



Penta Band PCB Antenna

MODEL: EPH-502

An internal LTE antenna for any telemetry applications



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Features:

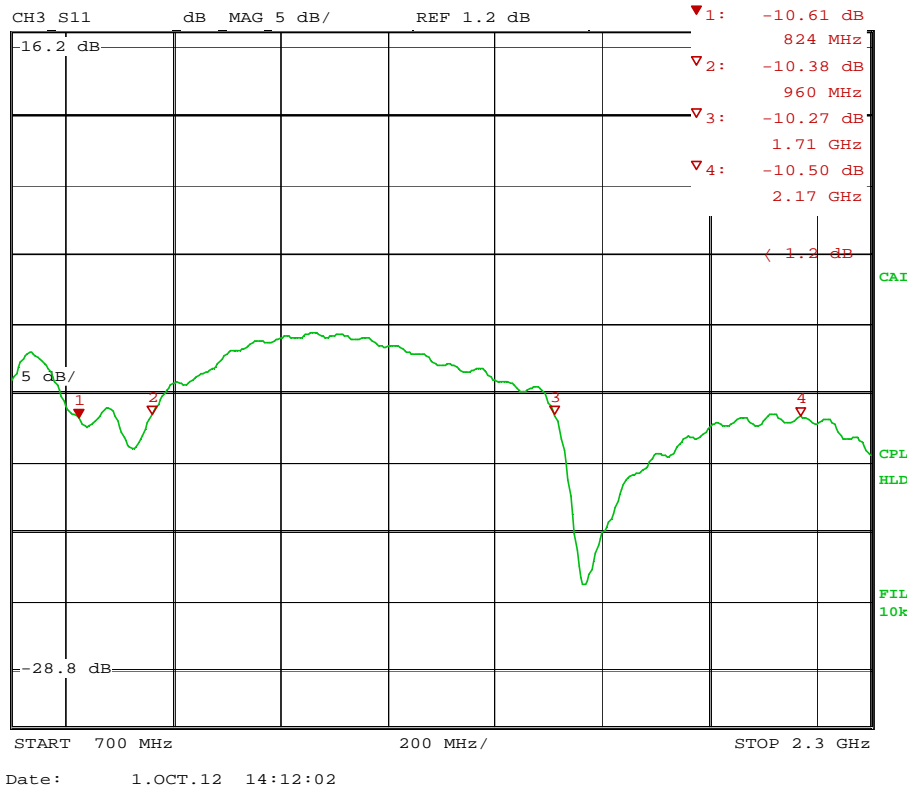
1. Low profile structure without a whip
2. 3M 4218P double sided adhesive
3. Heat shrink around the antenna to protect the antenna PCB

- Specification:

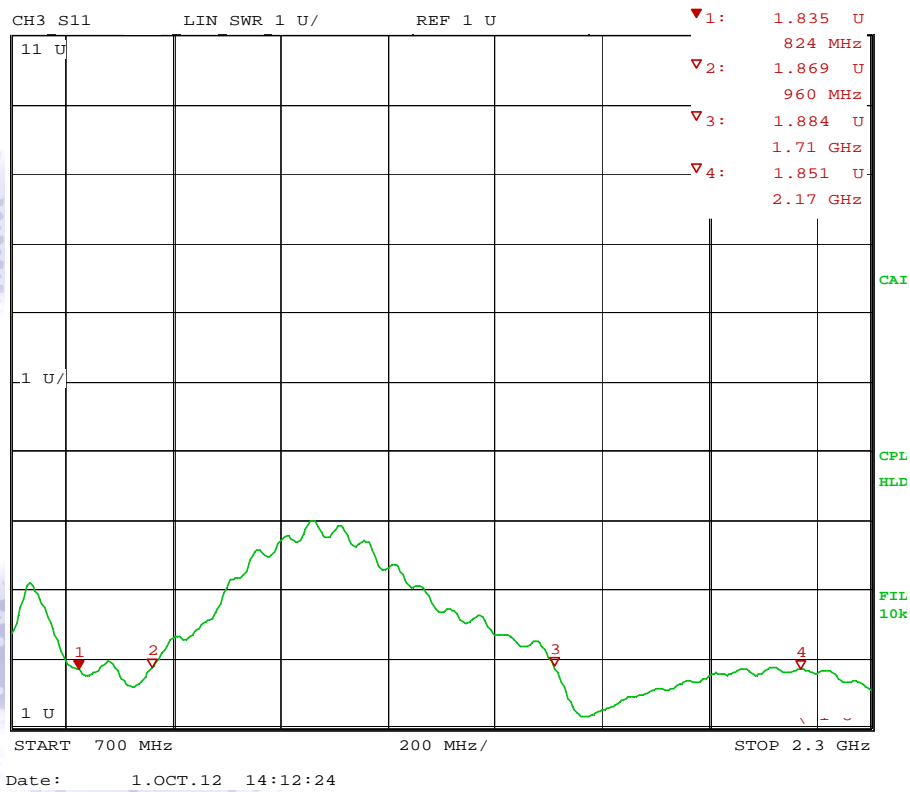
Category	Communication Antenna
Frequency	704~960; 1710~2690MHz
Peak Gain	3.57 dBi, under a 1.8m RG-174 cable
V.S.W.R	≤ 1.88 (with 1.8m cable)
Noise Figure	-
Impedance	50 Ohm
Cable/Connector	6 ft RG174 cable/ SMA(SP)
Efficiency	65.96% at 960MHz
Polarization	Linear
Power Handling Capacity	10W
Dimension	103.4mm(L) * 14.7mm(W) or 4.07"(L) * 0.57"(W)
Operation Temperature	-40°C to +80°C
Storage Temperature	-45°C to +100°C

* This specification is subject to change without prior notice

- Return Loss



-VSWR





- Antenna Gain Chart (Tested in SANAV anechoic chamber, under the CTIA regulation)

Frequency (MHz)	704	734	756	768	787	824	868	880	915	960
Tot. Rad. Pwr. (dBm)	-5.66	-2.04	-1.6	-1.64	-2.66	-4.85	-4.95	-4.86	-3.01	-3.23
Peak EIRP (dBm)	0.9	2.96	3.51	3.67	3.03	2.01	1	1.55	2.97	2.58
Directivity (dBi)	6.56	5	5.11	5.31	5.69	6.86	5.94	6.41	5.98	5.81
Efficiency (dB)	-5.66	-2.04	-1.6	-1.64	-2.66	-4.85	-4.95	-4.86	-3.01	-3.23
Efficiency (%)	27.15	62.48	69.14	68.56	54.23	32.73	32.02	32.69	50	47.57
Gain (dBi)	0.9	2.96	3.51	3.67	3.03	2.01	1	1.55	2.97	2.58
Boresight Phi (°)	285	285	255	270	270	285	270	270	300	330
Boresight Th. (°)	120	120	135	135	135	135	135	135	105	105
Maximum Power (dBm)	0.9	2.96	3.51	3.67	3.03	2.01	1	1.55	2.97	2.58
Minimum Power (dBm)	-17.19	-15.29	-12.64	-17.49	-16.59	-12.93	-14.96	-20.34	-15.06	-14.99
Average Power (dBm)	-5.26	-2.29	-1.99	-2.12	-3.01	-4.45	-4.81	-4.85	-3.49	-3.49
Max/Min Ratio (dB)	18.09	18.25	16.15	21.16	19.62	14.94	15.96	21.89	18.02	17.57
Max/Avg Ratio (dB)	6.56	5	5.11	5.31	5.69	6.86	5.94	6.41	5.98	5.81
Min/Avg Ratio (dB)	-11.53	-13.24	-11.03	-15.85	-13.93	-8.08	-10.02	-15.48	-12.05	-11.77
Average Gain (dB)	-5.66	-2.04	-1.6	-1.64	-2.66	-4.85	-4.95	-4.86	-3.01	-3.23
Upper Hem. PRP (dBm)	-8.48	-4.64	-4.28	-4.3	-5.31	-8.27	-8.6	-8.67	-6.83	-6.88
Lower Hem. PRP (dBm)	-9.16	-5.34	-4.49	-4.41	-5.16	-6.74	-6.61	-6.32	-4.26	-5.15

Frequency (MHz)	1710	1785	1805	1850	1880	1920	1990	2110	2170	2300	2400	2500	2570	2620	2690
Tot. Rad. Pwr. (dBm)	-4.39	-5.37	-5.02	-5.64	-6.36	-6.53	-5.36	-6.52	-5.78	-4.1	-5.15	-4.84	-4.8	-5.21	-4.92
Peak EIRP (dBm)	-0.3	-1.28	-0.91	-1.5	-2.32	-2.45	-2.09	-2.63	-1.05	1.81	-0.73	-0.03	1.27	-0.06	-0.66
Directivity (dBi)	4.09	4.09	4.11	4.14	4.04	4.08	3.27	3.89	4.74	5.91	4.42	4.81	6.07	5.15	4.26
Efficiency (dB)	-4.39	-5.37	-5.02	-5.64	-6.36	-6.53	-5.36	-6.52	-5.78	-4.1	-5.15	-4.84	-4.8	-5.21	-4.92
Efficiency (%)	36.4	29.07	31.51	27.28	23.1	22.23	29.09	22.31	26.4	38.87	30.57	32.77	33.09	30.12	32.19
Gain (dBi)	-0.3	-1.28	-0.91	-1.5	-2.32	-2.45	-2.09	-2.63	-1.05	1.81	-0.73	-0.03	1.27	-0.06	-0.66
Boresight Phi (°)	285	45	60	0	0	120	60	0	0	0	60	285	0	0	180
Boresight Th. (°)	105	75	75	75	75	120	75	75	75	60	165	105	90	90	120
Maximum Power (dBm)	-0.3	-1.28	-0.91	-1.5	-2.32	-2.45	-2.09	-2.63	-1.05	1.81	-0.73	-0.03	1.27	-0.06	-0.66
Minimum Power (dBm)	-16.49	-19.74	-16.86	-23.07	-20.52	-18.63	-15.76	-20.99	-19.27	-19.46	-16.2	-17.81	-20.21	-19.34	-20.7
Average Power (dBm)	-4.26	-5.47	-5.21	-5.71	-6.38	-6.54	-5.49	-6.86	-6.46	-4.83	-4.89	-4.96	-5.17	-5.58	-5.45
Max/Min Ratio (dB)	16.19	18.45	15.95	21.56	18.19	16.18	13.66	18.36	18.22	21.26	15.47	17.78	21.48	19.28	20.04
Max/Avg Ratio (dB)	4.09	4.09	4.11	4.14	4.04	4.08	3.27	3.89	4.74	5.91	4.42	4.81	6.07	5.15	4.26
Min/Avg Ratio (dB)	-12.1	-14.37	-11.84	-17.43	-14.15	-12.1	-10.4	-14.48	-13.49	-15.35	-11.05	-12.96	-15.4	-14.13	-15.78
Average Gain (dB)	-4.39	-5.37	-5.02	-5.64	-6.36	-6.53	-5.36	-6.52	-5.78	-4.1	-5.15	-4.84	-4.8	-5.21	-4.92
Upper Hem. PRP (dBm)	-6.98	-7.91	-7.67	-8.46	-9.23	-8.88	-7.39	-8.27	-6.99	-5.35	-7.19	-7.53	-7.37	-7.89	-7.92
Lower Hem. PRP (dBm)	-6.22	-7.18	-6.79	-7.43	-8.43	-9.63	-8.65	-9.56	-9.96	-9.67	-7.99	-7.32	-7.29	-7.55	-6.85