

# TEST REPORT

**2.3-2.7 GHz Integrated Antenna for Airspan**

**Model MA-WC25-AS12**

**P/N 34000076**

**PCA Ant 2.5G 12dBi MicroMAX V-Pol MCX**

**Presented to: Airspan LTD.**

**20/05/2009**

Performed By	Roman Vaistikh	Signed:		Date:	
Verified By	Solo Alterescu	Signed:		Date:	
QA Approved	Zohar Izraeli	Signed:		Date:	

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## 2.3 - 2.7 GHz Integrated Antenna for Airspan

MA-WC25-AS12

### Specifications

Electrical	
Frequency range	2.3 – 2.7 GHz
GAIN, min.	12 dBi
VSWR, max.	1.5: 1
3dB Beam Width - Azimuth, typ.	60°
3dB Beam Width - Elevation, typ.	20°
Polarization	Linear, Vertical
Cross Polarization, min	-12 dB
Side Lobe, min	-10 dB
F/B Ratio	-15 dB
Input power, max	10 Watt
Input Impedance	50 Ohm
Mechanical and Environmental	
Connector	MCX Male
Lighting Protection	DC Grounded
Service Life	>10 years

## 2.3 - 2.7 GHz Integrated Antenna for Airspan

MA-WC25-AS12

### Specifications (Final)

Electrical	
Frequency range	2.3 – 2.7 GHz
GAIN, min.	12 dBi
VSWR, max.	1.5: 1
3dB Beam Width - Azimuth, typ	60°
3dB Beam Width - Elevation, typ	22°
Polarization	Linear, Vertical
Cross Polarization, min	-12 dB
Side Lobe, min	-10 dB
F/B Ratio	-15 dB
Input power, max	10 Watt
Input Impedance	50 Ohm
Mechanical and Environmental	
Connector	MCX Male
Lighting Protection	DC Grounded
Distance Ground - PCB	5.5 mm
Ground size	361 x 291 mm
Service Life	>10 years

**General**

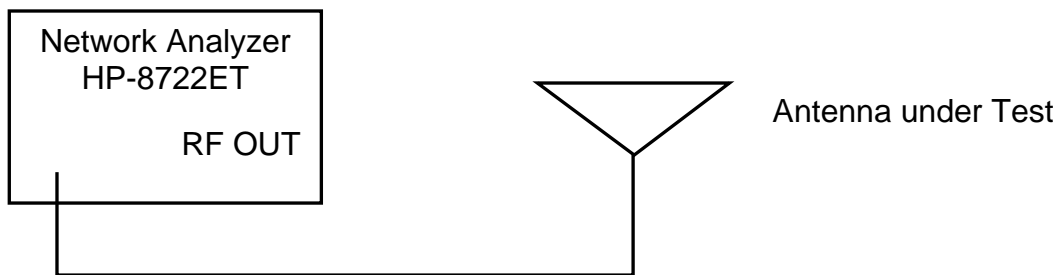
The following tests were performed at frequencies 2.3 – 2.7 GHz for two prototypes of the antennas with base and radom, provided by Airspan.

The tests included measurement of gain and radiation patterns at Mars Antennas antennas range.

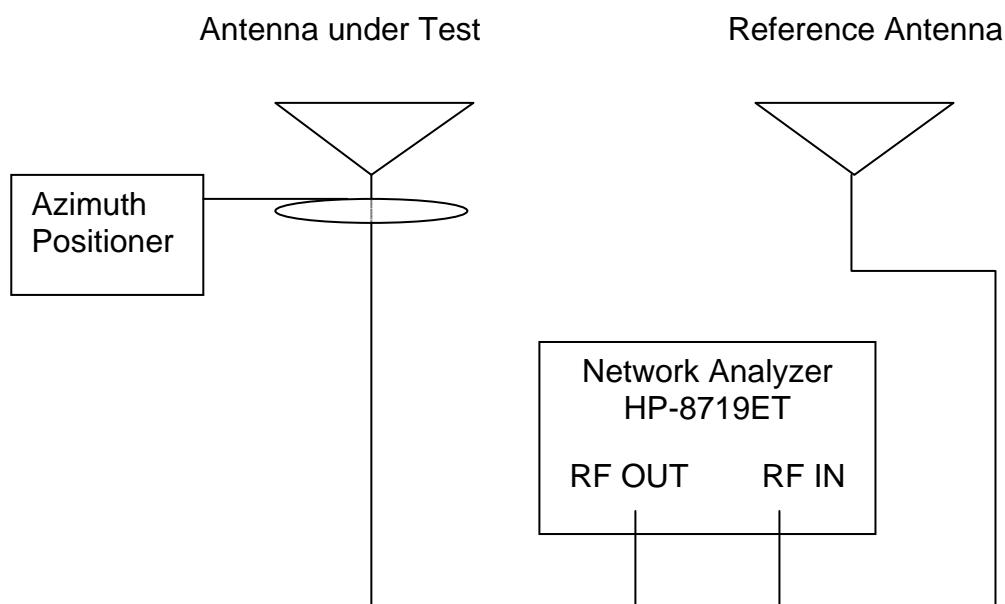
Testing equipment: Orbit/FR Microwave data acquisition and analysis antenna measurement system (AL 4806-3C , Midas 5.0).

The distance between the reference antenna and the tested antenna was 10 meters.

**VSWR Test**



**Gain and Radiation Patterns**



## 2.3-2.7 GHz Integrated Antenna for Airspan

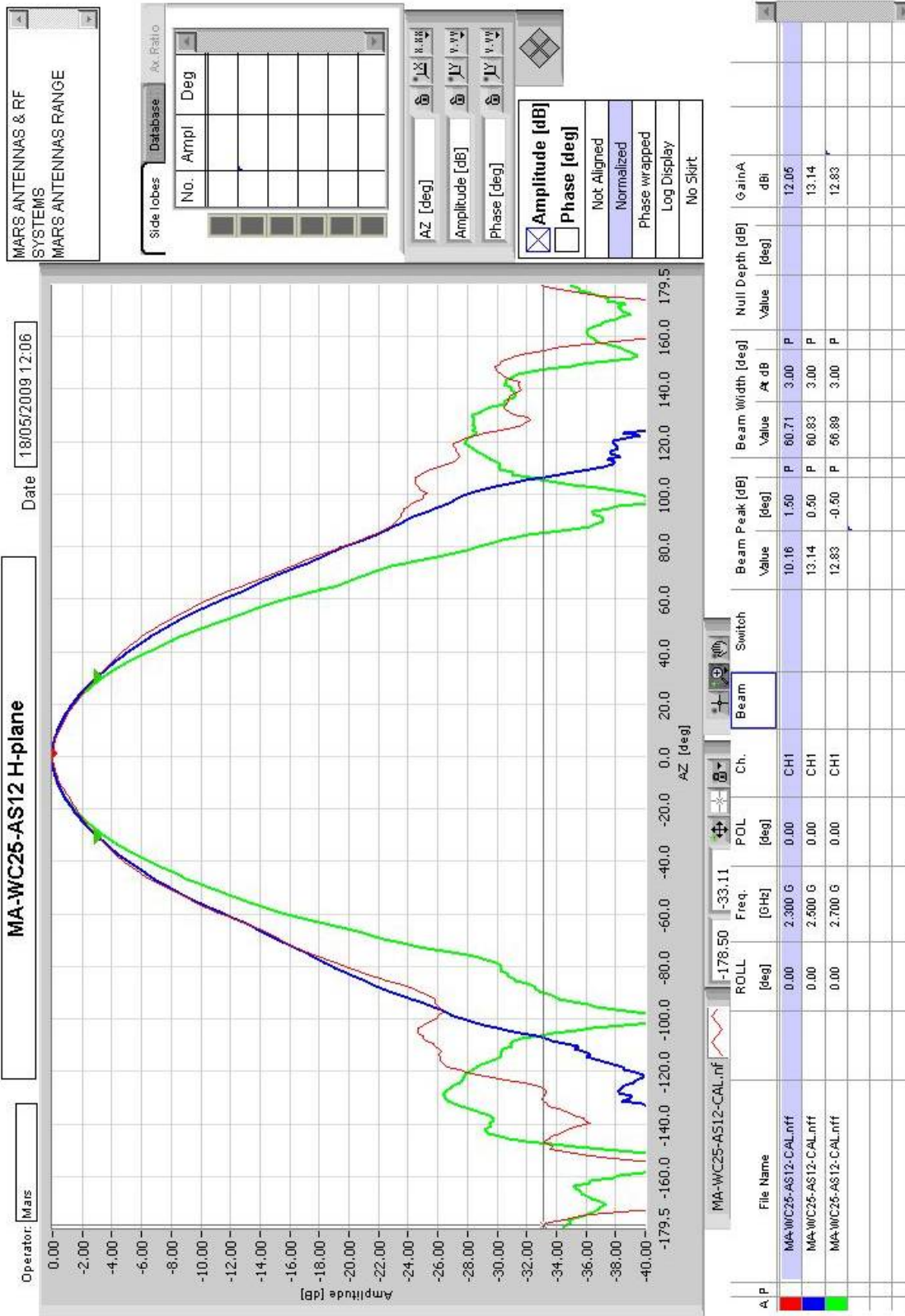
### MA-WC25-AS12

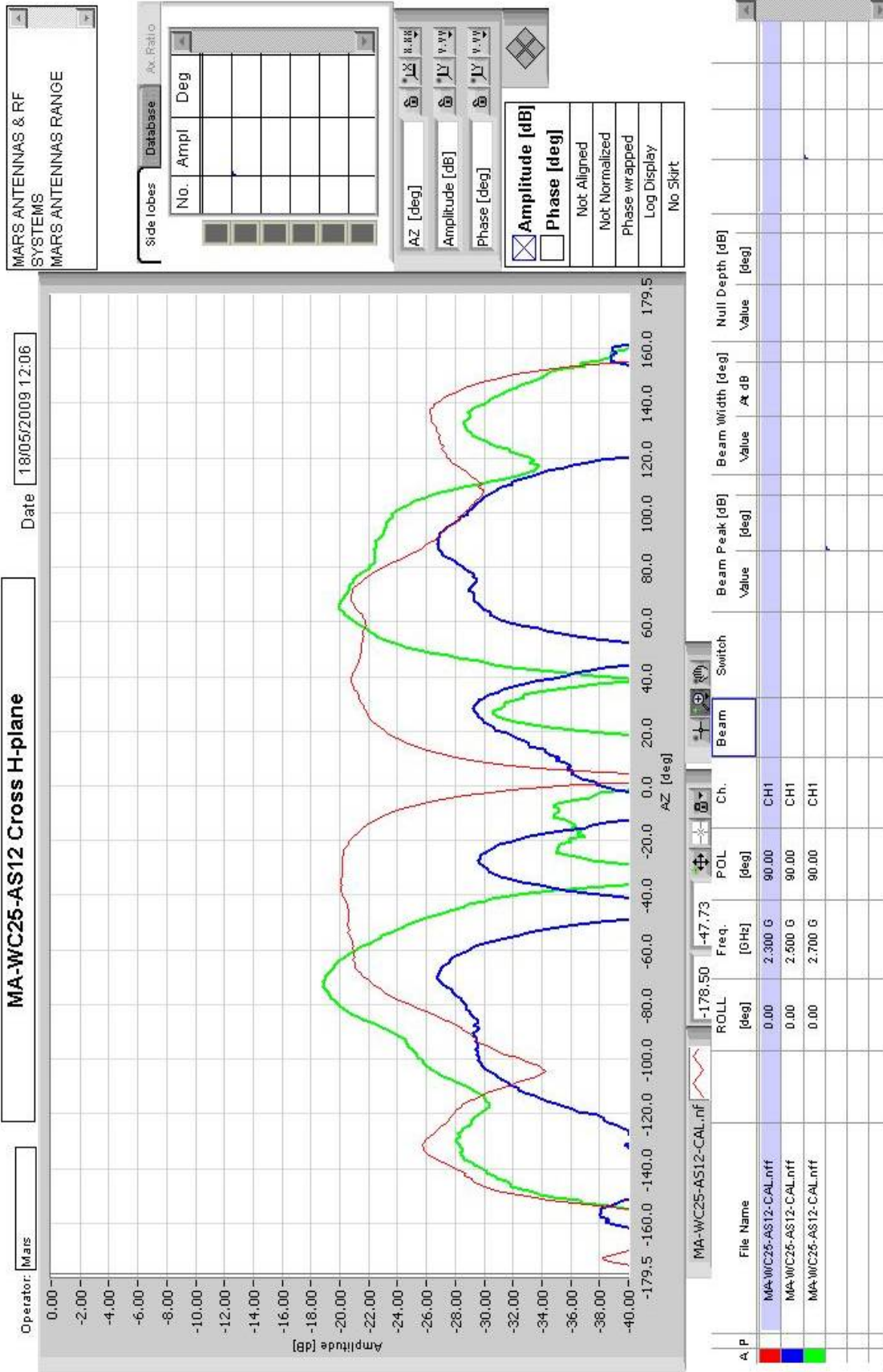
### TEST RESULT

Parameter		Prototype 1		Prototype 2	
		Min	Max	Min	Max
Bandwidth, GHz	2.3-2.7 GHz	2.3	2.7	2.3	2.7
Gain, dBi	12 (min)	12.2	13.1	12.1	13.1
Polarization	Vertical				
Az Beam width	60° (typ)	59	61	58.5	61
EI Beam width	22° (typ)	21	25	21.5	25
F/B, dB	-15		-20		-20
Side lobes, dB	-10		-11		-11
CROSS POLE, dB	-12		-18		-18
VSWR	1.5:1 (max)		1.47		1.45

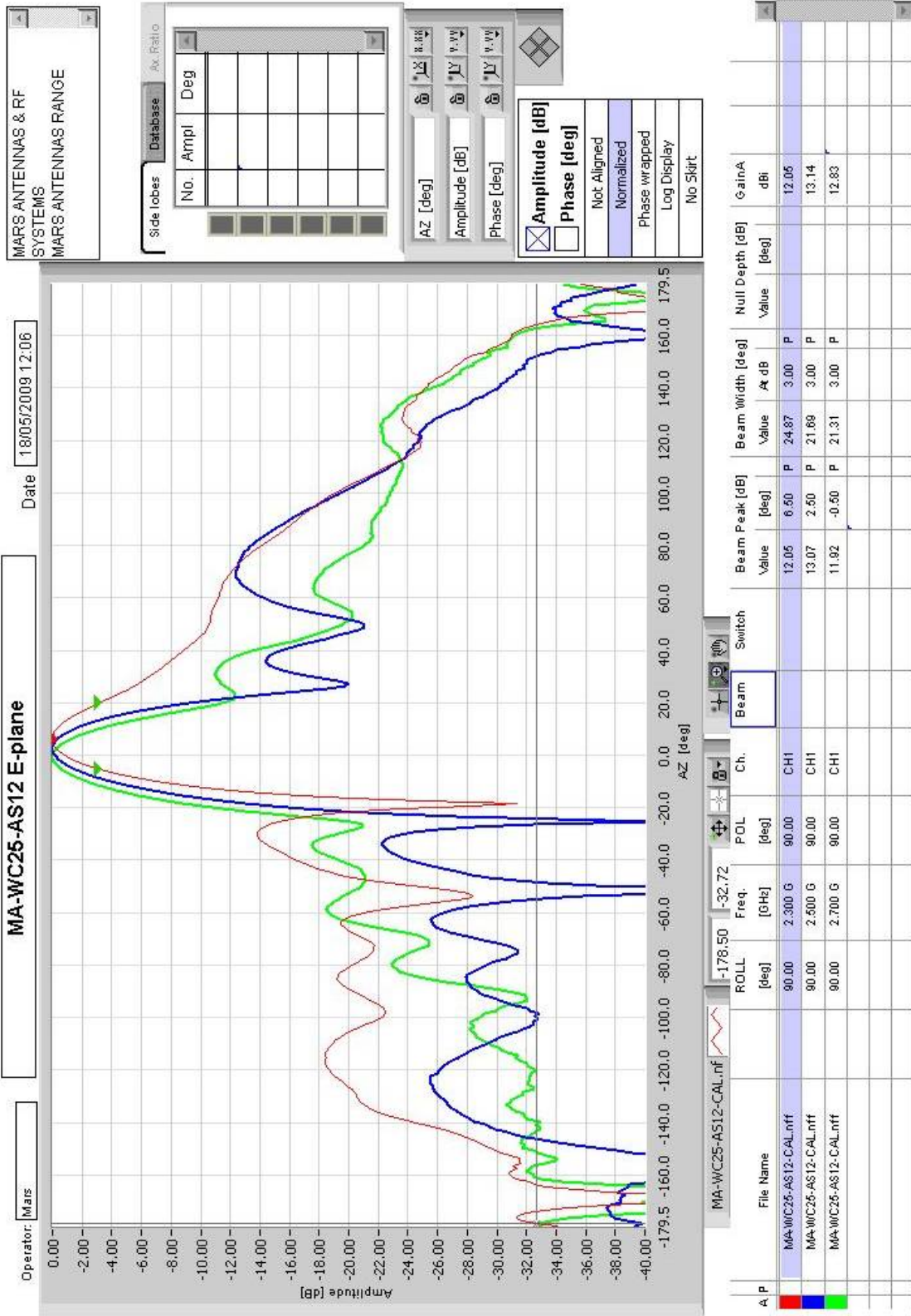
### Mechanical test

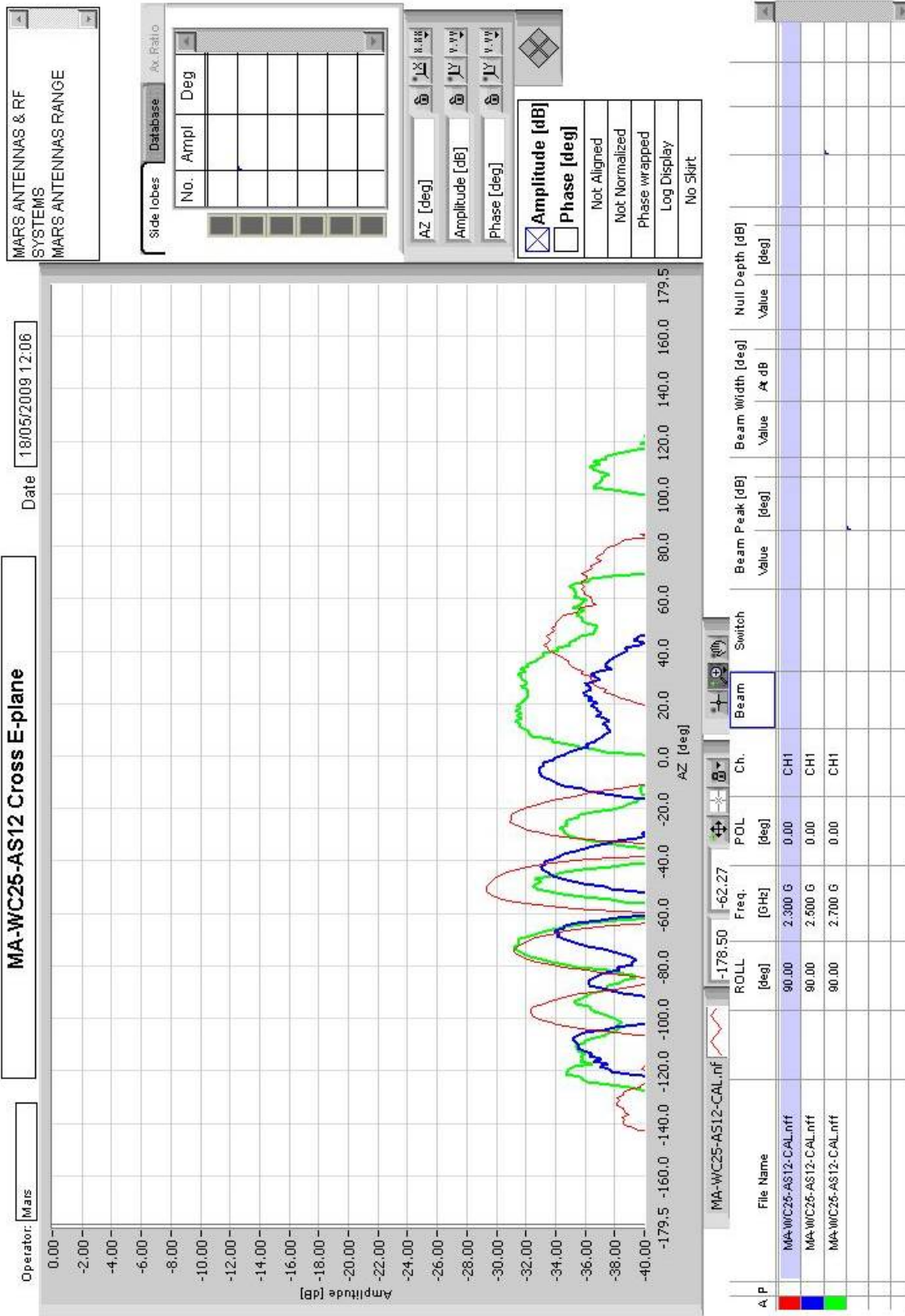
Parameter	Spec	Prototype 1	Prototype 2
Dimensions, mm	274x104x11.5	274x104x11.5	274x104x11.5



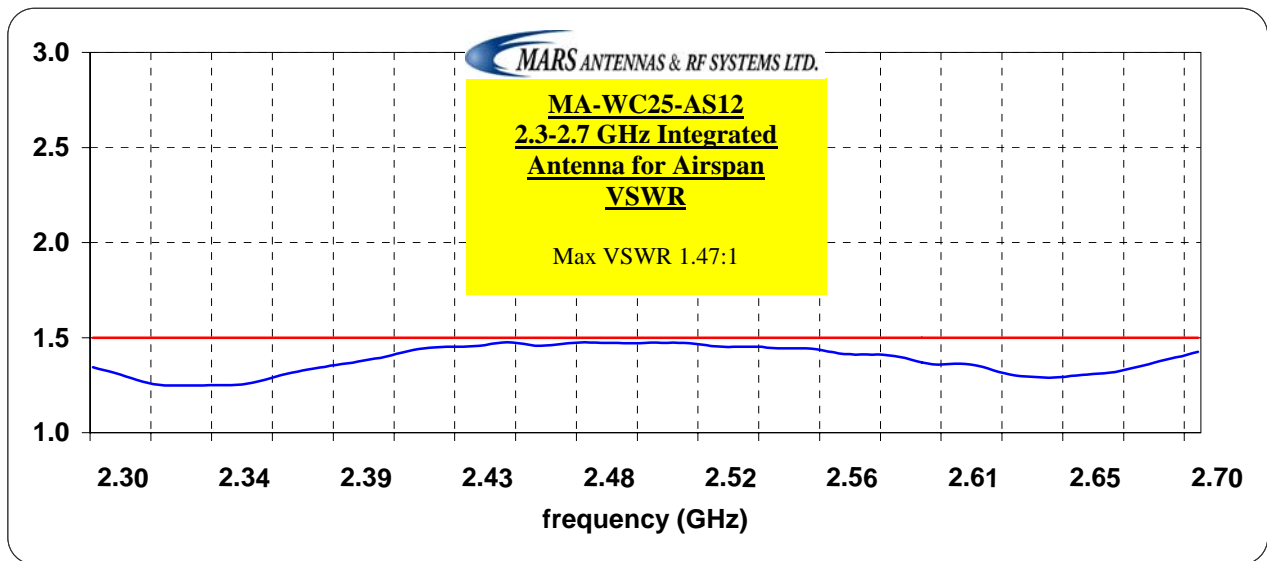




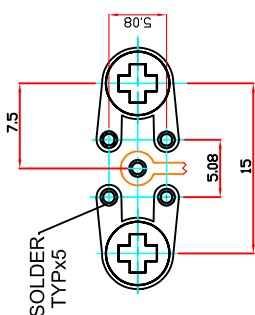
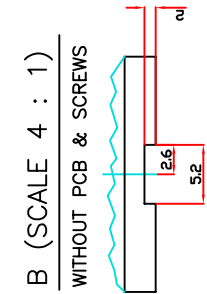
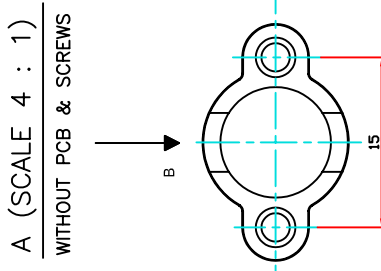
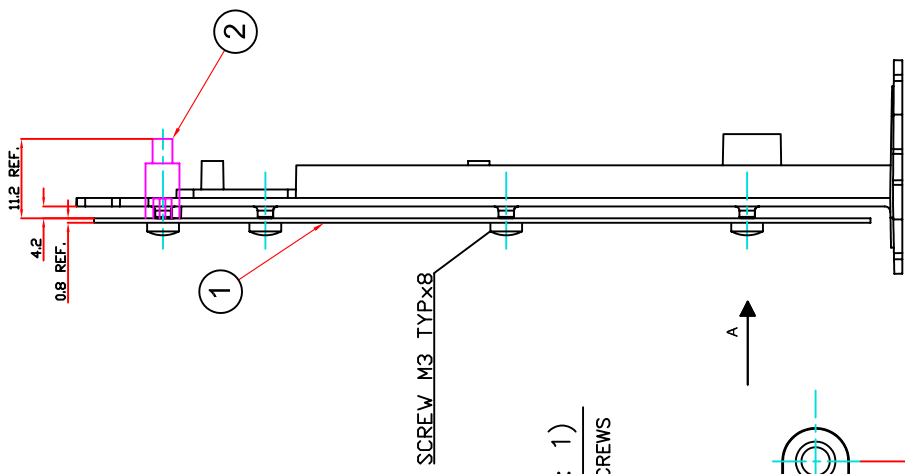
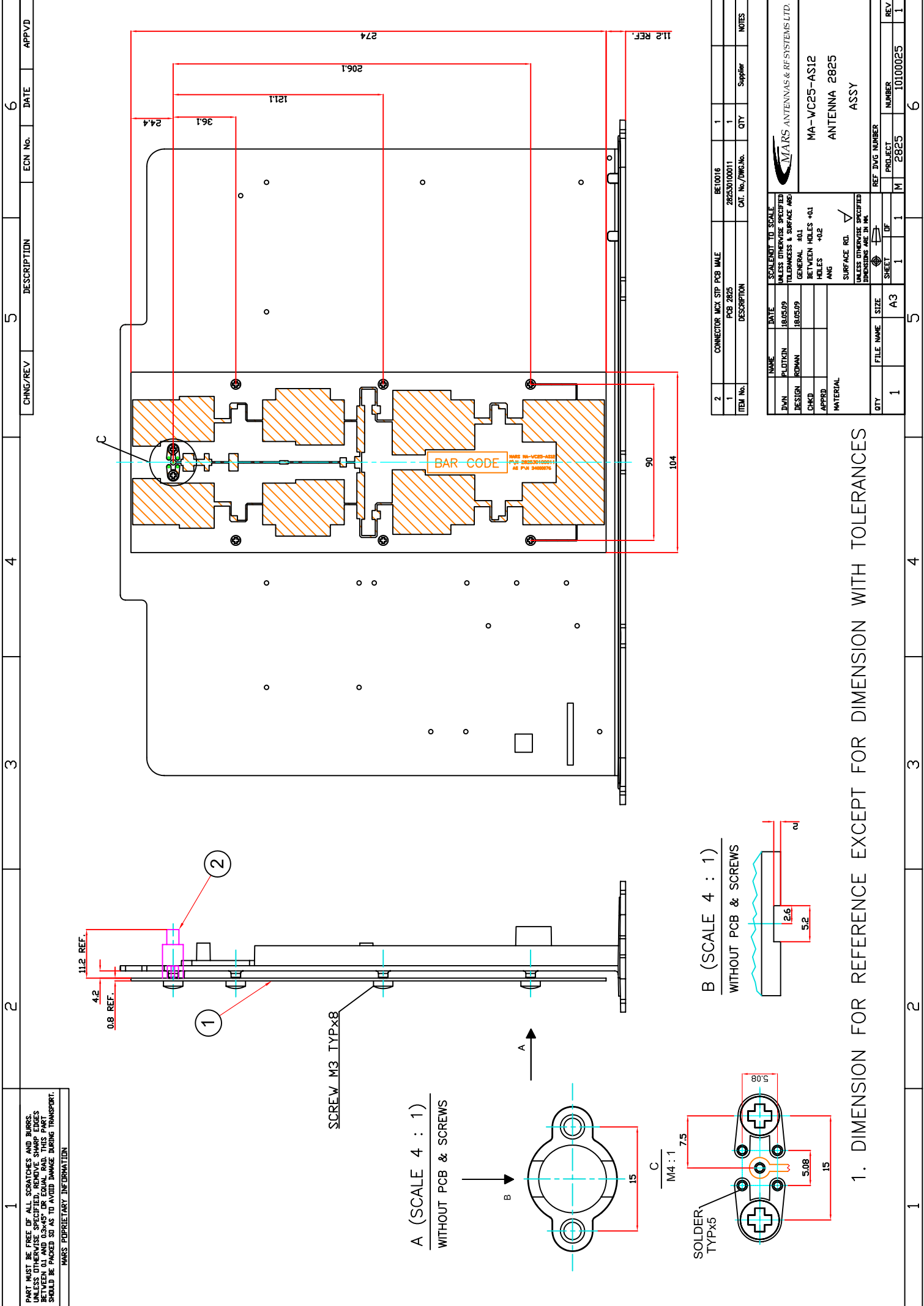




**VSWR**



PART MUST BE FREE OF ALL SCRATCHES AND BURRS.  
 SURFACE FINISH SHALL BE 320 GRIT SAND PAPER  
 BETWEEN 0.1 AND 0.345" DEEP. THIS PART  
 SHOULD BE PACKED SO AS TO AVOID DAMAGE DURING TRANSPORT.  
 MARS PROPRIETARY INFORMATION



CHNG/REV	DESCRIPTION	ECN No.	DATE	APPVD

ITEM No.	DESCRIPTION	CAT. No./DWG.No.	QTY	SUPPLIER	NOTES
2	CONNECTOR MCX STP PCB MALE	BE10016	1		
1	PCB 2825	282530100011	1		

NAME	DATE	SCALE/NOT TO SCALE	SURFACE FIN.	UNLESS OTHERWISE SPECIFIED
DRAWN PLOTKIN	18.05.09	UNLESS OTHERWISE SPECIFIED		
DESIGN ROMAN	18.05.09	TOLERANCES & SURFACE ARE		
CHKD.		GENERAL ±0.1		
APPRD.		BETWEEN HOLES +0.1		
MATERIAL		HOLE HILES +0.2		
		ANG		
		SURFACE RE. ✓		
		UNLESS OTHERWISE SPECIFIED		
		DIMENSIONS ARE IN MM		

QTY	FILE NAME	SIZE	SHEET	OF	REF DWG NUMBER	PROJECT NUMBER	REV
1		A3	1	1	M 2825	10100025	1

MARS ANTENNAS & RF SYSTEMS LTD.

MA-WC25-AS12  
 ANTENNA 2825  
 ASSY

1. DIMENSION FOR REFERENCE EXCEPT FOR DIMENSION WITH TOLERANCES