LTE MIMO Combo Antenna

Model: DL-9

Wide frequency range antenna support 2G, 3G & 4G applications

- Features:

1. Low profile structure without a whip
2. Screw through hole mount
3. Support 2G, 3G ,4G application bands
4. **Two LTE antennas to improve the communication performance**

- Applications:

1. Vehicle tracking
2. Asset tracking
3. Telemetry Application
4. Fleet management

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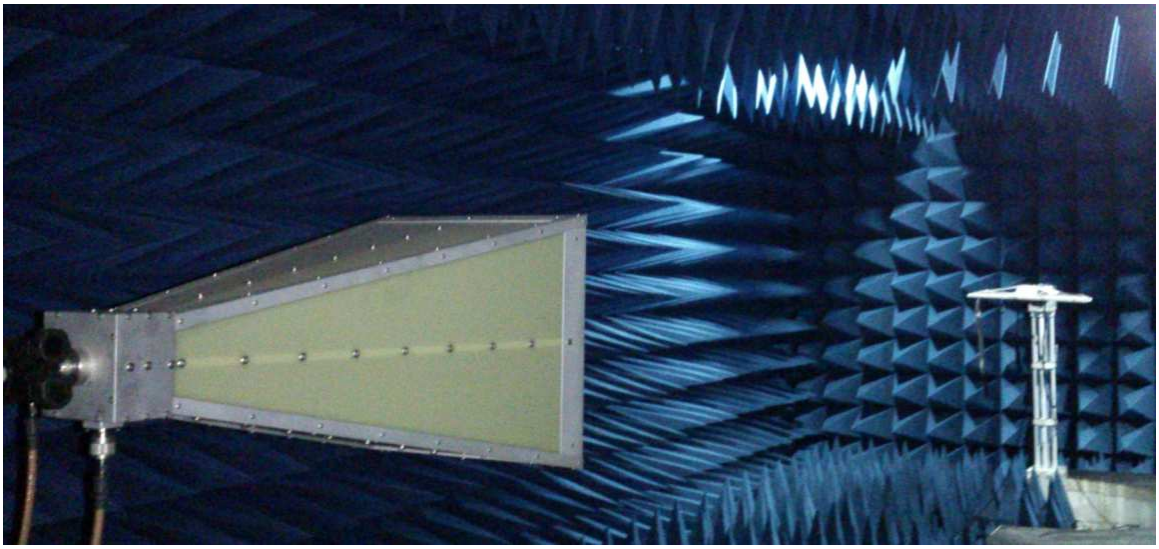
- **Specification:**

Category	LTE Main Antenna	LTE Sub-Antenna
Frequency	704~960MHz; 1710~2690MHz	
Gain	6.1dBi @ 704~960MHZ 5.47dBi@ 1710~2690MHz, with 3m RG-58 cable	4.91dBi @ 704~960MHz 4.45dbi @ 1710~2690MHz, with 3m RG-58 cable
V.S.W.R	<2.4	<2.4
Band Width	256MHz for 704MHZ~960MHz 980MHz for 1710MHz~2690MHz	
Impedance	50 Ohm	
Cable/Connector	3 Meter **RG-58** or other low loss cable, SMA(SP) or other standard connectors	
Polarization	Linear	
Power Handling Capacity	10W	
Dimension	80mm(Dia.) x 37.5mm (H)	
Mounting	Bulkhead mount with 0.8 inch threaded wing nut	
Operation Temperature	-40degC to +80degC	
Storage Temperature	-45degC to +100degC	

Note: This specification is subject to change without prior notice

- Antenna Testing



The direction rotation table & horn antenna

Note:

The Test is completed in San Jose Technology, Inc.

Anechoic chamber, under the CTIA regulations.

- Detail Antenna Gain Table

< LTE Main Antenna>

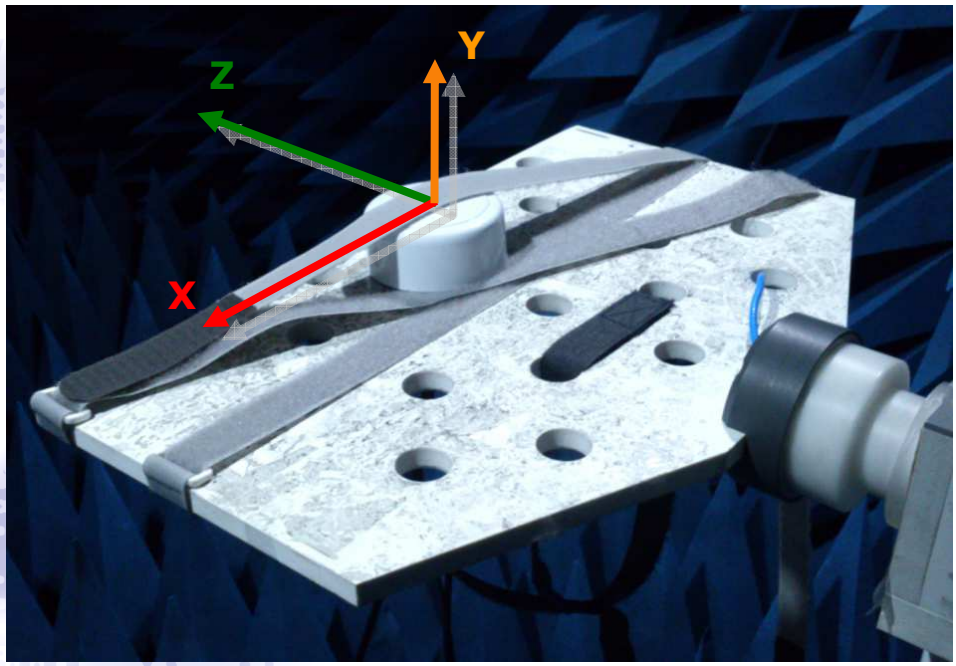
Frequency (MHz)	704	734	756	768	787	824
Efficiency (%)	21.82	44.08	49.33	46.28	45.36	32.66
Gain (dBi)	0.31	4.02	6.1	4.92	4.86	2.76
Average Gain (dB)	-6.61	-3.56	-3.07	-3.35	-3.43	-4.86

Frequency (MHz)	868	880	915	960	1710	1785
Efficiency (%)	27.45	23.75	39.36	45.05	36.29	52.78
Gain (dBi)	3.11	1.68	3.06	2.5	2.39	4.43
Average Gain (dB)	-5.61	-6.24	-4.05	-3.46	-4.4	-2.77

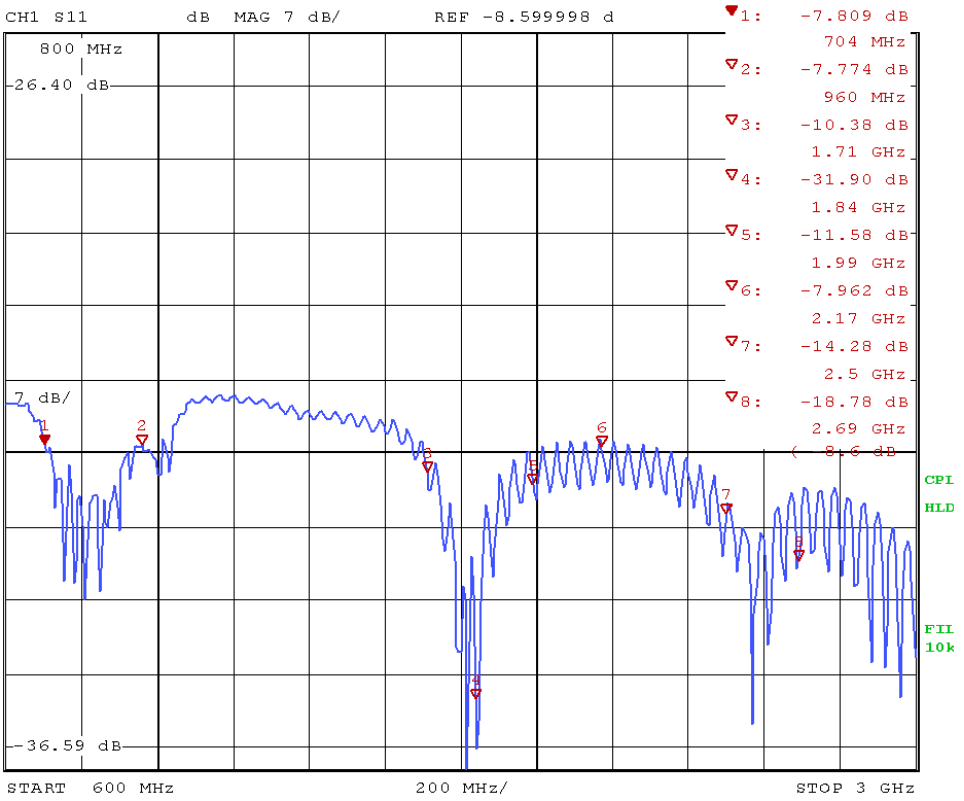
Frequency (MHz)	1805	1850	1880	1920	1990	2110	2140
Efficiency (%)	54.86	55.35	45.21	43	38.38	26.3	29.1
Gain (dBi)	5.47	4.63	4.19	3.73	3.49	1.95	2.57
Average Gain (dB)	-2.61	-2.57	-3.45	-3.67	-4.16	-5.8	-5.36

Frequency (MHz)	2170	2300	2400	2500	2570	2620	2690
Efficiency (%)	27.18	36.41	32.95	33.89	33.44	29.79	30.22
Gain (dBi)	2.25	3.3	3.12	2	1.95	1.62	1.69
Average Gain (dB)	-5.66	-4.39	-4.82	-4.7	-4.76	-5.26	-5.2

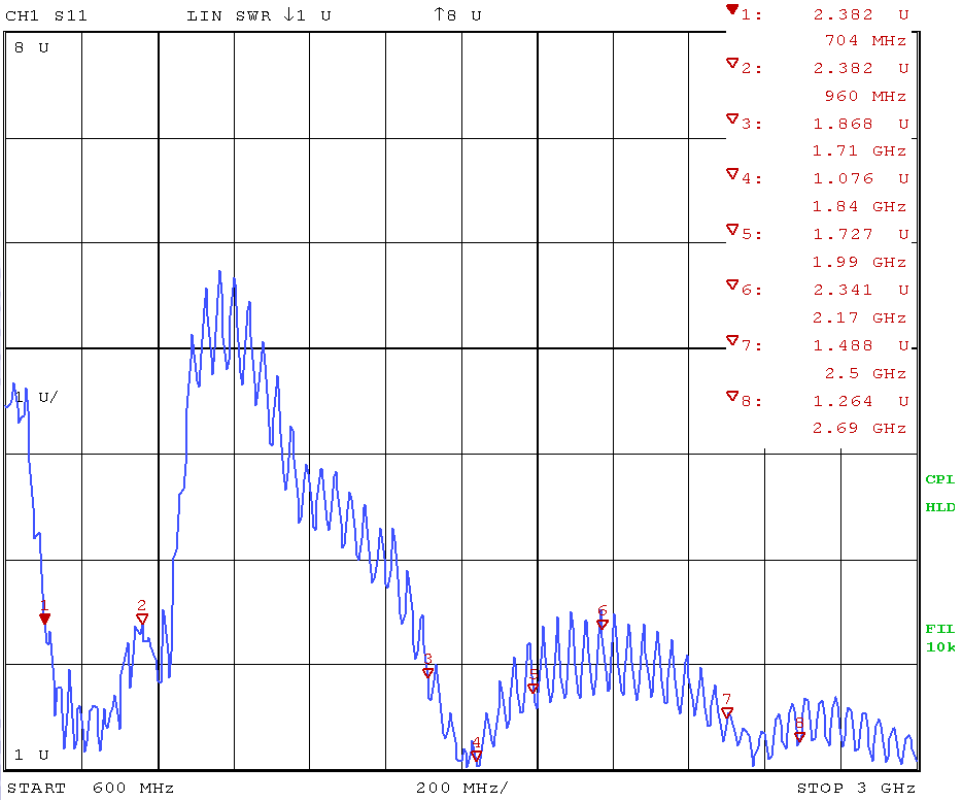
- 3 Axis of antenna



- VSWR & Return (LTE Main Antenna)



Return Loss



VSWR

- Detail Antenna Gain Table

<LTE Secondary Antenna>

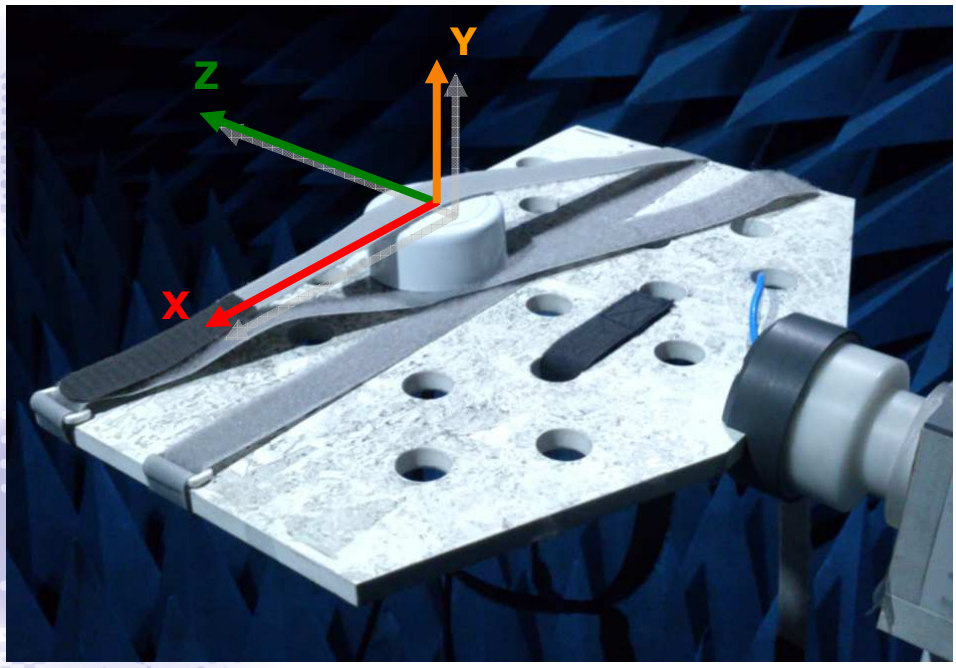
Frequency (MHz)	704	734	756	768	787	824
Efficiency (%)	25.93	54.28	77.84	62.49	61.65	45.06
Gain (dBi)	0.27	4.35	4.91	4.1	3.69	2.45
Average Gain (dB)	-5.86	-2.65	-1.09	-2.04	-2.1	-3.46

Frequency (MHz)	868	880	915	960	1710	1785
Efficiency (%)	37.1	31.64	40.64	42.12	33.63	50.95
Gain (dBi)	1.82	0.99	1.7	2.11	0.01	1.48
Average Gain (dB)	-4.31	-5	-3.91	-3.76	-4.73	-2.93

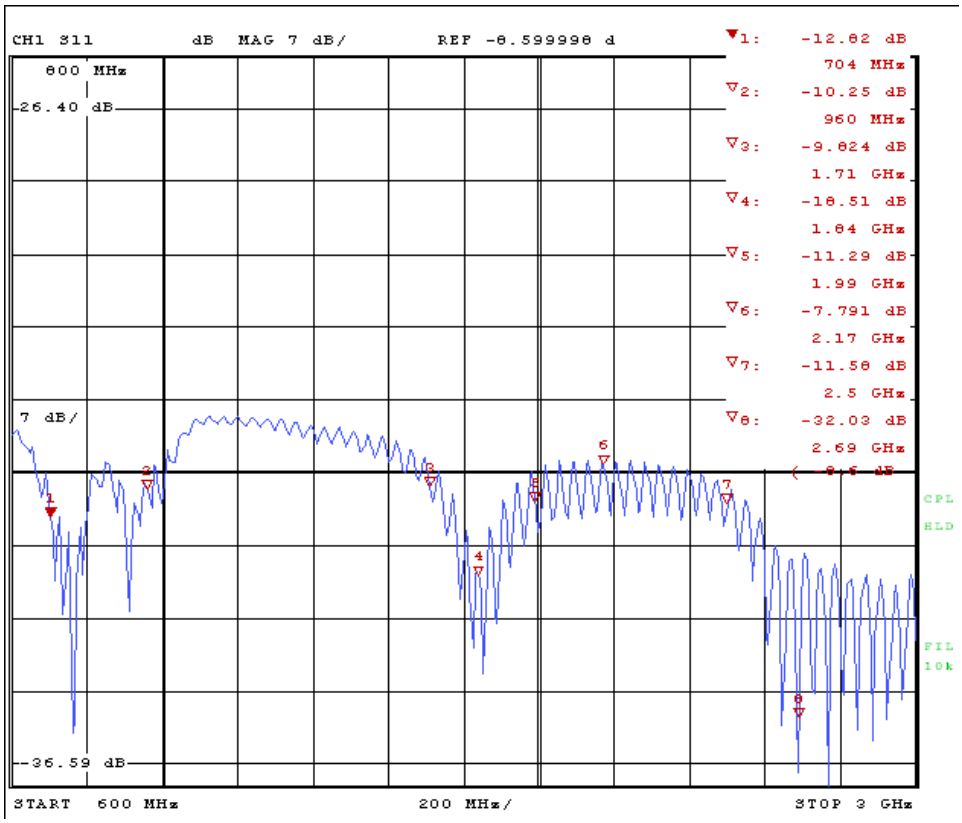
Frequency (MHz)	1805	1850	1880	1920	1990	2110	2140
Efficiency (%)	56.52	57.49	50.2	44.71	44.52	28.56	31.2
Gain (dBi)	3.92	3.79	4.45	3.7	3.46	2.27	3
Average Gain (dB)	-2.48	-2.4	-2.99	-3.5	-3.51	-5.44	-5.06

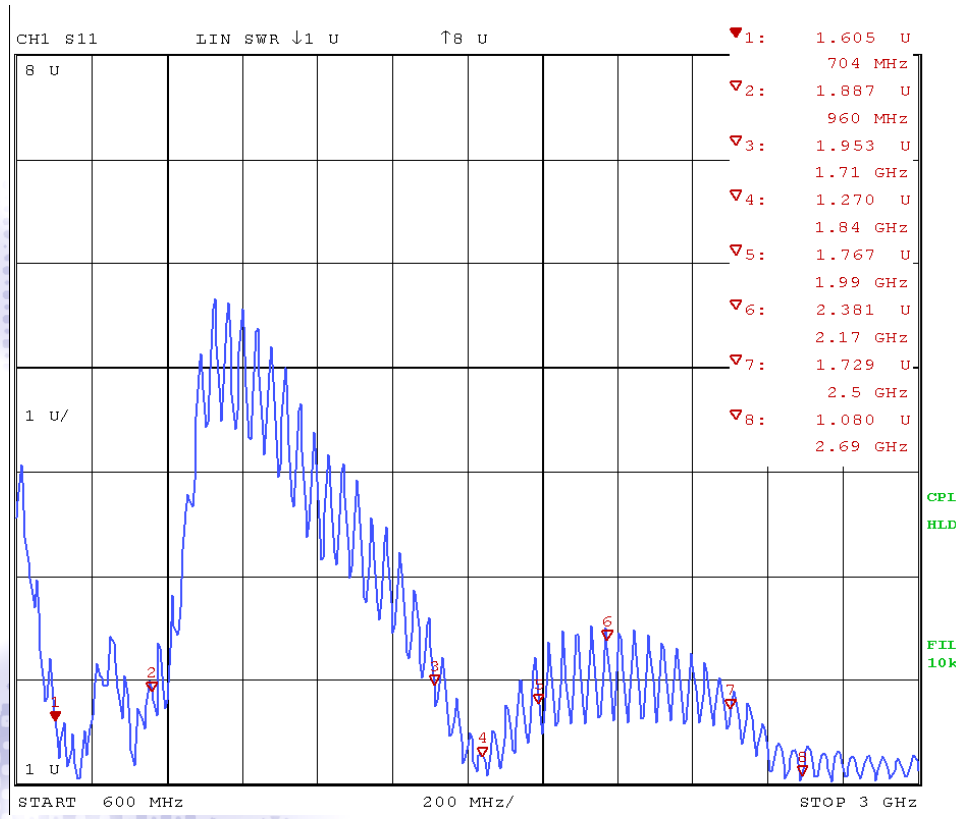
Frequency (MHz)	2170	2300	2400	2500	2570	2620	2690
Efficiency (%)	28.78	35.21	30.41	29.97	35.32	37.63	41.52
Gain (dBi)	2.69	3.79	3.18	0.85	1.45	2.63	2.88
Average Gain (dB)	-5.41	-4.53	-5.17	-5.23	-4.52	-4.24	-3.82

- 3 Axis of antenna



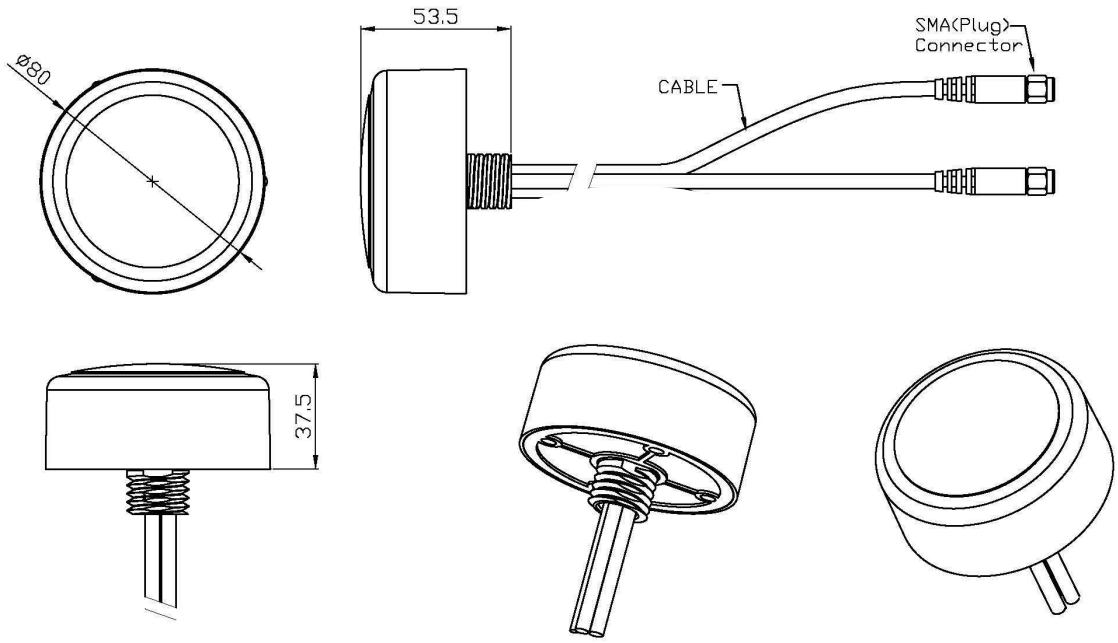
- VSWR & Return (LTE Secondary Antenna)





VSWR

- Antenna Mechanism



Unit: mm