# Divigraph (Pty) LTD

**TEST REPORT FOR**

**Industrial Edge Machine with IEEE 802.15.4 and BLE radio, 2.4GHz Wi-Fi/Bluetooth and LTE/WCDMA cellular interface, Model: 110A1000-01**
**Dipole Antenna (HUBER+SUHNER 1355.17.0002), Model: 100A1002**
**Dipole Antenna (HUBER+SUHNER 1399.17.0224), Model: 100A1001**
**Yagi Antenna (HUBER+SUHNER 1324.17.0116), Model: 110A1007**
**Antenna Whip 5G WB Cell IP67 N Plug, Model: 110A1008**
**RF Extension Cable (175101-10-24.00), Model: 175101-10-24.00**
**Panel Antenna (TE MD24-12), Model: 110A1003**

**Tested to The Following Standards:**

**FCC Part 15 Subpart C Section(s)**
**15.207 & 15.247**
**(DTS 2400-2483.5 MHz)**

**Report No.: 109523-17**

**Date of issue: April 9, 2024**

**Test Certificate # 803.01**

**This test report bears the accreditation symbol indicating that the testing performed herein meets the test and reporting requirements of ISO/IEC 17025 under the applicable scope of testing for CKC Laboratories, Inc.**

**We strive to create long-term, trust based relationships by providing sound, adaptive, customer first testing services. We embrace each of our customers' unique EMC challenges, not as an interruption to set processes, but rather as the reason we are in business.**

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# Administrative Information

## Test Report Information

**REPORT PREPARED FOR:**

Divigraph (Pty) LTD
Prosperity Park, Computer Road
Milnerton Cape Town, 7441
South Africa

Representative: Dennis Naude
Customer Reference Number: 2359

**REPORT PREPARED BY:**

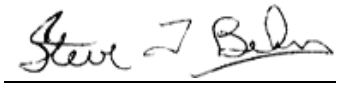
Stacey Noriega
CKC Laboratories, Inc.
5046 Sierra Pines Drive
Mariposa, CA 95338

Project Number: 109523

**DATE OF EQUIPMENT RECEIPT:** March 15, 2024
**DATE(S) OF TESTING:** March 18 and March 21-26, 2024

## Report Authorization

The test data contained in this report documents the observed testing parameters pertaining to and are relevant for only the equipment provided by the client, tested in the agreed upon operational mode(s) and configuration(s) as identified herein. Compliance assessment remains the client's responsibility. This report may not be used to claim product endorsement by A2LA or any government agencies. This test report has been authorized for release under quality control from CKC Laboratories, Inc.



***Steve Behm***
***Director of Quality Assurance & Engineering Services***
***CKC Laboratories, Inc.***

# Test Facility Information

Our laboratories are configured to effectively test a wide variety of product types. CKC utilizes first class test equipment, anechoic chambers, data acquisition and information services to create accurate, repeatable and affordable test results.

TEST LOCATION(S):
CKC Laboratories, Inc.
1120 Fulton Place
Fremont, CA 94539

# Software Versions

| CKC Laboratories Proprietary Software | Version |
|---|---|
| EMITest Emissions | 5.03.20 |

# Site Registration & Accreditation Information

| Location | *NIST CB # | FCC | Canada | Japan |
|---|---|---|---|---|
| Canyon Park, Bothell, WA | US0103 | US1024 | 3082C | A-0136 |
| Brea, CA | US0103 | US1024 | 3082D | A-0136 |
| Fremont, CA | US0103 | US1024 | 3082B | A-0136 |
| Mariposa, CA | US0103 | US1024 | 3082A | A-0136 |

*CKC's list of NIST designated countries can be found at: https://standards.gov/cabs/designations.html

# Summary of Results

## Standard / Specification: FCC Part 15 Subpart C - 15.247 & 15.207 (DTS)

| Test Procedure | Description | Modifications | Results |
|---|---|---|---|
| 15.247(a)(2) | 6dB Bandwidth | NA | PASS |
| 15.247(b)(3) | Output Power | NA | PASS |
| 15.247(d) | RF Conducted Emissions & Band Edge | NA | PASS |
| 15.247(d) | Radiated Emissions & Band Edge | NA | PASS |
| 15.247(e) | Power Spectral Density | NA | PASS |
| 15.207 | AC Conducted Emissions | NA | PASS |

NA = Not Applicable

| ISO/IEC 17025 Decision Rule |
|---|
| The equipment sample utilized for testing is selected by the manufacturer. The declaration of pass or fail herein is a binary statement for simple acceptance rule (ILAC G8) based upon assessment to the specification(s) listed above, without consideration of measurement uncertainties. For performance related tests, equipment was monitored for specified criteria identified in that section of testing. |
| |

# Modifications During Testing

This list is a summary of the modifications made to the equipment during testing.

| Summary of Conditions |
|---|
| No modifications were made during testing. |
| |

**Modifications listed above must be incorporated into all production units.**

# Conditions During Testing

This list is a summary of the conditions noted to the equipment during testing.

| Summary of Conditions |
|---|
| None |
| |

# Equipment Under Test (EUT)

During testing, numerous configurations may have been utilized. The configurations listed below support compliance to the standard(s) listed in the Summary of Results section.

## Configuration 2

***Equipment Tested:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Industrial Edge Machine with IEEE 802.15.4 and BLE radio, 2.4GHz Wi-Fi/Bluetooth and LTE/WCDMA cellular interface | Divigraph (Pty)LTD | 110A1000-01 | AD24BD09 |
| Dipole Antenna (HUBER+SUHNER 1355.17.0002) | HUBER+SUHNER | 100A1002 | DVG-AGW-UL-008 |
| Antenna Whip 5G WB Cell IP67 N Plug | TE CONNECTIVITY | 110A1008 | DVG-AGW-UL-004 |
| Dipole Antenna (HUBER+SUHNER 1399.17.0224) | HUBER+SUHNER | 100A1001 | DVG-AGW-UL-001 |

| Radio / Subcomponent | Antenna | Type | Gain | Active |
|---|---|---|---|---|
| (1) 802.15.4 & BLE | Dipole Antenna (HUBER+SUHNER 1355.17.0002) | Omni | 6dBi | YES |
| (2) Cellular | Antenna Whip 5G WB Cell IP67 N Plug | Omni | 3.9dbi | NO |
| (3) Wi-Fi and Bluetooth | Dipole Antenna (HUBER+SUHNER 1399.17.0224) | Omni | 2dBi | NO |

***Support Equipment:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| PoE DC Injector | Tenda | PoE30G-AT | E519201931300529 |
| 5-Port 10/100 Mbps Ethernet Switch | LiteWave | LS1005 | 22390K7014704 |
| NUC | Intel | NUC 8i3BEH | G6BE84900Z2M |
| Monitor | Element | ELEFW195 | H5C0M0A1S194044842 |
| Mouse | Microsoft | X05-48976 | 52195-576-6371461-0000 |
| Keyboard | Microsoft | KU-0462 | 7687605031296 |

## Configuration 5

***Equipment Tested:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Industrial Edge Machine with IEEE 802.15.4 and BLE radio, 2.4GHz Wi-Fi/Bluetooth and LTE/WCDMA cellular interface | Divigraph (Pty)LTD | 110A1000-01 | AD24BD09 |
| Panel Antenna (TE MD24-12) | TE CONNECTIVITY | 110A1003 | DVG-AGW-UL-025 |
| RF Extension Cable (175101-10-24.00) | Amphenol RF | 175101-10-24.00 | DVG-AGW-UL-022 |
| Antenna Whip 5G WB Cell IP67 N Plug | TE CONNECTIVITY | 110A1008 | DVG-AGW-UL-004 |
| Dipole Antenna (HUBER+SUHNER 1399.17.0224) | HUBER+SUHNER | 100A1001 | DVG-AGW-UL-001 |

| Radio / Subcomponent | Antenna | Type | Gain | Active |
|---|---|---|---|---|
| (1) 802.15.4 & BLE | Panel Antenna (TE MD24-12) | Panel | 11dBi | YES |
| (2) Cellular | Antenna Whip 5G WB Cell IP67 N Plug | Omni | 3.9dbi | NO |
| (3) Wi-Fi and Bluetooth | Dipole Antenna (HUBER+SUHNER 1399.17.0224) | Omni | 2dBi | NO |

***Support Equipment:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| PoE DC Injector | Tenda | PoE30G-AT | E519201931300529 |
| 5-Port 10/100 Mbps Ethernet Switch | LiteWave | LS1005 | 22390K7014704 |
| NUC | Intel | NUC 8i3BEH | G6BE84900Z2M |
| Monitor | Element | ELEFW195 | H5C0M0A1S194044842 |
| Mouse | Microsoft | X05-48976 | 52195-576-6371461-0000 |
| Keyboard | Microsoft | KU-0462 | 7687605031296 |

## Configuration 6

***Equipment Tested:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Industrial Edge Machine with IEEE 802.15.4 and BLE radio, 2.4GHz Wi-Fi/Bluetooth and LTE/WCDMA cellular interface | Divigraph (Pty)LTD | 110A1000-01 | AD24BD09 |
| Yagi Antenna (HUBER+SUHNER 1324.17.0116) | HUBER+SUHNER | 110A1007 | DVG-AGW-UL-003 |
| Antenna Whip 5G WB Cell IP67 N Plug | TE CONNECTIVITY | 110A1008 | DVG-AGW-UL-004 |
| Dipole Antenna (HUBER+SUHNER 1399.17.0224) | HUBER+SUHNER | 100A1001 | DVG-AGW-UL-001 |

| Radio / Subcomponent | Antenna | Type | Gain | Active |
|---|---|---|---|---|
| (1) 802.15.4 & BLE | Yagi Antenna (HUBER+SUHNER 1324.17.0116) | Yagi | 14dBi | YES |
| (2) Cellular | Antenna Whip 5G WB Cell IP67 N Plug | Omni | 3.9dbi | NO |
| (3) Wi-Fi and Bluetooth | Dipole Antenna (HUBER+SUHNER 1399.17.0224) | Omni | 2dBi | NO |

***Support Equipment:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| PoE DC Injector | Tenda | PoE30G-AT | E519201931300529 |
| 5-Port 10/100 Mbps Ethernet Switch | LiteWave | LS1005 | 22390K7014704 |
| NUC | Intel | NUC 8i3BEH | G6BE84900Z2M |
| Monitor | Element | ELEFW195 | H5C0M0A1S194044842 |
| Mouse | Microsoft | X05-48976 | 52195-576-6371461-0000 |
| Keyboard | Microsoft | KU-0462 | 7687605031296 |

### Configuration 7

***Equipment Tested:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Industrial Edge Machine with IEEE 802.15.4 and BLE radio, 2.4GHz Wi-Fi/Bluetooth and LTE/WCDMA cellular interface | Divigraph (Pty)LTD | 110A1000-01 | AD24BD09 |

***Support Equipment:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| PoE DC Injector | Tenda | PoE30G-AT | E519201931300529 |
| 5-Port 10/100 Mbps Ethernet Switch | LiteWave | LS1005 | 22390K7014704 |
| NUC | Intel | NUC 8i3BEH | G6BE84900Z2M |
| Monitor | Element | ELEFW195 | H5C0M0A1S194044842 |
| Mouse | Microsoft | X05-48976 | 52195-576-6371461-0000 |
| Keyboard | Microsoft | KU-0462 | 7687605031296 |

## General Product Information:

| Description of EUT |
|---|
| Industrial Edge Machine |

| Product Information | Manufacturer-Provided Details |
|---|---|
| Operating Frequencies Tested: | 2402-2480MHz |
| Equipment Type: | Stand-Alone Equipment |
| Type of Wideband System: | BLE |
| Maximum Duty Cycle: | 100% |
| Modulation Type(s): | GFSK |
| Number of TX Chains: | 1 |
| Beamforming Type: | NA |
| Antenna Type(s) and Gain: | N-Type/6dBi, 11dBi and 14dBi |
| Antenna Connection Type: | External Connector |
| Nominal Input Voltage: | 24VDC |
| Firmware / Software Version(s): | NA |
| Firmware / Software Description: | NA |
| Firmware / Software Setting(s): | NCP Commander |
| Tune-up or Adjustment(s): | None |
| The validity of results is dependent on the stated product details, the accuracy of which the manufacturer assumes full responsibility. | |

## EUT and Accessory Photo(s)


EUT, Front View

EUT, Back View

Dipole Antenna, 6dBi

Panel Antenna; 11dBi

Yagi Antenna; 14dBi

RF Extension Cable

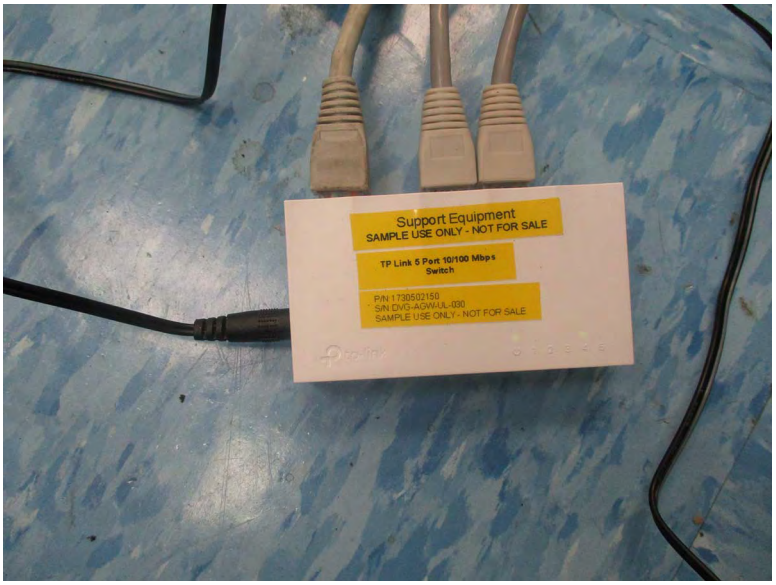
Keyboard


Monitor


Mouse


NUC

## Support Equipment Photo(s)



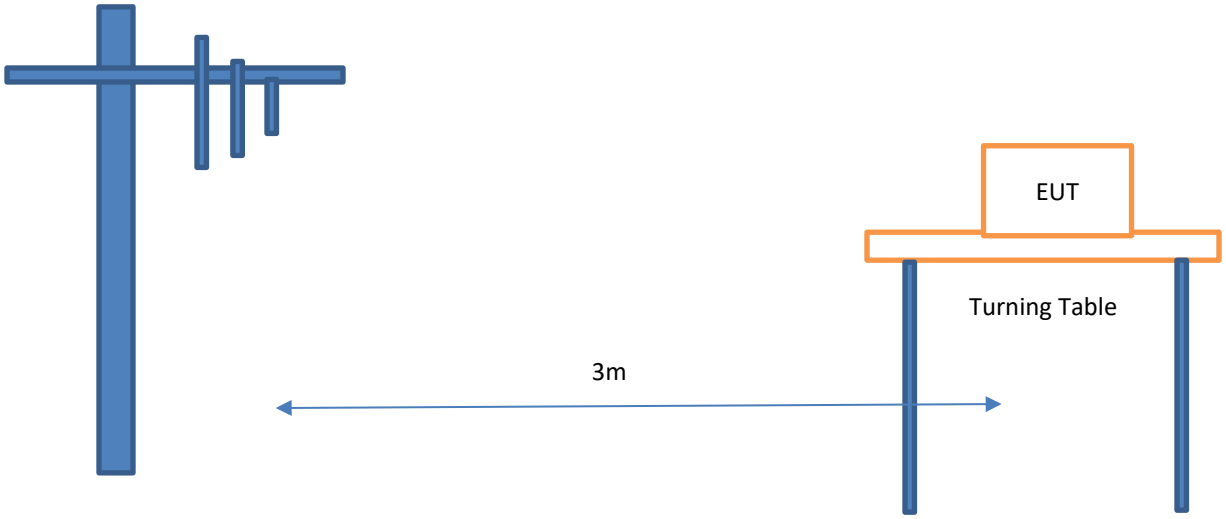

Ethernet Switch


PoE Injector

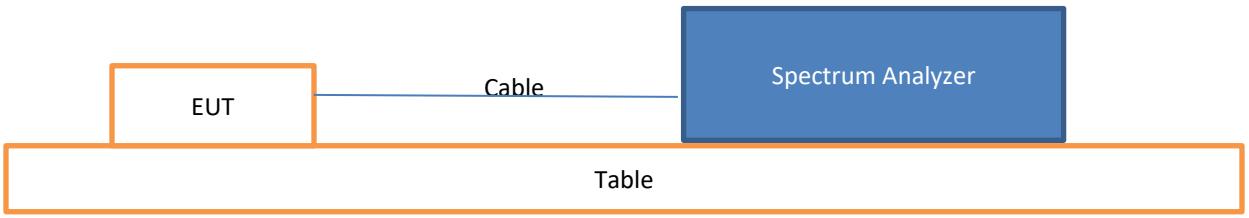
## Block Diagram of Test Setup(s)

| Config# | Setup Description of Block Diagram |
|---|---|
| 2, 5, 6 & 7 | EUT functioning in normal operating mode with the receiving antenna 3m away. |

Radiated Method Setup




Conducted Method Setup



# FCC Part 15 Subpart C

## 15.247(a)(2) 6dB Bandwidth

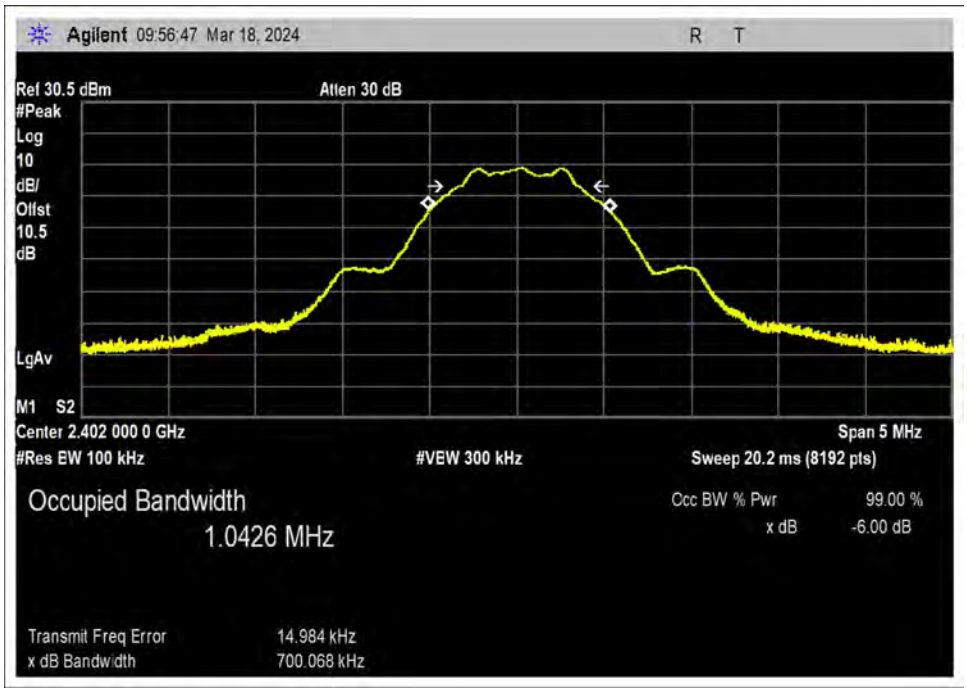
| Test Setup/Conditions | | | |
|---|---|---|---|
| Test Location: | Fremont Lab Bench | Test Engineer: | Hieu Song Nguyenpham |
| Test Method: | ANSI C63.10 (2020), KDB 558074 | Test Date(s): | 3/18/2024 |
| Configuration: | 7 | | |
| Test Setup: | The EUT is set up and operated as intended. It is connected straight to a Spectrum Analyzer to measure. The EUT is powered by a PoE Injector. The PoE is connected to an Ethernet switch and the NUC to monitor and control the EUT during measurement | | |

| Environmental Conditions | | | |
|---|---|---|---|
| Temperature (ºC) | 20.3 | Relative Humidity (%): | 42 |

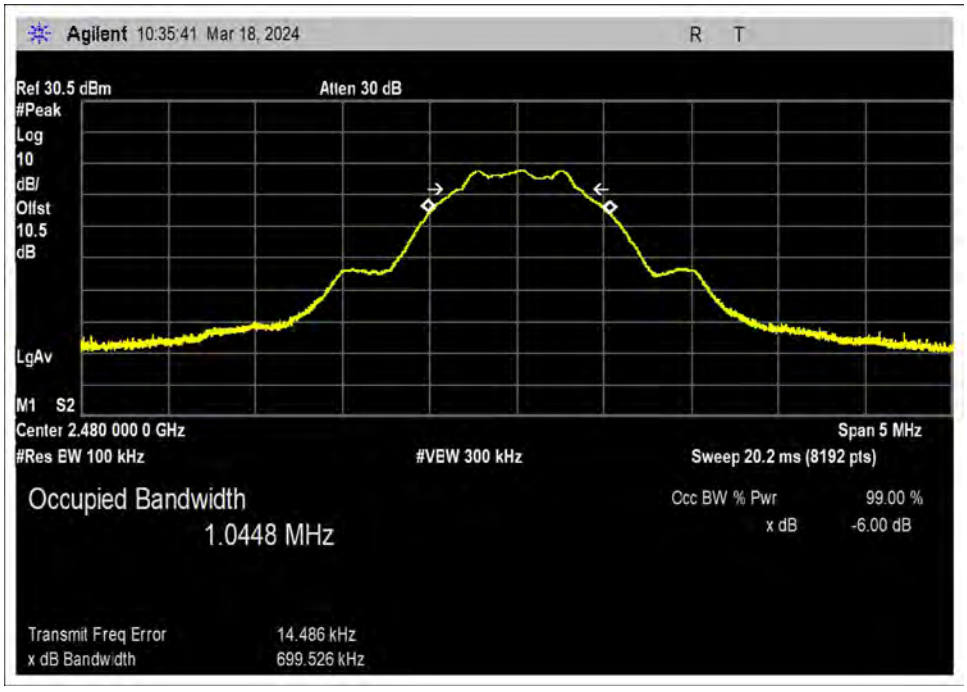
| Test Equipment | | | | | |
|---|---|---|---|---|---|
| **Asset#** | **Description** | **Manufacturer** | **Model** | **Cal Date** | **Cal Due** |
| 03470 | Spectrum Analyzer | Agilent | E4440A | 8/2/2023 | 8/2/2024 |
| P07365 | Attenuator | Weinschel | 54A-10 | 5/26/2023 | 5/26/2025 |
| 03011 | Cable | AstroSteel | 32022-2-2909K-24TC | 3/23/2023 | 3/23/2025 |

| Test Data Summary | | | | | |
|---|---|---|---|---|---|
| **Frequency (MHz)** | **Antenna Port** | **Modulation** | **Measured (kHz)** | **Limit (kHz)** | **Results** |
| 2402 | 1 | GFSK | 700.068 | ≥500 | Pass |
| 2440 | 1 | GFSK | 671.210 | ≥500 | Pass |
| 2480 | 1 | GFSK | 699.526 | ≥500 | Pass |

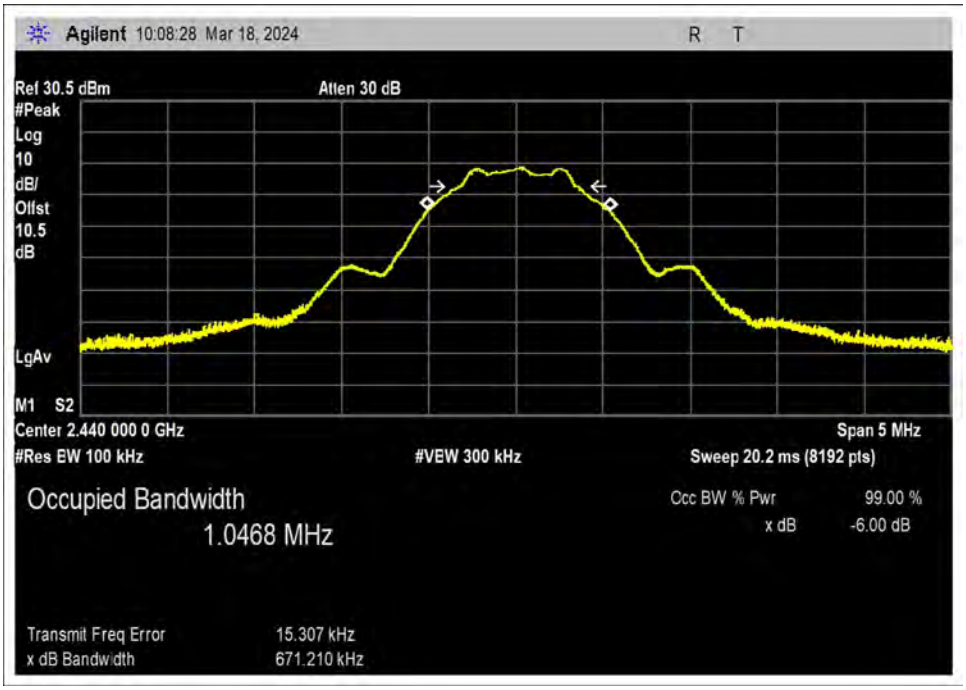
## Plot(s)




Low Channel

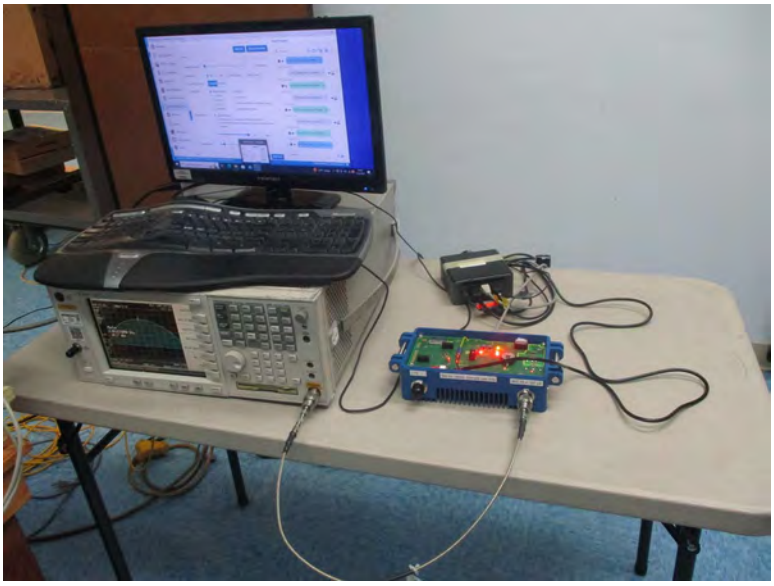



Middle Channel




High Channel

## Test Setup Photo(s)



# 15.247(b)(3) Output Power

| Test Setup/Conditions | | | |
|---|---|---|---|
| Test Location: | Fremont Lab Bench | Test Engineer: | Hieu Song Nguyenpham |
| Test Method: | ANSI C63.10 (2020), KDB 558074 | Test Date(s): | 3/18/2024 |
| Configuration: | 7 | | |
| Test Setup: | The EUT is set up and operated as intended. It is connected straight to a Spectrum Analyzer to measure. The EUT is powered by a PoE Injector. The PoE is connected to an Ethernet switch and the NUC to monitor and control the EUT during measurement | | |

| Environmental Conditions | | | |
|---|---|---|---|
| Temperature (ºC) | 20.3 | Relative Humidity (%): | 42 |

| Test Equipment | | | | | |
|---|---|---|---|---|---|
| **Asset#** | **Description** | **Manufacturer** | **Model** | **Cal Date** | **Cal Due** |
| 03470 | Spectrum Analyzer | Agilent | E4440A | 8/2/2023 | 8/2/2024 |
| P07365 | Attenuator | Weinschel | 54A-10 | 5/26/2023 | 5/26/2025 |
| 03011 | Cable | AstroSteel | 32022-2-2909K-24TC | 3/23/2023 | 3/23/2025 |

| Test Data Summary - Voltage Variations | | | | | |
|---|---|---|---|---|---|
| **Frequency (MHz)** | **Modulation / Ant Port** | **$V_{Minimum}$ (dBm)** | **$V_{Nominal}$ (dBm)** | **$V_{Maximum}$ (dBm)** | **Max Deviation from $V_{Nominal}$ (dB)** |
| 2402 | GFSK | 10.18 | 10.18 | 10.17 | 0.01 |
| 2440 | GFSK | 9.78 | 9.79 | 9.79 | 0.01 |
| 2480 | GFSK | 8.94 | 8.94 | 8.94 | 0 |

Test performed using operational mode with the highest output power, representing worst case.

***Parameter Definitions:***

Measurements performed at input voltage Vnominal ± 15%.

| Parameter | Value |
|---|---|
| $V_{Nominal}$: | 120VAC |
| $V_{Minimum}$: | 102VAC |
| $V_{Maximum}$: | 138VAC |

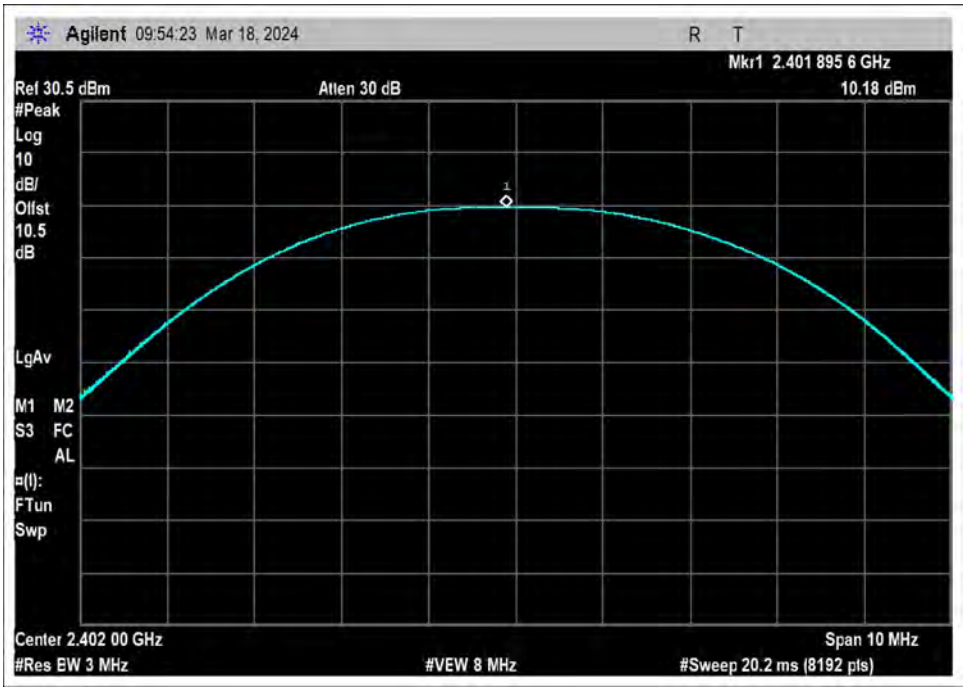
| Test Data Summary - RF Conducted Measurement | | | | | | | |
|---|---|---|---|---|---|---|---|
| Measurement Option: RBW > DTS Bandwidth | | | | | | | |
| **Frequency (MHz)** | **Modulation** | **Ant. Type / Gain (dBi)** | **RF Conducted (dBm)** | | **EIRP (dBm)** | | **Results** |
| | | | **Measured** | **Limit** | **Calculated** | **Limit** | |
| 2402 | GFSK | External/6/11/14dBi | 10.18 | ≤22 | 24.18 | ≤36 | Pass |
| 2440 | GFSK | External/6/11/14dBi | 9.79 | ≤22 | 23.79 | ≤36 | Pass |
| 2480 | GFSK | External/6/11/14dBi | 8.94 | ≤22 | 22.94 | ≤36 | Pass |

EIRP is calculated as RF conducted power (dBm) + antenna gain (dBi)

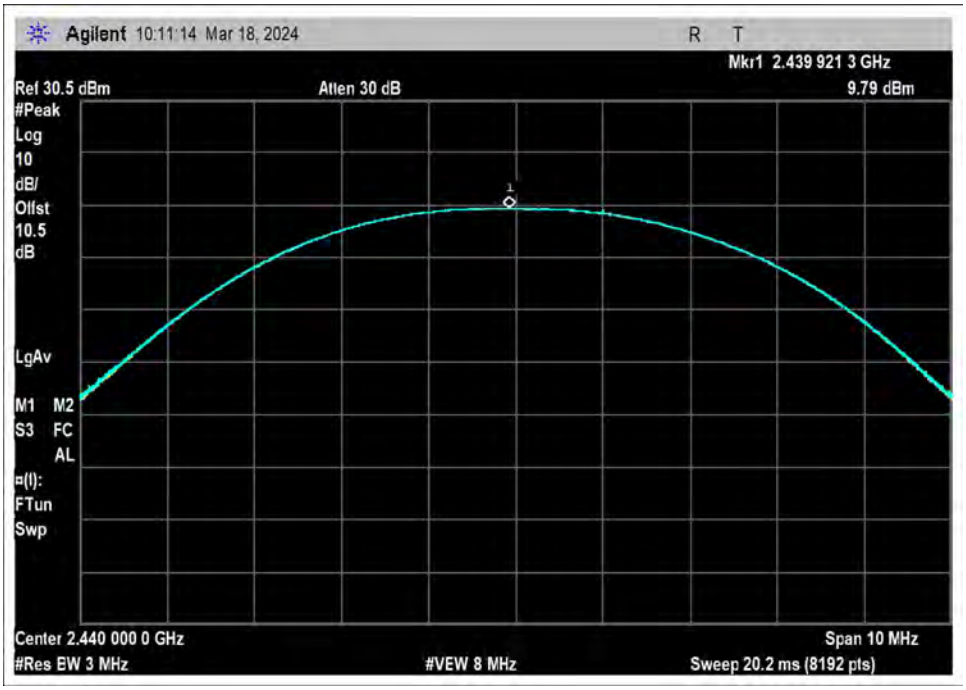
For all other antennas, the RF conducted power limit is calculated according to a maximum of 1W (30 dBm) conducted power with a maximum of 6dBi gain antenna in accordance with 15.247(b)

$$Limit = 30 - Roundup(G - 6)$$

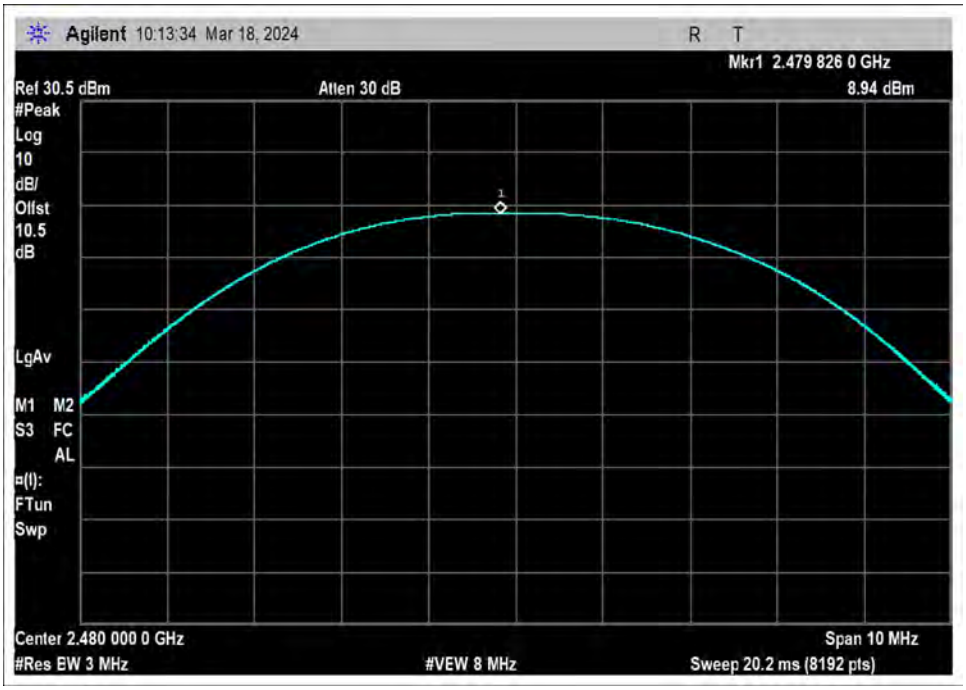
## Plots




Low Channel

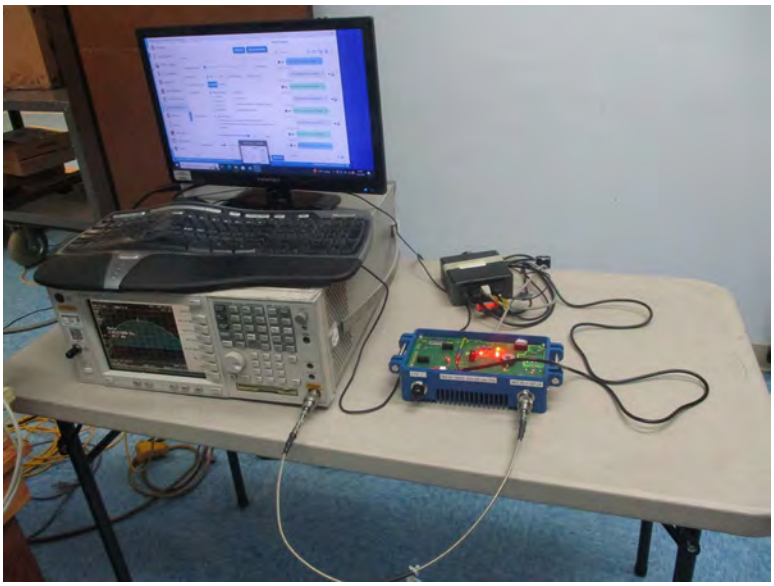



Middle Channel




High Channel

## Test Setup Photo(s)



# 15.247(d) RF Conducted Emissions & Band Edge

| Test Setup/Conditions | | | |
|---|---|---|---|
| Test Location: | Fremont Lab C3 | Test Engineer: | Hieu Song Nguyenpham |
| Test Method: | ANSI C63.10 (2020), KDB 558074 | Test Date(s): | 3/18/2024 |
| Configuration: | 7 | | |

| Environmental Conditions | | | |
|---|---|---|---|
| Temperature (ºC) | 20.3 | Relative Humidity (%): | 42 |

## Test Setup / Conditions / Data

Test Location: CKC Laboratories, Inc. • 1120 Fulton Pl • Fremont CA 94539 • (510) 249-1170
Customer: **Divigraph (Pty) LTD**
Specification: **15.247(d) Conducted Spurious Emissions**
Work Order #: **109523** Date: 3/18/2024
Test Type: **Radiated Scan** Time: 11:33:17 AM
Tested By: Hieu Song Nguyenpham Sequence#: 36
Software: EMITest 5.03.20

***Equipment Tested:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 7 | | | |

***Support Equipment:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 7 | | | |

***Test Conditions / Notes:***

Conducted Spurious Emission
Frequency Range: 9kHz to 25GHz

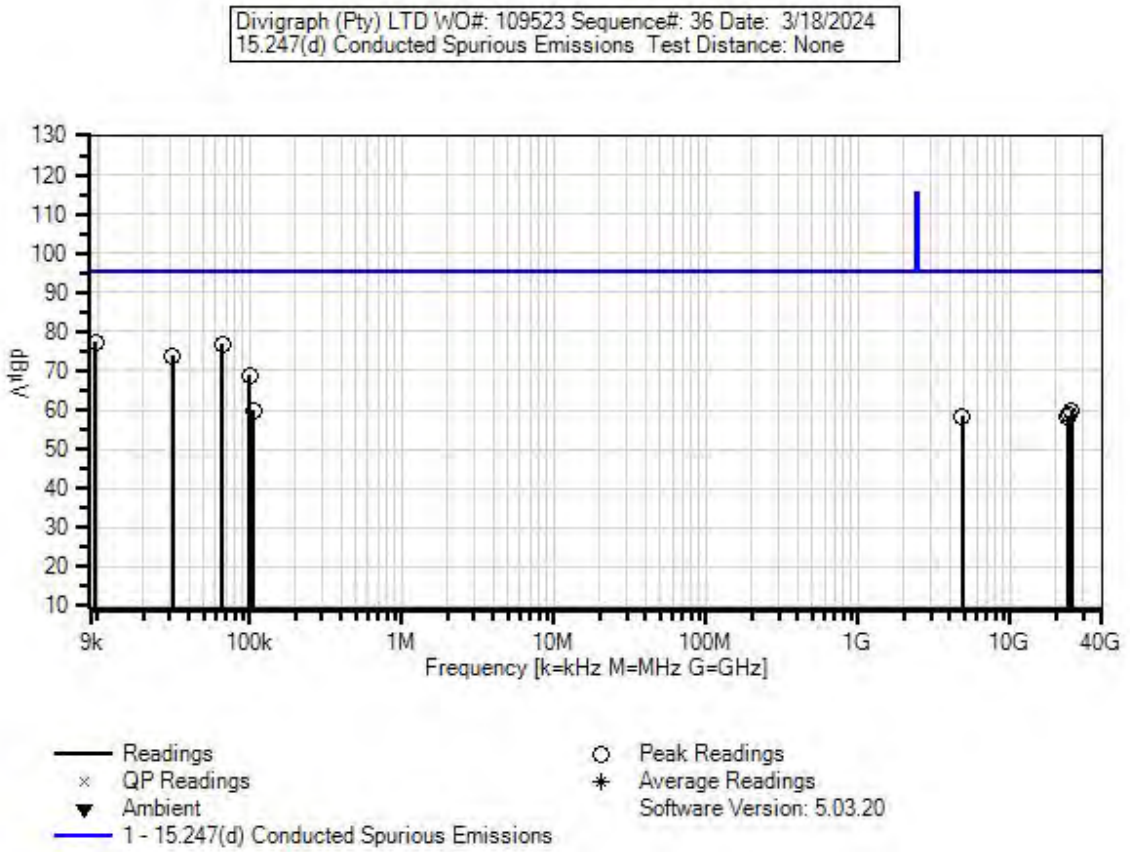
The EUT is set up and operated as intended. It is connected straight to a Spectrum Analyzer to measure. The EUT is powered by a PoE Injector. The PoE is connected to an Ethernet switch and the NUC to monitor and control the EUT during measurement d.

Test Environment Conditions:
Temperature: 21.1°C
Humidity: 45%
Atmospheric Pressure: 101.5kPa
Highest Generation Frequency: 2.48GHz
Application: Bluetooth NCP Commander

RBW=100kHz
VBW=300kHz

Test Method: ANSI C 63.10 (2020)

Note: Low Channel




***Test Equipment:***

| ID | Asset # | Description | Model | Calibration Date | Cal Due Date |
|---|---|---|---|---|---|
| | AN03470 | Spectrum Analyzer | E4440A | 8/2/2023 | 8/2/2024 |
| T1 | ANP07365 | Attenuator | 54A-10 | 5/26/2023 | 5/26/2025 |
| T2 | ANP06902 | Cable | 32022-29094K-29094K-36TC | 1/9/2024 | 1/9/2026 |

***Measurement Data:*** Reading listed by margin. Test Distance: None

| # | Freq MHz | Rdng dBµV | T1 dB | T2 dB | dB | dB | Dist Table | Corr dBµV | Spec dBµV | Margin dB | Polar Ant |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 9.747k | 67.6 | +9.8 | +0.0 | | | +0.0 | 77.4 | 95.3 | -17.9 | None |
| 2 | 66.350k | 67.0 | +9.8 | +0.0 | | | +0.0 | 76.8 | 95.3 | -18.5 | None |
| 3 | 31.444k | 64.1 | +9.8 | +0.0 | | | +0.0 | 73.9 | 95.3 | -21.4 | None |
| 4 | 100.801k | 59.0 | +9.8 | +0.0 | | | +0.0 | 68.8 | 95.3 | -26.5 | None |
| 5 | 106.707k | 50.1 | +9.8 | +0.0 | | | +0.0 | 59.9 | 95.3 | -35.4 | None |
| 6 | 24958.084 M | 45.2 | +10.1 | +4.5 | | | +0.0 | 59.8 | 95.3 | -35.5 | None |
| 7 | 24350.299 M | 44.3 | +10.1 | +4.3 | | | +0.0 | 58.7 | 95.3 | -36.6 | None |
| 8 | 23627.245 M | 44.5 | +10.0 | +4.0 | | | +0.0 | 58.5 | 95.3 | -36.8 | None |
| 9 | 4804.480M | 46.6 | +9.9 | +1.9 | | | +0.0 | 58.4 | 95.3 | -36.9 | None |

| | | | |
|---|---|---|---|
| Test Location: | CKC Laboratories, Inc. • 1120 Fulton Pl • Fremont CA 94539 • (510) 249-1170 | | |
| Customer: | **Divigraph (Pty) LTD** | | |
| Specification: | **15.247(d) Conducted Spurious Emissions** | | |
| Work Order #: | **109523** | Date: | 3/18/2024 |
| Test Type: | **Radiated Scan** | Time: | 11:41:38 AM |
| Tested By: | Hieu Song Nguyenpham | Sequence#: | 37 |
| Software: | EMITest 5.03.20 | | |

***Equipment Tested:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 7 | | | |

***Support Equipment:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 7 | | | |

***Test Conditions / Notes:***

Conducted Spurious Emission
Frequency Range: 9kHz to 25GHz

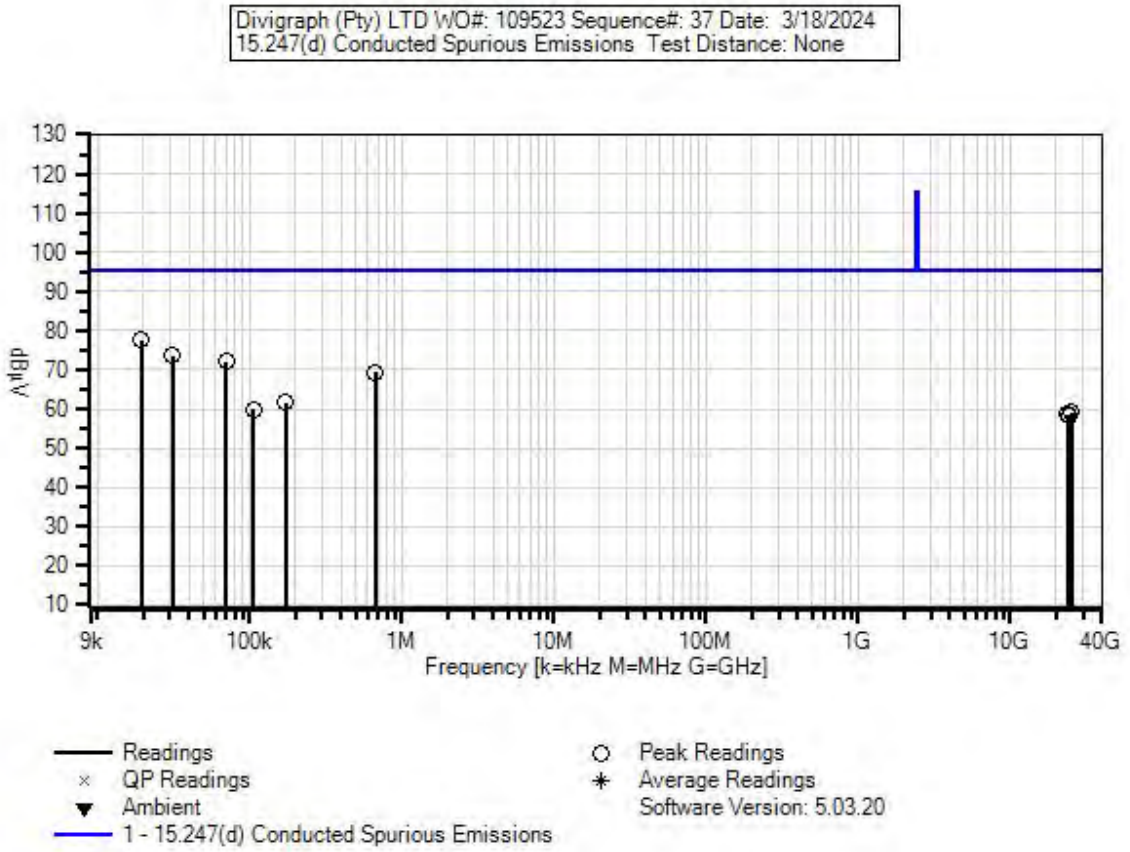
The EUT is set up and operated as intended. It is connected straight to a Spectrum Analyzer to measure. The EUT is powered by a PoE Injector. The PoE is connected to an Ethernet switch and the NUC to monitor and control the EUT during measurement

Test Environment Conditions:
Temperature: 21.1°C
Humidity: 45%
Atmospheric Pressure: 101.5kPa
Highest Generation Frequency: 2.48GHz
Application: Bluetooth NCP Commander

RBW=100kHz
VBW=300kHz

Test Method: ANSI C 63.10 (2020)

Note: Middle Channel




***Test Equipment:***

| ID | Asset # | Description | Model | Calibration Date | Cal Due Date |
|---|---|---|---|---|---|
| | AN03470 | Spectrum Analyzer | E4440A | 8/2/2023 | 8/2/2024 |
| T1 | ANP07365 | Attenuator | 54A-10 | 5/26/2023 | 5/26/2025 |
| T2 | ANP06902 | Cable | 32022-29094K-29094K-36TC | 1/9/2024 | 1/9/2026 |

***Measurement Data:*** Reading listed by margin. Test Distance: None

| # | Freq MHz | Rdng dBµV | T1 dB | T2 dB | dB | dB | Dist Table | Corr dBµV | Spec dBµV | Margin dB | Polar Ant |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 19.423k | 67.7 | +9.9 | +0.0 | | | +0.0 | 77.6 | 95.3 | -17.7 | None |
| 2 | 31.065k | 63.9 | +9.8 | +0.0 | | | +0.0 | 73.7 | 95.3 | -21.6 | None |
| 3 | 70.666k | 62.3 | +9.8 | +0.0 | | | +0.0 | 72.1 | 95.3 | -23.2 | None |
| 4 | 669.956k | 59.1 | +9.9 | +0.3 | | | +0.0 | 69.3 | 95.3 | -26.0 | None |
| 5 | 173.711k | 51.6 | +9.9 | +0.1 | | | +0.0 | 61.6 | 95.3 | -33.7 | None |
| 6 | 106.707k | 50.2 | +9.8 | +0.0 | | | +0.0 | 60.0 | 95.3 | -35.3 | None |
| 7 | 24958.084 M | 44.6 | +10.1 | +4.5 | | | +0.0 | 59.2 | 95.3 | -36.1 | None |
| 8 | 23627.245 M | 44.7 | +10.0 | +4.0 | | | +0.0 | 58.7 | 95.3 | -36.6 | None |
| 9 | 23920.658 M | 43.9 | +10.1 | +4.1 | | | +0.0 | 58.1 | 95.3 | -37.2 | None |

| | | | |
|---|---|---|---|
| Test Location: | CKC Laboratories, Inc. • 1120 Fulton Pl • Fremont CA 94539 • (510) 249-1170 | | |
| Customer: | **Divigraph (Pty) LTD** | | |
| Specification: | **15.247(d) Conducted Spurious Emissions** | | |
| Work Order #: | **109523** | Date: | 3/18/2024 |
| Test Type: | **Radiated Scan** | Time: | 11:48:27 AM |
| Tested By: | Hieu Song Nguyenpham | Sequence#: | 38 |
| Software: | EMITest 5.03.20 | | |

***Equipment Tested:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 7 | | | |

***Support Equipment:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 7 | | | |

***Test Conditions / Notes:***

Conducted Spurious Emission
Frequency Range: 9kHz to 25GHz

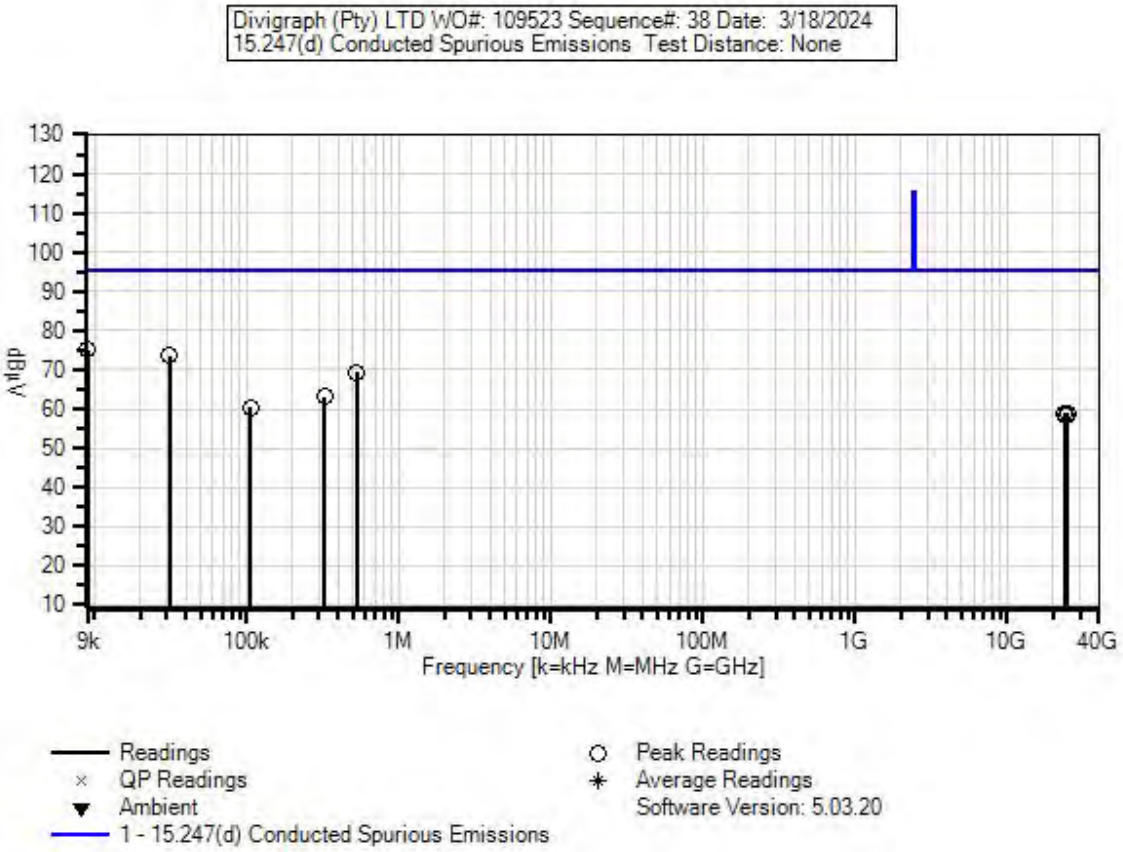
The EUT is set up and operated as intended. It is connected straight to a Spectrum Analyzer to measure. The EUT is powered by a PoE Injector. The PoE is connected to an Ethernet switch and the NUC to monitor and control the EUT during measurement

Test Environment Conditions:
Temperature: 21.1°C
Humidity: 45%
Atmospheric Pressure: 101.5kPa
Highest Generation Frequency: 2.48GHz
Application: Bluetooth NCP Commander

RBW=100kHz
VBW=300kHz

Test Method: ANSI C 63.10 2020

Note: High Channel




***Test Equipment:***

| ID | Asset # | Description | Model | Calibration Date | Cal Due Date |
|---|---|---|---|---|---|
| | AN03470 | Spectrum Analyzer | E4440A | 8/2/2023 | 8/2/2024 |
| T1 | ANP07365 | Attenuator | 54A-10 | 5/26/2023 | 5/26/2025 |
| T2 | ANP06902 | Cable | 32022-29094K-29094K-36TC | 1/9/2024 | 1/9/2026 |

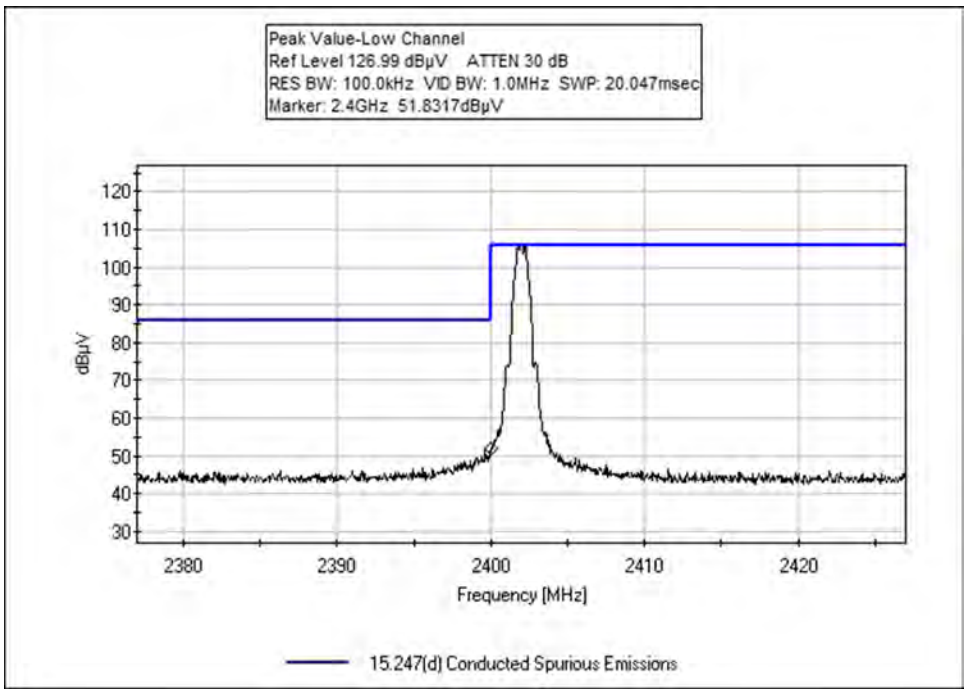
***Measurement Data:*** Reading listed by margin. Test Distance: None

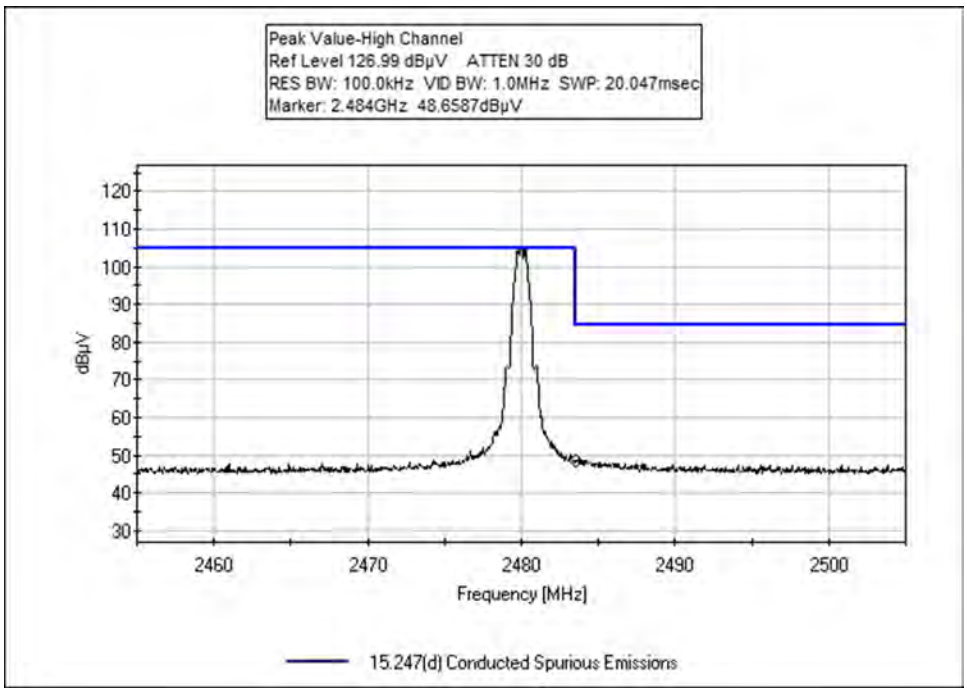
| # | Freq MHz | Rdng dBµV | T1 dB | T2 dB | dB | dB | Dist Table | Corr dBµV | Spec dBµV | Margin dB | Polar Ant |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 9.086k | 65.4 | +9.8 | +0.0 | | | +0.0 | 75.2 | 95.3 | -20.1 | None |
| 2 | 31.217k | 63.8 | +9.8 | +0.0 | | | +0.0 | 73.6 | 95.3 | -21.7 | None |
| 3 | 528.115k | 59.1 | +9.9 | +0.3 | | | +0.0 | 69.3 | 95.3 | -26.0 | None |
| 4 | 324.665k | 53.0 | +9.9 | +0.2 | | | +0.0 | 63.1 | 95.3 | -32.2 | None |
| 5 | 106.967k | 50.5 | +9.8 | +0.0 | | | +0.0 | 60.3 | 95.3 | -35.0 | None |
| 6 | 23553.892 M | 44.9 | +10.0 | +4.0 | | | +0.0 | 58.9 | 95.3 | -36.4 | None |
| 7 | 24926.647 M | 44.4 | +10.1 | +4.4 | | | +0.0 | 58.9 | 95.3 | -36.4 | None |
| 8 | 24748.503 M | 44.5 | +10.0 | +4.1 | | | +0.0 | 58.6 | 95.3 | -36.7 | None |
| 9 | 24172.156 M | 44.2 | +10.1 | +4.1 | | | +0.0 | 58.4 | 95.3 | -36.9 | None |

## Band Edge

| Band Edge Summary | | | | |
|---|---|---|---|---|
| Limit applied: Max Power/100kHz - 20dB. | | | | |
| **Frequency (MHz)** | **Modulation** | **Measured (dBuV)** | **Limit (dBuV)** | **Results** |
| 2400 | GFSK | 62.5 | <95.3 | Pass |
| 2483.5 | GFSK | 58.8 | <95.3 | Pass |

## Band Edge Plots




Peak Value-High Channel
Ref Level 126.99 dBµV ATTEN 30 dB
RES BW: 100.0kHz VID BW: 1.0MHz SWP: 20.047msec
Marker: 2.484GHz 48.6587dBµV
120
110
100
90
80
70
60
50
40
30
dBµV
2460
2470
2480
2490
2500
Frequency [MHz]
15.247(d) Conducted Spurious Emissions

## Test Setup / Conditions / Data

Test Location: CKC Laboratories, Inc. • 1120 Fulton Pl • Fremont CA 94539 • (510) 249-1170
Customer: **Divigraph (Pty) LTD**
Specification: **Band Edge Conducted Spurious Emissions**
Work Order #: **109523** Date: 3/18/2024
Test Type: **Radiated Scan**
Tested By: Hieu Song Nguyenpham
Software: EMITest 5.03.20

***Equipment Tested:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 7 | | | |

***Support Equipment:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 7 | | | |

***Test Conditions / Notes:***

Band edge Set up
The EUT is set up and operated as intended. It is connected straight to a Spectrum Analyzer to measure. The EUT is powered by a PoE Injector. The PoE is connected to an Ethernet switch and the NUC to monitor and control the EUT during measurement

Test Environment Conditions:
Temperature: 21.1°C
Humidity: 45%
Atmospheric Pressure: 101.5kPa
Highest Generation Frequency: 2.48GHz

Test Method: ANSI C 63.10 (2020)

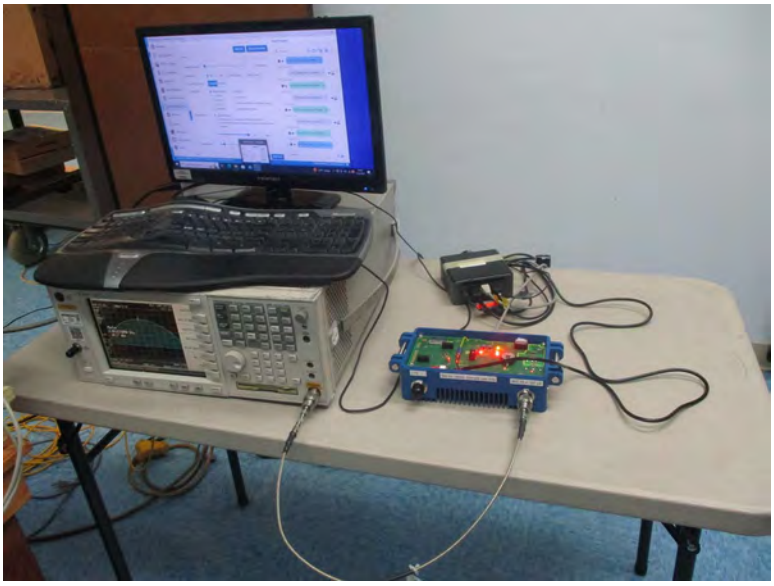
***Test Equipment:***

| ID | Asset # | Description | Model | Calibration Date | Cal Due Date |
|---|---|---|---|---|---|
| | AN03470 | Spectrum Analyzer | E4440A | 8/2/2023 | 8/2/2024 |
| T1 | ANP07365 | Attenuator | 54A-10 | 5/26/2023 | 5/26/2025 |
| T2 | AN03011 | Cable | 32022-2-2909K-24TC | 3/23/2023 | 3/23/2025 |

***Measurement Data:*** Reading listed by frequency. Test Distance: None

| # | Freq MHz | Rdng dBµV | T1 dB | T2 dB | dB | dB | Dist Table | Corr dBµV | Spec dBµV | Margin dB | Polar Ant |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2400.000M | 51.8 | +9.9 | +0.6 | | | +0.0 | 62.3 | 95.3 | -33.0 | None |
| 2 | 2483.500M | 48.3 | +9.9 | +0.6 | | | +0.0 | 58.8 | 95.3 | -36.5 | None |

## Test Setup Photo(s)



# 15.247(d) Radiated Emissions & Band Edge

| Test Setup/Conditions | | | |
|---|---|---|---|
| Test Location: | Fremont Lab C3 | Test Engineer: | Hieu Song Nguyenpham |
| Test Method: | ANSI C63.10 (2020), KDB 558074 | Test Date(s): | 03/22-26/2024 |
| Configuration: | 2,5,6 | | |

| Environmental Conditions | | | |
|---|---|---|---|
| Temperature (ºC) | 22-24 | Relative Humidity (%): | 39-46 |

## Test Setup / Conditions / Data

Test Location: CKC Laboratories, Inc. • 1120 Fulton Pl • Fremont CA 94539 • (510) 249- 1170
Customer: **Divigraph (Pty) LTD**
Specification: **15.247(d) / 15.209 Radiated Spurious Emissions**
Work Order #: **109523** Date: 3/26/2024
Test Type: **Radiated Scan** Time: 10:34:44
Tested By: Hieu Song Nguyenpham Sequence#: 119
Software: EMITest 5.03.20

***Equipment Tested:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 2 | | | |

***Support Equipment:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 2 | | | |

***Test Conditions / Notes:***

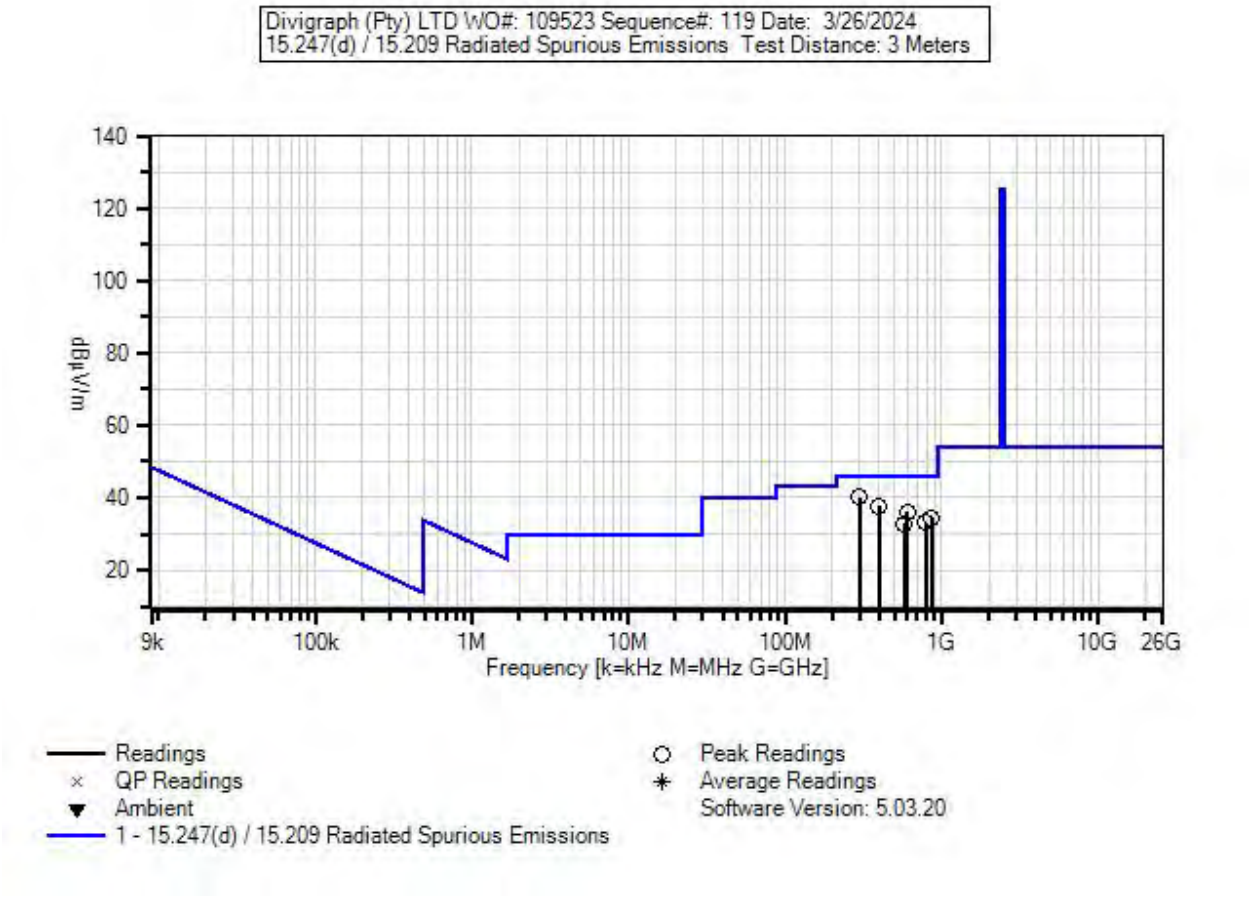
Radiated Spurious Emissions
Frequency Range: 9kHz to 1GHz

The EUT is set up and operated as intended. It is powered by PoE Injector is a support equipment and outside of the chamber. The PoE injector is connected to the Ethernet Switch which is also outside of the chamber through an ethernet cable. The Ethernet switch is connected to the NUC to monitor and control the EUT during exposure.
Perform 3 orientation of a receiving antenna from 9kHz to 30MHz. No emissions detected within 20dB of the limit in the frequency range 9kHz to 30MHz.

Test Environment Conditions:
Temperature: 21.1°C
Humidity: 45%
Atmospheric Pressure: 101.5kPa
Highest Generation Frequency: 2.48GHz

Test Method: ANSI C 63.10 (2020)

Note:
Low Channel
Dipole Antenna (HUBER+SUHNER 1355.17.0002) 6dBi




***Test Equipment:***

| ID | Asset # | Description | Model | Calibration Date | Cal Due Date |
|---|---|---|---|---|---|
| T1 | ANP07508 | Preamp | 310N | 5/9/2022 | 5/9/2024 |
| | AN00432 | Loop Antenna | 6502 | 7/10/2023 | 7/10/2025 |
| T2 | ANP01187 | Cable | CNT-195 | 7/12/2022 | 7/12/2024 |
| T3 | ANP06691 | Cable | PE3062-180 | 3/20/2024 | 3/20/2026 |
| | AN02660 | Spectrum Analyzer | E4446A | 12/6/2022 | 12/6/2024 |
| T4 | AN01995 | Biconilog Antenna | CBL6111C | 4/19/2022 | 4/19/2024 |
| T5 | ANP00987 | Cable | | 1/12/2024 | 1/12/2026 |

***Measurement Data:*** Reading listed by margin. Test Distance: 3 Meters

| # | Freq | Rdng | T1<br>T5 | T2 | T3 | T4 | Dist | Corr | Spec | Margin | Polar |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBµV | dB | dB | dB | dB | Table | dBµV/m | dBµV/m | dB | Ant |
| 1 | 300.038M | 49.3 | -31.9<br>+2.3 | +0.5 | +0.6 | +19.4 | +0.0 | 40.2 | 46.0 | -5.8 | Vert |
| 2 | 399.900M | 43.6 | -31.8<br>+2.7 | +0.6 | +0.7 | +22.0 | +0.0 | 37.8 | 46.0 | -8.2 | Vert |
| 3 | 600.083M | 37.4 | -32.0<br>+3.5 | +0.6 | +0.9 | +25.8 | +0.0 | 36.2 | 46.0 | -9.8 | Vert |
| 4 | 859.883M | 30.0 | -31.5<br>+4.4 | +0.8 | +1.2 | +29.7 | +0.0 | 34.6 | 46.0 | -11.4 | Horiz |
| 5 | 790.408M | 30.1 | -31.8<br>+4.2 | +0.7 | +1.1 | +28.7 | +0.0 | 33.0 | 46.0 | -13.0 | Horiz |
| 6 | 574.978M | 33.9 | -32.0<br>+3.4 | +0.6 | +0.9 | +26.1 | +0.0 | 32.9 | 46.0 | -13.1 | Horiz |

| | | | |
|---|---|---|---|
| Test Location: | CKC Laboratories, Inc. • 1120 Fulton Pl • Fremont CA 94539 • (510) 249-1170 | | |
| Customer: | **Divigraph (Pty) LTD** | | |
| Specification: | **15.247(d) / 15.209 Radiated Spurious Emissions** | | |
| Work Order #: | **109523** | Date: | 3/21/2024 |
| Test Type: | **Radiated Scan** | Time: | 18:11:52 |
| Tested By: | Hieu Song Nguyenpham | Sequence#: | 78 |
| Software: | EMITest 5.03.20 | | |

***Equipment Tested:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 2 | | | |

***Support Equipment:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 2 | | | |

***Test Conditions / Notes:***

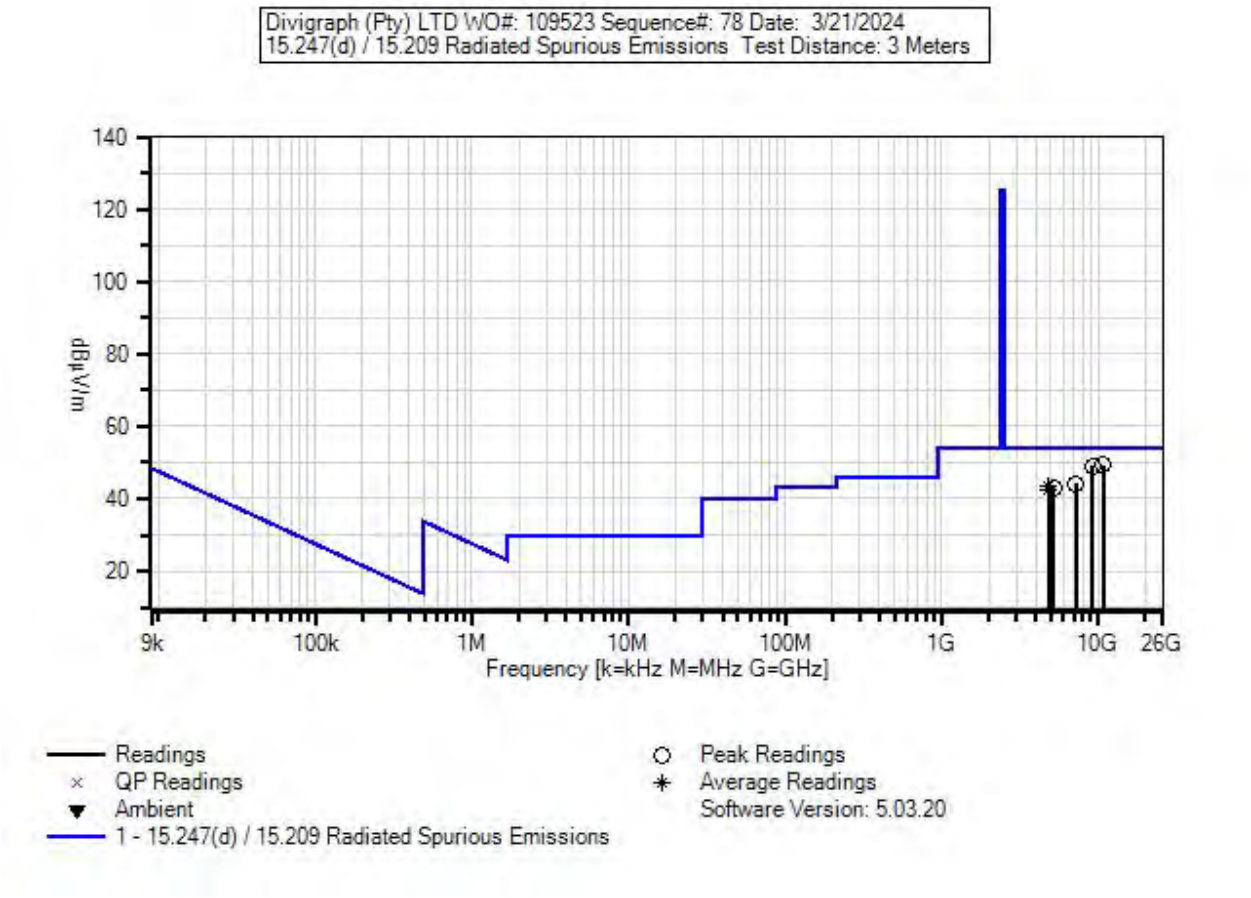
Radiated Spurious Emissions
Frequency Range: 1GHz to 25GHz

The EUT is set up and operated as intended. It is powered by PoE Injector is a support equipment and outside of the chamber. The PoE injector is connected to the Ethernet Switch which is also outside of the chamber through an ethernet cable. The Ethernet switch is connected to the NUC to monitor and control the EUT during exposure

Test Environment Conditions:
Temperature: 21.1°C
Humidity: 45%
Atmospheric Pressure: 101.5kPa
Highest Generation Frequency: 2.48GHz

Test Method: ANSI C 63.10 2020

Note:
Low Channel
Dipole Antenna (HUBER+SUHNER 1355.17.0002) 6dBi




***Test Equipment:***

| ID | Asset # | Description | Model | Calibration Date | Cal Due Date |
|---|---|---|---|---|---|
| T1 | AN02157 | Horn Antenna-ANSI C63.5 | 3115 | 1/11/2023 | 1/11/2025 |
| T2 | AN03302 | Cable | 32026-29094K-29094K-72TC | 1/9/2024 | 1/9/2026 |
| T3 | ANP01210 | Cable | FSJ1P-50A-4A | 1/9/2024 | 1/9/2026 |
| | AN02660 | Spectrum Analyzer | E4446A | 12/6/2022 | 12/6/2024 |
| T4 | AN03738 | Preamp | BZRYE-00101800-221055-202323 | 2/5/2024 | 2/5/2026 |
| T5 | AN03386 | High Pass Filter | 11SH10-3000/T10000-O/O | 3/22/2022 | 3/22/2024 |
| T6 | AN03013 | Cable | 32022-2-2909K-36TC | 1/9/2024 | 1/9/2026 |
| | AN02693 | Active Horn Antenna | AMFW-5F-12001800-20-10P | 1/9/2024 | 1/9/2026 |
| | AN02694 | Horn Antenna | AMFW-5F-18002650-20-10P | 1/9/2024 | 1/9/2026 |
| | ANP00928 | Cable | various | 1/26/2024 | 1/26/2026 |
| | ANP00929 | Cable | various | 1/26/2024 | 1/26/2026 |
| | ANP07700 | Cable | 32022-29094K-29094K-72TC | 9/1/2022 | 9/1/2024 |
| | ANP07701 | Cable | 32022-29094K-29094K-120TC | 9/1/2022 | 9/1/2024 |

***Measurement Data:*** Reading listed by margin. Test Distance: 3 Meters

| # | Freq | Rdng | T1<br>T5 | T2<br>T6 | T3 | T4 | Dist | Corr | Spec | Margin | Polar |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBµV | dB | dB | dB | dB | Table | dBµV/m | dBµV/m | dB | Ant |
| 1 | 10822.569 M | 52.1 | +39.4<br>+0.6 | +3.2<br>+1.7 | +6.0 | -53.7 | +0.0 | 49.3 | 54.0 | -4.7 | Vert |
| 2 | 9233.916M | 54.2 | +38.7<br>+0.4 | +2.9<br>+1.6 | +5.7 | -54.5 | +0.0 | 49.0 | 54.0 | -5.0 | Vert |
| 3 | 7206.001M | 53.9 | +36.0<br>+0.4 | +2.5<br>+1.5 | +4.5 | -54.5 | +0.0 | 44.3 | 54.0 | -9.7 | Horiz |
| 4 | 4804.040M Ave | 57.2 | +33.4<br>+0.4 | +2.0<br>+1.1 | +3.6 | -54.1 | +0.0 | 43.6 | 54.0 | -10.4 | Vert |
| ^ | 4804.040M | 66.3 | +33.4<br>+0.4 | +2.0<br>+1.1 | +3.6 | -54.1 | +0.0 | 52.7 | 54.0 | -1.3 | Vert |
| 6 | 5156.000M | 55.5 | +34.2<br>+0.4 | +2.1<br>+1.2 | +3.7 | -54.0 | +0.0 | 43.1 | 54.0 | -10.9 | Horiz |
| 7 | 4803.598M Ave | 56.0 | +33.4<br>+0.4 | +2.0<br>+1.1 | +3.6 | -54.1 | +0.0 | 42.4 | 54.0 | -11.6 | Vert |
| ^ | 4803.598M | 66.4 | +33.4<br>+0.4 | +2.0<br>+1.1 | +3.6 | -54.1 | +0.0 | 52.8 | 54.0 | -1.2 | Vert |

| | | | |
|---|---|---|---|
| Test Location: | CKC Laboratories, Inc. • 1120 Fulton Pl • Fremont CA 94539 • (510) 249-1170 | | |
| Customer: | **Divigraph (Pty) LTD** | | |
| Specification: | **15.247(d) / 15.209 Radiated Spurious Emissions** | | |
| Work Order #: | **109523** | Date: | 3/26/2024 |
| Test Type: | **Radiated Scan** | Time: | 10:57:18 |
| Tested By: | Hieu Song Nguyenpham | Sequence#: | 122 |
| Software: | EMITest 5.03.20 | | |

***Equipment Tested:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 2 | | | |

***Support Equipment:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 2 | | | |

***Test Conditions / Notes:***

Radiated Spurious Emissions
Frequency Range: 9kHz to 1GHz

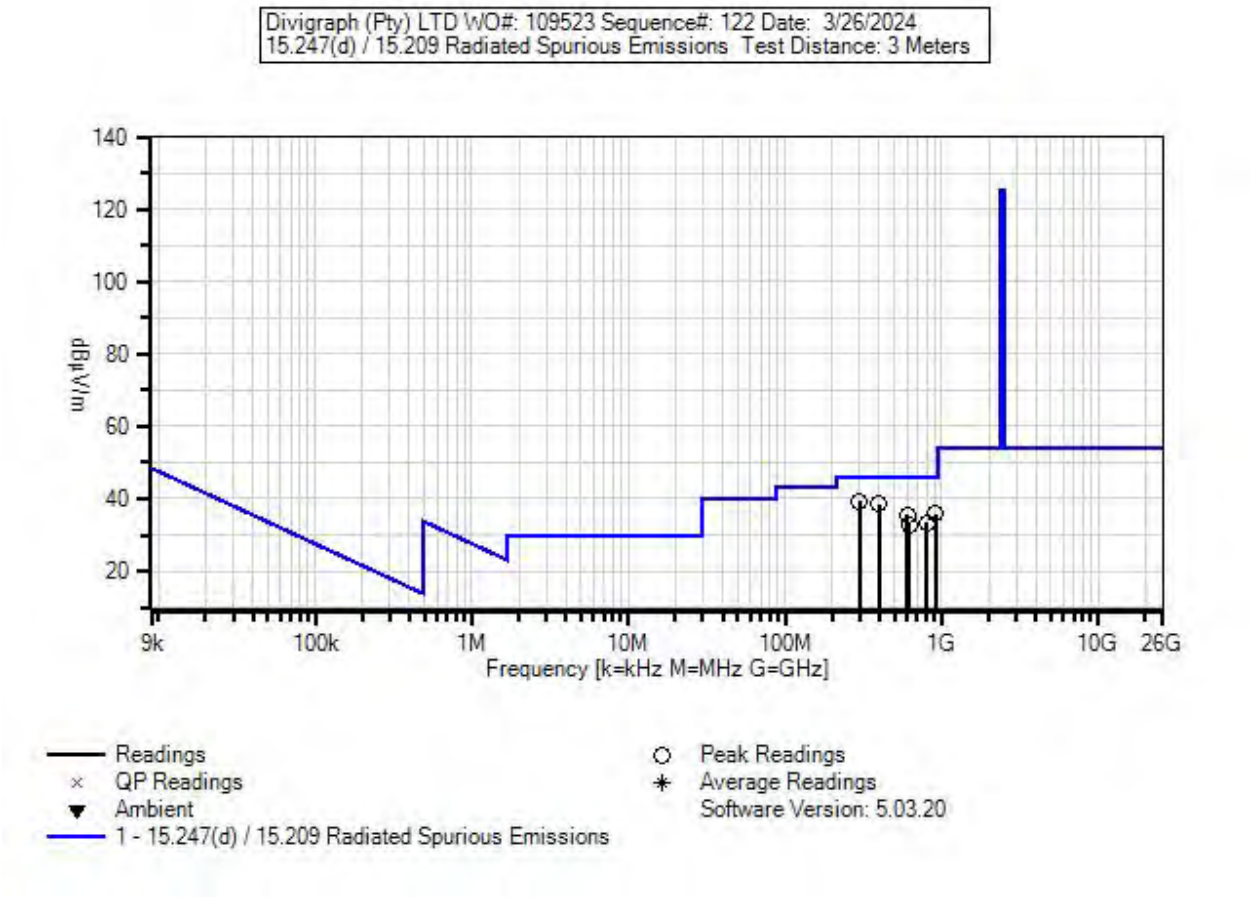
The EUT is set up and operated as intended. It is powered by PoE Injector is a support equipment and outside of the chamber. The PoE injector is connected to the Ethernet Switch which is also outside of the chamber through an ethernet cable. The Ethernet switch is connected to the NUC to monitor and control the EUT during exposure.

Perform 3 orientation of a receiving antenna from 9kHz to 30MHz. No emissions detected within 20dB of the limit in the frequency range 9kHz to 30MHz.

Test Environment Conditions:
Temperature: 21.1°C
Humidity: 45%
Atmospheric Pressure: 101.5kPa
Highest Generation Frequency: 2.48GHz

Test Method: ANSI C 63.10 2020

Note:
Middle Channel
Dipole Antenna (HUBER+SUHNER 1355.17.0002) 6dBi




***Test Equipment:***

| ID | Asset # | Description | Model | Calibration Date | Cal Due Date |
|---|---|---|---|---|---|
| T1 | ANP07508 | Preamp | 310N | 5/9/2022 | 5/9/2024 |
| | AN00432 | Loop Antenna | 6502 | 7/10/2023 | 7/10/2025 |
| T2 | ANP01187 | Cable | CNT-195 | 7/12/2022 | 7/12/2024 |
| T3 | ANP06691 | Cable | PE3062-180 | 3/20/2024 | 3/20/2026 |
| | AN02660 | Spectrum Analyzer | E4446A | 12/6/2022 | 12/6/2024 |
| T4 | AN01995 | Biconilog Antenna | CBL6111C | 4/19/2022 | 4/19/2024 |
| T5 | ANP00987 | Cable | | 1/12/2024 | 1/12/2026 |

***Measurement Data:*** Reading listed by margin. Test Distance: 3 Meters

| # | Freq | Rdng | T1<br>T5 | T2 | T3 | T4 | Dist | Corr | Spec | Margin | Polar |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBµV | dB | dB | dB | dB | Table | dBµV/m | dBµV/m | dB | Ant |
| 1 | 300.038M | 48.3 | -31.9<br>+2.3 | +0.5 | +0.6 | +19.4 | +0.0 | 39.2 | 46.0 | -6.8 | Vert |
| 2 | 399.900M | 44.4 | -31.8<br>+2.7 | +0.6 | +0.7 | +22.0 | +0.0 | 38.6 | 46.0 | -7.4 | Vert |
| 3 | 915.930M | 30.1 | -31.1<br>+4.5 | +0.8 | +1.3 | +30.1 | +0.0 | 35.7 | 46.0 | -10.3 | Horiz |
| 4 | 600.083M | 36.7 | -32.0<br>+3.5 | +0.6 | +0.9 | +25.8 | +0.0 | 35.5 | 46.0 | -10.5 | Vert |
| 5 | 799.749M | 30.2 | -31.8<br>+4.2 | +0.7 | +1.1 | +28.9 | +0.0 | 33.3 | 46.0 | -12.7 | Horiz |
| 6 | 625.187M | 33.1 | -32.0<br>+3.6 | +0.6 | +1.0 | +26.6 | +0.0 | 32.9 | 46.0 | -13.1 | Horiz |

| | | | |
|---|---|---|---|
| Test Location: | CKC Laboratories, Inc. • 1120 Fulton Pl • Fremont CA 94539 • (510) 249-1170 | | |
| Customer: | **Divigraph (Pty) LTD** | | |
| Specification: | **15.247(d) / 15.209 Radiated Spurious Emissions** | | |
| Work Order #: | **109523** | Date: | 3/21/2024 |
| Test Type: | **Radiated Scan** | Time: | 18:28:22 |
| Tested By: | Hieu Song Nguyenpham | Sequence#: | 81 |
| Software: | EMITest 5.03.20 | | |

***Equipment Tested:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 2 | | | |

***Support Equipment:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 2 | | | |

***Test Conditions / Notes:***

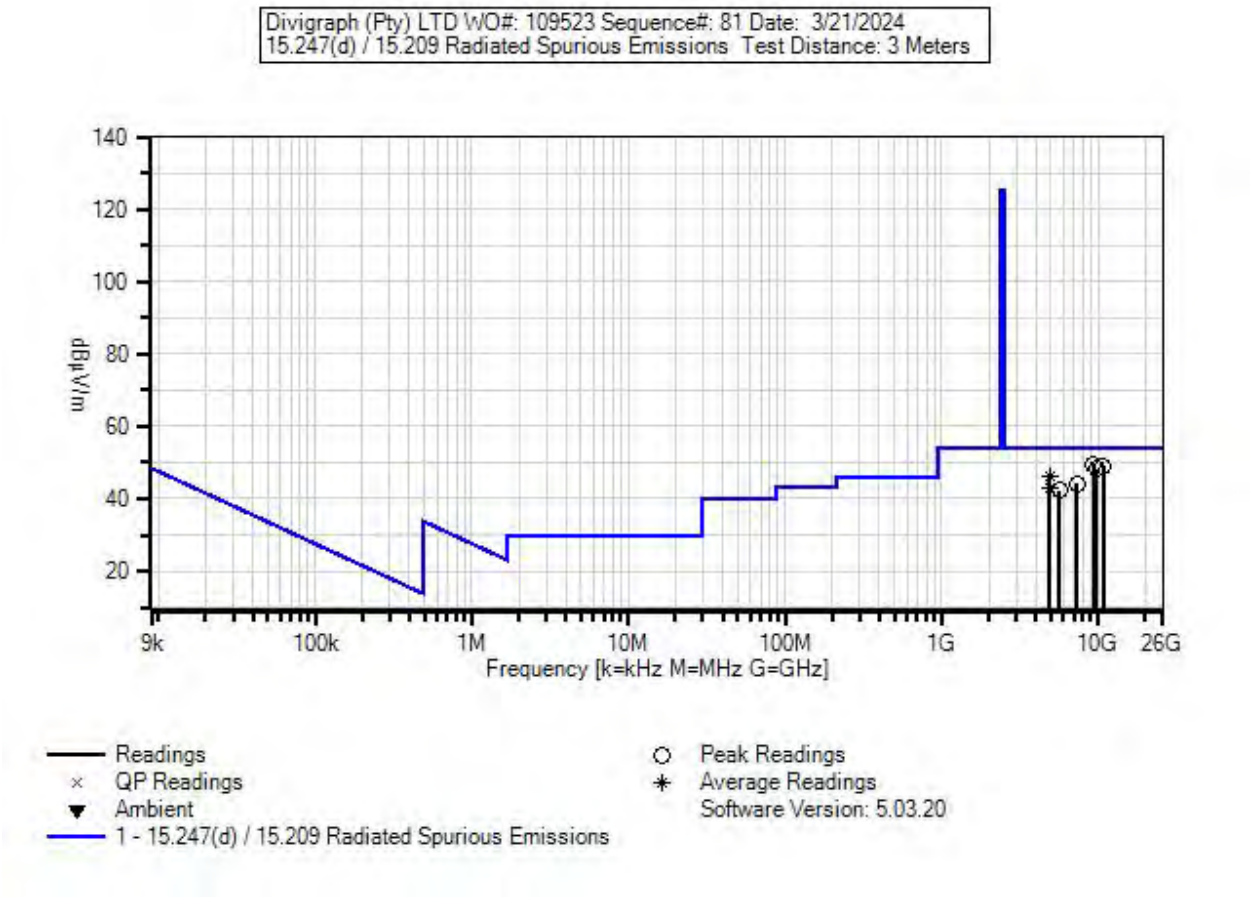
Radiated Spurious Emissions
Frequency Range: 1GHz to 25GHz

The EUT is set up and operated as intended. It is powered by PoE Injector is a support equipment and outside of the chamber. The PoE injector is connected to the Ethernet Switch which is also outside of the chamber through an ethernet cable. The Ethernet switch is connected to the NUC to monitor and control the EUT during exposure.

Test Environment Conditions:
Temperature: 21.1°C
Humidity: 45%
Atmospheric Pressure: 101.5kPa
Highest Generation Frequency: 2.48GHz

Test Method: ANSI C 63.10 2020

Note:
Middle Channel
Dipole Antenna (HUBER+SUHNER 1355.17.0002) 6dBi




***Test Equipment:***

| ID | Asset # | Description | Model | Calibration Date | Cal Due Date |
|---|---|---|---|---|---|
| T1 | AN02157 | Horn Antenna-ANSI C63.5 | 3115 | 1/11/2023 | 1/11/2025 |
| T2 | AN03302 | Cable | 32026-29094K-29094K-72TC | 1/9/2024 | 1/9/2026 |
| T3 | ANP01210 | Cable | FSJ1P-50A-4A | 1/9/2024 | 1/9/2026 |
| | AN02660 | Spectrum Analyzer | E4446A | 12/6/2022 | 12/6/2024 |
| T4 | AN03738 | Preamp | BZRYE-00101800-221055-202323 | 2/5/2024 | 2/5/2026 |
| T5 | AN03386 | High Pass Filter | 11SH10-3000/T10000-O/O | 3/22/2022 | 3/22/2024 |
| T6 | AN03013 | Cable | 32022-2-2909K-36TC | 1/9/2024 | 1/9/2026 |
| | AN02693 | Active Horn Antenna | AMFW-5F-12001800-20-10P | 1/9/2024 | 1/9/2026 |
| | AN02694 | Horn Antenna | AMFW-5F-18002650-20-10P | 1/9/2024 | 1/9/2026 |
| | ANP00928 | Cable | various | 1/26/2024 | 1/26/2026 |
| | ANP00929 | Cable | various | 1/26/2024 | 1/26/2026 |
| | ANP07700 | Cable | 32022-29094K-29094K-72TC | 9/1/2022 | 9/1/2024 |
| | ANP07701 | Cable | 32022-29094K-29094K-120TC | 9/1/2022 | 9/1/2024 |

***Measurement Data:*** Reading listed by margin. Test Distance: 3 Meters

| # | Freq | Rdng | T1<br>T5 | T2<br>T6 | T3 | T4 | Dist | Corr | Spec | Margin | Polar |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBµV | dB | dB | dB | dB | Table | dBµV/m | dBµV/m | dB | Ant |
| 1 | 9360.446M | 54.1 | +39.0<br>+0.4 | +3.0<br>+1.6 | +5.8 | -54.4 | +0.0 | 49.5 | 54.0 | -4.5 | Vert |
| 2 | 10706.584 M | 52.0 | +39.4<br>+0.6 | +3.2<br>+1.7 | +5.9 | -53.7 | +0.0 | 49.1 | 54.0 | -4.9 | Vert |
| 3 | 9760.000M | 52.2 | +39.5<br>+0.4 | +3.0<br>+1.6 | +5.9 | -54.3 | +0.0 | 48.3 | 54.0 | -5.7 | Horiz |
| 4 | 4880.007M Ave | 59.4 | +33.6<br>+0.4 | +2.0<br>+1.1 | +3.6 | -54.1 | +0.0 | 46.0 | 54.0 | -8.0 | Vert |
| ^ | 4880.007M | 68.5 | +33.6<br>+0.4 | +2.0<br>+1.1 | +3.6 | -54.1 | +0.0 | 55.1 | 54.0 | +1.1 | Vert |
| 6 | 7320.000M | 53.6 | +36.3<br>+0.4 | +2.6<br>+1.5 | +4.5 | -54.6 | +0.0 | 44.3 | 54.0 | -9.7 | Vert |
| 7 | 4880.572M Ave | 56.4 | +33.6<br>+0.4 | +2.0<br>+1.1 | +3.6 | -54.1 | +0.0 | 43.0 | 54.0 | -11.0 | Vert |
| ^ | 4880.572M | 68.0 | +33.6<br>+0.4 | +2.0<br>+1.1 | +3.6 | -54.1 | +0.0 | 54.6 | 54.0 | +0.6 | Vert |
| 9 | 5668.000M | 54.2 | +34.8<br>+0.4 | +2.2<br>+1.3 | +3.9 | -54.4 | +0.0 | 42.4 | 54.0 | -11.6 | Horiz |

| | | | |
|---|---|---|---|
| Test Location: | CKC Laboratories, Inc. • 1120 Fulton Pl • Fremont CA 94539 • (510) 249-1170 | | |
| Customer: | **Divigraph (Pty) LTD** | | |
| Specification: | **15.247(d) / 15.209 Radiated Spurious Emissions** | | |
| Work Order #: | **109523** | Date: | 3/26/2024 |
| Test Type: | **Radiated Scan** | Time: | 11:32:25 |
| Tested By: | Hieu Song Nguyenpham | Sequence#: | 125 |
| Software: | EMITest 5.03.20 | | |

***Equipment Tested:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 2 | | | |

***Support Equipment:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 2 | | | |

***Test Conditions / Notes:***

Radiated Spurious Emissions
Frequency Range: 9kHz to 1GHz

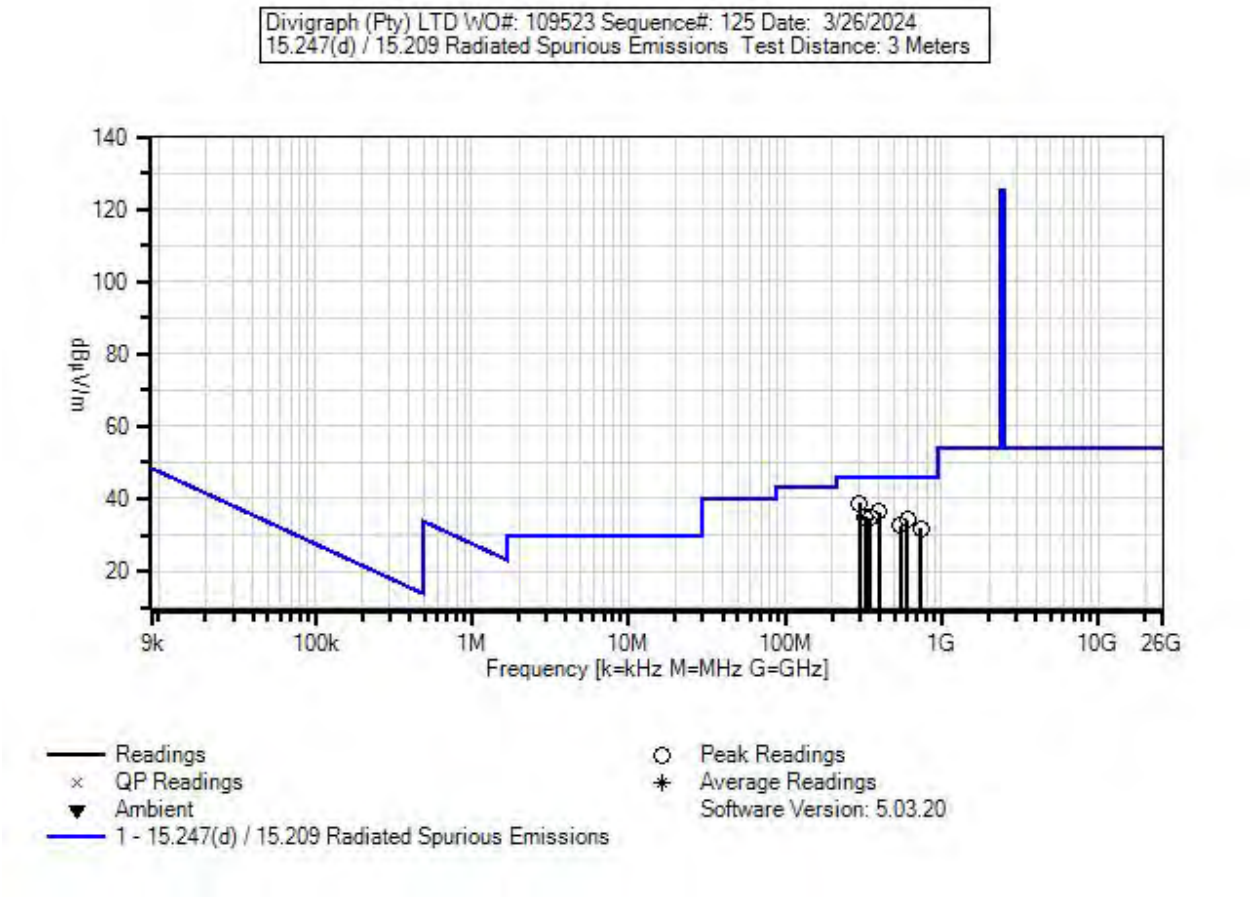
The EUT is set up and operated as intended. It is powered by PoE Injector is a support equipment and outside of the chamber. The PoE injector is connected to the Ethernet Switch which is also outside of the chamber through an ethernet cable. The Ethernet switch is connected to the NUC to monitor and control the EUT during exposure

Perform 3 orientation of a receiving antenna from 9kHz to 30MHz. No emissions detected within 20dB of the limit in the frequency range 9kHz to 30MHz.

Test Environment Conditions:
Temperature: 21.1°C
Humidity: 45%
Atmospheric Pressure: 101.5kPa
Highest Generation Frequency: 2.48GHz

Test Method: ANSI C 63.10 2020

Note:
High Channel
Dipole Antenna (HUBER+SUHNER 1355.17.0002) 6dBi




***Test Equipment:***

| ID | Asset # | Description | Model | Calibration Date | Cal Due Date |
|---|---|---|---|---|---|
| T1 | ANP07508 | Preamp | 310N | 5/9/2022 | 5/9/2024 |
| | AN00432 | Loop Antenna | 6502 | 7/10/2023 | 7/10/2025 |
| T2 | ANP01187 | Cable | CNT-195 | 7/12/2022 | 7/12/2024 |
| T3 | ANP06691 | Cable | PE3062-180 | 3/20/2024 | 3/20/2026 |
| | AN02660 | Spectrum Analyzer | E4446A | 12/6/2022 | 12/6/2024 |
| T4 | AN01995 | Biconilog Antenna | CBL6111C | 4/19/2022 | 4/19/2024 |
| T5 | ANP00987 | Cable | | 1/12/2024 | 1/12/2026 |

***Measurement Data:*** Reading listed by margin. Test Distance: 3 Meters

| # | Freq | Rdng | T1<br>T5 | T2 | T3 | T4 | Dist | Corr | Spec | Margin | Polar |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBµV | dB | dB | dB | dB | Table | dBµV/m | dBµV/m | dB | Ant |
| 1 | 300.038M | 47.9 | -31.9<br>+2.3 | +0.5 | +0.6 | +19.4 | +0.0 | 38.8 | 46.0 | -7.2 | Vert |
| 2 | 399.900M | 42.1 | -31.8<br>+2.7 | +0.6 | +0.7 | +22.0 | +0.0 | 36.3 | 46.0 | -9.7 | Vert |
| 3 | 325.064M | 43.5 | -31.8<br>+2.4 | +0.5 | +0.6 | +19.8 | +0.0 | 35.0 | 46.0 | -11.0 | Vert |
| 4 | 350.090M | 42.1 | -31.8<br>+2.6 | +0.5 | +0.7 | +20.6 | +0.0 | 34.7 | 46.0 | -11.3 | Vert |
| 5 | 600.083M | 35.5 | -32.0<br>+3.5 | +0.6 | +0.9 | +25.8 | +0.0 | 34.3 | 46.0 | -11.7 | Horiz |
| 6 | 549.874M | 33.5 | -31.9<br>+3.3 | +0.6 | +0.9 | +26.2 | +0.0 | 32.6 | 46.0 | -13.4 | Horiz |
| 7 | 733.194M | 29.9 | -32.0<br>+4.0 | +0.7 | +1.1 | +28.0 | +0.0 | 31.7 | 46.0 | -14.3 | Horiz |

| | | | |
|---|---|---|---|
| Test Location: | CKC Laboratories, Inc. • 1120 Fulton Pl • Fremont CA 94539 • (510) 249-1170 | | |
| Customer: | **Divigraph (Pty) LTD** | | |
| Specification: | **15.247(d) / 15.209 Radiated Spurious Emissions** | | |
| Work Order #: | **109523** | Date: | 3/21/2024 |
| Test Type: | **Radiated Scan** | Time: | 18:47:55 |
| Tested By: | Hieu Song Nguyenpham | Sequence#: | 84 |
| Software: | EMITest 5.03.20 | | |

***Equipment Tested:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 2 | | | |

***Support Equipment:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 2 | | | |

***Test Conditions / Notes:***

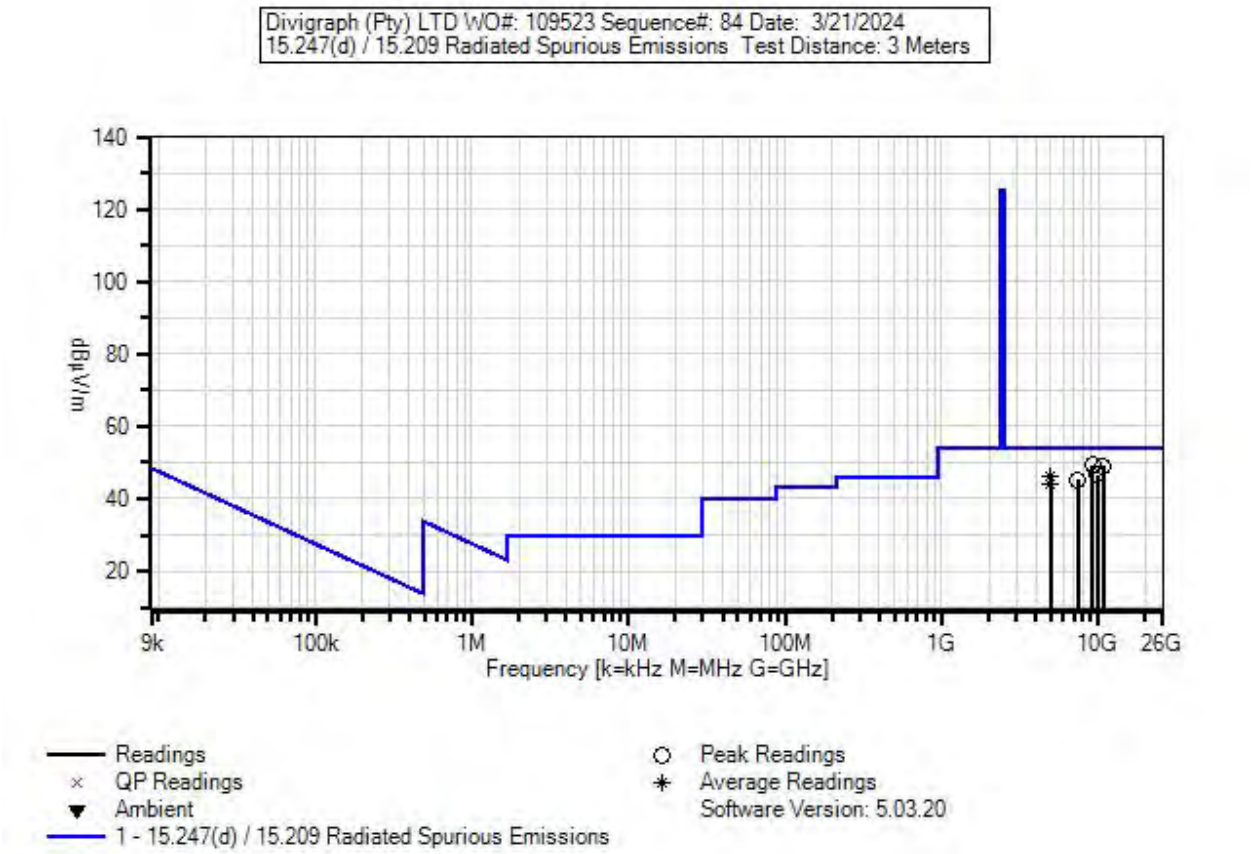
Radiated Spurious Emissions
Frequency Range: 1GHz to 25GHz

The EUT is set up and operated as intended. It is powered by PoE Injector is a support equipment and outside of the chamber. The PoE injector is connected to the Ethernet Switch which is also outside of the chamber through an ethernet cable. The Ethernet switch is connected to the NUC to monitor and control the EUT during exposure.

Test Environment Conditions:
Temperature: 21.1°C
Humidity: 45%
Atmospheric Pressure: 101.5kPa
Highest Generation Frequency: 2.48GHz

Test Method: ANSI C 63.10 2020

Note:
High Channel
Dipole Antenna (HUBER+SUHNER 1355.17.0002) 6dBi




***Test Equipment:***

| ID | Asset # | Description | Model | Calibration Date | Cal Due Date |
|---|---|---|---|---|---|
| T1 | AN02157 | Horn Antenna-ANSI C63.5 | 3115 | 1/11/2023 | 1/11/2025 |
| T2 | AN03302 | Cable | 32026-29094K-29094K-72TC | 1/9/2024 | 1/9/2026 |
| T3 | ANP01210 | Cable | FSJ1P-50A-4A | 1/9/2024 | 1/9/2026 |
| | AN02660 | Spectrum Analyzer | E4446A | 12/6/2022 | 12/6/2024 |
| T4 | AN03738 | Preamp | BZRYE-00101800-221055-202323 | 2/5/2024 | 2/5/2026 |
| T5 | AN03386 | High Pass Filter | 11SH10-3000/T10000-O/O | 3/22/2022 | 3/22/2024 |
| T6 | AN03013 | Cable | 32022-2-2909K-36TC | 1/9/2024 | 1/9/2026 |
| | AN02693 | Active Horn Antenna | AMFW-5F-12001800-20-10P | 1/9/2024 | 1/9/2026 |
| | AN02694 | Horn Antenna | AMFW-5F-18002650-20-10P | 1/9/2024 | 1/9/2026 |
| | ANP00928 | Cable | various | 1/26/2024 | 1/26/2026 |
| | ANP00929 | Cable | various | 1/26/2024 | 1/26/2026 |
| | ANP07700 | Cable | 32022-29094K-29094K-72TC | 9/1/2022 | 9/1/2024 |
| | ANP07701 | Cable | 32022-29094K-29094K-120TC | 9/1/2022 | 9/1/2024 |

***Measurement Data:*** Reading listed by margin. Test Distance: 3 Meters

| # | Freq | Rdng | T1<br>T5 | T2<br>T6 | T3 | T4 | Dist | Corr | Spec | Margin | Polar |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBµV | dB | dB | dB | dB | Table | dBµV/m | dBµV/m | dB | Ant |
| 1 | 9223.372M | 54.5 | +38.7<br>+0.4 | +2.9<br>+1.6 | +5.7 | -54.5 | +0.0 | 49.3 | 54.0 | -4.7 | Horiz |
| 2 | 10713.613<br>M | 51.8 | +39.4<br>+0.6 | +3.2<br>+1.7 | +5.9 | -53.7 | +0.0 | 48.9 | 54.0 | -5.1 | Horiz |
| 3 | 9920.000M | 50.2 | +39.6<br>+0.4 | +3.0<br>+1.7 | +5.8 | -54.2 | +0.0 | 46.5 | 54.0 | -7.5 | Vert |
| 4 | 4960.013M<br>Ave | 59.3 | +33.8<br>+0.4 | +2.0<br>+1.2 | +3.6 | -54.0 | +0.0 | 46.3 | 54.0 | -7.7 | Vert |
| ^ | 4960.013M | 69.9 | +33.8<br>+0.4 | +2.0<br>+1.2 | +3.6 | -54.0 | +0.0 | 56.9 | 54.0 | +2.9 | Vert |
| 6 | 7440.000M | 54.2 | +36.6<br>+0.3 | +2.6<br>+1.5 | +4.6 | -54.6 | +0.0 | 45.2 | 54.0 | -8.8 | Vert |
| 7 | 4959.439M<br>Ave | 56.8 | +33.8<br>+0.4 | +2.0<br>+1.2 | +3.6 | -54.0 | +0.0 | 43.8 | 54.0 | -10.2 | Vert |
| ^ | 4959.439M | 68.4 | +33.8<br>+0.4 | +2.0<br>+1.2 | +3.6 | -54.0 | +0.0 | 55.4 | 54.0 | +1.4 | Vert |

| | | | |
|---|---|---|---|
| Test Location: | CKC Laboratories, Inc. • 1120 Fulton Pl • Fremont CA 94539 • (510) 249-1170 | | |
| Customer: | **Divigraph (Pty) LTD** | | |
| Specification: | **15.247(d) / 15.209 Radiated Spurious Emissions** | | |
| Work Order #: | **109523** | Date: | 3/26/2024 |
| Test Type: | **Radiated Scan** | Time: | 10:05:58 |
| Tested By: | Hieu Song Nguyenpham | Sequence#: | 116 |
| Software: | EMITest 5.03.20 | | |

***Equipment Tested:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 5 | | | |

***Support Equipment:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 5 | | | |

***Test Conditions / Notes:***

Radiated Spurious Emissions
Frequency Range: 9kHz to 1GHz

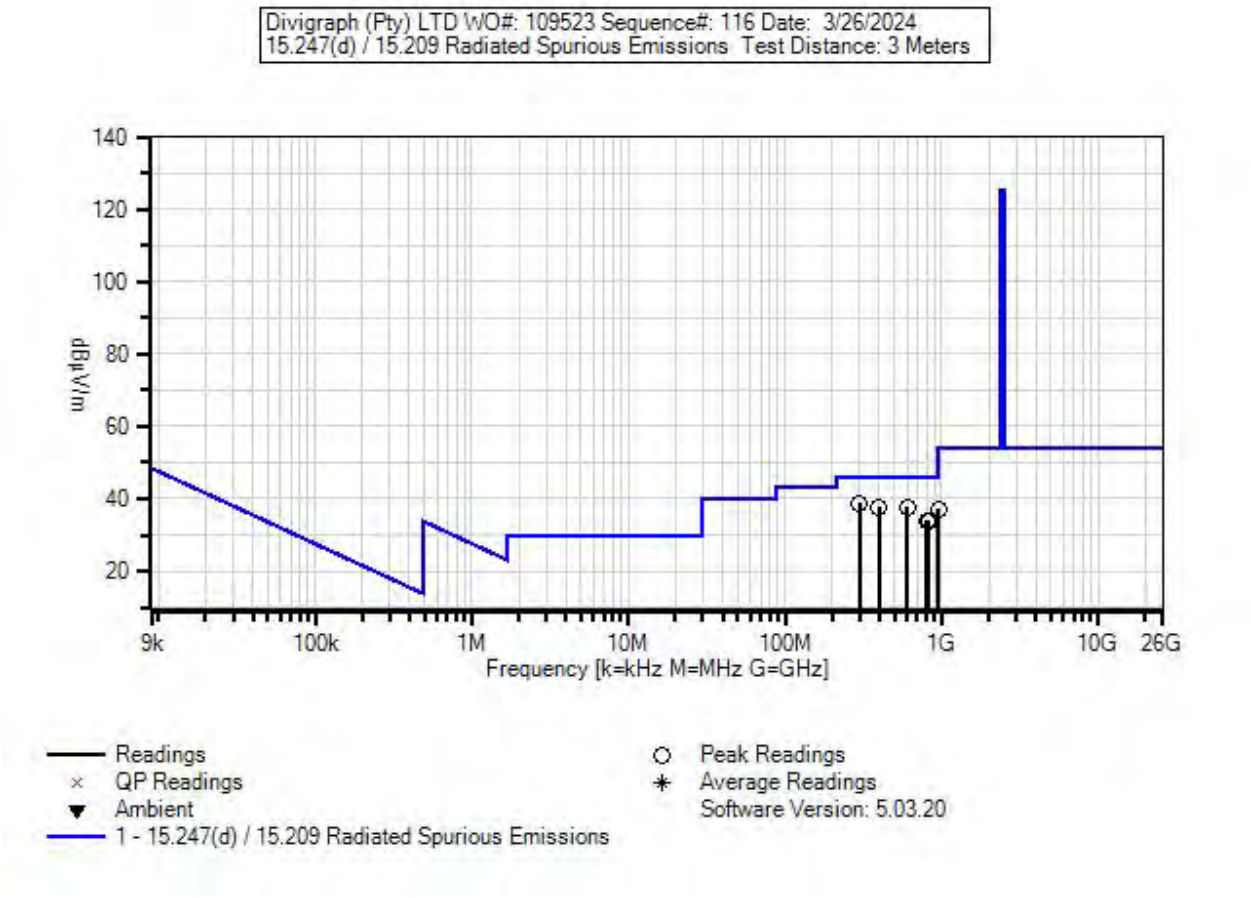
The EUT is set up and operated as intended. It is powered by PoE Injector is a support equipment and outside of the chamber. The PoE injector is connected to the Ethernet Switch which is also outside of the chamber through an ethernet cable. The Ethernet switch is connected to the NUC to monitor and control the EUT during exposure

Perform 3 orientation of a receiving antenna from 9kHz to 30MHz. No emissions detected within 20dB of the limit in the frequency range 9kHz to 30MHz.

Test Environment Conditions:
Temperature: 21.1°C
Humidity: 45%
Atmospheric Pressure: 101.5kPa
Highest Generation Frequency: 2.48GHz

Test Method: ANSI C 63.10 2020

Note:
Low Channel
Panel Antenna ( TE MD24-12) 11dBi




***Test Equipment:***

| ID | Asset # | Description | Model | Calibration Date | Cal Due Date |
|---|---|---|---|---|---|
| T1 | ANP07508 | Preamp | 310N | 5/9/2022 | 5/9/2024 |
| | AN00432 | Loop Antenna | 6502 | 7/10/2023 | 7/10/2025 |
| T2 | ANP01187 | Cable | CNT-195 | 7/12/2022 | 7/12/2024 |
| T3 | ANP06691 | Cable | PE3062-180 | 3/20/2024 | 3/20/2026 |
| | AN02660 | Spectrum Analyzer | E4446A | 12/6/2022 | 12/6/2024 |
| T4 | AN01995 | Biconilog Antenna | CBL6111C | 4/19/2022 | 4/19/2024 |
| T5 | ANP00987 | Cable | | 1/12/2024 | 1/12/2026 |

***Measurement Data:*** Reading listed by margin. Test Distance: 3 Meters

| # | Freq | Rdng | T1<br>T5 | T2 | T3 | T4 | Dist | Corr | Spec | Margin | Polar |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBµV | dB | dB | dB | dB | Table | dBµV/m | dBµV/m | dB | Ant |
| 1 | 300.038M | 48.0 | -31.9<br>+2.3 | +0.5 | +0.6 | +19.4 | +0.0 | 38.9 | 46.0 | -7.1 | Vert |
| 2 | 600.083M | 38.9 | -32.0<br>+3.5 | +0.6 | +0.9 | +25.8 | +0.0 | 37.7 | 46.0 | -8.3 | Vert |
| 3 | 399.900M | 43.4 | -31.8<br>+2.7 | +0.6 | +0.7 | +22.0 | +0.0 | 37.6 | 46.0 | -8.4 | Vert |
| 4 | 956.213M | 29.2 | -30.8<br>+4.7 | +0.9 | +1.3 | +31.9 | +0.0 | 37.2 | 46.0 | -8.8 | Horiz |
| 5 | 949.791M | 29.1 | -30.9<br>+4.6 | +0.9 | +1.3 | +31.8 | +0.0 | 36.8 | 46.0 | -9.2 | Vert |
| 6 | 824.854M | 30.3 | -31.7<br>+4.3 | +0.7 | +1.2 | +29.2 | +0.0 | 34.0 | 46.0 | -12.0 | Horiz |
| 7 | 799.749M | 30.7 | -31.8<br>+4.2 | +0.7 | +1.1 | +28.9 | +0.0 | 33.8 | 46.0 | -12.2 | Horiz |

| | | | |
|---|---|---|---|
| Test Location: | CKC Laboratories, Inc. • 1120 Fulton Pl • Fremont CA 94539 • (510) 249-1170 | | |
| Customer: | **Divigraph (Pty) LTD** | | |
| Specification: | **15.247(d) / 15.209 Radiated Spurious Emissions** | | |
| Work Order #: | **109523** | Date: | 3/21/2024 |
| Test Type: | **Radiated Scan** | Time: | 17:48:08 |
| Tested By: | Hieu Song Nguyenpham | Sequence#: | 75 |
| Software: | EMITest 5.03.20 | | |

***Equipment Tested:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 5 | | | |

***Support Equipment:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 5 | | | |

***Test Conditions / Notes:***

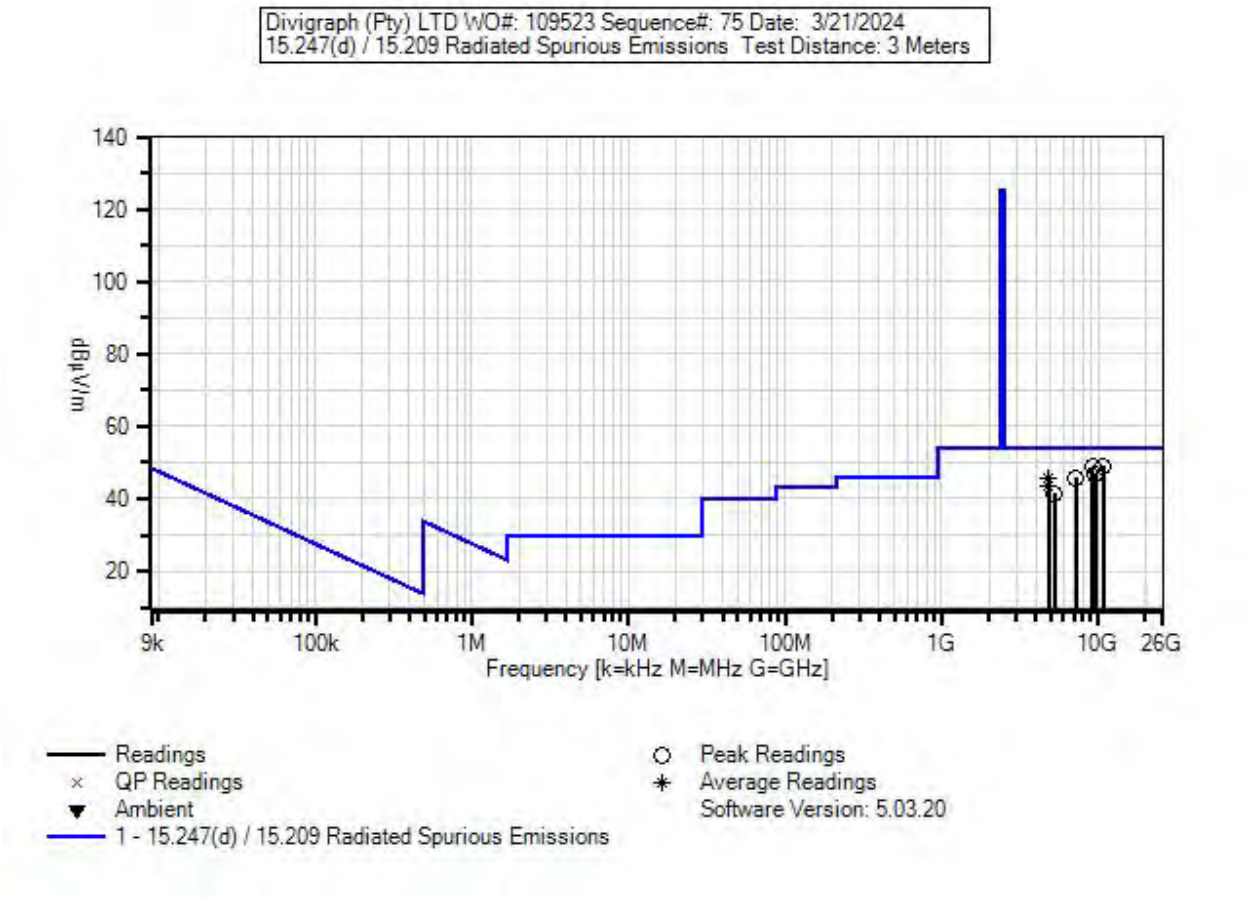
Radiated Spurious Emissions
Frequency Range: 1GHz to 25GHz

The EUT is set up and operated as intended. It is powered by PoE Injector is a support equipment and outside of the chamber. The PoE injector is connected to the Ethernet Switch which is also outside of the chamber through an ethernet cable. The Ethernet switch is connected to the NUC to monitor and control the EUT during exposure

Test Environment Conditions:
Temperature: 21.1°C
Humidity: 45%
Atmospheric Pressure: 101.5kPa
Highest Generation Frequency: 2.48GHz

Test Method: ANSI C 63.10 2020

Note:
Low Channel
Panel Antenna ( TE MD24-12) 11dBi




***Test Equipment:***

| ID | Asset # | Description | Model | Calibration Date | Cal Due Date |
|---|---|---|---|---|---|
| T1 | AN02157 | Horn Antenna-ANSI C63.5 | 3115 | 1/11/2023 | 1/11/2025 |
| T2 | AN03302 | Cable | 32026-29094K-29094K-72TC | 1/9/2024 | 1/9/2026 |
| T3 | ANP01210 | Cable | FSJ1P-50A-4A | 1/9/2024 | 1/9/2026 |
| | AN02660 | Spectrum Analyzer | E4446A | 12/6/2022 | 12/6/2024 |
| T4 | AN03738 | Preamp | BZRYE-00101800-221055-202323 | 2/5/2024 | 2/5/2026 |
| T5 | AN03386 | High Pass Filter | 11SH10-3000/T10000-O/O | 3/22/2022 | 3/22/2024 |
| T6 | AN03013 | Cable | 32022-2-2909K-36TC | 1/9/2024 | 1/9/2026 |
| | AN02693 | Active Horn Antenna | AMFW-5F-12001800-20-10P | 1/9/2024 | 1/9/2026 |
| | AN02694 | Horn Antenna | AMFW-5F-18002650-20-10P | 1/9/2024 | 1/9/2026 |
| | ANP00928 | Cable | various | 1/26/2024 | 1/26/2026 |
| | ANP00929 | Cable | various | 1/26/2024 | 1/26/2026 |
| | ANP07700 | Cable | 32022-29094K-29094K-72TC | 9/1/2022 | 9/1/2024 |
| | ANP07701 | Cable | 32022-29094K-29094K-120TC | 9/1/2022 | 9/1/2024 |

***Measurement Data:*** Reading listed by margin. Test Distance: 3 Meters

| # | Freq | Rdng | T1<br>T5 | T2<br>T6 | T3 | T4 | Dist | Corr | Spec | Margin | Polar |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBµV | dB | dB | dB | dB | Table | dBµV/m | dBµV/m | dB | Ant |
| 1 | 10790.937<br>M | 51.8 | +39.4<br>+0.6 | +3.2<br>+1.7 | +6.0 | -53.7 | +0.0 | 49.0 | 54.0 | -5.0 | Vert |
| 2 | 9233.916M | 54.0 | +38.7<br>+0.4 | +2.9<br>+1.6 | +5.7 | -54.5 | +0.0 | 48.8 | 54.0 | -5.2 | Vert |
| 3 | 9607.020M | 51.0 | +39.3<br>+0.4 | +3.0<br>+1.6 | +5.9 | -54.3 | +0.0 | 46.9 | 54.0 | -7.1 | Horiz |
| 4 | 7205.280M | 55.4 | +36.0<br>+0.4 | +2.5<br>+1.5 | +4.5 | -54.5 | +0.0 | 45.8 | 54.0 | -8.2 | Horiz |
| 5 | 4804.013M<br>Ave | 59.3 | +33.4<br>+0.4 | +2.0<br>+1.1 | +3.6 | -54.1 | +0.0 | 45.7 | 54.0 | -8.3 | Horiz |
| ^ | 4804.013M | 67.7 | +33.4<br>+0.4 | +2.0<br>+1.1 | +3.6 | -54.1 | +0.0 | 54.1 | 54.0 | +0.1 | Horiz |
| 7 | 4804.508M<br>Ave | 56.9 | +33.4<br>+0.4 | +2.0<br>+1.1 | +3.6 | -54.1 | +0.0 | 43.3 | 54.0 | -10.7 | Horiz |
| ^ | 4804.508M | 67.9 | +33.4<br>+0.4 | +2.0<br>+1.1 | +3.6 | -54.1 | +0.0 | 54.3 | 54.0 | +0.3 | Horiz |
| 9 | 5251.000M | 53.7 | +34.4<br>+0.4 | +2.1<br>+1.2 | +3.8 | -54.1 | +0.0 | 41.5 | 54.0 | -12.5 | Vert |

| | | | |
|---|---|---|---|
| Test Location: | CKC Laboratories, Inc. • 1120 Fulton Pl • Fremont CA 94539 • (510) 249-1170 | | |
| Customer: | **Divigraph (Pty) LTD** | | |
| Specification: | **15.247(d) / 15.209 Radiated Spurious Emissions** | | |
| Work Order #: | **109523** | Date: | 3/25/2024 |
| Test Type: | **Radiated Scan** | Time: | 16:46:47 |
| Tested By: | Hieu Song Nguyenpham | Sequence#: | 113 |
| Software: | EMITest 5.03.20 | | |

***Equipment Tested:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 5 | | | |

***Support Equipment:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 5 | | | |

***Test Conditions / Notes:***

Radiated Spurious Emissions
Frequency Range: 9kHz to 1GHz

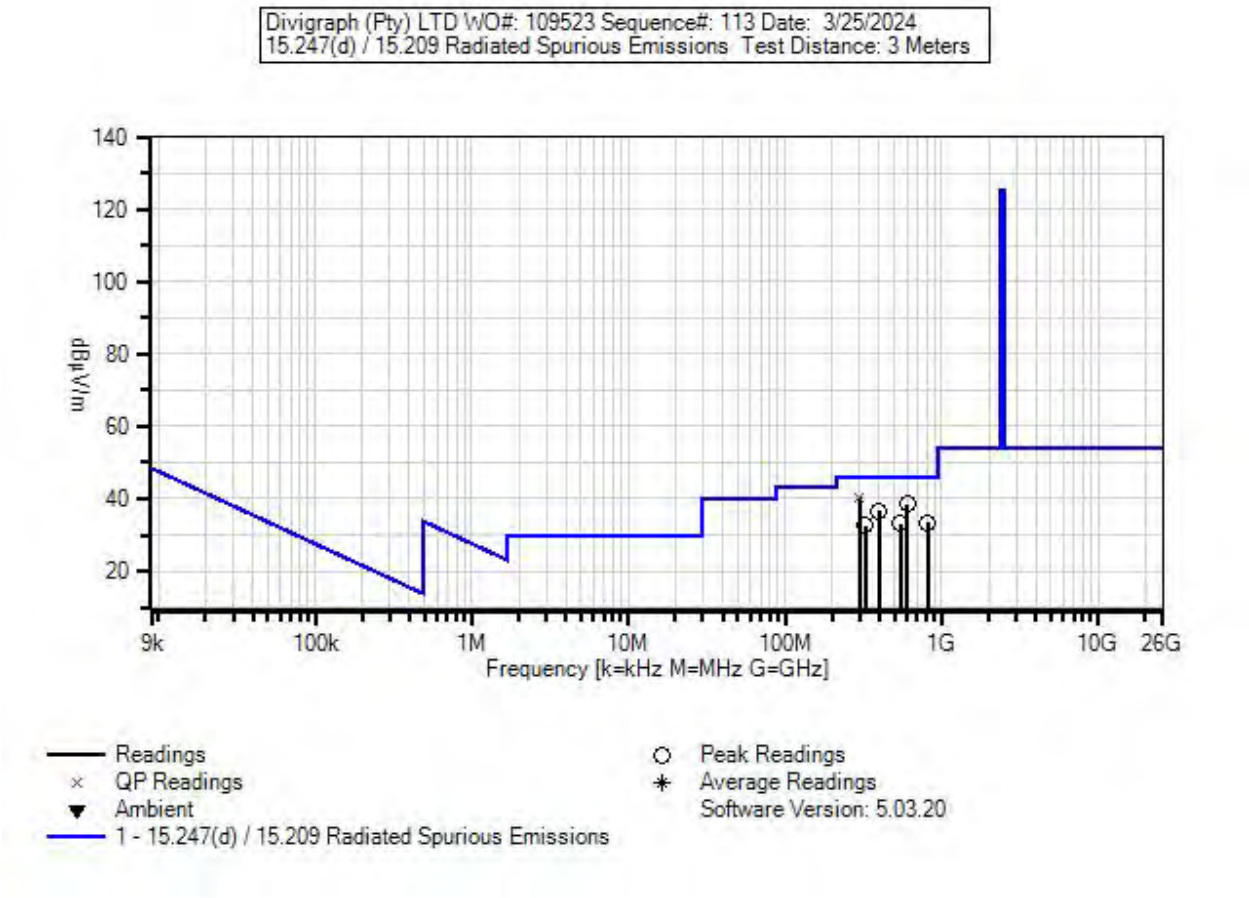
The EUT is set up and operated as intended. It is powered by PoE Injector is a support equipment and outside of the chamber. The PoE injector is connected to the Ethernet Switch which is also outside of the chamber through an ethernet cable. The Ethernet switch is connected to the NUC to monitor and control the EUT during exposure.

Perform 3 orientation of a receiving antenna from 9kHz to 30MHz. No emissions detected within 20dB of the limit in the frequency range 9kHz to 30MHz.

Test Environment Conditions:
Temperature: 21.1°C
Humidity: 45%
Atmospheric Pressure: 101.5kPa
Highest Generation Frequency: 2.48GHz

Test Method: ANSI C 63.10 2020

Note:
Middle Channel
Panel Antenna ( TE MD24-12) 11dBi




***Test Equipment:***

| ID | Asset # | Description | Model | Calibration Date | Cal Due Date |
|---|---|---|---|---|---|
| T1 | ANP07508 | Preamp | 310N | 5/9/2022 | 5/9/2024 |
| | AN00432 | Loop Antenna | 6502 | 7/10/2023 | 7/10/2025 |
| T2 | ANP00880 | Cable | RG214U | 3/25/2022 | 3/25/2024 |
| T3 | ANP01187 | Cable | CNT-195 | 7/12/2022 | 7/12/2024 |
| T4 | ANP06691 | Cable | PE3062-180 | 3/20/2024 | 3/20/2026 |
| | AN02660 | Spectrum Analyzer | E4446A | 12/6/2022 | 12/6/2024 |
| T5 | AN01995 | Biconilog Antenna | CBL6111C | 4/19/2022 | 4/19/2024 |

***Measurement Data:*** Reading listed by margin. Test Distance: 3 Meters

| # | Freq | Rdng | T1<br>T5 | T2 | T3 | T4 | Dist | Corr | Spec | Margin | Polar |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBµV | dB | dB | dB | dB | Table | dBµV/m | dBµV/m | dB | Ant |
| 1 | 299.998M<br>QP | 50.1 | -31.9<br>+19.4 | +1.8 | +0.5 | +0.6 | +0.0 | 40.5 | 46.0 | -5.5 | Vert |
| ^ | 299.998M | 50.5 | -31.9<br>+19.4 | +1.8 | +0.5 | +0.6 | +0.0 | 40.9 | 46.0 | -5.1 | Vert |
| 3 | 600.083M | 40.7 | -32.0<br>+25.8 | +2.6 | +0.6 | +0.9 | +0.0 | 38.6 | 46.0 | -7.4 | Vert |
| 4 | 399.900M | 43.0 | -31.8<br>+22.0 | +2.0 | +0.6 | +0.7 | +0.0 | 36.5 | 46.0 | -9.5 | Vert |
| 5 | 812.010M | 30.9 | -31.8<br>+29.1 | +3.2 | +0.7 | +1.2 | +0.0 | 33.3 | 46.0 | -12.7 | Horiz |
| 6 | 549.874M | 34.7 | -31.9<br>+26.2 | +2.5 | +0.6 | +0.9 | +0.0 | 33.0 | 46.0 | -13.0 | Horiz |
| 7 | 325.064M | 41.7 | -31.8<br>+19.8 | +1.8 | +0.5 | +0.6 | +0.0 | 32.6 | 46.0 | -13.4 | Horiz |

| | | | |
|---|---|---|---|
| Test Location: | CKC Laboratories, Inc. • 1120 Fulton Pl • Fremont CA 94539 • (510) 249-1170 | | |
| Customer: | **Divigraph (Pty) LTD** | | |
| Specification: | **15.247(d) / 15.209 Radiated Spurious Emissions** | | |
| Work Order #: | **109523** | Date: | 3/21/2024 |
| Test Type: | **Radiated Scan** | Time: | 17:30:36 |
| Tested By: | Hieu Song Nguyenpham | Sequence#: | 72 |
| Software: | EMITest 5.03.20 | | |

***Equipment Tested:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 5 | | | |

***Support Equipment:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 5 | | | |

***Test Conditions / Notes:***

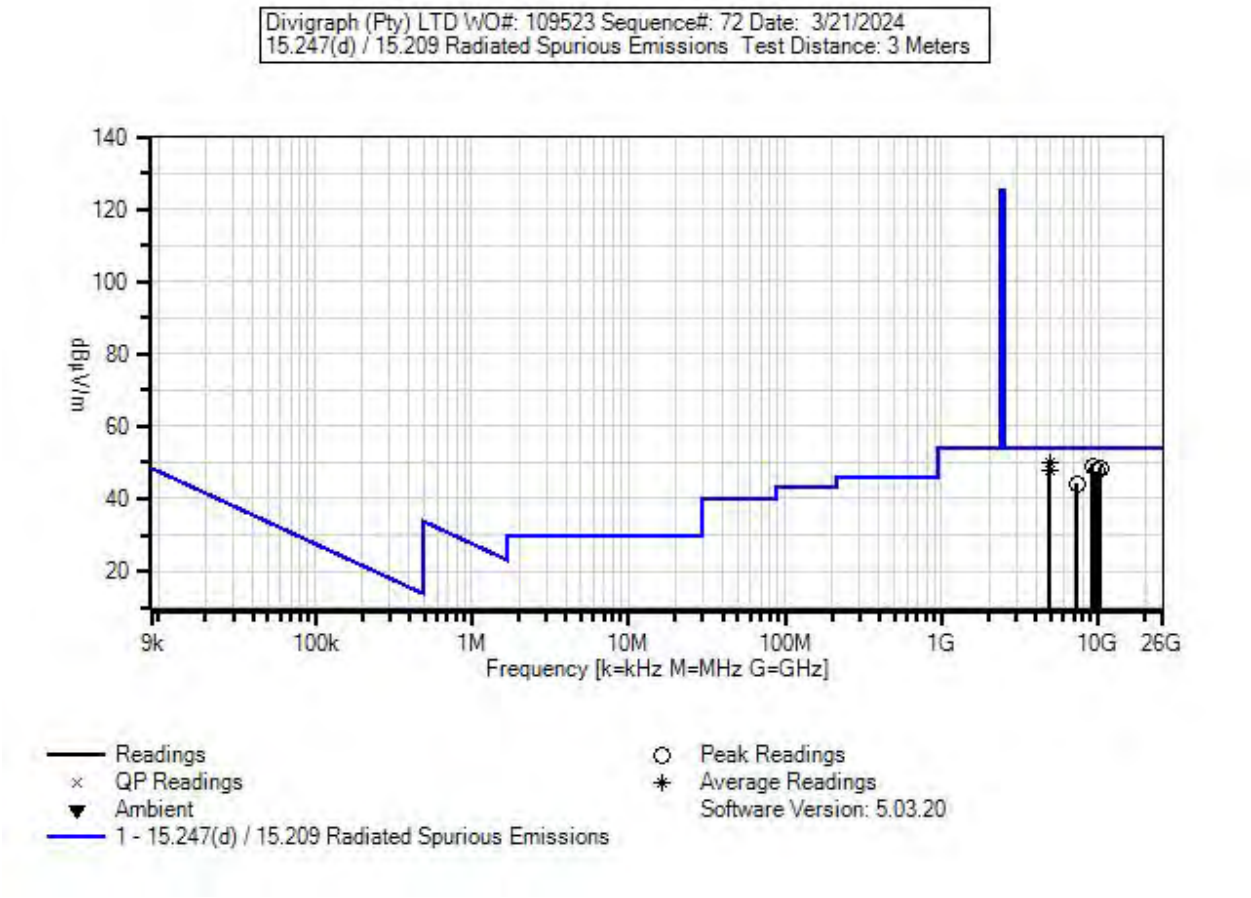
Radiated Spurious Emissions
Frequency Range: 1GHz to 25GHz

The EUT is set up and operated as intended. It is powered by PoE Injector is s support equipment and outside of the chamber. The PoE injector is connected to the Ethernet Switch which is also outside of the chamber through an ethernet cable. The Ethernet switch is connected to the NUC to monitor and control the EUT during exposure.

Test Environment Conditions:
Temperature: 21.1°C
Humidity: 45%
Atmospheric Pressure: 101.5kPa
Highest Generation Frequency: 2.48GHz

Test Method: ANSI C 63.10 2020

Note:
Middle Channel
Panel Antenna ( TE MD24-12) 11dBi




***Test Equipment:***

| ID | Asset # | Description | Model | Calibration Date | Cal Due Date |
|---|---|---|---|---|---|
| T1 | AN02157 | Horn Antenna-ANSI C63.5 | 3115 | 1/11/2023 | 1/11/2025 |
| T2 | AN03302 | Cable | 32026-29094K-29094K-72TC | 1/9/2024 | 1/9/2026 |
| T3 | ANP01210 | Cable | FSJ1P-50A-4A | 1/9/2024 | 1/9/2026 |
| | AN02660 | Spectrum Analyzer | E4446A | 12/6/2022 | 12/6/2024 |
| T4 | AN03738 | Preamp | BZRYE-00101800-221055-202323 | 2/5/2024 | 2/5/2026 |
| T5 | AN03386 | High Pass Filter | 11SH10-3000/T10000-O/O | 3/22/2022 | 3/22/2024 |
| T6 | AN03013 | Cable | 32022-2-2909K-36TC | 1/9/2024 | 1/9/2026 |
| | AN02693 | Active Horn Antenna | AMFW-5F-12001800-20-10P | 1/9/2024 | 1/9/2026 |
| | AN02694 | Horn Antenna | AMFW-5F-18002650-20-10P | 1/9/2024 | 1/9/2026 |
| | ANP00928 | Cable | various | 1/26/2024 | 1/26/2026 |
| | ANP00929 | Cable | various | 1/26/2024 | 1/26/2026 |
| | ANP07700 | Cable | 32022-29094K-29094K-72TC | 9/1/2022 | 9/1/2024 |
| | ANP07701 | Cable | 32022-29094K-29094K-120TC | 9/1/2022 | 9/1/2024 |

***Measurement Data:*** Reading listed by margin. Test Distance: 3 Meters

| # | Freq | Rdng | T1<br>T5 | T2<br>T6 | T3 | T4 | Dist | Corr | Spec | Margin | Polar |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBµV | dB | dB | dB | dB | Table | dBµV/m | dBµV/m | dB | Ant |
| 1 | 4879.980M<br>Ave | 63.5 | +33.6<br>+0.4 | +2.0<br>+1.1 | +3.6 | -54.1 | +0.0 | 50.1 | 54.0 | -3.9 | Horiz |
| ^ | 4879.980M | 71.5 | +33.6<br>+0.4 | +2.0<br>+1.1 | +3.6 | -54.1 | +0.0 | 58.1 | 54.0 | +4.1 | Horiz |
| 3 | 9233.916M | 54.1 | +38.7<br>+0.4 | +2.9<br>+1.6 | +5.7 | -54.5 | +0.0 | 48.9 | 54.0 | -5.1 | Vert |
| 4 | 10386.744<br>M | 52.1 | +39.5<br>+0.5 | +3.1<br>+1.7 | +5.7 | -54.0 | +0.0 | 48.6 | 54.0 | -5.4 | Vert |
| 5 | 4879.475M<br>Ave | 61.3 | +33.6<br>+0.4 | +2.0<br>+1.1 | +3.6 | -54.1 | +0.0 | 47.9 | 54.0 | -6.1 | Horiz |
| ^ | 4879.475M | 71.6 | +33.6<br>+0.4 | +2.0<br>+1.1 | +3.6 | -54.1 | +0.0 | 58.2 | 54.0 | +4.2 | Horiz |
| 7 | 9760.000M | 51.5 | +39.5<br>+0.4 | +3.0<br>+1.6 | +5.9 | -54.3 | +0.0 | 47.6 | 54.0 | -6.4 | Horiz |
| 8 | 7320.660M | 53.5 | +36.3<br>+0.4 | +2.6<br>+1.5 | +4.5 | -54.6 | +0.0 | 44.2 | 54.0 | -9.8 | Horiz |

| | | | |
|---|---|---|---|
| Test Location: | CKC Laboratories, Inc. • 1120 Fulton Pl • Fremont CA 94539 • (510) 249-1170 | | |
| Customer: | **Divigraph (Pty) LTD** | | |
| Specification: | **15.247(d) / 15.209 Radiated Spurious Emissions** | | |
| Work Order #: | **109523** | Date: | 3/25/2024 |
| Test Type: | **Radiated Scan** | Time: | 16:20:53 |
| Tested By: | Hieu Song Nguyenpham | Sequence#: | 110 |
| Software: | EMITest 5.03.20 | | |

***Equipment Tested:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 5 | | | |

***Support Equipment:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 5 | | | |

***Test Conditions / Notes:***

Radiated Spurious Emissions
Frequency Range: 9kHz to 1GHz

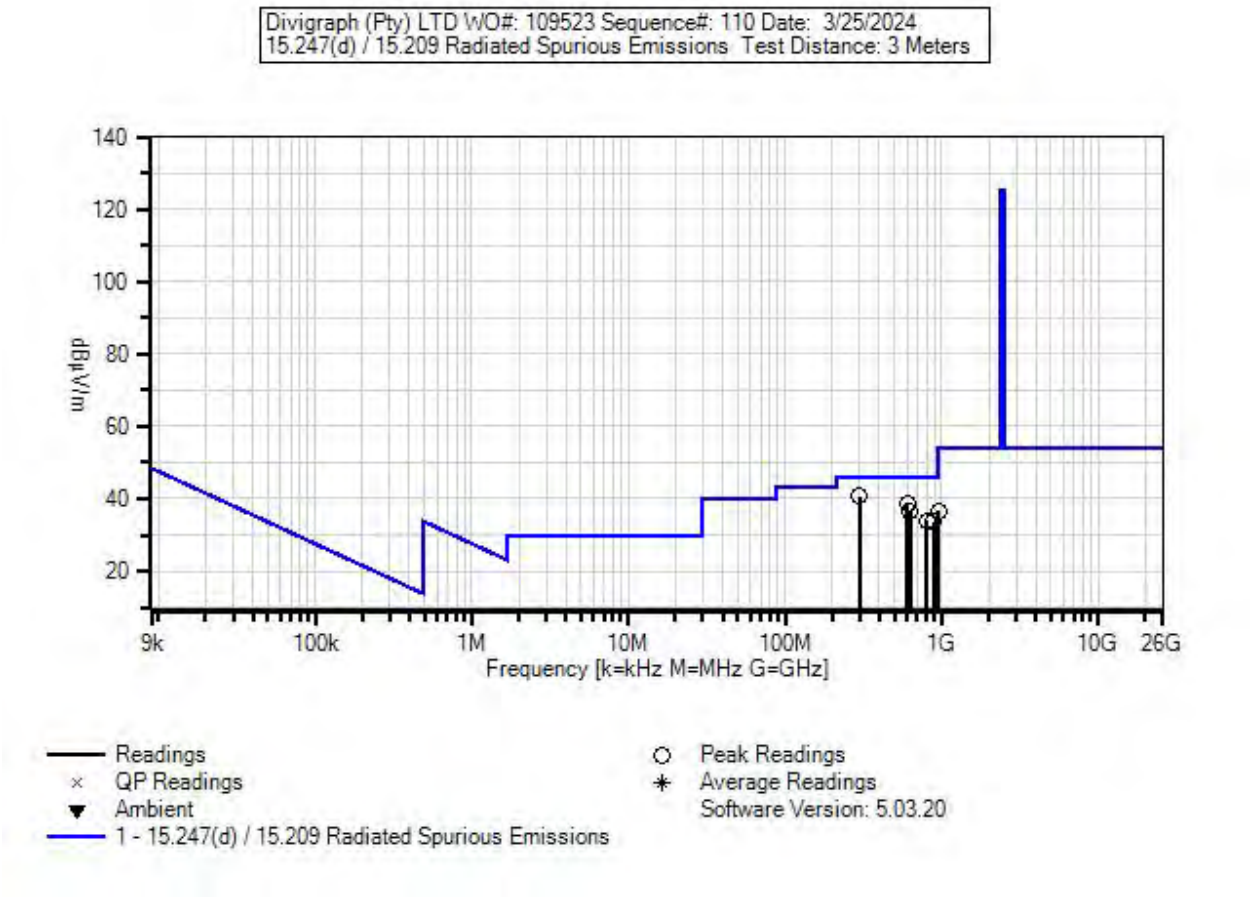
The EUT is set up and operated as intended. It is powered by PoE Injector is a support equipment and outside of the chamber. The PoE injector is connected to the Ethernet Switch which is also outside of the chamber through an ethernet cable. The Ethernet switch is connected to the NUC to monitor and control the EUT during exposure.

Perform 3 orientantion of a receiving antenna from 9kHz to 30MHz. No emissions detected within 20dB of the limit in the frequency range 9kHz to 30MHz.

Test Environment Conditions:
Temperature: 21.1°C
Humidity: 45%
Atmospheric Pressure: 101.5kPa
Highest Generation Frequency: 2.48GHz

Test Method: ANSI C 63.10 2020

Note:
High Channel
Panel Antenna ( TE MD24-12) 11dBi




***Test Equipment:***

| ID | Asset # | Description | Model | Calibration Date | Cal Due Date |
|---|---|---|---|---|---|
| T1 | ANP07508 | Preamp | 310N | 5/9/2022 | 5/9/2024 |
| | AN00432 | Loop Antenna | 6502 | 7/10/2023 | 7/10/2025 |
| T2 | ANP00880 | Cable | RG214U | 3/25/2022 | 3/25/2024 |
| T3 | ANP01187 | Cable | CNT-195 | 7/12/2022 | 7/12/2024 |
| T4 | ANP06691 | Cable | PE3062-180 | 3/20/2024 | 3/20/2026 |
| | AN02660 | Spectrum Analyzer | E4446A | 12/6/2022 | 12/6/2024 |
| T5 | AN01995 | Biconilog Antenna | CBL6111C | 4/19/2022 | 4/19/2024 |

***Measurement Data:*** Reading listed by margin. Test Distance: 3 Meters

| # | Freq | Rdng | T1<br>T5 | T2 | T3 | T4 | Dist | Corr | Spec | Margin | Polar |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBµV | dB | dB | dB | dB | Table | dBµV/m | dBµV/m | dB | Ant |
| 1 | 300.038M | 50.4 | -31.9<br>+19.4 | +1.8 | +0.5 | +0.6 | +0.0 | 40.8 | 46.0 | -5.2 | Vert |
| 2 | 600.083M | 40.8 | -32.0<br>+25.8 | +2.6 | +0.6 | +0.9 | +0.0 | 38.7 | 46.0 | -7.3 | Vert |
| 3 | 629.274M | 37.5 | -32.0<br>+26.9 | +2.7 | +0.6 | +1.0 | +0.0 | 36.7 | 46.0 | -9.3 | Vert |
| 4 | 959.133M | 29.7 | -30.8<br>+32.0 | +3.5 | +0.9 | +1.3 | +0.0 | 36.6 | 46.0 | -9.4 | Horiz |
| 5 | 799.749M | 31.8 | -31.8<br>+28.9 | +3.1 | +0.7 | +1.1 | +0.0 | 33.8 | 46.0 | -12.2 | Horiz |
| 6 | 895.496M | 29.9 | -31.3<br>+29.7 | +3.3 | +0.8 | +1.2 | +0.0 | 33.6 | 46.0 | -12.4 | Horiz |

| | | | |
|---|---|---|---|
| Test Location: | CKC Laboratories, Inc. • 1120 Fulton Pl • Fremont CA 94539 • (510) 249-1170 | | |
| Customer: | **Divigraph (Pty) LTD** | | |
| Specification: | **15.247(d) / 15.209 Radiated Spurious Emissions** | | |
| Work Order #: | **109523** | Date: | 3/21/2024 |
| Test Type: | **Radiated Scan** | Time: | 4:58:32 PM |
| Tested By: | Hieu Song Nguyenpham | Sequence#: | 68 |
| Software: | EMITest 5.03.20 | | |

***Equipment Tested:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 5 | | | |

***Support Equipment:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 5 | | | |

***Test Conditions / Notes:***

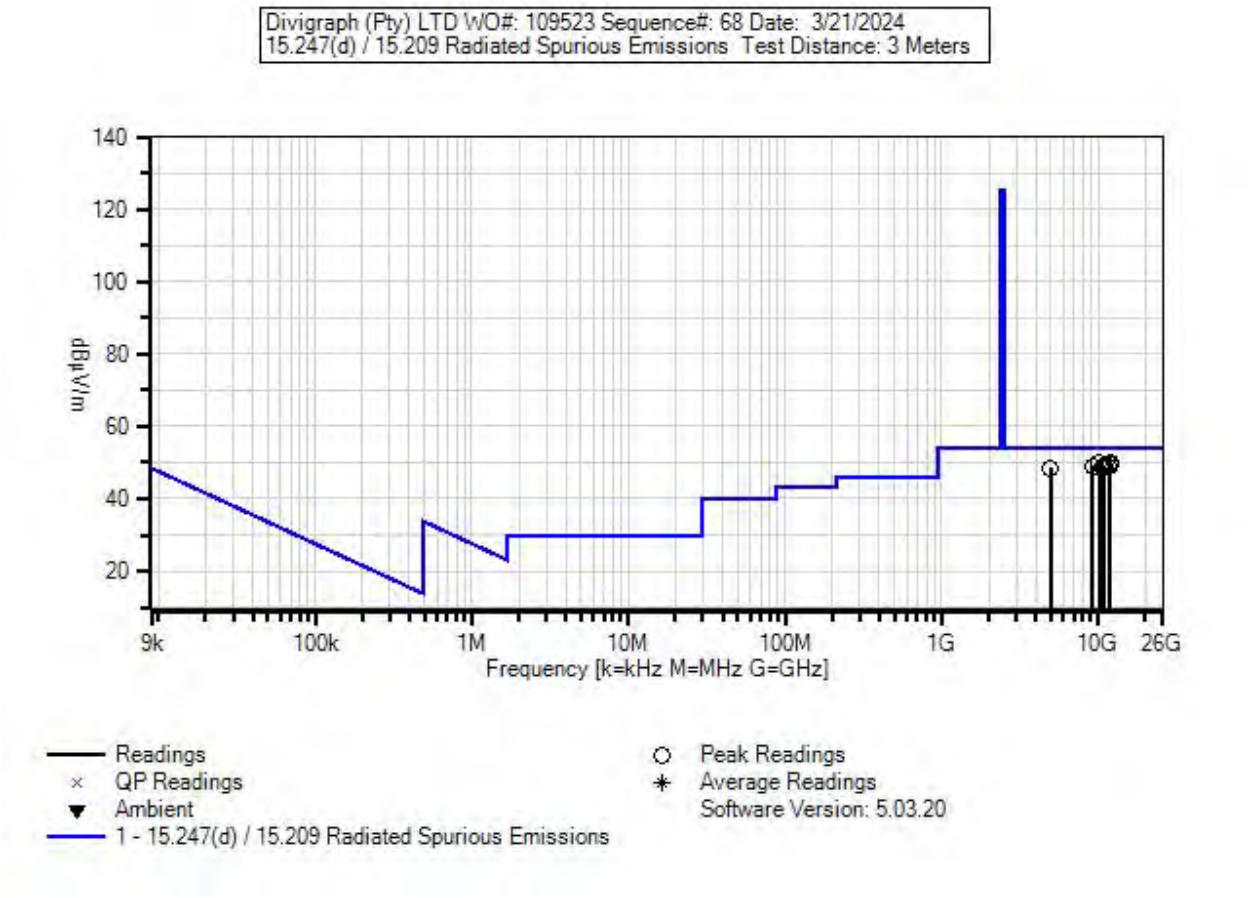
Radiated Spurious Emissions
Frequency Range: 1GHz to 25GHz

The EUT is set up and operated as intended. It is powered by PoE Injector is s support equipment and outside of the chamber. The PoE injector is connected to the Ethernet Switch which is also outside of the chamber through an ethernet cable. The Ethernet switch is connected to the NUC to monitor and control the EUT during exposure.

Test Environment Conditions:
Temperature: 21.1°:C
Humidity: 45%
Atmospheric Pressure: 101.5kPa
Highest Generation Frequency: 2.48GHz

Test Method: ANSI C 63.10 2020

Note:
High Channel
Panel Antenna ( TE MD24-12) 11dBi




***Test Equipment:***

| ID | Asset # | Description | Model | Calibration Date | Cal Due Date |
|---|---|---|---|---|---|
| T1 | AN02157 | Horn Antenna-ANSI C63.5 | 3115 | 1/11/2023 | 1/11/2025 |
| T2 | AN03302 | Cable | 32026-29094K-29094K-72TC | 1/9/2024 | 1/9/2026 |
| T3 | ANP01210 | Cable | FSJ1P-50A-4A | 1/9/2024 | 1/9/2026 |
| | AN02660 | Spectrum Analyzer | E4446A | 12/6/2022 | 12/6/2024 |
| T4 | AN03738 | Preamp | BZRYE-00101800-221055-202323 | 2/5/2024 | 2/5/2026 |
| T5 | AN03386 | High Pass Filter | 11SH10-3000/T10000-O/O | 3/22/2022 | 3/22/2024 |
| T6 | AN03013 | Cable | 32022-2-2909K-36TC | 1/9/2024 | 1/9/2026 |
| | AN02693 | Active Horn Antenna | AMFW-5F-12001800-20-10P | 1/9/2024 | 1/9/2026 |
| | AN02694 | Horn Antenna | AMFW-5F-18002650-20-10P | 1/9/2024 | 1/9/2026 |
| | ANP00928 | Cable | various | 1/26/2024 | 1/26/2026 |
| | ANP00929 | Cable | various | 1/26/2024 | 1/26/2026 |
| | ANP07700 | Cable | 32022-29094K-29094K-72TC | 9/1/2022 | 9/1/2024 |
| | ANP07701 | Cable | 32022-29094K-29094K-120TC | 9/1/2022 | 9/1/2024 |

***Measurement Data:*** Reading listed by margin. Test Distance: 3 Meters

| # | Freq | Rdng | T1<br>T5 | T2<br>T6 | T3 | T4 | Dist | Corr | Spec | Margin | Polar |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBµV | dB | dB | dB | dB | Table | dBµV/m | dBµV/m | dB | Ant |
| 1 | 11943.765<br>M | 52.4 | +39.9<br>+0.8 | +3.3<br>+1.8 | +6.2 | -54.2 | +0.0 | 50.2 | 54.0 | -3.8 | Vert |
| 2 | 10182.890<br>M | 53.8 | +39.6<br>+0.4 | +3.0<br>+1.6 | +5.7 | -54.0 | +0.0 | 50.1 | 54.0 | -3.9 | Vert |
| 3 | 11834.808<br>M | 51.9 | +39.8<br>+0.8 | +3.3<br>+1.7 | +6.1 | -54.1 | +0.0 | 49.5 | 54.0 | -4.5 | Vert |
| 4 | 10892.864<br>M | 51.7 | +39.4<br>+0.6 | +3.2<br>+1.7 | +6.1 | -53.6 | +0.0 | 49.1 | 54.0 | -4.9 | Vert |
| 5 | 11743.426<br>M | 51.4 | +39.7<br>+0.8 | +3.3<br>+1.7 | +6.0 | -53.9 | +0.0 | 49.0 | 54.0 | -5.0 | Vert |
| 6 | 9247.975M | 54.0 | +38.8<br>+0.4 | +2.9<br>+1.6 | +5.8 | -54.5 | +0.0 | 49.0 | 54.0 | -5.0 | Vert |
| 7 | 10812.025<br>M | 51.5 | +39.4<br>+0.6 | +3.2<br>+1.7 | +6.0 | -53.7 | +0.0 | 48.7 | 54.0 | -5.3 | Vert |
| 8 | 10692.525<br>M | 51.5 | +39.4<br>+0.6 | +3.2<br>+1.7 | +5.9 | -53.7 | +0.0 | 48.6 | 54.0 | -5.4 | Vert |
| 9 | 4959.643M | 61.5 | +33.8<br>+0.4 | +2.0<br>+1.2 | +3.6 | -54.0 | +0.0 | 48.5 | 54.0 | -5.5 | Vert |
| 10 | 10597.627<br>M | 51.5 | +39.4<br>+0.5 | +3.2<br>+1.7 | +5.8 | -53.8 | +0.0 | 48.3 | 54.0 | -5.7 | Vert |

| | | | |
|---|---|---|---|
| Test Location: | CKC Laboratories, Inc. • 1120 Fulton Pl • Fremont CA 94539 • (510) 249-1170 | | |
| Customer: | **Divigraph (Pty) LTD** | | |
| Specification: | **15.247(d) / 15.209 Radiated Spurious Emissions** | | |
| Work Order #: | **109523** | Date: | 3/25/2024 |
| Test Type: | **Radiated Scan** | Time: | 14:40:31 |
| Tested By: | Hieu Song Nguyenpham | Sequence#: | 101 |
| Software: | EMITest 5.03.20 | | |

***Equipment Tested:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 6 | | | |

***Support Equipment:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 6 | | | |

***Test Conditions / Notes:***

Radiated Spurious Emissions
Frequency Range: 9kHz to 1GHz

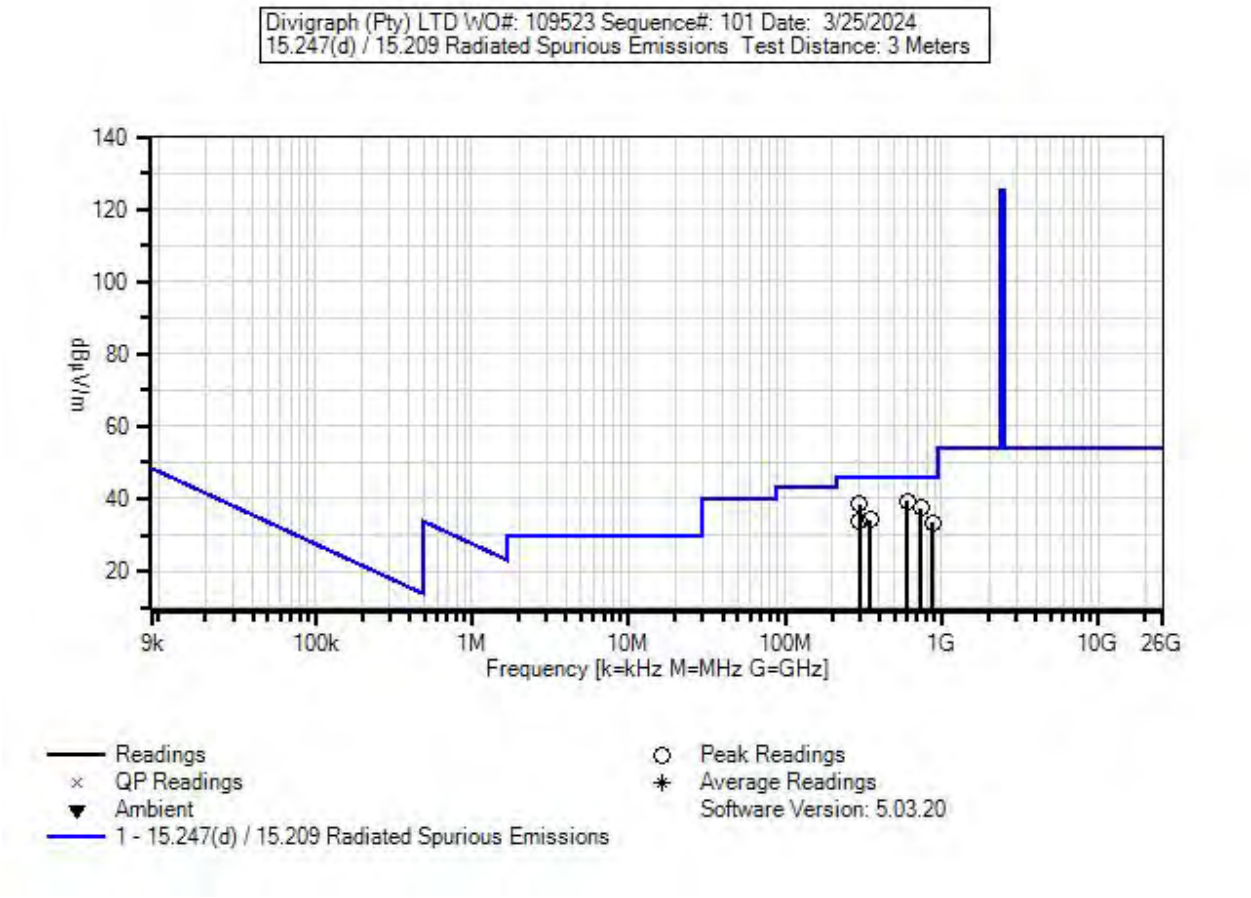
The EUT is set up and operated as intended. It is powered by PoE Injector  is a support equipment and outside of the chamber. The PoE injector is connected to the Ethernet Switch which is also outside of the chamber through an ethernet cable. The Ethernet switch is connected to the NUC to monitor and control the EUT during exposure

Perform 3 orientation of a receiving antenna from 9kHz to 30MHz. No emissions detected within 20dB of the limit in the frequency range 9kHz to 30MHz.

Test Environment Conditions:
Temperature: 21.1°C
Humidity: 45%
Atmospheric Pressure: 101.5kPa
Highest Generation Frequency: 2.48GHz

Test Method: ANSI C 63.10 2020

Note:
Low Channel
Yagi Antenna ( HUBER+SUHNER 1324.17.0116) 14dBi




***Test Equipment:***

| ID | Asset # | Description | Model | Calibration Date | Cal Due Date |
|---|---|---|---|---|---|
| T1 | ANP07508 | Preamp | 310N | 5/9/2022 | 5/9/2024 |
| | AN00432 | Loop Antenna | 6502 | 7/10/2023 | 7/10/2025 |
| T2 | ANP00880 | Cable | RG214U | 3/25/2022 | 3/25/2024 |
| T3 | ANP01187 | Cable | CNT-195 | 7/12/2022 | 7/12/2024 |
| T4 | ANP06691 | Cable | PE3062-180 | 3/20/2024 | 3/20/2026 |
| | AN02660 | Spectrum Analyzer | E4446A | 12/6/2022 | 12/6/2024 |
| T5 | AN01995 | Biconilog Antenna | CBL6111C | 4/19/2022 | 4/19/2024 |

***Measurement Data:*** Reading listed by margin. Test Distance: 3 Meters

| # | Freq | Rdng | T1<br>T5 | T2 | T3 | T4 | Dist | Corr | Spec | Margin | Polar |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBµV | dB | dB | dB | dB | Table | dBµV/m | dBµV/m | dB | Ant |
| 1 | 599.995M | 41.3 | -32.0<br>+25.8 | +2.6 | +0.6 | +0.9 | +0.0 | 39.2 | 46.0 | -6.8 | Vert |
| 2 | 300.038M | 48.2 | -31.9<br>+19.4 | +1.8 | +0.5 | +0.6 | +0.0 | 38.6 | 46.0 | -7.4 | Vert |
| 3 | 737.864M | 36.8 | -32.0<br>+27.9 | +3.0 | +0.7 | +1.1 | +0.0 | 37.5 | 46.0 | -8.5 | Vert |
| 4 | 350.090M | 42.3 | -31.8<br>+20.6 | +1.9 | +0.5 | +0.7 | +0.0 | 34.2 | 46.0 | -11.8 | Horiz |
| 5 | 300.038M | 43.6 | -31.9<br>+19.4 | +1.8 | +0.5 | +0.6 | +0.0 | 34.0 | 46.0 | -12.0 | Horiz |
| 6 | 876.230M | 29.9 | -31.4<br>+29.7 | +3.3 | +0.8 | +1.2 | +0.0 | 33.5 | 46.0 | -12.5 | Horiz |

| | | | |
|---|---|---|---|
| Test Location: | CKC Laboratories, Inc. • 1120 Fulton Pl • Fremont CA 94539 • (510) 249-1170 | | |
| Customer: | **Divigraph (Pty) LTD** | | |
| Specification: | **15.247(d) / 15.209 Radiated Spurious Emissions** | | |
| Work Order #: | **109523** | Date: | 3/21/2024 |
| Test Type: | **Radiated Scan** | Time: | 15:58:02 |
| Tested By: | Hieu Song Nguyenpham | Sequence#: | 59 |
| Software: | EMITest 5.03.20 | | |

***Equipment Tested:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 6 | | | |

***Support Equipment:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 6 | | | |

***Test Conditions / Notes:***

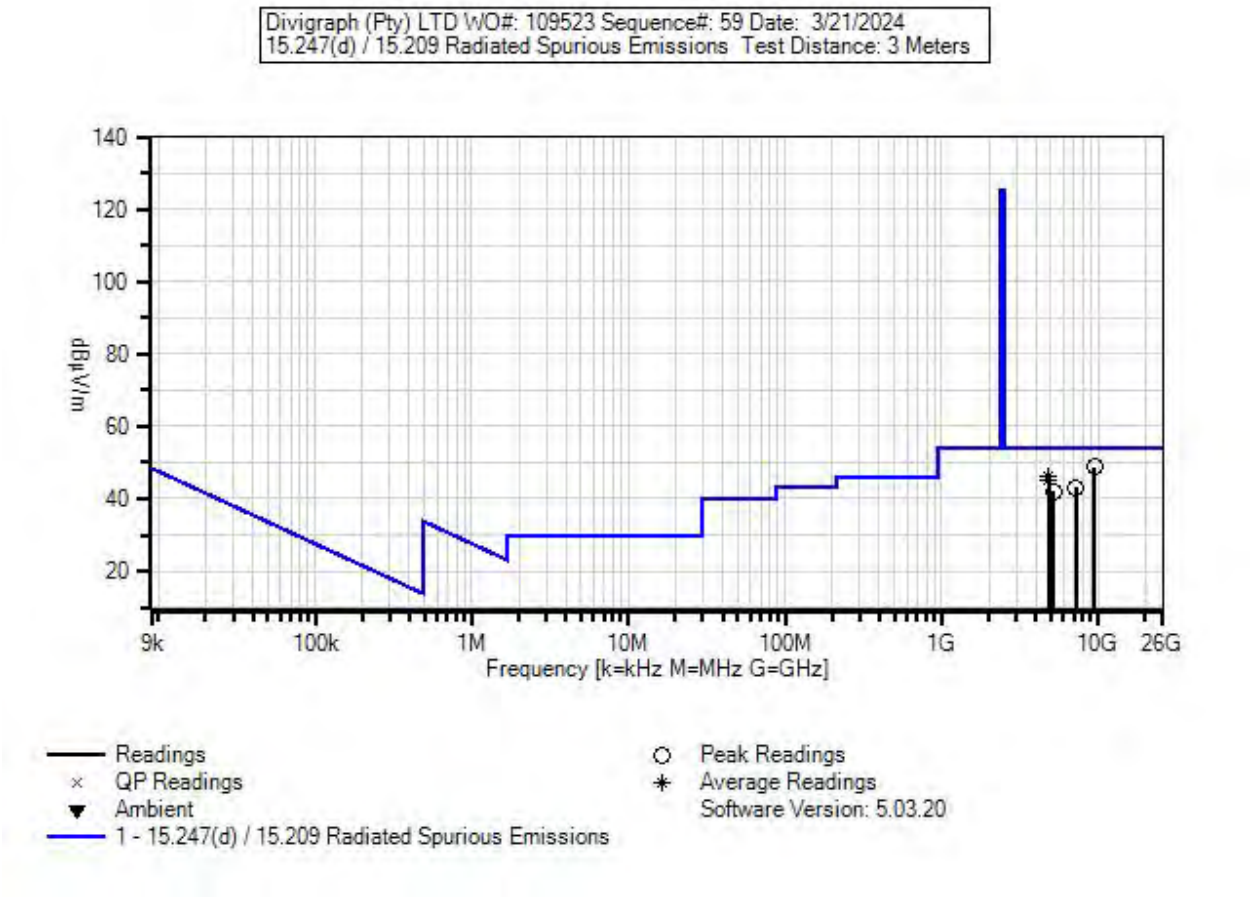
Radiated Spurious Emissions
Frequency Range: 1GHz to 25GHz

The EUT is set up and operated as intended. It is powered by PoE Injector is s support equipment and outside of the chamber. The PoE injector is connected to the Ethernet Switch which is also outside of the chamber through an ethernet cable. The Ethernet switch is connected to the NUC to monitor and control the EUT during exposure.

Test Environment Conditions:
Temperature: 21.1°C
Humidity: 45%
Atmospheric Pressure: 101.5kPa
Highest Generation Frequency: 2.48GHz

Test Method: ANSI C 63.10 2020

Note:
Low Channel
Yagi Antenna ( HUBER+SUHNER 1324.17.0116) 14dBi




***Test Equipment:***

| ID | Asset # | Description | Model | Calibration Date | Cal Due Date |
|---|---|---|---|---|---|
| T1 | AN02157 | Horn Antenna-ANSI C63.5 | 3115 | 1/11/2023 | 1/11/2025 |
| T2 | AN03302 | Cable | 32026-29094K-29094K-72TC | 1/9/2024 | 1/9/2026 |
| T3 | ANP01210 | Cable | FSJ1P-50A-4A | 1/9/2024 | 1/9/2026 |
| | AN02660 | Spectrum Analyzer | E4446A | 12/6/2022 | 12/6/2024 |
| T4 | AN03738 | Preamp | BZRYE-00101800-221055-202323 | 2/5/2024 | 2/5/2026 |
| T5 | AN03386 | High Pass Filter | 11SH10-3000/T10000-O/O | 3/22/2022 | 3/22/2024 |
| T6 | AN03013 | Cable | 32022-2-2909K-36TC | 1/9/2024 | 1/9/2026 |
| | AN02693 | Active Horn Antenna | AMFW-5F-12001800-20-10P | 1/9/2024 | 1/9/2026 |
| | AN02694 | Horn Antenna | AMFW-5F-18002650-20-10P | 1/9/2024 | 1/9/2026 |
| | ANP00928 | Cable | various | 1/26/2024 | 1/26/2026 |
| | ANP00929 | Cable | various | 1/26/2024 | 1/26/2026 |
| | ANP07700 | Cable | 32022-29094K-29094K-72TC | 9/1/2022 | 9/1/2024 |
| | ANP07701 | Cable | 32022-29094K-29094K-120TC | 9/1/2022 | 9/1/2024 |

***Measurement Data:*** Reading listed by margin. Test Distance: 3 Meters

| # | Freq | Rdng | T1<br>T5 | T2<br>T6 | T3 | T4 | Dist | Corr | Spec | Margin | Polar |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBµV | dB | dB | dB | dB | Table | dBµV/m | dBµV/m | dB | Ant |
| 1 | 9434.255M | 53.2 | +39.1<br>+0.4 | +3.0<br>+1.6 | +5.9 | -54.5 | +0.0 | 48.7 | 54.0 | -5.3 | Vert |
| 2 | 4803.826M<br>Ave | 59.9 | +33.4<br>+0.4 | +2.0<br>+1.1 | +3.6 | -54.1 | +0.0 | 46.3 | 54.0 | -7.7 | Vert |
| ^ | 4803.826M | 67.4 | +33.4<br>+0.4 | +2.0<br>+1.1 | +3.6 | -54.1 | +0.0 | 53.8 | 54.0 | -0.2 | Vert |
| 4 | 4803.596M<br>Ave | 58.9 | +33.4<br>+0.4 | +2.0<br>+1.1 | +3.6 | -54.1 | +0.0 | 45.3 | 54.0 | -8.7 | Vert |
| ^ | 4803.596M | 68.5 | +33.4<br>+0.4 | +2.0<br>+1.1 | +3.6 | -54.1 | +0.0 | 54.9 | 54.0 | +0.9 | Vert |
| 6 | 7205.460M | 52.7 | +36.0<br>+0.4 | +2.5<br>+1.5 | +4.5 | -54.5 | +0.0 | 43.1 | 54.0 | -10.9 | Horiz |
| 7 | 5201.390M | 54.3 | +34.3<br>+0.4 | +2.1<br>+1.2 | +3.7 | -54.0 | +0.0 | 42.0 | 54.0 | -12.0 | Horiz |

| | | | |
|---|---|---|---|
| Test Location: | CKC Laboratories, Inc. • 1120 Fulton Pl • Fremont CA 94539 • (510) 249-1170 | | |
| Customer: | **Divigraph (Pty) LTD** | | |
| Specification: | **15.247(d) / 15.209 Radiated Spurious Emissions** | | |
| Work Order #: | **109523** | Date: | 3/25/2024 |
| Test Type: | **Radiated Scan** | Time: | 15:25:30 |
| Tested By: | Hieu Song Nguyenpham | Sequence#: | 104 |
| Software: | EMITest 5.03.20 | | |

***Equipment Tested:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 6 | | | |

***Support Equipment:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 6 | | | |

***Test Conditions / Notes:***

Radiated Spurious Emissions
Frequency Range: 9kHz to 1GHz

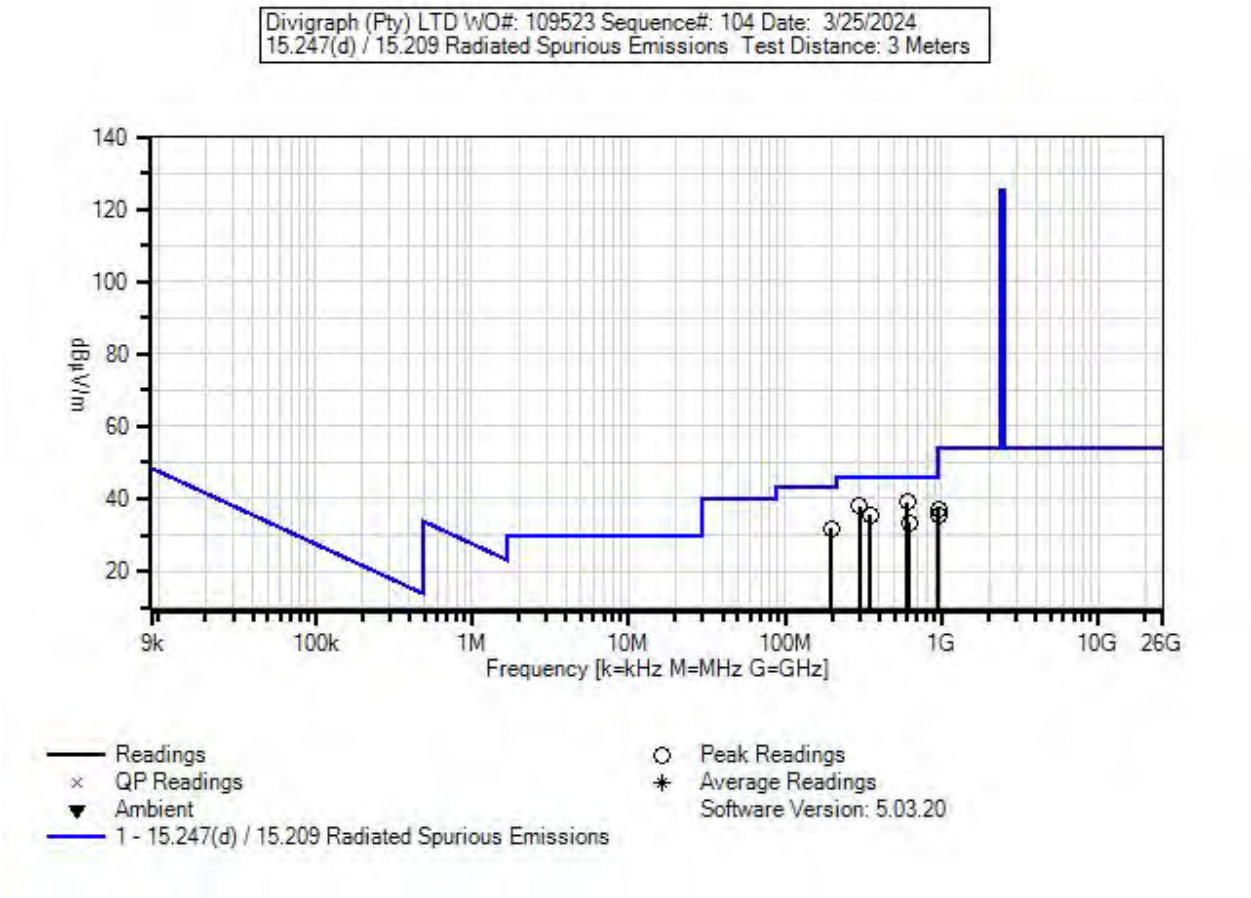
The EUT is set up and operated as intended. It is powered by PoE Injector is a support equipment and outside of the chamber. The PoE injector is connected to the Ethernet Switch which is also outside of the chamber through an ethernet cable. The Ethernet switch is connected to the NUC to monitor and control the EUT during exposure

Perform 3 orientation of a receiving antenna from 9kHz to 30MHz. No emissions detected within 20dB of the limit in the frequency range 9kHz to 30MHz.

Test Environment Conditions:
Temperature: 21.1°C
Humidity: 45%
Atmospheric Pressure: 101.5kPa
Highest Generation Frequency: 2.48GHz

Test Method: ANSI C 63.10 2020

Note:
Middle Channel
Yagi Antenna ( HUBER+SUHNER 1324.17.0116) 14dBi




***Test Equipment:***

| ID | Asset # | Description | Model | Calibration Date | Cal Due Date |
|---|---|---|---|---|---|
| T1 | ANP07508 | Preamp | 310N | 5/9/2022 | 5/9/2024 |
| | AN00432 | Loop Antenna | 6502 | 7/10/2023 | 7/10/2025 |
| T2 | ANP00880 | Cable | RG214U | 3/25/2022 | 3/25/2024 |
| T3 | ANP01187 | Cable | CNT-195 | 7/12/2022 | 7/12/2024 |
| T4 | ANP06691 | Cable | PE3062-180 | 3/20/2024 | 3/20/2026 |
| | AN02660 | Spectrum Analyzer | E4446A | 12/6/2022 | 12/6/2024 |
| T5 | AN01995 | Biconilog Antenna | CBL6111C | 4/19/2022 | 4/19/2024 |

***Measurement Data:*** Reading listed by margin. Test Distance: 3 Meters

| # | Freq | Rdng | T1<br>T5 | T2 | T3 | T4 | Dist | Corr | Spec | Margin | Polar |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBµV | dB | dB | dB | dB | Table | dBµV/m | dBµV/m | dB | Ant |
| 1 | 600.083M | 41.2 | -32.0<br>+25.8 | +2.6 | +0.6 | +0.9 | +0.0 | 39.1 | 46.0 | -6.9 | Horiz |
| 2 | 300.038M | 47.6 | -31.9<br>+19.4 | +1.8 | +0.5 | +0.6 | +0.0 | 38.0 | 46.0 | -8.0 | Vert |
| 3 | 955.630M | 30.4 | -30.8<br>+31.9 | +3.5 | +0.9 | +1.3 | +0.0 | 37.2 | 46.0 | -8.8 | Horiz |
| 4 | 350.090M | 43.6 | -31.8<br>+20.6 | +1.9 | +0.5 | +0.7 | +0.0 | 35.5 | 46.0 | -10.5 | Vert |
| 5 | 949.791M | 28.9 | -30.9<br>+31.8 | +3.5 | +0.9 | +1.3 | +0.0 | 35.5 | 46.0 | -10.5 | Vert |
| 6 | 196.288M | 46.4 | -31.9<br>+15.1 | +1.4 | +0.3 | +0.5 | +0.0 | 31.8 | 43.5 | -11.7 | Horiz |
| 7 | 625.187M | 34.4 | -32.0<br>+26.6 | +2.7 | +0.6 | +1.0 | +0.0 | 33.3 | 46.0 | -12.7 | Horiz |

| | | | |
|---|---|---|---|
| Test Location: | CKC Laboratories, Inc. • 1120 Fulton Pl • Fremont CA 94539 • (510) 249-1170 | | |
| Customer: | **Divigraph (Pty) LTD** | | |
| Specification: | **15.247(d) / 15.209 Radiated Spurious Emissions** | | |
| Work Order #: | **109523** | Date: | 3/21/2024 |
| Test Type: | **Radiated Scan** | Time: | 16:13:38 |
| Tested By: | Hieu Song Nguyenpham | Sequence#: | 63 |
| Software: | EMITest 5.03.20 | | |

***Equipment Tested:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 6 | | | |

***Support Equipment:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 6 | | | |

***Test Conditions / Notes:***

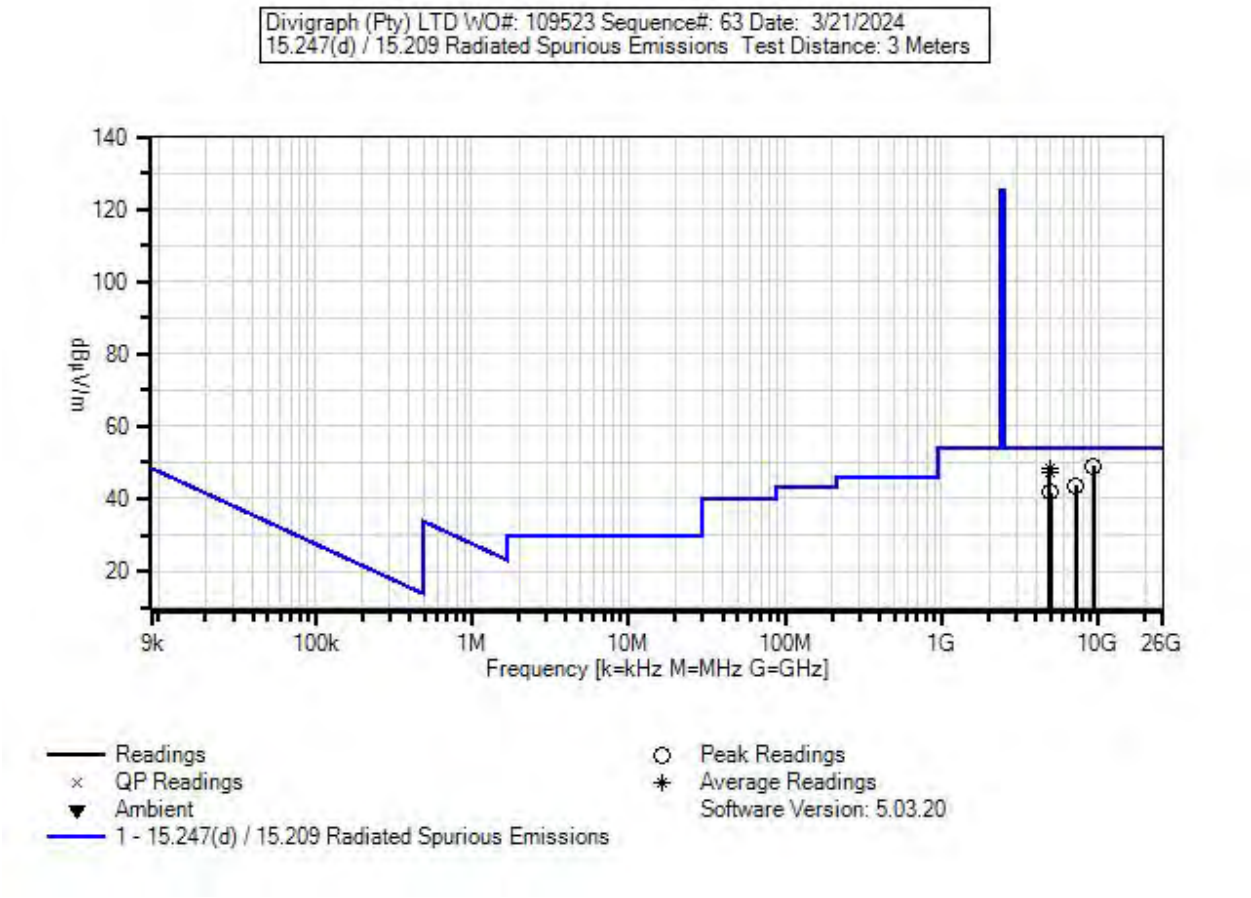
Radiated Spurious Emissions
Frequency Range: 1GHz to 25GHz

The EUT is set up and operated as intended. It is powered by PoE Injector  is s support equipment and outside of the chamber. The PoE injector is connected to the Ethernet Switch which is also outside of the chamber through an ethernet cable. The Ethernet switch is connected to the NUC to monitor and control the EUT during exposure

Test Environment Conditions:
Temperature: 21.1°C
Humidity: 45%
Atmospheric Pressure: 101.5kPa
Highest Generation Frequency: 2.48GHz

Test Method: ANSI C 63.10 2020

Note:
Middle Channel
Yagi Antenna ( HUBER+SUHNER 1324.17.0116) 14dBi




***Test Equipment:***

| ID | Asset # | Description | Model | Calibration Date | Cal Due Date |
|---|---|---|---|---|---|
| T1 | AN02157 | Horn Antenna-ANSI C63.5 | 3115 | 1/11/2023 | 1/11/2025 |
| T2 | AN03302 | Cable | 32026-29094K-29094K-72TC | 1/9/2024 | 1/9/2026 |
| T3 | ANP01210 | Cable | FSJ1P-50A-4A | 1/9/2024 | 1/9/2026 |
| | AN02660 | Spectrum Analyzer | E4446A | 12/6/2022 | 12/6/2024 |
| T4 | AN03738 | Preamp | BZRYE-00101800-221055-202323 | 2/5/2024 | 2/5/2026 |
| T5 | AN03386 | High Pass Filter | 11SH10-3000/T10000-O/O | 3/22/2022 | 3/22/2024 |
| T6 | AN03013 | Cable | 32022-2-2909K-36TC | 1/9/2024 | 1/9/2026 |
| | AN02693 | Active Horn Antenna | AMFW-5F-12001800-20-10P | 1/9/2024 | 1/9/2026 |
| | AN02694 | Horn Antenna | AMFW-5F-18002650-20-10P | 1/9/2024 | 1/9/2026 |
| | ANP00928 | Cable | various | 1/26/2024 | 1/26/2026 |
| | ANP00929 | Cable | various | 1/26/2024 | 1/26/2026 |
| | ANP07700 | Cable | 32022-29094K-29094K-72TC | 9/1/2022 | 9/1/2024 |
| | ANP07701 | Cable | 32022-29094K-29094K-120TC | 9/1/2022 | 9/1/2024 |

***Measurement Data:*** Reading listed by margin. Test Distance: 3 Meters

| # | Freq | Rdng | T1<br>T5 | T2<br>T6 | T3 | T4 | Dist | Corr | Spec | Margin | Polar |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBµV | dB | dB | dB | dB | Table | dBµV/m | dBµV/m | dB | Ant |
| 1 | 9346.387M | 53.7 | +38.9<br>+0.4 | +2.9<br>+1.6 | +5.8 | -54.4 | +0.0 | 48.9 | 54.0 | -5.1 | Vert |
| 2 | 4879.995M<br>Ave | 61.8 | +33.6<br>+0.4 | +2.0<br>+1.1 | +3.6 | -54.1 | +0.0 | 48.4 | 54.0 | -5.6 | Vert |
| ^ | 4879.995M | 70.1 | +33.6<br>+0.4 | +2.0<br>+1.1 | +3.6 | -54.1 | +0.0 | 56.7 | 54.0 | +2.7 | Vert |
| 4 | 4879.605M<br>Ave | 60.8 | +33.6<br>+0.4 | +2.0<br>+1.1 | +3.6 | -54.1 | +0.0 | 47.4 | 54.0 | -6.6 | Vert |
| ^ | 4879.605M | 70.4 | +33.6<br>+0.4 | +2.0<br>+1.1 | +3.6 | -54.1 | +0.0 | 57.0 | 54.0 | +3.0 | Vert |
| 6 | 7237.290M | 53.2 | +36.1<br>+0.4 | +2.5<br>+1.5 | +4.5 | -54.5 | +0.0 | 43.7 | 54.0 | -10.3 | Horiz |
| 7 | 4994.580M | 54.3 | +33.9<br>+0.4 | +2.0<br>+1.2 | +3.6 | -53.7 | +0.0 | 41.7 | 54.0 | -12.3 | Horiz |

| | | | |
|---|---|---|---|
| Test Location: | CKC Laboratories, Inc. • 1120 Fulton Pl • Fremont CA 94539 • (510) 249-1170 | | |
| Customer: | **Divigraph (Pty) LTD** | | |
| Specification: | **15.247(d) / 15.209 Radiated Spurious Emissions** | | |
| Work Order #: | **109523** | Date: | 3/25/2024 |
| Test Type: | **Radiated Scan** | Time: | 15:50:28 |
| Tested By: | Hieu Song Nguyenpham | Sequence#: | 107 |
| Software: | EMITest 5.03.20 | | |

***Equipment Tested:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 6 | | | |

***Support Equipment:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 6 | | | |

***Test Conditions / Notes:***

Radiated Spurious Emissions
Frequency Range: 9kHz to 1GHz

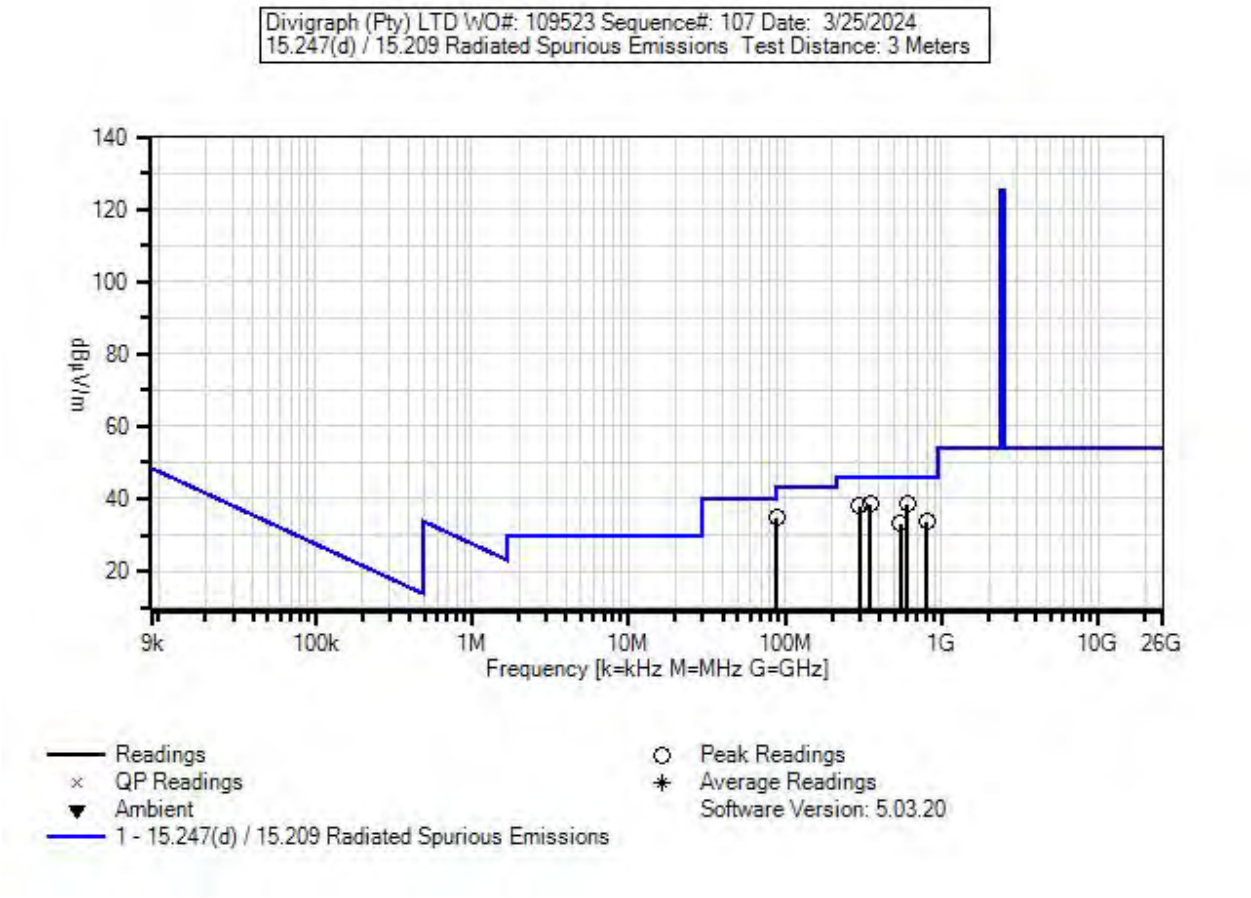
The EUT is set up and operated as intended. It is powered by PoE Injector is a support equipment and outside of the chamber. The PoE injector is connected to the Ethernet Switch which is also outside of the chamber through an ethernet cable. The Ethernet switch is connected to the NUC to monitor and control the EUT during exposure

Perform 3 orientation of a receiving antenna from 9kHz to 30MHz. No emissions detected within 20dB of the limit in the frequency range 9kHz to 30MHz.

Test Environment Conditions:
Temperature: 21.1°C
Humidity: 45%
Atmospheric Pressure: 101.5kPa
Highest Generation Frequency: 2.48GHz

Test Method: ANSI C 63.10 2020

Note:
High Channel
Yagi Antenna ( HUBER+SUHNER 1324.17.0116) 14dBi




***Test Equipment:***

| ID | Asset # | Description | Model | Calibration Date | Cal Due Date |
|---|---|---|---|---|---|
| T1 | ANP07508 | Preamp | 310N | 5/9/2022 | 5/9/2024 |
| | AN00432 | Loop Antenna | 6502 | 7/10/2023 | 7/10/2025 |
| T2 | ANP00880 | Cable | RG214U | 3/25/2022 | 3/25/2024 |
| T3 | ANP01187 | Cable | CNT-195 | 7/12/2022 | 7/12/2024 |
| T4 | ANP06691 | Cable | PE3062-180 | 3/20/2024 | 3/20/2026 |
| | AN02660 | Spectrum Analyzer | E4446A | 12/6/2022 | 12/6/2024 |
| T5 | AN01995 | Biconilog Antenna | CBL6111C | 4/19/2022 | 4/19/2024 |

***Measurement Data:*** Reading listed by margin. Test Distance: 3 Meters

| # | Freq | Rdng | T1<br>T5 | T2 | T3 | T4 | Dist | Corr | Spec | Margin | Polar |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBµV | dB | dB | dB | dB | Table | dBµV/m | dBµV/m | dB | Ant |
| 1 | 87.960M | 50.7 | -32.0<br>+14.7 | +0.9 | +0.2 | +0.3 | +0.0 | 34.8 | 40.0 | -5.2 | Vert |
| 2 | 600.083M | 40.5 | -32.0<br>+25.8 | +2.6 | +0.6 | +0.9 | +0.0 | 38.4 | 46.0 | -7.6 | Horiz |
| 3 | 350.090M | 46.5 | -31.8<br>+20.6 | +1.9 | +0.5 | +0.7 | +0.0 | 38.4 | 46.0 | -7.6 | Vert |
| 4 | 300.038M | 47.6 | -31.9<br>+19.4 | +1.8 | +0.5 | +0.6 | +0.0 | 38.0 | 46.0 | -8.0 | Vert |
| 5 | 799.749M | 31.7 | -31.8<br>+28.9 | +3.1 | +0.7 | +1.1 | +0.0 | 33.7 | 46.0 | -12.3 | Horiz |
| 6 | 549.874M | 34.9 | -31.9<br>+26.2 | +2.5 | +0.6 | +0.9 | +0.0 | 33.2 | 46.0 | -12.8 | Horiz |

| | | | |
|---|---|---|---|
| Test Location: | CKC Laboratories, Inc. • 1120 Fulton Pl • Fremont CA 94539 • (510) 249-1170 | | |
| Customer: | **Divigraph (Pty) LTD** | | |
| Specification: | **15.247(d) / 15.209 Radiated Spurious Emissions** | | |
| Work Order #: | **109523** | Date: | 3/21/2024 |
| Test Type: | **Radiated Scan** | Time: | 16:48:40 |
| Tested By: | Hieu Song Nguyenpham | Sequence#: | 66 |
| Software: | EMITest 5.03.20 | | |

***Equipment Tested:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 6 | | | |

***Support Equipment:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 6 | | | |

***Test Conditions / Notes:***

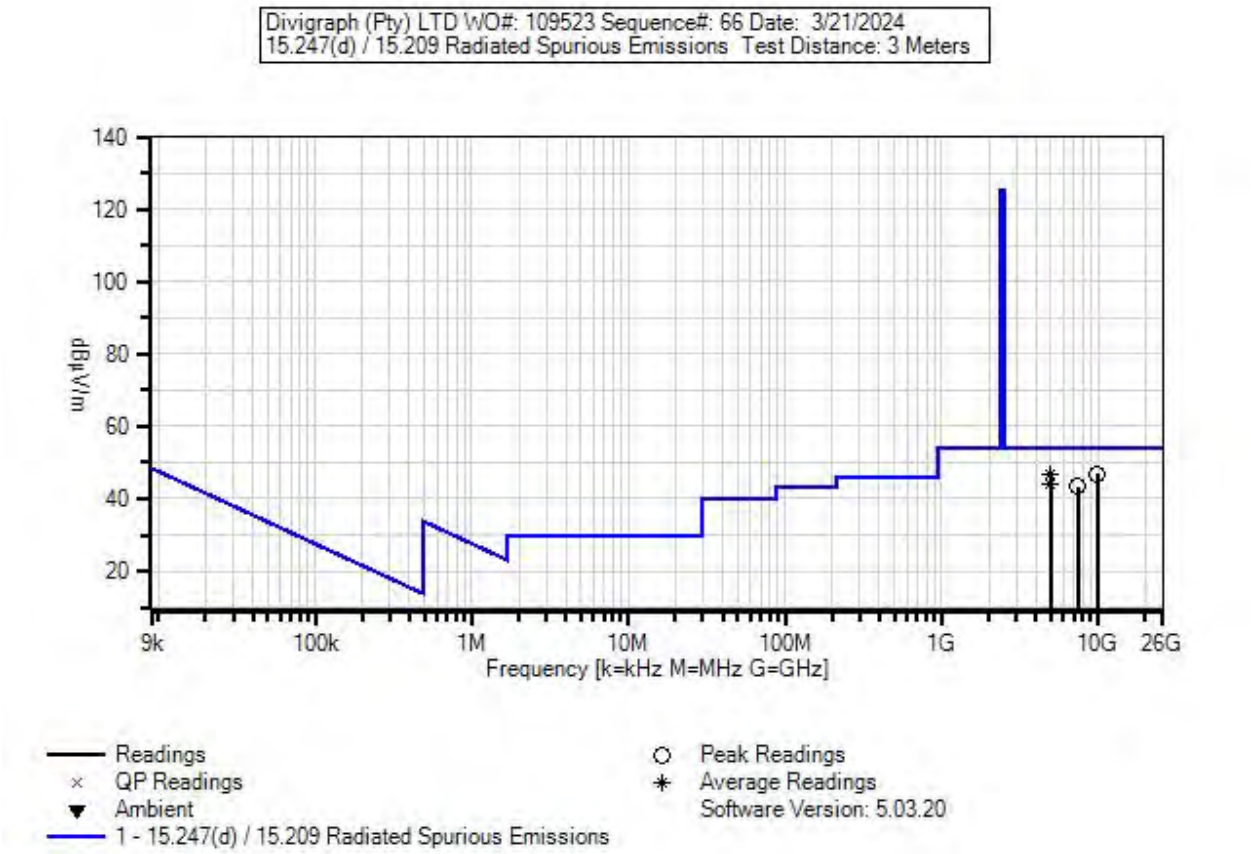
Radiated Spurious Emissions
Frequency Range: 1GHz to 25GHz

The EUT is set up and operated as intended. It is powered by PoE Injector  is s support equipment and outside of the chamber. The PoE injector is connected to the Ethernet Switch which is also outside of the chamber through an ethernet cable. The Ethernet switch is connected to the NUC to monitor and control the EUT during exposure

Test Environment Conditions:
Temperature: 21.1°C
Humidity: 45%
Atmospheric Pressure: 101.5kPa
Highest Generation Frequency: 2.48GHz

Test Method: ANSI C 63.10 2020

Note
High Channel
Yagi Antenna ( HUBER+SUHNER 1324.17.0116) 14dBi




***Test Equipment:***

| ID | Asset # | Description | Model | Calibration Date | Cal Due Date |
|---|---|---|---|---|---|
| T1 | AN02157 | Horn Antenna-ANSI C63.5 | 3115 | 1/11/2023 | 1/11/2025 |
| T2 | AN03302 | Cable | 32026-29094K-29094K-72TC | 1/9/2024 | 1/9/2026 |
| T3 | ANP01210 | Cable | FSJ1P-50A-4A | 1/9/2024 | 1/9/2026 |
| | AN02660 | Spectrum Analyzer | E4446A | 12/6/2022 | 12/6/2024 |
| T4 | AN03738 | Preamp | BZRYE-00101800-221055-202323 | 2/5/2024 | 2/5/2026 |
| T5 | AN03386 | High Pass Filter | 11SH10-3000/T10000-O/O | 3/22/2022 | 3/22/2024 |
| T6 | AN03013 | Cable | 32022-2-2909K-36TC | 1/9/2024 | 1/9/2026 |
| | AN02693 | Active Horn Antenna | AMFW-5F-12001800-20-10P | 1/9/2024 | 1/9/2026 |
| | AN02694 | Horn Antenna | AMFW-5F-18002650-20-10P | 1/9/2024 | 1/9/2026 |
| | ANP00928 | Cable | various | 1/26/2024 | 1/26/2026 |
| | ANP00929 | Cable | various | 1/26/2024 | 1/26/2026 |
| | ANP07700 | Cable | 32022-29094K-29094K-72TC | 9/1/2022 | 9/1/2024 |
| | ANP07701 | Cable | 32022-29094K-29094K-120TC | 9/1/2022 | 9/1/2024 |

***Measurement Data:*** Reading listed by margin. Test Distance: 3 Meters

| # | Freq | Rdng | T1<br>T5 | T2<br>T6 | T3 | T4 | Dist | Corr | Spec | Margin | Polar |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBµV | dB | dB | dB | dB | Table | dBµV/m | dBµV/m | dB | Ant |
| 1 | 9839.890M | 50.5 | +39.5<br>+0.4 | +3.0<br>+1.7 | +5.9 | -54.1 | +0.0 | 46.9 | 54.0 | -7.1 | Horiz |
| 2 | 4960.040M<br>Ave | 59.9 | +33.8<br>+0.4 | +2.0<br>+1.2 | +3.6 | -54.0 | +0.0 | 46.9 | 54.0 | -7.1 | Vert |
| ^ | 4960.040M | 68.5 | +33.8<br>+0.4 | +2.0<br>+1.2 | +3.6 | -54.0 | +0.0 | 55.5 | 54.0 | +1.5 | Vert |
| 4 | 9920.040M | 50.4 | +39.6<br>+0.4 | +3.0<br>+1.7 | +5.8 | -54.2 | +0.0 | 46.7 | 54.0 | -7.3 | Vert |
| 5 | 4960.580M<br>Ave | 57.2 | +33.8<br>+0.4 | +2.0<br>+1.2 | +3.6 | -53.9 | +0.0 | 44.3 | 54.0 | -9.7 | Vert |
| ^ | 4960.580M | 68.5 | +33.8<br>+0.4 | +2.0<br>+1.2 | +3.6 | -53.9 | +0.0 | 55.6 | 54.0 | +1.6 | Vert |
| 7 | 7440.040M | 52.5 | +36.6<br>+0.3 | +2.6<br>+1.5 | +4.6 | -54.6 | +0.0 | 43.5 | 54.0 | -10.5 | Horiz |

## Band Edge

### Configuration 2

| Band Edge Summary | | | | | | | |
|---|---|---|---|---|---|---|---|
| Limit applied at restricted bands: 15.209<br>Limit applied for other than restricted bands: Max Power/100kHz - 20dB. | | | | | | | |
| **Frequency (MHz)** | **Modulation** | **Ant. Type / Gain (dBi)** | **Average (dBuV/m @3m)** | | **Peak (dBuV/m @3m)** | | **Results** |
| | | | **Measured** | **Limit** | **Measured** | **Limit** | |
| 2390.0 | GFSK | External/6 | 43.1 | ≤54 | 55.5 | ≤74 | Pass |
| 2400.0 | GFSK | External/6 | NA | NA | 53.6 | ≤89.4 | Pass |
| 2483.5 | GFSK | External/6 | 45.7 | ≤54 | 60.9 | ≤74 | Pass |

### Configuration 5

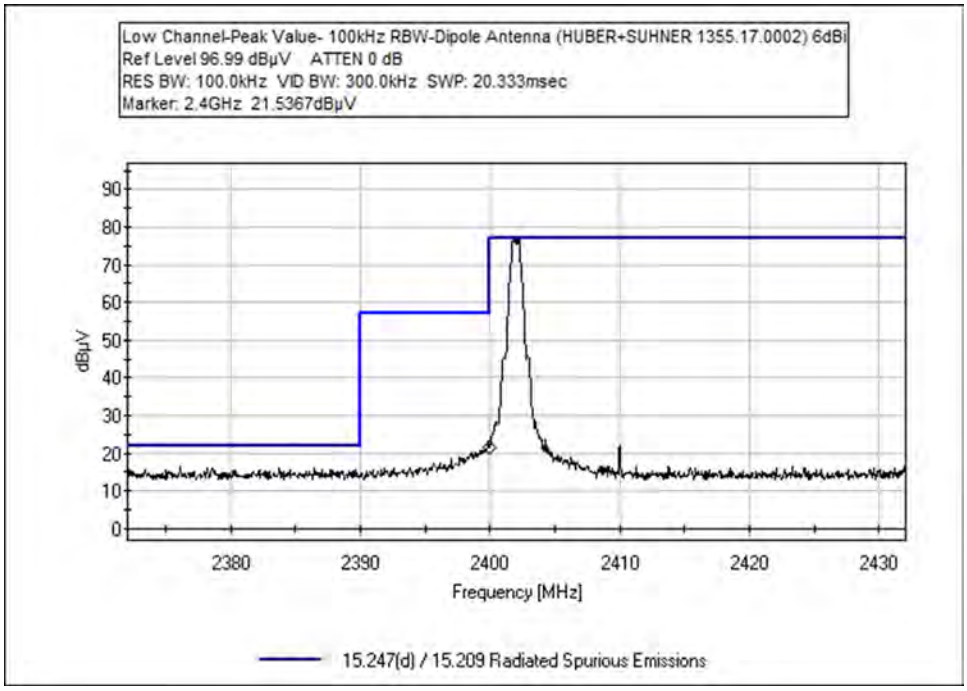
| Band Edge Summary | | | | | | | |
|---|---|---|---|---|---|---|---|
| Limit applied at restricted bands: 15.209<br>Limit applied for other than restricted bands: Max Power/100kHz - 20dB. | | | | | | | |
| **Frequency (MHz)** | **Modulation** | **Ant. Type / Gain (dBi)** | **Average (dBuV/m @3m)** | | **Peak (dBuV/m @3m)** | | **Results** |
| | | | **Measured** | **Limit** | **Measured** | **Limit** | |
| 2390.0 | GFSK | External/11 | 45.1 | ≤54 | 57.9 | ≤74 | Pass |
| 2400.0 | GFSK | External/11 | NA | NA | 61.1 | ≤96.1 | Pass |
| 2483.5 | GFSK | External/11 | 49.8 | ≤54 | 69.0 | ≤74 | Pass |

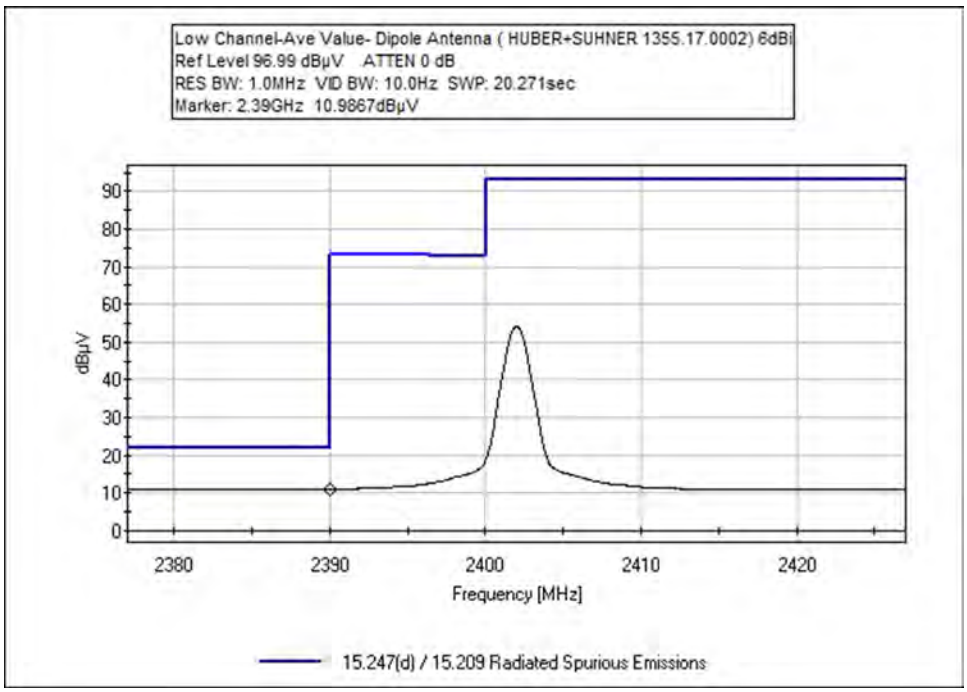
### Configuration 6

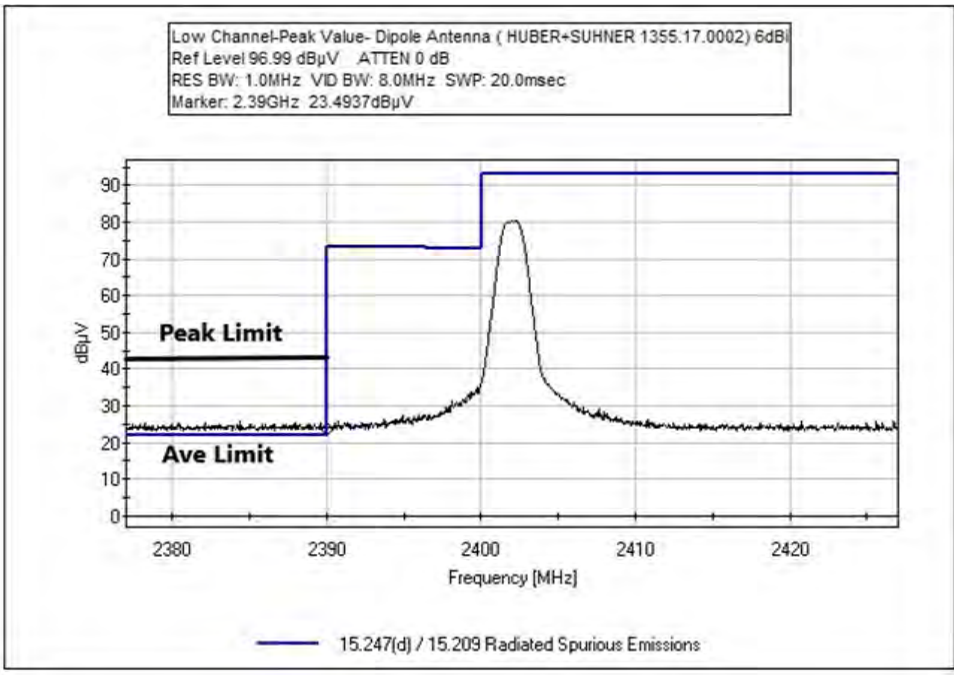
| Band Edge Summary | | | | | | | |
|---|---|---|---|---|---|---|---|
| Limit applied at restricted bands: 15.209<br>Limit applied for other than restricted bands: Max Power/100kHz - 20dB. | | | | | | | |
| **Frequency (MHz)** | **Modulation** | **Ant. Type / Gain (dBi)** | **Average (dBuV/m @3m)** | | **Peak (dBuV/m @3m)** | | **Results** |
| | | | **Measured** | **Limit** | **Measured** | **Limit** | |
| 2390.0 | GFSK | External/14 | 45.6 | ≤54 | 58.3 | ≤74 | Pass |
| 2400.0 | GFSK | External/14 | NA | NA | 60.9 | ≤97.8 | Pass |
| 2483.5 | GFSK | External/14 | 51.4 | ≤54 | 70.7 | ≤74 | Pass |

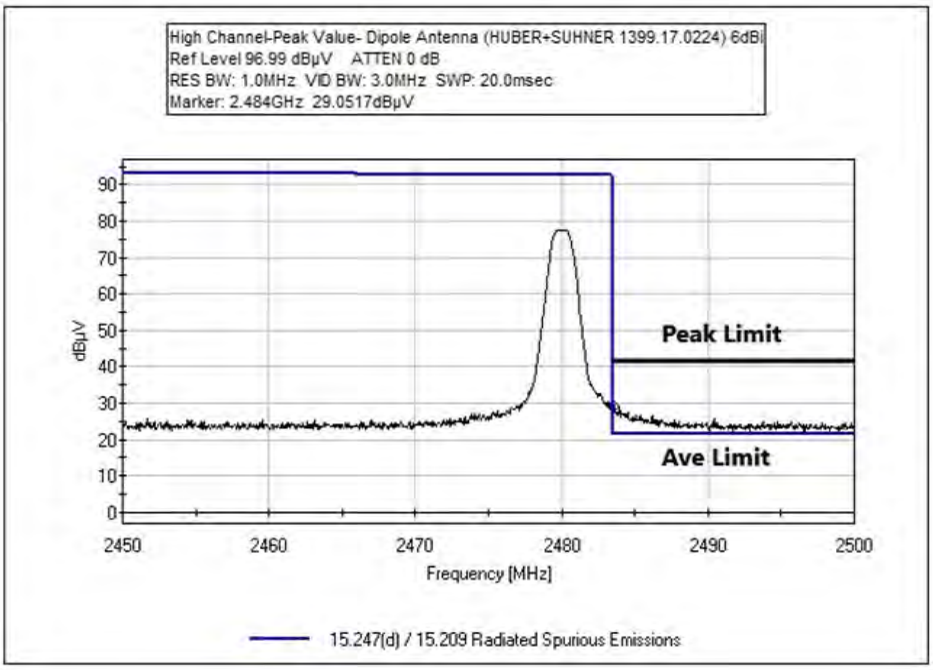
## Band Edge Plots

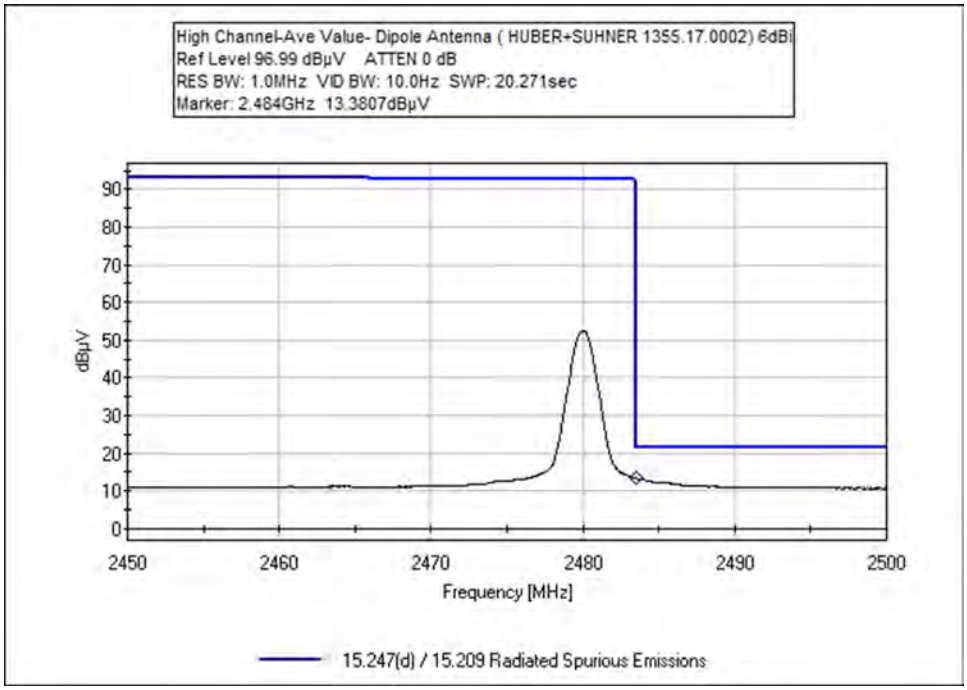
**Configuration 2**



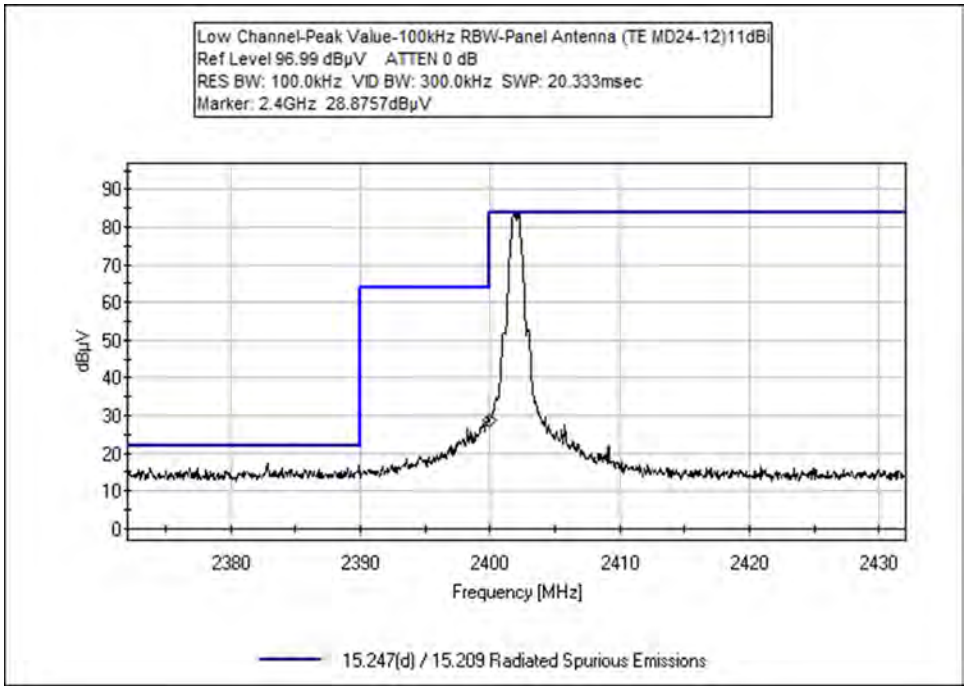

Low Channel-Ave Value- Dipole Antenna ( HUBER+SUHNER 1355.17.0002) 6dBi
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 1.0MHz VID BW: 10.0Hz SWP: 20.271sec
Marker: 2.39GHz 10.9867dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

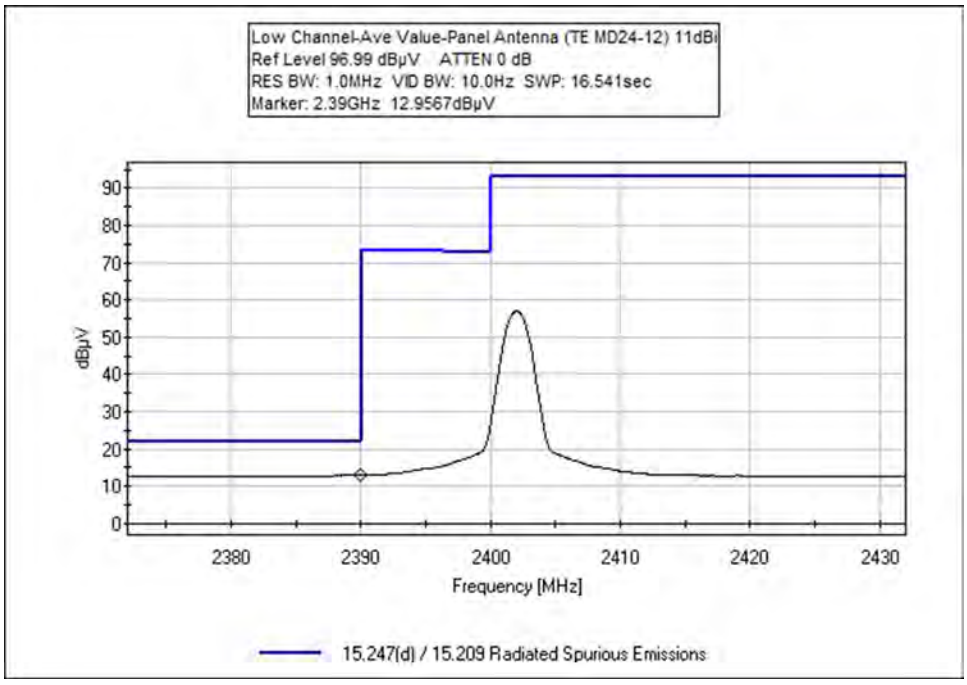

Low Channel-Peak Value- Dipole Antenna ( HUBER+SUHNER 1355.17.0002) 6dBi
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 1.0MHz VID BW: 8.0MHz SWP: 20.0msec
Marker: 2.39GHz 23.4937dBµV
Peak Limit
Ave Limit
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

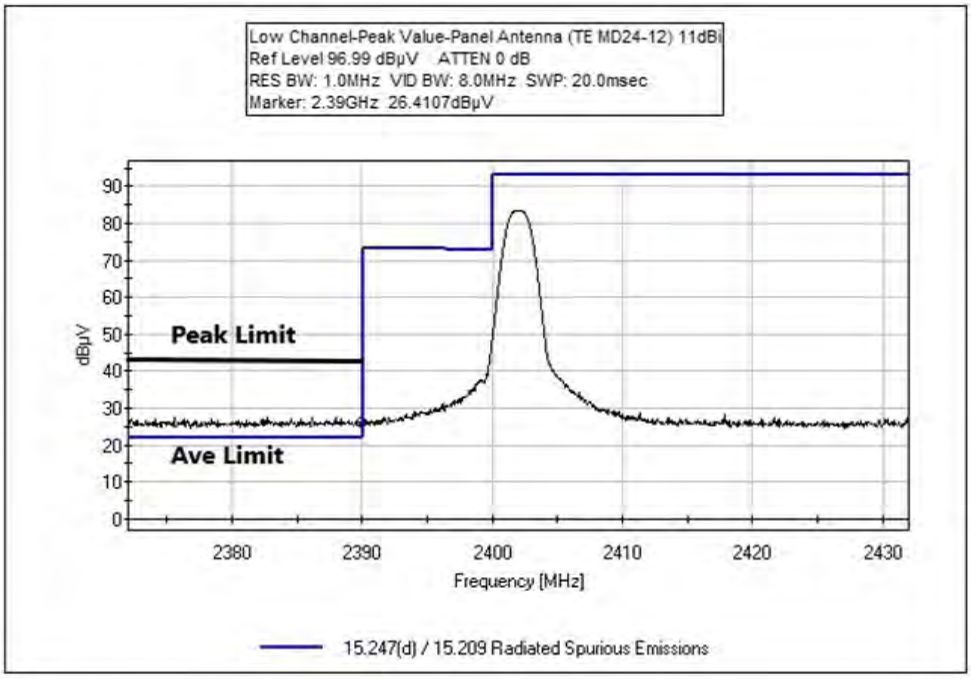

High Channel-Peak Value- Dipole Antenna (HUBER+SUHNER 1399.17.0224) 6dBi
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 1.0MHz VID BW: 3.0MHz SWP: 20.0msec
Marker: 2.484GHz 29.0517dBµV
dBµV
Peak Limit
Ave Limit
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

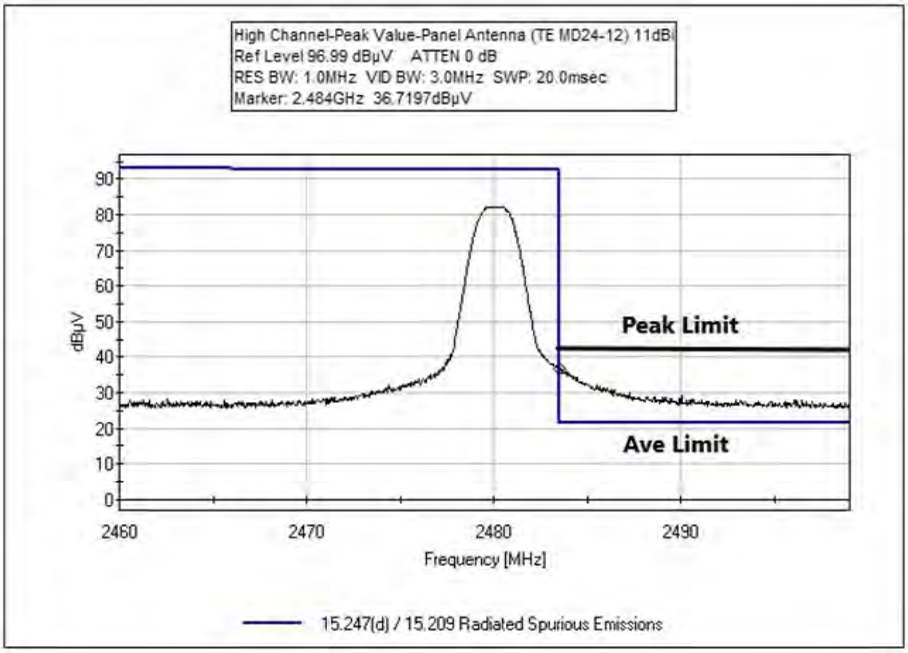

High Channel-Ave Value- Dipole Antenna ( HUBER+SUHNER 1355.17.0002) 6dBi
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 1.0MHz VID BW: 10.0Hz SWP: 20.271sec
Marker: 2.484GHz 13.3807dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

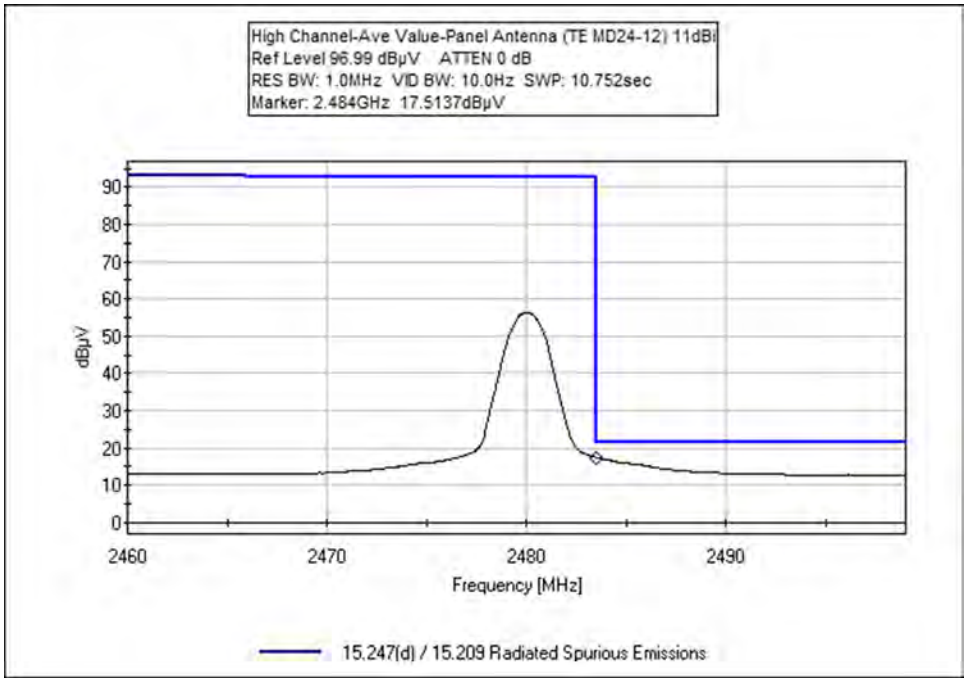
**Configuration 5**



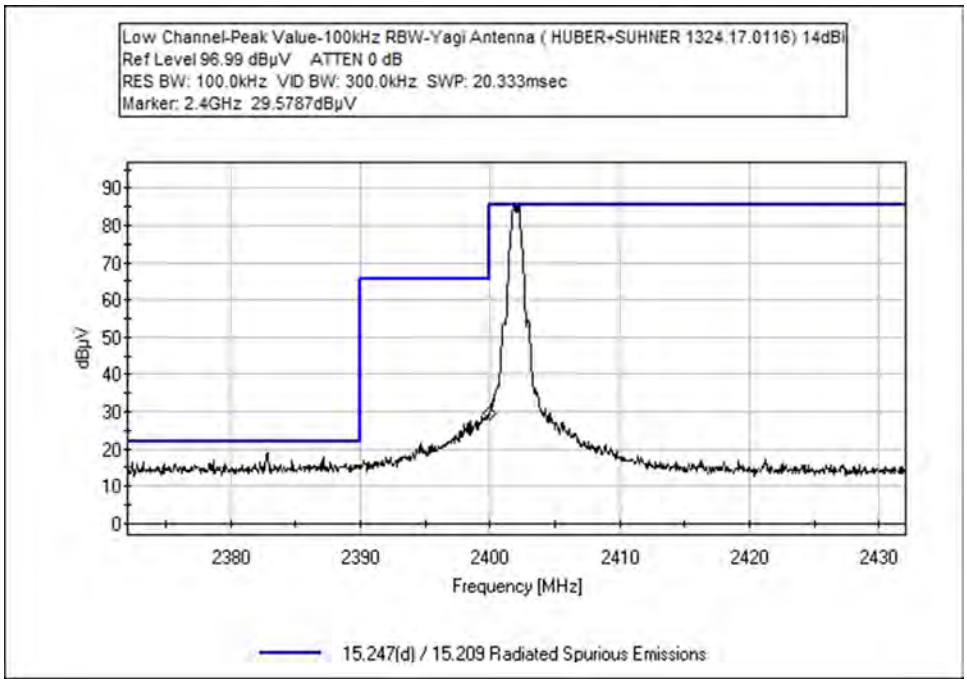



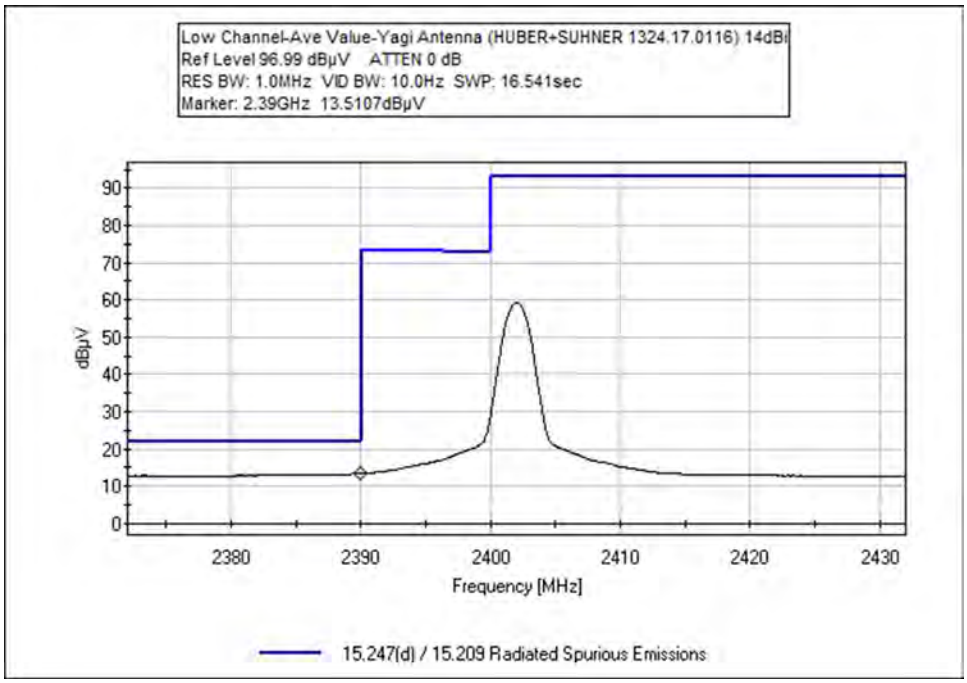

Low Channel-Peak Value-Panel Antenna (TE MD24-12) 11dBi
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 1.0MHz VID BW: 8.0MHz SWP: 20.0msec
Marker: 2.39GHz 26.4107dBµV
Peak Limit
Ave Limit
dBµV
90
80
70
60
50
40
30
20
10
0
2380
2390
2400
2410
2420
2430
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

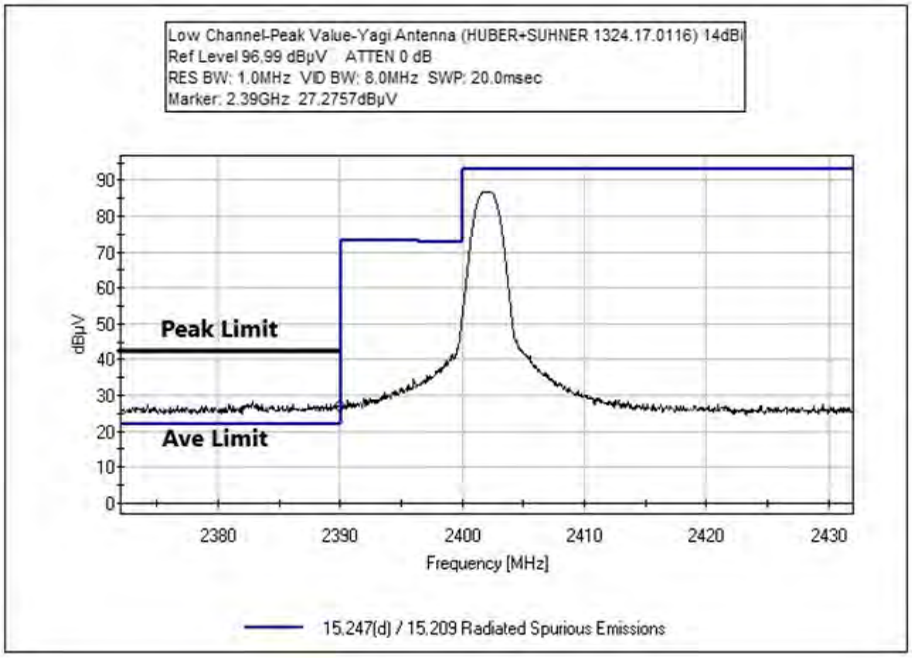

High Channel-Peak Value-Panel Antenna (TE MD24-12) 11dBi
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 1.0MHz VID BW: 3.0MHz SWP: 20.0msec
Marker: 2.484GHz 36.7197dBµV
dBµV
Peak Limit
Ave Limit
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

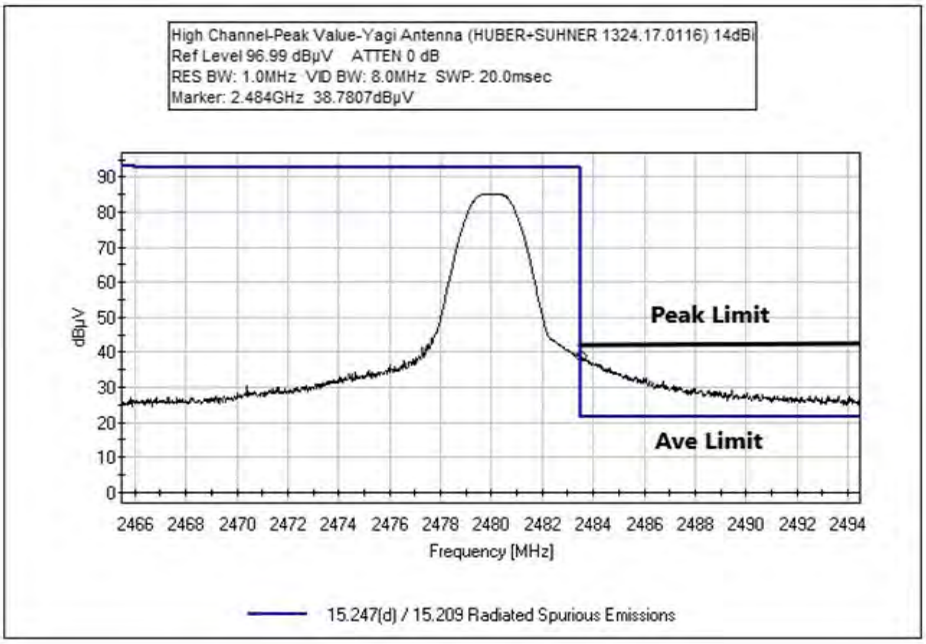

High Channel-Ave Value-Panel Antenna (TE MD24-12) 11dBi
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 1.0MHz VID BW: 10.0Hz SWP: 10.752sec
Marker: 2.484GHz 17.5137dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

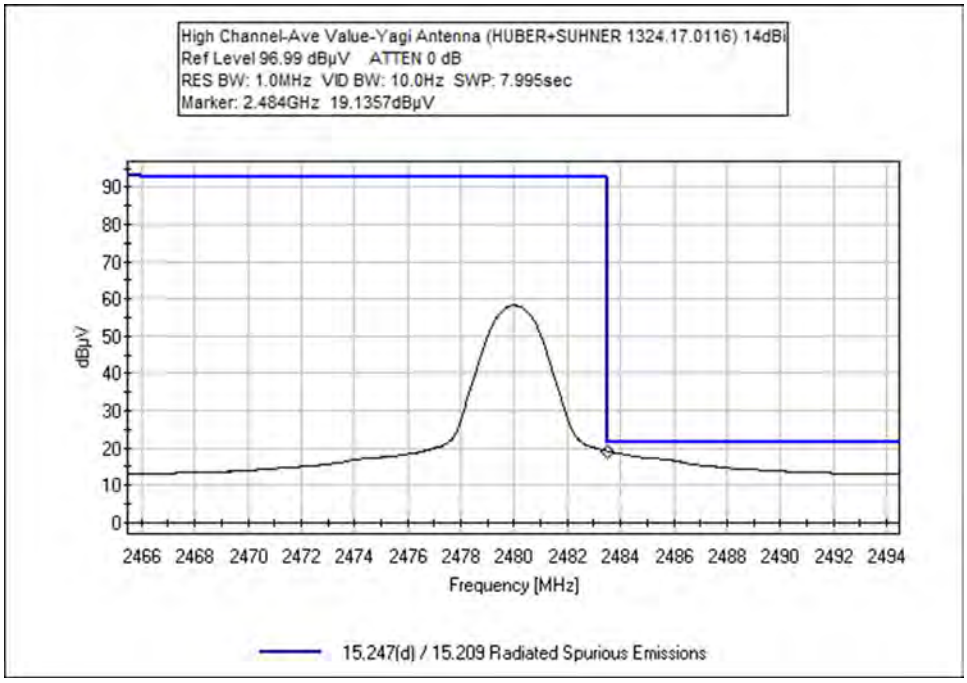
**Configuration 6**




Low Channel-Peak Value-Yagi Antenna (HUBER+SUHNER 1324.17.0116) 14dBi
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 1.0MHz VID BW: 8.0MHz SWP: 20.0msec
Marker: 2.39GHz 27.2757dBµV
dBµV
Peak Limit
Ave Limit
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions


High Channel-Peak Value-Yagi Antenna (HUBER+SUHNER 1324.17.0116) 14dBi
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 1.0MHz VID BW: 8.0MHz SWP: 20.0msec
Marker: 2.484GHz 38.7807dBµV
dBµV
Peak Limit
Ave Limit
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions


High Channel-Ave Value-Yagi Antenna (HUBER+SUHNER 1324.17.0116) 14dBi
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 1.0MHz VID BW: 10.0Hz SWP: 7.995sec
Marker: 2.484GHz 19.1357dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

## Test Setup / Conditions / Data

Test Location: CKC Laboratories, Inc. • 1120 Fulton Pl • Fremont CA 94539 • (510) 249-1170
Customer: **Divigraph (Pty) LTD**
Specification: **Band Edge**
Work Order #: **109523** Date: 3/22-26/2024
Test Type: **Radiated Scan**
Tested By: Hieu Song Nguyenpham
Software: EMITest 5.03.20

***Equipment Tested:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 2 | | | |

***Support Equipment:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 2 | | | |

***Test Conditions / Notes:***

Band Edge Set up
The EUT is set up and operated as intended. It is powered by PoE Injector which is support equipment which is outside of the chamber. The PoE injector is connected to the Ethernet Switch which is also outside of the chamber through an ethernet cable. The Ethernet switch is connected to the NUC to monitor and control the EUT during exposure.

Test Environment Conditions:
Temperature: 21.1°C
Humidity: 45%
Atmospheric Pressure: 101.5kPa
Highest Generation Frequency: 2.48GHz

Test Method: ANSI C 63.10 (2020)

***Test Equipment:***

| ID | Asset # | Description | Model | Calibration Date | Cal Due Date |
|---|---|---|---|---|---|
| T1 | AN02157 | Horn Antenna-ANSI C63.5 | 3115 | 1/11/2023 | 1/11/2025 |
| T2 | AN03302 | Cable | 32026-29094K-29094K-72TC | 1/9/2024 | 1/9/2026 |
| T3 | ANP01210 | Cable | FSJ1P-50A-4A | 1/9/2024 | 1/9/2026 |
| | AN02660 | Spectrum Analyzer | E4446A | 12/6/2022 | 12/6/2024 |

***Measurement Data:*** Reading listed by frequency. Test Distance: 3 Meters

| # | Freq MHz | Rdng dBµV | T1 dB | T2 dB | T3 dB | dB | Dist Table | Corr dBµV/m | Spec dBµV/m | Margin dB | Polar Ant |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2390.000M | 23.4 | +28.3 | +1.3 | +2.5 | | +0.0 | 55.5 | 54.0 | +1.5 | Vert |
| 2 | 2390.000M Ave | 11.0 | +28.3 | +1.3 | +2.5 | | +0.0 | 43.1 | 54.0 | -10.9 | Vert |
| 3 | 2400.000M | 21.4 | +28.3 | +1.4 | +2.5 | | +0.0 | 53.6 | 89.4 | -35.8 | Vert |
| 4 | 2483.500M | 28.6 | +28.3 | +1.4 | +2.6 | | +0.0 | 60.9 | 54.0 | +6.9 | Vert |
| 5 | 2483.500M Ave | 13.4 | +28.3 | +1.4 | +2.6 | | +0.0 | 45.7 | 54.0 | -8.3 | Vert |

| | |
|---|---|
| Test Location: | CKC Laboratories, Inc. • 1120 Fulton Pl • Fremont CA 94539 • (510) 249-1170 |
| Customer: | **Divigraph (Pty) LTD** |
| Specification: | **Band Edge** |
| Work Order #: | **109523** Date: 3/22-26/2024 |
| Test Type: | **Radiated Scan** |
| Tested By: | Hieu Song Nguyenpham : |
| Software: | EMITest 5.03.20 |

***Equipment Tested:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 5 | | | |

***Support Equipment:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 5 | | | |

***Test Conditions / Notes:***

Band Edge Set up
The EUT is set up and operated as intended. It is powered by PoE Injector which is support equipment which is outside of the chamber. The PoE injector is connected to the Ethernet Switch which is also outside of the chamber through an ethernet cable. The Ethernet switch is connected to the NUC to monitor and control the EUT during exposure.

Test Environment Conditions:
Temperature: 21.1°C
Humidity: 45%
Atmospheric Pressure: 101.5kPa
Highest Generation Frequency: 2.48GHz

Test Method: ANSI C 63.10 2020

***Test Equipment:***

| ID | Asset # | Description | Model | Calibration Date | Cal Due Date |
|---|---|---|---|---|---|
| T1 | AN02157 | Horn Antenna-ANSI C63.5 | 3115 | 1/11/2023 | 1/11/2025 |
| T2 | AN03302 | Cable | 32026-29094K-29094K-72TC | 1/9/2024 | 1/9/2026 |
| T3 | ANP01210 | Cable | FSJ1P-50A-4A | 1/9/2024 | 1/9/2026 |
| | AN02660 | Spectrum Analyzer | E4446A | 12/6/2022 | 12/6/2024 |

***Measurement Data:*** Reading listed by order taken. Test Distance: 3 Meters

| # | Freq MHz | Rdng dBµV | T1 dB | T2 dB | T3 dB | dB | Dist Table | Corr dBµV/m | Spec dBµV/m | Margin dB | Polar Ant |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2483.500M | 36.7 | +28.3 | +1.4 | +2.6 | | +0.0 | 69.0 | 54.0 | +15.0 | Horiz |
| 2 | 2483.500M Ave | 17.5 | +28.3 | +1.4 | +2.6 | | +0.0 | 49.8 | 54.0 | -4.2 | Horiz |
| 3 | 2390.000M | 25.8 | +28.3 | +1.3 | +2.5 | | +0.0 | 57.9 | 54.0 | +3.9 | Horiz |
| 4 | 2390.000M Ave | 13.0 | +28.3 | +1.3 | +2.5 | | +0.0 | 45.1 | 54.0 | -8.9 | Horiz |
| 5 | 2400.000M | 28.9 | +28.3 | +1.4 | +2.5 | | +0.0 | 61.1 | 96.1 | -35.0 | Horiz |

Test Location: CKC Laboratories, Inc. • 1120 Fulton Pl • Fremont CA 94539 • (510) 249-1170
Customer: **Divigraph (Pty) LTD**

Specification: **Band Edge**
Work Order #: **109523** Date: 3/22-26/2024
Test Type: **Radiated Scan**
Tested By: Hieu Song Nguyenpham
Software: EMITest 5.03.20

***Equipment Tested:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 6 | | | |

***Support Equipment:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 6 | | | |

***Test Conditions / Notes:***

Band Edge Set up
The EUT is set up and operated as intended. It is powered by PoE Injector which is support equipment which is outside of the chamber. The PoE injector is connected to the Ethernet Switch which is also outside of the chamber through an ethernet cable. The Ethernet switch is connected to the NUC to monitor and control the EUT during exposure.

Test Environment Conditions:
Temperature: 21.1°C
Humidity: 45%
Atmospheric Pressure: 101.5kPa
Highest Generation Frequency: 2.48GHz

Test Method: ANSI C 63.10 (2020)

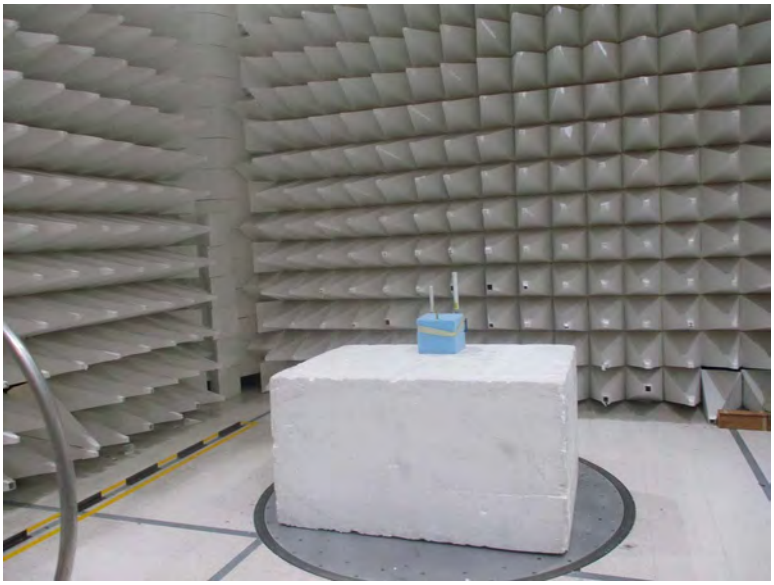
***Test Equipment:***

| ID | Asset # | Description | Model | Calibration Date | Cal Due Date |
|---|---|---|---|---|---|
| T1 | AN02157 | Horn Antenna-ANSI C63.5 | 3115 | 1/11/2023 | 1/11/2025 |
| T2 | AN03302 | Cable | 32026-29094K-29094K-72TC | 1/9/2024 | 1/9/2026 |
| T3 | ANP01210 | Cable | FSJ1P-50A-4A | 1/9/2024 | 1/9/2026 |
| | AN02660 | Spectrum Analyzer | E4446A | 12/6/2022 | 12/6/2024 |

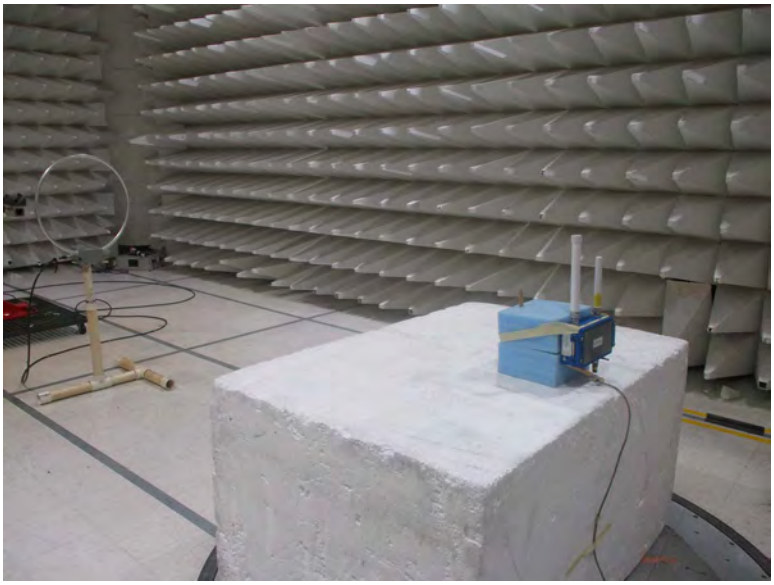
***Measurement Data:*** Reading listed by order taken. Test Distance: 3 Meters

| # | Freq MHz | Rdng dBµV | T1 dB | T2 dB | T3 dB | dB | Dist Table | Corr dBµV/m | Spec dBµV/m | Margin dB | Polar Ant |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2483.500M | 38.4 | +28.3 | +1.4 | +2.6 | | +0.0 | 70.7 | 54.0 | +16.7 | Vert |
| 2 | 2483.500M Ave | 19.1 | +28.3 | +1.4 | +2.6 | | +0.0 | 51.4 | 54.0 | -2.6 | Vert |
| 3 | 2390.000M | 26.2 | +28.3 | +1.3 | +2.5 | | +0.0 | 58.3 | 54.0 | +4.3 | Vert |
| 4 | 2390.000M Ave | 13.5 | +28.3 | +1.3 | +2.5 | | +0.0 | 45.6 | 54.0 | -8.4 | Vert |
| 5 | 2400.000M | 28.7 | +28.3 | +1.4 | +2.5 | | +0.0 | 60.9 | 97.8 | -36.9 | Vert |

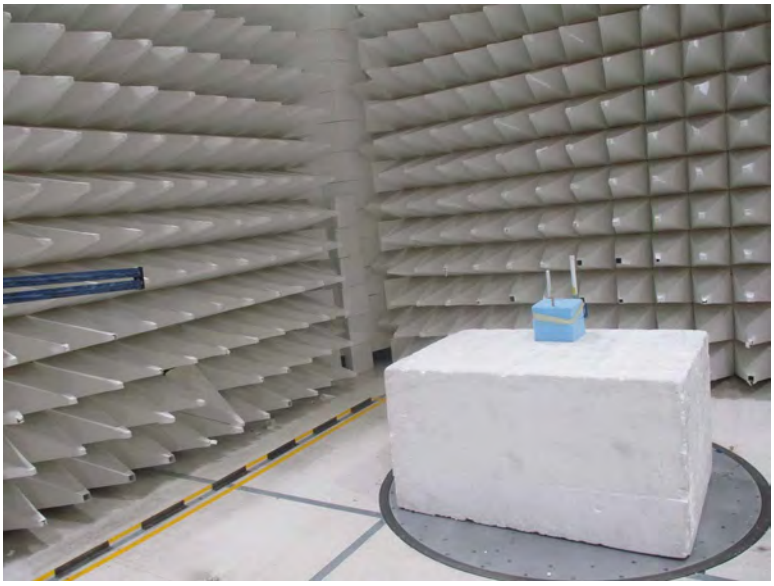
## Test Setup Photo(s)



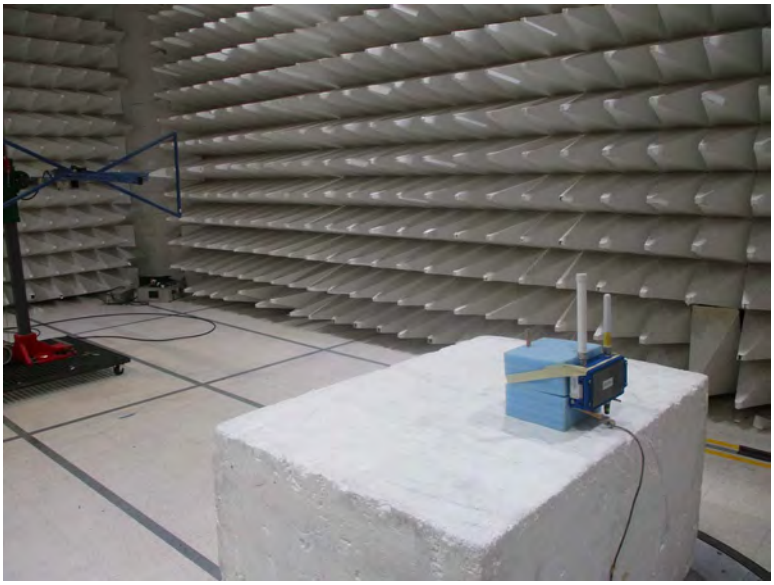
Configuration 2, 9kHz – 30MHz, Front View



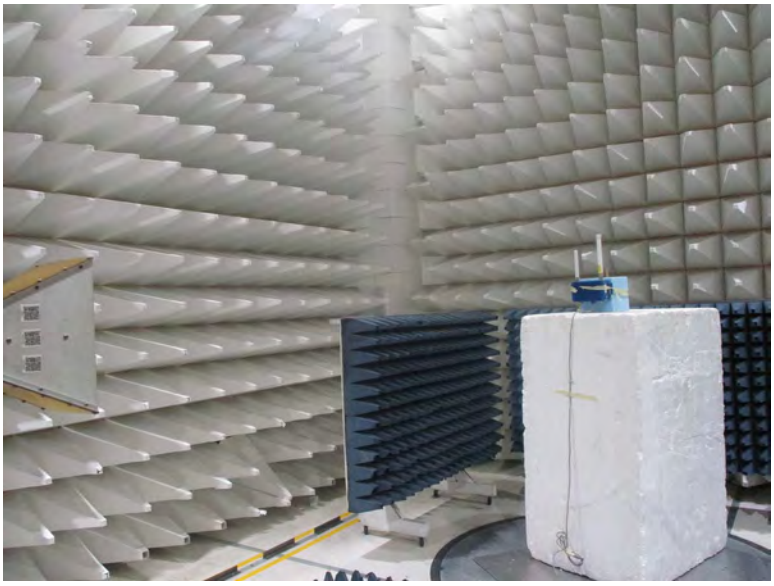
Configuration 2, 9kHz – 30MHz, Back View



Configuration 2, 30MHz – 1GHz, Front View

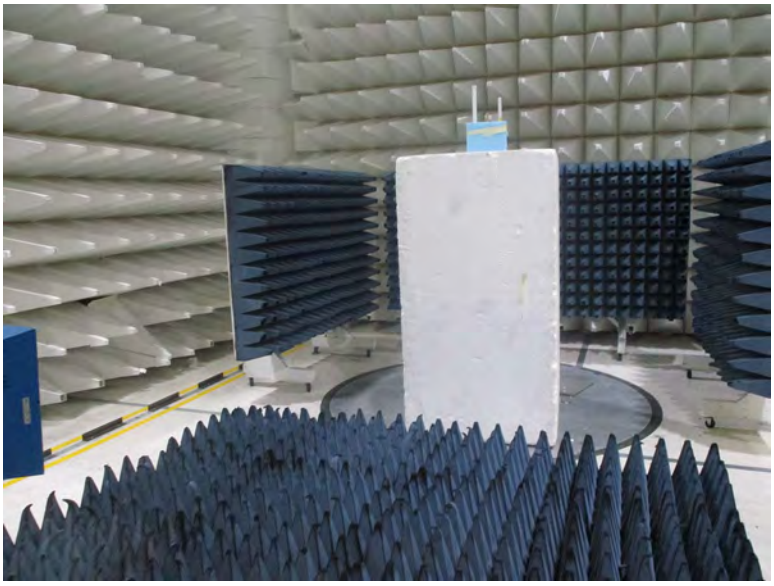


Configuration 2, 30MHz – 1GHz, Back View

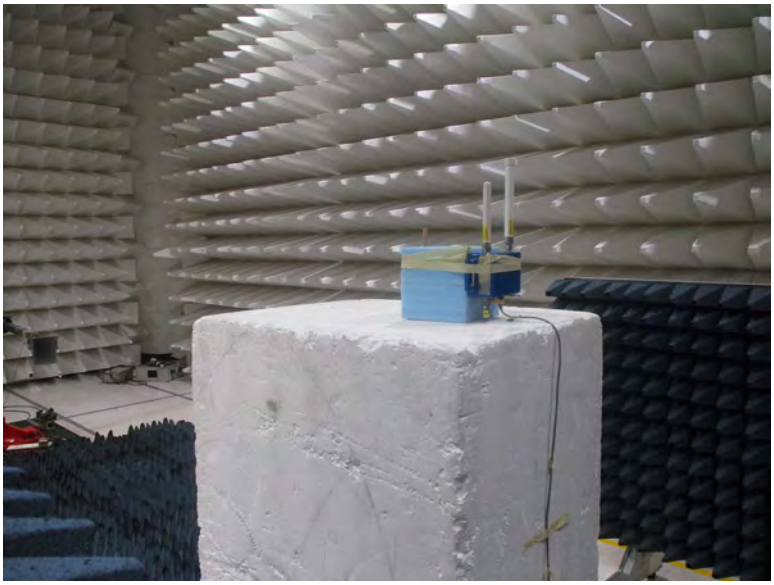


Configuration 2, 1GHz – 12GHz, Front View

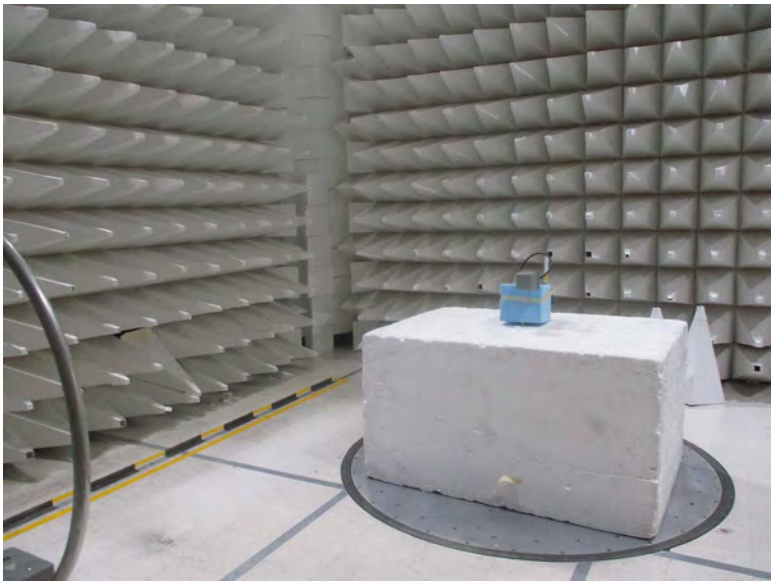
Configuration 2, 1GHz – 12GHz, Back View



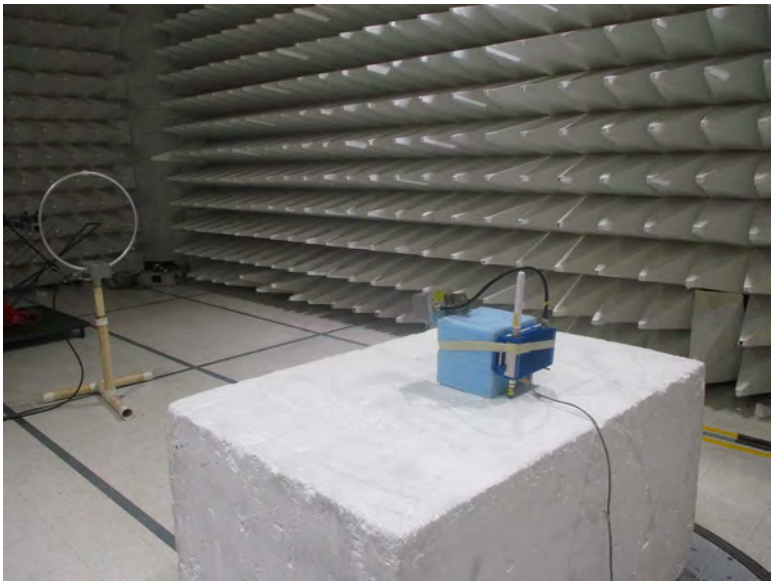
Configuration 2, 12GHz – 25GHz, Front View



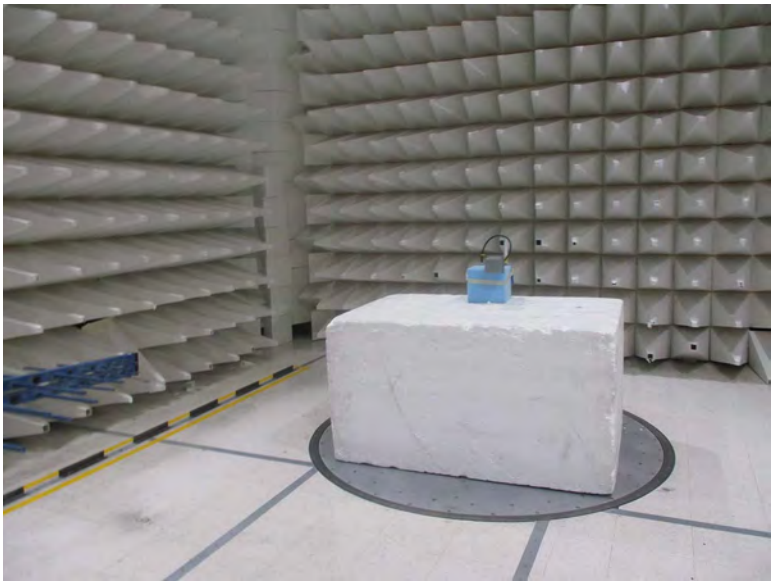
Configuration 2, 12GHz – 25GHz, Back View



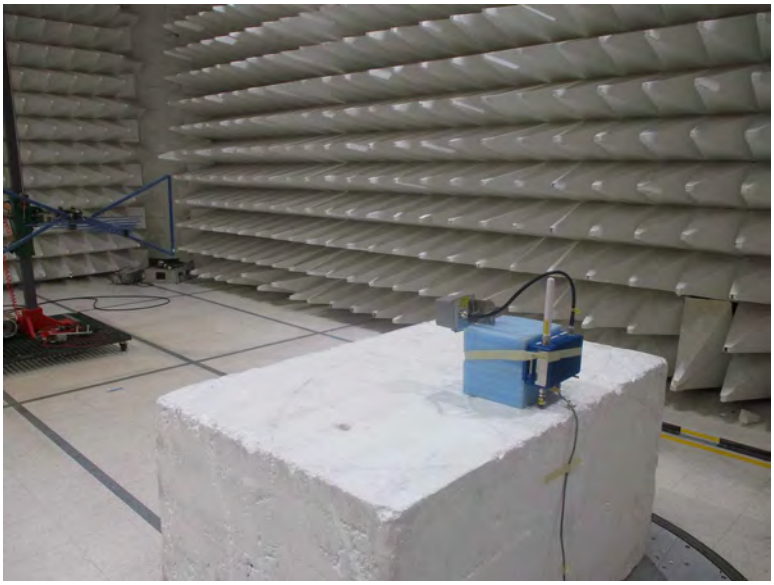
Configuration 5, 9kHz – 30kHz, Front View



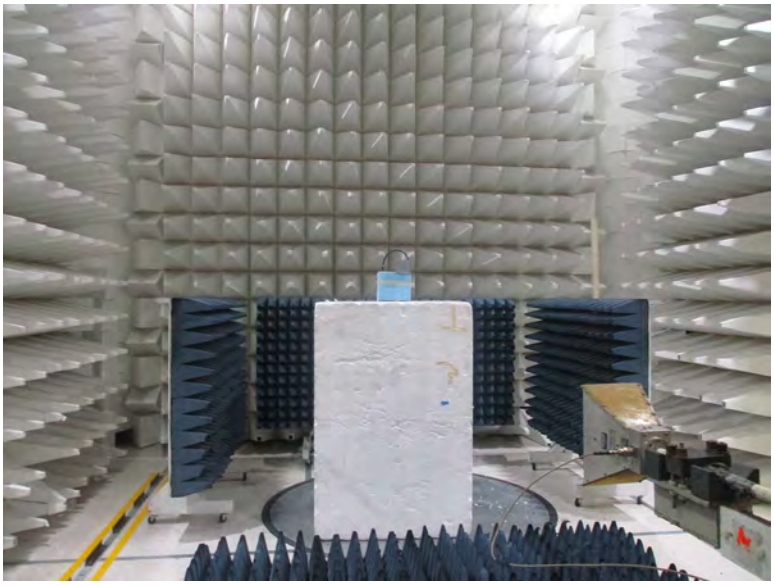
Configuration 5, 9kHz – 30kHz, Back View



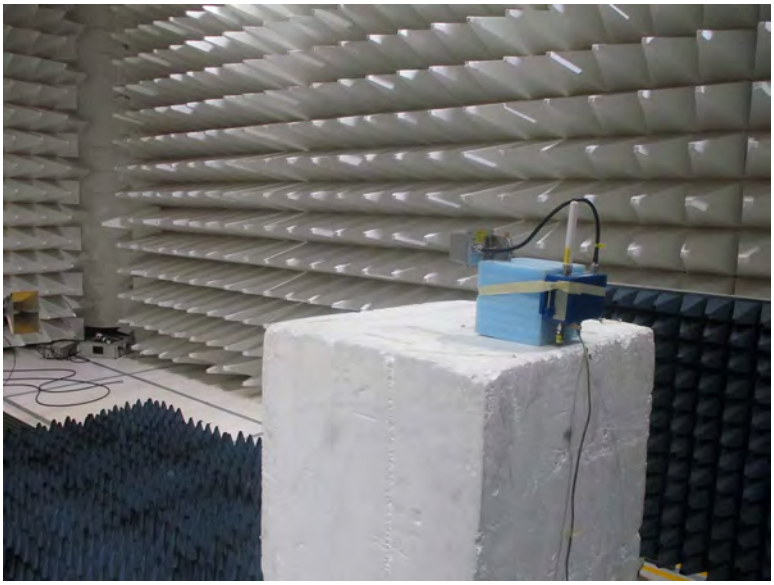
Configuration 5, 30kHz – 1GHz, Front View



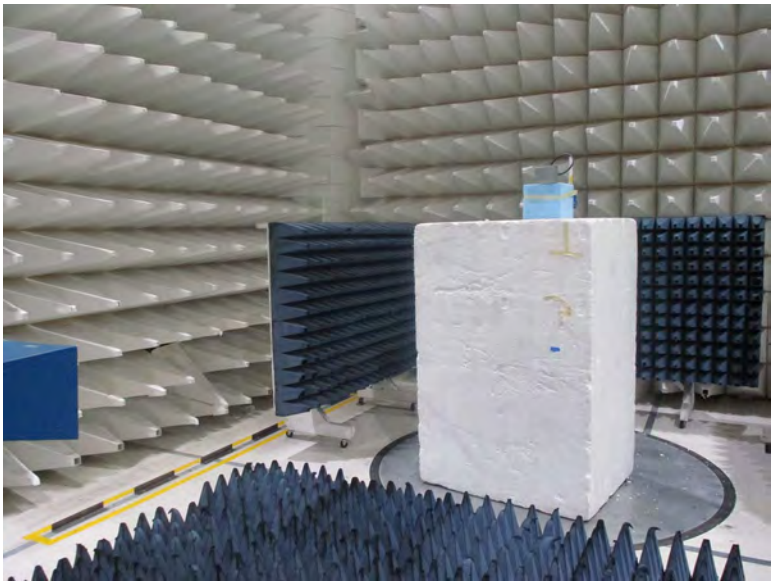
Configuration 5, 30kHz – 1GHz, Back View



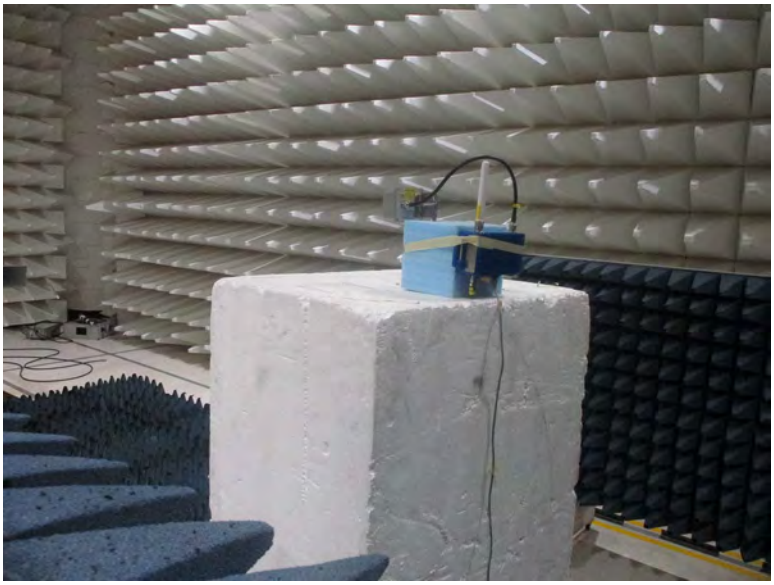
Configuration 5, 1GHz – 12GHz, Front View



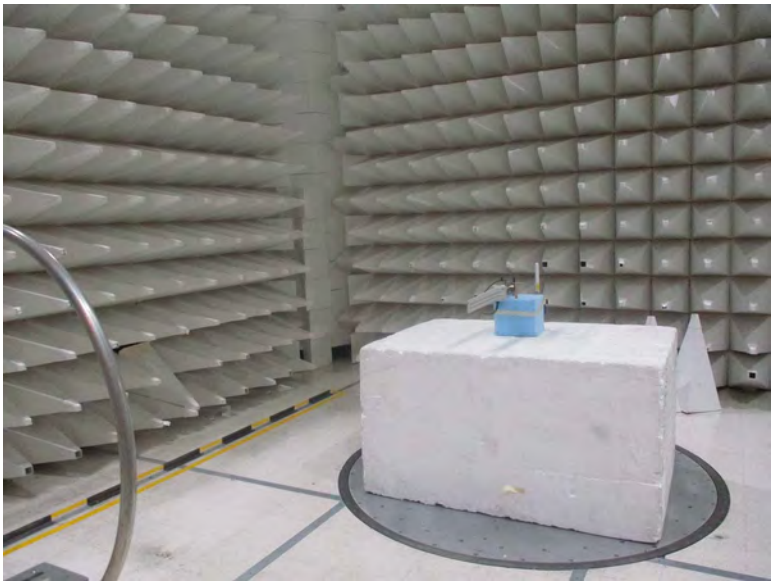
Configuration 5, 1GHz – 12GHz, Back View



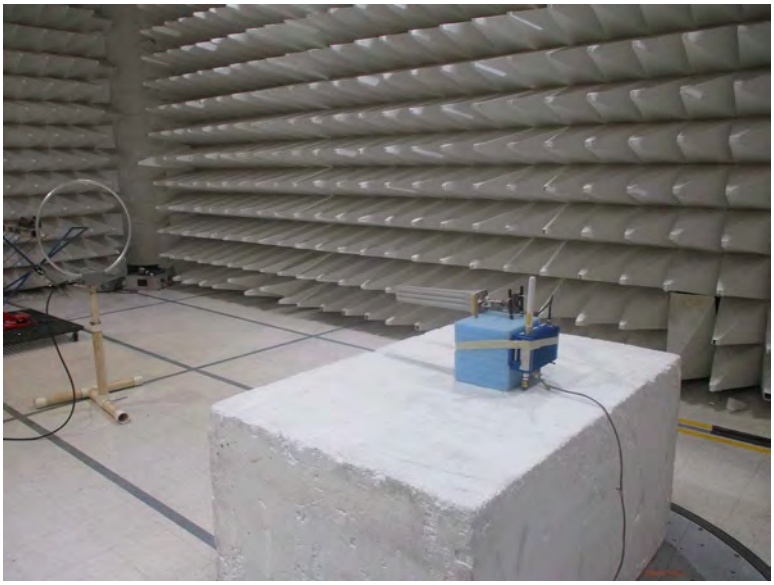
Configuration 5, 12GHz – 25GHz, Front View



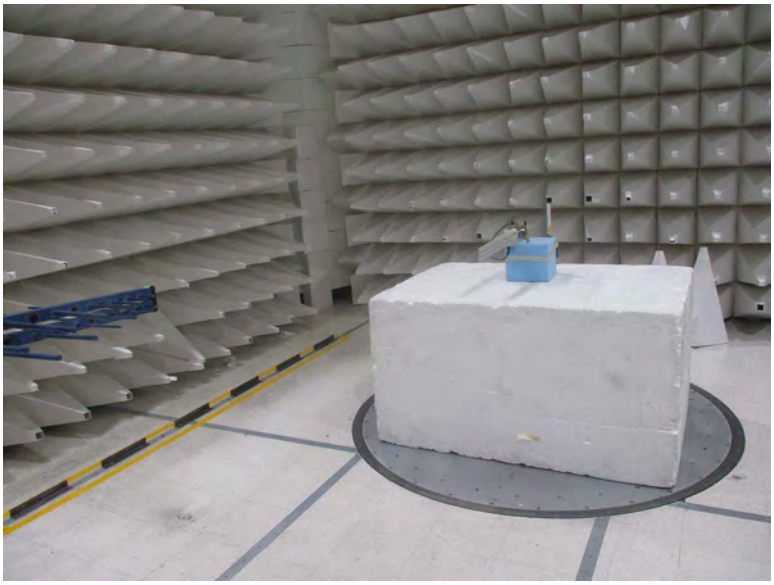
Configuration 5, 12GHz – 25GHz, Back View



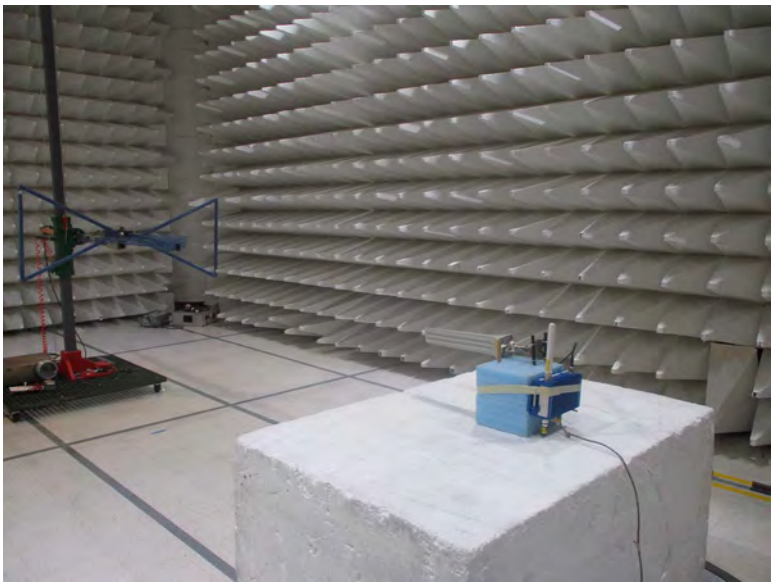
Configuration 6, 9kHz – 30MHz, Front View



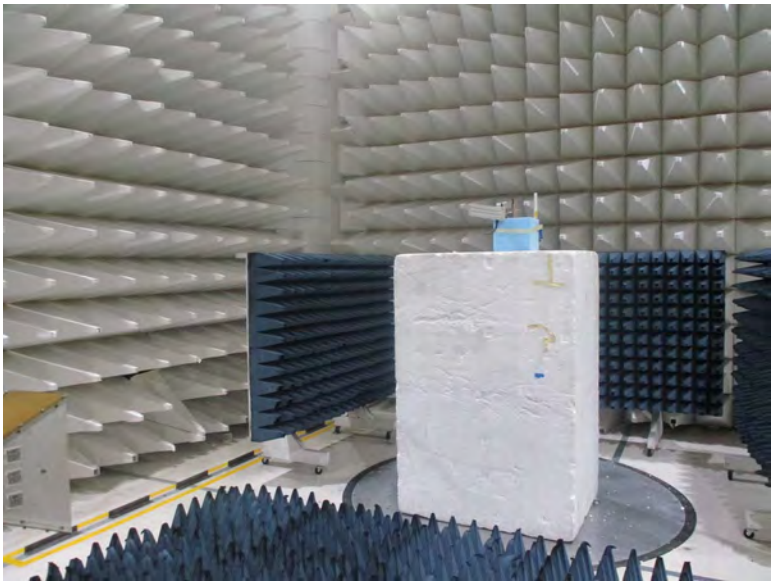
Configuration 6, 9kHz – 30MHz, Back View



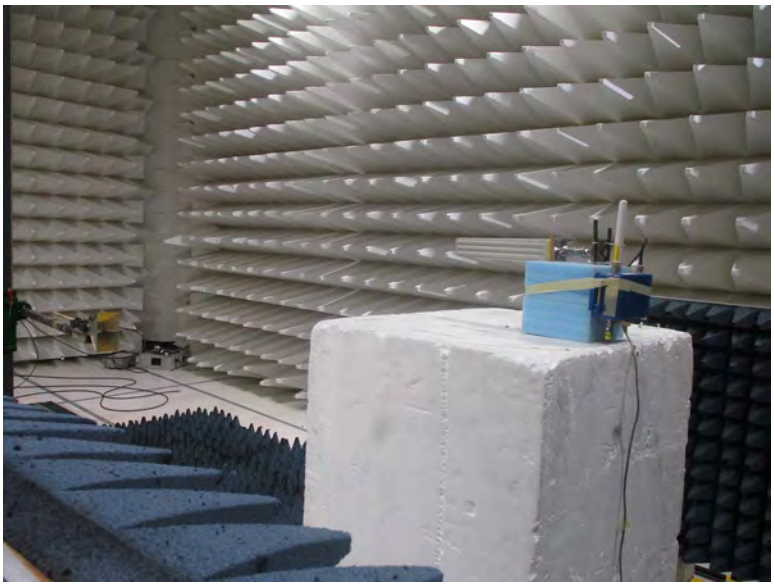
Configuration 6, 30MHz – 1GHz, Front View



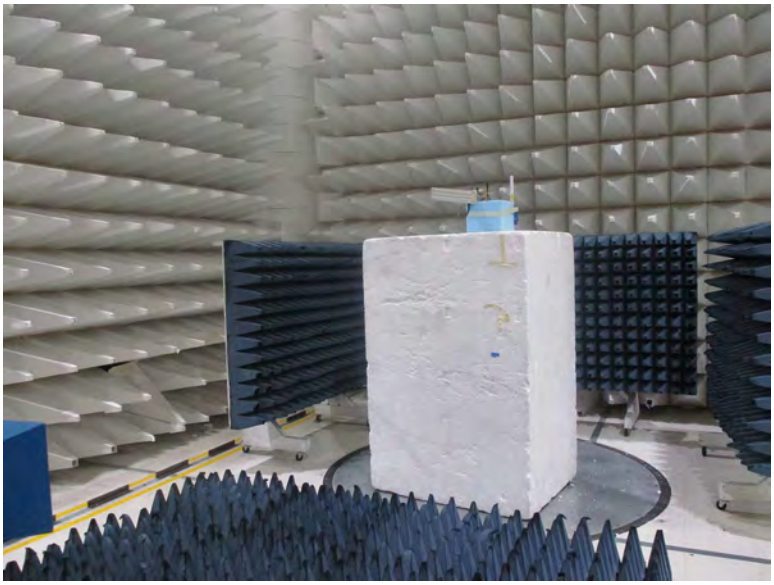
Configuration 6, 30MHz – 1GHz, Back View



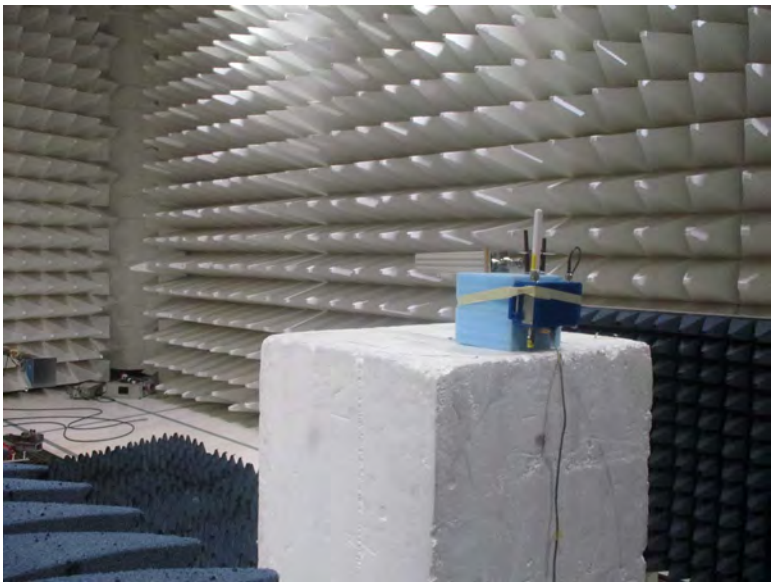
Configuration 6, 1GHz – 12GHz, Front View



Configuration 6, 1GHz – 12GHz, Back View



Configuration 6, 12GHz – 25GHz, Front View



Configuration 6, 12GHz – 25GHz, Back View

# 15.247(e) Power Spectral Density

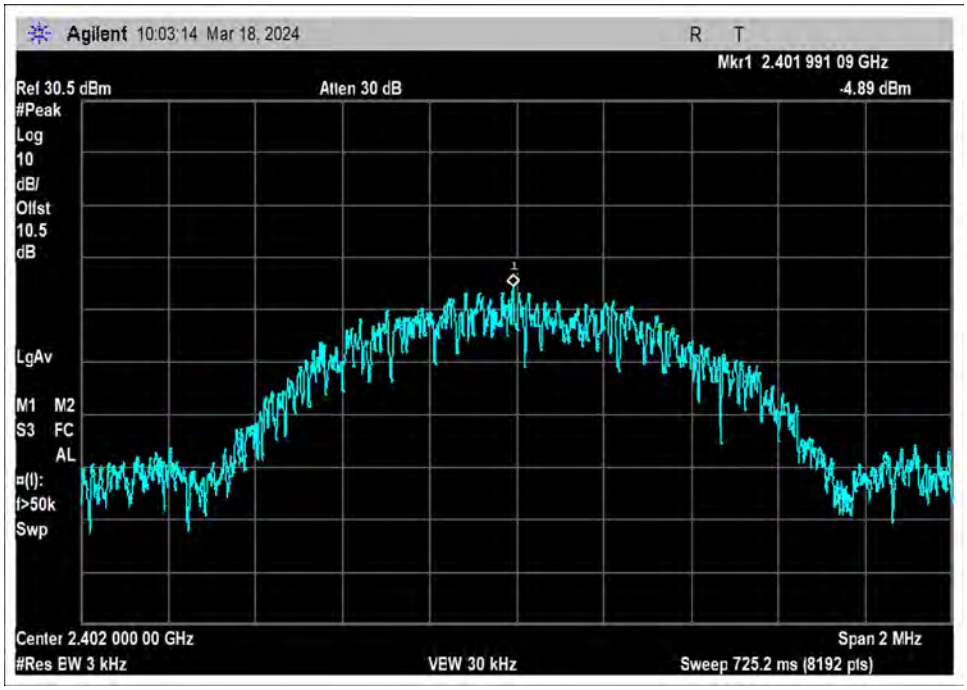
| Test Setup/Conditions | | | |
|---|---|---|---|
| Test Location: | Fremont Lab Bench | Test Engineer: | Hieu Song Nguyenpham |
| Test Method: | ANSI C63.10 (2020), KDB 558074 | Test Date(s): | 3/18/2024 |
| Configuration: | 7 | | |
| Test Setup: | The EUT is set up and operated as intended. It is connected straight to a Spectrum Analyzer to measure. The EUT is powered by a PoE Injector. The PoE is connected to an Ethernet switch and the NUC to monitor and control the EUT during measurement | | |

| Environmental Conditions | | | |
|---|---|---|---|
| Temperature (ºC) | 20.3 | Relative Humidity (%): | 42 |

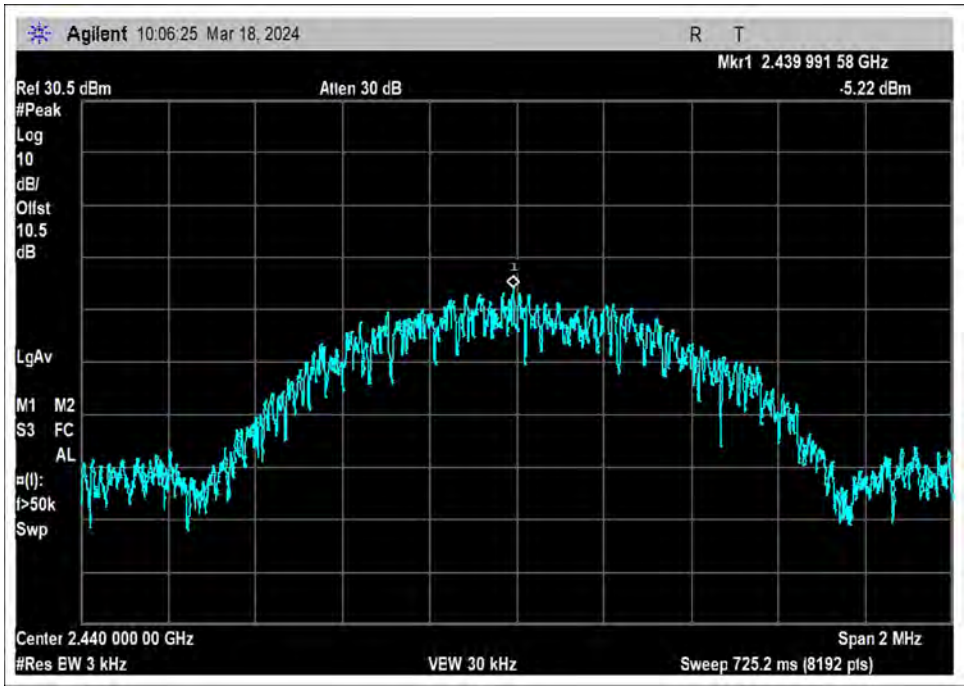
| Test Equipment | | | | | |
|---|---|---|---|---|---|
| **Asset#** | **Description** | **Manufacturer** | **Model** | **Cal Date** | **Cal Due** |
| 03470 | Spectrum Analyzer | Agilent | E4440A | 8/2/2023 | 8/2/2024 |
| P07365 | Attenuator | Weinschel | 54A-10 | 5/26/2023 | 5/26/2025 |
| 03011 | Cable | AstroSteel | 32022-2-2909K-24TC | 3/23/2023 | 3/23/2025 |

| PSD Test Data Summary - RF Conducted Measurement | | | | |
|---|---|---|---|---|
| Measurement Method: PKPSD | | | | |
| **Frequency (MHz)** | **Modulation** | **Measured (dBm/3kHz)** | **Limit (dBm/3kHz)** | **Results** |
| 2402 | GFSK | -4.89 | ≤8 | Pass |
| 2440 | GFSK | -5.22 | ≤8 | Pass |
| 2480 | GFSK | -6.10 | ≤8 | Pass |

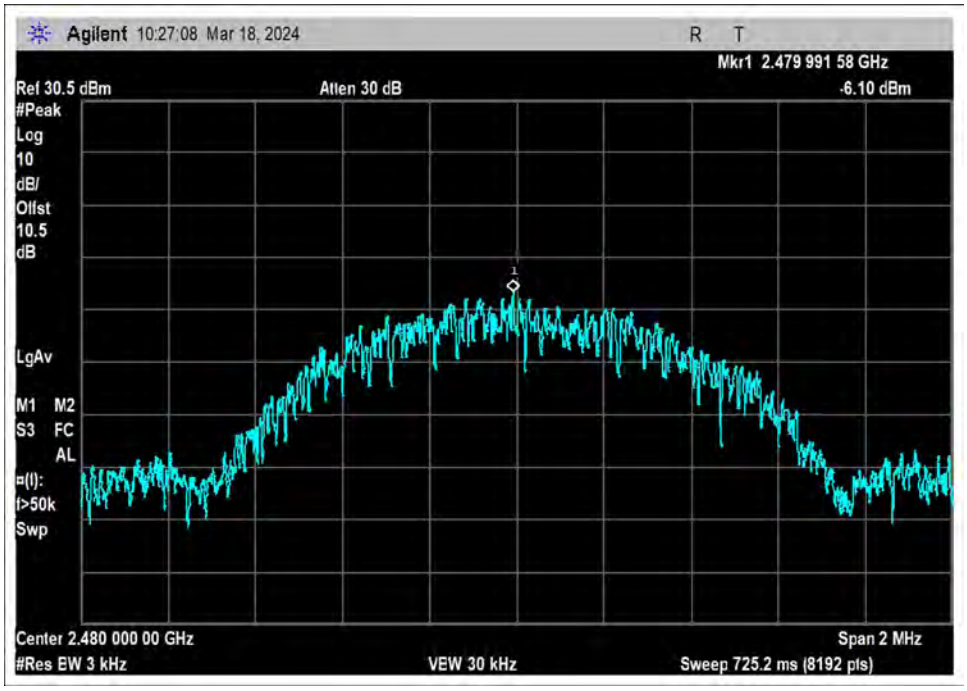
## Plots




Low Channel

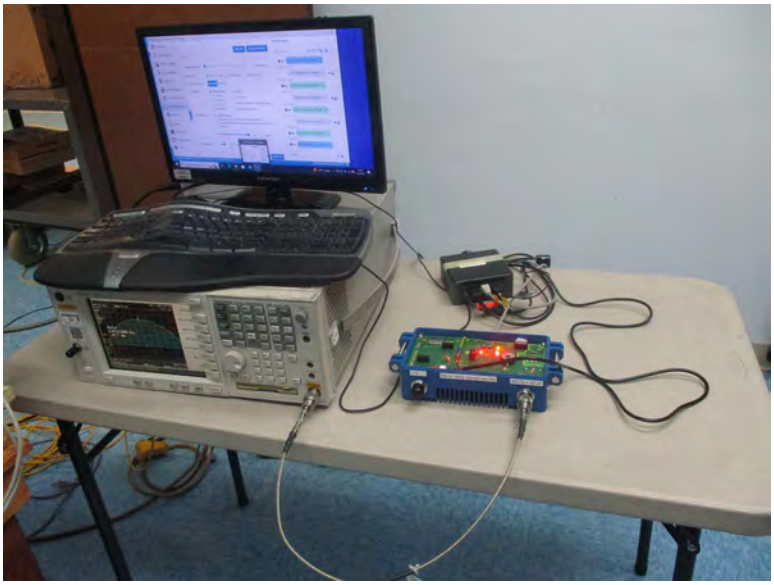



Middle Channel




High Channel

## Test Setup Photo(s)



# 15.207 AC Conducted Emissions

| Test Setup/Conditions | | | |
|---|---|---|---|
| Test Location: | Fremont Lab C3 | Test Engineer: | Hieu Song Nguyenpham |
| Test Method: | ANSI C63.10 (2020) | Test Date(s): | 3/26/2024 |
| Declaration | Choose the highest gain of antenna for testing | | |
| Configuration: | 6 | | |

| Environmental Conditions | | | |
|---|---|---|---|
| Temperature (ºC) | 22.5 | Relative Humidity (%): | 41 |

## Test Setup / Conditions / Data

Test Location: CKC Laboratories, Inc. • 1120 Fulton Pl • Fremont CA 94539 • (510) 249-1170
Customer: **Divigraph (Pty) LTD**
Specification: **15.207 AC Mains - Average**
Work Order #: **109523** Date: 3/26/2024
Test Type: **Conducted Emissions** Time: 2:00:23 PM
Tested By: Hieu Song Nguyenpham Sequence#: 126
Software: EMITest 5.03.20 120V 60Hz

***Equipment Tested:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 6 | | | |

***Support Equipment:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 6 | | | |

***Test Conditions / Notes:***

Conducted Emissions
Frequency range: 150kHz to 30MHz

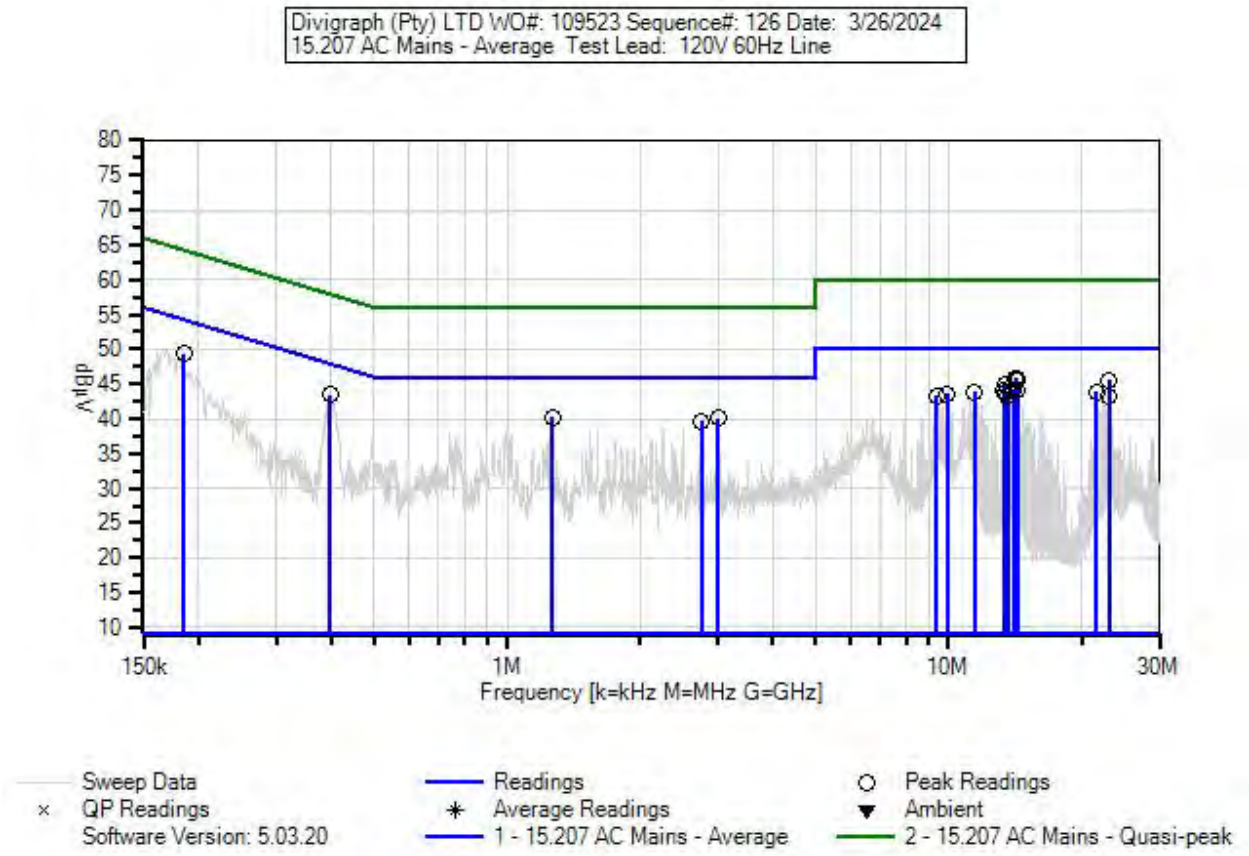
The EUT is set up and operated as intended. It is powered by PoE Injector which is next to it. The PoE injector is connected to the Ethernet Switch which is outside of the chamber through an ethernet cable. The Ethernet switch is connected to the NUC to monitor and control the EUT during exposure.

Using the highest gain antenna for testing

Test Environment Conditions:
Temperature: 21.1°C
Humidity: 45%
Atmospheric Pressure: 101.5kPa

Test Method: ANSI C 63.10 2020

Note
BLE- Middle Channel Continuously Transmitting
Yagi Antenna (HUBER+SUHNER 1324.17.0116) 14dBi




***Test Equipment:***

| ID | Asset # | Description | Model | Calibration Date | Cal Due Date |
|---|---|---|---|---|---|
| T1 | AN03814 | 50uH LISN-1PH-Line (dB) | NSLK 8126 | 1/4/2023 | 1/4/2025 |
| | AN03814 | 50uH LISN-1PH-Neutral (dB) | NSLK 8126 | 1/4/2023 | 1/4/2025 |
| | AN02660 | Spectrum Analyzer | E4446A | 12/6/2022 | 12/6/2024 |
| T2 | ANP05258 | High Pass Filter | HE9615-150K-50-720B | 5/18/2022 | 5/18/2024 |
| T3 | ANP01211 | Attenuator | 23-10-34 | 12/2/2022 | 12/2/2024 |
| T4 | ANP00987 | Cable | | 1/12/2024 | 1/12/2026 |
| T5 | ANP06691 | Cable | PE3062-180 | 3/20/2024 | 3/20/2026 |

***Measurement Data:*** Reading listed by margin. Test Lead: Line

| # | Freq | Rdng | T1<br>T5 | T2 | T3 | T4 | Dist | Corr | Spec | Margin | Polar |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBµV | dB | dB | dB | dB | Table | dBµV | dBµV | dB | Ant |
| 1 | 14.148M | 35.2 | +0.2<br>+0.1 | +0.1 | +9.8 | +0.4 | +0.0 | 45.8 | 50.0 | -4.2 | Line |
| 2 | 14.274M | 35.1 | +0.2<br>+0.1 | +0.1 | +9.8 | +0.4 | +0.0 | 45.7 | 50.0 | -4.3 | Line |
| 3 | 14.211M | 35.0 | +0.2<br>+0.1 | +0.1 | +9.8 | +0.4 | +0.0 | 45.6 | 50.0 | -4.4 | Line |
| 4 | 23.130M | 34.7 | +0.2<br>+0.2 | +0.2 | +9.8 | +0.5 | +0.0 | 45.6 | 50.0 | -4.4 | Line |
| 5 | 397.249k | 33.5 | +0.0<br>+0.0 | +0.1 | +9.8 | +0.0 | +0.0 | 43.4 | 47.9 | -4.5 | Line |
| 6 | 184.904k | 39.3 | +0.0<br>+0.0 | +0.2 | +9.9 | +0.0 | +0.0 | 49.4 | 54.3 | -4.9 | Line |
| 7 | 13.418M | 34.1 | +0.2<br>+0.1 | +0.1 | +9.9 | +0.4 | +0.0 | 44.8 | 50.0 | -5.2 | Line |
| 8 | 1.268M | 30.0 | +0.1<br>+0.0 | +0.1 | +9.9 | +0.1 | +0.0 | 40.2 | 46.0 | -5.8 | Line |
| 9 | 14.031M | 33.6 | +0.2<br>+0.1 | +0.1 | +9.8 | +0.4 | +0.0 | 44.2 | 50.0 | -5.8 | Line |
| 10 | 14.337M | 33.5 | +0.2<br>+0.1 | +0.1 | +9.8 | +0.4 | +0.0 | 44.1 | 50.0 | -5.9 | Line |
| 11 | 3.008M | 29.7 | +0.1<br>+0.1 | +0.1 | +9.9 | +0.2 | +0.0 | 40.1 | 46.0 | -5.9 | Line |
| 12 | 13.355M | 33.4 | +0.2<br>+0.1 | +0.1 | +9.9 | +0.4 | +0.0 | 44.1 | 50.0 | -5.9 | Line |
| 13 | 21.661M | 33.1 | +0.2<br>+0.1 | +0.2 | +9.8 | +0.5 | +0.0 | 43.9 | 50.0 | -6.1 | Line |
| 14 | 11.463M | 33.1 | +0.2<br>+0.1 | +0.1 | +9.9 | +0.4 | +0.0 | 43.8 | 50.0 | -6.2 | Line |
| 15 | 2.753M | 29.4 | +0.1<br>+0.0 | +0.1 | +9.9 | +0.2 | +0.0 | 39.7 | 46.0 | -6.3 | Line |
| 16 | 13.481M | 33.0 | +0.2<br>+0.1 | +0.1 | +9.9 | +0.4 | +0.0 | 43.7 | 50.0 | -6.3 | Line |
| 17 | 9.941M | 33.0 | +0.2<br>+0.1 | +0.1 | +9.9 | +0.3 | +0.0 | 43.6 | 50.0 | -6.4 | Line |
| 18 | 9.391M | 32.7 | +0.2<br>+0.1 | +0.1 | +9.9 | +0.3 | +0.0 | 43.3 | 50.0 | -6.7 | Line |
| 19 | 13.607M | 32.6 | +0.2<br>+0.1 | +0.1 | +9.9 | +0.4 | +0.0 | 43.3 | 50.0 | -6.7 | Line |
| 20 | 23.067M | 32.2 | +0.2<br>+0.2 | +0.2 | +9.8 | +0.5 | +0.0 | 43.1 | 50.0 | -6.9 | Line |

| | | | |
|---|---|---|---|
| Test Location: | CKC Laboratories, Inc. • 1120 Fulton Pl • Fremont CA 94539 • (510) 249-1170 | | |
| Customer: | **Divigraph (Pty) LTD** | | |
| Specification: | **15.207 AC Mains - Average** | | |
| Work Order #: | **109523** | Date: | 3/26/2024 |
| Test Type: | **Conducted Emissions** | Time: | 2:05:32 PM |
| Tested By: | Hieu Song Nguyenpham | Sequence#: | 127 |
| Software: | EMITest 5.03.20 | | 120V 60Hz |

***Equipment Tested:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 6 | | | |

***Support Equipment:***

| Device | Manufacturer | Model # | S/N |
|---|---|---|---|
| Configuration 6 | | | |

***Test Conditions / Notes:***

Conducted Emissions
Frequency range: 150kHz to 30MHz

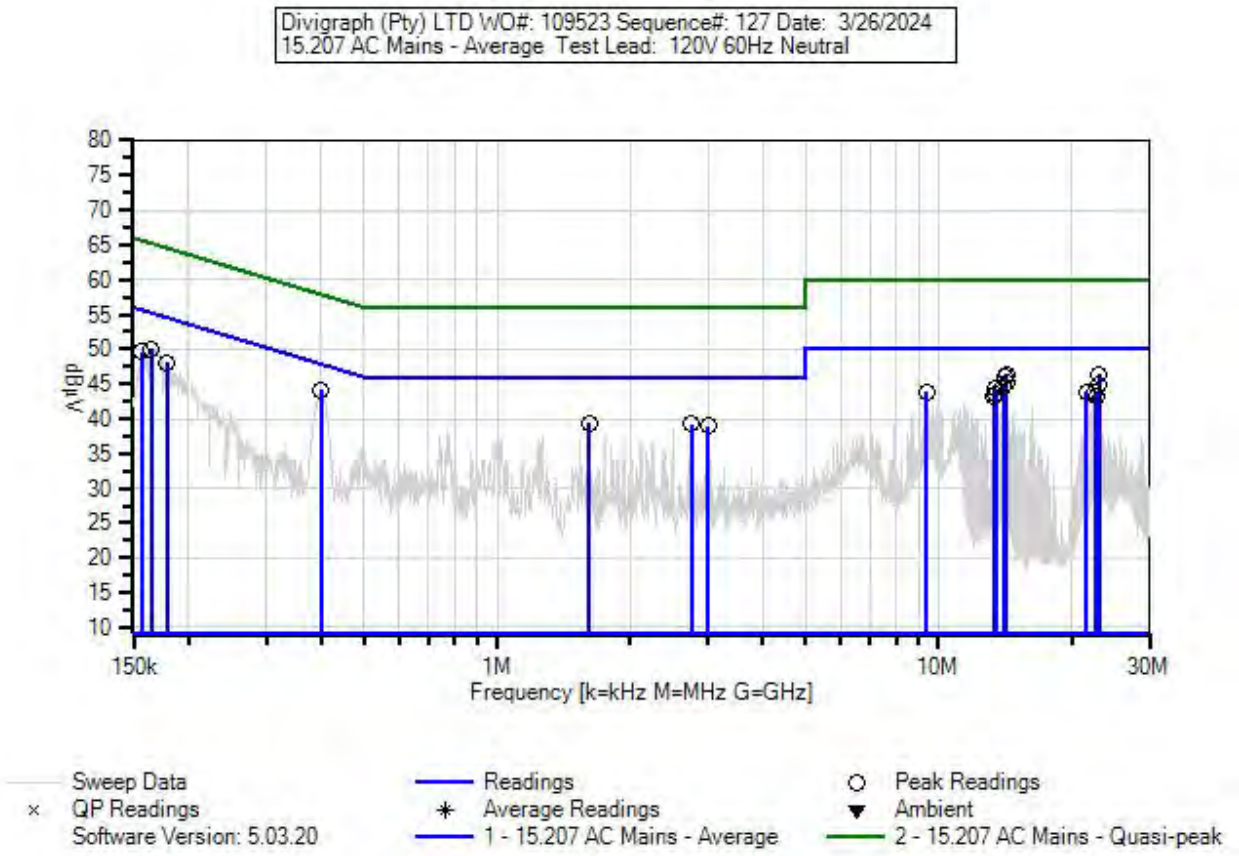
The EUT is set up and operated as intended. It is powered by PoE Injector which is next to it. The PoE injector is connected to the Ethernet Switch which is outside of the chamber through an ethernet cable. The Ethernet switch is connected to the NUC to monitor and control the EUT during exposure

Using the highest gain antenna for testing

Test Environment Conditions:
Temperature: 21.1°C
Humidity: 45%
Atmospheric Pressure: 101.5kPa

Test Method: ANSI C 63.10 2020

Note
BLE- Middle Channel Continuously Transmitting
Yagi Antenna (HUBER+SUHNER 1324.17.0116) 14dBi



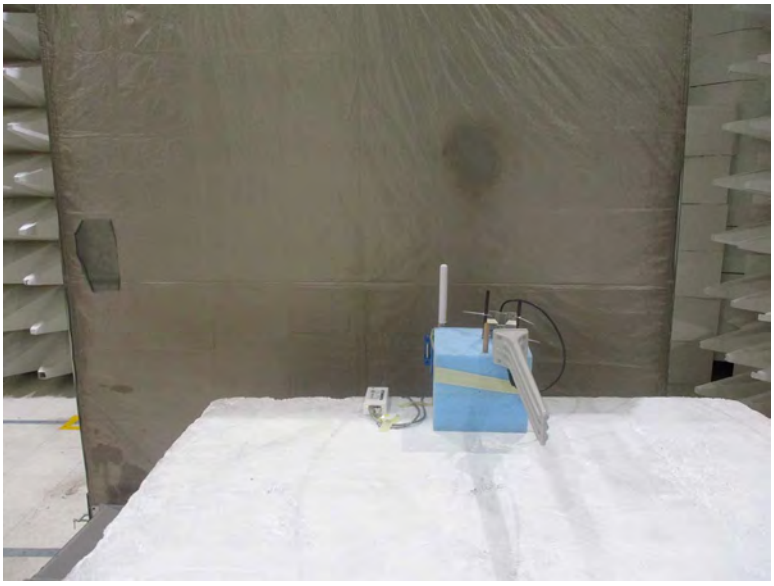

***Test Equipment:***

| ID | Asset # | Description | Model | Calibration Date | Cal Due Date |
|---|---|---|---|---|---|
| | AN03814 | 50uH LISN-1PH-Line (dB) | NSLK 8126 | 1/4/2023 | 1/4/2025 |
| T1 | AN03814 | 50uH LISN-1PH-Neutral (dB) | NSLK 8126 | 1/4/2023 | 1/4/2025 |
| | AN02660 | Spectrum Analyzer | E4446A | 12/6/2022 | 12/6/2024 |
| T2 | ANP05258 | High Pass Filter | HE9615-150K-50-720B | 5/18/2022 | 5/18/2024 |
| T3 | ANP01211 | Attenuator | 23-10-34 | 12/2/2022 | 12/2/2024 |
| T4 | ANP00987 | Cable | | 1/12/2024 | 1/12/2026 |
| T5 | ANP06691 | Cable | PE3062-180 | 3/20/2024 | 3/20/2026 |

***Measurement Data:*** Reading listed by margin. Test Lead: Neutral

| # | Freq | Rdng | T1<br>T5 | T2 | T3 | T4 | Dist | Corr | Spec | Margin | Polar |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBµV | dB | dB | dB | dB | Table | dBµV | dBµV | dB | Ant |
| 1 | 14.211M | 35.8 | +0.2<br>+0.1 | +0.1 | +9.8 | +0.4 | +0.0 | 46.4 | 50.0 | -3.6 | Neutr |
| 2 | 23.130M | 35.4 | +0.3<br>+0.2 | +0.2 | +9.8 | +0.5 | +0.0 | 46.4 | 50.0 | -3.6 | Neutr |
| 3 | 398.704k | 34.3 | +0.0<br>+0.0 | +0.1 | +9.8 | +0.0 | +0.0 | 44.2 | 47.9 | -3.7 | Neutr |
| 4 | 14.148M | 35.5 | +0.2<br>+0.1 | +0.1 | +9.8 | +0.4 | +0.0 | 46.1 | 50.0 | -3.9 | Neutr |
| 5 | 14.274M | 34.7 | +0.2<br>+0.1 | +0.1 | +9.8 | +0.4 | +0.0 | 45.3 | 50.0 | -4.7 | Neutr |
| 6 | 164.544k | 39.8 | +0.0<br>+0.0 | +0.3 | +9.9 | +0.0 | +0.0 | 50.0 | 55.2 | -5.2 | Neutr |
| 7 | 23.067M | 33.8 | +0.3<br>+0.2 | +0.2 | +9.8 | +0.5 | +0.0 | 44.8 | 50.0 | -5.2 | Neutr |
| 8 | 14.031M | 33.9 | +0.2<br>+0.1 | +0.1 | +9.8 | +0.4 | +0.0 | 44.5 | 50.0 | -5.5 | Neutr |
| 9 | 13.418M | 33.7 | +0.2<br>+0.1 | +0.1 | +9.9 | +0.4 | +0.0 | 44.4 | 50.0 | -5.6 | Neutr |
| 10 | 156.544k | 39.0 | +0.1<br>+0.0 | +0.6 | +9.9 | +0.0 | +0.0 | 49.6 | 55.6 | -6.0 | Neutr |
| 11 | 9.391M | 33.3 | +0.2<br>+0.1 | +0.1 | +9.9 | +0.3 | +0.0 | 43.9 | 50.0 | -6.1 | Neutr |
| 12 | 21.661M | 33.0 | +0.2<br>+0.1 | +0.2 | +9.8 | +0.5 | +0.0 | 43.8 | 50.0 | -6.2 | Neutr |
| 13 | 22.580M | 32.8 | +0.2<br>+0.2 | +0.2 | +9.8 | +0.5 | +0.0 | 43.7 | 50.0 | -6.3 | Neutr |
| 14 | 13.481M | 32.9 | +0.2<br>+0.1 | +0.1 | +9.9 | +0.4 | +0.0 | 43.6 | 50.0 | -6.4 | Neutr |
| 15 | 178.361k | 37.9 | +0.0<br>+0.0 | +0.3 | +9.9 | +0.0 | +0.0 | 48.1 | 54.6 | -6.5 | Neutr |
| 16 | 1.617M | 29.2 | +0.1<br>+0.0 | +0.1 | +9.9 | +0.1 | +0.0 | 39.4 | 46.0 | -6.6 | Neutr |
| 17 | 2.757M | 28.9 | +0.1<br>+0.0 | +0.1 | +9.9 | +0.2 | +0.0 | 39.2 | 46.0 | -6.8 | Neutr |
| 18 | 13.355M | 32.4 | +0.2<br>+0.1 | +0.1 | +9.9 | +0.4 | +0.0 | 43.1 | 50.0 | -6.9 | Neutr |
| 19 | 22.887M | 32.2 | +0.2<br>+0.2 | +0.2 | +9.8 | +0.5 | +0.0 | 43.1 | 50.0 | -6.9 | Neutr |
| 20 | 3.008M | 28.6 | +0.1<br>+0.1 | +0.1 | +9.9 | +0.2 | +0.0 | 39.0 | 46.0 | -7.0 | Neutr |

## Test Setup Photo(s)



Front View

Side View

# Supplemental Information

## Measurement Uncertainty

| Uncertainty Value | Parameter |
|---|---|
| 5.77 dB | Radiated Emissions |
| 0.673 dB | RF Conducted Measurements |
| $5.77 \times 10^{-10}$ | Frequency Deviation |
| 0.00005 s | Time Deviation |
| 3.18 dB | Mains Conducted Emissions |

Uncertainties reported are worst case for all CKC Laboratories' sites and represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k=2. Compliance is deemed to occur provided measurements are below the specified limits.

## Emissions Test Details

**TESTING PARAMETERS**

Unless otherwise indicated, the following configuration parameters are used for equipment setup: The cables were routed consistent with the typical application by varying the configuration of the test sample. Interface cables were connected to the available ports of the test unit. The effect of varying the position of the cables was investigated to find the configuration that produced maximum emissions. Cables were of the type and length specified in the individual requirements. The length of cable that produced maximum emissions was selected.

The equipment under test (EUT) was set up in a manner that represented its normal use, as shown in the setup photographs. Any special conditions required for the EUT to operate normally are identified in the comments that accompany the emissions tables.

The emissions data was taken with a spectrum analyzer or receiver. Incorporating the applicable correction factors for distance, antenna, cable loss and amplifier gain, the data was reduced as shown in the table below. The corrected data was then compared to the applicable emission limits. Preliminary and final measurements were taken in order to ensure that all emissions from the EUT were found and maximized.

**CORRECTION FACTORS**

The basic spectrum analyzer reading was converted using correction factors as shown in the highest emissions readings in the tables. For radiated emissions in dBµV/m, the spectrum analyzer reading in dBµV was corrected by using the following formula. This reading was then compared to the applicable specification limit. Individual measurements were compared with the displayed limit value in the margin column. The margin was calculated based on subtracting the limit value from the corrected measurement value; a positive margin represents a measurement exceeding the limit, while a negative margin represents a measurement less than the limit.

| SAMPLE CALCULATIONS | | |
|---|---|---|
| | Meter reading | (dBµV) |
| + | Antenna Factor | (dB/m) |
| + | Cable Loss | (dB) |
| - | Distance Correction | (dB) |
| - | Preamplifier Gain | (dB) |
| = | Corrected Reading | (dBµV/m) |

**TEST INSTRUMENTATION AND ANALYZER SETTINGS**

The test instrumentation and equipment listed were used to collect the emissions data. A spectrum analyzer or receiver was used for all measurements. Unless otherwise specified, the following table shows the measuring equipment bandwidth settings that were used in designated frequency bands. For testing emissions, an appropriate reference level and a vertical scale size of 10 dB per division were used.

| MEASURING EQUIPMENT BANDWIDTH SETTINGS PER FREQUENCY RANGE | | | |
|---|---|---|---|
| TEST | BEGINNING FREQUENCY | ENDING FREQUENCY | BANDWIDTH SETTING |
| CONDUCTED EMISSIONS | 150 kHz | 30 MHz | 9 kHz |
| RADIATED EMISSIONS | 9 kHz | 150 kHz | 200 Hz |
| RADIATED EMISSIONS | 150 kHz | 30 MHz | 9 kHz |
| RADIATED EMISSIONS | 30 MHz | 1000 MHz | 120 kHz |
| RADIATED EMISSIONS | 1000 MHz | >1 GHz | 1 MHz |

**SPECTRUM ANALYZER/RECEIVER DETECTOR FUNCTIONS**

The notes that accompany the measurements contained in the emissions tables indicate the type of detector function used to obtain the given readings. Unless otherwise noted, all readings were made in the "positive peak" detector mode. Whenever a "quasi-peak" or "average" reading was recorded, the measurement was annotated with a "QP" or an "Ave" on the appropriate rows of the data sheets. In cases where quasi-peak or average limits were employed and data exists for multiple measurement types for the same frequency then the peak measurement was retained in the report for reference, however the numbering for the affected row was removed and an arrow or caret ("^") was placed in the far left-hand column indicating that the row above takes precedence for comparison to the limit. The following paragraphs describe in more detail the detector functions and when they were used to obtain the emissions data.

**Peak**

In this mode, the spectrum analyzer or receiver recorded all emissions at their peak value as the frequency band selected was scanned. By combining this function with another feature called "peak hold," the measurement device had the ability to measure intermittent or low duty cycle transient emission peak levels. In this mode the measuring device made a slow scan across the frequency band selected and measured the peak emission value found at each frequency across the band.

**Quasi-Peak**

Quasi-peak measurements were taken using the quasi-peak detector when the true peak values exceeded or were within 2 dB of a quasi-peak specification limit. Additional QP measurements may have been taken at the discretion of the operator.

**Average**

Average measurements were taken using the average detector when the true peak values exceeded or were within 2 dB of an average specification limit. Additional average measurements may have been taken at the discretion of the operator. If the specification or test procedure requires trace averaging, then the averaging was performed using 100 samples or as required by the specification. All other average measurements are performed using video bandwidth averaging. To make these measurements, the test engineer reduces the video bandwidth on the measuring device until the modulation of the signal is filtered out. At this point, the measuring device is set into the linear mode and the scan time is reduced.

***End of Report***