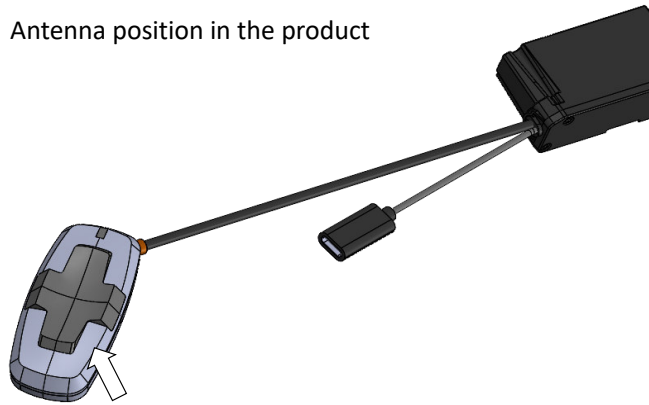


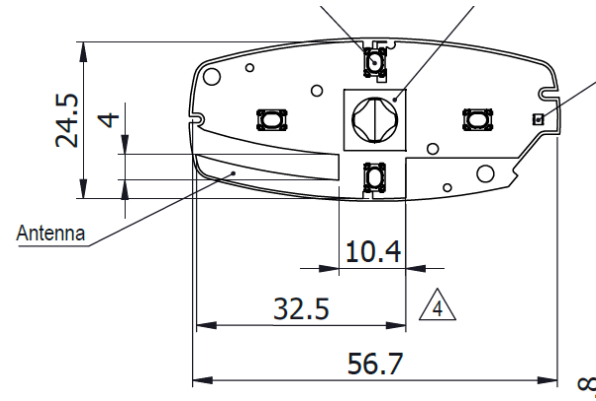
Antenna size	56.6x24.96mm
Freq range	2.4GHz-2.48GHz
VSWR	2 Max
Gain	0dBi max
Impedance	50ohm
Antenna type	Internal Pifa with coaxial cable attachment
Polarization	Linear
Max Power	200mW
Operating temp	-20 to +55 deg celcius
Interconnection and cable assembly	MMCX to Hirose UFL connector with 1.13 RF cable
Manufacturer:	Cardo
PN:	UCS antenna
Testing LAB	Hermon labs - <a href="https://hermonlabs.com/">https://hermonlabs.com/</a>

- Antenna position in the product



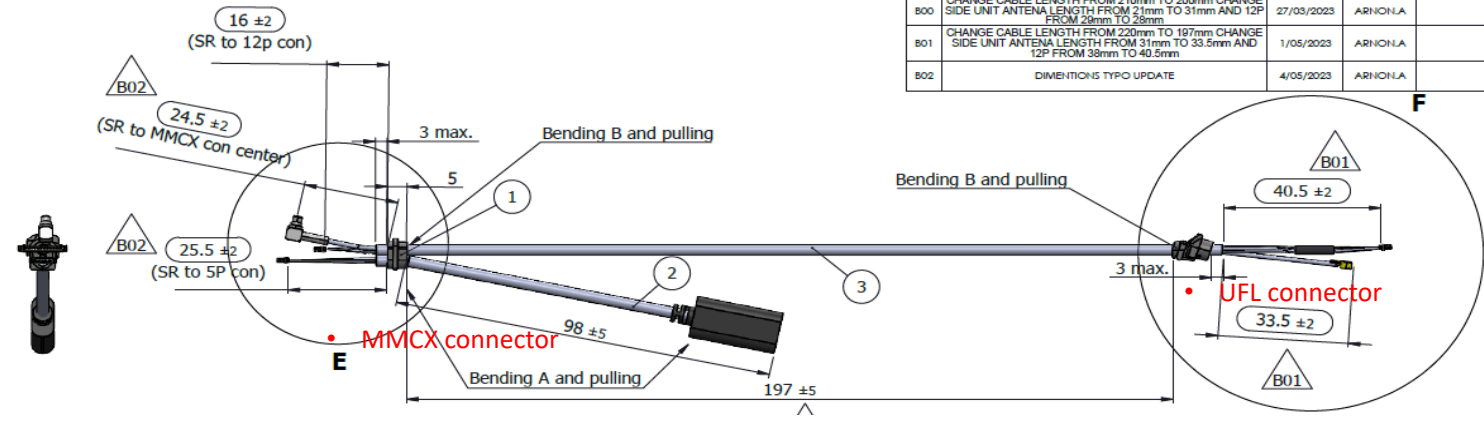
- RF cable connection MMCX to UFL (all size in mm)

- Antenan size in mm

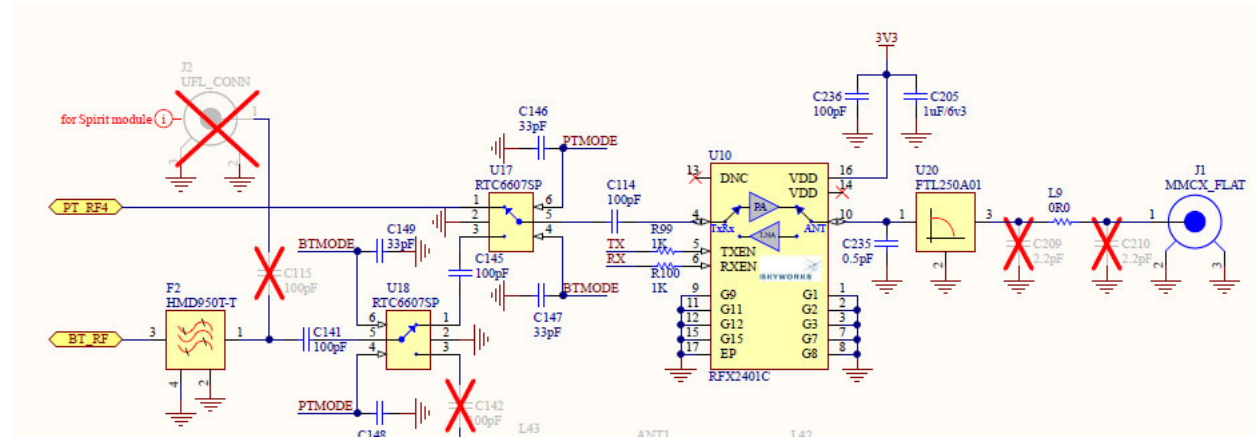


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	OM PVC 30P	OM PVC 30P	1
2	USB C F Charger	Type C F to 5p 0.8mm	1
3	MMCX+12p to side unit	MMCX+12p 0.8mm	1

REV.	DESCRIPTION	REVISIONS	DATE	DESIGNER	APPROVER
13	CHANGE USB CABLE TO OD3MM ADD 4X PARAAARAMID ADD STRAIN RELIEF TO THE USB		09/02/2023	ARNON.A	
A00	CHANGE REVISION TO A-00 MP REVISION		19/03/2023	ARNON.A	
A01	CHANGE SIDE UNIT 12P CABLE LENGTH		27/04/2023	ARNON.A	
800	CHANGE CABLE LENGTH FROM 210mm TO 200mm CHANGE SIDE UNIT ANTENA LENGTH FROM 21mm TO 31mm AND 12P FROM 28mm TO 28mm		27/03/2023	ARNON.A	
801	CHANGE CABLE LENGTH FROM 220mm TO 197mm CHANGE SIDE UNIT ANTENA LENGTH FROM 31mm TO 33.5mm AND 12P FROM 38mm TO 40.5mm		1/05/2023	ARNON.A	
802	DIMENSIONS TYPO UPDATE		4/05/2023	ARNON.A	



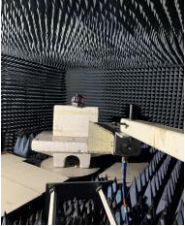
- RF chain



**Vertical position of EUT**

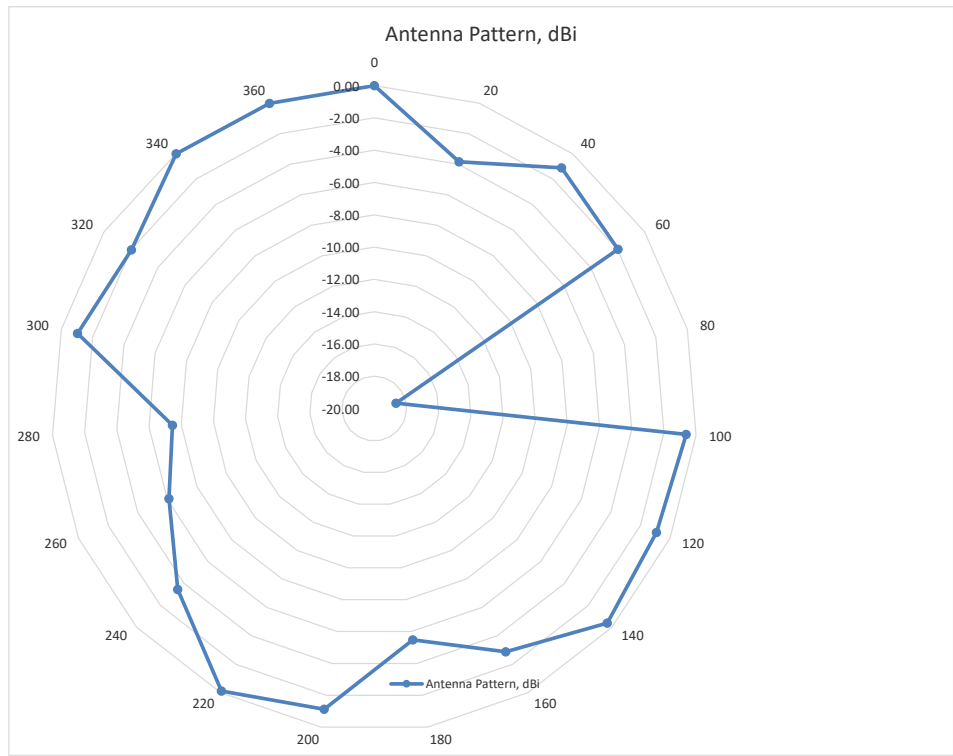
Frequency:	2480	MHz	
Angle (deg)	Spectrum Analyzer reading (dBuV/m)	EIRP, dBm	Antenna Pattern, dBi
0	100.26	3.52	0.00
20	96.42	-0.32	-3.84
40	99.15	2.41	-1.11
60	98.29	1.55	-1.97
80	81.65	-15.09	-18.61
100	99.65	2.91	-0.61
120	99.35	2.61	-0.91
140	99.87	3.13	-0.39
160	97.38	0.64	-2.88
180	94.78	-1.96	-5.48
200	99.14	2.4	-1.12
220	100.15	3.41	-0.11
240	96.81	0.07	-3.45
260	94.15	-2.59	-6.11
280	92.81	-3.93	-7.45
300	99.22	2.48	-1.04
320	98.22	1.48	-2.04
340	100.25	3.51	-0.01
360	100.24	3.5	-0.02
			-3.01

Spectrum Analyzer Data			
Span	10	MHz	sweep time 20 ms
RBW	1000	kHz	
VBW	3000	kHz	Substitution
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			



-96.74

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





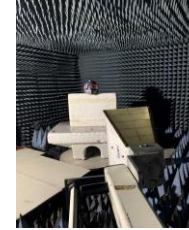
Vertical position of EUT			
Frequency:	2440	MHz	
Angle (deg)	Spectrum Analyzer reading (dBuV/m)	EIRP, dBm	Antenna Pattern, dBi
0	93.06	-3.36	0.00
20	91.76	-4.66	-1.30
40	89.58	-6.84	-3.48
60	86.75	-9.67	-6.31
80	91.16	-5.26	-1.90
100	83.21	-13.21	-9.85
120	93.01	-3.41	-0.05
140	84.13	-12.29	-8.93
160	92.98	-3.44	-0.08
180	92.98	-3.44	-0.08
200	88.02	-8.4	-5.04
220	93.01	-3.41	-0.05
240	93.04	-3.38	-0.02
260	92.99	-3.43	-0.07
280	92.98	-3.44	-0.08
300	89.53	-6.89	-3.53
320	93.02	-3.4	-0.04
340	92.91	-3.51	-0.15
360	92.46	-3.96	-0.60
			-2.19

Spectrum Analyzer Data		
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

sweep time 20 ms

Substitution

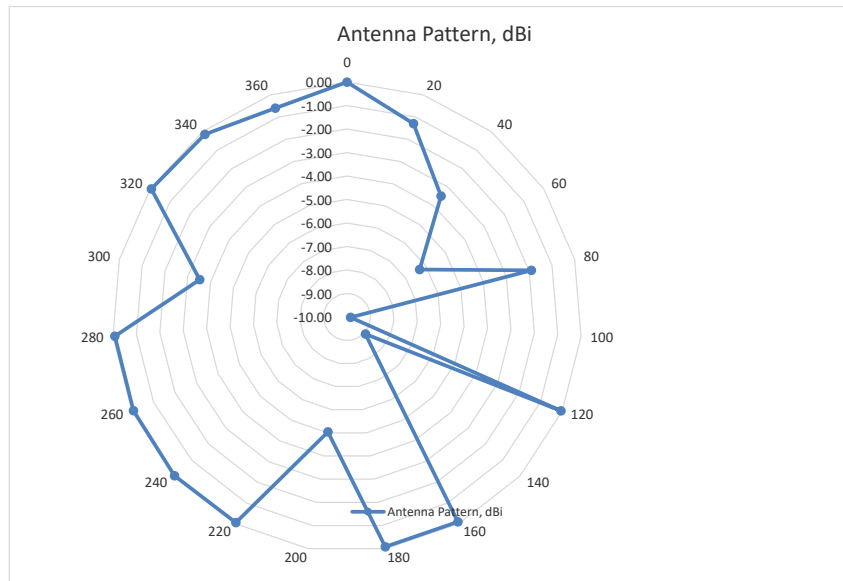
Antenna Horn HL 4474



Antenna polarization Vertical

Gain measurement calculation:  

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





Vertical position of EUT			
Frequency:	2402	MHz	
Angle (deg)	Spectrum Analyzer reading (dBuV/m)	EIRP, dBm	Antenna Pattern, dBi
0	92.35	-4.04	0.00
20	91.23	-5.16	-1.12
40	92	-4.39	-0.35
60	92.14	-4.25	-0.21
80	92.23	-4.16	-0.12
100	92.08	-4.31	-0.27
120	92.29	-4.1	-0.06
140	88.33	-8.06	-4.02
160	92.32	-4.07	-0.03
180	92.24	-4.15	-0.11
200	91.72	-4.67	-0.63
220	91.46	-4.93	-0.89
240	92.12	-4.27	-0.23
260	92.29	-4.1	-0.06
280	92.32	-4.07	-0.03
300	85.92	-10.47	-6.43
320	92.12	-4.27	-0.23
340	86.39	-10	-5.96
360	92.19	-4.2	-0.16
			-1.10

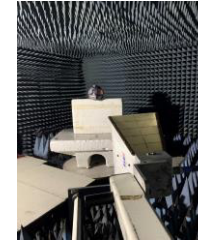
Spectrum Analyzer Data		
Span	10	MHz
RBW	1000	kHz
VBW	3000	kHz
Ref Level	120	dBuV/m
SG	0	dBm
F, MHz	2405	MHz
SA reading	103.2	dBuV/m
AG, dBi	9.9	dBi
Cable Loss	3.09	dB

sweep time 20 ms

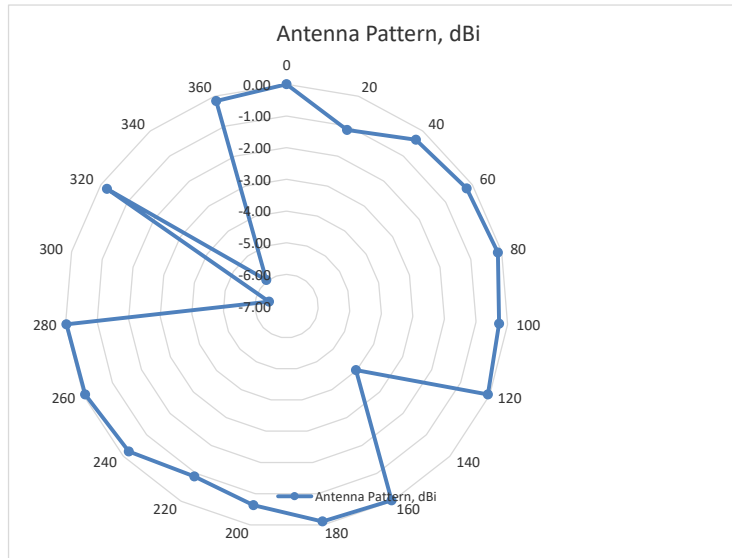
Substitution

Antenna polarization Vertical

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)



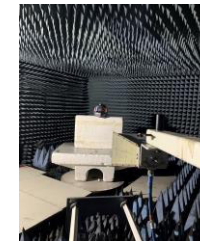
Vertical position of EUT			
Frequency:	2402	MHz	
Angle (deg)	Spectrum Analyzer reading (dBuV/m)	EIRP, dBm	Antenna Pattern, dBi
0	101.63	5.24	0.00
20	97.62	1.23	-4.01
40	98.01	1.62	-3.62
60	97.98	1.59	-3.65
80	86.51	-9.88	-15.12
100	98.26	1.87	-3.37
120	101.1	4.71	-0.53
140	101.45	5.06	-0.18
160	101.58	5.19	-0.05
180	98.16	1.77	-3.47
200	100.5	4.11	-1.13
220	101.23	4.84	-0.40
240	89.29	-7.1	-12.34
260	87.09	-9.3	-14.54
280	100.32	3.93	-1.31
300	101.24	4.85	-0.39
320	101.18	4.79	-0.45
340	100.47	4.08	-1.16
360	101.63	5.24	0.00
			-3.46

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	

Substitution

Antenna polarization Vertical

Antenna Horn HL 4474



Gain measurement calculation:  
 =(Reference SA reading)+(SA reading of Antenna Power)+(Ref Antenna gain)-(Reference Antenna cable loss)

