

Note:

1. (N) BALL SYMBOLS ARE CRITICAL DIMENSIONS

REVISIONS		
REV	DESCRIPTION	ENGR
0A	1ST ISSUE	0801

A

B

C

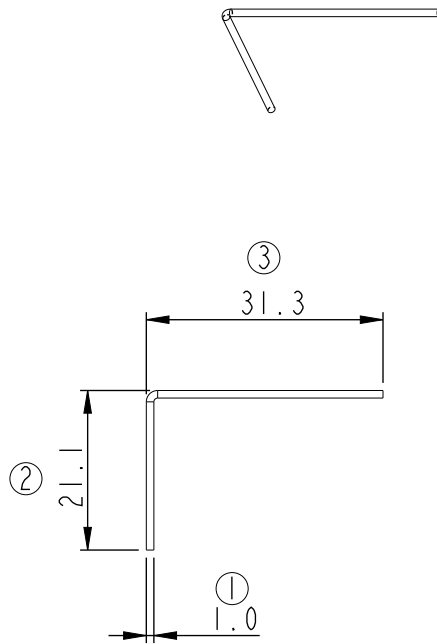
D

A

B

C

D



**Climax**

CLIMAX PRECISION IND. CO., LTD.  
Research and Design

Drawn: Jason

Designed: Justair

Checked: Amos

Approved: Elane

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DIMENSIONAL TOLERANCES ±	C							Material:	THIRD ANGLE PROJECTION
	M1	M2	S1	S2	P1	P2	C		
0-6	0.05	0.10	0.15	0.20	0.05	0.10	0.5	Copper plated steel	
6-30	0.10	0.20	0.15	0.25	0.10	0.15	1.0		
30-80	0.15	0.25	0.20	0.30	0.20	0.40	2.0	Treatment: Tin plating	
80-180	0.15	0.30	0.25	0.45	0.40	0.80	3.0		
180-315	0.20	0.50	0.40	0.60	0.60	1.20	3.0		
315-800	0.30	0.80	0.70	1.10	0.80	1.50	4.0		

DESCRIPTION:  
HSVGW-ADC-GEN2-F1433

PART NO.:  
8403000423C

REV.

SHEET 1 OF 1 M01

SCALE 1.000 UNITS MM USED ON

DWING NAME 8403000423C

DWG NO.

DATE 2022.07.12

1

2

3

4

Frequency	400MHz	403MHz	406MHz	409MHz	412MHz	415MHz	418MHz	421MHz	424MHz	427MHz	430MHz	433MHz	436MHz	439MHz	442MHz	445MHz	448MHz	451MHz	454MHz	457MHz	460MHz	463MHz
Ant. Port Inp. Pow. (dBi)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rad. Pow. (dBi)	-11.7	-11.37	-11.15	-10.71	-10.36	-10.42	-9.85	-9.44	-8.9	-8.62	-8.51	-8.53	-8.63	-8.69	-8.65	-8.76	-9.18	-9.3	-9.53	-9.48	-9.98	-10.16
Rad. Pow. 0-90 (dBi)	-14.69	-14.3	-14.01	-13.51	-13.09	-13.05	-12.4	-11.99	-11.55	-11.38	-11.37	-11.47	-11.63	-11.7	-11.62	-11.65	-11.95	-11.98	-12.18	-12.16	-12.7	-12.92
Rad. Pow. 90-180 (dBi)	-14.73	-14.47	-14.31	-13.95	-13.67	-13.85	-13.38	-12.96	-12.31	-11.9	-11.68	-11.61	-11.66	-11.7	-11.7	-11.89	-12.43	-12.67	-12.94	-12.85	-13.29	-13.43
Peak EIRP (dBi)	-8.79	-8.49	-8.17	-7.63	-7.23	-7.15	-6.47	-6.15	-5.93	-6	-5.83	-5.8	-5.86	-5.98	-6.02	-6.2	-6.66	-6.74	-6.95	-6.78	-7.24	-7.43
Directivity (dBi)	2.91	2.88	2.98	3.08	3.13	3.27	3.38	3.29	2.97	2.62	2.68	2.73	2.77	2.71	2.63	2.56	2.52	2.56	2.58	2.7	2.74	2.73
Efficiency (dB)	-11.7	-11.37	-11.15	-10.71	-10.36	-10.42	-9.85	-9.44	-8.9	-8.62	-8.51	-8.53	-8.63	-8.69	-8.65	-8.76	-9.18	-9.3	-9.53	-9.48	-9.98	-10.16
Efficiency (%)	6.76	7.29	7.67	8.49	9.2	9.08	10.35	11.38	12.88	13.74	14.09	14.03	13.71	13.52	13.65	13.3	12.08	11.75	11.14	11.27	10.05	9.64
Gain (dBi)	-8.79	-8.49	-8.17	-7.63	-7.23	-7.15	-6.47	-6.15	-5.93	-6	-5.83	-5.8	-5.86	-5.98	-6.02	-6.2	-6.66	-6.74	-6.95	-6.78	-7.24	-7.43
NHPRP +/-30 (dBi)	-14.13	-13.77	-13.53	-13.08	-12.72	-12.77	-12.15	-11.7	-11.16	-10.91	-10.84	-10.9	-11.03	-11.09	-11.05	-11.17	-11.59	-11.72	-11.96	-11.9	-12.39	-12.56
NHPRP +/-45 (dBi)	-12.77	-12.42	-12.18	-11.75	-11.41	-11.47	-10.88	-10.43	-9.89	-9.61	-9.52	-9.56	-9.67	-9.72	-9.67	-9.78	-10.21	-10.34	-10.59	-10.54	-11.04	-11.22
Maximum H+V Value (dBi)	-8.79	-8.49	-8.17	-7.63	-7.23	-7.15	-6.47	-6.15	-5.93	-6	-5.83	-5.8	-5.86	-5.98	-6.02	-6.2	-6.66	-6.74	-6.95	-6.78	-7.24	-7.43
Maximum H+V @ Theta (deg.)	60	60	60	60	60	60	60	60	60	90	90	90	90	90	90	90	90	45	90	90	90	90
Maximum H+V @ Phi (deg.)	330	330	330	330	330	270	270	270	270	225	210	210	210	210	210	210	210	270	210	210	210	210
Minimum H+V Value (dBi)	-19.11	-19.02	-19.01	-18.66	-19.09	-19.64	-19.04	-19.06	-19.49	-19.56	-18.9	-17.75	-16.76	-16.64	-17.18	-18.14	-19	-19.66	-19.84	-19.27	-19.33	-19.96
Minimum H+V @ Theta (deg.)	150	150	150	150	150	150	150	150	150	150	135	135	150	150	150	150	150	135	135	135	135	150
Minimum H+V @ Phi (deg.)	0	0	0	315	315	315	315	315	300	300	300	300	285	285	285	285	285	285	285	285	285	285
Horizontal ()																						
Ant. Port Inp. Pow. (dBi)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H Rad. Pow. (dBi)	-12.35	-12.01	-11.79	-11.41	-11.14	-11.32	-10.81	-10.38	-9.82	-9.53	-9.45	-9.46	-9.55	-9.59	-9.56	-9.75	-10.29	-10.61	-10.94	-10.87	-11.25	-11.34
H Rad. Pow. 0-90 (dBi)	-15.43	-15.01	-14.73	-14.27	-13.94	-14.01	-13.42	-13.01	-12.56	-12.4	-12.42	-12.52	-12.66	-12.69	-12.62	-12.73	-13.15	-13.34	-13.62	-13.56	-13.98	-14.08
H Rad. Pow. 90-180 (dBi)	-15.3	-15.02	-14.89	-14.58	-14.38	-14.67	-14.27	-13.82	-13.12	-12.69	-12.49	-12.43	-12.48	-12.51	-12.52	-12.79	-13.47	-13.92	-14.32	-14.22	-14.57	-14.62
H Peak EIRP (dBi)	-8.89	-8.58	-8.28	-7.75	-7.39	-7.46	-6.82	-6.51	-6.26	-6.38	-6.63	-6.6	-6.73	-6.76	-6.7	-6.93	-6.92	-6.85	-7.12	-7.33	-8.04	-8.32
H Directivity (dBi)	3.46	3.43	3.51	3.66	3.75	3.86	3.99	3.87	3.56	3.15	2.82	2.86	2.82	2.83	2.86	2.82	3.37	3.76	3.82	3.54	3.21	3.02
H Efficiency (dB)	-12.35	-12.01	-11.79	-11.41	-11.14	-11.32	-10.81	-10.38	-9.82	-9.53	-9.45	-9.46	-9.55	-9.59	-9.56	-9.75	-10.29	-10.61	-10.94	-10.87	-11.25	-11.34
H Efficiency (%)	5.82	6.3	6.62	7.23	7.69	7.38	8.3	9.16	10.42	11.14	11.35	11.32	11.09	10.99	11.07	10.59	9.35	8.69	8.05	8.18	7.5	7.35
H Gain (dBi)	-8.89	-8.58	-8.28	-7.75	-7.39	-7.46	-6.82	-6.51	-6.26	-6.38	-6.63	-6.6	-6.73	-6.76	-6.7	-6.93	-6.92	-6.85	-7.12	-7.33	-8.04	-8.32
H NHPRP +/-30 (dBi)	-14.71	-14.33	-14.09	-13.68	-13.39	-13.54	-12.98	-12.52	-11.98	-11.74	-11.7	-11.76	-11.88	-11.92	-11.89	-12.09	-12.65	-12.97	-13.31	-13.22	-13.59	-13.65
H NHPRP +/-45 (dBi)	-13.35	-12.98	-12.75	-12.37	-12.09	-12.26	-11.73	-11.28	-10.71	-10.45	-10.39	-10.43	-10.53	-10.56	-10.53	-10.71	-11.27	-11.6	-11.95	-11.88	-12.27	-12.34
Maximum H Value (dBi)	-8.89	-8.58	-8.28	-7.75	-7.39	-7.46	-6.82	-6.51	-6.26	-6.38	-6.63	-6.6	-6.73	-6.76	-6.7	-6.93	-6.92	-6.85	-7.12	-7.33	-8.04	-8.32
Maximum H @ Theta (deg.)	60	60	60	60	60	60	60	60	60	75	105	105	105	105	105	45	45	45	45	45	45	45
Maximum H @ Phi (deg.)	330	330	330	330	330	330	270	270	270	270	135	150	135	150	135	270	270	270	270	270	255	255
Minimum H Value (dBi)	-35.61	-35.55	-36.79	-38.44	-40.2	-36.6	-35.32	-40.2	-31.96	-37.16	-34.07	-33.85	-37.32	-38.29	-40	-49.1	-42.06	-36.92	-38.17	-42.49	-46.27	-45.13
Minimum H @ Theta (deg.)	150	150	150	150	150	150	150	150	150	165	165	0	0	0	0	0	0	0	165	165	165	165
Minimum H @ Phi (deg.)	0	0	0	0	0	0	15	15	330	30	30	30	30	30	30	30	30	30	15	15	15	15
Vertical ()																						
Ant. Port Inp. Pow. (dBi)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V Rad. Pow. (dBi)	-20.28	-20.02	-19.73	-18.99	-18.18	-17.73	-16.87	-16.51	-16.11	-15.83	-15.63	-15.66	-15.81	-15.96	-15.89	-15.67	-15.62	-15.16	-15.09	-15.11	-15.92	-16.41
V Rad. Pow. 0-90 (dBi)	-22.77	-22.49	-22.17	-21.42	-20.6	-20.1	-19.19	-18.78	-18.4	-18.17	-18.03	-18.15	-18.4	-18.59	-18.49	-18.24	-18.15	-17.68	-17.66	-17.76	-18.65	-19.23
V Rad. Pow. 90-180 (dBi)	-23.88	-23.65	-23.4	-22.68	-21.88	-21.49	-20.71	-20.4	-19.98	-19.64	-19.35	-19.25	-19.3	-19.4	-19.34	-19.18	-19.17	-18.71	-18.59	-18.52	-19.23	-19.62
V Peak EIRP (dBi)	-15.71	-15.56	-15.18	-14.35	-13.38	-12.9	-12.12	-11.59	-11.02	-10.8	-10.47	-10.49	-10.71	-10.99	-10.96	-10.75	-10.73	-10.4	-10.39	-10.33	-10.97	-11.27
V Directivity (dBi)	4.57	4.46	4.55	4.64	4.8	4.83	4.75	4.92	5.09	5.03	5.16	5.17	5.1	4.97	4.93	4.92	4.89	4.76	4.7	4.78	4.95	5.14
V Efficiency (dB)	-20.28	-20.02	-19.73	-18.99	-18.18	-17.73	-16.87	-16.51	-16.11	-15.83	-15.63	-15.66	-15.81	-15.96	-15.89	-15.67	-15.62	-15.16	-15.09	-15.11	-15.92	-16.41
V Efficiency (%)	0.94	1	1.06	1.26	1.52	1.69	2.06	2.23	2.45	2.61	2.74	2.72	2.62	2.54	2.58	2.71	2.74	3.05	3.1	3.08	2.56	2.29
V Gain (dBi)	-15.71	-15.56	-15.18	-14.35	-13.38	-12.9	-12.12	-11.59	-11.02	-10.8	-10.47	-10.49	-10.71	-10.99	-10.96	-10.75	-10.73	-10.4	-10.39	-10.33	-10.97	-11.27
V NHPRP +/-30 (dBi)	-23.22	-22.98	-22.7	-21.97	-21.17	-20.68	-19.74	-19.29	-18.84	-18.53	-18.3	-18.33	-18.51	-18.69	-18.6	-18.35	-18.24	-17.74	-17.68	-17.71	-18.55	-19.09
V NHPRP +/-45 (dBi)	-21.83	-21.58	-21.29	-20.56	-19.75	-19.26	-18.35	-17.93	-17.49	-17.18	-16.94	-16.94	-17.1	-17.26	-17.17	-16.92	-16.84	-16.36	-16.29	-16.31	-17.13	-17.66
Maximum V Value (dBi)	-15.71	-15.56	-15.18	-14.35	-13.38	-12.9	-12.12	-11.59	-11.02	-10.8	-10.47	-10.49	-10.71	-10.99	-10.96	-10.75	-10.73	-10.4	-10.39	-10.33	-10.97	-11.27
Maximum V @ Theta (deg.)	75	75	45	45	45	45	45	60	60	60	75	75	75	75	90	90	90	90	90	90	90	90
Maximum V @ Phi (deg.)	240	240	15	15	15	15	15	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210
Minimum V Value (dBi)	-41.06	-46.22	-46.54	-42.81	-42.83	-39.36	-38.73	-34.24	-34.71	-46.43	-38.82	-45.95	-41.84	-42.57	-42.32	-38.56	-39.85	-41.67	-39.15	-39.08	-40	-39.35
Minimum V @ Theta (deg.)	0	120	120	0	0	0	120	120	120	120	15	45	75	75	30	75	165	0	60	60	60	150
Minimum V @ Phi (deg.)	315	135	135	300	300	300	120	120	135	135	285	105	300	300	120	105	285	105	105	105	105	120

466MHz	469MHz	472MHz	475MHz	478MHz	481MHz	484MHz	487MHz	490MHz	493MHz	496MHz	499MHz	502MHz
0	0	0	0	0	0	0	0	0	0	0	0	0
-10.15	-10.33	-10.76	-10.92	-11.35	-11.66	-12.14	-12.58	-13.15	-13.16	-13.11	-13.61	-13.94
-12.94	-13.12	-13.55	-13.7	-14.1	-14.39	-14.84	-15.25	-15.83	-15.86	-15.82	-16.33	-16.68
-13.39	-13.57	-14.01	-14.18	-14.63	-14.97	-15.49	-15.95	-16.53	-16.51	-16.45	-16.92	-17.25
-7.41	-7.6	-8.13	-8.31	-8.71	-9.03	-9.49	-9.97	-10.59	-10.57	-10.45	-10.9	-11.28
2.74	2.73	2.63	2.61	2.64	2.63	2.65	2.61	2.56	2.59	2.66	2.71	2.66
-10.15	-10.33	-10.76	-10.92	-11.35	-11.66	-12.14	-12.58	-13.15	-13.16	-13.11	-13.61	-13.94
9.66	9.27	8.39	8.09	7.33	6.82	6.11	5.52	4.84	4.83	4.89	4.36	4.04
-7.41	-7.6	-8.13	-8.31	-8.71	-9.03	-9.49	-9.97	-10.59	-10.57	-10.45	-10.9	-11.28
-12.54	-12.7	-13.13	-13.27	-13.69	-14	-14.48	-14.91	-15.49	-15.52	-15.48	-15.98	-16.32
-11.21	-11.37	-11.8	-11.95	-12.37	-12.69	-13.17	-13.62	-14.2	-14.22	-14.17	-14.67	-15
-7.41	-7.6	-8.13	-8.31	-8.71	-9.03	-9.49	-9.97	-10.59	-10.57	-10.45	-10.9	-11.28
90	90	90	90	105	105	105	105	90	90	90	90	90
210	210	210	195	180	180	180	180	180	180	180	195	180
-20.38	-21.17	-22.08	-22.83	-23.9	-25.3	-26.31	-26.1	-25.62	-24.65	-24.05	-24.53	-24.94
150	150	150	150	30	30	30	30	150	150	150	150	150
285	285	285	285	105	105	105	105	270	270	270	270	270
0	0	0	0	0	0	0	0	0	0	0	0	0
-11.28	-11.42	-11.83	-11.96	-12.42	-12.78	-13.32	-13.83	-14.48	-14.57	-14.54	-15.02	-15.33
-14.05	-14.18	-14.58	-14.69	-15.12	-15.46	-15.98	-16.48	-17.14	-17.26	-17.24	-17.73	-18.05
-14.56	-14.7	-15.12	-15.27	-15.76	-16.14	-16.71	-17.24	-17.87	-17.94	-17.89	-18.35	-18.66
-8.42	-8.67	-9.23	-9.37	-9.7	-10	-10.31	-10.78	-11.47	-11.64	-11.6	-12.05	-12.3
2.86	2.75	2.6	2.59	2.72	2.78	3.01	3.05	3.01	2.93	2.94	2.97	3.03
-11.28	-11.42	-11.83	-11.96	-12.42	-12.78	-13.32	-13.83	-14.48	-14.57	-14.54	-15.02	-15.33
7.45	7.21	6.56	6.37	5.73	5.27	4.66	4.14	3.56	3.49	3.52	3.15	2.93
-8.42	-8.67	-9.23	-9.37	-9.7	-10	-10.31	-10.78	-11.47	-11.64	-11.6	-12.05	-12.3
-13.58	-13.69	-14.07	-14.19	-14.63	-14.97	-15.5	-16	-16.66	-16.76	-16.74	-17.22	-17.55
-12.28	-12.4	-12.8	-12.92	-13.36	-13.72	-14.26	-14.78	-15.43	-15.54	-15.5	-15.98	-16.29
-8.42	-8.67	-9.23	-9.37	-9.7	-10	-10.31	-10.78	-11.47	-11.64	-11.6	-12.05	-12.3
45	45	45	45	45	45	45	45	45	45	45	45	45
255	255	270	270	270	270	270	270	300	300	300	300	300
-43.47	-42.37	-41.82	-41.99	-40.83	-41.09	-42.36	-46.92	-46.05	-56.25	-45.66	-41.75	-43.97
165	165	165	165	165	0	0	15	0	0	0	0	0
15	15	15	15	15	30	30	180	30	30	30	30	210
0	0	0	0	0	0	0	0	0	0	0	0	0
-16.54	-16.85	-17.39	-17.64	-17.95	-18.1	-18.37	-18.58	-18.95	-18.73	-18.64	-19.18	-19.57
-19.43	-19.77	-20.34	-20.59	-20.88	-20.99	-21.2	-21.35	-21.67	-21.46	-21.37	-21.93	-22.33
-19.68	-19.96	-20.47	-20.71	-21.05	-21.24	-21.58	-21.85	-22.26	-22.03	-21.95	-22.45	-22.83
-11.4	-11.58	-12.26	-12.56	-12.93	-13.25	-13.69	-14.14	-14.54	-14.18	-13.94	-14.25	-14.66
5.14	5.27	5.13	5.08	5.02	4.85	4.68	4.44	4.41	4.55	4.7	4.93	4.91
-16.54	-16.85	-17.39	-17.64	-17.95	-18.1	-18.37	-18.58	-18.95	-18.73	-18.64	-19.18	-19.57
2.22	2.07	1.82	1.72	1.6	1.55	1.46	1.39	1.27	1.34	1.37	1.21	1.1
-11.4	-11.58	-12.26	-12.56	-12.93	-13.25	-13.69	-14.14	-14.54	-14.18	-13.94	-14.25	-14.66
-19.28	-19.62	-20.2	-20.49	-20.82	-20.99	-21.25	-21.44	-21.78	-21.56	-21.46	-22.02	-22.43
-17.81	-18.13	-18.68	-18.95	-19.27	-19.44	-19.7	-19.91	-20.26	-20.04	-19.96	-20.51	-20.91
-11.4	-11.58	-12.26	-12.56	-12.93	-13.25	-13.69	-14.14	-14.54	-14.18	-13.94	-14.25	-14.66
90	90	90	90	90	105	90	105	90	90	90	90	90
195	195	195	195	195	195	195	195	195	195	180	195	195
-38.57	-41.95	-45.35	-46.26	-47.31	-44.84	-41.98	-43.06	-46.75	-48.04	-49.58	-47.16	-45.42
165	165	165	60	60	60	60	15	75	165	165	165	165
120	120	120	105	105	105	105	105	90	105	105	105	105