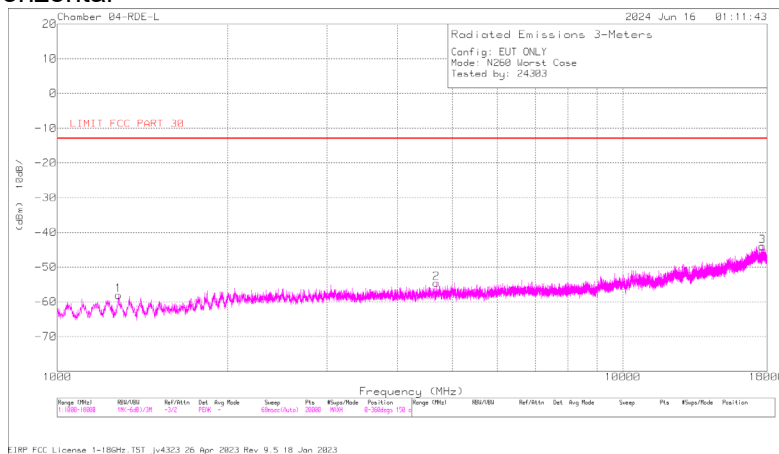


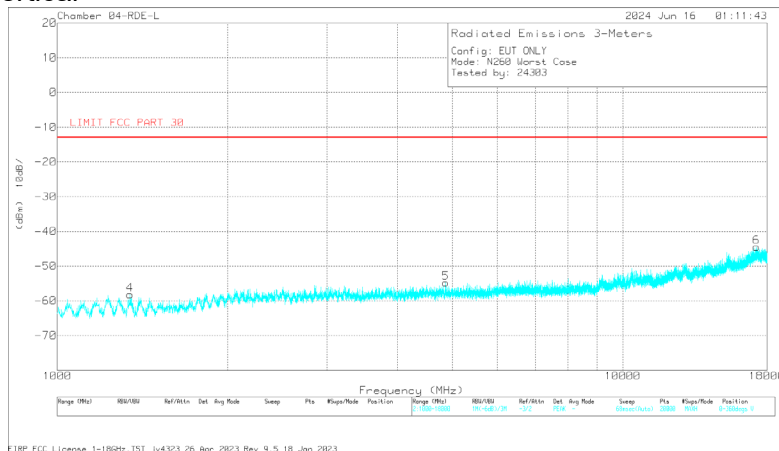
8.4.30. RSE n260 1 - 18 GHz

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

Horizontal



Vertical



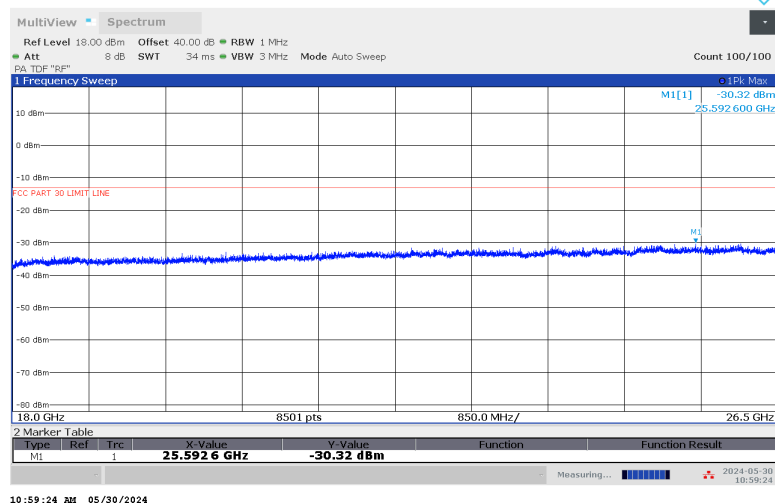
Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	206805 ACF (dB/m)	Amp/Cbl (dB)	Unit Conversion (dB)	Corrected Reading (dBm)	FCC Part 30 TRP Limit (dBm)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1283.064	-47.17	Pk	28.7	-51.3	11.7	-58.07	-13	-45.07	0-360	150	H
2	4684.086	-52.18	Pk	34.2	-48.3	11.7	-54.58	-13	-41.58	0-360	150	H
3	17648.942	-65.41	Pk	41.7	-32	11.7	-44.01	-13	-31.01	0-360	150	H
4	1345.117	-46.89	Pk	28.4	-51.4	11.7	-58.19	-13	-45.19	0-360	150	V
5	4864.295	-52.02	Pk	34.1	-48.6	11.7	-54.82	-13	-41.82	0-360	150	V
6	17234.971	-64.9	Pk	41.6	-32.9	11.7	-44.5	-13	-31.5	0-360	150	V

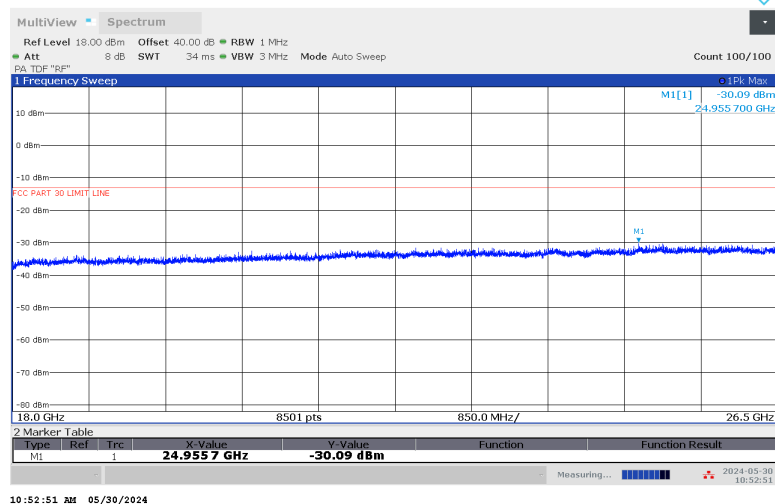
Pk - Peak detector

8.4.31. RSE n260 18 - 26.5 GHz

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



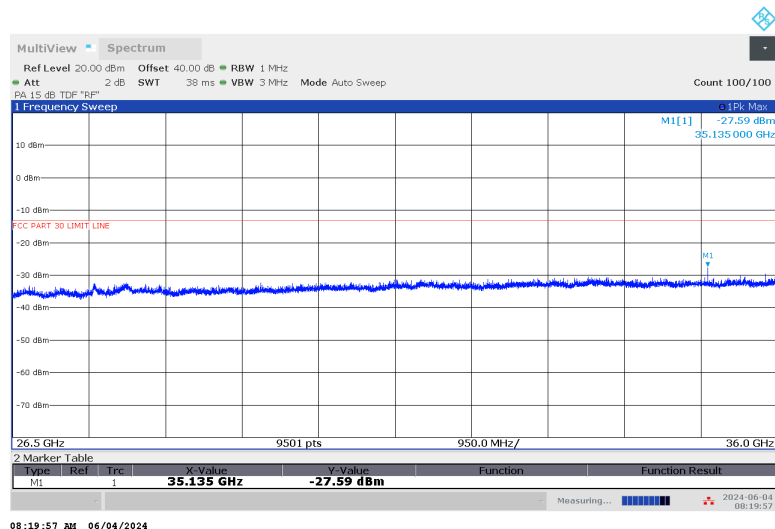
18 - 26.5 GHz, 1CC (Pre-scan using Pk Det.) Vertical



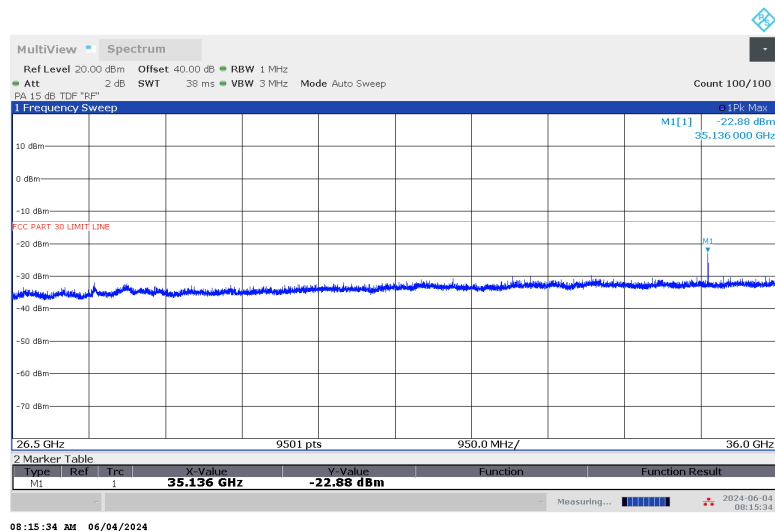
No emission detected using Peak Detection.

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



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

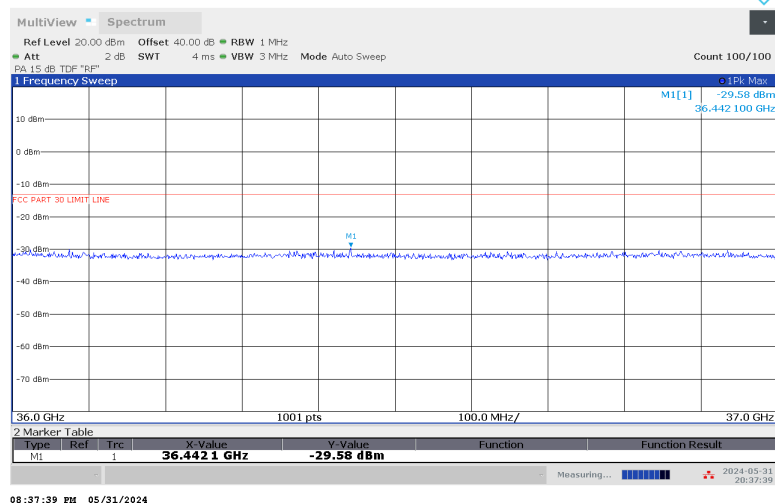
26.5 - 36 GHz n260, 1CC

Freq.	Meas. Distance	Rx Ant. Polarity	Corrected Avg EIRP	TRP Limit	Margin
(GHz)	(m)	H/V	(dBm)	(dBm)	(dB)
35.135	3	H	-35.08	-13	-22.08
35.135	3	V	-25.01	-13	-12.01

8.4.33. RSE n260 36 – 37 GHz

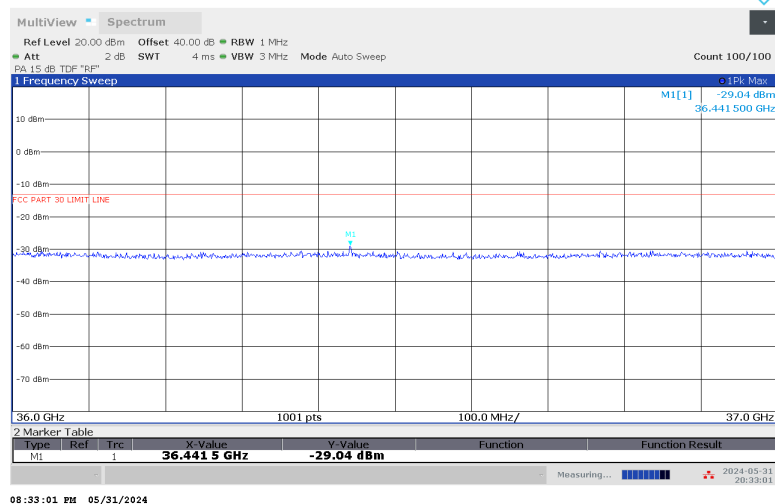
36 - 37 GHz, 1CC (Pre-scan using Pk Det.)

Horizontal



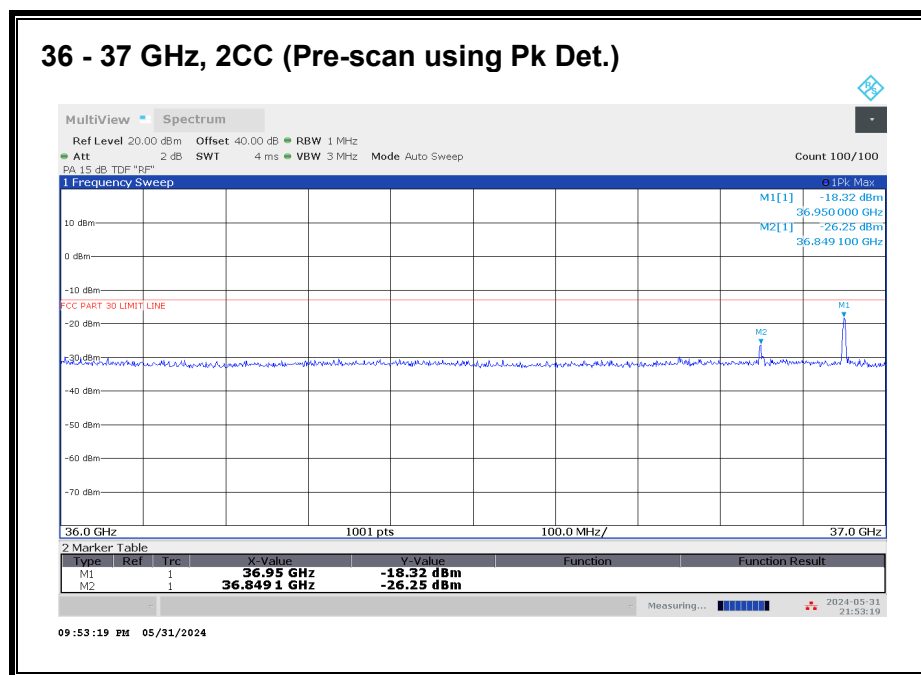
36 - 37 GHz, 1CC (Pre-scan using Pk Det.)

Vertical



No emission detected using Peak Detection.

36 - 37 GHz n260, 2CC



Worst case configuration:

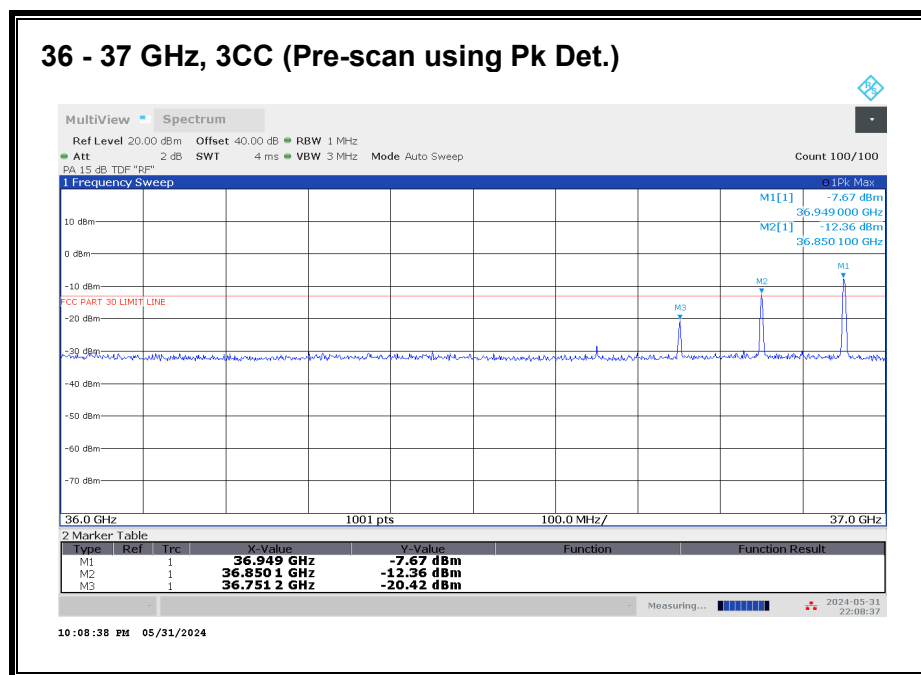
SISO-DUAL_QPSK_(100 MHz + 100 MHz)_Low CH_RB Offset 1/32 (1RB-M)

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	-17.71	-13	-4.71

36 - 37 GHz n260, 3CC



Worst case configuration:

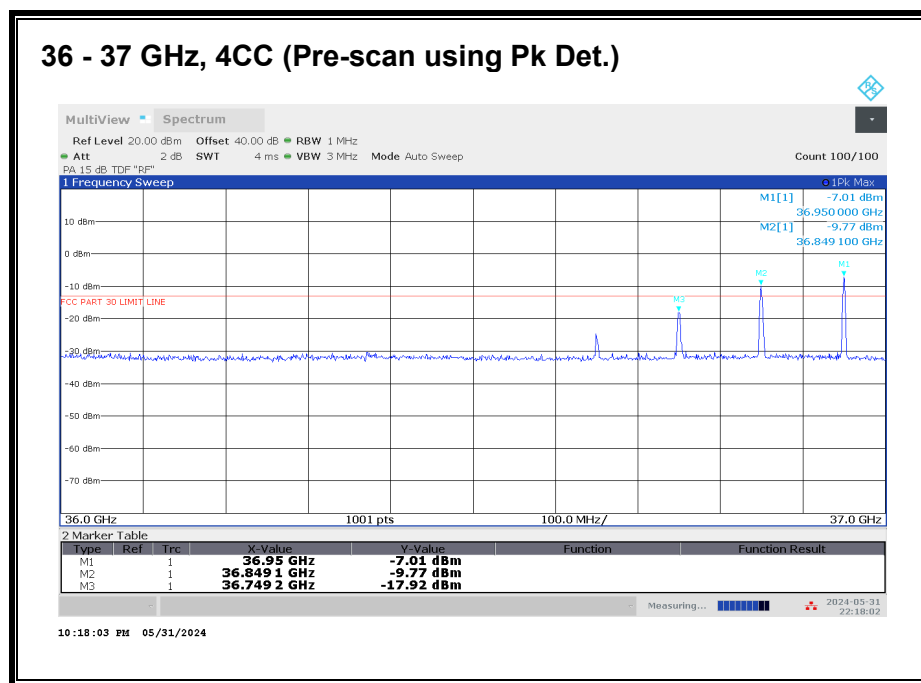
SISO-DUAL_QPSK_(100 MHz + 100 MHz + 100 MHz)_Low CH_RB Offset 1/32 (1RB-M)

Emissions detected using Peak Detection at pre-scan. Avg EIRP 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	-13.43	-13	-0.43

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.

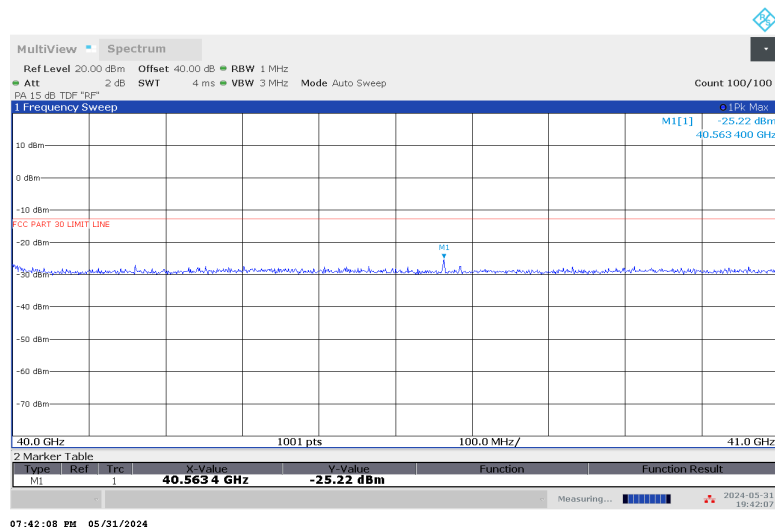
All emissions were investigated, and the highest emission was reported.

Freq.	Meas. Distance	TRP	TRP Limit	Margin
(GHz)	(m)	(dBm)	(dBm)	(dB)
36.949	3	-24.09	-13	-11.09

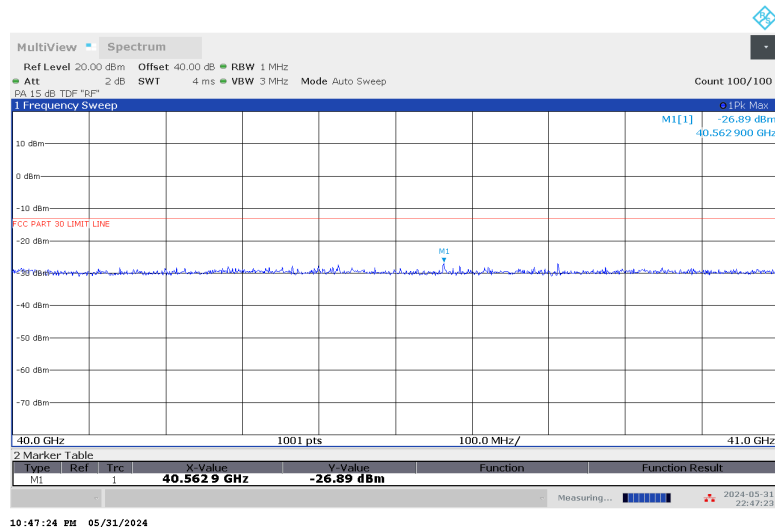
8.4.34. RSE n260 40 – 41 GHz

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

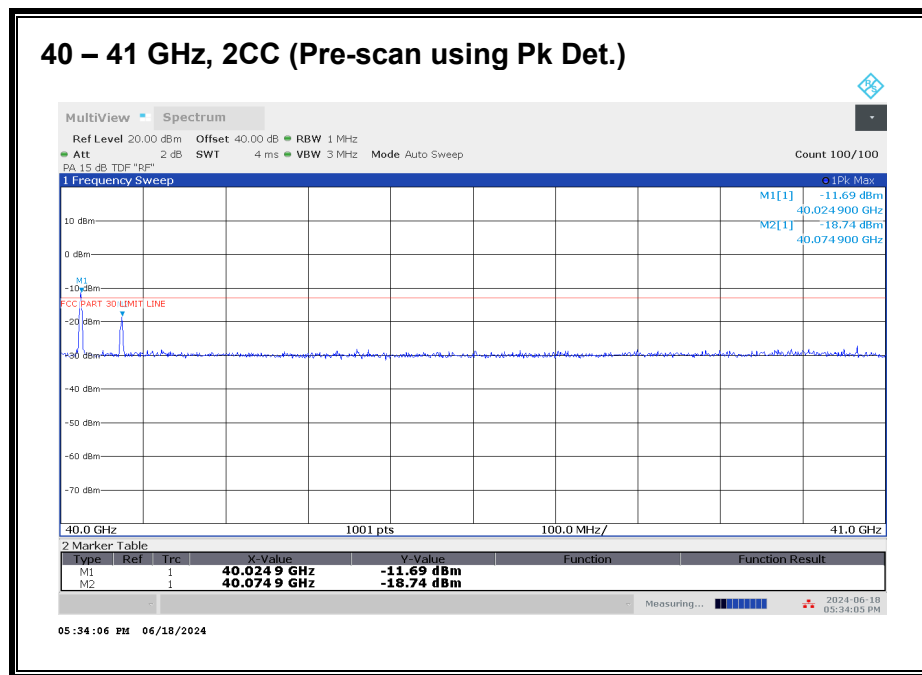


Emissions detected using Peak Detection at pre-scan. Avg EIRP was measured.

40 – 41 GHz n260, 1CC

Freq.	Meas. Distance	Rx Ant. Polarity	Corrected Avg EIRP	TRP Limit	Margin
(GHz)	(m)	H/V	(dBm)	(dBm)	(dB)
40.563	3	H	-31.79	-13	-18.79
40.563	3	V	-32.32	-13	-19.32

40 – 41 GHz n260, 2CC



Worst case configuration:

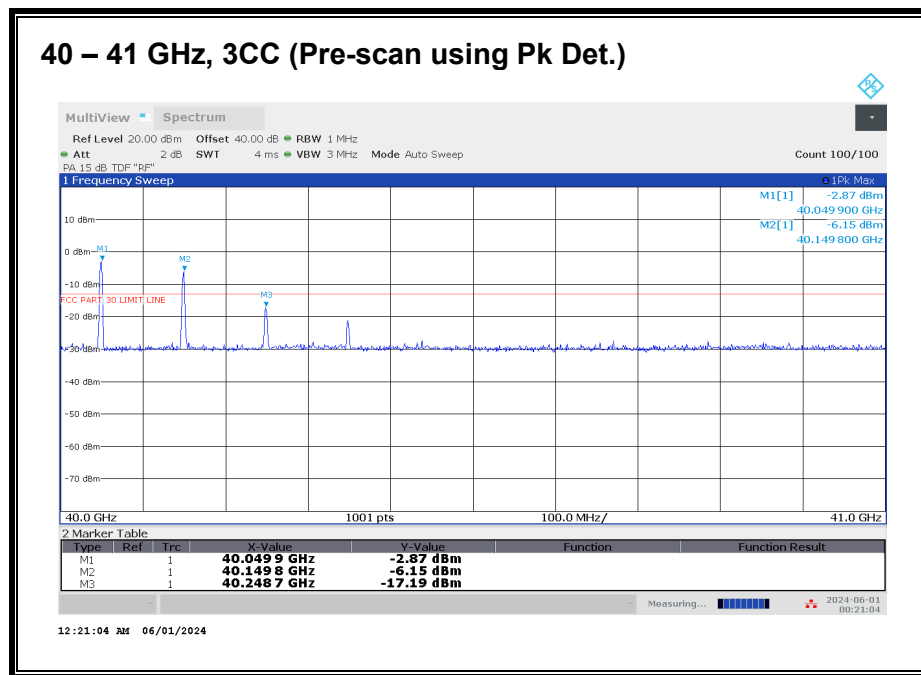
SISO-DUAL_QPSK_(50 MHz + 50 MHz)_High CH_RB Offset 1/15 (1RB-M)

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)
40.024	3	H	-18.83	-13	-5.83

40 – 41 GHz n260, 3CC



Worst case configuration:

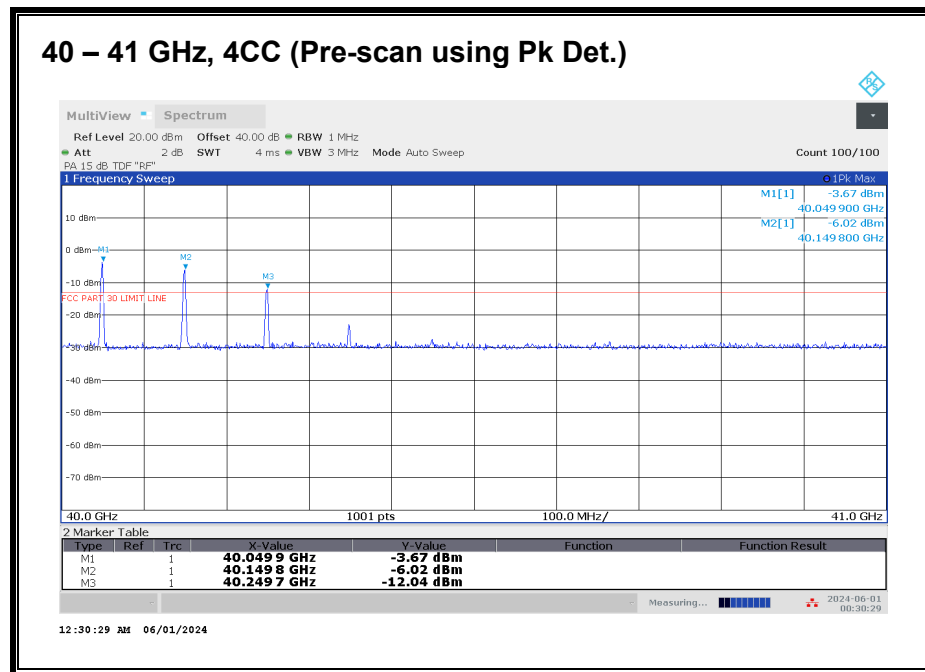
SISO-DUAL_QPSK_(100 MHz + 100 MHz + 100 MHz)_High CH_RB Offset 1/32 (1RB-M)

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	-23.54	-13	-10.54

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)

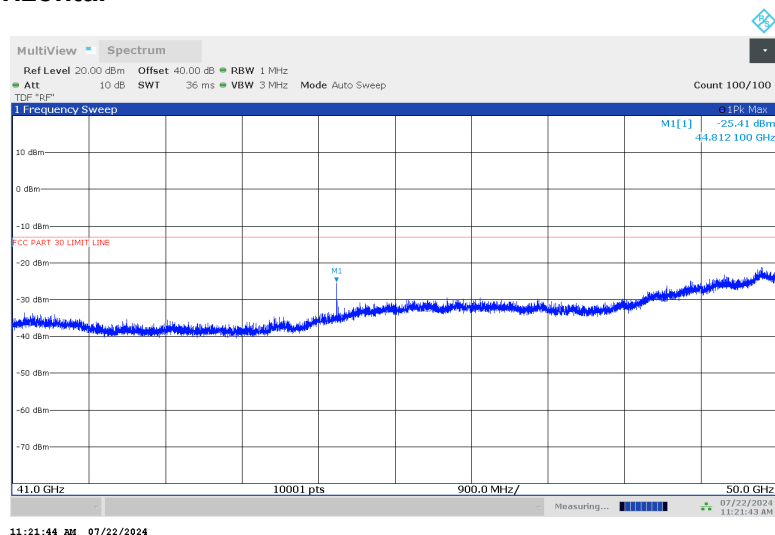
Emissions detected using Peak Detection at pre-scan. Avg EIRP or TRP was measured.

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

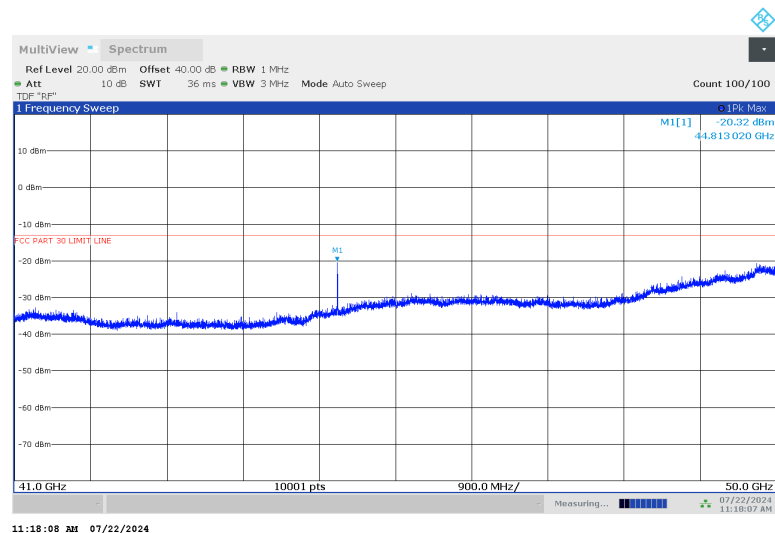
Freq.	Meas. Distance	TRP	TRP Limit	Margin
(GHz)	(m)	(dBm)	(dBm)	(dB)
40.049	3	-24.08	-13	-11.08

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



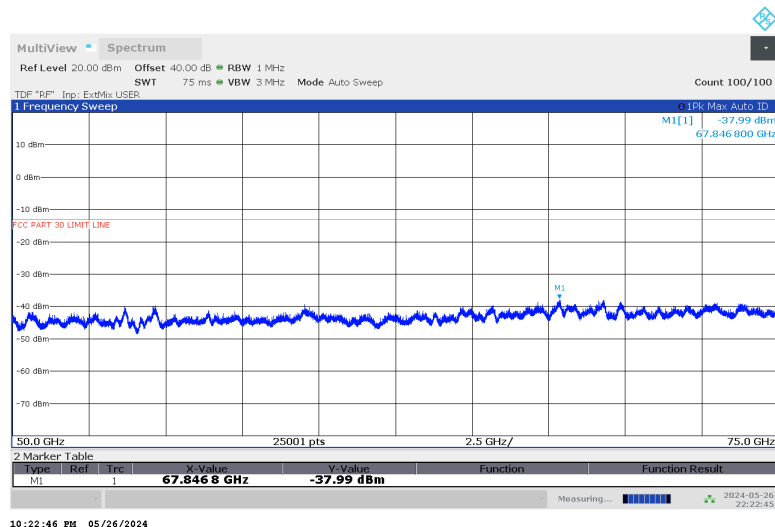
Emissions detected using Peak Detection at pre-scan. Avg EIRP was measured.

41 - 50 GHz n260, 1CC

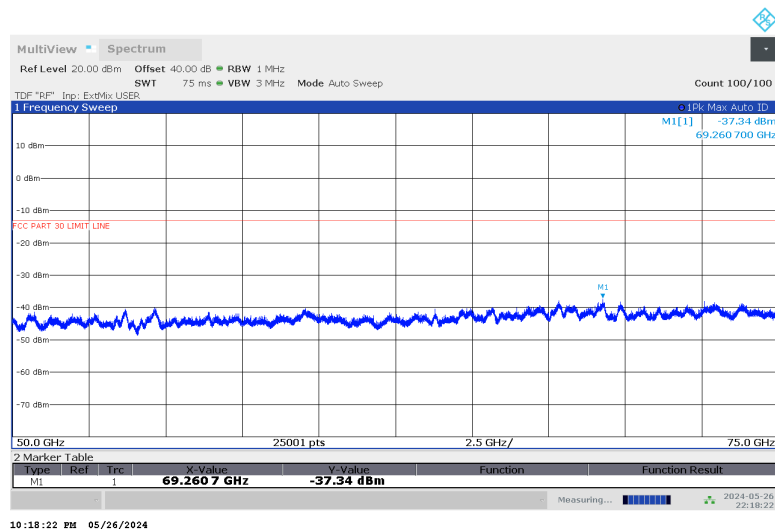
Freq.	Meas. Distance	Rx Ant. Polarity	Corrected Avg EIRP	TRP Limit	Margin
(GHz)	(m)	H/V	(dBm)	(dBm)	(dB)
44.813	3	H	-31.80	-13	-18.80
44.813	3	V	-20.09	-13	-7.09

8.4.36. RSE n260 50 - 75 GHz

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



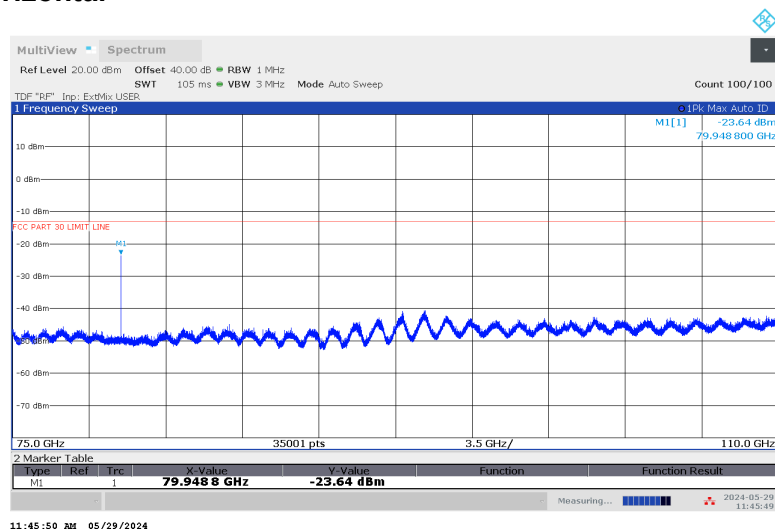
50 - 75 GHz, 1CC (Pre-scan using Pk Det.) Vertical



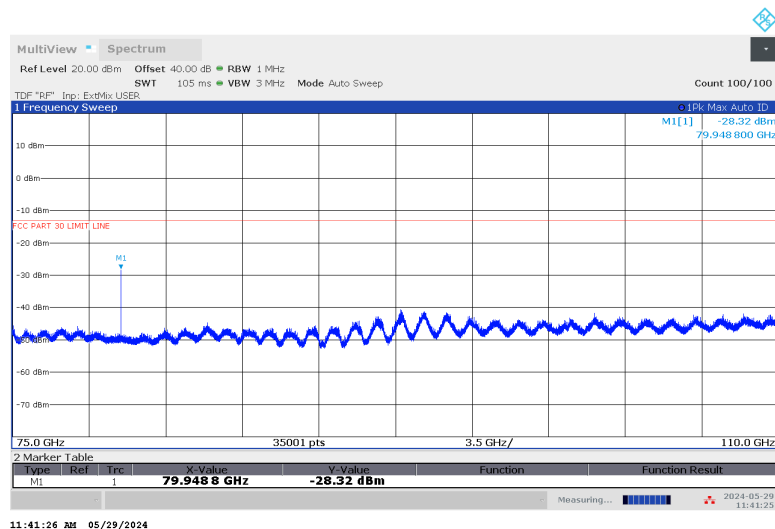
No emission detected using Peak Detection.

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



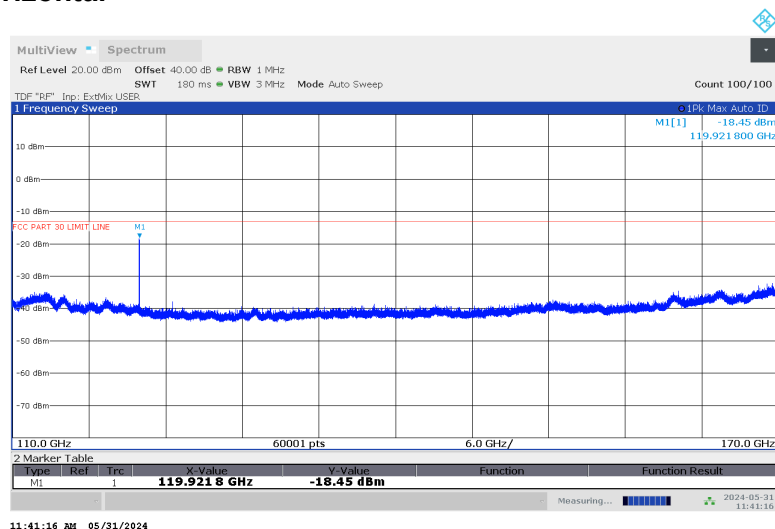
Emissions detected using Peak Detection at pre-scan. Avg EIRP was measured.

75 - 110 GHz n260, 1CC

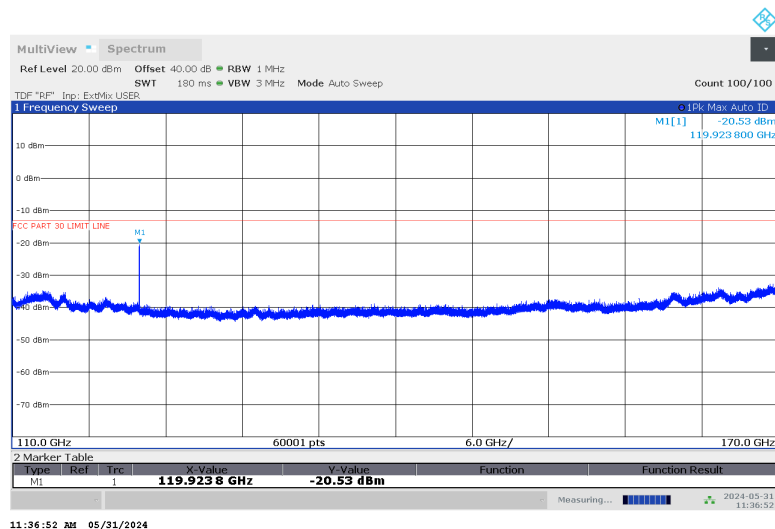
Freq.	Meas. Distance	Rx Ant. Polarity	Corrected Avg EIRP	TRP Limit	Margin
(GHz)	(m)	H/V	(dBm)	(dBm)	(dB)
79.949	1	H	-25.51	-13	-12.51
79.949	1	V	-45.00	-13	-32.00

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



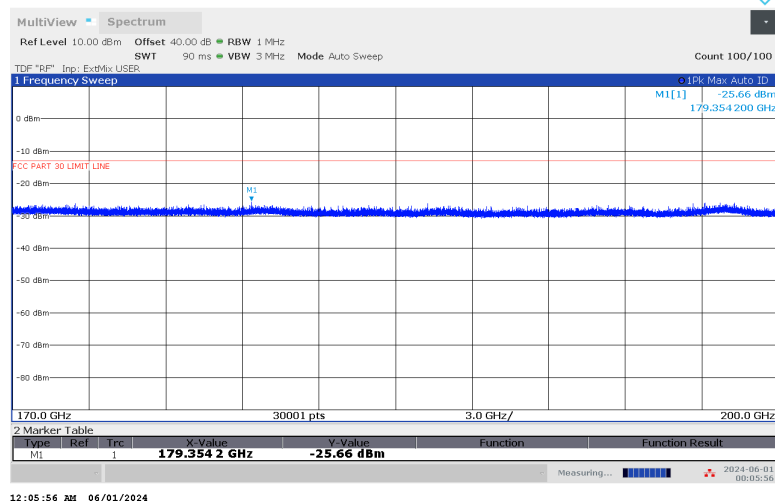
Emissions detected using Peak Detection at pre-scan. Avg EIRP was measured.

110 - 170 GHz n260, 1CC

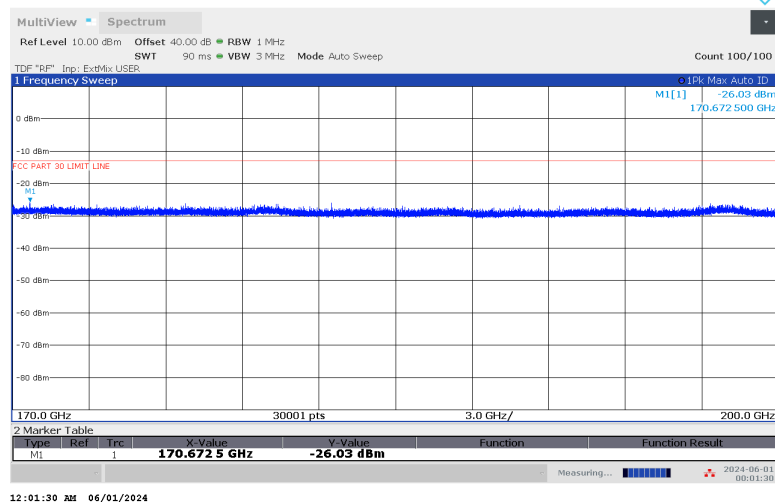
Freq.	Meas. Distance	Rx Ant. Polarity	Corrected Avg EIRP	TRP Limit	Margin
(GHz)	(m)	H/V	(dBm)	(dBm)	(dB)
119.923	1	H	-20.33	-13	-7.33
119.923	1	V	-35.00	-13	-22.00

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: 06/26/2024

Test Location: Temperature Chamber C

8.5.1. FREQUENCY STABILITY n258 SB1

Input Voltage	Environment	Frequency	Delta
	Temperature (°C)	(GHz)	(kHz)
Normal	50	24.3549957	-33.90
Normal	40	24.3550161	-13.50
Normal	30	24.3550084	-21.20
Normal	20	24.3550296	Reference
Normal	10	24.3550196	-10.05
Normal	0	24.3550481	18.50
Normal	-10	24.3550820	52.35
Normal	-20	24.3551327	103.10
Normal	-30	24.3551332	103.60
115%	20	24.3549851	-44.55
85%	20	24.3549923	-37.30

8.5.2. FREQUENCY STABILITY n258 SB2

Input Voltage	Environment	Frequency	Delta
	Temperature (°C)	(GHz)	(kHz)
Normal	50	25.0049103	-13.25
Normal	40	25.0049151	-8.40
Normal	30	25.0049229	-0.60
Normal	20	25.0049235	Reference
Normal	10	25.0049276	4.05
Normal	0	25.0049632	39.70
Normal	-10	25.0049888	65.25
Normal	-20	25.0050318	108.30
Normal	-30	25.0050432	119.65
115%	20	25.0049376	14.05
85%	20	25.0049225	-1.05

8.5.3. FREQUENCY STABILITY n261

Input Voltage	Environment	Frequency	Delta
	Temperature (°C)	(GHz)	(kHz)
Normal	50	27.9299635	-14.20
Normal	40	27.9299731	-4.60
Normal	30	27.9299711	-6.55
Normal	20	27.9299777	Reference
Normal	10	27.9299654	-12.30
Normal	0	27.9300280	50.32
Normal	-10	27.9300476	69.95
Normal	-20	27.9300799	102.25
Normal	-30	27.9300851	107.45
115%	20	27.9299748	-2.90
85%	20	27.9299817	4.00

8.5.4. FREQUENCY STABILITY n260

Input Voltage	Environment	Frequency	Delta
	Temperature (°C)	(GHz)	(kHz)
Normal	50	38.5048671	-51.85
Normal	40	38.5048820	-36.95
Normal	30	38.5048861	-32.90
Normal	20	38.5049190	Reference
Normal	10	38.5049194	0.45
Normal	0	38.5049482	29.25
Normal	-10	38.5049770	58.00
Normal	-20	38.5050024	83.45
Normal	-30	38.5050264	107.40
115%	20	38.5049131	-5.90
85%	20	38.5049097	-9.30

The occupied bandwidths (Section 8.1) are smaller than the channel bandwidths by at least 2.8 MHz for all modes of operation, the signal is at least 1.4 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 1.4 MHz, with maximum frequency shift of 119.65 kHz over the test conditions (n258SB2 at -30°C). The signal is always contained within the allocated channel, therefore, always contained within the allocated band.

9. SETUP PHOTOS

Please refer to 14982479-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).

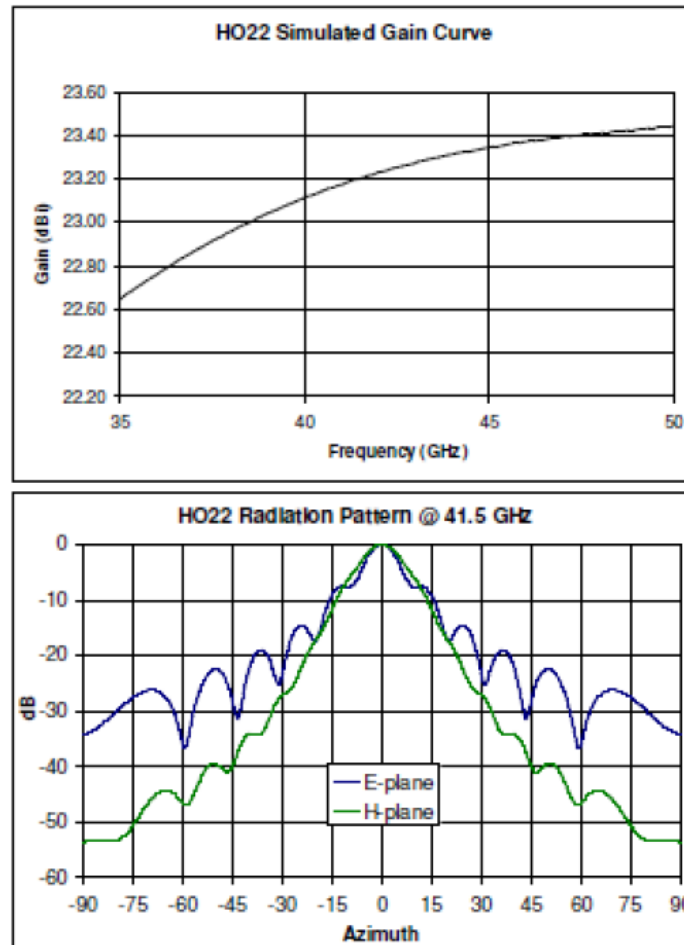
Authorized Signature
Virginia Diodes, Inc

EW

5. 35 - 50 GHz CMI HO22R HORN ANTENNA



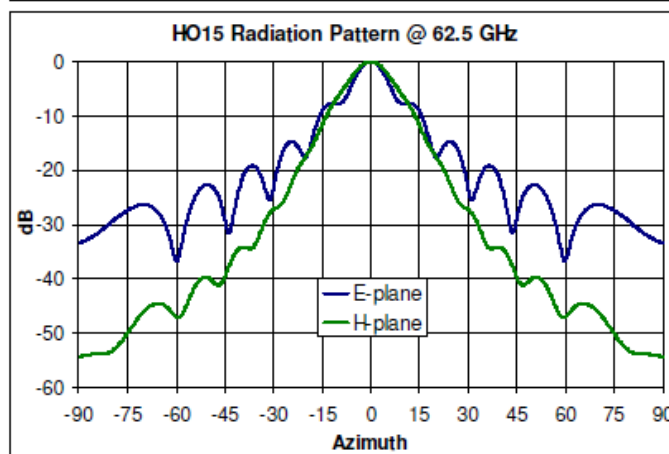
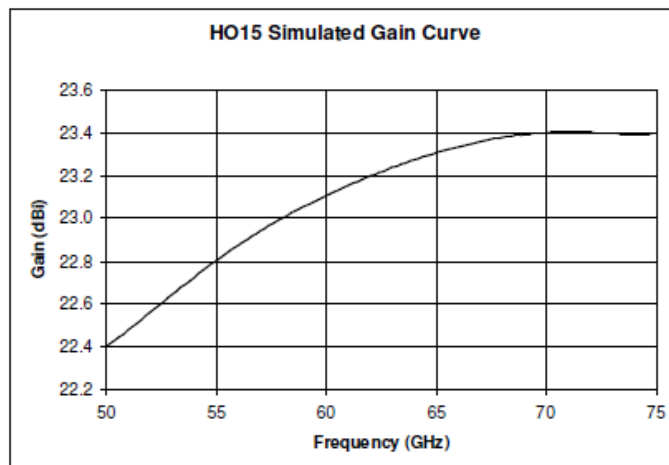
24 Boston Court
Longmont, CO 80501
303 651-0707 (P)
303 651-0706 (F)
www.custommicrowave.com



6. 50 - 75 GHz CMI HO15R HORN ANTENNA



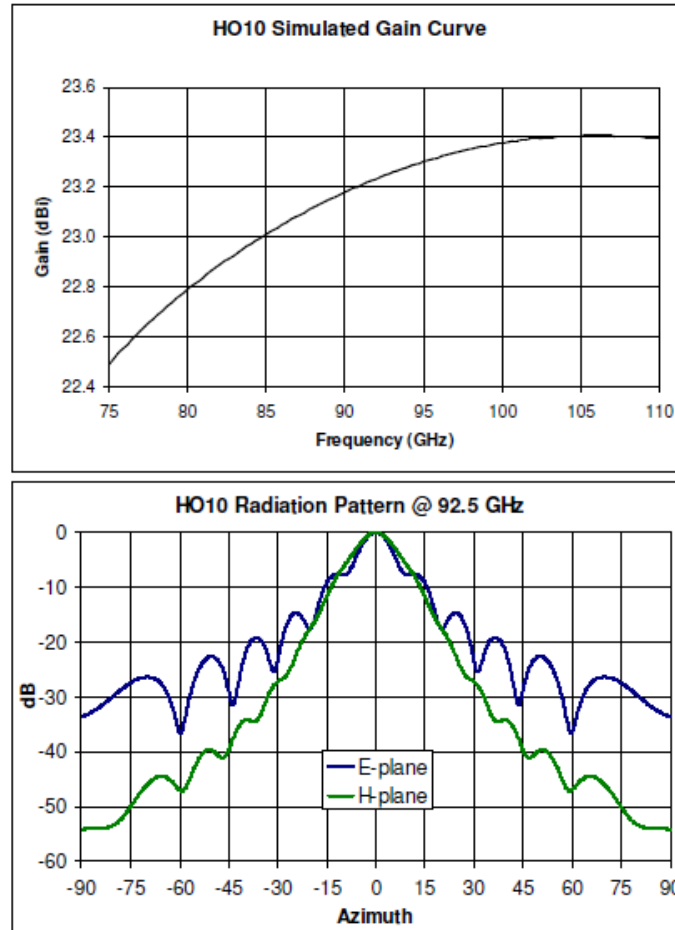
24 Boston Court
Longmont, CO 80501
303 651-0707(P)
303 651-0706(F)
www.custommicrowave.com



7. 75 - 110 GHz CMI HO10R HORN ANTENNA



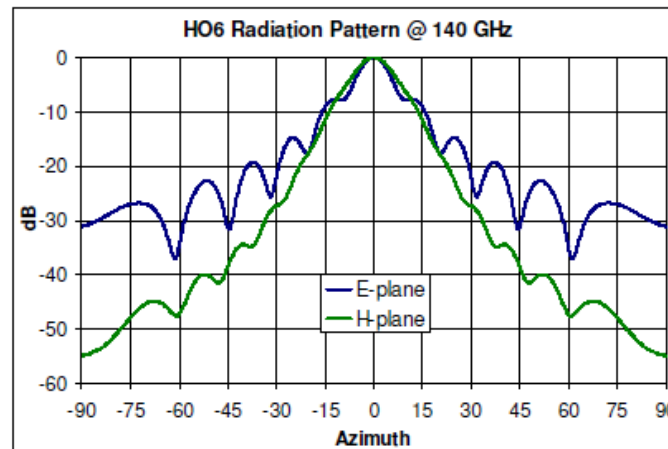
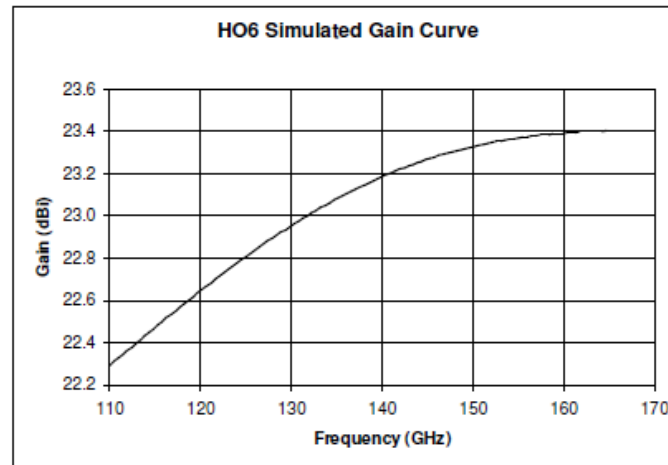
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8. 110 - 170 GHz CMI HO6R HORN ANTENNA



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303 651-0706(F)
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9. 170 - 260 GHz CMI HO4R HORN ANTENNA



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