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Innovative Radio Frequency Solutions

Technical Specifications for the EUM3006 Antenna Rev 1 – July/04

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2. Reference Documents

1. Technical Specifications for the EUM3006 Wireless Modem – Rev 1 – Oct/04

3. Technical Specifications

3.1 Physical

Subject	Specifications	Ref.	Comments
Housing and Mount	Integrated with EUM3006 and mounted in a single enclosure.		
Board Material Layer 1 Layer 2	RF Signal Core $0.030" \pm 0.003"$ RF Signal/Ground - Outer layers 1 ounce copper (0.0014") with plating (0.00014", total 0.00154"). - Total thickness: $0.030" + 2 \times 0.00154" = 0.0331"$ - Dielectric constant 3.33 ± 0.05 at 1GHz (RO4233) - Loss Tangent 0.0026 max		

3.2 Electrical Performance

Subject	Specifications	Ref.	Comments
Frequency Range	902 – 928 MHz		
Peak Gain	10.2 dBi (vertical polarization) 9.2 dBi (horizontal polarization) - Beam width 30 degrees min on E and H planes		
Power handling	+27 dBm min.		
VSWR	2:1 max. over operating frequency of the radio		
Back/Front ratio	10 dB min.		
Diversity	- Polarization diversity 2us switching time max.		

3.3 Environmental

Subject	Specifications	Ref.	Comments
Operating Temperature	-40 to 50 C (Outdoor)		
Storage Temperature	-40 C to 70 C		
Operating Relative Humidity	0 to 95% non condensing at 50°C		
ESD	15kV air 8kV contact for 1/30ns pulse		Pulse is 1ns rise, 30ns decay to 50% of peak.

Subject	Specifications	Ref.	Comments
Lightning protection	400W for 8/20us pulse		Protect against secondary lightning surges

3.4 Other Requirements

3.4.1 General

Subject	Specifications	Ref.	Comments
MTBF	At least 26,000 hours	1	
Service Life	3 years	1	

4. Interface Specifications

4.1 RF Port

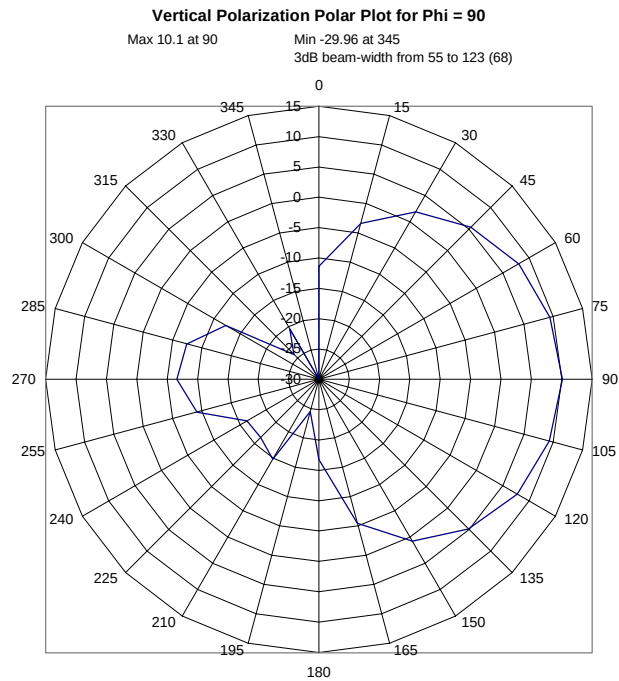
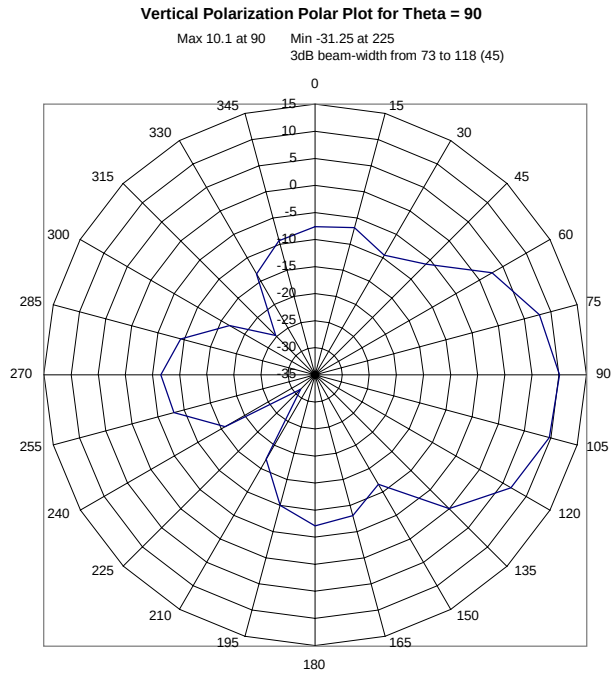
Pin	Name	Description
1	Signal (bi-directional)	RF Input/Output 50 ohm (VSWR 2:1 min) 902 – 928MHz - Input power 27 dBm max
2	Gnd (RF ground)	Reference ground for signal

4.2 Diversity Connector

Pin	Name	Description
1	DIVA	0V -> vertical polarization 3.3V -> horizontal polarization - Current 100uA max. used in conjunction with DIVB
2	DIVB	0V -> horizontal polarization 3.3V -> vertical polarization - Current 100uA max. used in conjunction with DIVA

5. Radiation Plots

5.1 Vertical Polarization



5.2 Horizontal Polarization

