

Rhein Tech Laboratories, Inc.
360 Herndon Parkway
Suite 1400
Herndon, VA20170
<http://www.rheintech.com>

Client: Harris Corporation
Model: M7300 UHF-L Mobile Radio
ID's: OWDTR-0061-E/3636B-0061
Standards: FCC Part 90/IC RSS-119
Report #: 2013009

Appendix D: Motorcycle Antenna

Please refer to the following pages.



AN-225003-005

2dB Ground Plane Independent Antenna
378-430 MHz

- 1/2-Wave Ground Plane Independent, Wide Band Antenna
- NMO Mount, with **e/m-Flex™** NiTi Whip, Black finish
- O-ring seal for waterproof construction
- Durable Xenoy™ base with TPV grip ring and dust seal

Electrical Specifications

Frequency Band	378-430 MHz
VSWR	<2:1, across operational bandwidth
Operational Bandwidth (min)	52 MHz
Impedance	50Ω
Gain	2 dBi
Power Rating	100 W
Polarization	Linear, Vertical
E-Plane	70 Degrees, nominal
H-Plane	Omnidirectional

Mechanical Specifications

Overall Length (max)	10 ¾ in. (274 mm)
Whip Material, Finish	Flexible NiTi, Black Finish
Base Material	Xenoy™ w/TPV Over Mold Skirt
Mounting Application	¾ inch NMO Mount
NMO Cable Assembly & Connector	Sold Separately
Operating Temperature	-40° to 85° C
Corrosion	Salt Fog
Humidity	95%



Harris Corporation

AN-125001-005

Standard Roof Mount with GPS

- Low-Profile aesthetics for minimal visibility and high pressure car wash survivability
- UV Stabilized, High Impact Xenoy™ housing
- Rugged aluminum die cast base for high strength mechanical mounting and reliability
- Silicone Rubber gasket and dual O-ring seals for waterproof installation
- Standard RG58/U type cable

NMO Mount Electrical Specifications

Frequency Band	30 – 1000 MHz
VSWR ¹	1.5:1 typical
Impedance	50Ω
Power Rating	100 W

1. Antenna / Frequency Dependent

GPS (L1) LNA and Filter Specifications

Frequency Bandwidth (L1)	1575.42 ± 1 MHz
Input / Output VSWR	2:1 max
Impedance	50Ω (nom)
Gain	28 dB typical
Noise Figure (dB)	1.5 typical, 2.0 max
Operational Voltage (Vdc)	2.7 - 5.5 V
Current Drain (Idc)	16 mA (max)
Filter Type	SAW
Filter Attenuation L1 ±50 MHz	20 dB (min)
Power Handling, Input	10 W

Passive Element

Center Frequency Band	1575.42 MHz
Antenna VSWR	1.5:1 max
Impedance	50Ω
Polarization	RHCP

Mechanical Specifications

Height	0.88 in. (22.4 mm)	Color	Black
Width	2.2 in. (55.9 mm)	GPS Radiator	Ceramic, Silver
Length	4.5 in. (114.3 mm)	Operating Temperature	-40° to 85° C
Mounting Application	Bulkhead, ¾ in. Thru-Hole	Corrosion	Salt Fog
Cable (NMO)	RG58/U; 17 ft. (5.1 m)	Humidity	95%
Cable GPS	RG-174/U; 17 ft. (5.1 m)		
Connector NMO	TNC Plug packaged loose		
Connector GPS	SMA Plug attached		