

# ***SPEED TECHNOLOGY***

SPEED Communication Technology Limited

## **Approval sheet of OS-R-DR02 antenna**

Customer/Project	Orionstar/ OS-R-DR02	Frequency Band	LTE/WLAN		
SCT P/N		Version	R:A		
Date	2022-12-20				
HISPEED					
Checked by	RF		Design ed by	RF	乔云龙 Yunlong Qiao
	ME			ME	肖勇兵 Yongbing Xiao
	QC		Remark		
Customer					
Date					
Confirmed by	RF				
	ME				
Remark					

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**Address: Building 2, Zhongke Intelligence, No. 99 Weixin Road, Suzhou Industrial Park, Suzhou, Jiangsu Province.**

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## 1.Indication

This report summarizes the electrical performance results of the proposed Internal antenna to support the OS-R-DR02 project. The antenna is holder+FPC+CABLE antenna.

### 1.Main

700M-960M

1710M-2690M

### 2.DIV

700M-960M

1710M-2690M

### 3.Wi-Fi\_1

2400M-2500M

5150M-5850M

### 4, Wi-Fi\_2

2400M-2500M

5150M-5850M

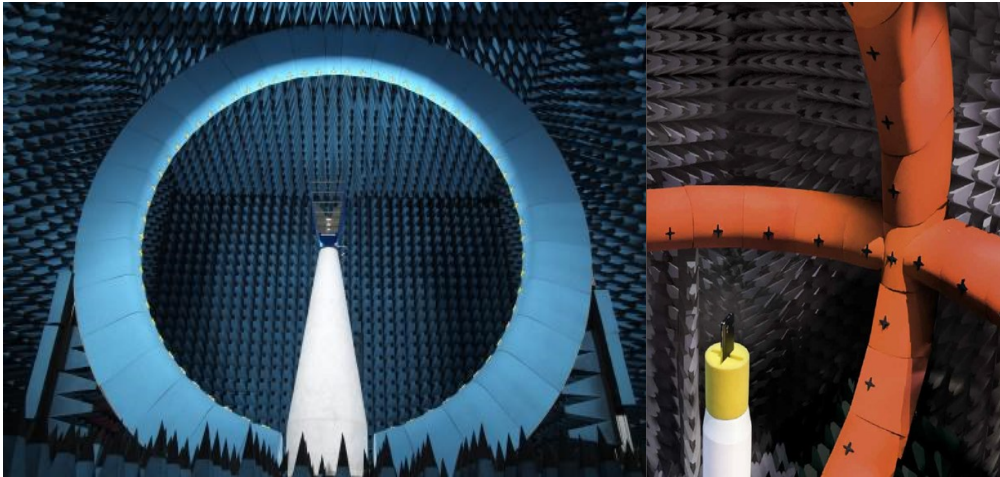
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## 1.1 Overall Performance

- **Test Environment**

- SATIMO SG24, 600MHz-6.0GHz
- ETS-LINDGREN, 400MHz-6.0GHz.



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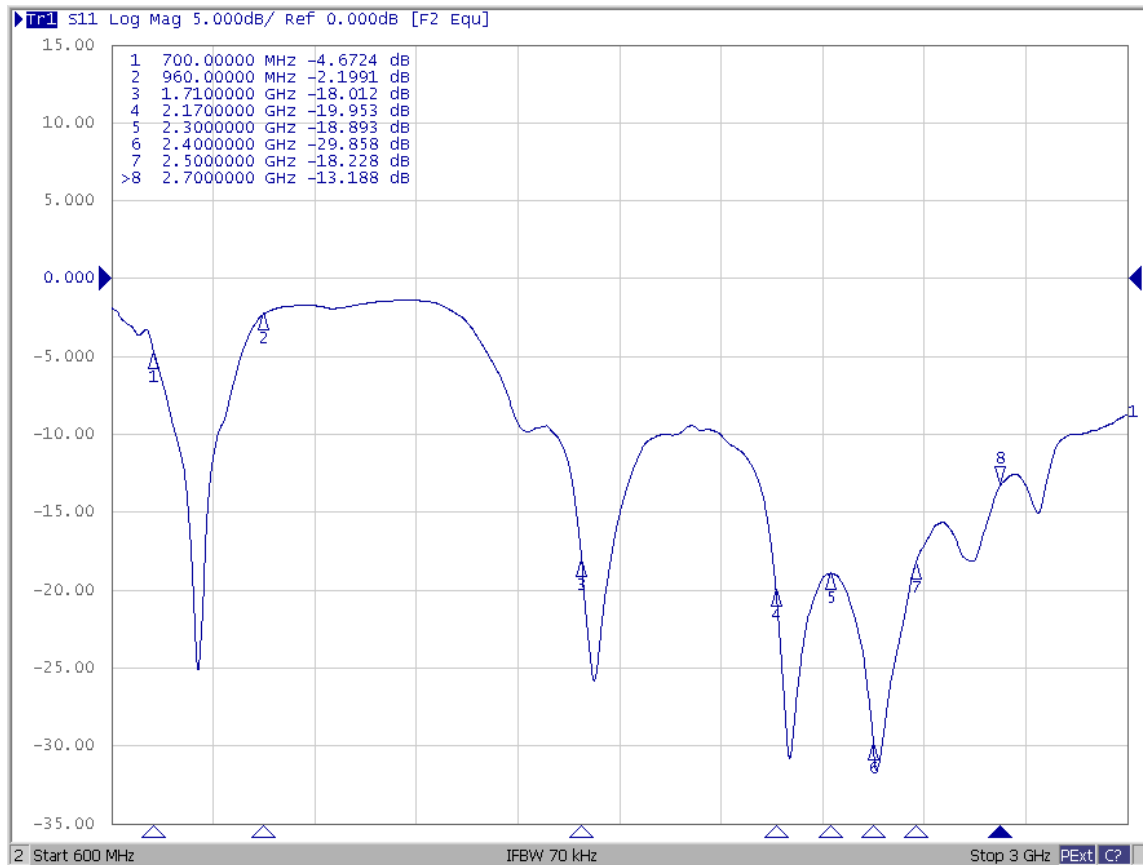
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## 2. Electrical Performance

### 2.1 Measurement Data

#### 2.1.1 S11

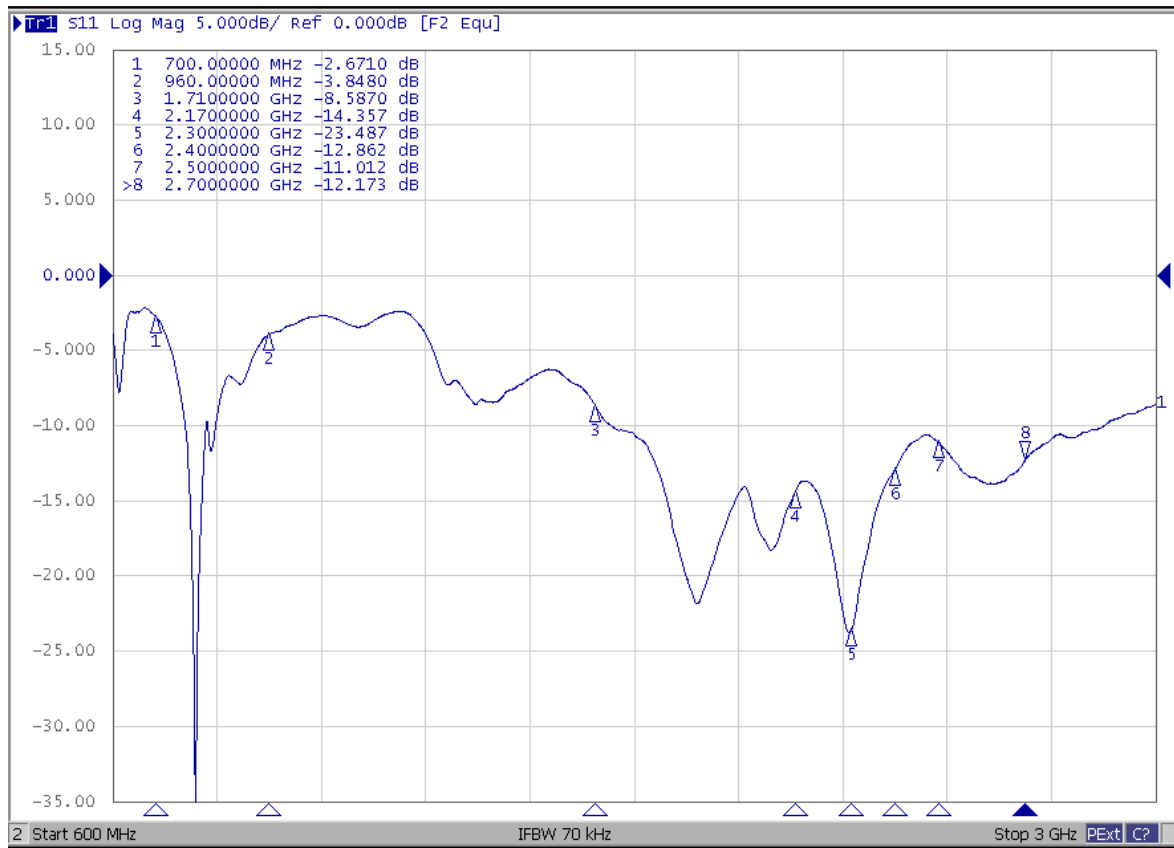
##### Main



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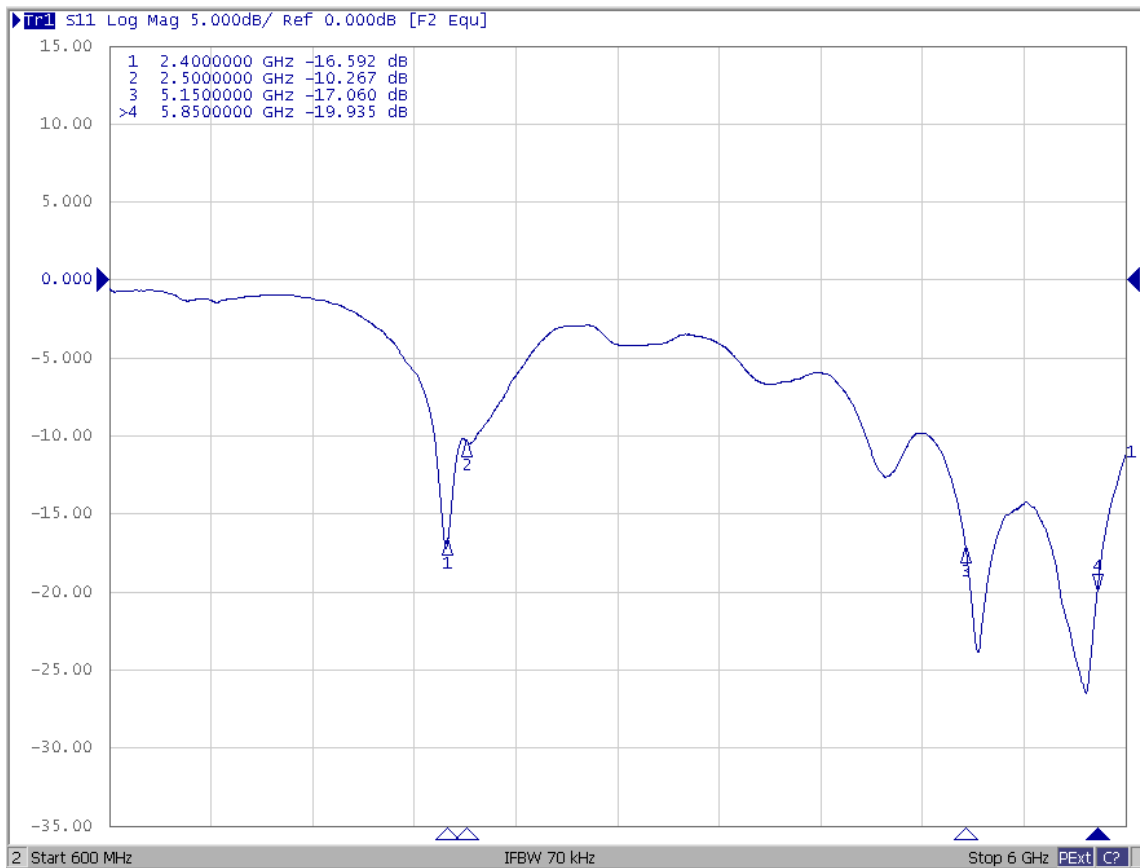
## DIV



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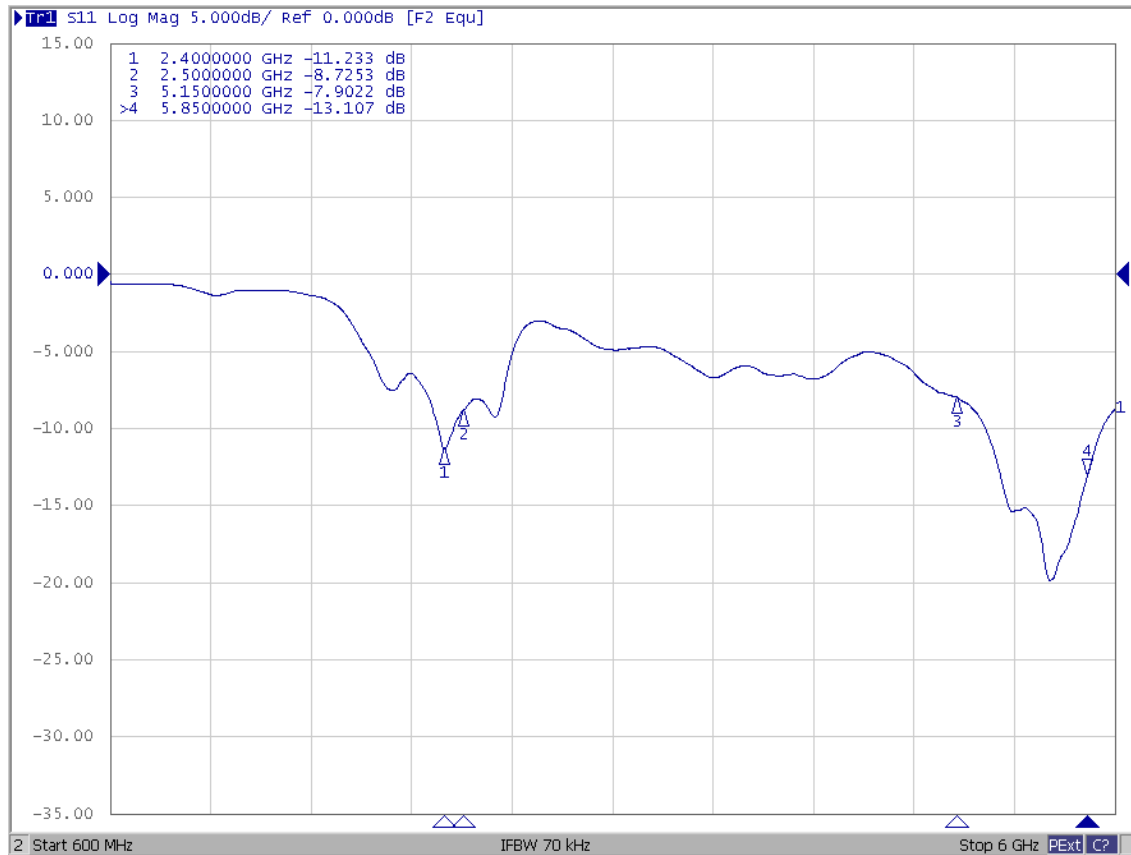
## Wi-Fi\_1



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## Wi-Fi\_2



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## 2.1.2 Average gain

Main		
Band	Frequency (MHz)	Peak Gain(dBi)
LTE Band1	1920-1980	2.32
LTE Band2	1850-1910	2.54
LTE Band3	1710-1785	2.33
LTE Band4	1710-1755	2.25
LTE Band5	824-849	-0.23
LTE Band7	2500-2570	3.2
LTE Band8	880-915	0.26
LTE Band12	699-716	-2.46
LTE Band13	777-787	-2.77
LTE Band18	815-830	0.32
LTE Band19	830-845	0.34
LTE Band25	1850-1915	2.51
LTE Band26	814-824	0.34
LTE Band26	824-849	-0.23
LTE Band28	703-748	-0.16
LTE Band38	2570-2620	3.2
LTE Band41	2496-2690	3.43

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DIV		
Band	Frequency (MHz)	Peak Gain(dBi)
LTE Band1	1920-1980	-1.40
LTE Band3	1710-1785	-0.34
LTE Band5	824-849	-0.75
LTE Band7	2500-2570	3.17
LTE Band8	880-915	-2.12
LTE Band18	815-830	-0.42
LTE Band19	830-845	-0.75
LTE Band26	814-824	-0.66
LTE Band28	703-748	-2.90
LTE Band41	2496-2690	3.11

Wi-Fi_1		
Band	Frequency (MHz)	Peak Gain(dBi)
2.4G	2400-2483.5MHz	3.68
5.15G	5150	4.15
5.85G	5850	4.44

Wi-Fi_2		
Band	Frequency (MHz)	Peak Gain(dBi)
2.4G	2400-2483.5MHz	3.77
5.15G	5150	5.30
5.85G	5850	6.22

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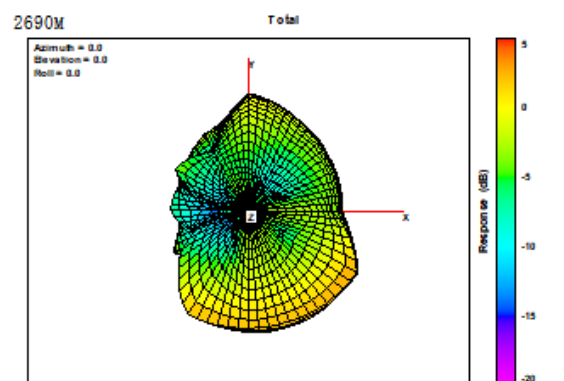
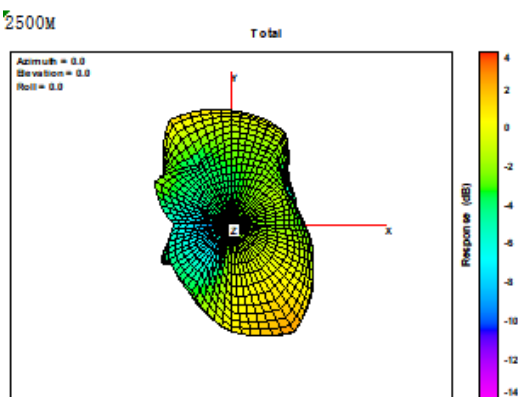
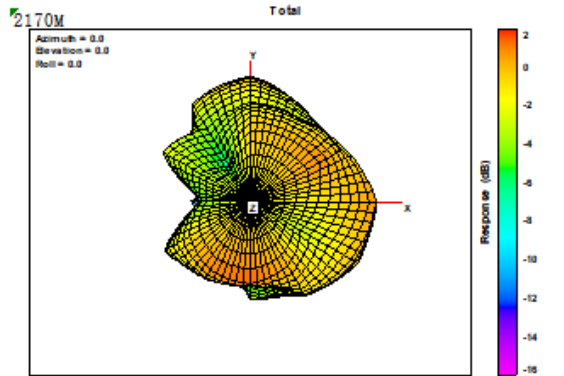
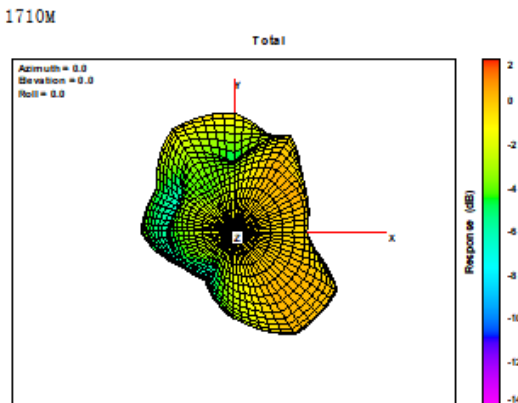
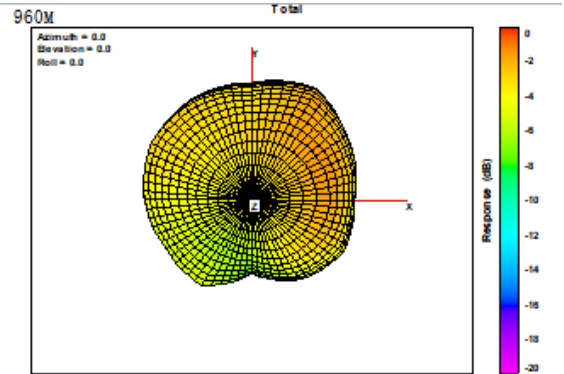
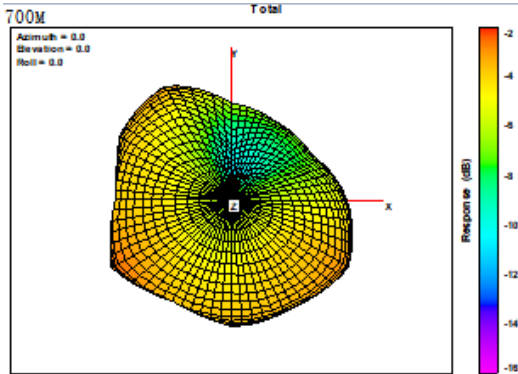
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## 2.1.3 3D Beam pattern

### MAIN

TX

RX

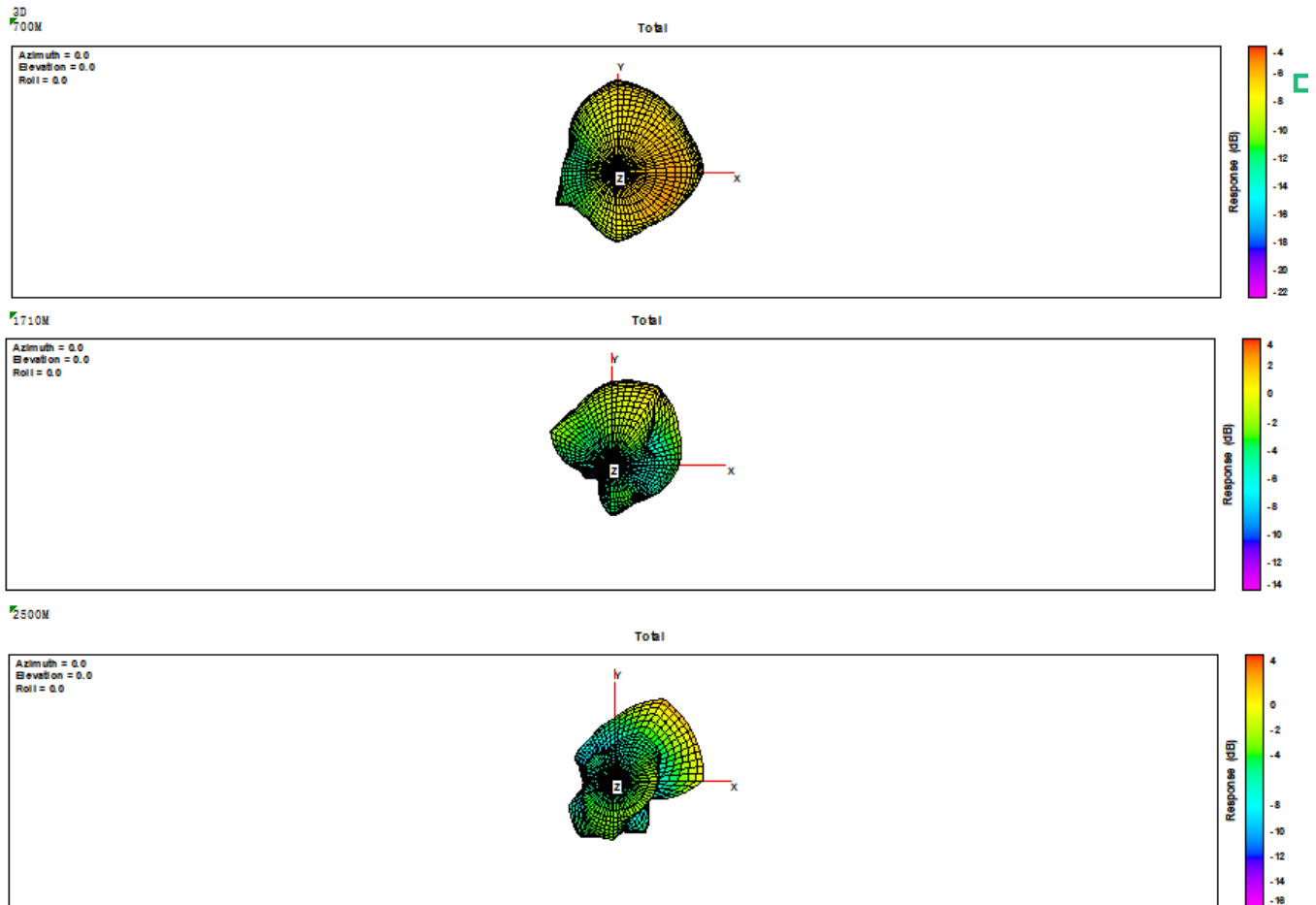


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DIV

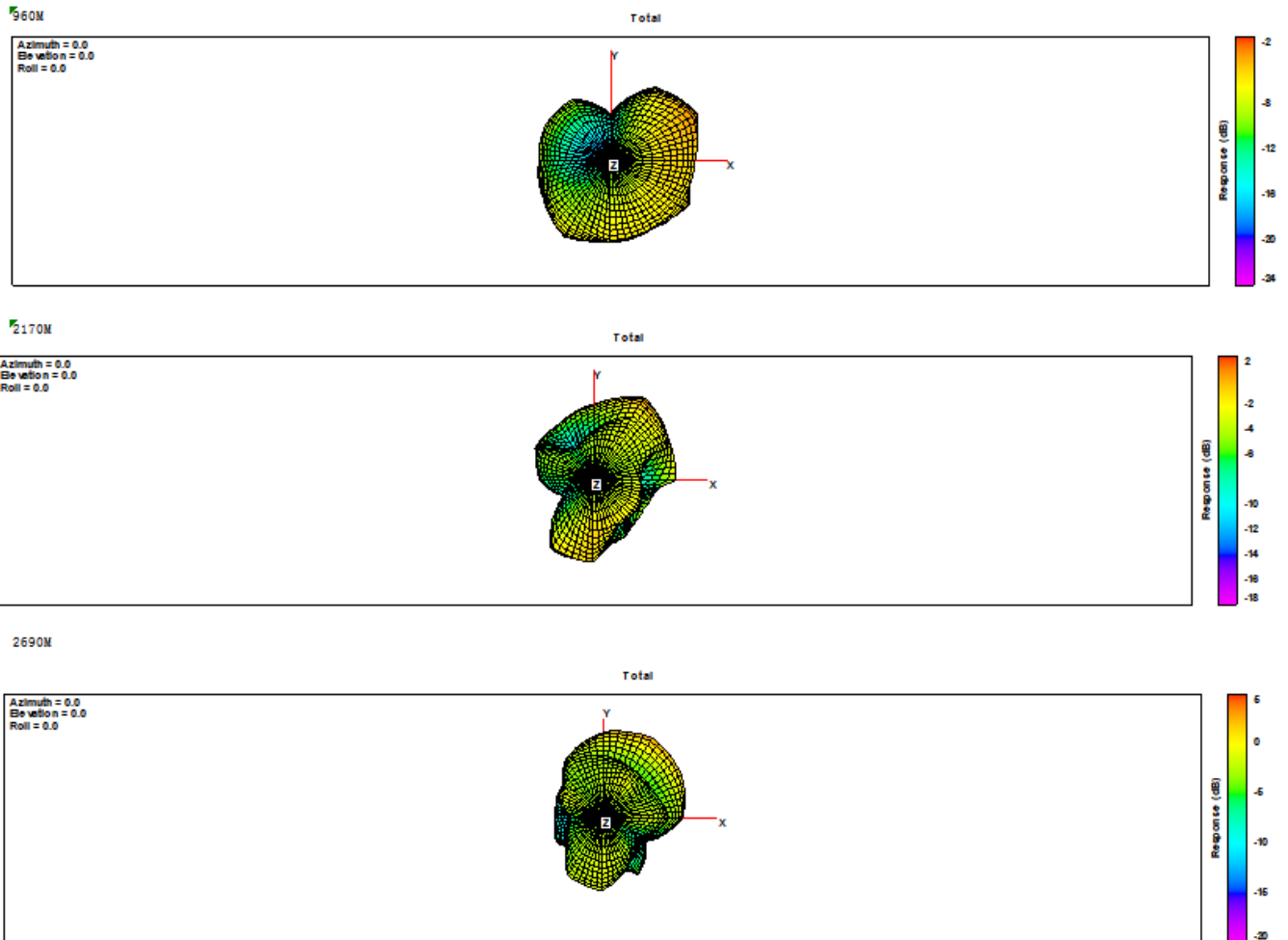
TX



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## RX



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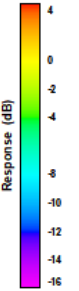
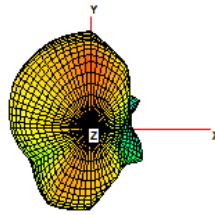
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## Wi-Fi\_1

3D  
2400M

Total

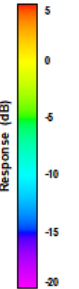
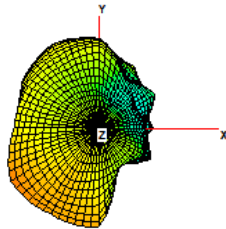
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Roll = 0.0



5150M

Total

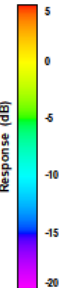
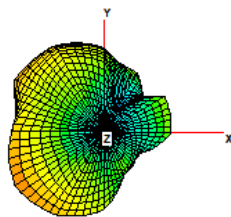
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Roll = 0.0



5850M

Total

Azimuth = 0.0  
Elevation = 0.0  
Roll = 0.0

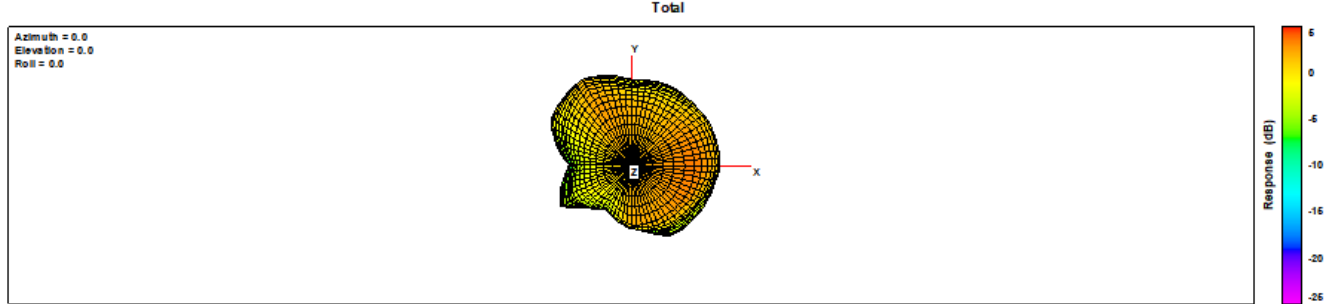


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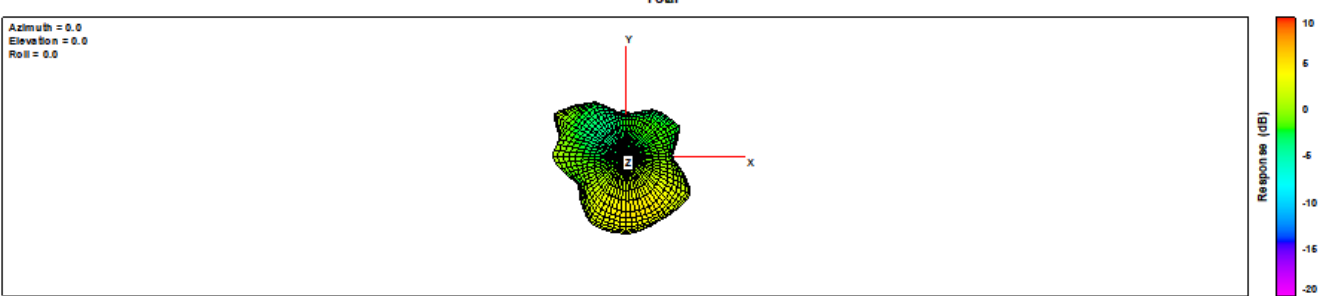
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## Wi-Fi\_2

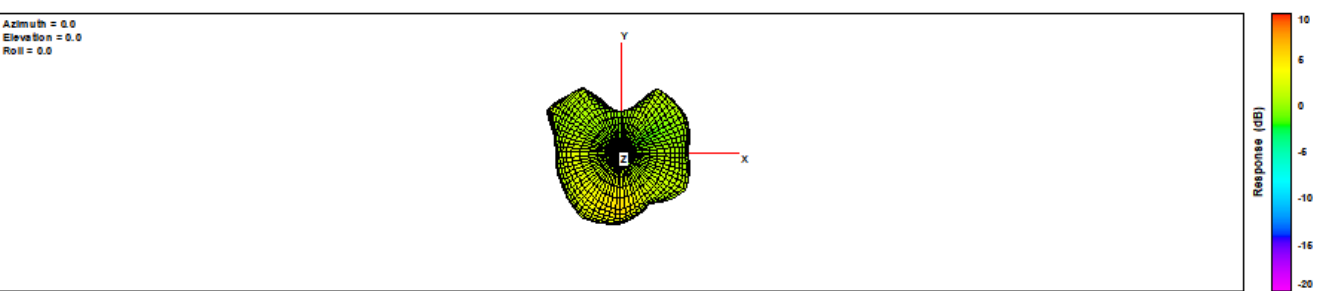
3D  
2400M



5150M



5850M



### 3. Suggestions and Conclusion

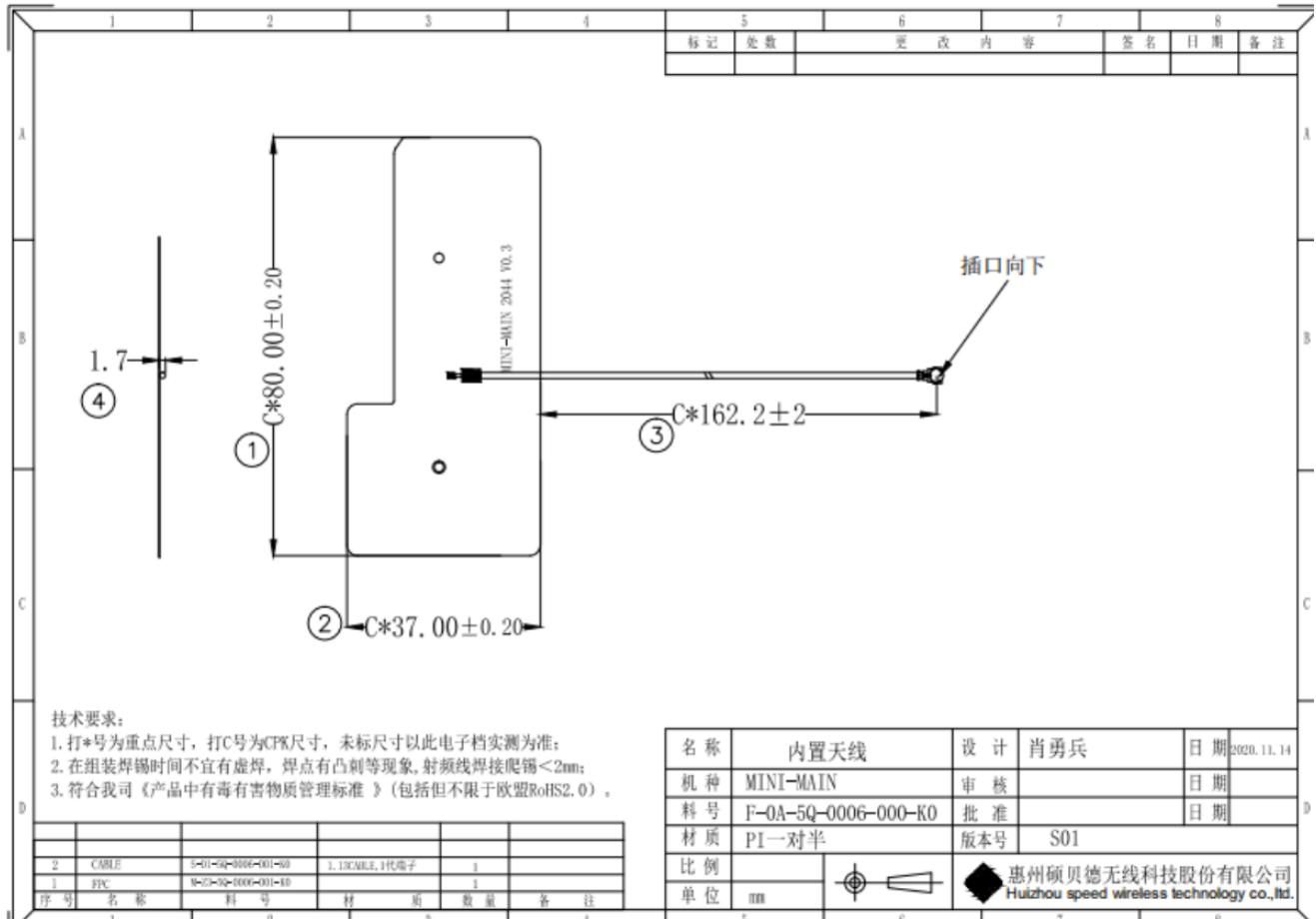
This report summarizes the electrical performance of internal antenna for OS-R-DR02  
The antenna.

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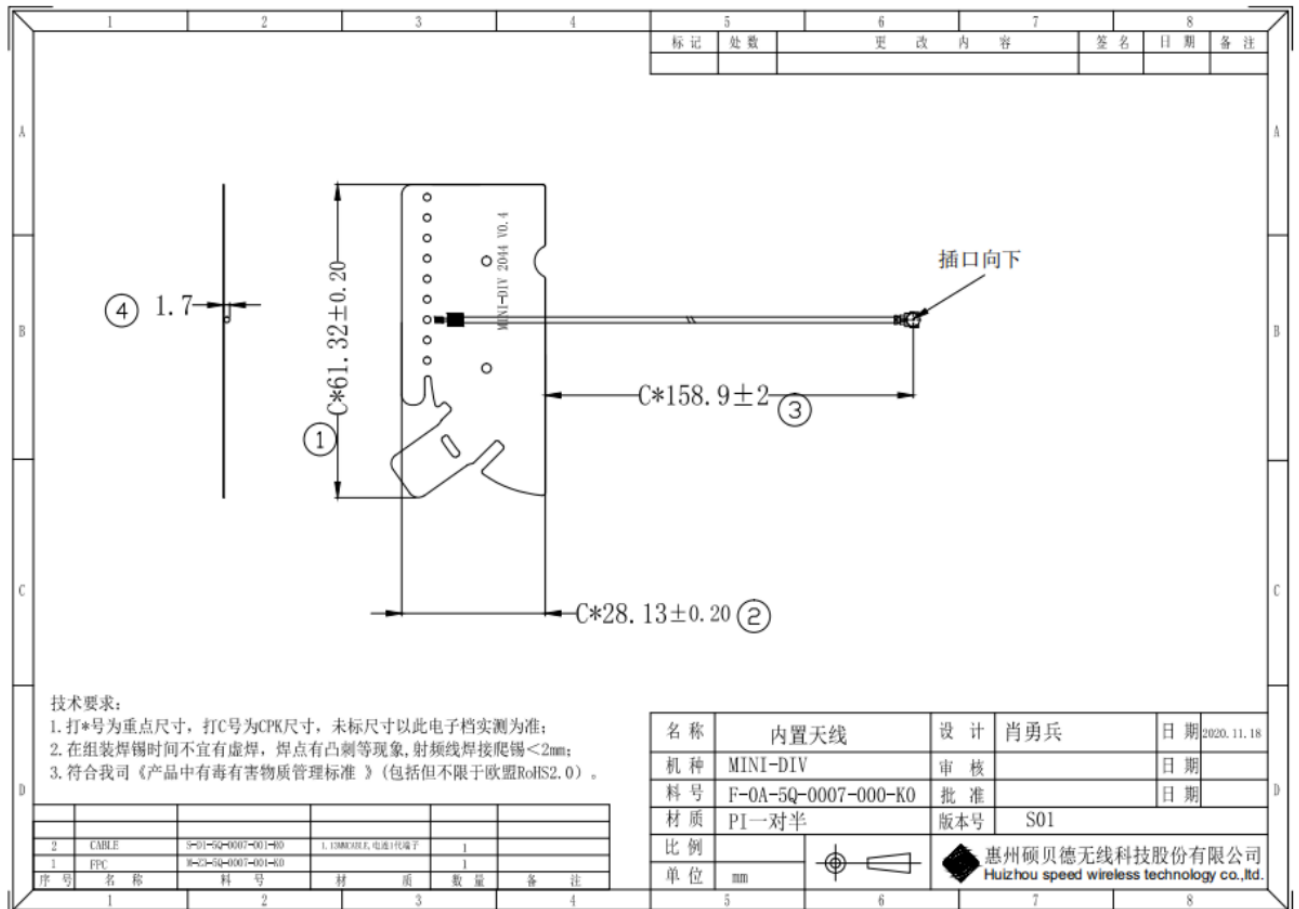
## 4. Antenna diagram

### Main



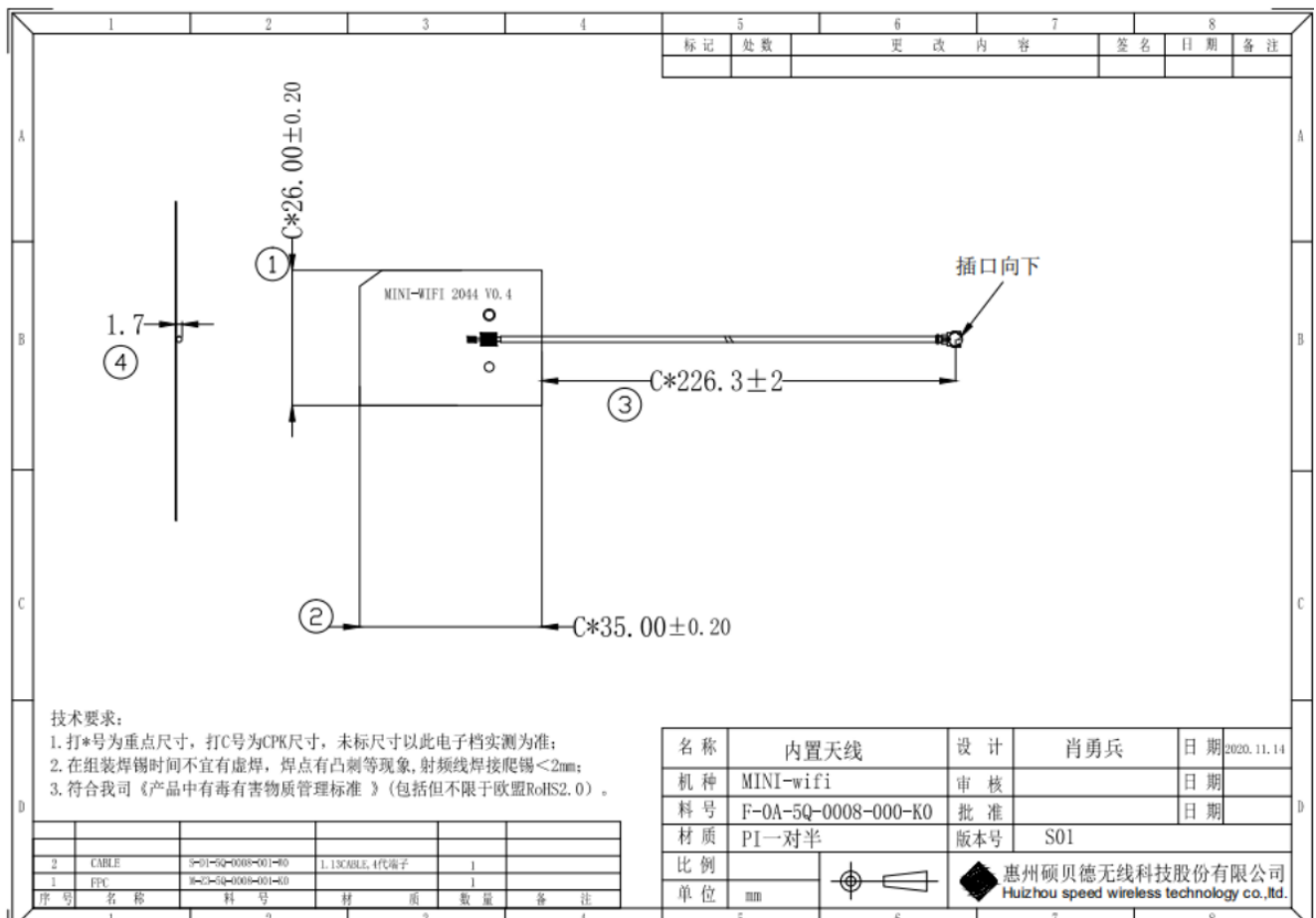


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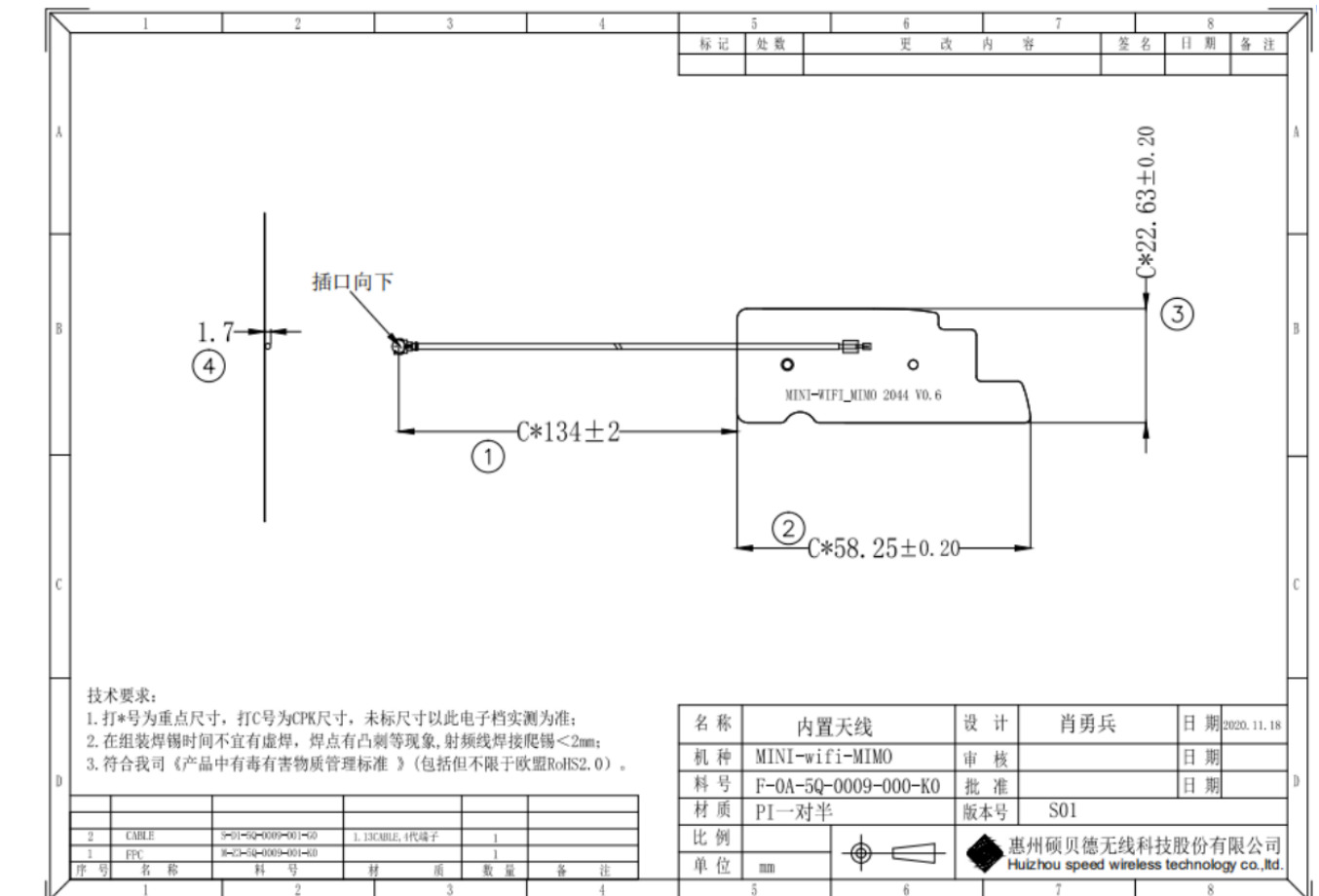
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