

Test Report C-3614A

Equipment Under Test: Voltron20x

Requirement(s): FCC 15.247, RSS-247

Test Date(s): 8/29/2022-8/31/2022

Prepared for: Husqvarna
Attn: Matt Albinger
9335 Harris Corners Parkway Suite
Charlotte, NC 28269

Report Issued by: Anthony Smith, EMC Engineering Specialist

Signature: 

Date: 11/16/2022

Report Reviewed by: Adam Alger, Laboratory Manager

Signature: 

Date: 11/16/2022

Report Constructed by: Anthony Smith, EMC Engineering Specialist

Signature: 

Date: 11/16/2022

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Laird Connectivity Test Services in Review

The Laird Connectivity LLC laboratory located at W66 N220 Commerce Court Cedarburg, Wisconsin, 53012 USA is recognized through the following organizations:



A2LA – American Association for Laboratory Accreditation

Accreditation based on ISO/IEC 17025:2017 with Electrical (EMC) Scope

A2LA Certificate Number: 1255.01

Scope of accreditation includes all test methods listed herein unless otherwise noted



Federal Communications Commission (FCC) – USA

Accredited Test Firm Registration Number: 953492

Recognition of two 3 meter Semi-Anechoic Chambers



**Government
of Canada**

Innovation, Science and Economic Development Canada

Accredited U.S. Identification Number: US0218

Recognition of two 3 meter Semi-Anechoic Chambers

Company: Husqvarna	Page 3 of 33	Name: Volttron20x
Report: TR3614A		Model: 599426001
Quote: 319494		Serial: Engineering Sample

1 TEST REPORT SUMMARY

During **8/29/2022-8/31/2022** the Equipment Under Test (EUT), **Voltron**, as provided by **Husqvarna** was tested to the following requirements:

FCC 15.247 / RSS-247, DTS

Requirements	Description	Specification	Method	Compliant
FCC: 15.247 (a)(2) IC: RSS-247 5.2 (a)	Digital Modulation System 6 dB bandwidth	500 kHz	ANSI C63.10	Yes
FCC: 2.1049 IC: RSS-GEN 6.7	Occupied Bandwidth	Reported	ANSI C63.10	Yes
FCC: 15.247 (b)(3) IC: RSS-247 5.4 (d)	Maximum Conducted Output Power	30 dBm	ANSI C63.10	Yes
FCC: 15.247 (e) IC: RSS-247 5.2 (b)	Digital Modulation System Power Spectral Density	8 dBm / 3 kHz	ANSI C63.10	Yes
FCC: 15.247 (d) IC: RSS-247 5.5	RF Spurious Emissions at the Transmitter Antenna Terminal	20 dBc	ANSI C63.10	Yes
FCC: 15.247 (d) IC: RSS-GEN 8.10	Spurious Radiated Emissions in Restricted Bands	FCC 15.209 RSS-GEN 8.9	ANSI C63.10	Yes
FCC: 2.1055 (d) IC: RSS-GEN 6.11	Frequency Stability	Reported	ANSI C63.10	Yes

Notice:

The results relate only to the item tested as configured and described in this report. Any additional configurations, modes of operation, or modifications made to the equipment under test after the specified test date(s) are at the decision of the client and may not apply to the data seen in this test report.

The decision rule for Pass / Fail assessment to the specification or standard listed in this test report has been agreed upon by the client and laboratory to be as follows:

Measurement Type	Rule
Emissions – Amplitude	1 dB below specified limit
Emissions – Frequency	1% less than the specification
Immunity	Tested at specified level

2 CLIENT INFORMATION

Company Name	Husqvarna
Contact Person	Matt Albinger
Address	9335 Harris Corners Parkway Suite 500 Charlotte, NC 28269

2.1 Equipment Under Test (EUT) Information

The following information has been supplied by the client

Product Name	Voltron20x
Model Number	599426001
Serial Number	Engineering Sample
FCC ID	2A8U7-VLTR01
IC ID	23218-VLTR01

2.2 Product Description

Connect to mobile devices and enable use of Husqvarna Connect app.

2.3 Modifications Incorporated for Compliance

None noted at time of test

2.4 Deviations and Exclusions from Test Specifications

None noted at time of test

2.5 Additional Information

Channels used: 37 (Low 2402 MHz), 17 (Mid 2440 MHz), 39 (High 2480 MHz). Device powered with 12VDC via DC Variable Power Supply. Device radio controlled by HCL_Tester (Version 3.0.0.37) software through a USB-UART FTDI cable from a laptop computer.

3 REFERENCES

Publication	Edition	Date	AMD 1	AMD 2
FCC eCFR	-	2022	-	-
RSS-247	2	2017	-	-
RSS-Gen	5	2018	2019	2021
ANSI C63.10	-	2013	-	-

4 UNCERTAINTY SUMMARY

Using the guidance of the following publications the calculated measurement uncertainty represents an expanded uncertainty expressed at approximately the 95 % confidence level, using a coverage factor of $k = 2$.

References
CISPR 16-4-1
CISPR 16-4-2
CISPR 32
ANSI C63.23
A2LA P103
A2LA P103c
ETSI TR 100-028

Measurement Type	Configuration	Uncertainty $\pm$
Radiated Emissions	Biconical Antenna	5.0 dB
Radiated Emissions	Log Periodic Antenna	5.3 dB
Radiated Emissions	Horn Antenna	4.7 dB
AC Line Conducted Emissions	Artificial Mains Network	3.4 dB
Telecom Conducted Emissions	Asymmetric Artificial Network	4.9 dB
Disturbance Power Emissions	Absorbing Clamp	4.1 dB
Radiated Immunity	3 Volts/meter	2.2 dB
Conducted Immunity	CDN/EM/BCI	2.4/3.5/3.4 dB
EFT Burst/Surge	Peak pulse voltage	164 volts
ESD Immunity	15 kV level	1377 Volts

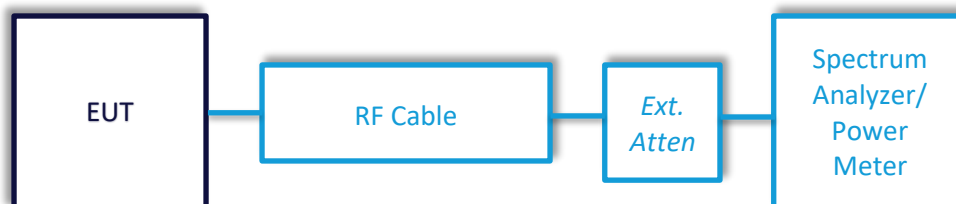
Parameter	ETSI U.C. $\pm$	U.C. $\pm$
Radio Frequency, from F0	1×10^{-7}	0.55×10^{-7}
Occupied Channel Bandwidth	5 %	2 %
RF conducted Power (Power Meter)	1.5 dB	1.2 dB
RF conducted emissions (Spectrum Analyzer)	3.0 dB	1.7 dB
All emissions, radiated	6.0 dB	5.3 dB
Temperature	1° C	0.65° C
Humidity	5 %	2.9 %
Supply voltages	3 %	1 %

5 TEST DATA

5.1 Antenna Port Conducted Emissions

Description of Measurement	The direct measurement of emissions at the antenna port of the EUT is achieved by use of a RF connection to a spectrum analyzer or power meter. The cable and attenuator factors are loaded into the analyzer or power meter allowing for direct measurement readings without the need for further corrections.
Example Calculations	Measurement (dBm) + Cable factor (dB) + External Attenuator (dB) = Corrected Reading (dBm) Margin (dB) = Limit (dBm) – Corrected Reading (dBm)

Block Diagram



Instrumentation

Asset #	Description	Manufacturer	Model #	Serial #	Date	Due Date	Status
AA 960172	Cable	A.H. Systems, Inc.	SAC-26G-1	387	3/22/2022	3/22/2023	Active Verification
EE 960087	Analyzer - Spectrum	Agilent	N9010A	MY53400296	4/12/2022	4/12/2023	Active Calibration

5.1.1 DTS Bandwidth

Operator	Anthony Smith	QA	Adam Alger
Temperature	21.6°C	R.H. %	51.70%
Test Date	8/30/2022	Location	Conducted RF Bench
Requirement	FCC: 15.247 (a)(2) IC: RSS-247 5.2(a)	Method	ANSI C63.10 §11.8

Limits: BW Greater than 500 kHz

Test Parameters

Frequency	2402, 2440, 2480 MHz	Setup	Conducted
RBW	100 kHz	VBW	300 kHz
Detector(s)	Max Peak Hold	Sweep Time	Auto

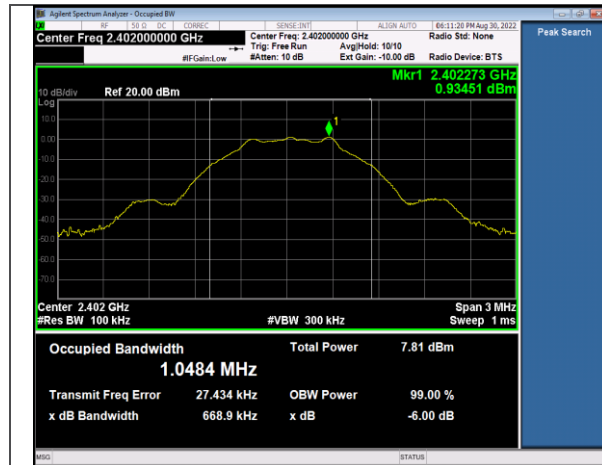
EUT Parameters

Input Power	12VDC	Mode	BLE Tx
Frequency	2402, 2440, 2480 MHz	Channel	37, 17, 39
Data Rate	BLE 1 Mbps		

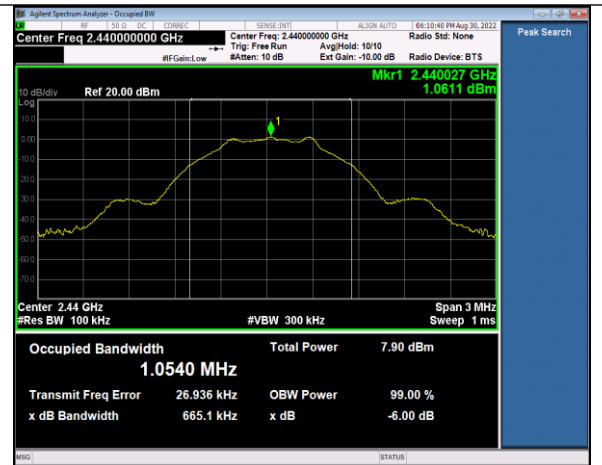
Data Table

Channel	DTS BW (kHz)	Limit (kHz)	Margin (kHz)
37	669	500	169
17	665	500	165
39	669	500	169

Plots



DTS Bandwidth, Channel 37



DTS Bandwidth, Channel 17



DTS Bandwidth, Channel 39

5.1.2 Occupied Bandwidth

Operator	Anthony Smith	QA	Adam Alger
Temperature	21.6°C	R.H. %	51.70%
Test Date	8/30/2022	Location	Conducted RF Bench
Requirement	FCC: 2.1049 IC: RSS-GEN 6.7	Method	ANSI C63.10 §6.9

Limits: Reported

Test Parameters

Frequency	2402, 2440, 2480 MHz	Setup	Conducted
RBW	10 kHz	VBW	30 kHz
Detector(s)	Max Peak Hold	Sweep Time	Auto

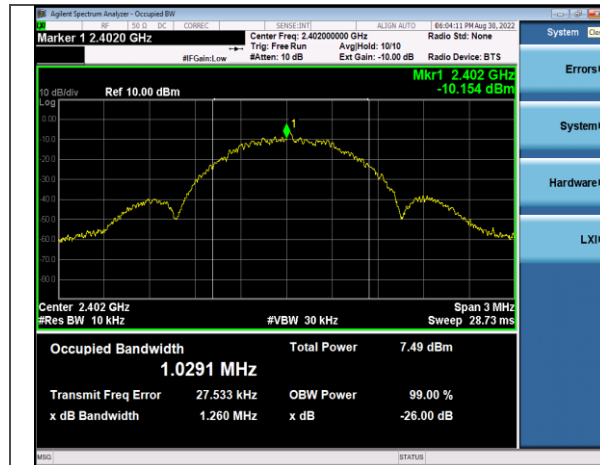
EUT Parameters

Input Power	12VDC	Mode	BLE Tx
Frequency	2402, 2440, 2480 MHz	Channel	37, 17, 39
Data Rate	BLE 1 Mbps		

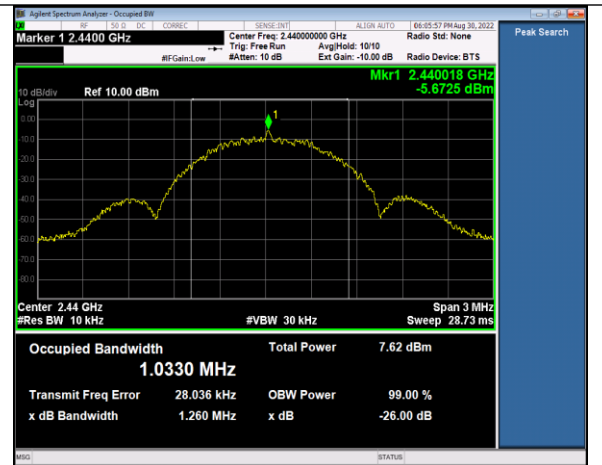
Data Table

Channel	OBW (MHz)
37	1.03
17	1.03
39	1.04

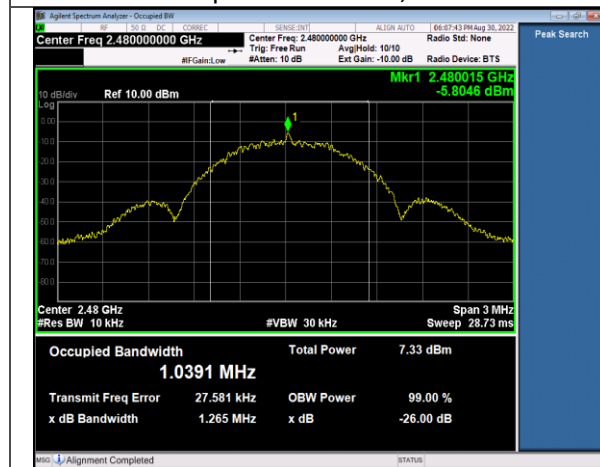
Plots



99% Occupied Bandwidth, Channel 37



99% Occupied Bandwidth, Channel 37



99% Occupied Bandwidth, Channel 37

5.1.3 Peak Output Power

Operator	Anthony Smith	QA	Adam Alger
Temperature	21.6°C	R.H. %	51.70%
Test Date	8/30/2022	Location	Conducted RF Bench
Requirement	FCC: 15.247 (b)(3) IC: RSS-247 5.4 (d)	Method	ANSI C63.10 §11.9

Limits: 30 dBm

Test Parameters

Frequency	2402, 2440, 2480 MHz	Setup	Conducted
RBW	3 MHz	VBW	50 MHz
Detector(s)	Max Peak Hold	Sweep Time	Auto

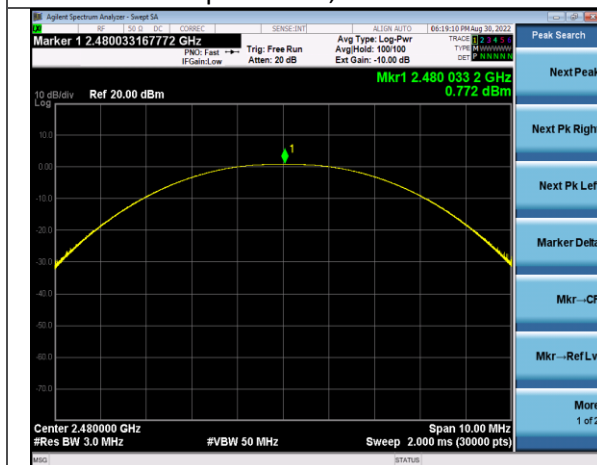
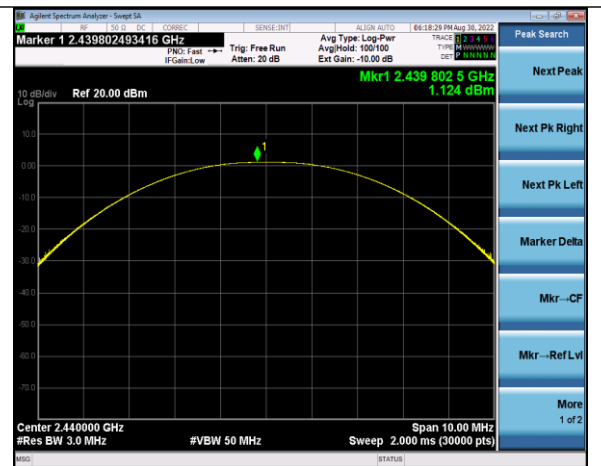
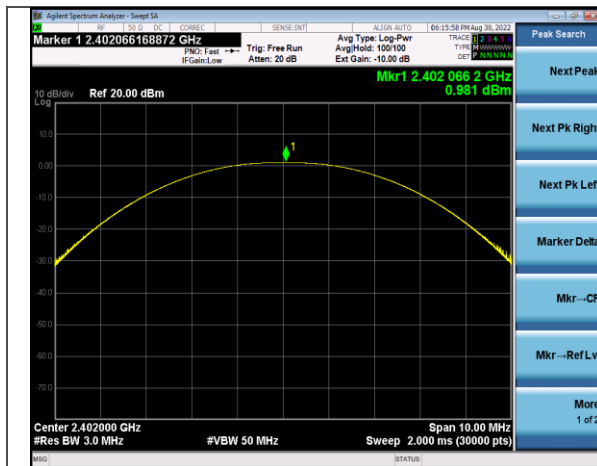
EUT Parameters

Input Power	12VDC	Mode	BLE Tx
Frequency	2402, 2440, 2480 MHz	Channel	37, 17, 39
Data Rate	BLE 1 Mbps		

Data Table

Channel	Peak Output Power (dBm)	Limit (dBm)	Margin (dB)
37	1.0	30	29.0
17	1.1	30	28.9
39	0.8	30	29.2

Plots



5.1.4 Peak Power Spectral Density

Operator	Anthony Smith	QA	Adam Alger
Temperature	21.6°C	R.H. %	51.70%
Test Date	8/30/2022	Location	Conducted RF Bench
Requirement	FCC 15.247 (e) IC: RSS-247 5.2 (b)	Method	ANSI C63.10 §11.10

Limits: 8dBm/3kHz

Test Parameters

Frequency	2402, 2440, 2480 MHz	Setup	Conducted
RBW	100 kHz	VBW	300 kHz
Detector(s)	Max Peak Hold	Sweep Time	Auto

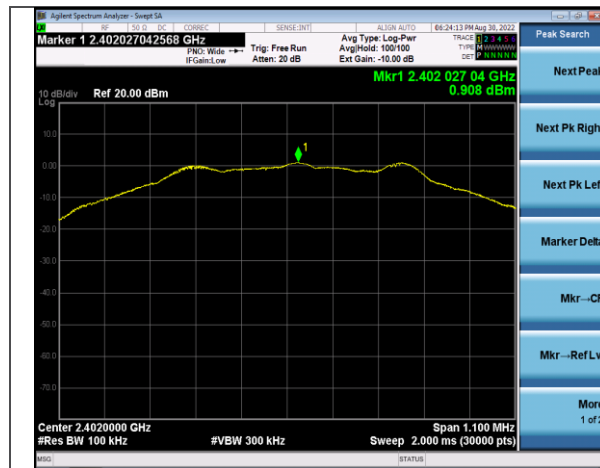
EUT Parameters

Input Power	12VDC	Mode	BLE Tx
Frequency	2402, 2440, 2480 MHz	Channel	37, 17, 39
Data Rate	BLE 1 Mbps		

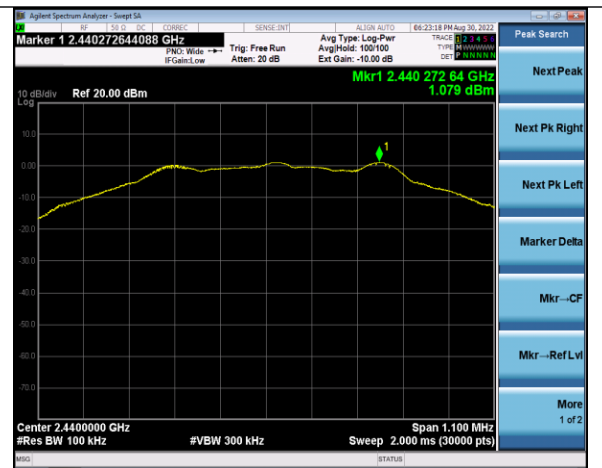
Data Table

Channel	Peak Power Spectral Density (dBm/100 kHz)	Limit (dBm/3 kHz)	Margin (dB)
37	0.9	8	7.1
17	1.1	8	6.9
39	0.7	8	7.3

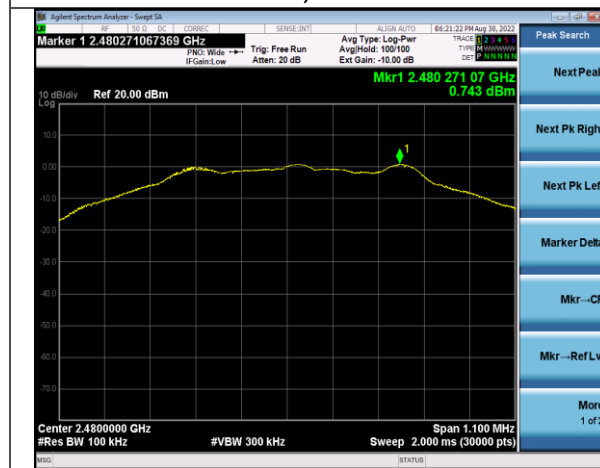
Plots



Peak PSD, Channel 37



Peak PSD, Channel 17



Peak PSD, Channel 39

5.1.5 Duty Cycle

Operator	Anthony Smith	QA	Adam Alger
Temperature	21.6°C	R.H. %	51.70%
Test Date	8/30/2022	Location	Conducted RF Bench
Requirement	FCC: 15.247 IC: RSS-247	Method	ANSI C63.10 §11.6

Limits: Reported

Test Parameters

Frequency	2480 MHz	Setup	Conducted
RBW	8 MHz	VBW	50 MHz
Detector(s)	Peak	Sweep	5 ms

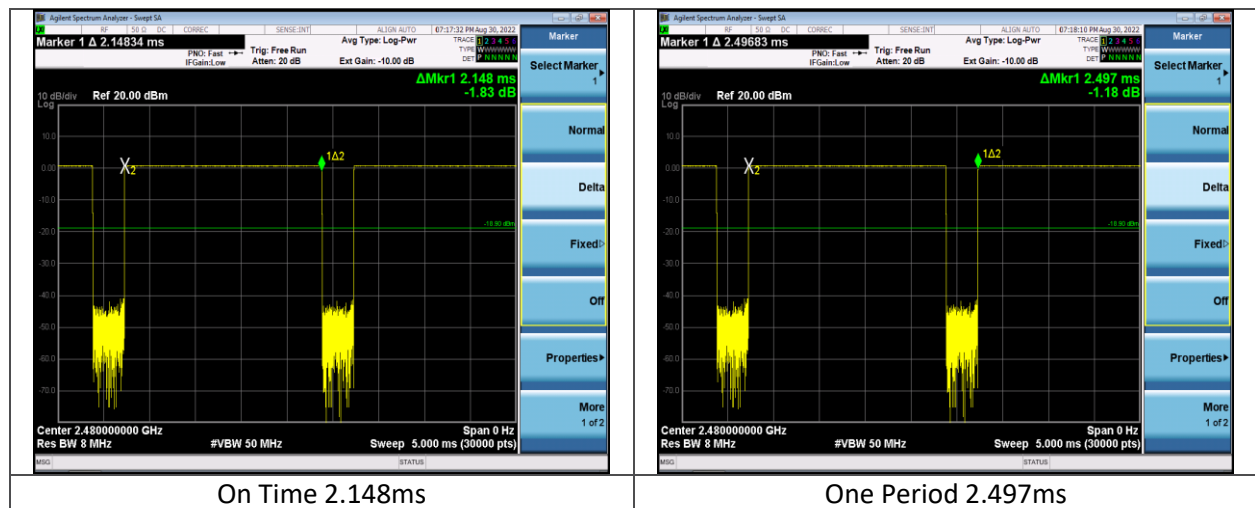
EUT Parameters

Input Power	12VDC	Mode	BLE Tx
Frequency	2480 MHz	Channel	39
Data Rate	1 Mbps		

Data Table

Observation Period (ms)	On Time (ms)	One Period (ms)	Duty Cycle (%)
5	2.148	2.497	86%

Plots



5.1.6 Conducted Spurious Emissions

Operator	Anthony Smith	QA	Adam Alger
Temperature	21.6°C	R.H. %	51.70%
Test Date	8/30/2022	Location	Conducted RF Bench
Requirement	FCC: 15.247 (d) IC: RSS-247 5.5	Method	ANSI C63.10 §11.11

Limits: 20 dBc

Reference Level = 1.1 dBm

Limit = -18.9 dBm

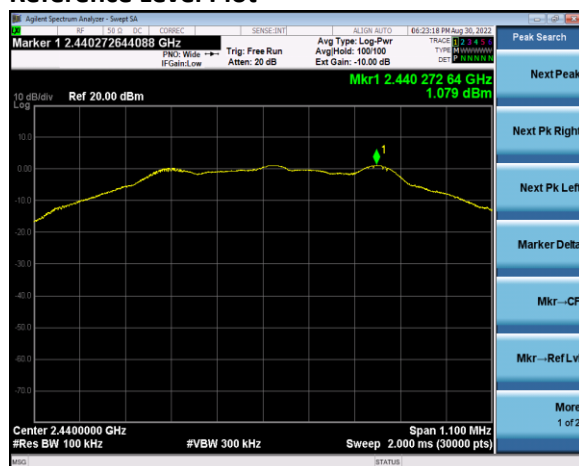
Test Parameters

Frequency	30 – 25000 MHz	Setup	Conducted
RBW	100 kHz	VBW	300 kHz
Detector(s)	Max Peak Hold	Sweep Time	Auto
Limit Calculation	Reference Level (dBm) – 20 dB = Limit (dBm)		

EUT Parameters

Input Power	12VDC	Mode	BLE Tx
Frequency	2402, 2440, 2480 MHz	Channel	37, 17, 39
Data Rate	BLE 1 Mbps		

Reference Level Plot

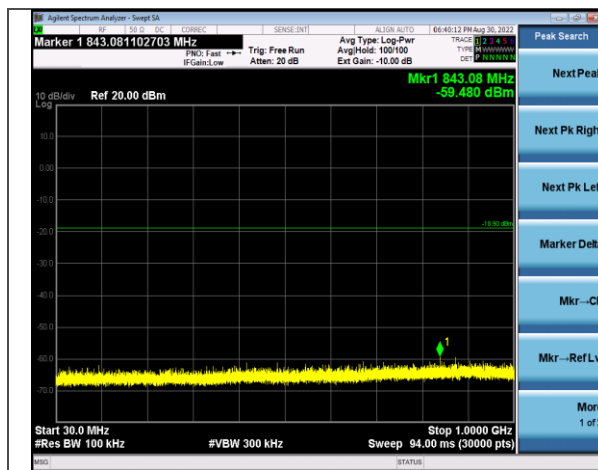


Company: Husqvarna	Page 19 of 33	Name: Volttron20x
Report: TR3614A		Model: 599426001
Quote: 319494		Serial: Engineering Sample

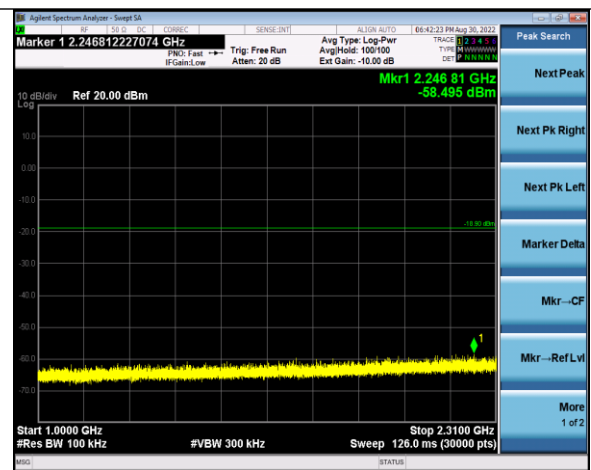
Data Table

Frequency (MHz)	Measurement (dBm)	Limit (dBm)	Margin (dB)	Channel	Data Rate
4803.6	-37.6	-18.9	18.7	Low	1M
2399.9	-47.1	-18.9	28.2	Low	1M
4879.9	-36.9	-18.9	18.0	Mid	1M
2483.5	-52.9	-18.9	34.0	High	1M
4960.1	-35.3	-18.9	16.4	High	1M

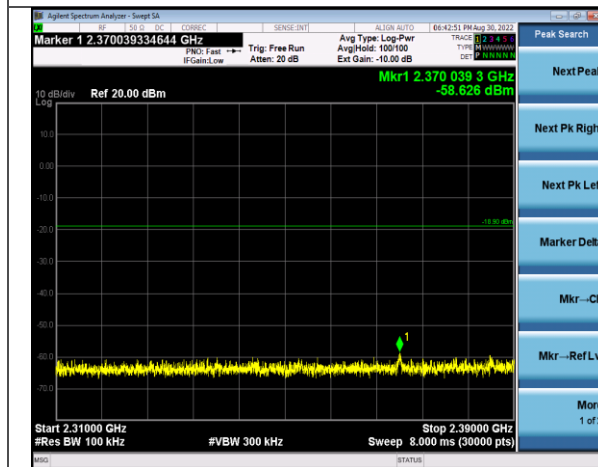
Plots



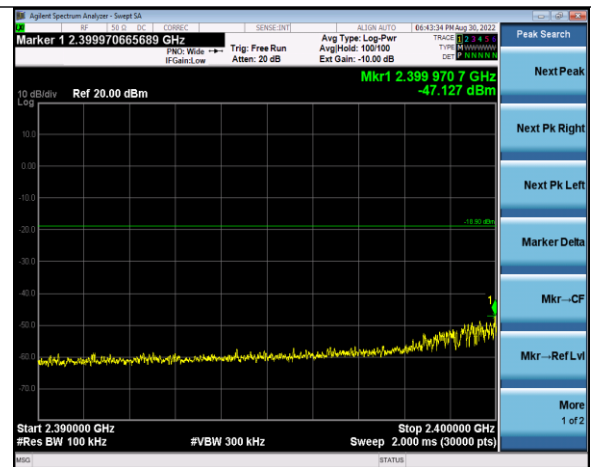
30-1000 MHz
BLE Tx Low



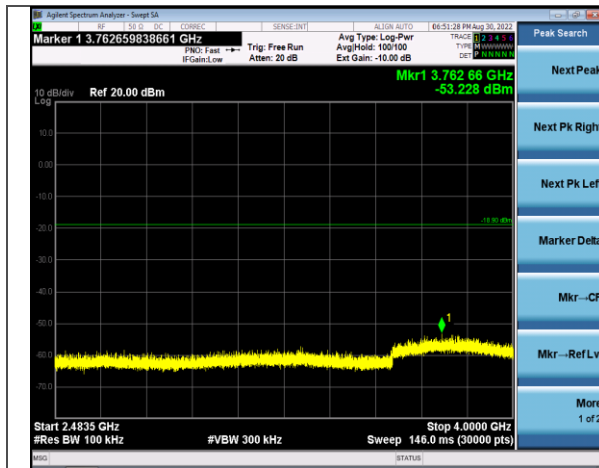
1000-2310 MHz
BLE Tx Low



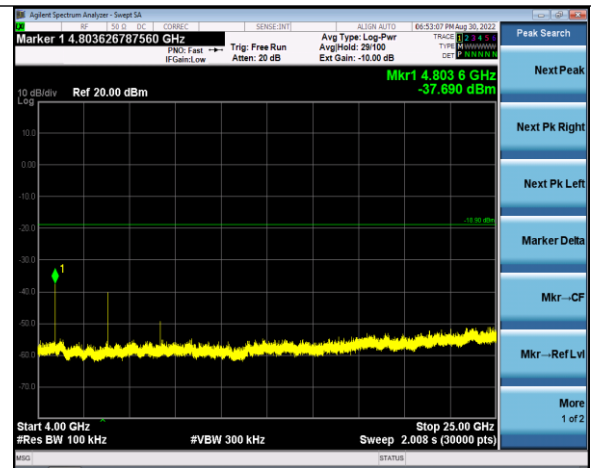
2310-2390 MHz
BLE Tx Low



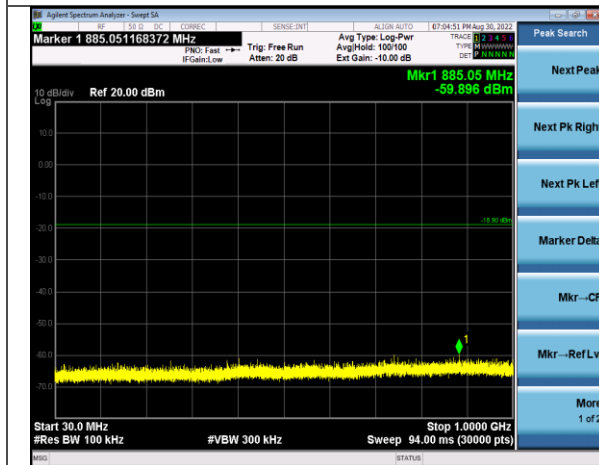
2390-2400 MHz
BLE Tx Low



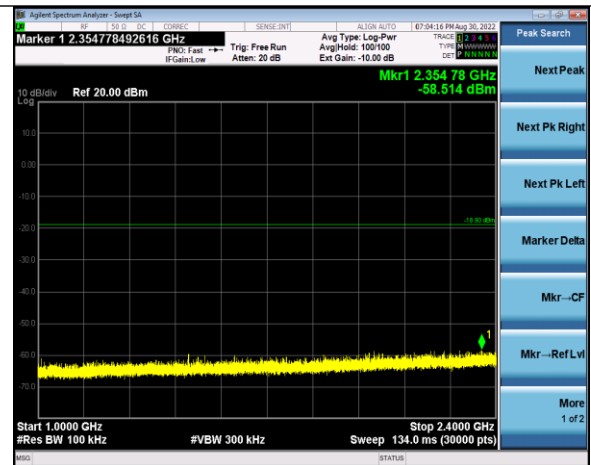
2483.5-4000 MHz
BLE Tx Low



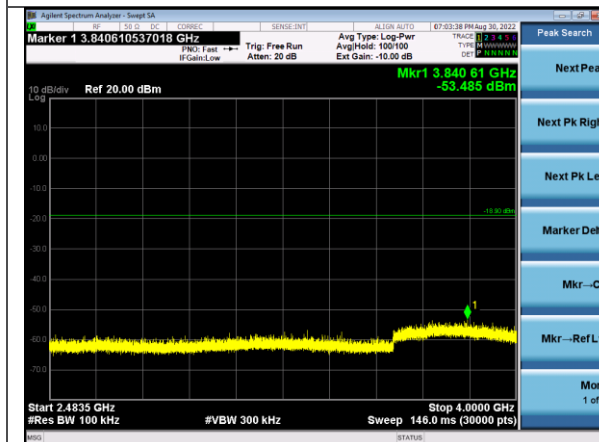
4000-25000 MHz
BLE Tx Low



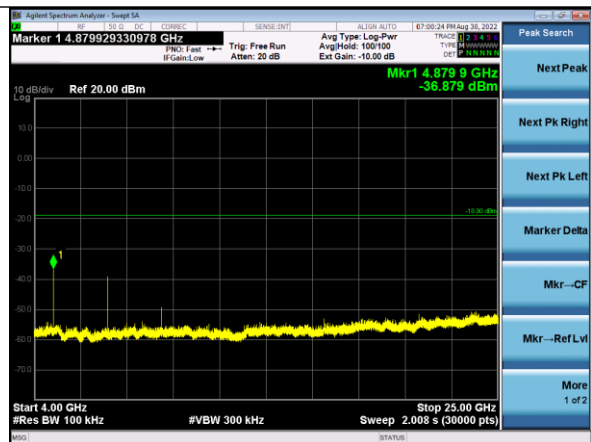
30-1000 MHz
BLE Tx Mid



1000-2400 MHz
BLE Tx Mid



2483.5-4000 MHz
BLE Tx Mid



4000-25000 MHz
BLE Tx Mid

Company: Husqvarna

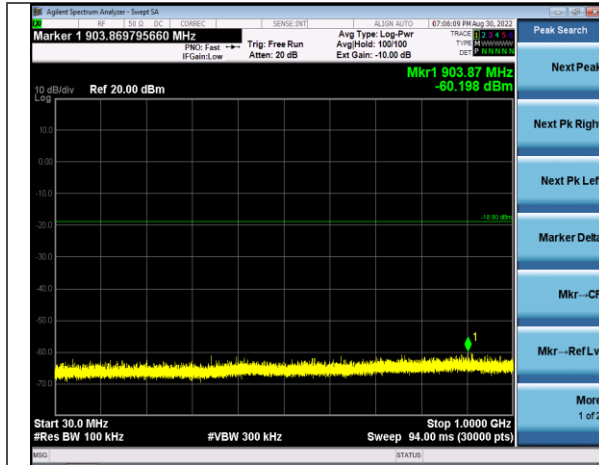
Report: TR3614A

Quote: 319494

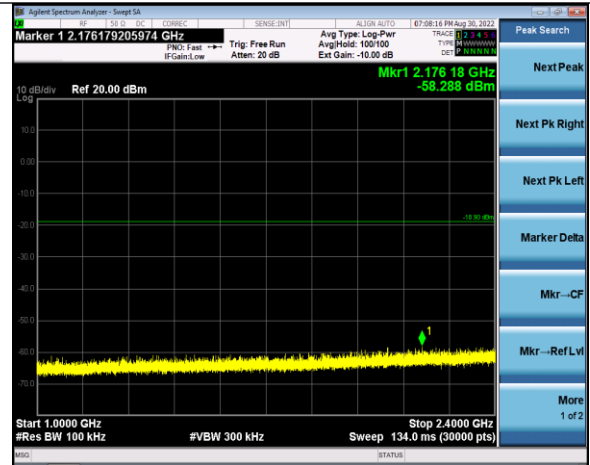
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Model: 599426001

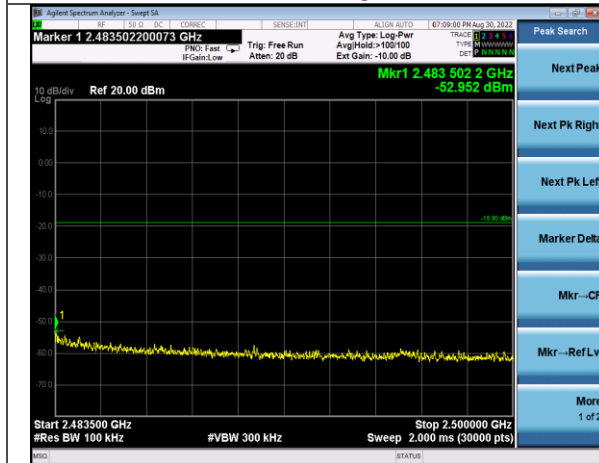
Serial: Engineering Sample



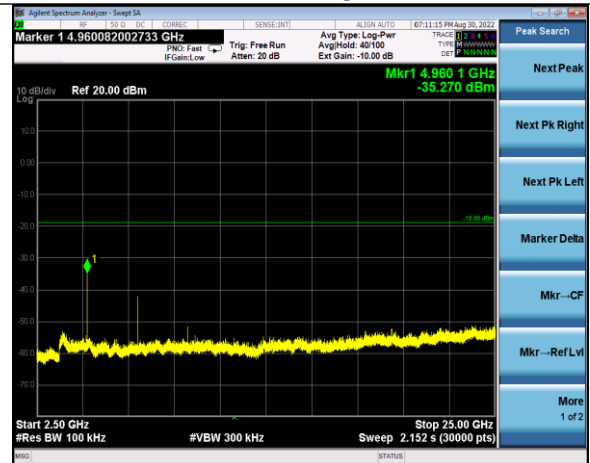
30-1000 MHz
BLE Tx High



1000-2400 MHz
BLE Tx High



2483.5-2500 MHz
BLE Tx High



2500-25000 MHz
BLE Tx High

5.1.7 Frequency Stability

Operator	Anthony Smith	QA	Adam Alger
Temperature	21.6°C	R.H. %	51.70%
Test Date	8/30/2022	Location	Conducted RF Bench
Requirement	FCC: 2.1055 (d) IC: RSS-GEN 6.11	Method	ANSI C63.10 §6.8

Limits: Reported

Test Parameters

Frequency	2402, 2440, 2480 MHz	Setup	Conducted
RBW	1 kHz	VBW	3 kHz

EUT Parameters

Input Power	10.2VDC, 12VDC, 13.8VDC	Mode	BLE Tx
Frequency	2402, 2440, 2480 MHz	Channel	37, 17, 39

Data Table

Channel	Frequency (Hz) 10.2VDC	Frequency (Hz) 12VDC	Frequency (Hz) 13.8VDC	Deviation (Hz)	Limit (Hz)	Margin (Hz)
0	2402018011	2402017973	2402017967	44	120101	120057
19	2440018275	2440018291	2440018229	62	122001	121939
38	2480018918	2480018630	2480018548	370	124001	123631

5.2 Radiated Emissions

Description of Measurement	The frequency spectrum is investigated for intentional and / or unintentional signals emanating from the EUT by use of a standardized test site and measurement antenna. The antenna, cable, pre-amp, and other necessary measurement system correction factors are loaded onto the EMI receiver / spectrum analyzer when the measurements are performed allowing the data to be gathered and reported as corrected values. The maximum emissions from the EUT are determined by turn-table azimuth rotation (360°) and scanning of the measurement antenna. Maximized levels are noted at degree values of azimuth, measurement antenna height, and measurement antenna polarity.
Example Calculations	Measurement (dBμV) + Cable factor (dB) + Other (dB) + Antenna Factor (dB/m) = Corrected Reading (dBμV/m) Margin (dB) = Limit (dBμV/m) - Corrected Reading (dBμV/m) Example at 4000 MHz: Reading = 40 dBμV + 3.4 dB + 0.9 dB + 6.5 dB/m = 50.8 dBμV/m Average Limit = 20 log (500) = 54 dBμV/m Margin = 54 dBμV/m - 50.8 dBμV/m = 3.2 dB

Block Diagram



5.2.1 Radiated Emissions – Intentional Radiators

Operator	Anthony Smith, Jon Dilley, Ivan Alvarez	QA	Adam Alger, Anthony Smith, Braden Smith
Temperature	23.2°C, 21.9°C	R.H. %	52.4%, 52.1%
Test Date	8/29/2022, 8/31/2022	Location	Chamber 3, Chamber 5
Requirement	FCC: 15.247 (d) IC: RSS-GEN 8.10	Method	ANSI C63.10 §11.12

Limits:

Frequency (MHz)	Quasi-Peak Limit (dBµV/m @ 3m)	Average Limit (dBµV/m @ 3m)	Peak Limit (dBµV/m @ 3m)
30-88	40.0	-	-
88-216	43.5	-	-
216-960	46.0	-	-
960-1000	54.0	-	-
1000-25000	-	54.0	74.0

Test Parameters

Frequency	30-25000 MHz	Distance	3m
Detector(s)	Peak, Quasi-Peak, Average	Table height	80cm
RBW	120 kHz Below 1 GHz 1 MHz Above 1 GHz	VBW	1.2 MHz Below 1 GHz 3 MHz Above 1 GHz

EUT Parameters

Input Power	12VDC	Mode	BLE Tx
Channels	37 (2402) 17(2440) 39(2480)	Data Rate	1M

Instrumentation

Asset #	Description	Manufacturer	Model #	Serial #	Date	Due Date	Status
AA 960150	Antenna - Biconical	ETS Lindgren	3110B	0003-3346	10/7/2021	10/7/2022	Active Calibration
AA 960153	Filter - High Pass 2.4 GHz	KWM	HPF-L-14186	7272-04	4/13/2022	4/13/2023	Active Calibration
AA 960158	Antenna - Double Ridge Horn	ETS Lindgren	3117	109300	9/27/2021	9/27/2022	Active Calibration
AA 960171	Cable	A.H. Systems, Inc.	SAC-26G-6	386	3/22/2022	3/22/2023	Active Verification
AA 960174	Antenna - Small Horn	ETS Lindgren	3116C-PA	00206880	9/1/2021	9/1/2022	Active Calibration
AA 960211	Antenna - Low Noise Amplifier	Mini-Circuits	ZVA-213X-S+	977711030	9/27/2021	9/27/2022	Active Calibration
EE 960085	Analyzer - EMI Receiver	Agilent	N9038A	MY51210148	4/11/2022	4/11/2023	Active Calibration
LSC-300	Cable	Chamber 3 Emissions	-	-	4/26/2022	4/26/2023	Active Verification
LSC-500	Cable	Chamber 5 Emissions	-	-	4/25/2022	4/25/2023	Active Verification
AA 960195	Antenna - Log Periodic	A.H. Systems, Inc.	SAS-512-2	557	8/17/2021	8/17/2023	Active Calibration

Data Tables

30-1000 MHz

Frequency (MHz)	Antenna Polarity	Height (cm)	Azimuth (degree)	Quasi-Peak Reading (dBμV/m)	Quasi-Peak Limit (dBμV/m)	Quasi-Peak Margin (dB)	Channel
987.8	V	100	0	25.8	54.0	28.2	17
974.7	H	100	0	25.6	54.0	28.4	17
976.3	H	100	0	24.8	54.0	29.2	37
984.4	V	100	0	25.1	54.0	28.9	37
989.2	H	100	0	25.3	54.0	28.7	39
971.9	V	100	0	24.9	54.0	29.1	39

Band Edge

Frequency (MHz)	Antenna Polarity	EUT Orientation	Height (cm)	Azimuth (degree)	Average Reading (dBμV/m)	Average Limit (dBμV/m)	Average Margin (dB)	Channel
2337.7	Horizontal	Flat	129	82	42.1	54.0	11.9	37
2483.6	Horizontal	Flat	129	82	44.1	54.0	9.9	39

Frequency (MHz)	Antenna Polarity	EUT Orientation	Height (cm)	Azimuth (degree)	Peak Reading (dBμV/m)	Peak Limit (dBμV/m)	Peak Margin (dB)	Channel
2325.5	Horizontal	Flat	129	82	53.7	74.0	20.3	37
2483.5	Horizontal	Flat	129	82	58.2	74.0	15.8	39

1-25 GHz

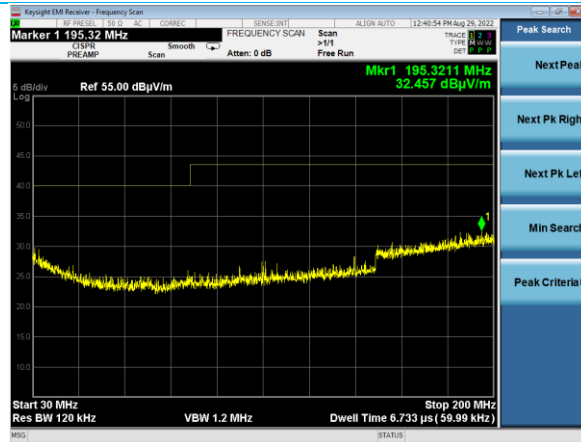
Frequency (MHz)	Antenna Polarity	EUT Orientation	Height (cm)	Azimuth (degree)	Average Reading (dBμV/m)	Average Limit (dBμV/m)	Average Margin (dB)	Channel
4880.0	Vertical	Vertical	125	321	40.7	54.0	13.3	17
4880.1	Horizontal	Vertical	215	193	42.5	54.0	11.5	17
4880.0	Horizontal	Horizontal	125	127	41.6	54.0	12.4	17
4880.1	Vertical	Horizontal	233	94	43.0	54.0	11.0	17
4880.1	Vertical	Flat	101	325	41.2	54.0	12.8	17
4880.1	Horizontal	Flat	105	130	44.0	54.0	10.0	17
4804.1	Horizontal	Flat	100	133	45.3	54.0	8.7	37
4960.0	Horizontal	Flat	100	131	44.2	54.0	9.8	39

Frequency (MHz)	Antenna Polarity	EUT Orientation	Height (cm)	Azimuth (degree)	Peak Reading (dBμV/m)	Peak Limit (dBμV/m)	Peak Margin (dB)	Channel
4880.0	Vertical	Vertical	125	321	47.4	74.0	26.6	17
4880.1	Horizontal	Vertical	215	193	48.5	74.0	25.5	17
4880.0	Horizontal	Horizontal	125	127	48.4	74.0	25.6	17
4880.1	Vertical	Horizontal	233	94	49.2	74.0	24.8	17
4880.1	Vertical	Flat	101	325	47.7	74.0	26.3	17
4880.1	Horizontal	Flat	105	130	49.8	74.0	24.2	17
4804.1	Horizontal	Flat	100	133	51.1	74.0	22.9	37
4960.0	Horizontal	Flat	100	131	49.8	74.0	24.2	39

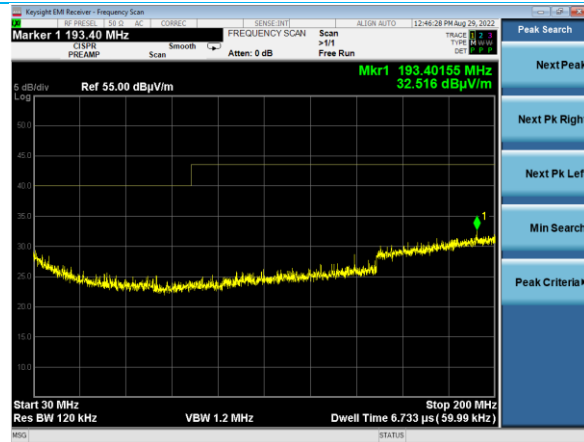
Worst Case Fundamental

Frequency (MHz)	Antenna Polarity	EUT Orientation	Height (cm)	Azimuth (degrees)	Peak (dBμV/m)
2402.0	Horizontal	Flat	132	74	97.8

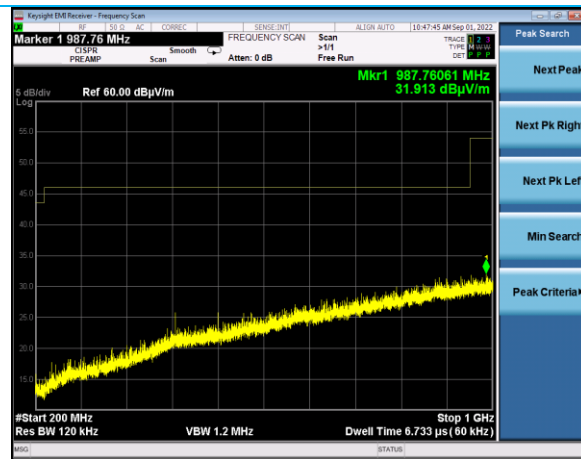
Plots



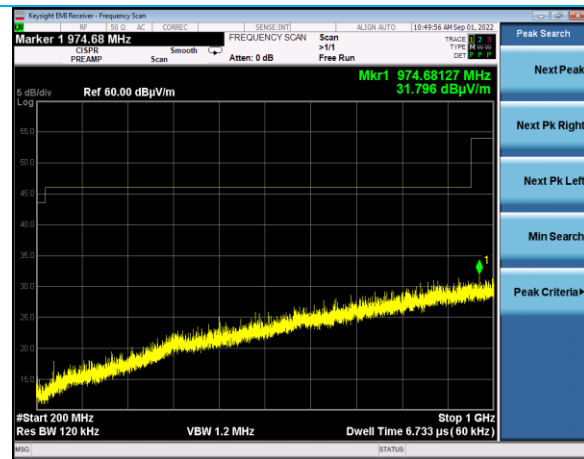
30-200 MHz Vertical Polarity
EUT Vertical Tx Mid



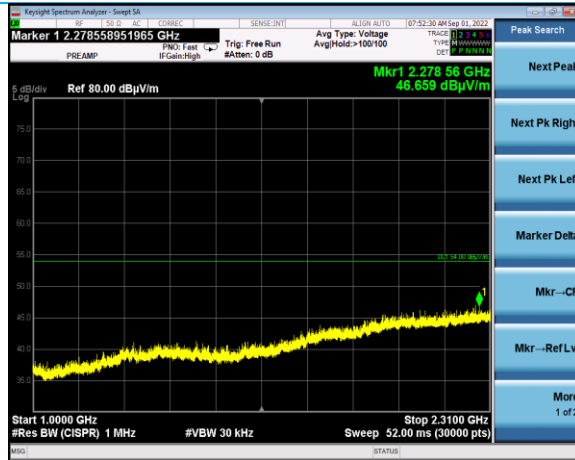
30-200 MHz Horizontal Polarity
EUT Vertical Tx Mid



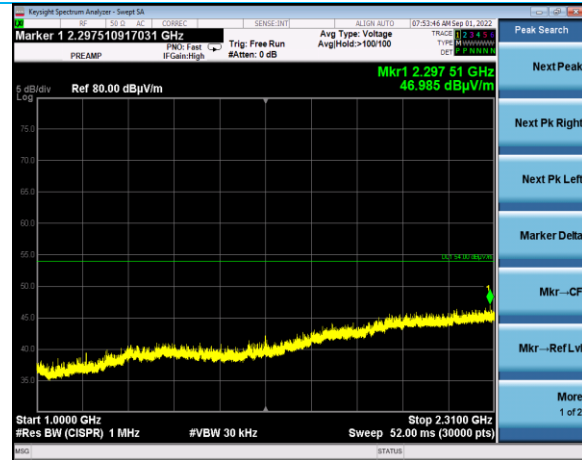
200-1000 MHz Vertical Polarity
EUT Vertical Tx Mid



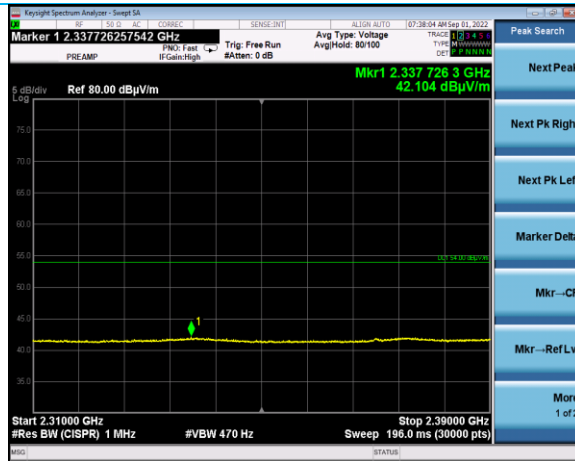
200-1000 MHz Horizontal Polarity
EUT Vertical Tx Mid



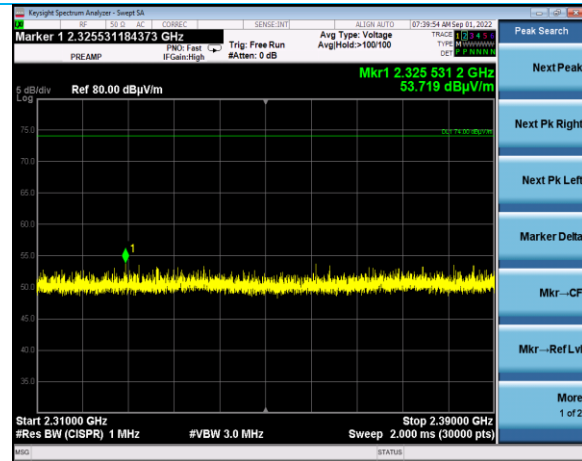
1-2.31 GHz Vertical Polarity
EUT Flat Tx Mid



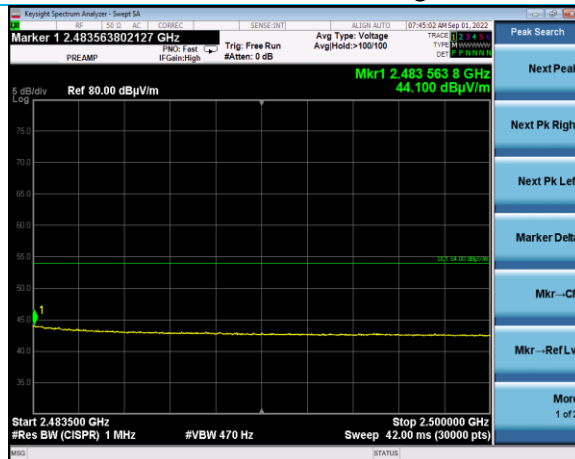
1-2.31 GHz Horizontal Polarity
EUT Flat Tx Mid



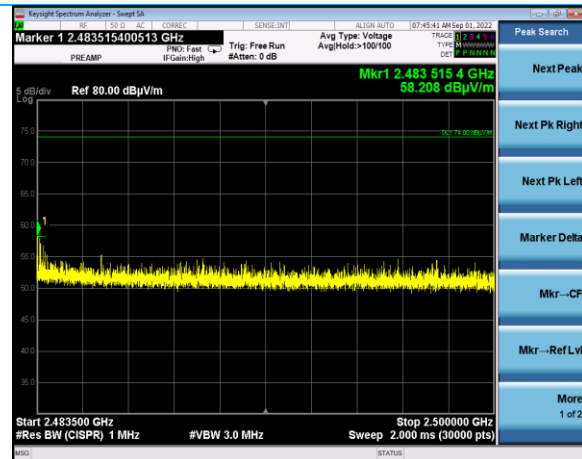
2.31-2.39 GHz Horizontal Polarity
EUT Flat Tx Low Average



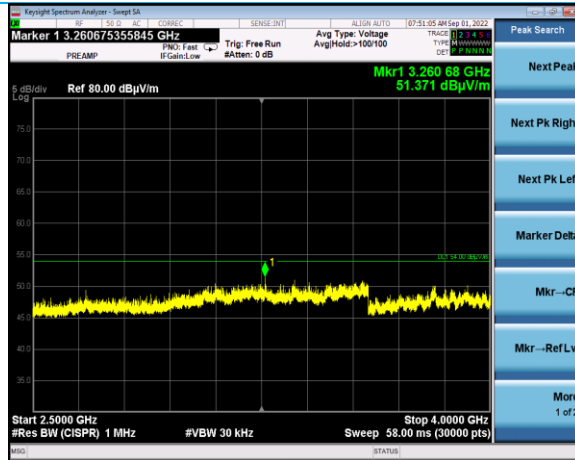
2.31-2.39 GHz Horizontal Polarity
EUT Flat Tx Low Peak



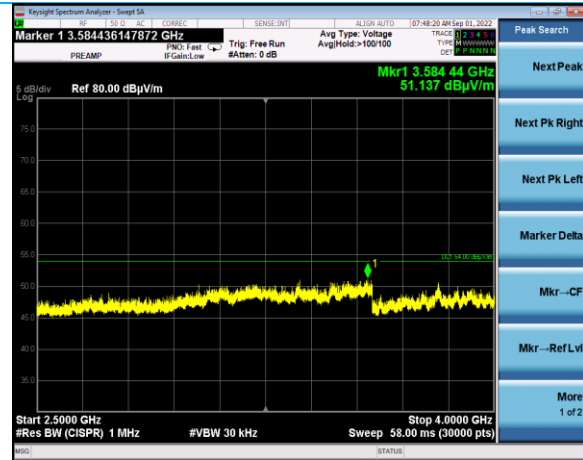
2.4835-2.5 GHz Horizontal Polarity
EUT Flat Tx High Average



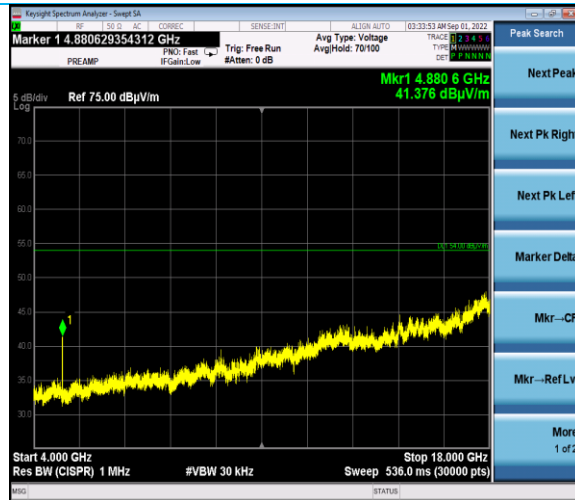
2.4835-2.5 GHz Horizontal Polarity
EUT Flat Tx High Peak



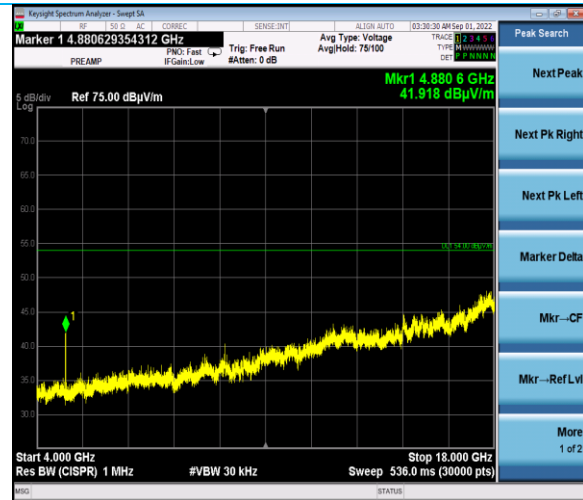
2.5-4 GHz Vertical Polarity
EUT Flat Tx Mid



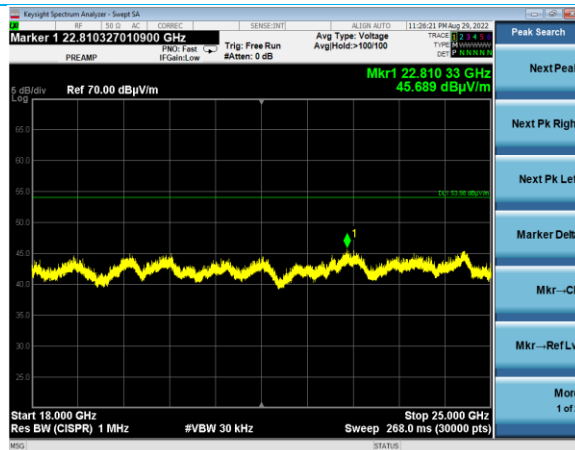
2.5-4 GHz Horizontal Polarity
EUT Flat Tx Mid



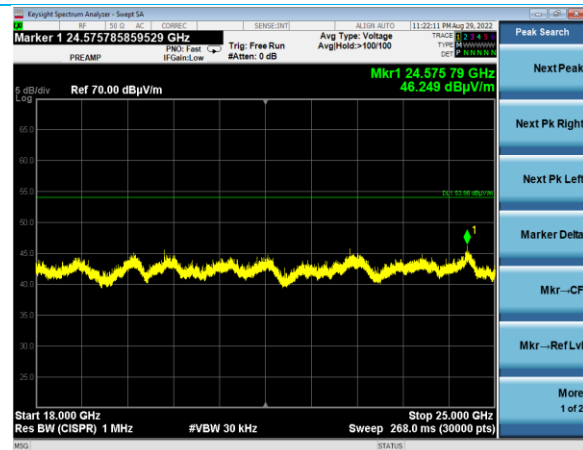
4-18 GHz Vertical Polarity
EUT Vertical Tx Mid



4-18 GHz Vertical Polarity
EUT Vertical Tx Mid



18-25 GHz Vertical Polarity
EUT Vertical Tx Mid



18-25 GHz Horizontal Polarity
EUT Vertical Tx Mid

6 REVISION HISTORY

Version	Date	Notes	Person
1	9/14/2022	Initial Draft	Anthony Smith
2	11/16/2022	Revised Draft	Anthony Smith

END OF REPORT