

深圳市嘉创信科技有限公司  
Shenzhen Jiachuangxin Technology Co., Ltd

# 承 认 书

## APPROVAL SHEET

客户名称 深圳市道通科技股份有限公司  
CUSTOMER NAME: Autel Intelligent Technology Corp., Ltd.

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产品名称  
PRODUCT NAME: 板载天线 Onbord Antenna

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客户料号  
CUSTOMER P/N: SK2311

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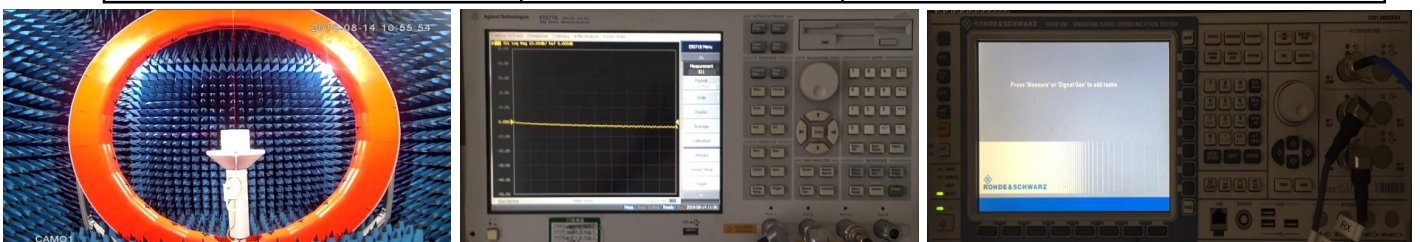
供方地址: 深圳市宝安区金海路金海商务大厦2栋515  
**Supplier address:** Room 515, Building 2, Jinhai Business  
Building, Jinhai Road, Baoan District, Shenzhen  
联系电话/TEL: 0755-82547820

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### 1.Test Items and Equipment

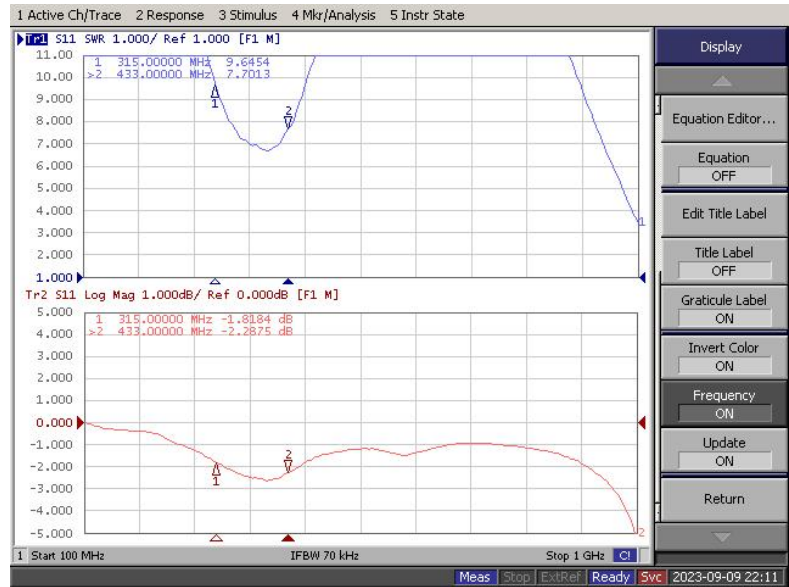
	Test items	Test equipment
S Parameter	1.Return Loss 2.VSWR	Network analyzer (Agilent E5071B)
The whole machine of Passive parameters	1.Frequency 2.Gain 3.Radiation Pattern	1.3D microwave darkroom (5m*5m*5m) 2.Network analyzer (Agilent E5071B)
The whole machine of Active parameters	1.TRP 2.TIS	1.3D microwave darkroom (5m*5m*5m) 2.Comprehensive test instrument (CMW500)



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## 2. S Parameter

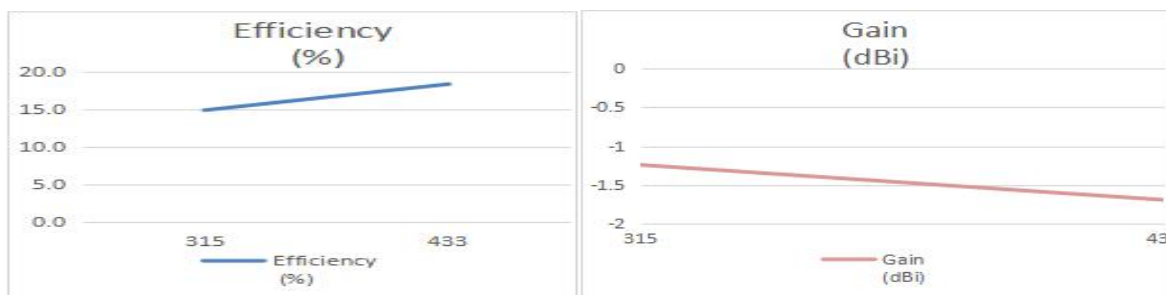
Frequency (MHz)	Return Loss (dB)	VSWR
315	-1.81	9.64
433	-2.28	7.7



\* Voltage Standing Wave Ratio(VSWR)  
Return Loss(RL)  
 $RL=20*\log_{10}[(VSWR+1)/(VSWR-1)]$

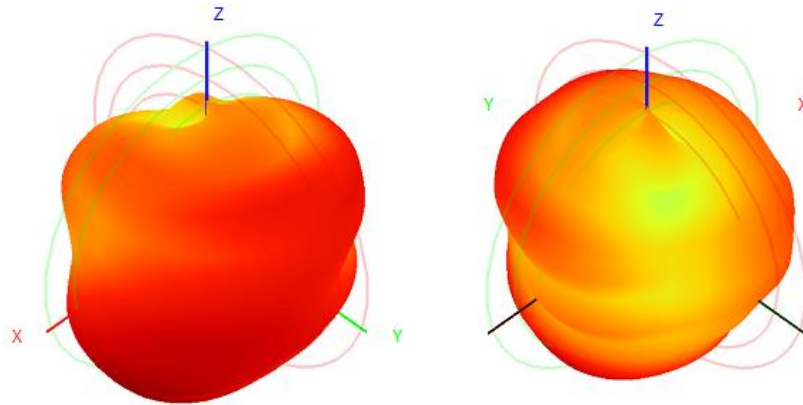
## 3. Efficiency and Gain

Frequency (MHz)	315	433
Efficiency (%)	14.86	18.31
Gain (dBi)	-1.24	-1.69



#### 4. Radiation Pattern

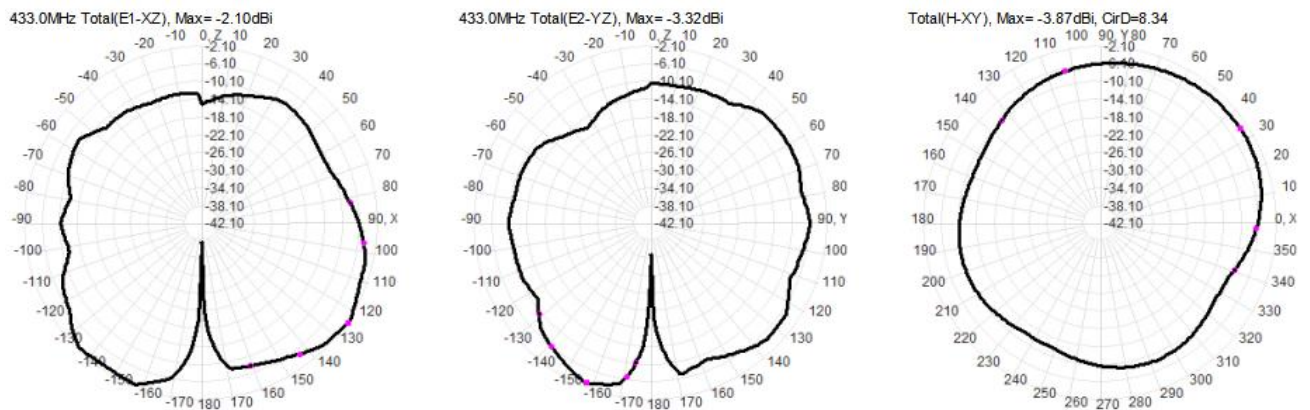
5-1 Antenna 3D Radiation Pattern



433MHz

433MHz

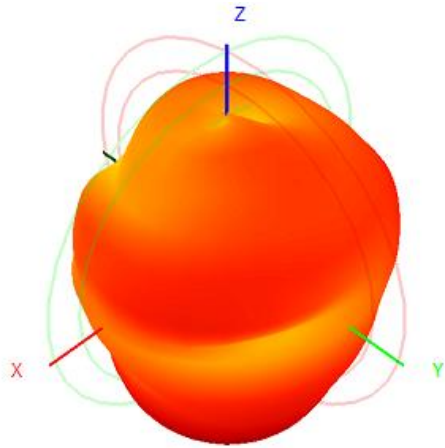
5-2 Antenna 2D Radiation Pattern



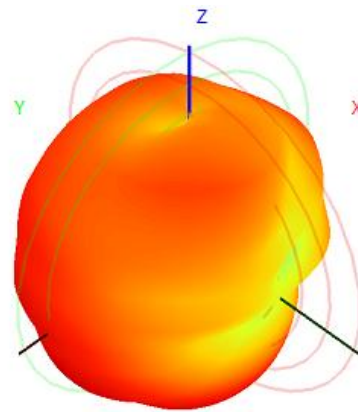
433MHz

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Antenna 3D Radiation Pattern

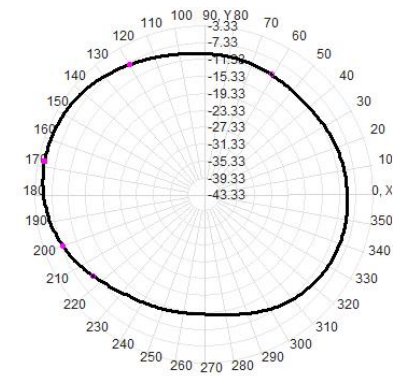
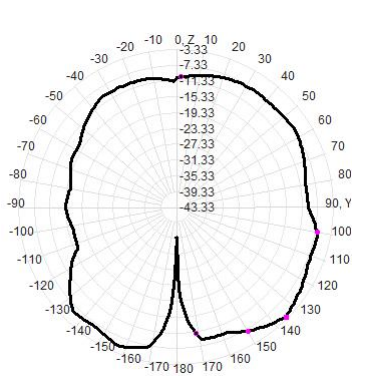
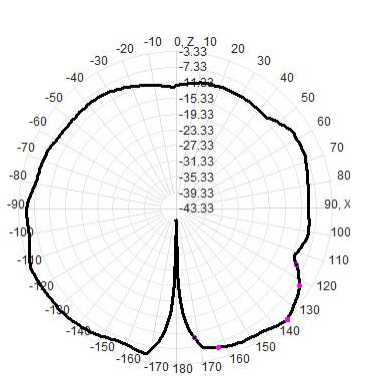


315MHz



315MHz

Antenna 2D Radiation Pattern



315MHz

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5. Antenna size chart

