

FPC-LEG-S4

Flexible LTE & GPS Combo Antenna



Product Description

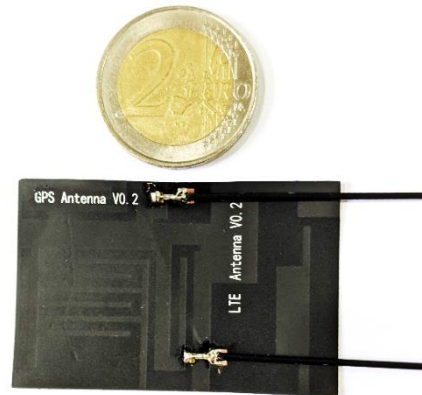
FPC-LEG-S4 is a GPS + cellular LTE combination antenna, which is made of flexible PCB and 2 coaxial cables with iPex connectors. The self-grounded and one-piece design combo antenna is easy to install for wireless devices that requires high-quality GPS reception and wide cellular bands. Miniaturized size and thin/extremely low-profile save the space required.

Highlight

- ✓ High performance antenna element
- ✓ Ground independent design
- ✓ Side-entry cable design
- ✓ Cable type/length & connector can be customized upon customer's request.
- ✓ Suitable to embed in a portable cellular wireless device without compromising performance

Feature

- ✓ Support GPS plus 2G /3G /4G cellular frequencies
- ✓ Designed for worldwide LTE applications



Mechanical Specification

Dimension	50.8mm(L) x 33.5mm(W)
Mounting	3M adhesive tape
Cable	OD1.37 or OD1.13 cable – standard * 2
Connector	IPEX – standard * 2
Material	Flexible PCB
Operation Temperature	-30°C ~ +80°C
Storage Temperature	-40°C ~ +85°C
Weight	10g with a 100mm 1.13 cable

Electrical Specification - Cellular

Frequency	698~915 & 1710~2700MHz
Gain(Peak)	1.78 dBi @ 698~960MHz 3.76 dBi @ 1710~2700MHz
Efficiency	42.74% @ 698~915MHz 56.85% @ 1710~2700MHz
Impedance	50Ω
Polarization	Linear

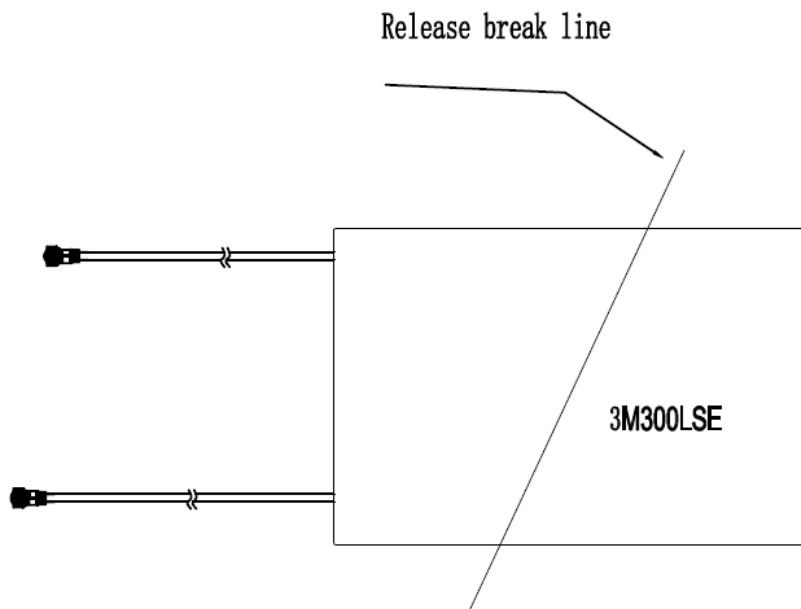
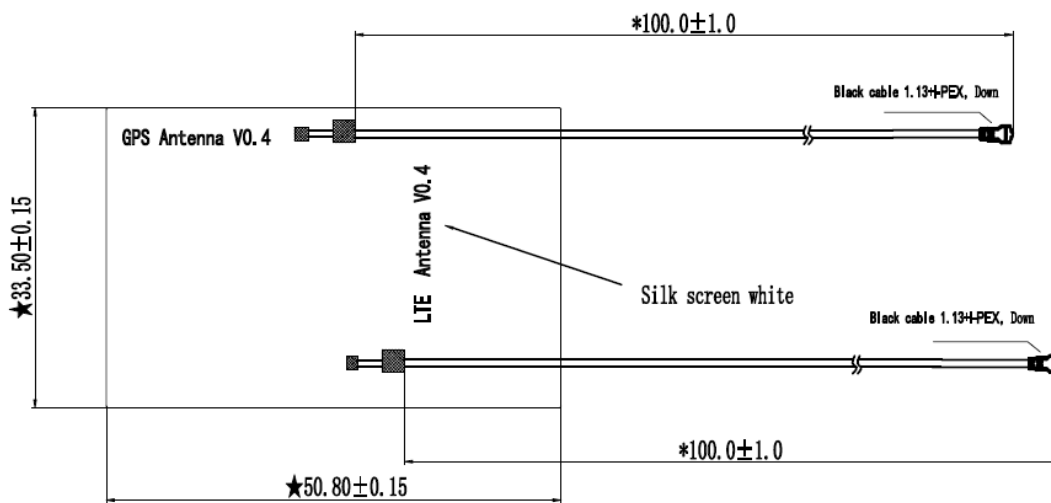
FPC-LEG-S4

Compact High Performance Flexible LTE & GPS Antenna

Electrical Specification - GPS

Frequency	1575MHz
Gain(Peak)	0.80dBi @ 1575MHz
Efficiency	43.73% @ 1575MHz
Impedance	50Ω
Polarization	Linear

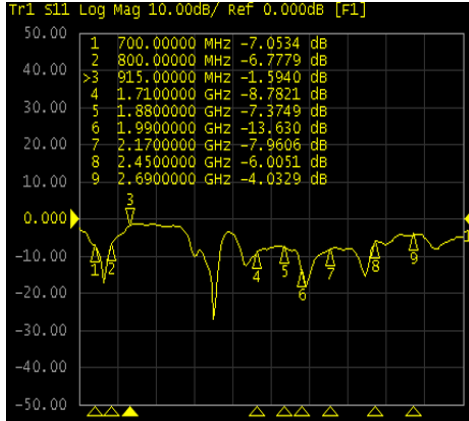
Antenna Drawing



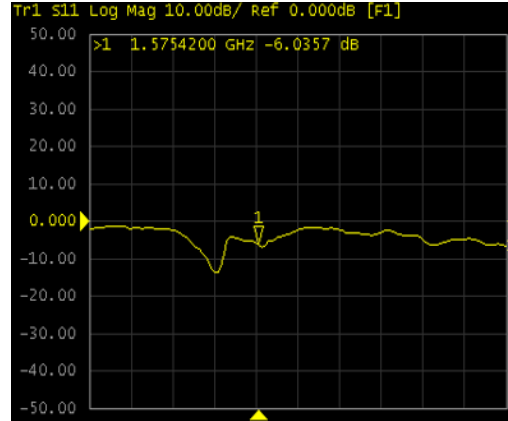
Antenna Measurement _ Return & VSWR

- Return Loss Curve

LTE

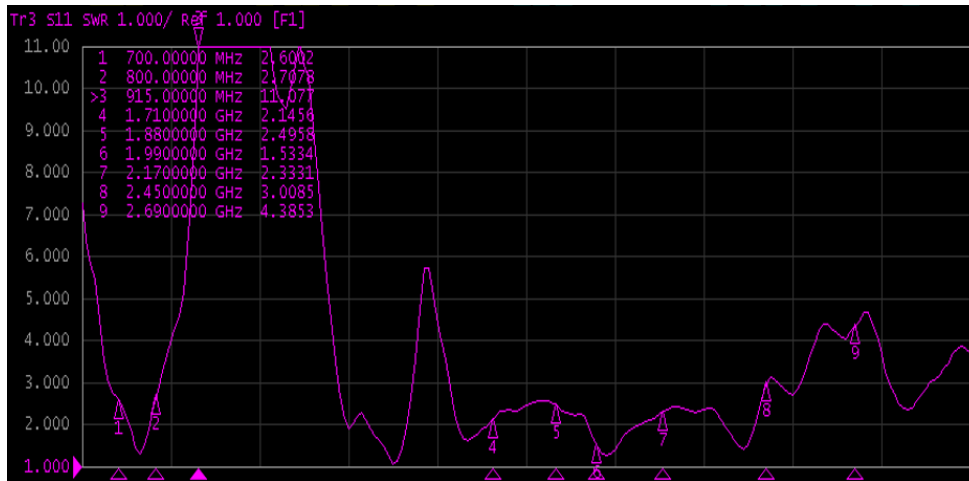


GPS

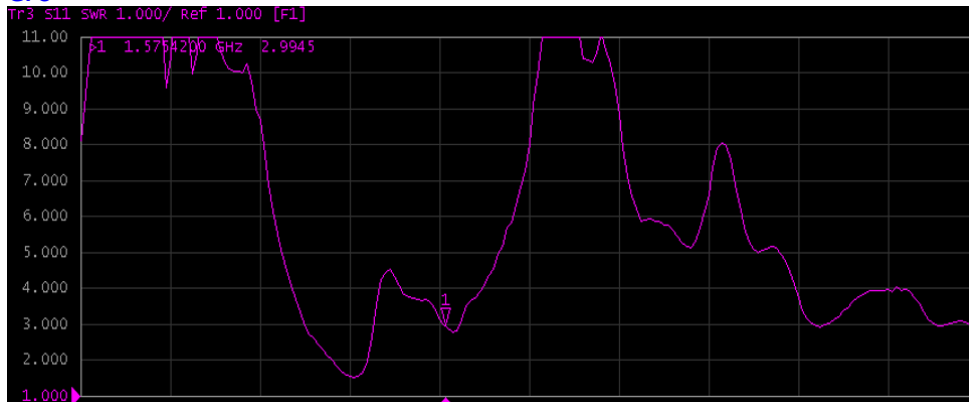


- VSWR Curve

LTE



GPS



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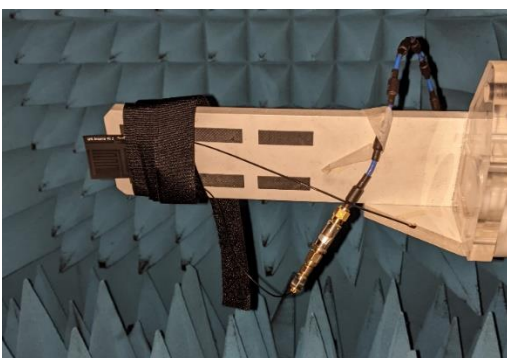
Compact High Performance Flexible LTE & GPS Antenna



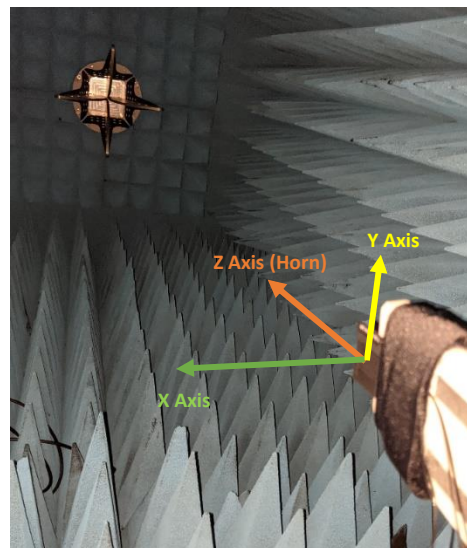
Antenna Measurement _ Gain & Efficiency

Frequency	Efficiency	Gain	Frequency	Efficiency	Gain	Frequency	Efficiency	Gain
LTE Performance			1800	52.02%	2.34	2360	56.85%	3.76
700	31.54%	-0.35	1820	53.38%	2.28	2380	54.24%	2.81
710	33.18%	0.04	1840	53.88%	2.86	2400	53.04%	1.90
720	34.11%	0.23	1860	52.25%	3.20	2420	51.60%	1.29
730	35.64%	0.54	1880	52.54%	3.10	2440	47.85%	1.94
740	36.02%	0.52	1900	51.05%	2.76	2460	47.53%	2.69
750	38.14%	0.92	1920	50.82%	2.13	2480	49.39%	2.62
760	40.09%	0.91	1940	50.01%	0.99	2500	50.50%	2.22
770	41.03%	1.52	1960	50.18%	1.04	2520	50.25%	1.77
780	42.28%	1.40	1980	51.03%	1.97	2540	49.85%	1.22
790	42.74%	1.78	2000	52.28%	2.64	2560	49.76%	0.74
800	41.10%	0.92	2020	53.20%	2.26	2580	48.40%	0.18
810	40.64%	0.70	2040	51.30%	2.46	2600	47.02%	1.12
820	37.87%	0.52	2060	52.04%	1.57	2620	48.07%	1.30
830	36.58%	0.24	2080	52.88%	1.71	2640	49.39%	0.74
840	35.05%	-0.27	2100	53.47%	1.85	2660	46.29%	0.69
850	34.51%	-0.48	2120	52.42%	2.01	2680	43.54%	0.89
860	34.16%	-0.77	2140	55.32%	1.97	2700	40.12%	0.45
870	32.80%	-0.95	2160	54.25%	1.91	GPS Performance		
880	31.46%	-1.21	2180	54.91%	2.03	1568	43.90%	0.81
890	30.81%	-1.56	2200	54.26%	1.97	1570	43.95%	0.79
900	28.84%	-1.97	2220	55.97%	2.06	1572	43.88%	0.84
910	27.39%	-2.40	2240	52.46%	2.29	1574	43.76%	0.81
1700	54.72%	1.29	2260	49.56%	2.53	1576	43.70%	0.79
1720	53.65%	1.19	2280	49.23%	3.07	1578	43.51%	0.77
1740	53.81%	2.09	2300	51.18%	3.42	1580	43.17%	0.73
1760	52.93%	2.20	2320	53.53%	3.16	1582	42.94%	0.71
1780	52.55%	2.54	2340	53.21%	3.56	1584	42.66%	0.68

Antenna Testing Setup



Antenna put on the rotation table



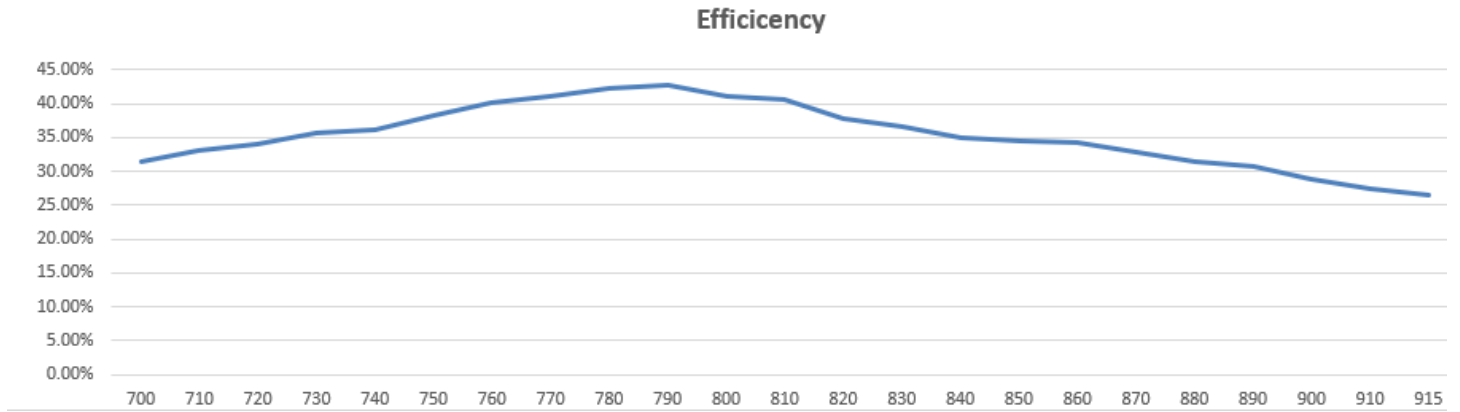
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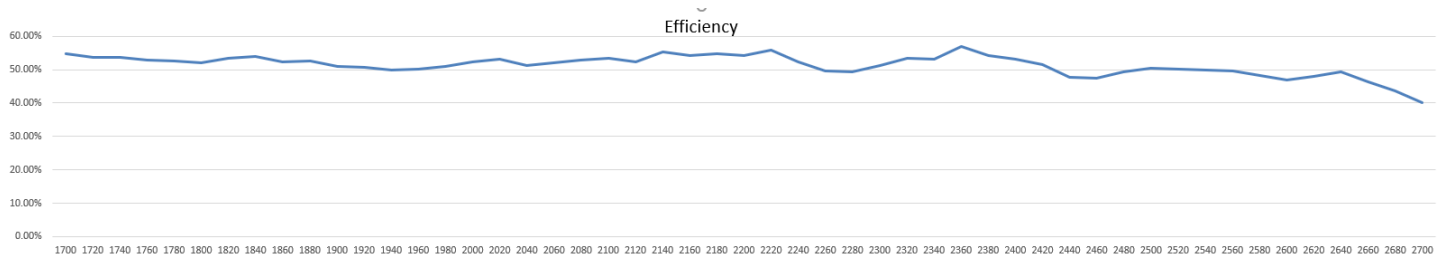
Antenna Efficiency Curve

LTE

- 700 ~ 915MHz



- 1710 ~ 2700MHz



GPS

