COMPATIBLE ELECTRONICS

FCC PART 15, SUBPART B and C; FCC SECTION 15.249
TEST REPORT

for

V-TAG

Model: VT100-3

Prepared for

INFINID TECHNOLOGIES, INC.
1665 DEVON ROAD
PASADENA, CALIFORNIA 91103

Prepared by: _____

JAMES ROSS

Approved by: _____

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JULY 15, 2022

	REPORT BODY			APPENDICES			TOTAL
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NVLAP® TESTING
NVLAP LAB CODE 200528-0

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GENERAL REPORT SUMMARY

This electromagnetic emission test report is generated by Compatible Electronics Inc., which is an independent testing and consulting firm. The test report is based on testing performed by Compatible Electronics personnel according to the measurement procedures described in the test specifications given below and in the "Test Procedures" section of this report.

The measurement data and conclusions appearing herein relate only to the sample tested and this report may not be reproduced without the written permission of Compatible Electronics, unless done so in full.

This report must not be used by the client to claim product certification, approval or endorsement by NVLAP, NIST, or any agency of the U.S Government.

Device Tested: V-Tag
Model: VT100-3
S/N: N/A

Product Description: The EUT is an RFID Tag. Dimensions: 6 cm (W) x 4 cm (H) x 5 cm (L).

Modifications: The EUT was not modified to meet the specifications.

Customer: InfinID Technologies, Inc.
1665 Devon Road
Pasadena, California 91103

Test Date: July 1, 2022

Test Specifications covered by accreditation:

Test Specifications: Emissions requirements
CFR Title 47, Part 15, Subpart B;
CFR Title 47, Part 15, Subpart C, Sections 15.209 and 15.249

NVLAP TESTING
NVLAP LAB CODE 200528-0

Test Procedures: ANSI C63.4 and ANSI C63.10

Test Deviations: The test procedure was not deviated from during the testing.

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions, 150 kHz – 30 MHz	This test was not performed because the EUT is an internal battery powered device and does not connect to the AC mains.
2	Spurious Radiated RF Emissions, 9 kHz –25000 MHz (Transmitter and Digital Portion)	The EUT complies with the limits of CFR Title 47, Part 15, Subpart B, Section 15.109, Class B; CFR Title 47, Part 15, Subpart C, Sections 15.209 and 15.249 See section 6.3 for Measurement Uncertainty

1. PURPOSE

This document is a qualification test report based on the emissions tests performed on the V-Tag, Model: VT100-3. The emissions measurements were performed according to the measurement procedure described in ANSI C63.4 and ANSI C63.10. The tests were performed to determine whether the electromagnetic emissions from the equipment under test, referred to as EUT hereafter, are within the specification limits defined by CFR Title 47, Part 15 Subpart B, Sections 15.107 Class B and 15.109 Class B; CFR Title 47, Part 15, Subpart C, Sections 15.207, 15.209 and 15.249.

1.1 Decision Rule & Risk

If a measured value exceeds a specification limit it implies non-compliance. If the value is below a specification limit it implies compliance. Measurement uncertainty of the laboratory is reported with all measurement results but generally not taken into consideration unless a standard, rule or law requires it to be considered.

Qualification test reports are only produced for products that are in compliance with the test requirements, therefore results are always in conformity. Otherwise, an engineering report or just the data is provided to the customer.

When performing a measurement and making a statement of conformity, in or out-of-specification to manufacturer's specifications or Pass/Fail against a requirement, there are two possible outcomes:

- The result is reported as conforming with the specification
- The result is reported as not conforming with the specification

The decision rule is defined below.

When the test result is found to be below the limit but within our measurement uncertainty of the limit, it is our policy that the final acceptance decision is left to the customer, after discussing the implications and potential risks of the decision.

When the test result is found to be exactly on the specification, it is our policy, in the case of unwanted emissions measurements to consider the result non-compliant, however, the final decision is left to the customer, after discussing the implications and potential risks of the decision.

When the test result is found to be over the specification limit under any condition, it is our policy to consider the result non-compliant.

In terms of uncertainty of measurement, the laboratory is a calibrated and tightly controlled environment and generally exceptionally stable, the measurement uncertainties are evaluated without the considering of the test sample. When it comes to the test sample however, as most testing is performed on a single sample rather than a sample population, and that sample is often a pre-production representation of the final product, that test sample represents a significantly higher source of measurement uncertainty. We advise our customers of this and that when in doubt (small test to limit margins), they may wish to perform statistical sampling on a population to gain a higher confidence in the results. All lab reported results are that of a single sample in any event.

2. ADMINISTRATIVE DATA

2.1 Location of Testing

The emissions tests described herein were performed at the test facility of Compatible Electronics, 114 Olinda Drive, Brea, California 92823.

2.2 Traceability Statement

The calibration certificates of all test equipment used during the test are on file at the location of the test. The calibration is traceable to the National Institute of Standards and Technology (NIST).

2.3 Cognizant Personnel

InfinID Technologies, Inc.

Barry Ambrose	Systems Engineer

Compatible Electronics Inc.

James Ross	Sr. Test Engineer
Kyle Fujimoto	Sr. Test Engineer

2.4 Date Test Sample was Received

The test sample was received prior to the intial date of testing. Received as described in product description.

2.5 Disposition of the Test Sample

The test sample has not been returned to InfinID Technologies, Inc. as of the date of this test report.

2.6 Abbreviations and Acronyms

The following abbreviations and acronyms may be used in this document.

EMI	Electromagnetic Interference
EUT	Equipment Under Test
P/N	Model
S/N	Serial Number
ITE	Information Technology Equipment
DoC	Declaration of Conformity
N/A	Not Applicable
Tx	Transmit
Rx	Receive
Inc.	Incorporated
RF	Radio Frequency
CFR	Code of Federal Regulations
FCC	Federal Communications Commission
MHz	Megahertz
ID	Identification
RFID	Radiofrequency Identification

3. APPLICABLE DOCUMENTS

The following documents are referenced or used in the preparation of this emission Test Report.

SPEC	TITLE
CFR Title 47, Part 15 Subpart C	FCC Rules – Radio frequency devices (including digital devices) – Intentional Radiators
CFR Title 47, Part 15 Subpart B	FCC Rules – Radio frequency devices (including digital devices) – Unintentional Radiators
ANSI C63.4: 2014	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
ANSI C63.10: 2013	American National Standard of procedure for compliance testing of unlicensed wireless devices

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration – Emissions

The EUT was tested as a stand alone unit. The EUT was continouously transmitting at low, middle, or high channel.

The EUT was tested for emissions while in the X, Y and Z axis. The X orientation is when the EUT is parallel to the ground mounted horizontally. The Y orientation is when the EUT is perpendicular to the ground mounted vertically. The Z orientation is when the EUT is perpendicular to the ground mounted horizontally.

The firmware on the laptop allows the EUT to continuously transmit at the low, middle, or high channels.

The EUT used new batteries during testing. The channel is changed by placing a magnet next to the EUT for a moment.

The firmware is stored on the company's servers.

The final radiated data for the EUT was taken in the modes described above. Please see Appendix E for the data sheets.

4.1.1 Cable Construction and Termination

The EUT contains no external cables.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
V-TAG (EUT)	INFINID TECHNOLOGIES, INC.	VT100-3	N/A	Y8FVT100D3
MAGNET	N/A	N/A	N/A	N/A

5.2 Emissions Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. DUE DATE
RF RADIATED EMISSIONS TEST EQUIPMENT					
TDK TestLab	TDK RF Solutions, Inc.	9.22	700145	N/A	N/A
EMI Receiver, 20 Hz – 26.5 GHz	Keysight Technologies, Inc.	N9038A	MY51210510	September 17, 2021	September 17, 2022
System Controller	Sunol Sciences Corporation	SC110V	112213-1	N/A	N/A
Turntable	Sunol Sciences Corporation	2011VS	N/A	N/A	N/A
Antenna-Mast	Sunol Sciences Corporation	TWR95-4	112213-3	N/A	N/A
Loop Antenna	Com-Power	AL-130R	121090	February 10, 2022	February 10, 2024
CombiLog Antenna	Com-Power	AC-220	61093	December 14, 2021	December 14, 2023
Horn Antenna	Com-Power	AH-118	10050113	December 16, 2021	December 16, 2023
Preamplifier	Com-Power	PA-118	181653	March 7, 2022	March 7, 2023
Horn Antenna	Com-Power	AH-826	71957	N/A	N/A
Preamplifier	Com-Power	PA-840	711013	April 8, 2022	April 8, 2024
Computer	Hewlett Packard	p6716f	MXX1030PX0	N/A	N/A
LCD Monitor	Hewlett Packard	52031a	3CQ046N3MG	N/A	N/A

6. TEST SITE DESCRIPTION

6.1 Test Facility Description

Please refer to section 2.1 of this report for emissions test location.

6.2 EUT Mounting, Bonding and Grounding

For frequencies 1 GHz and below: The EUT was mounted on a 0.6 by 1.2 meter non-conductive table 0.8 meters above the ground plane.

For frequencies above 1 GHz: The EUT was mounted on a 0.6 by 1.2 meter non-conductive table 1.5 meters above the ground plane.

The EUT was not grounded during testing.

6.3 Measurement Uncertainty

Compatible Electronics' U_{lab} value is less than U_{cispr}, thus based on this − compliance is deemed to occur if no measured disturbance exceeds the disturbance limit

$$u_c(y) = \sqrt{\sum_i c_i^2 \; u^2(x_i)}$$

Measurement		U_{cispr}	$U_{lab} = 2\,uc\,(y)$
Conducted disturbance (mains port)	(150 kHz – 30 MHz)	3.4 dB	2.72 dB
Radiated disturbance (electric field strength on an open area test site or alternative test site)	(30 MHz – 1 000 MHz)	6.3 dB	3.32 dB (Vertical) 3.30 dB (Horizontal)
Radiated disturbance (electric field strength on an open area test site or alternative test site)	(1 GHz - 6 GHz)	5.2 dB	4.06 dB
Radiated disturbance (electric field strength on an open area test site or alternative test site)	(6 GHz – 18 GHz)	5.5 dB	4.06 dB
Radiated disturbance (electric field strength on an open area test site or alternative test site)	(18 GHz – 26.5 GHz)	N/A	4.43 dB
Radiated disturbance (electric field strength on an open area test site or alternative test site)	(26.5 GHz – 40 GHz)	N/A	4.57 dB

7. TEST PROCEDURES

The following sections describe the test methods and the specifications for the tests. Test results are also included in this section.

7.1 RF Emissions

7.1.1 Conducted Emissions Test

The EMI Receiver was used as a measuring meter. A quasi-peak and/or average reading was taken only where indicated in the data sheets. A 10 dB attenuator was used for the protection of the EMI Receiver input stage, and the offset was adjusted accordingly to read the actual data measured. The LISN output was measured using the EMI Receiver. The output of the second LISN was terminated by a 50-ohm termination. The effective measurement bandwidth used for this test was 9 kHz.

Please see section 6.2 of this report for mounting, bonding, and grounding of the EUT. The EUT was powered through the LISN, which was bonded to the ground plane. The LISN power was filtered and the filter was bonded to the ground plane. The EUT was set up with the minimum distances from any conductive surfaces as specified in ANSI 63:4. The excess power cord was wrapped in a figure eight pattern to form a bundle not exceeding 0.4 meters in length.

The conducted emissions from the EUT were maximized for operating mode as well as cable placement. The final data was collected under program control by computer software. The final qualification data is located in Appendix E.

Test Results:

This test was not performed because the EUT is an internal battery powered device and does not connect to the AC public mains.

7.1.2 Radiated Emissions Test

The EMI Receiver was used as the measuring meter. The EMI Receiver's internal preamplifier was used up to 1000 MHz and an external preamplifier was used above 1 GHz to increase the sensitivity of the instrument. The EMI Receiver was initially used with the Analyzer mode feature activated. In this mode, the EMI receiver can then record the actual frequency to be measured. This final reading is then taken accurately in the EMI Receiver mode, which takes into account the cable loss, amplifier gain and antenna factors, so that a true reading is compared to the true limit. The effective measurement bandwidth used for the radiated emissions test was according to the frequency measured.

The frequencies below 1 GHz were quasi-peaked using the quasi-peak detector of the EMI Receiver.

The frequencies above 1 GHz were averaged using the duty cycle correction factor described in section 7.3 of this test report.

The EMI test chamber of Compatible Electronics, Inc. was used for radiated emissions testing. This test site is in full compliance with ANSI C63.4 and ANSI C63.10. Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The turntable supporting the EUT is remote controlled using a motor. The turntable permits EUT rotation of 360 degrees in order to maximize emissions. Also, the antenna mast allows height variation of the antenna from 1 meter to 4 meters. Data was collected in the worst case (highest emission) configuration of the EUT. At each reading, the EUT was rotated 360 degrees and the antenna height was varied from 1 to 4 meters (for E field radiated field strength).

The EUT was tested at a 3-meter test distance. The six highest emissions are listed in Table 1.

The measurement bandwidths and transducers used for the radiated emissions test were:

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
9 kHz to 150 kHz	200 Hz	Loop Antenna
150 kHz to 30 MHz	9 kHz	Loop Antenna
30 MHz to 1 GHz	120 kHz	CombiLog Antenna
1 GHz to 25 GHz	1 MHz	Horn Antenna

Test Results:

The EUT complies with the specification limits of CFR Title 47, Part 15, Subpart B, Section 15.109 Class B; CFR Title 47, Part 15, Subpart C, Sections 15.209 and 15.249 for radiated emissions.

7.1.3 RF Emissions Test Results

Table 1 RADIATED EMISSION RESULTS
V-Tag, Model: VT100-3

Frequency (MHz)	EMI Reading (dBuV/m)	Specification Limit (dBuV/m)	Delta (Cor. Reading – Spec. Limit) (dB)
782.30 (V) (Spurious Emission, Z-Axis)	36.24 (QP)	46.00	-9.76
2405.00 (H) (Fundamental, Low Channel, Y-Axis)	80.16 (AV)	93.97	-13.81
2480.00 (H)) (Fundamental, High Channel, Y-Axis)	79.75 (AV)	93.97	-14.22
781.20 (V) (Spurious Emission, Z-Axis)	31.72 (QP)	46.00	-14.28
778.60 (H) (Spurious Emission, Z-Axis)	31.52 (QP)	46.00	-14.48
2405.00 (V) (Fundamental, Low Channel, Z-Axis)	78.99 (AV)	93.97	-14.98

Notes:
* The complete emissions data is given in Appendix E of this report.
(V) Vertical
(H) Horizontal
(QP) Quasi-Peak
(AV) Average

7.1.4 Sample Calculations

A correction factor for the antenna, cable, and a distance factor (if any) must be applied to the meter reading before a true field strength reading can be obtained. This Corrected Meter Reading is then compared to the specification limit in order to determine compliance with the limits.

Conversion to logarithmic terms: Specification limit (µV/m) log x 20 = Specification Limit in dBuV/m

To correct for distance when measuring at a distance other than the specification

For measurements below 30 MHz: (Specification distance / test distance) log x 40 = distance factor

For measurements above 30 MHz: (Specification distance / test distance) log x 20 = distance factor

Note: When using an Active Antenna, the Antenna factor shall be subtracted due to the combination of the internal amplification and antenna loss.

Corrected Meter Reading = meter reading + F – A + C

where: F = antenna factor
A= amplifier gain
C = cable loss

The correction factors for the antenna and the amplifier gain are attached in Appendix D of this report. The data sheets are attached in Appendix E.

The distance factor D is 0 when the test is performed at the required specification distance.

When the limit is in terms of magnetic field, the following equation applies:

$$H[dB(\mu A/m)] = V[dB(\mu V)] + L_C\,[dB] - G_{PA}\,[dB] + AF^H\,[dB(S/m)]$$

where: H is the magnetic field strength (to be compared with the limit),
V is the voltage level measured by the receiver or spectrum analyzer,
L_C is the cable loss,
G_{PA} is the gain of the preamplifier (if used), and
AF^H is the magnetic antenna factor.

The G_{PA} term is only included in the equation when an external preamplifier is used in the measurement chain, in front of the receiver or spectrum analyzer. An external preamplifier is not usually necessary (or even advisable, due to risk of saturating the input mixer of the receiver) when an active loop antenna is used. In that case, the antenna factor of the loop already includes the gain of its built-in preamplifier.

Sample Calculations (Continued)

If the "electrical" antenna factor is used instead, the above equation becomes:

$$H[dB(\mu A/m)] = V[dB(\mu V)] + L_C\,[dB] - G_{PA}[dB] + AF^E\,[dB(m^{-1})\,] - 51.5\,[dB\Omega]$$

where: AF^E is the "electric" antenna factor, as provided by the antenna calibration laboratory.

When the limit is in terms of electric field, the following equation applies:

$$E[dB(\mu V/m)] = V[dB(\mu V)] + L_C[dB] - G_{PA}[dB] + AF^E\,[dB(m^{-1})\,]$$

or, if the magnetic antenna factor is used:

$$E[dB(\mu V/m)] = V[dB(\mu V)] + L_C[dB] - G_{PA}[dB] + AF^H\,[dB(S/m)] + 51.5[dB\Omega]$$

The display of the receiver (or spectrum analyzer) **shall not** be configured in units of current, e.g. µA or dB(µA). That conversion is calculated inside the receiver (or spectrum analyzer) using its input impedance, which is 50 Ω, while the magnetic field calculation is based on the free-space impedance of 377 Ω.

7.2 Variation of the Input Power

The variation of the input power test was performed using the EMI Receiver. The EUT input power was varied between 85% and 115% of the nominal rated supply voltage. The carrier frequency was monitored for any change in amplitude.

Test Results:

This test was not performed because the EUT is battery powered only.

7.3 Duty Cycle Calculation

The fundamental and harmonics were measured at a 3-meter test distance. The EMI Receiver was used to obtain the final test data. The final qualification data sheets are located in Appendix E.

Where

$\delta(\text{dB}) = 20\log\left[\sum\left(nt_1 + mt_2 + \ldots + \xi t_x\right)/T\right]$
n is the number of pulses of duration *t*1
m is the number of pulses of duration *t*2
ξ is the number of pulses of duration *tx*
T is the period of the pulse train or 100 ms if the pulse train length is greater than 100 ms

The worst case was when the EUT was in advertising mode

Duty Cycle Correction Factor = -20 dB

Time of Pulse = 1.2 ms

Total On Time = 1.2 ms

The time between pulses is 7.5 seconds

Duty Cycle = 1.2 ms / 100 ms = 1.2 %

The maximum Peak to Average ratio of -20 dB can be utilized

8. CONCLUSIONS

The V-Tag, Model: VT100-3 (EUT), as tested, meets all of the specification limits defined in CFR Title 47, Part 15, Subpart B, Section 15.109 **Class B**; CFR Title 47, Part 15, Subpart C, Sections 15.205, 15.207, 15.209 and 15.249.

APPENDIX A

LABORATORY ACCREDITATIONS AND RECOGNITIONS

LABORATORY ACCREDITATIONS AND RECOGNITIONS

NVLAP TESTING
NVLAP LAB CODE 200528-0

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For US, Canada, Australia/New Zealand, Japan, Taiwan, Korea, and the European Union, Compatible Electronics is currently accredited by NVLAP to ISO/IEC 17025.

For the most up-to-date version of our scopes and certificates please visit

http://celectronics.com/quality/scope/

Quote from ISO-ILAC-IAF Communiqué on the Management Systems Requirements of ISO/IEC 17025, General Requirements for the competence of testing and calibration laboratories:

"A laboratory's fulfilment of the requirements of ISO/IEC 17025 means the laboratory meets both the technical competence requirements and management system requirements that are necessary for it to consistently deliver technically valid test results and calibrations. The management system requirements in ISO/IEC 17025 are written in language relevant to laboratory operations and operate generally in accordance with the principles of ISO 9001"

ISED Test Site Registration Number: 2154A

APPENDIX B

MODIFICATIONS TO THE EUT

MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass FCC Subpart B, FCC 15.249 specifications.

All the rework described below was implemented during the test in a method that could be reproduced in all the units by the manufacturer.

No modifications were made to the EUT during the testing.

APPENDIX C

ADDITIONAL MODELS COVERED UNDER THIS REPORT

ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST

V-Tag
Model: VT100-3
S/N: N/A

There are no additional models covered under this report.

APPENDIX D

DIAGRAMS AND CHARTS

FIGURE 1: CONDUCTED EMISSIONS TEST SETUP

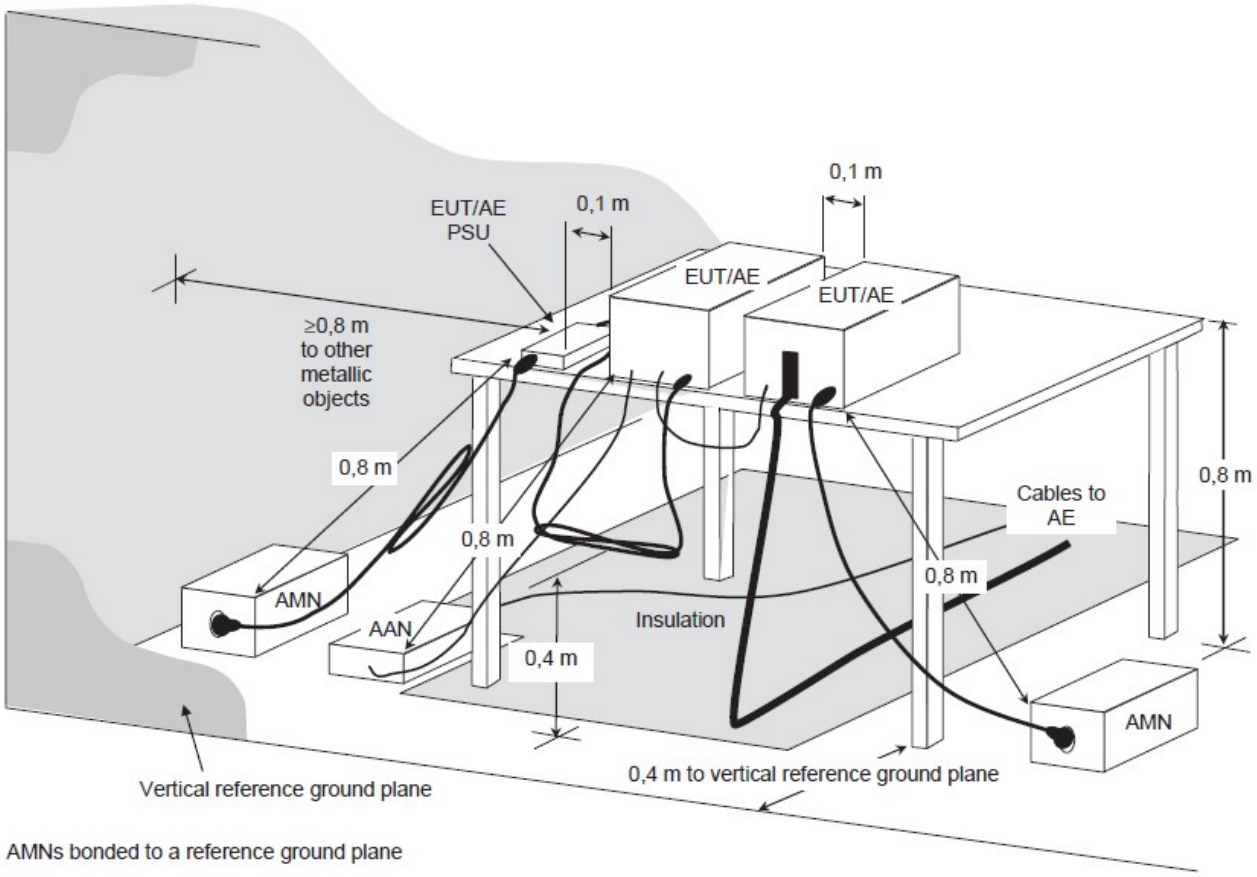
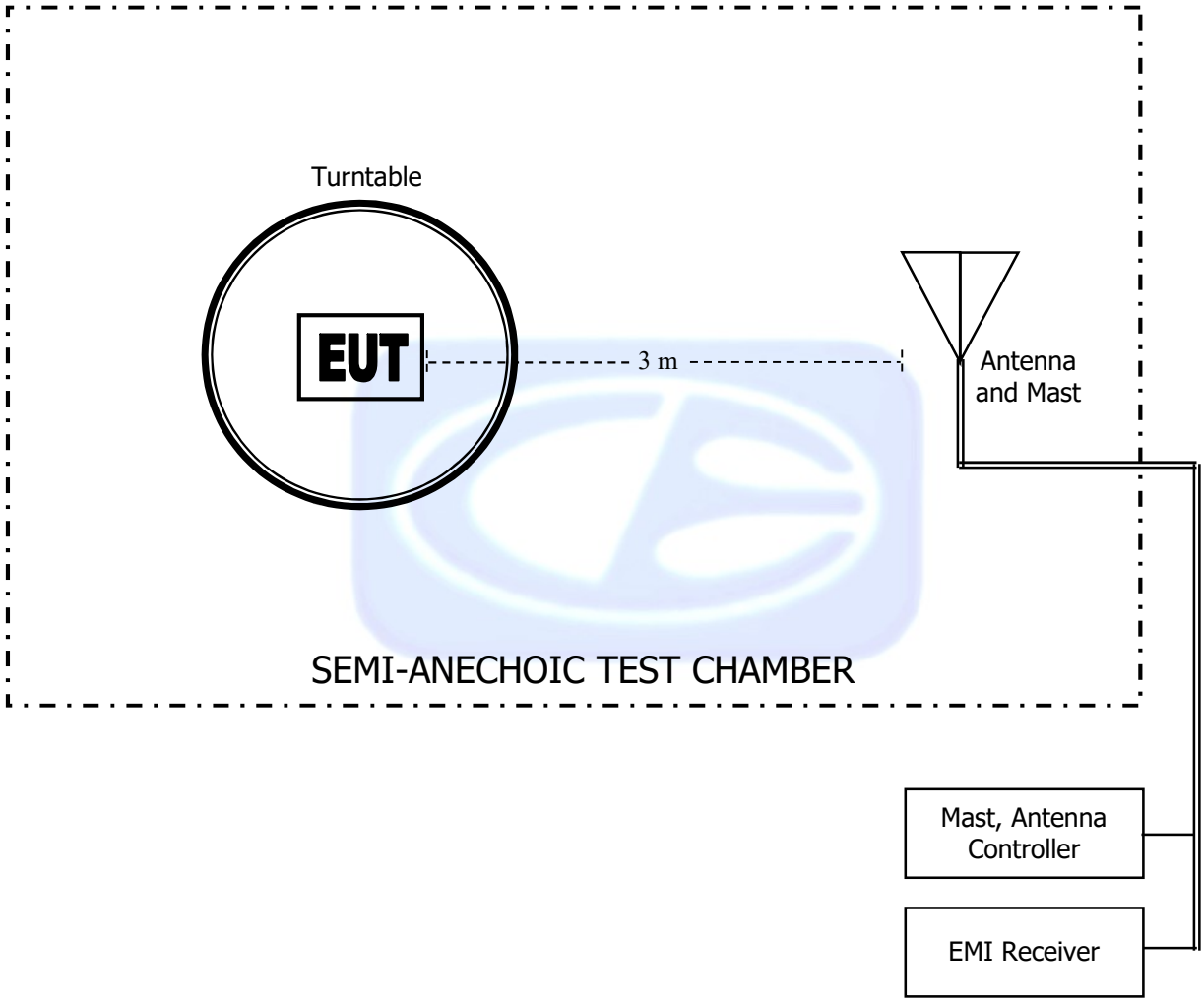


FIGURE 2: LAYOUT OF THE SEMI -ANECHOIC TEST CHAMBER



COM-POWER AL-130R

LOOP ANTENNA

S/N: 121090

CALIBRATION DATE: FEBRUARY 10, 2022

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	15.6	-35.8
0.01	15.8	-35.6
0.02	14.8	-36.6
0.03	15.6	-35.9
0.04	15.0	-36.5
0.05	14.4	-37.1
0.06	14.6	-36.9
0.07	14.3	-37.2
0.08	14.3	-37.2
0.09	14.4	-37.0
0.10	14.1	-37.4
0.20	14.1	-37.4
0.30	14.0	-37.5
0.40	13.9	-37.6
0.50	14.1	-37.3
0.60	14.1	-37.3
0.70	14.2	-37.3
0.80	14.2	-37.3
0.90	14.2	-37.2
1.00	14.4	-37.0
2.00	14.6	-36.9
3.00	14.6	-36.8
4.00	14.9	-36.6
5.00	14.9	-36.7
6.00	14.8	-36.7
7.00	14.6	-36.8
8.00	14.5	-37.0
9.00	14.3	-37.2
10.00	14.5	-37.0
11.00	14.6	-36.9
12.00	14.7	-36.7
13.00	14.9	-36.6
14.00	15.0	-36.5
15.00	14.9	-36.6
16.00	14.9	-36.6
17.00	14.6	-36.8
18.00	14.4	-37.1
19.00	14.5	-37.0
20.00	14.5	-37.0
21.00	14.2	-37.3
22.00	13.9	-37.5
23.00	13.9	-37.5
24.00	13.8	-37.7
25.00	13.4	-38.0
26.00	13.2	-38.2
27.00	13.2	-38.3
28.00	12.7	-38.7
29.00	12.7	-38.8
30.00	12.4	-39.0

COM-POWER AC-220

COMBILOG ANTENNA

S/N: 61093

CALIBRATION DATE: DECEMBER 14, 2021

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	22.50	200	16.00
35	21.40	250	17.40
40	21.00	300	19.70
45	20.60	350	20.00
50	19.70	400	22.20
60	16.10	450	22.40
70	12.80	500	23.10
80	12.50	550	23.40
90	14.20	600	24.90
100	15.40	650	25.30
120	16.50	700	25.40
125	16.80	750	26.40
140	15.90	800	26.70
150	16.60	850	27.10
160	18.50	900	27.90
175	15.90	950	28.00
180	15.50	1000	28.00

COM POWER AH-118

HORN ANTENNA

S/N: 10050113

CALIBRATION DATE: DECEMBER 16, 2021

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	23.86	10.0	38.91
1.5	25.67	10.5	39.94
2.0	28.25	11.0	39.10
2.5	29.17	11.5	39.70
3.0	29.78	12.0	40.29
3.5	30.88	12.5	41.93
4.0	31.21	13.0	41.34
4.5	32.96	13.5	40.57
5.0	33.30	14.0	40.23
5.5	34.24	14.5	42.25
6.0	34.57	15.0	43.63
6.5	35.61	15.5	39.96
7.0	36.60	16.0	40.38
7.5	37.49	16.5	40.56
8.0	37.44	17.0	40.93
8.5	37.98	17.5	42.27
9.0	38.01	18.0	43.77
9.5	38.53		

COM-POWER AH-826

HORN ANTENNA

S/N: 71957

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	33.5	22.5	35.5
18.5	33.5	23.0	35.9
19.0	34.0	23.5	35.7
19.5	34.0	24.0	35.6
20.0	34.3	24.5	36.0
20.5	34.9	25.0	36.2
21.0	34.7	25.5	36.1
21.5	35.0	26.0	36.2
22.0	35.0	26.5	35.7

COM-POWER PAM-118

PREAMPLIFIER

S/N: 181653

CALIBRATION DATE: MARCH 7, 2022

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	40.02	6.0	38.84
1.1	39.72	6.5	39.20
1.2	39.93	7.0	39.46
1.3	39.98	7.5	39.67
1.4	39.99	8.0	39.28
1.5	40.20	8.5	38.63
1.6	40.05	9.0	38.96
1.7	40.15	9.5	39.33
1.8	40.20	10.0	39.58
1.9	40.33	11.0	38.25
2.0	40.33	12.0	40.03
2.5	40.60	13.0	40.55
3.0	40.76	14.0	40.36
3.5	40.87	15.0	39.34
4.0	40.39	16.0	37.34
4.5	39.55	17.0	42.14
5.0	40.34	18.0	42.54
5.5	39.45		

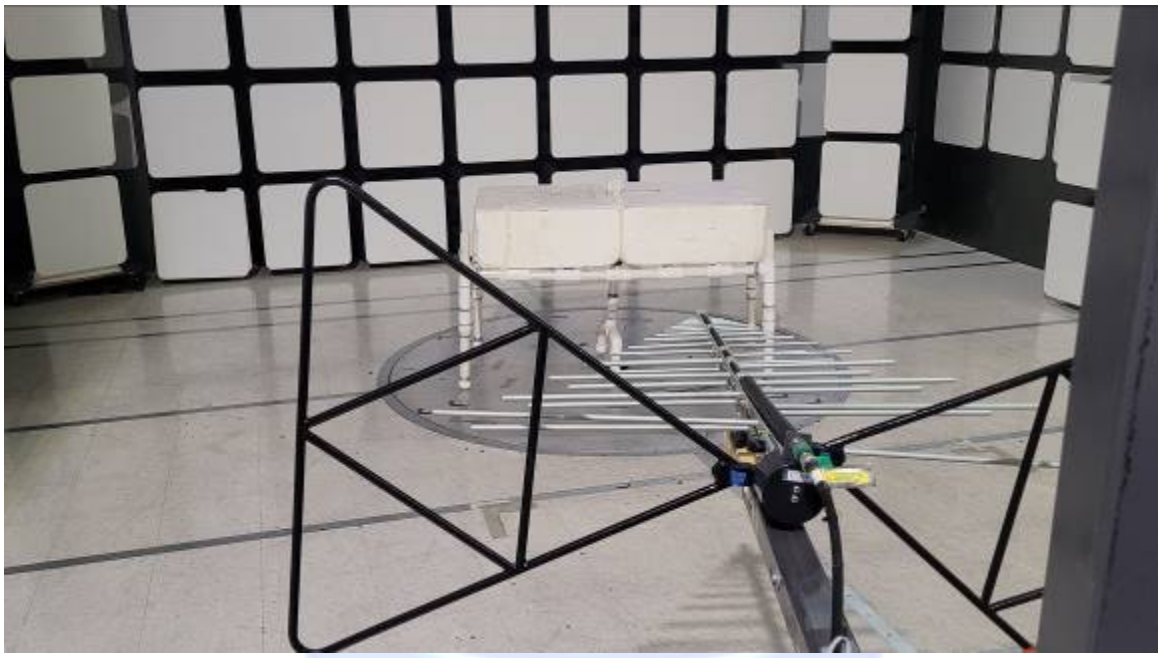
COM-POWER PA-840

MICROWAVE PREAMPLIFIER

S/N: 711013

CALIBRATION DATE: APRIL 8, 2022

FREQUENCY (GHz)	FACTOR (dB)
18.0	24.85
19.0	24.25
20.0	22.69
21.0	22.17
22.0	22.78
23.0	23.23
24.0	23.72
25.0	24.13
26.0	24.28
26.5	25.06



FRONT VIEW

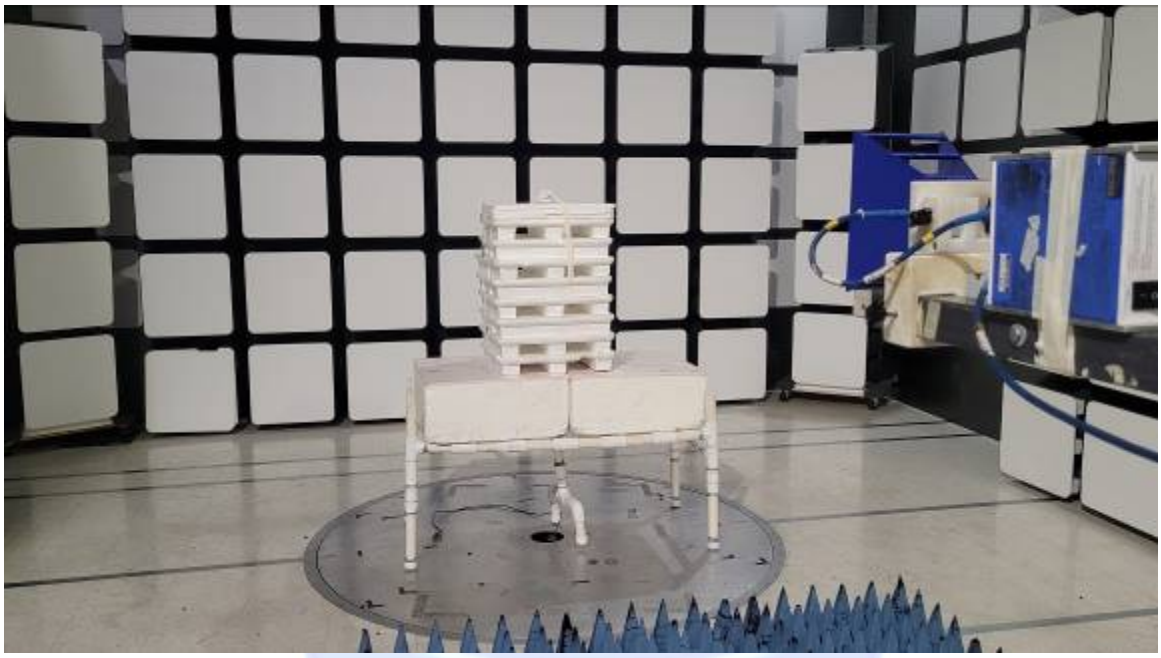
INFINID TECHNOLOGIES, INC.
V-TAG
MODEL: VT100-3
FCC SUBPART B AND C
RADIATED EMISSIONS –BELOW 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

INFINID TECHNOLOGIES, INC.
V-TAG
MODEL: VT100-3
FCC SUBPART B AND C
RADIATED EMISSIONS – BELOW 1 GHz

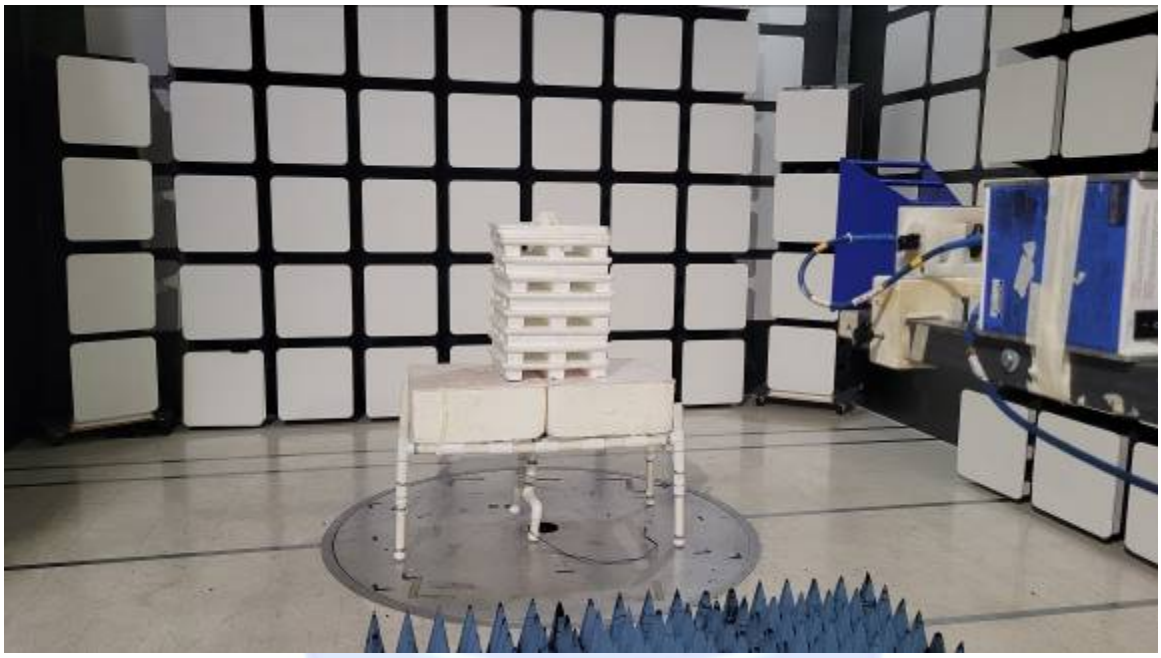
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

INFINID TECHNOLOGIES, INC.
V-TAG
MODEL: VT100-3
FCC SUBPART B AND C
RADIATED EMISSIONS – ABOVE 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

INFINID TECHNOLOGIES, INC.
V-TAG
MODEL: VT100-3
FCC SUBPART B AND C
RADIATED EMISSIONS – ABOVE 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

APPENDIX E

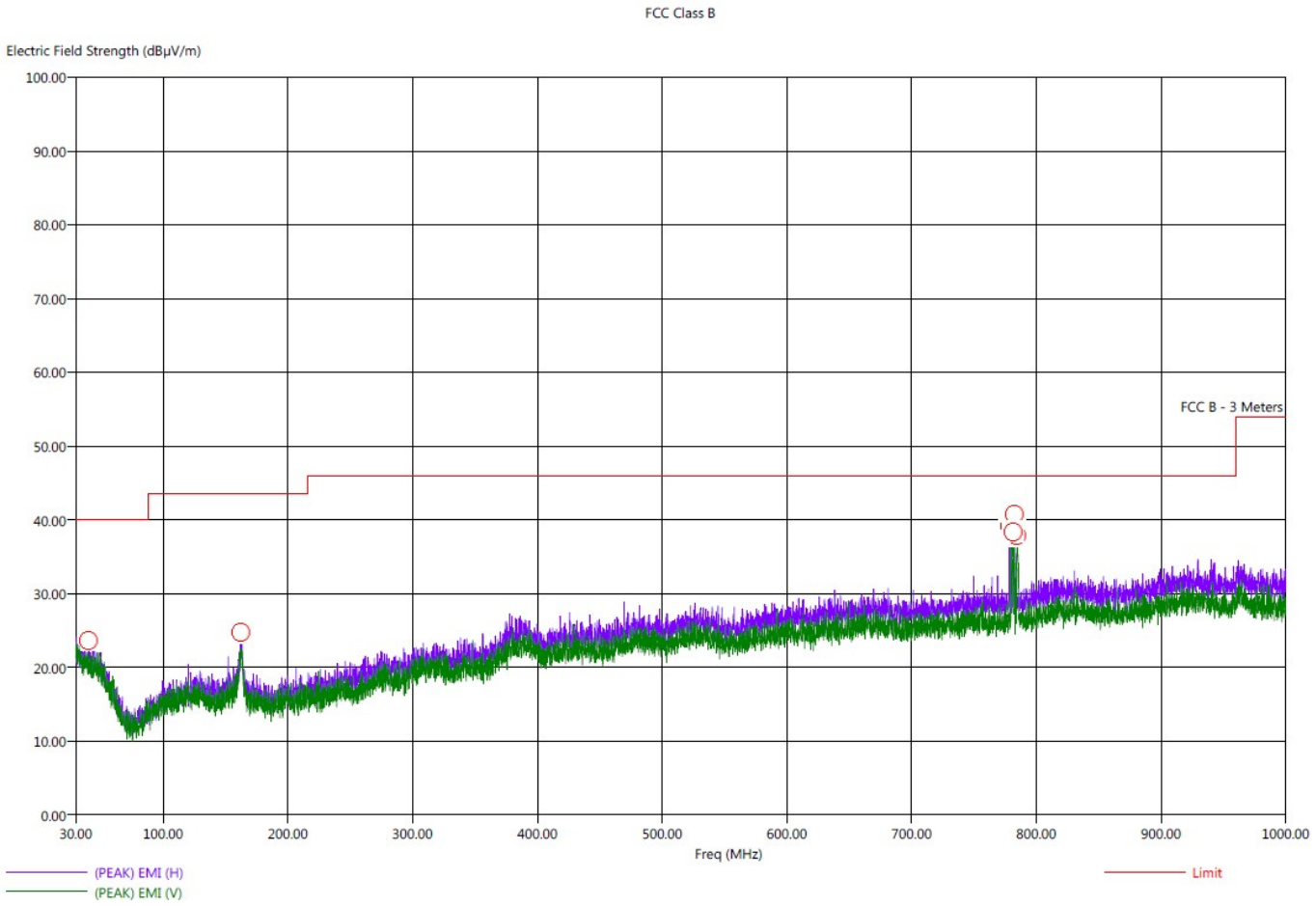
DATA SHEETS

RADIATED EMISSIONS

DATA SHEETS

Title: Pre-Scan - FCC Class B
File: 1 - Pre-Scan - Z-Axis - FCC Class B - 30 MHz to 1000 MHz - 07-01-2022.set
Operator: Kyle Fujimoto
EUT Type: V-Tag
EUT Condition: EUT is continuously transmittnig at 2405 MHz
Company: InfinID Technologies, Inc.
Model: VT100-3
S/N: N/A
Z-Axis - Worst Case

7/1/2022 2:04:11 PM
Sequence: Preliminary Scan



Title: Radiated Final - FCC Class B
File: 1 - Final Scan - Z-Axis - FCC Class B - 30 MHz to 1000 MHz - 07-01-2022.set
Operator: Kyle Fujimoto
EUT Type: V-Tag
EUT Condition: The EUT is continuously transmitting at 2405 MHz
Company: InfinID Technologies, Inc.
Model: VT100-3
S/N: N/A
Z-Axis - Worst Case

7/1/2022 2:15:47 PM
Sequence: Final Measurements

FCC Class B

Freq (MHz)	Pol	(PEAK) EMI (dBµV/m)	(QP) EMI (dBµV/m)	(PEAK) Margin (dB)	(QP) Margin (dB)	Limit (dBµV/m)	Transducer (dB)	Cable (dB)	Ttbl Aql (deg)	Twr Ht (cm)
40.60	H	23.65	18.37	-16.35	-21.63	40.00	20.94	0.46	249.75	175.04
162.30	H	25.94	20.86	-17.56	-22.64	43.50	22.82	1.07	310.00	397.97
778.60	H	39.24	31.52	-6.76	-14.48	46.00	26.10	2.45	187.75	307.28
781.20	V	38.09	31.72	-7.91	-14.28	46.00	26.10	2.46	29.50	190.74
782.30	V	41.37	36.24	-4.63	-9.76	46.00	26.10	2.46	302.00	111.52
784.80	V	32.66	26.62	-13.34	-19.38	46.00	26.10	2.47	64.00	178.86

FUNDAMENTAL AND HARMONICS

DATA SHEETS

FCC 15.249
InfinID Technologies, Inc.
V-Tag
Model: VT100-3

Date: 07/01/2022
Lab: D
Tested By: Kyle Fujimoto

Fundamental - Low Channel

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2405.00	89.33	V	113.97	-24.64	Peak	236.75	164.23	Fundamental - Low Ch.
2405.00	69.33	V	93.97	-24.64	Avg	236.75	164.23	X-Axis
2405.00	93.42	V	113.97	-20.56	Peak	326.25	182.56	Fundamental - Low Ch.
2405.00	73.42	V	93.97	-20.56	Avg	326.25	182.56	Y-Axis
2405.00	98.99	V	113.97	-14.98	Peak	316.25	181.91	Fundamental - Low Ch.
2405.00	78.99	V	93.97	-14.98	Avg	316.25	181.91	Z-Axis
2405.00	97.89	H	113.97	-16.08	Peak	350.50	126.32	Fundamental - Low Ch.
2405.00	77.89	H	93.97	-16.08	Avg	350.50	126.32	X-Axis
2405.00	100.16	H	113.97	-13.81	Peak	173.00	126.62	Fundamental - Low Ch.
2405.00	80.16	H	93.97	-13.81	Avg	173.00	126.62	Y-Axis
2405.00	90.69	H	113.97	-23.28	Peak	173.50	233.13	Fundamental - Low Ch.
2405.00	70.69	H	93.97	-23.28	Avg	173.50	233.13	Z-Axis

FCC 15.249
InfinID Technologies, Inc.
V-Tag
Model: VT100-3

Date: 07/01/2022
Lab: D
Tested By: Kyle Fujimoto

Fundamental - Middle Channel

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2445.00	88.03	V	113.97	-25.94	Peak	45.00	205.55	Fundamental - Mid Ch.
2445.00	68.03	V	93.97	-25.94	Avg	45.00	205.55	X-Axis
2445.00	89.46	V	113.97	-24.51	Peak	189.00	109.91	Fundamental - Mid Ch.
2445.00	69.46	V	93.97	-24.51	Avg	189.00	109.91	Y-Axis
2445.00	97.73	V	113.97	-16.24	Peak	10.00	114.62	Fundamental - Mid Ch.
2445.00	77.73	V	93.97	-16.24	Avg	10.00	114.62	Z-Axis
2445.00	95.87	H	113.97	-18.10	Peak	193.00	166.14	Fundamental - Mid Ch.
2445.00	75.87	H	93.97	-18.10	Avg	193.00	166.14	X-Axis
2445.00	97.69	H	113.97	-16.28	Peak	163.00	160.89	Fundamental - Mid Ch.
2445.00	77.69	H	93.97	-16.28	Avg	163.00	160.89	Y-Axis
2445.00	88.53	H	113.97	-25.44	Peak	144.50	158.74	Fundamental - Mid Ch.
2445.00	68.53	H	93.97	-25.44	Avg	144.50	158.74	Z-Axis

FCC 15.249
InfinID Technologies, Inc.
V-Tag
Model: VT100-3

Date: 07/01/2022
Lab: D
Tested By: Kyle Fujimoto

Fundamental - High Channel

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2480.00	87.46	V	113.97	-26.51	Peak	85.50	205.73	Fundamental - High Ch.
2480.00	67.46	V	93.97	-26.51	Avg	85.50	205.73	X-Axis
2480.00	90.33	V	113.97	-23.64	Peak	147.00	194.14	Fundamental - High Ch.
2480.00	70.33	V	93.97	-23.64	Avg	147.00	194.14	Y-Axis
2480.00	98.83	V	113.97	-15.14	Peak	172.75	161.43	Fundamental - High Ch.
2480.00	78.83	V	93.97	-15.14	Avg	172.75	161.43	Z-Axis
2480.00	98.09	H	113.97	-15.89	Peak	351.25	163.82	Fundamental - High Ch.
2480.00	78.09	H	93.97	-15.89	Avg	351.25	163.82	X-Axis
2480.00	99.75	H	113.97	-14.22	Peak	359.25	163.10	Fundamental - High Ch.
2480.00	79.75	H	93.97	-14.22	Avg	359.25	163.10	Y-Axis
2480.00	89.14	H	113.97	-24.84	Peak	159.75	173.01	Fundamental - High Ch.
2480.00	69.14	H	93.97	-24.84	Avg	159.75	173.01	Z-Axis

FCC 15.249
InfinID Technologies, Inc.
V-Tag
Model: VT100-3

Date: 07/01/2022
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel
Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4810.00	45.05	V	73.97	-28.92	Peak	187.75	111.40	
4810.00	25.05	V	53.97	-28.92	Avg	187.75	111.40	
7215.00	43.12	V	73.97	-30.85	Peak	31.25	239.10	
7215.00	23.12	V	53.97	-30.85	Avg	31.25	239.10	
9620.00	45.84	V	73.97	-28.13	Peak	274.75	127.40	
9620.00	25.84	V	53.97	-28.13	Avg	274.75	127.40	
12025.00	47.30	V	73.97	-26.67	Peak	60.50	111.46	
12025.00	27.30	V	53.97	-26.67	Avg	60.50	111.46	
14430.00								No Emission
14430.00								Detected
16835.00								No Emission
16835.00								Detected
19240.00								No Emission
19240.00								Detected
21645.00								No Emission
21645.00								Detected
24050.00								No Emission
24050.00								Detected

FCC 15.249
InfinID Technologies, Inc.
V-Tag
Model: VT100-3

Date: 07/01/2022
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel
Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4810.00	51.14	V	73.97	-22.83	Peak	140.50	143.34	
4810.00	31.14	V	53.97	-22.83	Avg	140.50	143.34	
7215.00	43.29	V	73.97	-30.68	Peak	119.25	143.28	
7215.00	23.39	V	53.97	-30.58	Avg	119.25	143.28	
9620.00	45.49	V	73.97	-28.48	Peak	71.25	223.22	
9620.00	25.49	V	53.97	-28.48	Avg	71.25	223.22	
12025.00	47.34	V	73.97	-26.63	Peak	188.25	239.04	
12025.00	27.34	V	53.97	-26.63	Avg	188.25	239.04	
14430.00								No Emission
14430.00								Detected
16835.00								No Emission
16835.00								Detected
19240.00								No Emission
19240.00								Detected
21645.00								No Emission
21645.00								Detected
24050.00								No Emission
24050.00								Detected

FCC 15.249
InfinID Technologies, Inc.
V-Tag
Model: VT100-3

Date: 07/01/2022
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel
Transmit Mode - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4810.00	47.17	V	73.97	-26.80	Peak	152.00	111.46	
4810.00	27.17	V	53.97	-26.80	Avg	152.00	111.46	
7215.00	43.38	V	73.97	-30.59	Peak	324.25	143.34	
7215.00	23.38	V	53.97	-30.59	Avg	324.25	143.34	
9620.00	45.44	V	73.97	-28.53	Peak	232.00	111.52	
9620.00	25.44	V	53.97	-28.53	Avg	232.00	111.52	
12025.00	47.39	V	73.97	-26.58	Peak	188.00	110.98	
12025.00	27.39	V	53.97	-26.58	Avg	188.00	110.98	
14430.00								No Emission
14430.00								Detected
16835.00								No Emission
16835.00								Detected
19240.00								No Emission
19240.00								Detected
21645.00								No Emission
21645.00								Detected
24050.00								No Emission
24050.00								Detected

FCC 15.249
InfinID Technologies, Inc.
V-Tag
Model: VT100-3

Date: 07/01/2022
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel
Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4810.00	47.94	H	73.97	-26.03	Peak	83.00	159.34	
4810.00	27.94	H	53.97	-26.03	Avg	83.00	159.34	
7215.00	42.90	H	73.97	-31.07	Peak	289.00	110.92	
7215.00	20.90	H	53.97	-33.07	Avg	289.00	110.92	
9620.00	45.54	H	73.97	-28.43	Peak	277.25	220.71	
9620.00	25.54	H	53.97	-28.43	Avg	277.25	220.71	
12025.00	47.99	H	73.97	-25.98	Peak	104.00	221.07	
12025.00	27.99	H	53.97	-25.98	Avg	104.00	221.07	
14430.00								No Emission
14430.00								Detected
16835.00								No Emission
16835.00								Detected
19240.00								No Emission
19240.00								Detected
21645.00								No Emission
21645.00								Detected
24050.00								No Emission
24050.00								Detected

FCC 15.249
InfinID Technologies, Inc.
V-Tag
Model: VT100-3

Date: 07/01/2022
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel
Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4810.00	49.43	H	73.97	-24.54	Peak	199.00	127.40	
4810.00	29.43	H	53.97	-24.54	Avg	199.00	127.40	
7215.00	44.04	H	73.97	-29.93	Peak	119.25	175.34	
7215.00	24.04	H	53.97	-29.93	Avg	119.25	175.34	
9620.00	46.01	H	73.97	-27.96	Peak	341.00	111.46	
9620.00	26.01	H	53.97	-27.96	Avg	341.00	111.46	
12025.00	49.12	H	73.97	-24.85	Peak	55.00	207.16	
12025.00	29.12	H	53.97	-24.85	Avg	55.00	207.16	
14430.00								No Emission
14430.00								Detected
16835.00								No Emission
16835.00								Detected
19240.00								No Emission
19240.00								Detected
21645.00								No Emission
21645.00								Detected
24050.00								No Emission
24050.00								Detected

FCC 15.249
InfinID Technologies, Inc.
V-Tag
Model: VT100-3

Date: 07/01/2022
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel
Transmit Mode - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4810.00	49.95	H	73.97	-24.02	Peak	195.50	127.28	
4810.00	29.95	H	53.97	-24.02	Avg	195.50	127.28	
7215.00	42.58	H	73.97	-31.39	Peak	246.25	175.22	
7215.00	22.58	H	53.97	-31.39	Avg	246.25	175.22	
9620.00	46.02	H	73.97	-27.95	Peak	2.00	111.40	
9620.00	26.02	H	53.97	-27.95	Avg	2.00	111.40	
12025.00	48.18	H	73.97	-25.79	Peak	72.00	159.28	
12025.00	28.18	H	53.97	-25.79	Avg	72.00	159.28	
14430.00								No Emission
14430.00								Detected
16835.00								No Emission
16835.00								Detected
19240.00								No Emission
19240.00								Detected
21645.00								No Emission
21645.00								Detected
24050.00								No Emission
24050.00								Detected

FCC 15.249
InfinID Technologies, Inc.
V-Tag
Model: VT100-3

Date: 07/01/2022
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel
Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4890.00	46.04	V	73.97	-27.93	Peak	213.75	238.92	
4890.00	26.04	V	53.97	-27.93	Avg	213.75	238.92	
7335.00	43.15	V	73.97	-30.82	Peak	122.25	157.07	
7335.00	23.15	V	53.97	-30.82	Avg	122.25	157.07	
9780.00	46.08	V	73.97	-27.89	Peak	296.75	249.97	
9780.00	26.08	V	53.97	-27.89	Avg	296.75	249.97	
12225.00	48.98	V	73.97	-24.99	Peak	276.50	157.85	
12225.00	28.98	V	53.97	-24.99	Avg	276.50	157.85	
14670.00								No Emission
14670.00								Detected
17115.00								No Emission
17115.00								Detected
19560.00								No Emission
19560.00								Detected
22005.00								No Emission
22005.00								Detected
24450.00								No Emission
24450.00								Detected

FCC 15.249
InfinID Technologies, Inc.
V-Tag
Model: VT100-3

Date: 07/01/2022
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel
Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4890.00	50.42	V	73.97	-23.55	Peak	306.25	127.46	
4890.00	30.42	V	53.97	-23.55	Avg	306.25	127.46	
7335.00	43.63	V	73.97	-30.34	Peak	296.25	111.52	
7335.00	23.63	V	53.97	-30.34	Avg	296.25	111.52	
9780.00	45.89	V	73.97	-28.08	Peak	103.75	206.98	
9780.00	25.89	V	53.97	-28.08	Avg	103.75	206.98	
12225.00	48.36	V	73.97	-25.61	Peak	198.00	239.10	
12225.00	28.36	V	53.97	-25.61	Avg	198.00	239.10	
14670.00								No Emission
14670.00								Detected
17115.00								No Emission
17115.00								Detected
19560.00								No Emission
19560.00								Detected
22005.00								No Emission
22005.00								Detected
24450.00								No Emission
24450.00								Detected

FCC 15.249
InfinID Technologies, Inc.
V-Tag
Model: VT100-3

Date: 07/01/2022
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel
Transmit Mode - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4890.00	48.95	V	73.97	-25.02	Peak	315.00	111.34	
4890.00	28.95	V	53.97	-25.02	Avg	315.00	111.34	
7335.00	43.26	V	73.97	-30.71	Peak	14.75	238.74	
7335.00	23.26	V	53.97	-30.71	Avg	14.75	238.74	
9780.00	46.51	V	73.97	-27.46	Peak	82.25	207.10	
9780.00	26.51	V	53.97	-27.46	Avg	82.25	207.10	
12225.00	49.38	V	73.97	-24.59	Peak	125.25	206.98	
12225.00	29.38	V	53.97	-24.59	Avg	125.25	206.98	
14670.00								No Emission
14670.00								Detected
17115.00								No Emission
17115.00								Detected
19560.00								No Emission
19560.00								Detected
22005.00								No Emission
22005.00								Detected
24450.00								No Emission
24450.00								Detected

FCC 15.249
InfinID Technologies, Inc.
V-Tag
Model: VT100-3

Date: 07/01/2022
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel
Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4890.00	50.26	H	73.97	-23.71	Peak	95.25	159.16	
4890.00	30.26	H	53.97	-23.71	Avg	95.25	159.16	
7335.00	43.16	H	73.97	-30.81	Peak	178.75	111.40	
7335.00	23.16	H	53.97	-30.81	Avg	178.75	111.40	
9780.00	47.22	H	73.97	-26.75	Peak	294.00	175.04	
9780.00	27.22	H	53.97	-26.75	Avg	294.00	175.04	
12225.00	48.63	H	73.97	-25.34	Peak	58.50	222.92	
12225.00	28.63	H	53.97	-25.34	Avg	58.50	222.92	
14670.00								No Emission
14670.00								Detected
17115.00								No Emission
17115.00								Detected
19560.00								No Emission
19560.00								Detected
22005.00								No Emission
22005.00								Detected
24450.00								No Emission
24450.00								Detected

FCC 15.249
InfinID Technologies, Inc.
V-Tag
Model: VT100-3

Date: 07/01/2022
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel
Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4890.00	51.66	H	73.97	-22.31	Peak	24.00	127.34	
4890.00	31.66	H	53.97	-22.31	Avg	24.00	127.34	
7335.00	43.60	H	73.97	-30.37	Peak	343.25	238.80	
7335.00	23.60	H	53.97	-30.37	Avg	343.25	238.80	
9780.00	45.98	H	73.97	-27.99	Peak	85.00	222.92	
9780.00	25.98	H	53.97	-27.99	Avg	85.00	222.92	
12225.00	48.36	H	73.97	-25.61	Peak	264.50	159.22	
12225.00	28.36	H	53.97	-25.61	Avg	264.50	159.22	
14670.00								No Emission
14670.00								Detected
17115.00								No Emission
17115.00								Detected
19560.00								No Emission
19560.00								Detected
22005.00								No Emission
22005.00								Detected
24450.00								No Emission
24450.00								Detected

FCC 15.249
InfinID Technologies, Inc.
V-Tag
Model: VT100-3

Date: 07/01/2022
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel
Transmit Mode - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4890.00	49.49	H	73.97	-24.48	Peak	336.50	159.16	
4890.00	29.49	H	53.97	-24.48	Avg	336.50	159.16	
7335.00	43.46	H	73.97	-30.51	Peak	230.75	175.46	
7335.00	23.46	H	53.97	-30.51	Avg	230.75	175.46	
9780.00	46.37	H	73.97	-27.60	Peak	139.75	249.92	
9780.00	26.37	H	53.97	-27.60	Avg	139.75	249.92	
12225.00	48.46	H	73.97	-25.51	Peak	249.50	175.28	
12225.00	28.46	H	53.97	-25.51	Avg	249.50	175.28	
14670.00								No Emission
14670.00								Detected
17115.00								No Emission
17115.00								Detected
19560.00								No Emission
19560.00								Detected
22005.00								No Emission
22005.00								Detected
24450.00								No Emission
24450.00								Detected

FCC 15.249
InfinID Technologies, Inc.
V-Tag
Model: VT100-3

Date: 07/01/2022
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel
Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960.00	45.24	V	73.97	-28.73	Peak	219.75	207.04	
4960.00	25.34	V	53.97	-28.63	Avg	219.75	207.04	
7440.00	42.75	V	73.97	-31.22	Peak	223.00	127.28	
7440.00	22.75	V	53.97	-31.22	Avg	223.00	127.28	
9920.00	45.84	V	73.97	-28.13	Peak	144.00	238.74	
9920.00	25.84	V	53.97	-28.13	Avg	144.00	238.74	
12400.00	48.53	V	73.97	-25.44	Peak	89.50	110.98	
12400.00	28.53	V	53.97	-25.44	Avg	89.50	110.98	
14880.00								No Emission
14880.00								Detected
17360.00								No Emission
17360.00								Detected
19840.00								No Emission
19840.00								Detected
22320.00								No Emission
22320.00								Detected
24800.00								No Emission
24800.00								Detected

FCC 15.249
InfinID Technologies, Inc.
V-Tag
Model: VT100-3

Date: 07/01/2022
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel
Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960.00	50.81	V	73.97	-23.16	Peak	311.25	127.28	
4960.00	30.81	V	53.97	-23.16	Avg	311.25	127.28	
7440.00	42.92	V	73.97	-31.05	Peak	271.50	175.10	
7440.00	22.92	V	53.97	-31.05	Avg	271.50	175.10	
9920.00	46.04	V	73.97	-27.93	Peak	278.75	159.16	
9920.00	26.04	V	53.97	-27.93	Avg	278.75	159.16	
12400.00	48.53	V	73.97	-25.44	Peak	254.00	249.98	
12400.00	28.53	V	53.97	-25.44	Avg	254.00	249.98	
14880.00								No Emission
14880.00								Detected
17360.00								No Emission
17360.00								Detected
19840.00								No Emission
19840.00								Detected
22320.00								No Emission
22320.00								Detected
24800.00								No Emission
24800.00								Detected

FCC 15.249
InfinID Technologies, Inc.
V-Tag
Model: VT100-3

Date: 07/01/2022
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel
Transmit Mode - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960.00	50.83	V	73.97	-23.14	Peak	322.50	111.58	
4960.00	30.83	V	53.97	-23.14	Avg	322.50	111.58	
7440.00	43.79	V	73.97	-30.18	Peak	123.50	249.98	
7440.00	23.79	V	53.97	-30.18	Avg	123.50	249.98	
9920.00	46.12	V	73.97	-27.85	Peak	191.50	249.91	
9920.00	26.12	V	53.97	-27.85	Avg	191.50	249.91	
12400.00	48.40	V	73.97	-25.57	Peak	20.75	249.94	
12400.00	28.40	V	53.97	-25.57	Avg	20.75	249.94	
14880.00								No Emission
14880.00								Detected
17360.00								No Emission
17360.00								Detected
19840.00								No Emission
19840.00								Detected
22320.00								No Emission
22320.00								Detected
24800.00								No Emission
24800.00								Detected

FCC 15.249
InfinID Technologies, Inc.
V-Tag
Model: VT100-3

Date: 07/01/2022
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel
Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960.00	46.38	H	73.97	-27.59	Peak	312.50	127.22	
4960.00	26.38	H	53.97	-27.59	Avg	312.50	127.22	
7440.00	43.10	H	73.97	-30.87	Peak	189.25	190.56	
7440.00	23.10	H	53.97	-30.87	Avg	189.25	190.56	
9920.00	45.42	H	73.97	-28.55	Peak	230.00	249.98	
9920.00	25.42	H	53.97	-28.55	Avg	230.00	249.98	
12400.00	48.70	H	73.97	-25.27	Peak	246.00	126.92	
12400.00	28.70	H	53.97	-25.27	Avg	246.00	126.92	
14880.00								No Emission
14880.00								Detected
17360.00								No Emission
17360.00								Detected
19840.00								No Emission
19840.00								Detected
22320.00								No Emission
22320.00								Detected
24800.00								No Emission
24800.00								Detected

FCC 15.249
InfinID Technologies, Inc.
V-Tag
Model: VT100-3

Date: 07/01/2022
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel
Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960.00	45.72	H	73.97	-28.25	Peak	193.25	110.98	
4960.00	25.72	H	53.97	-28.25	Avg	193.25	110.98	
7440.00	43.41	H	73.97	-30.56	Peak	94.75	125.55	
7440.00	23.41	H	53.97	-30.56	Avg	94.75	125.55	
9920.00	45.57	H	73.97	-28.40	Peak	296.75	237.01	
9920.00	25.57	H	53.97	-28.40	Avg	296.75	237.01	
12400.00	48.69	H	73.97	-25.28	Peak	185.25	128.11	
12400.00	28.69	H	53.97	-25.28	Avg	185.25	128.11	
14880.00								No Emission
14880.00								Detected
17360.00								No Emission
17360.00								Detected
19840.00								No Emission
19840.00								Detected
22320.00								No Emission
22320.00								Detected
24800.00								No Emission
24800.00								Detected

FCC 15.249
InfinID Technologies, Inc.
V-Tag
Model: VT100-3

Date: 07/01/2022
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel
Transmit Mode - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960.00	47.86	H	73.97	-26.11	Peak	0.00	189.55	
4960.00	27.86	H	53.97	-26.11	Avg	0.00	189.55	
7440.00	47.86	H	73.97	-26.11	Peak	26.75	239.04	
7440.00	27.86	H	53.97	-26.11	Avg	26.75	239.04	
9920.00	46.09	H	73.97	-27.88	Peak	319.75	143.28	
9920.00	26.09	H	53.97	-27.88	Avg	319.75	143.28	
12400.00	48.59	H	73.97	-25.38	Peak	106.00	191.04	
12400.00	28.59	H	53.97	-25.38	Avg	106.00	191.04	
14880.00								No Emission
14880.00								Detected
17360.00								No Emission
17360.00								Detected
19840.00								No Emission
19840.00								Detected
22320.00								No Emission
22320.00								Detected
24800.00								No Emission
24800.00								Detected

FCC 15.249 and FCC Class B
InfinID Technologies, Inc.
V-Tag
Model: VT100-3

Date: 07/01/2022
Lab: D
Tested By: Kyle Fujimoto

Non Harmonic Emissions from the Tx and Digital Portion - 9 kHz to 30 MHz
Non Harmonic Emissions from the Tx and Digital Portion - 1 GHz to 25 GHz

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
								No Emissions Detected
								from 9 kHz to 30 MHz
								for the digital portion
								of the EUT
								No Emissions Detected
								from 9 kHz to 30 MHz
								for the Non-Harmonic Emissions
								No Emissions Detected
								from 1 GHz to 25 GHz
								for the digital portion
								of the EUT
								No Emissions Detected
								from 1 GHz to 25 GHz
								for the Non-Harmonic Emissions
								of the Transmitter for the EUT
								Investigated in the X-Axis,
								Y-Axis, and Z-Axis

BAND EDGES

DATA SHEETS

FCC 15.249
InfinID Technologies, Inc.
V-Tag
Model: VT100-3

Date: 07/01/2022
Lab: D
Tested By: Kyle Fujimoto

Band Edge - Low Channel

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2405.00	98.99	V	73.97	25.02	Peak	316.25	181.91	Fundamental - Low Ch.
2405.00	78.99	V	53.97	25.02	Avg	316.25	181.91	Z-Axis Worst Case
2400.00	54.48	V	73.97	-19.49	Peak	316.25	181.91	Band Edge
2400.00	34.48	V	53.97	-19.49	Avg	316.25	181.91	Z-Axis Worst Case
2405.00	100.16	H	113.97	-13.81	Peak	173.00	126.62	Fundamental - Low Ch.
2405.00	80.16	H	93.97	-13.81	Avg	173.00	126.62	Y-Axis - Worst Case
2400.00	55.54	H	73.97	-18.43	Peak	173.00	126.62	Band Edge
2400.00	35.54	H	53.97	-18.43	Avg	173.00	126.62	Y-Axis - Worst Case

FCC 15.249
InfinID Technologies, Inc.
V-Tag
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Date: 07/01/2022
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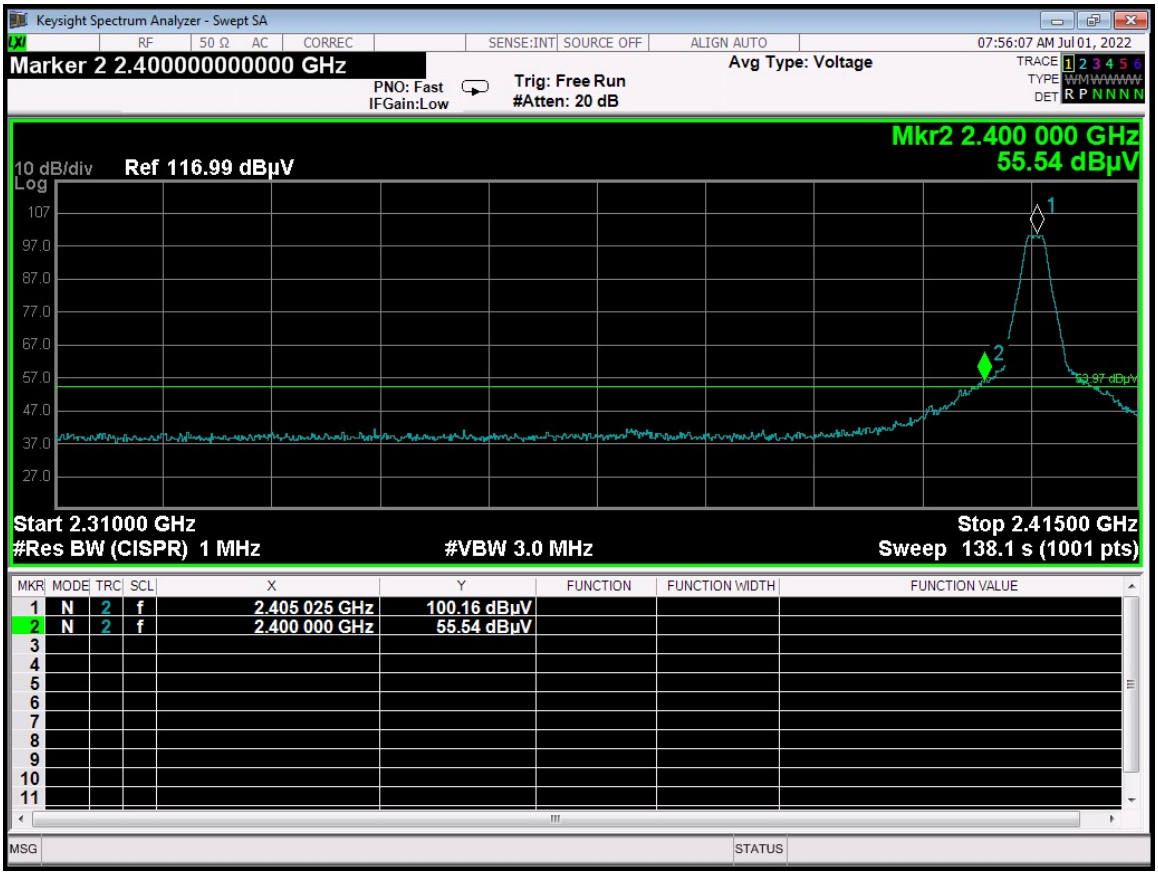
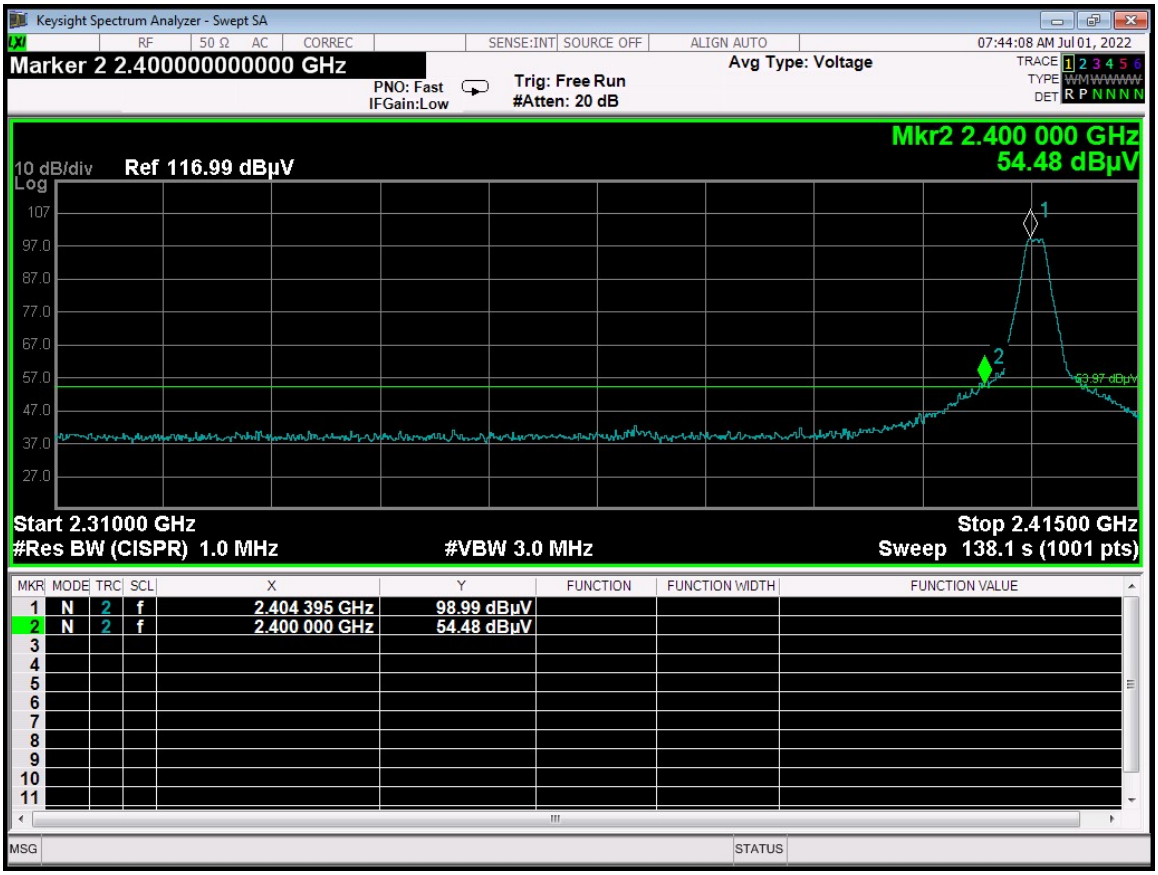
Band Edge - High Channel

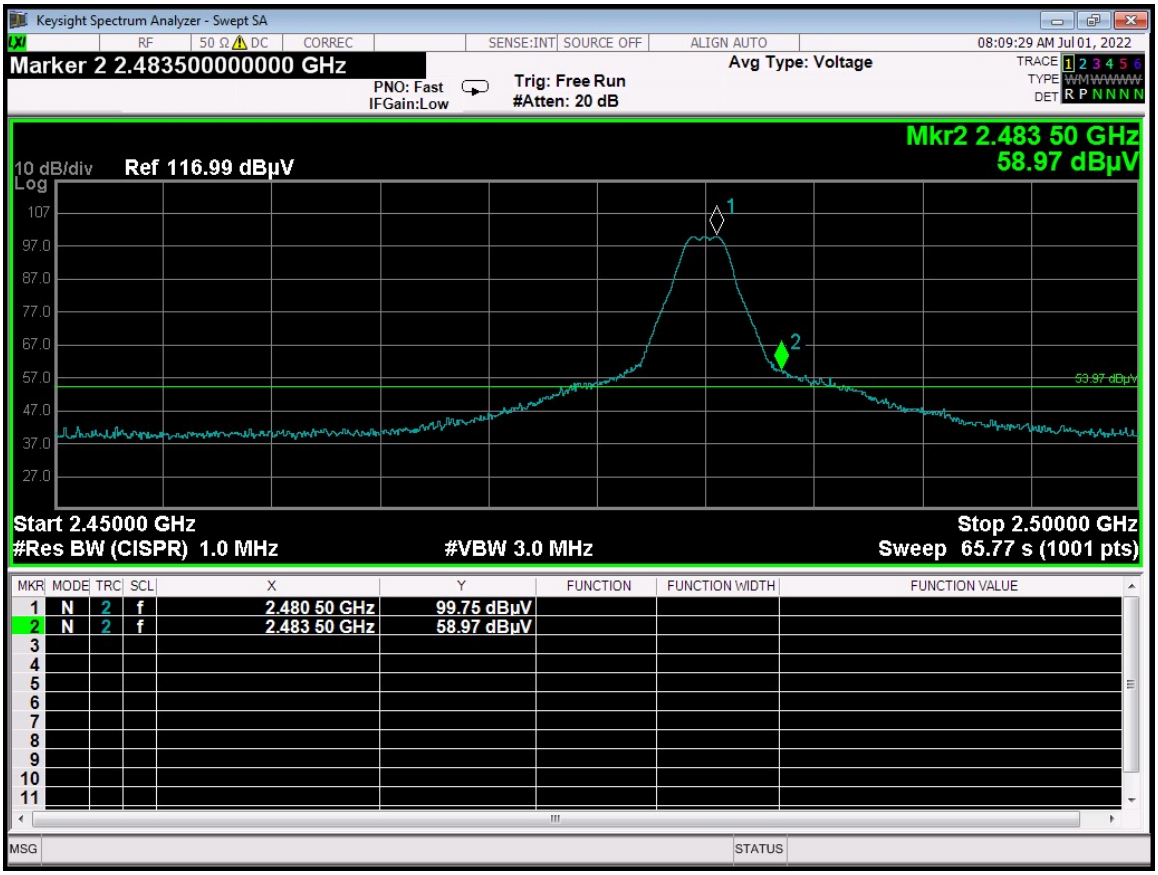
Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2480.00	98.83	V	113.97	-15.14	Peak	172.75	161.43	Fundamental - High Ch.
2480.00	78.83	V	93.97	-15.14	Avg	172.75	161.43	Z-Axis Worst Case
2483.50	57.77	V	73.97	-16.20	Peak	172.75	161.43	Band Edge
2483.50	37.77	V	53.97	-16.20	Avg	172.75	161.43	Z-Axis Worst Case
2480.00	99.75	H	113.97	-14.22	Peak	359.25	163.10	Fundamental - High Ch.
2480.00	79.75	H	93.97	-14.22	Avg	359.25	163.10	Y-Axis - Worst Case
2483.50	58.97	H	73.97	-15.00	Peak	359.25	163.10	Band Edge
2483.50	38.97	H	53.97	-15.00	Avg	359.25	163.10	Y-Axis - Worst Case



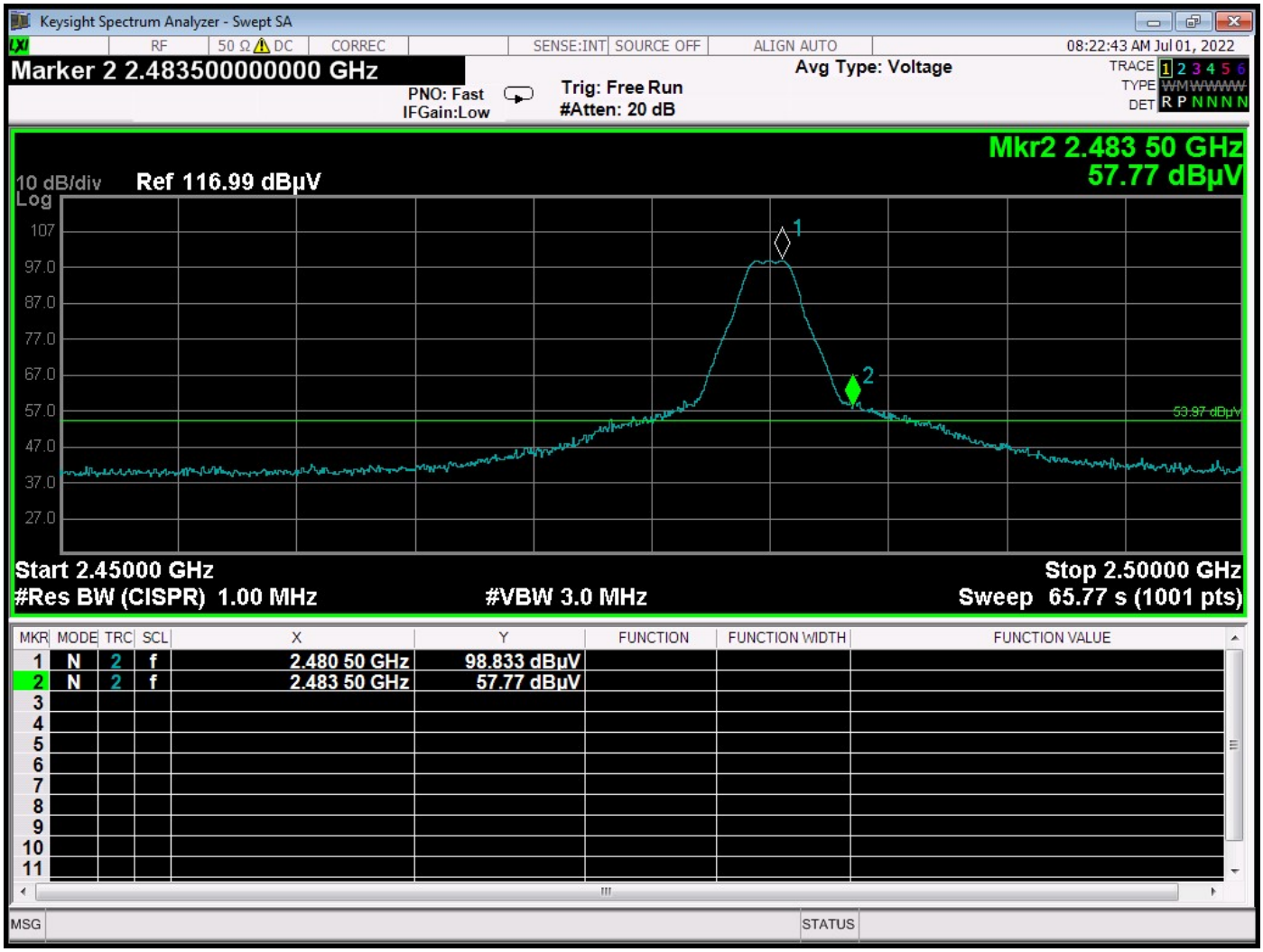
Band Edge - 2405 MHz - Horizontal Polarization - Y-Axis - Duty Cycle Average



Band Edge - 2405 MHz - Vertical Polarization - Z-Axis - Duty Cycle Average



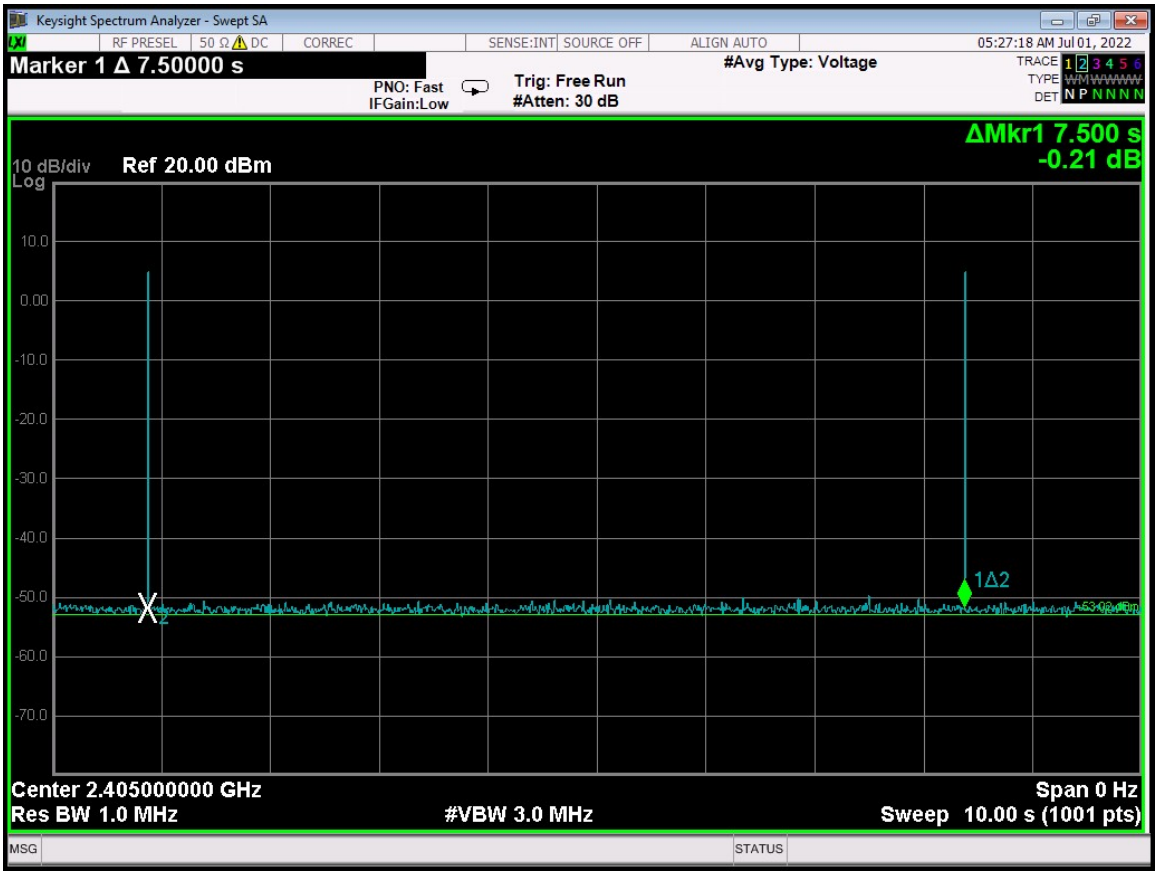
Band Edge - 2480 MHz - Horizontal Polarization - Y-Axis - Duty Cycle Average



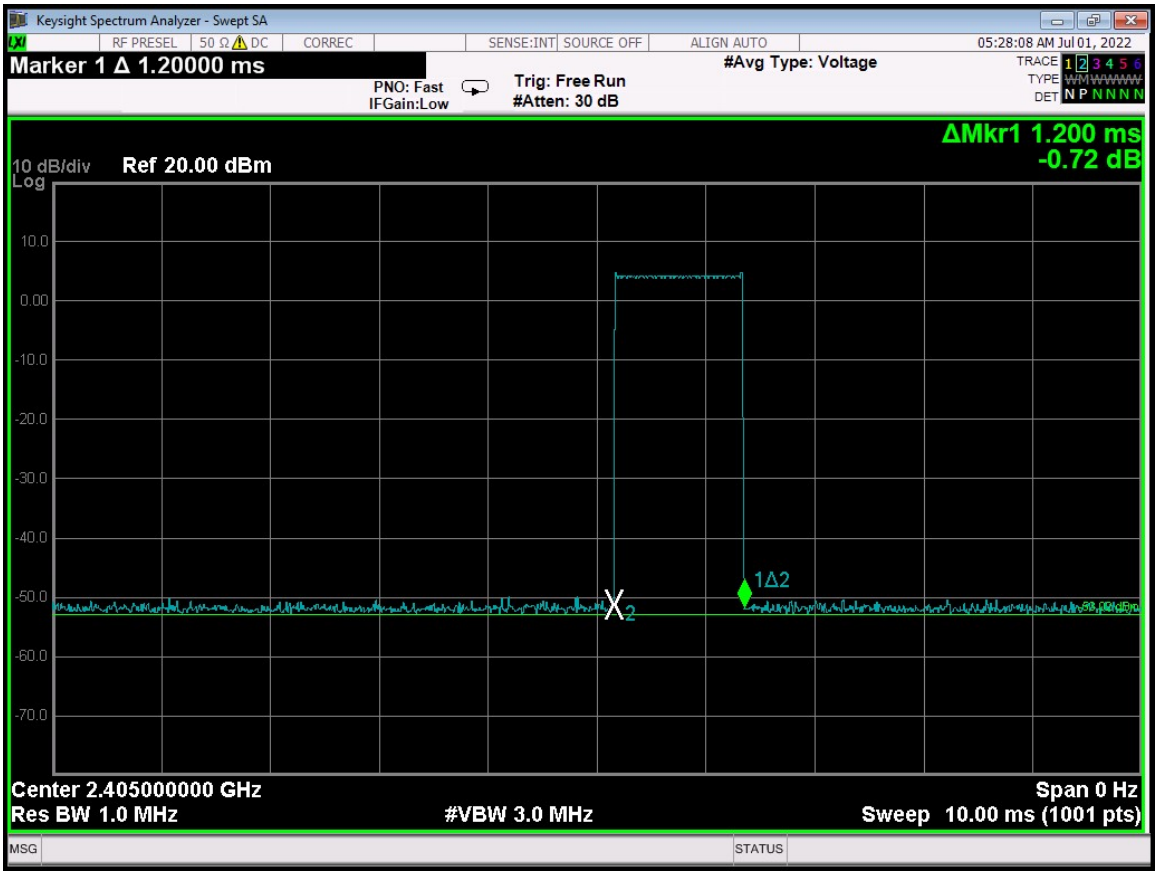
Band Edge – 2480 MHz - Vertical Polarization - Z-Axis – Duty Cycle Average

DUTY CYCLE

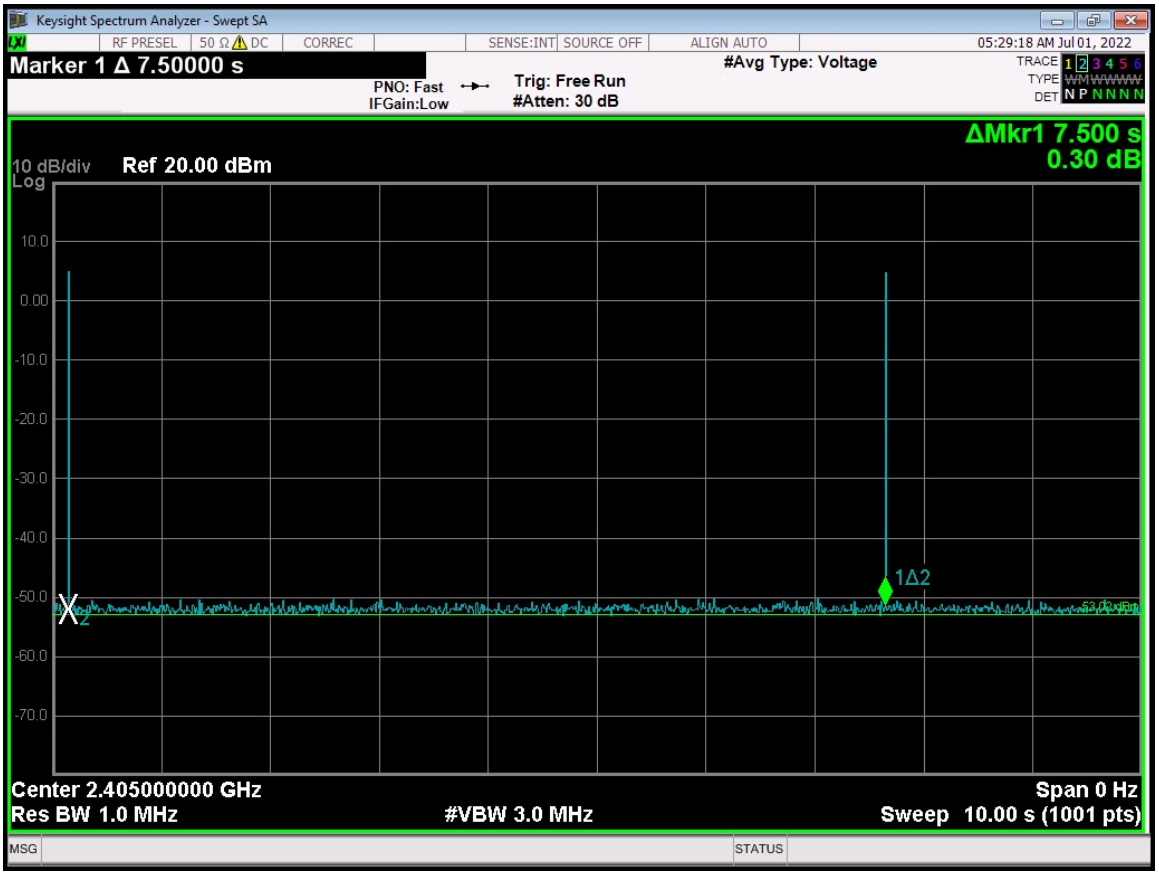
DATA SHEETS



The worst case where the pulse train repeats itself will be 7.5 seconds.



Time of One Pulse is 1.2 ms



Total On Time = 1.2 ms

Duty Cycle = 1.2 ms / 100 ms = 1.2%

The full peak to average ratio of -20 dB can be utilized.