

Antenna Spec:

Antenna size	23x23x4.75mm
Freq range	2.4GHz-2.48GHz
VSWR	2 Max
Gain	0dBi max
Impedance	50ohm
Antenna type	Ceramic patch antenna
Polarization	Linear
Max Power	200mW
Operating temp	-20 to +55 deg celcius
Interconnection and cable assembly	MMCX connector with 1.13 RF cable
Manufacturer:	Cardo
PN:	ASCM0961
Testing LAB	Hermon labs - https://hermonlabs.com/

Manufacturer and address:

Cardo Systems Ltd
101 E Park Blvd Suite 600, Plano. TX75074
United States

Antenna testing laboratory:

Hermon Laboratories Ltd.
66 Hatachana St., POB 23
Binyamina 3055001, Israel

Tester:
Stanislav Sugatov Test Engineer EMC & Radio
stanislav.s@hermonlabs.com
Phone: +972 4 628 8001

Antenna Horn:	HL2432
Manufacturer:	EMC Test Systems
Model:	3115
Date of Calibration:	12-July-25
Calibration Service Provided:	Hermon Laboratories
Calibration Period:	1 year

EXA Signal Analyzer:	HL5376
Manufacturer:	Keysight Technologies
Model:	N9010B
Date of Calibration:	8-Jan-26
Calibration Service Provided:	Hermon Laboratories
Calibration Period:	1 year

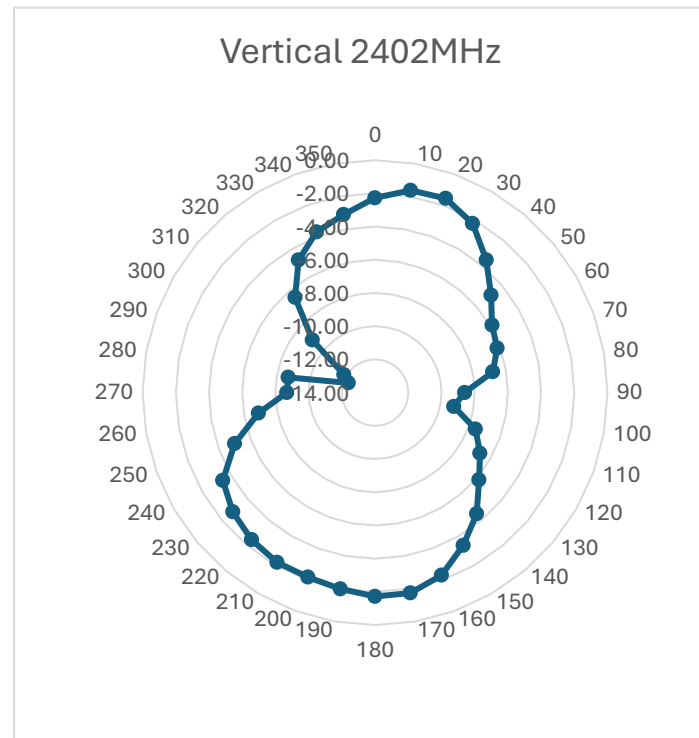
Cable:	HL5668
Manufacturer:	Huber-Suhner
Model:	SF126EA
Date of Calibration:	22-Jun-25
Calibration Service Provided:	Hermon Laboratories
Calibration Period:	1 year

Antenna Horn:	HL5673
Manufacturer:	Huber-Suhner
Model:	SF126EA
Date of Calibration:	19-May-25
Calibration Service Provided:	Hermon Laboratories
Calibration Period:	1 year

	Name and Title	Date	Signature
Tested by:	Mr. S. Sugatov, test engineer, EMC & Radio	19-Jun-25	
Reviewed by:	Mrs. S. Peysahov Sheynin, certification specialist, EMC & Radio	18-Jul-25	

2402 MHz vertical:

Vertical			
Frequency:		2402	MHz
Angle (deg)	Spectrum Analyzer reading (dBuV/m)	EIRP, dBm	Antenna Pattern, dB
0	76.96	-18.27	-2.27
10	77.60	-17.63	-1.63
20	77.68	-17.55	-1.55
30	76.99	-18.24	-2.24
40	75.66	-19.57	-3.57
50	74.36	-20.87	-4.87
60	73.37	-21.86	-5.86
70	73.06	-22.17	-6.17
80	72.43	-22.80	-6.80
90	70.63	-24.60	-8.60
100	70.05	-25.18	-9.18
110	71.67	-23.56	-7.56
120	72.53	-22.70	-6.70
130	73.41	-21.82	-5.82
140	74.76	-20.47	-4.47
150	75.86	-19.37	-3.37
160	76.94	-18.29	-2.29
170	77.49	-17.74	-1.74
180	77.51	-17.72	-1.72
190	77.24	-17.99	-1.99
200	77.06	-18.17	-2.17
210	77.04	-18.19	-2.19
220	76.80	-18.43	-2.43
230	76.41	-18.82	-2.82
240	75.82	-19.41	-3.41
250	74.23	-21.00	-5.00
260	72.36	-22.87	-6.87
270	70.54	-24.69	-8.69
280	70.54	-24.69	-8.69
290	66.94	-28.29	-12.29
300	67.39	-27.84	-11.84
310	70.16	-25.07	-9.07
320	72.72	-22.51	-6.51
330	74.45	-20.78	-4.78
340	75.53	-19.70	-3.70
350	76.12	-19.11	-3.11



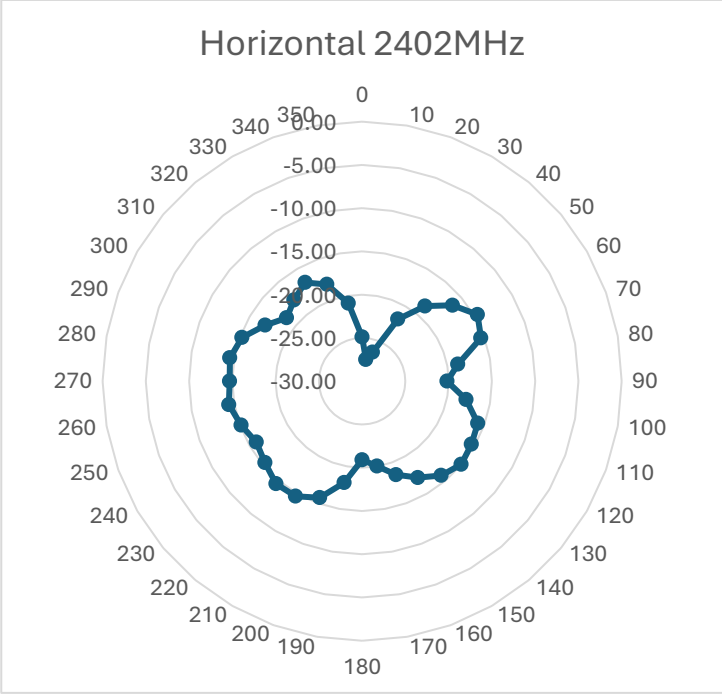
Gain measurement calculation:

=- (Refernce SA reading)+(SA reading of Antenna Power)+(Reference Signal Generator RF Power)+(Ref Antenna gain)-(Refrence Antenna cable loss)

Spectrum Analyzer Data			sweep time 20 ms
Span	10	MHz	
RBW	1000	kHz	
VBW	3000	kHz	
Ref Level	120	dBuV/m	
SG	0	dBm	
F, MHz	2480	MHz	
SA reading	103.87	dBuV/m	
AG, dBi	10.3	dBi	
Cable Loss	3.17	dB	
Antenna polarization Vertical			Substitution
Antenna Horn HL4474			

2402 MHz horizontal:

Horizontal			
Frequency:	2402	MHz	
Angle (deg)	Spectrum Analyzer reading (dBuV/m)	EIRP, dBm	Antenna Pattern, dB
0	54.34	-40.89	-24.89
10	51.77	-43.46	-27.46
20	52.79	-42.44	-26.44
30	57.51	-37.72	-21.72
40	60.56	-34.67	-18.67
50	62.88	-32.35	-16.35
60	64.63	-30.60	-14.60
70	63.85	-31.38	-15.38
80	60.47	-34.76	-18.76
90	59.05	-36.18	-20.18
100	61.44	-33.79	-17.79
110	63.46	-31.77	-15.77
120	63.82	-31.41	-15.41
130	64.19	-31.04	-15.04
140	63.46	-31.77	-15.77
150	62.10	-33.13	-17.13
160	60.74	-34.49	-18.49
170	59.21	-36.02	-20.02
180	58.32	-36.91	-20.91
190	61.14	-34.09	-18.09
200	63.56	-31.67	-15.67
210	64.59	-30.64	-14.64
220	64.71	-30.52	-14.52
230	63.88	-31.35	-15.35
240	63.34	-31.89	-15.89
250	64.11	-31.12	-15.12
260	64.87	-30.36	-14.36
270	64.54	-30.69	-14.69
280	64.75	-30.48	-14.48
290	64.00	-31.23	-15.23
300	62.16	-33.07	-17.07
310	60.61	-34.62	-18.62
320	61.48	-33.75	-17.75
330	62.40	-32.83	-16.83
340	61.13	-34.10	-18.10
350	58.38	-36.85	-20.85



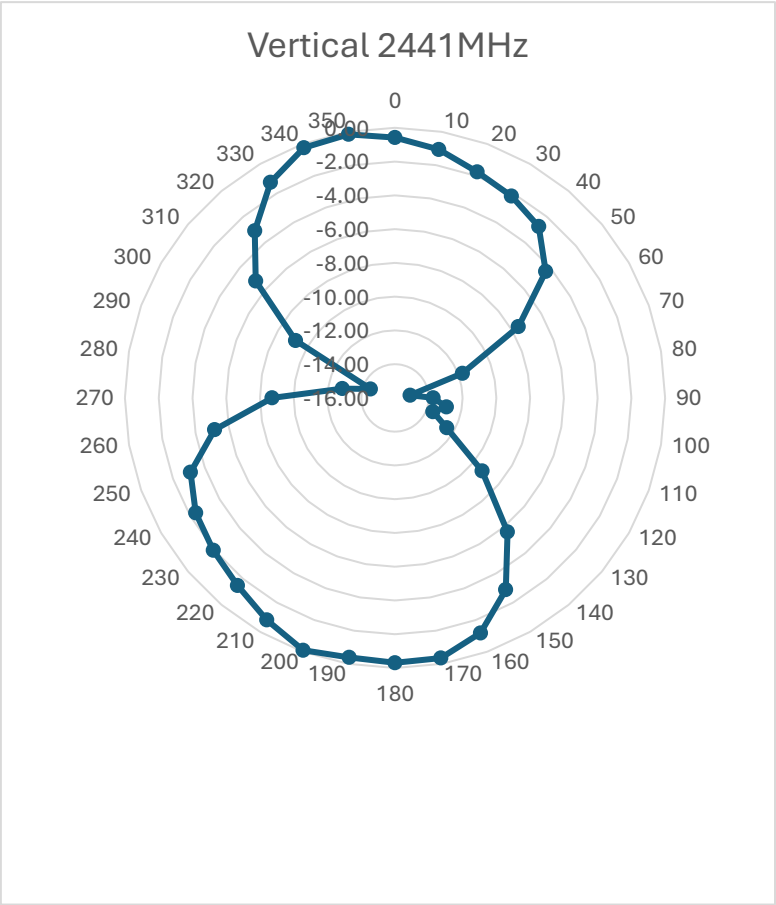
Spectrum Analyzer Data			sweep time 20 ms Substitution
Span	10	MHz	
RBW	1000	kHz	
VBW	3000	kHz	
Ref Level	120	dBuV/m	
SG	0	dBm	
F, MHz	2480	MHz	
SA reading	103.87	dBuV/m	
AG, dBi	10.3	dBi	
Cable Loss	3.17	dB	
Antenna polarization Vertical			
Antenna Horn HL 4474			

Gain measurement calculation:

$$=-(\text{Reference SA reading})+(\text{SA reading of Antenna Power})+(\text{Reference Signal Generator RF Power})+(\text{Ref Antenna gain})-(\text{Reference Antenna cable loss})$$

2441MHz Vertical:

Vertical			
Frequency:	2441	MHz	
Angle (deg)	Spectrum Analyzer reading (dBuV/m)	EIRP, dBm	Antenna Pattern, dB
0	78.75	-16.48	-0.58
10	78.27	-16.96	-1.06
20	77.57	-17.66	-1.76
30	77.13	-18.10	-2.20
40	76.58	-18.65	-2.75
50	74.98	-20.25	-4.35
60	71.77	-23.46	-7.56
70	67.58	-27.65	-11.75
80	64.24	-30.99	-15.09
90	65.59	-29.64	-13.74
100	66.43	-28.80	-12.90
110	65.72	-29.51	-13.61
120	66.87	-28.36	-12.46
130	70.07	-25.16	-9.26
140	73.70	-21.53	-5.63
150	76.45	-18.78	-2.88
160	78.15	-17.08	-1.18
170	78.98	-16.25	-0.35
180	79.42	-15.81	-0.31
190	79.44	-15.79	-0.39
200	79.14	-16.09	-0.09
210	78.52	-16.71	-0.81
220	77.84	-17.39	-1.49
230	77.38	-17.85	-1.95
240	76.96	-18.27	-2.37
250	76.22	-19.01	-3.11
260	74.18	-21.05	-5.15
270	70.61	-24.62	-8.72
280	66.50	-28.73	-12.83
290	64.87	-30.36	-14.46
300	70.13	-25.10	-9.20
310	74.10	-21.13	-5.23
320	76.25	-18.98	-3.08
330	78.08	-17.15	-1.25
340	79.10	-16.13	-0.23
350	79.18	-16.05	-0.15



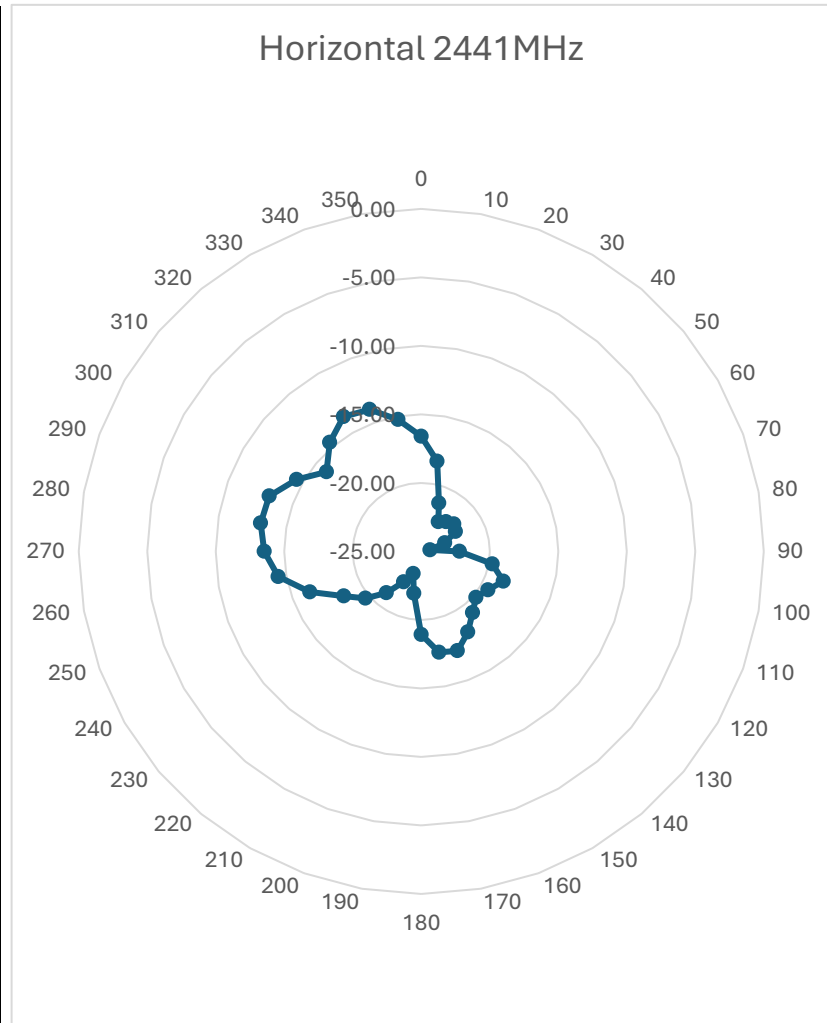
Spectrum Analyzer Data			sweep time 20 ms Substitution
Span	10	MHz	
RBW	1000	kHz	
VBW	3000	kHz	
Ref Level	120	dBuV/m	
SG	0	dBm	
F, MHz	2440	MHz	
SA reading	103.5	dBuV/m	
AG, dBi	10.2	dBi	
Cable Loss	3.12	dB	
Antenna polarization Vertical			Antenna Horn HL 4474

Gain measurement calculation:

$$=-(\text{Refernce SA reading})+(\text{SA reading of Antenna Power})+(\text{Refernce Signal Generator RF Power})+(\text{Ref Antenna gain})-(\text{Refrence Antenna cable loss})$$

2441 MHz Horizontal:

Horizontal			
Frequency:	2441	MHz	
Angle (deg)	Spectrum Analyzer reading (dBuV/m)	EIRP, dBm	Antenna Pattern, dB
0	62.73	-32.50	-16.60
10	61.01	-34.22	-18.32
20	58.09	-37.14	-21.24
30	56.83	-38.40	-22.50
40	57.15	-38.08	-22.18
50	57.44	-37.79	-21.89
60	57.22	-38.01	-22.11
70	56.16	-39.07	-23.17
80	54.98	-40.25	-24.35
90	57.12	-38.11	-22.21
100	59.60	-35.63	-19.73
110	60.70	-34.53	-18.63
120	59.95	-35.28	-19.38
130	59.55	-35.68	-19.78
140	60.16	-35.07	-19.17
150	61.13	-34.10	-18.20
160	62.05	-33.18	-17.28
170	61.81	-33.42	-17.52
180	60.40	-34.83	-18.93
190	57.44	-37.79	-21.89
200	56.05	-39.18	-23.28
210	56.90	-38.33	-22.43
220	58.28	-36.95	-21.05
230	59.65	-35.58	-19.68
240	60.85	-34.38	-18.48
250	62.98	-32.25	-16.35
260	64.93	-30.30	-14.40
270	65.79	-29.44	-13.54
280	66.23	-29.00	-13.10
290	66.14	-29.09	-13.19
300	64.83	-30.40	-14.50
310	63.36	-31.87	-15.97
320	64.72	-30.51	-14.61
330	65.68	-29.55	-13.65
340	65.35	-29.88	-13.98
350	64.10	-31.13	-15.23

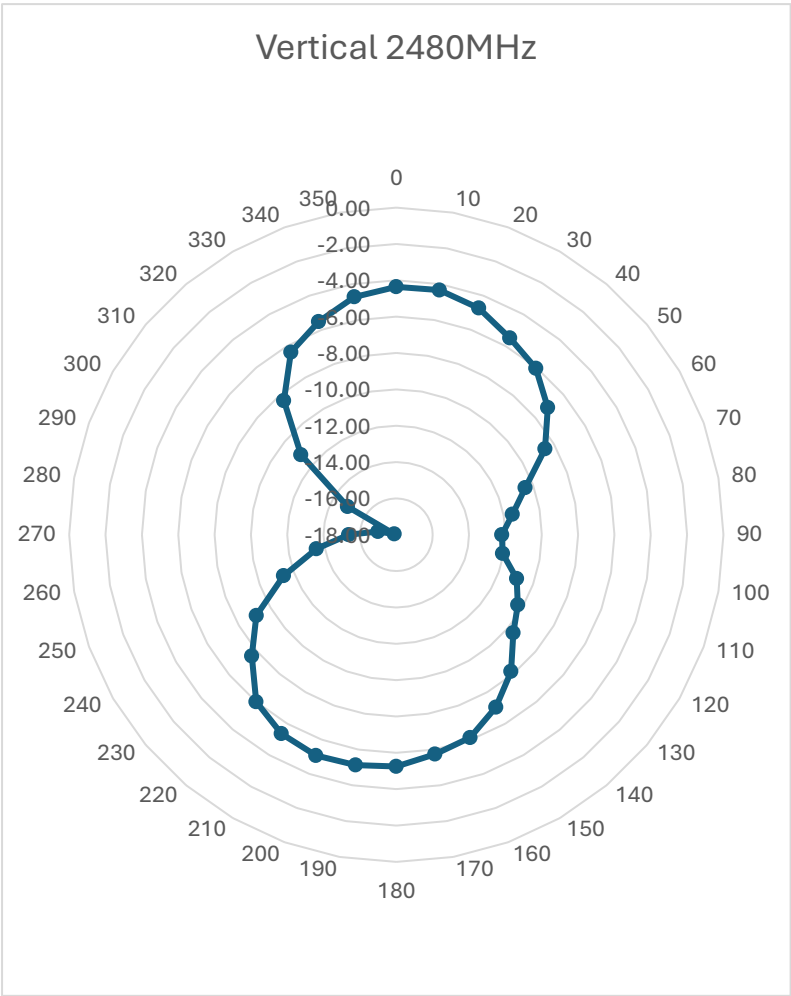


Spectrum Analyzer Data			sweep time 20 ms Substitution
Span	10	MHz	
RBW	1000	kHz	
VBW	3000	kHz	
Ref Level	120	dBuV/m	
SG	0	dBm	
F, MHz	2440	MHz	
SA reading	103.5	dBuV/m	
AG, dBi	10.2	dBi	
Cable Loss	3.12	dB	
Antenna polarization Vertical			
Antenna Horn HL 4474			

Gain measurement calculation:
 =-(Refernce SA reading)+(SA reading of Antenna Power)+(Refernce Signal Generator RF Power)+(Ref Antenna gain)-(Refrence Antenna cable loss)

2480 MHz Vertical:

Vertical			
Frequency:	2480	MHz	
Angle (deg)	Spectrum Analyzer reading (dBuV/m)	EIRP, dBm	Antenna Pattern, dB
0	74.37	-20.86	-4.36
10	74.40	-20.83	-4.33
20	74.00	-21.23	-4.73
30	73.23	-22.00	-5.50
40	72.68	-22.55	-6.05
50	71.61	-23.62	-7.12
60	70.18	-25.05	-8.55
70	68.28	-26.95	-10.45
80	67.22	-28.01	-11.51
90	66.54	-28.69	-12.19
100	66.67	-28.56	-12.06
110	67.78	-27.45	-10.95
120	68.45	-26.78	-10.28
130	69.13	-26.10	-9.60
140	70.55	-24.68	-8.18
150	71.69	-23.54	-7.04
160	72.61	-22.62	-6.12
170	72.99	-22.24	-5.74
180	73.48	-21.75	-5.25
190	73.60	-21.63	-5.13
200	73.66	-21.57	-5.07
210	73.37	-21.86	-5.36
220	72.73	-22.50	-6.00
230	71.11	-24.12	-7.62
240	69.62	-25.61	-9.11
250	67.33	-27.90	-11.40
260	65.19	-30.04	-13.54
270	63.35	-31.88	-15.38
280	61.75	-33.48	-16.98
290	60.85	-34.38	-17.88
300	63.82	-31.41	-14.91
310	67.58	-27.65	-11.15
320	70.36	-24.87	-8.37
330	72.33	-22.90	-6.40
340	73.21	-22.02	-5.52
350	74.02	-21.21	-4.71

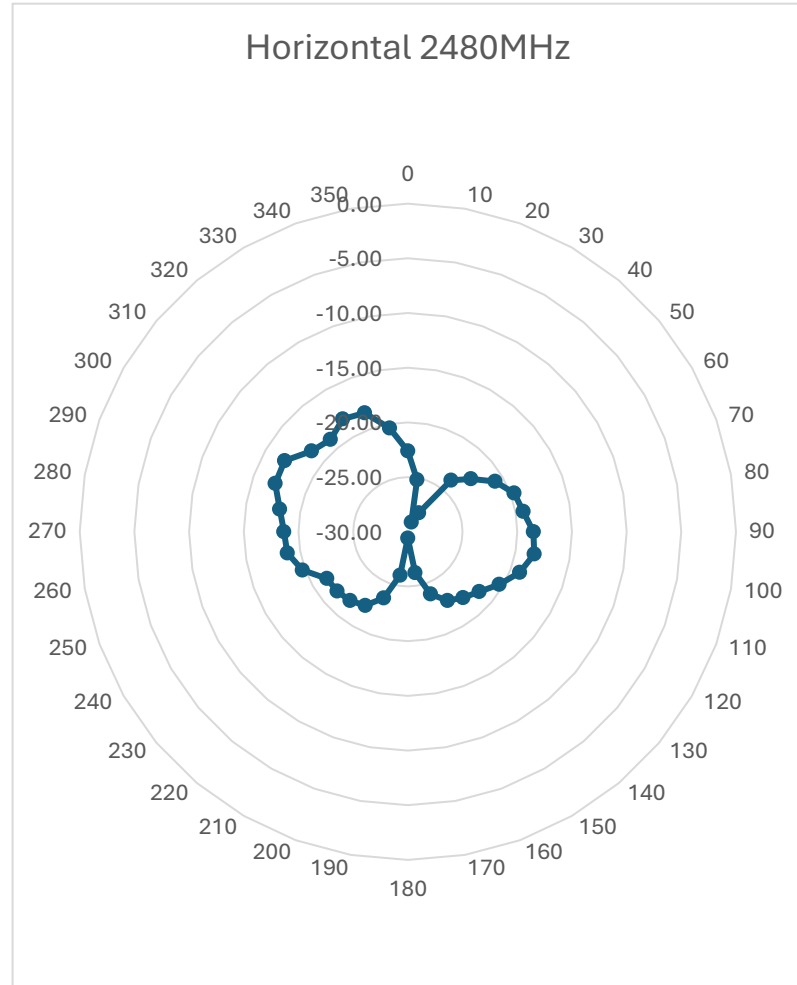


Spectrum Analyzer Data			sweep time 20 ms Substitution
Span	10	MHz	
RBW	1000	kHz	
VBW	3000	kHz	
Ref Level	120	dBuV/m	
SG	0	dBm	
F, MHz	2440	MHz	
SA reading	103.5	dBuV/m	
AG, dBi	10.2	dBi	
Cable Loss	3.12	dB	
Antenna polarization Vertical			
Antenna Horn HL 4474			

Gain measurement calculation:
 =-(Refernce SA reading)+(SA reading of Antenna Power)+(Refernce Signal Generator RF Power)+(Ref Antenna gain)-(Refrence Antenna cable loss)

2480 MHz Horizontal:

Horizontal			
Frequency: 2480		MHz	
Angle (deg)	Spectrum Analyzer reading (dBuV/m)	EIRP, dBm	Antenna Pattern, dB
0	56.11	-39.12	-22.62
10	53.55	-41.68	-25.18
20	49.67	-45.56	-29.06
30	50.72	-44.51	-28.01
40	54.87	-40.36	-23.86
50	56.26	-38.97	-22.47
60	57.93	-37.30	-20.80
70	59.07	-36.16	-19.66
80	59.44	-35.79	-19.29
90	60.21	-35.02	-18.52
100	60.46	-34.77	-18.27
110	59.61	-35.62	-19.12
120	58.37	-36.86	-20.36
130	57.25	-37.98	-21.48
140	56.59	-38.64	-22.14
150	56.00	-39.23	-22.73
160	54.79	-40.44	-23.94
170	52.53	-42.70	-26.20
180	49.31	-45.92	-29.42
190	52.77	-42.46	-25.96
200	55.17	-40.06	-23.56
210	56.51	-38.72	-22.22
220	56.95	-38.28	-21.78
230	57.17	-38.06	-21.56
240	57.28	-37.95	-21.45
250	58.98	-36.25	-19.75
260	59.92	-35.31	-18.81
270	60.06	-35.17	-18.67
280	60.62	-34.61	-18.11
290	61.64	-33.59	-17.09
300	61.73	-33.50	-17.00
310	60.22	-35.01	-18.51
320	59.74	-35.49	-18.99
330	60.63	-34.60	-18.10
340	60.29	-34.94	-18.44
350	58.36	-36.87	-20.37



Spectrum Analyzer Data			sweep time 20 ms
Span	10	MHz	
RBW	1000	kHz	
VBW	3000	kHz	
Ref Level	120	dBuV/m	
SG	0	dBm	
F, MHz	2405	MHz	
SA reading	103.2	dBuV/m	
AG, dBi	9.9	dBi	
Cable Loss	3.09	dB	
Antenna polarization Vertical			Substitution
Antenna Horn HL 4474			

Gain measurement calculation:

=-(Reference SA reading)+(SA reading of Antenna Power)+(Reference Signal Generator RF Power)+(Ref Antenna gain)-(Reference Antenna cable loss)