

SPECIFICATION

Client Name: _____

Brand Name: HUARUN

Part No: HR1900S081-V01

Customer P/N: 122-20120-000

Part Description: Black/L=209MM

Manufacturer: Shenzhen HuaRun Optoelectronics Technology Co., Ltd.

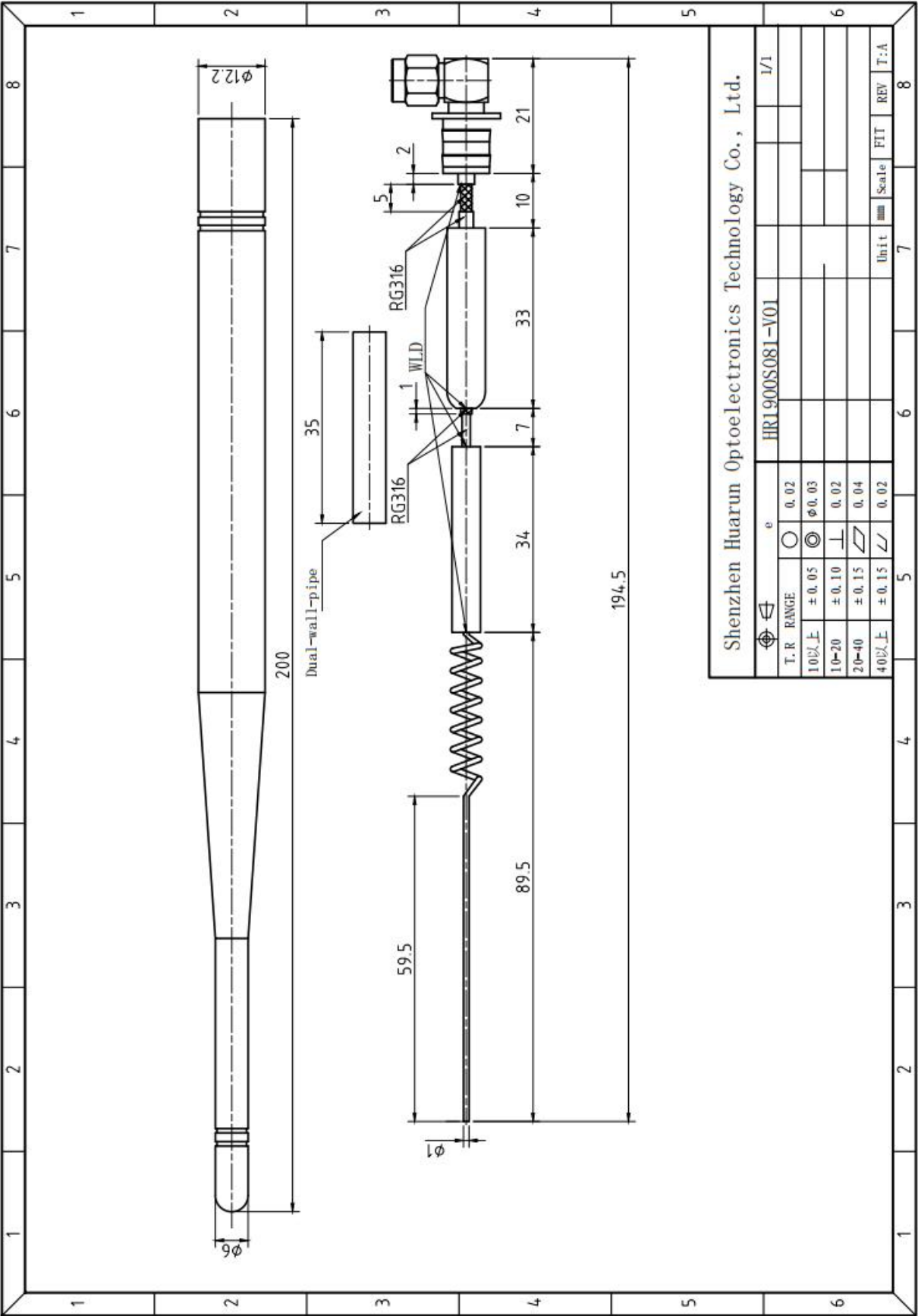
Part Name: Rubber-rod antenna

Factory address: Room E701, Factory Building, Xinyuan Industrial Park, Dasan Community, Fucheng Sub-district, Longhua District, Shenzhen City



Confirmation Item	Date	Customer Signature
Structure:		
RF Performance:		
Confirmed:		

1、Engineering drawing



2、Performance Specifications

Electrical Specifications	
Frequency Range	1880-1930MHz
VSWR	≤2.0
Input Impedance	50 Ω
Mechanical Specifications	
Antenna Color	Black TPE plastic
Input connector	Copper core + Nickel-plated R – SMA elbow connector
Cable length	209mm
Antenna service temperature	-30℃~+70℃
Working Humidity	20~80%

Environmental Reliability Test Standards:

Test Item	Test Conditions	Acceptance Criterion
Storage Environment	Temperature: -30℃ ~ +80℃ Relative Humidity: 45%–85% Air Pressure: 86kPa–106kPa	Electrical & mechanical functions remain normal
High-Low Temperature Cycling Test	5 cycles between -40℃ and 70℃; place samples under normal ambient for 1–2 hours then inspect appearance	Dimensions, electrical and mechanical performance comply with requirements
Constant Temperature & Humidity Test	40℃, 95±3% RH, continuous 2 hours; test electrical performance within 5 mins after removal, then stabilize 1–2 hours for appearance inspection	Dimensions, electrical and mechanical performance comply with requirements
Vibration Test	Frequency range: 10–55Hz, displacement amplitude: 0.35mm, acceleration amplitude: 50.0m/s², 30 sweep cycles	Electrical & mechanical functions remain normal
Drop Test	Free drop 3 times from 1m height along three mutually perpendicular axes	Electrical & mechanical functions remain normal

3、Antenna Test Setup

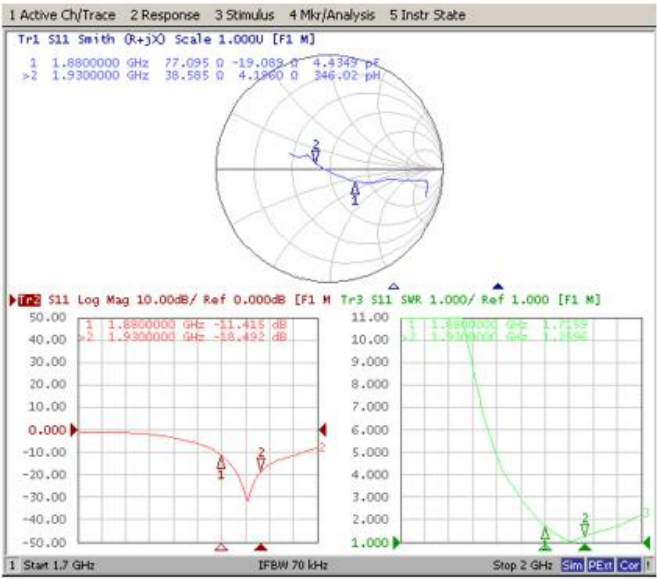
Test status of the whole antenna

Single antenna test status

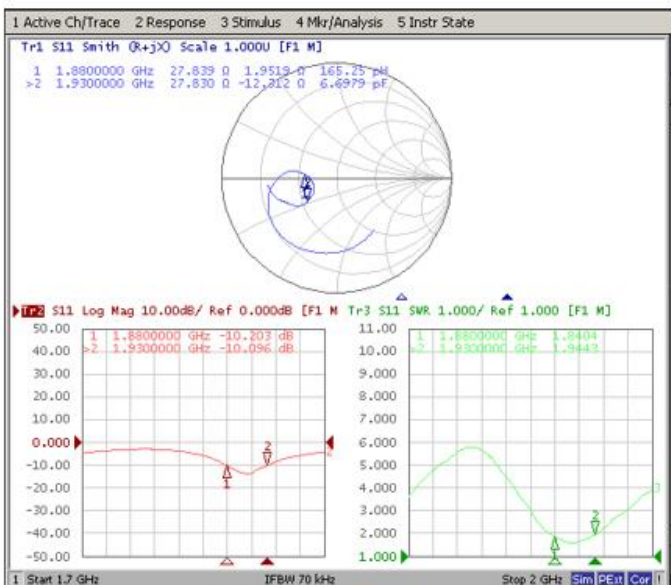


4、 Vector Network Analyzer Test Data

Single-antenna data
单天线数据：



Whole machine test data
整机测试数据：



5、Anechoic Chamber Gain & Radiation Efficiency Test Data

Single-antenna data

单天线数据：

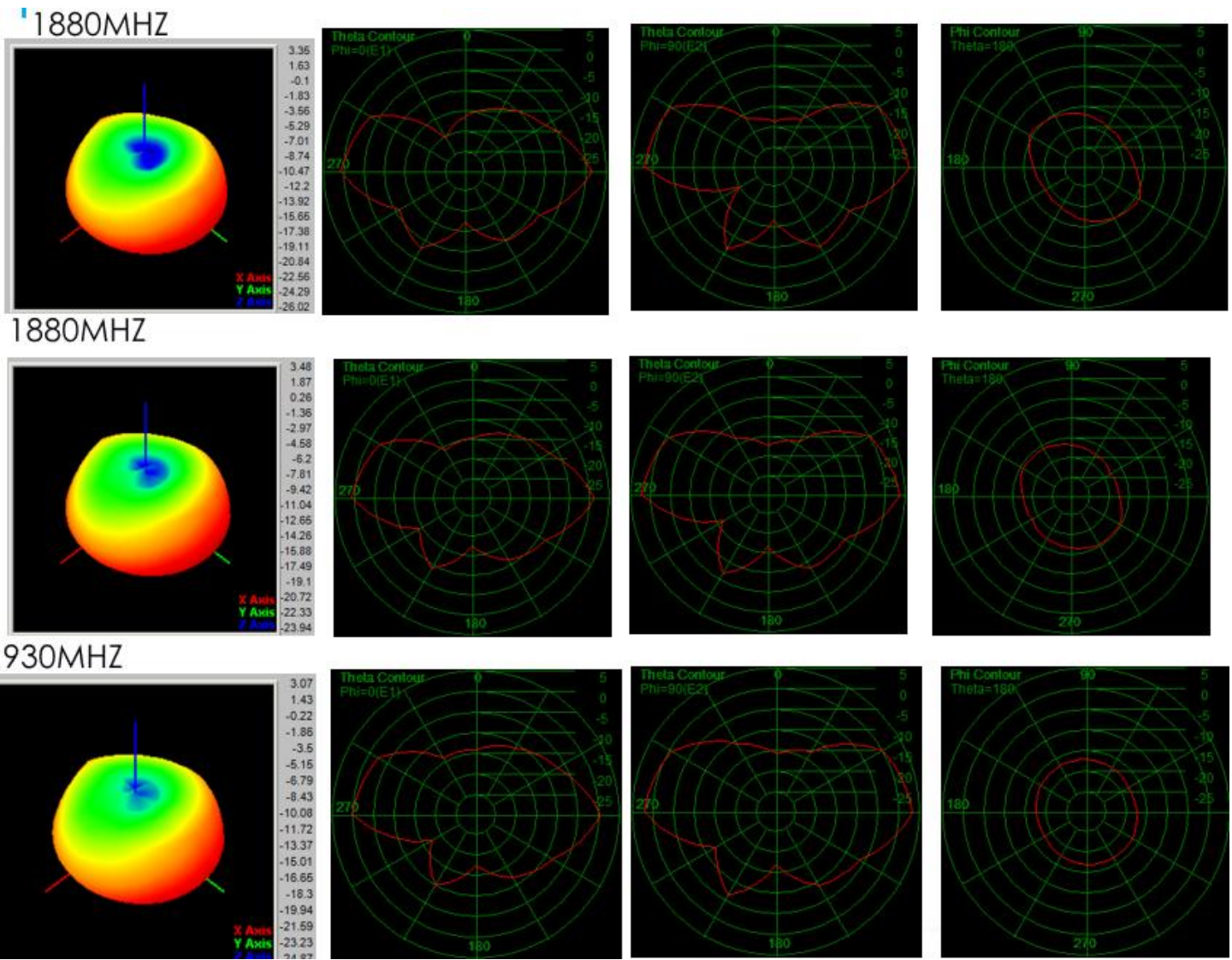
Test Point ID	Freq. (MHz)	Gain (dBi)	Directivity (dBi)	Efficiency (%)
1	1875.0	3.35	5.66	58.7%
2	1880.0	3.35	5.72	58.0%
3	1885.0	3.25	5.77	56.0%
4	1890.0	3.40	5.77	57.9%
5	1895.0	3.38	5.80	57.2%
6	1900.0	3.28	5.80	56.0%
7	1905.0	3.48	5.81	58.6%
8	1910.0	3.54	5.82	59.2%
9	1915.0	3.29	5.80	56.1%
10	1920.0	3.42	5.80	57.9%
11	1925.0	3.43	5.74	58.7%
12	1930.0	3.07	5.71	54.5%
13	1935.0	3.22	5.71	56.5%

Whole machine test data

整机测试数据：

Test Point ID	Freq. (MHz)	Gain (dBi)	Directivity (dBi)	Efficiency (%)
1	1875.0	1.69	5.68	39.9%
2	1880.0	1.78	5.77	39.9%
3	1885.0	1.65	5.80	38.4%
4	1890.0	1.74	5.79	39.4%
5	1895.0	1.67	5.77	38.9%
6	1900.0	1.48	5.68	38.0%
7	1905.0	1.57	5.63	39.3%
8	1910.0	1.51	5.56	39.3%
9	1915.0	1.21	5.53	37.0%
10	1920.0	1.25	5.52	37.4%
11	1925.0	1.30	5.52	37.8%
12	1930.0	0.90	5.47	34.9%
13	1935.0	1.00	5.48	35.7%

Anechoic Chamber Radiation Pattern Test Data



整机暗室方向图测试数据:

Test data of darkroom direction chart of the whole machine

