



TEST REPORT

Report Number.: 14516849-E11V4

Applicant : SONOS INC.
614 CHAPALA ST.
SANTA BARBARA, CA, 93101, U.S.A.

Model : S44

Brand : SONOS

FCC ID : SBVRM044

IC : 5373A-RM044

EUT Description : 802.11 a/b/g/n/ac/ax 2x2 Client Device with BT and BLE

Test Standard(s) : FCC 47 CFR PART 15 SUBPART C
FCC 47 CFR PART 15 SUBPART E
ISED RSS-247 ISSUE 2
ISED RSS-248 ISSUE 1
ISED RSS-GEN ISSUE 5 + A1 + A2

Date of Issue:

2023-05-25

Prepared by:

UL VERIFICATION SERVICES

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CERT #0751.05

REPORT REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
V1	2023-04-18	Initial Issue	---
V2	2023-05-05	Updated Cover Page, Section 5.4 and 6.5	Kiya Kedida
V3	2023-05-17	Updated Section 6.6	Kiya Kedida
V4	2023-05-25	Updated Section 1, EUT description	Kiya Kedida

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: Sonos Inc.
614 Chapala St.
Santa Barbara, CA, 93101, U.S.A.

EUT DESCRIPTION: 802.11 a/b/g/n/ac/ax 2x2 Client Device with BT and BLE

MODEL: S44

BRAND: SONOS

SERIAL NUMBER: Radiated Sample: A100 2301WC C4-38-75-00-0F-40-9 and
A100 2301WC C4-38-75-00-0E-E0-F
Conducted Sample: A100 2301WC C4-38-75-00-0E-7C-0

DATE TESTED: 2023-04-06 to 2023-04-07

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	Complies
CFR 47 Part 15 Subpart E	Complies
ISED RSS-247 Issue 2	Complies
ISED RSS-248 ISSUE 1	Complies
ISED RSS-GEN Issue 5 + A1 + A2	Complies

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise.

This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by A2LA, NIST, any agency of the Federal Government, or any agency of the U.S. government.

Approved & Released For
UL Verification Services Inc. By:

Prepared By:



Dan Coronia
Operation Leader
Consumer Technology Division
UL Verification Services Inc.

Kiya Kedida
Senior Project Engineer
Consumer Technology Division
UL Verification Services Inc.

2. TEST RESULTS SUMMARY

This report contains data provided by the customer which can impact the validity of results. UL Verification Services Inc. is only responsible for the validity of results after the integration of the data provided by the customer.

FCC Clause	ISED Clause	Requirement	Result	Comment
See Comment		Duty Cycle	Reporting purposes only	Per ANSI C63.10, Section 12.2.
15.209, 15.205, 15.407 (b) (1-4)	RSS-GEN 8.9, 8.10, RSS-247 6.2	Radiated Emissions	Complies	For colocation testing

3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with:

- FCC CFR 47 Part 2
- FCC CFR 47 Part 15
- FCC KDB 662911 D01 v02r01
- FCC KDB 905462 D02 v02/D03 v01r02/D06 v02
- KDB 558074 D01 15.247 Meas Guidance v05r02
- FCC KDB 789033 D02 v02r01
- KDB 414788 D01 Radiated Test Site v01r01
- ANSI C63.10-2013
- RSS-GEN Issue 5 + A1 + A2
- RSS-247 Issue 2
- ISED RSS-248 ISSUE 1

The scope of this report covers the co-location modes in the 2.4GHz and 5Ghz band.

4. FACILITIES AND ACCREDITATION

UL Verification Services Inc. is accredited by A2LA, Certificate Number #0751.05, for all testing performed within the scope of this report. Testing was performed at the locations noted below.

	Address	ISED CABID	ISED Company Number	FCC Registration
<input type="checkbox"/>	Building 1: 47173 Benicia Street Fremont, CA 94538, U.S.A	US0104	2324A	550739
<input type="checkbox"/>	Building 2: 47266 Benicia Street Fremont, CA 94538, U.S.A	US0104	22541	550739
<input checked="" type="checkbox"/>	Building 4: 47658 Kato Rd Fremont, CA 94538, U.S.A	US0104	2324B	550739

5. DECISION RULES AND MEASUREMENT UNCERTAINTY

5.1. METROLOGICAL TRACEABILITY

All test and measuring equipment utilized to perform the tests documented in this report are calibrated on a regular basis, with a maximum time between calibrations of one year or the manufacturers' recommendation, whichever is less, and where applicable is traceable to recognized national standards.

5.2. DECISION RULES

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4:2012 Clause 8.2. (Measurement uncertainty is not taken into account when stating conformity with a specified requirement.)

5.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	U _{Lab}
Radio Frequency (Spectrum Analyzer)	141.16 Hz
Worst Case Conducted Disturbance, 9KHz to 0.15 MHz	1.22%
Power Spectral Density	2.47 dB
RF Power Measurement Direct Method Using Power Meter	1.3 dB (PK) / 0.45 dB (AV)
Unwanted Emissions, Conducted	1.94dB
Worst Case Conducted Disturbance, 9KHz to 0.15 MHz	3.78 dB
Worst Case Conducted Disturbance, 0.15 to 30 MHz	3.40 dB
Worst Case Radiated Disturbance, 9KHz to 30 MHz	2.87 dB
Worst Case Radiated Disturbance, 30 to 1000 MHz	6.01 dB
Worst Case Radiated Disturbance, 1000 to 18000 MHz	4.73 dB
Worst Case Radiated Disturbance, 18000 to 26000 MHz	4.51 dB
Worst Case Radiated Disturbance, 26000 to 40000 MHz	5.29 dB
Time Domain Measurements	3.39%
Temperature	0.57
Humidity	3.39%
DC Supply Voltages	0.57%

Uncertainty figures are valid to a confidence level of 95%.

5.4. SAMPLE CALCULATION

RADIATED EMISSIONS

Where relevant, the following sample calculation is provided:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)

36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

6. EQUIPMENT UNDER TEST

6.1. EUT DESCRIPTION

The EUT is an 802.11 a/b/g/n/ac/ax 2x2 Client Device with BT and BLE.

6.2. MAXIMUM OUTPUT POWER & DESCRIPTION OF AVAILABLE ANTENNAS

Refer to reports 14516849-E1, -E2, -E3, -E4, -E5, -E6, -E7 and -E8 for output power and antenna gain and type information.

6.3. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was 74.0-39150-1-41.

The test utility software installed during testing was PrimaComplianceGUIInstaller_TESTBUILD3_17Nov22.

6.4. WORST-CASE CONFIGURATION AND MODE

For BT

The EUT can only be setup in desktop orientation; therefore, all radiated testing was performed with the EUT in desktop orientation.

Worst-case data rates as provided by the client were:

GFSK mode: DH5
8PSK mode: 3-DH5

For BLE

The EUT can only be setup in desktop orientation; therefore, all radiated testing was performed with the EUT in desktop orientation.

The worst-case data rates were determined to be as follows, based on input from the manufacturer of the radio.

BLE: 1 Mbps.

For 2.4 DTS

The EUT can only be setup in desktop orientation; therefore, all radiated testing was performed with the EUT in desktop orientation.

The fundamental of the EUT was investigated in the antenna combinations, it was determined that Antenna 1 and Antenna 3 was the worst case; therefore, all final radiated testing was performed with Antenna 1 and Antenna 3.

The worst-case data rates were determined to be as follows, based on input from the manufacturer of the radio.

802.11b mode: 1 Mbps
802.11g mode: 6 Mbps
802.11n HT20 mode: MCS0
802.11ax HE20 mode: MCS0

For 5/6 GHz UNII

The EUT can only be setup in desktop orientation; therefore, all radiated testing was performed with the EUT in desktop orientation.

The fundamental of the EUT was investigated in the antenna combinations, it was determined that:

_ANT2 and ANT4 was the worst case in the 5.2GHz, 5.3GHz, & 5.6GHz bands.

_ANT1 and ANT4 was the worst case in the 5.8GHz band.

Therefore, all final testing was performed with ANT2 and ANT4 and ANT1 and ANT4 as stated above.

The worst-case data rates were determined to be as follows, based on input from the manufacturer of the radio.

802.11a mode: 6 Mbps

802.11n HT20 mode: MCS0

802.11n HT40 mode: MCS0

802.11ac VHT80 mode: MCS0

802.11ax HE20 mode: MCS0

802.11ax HE40 mode: MCS0

802.11ax HE80 mode: MCS0

6.5. SIMULTANEOUS TRANSMISSION CONFIGURATIONS

Simultaneous transmission of the following was investigated:

- 2.4GHz WLAN and Bluetooth
- 2.4GHz WLAN and BLE
- 5GHz WLAN and Bluetooth
- 5GHz WLAN and BLE

Per the manufacturer, no other radios transmit simultaneously. See section 9.2 for modes tested. All test case was identified based on the the highest power in the band.

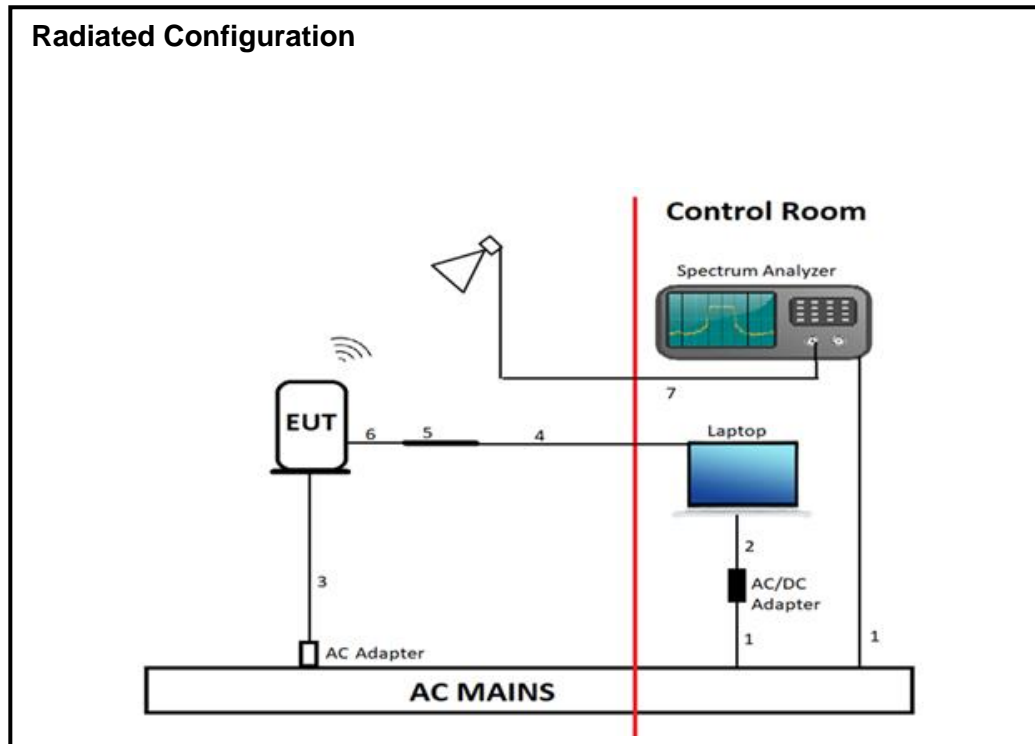
6.6. DESCRIPTION OF TEST SETUP

SUPPORT TEST EQUIPMENT						
Description	Manufacturer	Model	Serial Number	FCC ID/ DoC		
Laptop	Lenovo	T460s	PC0JMBF8	Doc		
Laptop AC/DC Adapter	Lenovo	ADLX90NLC2A	11S45N0247Z1ZSHH448JEY	Doc		
Power Supply AC Adapter	Sonos	CPS045180250U	N/A	Doc		
Power Supply	Sonos	EC2Y5EB	N/A	Doc		
USB-A to Ethernet Adapter	Plugable	USB2-E100	8CAE4CE46AFA	Doc		
USB-C to USB-A Female Adapter	Amazon Basics	L6LUC160-CS-R	N/A	Doc		
I/O CABLES (CONDUCTED TEST)						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	AC	3	AC	Un-shielded	1.25	AC Mains to Spectrum Analyzer/AC/DC Adapter
2	DC	1	DC	Un-shielded	1.0	AC/DC Adapter to Laptop
3	USB-C	1	USB-C	Un-shielded	1.5	Power Supply to AC Adapter
4	Ethernet	1	RJ45	Un-shielded	1.5	Laptop to USB Ethernet Adapter
5	USB-A	1	USB-A	Shielded	0.05	USB Ethernet Adapter to USB
6	USB-C	1	USB-C	Shielded	0.05	EUT to USB-C/USB-A Female Adapter
7	SMA Cable	1	SMA	Un-Shielded	1.0	EUT to Spectrum Analyzer
I/O CABLES (RADIATED TEST)						
Cable No.	Port	# Of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	AC	3	AC	Un-shielded	1.25	AC Mains to Spectrum Analyzer/AC/DC Adapter
2	DC	1	DC	Un-shielded	1.0	AC/DC Adapter to Laptop
3	USB-C	1	USB-C	Un-shielded	1.5	Power Supply to AC Adapter
4	Ethernet	1	RJ45	Un-shielded	10	Laptop to USB Ethernet Adapter
5	USB-A	1	USB-A	Shielded	0.05	USB Ethernet Adapter to USB
6	USB-C	1	USB-C	Shielded	0.05	EUT to USB-C/USB-A Female Adapter
7	SMA Cable	1	SMA	Un-Shielded	10	EUT to Horn Antenna

TEST SETUP

The EUT is a stand-alone unit, and the radio is exercised remotely by Sonos Compliance GUI test utility software via ethernet.

SETUP DIAGRAMS



7. MEASUREMENT METHOD

Unwanted emissions in restricted bands: KDB 789033 D02 v02r01, Sections G.3, G.4, G.5, and G.6.

Unwanted emissions in non-restricted bands: KDB 789033 D02 v02r01, Sections G.3, G.4, and G.5.

8. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

TEST EQUIPMENT LIST					
Description	Manufacturer	Model	ID Num	Cal Due	Last Cal
Antenna, Horn 1-18GHz	ETS-Lindgren (Cedar Park, Texas)	3117	223083	2023-10-25	2022-10-25
RF Filter Box, 1-18GHz	UL-FR1 (CTECH)	SAC 8 port rf box 1	197920	2023-04-19	2022-04-19
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	225688	2024-02-29	2023-02-14
Spectrum Analyzer, PXA, 3Hz to 44GHz	Agilent Technologies	N9030A	80396	2024-01-31	2023-01-27
10dB Fixed Attenuator	Pasternack Enterprises	PE7087-10	N/A	Verified	Verified
UL TEST SOFTWARE LIST					
Radiated Software	UL	UL EMC	Ver 2023-01-18, 2016-08-23		

9. SIMULTANEOUS TRANSMISSION TEST RESULTS

9.1. ON TIME AND DUTY CYCLE

Refer to reports 14516849-E1, -E2, -E3, -E4, -E5, -E6, -E7 and -E8 for duty cycle data

9.2. LIMITS AND PROCEDURE

FCC §15.205 and §15.209

FCC §15.407(b)(1-4) -

RSS-GEN, Section 8.9 and 8.10

RSS 247 Issue 2 Sections

6.2.1.2 (for 5150-5250 MHz band)

6.2.2.2 (for 5250-5350 MHz band)

6.2.3.2 (for 5470-5600 MHz and 5650-5725 MHz bands)

6.2.4.2 (for 5725-5850 MHz band)

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
0.009-0.490	2400/F(kHz) @ 300 m	-
0.490-1.705	24000/F(kHz) @ 30 m	-
1.705 - 30	30 @ 30m	-
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

The EUT is placed on a non-conducting table 1.5 m above the ground plane for measurement above 1GHz. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.10. The EUT is set to transmit in a continuous mode.

For pre-scans above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 30 KHz for peak measurements.

For final measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3 MHz for peak measurements and as applicable for average measurements.

The spectrum from 1 GHz to 18 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

Base on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field.

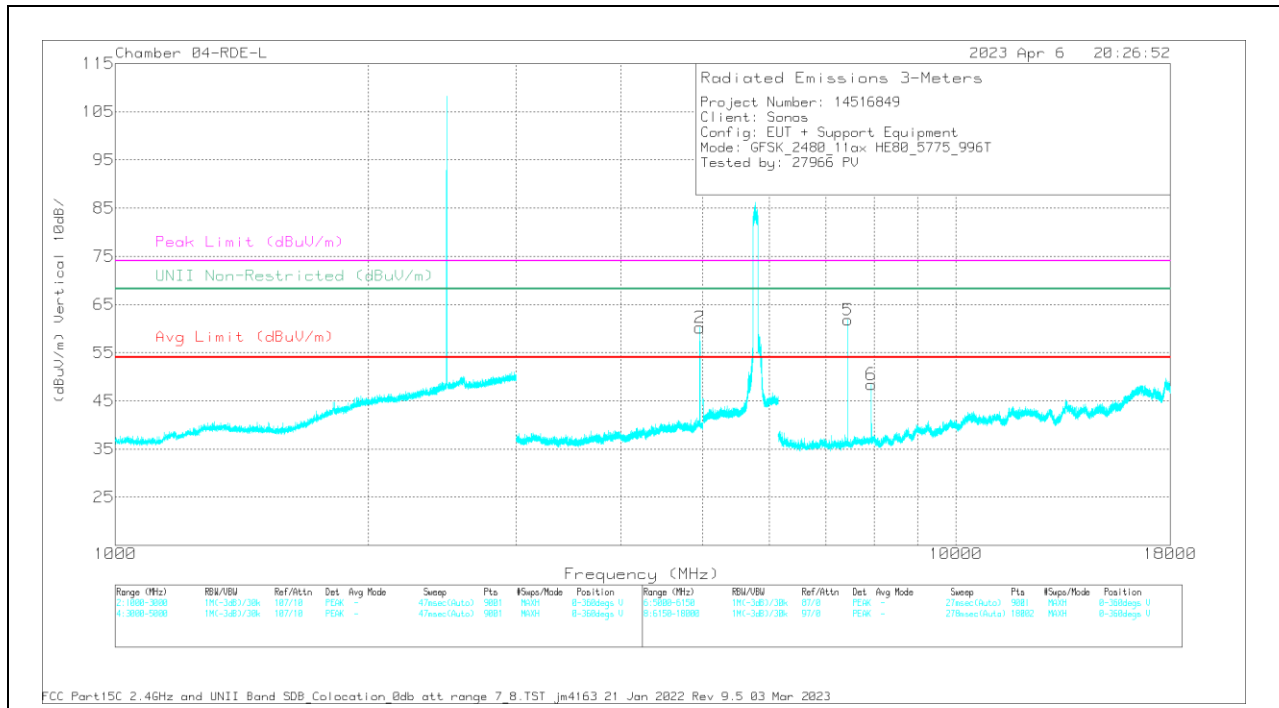
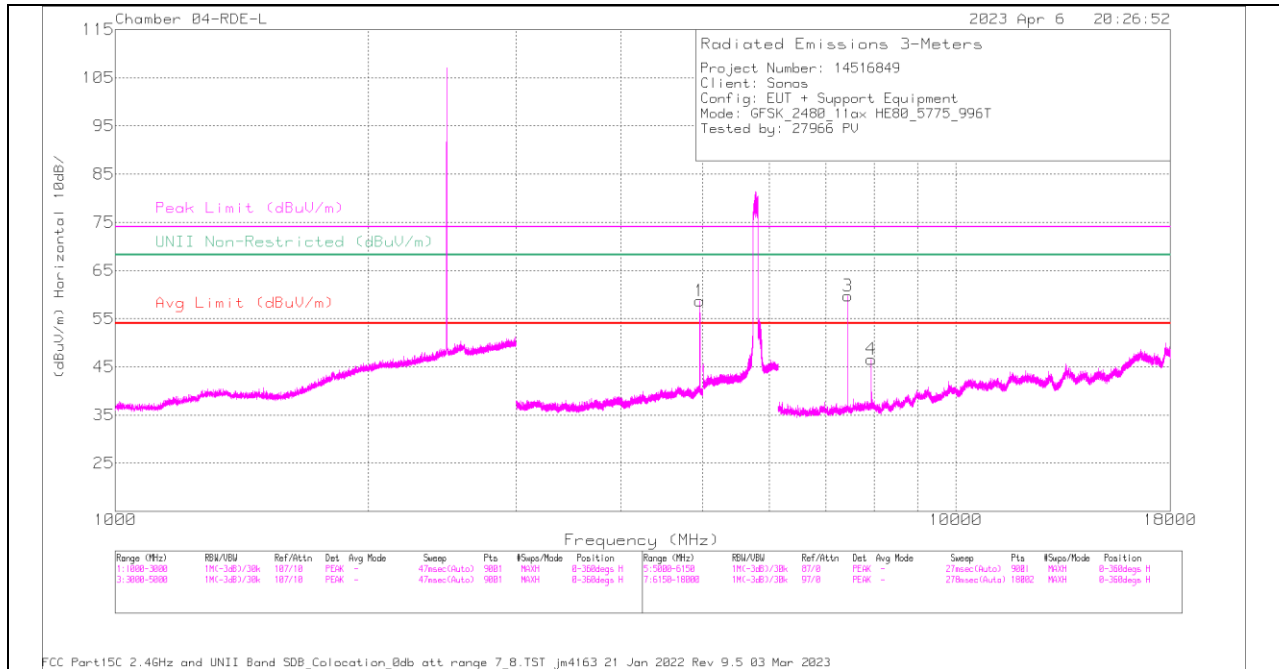
KDB 558074 D01 15.247 Meas Guidance v05r02

Use of a duty cycle correction factor (DCCF) is permitted for calculating average radiated field strength emission levels for an FHSS device in 15.247. This DCCF can be applied when the field strength limit (e.g., within a Government Restricted band) and the conditions specified in Section 15.35(c) can be satisfied. The average radiated field strength is calculated by subtracting the DCCF from the maximum radiated field strength level as determined through measurement. The maximum radiated field strength level represents the worst-case (maximum amplitude) RMS measurement of the emission(s) during continuous transmission (i.e., not including any time intervals during which the transmitter is off or is transmitting at a reduced power level). It is also acceptable to apply the DCCF to a measurement performed with a peak detector instead of the specified RMS power averaging detector. Note that Section 15.35(c) specifies that the DCCF shall represent the worst-case (greatest duty cycle) over any 100 msec transmission period.

Note - For this test program, Peak detection was used. The DCCF was then subtracted from the peak value. The DCCF was calculated based on the worst case on-time when the device transmits DH5 packets and operates on 20 channels (5/1600 s per hop = 3.125 ms per channel). In this mode, the device will have a maximum of 2 hops on a channel in 100ms or $2 \times 3.125 \text{ ms} = 6.25 \text{ ms}$ on any channel. Therefore, $\text{DCCF} = 20 \log (6.25 / 100) = -24 \text{ dB}$.

9.2.1. TEST CASE 1

BT GFSK 2480MHz + WLAN 5GHz 11ax HE80 5775MHz



VERTICAL

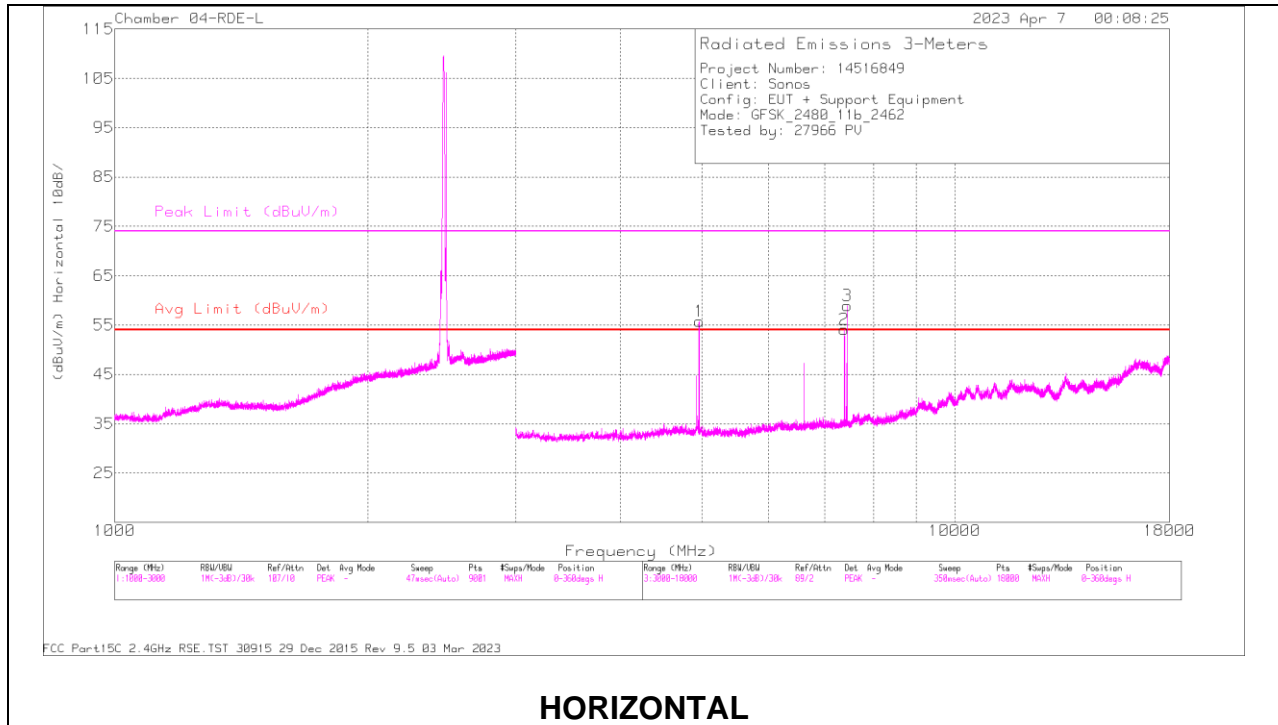
Radiated Emissions

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Horn 1mH	Amp/Cbl/Filtr (dB)	Filter (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4960.053	45.85	PKFH	34.4	-25.4	2	56.85	-	-	74	-17.15	-	-	328	310	H
	* 4959.733	40.6	VA1T	34.4	-25.4	2	51.6	54	-2.4	-	-	-	-	328	310	H
2	* 4959.784	46.05	PKFH	34.4	-25.4	2	57.05	-	-	74	-16.95	-	-	212	103	V
	* 4959.877	40.57	VA1T	34.4	-25.4	2	51.57	54	-2.43	-	-	-	-	212	103	V
3	* 7440.227	40.35	PKFH	36	-22.5	.5	54.35	-	-	74	-19.65	-	-	251	125	H
	* 7439.988	36.14	VA1T	36	-22.5	.5	50.14	54	-3.86	-	-	-	-	251	125	H
4	7936.044	37.55	PKFH	36.1	-22	.5	52.15	-	-	-	-	68.2	-16.05	269	318	H
	7936.024	31.73	VA1T	36.1	-22	.5	46.33	-	-	-	-	-	-	269	318	H
5	* 7440.05	44.11	PKFH	36	-22.5	.5	58.11	-	-	74	-15.89	-	-	14	386	V
	* 7439.821	39.04	VA1T	36	-22.5	.5	53.04	54	-.96	-	-	-	-	14	386	V
6	7935.966	38.75	PKFH	36.1	-22	.5	53.35	-	-	-	-	68.2	-14.85	27	381	V
	7936.167	33.7	VA1T	36.1	-22	.5	48.3	-	-	-	-	-	-	27	381	V

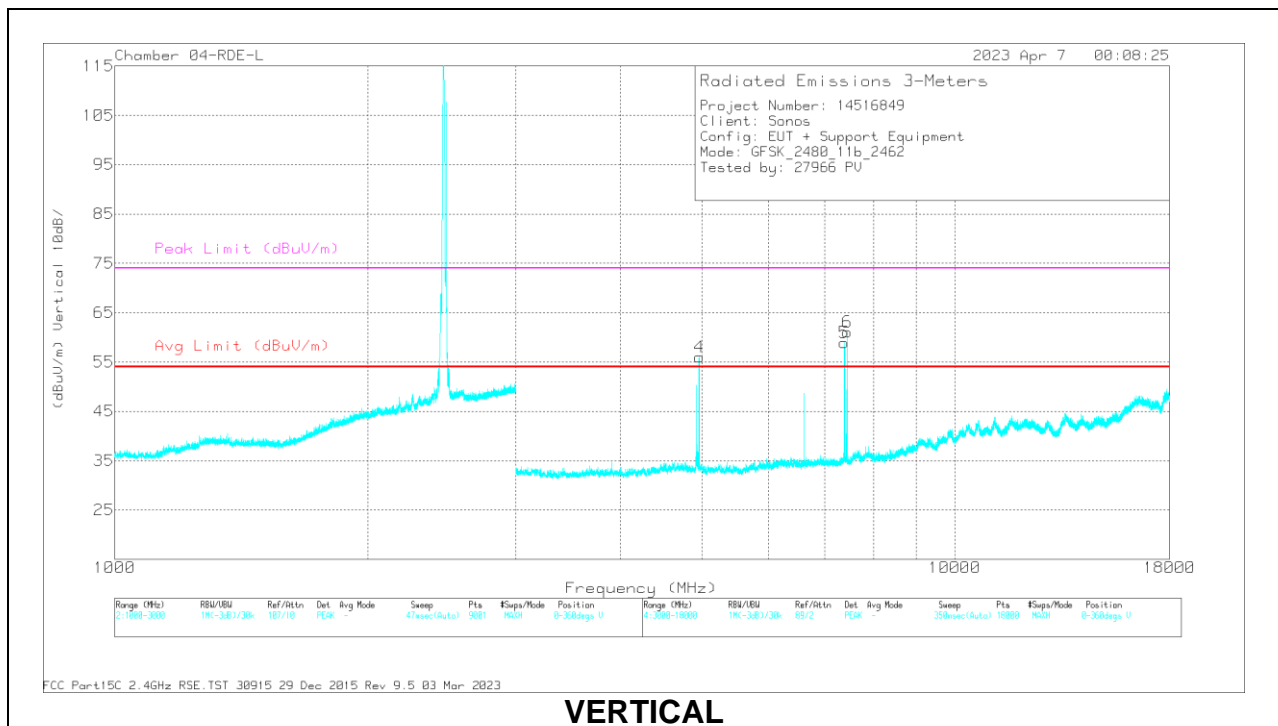
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 PKFH FHSS/BT RB=100k for Frequencies<1GHz / RB=1MHz for Frequencies>1GHz, VB=3 x RB, Peak
 VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

9.2.2. TEST CASE 2

BT GFSK 2480 MHz + WLAN 2.4GHz 11b 2462MHz



HORIZONTAL



VERTICAL

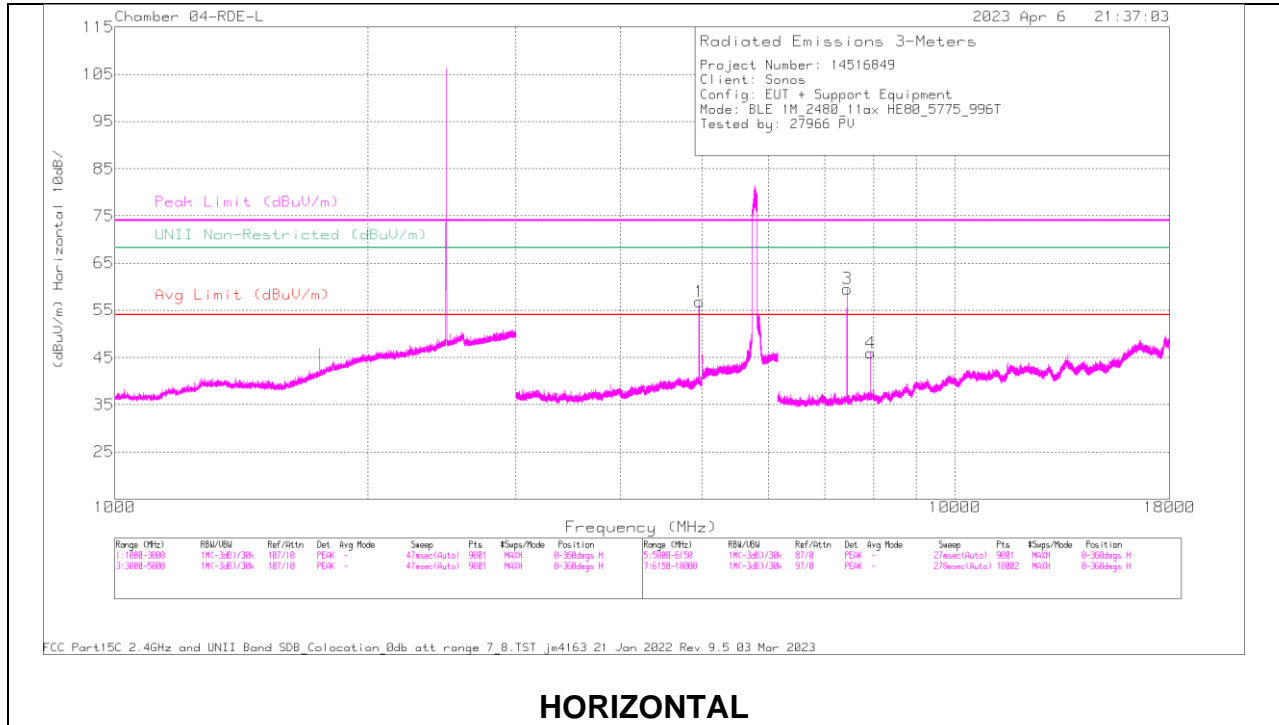
Radiated Emissions

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Horn 1mH	Amp/Cbl/Filtr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4959.88	44.81	PKFH	34.4	-25.4	53.81	-	-	74	-20.19	334	319	H
	* 4960.01	41	VA1T	34.4	-25.4	50	54	-4	-	-	334	319	H
2	* 7384.266	38.6	PKFH	35.9	-22.5	52	-	-	74	-22	271	111	H
	* 7383.284	32.51	VA1T	35.9	-22.5	45.91	54	-8.09	-	-	271	111	H
3	* 7439.819	40.31	PKFH	36	-22.5	53.81	-	-	74	-20.19	249	102	H
	* 7440.046	35.09	VA1T	36	-22.5	48.59	54	-5.41	-	-	249	102	H
4	* 4959.956	44.38	PKFH	34.4	-25.4	53.38	-	-	74	-20.62	247	106	V
	* 4960.18	40.09	VA1T	34.4	-25.4	49.09	54	-4.91	-	-	247	106	V
5	* 7383.954	42.18	PKFH	35.9	-22.4	55.68	-	-	74	-18.32	150	311	V
	* 7383.248	37.23	VA1T	35.9	-22.5	50.63	54	-3.37	-	-	150	311	V
6	* 7439.897	44.85	PKFH	36	-22.5	58.35	-	-	74	-15.65	13	371	V
	* 7440.234	39.2	VA1T	36	-22.5	52.7	54	-1.3	-	-	13	371	V

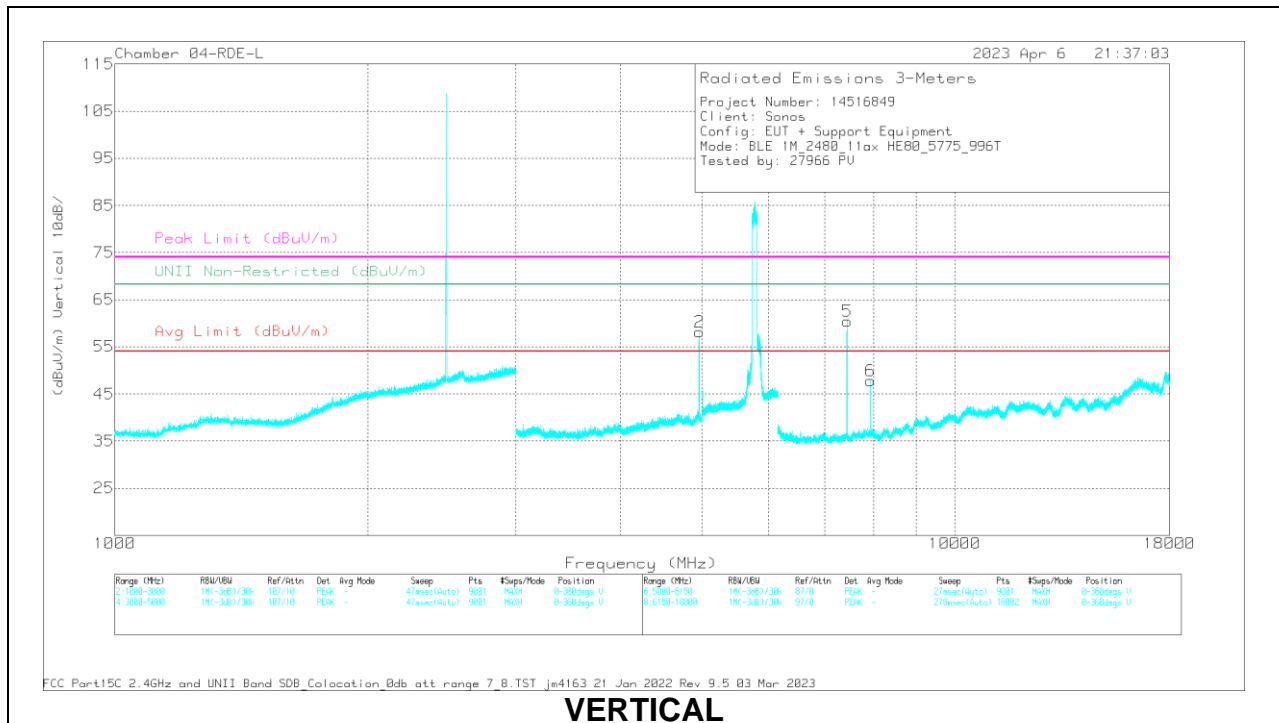
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 PKFH FHSS/BT RB=100k for Frequencies<1GHz / RB=1MHz for Frequencies>1GHz, VB=3 x RB, Peak
 VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

9.2.3. TEST CASE 3

BLE 2480MHz + WLAN 5GHz 11ax HE80 5775MHz



HORIZONTAL



VERTICAL

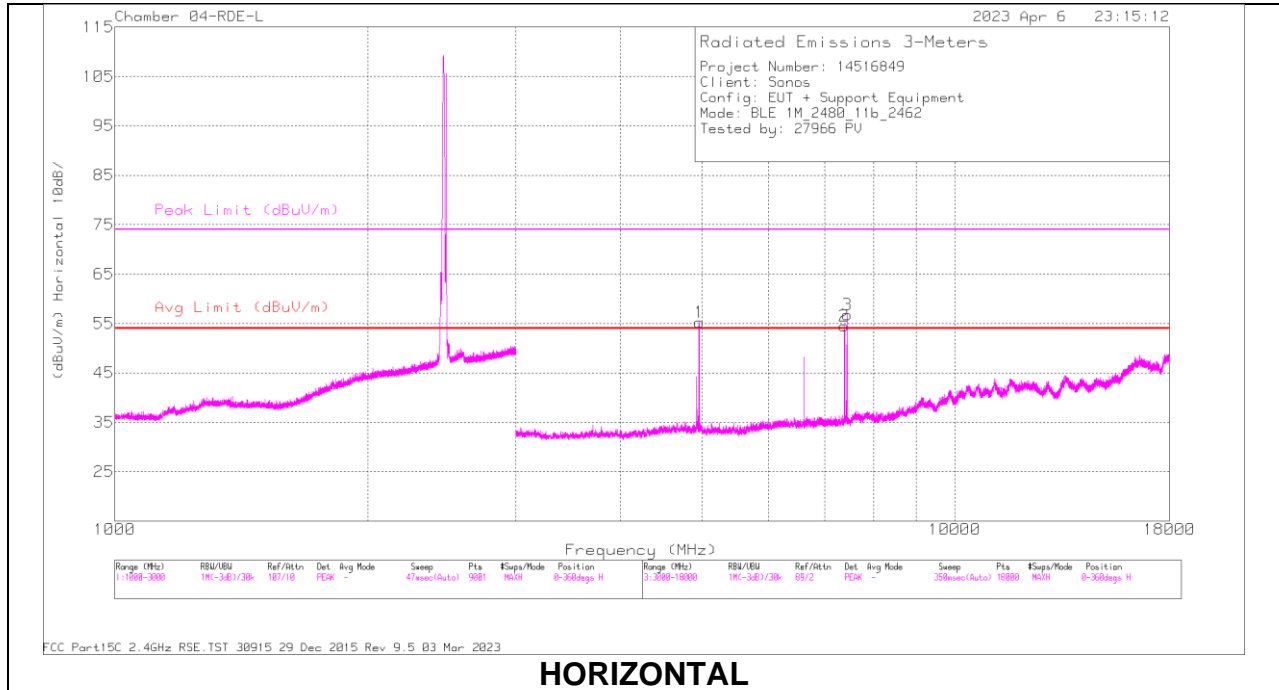
Radiated Emissions

Marker	Frequency (MHz)	Meter Reading (dBµV)	Det	Horn 1mH	Amp/Cb/Filtr (dB)	Filter (dB)	DCCF (dB)	Corrected Reading (dBµV/m)	Avg Limit (dBµV/m)	Margin (dB)	Peak Limit (dBµV/m)	PK Margin (dB)	UNII Non-Restricted (dBµV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4959.975	47.25	PK2	34.4	-25.4	2	0	58.25	-	-	74	-15.75	-	-	332	304	H
	* 4960.061	39.58	MAv1	34.4	-25.4	2	2.16	52.74	54	-1.26	-	-	-	-	332	304	H
2	* 4959.741	46.59	PK2	34.4	-25.4	2	0	57.59	-	-	74	-16.41	-	-	247	275	V
	* 4959.567	39.13	MAv1	34.4	-25.4	2	2.16	52.29	54	-1.71	-	-	-	-	247	275	V
3	* 7440.411	41.44	PK2	36	-22.5	.5	0	55.44	-	-	74	-18.56	-	-	252	130	H
	* 7439.477	34	MAv1	36	-22.5	.5	2.16	50.16	54	-3.84	-	-	-	-	252	130	H
4	7936.016	37.15	PK2	36.1	-22	.5	0	51.75	-	-	-	-	68.2	-16.45	269	304	H
	7935.947	30.27	MAv1	36.1	-22	.5	2.16	47.03	-	-	-	-	-	-	269	304	H
5	* 7439.98	44.38	PK2	36	-22.5	.5	0	58.38	-	-	74	-15.62	-	-	4	396	V
	* 7439.38	37.19	MAv1	36	-22.5	.5	2.16	53.35	54	-65	-	-	-	-	4	396	V
6	7935.991	39.73	PK2	36.1	-22	.5	0	54.33	-	-	-	-	68.2	-13.87	25	380	V
	7935.945	33.62	MAv1	36.1	-22	.5	2.16	50.38	-	-	-	-	-	-	25	380	V

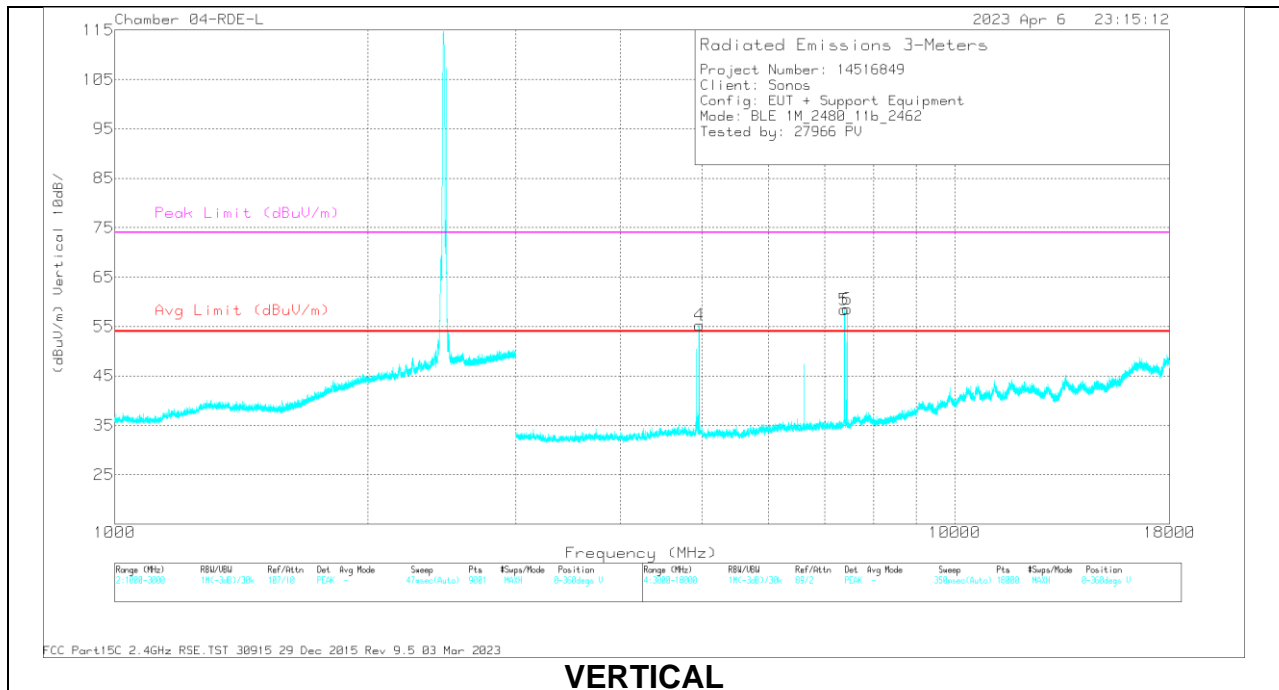
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 PK2 - KDB558074 Method: Maximum Peak
 MAv1 - KDB558074 Option 1 Maximum RMS Average

9.2.1. TEST CASE 4

BLE 2480MHz + WLAN 2.4GHz 11b 2462MHz



HORIZONTAL



VERTICAL

Radiated Emissions

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Horn 1mH	Ampl/Cbl/Filt (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4959.917	46.43	PK2	34.4	-25.4	0	55.43	-	-	74	-18.57	331	319	H
	* 4959.677	40.22	MAv1	34.4	-25.4	2.16	51.38	54	-2.62	-	-	331	319	H
2	* 7384.232	39.4	PK2	35.9	-22.5	0	52.8	-	-	74	-21.2	64	101	H
	* 7383.8	32.68	MAv1	35.9	-22.5	2.16	48.24	54	-5.76	-	-	64	101	H
3	* 7440.113	43.47	PK2	36	-22.5	0	56.97	-	-	74	-17.03	277	261	H
	* 7439.426	36.78	MAv1	36	-22.5	2.16	52.44	54	-1.56	-	-	277	261	H
4	* 4959.846	46.09	PK2	34.4	-25.4	0	55.09	-	-	74	-18.91	248	274	V
	* 4959.794	39.77	MAv1	34.4	-25.4	2.16	50.93	54	-3.07	-	-	248	274	V
5	* 7384.616	41.94	PK2	35.9	-22.5	0	55.34	-	-	74	-18.66	144	257	V
	* 7384.499	36.13	MAv1	35.9	-22.5	2.16	51.69	54	-2.31	-	-	144	257	V
6	* 7439.965	44.41	PK2	36	-22.5	0	57.91	-	-	74	-16.09	15	387	V
	* 7439.37	37.55	MAv1	36	-22.5	2.16	53.21	54	-.79	-	-	15	387	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 PK2 - KDB558074 Method: Maximum Peak
 MAv1 - KDB558074 Option 1 Maximum RMS Average

10. SETUP PHOTOS

Refer to reports 14093500-E1, -E2, -E3, -E4, -E5, -E6, -E7 and -E8 for set-up photos.

END OF TEST REPORT