

Data Sheet

CUSTOMER: PEGATRON

MODEL NAME: CA31T WWAN MAIN

AWAN P/N: AYP6Y-100781

PEGA P/N: 1415-0BJP000

ADVANCED WIRELESS & ANTENNA INC.



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1. Description

1.1 Specifications

Antennas Type	PIFA Antenna for WWAN application		
Connector Type	IPEX Connector for 1.13 cable		
Cable Type	OD 1.13 RF Lowloss Cable		
Impedance	50Ω		
Polarization	Linear		
Radiation pattern	Omni-directional		
Frequency	LB	617~960 MHz	
	MHB	1710~2690 MHz	
	UHB	3300~5000 MHz 5150~5925 MHz	
VSWR	LB	6.0 Max	
	MHB	4.0 Max	
	UHB	4.0 Max	
Peak gain(dBi)	LB	617~960 MHz	2.52 dBi
	MHB	1710~2690 MHz	2.77 dBi
	UHB	3300~5000 MHz	1.16 dBi
		5150~5925 MHz	-0.83 dBi
Cable Loss	LB	617~960 MHz	0.40 dBi
	MHB	1710~2690 MHz	0.63 dBi
	UHB	3300~5000 MHz	1.05 dBi
		5150~5925 MHz	1.07 dBi
Cable length	WWAN Main: (AYP6Y-100781)	WWAN Main:252 mm, Black	
		WWAN Main P-sensor:65 mm, Orange	

2. Electrical Specification

2.1 Test Equipment

- A. VSWR and input impedance: Agilent 8720/8753 Network Analyzer
- B. Antenna gain and efficiency: ETS three-dimensional anechoic chamber

2.2 Test Setup

2.2.1 Frequency Range

- A. LB 617~960 MHz
- B. MHB 1452~2690 MHz
- C. UHB 3300~5000 MHz
- D. UHB 5125~5925 MHz

2.2.2 VSWR

Step 1: The antenna is arranged on the customer provided test fixture(see figure. 1).

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 800MHz to 6GHz and a 40cm diameter spherical quiet zone. The measurement results are calibrated using both dipoles and standard gain horns (see figure. 2).
- B. The antenna under tested is arranged in the turned table and a decoupling sleeve is used to reduce feed line radiation (see figure. 3).
- C. The measured results of the radiation patterns and antenna gain are obtained from the control system and showed on the monitor (see figure. 4 and 5).

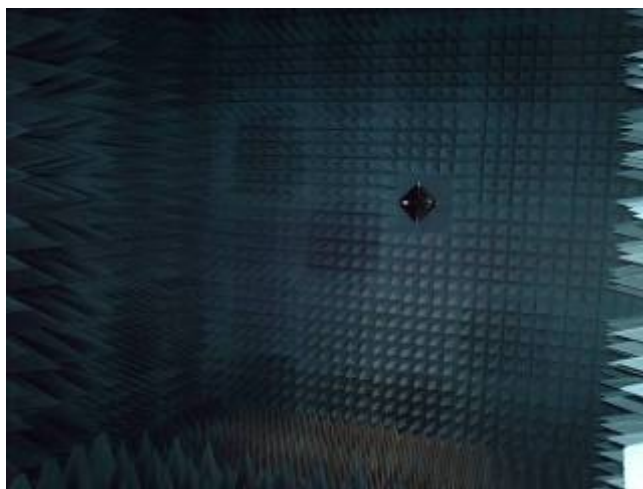


Figure. 2



Figure. 3



Figure. 4



Figure. 5

3. Performance Data

3.1 VSWR



WWAN Main

3.2 Gain

Antenna Gain Table:

WWAN Main Antenna Gain			
Frequency (MHz)	MAX Value (dBi)		
	H-pol.	V-pol.	H+V
617	-6.97	-5.23	-4.84
634	-4.96	-4.64	-3.40
652	-2.98	-2.75	-1.68
663	-2.04	-2.00	-0.87
680	-0.61	-0.87	0.44
698	0.51	-0.01	1.47
703	0.78	0.19	1.78
707	0.62	0.13	1.88
716	0.34	0.34	2.11
717	0.36	0.44	2.20
722	0.21	0.54	2.26
725	-0.31	0.18	1.89
728	-0.17	0.33	2.06
729	-0.12	0.41	2.16
737	-0.31	0.30	2.14
746	-0.27	0.64	2.48
748	-0.24	0.70	2.56
751	-0.35	0.78	2.61
756	-0.85	0.58	2.39
758	-0.99	0.55	2.33
763	-1.36	0.47	2.21
768	-1.70	0.36	2.07
777	-2.11	0.32	1.97
780	-2.32	0.22	1.84
782	-2.47	0.13	1.75
787	-2.28	0.35	1.96
788	-2.08	0.53	2.15
791	-2.34	0.32	1.95
793	-2.47	0.27	1.90
798	-2.77	0.14	1.73
803	-2.62	0.44	1.99
806	-2.47	0.68	2.23

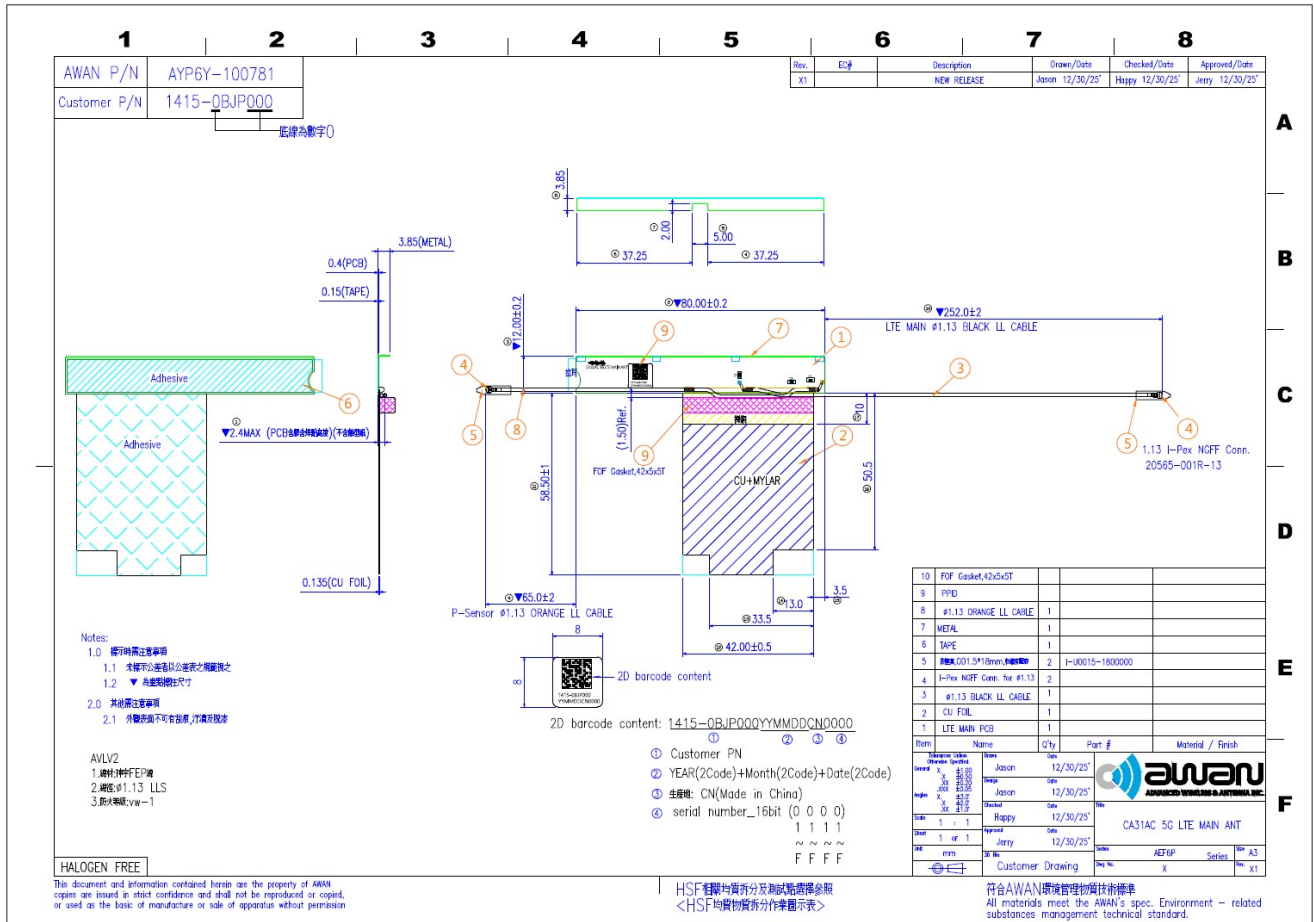
814	-2.23	0.95	2.48
815	-2.37	0.85	2.37
821	-2.19	0.89	2.37
823	-2.17	0.91	2.39
824	-2.06	0.88	2.35
830	-1.85	0.87	2.32
831	-1.85	0.87	2.32
832	-1.83	0.87	2.32
835	-1.83	0.87	2.32
836	-1.90	0.64	2.13
838	-1.87	0.61	2.11
840	-1.74	0.46	1.97
845	-1.17	0.25	1.79
847	-0.98	0.19	1.74
849	-0.47	0.39	1.93
859	0.06	-0.52	1.16
860	0.02	-0.65	1.00
862	0.02	-0.70	0.85
868	-0.05	-0.77	0.56
869	-0.08	-0.80	0.54
875	-0.03	-0.61	0.64
876	-0.03	-0.61	0.64
880	-0.01	-0.58	0.56
881	-0.01	-0.55	0.54
883	0.00	-0.59	0.51
885	0.00	-0.59	0.51
890	-0.12	-0.70	0.11
894	-0.11	-0.64	0.02
897	-0.11	-0.64	0.02
915	-0.67	-0.79	-0.19
925	-1.04	-0.89	-0.33
942	-1.80	-1.27	-0.78
960	-3.26	-2.26	-1.92
1710	0.18	1.48	2.32
1732	-0.39	1.47	2.12
1745	-0.44	1.60	2.24
1747	-0.44	1.60	2.24
1749	-0.44	1.60	2.24

1755	-0.80	1.45	2.19
1767	-0.80	1.45	2.19
1780	-1.87	1.30	2.14
1785	-2.11	1.25	2.03
1805	-3.04	1.06	1.61
1842	-1.73	0.94	1.15
1844	-1.73	0.94	1.15
1850	-1.38	0.94	1.25
1862	-1.38	0.94	1.25
1880	-0.55	0.81	1.36
1882	-0.55	0.81	1.36
1900	-0.21	0.92	1.31
1910	0.01	0.80	0.97
1915	0.01	0.80	0.97
1920	-0.11	0.26	0.45
1930	-0.12	0.12	0.49
1950	-0.51	-0.38	0.33
1960	-0.89	-0.80	0.16
1962	-0.89	-0.80	0.16
1980	-1.33	-1.52	-0.31
1990	-1.57	-1.22	-0.35
1995	-1.58	-1.42	-0.40
2010	-1.35	-1.60	-0.42
2018	-1.07	-1.28	-0.14
2025	-1.21	-1.32	-0.34
2110	-0.49	-0.29	0.27
2132	-0.31	-0.18	0.52
2140	-0.15	-0.17	0.64
2155	0.01	0.03	0.80
2170	0.26	0.37	0.97
2200	0.44	-0.34	0.93
2300	0.77	0.06	0.97
2305	0.74	0.08	0.93
2310	0.69	-0.04	0.85
2315	0.78	-0.12	0.96
2350	0.56	-0.43	0.72
2355	0.67	-0.27	0.86
2360	0.77	-0.21	0.94

2400	1.02	-0.83	1.13
2496	1.20	0.54	1.31
2500	1.10	0.60	1.21
2535	-0.08	1.01	1.01
2570	-1.02	0.35	0.37
2593	-1.28	-0.23	-0.02
2595	-1.28	-0.20	-0.02
2620	-0.50	0.15	0.37
2655	0.34	0.11	0.41
2690	0.89	-0.31	0.93
3300	-0.04	-1.18	0.83
3400	-1.48	0.90	0.93
3500	-1.60	0.32	0.55
3550	-2.49	-0.91	0.86
3600	-2.06	-0.50	0.09
3625	-1.65	-0.34	-0.04
3700	-0.98	-0.65	-0.10
3750	-0.45	-0.16	0.33
3800	-0.36	-0.39	0.47
4200	-1.86	-0.18	0.83
4400	-4.22	-2.18	-1.96
4700	-3.12	-1.94	-1.53
5000	0.35	-0.88	0.39
5150	-3.92	-2.97	-1.92
5537	-2.67	-2.58	-1.24
5925	-1.55	-2.61	-0.25

4. Mechanical Specification

4.1 Dimension Drawing (WWAN Main Antenna)



Revision

Revision	Date	Change Notification	Notes
Rev.0	2025-9-19	---	---