APPROVAL SHEET

PRODUCT NAME	CUSTOMER NAME OR MODEL
AEB690/WP	
CABLE LENGTH	CUSTOMER APPROVED BY
2m	
CONNECTOR TYPE	APPROVED DATE
SMA (m)	

SPECIFICATION

Product Name: AEB690/WP

Description: GSM Body Mount IP68 Antenna

VERSION INFORMATION

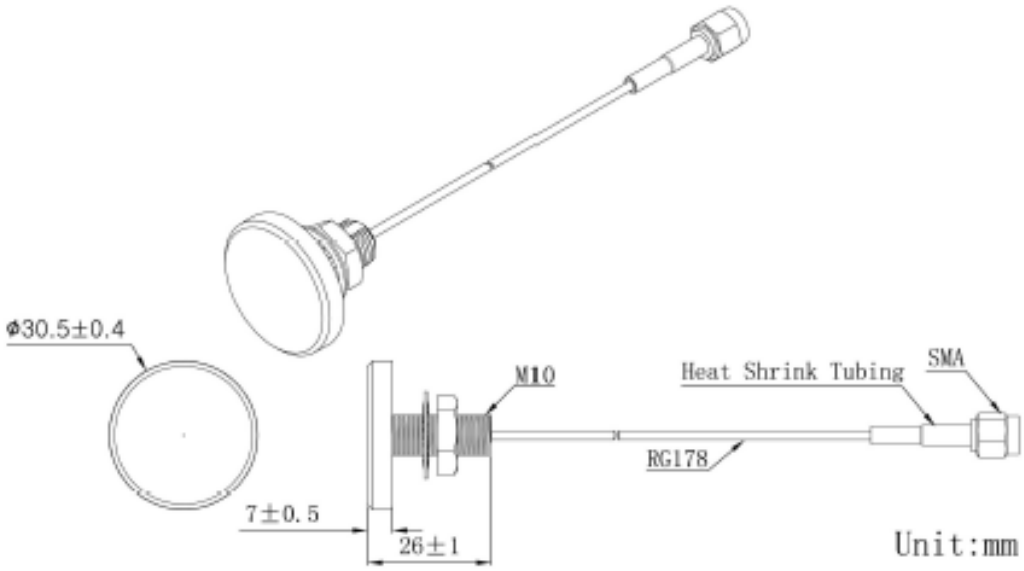
VERSION	DATE	REVISION DESCRIPTION	PREPARED	CHECKED	APPROVED
1.0	17/08/20	New Issued	JMT	JF	

1. Electrical Characteristics		
1	Antenna model	AEB690/WP
2	Frequency range	GSM850 / GSM900 / GSM1800 / GSM1900 / UMTS 2.1GHz (3G)
3	Gain	0.5dBi (Zenith)
4	Polarisation	Linear
5	Impedance	50Ω
6	VSWR	Less than 2:0

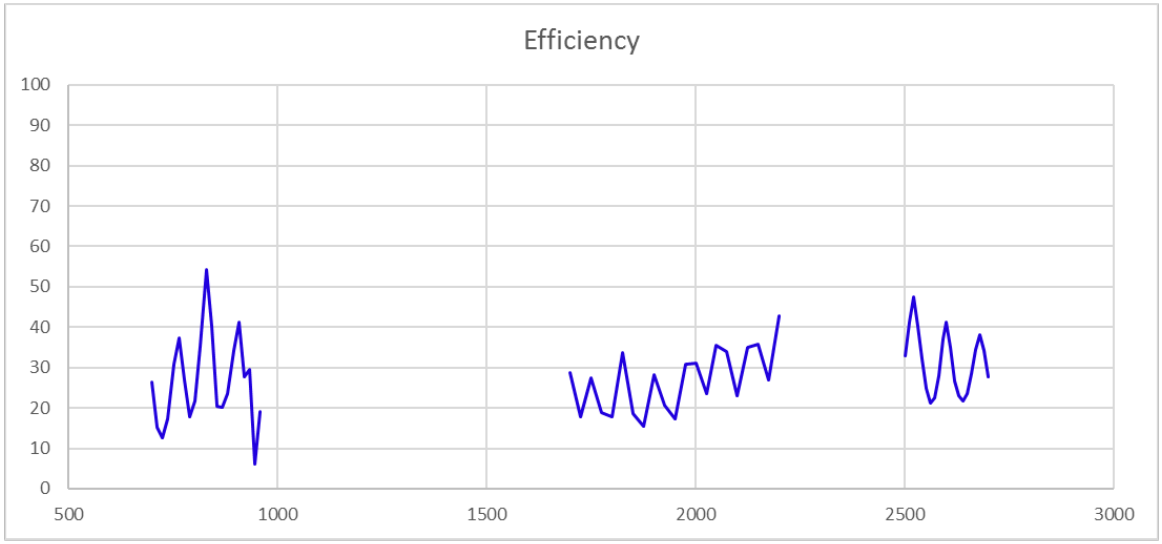
2. Material		
1	Antenna substrate	
2	Electrode	
3	Mounting	Screw
4	RoHS compliant?	Yes

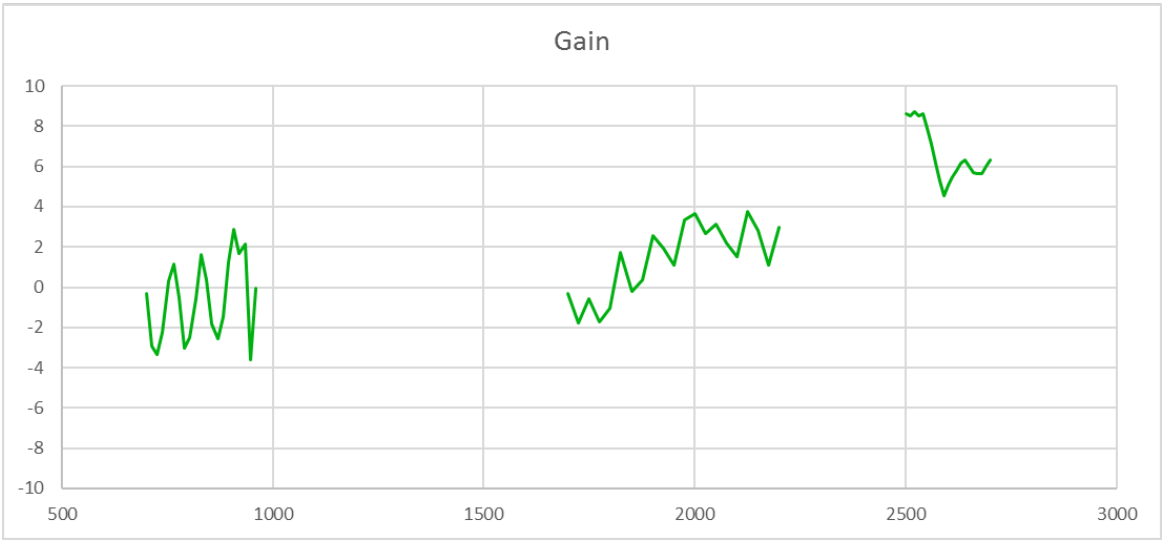
3. Cable		
1	Cable Type	RG178
2	Velocity factor	66%
3	Nominal Diameter	5mm
4	RoHS compliant?	Yes

4. **Dimensions** (± 1mm)



5. Efficiency and gain plots



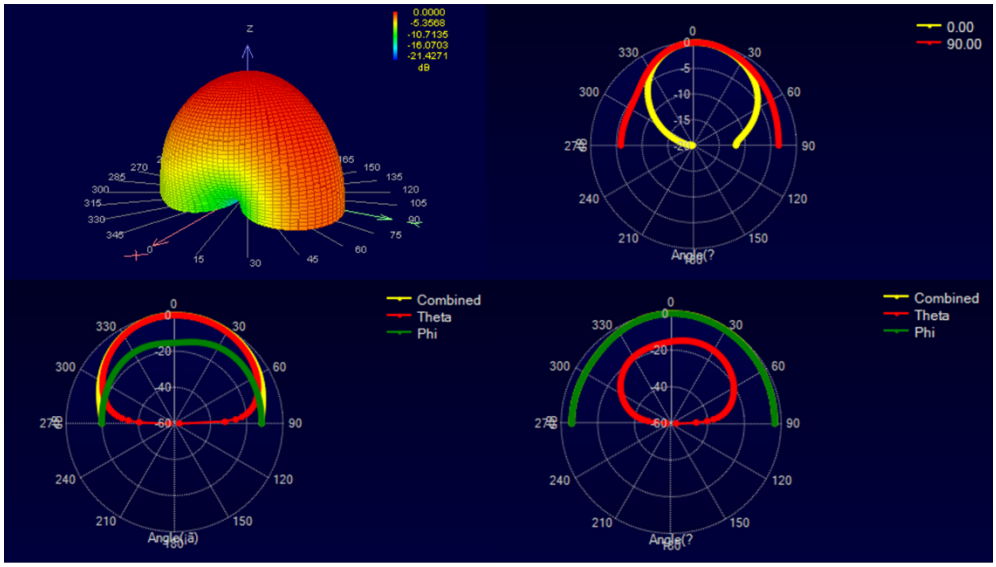


6. Typical radiation patterns

830MHZ

Far-Field Linear Polarisation

Bi-section Combined Chart



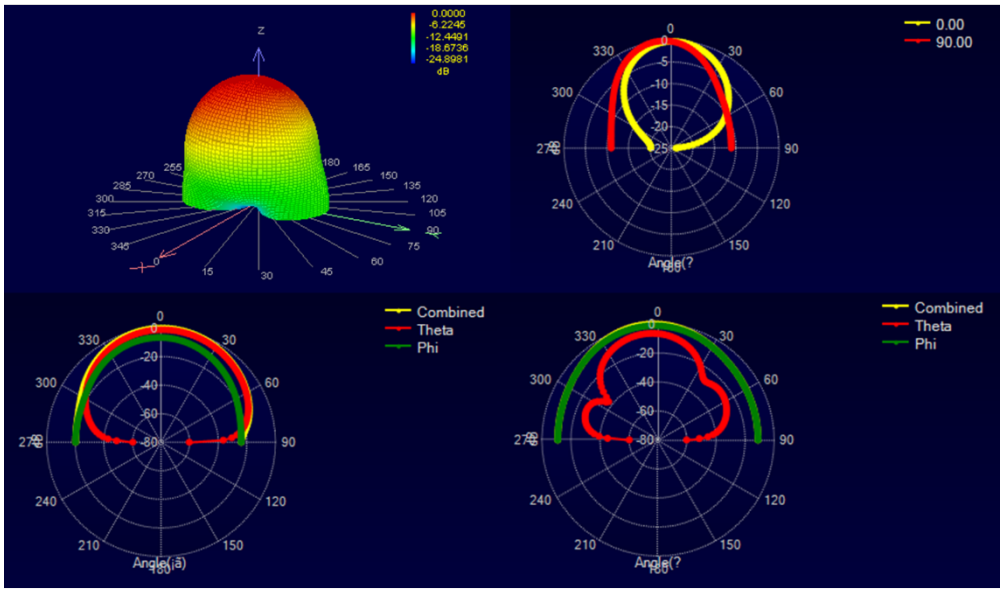
Bi-section 0.00˚ Amplitude Cut

Bi-section 90.00˚ Amplitude Cut

921MHz

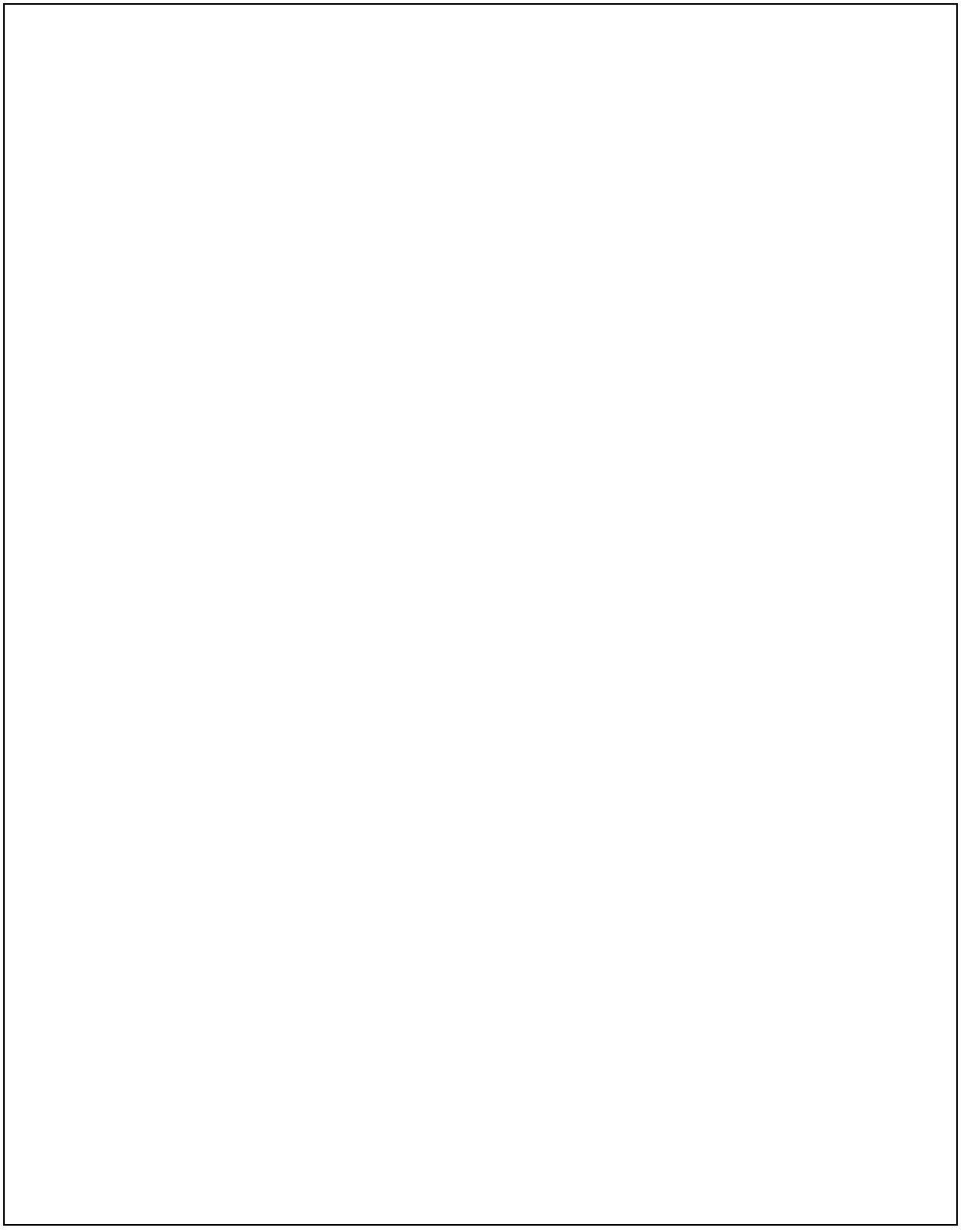
Far-Field Linear Polarisation

Bi-section Combined Chart



Bi-section 0.00˚ Amplitude Cut

Bi-section 90.00˚ Amplitude Cut

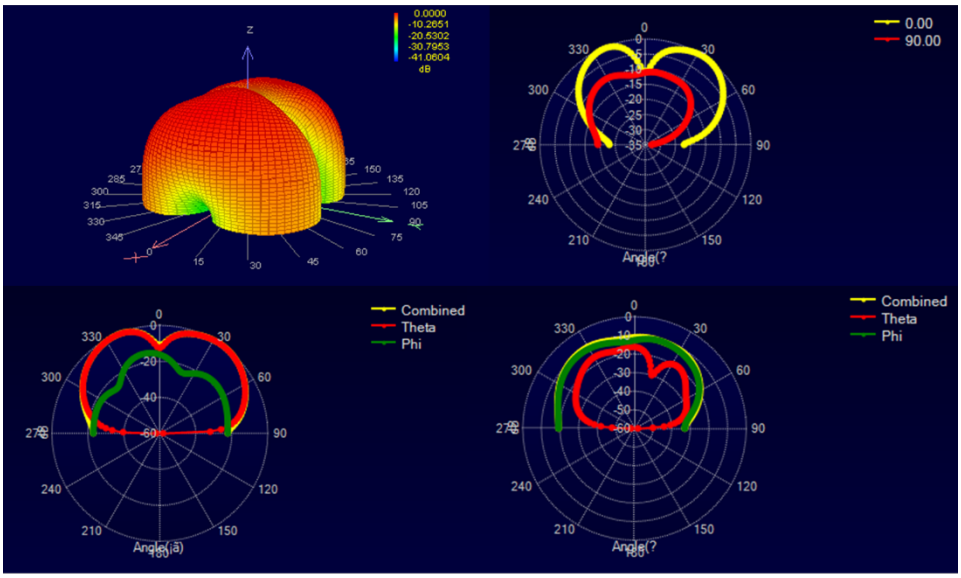


Typical radiation patterns (continued)

1700MHz

Far-Field Linear Polarisation

Bi-section Combined Chart



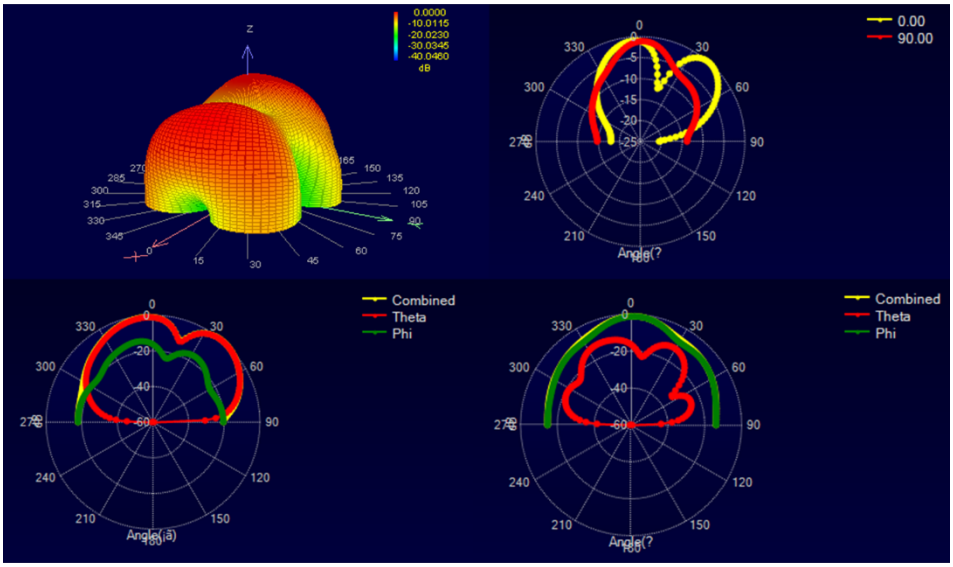
Bi-section 0.00˚ Amplitude Cut

Bi-section 90.00˚ Amplitude Cut

1800MHz

Far-Field Linear Polarisation

Bi-section Combined Chart



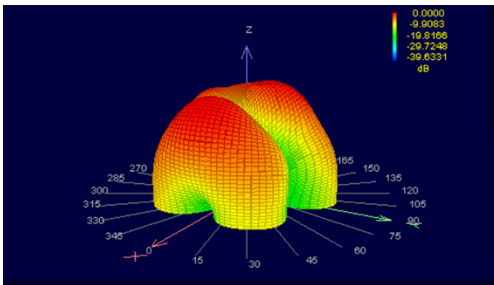
Bi-section 0.00˚ Amplitude Cut

Bi-section 90.00˚ Amplitude Cut

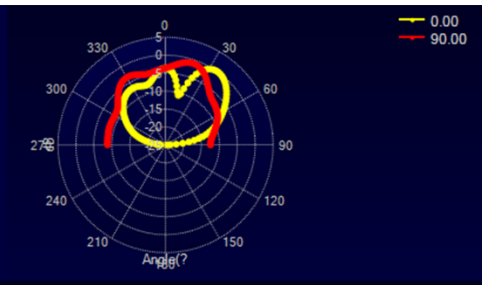
Typical radiation patterns (continued)

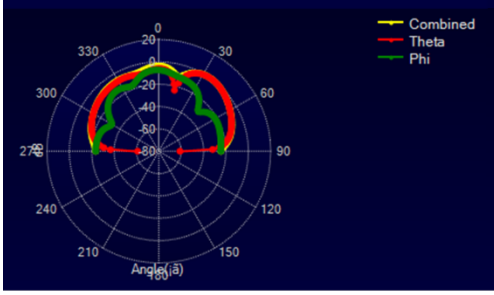
1900MHz

Far-Field Linear Polarisation

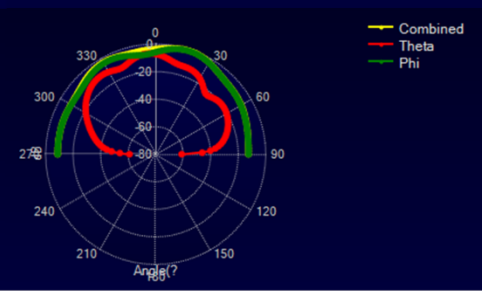


Bi-section Combined Chart





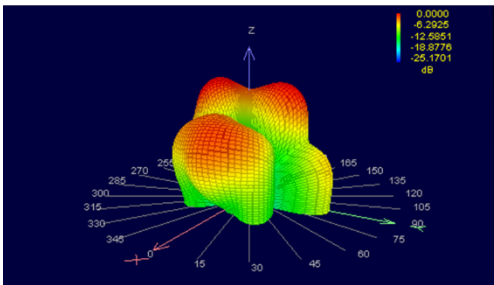
Bi-section 0.00˚ Amplitude Cut



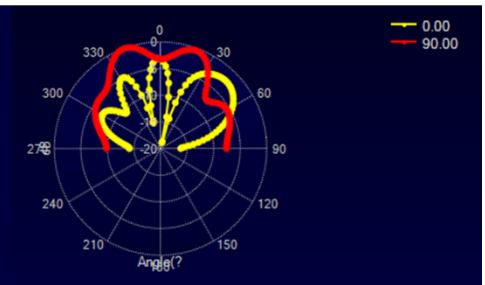
Bi-section 90.00˚ Amplitude Cut

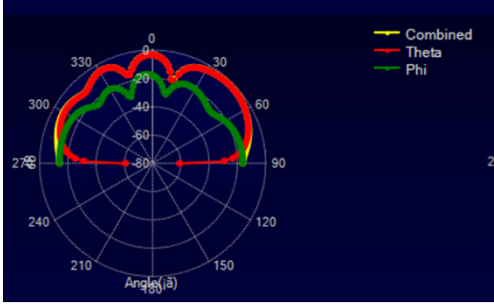
2100MHz

Far-Field Linear Polarisation

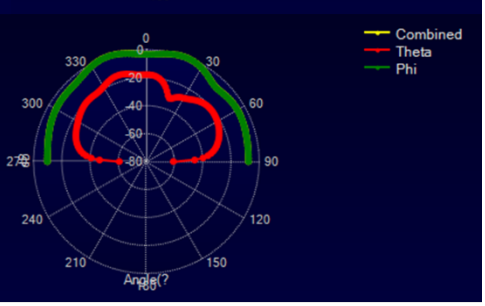


Bi-section Combined Chart



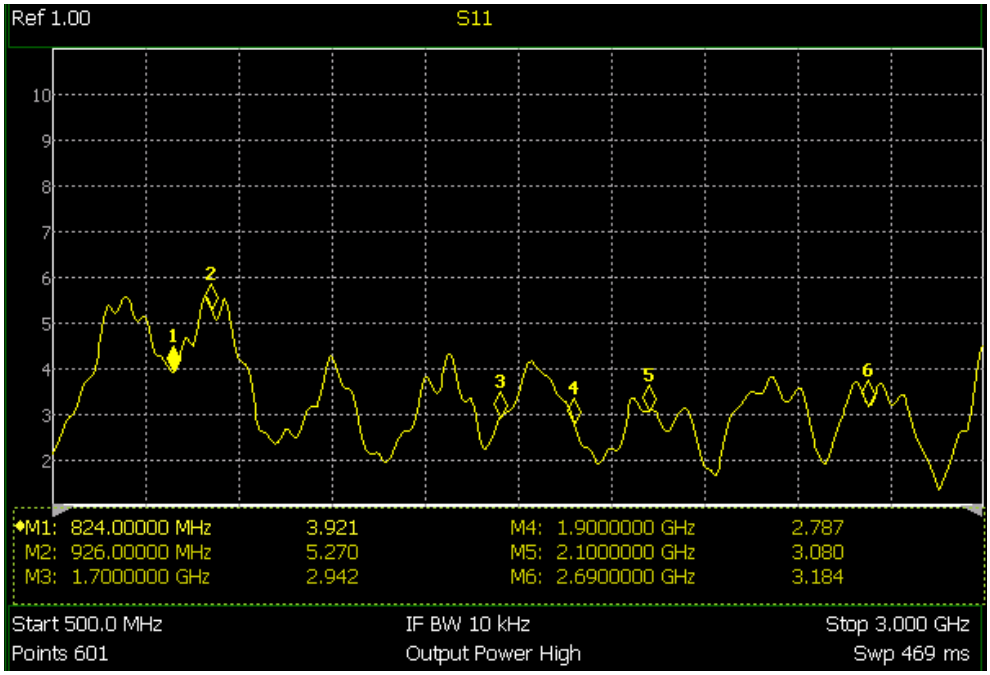


Bi-section 0.00˚ Amplitude Cut

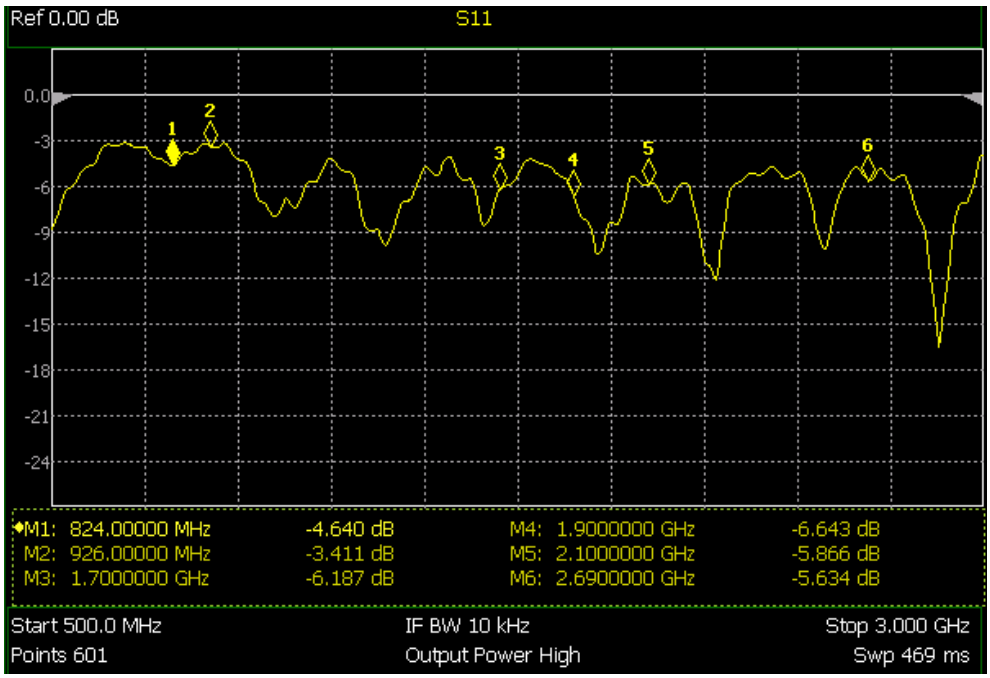


Bi-section 90.00˚ Amplitude Cut

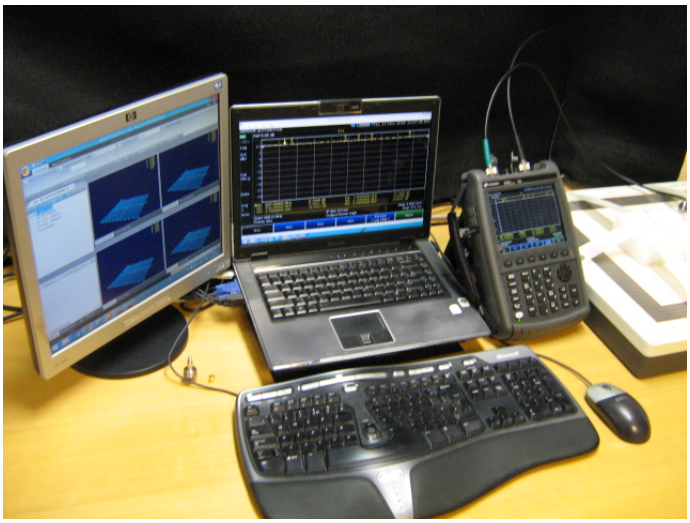
7. VSWR plot



8. Return/Loss plot



9. Test environment



Testing hardware:

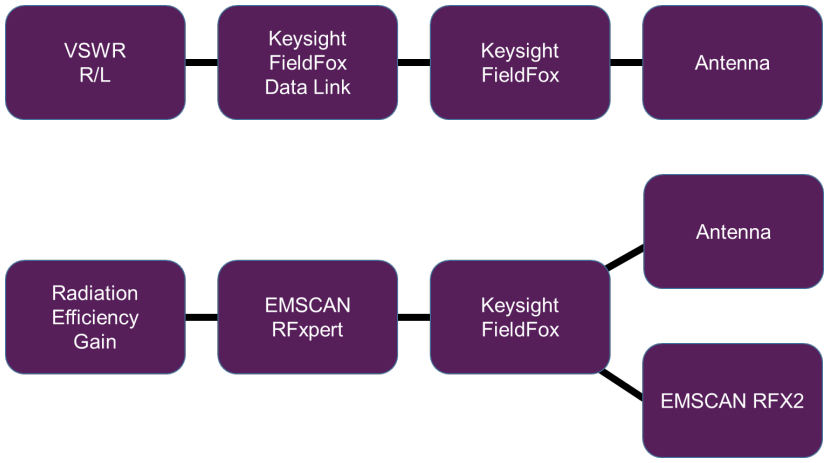
Keysight FieldFox Microwave Analyser N9915A

EMSCAN RFX2

Testing software:

EMSCAN RFxpert v4.1

Keysight FieldFox Data Link v5.06



10. Mounting method

Select your location ensuring you can trace the cable(s) from this point to your GPS unit/telephone antenna connection.

1. Drill a 19mm diameter in the metal of the vehicle roof.
2. Clean mounting area so that the edges of the hole are free of sharp edges.
3. To ensure good earth/ground contact, remove the paint around the hole on the underside to reveal the bare metal. This will enable the base to sit tightly into the rubber seal, which comes into direct contact with the roof.

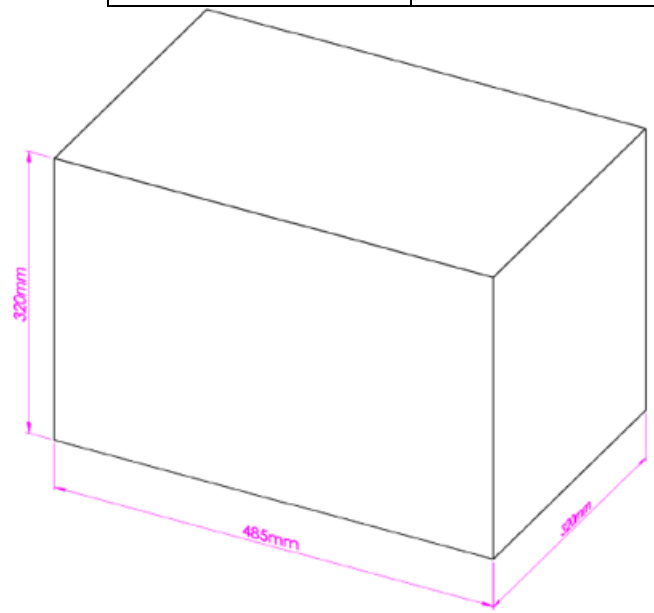
   IMPORTANT: Apply a suitable conductive grease to prevent any rusting.
4. Position the base so that it is centred properly in the middle of the hole.
5. Using a 22mm spanner (not provided), tighten the watertight nut from inside the vehicle so that the antenna is completely immobile. Once the antenna is tight, make one ¼ turn extra.

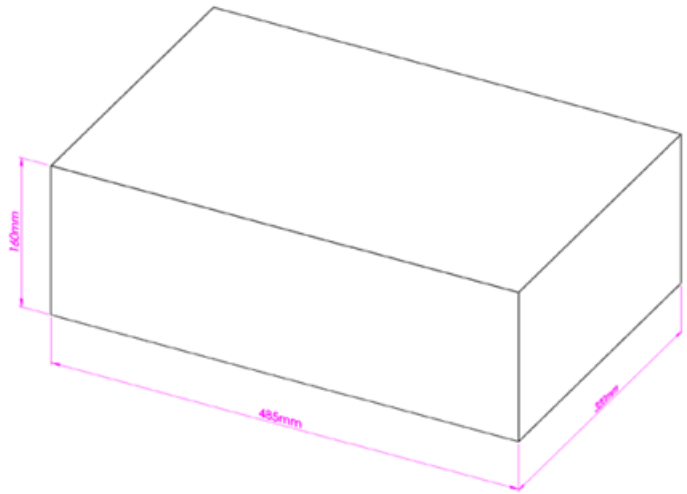
CAUTION: The reception of the signal must not be restricted by anything placed near or onto the antenna. (e.g. roof rack).

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

11. Packaging

Package	Qty
Poly Bag	1
Medium Box	Dependant on cable length
Large Box	Dependant on cable length





12. 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.

13. 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.