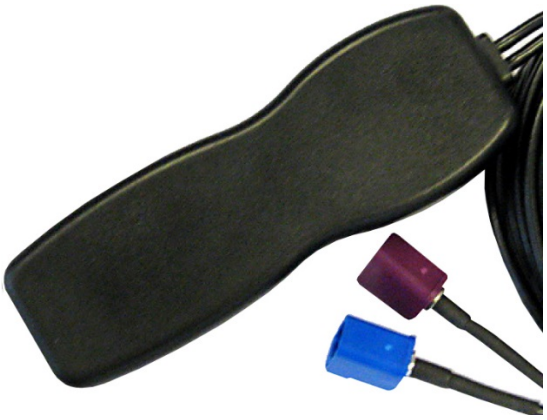
APPROVAL SHEET

PRODUCT NAME	CUSTOMER NAME OR MODEL
GPS088	
CABLE LENGTH	**CUSTOMER APPROVED BY**
CONNECTOR TYPE	**APPROVED DATE**

SPECIFICATION

Product Name: GPS088

Description: Penta Band GPS/GSM Combination Antenna



VERSION INFORMATION

VERSION	DATE	REVISION DESCRIPTION	PREPARED	CHECKED	APPROVED
1.0	5/11/15	New Issued	JMT	JF	

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1. Electrical Characteristics		
1	Antenna model	GPS088
2	Frequency range	GSM850 / GSM900 / GSM1800 / GSM1900 / UMTS 2.1GHz (3G) 1575.42MHz (GPS)
3	Gain	26dB (GPS) / 0-2dBi (GSM)
4	Polarisation	RHCP (GPS) / Linear (GSM)
5	Impedance	50Ω
6	VSWR	Less than 2.5:1
7	GPS LNA Power Consumption	< 100mW

2. Material		
1	Antenna substrate	Dielectric Ceramics
2	Electrode	Ag Plated
3	Mounting	1mm double sided adhesive pad
4	Pin	Copper Tin plated
		Cu/EP.Ni2Sn5
		Ni 2µm, Sn 5µm
5	Ground Base	Ag Plated
6	RoHS compliant?	Yes

3. Cable		
1	Cable Type	RG174
2	Velocity factor	66%
3	Nominal Diameter	2.8mm
4	RoHS compliant?	Yes

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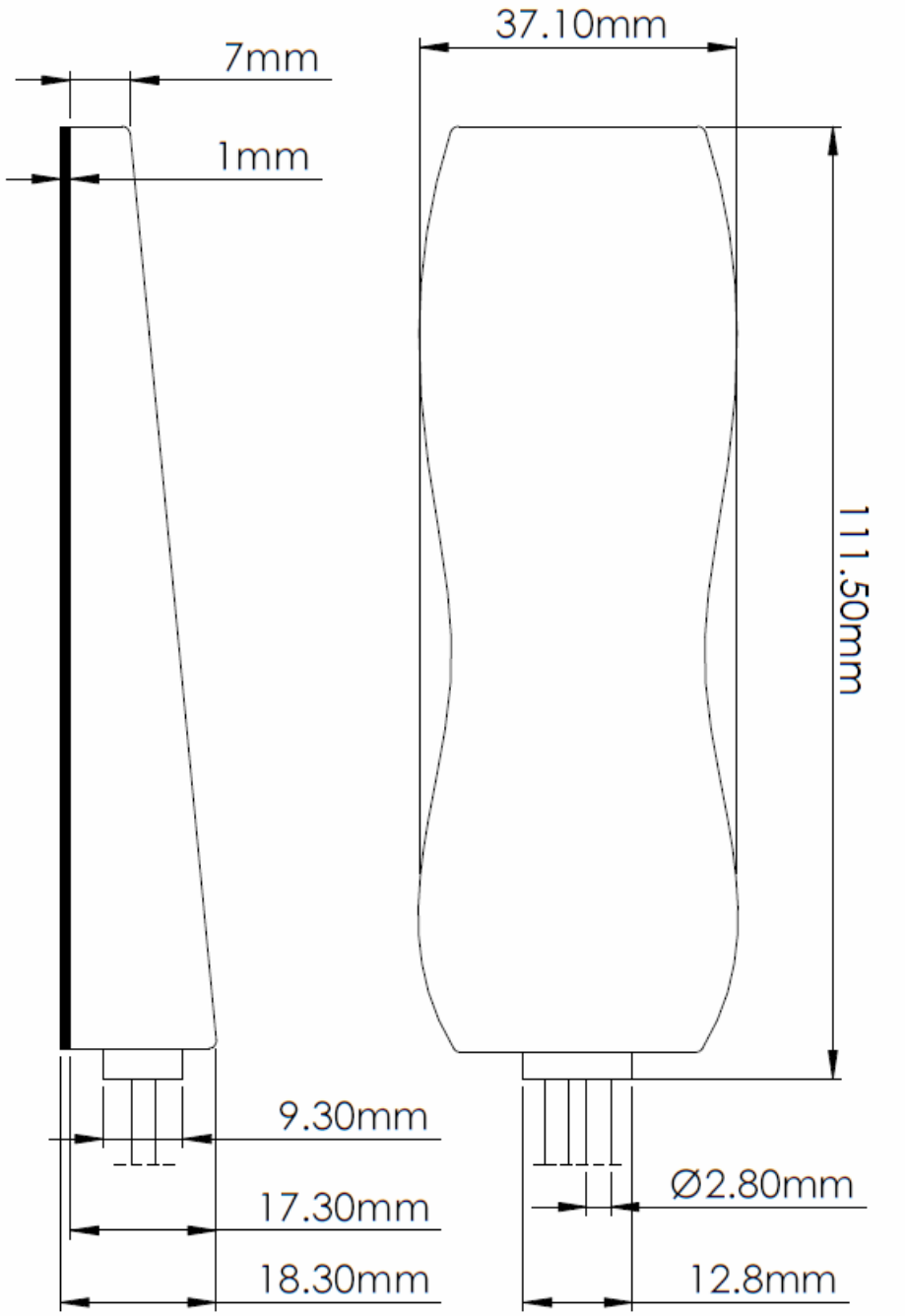
4. Dimensions (±0.5mm)



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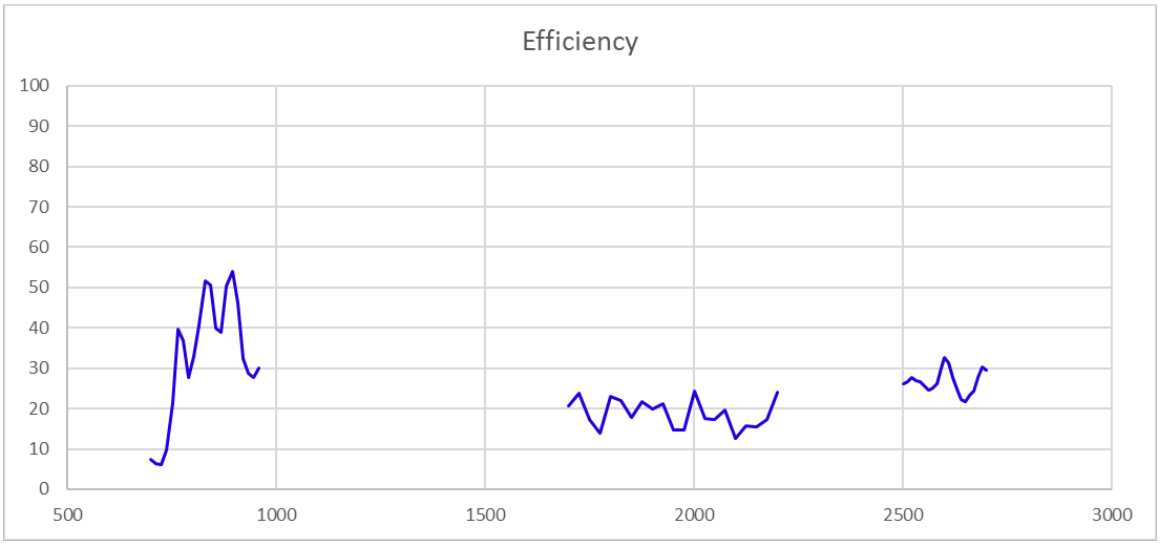
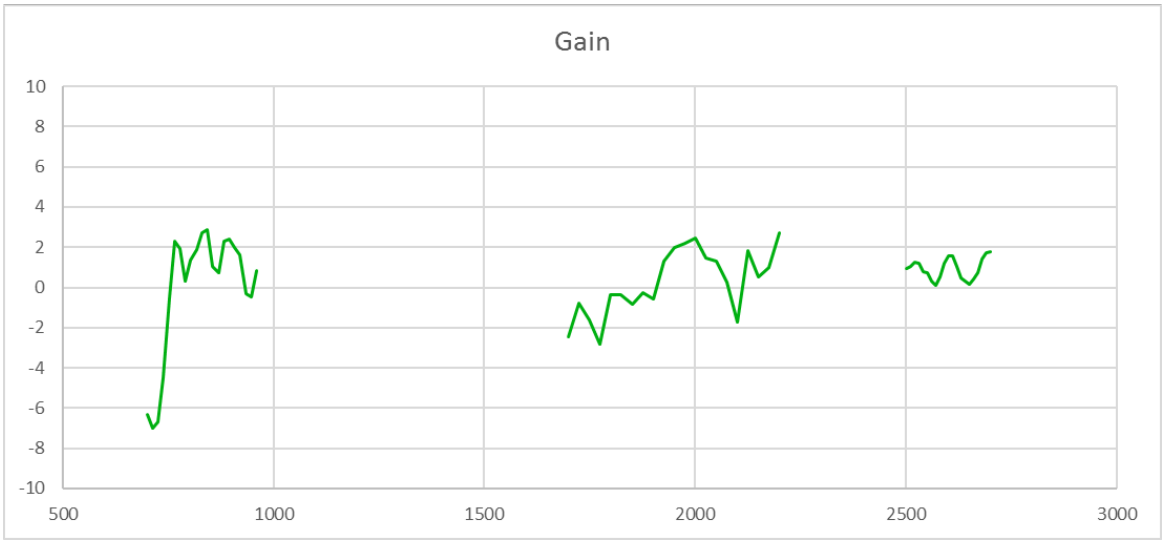
5. Efficiency and gain plots





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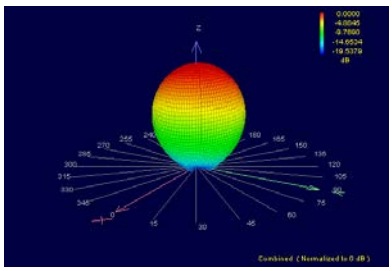
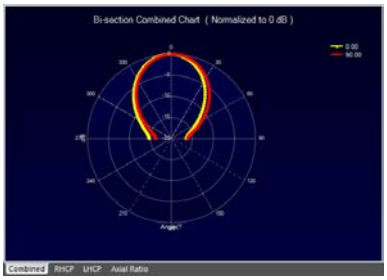
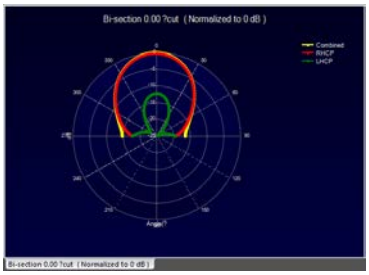
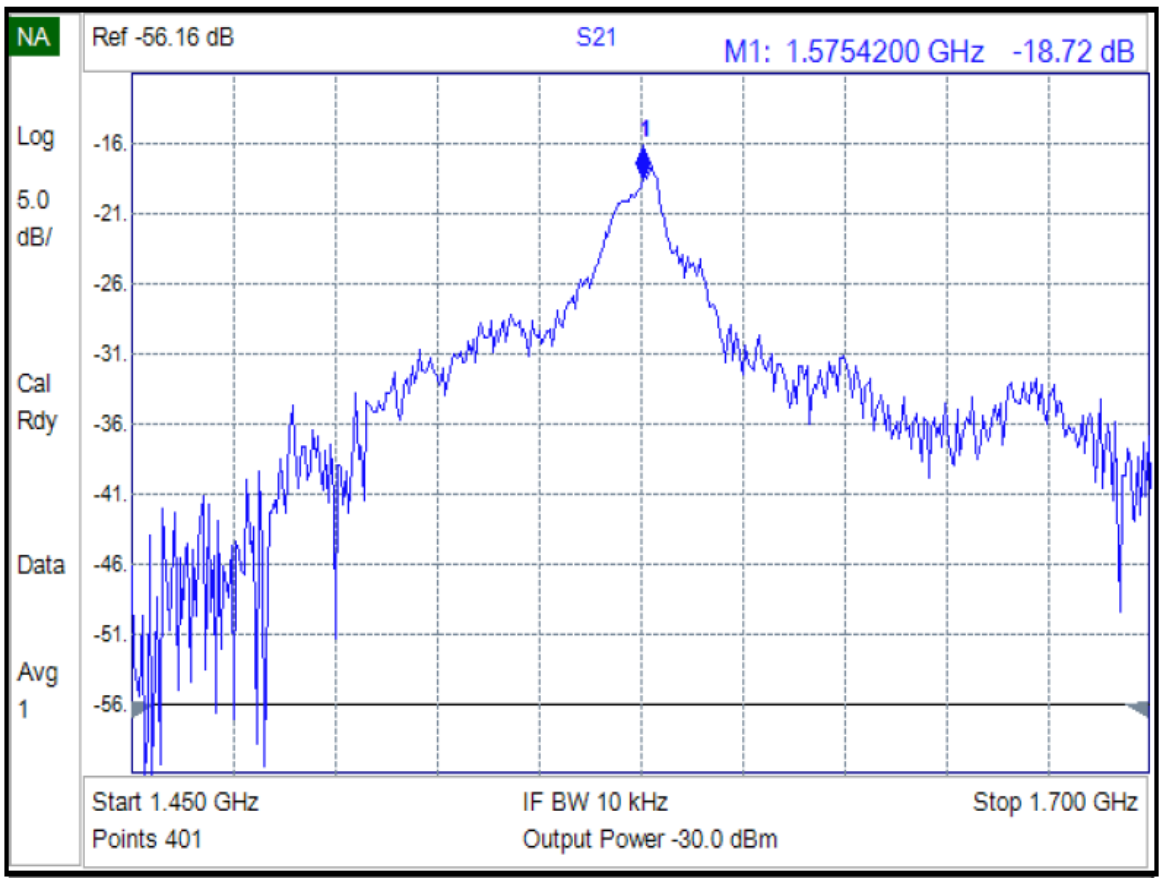
6. Typical radiation patterns (RHCP) and gain plot









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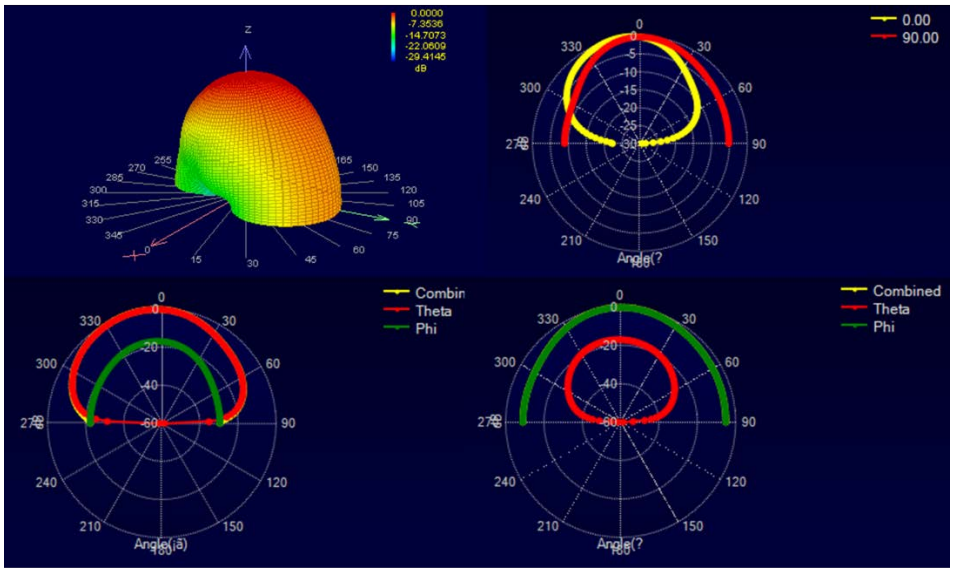
7. Typical radiation patterns (Linear)

830MHZ

Far-Field Linear Polarisation

Bi-section Combined Chart



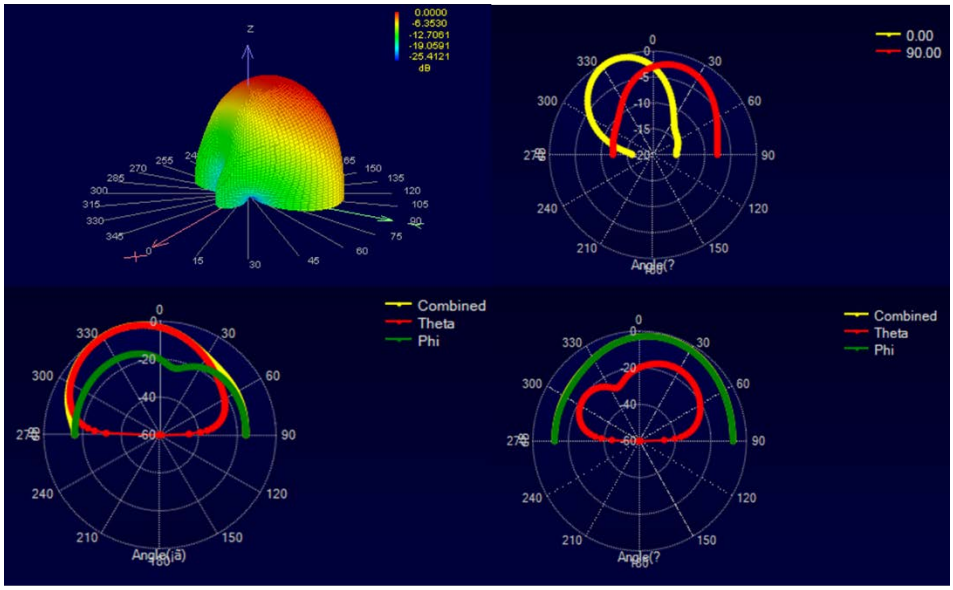
Bi-section 0.00˚ Amplitude Cut

Bi-section 90.00˚ Amplitude Cut

921MHz

Far-Field Linear Polarisation

Bi-section Combined Chart



Bi-section 0.00˚ Amplitude Cut

Bi-section 90.00˚ Amplitude Cut

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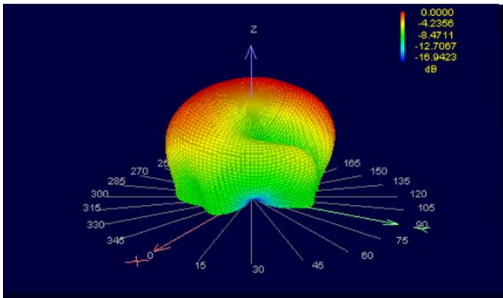
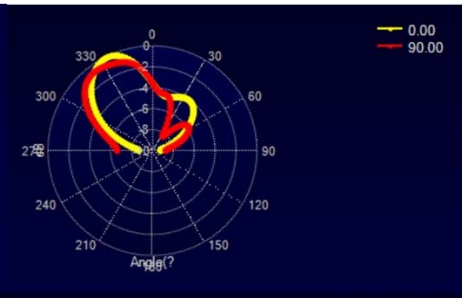
Typical radiation patterns (Linear)(continued)

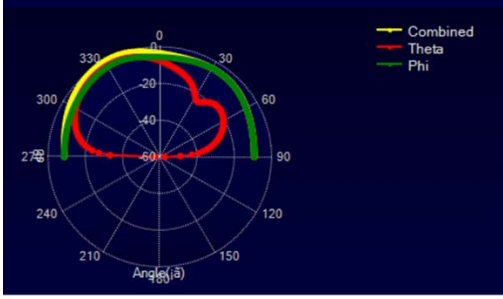
1700MHz

Far-Field Linear Polarisation

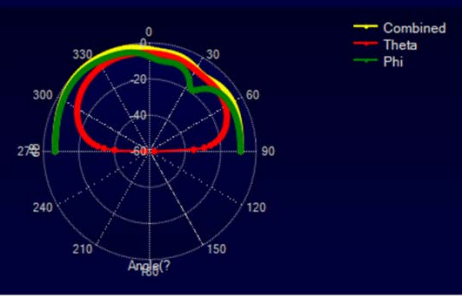


Bi-section Combined Chart





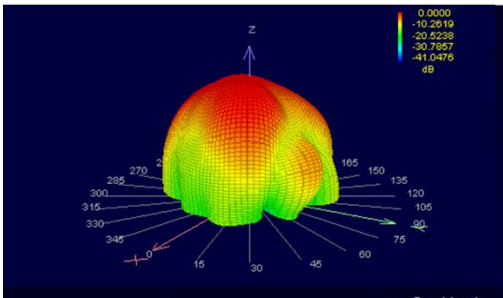
Bi-section 0.00˚ Amplitude Cut



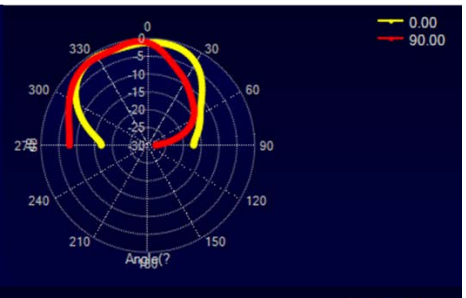
Bi-section 90.00˚ Amplitude Cut

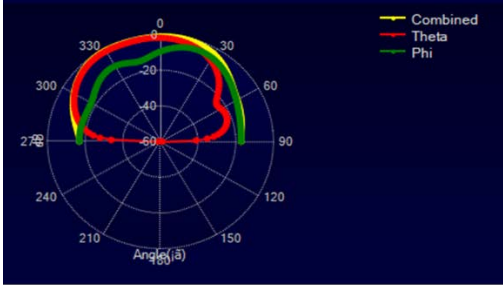
1800MHz

Far-Field Linear Polarisation

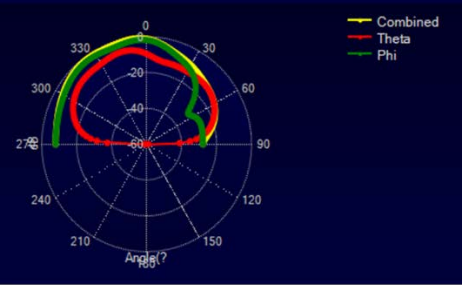


Bi-section Combined Chart





Bi-section 0.00˚ Amplitude Cut



Bi-section 90.00˚ Amplitude Cut

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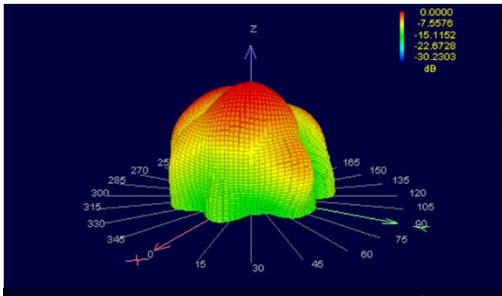
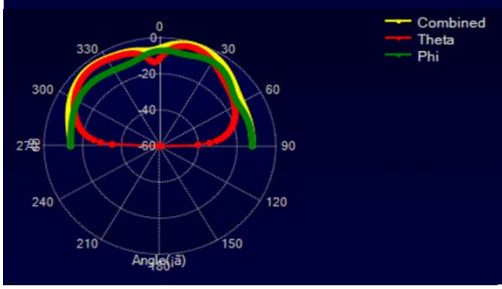
Typical radiation patterns (Linear)(continued)

1900MHz

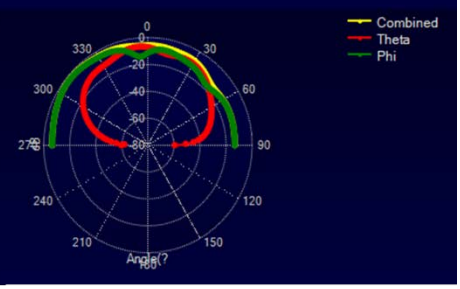
Far-Field Linear Polarisation



Bi-section Combined Chart



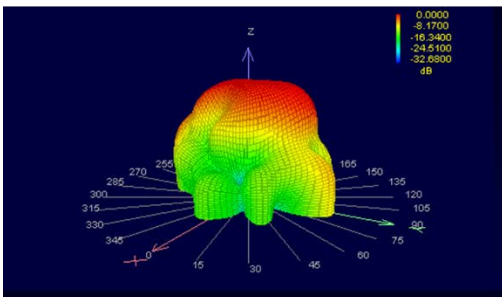
Bi-section 0.00˚ Amplitude Cut



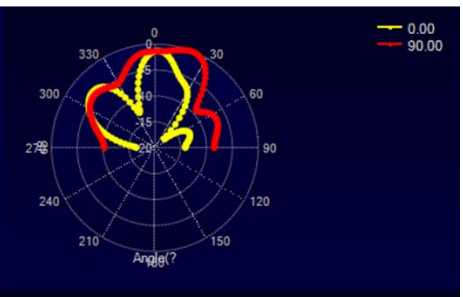
Bi-section 90.00˚ Amplitude Cut

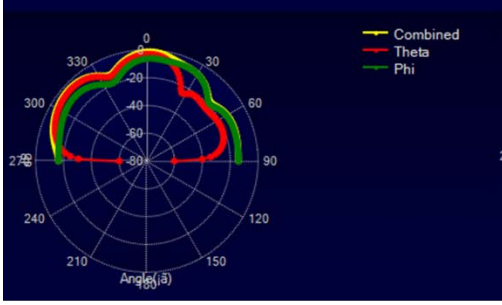
2100MHz

Far-Field Linear Polarisation

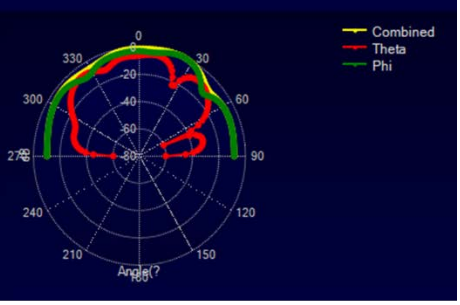


Bi-section Combined Chart





Bi-section 0.00˚ Amplitude Cut



Bi-section 90.00˚ Amplitude Cut

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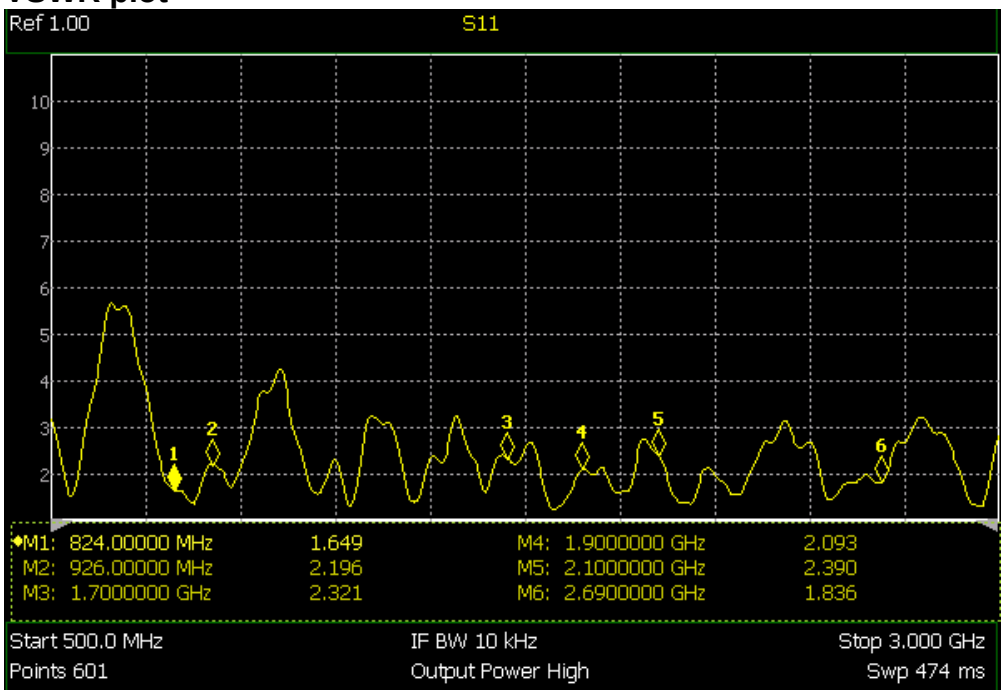
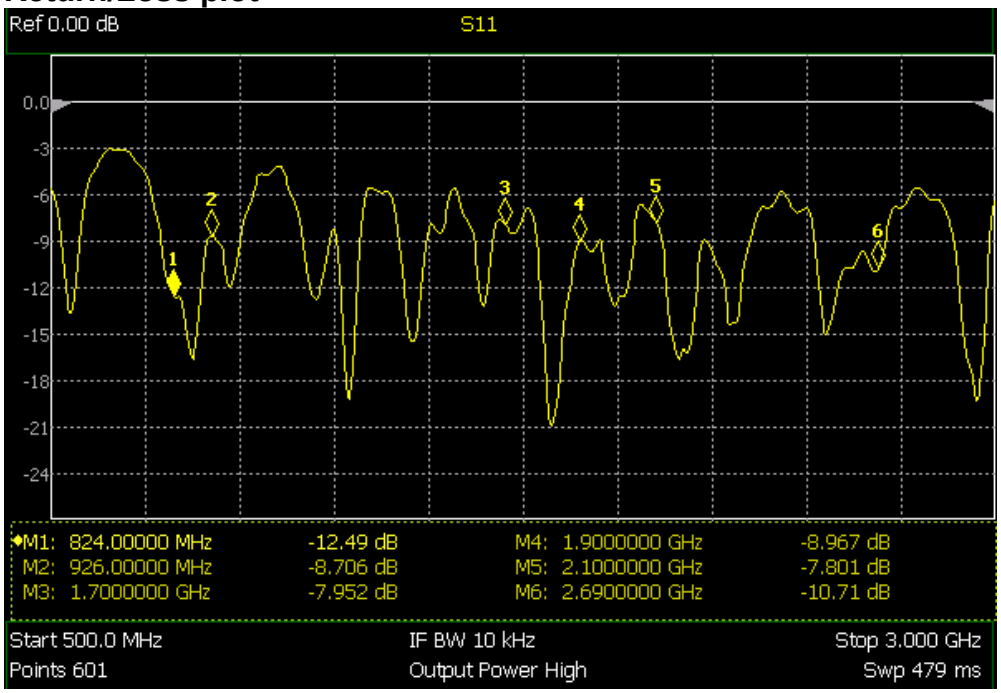
8. VSWR plot



9. Return/Loss plot



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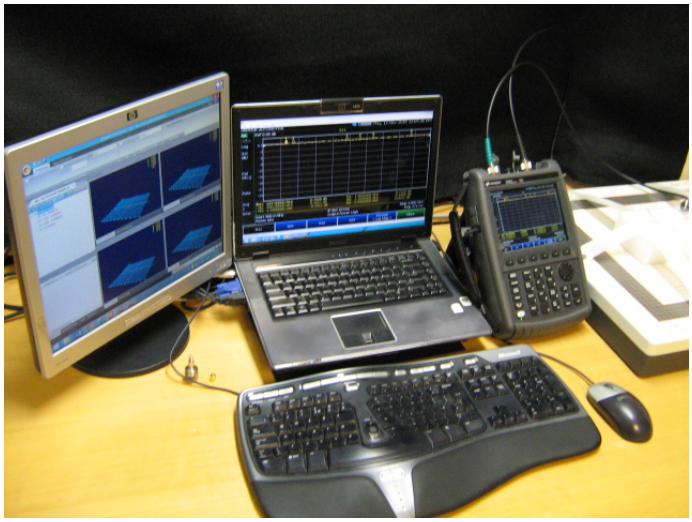
10. Test environment



Testing hardware:

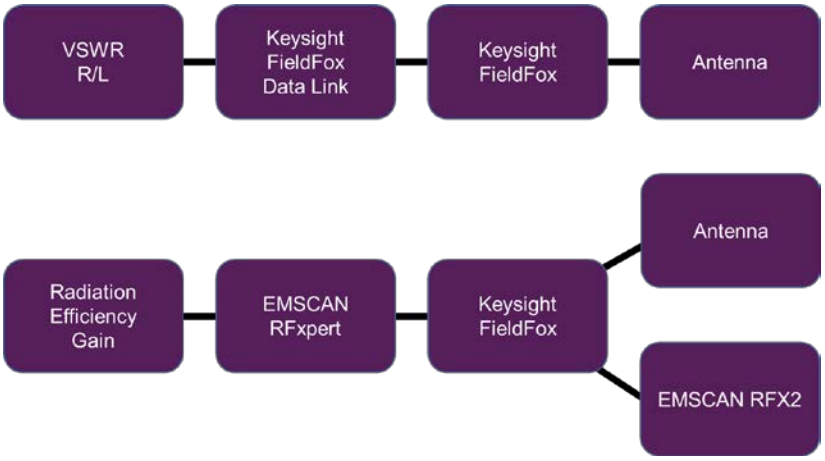
Keysight FieldFox Microwave Analyzer N9915A

EMSCAN RFX2

Testing software:

EMSCAN RFxpert v4.1

Keysight FieldFox Data Link v5.06



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11. Mounting method

Step 1 – Choosing a mounting location

The optimum position to mount the antenna is on the front windscreen. However, on the rear windscreen or discretely, on or under a plastic dashboard are acceptable.

- For windscreen mounting, the recommended positions are in the top/bottom corners or the top centre, ***not*** across any demister wires.
- The antenna must be positioned at least 20mm from any metal surface.
- Suitable mounting surfaces are glass or non-metallic.

NOTE: Best results are with a vertical mounting (cable exit from top or bottom)

Step 2 – Mounting

- The windscreen and antenna must be cleaned with the supplied surface cleaner and allowed to dry completely.
- Remove one side of the adhesive pad and firmly press onto the glass or non-metallic surface (no bubbles).
- Remove the other side of the adhesive pad and press the antenna firmly onto it – Note: The blue dot must face towards the 'sky'

CAUTION

a) Ensure the blue dot is pointing outwards – to the sky.
b) Ensure the glass is cleaned as stated.
c) Ensure no condensation is on the glass if in cold conditions.
d) Keep any oil, water and your hands off the mounting site and the antenna.
e) Do not disturb within 24 hours of mounting - to allow full adhesion to take place.

After its use, this product must be processed as electronic scrap for proper disposal according to the prevailing waste disposal regulations of your community/district/state.

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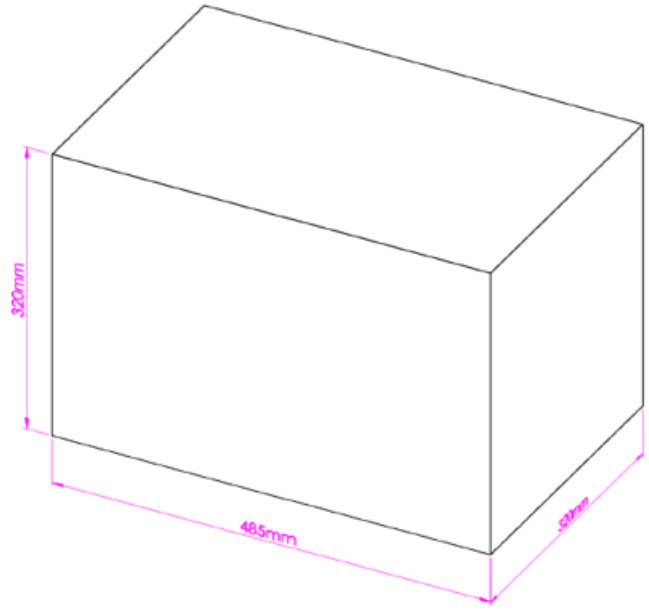
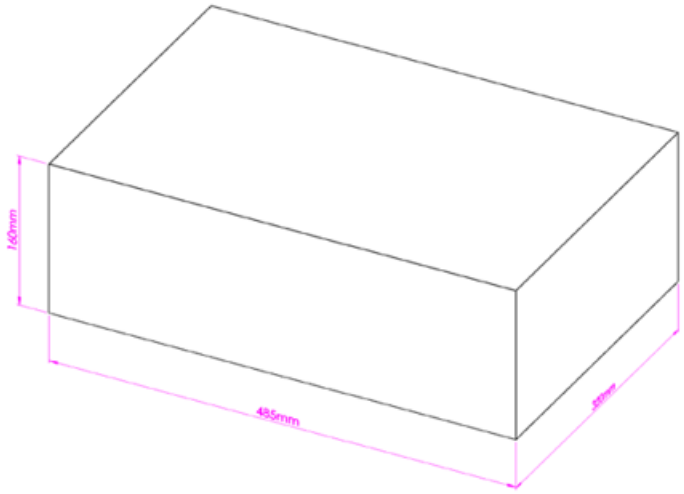
12. Packaging

Package	Qty
Poly Bag	1
Medium Box	Cable Length Dependant
Large Box	Cable Length Dependant





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13. Environmental specifications

Temperature range: 25±3℃

Relative Humidity range: 55~75%RH

Operating Temperature range: -40℃~+85℃

Storage Temperature range: -40℃~+110℃

Moisture Proof

The device should satisfy the electrical characteristics after exposed to the temperature 40±2℃ and the relative humidity 90~95% RH for 96 hours and 1~2 hours recovery time under normal condition.

Vibration Resist

The device should satisfy the electrical characteristics after applied to the vibration of 10 to 55Hz with amplitude of 1.5mm for 2 hours each in X, Y and Z directions.

Drop Shock

The device should satisfy the electrical characteristics after dropping onto the hard wooden board from the height of 30cm for 3 times each facet of the 3 dimensions of the device.

High Temperature Endurance

The device should satisfy the electrical characteristics after exposed to temperature 80±5℃for 24±2 hours and 1~2 hours recovery time under normal temperature.

Low Temperature Endurance

The device should also satisfy the electrical characteristics after exposed to the temperature -40℃±5℃ for 24±2 hours and to 2 hours recovery time under normal temperature.

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14. Notes

i. This product specification guarantees the quality of our product as a single unit. Please make sure that your product is evaluated and confirmed against your specifications when our product is mounted to your product.

ii. We cannot warrant against failure caused by any use of our product that deviates from the intended use as described in this product specification.