



SmartAnt Telecom Co., Ltd.

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Certificate of Compliance

To whom it may concern:

SmartAnt Telecom Co., Ltd. The company address is located in 2F, No.669, Sec. 4, Chung Hsing Rd., Chutung, Hsin Chu, Taiwan 310, R.O.C.. Hereby certify the products to comply with specification request as below information. Regarding to the products performance and quality concern please inform to customer service by email:

service@smartant.com or Fax to: +886-3-583-7000

Model Number: ALA06-200350

Description: 5GHz Flat Panel Attached Antenna (Comply with RoHS)

Purchase Order: 105897

Delivery Date: 22-Nov-2006

Serial Number: N/A

Quantity: 2 pcs

Specification:

Frequency Range: 5.15-6.0 GHz

Gain: 5.15-5.875 GHz - 21.5 dBi min

5.875-6.0 GHz - 21 dBi min

VSWR: 1.7:1 Max

3db Beam-width: 9° (typ)

Polarization: Linear (Vertical or Horizontal) -By installation

Front to back ratio: -35dB

Impedance: 50 ohms

Power handling: 6W (max)

Dimension: 350 mm x305 mm x15-20mm

Antenna Connector: 18cm cable RG316 with MCX right angle connector

Radome material: GE Plastics LEXAN 503R Polycarbonate fortified with UV resistant substance or equivalent

ALA06-200350 antenna is designed based upon Radwin 5GHz Flat Panel Attached Antenna Specifications ZI0057900 Revision 1.2, we hereby declare this antenna is tested and comply to all requirements.

Sincerely,

QA Manager

ALA06-200350

Measurement Result

By Matt

2006-11-16

To Provide Seamless Wireless Solution to Valued Customer

Photograph of Ant.



To Provide Seam

Customer

Antenna Electrical Specification

Frequency range	5150 MHz – 5875 MHz	5875 MHz – 6000 MHz
Gain*	21.5dBi	21dBi
VSWR	1.7	
HPBW / Horizontal	9 °	
HPBW / Vertical	9 °	
Sidelobes level	ETSI EN 302 085 V1.2.2 TS1-TS3	
Cross polarization	ETSI EN 302 085 V1.2.2 TS1-TS3	
Front to back ratio	35dB	
Polarization	Linear, Vertical	
Pattern downtilt	0 degree	
Power handing	6 W (cw)	
Input impedance	50	
Cable	RG-316, 18 cm	
Connector	R/A MCX	

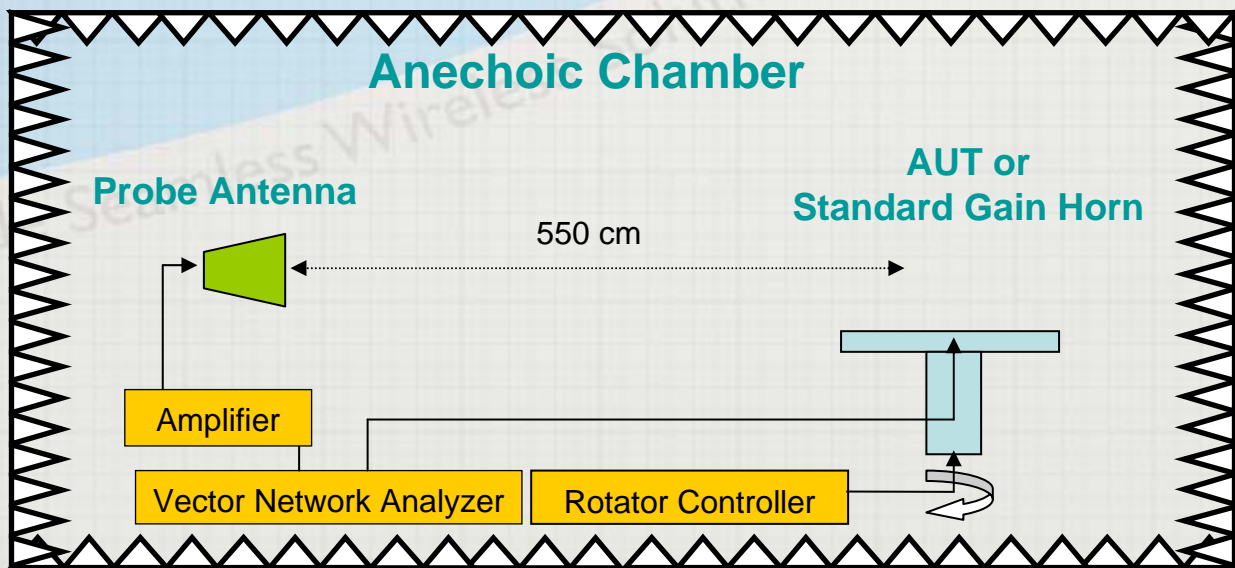
*include of
Cable Loss

Antenna Environmental & Mechanical description

Survival wind speed	216 km/hr
Temperature	-40 ° C to +80 ° C
Humidity	95 % @ 55 ° C
Lightening protection	DC ground
Radome color	White
Radome material	ABS, UV resistant
Weight	860 g
Dimensions	305 x 305 x 13.5 mm³

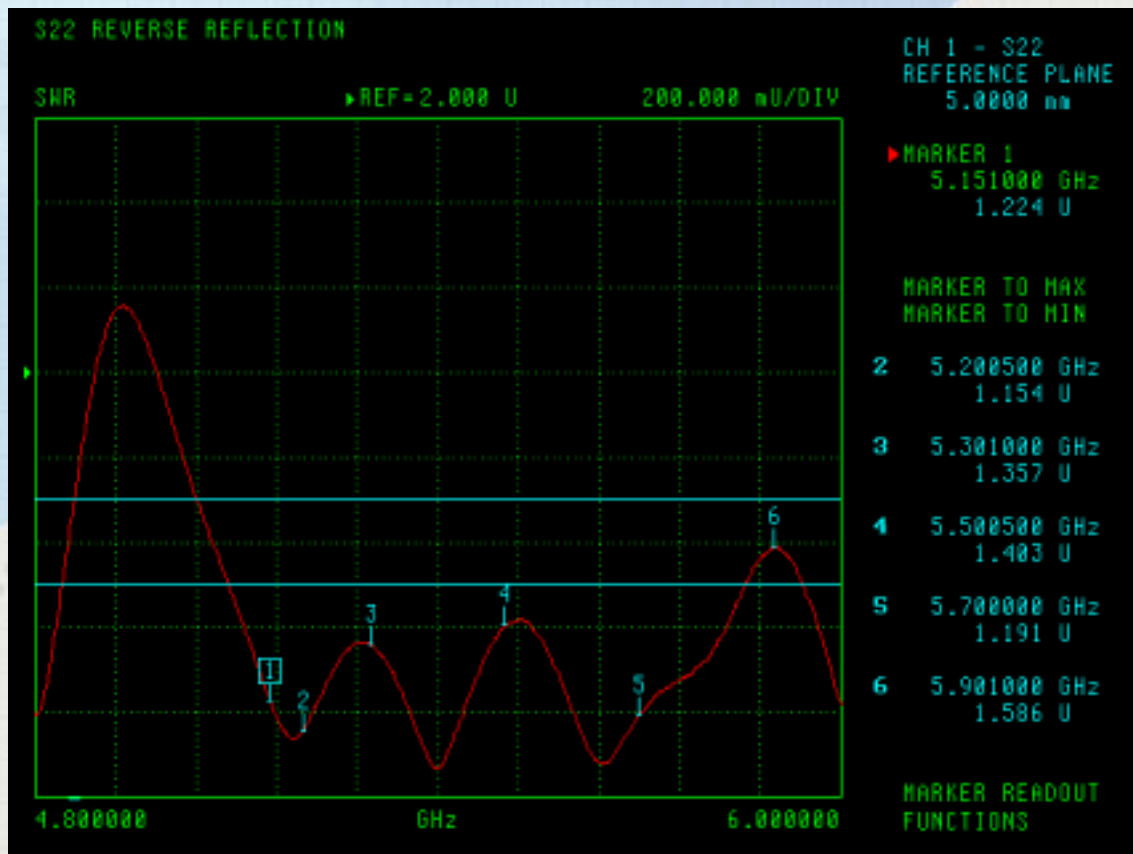
Gain and Pattern Test Setup

Vector Network analyzer	HP 8722D 30kHz ~ 40 GHz
Standard gain horn	EMCO Model 3160-3 1.70 GHz ~ 2.60 GHz EMCO Model 3160-4 2.60 GHz ~ 3.95 GHz EMCO Model 3160-5 3.95 GHz ~ 5.85 GHz
Emitter Antenna	EMCO Model 3115 Double Ridged Guide Antenna 1GHz ~18 GHz
Anechoic Chamber	ANTCOM NFH003 Hybrid Near/Far-field System
Height between ground & AUT	1.9 meter
Distance between probe & AUT	5.5 meter



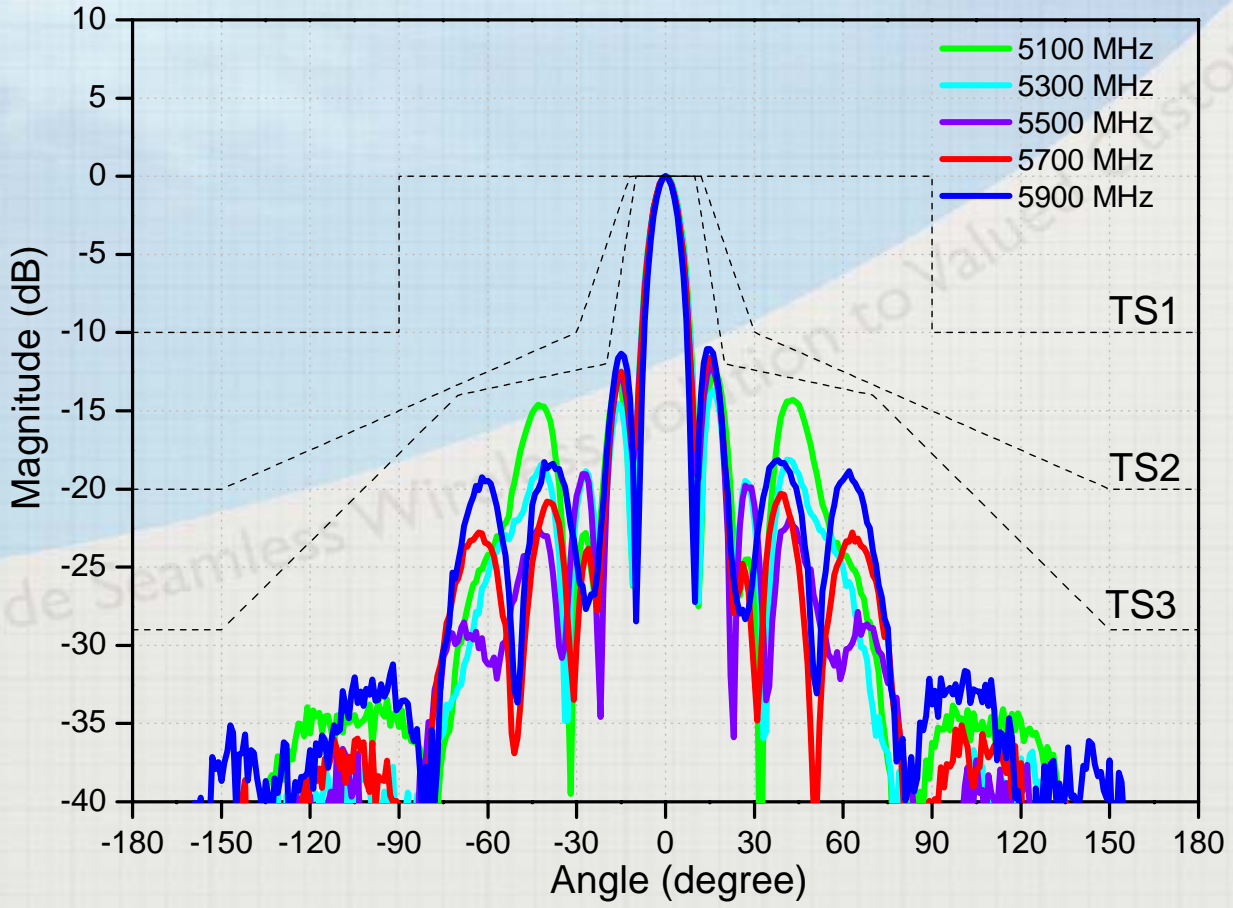
VSWR

Frequency (MHz)	VSWR
5150	1.23
5200	1.16
5300	1.35
5400	1.06
5500	1.41
5600	1.21
5700	1.19
5800	1.32
5900	1.59
6000	1.21



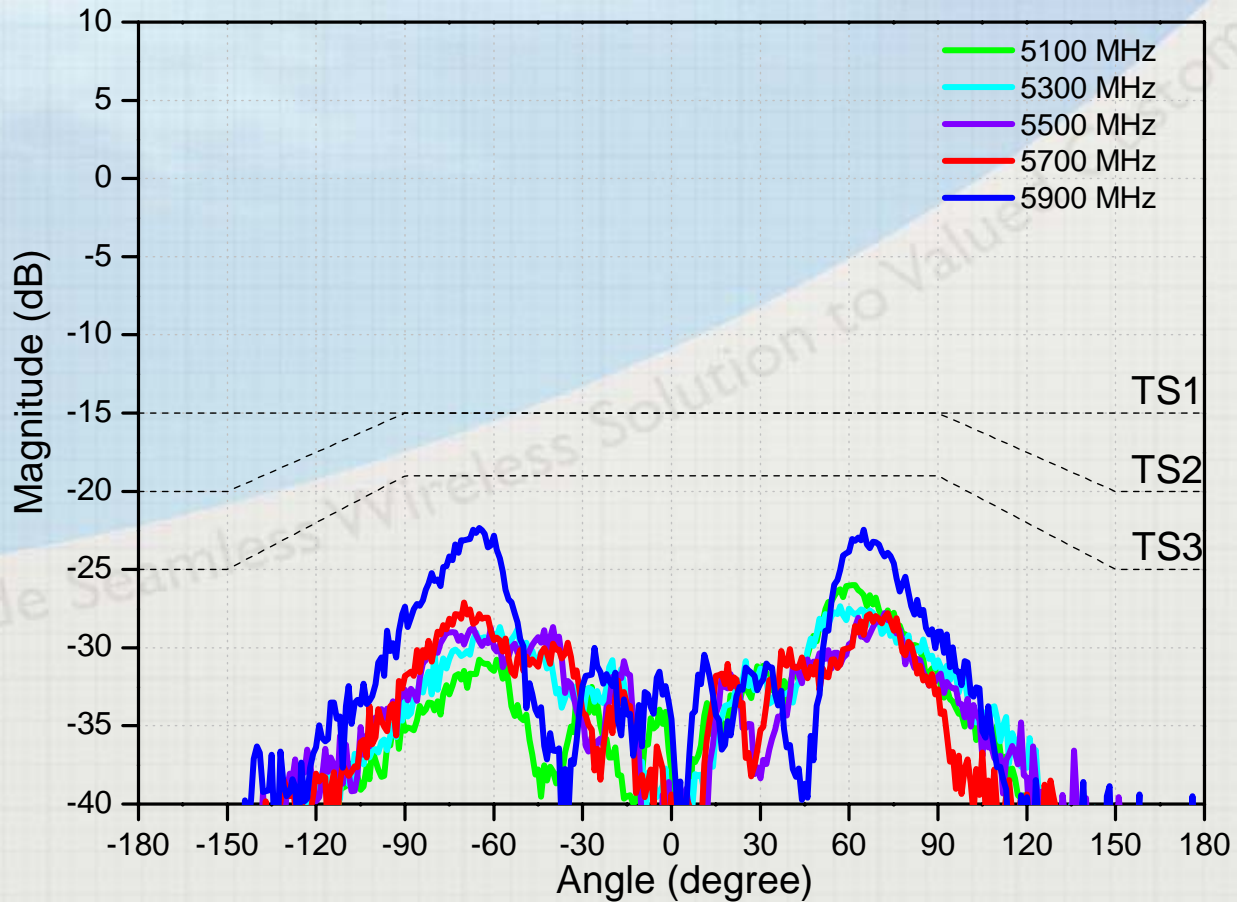
H-Plane Co-polarization Pattern

H-plane Co-polarization Pattern



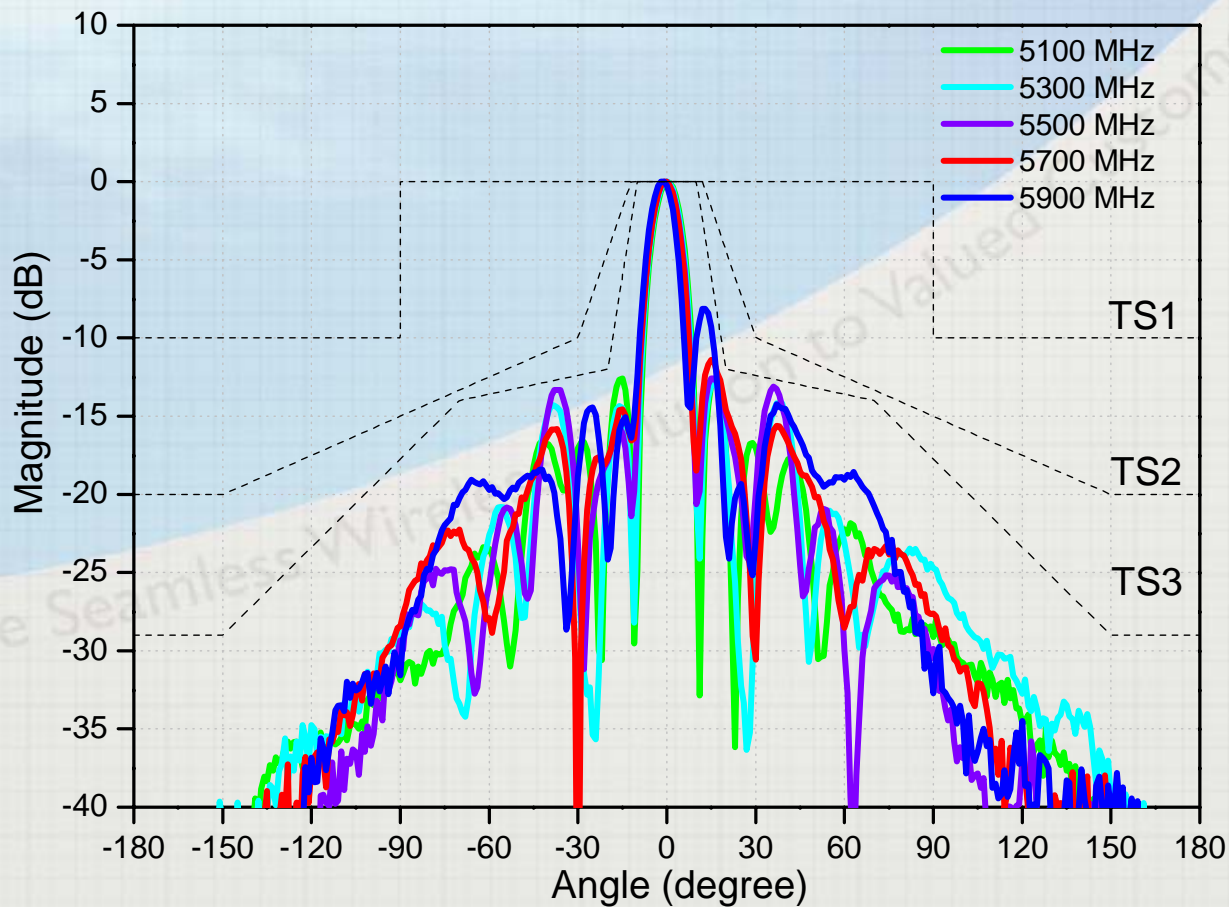
H-Plane Cross-polarization Pattern

H-plane Cross-polarization Pattern



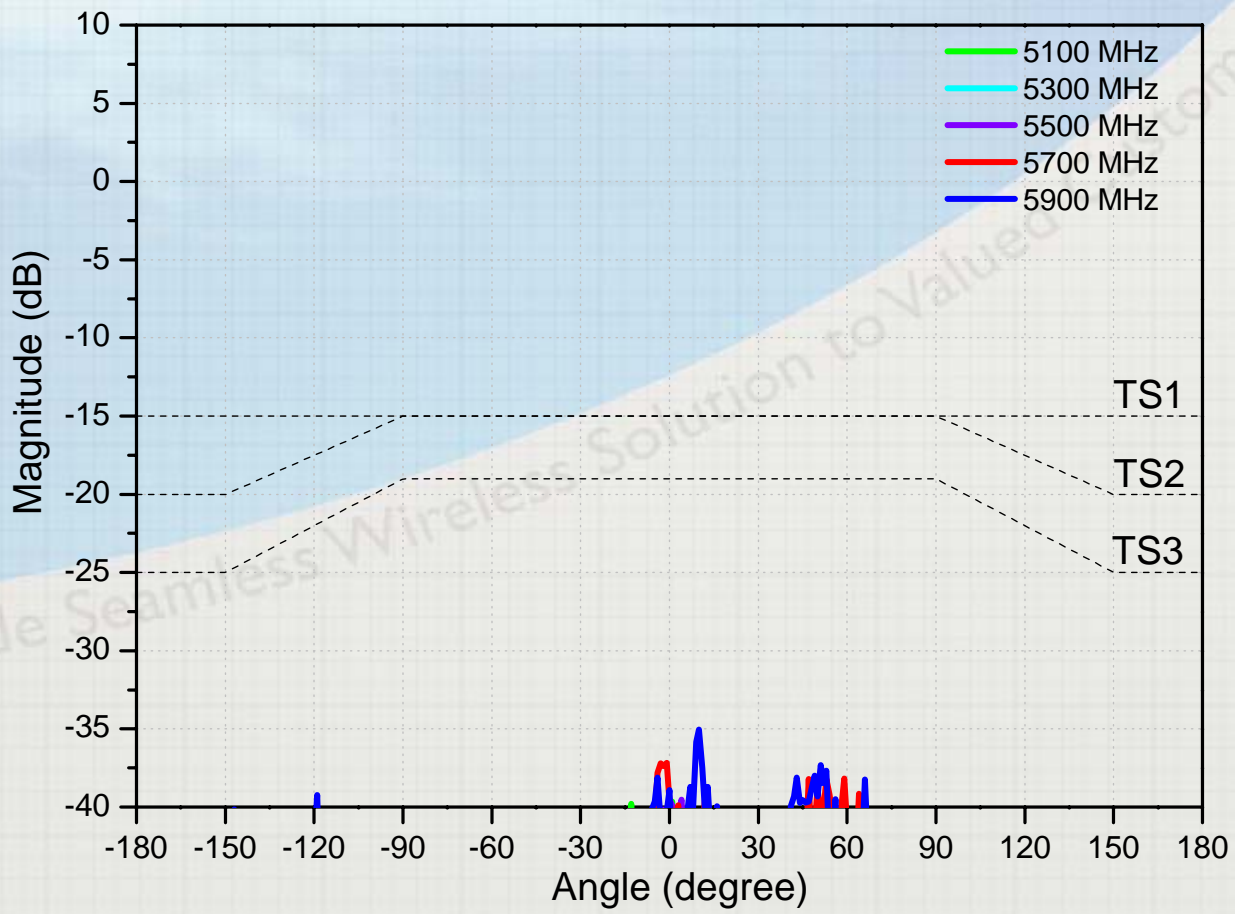
V-Plane Co-polarization Pattern

V-plane Co-polarization Pattern



V-Plane Cross-polarization Pattern

V-plane Cross-polarization Pattern



Summary

Frequency (GHz)	5.1	5.2	5.3	5.4	5.5
VSWR	1.23	1.16	1.35	1.06	1.41
H-Plane Max. Gain (dBi)	21.50	21.85	22.11	22.03	21.75
V-Plane Max. Gain (dBi)	21.59	21.84	22.09	22.08	21.79
H-Plane HPBW (degree)	10.0	9.9	9.8	9.7	9.6
V-Plane HPBW (degree)	9.7	9.6	9.6	9.6	9.7

Frequency (GHz)	5.6	5.7	5.8	5.9	6.0
VSWR	1.21	1.19	1.32	1.59	1.21
H-Plane Max. Gain (dBi)	21.79	21.56	21.50	21.08	21.02
V-Plane Max. Gain (dBi)	21.75	21.49	21.45	21.26	21.34
H-Plane HPBW (degree)	9.4	9.3	9.3	8.9	8.6
V-Plane HPBW (degree)	9.5	9.4	9.3	9.0	8.8

***include of Cab
Loss 0.5 dB**