

Data Sheet

CUSTOMER: 虹堡

MODEL NAME: S1E2-UPT

CUSTOMER P/N: ALPEE-100001

AWAN P/N: 311600249001



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1. Description

1.1 Specifications

Antennas Type	Dipole Antenna for LTE application	
Impedance	50Ω	
Polarization	Linear	
Radiation pattern	Omni-directional	
Frequency	LTE	617~960MHz, 1710~2170MHz 2200~2690MHz, 3300~4700MHz, 5000~5925MHz

Frequency range	617-960 MHz	1452-2170 MHz	2200-2690MHz	3300-4700MHz	5000-5925MHz
Peak gain	0.52~4.75dBi	-0.79~2.4dBi	1.32~2.15dBi	1.54~2.69dBi	-0.32~1.21dBi
Efficiency (%)	31~67%	26~50%	36~48%	29~36%	21~26%
VSWR (in Device)	3.5 Max.	3.5 Max.	2.0 Max.	2.0 Max	2.0 Max
Polarization	Linear				
Power handling	1W (cw)				
Impedance	50 Ω				

1.2 Antenna Picture

LTE P/N: ALPEE-100001



2. Electrical Specification

2.1 Test Equipment

Equipment Description	Manufacturer	Identification no.	Current Calibration date	Next calibration date
Universal Radio Communication tester	Anritsu	MT8820C	2024/01/29	2024/07/29
Network Analyzer	Agilent	E5071C	2024/01/29	2024/07/29
Sleeve Dipole	MVG	SD740	2024/01/29	2024/07/29
Dual Ridge Horn	MVG	SH800	2024/01/29	2024/07/29
Dipole antenna	MVG	3126-700	2024/01/29	2024/07/29
Stargate-16-L probe array	MVG	Stargate-16-L	2024/01/29	2024/07/29
Measurement software	MVG	Wave Studio 22.1	N/A	N/A
Wireless protocol tester	R&S	CMW500	2024/01/29	2024/07/29

2.1.2 General Information

Description	Tester	Measured Date
Measured	Nate.wang	2024/07/04

2.2 Test Setup

2.2.1 Frequency Range

- A. LTE : 699~960 MHz
1710~2690 MHz
3300~4700 MHz
5000~5925 MHz

2.2.2 VSWR

- Step 1: The antenna is arranged on the customer provided test fixture.
Step 2: The VSWR of the antenna is measured via Agilent 8720/8753 Network Analyzer (see figure. 1).



Figure.1

2.2.3 Radiation pattern and Gain

- A. The 3D chamber provides less than -40dB reflectivity from 699MHz to 3GHz and a 45cm diameter spherical quiet zone. The measurement results are calibrated using Stargate-16-L probe array (see figure. 2).
- B. The measured results of the radiation patterns and antenna gain are obtained from the control system and showed on the monitor (see figure. 3).
- C. The measured photo is shown in figure. 4

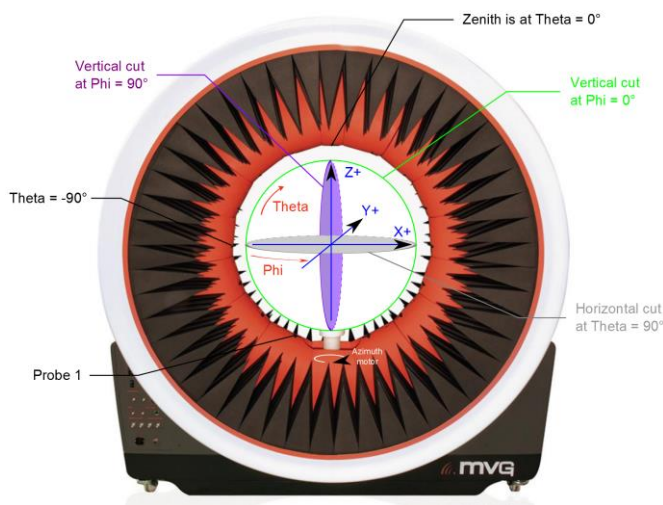


Figure.2

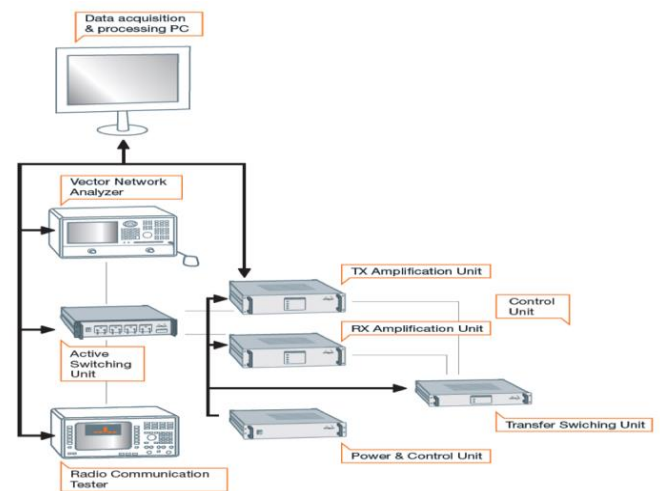


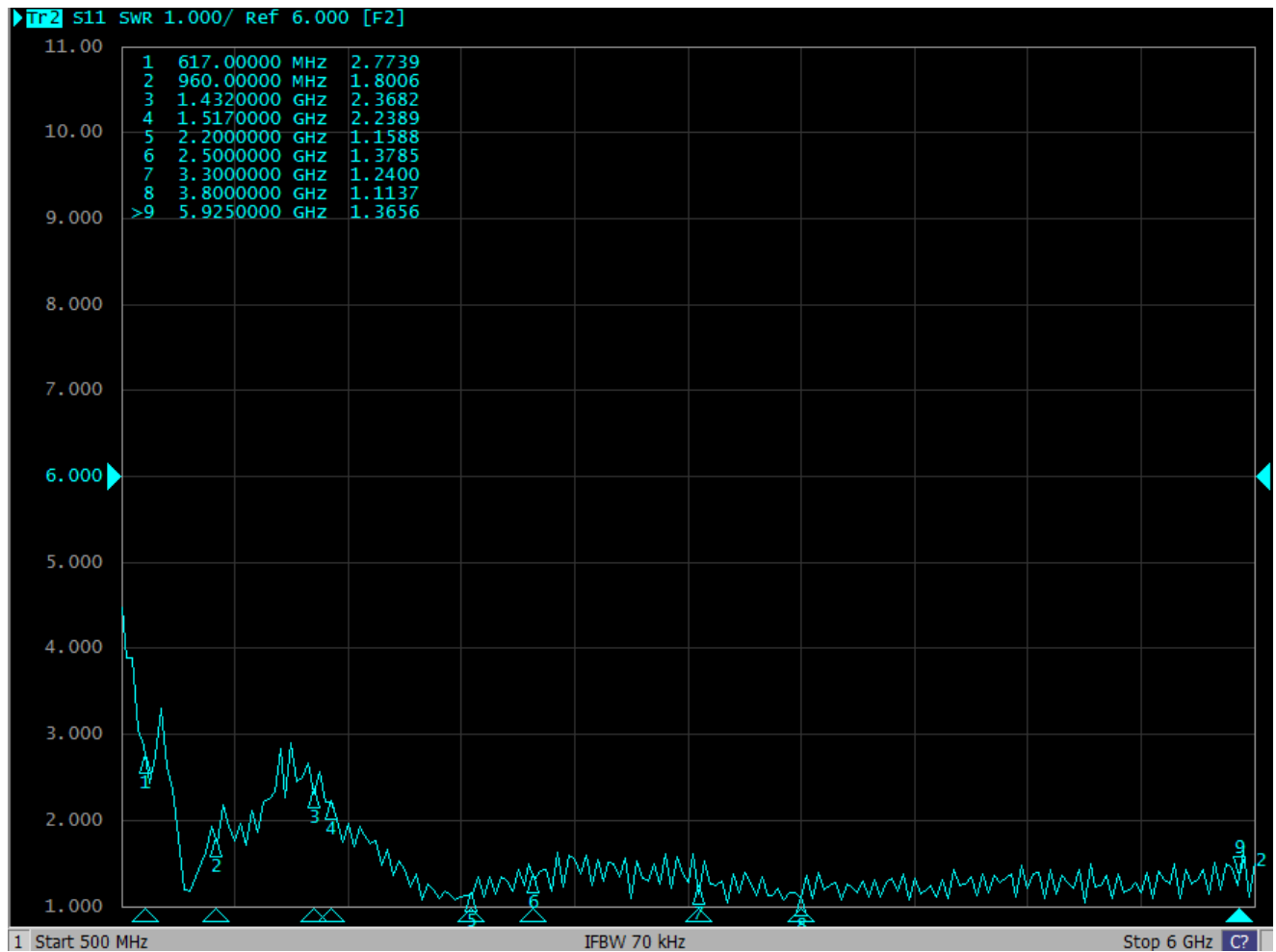
Figure.3



Figure.4

3. Performance Data

3.1 VSWR

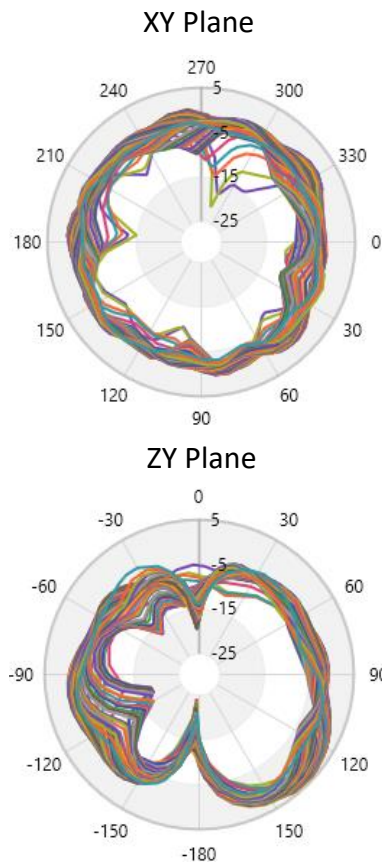


3.2 Radiation pattern & Gain

3.2.1 Antenna pattern

617-960MHz

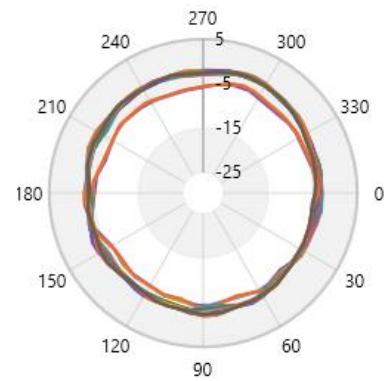
617MHz	798MHz
634.5MHz	803MHz
652MHz	806MHz
663MHz	814MHz
680.5MHz	815MHz
698MHz	821MHz
699MHz	824MHz
703MHz	830MHz
707MHz	831MHz
716MHz	832MHz
717MHz	836MHz
722.5MHz	837.5MHz
725.5MHz	845MHz
728MHz	847MHz
729MHz	849MHz
737MHz	859MHz
746MHz	860MHz
748MHz	862MHz
751MHz	869MHz
756MHz	875MHz
758MHz	876MHz
763MHz	880MHz
768MHz	882.5MHz
777MHz	890MHz
780.5MHz	894MHz
782MHz	900MHz
787MHz	915MHz
788MHz	925MHz
791MHz	940MHz
793MHz	960MHz



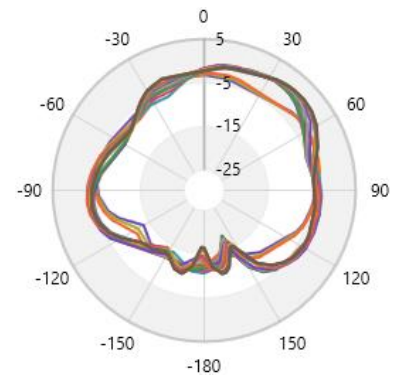
1452-1920MHz

- **1452MHz**
- **1463MHz**
- **1474MHz**
- **1710MHz**
- **1730MHz**
- **1745MHz**
- **1747.5MHz**
- **1749.9MHz**
- **1755MHz**
- **1767.4MHz**
- **1780MHz**
- **1784.9MHz**
- **1785MHz**
- **1805MHz**
- **1840MHz**
- **1842.5MHz**
- **1844.9MHz**
- **1850MHz**
- **1862.4MHz**
- **1879.9MHz**
- **1880MHz**
- **1883MHz**
- **1900MHz**
- **1910MHz**
- **1915MHz**
- **1920MHz**

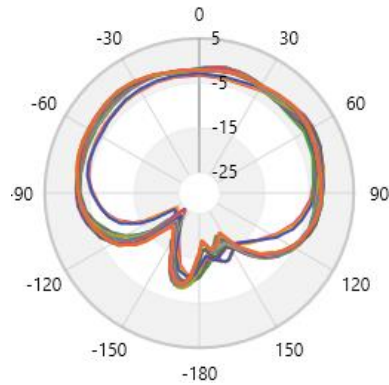
XY Plane



ZX Plane

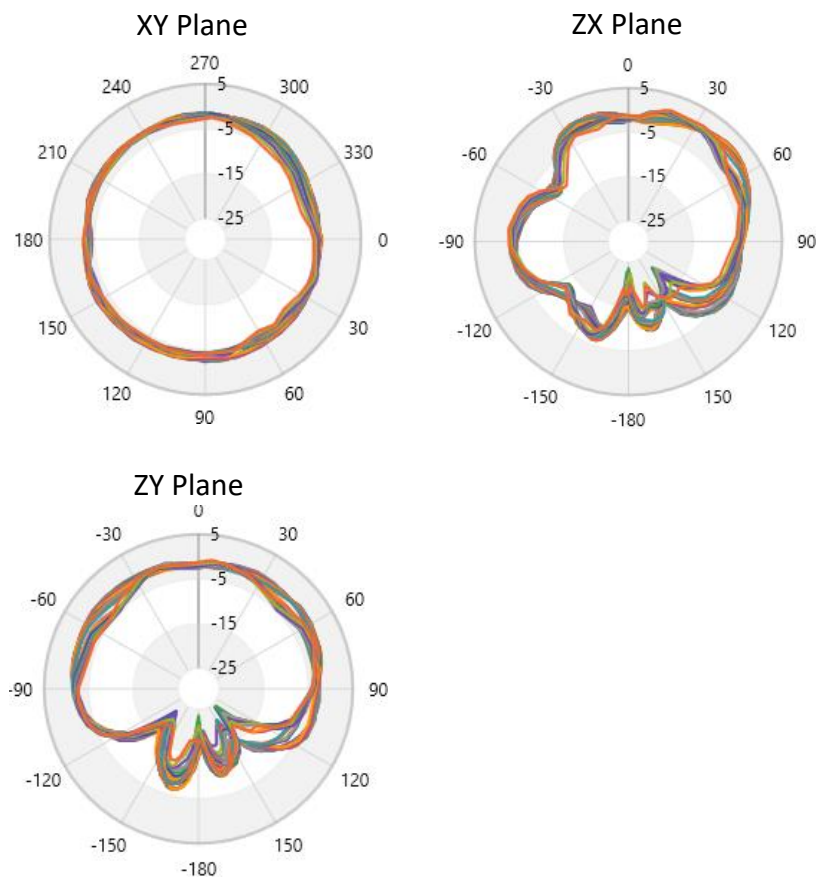


ZY Plane



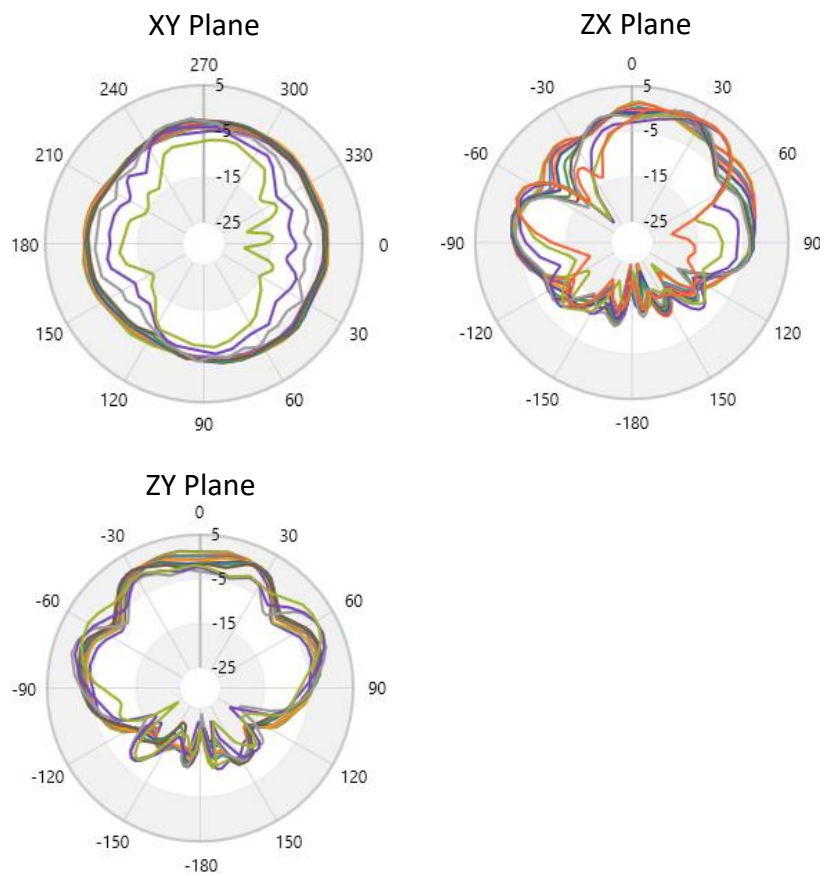
1930-2690MHz

- 1930MHz
- 1950MHz
- 1960MHz
- 1963MHz
- 1980MHz
- 1990MHz
- 1995MHz
- 2010MHz
- 2018MHz
- 2025MHz
- 2110MHz
- 2130MHz
- 2140MHz
- 2155MHz
- 2170MHz
- 2200MHz
- 2300MHz
- 2305MHz
- 2310MHz
- 2315MHz
- 2350MHz
- 2355MHz
- 2360MHz
- 2400MHz
- 2496MHz
- 2500MHz
- 2535MHz
- 2570MHz
- 2593MHz
- 2595MHz
- 2620MHz
- 2655MHz
- 2690MHz



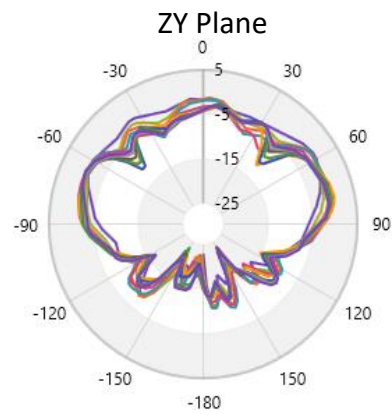
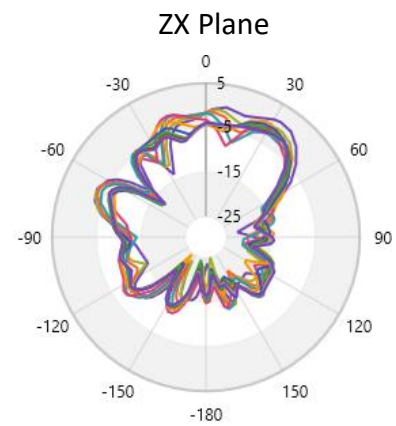
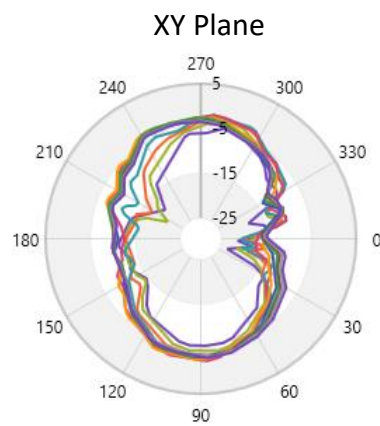
3300-4700MHz

- **3300MHz**
- **3400MHz**
- **3500MHz**
- **3550MHz**
- **3600MHz**
- **3625MHz**
- **3700MHz**
- **3750MHz**
- **3800MHz**
- **4200MHz**
- **4400MHz**
- **4700MHz**



5000-5925MHz

- **5000MHz**
- **5150MHz**
- **5250MHz**
- **5350MHz**
- **5470MHz**
- **5600MHz**
- **5725MHz**
- **5785MHz**
- **5850MHz**
- **5900MHz**
- **5925MHz**



Antenna Gain

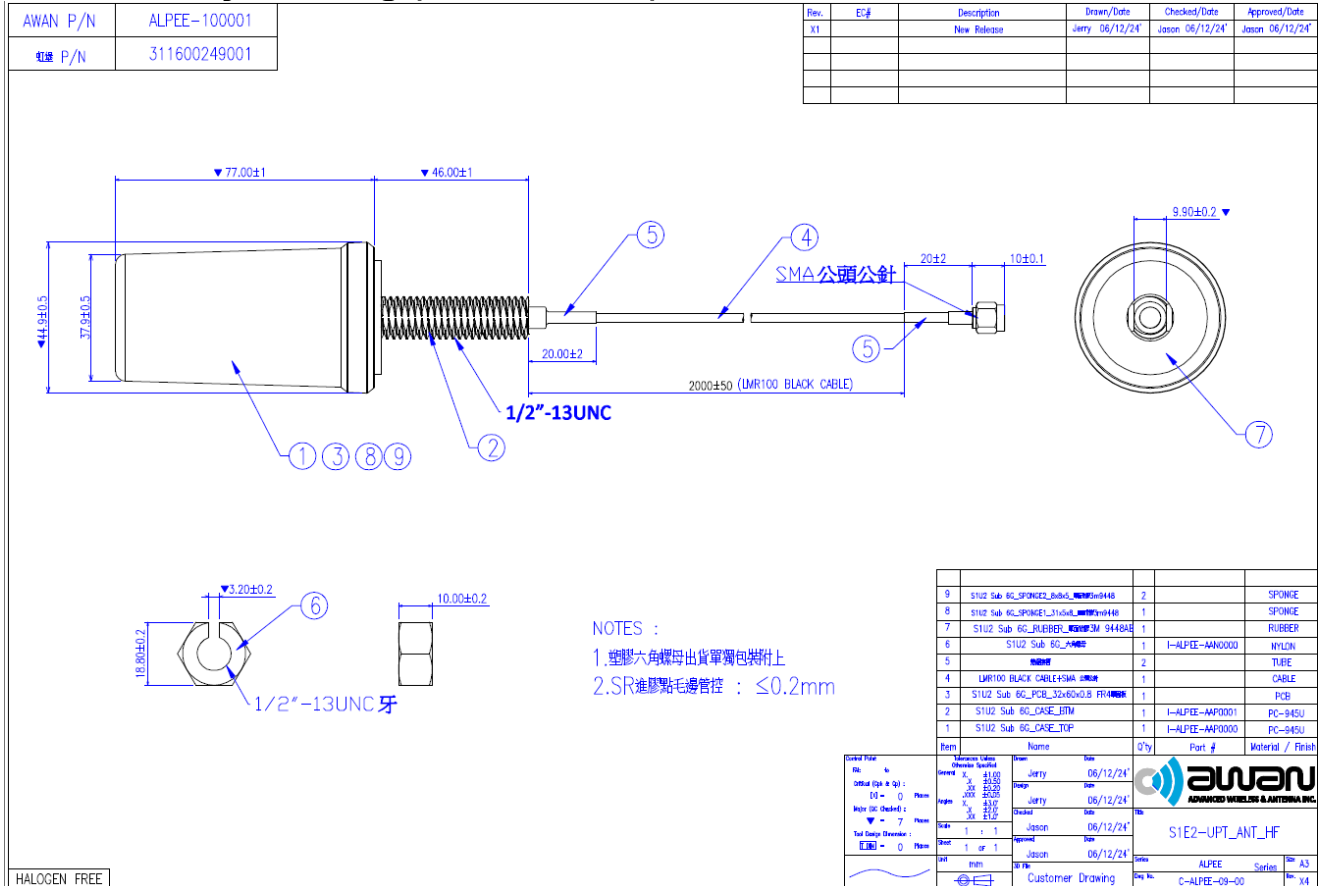
Frequency (MHz)	3D		
	Efficiency	Avg. Gain	Peak Gain
617	37.84	-4.22	1.16
634.5	31.26	-5.05	0.52
652	38.46	-4.15	1.88
663	41.40	-3.83	2.08
680.5	48.31	-3.16	2.69
698	54.95	-2.6	3.95
699	55.46	-2.56	4.01
703	60.95	-2.15	4.45
707	61.38	-2.12	4.52
716	60.12	-2.21	4.52
717	61.52	-2.11	4.69
722.5	63.24	-1.99	4.72
725.5	63.53	-1.97	4.75
728	61.66	-2.1	4.6
729	60.26	-2.2	4.45
737	59.29	-2.27	4.32
746	59.84	-2.23	4.27
748	61.38	-2.12	4.27
751	62.23	-2.06	4.17
756	61.09	-2.14	4.1
758	61.80	-2.09	4.04
763	62.52	-2.04	4.01
768	63.10	-2	4.01
777	63.53	-1.97	3.97
780.5	64.12	-1.93	3.97
782	64.86	-1.88	3.89
787	63.68	-1.96	3.76
788	64.57	-1.9	3.68
791	63.97	-1.94	3.57
793	64.12	-1.93	3.52
798	64.57	-1.9	3.41
803	64.42	-1.91	3.37
806	65.77	-1.82	3.37
814	65.92	-1.81	3.32
815	66.53	-1.77	3.08
821	65.61	-1.83	2.82
824	64.42	-1.91	2.57
830	64.86	-1.88	2.45
831	65.01	-1.87	2.37
832	65.31	-1.85	2.37
836	67.14	-1.73	2.48
837.5	65.46	-1.84	2.42
845	65.77	-1.82	2.49
847	65.46	-1.84	2.55
849	65.77	-1.82	2.67

859	66.83	-1.75	2.79
860	67.61	-1.7	3.15
862	67.14	-1.73	3.21
869	66.83	-1.75	3.24
875	67.30	-1.72	3.46
876	66.99	-1.74	3.45
880	65.92	-1.81	3.4
882.5	65.77	-1.82	3.48
890	64.42	-1.91	3.4
894	64.12	-1.93	3.4
900	63.68	-1.96	3.46
915	63.53	-1.97	3.5
925	61.09	-2.14	3.36
940	59.98	-2.22	3.28
960	59.70	-2.24	3.21
1452	60.26	-2.2	2.92
1463	58.21	-2.35	2.51
1474	55.34	-2.57	1.69
1710	57.81	-2.38	2.21
1730	26.98	-5.69	-0.79
1745	28.18	-5.5	-0.47
1747.5	29.51	-5.3	-0.14
1749.9	41.78	-3.79	1.72
1755	42.66	-3.7	1.9
1767.4	42.27	-3.74	1.85
1780	42.27	-3.74	1.82
1784.9	42.95	-3.67	1.86
1785	44.16	-3.55	1.76
1805	43.85	-3.58	1.7
1840	46.13	-3.36	1.7
1842.5	46.03	-3.37	1.77
1844.9	47.21	-3.26	2
1850	46.67	-3.31	2.34
1862.4	47.21	-3.26	2.38
1879.9	47.21	-3.26	2.4
1880	46.67	-3.31	2.3
1883	46.77	-3.3	2.22
1900	46.45	-3.33	2.17
1910	46.24	-3.35	2.07
1915	47.53	-3.23	1.98
1920	48.08	-3.18	2
1930	48.19	-3.17	1.99
1950	47.32	-3.25	1.9
1960	48.42	-3.15	1.99
1963	48.64	-3.13	1.98
1980	48.98	-3.1	2.05
1990	48.64	-3.13	2.02
1995	48.31	-3.16	1.98
2010	50.23	-2.99	1.97

2018	49.89	-3.02	1.94
2025	50.00	-3.01	1.96
2110	49.89	-3.02	1.96
2130	49.66	-3.04	2
2140	48.08	-3.18	1.89
2155	44.98	-3.47	1.84
2170	45.19	-3.45	1.86
2200	45.08	-3.46	1.86
2300	44.87	-3.48	1.89
2305	44.77	-3.49	1.96
2310	44.77	-3.49	1.98
2315	44.87	-3.48	2.02
2350	43.35	-3.63	1.96
2355	40.64	-3.91	1.6
2360	40.83	-3.89	1.6
2400	39.72	-4.01	1.32
2496	38.90	-4.1	1.39
2500	39.26	-4.06	1.56
2535	38.82	-4.11	1.47
2570	38.11	-4.19	1.64
2593	36.98	-4.32	1.74
2595	37.41	-4.27	2.15
2620	35.16	-4.54	1.69
2655	36.73	-4.35	1.87
2690	35.16	-4.54	1.54
3300	36.22	-4.41	1.56
3400	36.22	-4.41	1.64
3500	36.98	-4.32	1.77
3550	35.81	-4.46	2.24
3600	35.73	-4.47	2.48
3625	35.48	-4.5	2.69
3700	33.50	-4.75	2.67
3750	31.41	-5.03	2.34
3800	29.24	-5.34	1.68
4200	26.36	-5.79	1.21
4400	25.18	-5.99	0.22
4700	25.35	-5.96	0.28
5000	24.95	-6.03	-0.06
5150	23.39	-6.31	0.11
5250	22.75	-6.43	0.3
5350	22.28	-6.52	-0.16
5470	22.34	-6.51	-0.05
5600	21.33	-6.71	-0.32
5725	21.33	-6.71	-0.15
5785	22.08	-6.56	0.28
5850	37.84	-4.22	1.16
5900	31.26	-5.05	0.52
5925	38.46	-4.15	1.88

4. Mechanical Specification

4.1 Assembly Drawing (LTE Antenna)



Revision

Revision	Date	Change Notification	Notes
Rev.1	2024-07-04		