS   |
| 5795                          | Avg            | Vert                         | 76.6                   | 28.3                  | 5.1               | 10.0            | -32.4             | 87.6           |                         |             | PASS   |
| 5411.7                        | Peak           | Horz                         | 44.1                   | 28.2                  | 4.8               | 10.0            | -32.4             | 54.7           | 74.0                    | 19.3        | PASS   |
| 5459.9                        | Avg            | Horz                         | 29.9                   | 28.1                  | 4.8               | 10.0            | -32.3             | 40.5           | 54.0                    | 13.5        | PASS   |
| 5404.2                        | Peak           | Vert                         | 44.4                   | 28.2                  | 4.8               | 10.0            | -32.4             | 55.0           | 74.0                    | 19.0        | PASS   |
| 5444.1                        | Avg            | Vert                         | 30.0                   | 28.1                  | 4.8               | 10.0            | -32.4             | 40.5           | 54.0                    | 13.5        | PASS   |
| 7340.5                        | Peak           | Horz                         | 44.8                   | 29.1                  | 6.0               | 10.0            | -33.0             | 56.9           | 74.0                    | 17.1        | PASS   |
| 7449.3                        | Avg            | Horz                         | 30.4                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.5           | 54.0                    | 11.5        | PASS   |
| 7370                          | Peak           | Vert                         | 44.3                   | 29.2                  | 5.9               | 10.0            | -33.1             | 56.3           | 74.0                    | 17.7        | PASS   |
| 7453.3                        | Avg            | Vert                         | 30.4                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.5           | 54.0                    | 11.5        | PASS   |
| 11590                         | Peak           | Horz                         | 49.2                   | 32.7                  | 7.4               | 0.0             | -30.8             | 58.5           | 74.0                    | 15.5        | PASS   |
| 11590                         | Avg            | Horz                         | 34.8                   | 32.7                  | 7.4               | 0.0             | -30.8             | 44.1           | 54.0                    | 9.9         | PASS   |
| 11590                         | Peak           | Vert                         | 50.0                   | 32.7                  | 7.4               | 0.0             | -30.8             | 59.3           | 74.0                    | 14.7        | PASS   |
| 11590                         | Avg            | Vert                         | 35.7                   | 32.7                  | 7.4               | 0.0             | -30.8             | 45.0           | 54.0                    | 9.0         | PASS   |
| 17385                         | Peak           | Horz                         | 57.0                   | 36.2                  | 9.5               | 0.0             | -27.9             | 74.9           | 77.7                    | 2.8         | PASS   |
| 17385                         | Peak           | Vert                         | 53.9                   | 36.2                  | 9.5               | 0.0             | -27.9             | 71.7           | 77.7                    | 6.0         | PASS   |

|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        |  |
| Product     | ECB601/ECB501                                      |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

## ECB501 Harmonic/Restricted Band Emission – 802.11AC/20 MHz

| Test Frequency (MHz)           | Detection Mode | Antenna Polarity (Horz/Vert) | Received Signal (dBμV) | Antenna Factor (dB/m) | Cable Factor (dB) | Attenuator (dB) | Pre-Amp Gain (dB) | Level (dBμV/m) | Emission Limit (dBμV/m) | Margin (dB) | Result |
|--------------------------------|----------------|------------------------------|------------------------|-----------------------|-------------------|-----------------|-------------------|----------------|-------------------------|-------------|--------|
| 802.11AC/20 MHz - Low Channel  |                |                              |                        |                       |                   |                 |                   |                |                         |             |        |
| 5745                           | Peak           | Horz                         | 92.9                   | 28.3                  | 4.9               | 10.0            | -32.3             | 103.8          |                         |             | PASS   |
| 5745                           | Avg            | Horz                         | 79.2                   | 28.3                  | 4.9               | 10.0            | -32.3             | 90.1           |                         |             | PASS   |
| 5745                           | Peak           | Vert                         | 92.8                   | 28.3                  | 4.9               | 10.0            | -32.3             | 103.7          |                         |             | PASS   |
| 5745                           | Avg            | Vert                         | 79.2                   | 28.3                  | 4.9               | 10.0            | -32.3             | 90.2           |                         |             | PASS   |
| 5445.9                         | Peak           | Horz                         | 43.9                   | 28.1                  | 4.8               | 10.0            | -32.3             | 54.5           | 74.0                    | 19.5        | PASS   |
| 5439                           | Avg            | Horz                         | 29.8                   | 28.1                  | 4.8               | 10.0            | -32.4             | 40.4           | 54.0                    | 13.6        | PASS   |
| 5383.4                         | Peak           | Vert                         | 43.9                   | 28.3                  | 4.8               | 10.0            | -32.4             | 54.5           | 74.0                    | 19.5        | PASS   |
| 5353.2                         | Avg            | Vert                         | 29.7                   | 28.3                  | 4.7               | 10.0            | -32.4             | 40.4           | 54.0                    | 13.6        | PASS   |
| 7405.5                         | Peak           | Horz                         | 45.0                   | 29.2                  | 5.9               | 10.0            | -33.1             | 57.0           | 74.0                    | 17.0        | PASS   |
| 7450.5                         | Avg            | Horz                         | 30.5                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.6           | 54.0                    | 11.4        | PASS   |
| 7430.5                         | Peak           | Vert                         | 44.4                   | 29.2                  | 6.0               | 10.0            | -33.1             | 56.5           | 74.0                    | 17.5        | PASS   |
| 7451.5                         | Avg            | Vert                         | 30.6                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.7           | 54.0                    | 11.3        | PASS   |
| 11490                          | Peak           | Horz                         | 49.9                   | 32.4                  | 7.4               | 0.0             | -30.8             | 58.9           | 74.0                    | 15.1        | PASS   |
| 11490                          | Avg            | Horz                         | 34.4                   | 32.4                  | 7.4               | 0.0             | -30.8             | 43.5           | 54.0                    | 10.5        | PASS   |
| 11490                          | Peak           | Vert                         | 51.6                   | 32.4                  | 7.4               | 0.0             | -30.8             | 60.6           | 74.0                    | 13.4        | PASS   |
| 11490                          | Avg            | Vert                         | 37.2                   | 32.4                  | 7.4               | 0.0             | -30.8             | 46.2           | 54.0                    | 7.8         | PASS   |
| 17235                          | Peak           | Horz                         | 56.8                   | 36.7                  | 9.6               | 0.0             | -28.7             | 74.4           | 77.7                    | 3.3         | PASS   |
| 17235                          | Peak           | Vert                         | 55.6                   | 36.7                  | 9.6               | 0.0             | -28.7             | 73.3           | 77.7                    | 4.4         | PASS   |
| 802.11AC/20 MHz - Mid Channel  |                |                              |                        |                       |                   |                 |                   |                |                         |             |        |
| 11570                          | Peak           | Horz                         | 50.9                   | 32.5                  | 7.4               | 0.0             | -30.8             | 59.9           | 74.0                    | 14.1        | PASS   |
| 11570                          | Avg            | Horz                         | 35.8                   | 32.5                  | 7.4               | 0.0             | -30.8             | 44.9           | 54.0                    | 9.1         | PASS   |
| 11570                          | Peak           | Vert                         | 52.0                   | 32.5                  | 7.4               | 0.0             | -30.8             | 61.0           | 74.0                    | 13.0        | PASS   |
| 11570                          | Avg            | Vert                         | 37.6                   | 32.5                  | 7.4               | 0.0             | -30.8             | 46.6           | 54.0                    | 7.4         | PASS   |
| 17355                          | Peak           | Horz                         | 59.0                   | 36.6                  | 9.5               | 0.0             | -28.0             | 77.1           | 77.7                    | 0.6         | PASS   |
| 17355                          | Peak           | Vert                         | 56.1                   | 36.6                  | 9.5               | 0.0             | -28.0             | 74.3           | 77.7                    | 3.4         | PASS   |
| 802.11AC/20 MHz - High Channel |                |                              |                        |                       |                   |                 |                   |                |                         |             |        |
| 5825                           | Peak           | Horz                         | 91.8                   | 28.3                  | 5.1               | 10.0            | -32.4             | 102.8          |                         |             | PASS   |
| 5825                           | Avg            | Horz                         | 78.1                   | 28.3                  | 5.1               | 10.0            | -32.4             | 89.1           |                         |             | PASS   |
| 5825                           | Peak           | Vert                         | 92.3                   | 28.3                  | 5.1               | 10.0            | -32.4             | 103.3          |                         |             | PASS   |
| 5825                           | Avg            | Vert                         | 78.7                   | 28.3                  | 5.1               | 10.0            | -32.4             | 89.7           |                         |             | PASS   |
| 5350.9                         | Peak           | Horz                         | 43.3                   | 28.3                  | 4.7               | 10.0            | -32.4             | 53.9           | 74.0                    | 20.1        | PASS   |
| 5350.9                         | Avg            | Horz                         | 29.6                   | 28.3                  | 4.7               | 10.0            | -32.4             | 40.3           | 54.0                    | 13.7        | PASS   |
| 5389.1                         | Peak           | Vert                         | 43.4                   | 28.3                  | 4.8               | 10.0            | -32.4             | 54.0           | 74.0                    | 20.0        | PASS   |
| 5356.9                         | Avg            | Vert                         | 29.7                   | 28.3                  | 4.7               | 10.0            | -32.4             | 40.4           | 54.0                    | 13.6        | PASS   |
| 7338.3                         | Peak           | Horz                         | 44.4                   | 29.1                  | 6.0               | 10.0            | -33.0             | 56.5           | 74.0                    | 17.5        | PASS   |
| 7453.8                         | Avg            | Horz                         | 30.5                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.6           | 54.0                    | 11.4        | PASS   |
| 7453.3                         | Peak           | Vert                         | 44.6                   | 29.2                  | 6.0               | 10.0            | -33.1             | 56.7           | 74.0                    | 17.3        | PASS   |
| 7448                           | Avg            | Vert                         | 30.5                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.6           | 54.0                    | 11.4        | PASS   |
| 11650                          | Peak           | Horz                         | 52.4                   | 32.9                  | 7.4               | 0.0             | -30.6             | 62.2           | 74.0                    | 11.8        | PASS   |
| 11650                          | Avg            | Horz                         | 37.1                   | 32.9                  | 7.4               | 0.0             | -30.6             | 46.9           | 54.0                    | 7.1         | PASS   |
| 11650                          | Peak           | Vert                         | 52.5                   | 32.9                  | 7.4               | 0.0             | -30.6             | 62.2           | 74.0                    | 11.8        | PASS   |
| 11650                          | Avg            | Vert                         | 37.9                   | 32.9                  | 7.4               | 0.0             | -30.6             | 47.7           | 54.0                    | 6.3         | PASS   |
| 17475                          | Peak           | Horz                         | 60.0                   | 36.0                  | 9.8               | 0.0             | -28.2             | 77.5           | 77.7                    | 0.2         | PASS   |
| 17475                          | Peak           | Vert                         | 57.9                   | 36.0                  | 9.8               | 0.0             | -28.2             | 75.5           | 77.7                    | 2.2         | PASS   |

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

## ECB501 Harmonic/Restricted Band Emission – 802.11AC/40 MHz

| Test Frequency (MHz)           | Detection Mode | Antenna Polarity (Horz/Vert) | Received Signal (dBμV) | Antenna Factor (dB/m) | Cable Factor (dB) | Attenuator (dB) | Pre-Amp Gain (dB) | Level (dBμV/m) | Emission Limit (dBμV/m) | Margin (dB) | Result |
|--------------------------------|----------------|------------------------------|------------------------|-----------------------|-------------------|-----------------|-------------------|----------------|-------------------------|-------------|--------|
| 802.11AC/40 MHz - Low Channel  |                |                              |                        |                       |                   |                 |                   |                |                         |             |        |
| 5755                           | Peak           | Horz                         | 90.9                   | 28.3                  | 5.0               | 10.0            | -32.4             | 101.9          |                         |             | PASS   |
| 5755                           | Avg            | Horz                         | 75.9                   | 28.3                  | 5.0               | 10.0            | -32.4             | 86.9           |                         |             | PASS   |
| 5755                           | Peak           | Vert                         | 91.5                   | 28.3                  | 5.0               | 10.0            | -32.4             | 102.4          |                         |             | PASS   |
| 5755                           | Avg            | Vert                         | 76.2                   | 28.3                  | 5.0               | 10.0            | -32.4             | 87.1           |                         |             | PASS   |
| 5441.9                         | Peak           | Horz                         | 45.4                   | 28.1                  | 4.8               | 10.0            | -32.4             | 56.0           | 74.0                    | 18.0        | PASS   |
| 5444.9                         | Avg            | Horz                         | 29.9                   | 28.1                  | 4.8               | 10.0            | -32.3             | 40.5           | 54.0                    | 13.5        | PASS   |
| 5384.3                         | Peak           | Vert                         | 44.8                   | 28.3                  | 4.8               | 10.0            | -32.4             | 55.4           | 74.0                    | 18.6        | PASS   |
| 5442.6                         | Avg            | Vert                         | 30.0                   | 28.1                  | 4.8               | 10.0            | -32.4             | 40.5           | 54.0                    | 13.5        | PASS   |
| 7458.3                         | Peak           | Horz                         | 44.3                   | 29.2                  | 6.0               | 10.0            | -33.1             | 56.5           | 74.0                    | 17.5        | PASS   |
| 7450.5                         | Avg            | Horz                         | 30.4                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.5           | 54.0                    | 11.5        | PASS   |
| 7493.3                         | Peak           | Vert                         | 44.6                   | 29.2                  | 6.0               | 10.0            | -33.0             | 56.7           | 74.0                    | 17.3        | PASS   |
| 7456.5                         | Avg            | Vert                         | 30.4                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.5           | 54.0                    | 11.5        | PASS   |
| 11510                          | Peak           | Horz                         | 48.4                   | 32.3                  | 7.4               | 0.0             | -30.7             | 57.4           | 74.0                    | 16.6        | PASS   |
| 11510                          | Avg            | Horz                         | 33.8                   | 32.3                  | 7.4               | 0.0             | -30.7             | 42.8           | 54.0                    | 11.2        | PASS   |
| 11510                          | Peak           | Vert                         | 50.2                   | 32.3                  | 7.4               | 0.0             | -30.7             | 59.1           | 74.0                    | 14.9        | PASS   |
| 11510                          | Avg            | Vert                         | 35.8                   | 32.3                  | 7.4               | 0.0             | -30.7             | 44.7           | 54.0                    | 9.3         | PASS   |
| 17265                          | Peak           | Horz                         | 55.7                   | 36.7                  | 9.6               | 0.0             | -28.4             | 73.6           | 77.7                    | 4.1         | PASS   |
| 17265                          | Peak           | Vert                         | 52.6                   | 36.7                  | 9.6               | 0.0             | -28.4             | 70.5           | 77.7                    | 7.2         | PASS   |
| 802.11AC/20 MHz - High Channel |                |                              |                        |                       |                   |                 |                   |                |                         |             |        |
| 5795                           | Peak           | Horz                         | 91.4                   | 28.3                  | 5.1               | 10.0            | -32.4             | 102.4          |                         |             | PASS   |
| 5795                           | Avg            | Horz                         | 75.9                   | 28.3                  | 5.1               | 10.0            | -32.4             | 86.9           |                         |             | PASS   |
| 5795                           | Peak           | Vert                         | 91.4                   | 28.3                  | 5.1               | 10.0            | -32.4             | 102.4          |                         |             | PASS   |
| 5795                           | Avg            | Vert                         | 76.4                   | 28.3                  | 5.1               | 10.0            | -32.4             | 87.4           |                         |             | PASS   |
| 5351.4                         | Peak           | Horz                         | 45.0                   | 28.3                  | 4.7               | 10.0            | -32.4             | 55.7           | 74.0                    | 18.3        | PASS   |
| 5459                           | Avg            | Horz                         | 29.9                   | 28.1                  | 4.8               | 10.0            | -32.3             | 40.5           | 54.0                    | 13.5        | PASS   |
| 5373.7                         | Peak           | Vert                         | 44.9                   | 28.3                  | 4.7               | 10.0            | -32.4             | 55.6           | 74.0                    | 18.4        | PASS   |
| 5440.4                         | Avg            | Vert                         | 29.9                   | 28.1                  | 4.8               | 10.0            | -32.4             | 40.5           | 54.0                    | 13.5        | PASS   |
| 7260.3                         | Peak           | Horz                         | 44.5                   | 28.9                  | 6.0               | 10.0            | -33.0             | 56.4           | 74.0                    | 17.6        | PASS   |
| 7451.8                         | Avg            | Horz                         | 30.4                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.5           | 54.0                    | 11.5        | PASS   |
| 7482                           | Peak           | Vert                         | 44.8                   | 29.2                  | 6.0               | 10.0            | -33.1             | 56.9           | 74.0                    | 17.1        | PASS   |
| 7453.5                         | Avg            | Vert                         | 30.4                   | 29.2                  | 6.0               | 10.0            | -33.1             | 42.5           | 54.0                    | 11.5        | PASS   |
| 11590                          | Peak           | Horz                         | 49.6                   | 32.7                  | 7.4               | 0.0             | -30.8             | 58.9           | 74.0                    | 15.1        | PASS   |
| 11590                          | Avg            | Horz                         | 34.6                   | 32.7                  | 7.4               | 0.0             | -30.8             | 43.9           | 54.0                    | 10.1        | PASS   |
| 11590                          | Peak           | Vert                         | 50.2                   | 32.7                  | 7.4               | 0.0             | -30.8             | 59.5           | 74.0                    | 14.5        | PASS   |
| 11590                          | Avg            | Vert                         | 35.6                   | 32.7                  | 7.4               | 0.0             | -30.8             | 44.8           | 54.0                    | 9.2         | PASS   |
| 17385                          | Peak           | Horz                         | 57.3                   | 36.2                  | 9.5               | 0.0             | -27.9             | 75.1           | 77.7                    | 2.6         | PASS   |
| 17385                          | Peak           | Vert                         | 54.6                   | 36.2                  | 9.5               | 0.0             | -27.9             | 72.4           | 77.7                    | 5.3         | PASS   |

|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | <b>Ecobee Inc.</b>                                 |  |
| Product     | <b>ECB601/ECB501</b>                               |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

## Test Equipment List

| Equipment                     | Model No.     | Manufacturer          | Last Calibration Date | Next Calibration Date | Asset #   |
|-------------------------------|---------------|-----------------------|-----------------------|-----------------------|-----------|
| Spectrum Analyzer             | ESU 40        | Rohde & Schwarz       | Jan. 15, 2020         | Jan. 15, 2022         | GEMC 233  |
| Loop Antenna                  | EM 6871       | Electro-Metrics       | Feb 26, 2021          | Feb 26, 2023          | GEMC 70   |
| Loop Antenna                  | EM 6872       | Electro-Metrics       | Feb 26, 2021          | Feb 26, 2023          | GEMC 71   |
| BiLog Antenna                 | 3142-C        | ETS-Lindgren          | Nov. 25, 2020         | Nov. 25, 2022         | GEMC 8    |
| Horn Antenna<br>2 – 18 GHz    | WBH218HN      | Q-par                 | Apr. 1, 2020          | Apr. 1, 2022          | GEMC 6375 |
| Horn Antenna<br>1 – 18 GHz    | 3117          | ETS-Lindgren          | Feb. 17, 2020         | Feb. 17, 2022         | GEMC 340  |
| Horn Antenna<br>18 - 26.5 GHz | SAS-572       | A.H. Systems          | Dec. 1, 2020          | Dec. 1, 2022          | GEMC 6371 |
| Horn Antenna<br>26.5 - 40 GHz | QSH22F20S     | Q-par                 | Jan. 10, 2020         | Jan. 10, 2022         | GEMC 6376 |
| Attenuator 6 dB               | 612-6-1       | Meca Electronics, Inc | NCR                   | NCR                   | GEMC 286  |
| Attenuator 10 dB              | 8493B         | Agilent               | Oct 4, 2021           | Oct 4, 2022           | GEMC133   |
| Pre-Amp<br>9 kHz – 1 GHz      | CPA9230       | Chase                 | May 22, 2020          | May 22, 2022          | GEMC 301  |
| Pre-Amp<br>1 – 26.5 GHz       | HP 8449B      | HP                    | Dec. 20, 2019         | Dec. 20, 2021         | GEMC 189  |
| Pre-Amp<br>18 – 40 GHz        | PAM-840A      | Com-Power Corporation | May 13, 2021          | May 13, 2023          | GEMC 252  |
| BRF (5.725GHz<br>- 5.875GHz)  | BRC50705      | Micro-Tronics         | NCR                   | NCR                   | GEMC 267  |
| RF Cable <1GHz                | LMR-400       | LexTec                | NCR                   | NCR                   | GEMC 274  |
| RF Cable <1GHz                | Sucoflex 104A | Huber+Suhner          | NCR                   | NCR                   | GEMC 271  |
| RF Cable >1GHz                | EMC2          | MegaPhase             | NCR                   | NCR                   | GEMC 369  |
| Emissions Software            | V2.1.0        | TUV SUD Canada, Inc.  | NCR                   | NCR                   | GEMC 361  |

|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | <b>Ecobee Inc.</b>                                 |  |
| Product     | <b>ECB601/ECB501</b>                               |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

## ***Power Line Conducted Emissions***

### **Purpose**

The purpose of this test is to ensure that the RF energy unintentionally emitted from the EUT's power line does not exceed the limits listed below as defined in the applicable test standard, as measured from a LISN. This helps protect lower frequency radio services such as AM radio, shortwave radio, amateur radio operators, maritime radio, CB radio, and so on, from unwanted interference.

### **Limits and Method**

The limits are as defined in 47 CFR FCC Part 15 Section 15.207

Method is as defined in ANSI C63.10

| Average Limits    |                | Quasi-Peak Limits |                |
|-------------------|----------------|-------------------|----------------|
| 150 kHz – 500 kHz | 56 to 46* dBμV | 150 kHz – 500 kHz | 66 to 56* dBμV |
| 500 kHz – 5 MHz   | 46 dBμV        | 500 kHz – 5 MHz   | 56 dBμV        |
| 5 MHz – 30 MHz    | 50 dBμV        | 5 MHz – 30 MHz    | 60 dBμV        |

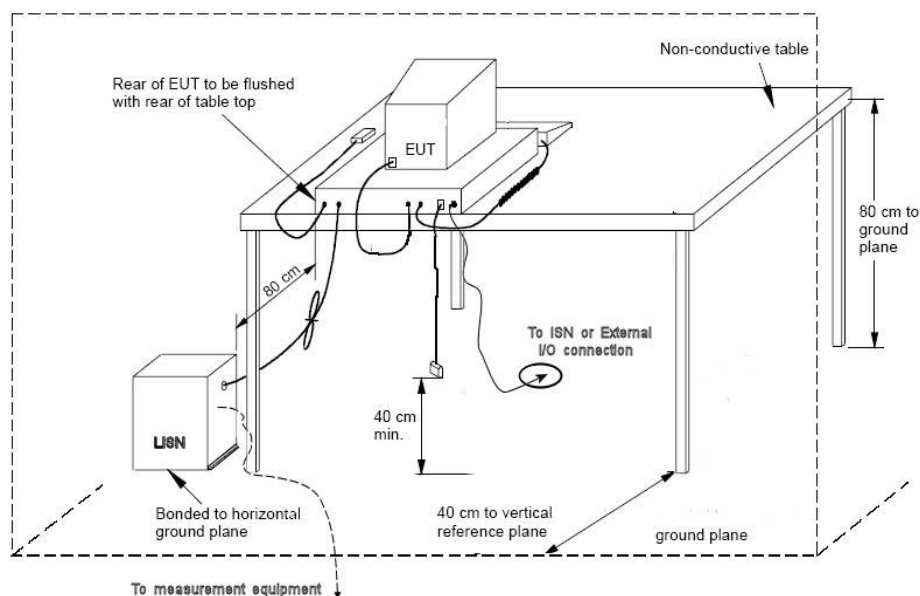
\* Decreases linearly with the logarithm of the frequency

Both Quasi-Peak and Average limits are applicable, and each is specified as being measured with a resolution bandwidth of 9 kHz. For Quasi-Peak, a video bandwidth at least three times greater than the resolution bandwidth is used.

Based on ANSI C63.4 Section 4.2, if the Peak or Quasi-Peak detector measurements do not exceed the Average limits, then the EUT is deemed to have passed the requirements.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | <b>Ecobee Inc.</b>                                 | <br>Canada |
| Product     | <b>ECB601/ECB501</b>                               |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

### Typical Setup Diagram



### Measurement Uncertainty

The expanded measurement uncertainty is calculated in accordance with CISPR 16-4-2 and is  $\pm 2.27\text{dB}$  with a 'k=2' coverage factor and a 95% confidence level.

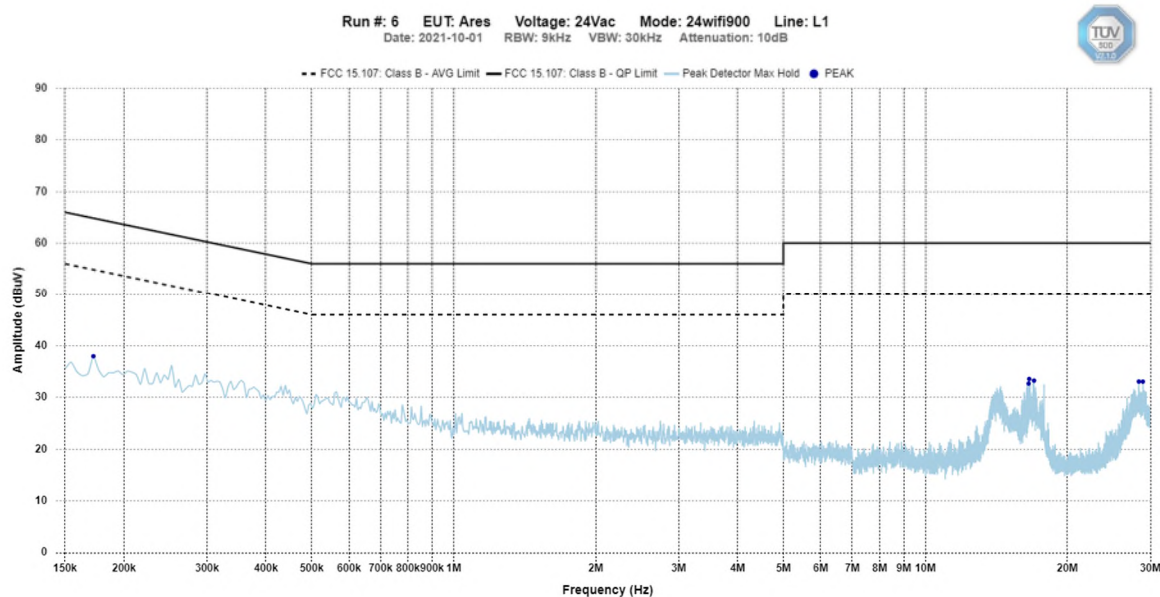
### Preliminary Graphs

The graphs shown below are maximized peak measurement graphs measured with a resolution bandwidth greater than or equal to the final required detector. This peaking process is done as a worst case measurement and enables the detection of frequencies of concern for final measurement. For final measurements with the appropriate detector, where applicable, please refer to the tables under Final Measurements.

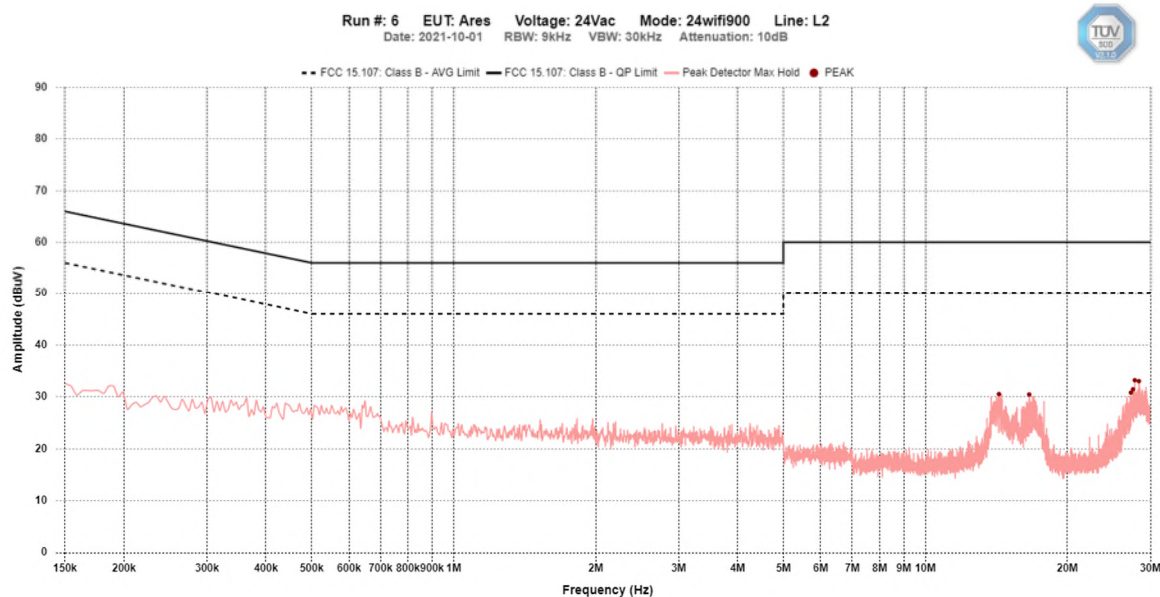
|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

## ECB601

### Line 1 (L1) – 120Vac 60Hz



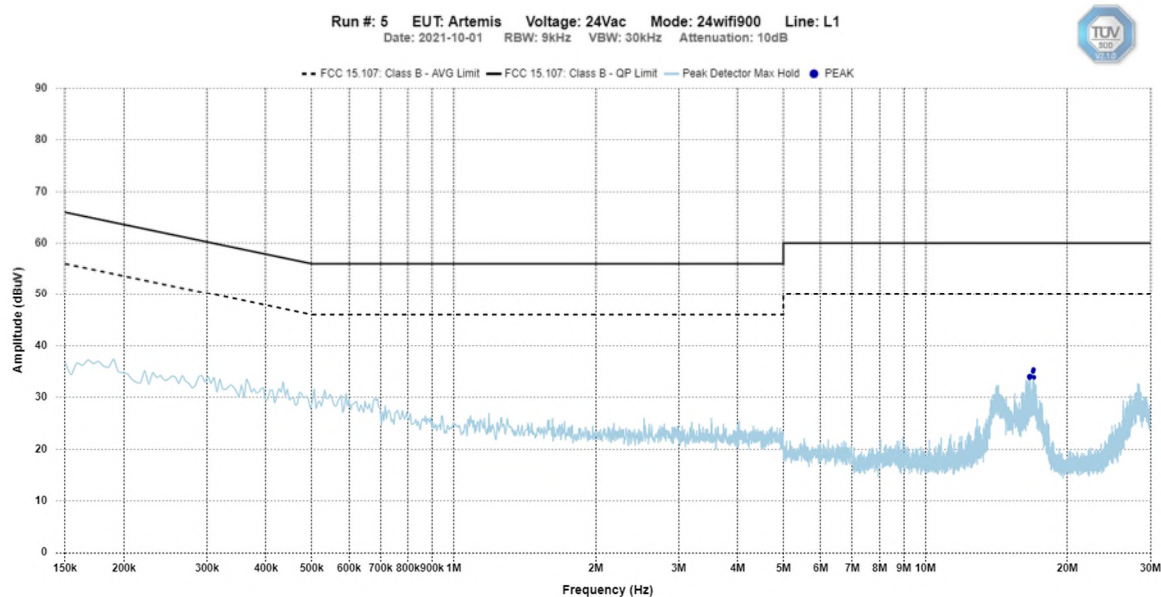
### Line 2 (L2) – 120Vac 60Hz



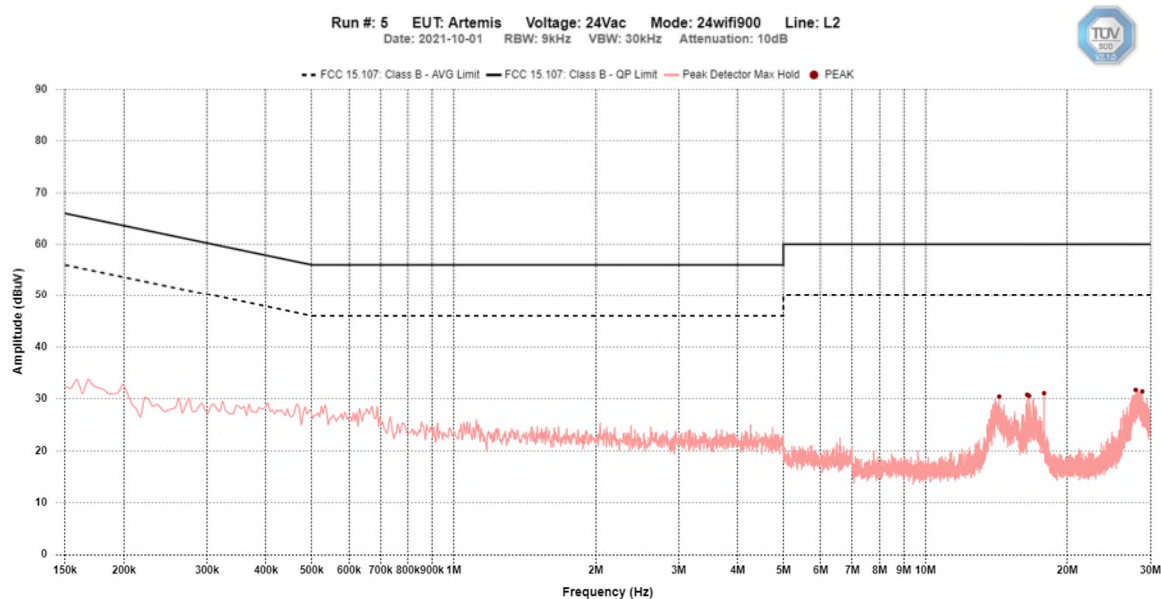
|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | Ecobee Inc.                                        | <br>Canada |
| Product     | ECB601/ECB501                                      |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

## ECB501

### Line 1 (L1) – 120Vac 60Hz



### Line 2 (L2) – 120Vac 60Hz



|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | <b>Ecobee Inc.</b>                                 | <br>Canada |
| Product     | <b>ECB601/ECB501</b>                               |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

## Final Measurements

| EUT Name       |          | EB601                  |              |                 |                  |                |                 |             |
|----------------|----------|------------------------|--------------|-----------------|------------------|----------------|-----------------|-------------|
| Limit          |          | FCC 15.109             |              |                 |                  |                |                 |             |
| Power Supply   |          | 120Vac 60Hz            |              |                 |                  |                |                 |             |
| Frequency (Hz) | Detector | Correction Factor (dB) | Level (dBuV) | QP Limit (dBuV) | AVG Limit (dBuV) | QP Margin (dB) | AVG Margin (dB) | Test Result |
| <b>Line 1</b>  |          |                        |              |                 |                  |                |                 |             |
| 16.603M        | PEAK     | 10.4                   | 33.6         | 60.0            | 50.0             | 26.4           | 16.4            | Pass        |
| 17.0M          | PEAK     | 10.5                   | 33.2         | 60.0            | 50.0             | 26.8           | 16.8            | Pass        |
| 172.276k       | PEAK     | 10.1                   | 38.0         | 65.4            | 55.4             | 27.4           | 17.4            | Pass        |
| 28.36M         | PEAK     | 10.9                   | 33.1         | 60.0            | 50.0             | 26.9           | 16.9            | Pass        |
| 28.922M        | PEAK     | 10.9                   | 33.0         | 60.0            | 50.0             | 27.0           | 17.0            | Pass        |
| 16.559M        | PEAK     | 10.4                   | 32.7         | 60.0            | 50.0             | 27.3           | 17.3            | Pass        |
| <b>Line 2</b>  |          |                        |              |                 |                  |                |                 |             |
| 27.804M        | PEAK     | 10.8                   | 33.2         | 60.0            | 50.0             | 26.8           | 16.8            | Pass        |
| 28.365M        | PEAK     | 10.9                   | 33.0         | 60.0            | 50.0             | 27.0           | 17.0            | Pass        |
| 27.559M        | PEAK     | 10.8                   | 31.5         | 60.0            | 50.0             | 28.5           | 18.5            | Pass        |
| 27.282M        | PEAK     | 10.8                   | 30.8         | 60.0            | 50.0             | 29.2           | 19.2            | Pass        |
| 14.327M        | PEAK     | 10.4                   | 30.5         | 60.0            | 50.0             | 29.5           | 19.5            | Pass        |
| 16.603M        | PEAK     | 10.4                   | 30.5         | 60.0            | 50.0             | 29.5           | 19.5            | Pass        |

Average and Quasi-Peak Emissions Table

Note:

Peak = Peak measurement

AVG = Average measurement

QP = Quasi-Peak measurement

See 'Appendix B – EUT, Peripherals and Test Setup Photos' for photos showing the test set-up for the highest line conducted emission

|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | <b>Ecobee Inc.</b>                                 |  |
| Product     | <b>ECB601/ECB501</b>                               |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

## Test Equipment List

| Equipment          | Model No.               | Manufacturer         | Last Calibration Date | Next Calibration Date | Asset #  |
|--------------------|-------------------------|----------------------|-----------------------|-----------------------|----------|
| Spectrum Analyzer  | ESL 6                   | Rohde & Schwarz      | Feb. 25, 2019         | Feb. 25, 2021         | GEMC 160 |
| LISN               | FCC-LISN-50/250-16-2-01 | FCC                  | Jan. 16, 2020         | Jan. 16, 2022         | GEMC 302 |
| RF Cable 3m        | LMR-400-3M-50Ω-MN-MN    | LexTec               | NCR                   | NCR                   | GEMC 276 |
| Attenuator 10 dB   | 6N10W-10                | Inmet                | NCR                   | NCR                   | GEMC 350 |
| Emissions Software | 0.1.99                  | TUV SUD Canada, Inc. | NCR                   | NCR                   | GEMC 58  |

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|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | <b>Ecobee Inc.</b>                                 | <br>Canada |
| Product     | <b>ECB601/ECB501</b>                               |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

## Appendix A – EUT Summary

|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | <b>Ecobee Inc.</b>                                 |  |
| Product     | <b>ECB601/ECB501</b>                               |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

For further details for filing purposes, refer to filing package.

## General EUT Description

| Client                               |                                                                                                                                                                                                    |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Organization / Address               | Ecobee Inc.<br>25 Dockside Drive. Suite 700<br>Toronto, ON. M5A 0B5, Canada                                                                                                                        |
| Contact                              | John Russomanno                                                                                                                                                                                    |
| Phone                                | 416-809-2405                                                                                                                                                                                       |
| Email                                | johnr@ecobee.com                                                                                                                                                                                   |
| EUT Details                          |                                                                                                                                                                                                    |
| EUT Name                             | ECB601/ECB501                                                                                                                                                                                      |
| FCC ID                               | WR955470766937                                                                                                                                                                                     |
| IC                                   | 7981A-55470766937                                                                                                                                                                                  |
| Equipment Category                   | Unlicensed transmitter                                                                                                                                                                             |
| Basic EUT Functionality              | EUT is a smart thermostat that have a 2400 – 2483.5 MHz DTS (802.11 b/g/n) and FHSS transmitters and a 902 – 928 MHz FHSS/Hybrid transmitter.<br>5150-5250 MHz and 5725-5850 MHz UNII transmitter. |
| Input Voltage and Frequency          | 24 Vac 60 Hz                                                                                                                                                                                       |
| Connectors available on EUT          | 1 (terminals for HVAC control)                                                                                                                                                                     |
| Peripherals Required for Test        | 120 Vac – 24 Vac step down transformer.                                                                                                                                                            |
| Release type                         | Final                                                                                                                                                                                              |
| Intentional Radiator Frequency Range | 2400 – 2483.5 MHz for DTS and FHSS<br>902 – 928 MHz FHSS/Hybrid<br>5150-5250 MHz and 5725-5850 MHz UNII transmitter.                                                                               |
| Antenna                              | Flexible PCB antennas                                                                                                                                                                              |
| Type of Transmitter                  | Hybrid, Frequency Hopping and Digitally Modulated                                                                                                                                                  |
| Modulation                           | FSK for Sub Gig<br>Various for 2.4 GHz 802.11 b/g/n, FSK, etc                                                                                                                                      |
| EUT Configuration                    | Test software was configured to transmit continuously at 100% duty cycle and to control                                                                                                            |

|             |                                                    |                                                                                     |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | <b>Ecobee Inc.</b>                                 |  |
| Product     | <b>ECB601/ECB501</b>                               |                                                                                     |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                     |

|  |                                                                                                      |
|--|------------------------------------------------------------------------------------------------------|
|  | hopping through its pseudo random sequence or single channel.<br>Channels tested: Lowest and Highest |
|--|------------------------------------------------------------------------------------------------------|

Note the EUT is considered to have been received the date of the commencement of the first test, unless otherwise stated. For a close-up picture of the EUT, see ‘Appendix B – EUT and Test Setup Photos’.

|             |                                                    |                                                                                               |
|-------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Client      | <b>Ecobee Inc.</b>                                 | <br>Canada |
| Product     | <b>ECB601/ECB501</b>                               |                                                                                               |
| Standard(s) | RSS 247 Issue 2:2017<br>FCC Part 15 Subpart 15.407 |                                                                                               |

## Appendix B – EUT and Test Setup Photos

Refer to the files separate from this test report