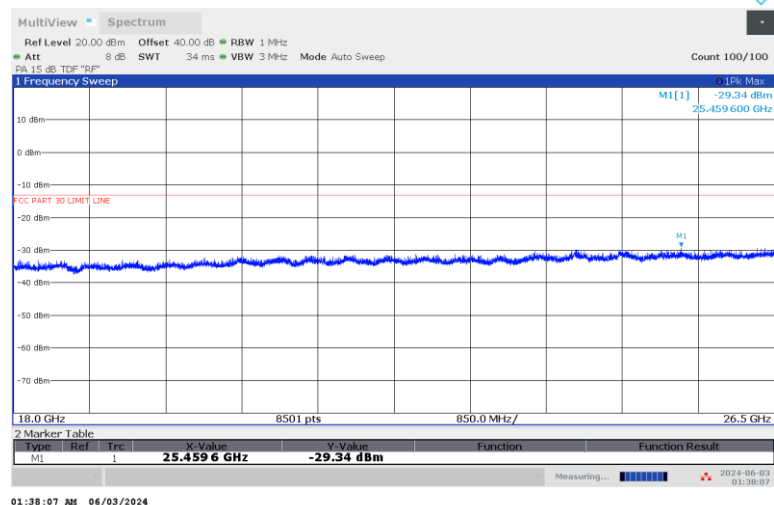


### 8.4.31. RSE n260 18 - 26.5 GHz

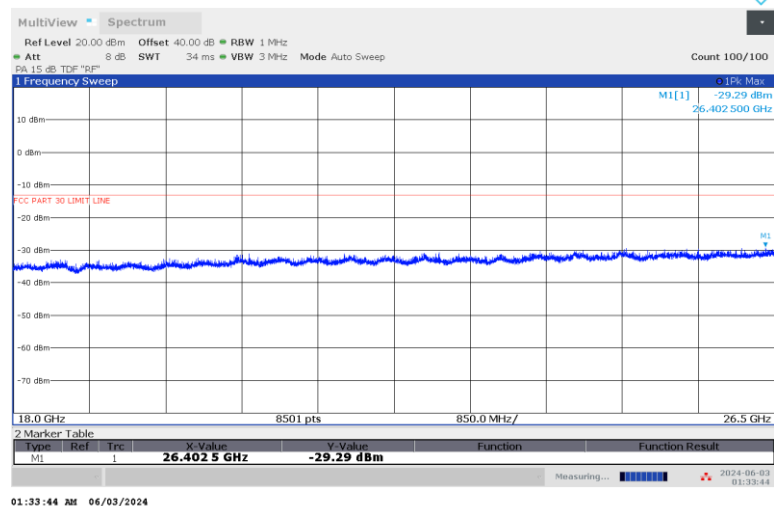
#### 18 - 26.5 GHz, 1CC (Pre-scan using Pk Det.)

Horizontal



#### 18 - 26.5 GHz, 1CC (Pre-scan using Pk Det.)

Vertical

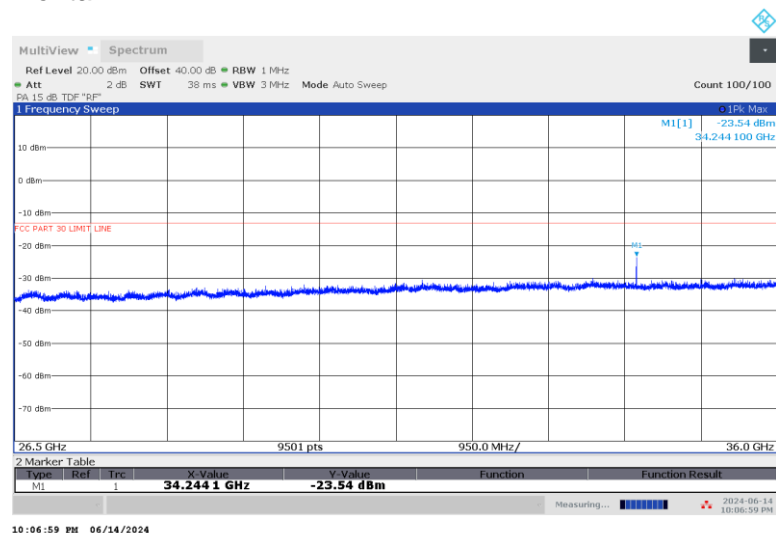


No emission detected using Peak Detection.

## 8.4.32. RSE n260 26.5 - 36 GHz

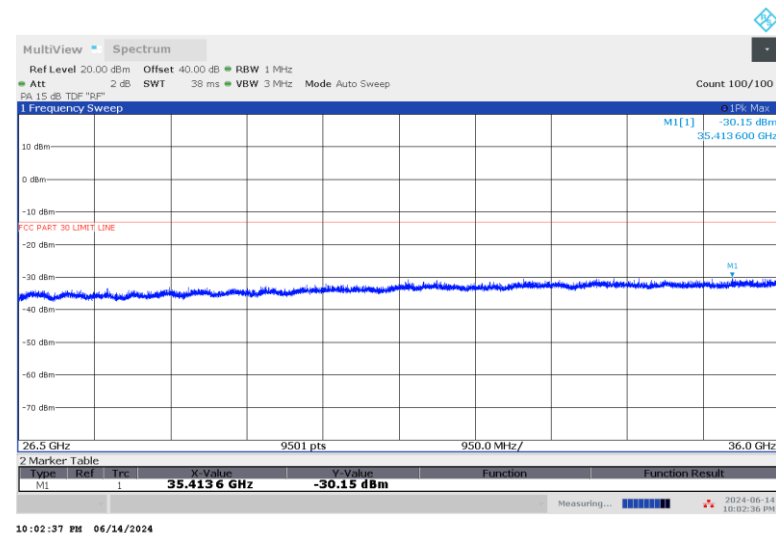
### 26.5 - 36 GHz, 1CC (Pre-scan using Pk Det.)

Horizontal



### 26.5 - 36 GHz, 1CC (Pre-scan using Pk Det.)

Vertical



Emission detected using Peak Detection at pre-scan. Avg EIRP was measured.

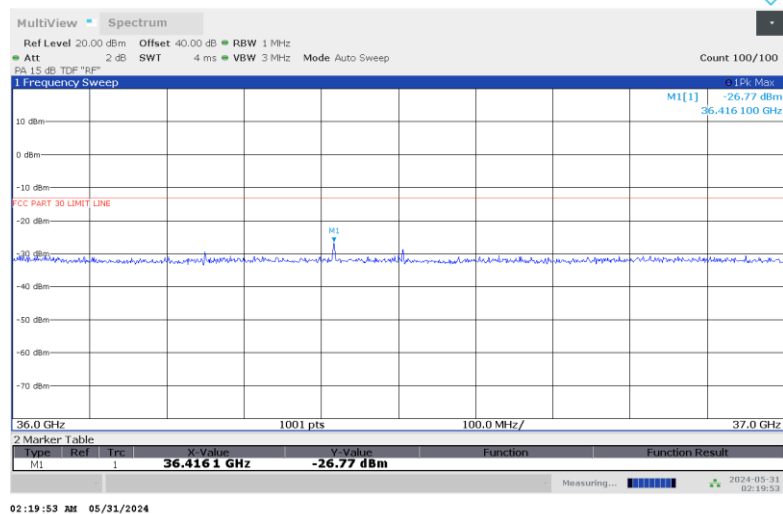
**26.5 - 36 GHz n260, 1CC**

Freq.	Meas. Distance	Rx Ant. Polarity	Corrected Avg EIRP	TRP Limit	Margin
(GHz)	(m)	H/V	(dBm)	(dBm)	(dB)
34.244	3	H	-28.23	-13	-15.23
34.244	3	V	-38.17	-13	-25.17

### 8.4.33. RSE n260 36 – 37 GHz

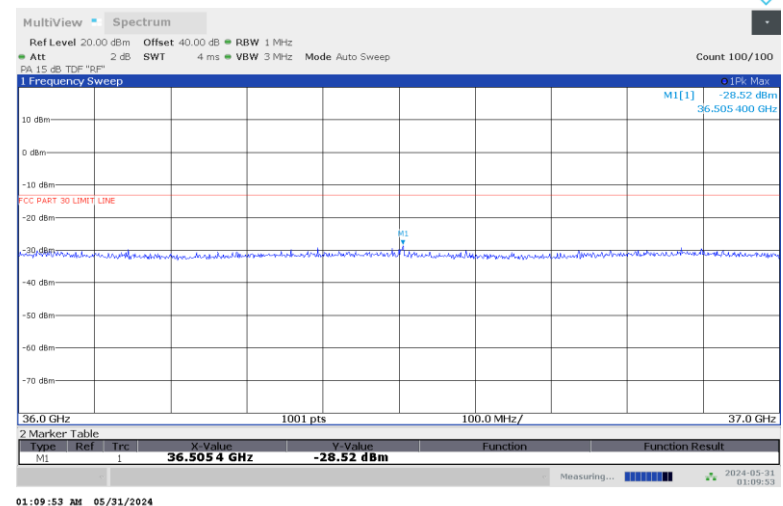
#### 36 - 37 GHz, 1CC (Pre-scan using Pk Det.)

Horizontal



#### 36 - 37 GHz, 1CC (Pre-scan using Pk Det.)

Vertical

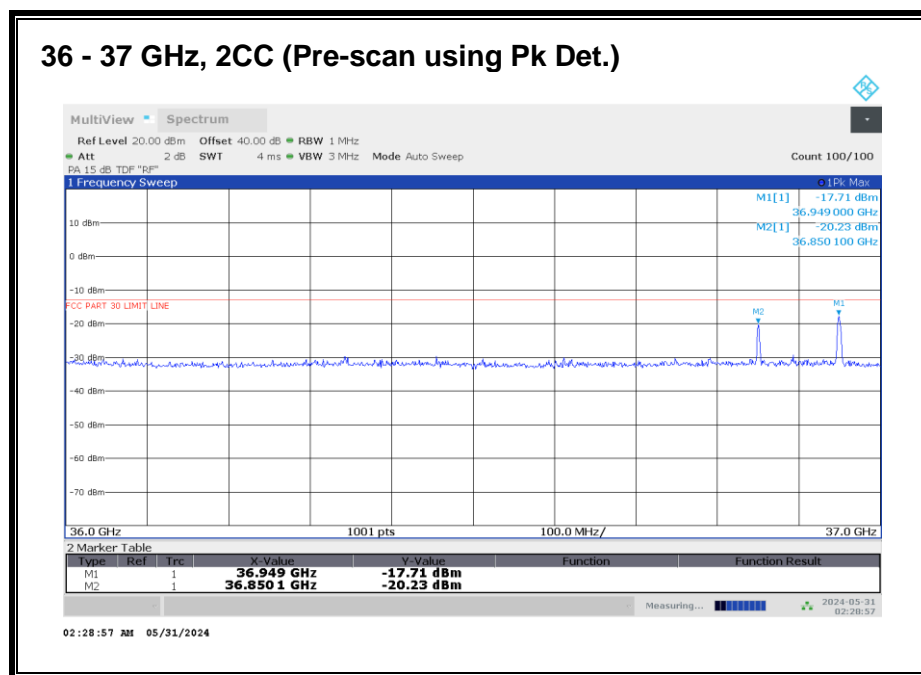


Emission detected using Peak Detection at pre-scan. Avg EIRP was measured.

**36 - 37 GHz n260, 1CC**

Freq.	Meas. Distance	Rx Ant. Polarity	Corrected Avg EIRP	TRP Limit	Margin
(GHz)	(m)	H/V	(dBm)	(dBm)	(dB)
36.416	3	H	-27.25	-13	-14.25
36.416	3	V	-35.87	-13	-22.87

### 36 - 37 GHz n260, 2CC



Worst case configuration:

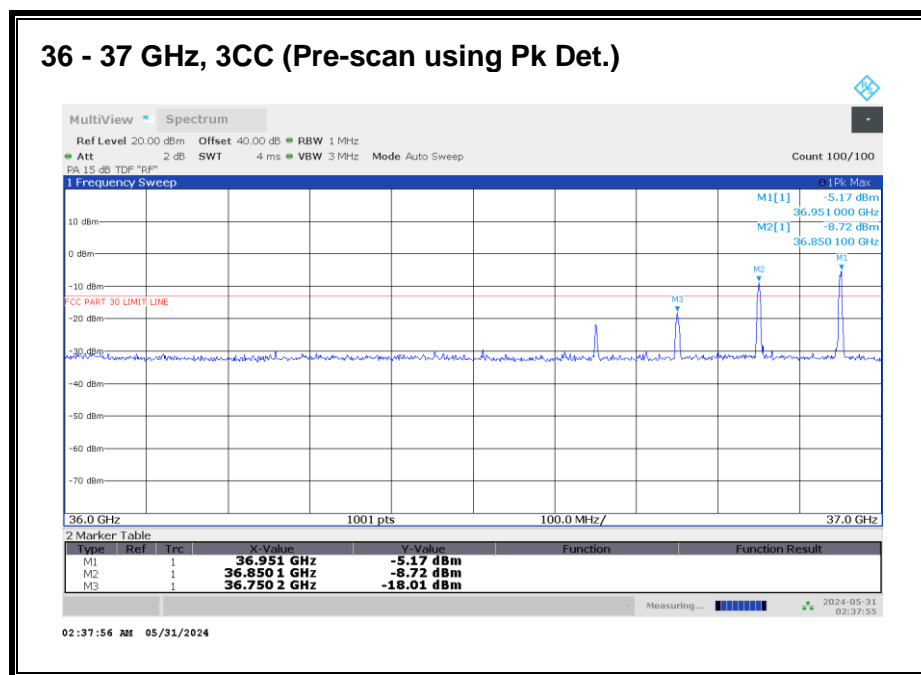
SISO-DUAL\_QPSK\_(100 MHz + 100 MHz)\_Low CH\_RB Offset 1/32 (1RB-M)

Emissions detected using Peak Detection at pre-scan. Avg EIRP was measured.

All emissions were investigated, and the highest emission was reported.

Freq.	Meas. Distance	Rx Ant. Polarity	Corrected Avg EIRP	TRP Limit	Margin
(GHz)	(m)	H/V	(dBm)	(dBm)	(dB)
36.949	3	H	-16.99	-13	-3.99

### 36 - 37 GHz n260, 3CC



Worst case configuration:

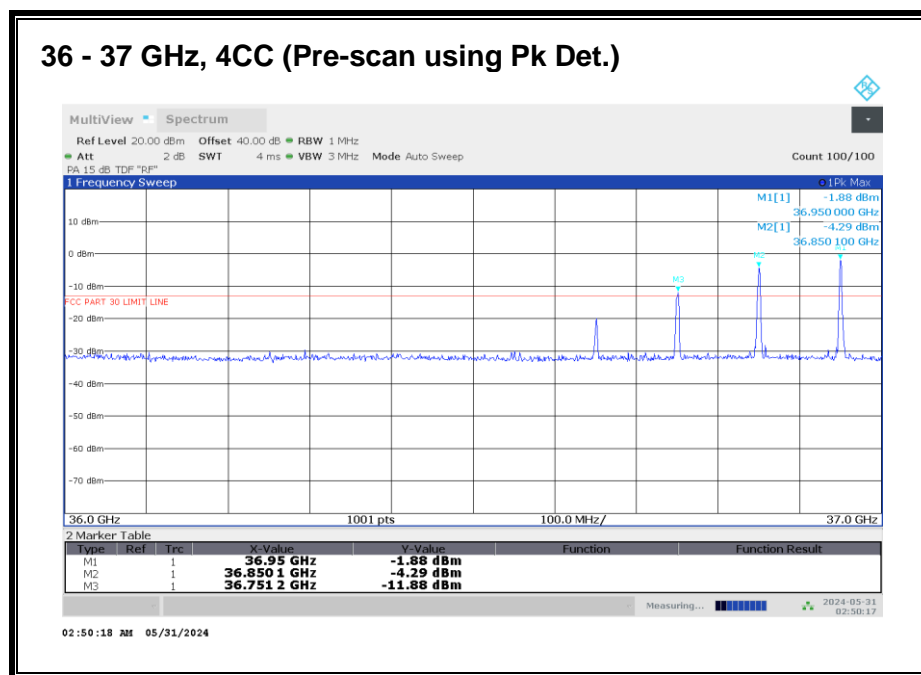
SISO-DUAL\_QPSK\_(100 MHz + 100 MHz + 100 MHz)\_Low CH\_RB Offset 1/32 (1RB-M)

Emissions detected using Peak Detection at pre-scan. Avg EIRP or TRP was measured.

All emissions were investigated, and the highest emission was reported.

Freq.	Meas. Distance	TRP	TRP Limit	Margin
(GHz)	(m)	(dBm)	(dBm)	(dB)
36.949	3	-24.97	-13	-11.97

### 36 - 37 GHz n260, 4CC



Worst case configuration:

SISO-DUAL\_QPSK\_(100 MHz + 100 MHz + 100 MHz + 100 MHz)\_Low CH\_RB Offset 1/32 (1RB-M)

Emissions detected using Peak Detection at pre-scan. Avg EIRP or TRP was measured.

All emissions were investigated, and the highest emission was reported.

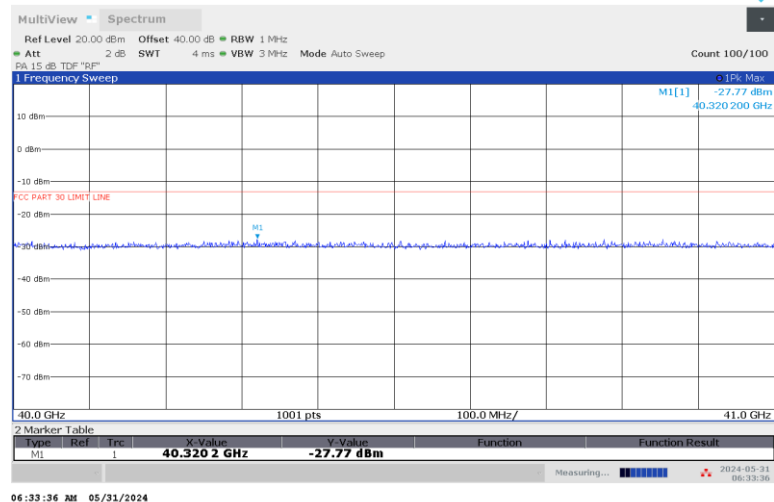
Freq.	Meas. Distance	TRP	TRP Limit	Margin
(GHz)	(m)	(dBm)	(dBm)	(dB)
36.949	3	-24.59	-13	-11.59



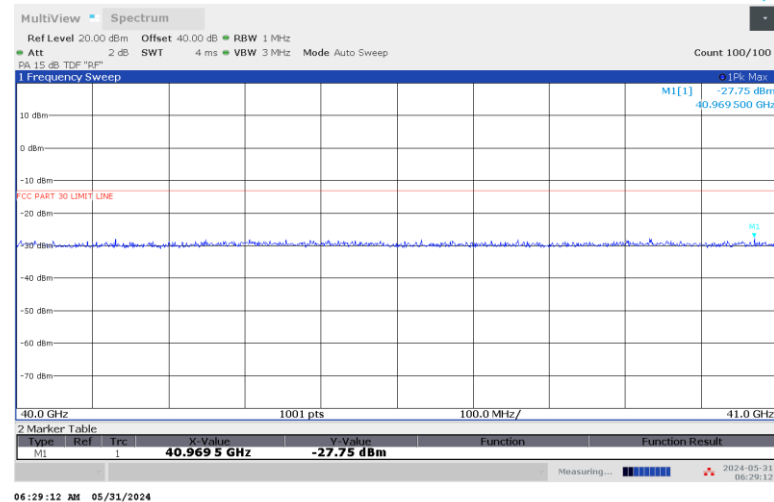
## 8.4.34. RSE n260 40 – 41 GHz

Note: 37 - 40 GHz covered by Fundamental and BE measurements.

### 40 – 41 GHz, 1CC (Pre-scan using Pk Det.) Horizontal

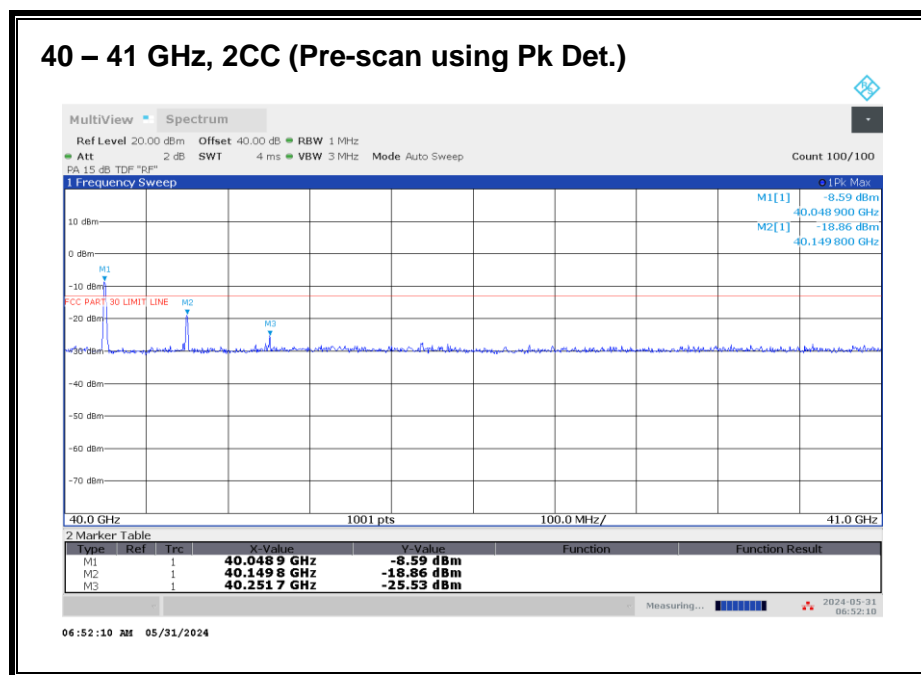


### 40 – 41 GHz, 1CC (Pre-scan using Pk Det.) Vertical



No emission detected using Peak Detection.

## 40 – 41 GHz n260, 2CC



Worst case configuration:

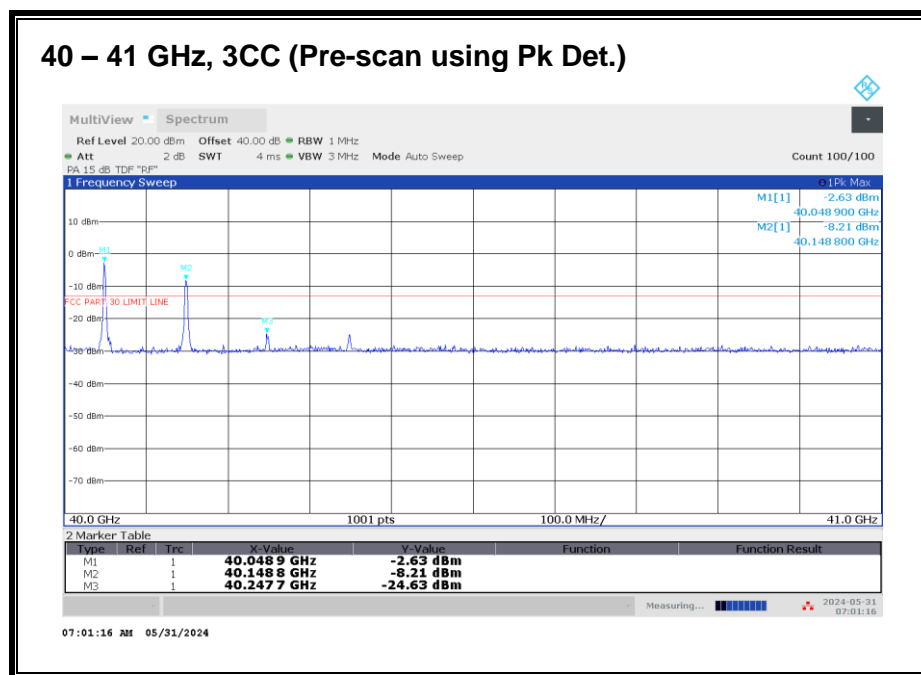
SISO-DUAL\_QPSK\_(100 MHz + 100 MHz)\_High CH\_RB Offset 1/32 (1RB-M)

Emissions detected using Peak Detection at pre-scan. Avg EIRP was measured.

All emissions were investigated, and the highest emission was reported.

Freq.	Meas.	Rx Ant.	Corrected	TRP Limit	Margin
(GHz)	Distance	Polarity	Avg EIRP	(dBm)	(dB)
40.049	3	H/V	(dBm)	(dBm)	(dB)

# **40 – 41 GHz n260, 3CC**



Worst case configuration:

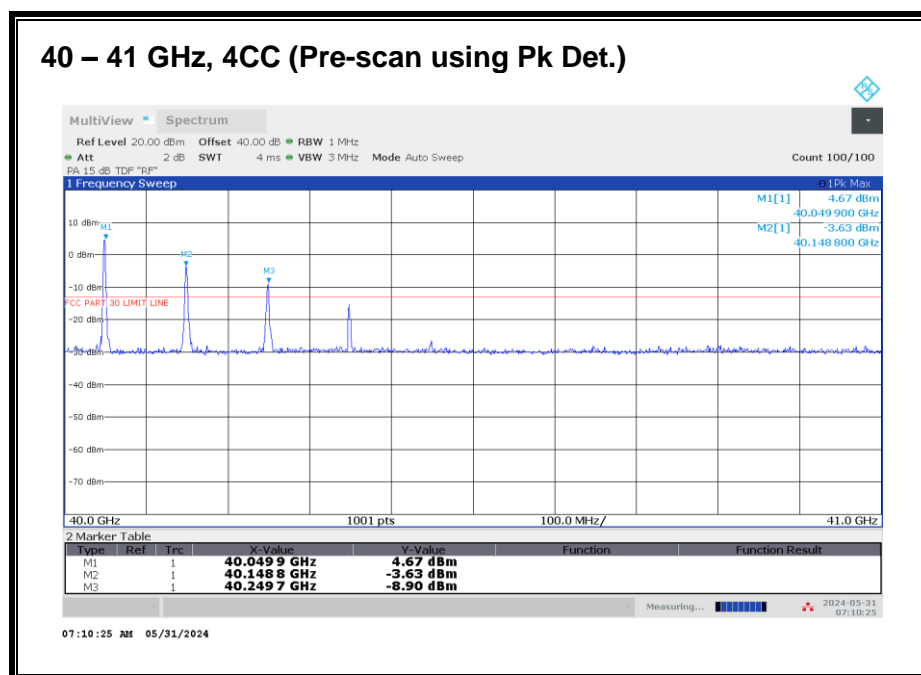
SISO-DUAL\_QPSK\_(100 MHz + 100 MHz + 100 MHz)\_High CH\_RB Offset 1/32 (1RB-M)

Emissions detected using Peak Detection at pre-scan. Avg EIRP or TRP was measured.

All emissions were investigated, and the highest emission was reported.

Freq.	Meas.	TRP	TRP Limit	Margin
(GHz)	Distance	(dBm)	(dBm)	(dB)
40.049	3	-25.94	-13	-12.94

# **40 – 41 GHz n260, 4CC**



Worst case configuration:

SISO-DUAL\_QPSK\_(100 MHz + 100 MHz + 100 MHz + 100 MHz)\_High CH\_RB Offset 1/32 (1RB-M)

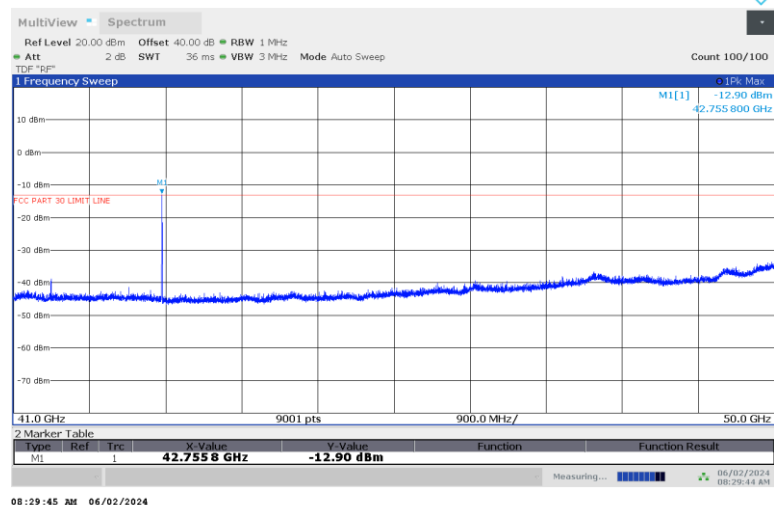
Emissions detected using Peak Detection at pre-scan. Avg EIRP or TRP was measured.

All emissions were investigated, and 2 highest emissions were reported.

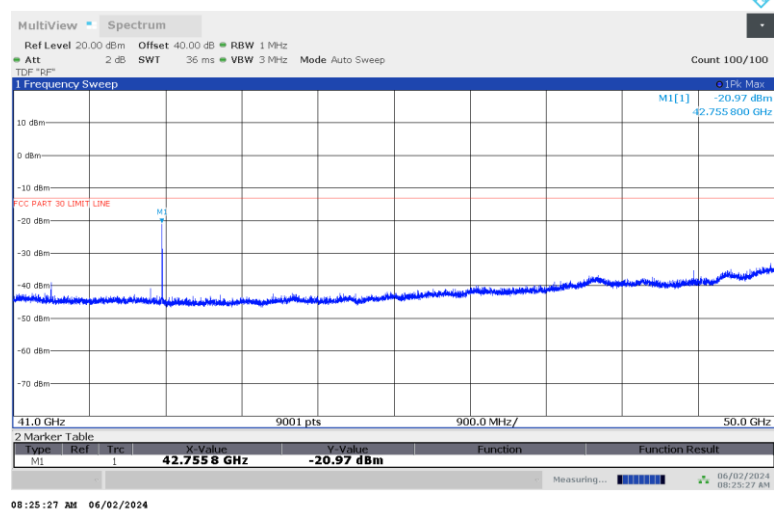
Freq.	Meas. Distance	TRP	TRP Limit	Margin
(GHz)	(m)	(dBm)	(dBm)	(dB)
40.049	3	-25.41	-13	-12.41

### 8.4.35. RSE n260 41 – 50 GHz

#### 41 – 50 GHz, 1CC (Pre-scan using Pk Det.) Horizontal



#### 41 – 50 GHz, 1CC (Pre-scan using Pk Det.) Vertical



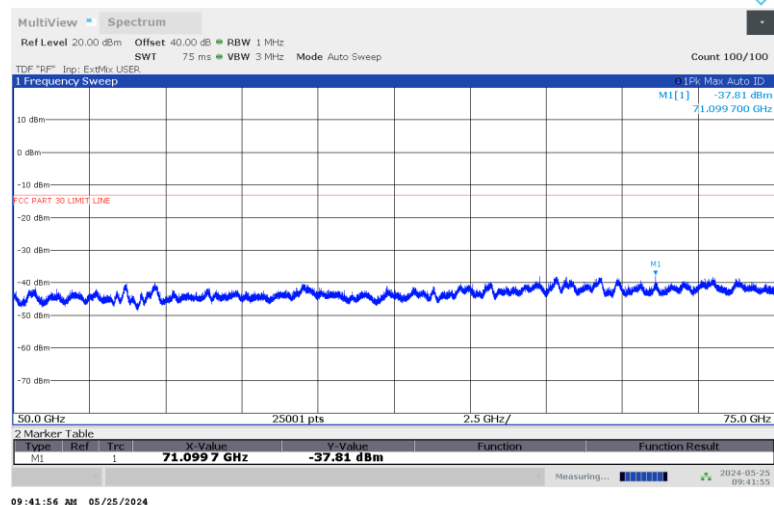
Emissions detected using Peak Detection at pre-scan. Avg EIRP was measured.

**41 - 50 GHz n260, 1CC**

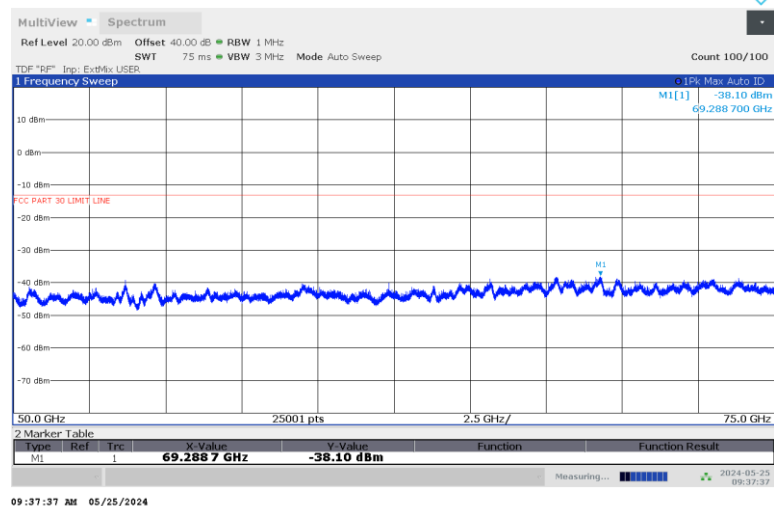
Freq.	Meas. Distance	Rx Ant. Polarity	Corrected Avg EIRP	TRP Limit	Margin
(GHz)	(m)	H/V	(dBm)	(dBm)	(dB)
42.755	3	H	-16.14	-13	-3.14
42.755	3	V	-29.10	-13	-16.10

### 8.4.36. RSE n260 50 - 75 GHz

#### 50 - 75 GHz, 1CC (Pre-scan using Pk Det.) Horizontal



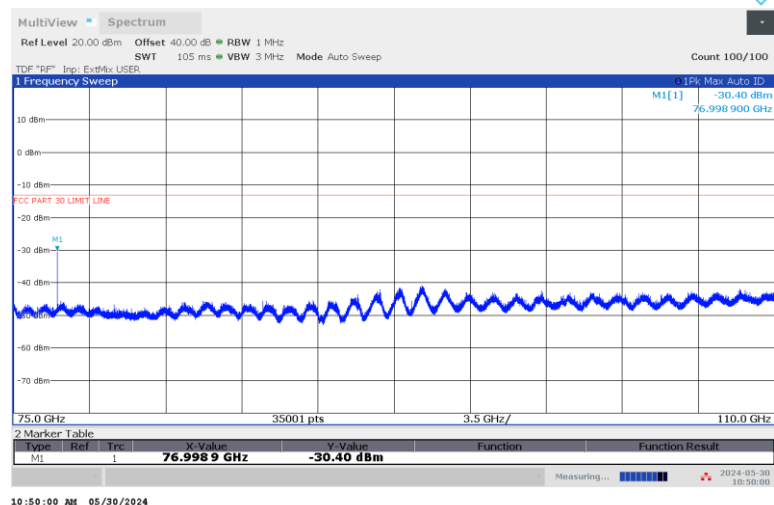
#### 50 - 75 GHz, 1CC (Pre-scan using Pk Det.) Vertical



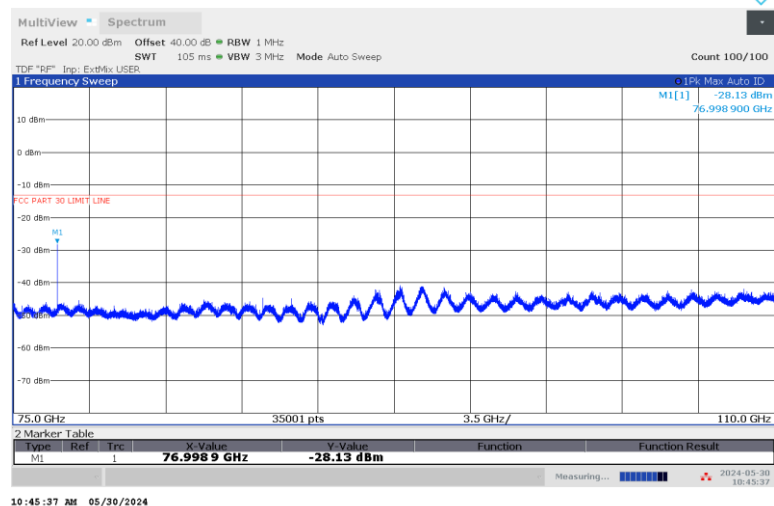
No emission detected using Peak Detection.

### 8.4.37. RSE n260 75 - 110 GHz

#### 75 - 110 GHz, 1CC (Pre-scan using Pk Det.) Horizontal



#### 75 - 110 GHz, 1CC (Pre-scan using Pk Det.) Vertical



Emissions detected using Peak Detection at pre-scan. Avg EIRP was measured.

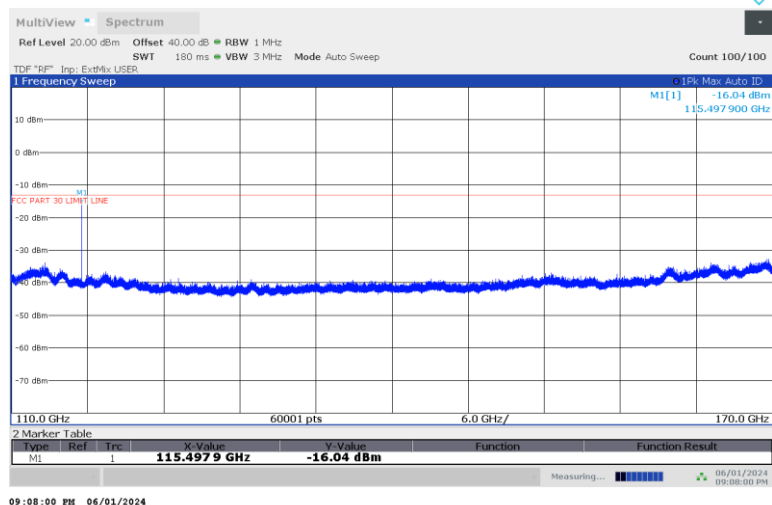


**75 - 110 GHz n260, 1CC**

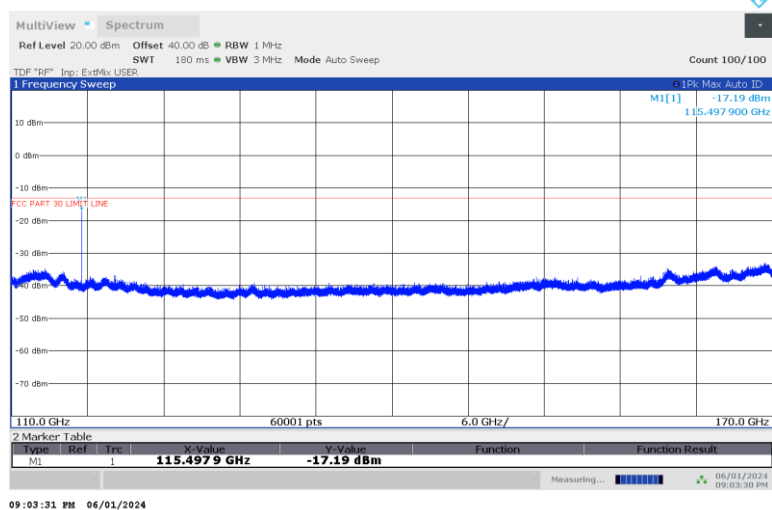
Freq.	Meas. Distance	Rx Ant. Polarity	Corrected Avg EIRP	TRP Limit	Margin
(GHz)	(m)	H/V	(dBm)	(dBm)	(dB)
76.998	1	H	-31.28	-13	-18.28
76.998	1	V	-48.09	-13	-35.09

## 8.4.38. RSE n260 110 - 170 GHz

### 110 - 170 GHz, 1CC (Pre-scan using Pk Det.) Horizontal



### 110 - 170 GHz, 1CC (Pre-scan using Pk Det.) Vertical



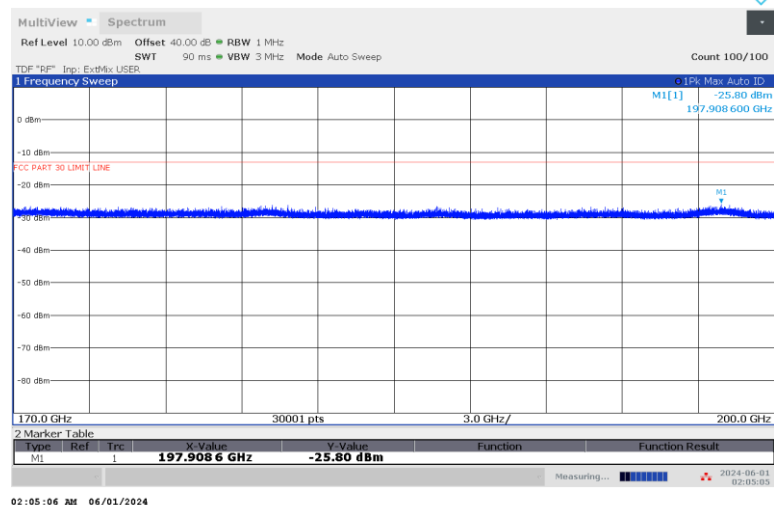
Emissions detected using Peak Detection at pre-scan. Avg EIRP was measured.

**110 - 170 GHz n260, 1CC**

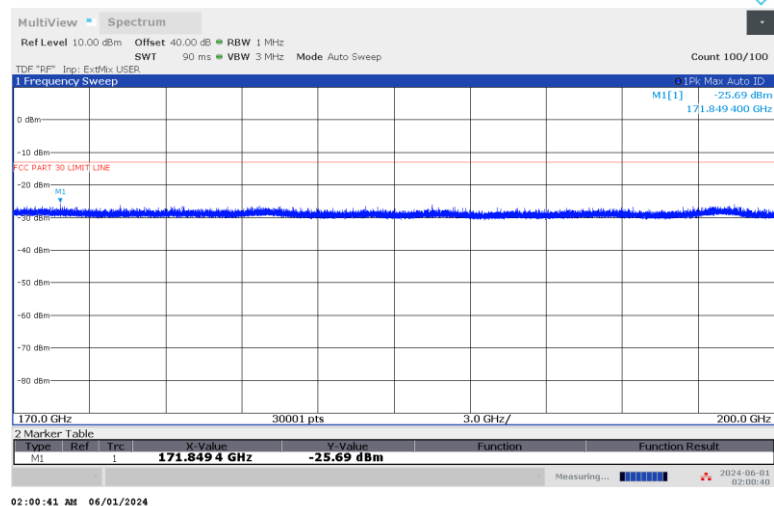
Freq.	Meas. Distance	Rx Ant. Polarity	Corrected Avg EIRP	TRP Limit	Margin
(GHz)	(m)	H/V	(dBm)	(dBm)	(dB)
115.497	1	H	-19.49	-13	-6.49
115.497	1	V	-31.47	-13	-18.47

### 8.4.39. RSE n260 170 - 200 GHz

#### 170 - 200 GHz, 1CC (Pre-scan using Pk Det.) Horizontal



#### 170 - 200 GHz, 1CC (Pre-scan using Pk Det.) Vertical



No emission detected using Peak Detection.

## 8.5. FREQUENCY STABILITY

### RULE PART(S)

FCC: §2.1055

### LIMIT

For reporting purposes only

### TEST PROCEDURES

KDB 842590 D01 Upper Microwave Flexible Use Service v01r02 Section 4.5  
ANSI C63.26-2015 Section 5.6

#### **Test procedures for temperature variation:**

- a. Position the EUT in temperature/humidity chamber with power off.
  - b. Set chamber temperature to 50°C and stabilize the EUT for at least 30 minutes.
  - c. Record maximum change in frequency within one minute after powering the EUT.
  - d. Decrease chamber temperature at 10°C intervals from 50°C to -30°C. Record maximum change in frequency at each temperature.
  - e. A period of at least 30 minutes is provided to allow stabilization of the equipment at each temperature level.
- Temp. = -30°C to +50°C

#### **Test procedures for voltage variation:**

- a. Position the EUT in temperature/humidity chamber with power off.
  - b. Set chamber temperature to 20°C.
  - c. Record maximum frequency change within one minute after powering the EUT.
  - d. The primary supply voltage is varied from 85% to 115% of the nominal value for hand-carried, battery-powered equipment. Primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.
- Voltage = (85% - 115%)
  - Nominal: 3.8 VDC; Low: 3.23 VDC; High: 4.37 VDC

The measurements were performed with the CW signal of center frequency of each frequency band.

### RESULTS

See the following pages.

Employee IDs: 24303 & 31925

Test Date: 06/20/2024

Test Location: Temperature Chamber C

### 8.5.1. FREQUENCY STABILITY n258 SB1

Input Voltage	Environment	Frequency	Delta
	Temperature (°C)	(GHz)	(kHz)
Normal	50	24.3549737	-36.000
Normal	40	24.3549897	-20.000
Normal	30	24.3549965	-13.150
<b>Normal</b>	<b>20</b>	<b>24.3550097</b>	<b>Reference</b>
Normal	10	24.3549971	-12.550
Normal	0	24.3549998	-9.900
Normal	-10	24.3550628	53.150
Normal	-20	24.3551207	111.050
Normal	-30	24.3551731	163.450
115%	20	24.3550014	-8.250
85%	20	24.3550012	-8.450

### 8.5.2. FREQUENCY STABILITY n258 SB2

Input Voltage	Environment	Frequency	Delta
	Temperature (°C)	(GHz)	(kHz)
Normal	50	25.0048987	-26.600
Normal	40	25.0049086	-16.700
Normal	30	25.0049151	-10.150
<b>Normal</b>	<b>20</b>	<b>25.0049253</b>	<b>Reference</b>
Normal	10	25.0049355	10.270
Normal	0	25.0049540	28.790
Normal	-10	25.0049611	35.880
Normal	-20	25.0050027	77.490
Normal	-30	25.0050780	152.740
115%	20	25.0049264	1.100
85%	20	25.0049347	9.400

### 8.5.3. FREQUENCY STABILITY n261

Input Voltage	Environment	Frequency	Delta
	Temperature (°C)	(GHz)	(kHz)
Normal	50	27.9299503	-41.500
Normal	40	27.9299554	-36.400
Normal	30	27.9299696	-22.200
<b>Normal</b>	<b>20</b>	<b>27.9299918</b>	<b>Reference</b>
Normal	10	27.9300034	11.650
Normal	0	27.9300117	19.900
Normal	-10	27.9300327	40.950
Normal	-20	27.9301236	131.850
Normal	-30	27.9301614	169.600
115%	20	27.9299869	-4.900
85%	20	27.9299866	-5.200

### 8.5.4. FREQUENCY STABILITY n260

Input Voltage	Environment	Frequency	Delta
	Temperature (°C)	(GHz)	(kHz)
Normal	50	38.5048700	-55.950
Normal	40	38.5048738	-52.150
Normal	30	38.5048915	-34.450
<b>Normal</b>	<b>20</b>	<b>38.5049259</b>	<b>Reference</b>
Normal	10	38.5049343	8.350
Normal	0	38.5049481	22.150
Normal	-10	38.5049913	65.400
Normal	-20	38.5050278	101.900
Normal	-30	38.5051069	181.000
115%	20	38.5049131	-12.800
85%	20	38.5049136	-12.350

The occupied bandwidths (Section 8.1) are smaller than the channel bandwidths by at least 2.3 MHz for all modes of operation, therefore the signal is at least 1.15 MHz from either edge of the channel. As the channels are fully contained within the FCC-allocated bands, and the frequency stability is significantly less than 1.15 MHz, with a maximum frequency shift of 181 kHz over the test conditions (n260 at -30°C), the signal is always contained within the allocated channel and band.

## **9. SETUP PHOTOS**

Please refer to 14982489-EP29V1 for setup photos.

# **END OF REPORT**



## **APPENDIX A**

**1. 50 - 75 GHz VDI WR15SAX-F**

**Serial No.: SAX 621**

**2. 75 - 110 GHz VDI WR10SAX-F**

**Serial No.: SAX 860**

**3. 110 - 170 GHz VDI WR6.5SAX-F**

**Serial No.: SAX 624**

**4. 170 - 260 GHz VDI WR4.3SAX-F**

**Serial No.: SAX 651**

DocuSign Envelope ID: 6883241A-2E4E-4B2C-A46D-F6C20886CF35



**Virginia Diodes, Inc**  
979 2nd St. SE  
Suite 309  
Charlottesville, VA 22902  
Phone: 434-297-3257  
Fax: 434-297-3258

**Certificate of Conformance**

To: UL LLC  
47173 Benicia Street  
Fremont, CA 94538  
United States

From: Virginia Diodes, Inc  
979 2nd St. SE  
Suite 309  
Charlottesville, VA 22902

Packing List No: 235277  
Shipping Date: 11/14/2023

Today's Date: 11/14/2023  
PO Number: 7862027793

<u>Quantity</u> <u>Shipped</u>	<u>Unit</u>	<u>Description</u>	<u>Order/Job</u> <u>Number</u>
1	EA	RETEST-WR15SAX-F - WR15SAX / SN: SAX 621	230557A-01
1	EA	RETEST-WR10SAX-F - WR10SAX - SN: SAX 860	230557A-02
1	EA	RETEST-WR6.5SAX-F - WR6.5SAX / SN: SAX 624	230557A-03
1	EA	RETEST-WR4.3SAX-F - WR4.3SAX - SN: SAX 651	230557A-04

The VDI product(s) in this shipment meet(s) the guidelines for performance specifications established in accordance with the corresponding Purchase Order. Data presented in the User Guide, where applicable, has been obtained in accordance with VDI's Quality Management System. All instruments, used to obtain data, which require calibration have been calibrated with equipment traceable to the National Institute of Standards and Technology (NIST) and through NIST to the International System of Units (SI).

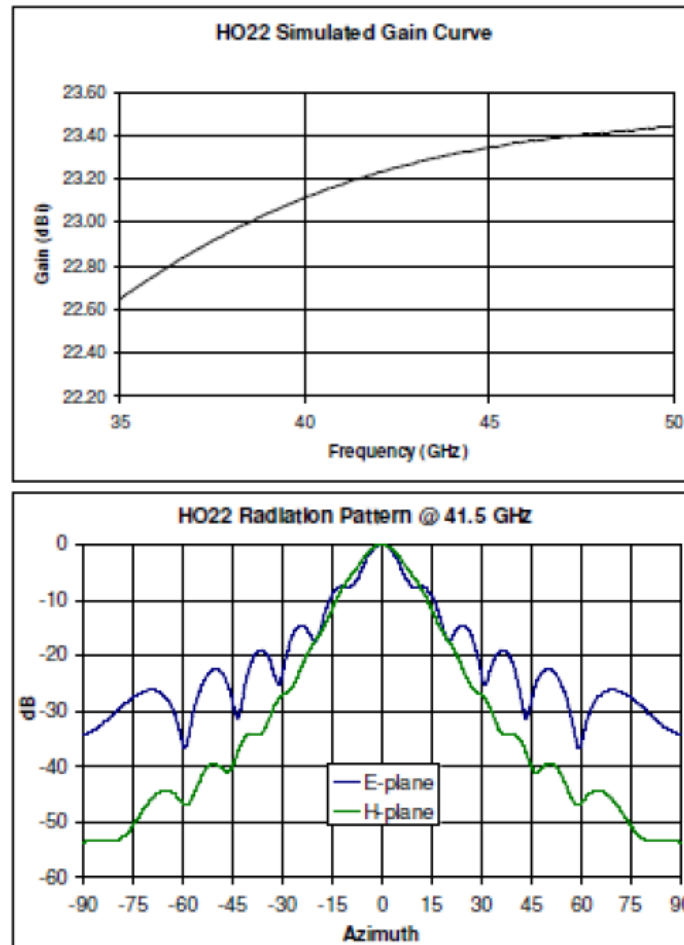
Authorized Signature  
Virginia Diodes, Inc

EW

## 5. 35 - 50 GHz CMI HO22R HORN ANTENNA



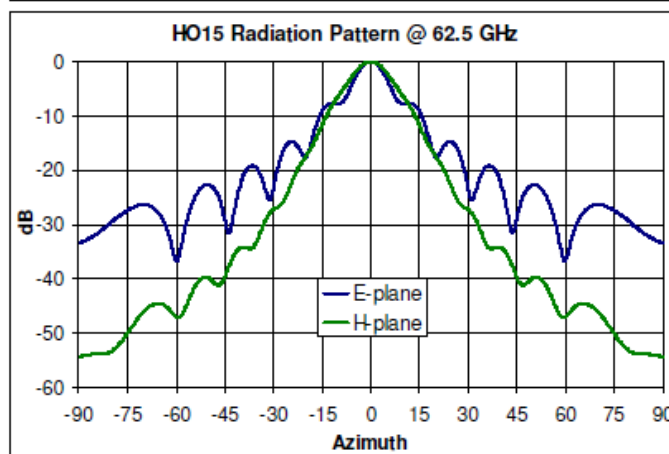
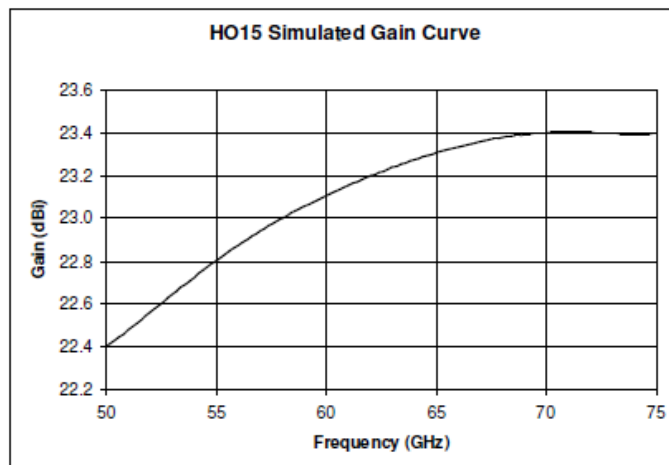
24 Boston Court  
Longmont, CO 80501  
303 651-0707 (P)  
303 651-0706 (F)  
www.custommicrowave.com



## 6. 50 - 75 GHz CMI HO15R HORN ANTENNA



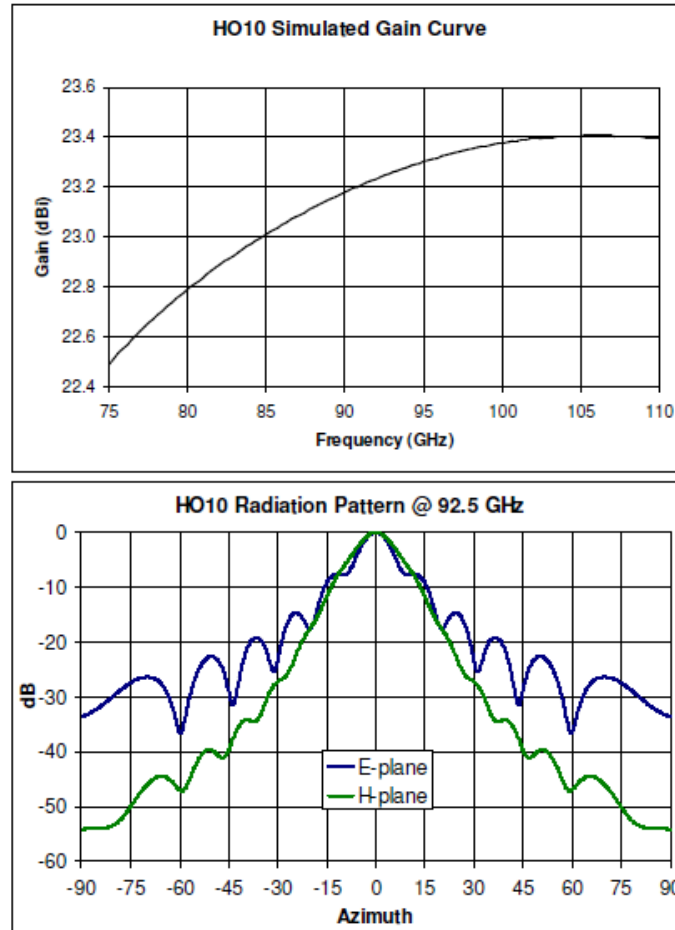
24 Boston Court  
Longmont, CO 80501  
303 651-0707(P)  
303 651-0706(F)  
www.custommicrowave.com



## 7. 75 - 110 GHz CMI HO10R HORN ANTENNA



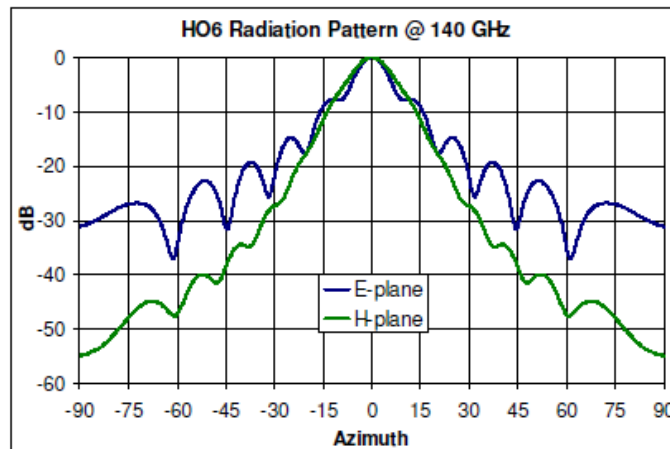
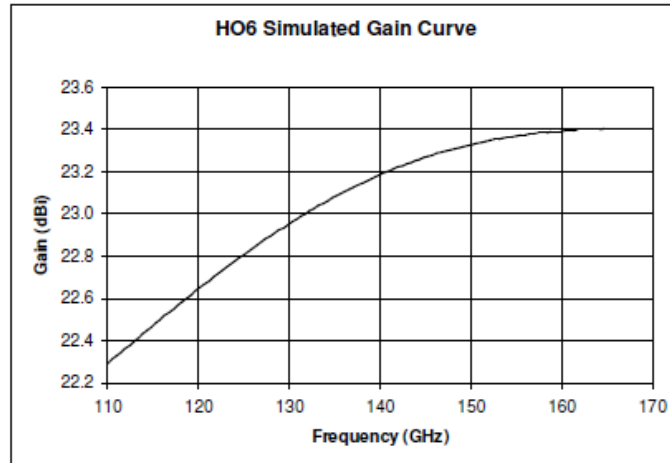
24 Boston Court  
Longmont, CO 80501  
303 651-0707(P)  
303 651-0706(F)  
www.custommicrowave.com



## 8. 110 - 170 GHz CMI HO6R HORN ANTENNA



24 Boston Court  
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303 651-0707(P)  
303 651-0706(F)  
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## 9. 170 - 260 GHz CMI HO4R HORN ANTENNA



24 Boston Court  
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303 651-0707(P)  
303 651-0706(F)  
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