

TEST REPORT

Report Number. : R14476982-E2

Applicant : Qolsys Inc.
1919 S. Bascom Ave. Suite 600
Campbell, CA 95008

Model : IQPanel 4

FCC ID : 2AAJXQS-IQP4

Contains FCC ID : XMR2019SC650TNA, 2AAJXQS-ZB,
WP3PGMODEMLP, 2AAJXQS-SRF319-4

IC : 11205A-QSIQP4

Contains IC : 10224A-19SC650TNA, 11205A-QSZB, 1467C-PGMODEMLP,
11205A-SRF3194

EUT Description : Home Management System

Test Standard(s) : FCC 47 CFR PART 15 SUBPART C: 2022
FCC 47 CFR PART 15 SUBPART E: 2022
FCC 47 CFR PART 24E
ISED RSS-247 ISSUE 2: 2017
ISED RSS-210 ISSUE 10 + A1: 2020
ISED RSS-133 ISSUE 6 + A1: 2018
ISED RSS-GEN ISSUE 5 + A2: 2021

Date Of Issue:

2022-11-29

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REPORT REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
V1	2022-11-29	Initial Issue	Noah Bennett

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: Qolsys Inc.
1919 S. Bascom Ave. Suite 600
Campbell, CA 95008

EUT DESCRIPTION: Home Management System

MODEL: IQ Panel4

SERIAL NUMBER: QP4004X162224G04858, QP4004X162224G04876

SAMPLE RECEIPT DATE: 2022-09-19 and 2022-09-22

DATE TESTED: 2022-10-14 to 2022-11-08

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	See Section 2
CFR 47 Part 15 Subpart E	See Section 2
CFR 47 Part 24 Subpart E	See Section 2
ISED RSS-247 Issue 2	See Section 2
ISED RSS-GEN Issue 5 + A1 + A2	See Section 2
ISED RSS-210 Issue 10+A1	See Section 2
ISED RSS-133 Issue 6+A1	See Section 2

UL LLC 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 LLC and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL LLC will constitute fraud and shall nullify the document.

Approved & Released For
UL LLC. By:



Prepared By:



Jeff Moser
Operations Manager
Consumer Technology Division
UL LLC.

Noah Bennett
Electrical Engineer
Consumer Technology Division
UL LLC.

2. TEST RESULTS SUMMARY

This report contains data/info provided by the applicant which can impact the validity of results. UL LLC is only responsible for the validity of results after the integration of the data provided by the customer. Below is a list of data/info provided:

1. Antenna Gain (Section 6.3)
2. Real Life Duty Cycle (Section 9.1)

FCC Clause	ISED Clause	Requirement	Result	Comment
15.209, 15.205, 24.238 (a)	RSS-GEN 8.9, 8.10, RSS-133 6.5.1	Radiated Emissions	See Comment	See Note 2.
15.207	RSS-Gen 8.8	AC Mains Conducted Emissions		See Note 1.

Note 1: This test report covers the assessment of the original radio modules installed in a new host under FCC KDB 996369 D04 Module Integration Guide v02. Radiated and AC Line Conducted simultaneous emissions spot checks were performed to verify continued compliance. It is the responsibility of the end product manufacturer to provide the original module reports to show full compliance to the applicable requirements (FCC Parts 15C, 15E, 24E, ISED RSS-133, RSS-210, RSS-247 and RSS-GEN) requirements.

Original module testing was covered under the individual FCC/ISED IDs as listed below:

Radio	FCC ID	ISED ID
BT, 2.4 WLAN (2402-2480) 5 GHz WLAN (5150-5825) LTE BAND 25 (1850-1915)	XMR2019SC650TNA	10224A-19SC650TNA
Zigbee (2405-2480)	2AAJXQS-ZB	11205A-QSZB
Zwave (908.4-921.4)	2AAJXQS-IQP4	11205A-QSIQP4
PowerG (915.8)	WP3PGMODEMLP	1467C-PGMODEMLP
SRF-319 (319)	2AAJXQS-SRF319-4	11205A-SRF3194

Note 2: Radiated spot-checks were performed on worst-case data rates and channels as specified in section 6.5.

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 CFR 47 Part 24E, ANSI C63.10-2013, ANSI C63.26-2015, KDB 558074 D01 15.247 Meas Guidance v05r02, KDB 414788 D01 Radiated Test Site v01r01, FCC KDB 996369 D04 Module Integration Guide v02, RSS-GEN Issue 5 + A1 + A2, RSS-247 Issue 2, RSS-210 Issue 10 and RSS-133 Issue 6.

4. FACILITIES AND ACCREDITATION

UL LLC is accredited by A2LA, Certificate Number 200246-0, 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 checked="" type="checkbox"/>	Building 2800 Suite Perimeter Park Dr. Suite B Morrisville, NC 27560, U.S.A	US0067	27265	825374

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	UNCERTAINTY
All emissions, radiated	6.01 dB
Conducted Emissions (0.150-30MHz) - LISN	3.40 dB
Temperature	0.57°C
Humidity	3.39%
DC Supply voltages	0.57%
Time	3.39%

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

5.4. SAMPLE CALCULATION

RADIATED EMISSIONS

Where relevant, the following sample calculation is provided:

$$\text{Field Strength (dBuV/m)} = \text{Measured Voltage (dBuV)} + \text{Antenna Factor (dB/m)} + \text{Cable Loss (dB)} - \text{Preamp Gain (dB)}$$
$$36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} = 28.9 \text{ dBuV/m}$$

MAINS CONDUCTED EMISSIONS

Where relevant, the following sample calculation is provided:

$$\text{Final Voltage (dBuV)} = \text{Measured Voltage (dBuV)} + \text{Cable Loss (dB)} + \text{Limiter Factor (dB)} + \text{LISN Insertion Loss.}$$
$$36.5 \text{ dBuV} + 0 \text{ dB} + 10.1 \text{ dB} + 0 \text{ dB} = 46.6 \text{ dBuV}$$

6. EQUIPMENT UNDER TEST

6.1. EUT DESCRIPTION

The EUT is a home management system that supports a BT, WLAN, Zwave, Zigbee, WWAN, PowerG and SRF-319 Radios. This report covers the simultaneous transmission of these radios. Please refer to section 6.5 for the radiated emissions performed.

6.2. MAXIMUM OUTPUT POWER

Previously Tested. This test report covers the assessment of the original radio modules installed in a new host under FCC KDB 996369 D04 Module Integration Guide v02. Radiated Emissions and AC Line Conducted Emissions spotchecks were performed to verify continued compliance. It is the responsibility of the end product manufacturer to provide the original module reports to show full compliance with the FCC and RSS standards. It's also the responsibility of the end product manufacturer to ensure the radio is used during testing and within the final installation per rules of the certification grant, including antenna type, and gain, and measured output power.

6.3. DESCRIPTION OF AVAILABLE ANTENNAS

The antenna(s) gain and type, as provided by the manufacturer' are as follows:

Radio Type and Frequency Range (MHz)	Antenna Gain (dBi)	Antenna Type
BT, 2.4 WLAN (2402-2480)	1.25	Ceramic Loop
5 GHz WLAN (5150-5825)	2.17	Ceramic Loop
LTE BAND 25 (1850-1915)	-2.0	SMD Dielectric
Zigbee (2405-2480)	1.0	Single integrated embedded chip
Zwave (908.4-921.4)	1.0	ISM Band Loop
PowerG (915.8)	1.5	ISM Band Loop
SRF-319 (319)	-0.3	Flex PCB

6.4. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was msm8953_64-userdebug 9 PKQ1.190723.001, and Android Debug Bridge v29, and PowerG Modem Firmware v4.

The test utility software used during testing was Android Debug Bridge v29 for Zwave, Zigbee, PowerG, and SRF-319. QRCT3, rev v3.0-00296, was used for BT, and WLAN,

6.5. WORST-CASE CONFIGURATION AND MODE

Band edge and radiated emissions between 1GHz and 18GHz were performed with the EUT set to transmit at the worst case channels and data rates based on previous filings reports.

The fundamental of the EUT was investigated in three orthogonal orientations X,Y,Z, it was determined that X orientation was worst-case orientation for all radios besides Zigbee, which was Y orientation; therefore, all final radiated testing was performed with the EUT in both X and Y orientation. However, only the scans with the closest margins are included in this report.

The EUT supports LTE Bands 2/25, 4/66, 5, 7, 12/17, 13, 14, and 26. All testing was performed on Band 25 using QPSK modulation to represent the worst case scenario.

Worst-case data rates used in the below scans were:

Bluetooth: GFSK; PSet:9
802.11n HT40mode: MCS0
Zigbee: 125 Kbps
All other radios only operate in 1 data-rate only.

The Following scans were performed to test the EUT while simultaneously transmitting with its radios:

Scan 1

High Bandedge:

2.4 WLAN: 2452 MHz, 11nHT40, MCS0, Power Setting: 15
Zigbee: 2480 MHz
915 MHz radio Power G
319 MHz radio
Z Wave: 916 MHz Pset 10

Scan 2

High Bandedge:

BT: 2480 MHz, GFSK, DH5, Power Setting: 9
Zigbee: 2480 MHz
915 MHz radio Power G
319 MHz radio
Z Wave: 916 MHz Pset 10

Scan 3

Spurious Emissions:

2.4 WLAN: 2437 MHz, 11nHT40, MCS0, Power setting: 15
Zigbee: 2440 MHz
Power G: 915 MHz radio
319 MHz radio
Z Wave: 916 MHz Pset 10

Scan 4

Spurious Emissions:

BT: 2441 MHz, GFSK DH5, Power Setting: 9
Zigbee: 2440 MHz
Power G: 915 MHz radio
319 MHz radio
Z Wave: 916 MHz Pset 10

Scan 5

Spurious Emissions:

BT: 2480 MHz, GFSK, DH5, Power Setting: 9
5 WLAN: 5180 MHz, 11nHT20, MCS0, Power Setting: 17
Zigbee: 2480 MHz
Power G 915 MHz radio
319 MHz radio
Z Wave: 916 MHz Pset 10

Scan 6:

Spurious Emissions:

2.4 WLAN: 2462 MHz, 11nHT40, MCS0, Power setting: 15
Zigbee: 2480 MHz
WWAN: LTE Band 25, low channel (1850.7 MHz), bandwidth 1.4 MHz
Power G: 915 MHz radio Pset 10
319 MHz radio
Z Wave: 916 MHz

Scan 7

Spurious Emissions:

BT: 2480 MHz, GFSK DH5, Power Setting: 9
Zigbee: 2480 MHz
WWAN: LTE Band 25, low channel (1850.7 MHz), bandwidth 1.4 MHz
Power G: 915 MHz radio
319 MHz radio
Z Wave: 916 MHz Pset 10

Scan 8

Spurious Emissions:

BT: 2480 MHz, GFSK, DH5, Power Setting: 9
5 WLAN: 5510 MHz, 11nHT40, MCS0, Power Setting: 15
Zigbee: 2480 MHz
WWAN: LTE Band 25, low channel (1850.7 MHz), bandwidth 1.4 MHz
Power G 915 MHz radio
319 MHz radio
Z Wave: 916 MHz Pset 10

6.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Laptop	HP	15-p100dx	5CD43938XL	N/A
Laptop	Lenovo	L470	PF0ZV66P	N/A

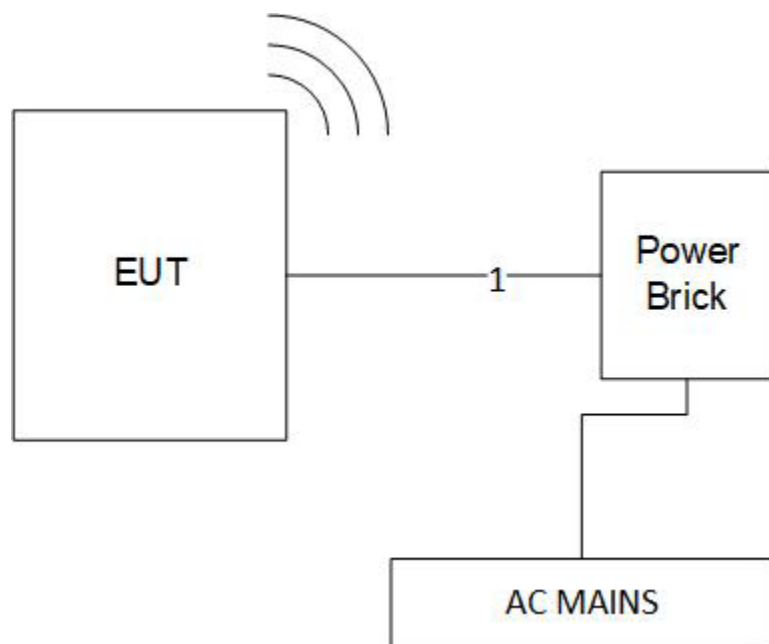
I/O CABLES

I/O Cable List						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	AC Power	1	Barrell	Shielded	<3m	Used to connect Host Device to AC Mains

TEST SETUP

The EUT is connected to a test laptop computer before the tests. Test software configured the radio to transmit continuously during the entire test.

SETUP DIAGRAM



7. MEASUREMENT METHOD

Duty Cycle: ANSI C63.10-2013 Section 11.6

General Radiated Emissions ANSI C63.10 Subclauses 6.3 and 6.6 and ANSI C63.26 Subclause 5.5.

Radiated emissions restricted frequency bands: ANSI C63.10 Subclause -11.12.1, 6.10.5

8. TEST AND MEASUREMENT EQUIPMENT

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

Test Equipment Used - Line-Conducted Emissions – Voltage (Morrisville – Conducted 1)

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
CBL087	Coax cable, RG223, N-male to BNC-male, 20-ft.	Pasternack	PE3W06143-240	2022-04-05	2023-04-05
HI0091	Environmental Meter	Fisher Scientific	15-077-963	2022-07-20	2023-07-20
PS215	AC Power Source	Elgar	CW2501M (s/n 1523A02397)	NA	NA
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		
	Miscellaneous (if needed)				
CDECABLE001	ANSI C63.4 1m extension cable.	UL	Per Annex B of ANSI C63.4	2022-09-12	2023-09-12
LISN008	LISN, 50-ohm/50-uH, 2-conductor, 25A (For support gear only.)	Solar Electronics	8012-50-R-24-BNC	NA	NA

Test Equipment Used - Radiated Disturbance Emissions Test Equipment (Morrisville – Chamber 1)

Equip. ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
	1-18 GHz				
AT0072	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2022-05-11	2023-05-11
	Gain-Loss Chains				
C1-SAC03	Gain-loss string: 1-18GHz	Various	Various	2022-05-05	2023-05-05
	Receiver & Software				
197954	Spectrum Analyzer	Rohde & Schwarz	ESW44	2022-04-14	2023-04-14
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		
	Additional Equipment used				
HI0096	Environmental Meter	Fisher Scientific	14-650-118 s/n 181562858	2022-09-26	2023-09-26
PS214	AC Power Source	Elgar	CW2501M (s/n 1523A02396)	NA	NA
212967	Wideband Radio Communications Tester	Rohde and Schwarz	CMW500	2021-11-15	2022-11-15
HPF012	1GHz high-pass filter, 2W, $F_{high} = 18\text{GHz}$	Micro-Tronics	HPM18129	2022-02-17	2023-02-17
HPF004	1GHz high-pass filter, 2W, $F_{high} = 18\text{GHz}$	Micro-Tronics	HPM50115-01	2022-02-17	2023-02-17
BRF010	1.85-1.97GHz notch filter, 2W, $F_{high} = 9\text{GHz}$	Micro-Tronics	BRM50714-01	2022-02-17	2023-02-17

9. ANTENNA PORT TEST RESULTS

9.1. DUTY CYCLE AND ON TIME

LIMITS

None; for reporting purposes only.

PROCEDURE

ANSI C63.10 Section 11.6
KDB 558074 Zero-Span Spectrum Analyzer Method.

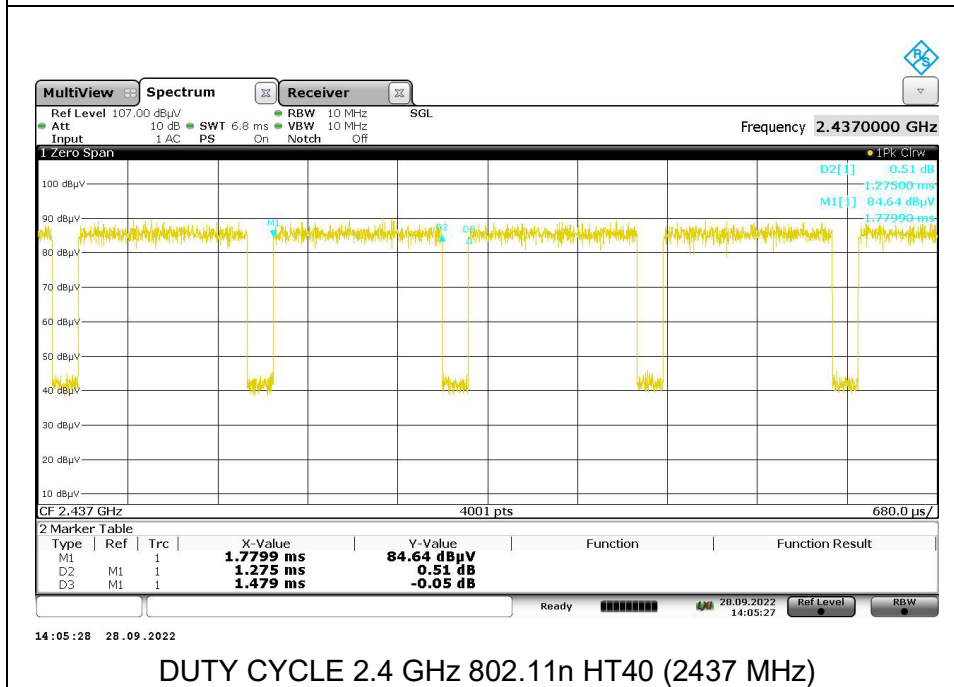
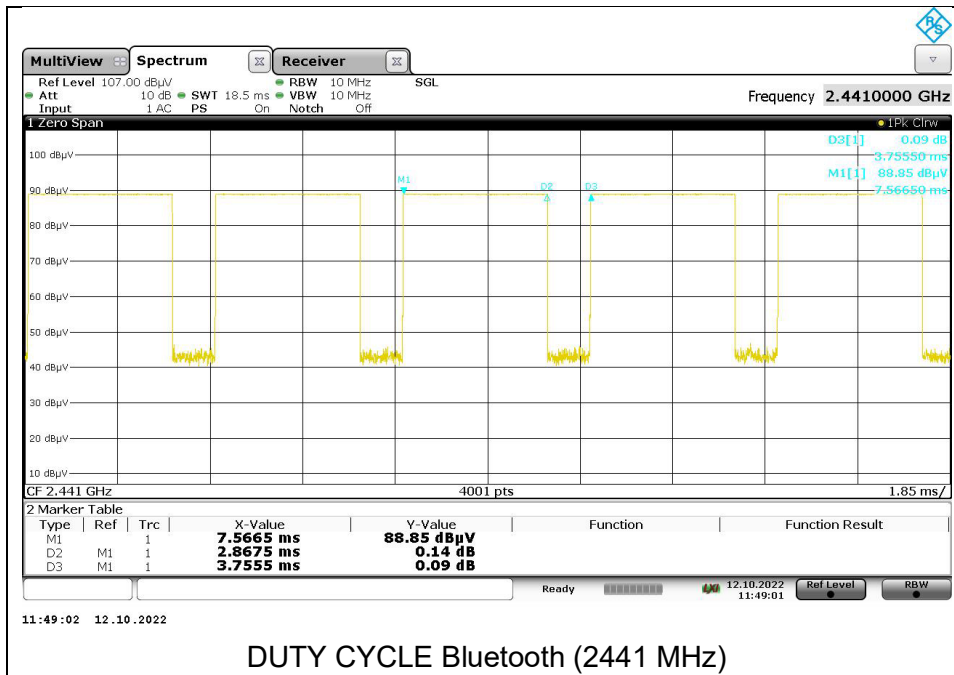
ON TIME AND DUTY CYCLE RESULTS

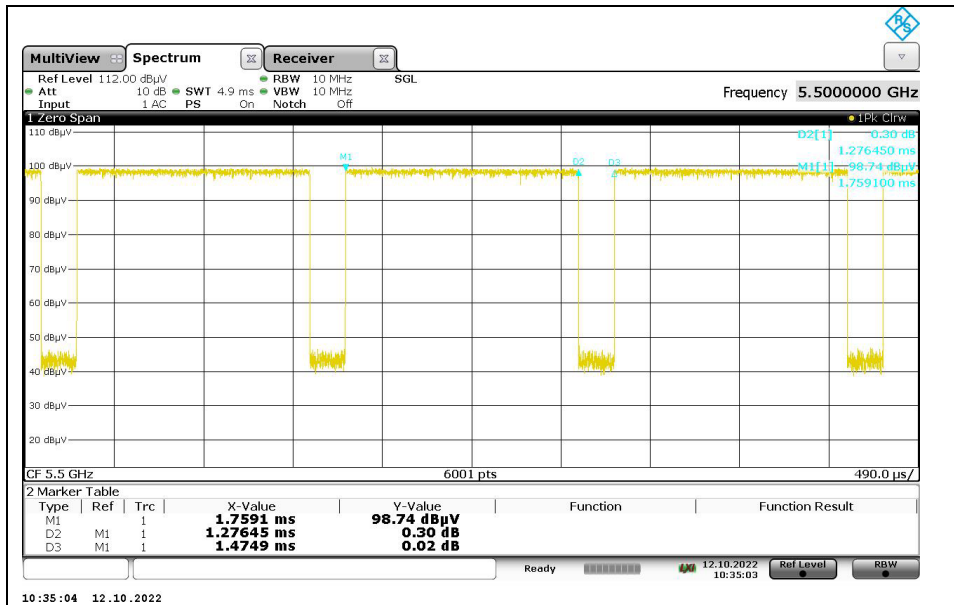
Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
Bluetooth	2.868	3.756	0.764	76.35%	2.34	0.349
2.4 GHz 802.11n HT40	1.275	1.479	0.862	86.21%	1.29	0.784
5GHz 802.11n HT20	1.276	1.475	0.865	86.51%	1.26	0.784
Power G_915.863 MHz	100.000	100.000	1.000	100.00%	0.00	0.010
ZigBee - 2440 MHz	100.000	100.000	1.000	100.00%	0.00	0.010
Z-wave- 919.8 MHz	100.000	100.000	1.000	100.00%	0.00	0.010

Note: The manufacture has declared a maximum transmission time of 4ms and a 90 second Pulse period for the Power G radio. The Power G radio is also a FHSS device and protocol limited. The correction factor, therefore, would be $20\log(Ton/T)$, where Ton is the declared pulse duration of 4ms, and T is the period of the pulse train, or 100ms if the period is longer than 100ms. The duty cycle correction would then result to $20\log(4ms/100ms) = -27.96dB$. According to KDB 558074 D01, Section 9B, and ANSI C63.10:2013, section 7.5, this -27.96dB can be manually subtracted from peak measurements to derive the RMS average value over a 100ms window. This correction has been performed as applicable on radiated measurements in section 10.

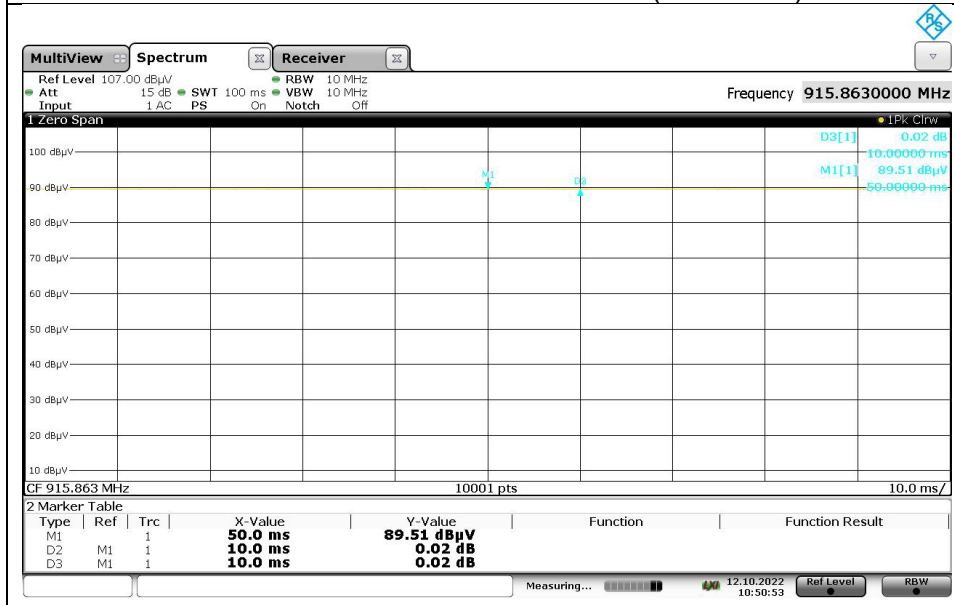
Tester ID: 86150/11993; 19289
Tested Date: 2022-09-28; 2022-10-12

DUTY CYCLE PLOT

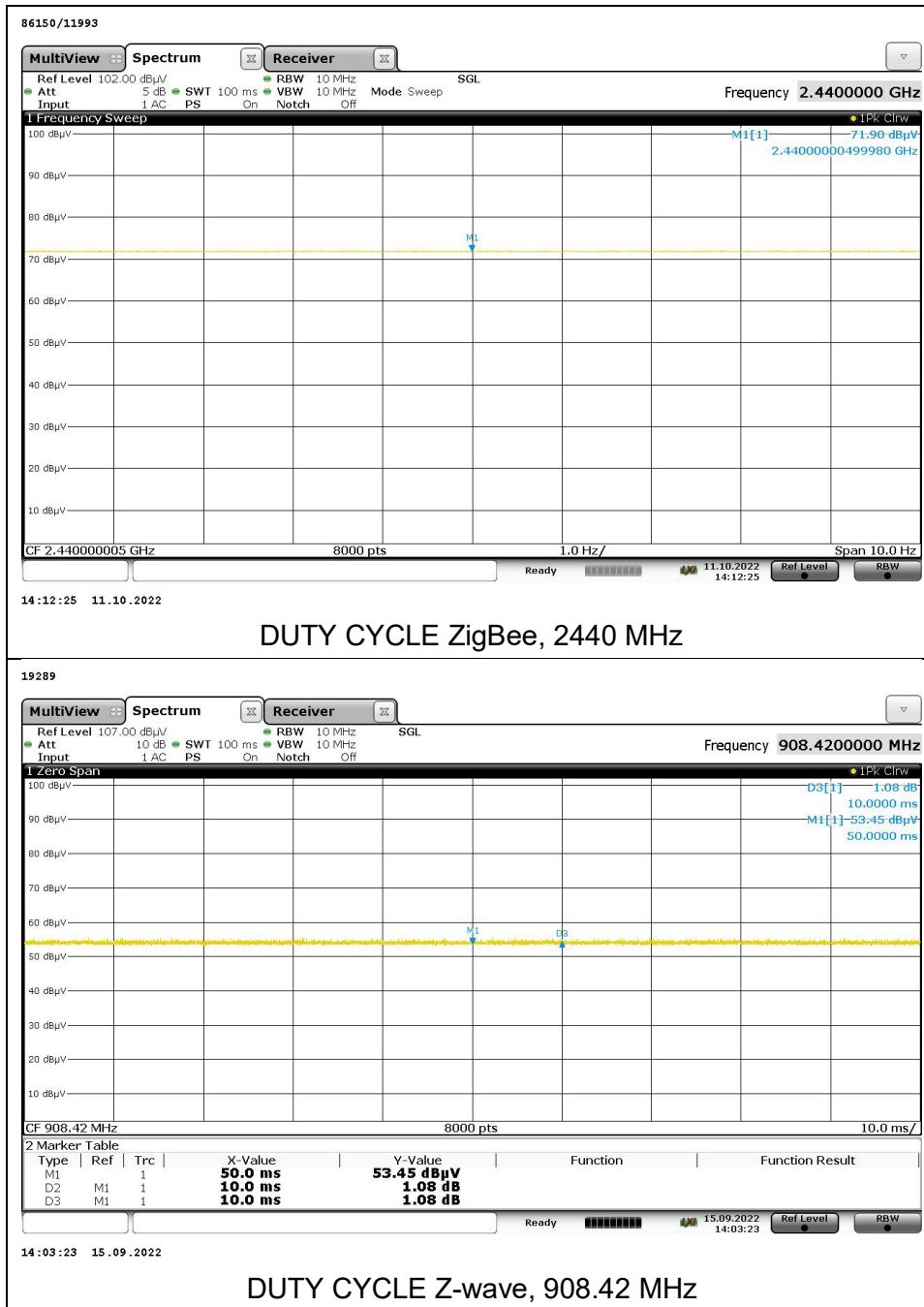




DUTY CYCLE 5 GHz 802.11n HT20 (5500 MHz)



Power G_915.863 MHz



9.2. DUTY CYCLE AND ON TIME FOR SRF319

LIMITS

FCC §15.35 (c)

The measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value. The exact method of calculating the average field strength shall be submitted with any application for certification or shall be retained in the measurement data file for equipment subject to notification or verification.

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer or radiated field strength. The RBW is set to 100 kHz and the VBW is set to 100 kHz. The sweep time is coupled and the span is set to 0 Hz. The number of pulses is measured and calculated in a 100 ms scan.

9.2.1. CALCULATION

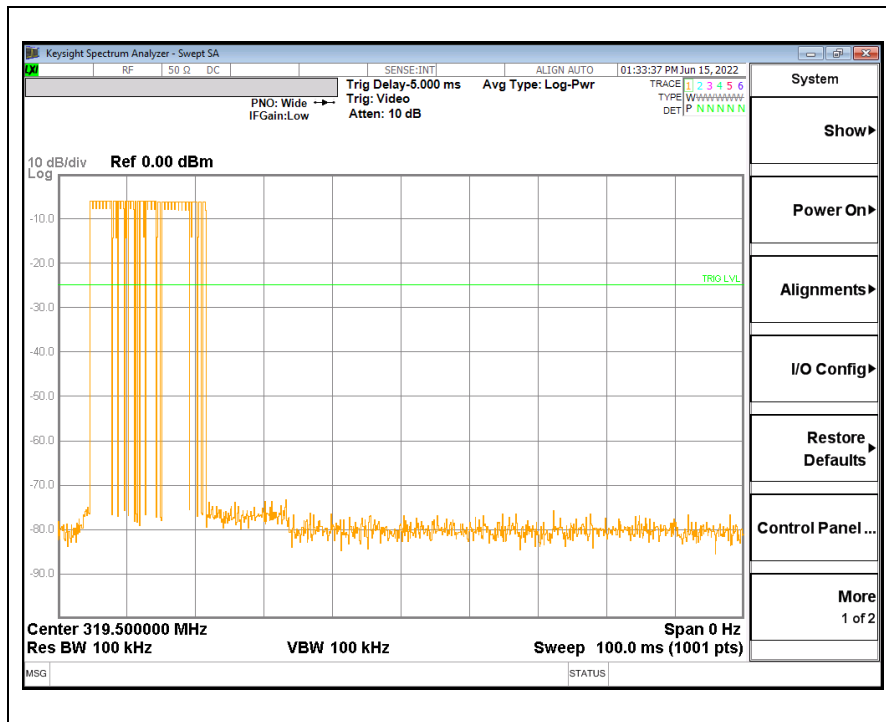
Average Reading = Peak Reading (dBuV/m) + 20log (Duty Cycle), Where Duty Cycle is (# of long pulses * long pulse width) + (# of short pulses * short pulse width) / 100 or T

Tester:	11993
Date:	2022-06-15

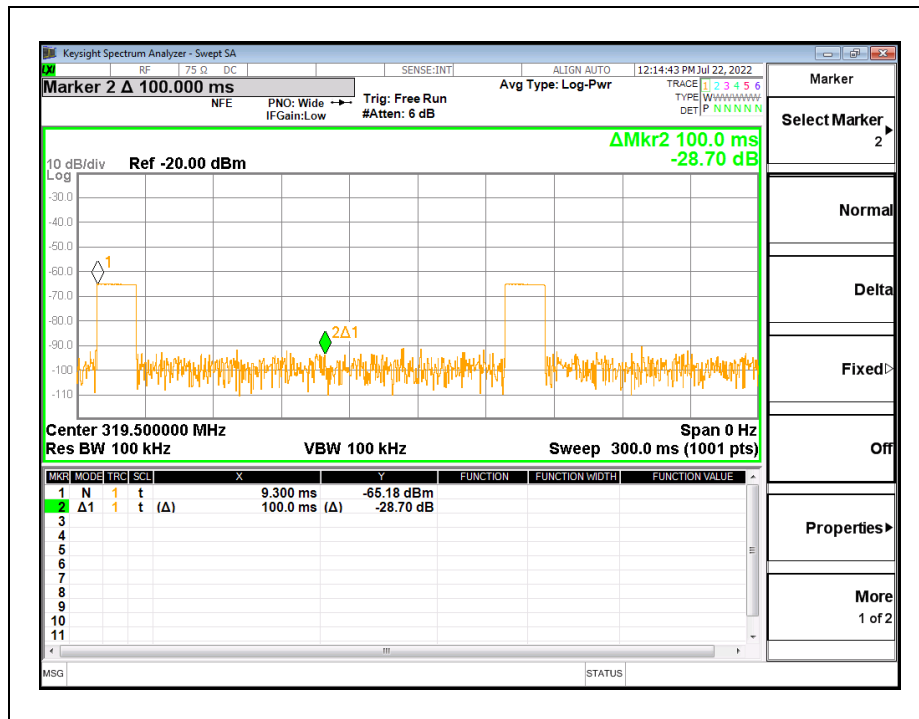
One Period (ms)	Long Pulse Width (ms)	# of Long Pulses	Short Width (ms)	# of Short Pulses	Duty Cycle	20*Log Duty Cycle (dB)
100	0.497	1	0.12	59	0.073	-22.68

9.2.2. TRANSMISSION IN A 100MS WINDOW

Tester:	11993
Date:	2022-06-15

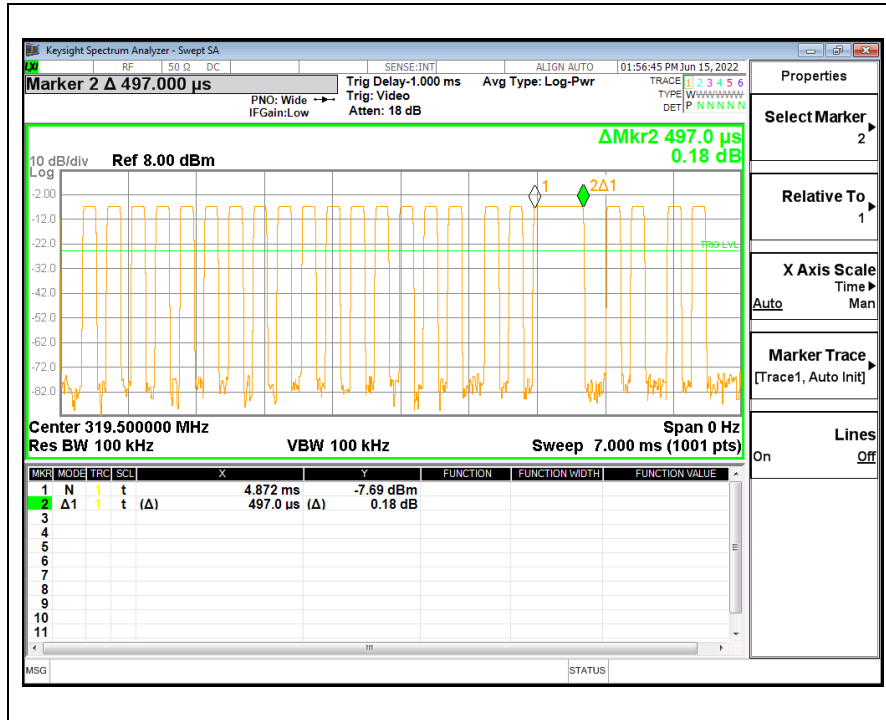


Tester:	11993
Date:	2022-07-22



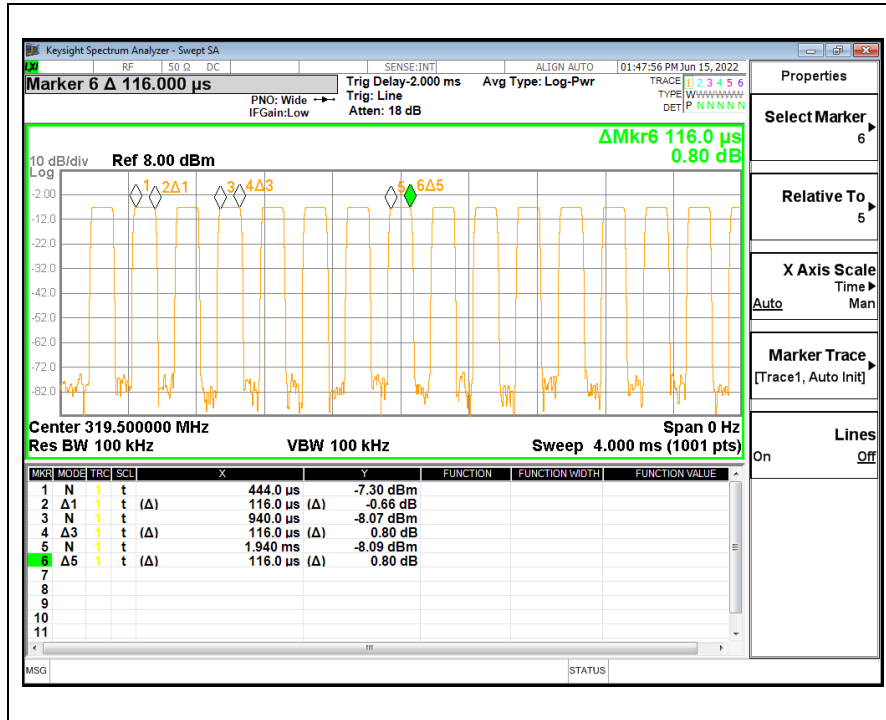
9.2.3. LONG PULSE WIDTH

Tester:	11993
Date:	2022-06-15



9.2.4. SHORT PULSE WIDTH

Tester:	11993
Date:	2022-06-15



10. RADIATED TEST RESULTS

LIMITS

FCC §15.205 and §15.209

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

RSS-GEN, Section 8.9 and 8.10.

Frequency Range (MHz)	Field Strength Limit (uA/m) at 3 m	Field Strength Limit (dBuA/m) at 3 m
0.009-0.490	6.37/F(kHz) @ 300 m	-
0.490-1.705	63.7/F(kHz) @ 30 m	-
1.705 - 30	0.08 @ 30m	-
Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

FCC: §24.238(a)

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

RSS133§6.5.1

Equipment shall comply with the limits in (i) and (ii) below.

- (i) In the 1.0 MHz bands immediately outside and adjacent to the equipment's operating frequency block, the emission power per any 1% of the emission bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least $43 + 10 \log_{10}(P)$ (watts).
- (ii) After the first 1.0 MHz, the emission power in any 1 MHz bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least $43 + 10 \log_{10}(P)$ (watts). If the measurement is performed using 1% of the emission bandwidth, power integration over 1.0 MHz is required.

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 and ANSI C63.26. 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 3 MHz 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. For this test program depending on the signal, average measurements were completed with a) linear voltage averaging RBW – 1MHz, VBW – 3MHz or b) peak detection and VBW of 1/Ton where Ton was the appropriate on time for the signal. Refer to the duty cycle section for the appropriate on times for each signal type.

The spectrum from 1 GHz to 18 GHz is investigated with the transmitter set to the channels that allow for the most overlap for spurious or harmonic signals in each applicable band.

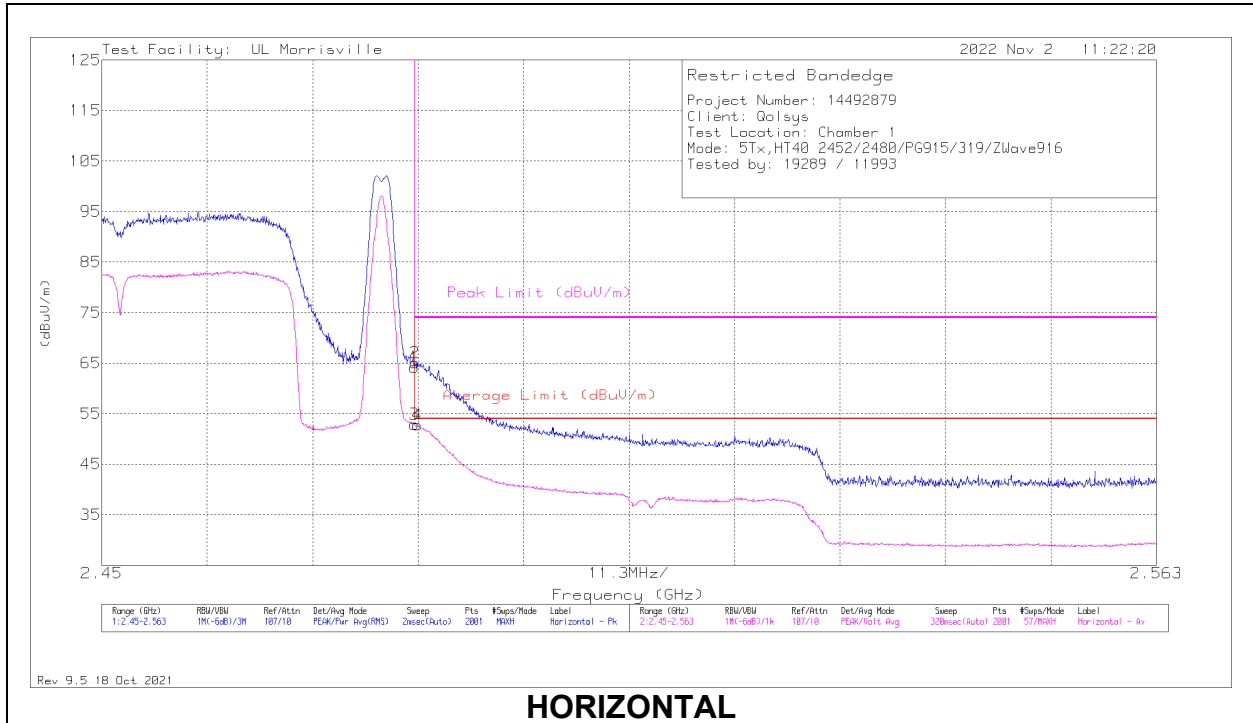
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

KDB 414788 Open Field Site(OFS) and Chamber Correlation Justification

OFS and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

10.1. TRANSMITTER ABOVE 1 GHz

10.1.1. SCAN 1 RESULTS



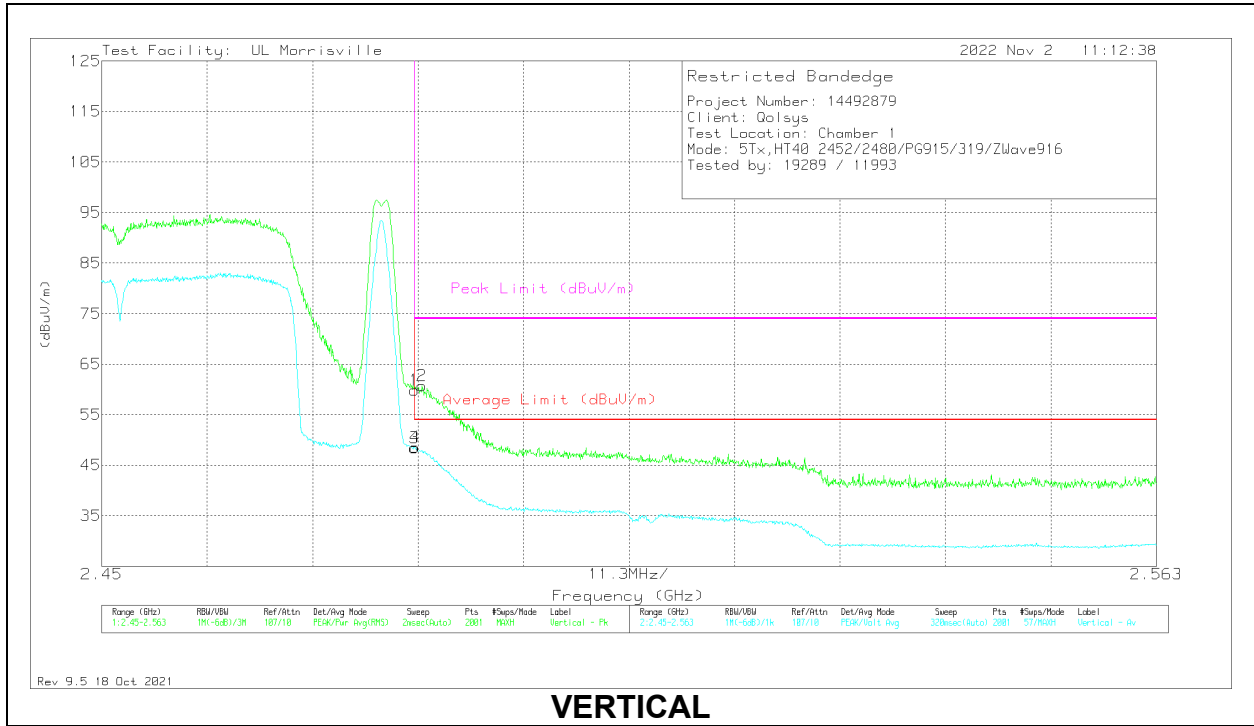
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.4835	56.13	Pk	32.5	-24.4	64.23	-	-	74	-9.77	96	160	H
2	*** 2.48356	56.97	Pk	32.5	-24.4	65.07	-	-	74	-8.93	96	160	H
3	*** 2.4835	44.76	V1TV	32.5	-24.4	52.86	54	-1.14	-	-	96	160	H
4	*** 2.48384	44.68	V1TV	32.5	-24.4	52.78	54	-1.22	-	-	96	160	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

V1TV - VB=1/Ton, Averaging where: Ton is packet duration. Note – worst-case on time was WLAN at 1.275 ms for the signal present. Therefore 1/Ton = min. 785 Hz.

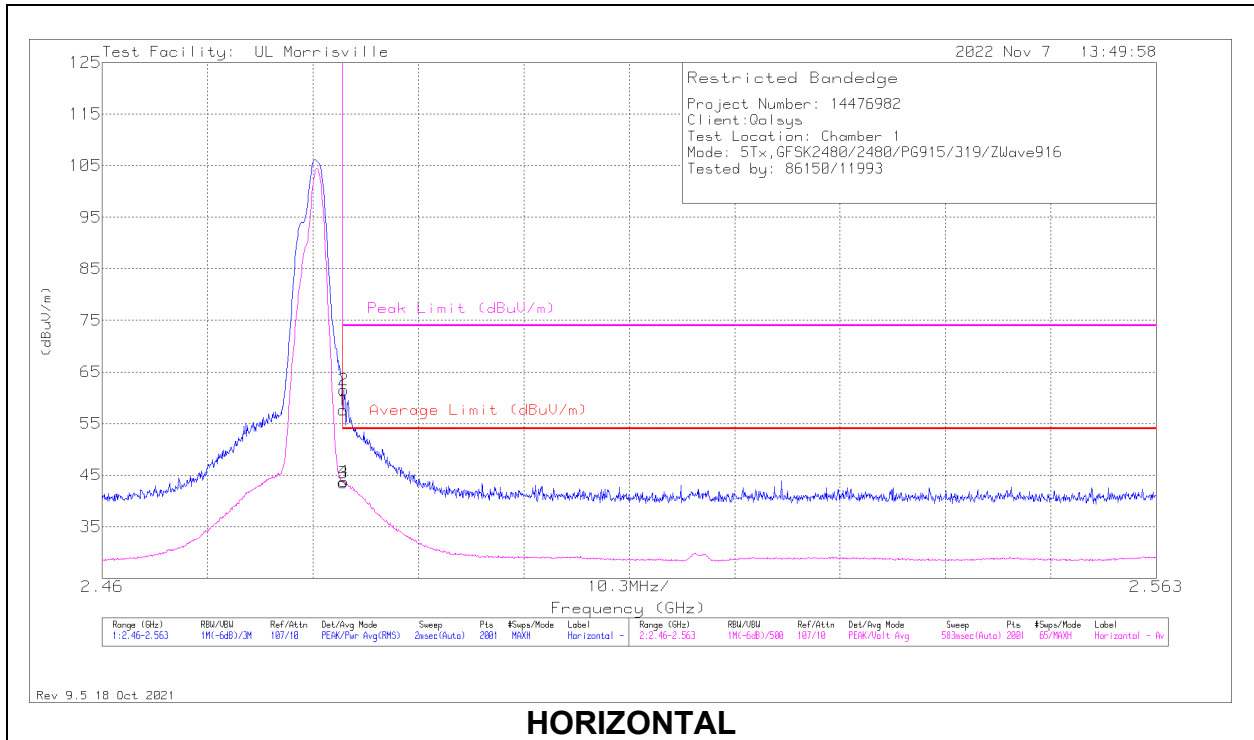


VERTICAL

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.4835	51.77	Pk	32.5	-24.4	59.87	-	-	74	-14.13	42	235	V
2	*** 2.4843	52.54	Pk	32.5	-24.3	60.74	-	-	74	-13.26	42	235	V
3	*** 2.4835	40.3	V1TV	32.5	-24.4	48.4	54	-5.6	-	-	42	235	V
4	*** 2.48356	40.4	V1TV	32.5	-24.4	48.5	54	-5.5	-	-	42	235	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector
 V1TV - VB=1/Ton, Linear Voltage Average where: Ton is packet duration. Note – worst-case on time was WLAN at 1.275 ms for the signals present. Therefore 1/Ton = min. 785 Hz.

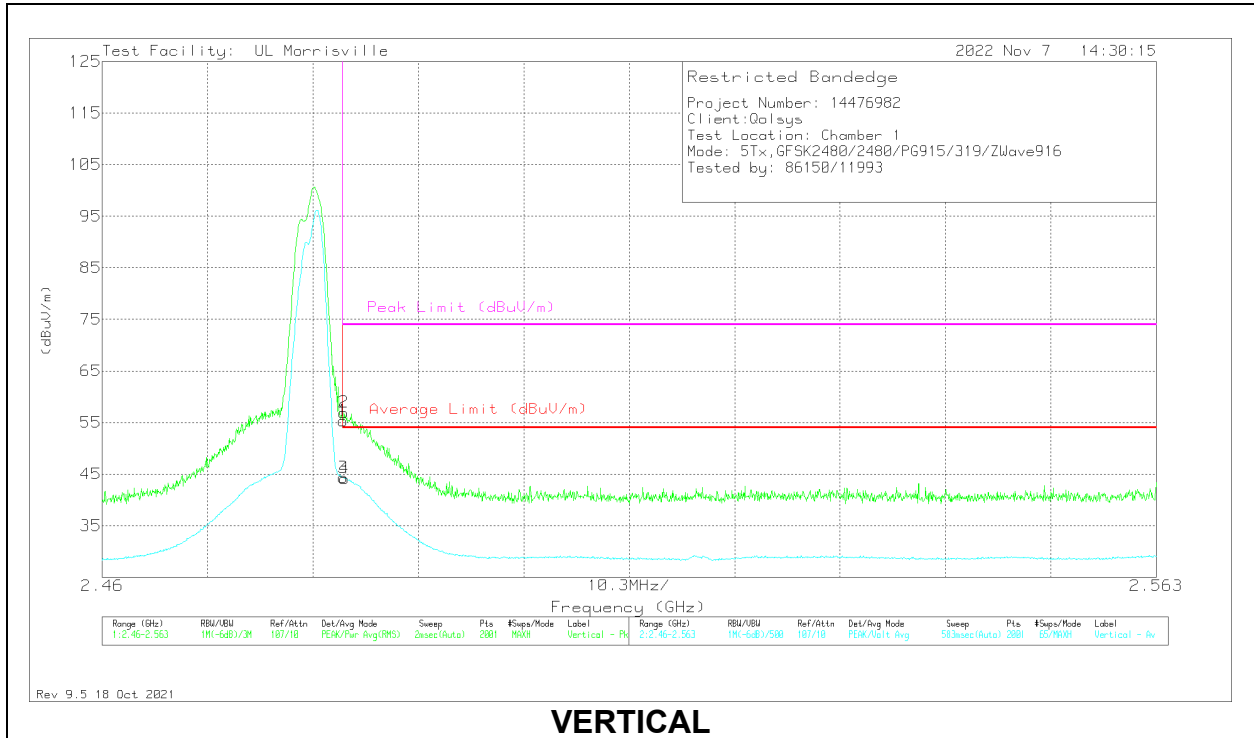
10.1.2. SCAN 2 RESULTS



HORIZONTAL

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.48354	49.51	Pk	32.5	-24.4	57.61	-	-	74	-16.39	9	130	H
2	*** 2.48359	53.39	Pk	32.5	-24.4	61.49	-	-	74	-12.51	9	130	H
3	*** 2.48354	35.37	V1TV	32.5	-24.4	43.47	54	-10.53	-	-	9	130	H
4	*** 2.48359	35.64	V1TV	32.5	-24.4	43.74	54	-10.26	-	-	9	130	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector
 V1TV - VB=1/Ton, Linear Voltage Average where: Ton is packet duration. Note – worst-case on time was Bluetooth at 2.8 ms for the signals present. Therefore 1/Ton = min. 360 Hz.

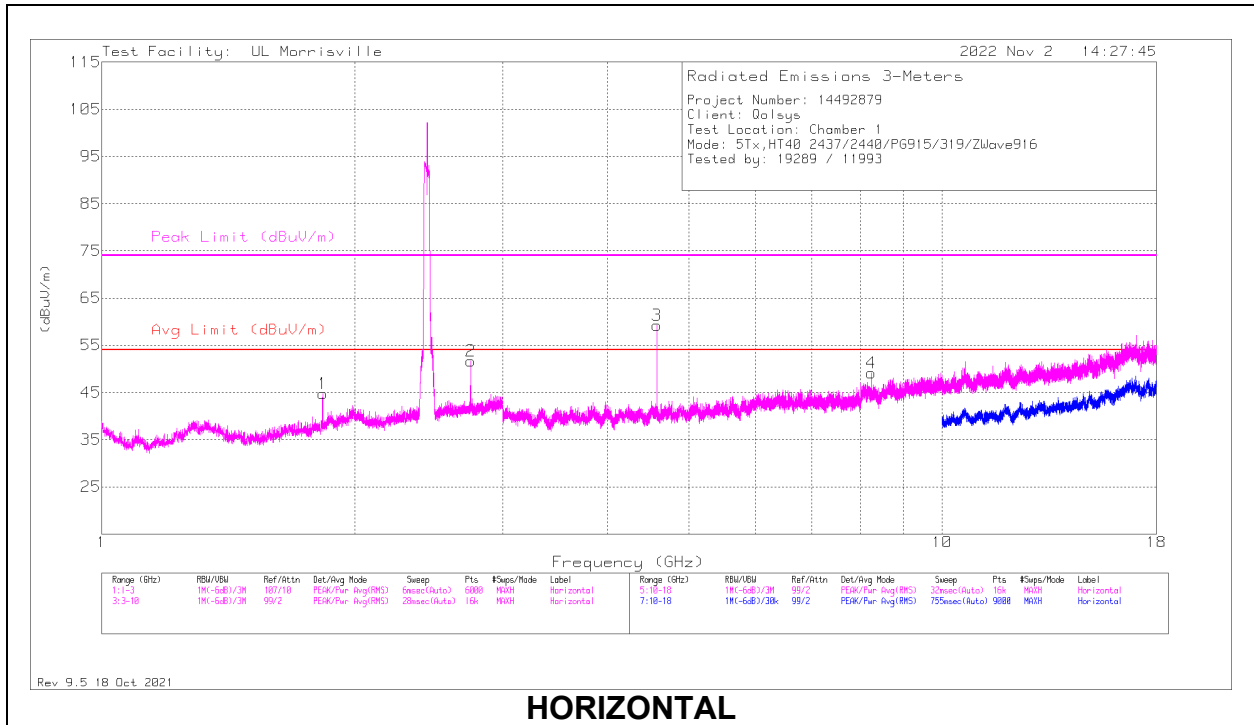


VERTICAL

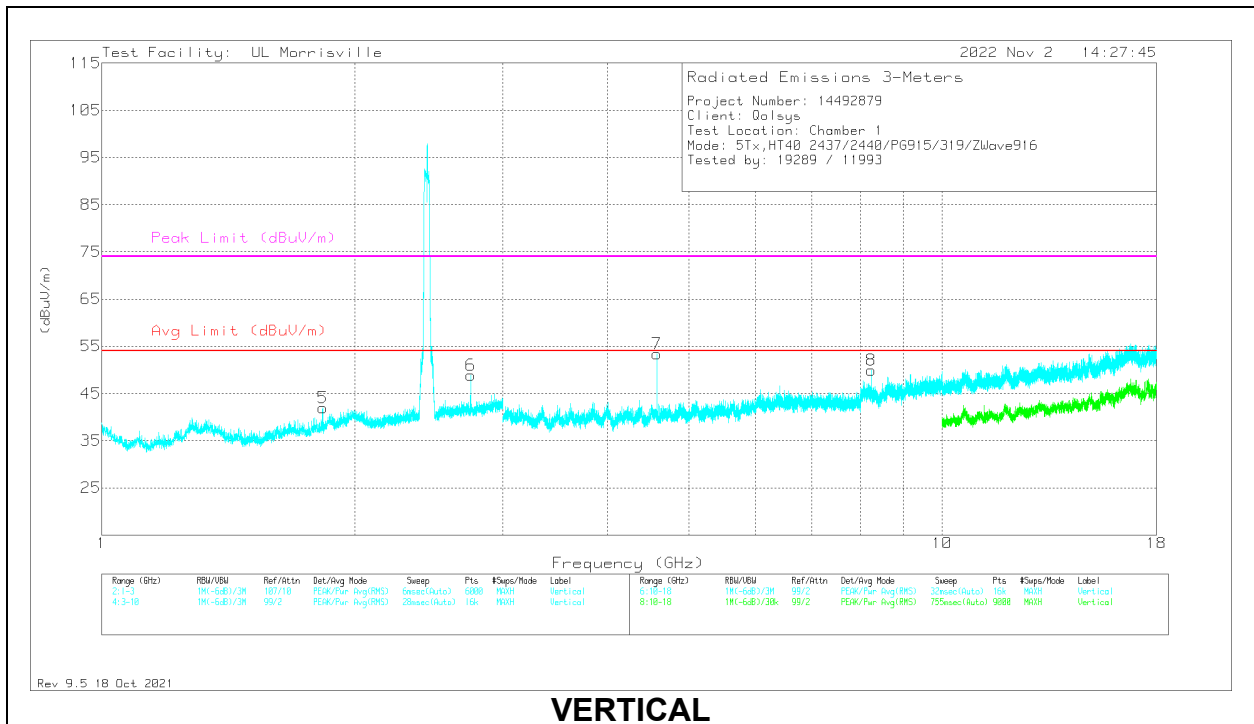
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.48354	47.25	Pk	32.5	-24.4	55.35	-	-	74	-18.65	276	114	V
2	*** 2.48359	48.86	Pk	32.5	-24.4	56.96	-	-	74	-17.04	276	114	V
3	*** 2.48354	36.25	V1TV	32.5	-24.4	44.35	54	-9.65	-	-	276	114	V
4	*** 2.48369	36.06	V1TV	32.5	-24.4	44.16	54	-9.84	-	-	276	114	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector
 V1TV - VB=1/Ton, Linear Voltage Average where: Ton is packet duration. Note – worst-case on time was Bluetooth at 2.8 ms for the signals present. Therefore 1/Ton = min. 360 Hz.

10.1.3. SCAN 3 RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Gain/Loss (dB)	Filter (dB)	DCCF	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	** 1.83181	38.29	Pk	30.8	-24.7	.4	-	44.79	54	-9.21	74	-29.21	0-360	200	H
2	*** 2.74771	44.61	PK2	32.5	-24.2	.4	-	53.31	-	-	74	-20.69	195	109	H
	*** 2.74765	40.96	V1TV	32.5	-24.2	.4	-	49.66	54	-4.34	-	-	195	109	H
5	** 1.83181	35.46	Pk	30.8	-24.7	.4	-	41.96	54	-12.04	74	-32.04	0-360	101	V
6	*** 2.74751	42.29	PK2	32.5	-24.2	.4	-	50.99	-	-	74	-23.01	164	191	V
	*** 2.74757	37.68	V1TV	32.5	-24.2	.4	-	46.38	54	-7.62	-	-	164	191	V
3#	*** 4.57936	58.43	PK2	34	-32.2	.3	-	60.53	-	-	74	-13.47	112	269	H
	*** 4.57937	58.43	PK2	34	-32.2	.3	-27.96	32.57	54	-21.43	-	-	112	269	H
4	*** 8.24295	44.95	PK2	35.8	-28.9	.4	-	52.25	-	-	74	-21.75	116	269	H
	*** 8.24292	37.87	V1TV	35.8	-28.9	.4	-	45.17	54	-8.83	-	-	116	269	H
7#	*** 4.57945	51.77	PK2	34	-32.2	.3	-	53.87	-	-	74	-20.13	167	280	V
	*** 4.57937	51.77	PK2	34	-32.2	.3	-27.96	25.91	54	-28.09	-	-	167	280	V
8	*** 8.24291	44.7	PK2	35.8	-28.9	.4	-	52	-	-	74	-22	164	229	V
	*** 8.24255	36.87	V1TV	35.8	-29	.4	-	44.07	54	-9.93	-	-	164	229	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

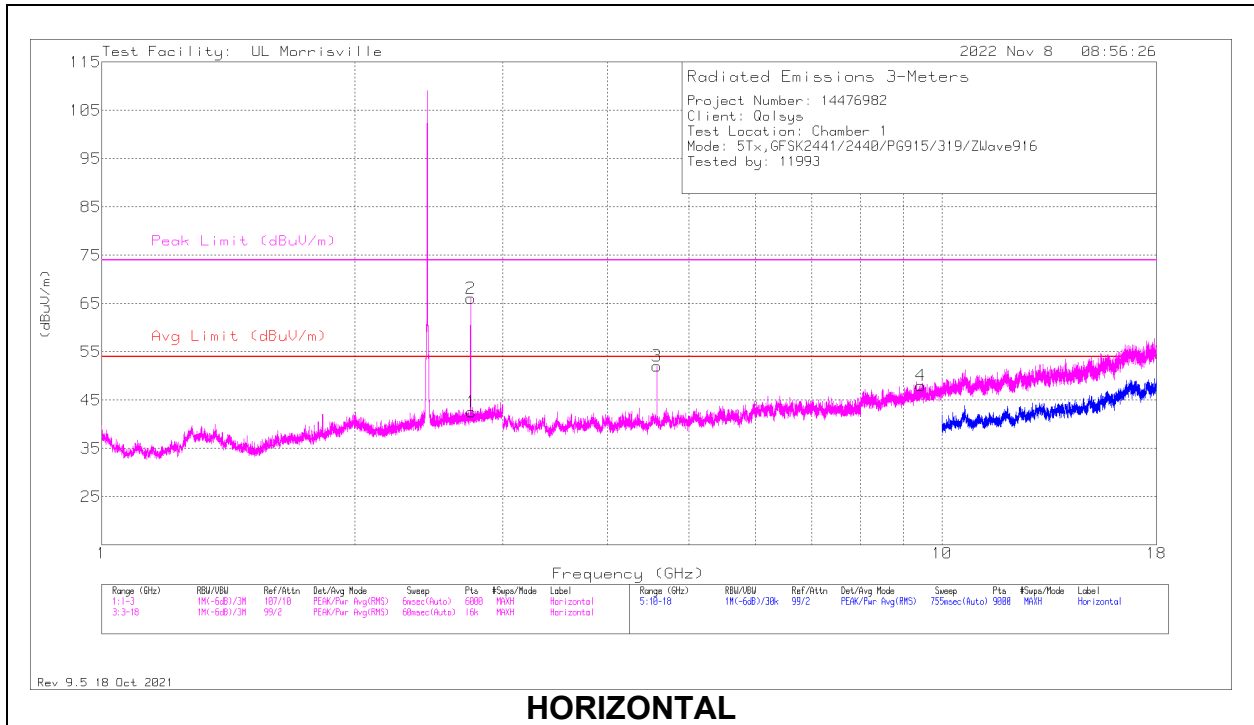
Pk - Peak detector

PK2 - Maximum Peak

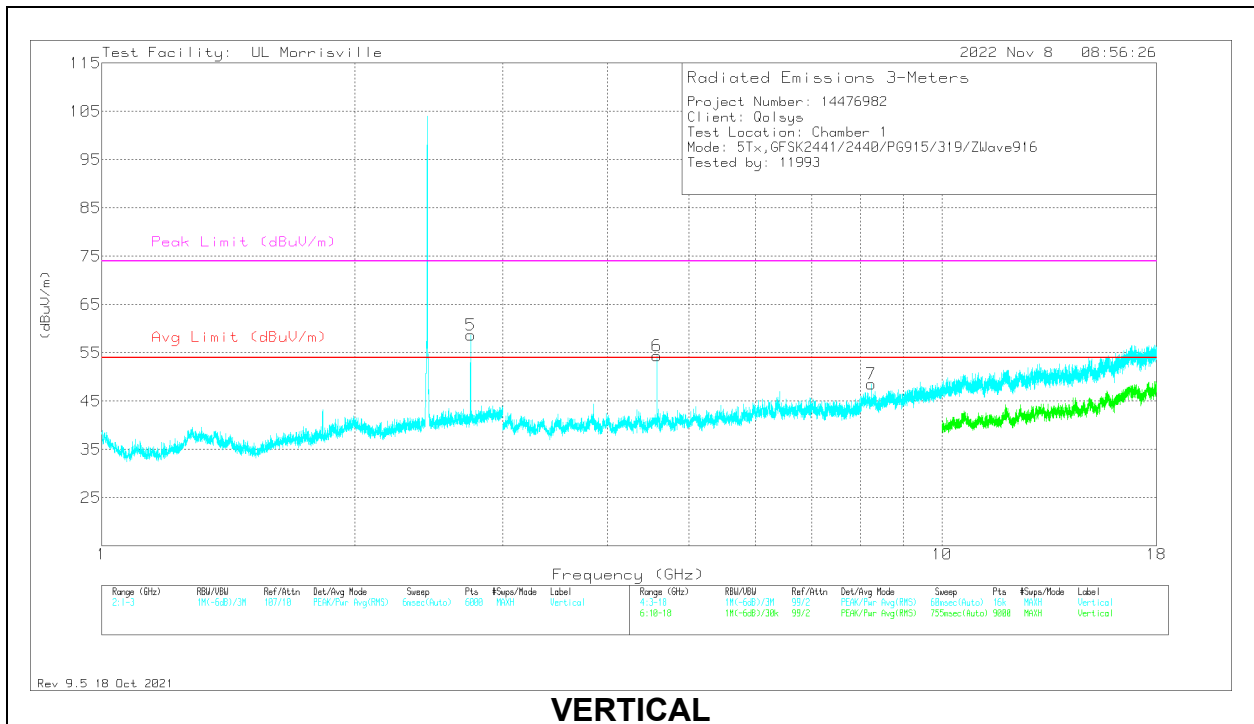
V1TV - VB=1/Ton, Linear Voltage Average where: Ton is packet duration. Note – worst-case on time was WLAN at 1.275 ms for the signals present. Therefore 1/Ton = min. 785 Hz.

Note # - Marker 3 and Marker 7 are spurious harmonics of the PowerG radio. To prove this, a standalone scan of the PowerG radio was performed to witness harmonics, and the above scan was re-performed without the PowerG radio installed to observe emissions. It was noted that the same harmonics were **clearly visible** in the PowerG standalone scan, and the harmonics were **no longer visible** in the simultaneous tx scan with PowerG uninstalled. Therefore, it is justified to apply the duty cycle correction factor of -27.96dB as noted in section 9.1 to the Peak measurements made at these markers, to derive the RMS average measurements.

10.1.4. SCAN 4 RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Gain/Loss (dB)	Filter (dB)	DCCF	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.75596	33.53	Pk	32.5	-23.8	.4	-	42.63	54	-11.37	74	-31.37	0-360	200	H
2#	*** 2.74753	57.97	PK2	32.5	-24.2	.4	-	66.67	-	-	74	-7.33	287	107	H
	*** 2.74761	57.97	PK2	32.5	-24.2	.4	-27.96	38.71	54	-15.29	-	-	287	107	H
5#	*** 2.74766	57.23	PK2	32.5	-24.2	.4	-	65.93	-	-	74	-8.07	360	366	V
	*** 2.74761	57.23	PK2	32.5	-24.2	.4	-27.96	37.97	54	-16.03	-	-	360	366	V
3#	*** 4.57916	52.27	PK2	34	-32.2	.3	-	54.37	-	-	74	-19.63	28	378	H
	*** 4.57932	52.27	PK2	34	-32.2	.3	-27.96	26.41	54	-27.59	-	-	28	378	H
4	*** 9.43346	41.28	PK2	36.6	-27.8	.6	-	50.68	-	-	74	-23.32	171	351	H
	*** 9.43125	26.45	V1TV	36.6	-28	.6	-	35.65	54	-18.35	-	-	171	351	H
6#	*** 4.57948	55.35	PK2	34	-32.2	.3	-	57.45	-	-	74	-16.55	5	280	V
	*** 4.57934	55.35	PK2	34	-32.2	.3	-27.96	29.49	54	-24.51	-	-	5	280	V
7	*** 8.24301	45.02	PK2	35.8	-28.9	.4	-	52.32	-	-	74	-21.68	234	246	V
	*** 8.24283	36.57	V1TV	35.8	-28.9	.4	-	43.87	54	-10.13	-	-	234	246	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

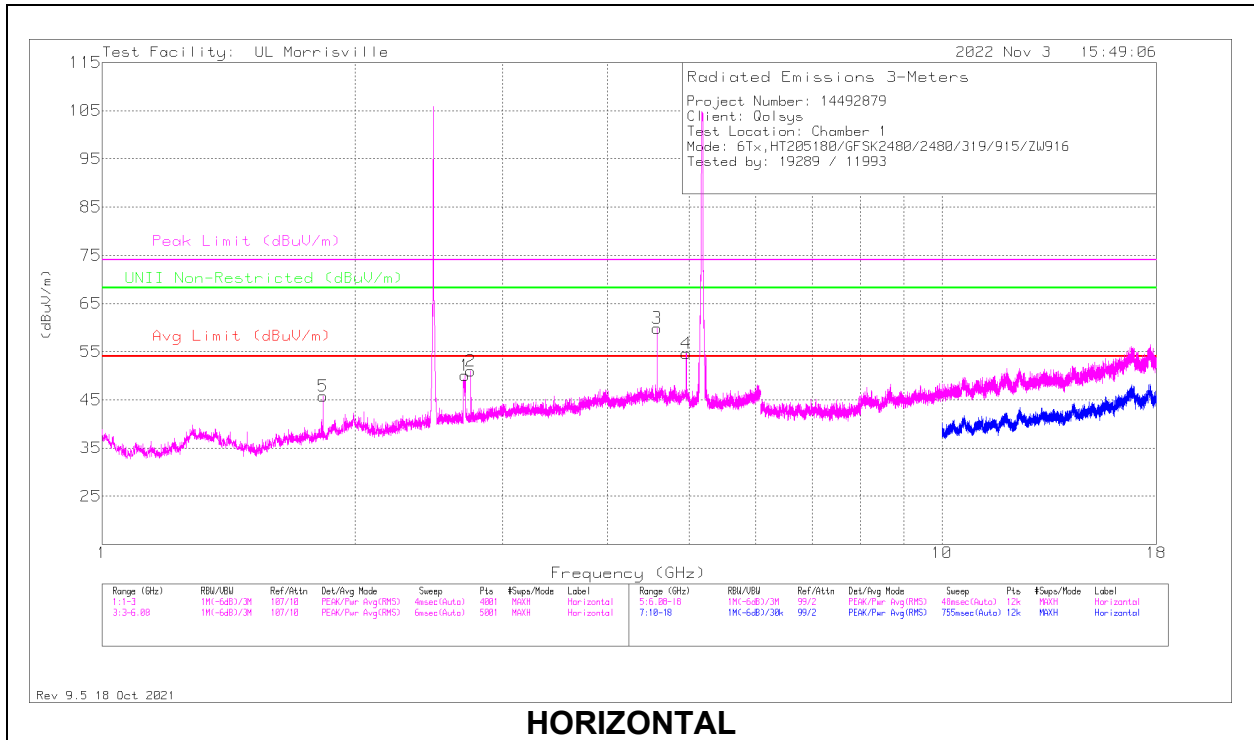
Pk - Peak detector

PK2 - Maximum Peak

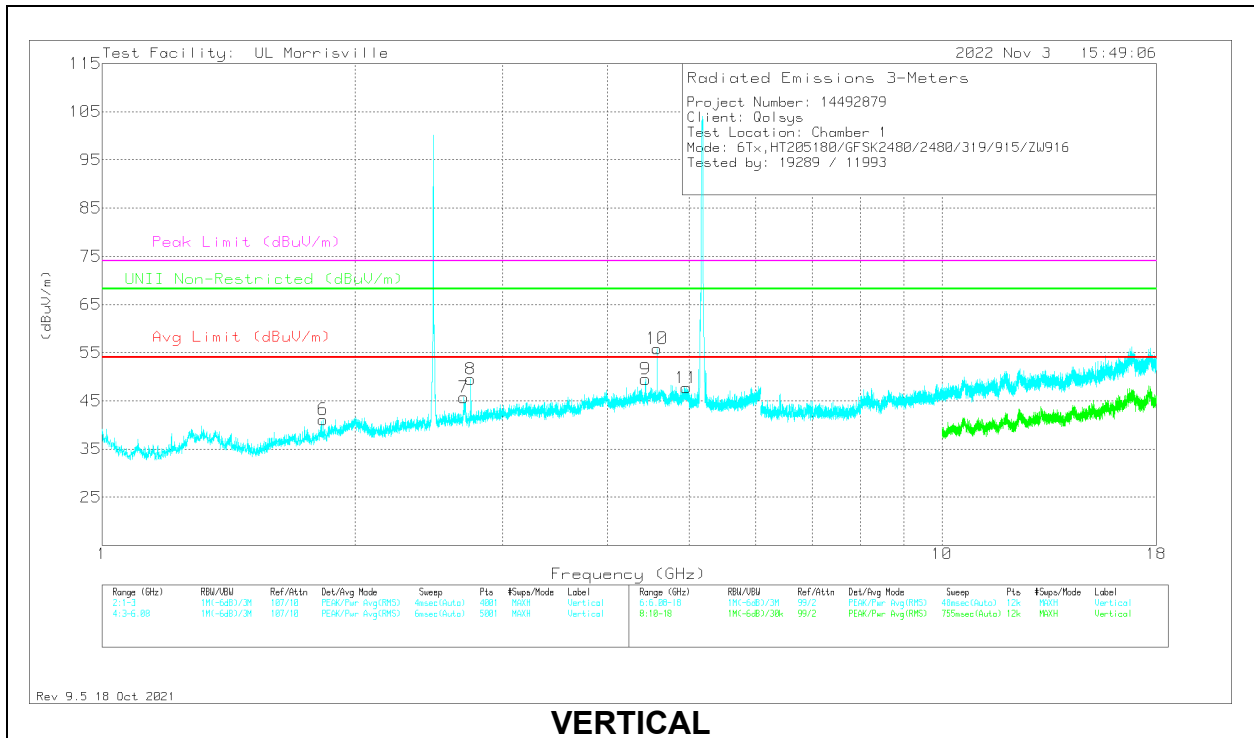
V1TV - VB=1/Ton, Linear Voltage Average where: Ton is packet duration

Note # - Marker 2, Marker 3, Marker 5 and Marker 6 are spurious harmonics of the PowerG radio. To prove this, a standalone scan of the PowerG radio was performed to witness harmonics, and the above scan was re-performed without the PowerG radio installed to observe emissions. It was noted that the same harmonics were **clearly visible** in the PowerG standalone scan, and the harmonics were **no longer visible** in the simultaneous tx scan with PowerG uninstalled. Therefore, it is justified to apply the duty cycle correction factor of -27.96dB as noted in section 9.1 to the Peak measurements made at these markers, to derive the RMS average measurements.

10.1.5. SCAN 5 RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Gain/Loss (dB)	Filter (dB)	DCCF	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	*** 2.70396	48.5	PK-U	32.5	-24.2	.5	-	57.3	-	-	74	-16.7	68.2	-10.9	166	299	H
	*** 2.70457	30.12	V1TV	32.5	-24.2	.5	-	38.92	54	-15.08	-	-	-	-	166	299	H
2	*** 2.74776	44	PK-U	32.5	-24.2	.4	-	52.7	-	-	74	-21.3	68.2	-15.5	145	178	H
	*** 2.74762	40.02	V1TV	32.5	-24.2	.4	-	48.72	54	-5.28	-	-	-	-	145	178	H
5	** 1.832	39.25	PK	30.8	-24.7	.4	-	45.75	-	-	-	-	68.2	-22.45	0-360	101	H
6	** 1.832	34.62	PK	30.8	-24.7	.4	-	41.12	-	-	-	-	68.2	-27.08	0-360	200	V
7	*** 2.696	36.82	PK	32.5	-24.1	.5	-	45.72	54	-8.28	74	-28.28	68.2	-22.48	0-360	200	V
8	*** 2.7475	43.28	PK-U	32.5	-24.2	.4	-	51.98	-	-	74	-22.02	68.2	-16.22	172	245	V
	*** 2.74758	38.99	V1TV	32.5	-24.2	.4	-	47.69	54	-6.31	-	-	-	-	172	245	V
3#	*** 4.57911	47.15	PK-U	34	-21.1	.3	-	60.35	-	-	74	-13.65	68.2	-7.85	164	142	H
	*** 4.57938	47.15	PK-U	34	-21.1	.3	-27.96	32.39	54	-21.61	-	-	-	-	164	142	H
4	*** 4.95901	43.22	PK-U	34	-22.3	.3	-	55.22	-	-	74	-18.78	68.2	-12.98	159	221	H
	*** 4.95901	31.53	V1TV	34	-22.3	.3	-	43.53	54	-10.47	-	-	-	-	159	221	H
10#	*** 4.57926	45.17	PK-U	34	-21.1	.3	-	58.37	-	-	74	-15.63	68.2	-9.83	139	230	V
	*** 4.57937	45.17	PK-U	34	-21.1	.3	-27.96	30.41	54	-23.59	-	-	-	-	139	230	V
11	*** 4.96134	35.69	PK	34	-22.3	.3	-	47.69	54	-6.31	74	-26.31	68.2	-20.51	0-360	200	V
9	4.4359	36.2	PK	33.7	-20.7	.3	-	49.5	-	-	-	-	68.2	-18.7	0-360	101	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

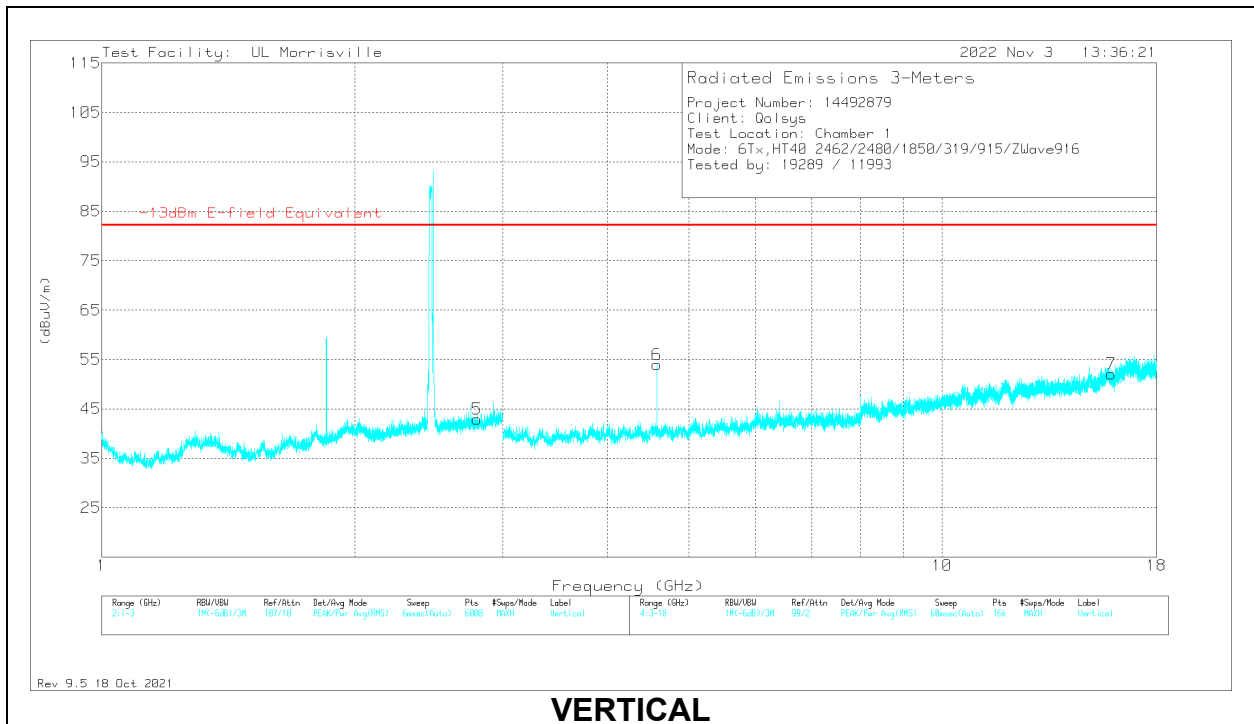
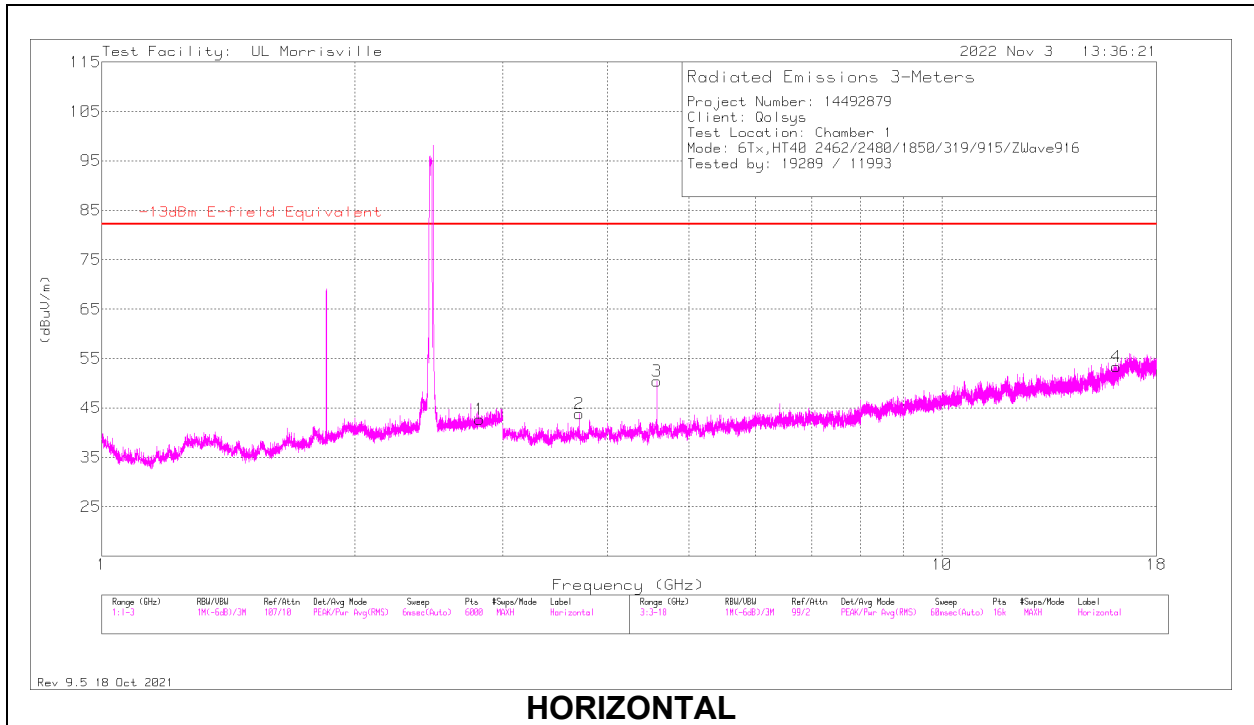
PK - Peak detector

PK-U - Maximum Peak

V1TV - VB=1/Ton, Linear Voltage Average where: Ton is packet duration

Note # - Marker 3 and Marker 10 are spurious harmonics of the PowerG radio. To prove this, a standalone scan of the PowerG radio was performed to witness harmonics, and the above scan was re-performed without the PowerG radio installed to observe emissions. It was noted that the same harmonics were **clearly visible** in the PowerG standalone scan, and the harmonics were **no longer visible** in the simultaneous tx scan with PowerG uninstalled. Therefore, it is justified to apply the duty cycle correction factor of -27.96dB as noted in section 9.1 to the Peak measurements made at these markers, to derive the RMS average measurements.

10.1.6. SCAN 6 RESULTS

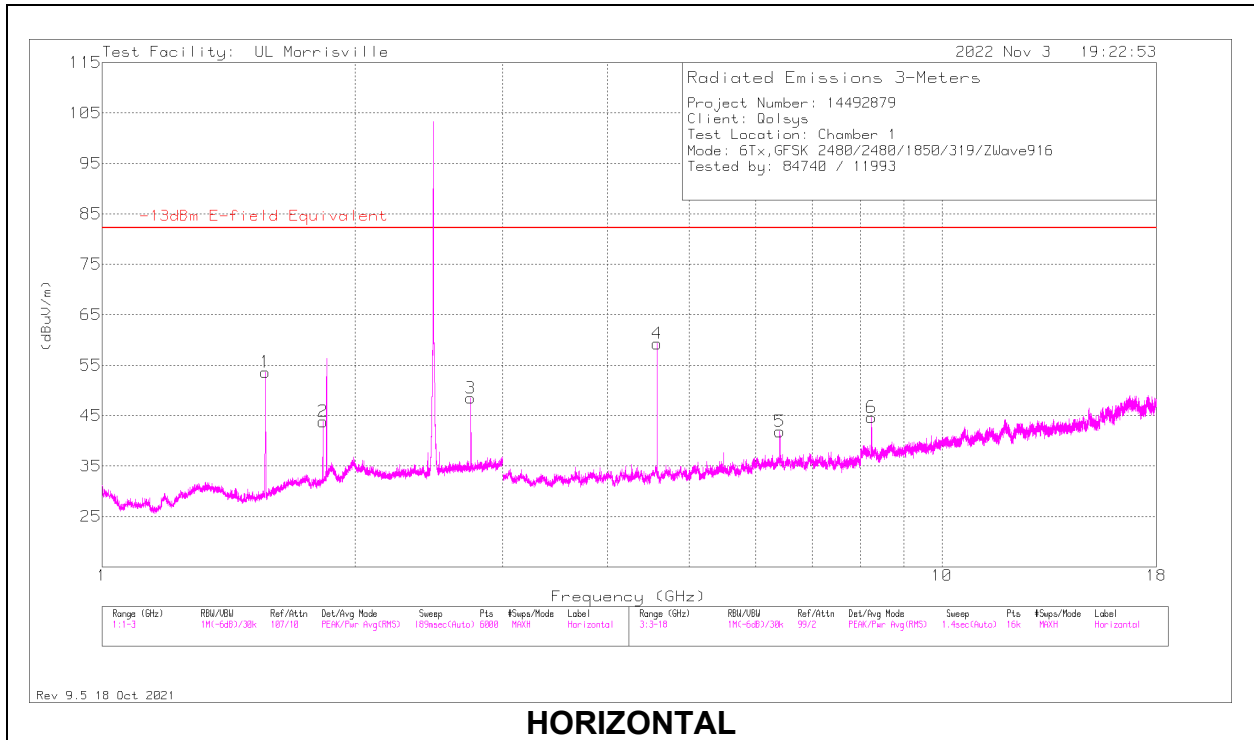


RADIATED EMISSIONS

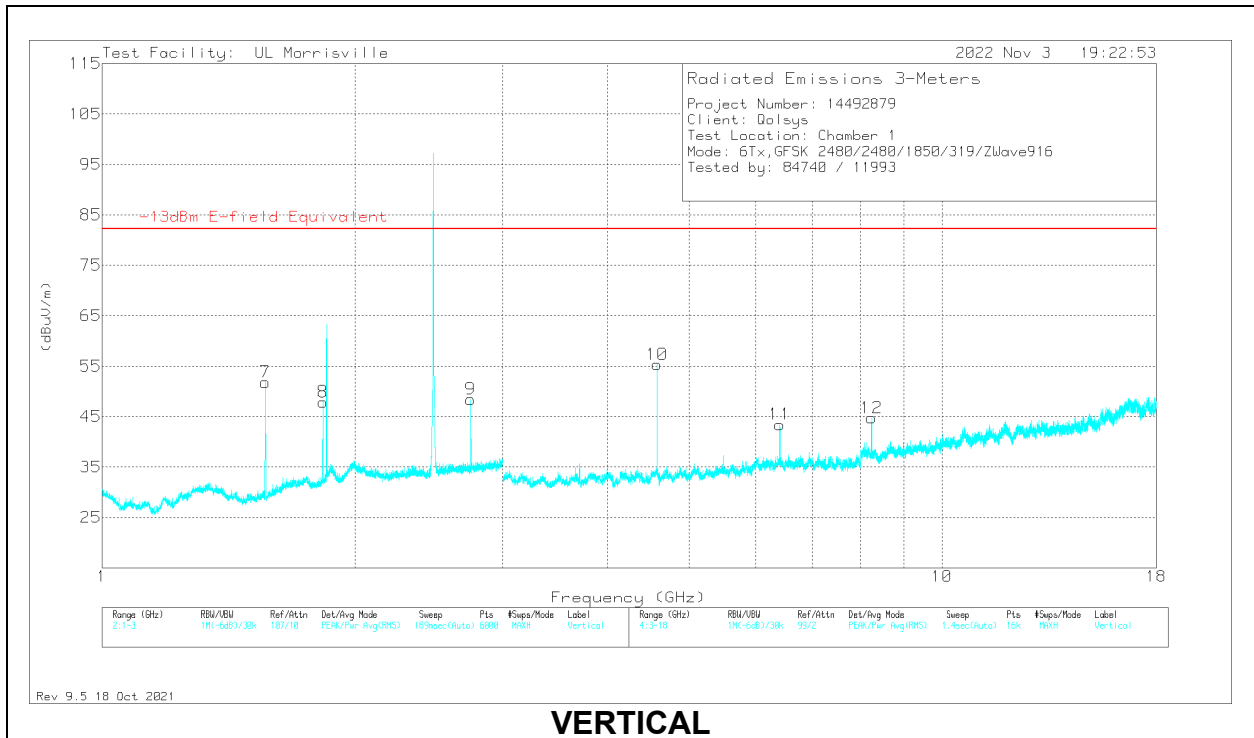
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Gain/Loss (dB)	Filter (dB)	Filter (dB)	Corrected Reading (dBuV/m)	-13dBm E-field Equivalent	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.8163	32.85	Pk	32.6	-23.9	.7	.4	42.65	82.2	-39.55	0-360	101	H
5	* ** 2.79597	33.33	Pk	32.6	-24.1	.6	.5	42.93	82.2	-39.27	0-360	200	V
2	* ** 3.70125	43.18	Pk	33	-32.4	0	0	43.78	82.2	-38.42	0-360	101	H
3	* ** 4.57875	48.65	Pk	34	-32.2	0	0	50.45	82.2	-31.75	0-360	101	H
4	* ** 16.11656	37.64	Pk	40.9	-25.2	0	0	53.34	82.2	-28.86	0-360	200	H
6	* ** 4.57969	52.17	Pk	34	-32.2	0	0	53.97	82.2	-28.23	0-360	101	V
7	* ** 15.89531	36.42	Pk	40.6	-24.9	0	0	52.12	82.2	-30.08	0-360	101	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector

10.1.7. SCAN 7 RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Gain/Loss (dB)	Filter (dB)	Filter (dB)	Corrected Reading (dBuV/m)	-13dBm E-field Equivalent	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 1.56343	48.83	Pk	28.1	-24.9	.6	1	53.63	82.2	-28.57	0-360	200	H
2	** 1.83147	35.53	Pk	30.7	-24.7	.5	1.8	43.83	82.2	-38.37	0-360	100	H
3	* ** 2.74763	39.09	Pk	32.5	-24.2	.7	.4	48.49	82.2	-33.71	0-360	200	H
4	* ** 4.57875	57.08	Pk	34	-32.2	.4	0	59.28	82.2	-22.92	0-360	200	H
5	6.41063	36.25	Pk	35.6	-30.5	.5	0	41.85	82.2	-40.35	0-360	200	H
6	* ** 8.2425	37.34	Pk	35.8	-29	.5	0	44.64	82.2	-37.56	0-360	200	H
7	* ** 1.56443	46.91	Pk	28.1	-24.8	.6	1	51.81	82.2	-30.39	0-360	200	V
8	** 1.83181	39.48	Pk	30.8	-24.7	.5	1.8	47.88	82.2	-34.32	0-360	200	V
9	* ** 2.74763	39.03	Pk	32.5	-24.2	.7	.4	48.43	82.2	-33.77	0-360	101	V
10	* ** 4.57875	53.11	Pk	34	-32.2	.4	0	55.31	82.2	-26.89	0-360	200	V
11	6.41063	37.84	Pk	35.6	-30.5	.5	0	43.44	82.2	-38.76	0-360	101	V
12	* ** 8.24438	37.33	Pk	35.8	-28.9	.5	0	44.73	82.2	-37.47	0-360	200	V

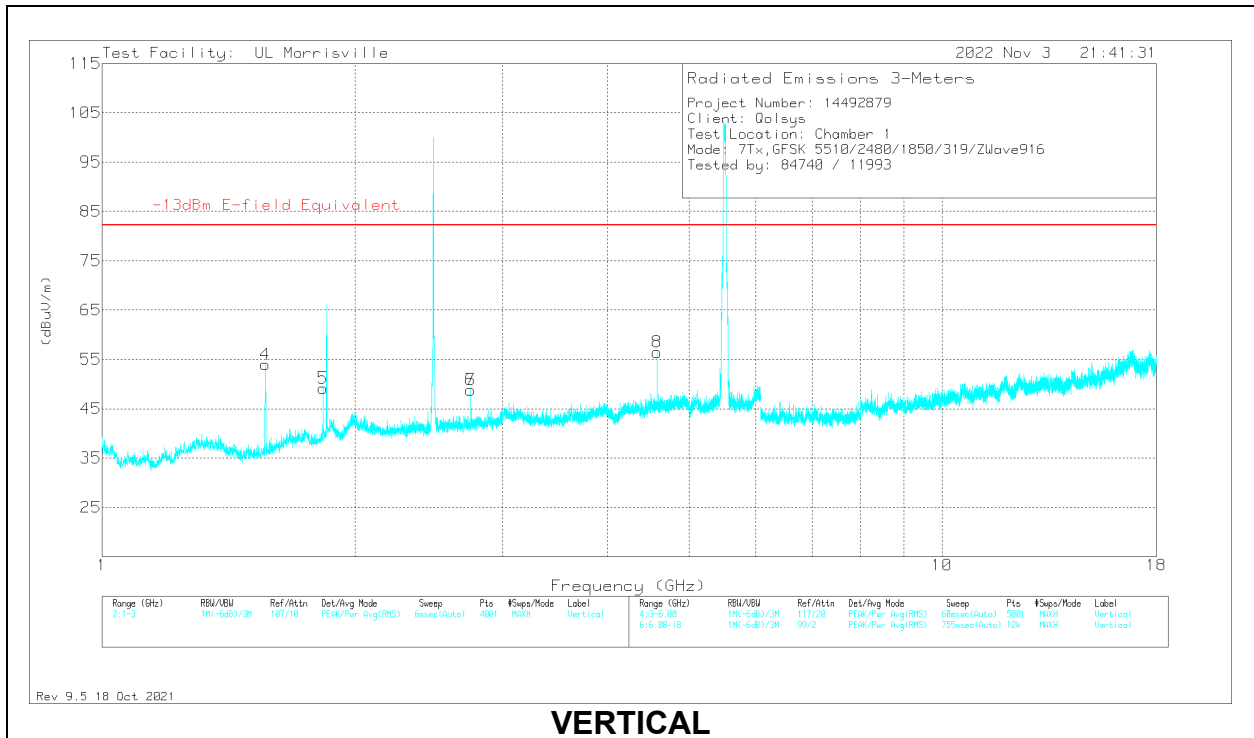
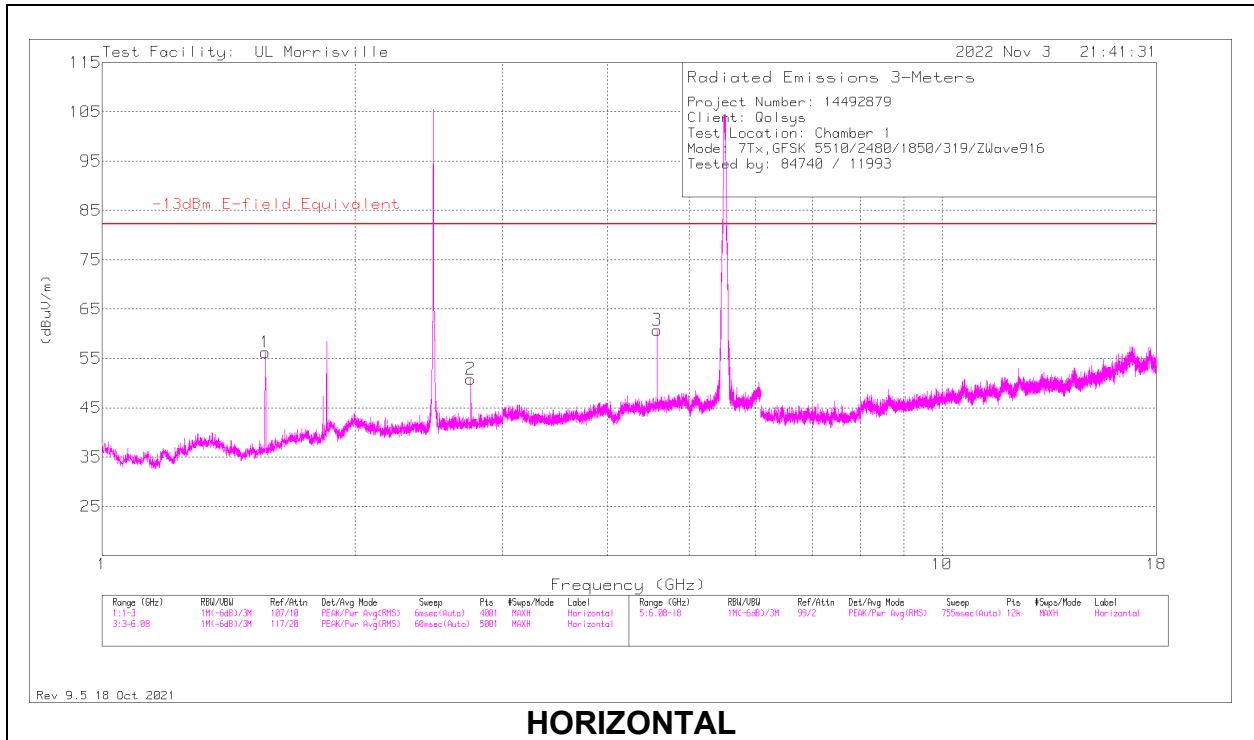
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

Note – VBW was set at 30 kHz. Due to margin of this plot and noise signature and margins of Scans 6 and 8, a rescan at VBW = 3MHz was deemed unnecessary.

10.1.8. SCAN 8 RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Gain/Loss (dB)	Filter (dB)	Filter (dB)	Corrected Reading (dBuV/m)	-13dBm E-field Equivalent	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 1.564	51.32	Pk	28.1	-24.8	.6	1	56.22	82.2	-25.98	0-360	200	H
2	* ** 2.748	41.43	Pk	32.5	-24.2	.7	.4	50.83	82.2	-31.37	0-360	200	H
4	* ** 1.5645	49.07	Pk	28.1	-24.8	.6	1	53.97	82.2	-28.23	0-360	200	V
5	** 1.832	40.74	Pk	30.8	-24.7	.5	1.8	49.14	82.2	-33.06	0-360	101	V
6	* ** 2.748	39.43	Pk	32.5	-24.2	.7	.4	48.83	82.2	-33.37	0-360	101	V
7	* ** 2.748	39.43	Pk	32.5	-24.2	.7	.4	48.83	82.2	-33.37	0-360	101	V
3	* ** 4.57942	58.55	Pk	34	-32.2	.4	0	60.75	82.2	-21.45	0-360	200	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector

11. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 8.8

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

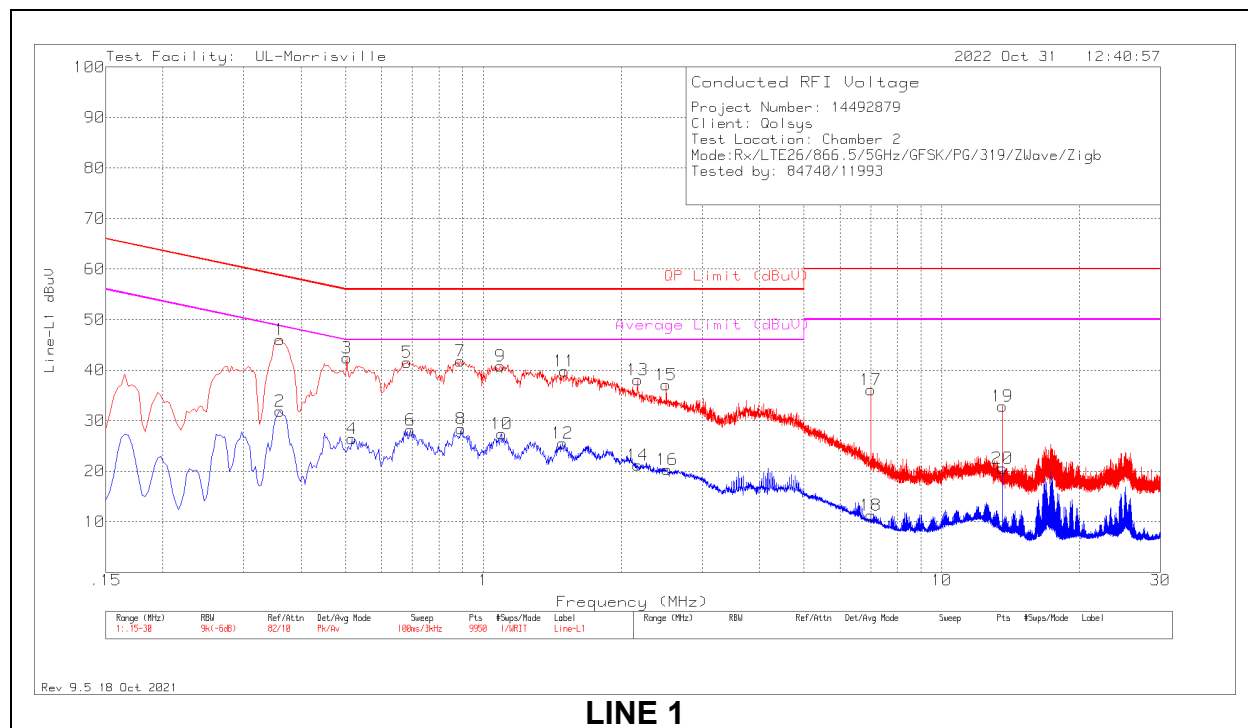
TEST PROCEDURE

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.10.

The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

Line conducted data is recorded for both NEUTRAL and HOT lines.

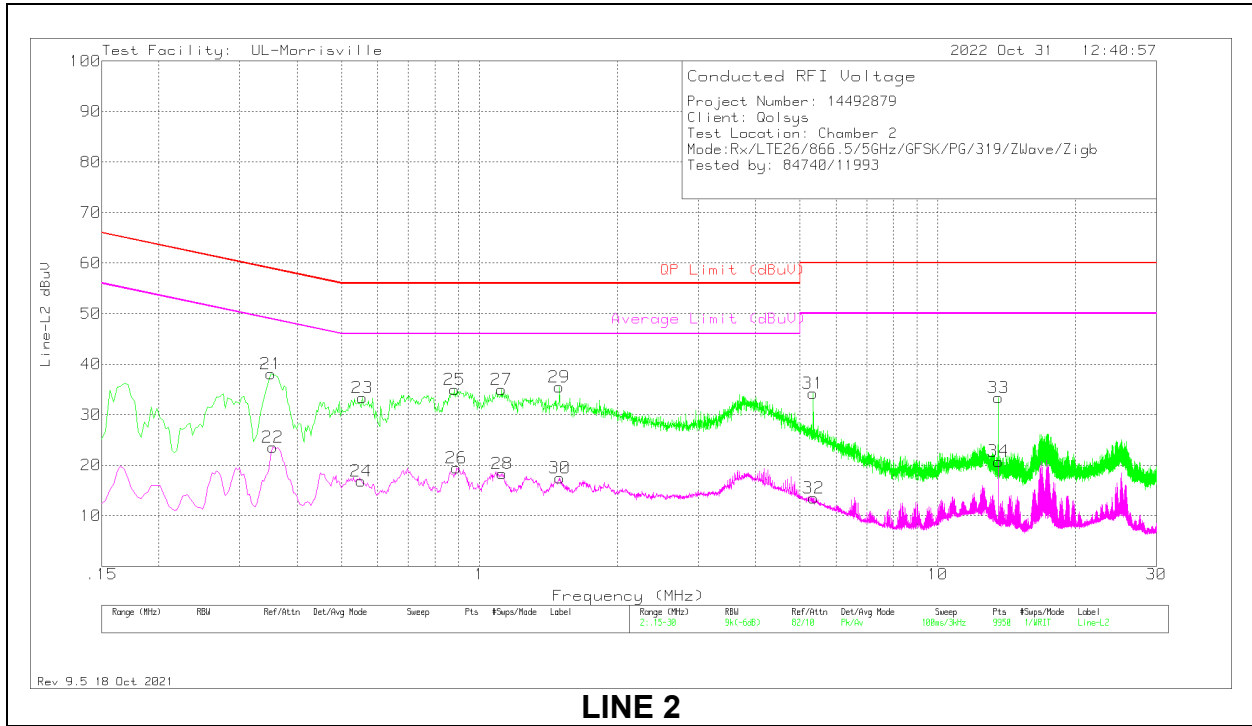
RESULTS



LINE 1

Range 1: Line-L1 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VCF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
1	.36	36.1	Pk	.1	9.8	46	58.73	-12.73	-	-
2	.36	21.95	Av	.1	9.8	31.85	-	-	48.73	-16.88
3	.504	32.65	Pk	0	9.8	42.45	56	-13.55	-	-
4	.516	16.56	Av	0	9.8	26.36	-	-	46	-19.64
5	.681	31.75	Pk	0	9.8	41.55	56	-14.45	-	-
6	.693	18.33	Av	0	9.8	28.13	-	-	46	-17.87
7	.891	32.02	Pk	0	9.8	41.82	56	-14.18	-	-
8	.894	18.62	Av	0	9.8	28.42	-	-	46	-17.58
9	1.089	31.02	Pk	0	9.8	40.82	56	-15.18	-	-
10	1.095	17.63	Av	0	9.8	27.43	-	-	46	-18.57
12	1.488	15.72	Av	0	9.8	25.52	-	-	46	-20.48
11	1.503	30.01	Pk	0	9.8	39.81	56	-16.19	-	-
13	2.169	28.32	Pk	0	9.8	38.12	56	-17.88	-	-
14	2.169	11.45	Av	0	9.8	21.25	-	-	46	-24.75
15	2.505	27.34	Pk	0	9.8	37.14	56	-18.86	-	-
16	2.517	10.55	Av	0	9.8	20.35	-	-	46	-25.65
18	6.999	1.24	Av	.1	9.9	11.24	-	-	50	-38.76
17	7.008	26.07	Pk	.1	9.9	36.07	60	-23.93	-	-
19	13.56	22.73	Pk	.1	10	32.83	60	-27.17	-	-
20	13.56	10.43	Av	.1	10	20.53	-	-	50	-29.47

Pk - Peak detector
 Av - Average detection



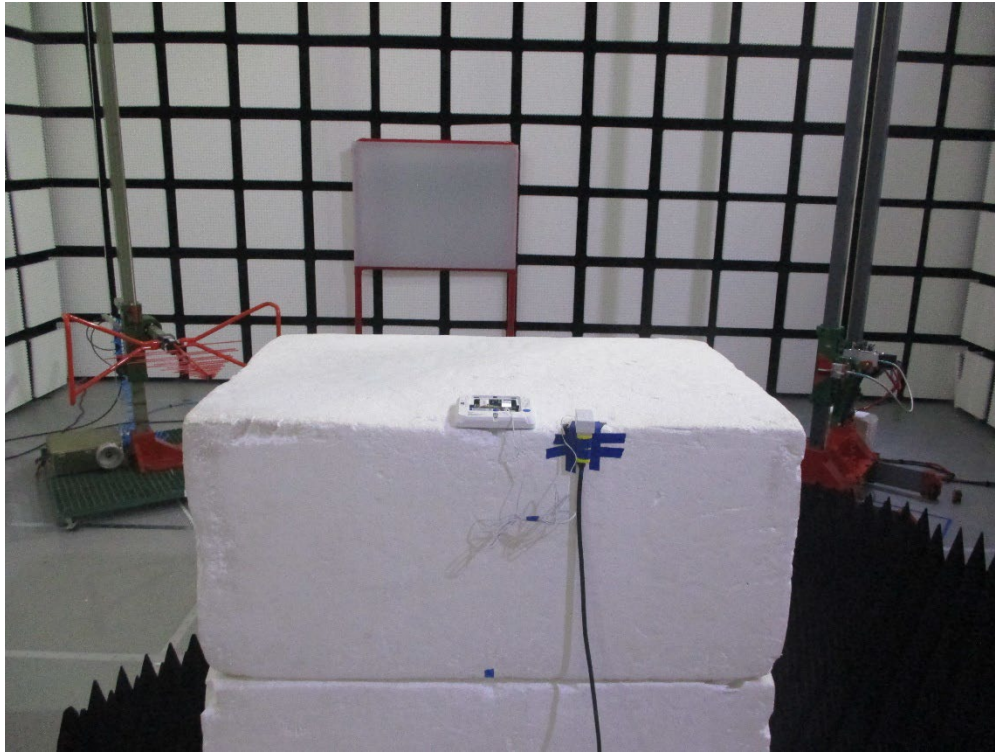
LINE 2

Range 2: Line-L2 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VCF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
21	.351	28.17	Pk	.1	9.8	38.07	58.94	-20.87	-	-
22	.354	13.6	Av	.1	9.8	23.5	-	-	48.87	-25.37
24	.552	7.02	Av	0	9.8	16.82	-	-	46	-29.18
23	.555	23.53	Pk	0	9.8	33.33	56	-22.67	-	-
25	.882	25.14	Pk	0	9.8	34.94	56	-21.06	-	-
26	.891	9.69	Av	0	9.8	19.49	-	-	46	-26.51
27	1.119	25.15	Pk	0	9.8	34.95	56	-21.05	-	-
28	1.122	8.52	Av	0	9.8	18.32	-	-	46	-27.68
29	1.494	25.7	Pk	0	9.8	35.5	56	-20.5	-	-
30	1.497	7.71	Av	0	9.8	17.51	-	-	46	-28.49
31	5.349	24.35	Pk	0	9.9	34.25	60	-25.75	-	-
32	5.355	3.58	Av	0	9.9	13.48	-	-	50	-36.52
33	13.56	23.3	Pk	.1	10	33.4	60	-26.6	-	-
34	13.56	10.66	Av	.1	10	20.76	-	-	50	-29.24

Pk - Peak detector
 Av - Average detection

12. SETUP PHOTOS

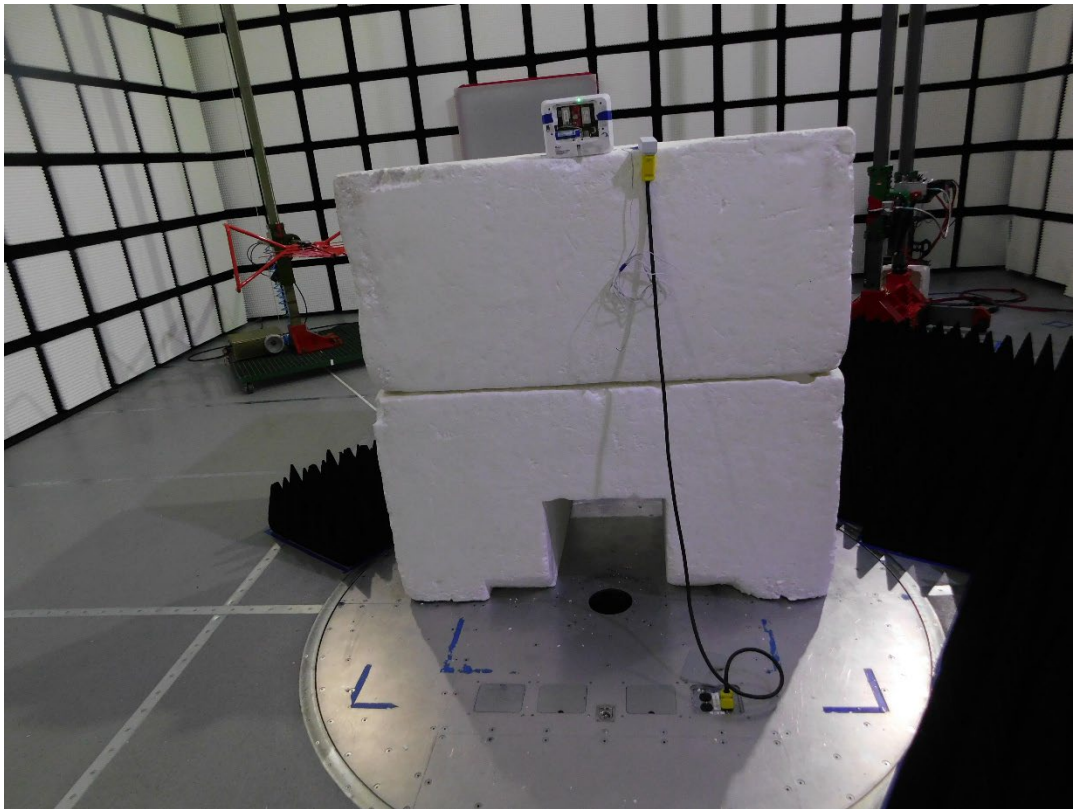
RADIATED MEASUREMENT SETUP



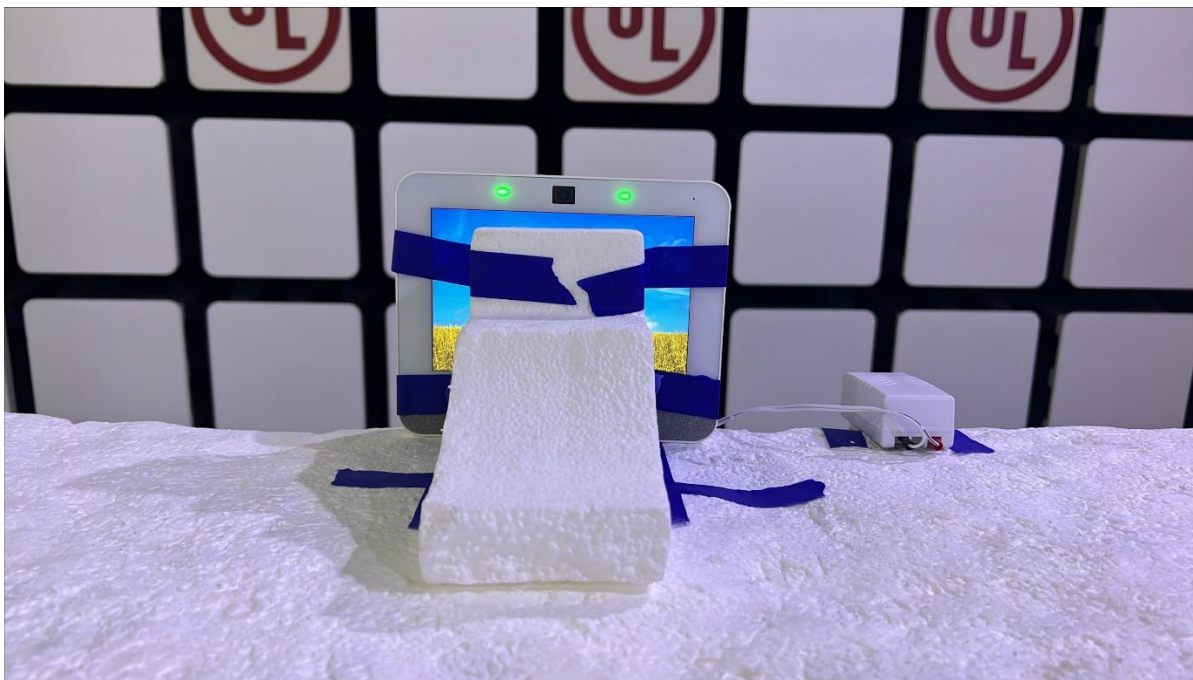
RADIATED ABOVE 1GHz FRONT – X Orientation



RADIATED ABOVE 1GHz BACK – X Orientation

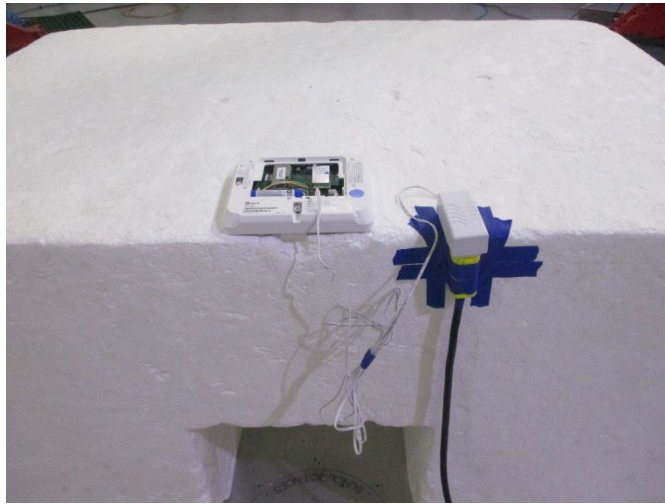


RADIATED ABOVE 1GHz FRONT – Y Orientation

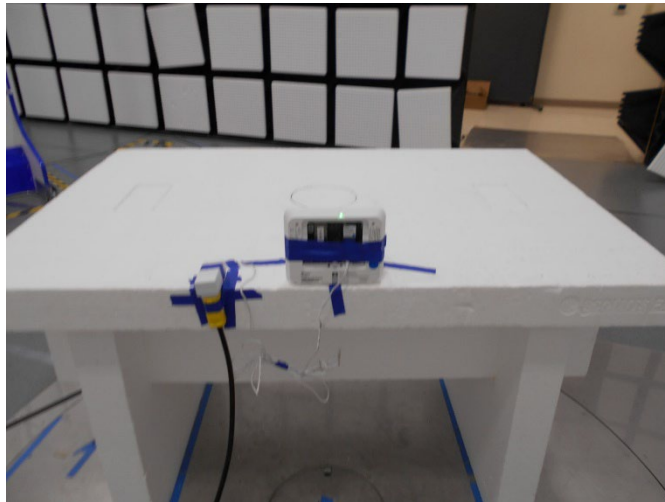


RADIATED ABOVE 1GHz BACK – Y Orientation

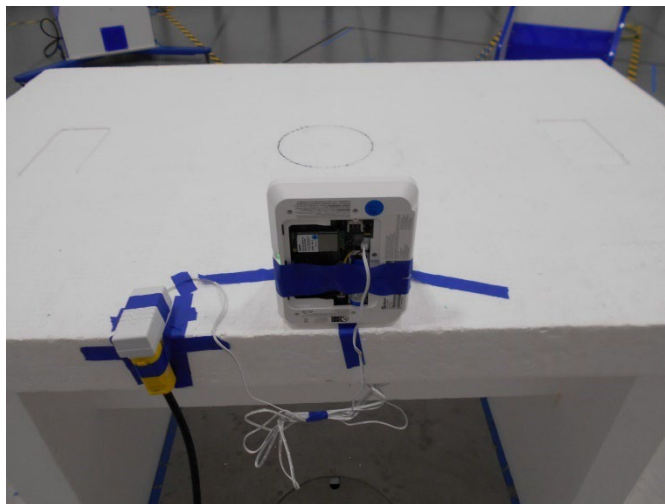
XYZ SETUP PHOTOS



X ORIENTATION



Y ORIENTATION



Z ORIENTATION

AC MAINS LINE CONDUCTED MEASUREMENT SETUP



AC LINE FRONT VIEW



AC LINE SIDE VIEW

END OF TEST REPORT