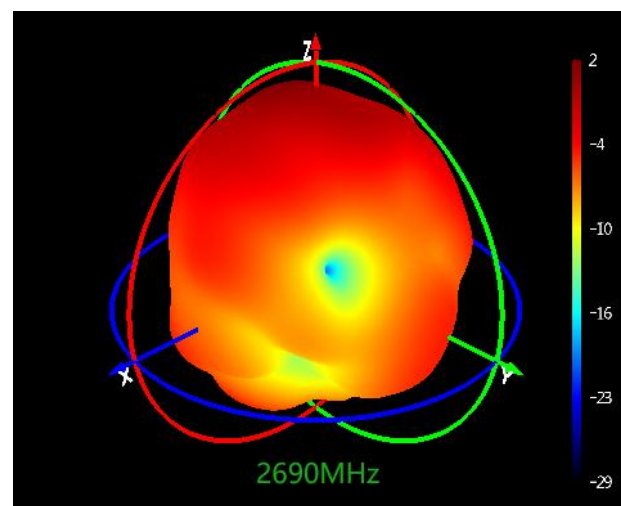
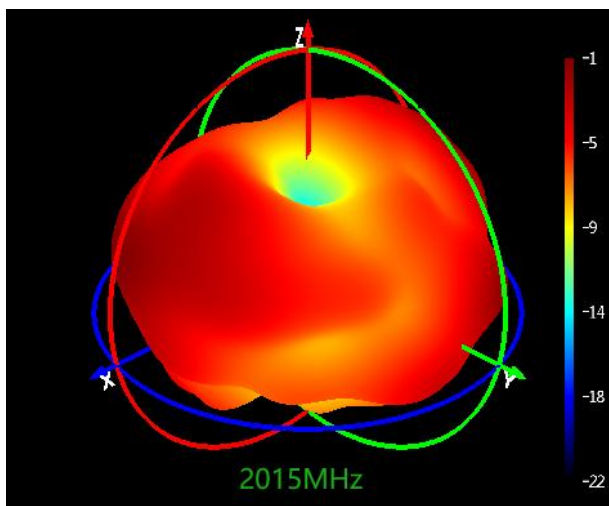
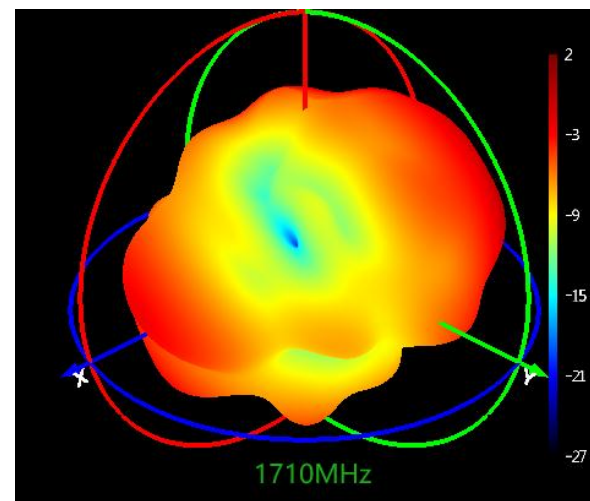
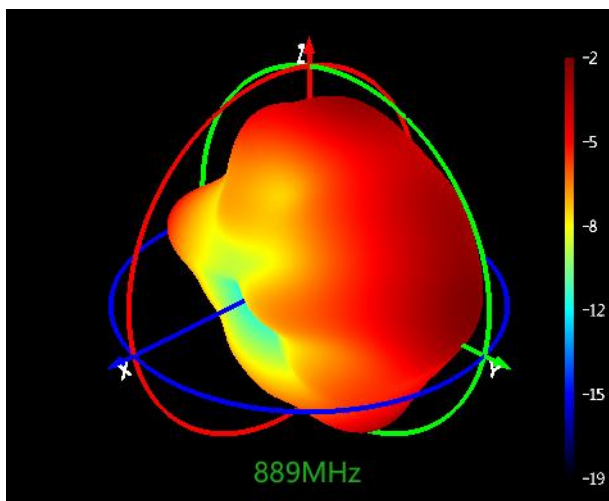
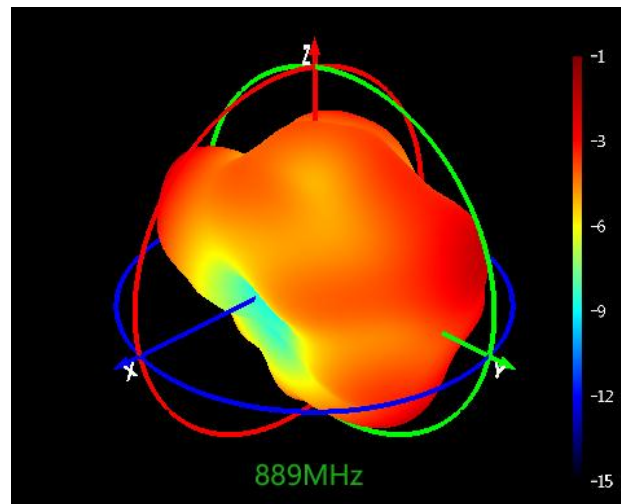
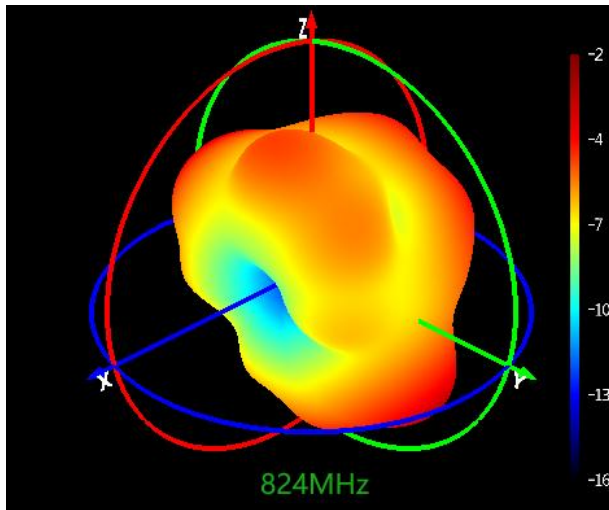


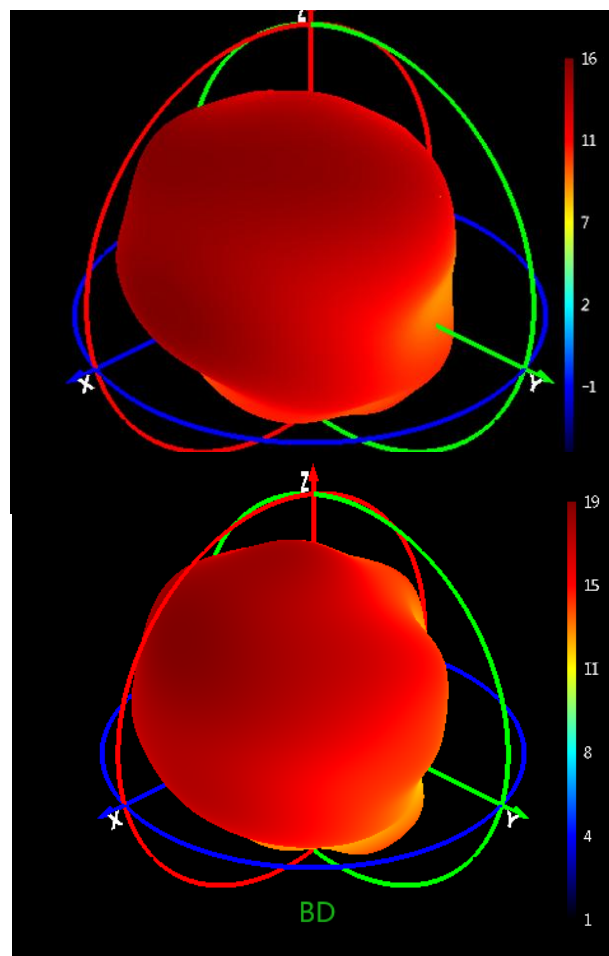
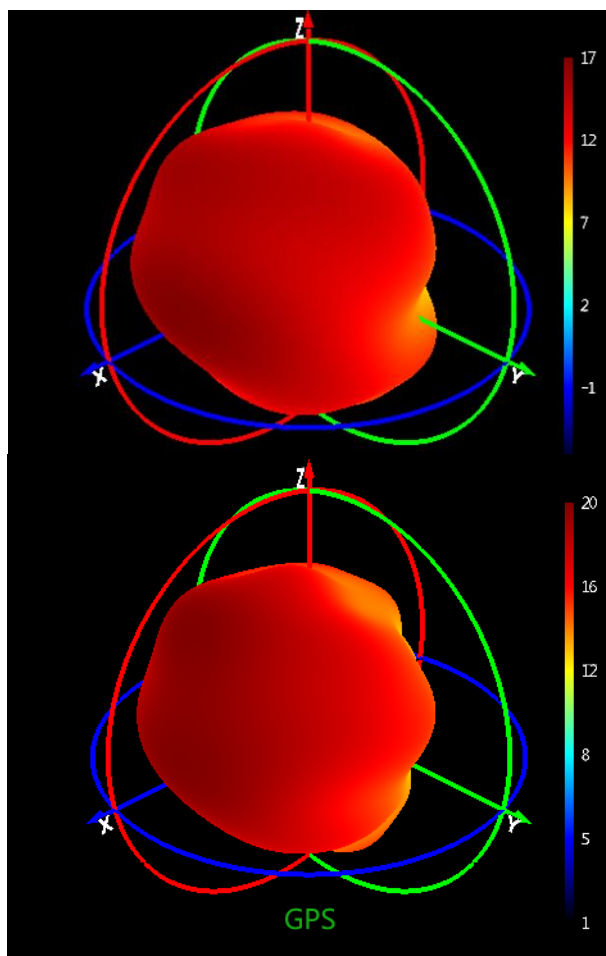
Q/20240527	Technical specifications for built-in composite antennas	Protocol	Audit	Approve
泰州苏中天线集团公司 Taizhou, Jiangsu Province, China		Page 1	2 pages in total	
1. Overview: This technical specification specifies the technical requirements and layout requirements of the built-in combination antenna.				
2. General requirements:				
2.1、Mechanical requirement:				
2.1.1 Appearance: Smooth plastic surface, no spots, cracks, bubbles, shrinkage and other bad, metal parts surface bright, no rust, cracks and other defects				
2.1.2 Dimensions: 76*76*28mm (excluding mounting part)				
2.1.3 Product quality: < 250g				
2.1.4 Product protection level: IP67, according to customer installation location				
2.1.5 Connector: FAKRA defines protection levels according to customer installation location requirements				
2.2、Performance parameter				
GNSS				
Item	Index			
Operating temperature	-40~85℃			
Storage temperature	-40~90℃			
Operating voltage range	GNSS:5±1v			
Operating current	10≤I≤40mA			
Impedance	50 ± 5 ohms			
Constellation	GPS BD			
Frequency band	1575.42±1.023MHz 1561.098±1.023MHz			
Active performance	Gain Vehicle terminal: 20±2dB、TBOX: 17±2dB Standing-wave ratio (SWR)≤2 Noise coefficient≤2.6dB			
4G				
Item	Index			
Operating temperature	-40~85℃			
Storage temperature	-40~90℃			
Frequency band	824-960MHz 1710-2690MHz			
Active performance	Gain ≥-4dBi Standing-wave ratio (SWR) (F≤1000MHz)≤3.5、(F≥1000MHz)≤3			
		Page 2		

4G directional map:



Frequen cy (MHz)	Gain (dBi)	Frequenc y (MHz)	Gain (dBi)	Frequenc y (MHz)	Gain (dBi)	Frequenc y (MHz)	Gain (dBi)	Frequenc y (MHz)	Gain (dBi)	Frequenc y (MHz)	Gain (dBi)
683	-7.22	824	-2.73	889	-1.26	1710	0.03	1890	0.31	2496	0.8
688	-6.89	830	-2.57	894	-1.22	1730	0.49	1900	0.31	2544	1.32
693	-5.96	836	-2.45	897	-1.15	1750	1.02	1910	-0.06	2570	1.72
698	-5.57	842	-2.39	906	-1.18	1770	0.71	1920	-0.42	2580	1.49
723	-4.82	849	-2.24	915	-1.24	1785	0.55	2010	-0.78	2593	1.31
748	-4.24	869	-2.03	925	-1.33	1805	0.52	2015	-1.08	2595	1.23
773	-3.99	875	-1.81	934	-1.39	1825	0.47	2020	-1.39	2610	1.15
798	-3.54	880	-1.63	942	-1.58	1845	0.38	2025	-0.64	2620	1.36
		881	-1.44	951	-1	1865	0.45	2030	0.13	2642	1.24
		887	-1.34	960	-0.46	1880	0.4	2380	0.63	2690	0.9

GNSS directional map:



	Frequency (MHz)	Gain (dBi)
Host port	1561.098	18.65
	1575.42	19.2
Tbox port	1561.098	15.76
	1575.42	16.82

